The Builder



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AN

ILLUSTRATED WEEKLY MAGAZINE,

FOR THE

Architect, Engineer, Archæologist, Constructor, & Art-Lover,

CONDUCTED BY

GEORGE GODWIN, F.R.S., F.S.A.

Honorary Member of various Societies; Author of "History in Ruins," "Town Swamps and Social Bridges," "Another Blow for Life," &c.

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The Builder.

A JOURNAL FOR THE ARCHITECT, ENGINEER, OPERATIVE & ARTIST.

VOL. XXII.—No. 1091. JANUARY 2, 1864. PRICE FOURPENCE. By Post, 5d.

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ROYAL ACADEMY of ARTS. SYDNEY SMIRKE Esq. R.A. will deliver a Course of SIX LECTURES on ARCHITECTURE, on the Evenings of THURSDAY the 7th, 14th, 21st, and 28th of JANUARY, and the 4th and 11th of FEBRUARY.
JOHN PRESCOTT KNIGHT, R.A. Sec.

ARCHITECTS' BENEVOLENT SOCIETY.
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The List of Subscribers and Amount Received at the Office of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.
J. TURNER, Hon. Secretary, 15, Wilton street.

MUSEUM, SCHOOL of ART, and FREE LIBRARY, AT EXETER (AN ALBERT MEMORIAL).—TO ARCHITECTS.—The Committee of the above Institution are desirous of receiving DESIGNS, comprising Plans Elevations, and Sections of the proposed BUILDING, which must be sent to the undersigned on or before the 1st day of MARCH next. A premium of £50 will be given for the most approved design, and £30 for that considered by the Committee to be next in merit. If the author of the best design should be employed to superintend the erection of the building or such portion of it as may be determined to be built in the first instance, he will be paid the usual commission on the cost of the works in lieu of the premium. A block plan of the site, together with particulars of the accommodation required, may be obtained by application to us,
WINSLOW JONES, } Hon. Secretaries.
CHARLES WESCOMB, }
Exeter, December, 1863.

EVENING LECTURES, at the ROYAL SCHOOL of MINES, JERMYN STREET.—PROFESSOR RAMSAY, F.R.S. will commence a COURSE of TEN LECTURES, on STRATIGRAPHICAL GEOLOGY, on TUESDAY, the 12th of JANUARY, at EIGHT o'clock, to be continued on each succeeding FRIDAY and TUESDAY EVENINGS, at the same hour.—Fee for the whole Course, prepaid, £2; at the Museum of Practical Geology, £3.
TRENHAM REEKS, Registrar.

LECTURES to WORKING MEN. The SECOND COURSE of SIX LECTURES on METALS by Dr. PERCY, F.R.S. will be COMMENCED on MONDAY, the 11th JANUARY, at EIGHT o'clock.—Tickets may be obtained, by Working Men only, on MONDAY, 4th JANUARY, from TEN to FOUR o'clock, upon payment of a fee of 6d. for the whole Course. Each Applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the Ticket will be exchanged. Written applications cannot be attended to.
TRENHAM REEKS, Registrar

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS. The Proprietors of these PATENTS have given the Writer an interest in the same, and have considering refused the use of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.
Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.
A Competitive Examination will, accordingly be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.
November 20th, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
PRIZES FOR COLOURED DECORATION.
£5, £3, and £2 are now offered. The Competition will be open till MARCH 1st, 1864. Casts for coloured decoration, prices, and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.
All requests for Casts for Coloration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if cast and packing required, 7s.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Arcade, at No. 42. These afford an Exhibition for a full large stock of their Patent Prize Medal Ranges and Stoves, Register Gates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
73—74, Bishopsgate-street Within, November, 1863.

CHATHAM HOUSE COLLEGE SCHOOL, Ramsgate. The TERM for 1864 will commence JANUARY 20th. A Prospectus of Terms (which are moderate) and further information may be obtained of the Rev. the PRINCIPAL. Four Boys from this School passed the Senior Oxford Local Examination in June last, all of them in Honours.

COMPETITIONS.

THE Committee of the Aldershot Institution for Mental Improvement and Social Recreation, are prepared to receive PLANS for the ERECTION of their new PREMISES, the cost of which is not to exceed £800. The Architect's fee to be 5 per cent. upon the outlay, including all extras.—Further particulars, with drawings of the proposed site, will be forwarded, post free, on application to the Honorary Secretary. The plans to be deposited at the Institution not later than the 2nd FEBRUARY, 1864.—The Committee reserve to themselves the power of rejecting the whole of the Plans.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTING a READING-ROOM, &c. at the New Barracks, Gosport.
Parties desiring to Tender for the erection of these Works must leave their names at the Royal Engineer's Office, Gosport, on or before the 11th day of JANUARY, 18[illegible], and pay the sum of Ten Shillings in Exchange for the Bills of Quantities, which will be forwarded to each party as soon as prepared, at the Government Contract Price.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 23rd December, 1863.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Flesterton, in the county of Lancashire, may inspect the Drawings and Specifications at the Coast Guard Watch room, Fleetwood, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 21st day of DECEMBER, to MONDAY, the 4th day of JANUARY, 1864 (now next ensuing, and both inclusive (Sundays and Christmas-day excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 5th day of JANUARY, under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Erection Coast Guard Station."
The Lords Commissioners of the Admiralty do not pledge them selves to accept the lowest or other Tenders.
Dated this 30th day of December, 1863, at the Admiralty,
Coast Guard Office, 19, Spring Gardens, London, S.W.

TO BUILDERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 19th of JANUARY next, at Half-past TWELVE o'clock precisely, to receive TENDERS for the CONSTRUCTION of NEW SEWERS, and Works connected therewith, in Nowell-court (better known as Jewin-court), and in a portion of Jewin-street, specially required and pointed out to be seen at the Office of the Engineer. The said Contract is for the total sum. Security will be required from the Contractor for the due execution of his Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless certain advantages, and no Tender will be received after TWELVE o'clock on the day of treaty.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 17th December, 1863.

TO BUILDERS.—TENDERS are required for the ERECTION of VILLAS at Twickenham Plans and Specifications to be seen on and after FRIDAY, 1st JANUARY, 1864, at the Office of the Architect, Mr. W. PAICE, 11, Great James-street, Bedford-row, W.C.

CONTRACTS.

VESTRY of ST. MARY, NEWINGTON, SURREY.—To BUILDERS and OTHERS.—The Vestry is desirous to have ERECTED a VESTRY-HALL and OFFICES, in the Walworth-road, Newington, Surrey, and to receive TENDERS for that purpose. Persons intending to tender must first inform themselves, at the Vestry Hall, Newington, Surrey, between the hours of TEN and FOUR o'clock, on the evening preceding the day of delivering their tenders, as below, the exact nature of the proposed Contract, for which alone they will be required to tender.
Tenders are to be delivered at the Vestry-room, St. Mary's Church, Newington, on TUESDAY, 12th JANUARY next, at SEVEN o'clock in the evening precisely, and not before, or they will not be considered.
Plans and Specifications are to be delivered at the Vestry Hall, Walworth-road, on Friday, the 8th JANUARY, 1864, at TEN o'clock in the forenoon precisely, when and where all Tenders approved of in all particulars, and no other, will be received for the performance of the said Contract.
R. A. WILDES, Clerk of the Peace.
Maidstone, December 17th, 1863.

TO DUSTMEN, BRICKMAKERS, and SCAVENGERS.—The Crown Estate Paving Commissioners hereby give notice, that they are ready to receive PROPOSALS from persons willing to enter into a CONTRACT for the REMOVAL of DUST, BRICK, ASHES, and CINDERS, from the houses within the district under their jurisdiction in that respect for a period of one year, from the 29th day of JANUARY, 1864. Copies of the conditions of Tender can be obtained upon application to me here. The Tenders, sealed and addressed to the Crown Estate Paving Commissioners, and entitled "Tender for Dust," to be delivered at my office before THREE o'clock on WEDNESDAY, the 6th day of JANUARY, 1864.
FRANCIS ADAMS, Clerk to the Commissioners.
1, Whitehall place, December 22nd, 1863.

TO BUILDERS.—WESTGATE CHAPEL, Heckmondwike.—TENDERS are required for the whole or any part of the WORKS now REBUILDING of the CHAPEL now known as the "Lower Chapel," Heckmondwike. Drawings, specification, and conditions of Contract may be seen at the Vestry of the present Chapel from MONDAY, the 11th of JANUARY next, to the SATURDAY following, both inclusive. And separate sets may be obtained, without charge, after MONDAY, the 11th of JANUARY, upon application at our Offices in Bridge-st, Batley. Sealed Tenders to be delivered at Mr. HANNAH SYKES, 17, Cheapside, not later than ELEVEN a.m. on MONDAY, the 18th of JANUARY. The Committee will not be bound to accept the lowest or any Tender.
PAULL & AYLIFFE, Architects.
India Buildings, 24, Cross-street, Manchester.
Dated this December, 1863.

TO BUILDERS and OTHERS.—Persons willing to submit TENDERS for BUILDING a new RECTORY-HOUSE and OFFICES at Elmswell, Suffolk, on a site about half a mile from the Elmswell Station, on the Ipswich and Bury Railway, to be built to the plans and specification of the undersigned, to be seen at the Rectory, at Elmswell, from MONDAY, the 11th JANUARY, to SATURDAY, the 23rd inclusive. Tenders, sealed and endorsed "Tenders for Rectory," to be delivered at the Rectory on or before the 28th of JANUARY, addressed to the Architect, Mr. R. J. WITHERS, 23, Dunghy street, London, W.C., and from whom the Builder publishes may be obtained. The lowest or any Tender will not necessarily be accepted.
W. H. CLARKE, Rector.
Elmswell Rectory, Woolpit, Suffolk, December 26, 1863.

TO BOILER MAKERS and ENGINEERS.—SAINT PANCRAS, Middlesex.—The House Committee of the Directors of the Poor of this Parish are willing to receive TENDERS for the supply of a LARGE BOILER, at the Workhouse, Kentish Town-road, according to the plan and specification of Messrs. Bramwell, Mr. WARD, wardmaster of the Workhouse, will show the premises and Boiler to intending Tenderers. Tenders must be delivered at the Workhouse, and be endorsed "Tender for Boiler," and addressed to me at the Vestry Offices, Pancras-road, on or before TWELVE o'clock on THURSDAY next. The Committee and Directors do not bind themselves to accept the lowest or any Tender.
THOMAS PLAW, Clerk.
Vestry Offices, King's Road, St. Pancras,
28th December, 1863.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Lockwood to Meltham, near Huddersfield. Lengths and sizes of Bridges and specification may be seen at the Books of Tenders ready for the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 4th JANUARY proximo, and Tenders, properly endorsed and addressed to the Directors, must be with the Secretary not later than MONDAY, the 18th FEBRUARY, 1864.
Manchester, December 24, 1863. WM. S. LAWN, Secretary.

[For remainder of Contracts see next Page.]

CONTRACTS.

TO IRONFOUNDERS. — The Gomersal Waterworks Company do not intend to let by TENDER or CONTRACT, the MAKING of about NINE MILES of CAST-IRON SOCKET PIPES—specifications for the same may be seen, and other information obtained, at my Office, from MONDAY, the 28th inst. to TUESDAY the 5th JANUARY, 1864. Sealed Tenders, endorsed "Tender for Water pipes," must be delivered, to me, at the Waterworks Office, in Gomersal, not later than SIX o'clock on the last-mentioned day. The Company do not bind themselves to accept the lowest or any Tender.

JOHN HART, Engineer to the Company.
32, Kirkgate, Bradford, December 21, 1863.

GRANGE HOTEL COMPANY LIMITED.—TO BUILDERS.—PERSONS desirous of TENDERING for the whole or any one of the WORKS required in the Erection of a FIRST-CLASS HOTEL at Grange, Morecambe Bay, can see the Plans and Specifications at the Office of Messrs. PAGE, Architect, Lancaster, from MONDAY DECEMBER 21st, until WEDNESDAY, 6th JANUARY 1864. Tenders to be sent in by seven o'clock, and not Tenders, Grange Hotel Co. to Mr. JAMES PAGE, on or before JANUARY 11th, 1864. The lowest or any Tender will not necessarily be accepted. By order of the Directors.

Lancaster, December 21st, 1863.

NORTHAMPTON NEW TOWN HALL. DRAWINGS and specifications for Part of the new Buildings for the New Hall, Assembly Rooms, by the Architect, G. W. Saul, Esq., may be seen at the Office of Messrs. Law, Newhall, Northampton. Persons willing to CONTRACT for MAKING and FURNISHING and FITTING the same, are invited to send Tenders to the Town Clerk's Office, addressed to the Borough Committee, on or before the 12th day of JANUARY, 1864.—By order,

JOHN JEFFERY, Town Clerk.
North ampton, 21st December, 1863.

TO BUILDERS and OTHERS.—CHELSEA WORKHOUSE.—Notice is hereby given, that TENDERS are required for the REBUILDING of the SOUTH-WEST WING of the WORKHOUSE.—The drawings, specifications, and Form of contract may be inspected, at the Office of Mr. Arthur Cottam, Surveyor, Chelsea, on the 9th, 10th, and 11th days of the present month, between the hours of TEN and FOUR o'clock. Sealed Tenders (endorsed "Tender for Alterations to Chelsea Workhouse") are to be addressed to the Board of Guardians of the Parish of Chelsea, and to be delivered at my Office, 10, Arthur street, Chelsea, before TEN o'clock in the forenoon, on THURSDAY, the 14th day of JANUARY next, and the Board will proceed to open the same at HALF-AN-HOUR o'clock, when parties tendering will be expected to attend. No Tender will be received after the time appointed. The Board do not bind themselves to accept the lowest or any Tender. And the party whose Tender shall be accepted will be required to provide two sufficient sureties in the sum of £600 for the due performance of the contract. The cost of preparing the contract and bond will be borne by the Guardians. By order,

W. L. DIGGENS, Clerk to the Guardians.
Chelsea, December 16, 1863.

TO BUILDERS. — Persons desirous of TENDERING for a NEW ROOF over the NAVE of the Parish Church of Hythe, in the county of Kent, are informed that the drawings and specifications may be seen by application to Mr. W. S. SMITH, the Vestry Clerk, at the Office of E. Wallis, Esq., Solicitor, at Hythe, the Architect, at Lewes, and after DECEMBER 30th. Tenders to be delivered at the Office of the Architect, EWAN CHRISTIAN, 8a, Whitehall place, London, on or before JANUARY 18th, 1864. The Committee not bind themselves to accept the lowest Tender, and a good and sufficient security will be required for the due performance of the work.

SALISBURY, POOLE, and DORSET JUNCTION RAILWAY.—To POST and RAIL FENCE CONTRACTORS.—Parties desirous of TENDERING for the FENCING on the above LINE of RAILWAY (56 miles in length) can see the specification at Mr. GARRETT'S Office, 20, Great George street, Westminster, after the 4th JANUARY; and will be invited to meet the Engineer at the TWO HILL Station, on WEDNESDAY, JANUARY the 13th.—The lowest or any Tender will not necessarily be accepted.

TO BUILDERS and OTHERS, desirous of TENDERING for ALTERATIONS, at No. 30, Lamb's Conduit-street for Lord Lieutenant Norfolk.—Messrs. Mathews have drawings and specification at the Premises, on and after MONDAY, JANUARY 4th, 1864. Tenders to be delivered at HERBERT DAY evening, JANUARY 14, 1864, at EIGHT o'clock. The Directors do not bind themselves to accept the lowest or any Tender.

Dated GEORGE WHEELER, Clerk of Clerk.

TO BUILDERS and OTHERS.—BUILDERS desirous of sending in TENDERS for the ERECTION of a NEW CENTRAL POLICE STATION, and OTHER BUILDINGS, in the MARKET PLACE, BATH, for the Corporation of Bath, can see the Drawings and Specifications of the same, with the plans of the several Wards, at the GUILDHALL, on or after MONDAY, 4th JANUARY. Tenders properly endorsed, addressed to the Town Clerk, to be delivered at the Guildhall, on or before THURSDAY, JANUARY 21st. The law of or any tender will not necessarily be accepted. CHARLES E. DAVIS, City Architect.

City Architect's Office, Bath, 21st December, 1863.

TO ENGINEERS, COPPERSMITHS, &c. — The Guardians of the Poor of the Whitechapel Union will meet in their Board Room, at the Workhouse, on TUESDAY the 12th day of JANUARY, 1864, at SIX o'CLOCK in the Afternoon, to receive TENDERS for supplying and fixing certain BOILERS and COOKING APPARATUS at their Industrial School, Forest-one, Stratford, Essex. The Specification and Plans may be inspected on application to the Master of the School at any time between the hours of Ten and Four. Tenders must be made upon the printed forms to be obtained of the Clerk, and the Guardians do not engage to accept the lowest or any Tender.

By ADAMS FARR, Clerk.
Clerk's Office, Warbouse, 28th December, 1863.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paths, and Flooring of every description especially adapted for Ships and Barges. Very little is now exposed to the Atmosphere, which has been the cause of public preference to asphalte in preserving its durability and beauty. Prices, &c., supplied by JOHN PEARSON, 17, Fleet street, Ludgate Hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footways, Barn Floors, &c. with instructions for laying.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that their Belts are manufactured of the purest Gutta Percha and India-rubber, and are carefully adapted to the strain they have to bear. They are found to be more durable and of greater strength, perfectly uniform in thickness, and not liable to stretch or become slack. They are not affected by any change of temperature, or by oil, acids, &c., to which they may be exposed in the mill, and are not injured by steam. They are not liable to crack, and are not affected by damp. They are not liable to crack, and are not affected by damp. They are not liable to crack, and are not affected by damp

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

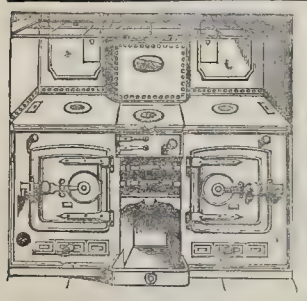
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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Sends a Catalogue, gratis, and post-paid. It contains upwards of 500 illustrations of his illimited stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

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WROUGHT AND CAST IRON
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RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



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SHEETS, BARS, L and T IRON.
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CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



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SAW MILL ENGINEERS, KING'S ROAD, CHELSEA,

Continue to confine their attention exclusively to the Manufacture and Perfecting of all kinds of Wood-working Machines, and Contract for the Erection and Starting of complete Saw Mills and other establishments for converting timber by machinery.

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IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders and Rolled Joists for Buildings, Farm Premises, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in Town or country, or packed for exportation.

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LONDON, 1851. PARIS, 1855. LONDON, 1862.

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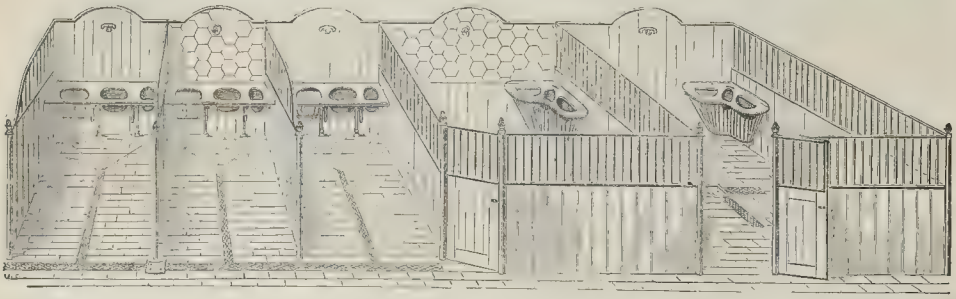
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THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

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IN EVERY VARIETY OF DESIGN AND COST,

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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

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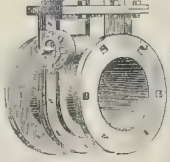
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From 2 in. to 18 in. price 8s. 6d. to 12s per in. diameter.

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These Valves are all proved on both sides to 30 lbs. on the square inch before leaving the works, and are always kept in stock.

Valves made with outside racks to order

Also Screw Water Valves, with gun metal faces.

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PATENT LOUVRE CHIMNEY CAP,

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The advantages attending this Cap are—it can be thoroughly cleaned by the machine when the chimney is swept, the brush being able to pass through the Cap without the liability of its displacing, an increased up-current, and the impossibility of a down one.

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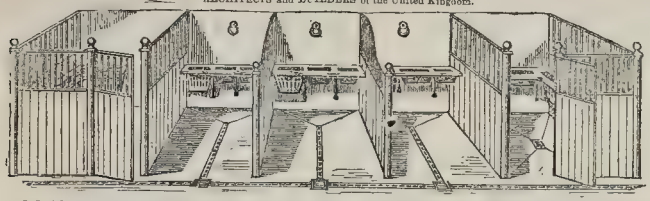
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These SUPERIOR-CLASS STABLE FITTINGS are PATRONIZED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to the NEW STABLE just completed, with full size Stalls, Loose Boxes, and Harness-Room, now open for inspection, at the Manufactory, 370, Oxford-street, where an extensive assortment of all kinds of Stable Furniture, upon the most modern and improved principles, are to be seen.
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Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike these of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under directions of London Architects, noted for adopting only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to

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REGISTERED MEDIÆVAL SUN-BURNERS.



PRIZE MEDAL,
INTERNATIONAL EXHIBITION, 1862.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

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ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
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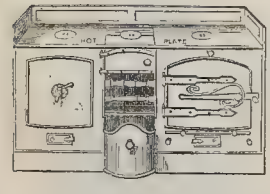
DRAUGHTS & DUST ROUND DOORS & WINDOWS

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Self acting Spring Slides for the bottom of doors.
The most imperfect door can be made air tight without re hanging.
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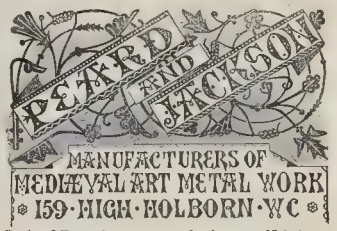
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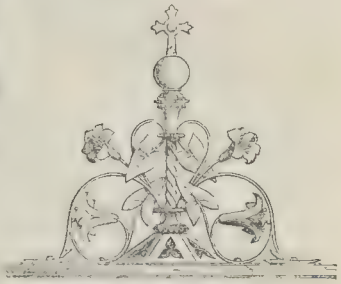
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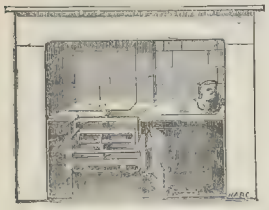
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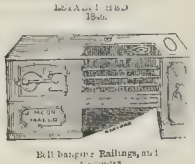
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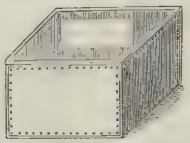
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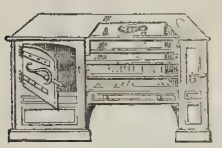
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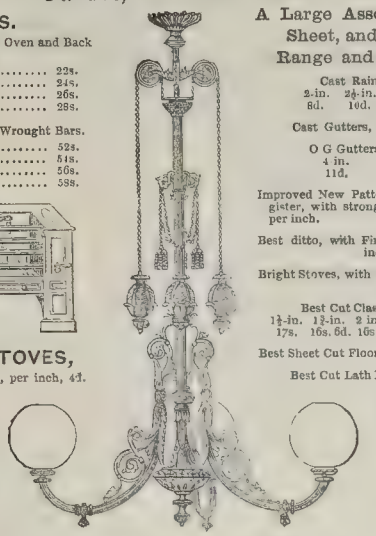
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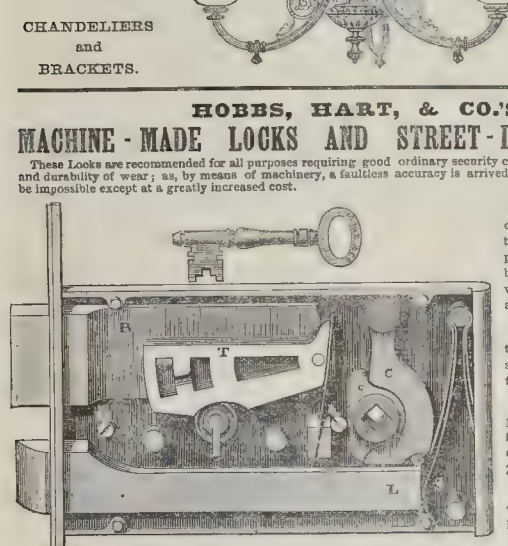
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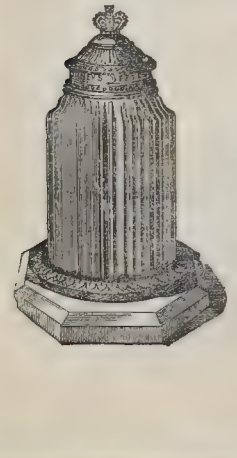
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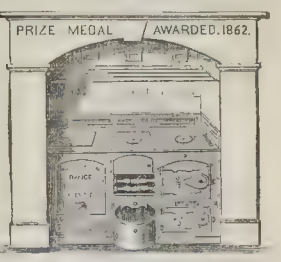
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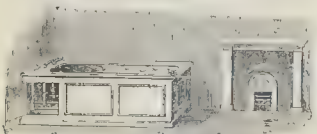
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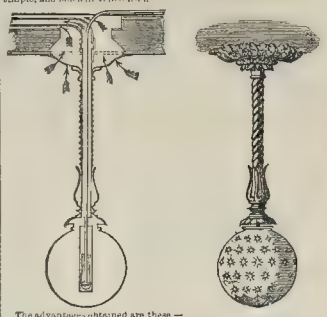
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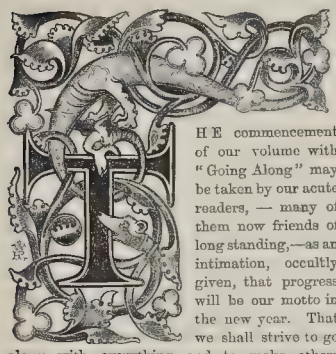
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The Builder.

"Going Along." Milan.



THE commencement of our volume with "Going Along" may be taken by our acute readers, — many of them now friends of long standing,—as an intimation, occultly given, that progress will be our motto in the new year. That we shall strive to go along with everything and to make others go along too,—if we can. Our days of profession are over. By what has been done in the past must be estimated what will be attempted in the future. This, however, we can say, without hesitation, that the deduction we have hinted at above may be safely believed in. We have no intention to "rest and be thankful:" there will be no relaxation on our part in efforts to maintain the character of the *Builder*, as a truthful and wide-embracing expositor and recorder, a useful suggester and warner, a kindly critic; but, on the contrary, renewed endeavours, with well-founded hopes of success, to render it more and more worthy the favour that has been shown it, the high importance of the subjects that specially belong to it, and the advancing state of public opinion. This being said, with hearty thanks to many colleagues, and the hand of fellowship held out to those willing to aid in our work, we set ourselves again to write, going along, of the phœnix Milano; the *Mediolanum* of ancient days.

When Decimus Magnus Ausonius sang the glories of Milan in the fourth century, it was adorned with noble temples, amphitheatres, and baths. Now, however, the only remains of any importance of its ancient architecture to be seen are the sixteen Corinthian columns, perhaps part of the Baths of Hercules, which stand, much damaged but still grand and imposing, amongst modern structures, and close to the rebuilt church of San Lorenzo,—rebuilt, that is to say, as long ago as the time of Carlo Borromeo. A part of the ancient edifice remains in the shape of a chapel, connected with the church and with the memory of the Gothic king Ataulphus, a kinsman of Alaric, whom he succeeded in the year 411. He took captive Galla Placidia, daughter of Theodosius, surnamed the Great, of the Roman empire, who had died in Milan about the year 395, and married her. The ascendancy the Roman Lady obtained over Ataulphus was one of the causes that led to the revolt of his followers, and to his murder in Barcelona in the year 415. In the chapel we have mentioned stands his tomb, a curious semi-Classic structure, finished with the representation of a tiled top. At the end are sculptured two lambs at the foot of a cross: on the front is the sacred monogram with other symbolic ornamentation. Galla Placidia, who afterwards married Constantius III., built for herself in Ravenna a wonderfully fine mausoleum, and there was buried. She appears to have possessed the art of subjecting men to her will in a remarkable degree. That she always used this rattlesnake power to a good end is not so clear.

The ceiling of the chapel in S. Lorenzo shows some very early mosaic works, dark and hard. One is in monochrome, and represents Christ sitting in the midst of the apostles.

Of the thirty or more churches in Milan we can stop to say but little. In the one dedicated to Santa Maria delle Grazie, which is full of fresco paintings by Gaudenzio Ferrari and other artists, a picture of that kind was discovered only a few months ago, and has been cleaned and exposed to view. It includes the Virgin kneeling with Christ on the ground, and, apparently, a mother, father, and children in front. The head of the man and that of an angel at the side are particularly admirable. An altar had been set up against it, and had long hidden it from sight.

Attached to this church is the hall or refectory of a Dominican convent, containing the everywhere known "Last Supper," by Leonardo da Vinci, already alluded to. It was exposed to all sorts of ill-treatment, beginning soon after its completion,—flooded, smoked, and painted over more than once: but this has not been sufficient to destroy its reputation. It is in a better state now than it was fifty years ago. Eustace, in his "Classical Tour," written about that time, says that when the French had possession of Milan, the hall was made a store-room of artillery, and the soldiers used the heads in this picture, especially that of our Saviour, as a target to fire at. He continues, "Their barbarism in defacing a master-piece which, though in decay, was still a model of art, succeeded to the full extent even of their mischievous wishes, and has erased for ever one of the noblest specimens of painting in the world." Nevertheless there it still is. Repainted and messed, cut into and scaling off, a great part of its original beauty is destroyed. Much, however, still remains: sufficient to delight and impress. The loveliness of the head of the Saviour, the immense skill shown in the composition (all the figures divided into groups, arranged to bring prominently into view the central figure), and the variety of characteristic expression in the heads, must strike every beholder. A doorway had been cut through at the end of the hall, which took away a part of the picture in the centre below the table, including the feet of the Saviour. This, however, is now filled up and cemented. The picture occupied the versatile and wonderful Leonardo about two years; from 1496 (when he was forty-four years old), to 1498. Some years have passed since we saw the copy by Marco Uggione (or d'Oggione), now in the collection of our Royal Academy, but this has the reputation of being one of the best of the many copies of it that exist. It was painted about 1510. The remarkable letter written by Leonardo to Ludovico il Moro, Duke of Milan, which led to his engagement to the duke, and so to the execution of the Last Supper, in Milan, is in the Ambrosian library, spoken of in our last. After setting forth in it his ability to make bridges, destroy fortresses, construct bombs and bomb-proof vessels, tunnel into a town, and so forth, he goes on,—"In times of peace I think I can as well as any other make designs of buildings for public or private purposes; I can also convey water from one place to another. I will also undertake any work in sculpture, in marble, in bronze, or in terra cotta; likewise in painting I can do what can be done, as well as any man, be he who he may." This wonderful person seems to have been able to effect all he offered, but it is on his works as a painter that his fame rests. He established an Academy of Arts in Milan and produced some good artists.

In the Brera, a college once belonging to the Jesuits, and now accommodating the Royal Academy and the National Gallery, like our Trafalgar-square building, we do not remember any special work by Leonardo, unless we except a head of Christ in chalk, believed to be a study for head in the *cenacolo*, but of his great pupil, Bernardino Luini, there are many exquisite works, particularly frescoes; and there are fine specimens, too, of the skill of that Marco d'Oggione already mentioned. Many works by Luini have been called Leonardo's. The collection here is exceedingly interesting, and we might point to specimens by Paulo Veronese, Titian, Vandyke (some exquisite portraits), Andrea Mantegna (particularly his picture in compartments, with St. Mark writing behind a small marble table), Bonifazio, Albani, and many others; but this makes dull reading away from the gallery, so we avoid it. Amongst the curiosities is Carlo Crivelli's picture, in three compartments, the Virgin and Child in the centre, wherein the keys, brooches, and other ornaments project solidly, and which is thus dated (1482) in a mixture of Roman and Arabic numerals, M°. 4°. X . II.

Another is the picture by Gentile Bellini (brother of Gian Bellini), "St. Mark preaching at Alexandria." Gentile was sent to Constantinople in 1454, by the Council of Ten, at the request of the Sultan, and on his return painted this picture, showing the men and women in the rich Turkish costumes he had seen, with a view of St. Mark's in Venice, as a background. This is a very remarkable work: the centre group, in white turbans and veils, is wonderfully well managed. Garofolo's Crucifixion, too, calls for a line to note the great beauty of the figure and countenance of John, wherein are shown sorrow, resignation, faith in the dead friend, and conscious power.

The great point of attraction, however, in the Brera, is Raffaelle's exquisite picture of the marriage of the Virgin Mary and Joseph,—the well-known *Sposalizio*, painted when he was in his twenty-first year, after the manner of his master Perugino. St. Jerome's legend of the marriage supplied the text from which many artists painted, notably Perugino himself and Fra Angelico. The suitors to the Virgin amongst whom was the son of the High Priest, deposited their wands in the Temple overnight. In the morning the rod of Joseph was found to have budded forth into flowers, whereupon the other suitors broke their wands in rage and despair. In arrangement and incident Raffaelle closely followed his predecessors. It needed a thousand rills to form the river of Homer. The tender grace and beauty of the picture, which is fresh and perfect as it was on the day it was painted, can scarcely be overstated. The High Priest, Joseph, and the suitor

breaking his wand, offer features to be dwelt upon.

We have spoken of the industry of genius. Consider that of Raffaelle: the number of his compositions is as marvellous as their variety and goodness. More than 120 pictures by him of the Virgin and Child are known, and ninety portraits; numerous grand compositions, such as the Transfiguration and the Hampton Court cartoons; drawings and studies scattered all over Europe; designs for public and private buildings (he even superintended some), and at any rate one piece of sculpture. And this man died on the day he completed his thirty-seventh year, through a fever caught, it was thought, in superintending the excavations by means of which he was disinterring some of the art-wonders of ancient Rome!

A number of modern works, chiefly landscapes and portraits, were being arranged for exhibition;—some of them very meritorious, especially Giuseppe Bottani's female heads. In one of the rooms were some sculptured groups in *alto relievo*, by Magni and Strassa, intended for the cathedral, and very creditable. The price paid for these, each being 5 feet in length and 2 feet 2 inches in height, was 80*l.* apiece, we were told, and they were not dear.

The Great Hospital has several claims to attention; the earlier courts commenced in 1456, and somewhat Mediæval in character; the great court, admirably designed by Bramante, and which is a noble area with two colonnades, one above the other; more modern portions of the exterior in terra cotta, and the immense extent and capabilities of the institution. Bramante's design was not completed until 1621, when one Dr. Carcano, a Milanese, left money for the purpose. This same generous citizen left 230,000 crowns of gold to the cathedral for the construction of the façade: we noticed a tablet in the aisle behind the choir there recording it.

From a sanitary point of view we are not able to speak with precision of the arrangement of the hospital, but we do not hesitate to say it is very bad. The wards we looked into were dark and close, and their disposition around closed courts implies stagnant air and a high death-rate. This is one of the most serious defects that can be committed in hospital planning. The statement was repeated to us more than once, as we seemed incredulous, that 3,000 patients were being treated in the hospital at the time of our inquiry.

Milan is positively full of hospitals. Evidently no persons there need pay for being cured unless they wish to do so. They might wisely apply the money thus saved in paying for being advised how best to maintain their health.

Foremost amongst the works of modern time in Milan, besides two or three handsome palaces, is the white marble Arco della Pace on the Simplon-road, commenced more than fifty years ago, finished about 1838 (Cagnola architect), and re-dedicated to the revived destinies of Italy in 1859. Another offspring of the mother arch in Rome, posterity will examine the abundant and, in some points of view, excellent sculpture on it, to discover how the men of the nineteenth century looked, dressed, and worked; but in vain. All are disguised in a costume they never wore: every event depicted is foolishly falsified. In addition to a bronze Peace, in a car with six horses, on the top, a mounted figure of Fame at each corner of it, informing the world of her arrival, give the uncomfortable notion that they are about to gallop off and hurt themselves.

Real chariot-racing and horse-riding take place in the Arena hard by,—not a companion of the noble Arena of ancient Verona, that one-while raised our enthusiasm—but a modern construction, well adapted, nevertheless, for its purpose. About twice as long as it is wide, 42,000 persons, they say, may be accommodated on the seats ranged one above another around the area of display. These seats are mostly of turf, though a certain number of them near the state-entrance are of granite. The upper platform, which affords a promenade, is edged with Acacia trees. Workmen were erecting a theatre at one end of the area, at the time we visited it, for some exceptional dramatic performance. At other times they fill it with water, from the Ortolani river, for aquatic exhibitions with musical accompaniments. Talking of music, Italy is the land of song. No doubt of it. We are too grateful to raise a quibble thereanent. *But*, that the Italian multitude of to-day have much "music in their souls," judging from the street music now to be heard there, is a proposition that may be questioned. All the peripatetic music we listened to was simply execrable. Especially do we remember an agony, caused by one wandering band during a dinner at the *table d'hote* of the Albergo Reale, where, as Wordsworth says of cattle,—

"There were forty feeding like one."

Of the assembled party, a gathering of various nationalities, including, as it happened, the sister of General Turr, and a youthful friend who was with brave Garibaldi when the surgeon first touched the bullet in his wounded ankle, none seemed to suffer from the unmelodious strains as did the English. Touching that bullet, by the way, to use the words differently, the representative of English surgery came not well out of the affair; and in consequence some in Italy make game of Partridge.

The master of the hotel we have spoken of is a picture-buyer, doubtless also a picture seller. The sitting-room we occupied looked into the entrance-court, in the corner of which stands an ornamented square Renaissance pillar rescued from some "demolition;" while the chambers behind opened on to a little balcony thereto specially belonging, from which was seen a paved court with flowering plants in pots, caged birds hanging on the walls, and a fountain surrounded with flowers in the centre, making diamonds in its play with a sunbeam.

But we must be moving; so now for Como, the Larian Lake, and Cadenabbia of most pleasant memory. The declivities on either side are covered with villages, villas, and trees, the villas surrounded by flowers, the whole backed up with mighty mountains, about the tops of which the clouds hang fondly. All is still; quite still. No living thing is about: not a movement is to be seen except the tremble of the air in the hot grasp of the sun:—

"A region of repose it seems,—
A place of slumber and of dreams."

To drag, however, one of the most beautiful bits of the world into the end of a chapter, would show scant appreciation: it must be kept for the beginning of the next.

JERUSALEM EXPLORED.*

If there be one spot upon earth of more interest to all Christendom than any other, it is, of course, Jerusalem: any information concerning it must necessarily interest a large circle of readers. Not only the various persons, however, who have made the topography of the Holy City their especial study by means of books, maps, drawings, and photographs, compared with the accounts of Josephus, the Pilgrim of Bordeaux, and Eusebius, but the travellers who have visited and examined the site, and read the stories told by the stones themselves, come to conflicting conclusions. Ancient Jerusalem, crumbling and sun-baked here and there, subterranean and hung with stalactites elsewhere, and everywhere overpowered by the presence of modern Jerusalem, but still a prototype of "Jerusalem the golden, that eager hearts expect," brings to mind the chameleon the travellers saw in the desert. It is an object that presents itself in different aspects and tints to every observer. No two persons appear to form the same estimate of it; nor does it seem to produce the same impression upon any two individuals. It will be remembered that about two years since we noticed a work by Mr. Lewin, entitled "Jerusalem: a Sketch of the City and Temple, from the Earliest Times to the Siege of Titus." It was an interesting publication: but it was a work treating of topographical subjects controversially by a writer who had never seen the site he described. This was commented upon as a proceeding so open to objection, that Mr. Lewin resolved to rectify it by setting out to the Holy Land, and becoming himself an eye-witness of his description. Upon his return, he makes us acquainted with the result of his experience in the volume before us, which also contains the bulk of his former work, as well as a sketch of the great siege, and a journal of the twelve days he spent in Jerusalem and its neighbourhood. It is a subject for regret that our author did not take with him a little larger store of feeling and fervour, and a better acquaintance with architecture.

In Mr. Lewin's former work, he protested against the theory started by Mr. Fergusson, that the mosque of Omar in reality covers the sepulchre of Jesus; and, in the present volume, after a visit to both edifices, he maintains his belief that the church of the Holy Sepulchre covers the veritable tomb that was at the time of the Crucifixion newly made for Joseph of Arimathea. Nothing that he saw in the mosque of Omar justified the supposition that any confusion of sites has taken place; and nothing that he saw in the church of Constantine at all shook his faith in the belief that he looked upon the spot described by Eusebius as having been uncovered beneath the temple of Venus in the days of Constantine. Mr. Lewin repaired to the last-mentioned structure, at six o'clock on the morning following his arrival, where he found divine service going on, with a good deal of parade. He entered the little isolated chapel, beneath the rotunda which covers the Holy Sepulchre, and, passing what is shown as the identical stone rolled away from the mouth of the tomb by the angel, stooped beneath the narrow-arched doorway of the sepulchre itself, and stood by the side of the marble slab which is said to cover the tomb. He found the cell cased with marble, and highly ornamented with chaplets and candles. Not a vestige of the living rock was discernible, either within or without; but despite the absence of this testimony, our author considered the evidences and traditions in favour of his view of its authenticity to be uncontrovertible. Concerning Agrippa's wall, Mr. Lewin found evidence that induced him to recall his previously expressed opinion, which the suggestions of Robinson had caused him to form. It was a matter of doubt whether Agrippa's wall at the north-east corner of the city should be drawn in the line of the present wall or carried beyond it to the summit of a rise on the north-west, and then down again to the existing wall, a little west of the Damascus gate. Robinson pronounced in favour of the latter configuration, and our traveller sided with him from a home view of the case; but on personal inspection he reversed this decision, and feels satisfied that the course of the present wall is identical with that built by Agrippa. The high ground has been twice recently explored, first by Mr. Bergheim, the banker, for a mansion, and then by the Russians, for a convent and church, and no foundations of any kind were found. Of the three towers, Hippicus, Phasælus, and Mariamne, with which Herod is believed to have fortified the north wall of his palace, Mr. Lewin places Phasælus at the north-west corner, at which is the pile now called Hippicus. On his first view of the three towers, he thought the lower rows of large bevelled stones proclaimed the three ancient bases; but on subsequent visits he observed that the stones of the tower he has elected to call Phasælus were much larger than those of the others, and built in so compact a manner, that it is not likely that it has ever been disturbed, and that it was solid to a great height, as described by Josephus. The bases of the other two towers are not solid, nor are the stones so well joined; consequently it may be assumed that these two structures have been rebuilt from the old materials on the original sites. Mr. Lewin draws many of his archæological conclusions from the bevelling of the

* The Siege of Jerusalem by Titus. With the Journal of a Recent Visit to the Holy City, and a General Sketch of the Topography of Jerusalem, from the Earliest Times down to the Siege. By Thomas Lewin, Esq., of Trinity College, Oxford, M.A., F.S.A. London: Longman, Green, Longman, Roberts, & Green. 1863.

ancient masonry. He notes, that in one kind of bevel the channel is very shallow, leaving the central surface of the stone carefully smoothed, if not polished. The vast stones at the south-west, south-east, and north-east corners of the Haram are of this type. In a second kind of bevelling the channel is much deeper, the surface of the stones being hewn only, and not smoothed. Of this kind of masonry is the newly-recognized Phassælus. In a third fashion of workmanship, the bevel is still deeper, and the face of the stone left in a rough state. The Mek-himeh, or Town-hall, presents an example of this type. He concurs in the generally received opinion, that the bevel was introduced into Jerusalem by the Syrian artists whom Solomon invited to the city, and attributes the masonry of the Haram to that monarch. The newly-broached theory that the eastern wall of the Haram was merely a continuation of Agrippa's third wall he utterly repudiates. The stones of the Wailing-place have shallow bevels, and are finely smoothed; they are all of vast size; some much disintegrated, and others quite fresh. To a fragment of an ancient archway, exhibiting no bevel, our author assigns a still more remote antiquity, placing it among the faint traces of the city before the days of David. With regard to other controversial points, Mr. Lewin puts in a plea for the antiquity of the present Pool of Bethesda, places the Macedonian Acra on the spot assigned by many to the fortress Antonia, and the temple at the south-west corner of the Haram; accepts the position of the Garden of Gethsemane, but rejects the identity of the aged olive-trees which are preserved as having witnessed the Agony; pronounces the mosque El Aksa to be a Roman basilica, with a good deal of Mahomedan patchwork; concurs in the belief that the great cistern, recently discovered under the Haram, capable of holding 2,000,000 gallons, was the great sea which supplied the Temple with water; concludes that the large bevelled stones at the south-west corner of the Kalah-el-Jalad are a portion of the third wall, and that the chamber within is a remnant of a corner tower, which he identifies as Psephinus, mentioned by Felix Fabri. He believes Bethphage to have been a suburb of Bethany, instead of an isolated town on the site now occupied by the ruined Abu Dîs; and to his gaze the church built by Helena, the mother of Constantine the Great, at Bethlehem, presented the appearance of a Roman basilica, and resembled in many respects the mosque El Aksa in the Haram. The well of Job, he pronounces to be, unquestionably, the Eurogel of the Old Testament, where, in the summer-house attached to the king's gardens, Adonijah was carousing with Joab when Queen Bathsheba and Nathan laid their plot before King David.

The archæological traces of ancient Jerusalem are so scanty that the least addition to them is valuable: these are occasionally made in the progress of building operations. In excavating for the foundations of a new Russian consulate on the south side of the court of the Holy Sepulchre, some remains were brought to light, composed of huge bevelled stones, each of which was about 7 feet long and nearly 5 feet wide, of the same character as those in the Wailing-place and at the corner of the Haram. These are thought likely to have formed part of the second wall erected by David or Solomon.

Mr. Lewin found Mr. Schick, the architect, in course of building a new house for Dr. Chaplin, the English physician, at a point eastwards of the Jaffa gate, within the walls and in the neighbourhood of the Castle of David. In excavating what is called the "Cliff of Sion," the workmen came upon a cistern lined with cement. Upon further examination, it was ascertained that this cistern had been formed out of a still more ancient tower, measuring 8 feet from north to south, and 9 feet from west to east. It possessed a gateway 5 feet wide on the west side, with a round arch at the height of 18 feet from the floor; the total depth to the basement from the street above being 30 feet. A second tower, of similar dimensions, was found to be situate 64 feet eastwards of this, connected with the first by a length of massive walling. This line of walling proceeded past the towers, in a southerly direction, and was ultimately made use of as a foundation for one of the walls of the new house. Mr. Lewin deems that this relic of the ancient city was a portion of the old first wall of Sion, flanked with towers 64 feet apart, and overhanging the Syporæan Valley on the north. The only loophole for doubt consists in the circumstance of the gateway of the first tower turning towards the west; but this stumbling-block our topographer explains away. No direct approach to the wall was practicable from without, owing to the depth of the valley beyond it. The road was therefore adapted to this acclivity by bringing it up in a slanting direction to the west side of the tower.

Near the same spot Mr. Lewin saw a rude fragment that he thinks must have been a portion of a building in the old city before the introduction of Syrian artists by David and Solomon.

When the English church was building on Mount Sion, some years since, a conduit was discovered. The mouth of it, which is in the incumbent's house, had been hermetically sealed, for fear of accident, for one-and-twenty years; but by the courtesy of the Rev. Mr. Barclay it was uncovered for Mr. Lewin's gratification. A party of eight made the descent of the shaft by means of a rope ladder. Lighted by candles, they traced the course of the conduit eastwards, and found it about high and wide enough to admit of them passing along in single file, with a roof covered with flat stones, having openings in it at intervals, as if for buckets. The stalactites formed by the drip through the limestone soil were soft, and crumbled at the touch. After proceeding some 200 or 300 feet, their progress was blocked up by a disruption of the soil, when they faced about and groped their way westwards for some 160 feet. The sides generally had been cemented; but in one place the cutting was ascertained to be through solid rock. A low and narrow passage brought them to a sharp turn in the conduit, which, a little distance in advance, was blocked up by a wall built across it. This was the conduit in which the high-priest Ananias hid himself in the last days of Jerusalem, before its capture. In a popular tumult his palace in the upper city was fired, but he escaped to the palace of Herod; this was then besieged and taken, when he let himself down into the conduit and hid from his enemies; but on the following day he was discovered, dragged out, and assassinated. And it is also likely to have been the passage into which Simon Bar-Gioras fled, on the successful assault by Titus, intending to worm his way out, beyond the walls, by spade and pickaxe. In this, and a few similar opportunities, arising out of the period of his visit, when various excavations were in progress, our traveller had the advantage over former tourists. Mr. Barclay informed him of a well recently discovered by workmen at the south-east of Sion, which he also descended. For a distance of 15 feet this was like an ordinary well, just large enough to allow a person to descend without difficulty; but lower than that depth there was an expanse, and the explorers found themselves swinging in a spacious cavern, at the bottom of which was water. A plank was thrown across the abyss, which proved an enormous cistern, supported by massive pillars about 12 feet square, with an arched roof and cemented sides. There were some cells leading out of it, in one of which they found a skeleton. They also observed layers of Roman tiles; but some huge bevelled stones that had first attracted the attention of the workmen as indicating the foundations of some ancient palace, had been built up.

On the first day in October a party of visitors, under the guidance of Mr. Barclay, set out for Bethany. They crossed the Valley of Jehoshaphat and climbed Scopus, when the map of Palestine appeared to be unrolled before them. Mr. Lewin does not attempt to bring before us the grand, awe-striking scenery painted by Seddon, Hunt, and Carl Werner. On the north, he says, lay the bald summits of the mountains of Samaria, and on the east were the mountains of Moab, and below them the valley of the Jordan, with the course of the river distinctly traceable from the fringe of verdure that garnished its banks: the details, the tints, he leaves to our imagination. Arrived at the mosque of the Ascension, they mounted the minaret and gazed at Jerusalem from the east, with the conviction, only, that it was a very inferior view to that from the crown of Scopus. Proceeding to the tomb of Lazarus, they entered the building over it, which is rudely constructed of stones, without any marks of antiquity, either architecturally or geologically speaking; no traces of the living rock being discernible. A flight of thirty steps gave entrance into a small cave or grotto, whence a low, narrow passage turned into the tomb. In one place on the left hand the author detected a bit of the natural rock; all the rest was artificial stone-work; and the general character and aspect of the place were so at variance with the impressions he had formed from the narrative, that, if not altogether rejecting the authenticity of the site, he was disposed to look at it sceptically. The profuseness with which successive generations of monks and dragomen have created sites for the different circumstances mentioned in the inspired writings, render it imperative for the wayfarer to beware of trusting too implicitly in their authenticity; on the other hand, too rigid a rejection is as much to be deprecated; for if we exercise too fastidious a selection, we should cut ourselves off from much vivid realization of the sacred story. As a case in point, we might mention that on the return of this party from Bethany to Jerusalem, they approached the city by the road by which our Lord made his last triumphal approach to the capital, accompanied by multitudes shouting, "Hosanna to the Son of David." So certain are some minds that this was the identical route, that on turning a projecting shoulder of the Mount of Olives, and coming in view of the city, Mr. Barclay proposed that the cavalcade should halt and sing a hymn. Yet where should we look for proof of this fact? Among the spurious sites made to meet the demand, is a stone in a comparatively modern wall, in the course of the Via Dolorosa, which is marked by a deep indentation, said to be caused by the leaning of Our Lord against it, when he sank under the weight of the cross. A little further on a second stone is pointed out as that on which Lazarus sat when the dogs licked his sores; a third, with a hollow shaped in it to resemble a mouth, is shown as that referred to in the passage, "I tell you, that if these should hold their peace, the stones would immediately cry out."

Mr. Lewin and his fellow-traveller, Mr. Allcard, made a second excursion to visit the Dead Sea, the Jordan, and Jericho. As the Dead Sea lies 4,000 feet below the level of Jerusalem, we may be sure the ride was a jolting and tedious one, and can almost excuse the saddle-tired author for seeing little more in the Dead Sea than a deliciously buoyant bath, nor feeling any emotion more ecstatic than a strong desire that he could have such another in London daily. The water was tepid, and the beach unpleasantly heated: a second bath, in the Jordan, a short time afterwards, was not to be compared to this for enjoyment. Roman and Jewish Jericho are about two miles apart. The former, now represented by the village of Riha, consists but of a group of low stone huts, covered with flat roofs, made of reeds and boughs, the whole being encompassed with a fence formed of the nubk or dome, as a protection against the Bedouins: of Jewish Jericho only a few mounds and ruins remain. Upon the western banks of a stream close by, two men were wading about in a pool known as the fountain of Elisha, carefully turning over every stone. They were fishing for crabs! In like discordance with our associations, women were found washing clothes when Mr. Lewin visited the pool of the Virgin, and a man washing his feet in the pool of Siloam.

The return from Jericho to Jerusalem is as steep as the journey down is on the decline, and brings to mind such passages in the Evangelists as relate to the going up to the Holy City; but there is a less precipitous route than that by the convent of Mar Saba, which was chosen on this occasion. At the entrance into the mountain-passes lie some extensive ruins, which Mr. Lewin would have concluded to have been the remains of the amphitheatre built by Herod, if Josephus had not explicitly described the site of this building as being on the plain. Between Riha and the mountains can be seen a large dry reservoir, near a fragment of an aqueduct; it is here that the author suggests the Amphitheatre should be looked for. The remains of a caravansary, about half-way between Jericho and Jerusalem, the only trace of habitation to be seen between the entrance of the mountains and Bethany, in a neighbourhood haunted by Bedouins, give life, colour, and reality to the incidents of the parable of the man who fell among thieves, who stripped him of his raiment, and wounded him and departed, leaving him half dead, and of the certain Samaritan who had compassion on him, and set him on his own beast, and brought him to an inn; but to assume that it was the identical building referred to, would be as culpable manufacture of a fictitious site as those of the monks and dragomen.

Those will most enjoy Mr. Lewin's book who have gone over the ground themselves, for he writes rather to clear up doubts and lay down the law on controverted points, than to create new pictures in the reader's mind: those will

next best enjoy it who read it as a commentary upon more pictorial works of the Holy Land, or as an exposition of such a series of pictures as those of Mr. Werner. His arguments as a topographer are very forcibly given.

NEW MATERIALS FOR THE LIFE OF HENRY FUSELI.

IN the nearly-completed first century of the "Royal Academy of Arts" in England, the Academy has had EIGHT several "keepers,"—keepers of its treasures out of the Three per Cents. Very different-minded men have these eight keepers been. Read their names, and reflect on what they have done in Art and towards Art! Here they are:—Moser, Carlini, Wilton, Fuseli, Thomson, Hilton, Jones, and Charles Landseer,—six painters and two sculptors,—not a very remarkable enumeration of names, and chiefly noteworthy for its including Fuseli, a person among "the forty" whose reputation rests more upon what he said and might have done in eighty-four years of existence, than on what he did.

It has been said sarcastically enough of Fuseli that he was a scholar only among Royal Academicians; for West, Nollekens, and Northcote wrote ungrammatically, and spelt hideously. I have seen a letter of President Benjamin West's to Francis Chantrey, in which he calls our Phidias of bust sculptors a great "sculpture." Fuseli, though a foreigner by birth, was a master at times in writing the English language. His lectures, it is true, are often grandiloquently obscure beyond the happiest commentator's apprehension; but his few Homeric contributions to Cowper's "Homer" are immensely fine.

Of this now nearly forgotten man I have something new to tell. The keeper of the Royal Academy of Arts in London is a resident official. He is supposed to be always heard of. Candidates for studentships in the Academy make their applications to the keeper of the Academy. Fuseli, in his twenty-one years of office, had many applicants to see, to reject, and to admit; to flatter, and at times to insult. The painter who voted for a woman (Mary Moser) as president, in opposition to West, on the plea that one old woman was as good as another, found his greatest academic difficulties with women. A kind of Mary Moser, who came to the Academy to draw and learn, has put on paper her recollections of Fuseli; and from her narrative (hitherto unpublished), the new materials of my present communication are principally drawn.

The lady correspondent of Allan Cunningham was no common observer. What she has to say is worth telling, and is told with the ease of a ready writer:—

Miss Patrickson to Allan Cunningham.

Dumfries, Sept. 14, 1830.

I have just laid down the second volume of your "Lives of British Painters," after perusing that of Henry Fuseli, the only one I have yet read. All who knew and admired that extraordinary man must feel gratified and grateful on finding his great talents so ably, eloquently, and justly described; but you have not done justice to a thousandth part of the kindness and goodness of his nature; nor could any one who had not enjoyed great facilities of intercourse. The first eager perusal has not left with me the impression that you were intimately acquainted with him. I write from the experience of years, and I shall not do you so much injustice as to apologize for addressing you. The biographer who could so appreciate and vindicate the genius of the artist, will not peruse without interest an honest tribute to the amiability of the man, though the style in which it is recorded should be tedious, diffuse, and feeble.

The "Lives of the British Painters" will no doubt afford (by demands for future editions) opportunities for corrections, additions, and the statement of fresh facts, such as the publication of the biography of eminent individuals must always elicit. I shall not attempt to draw up a character of Mr. Fuseli; I am not capable of doing so; but I shall give a plain statement of what I know to be true, such as all who know me have repeatedly heard me state in conversation; trusting it may induce you, in your own language, and as briefly as you choose, when you have occasion to revise the life of one to whom you have already done so much honour, to add that which is so justly his due.

I have no time to arrange the materials with which my memory is so amply stored; and which, never dormant, are now by the perusal of your work, raised into such importunate activity, that they crowd upon me almost to embarrassment. I shall give them pretty much as they rise, though in so doing I must bring myself forward in a way you will no doubt find tiresome; but it is necessary (at least I think so), for I cannot expect you to act upon my assertion unsupported by facts.

Many of my acquaintances and associates among artists and students wished to persuade me that my great admiration of Fuseli was not genuine; but arose from the gratitude and regard excited by his kindness to me; alleging that colour was what I was most successful in, and that in the few original attempts I made, I never copied him. I never thought of copying him! They might as well have said, because in my idle moments I strung rhymes together and called them songs, that I thought a ballad a finer production than an epic poem. Fuseli himself taught me better. "Never copy the manner of any one. If you have opportunity, copy the best works you meet with; if you have not, study them well. Do not confine yourself to one style or one master. Take nature for your model, and your style will come of itself."

If mind could be copied, I would have chosen his. My acquaintance with Mr. Fuseli was the result of my admiration of his works, and I never even saw him for many years after that admiration had been excited; for I was only twelve or thirteen years of age when Moses Haughton, the miniature painter, took me to see, for the first time in my life, the exhibition at Somerset House; and there I saw the first of his paintings I ever beheld (I knew every print- and book-seller's window between Bond-street and Cornhill; and had spent much time looking at a print of "The Nightmare," as the frontispiece to a small book): that painting was the "Ugolino," and never has that magnificent picture faded in its effects upon my mind. I remember where it hung, and the general appearance of the rooms, but not another picture which they contained. I was glad that it was painted by Mr. Fuseli, and contemplated my old friend "The Nightmare" with additional pleasure. Mr. Haughton was kind enough to ask me to go to Queen Anne-street, where he was staying, in the absence of Mr. and Mrs. Fuseli, to see some more of his pictures. I went early one morning, and staid many hours, passing nearly the whole of the time contemplating the "Lazar House." I saw the Shakespeare Gallery, where, again, Fuseli fixed my attention; and I remember when I at last saw himself, I thought that his head was not unlike that of his own Prospero. I by some means scraped up a sort of acquaintance with Mr. Harrison, a partner or manager of Alderman Boydell's, and he invited me to go to the shop whenever I liked. I used to go, and was always accommodated with a stool, a portion of counter, and as many portfolios as I chose; and I hunted out everything of Fuseli's that it was possible to get at. For about a year and a half before I became acquainted with the great artist, whose works I already so much admired, I had taken lessons in drawing, first at the academy of John Young, the engraver, afterwards keeper at the British Institution; and after of Mr. Hayter, father to the historical painter. At the first place, my taste was treated with ridicule; at the second, I heard many accounts of Fuseli as keeper, which, added to the manner in which I had long before heard Mr. Haughton speak of him, induced me to believe that the man was not inferior to the artist.

I was nineteen or twenty years of age when I had first the honour of being introduced to Fuseli, and with no farther preparation than being invited the day before by his wife, whom I met at the house of an uncle of mine. I took with me, by her desire, a portrait in Swiss crayons (a copy). Fuseli liked it very well, and told me he would always be glad to look at what I had done, and give me his opinion. I copied a portrait of Sir Joshua's—my first essay in oils; and which was as hard a performance as could well be imagined. I expressed my regret to Mr. Fuseli. "Never mind," said he, good-naturedly, "I do not object to a little hardness at first: you will soon correct what will so much offend your eye. It might not be so easy to find a remedy for original feebleness." He lent me a portrait of himself, painted when he was thirty years old, at Rome, by Northcote. I did my best, but I was pretty sure, though he was kind and polite, that he thought very little of my best. He recommended me to make a second copy; and it was so like the first that he expressed himself disappointed, but with no rudeness or ill-nature. I offered to make a third. "No! I was quite inexperienced; perhaps there was something in Northcote which baffled me; he would find me something in a different style." He did so, and lent me Opie's portrait of Mrs. Fuseli. I copied it with great ease to myself, and quite to his satisfaction; and it was evident that he had as much pleasure in giving praise as I had in receiving it. I went home happy, for he had shown me several faults; therefore I knew he thought I should improve; and I had ventured to ask for one of his own pictures, and obtained it.

It was shortly after this that in showing Mr. Fuseli a chalk-drawing, made under the direction of Mr. Hayter, that he discovered what I thought he had never been ignorant of, namely, that I still took lessons of that gentleman. He was very indignant; said that he could not share a pupil with Mr. Hayter, and that I must make my election; that if I chose to consider myself his pupil, he was willing to consider himself my master; that he would give me the best advice and instructions in his power, and lend me anything in his possession; but that he must have me to himself. Who could have granted a greater favour? Who could have done so with more kindness and delicacy? And can it be supposed possible that I can express how deeply and gratefully I felt it! Until I left London, in an almost hopeless state of health, a period I think I may safely say of seven or eight years, I enjoyed all these advantages. He lent me pictures, books, and casts; allowed me to show him everything I did, and, if original, in different stages; admitted me at all times to his study—(the porters, not only Sam, *par excellence*, but fat Sam, and Charles, never thinking any more ceremony necessary than "Mr. Fuseli's in his own room, Miss");—permitted me to draw in the Academy on Mondays and during vacations; and invited me to choose objects in the council-chamber, and draw by him while he was painting his great picture of "Hercules assailing Pluto," which I did for several weeks.

I was not naturally shy, but I never overcame my awe of Fuseli; and, to the last visit I paid him, never knocked at his study-door without a palpitation of heart almost painful: yet such was the charm of his conversation and the kindness of his manner, that my visits generally extended to several hours: and in the lonely little room where I pursued my studies in perfect solitude, where I lived over again in retrospection all he had said and how he had looked, I was astonished and ashamed when I recollected the freedom with which I had expressed my sentiments and opinions, and still more at the questions I had asked. Many were the resolutions I made never to do so again; but they were all forgotten.

"Have you been to see de 'Miraculous Entombment?'" "No, sir." "Why not? All de world is going." "I don't like the name, sir." "You don't like de name! What, de devil! is it not fine enough for you?" "It's so ridiculously fine, sir, that I thought nobody who knew a good picture would have bestowed it on one." "Well, it's a d——d bad name, to be sure, but it's a very fine picture; you must go to see it." I readily promised. He then asked me if I knew anything of Spada. I did not. He told me he was a man of strong but coarse mind, perfectly capable of painting all he saw; that he was, or had been called, I forget which, an imitator of Michelangelo; but that he had no grandeur. He then left his picture, took a bit of chalk, and upon a blank canvas sketched me the arrangement of the picture, showed the effect which had produced its wonderful name, charged me not to let any want of agreeableness destroy my interest, and enjoined me to study it carefully. Those who know how tenacious Fuseli was of his time, how much he hated interruption, and anybody in the room with him when he was painting (he never could comprehend West painting with his porter in the room, and letting him set his palette, and often mentioned it), can estimate the kindness which led him often to leave his own work and employ himself upon mine.

I, one day, in the Council Chamber, threw down my port-crayon, and quitted my seat, with more vehemence than I was in the habit of using. He came to ask what was the matter. I said that I could not draw my figure, and it was no use trying: he said, "Oh, it was great use trying;" and seeing I was quite discouraged, added, "Come, then, give me the port-crayon, and if you cannot manage de lady [the little sitting Venus, with a drapery over her knees,

and her right hand holding her left foot] let me try if I can." He went over some of the lines and corrected others, while I stood behind. "A d——d little difficult devil of a figure, after all. You are not so unreasonable as I thought you." There is no giving Fuseli without swearing. Why is it that swearing in him never gave offence? At least, I never heard that it did. In my own opinion, it was accompanied by no profanity of mind. His feelings vented themselves in the most energetic language he could meet with (it should never be forgotten that he was a foreigner: the English never scruple at foreign oaths; they use them as expletives merely, for they alarm not the conscience by suggesting profane ideas. *Diable* and *Diavolo* are pronounced without hesitation by youthful and female lips, which refuse to utter the word *devil*, and half convert it into a joke, by substituting "*the old Gentleman.*" Imprecations share the same indulgence), as they did in those attitudes and strainings of the muscles which were so generally called extravagant. Fuseli drew no stronger than he felt; his feelings and his mind are alike upon his canvas. If ever a "body thought," that of Fuseli did; every muscle and tendon in the movement of a finger, the extension of an arm, the throwing back the head, the elevating the eyebrows, was instinct with mind and feeling.

The students, who (as you observe), were fond of relating anecdotes of him, naturally chose for the amusement of others those which had amused themselves; but, notwithstanding his vehemence, many spoke of his good-nature, which with very young people generally means kindness. I remember an anecdote of him, told me, perhaps, because I knew the young man concerned. Keir, a young Scotchman, of gentlemanly manners, mild and modest, with quick and sensitive feelings, was unfortunately deaf and dumb. He entered the Academy a few evenings after his admission, when, not finding a seat, and unable to ask assistance, he stood in a state of painful embarrassment, which some enjoyed, and no one tried to relieve. Fuseli entered and addressed the embarrassed stranger, but poor Keir could only blush and bow. Some one told Fuseli of his infirmity, and that he was looking for a stool. "Looking for a stool! and why does no one give him a stool?" There was not an unoccupied one in the Academy. Fuseli signed to Keir to wait, hastened to his own room—no trifling distance,—and brought one, which he presented to the youth, with many bows and apologies for having had it in his own room; assisting him at the same time to arrange his work. The students were delighted with Mr. Fuseli, and as ready to applaud him, as the Athenian youths were the Spartans, when they showed that respect to age in which they had just proved themselves deficient.

Two things I remarked in Mr. Fuseli, that he never omitted an opportunity of imparting information or instruction; and that if he had hastily wounded the feelings, he was solicitous to heal them. For myself, I am sure such occasions did not occur six times during my acquaintance with him; and when they did, I would have suppressed any manifestation of being hurt if I could, but I never in my life could control any feature but the eye; that, I could cast down, but a changing cheek and a quivering lip always betrayed me; and if my face was turned away, my voice was a greater traitor still. I once met with a reception similar to one you have related, but the result was different. "Come in," in a sharper key than usual, had answered my knock at the door, and I involuntarily said as I entered,—"I hope I don't interrupt you, sir?"

"You hope you don't interrupt me! Yes, you do interrupt me. Everybody interrupts me." "But, sir, I'll not come in." "Oh, yes, come in, come in: I am very glad to see you notwithstanding; but never say dose foolish things. You don't say them often, but never say them at all! How can you, or any one, come in without interrupting me? And when you say, 'I hope I don't interrupt you?' I must either say that you don't, which would be a lie; or I must say that you do, which is pleasant to neither. Never run the risk of putting people's politeness at variance with their sincerity,—of laying them under the necessity of being rude or insincere." "Well, sir, "I'll endeavour not to say anything of the kind again." "That's right; now tell me your news. Sit down on this chair; I will take away my snuff-box: will you have a pinch? No, you don't like snuff; well, I will. You will like snuff in time: it is a great help to composition."

Mrs. Piozzi has left us the pleasing record, that Johnson was never so entertaining and instructive as when he felt that his temper had betrayed him into too harsh a reproof of ignorance or folly. I have spent much time at Streatham Park, when it was rented of the worthy Thrale's flippant widow, by a family with which I was most intimately acquainted. All the furniture was there as it had been when Johnson was the presiding genius, surrounded by all the living talent, whose portraits by Reynolds (himself among the number) then graced the ample library. All the place was hallowed by domestic associations and anecdotes respecting that wonderful man. I reverence Johnson, but I cannot persuade myself that he could make reparation with that grace, playfulness, and feeling, which in Henry Fuseli brought a smile to play round the mouth, while the tear was still a tenant of the eye. I was about to apologize one day for having been in his study, Mr. Haughton having taken us there, with a lady, when he came to the door, and, seeing a stranger, made a hasty retreat. "Oh," said he, "I suppose I made a face at you: you must never mind me; I make faces sometimes, but I am always very glad to see you." One of the stories of him which I like best was told me, I think, in the British Gallery by Mr. James Ward: whoever it was professed to have it from Mr. Northcote himself. When he and Fuseli were at Rome together, it was the custom in the theatre for the female characters to be played by boys; and there was one night one of such exquisite beauty, and that, too, with respect to delicacy, that the audience forgot the interest of the piece in their admiration. Northcote gave vent to his in words; and when he had exhausted his vocabulary and his ideas, turned to Fuseli, who said, "He makes all de women in de house look like men." Fuseli was very conscientious, and always careful not to mislead me. "My wife," said he (for when I wanted to ask anything very unreasonable, I always applied to Mrs. Fuseli), "tells me you want to draw in de antique academy." I said "Yes." "Very well; you are very welcome; but you will find it very cold, for I have no right to ask the porter to light a fire in the absence of the students." I waved all that, and he told me when it would be vacant. I said I would go on the day following. "Very well; but perhaps you would not like to come on that day—it is St. Stephen's day?" I did not observe those days. "Well, I don't observe them myself, but don't let me be any guide to you; never do as you see me do if you have any doubts. Never do anything to offend your conscience!" I went, and drew some days in a hard frost, with a bit of velvet sewed round my portcrayon, which I could not otherwise have retained in my fingers. He paid me two or three visits every day to inspect my progress, and invite me to warm myself at his fire. Sam soon made the latter unnecessary: he seemed to feel great pride in my devotion to the fine arts; regularly made me a good fire; and inspected my studies himself. He liked to come when he knew Mr. Fuseli was away, and give me his opinion, and I was quite as ready to hear it; for Sam rarely said,—"Now, Miss, if you'll just imagine a straight line dropped from such a place, I think you'll find that foot too forward, or too backward,"—that I did not find he was right. One day in the council-room he had been giving me his advice, when, as he went out, he cast his eye upon the Hercules: "Mr. Fuseli haven't altered that leg yet, I see, as I told him yesterday was wrong!"

I liked Sam excessively; he was so identified by himself, and every one else with the Academy, and there was so much composure in his self-complacency, that I admired him greatly. He liked my admiration of Fuseli, and was fond of increasing it. A favourite anecdote was his taking the portcrayon out of a student's hand, and drawing that of the Hercules in four strokes. In one instance only, Sam failed to influence me by his eloquence. He was goodnaturedly anxious that I should become a regular student in the antique, and I dare say if he had been satisfied with my progress, would have thought me worthy of being admitted to the life. "Lord, Miss, you'll never improve, drawing this way by yourself. You have no idea what a difference you would find if you were here with the young gentlemen; and if you asked Mr. Fuseli, he would give you leave directly; I am sure he would."

Mr. Fuseli's good breeding in one particular made a strong impression upon me; he never made qualifications or admissions on the score of my being a female. The contempt so commonly expressed by "very well for a lady," would at any rate have been too coarse for him; but the idea never seemed in any shape to enter his head. "You are like all the other *boys* in the Academy; you want to make a large figure upon a little bit of paper;" or some other of the common errors of inexperience, was frequently the style in which he addressed me. He expected the ordinary results from the ordinary advantages. When I showed him some anatomical drawings I had made, he said they were neatly executed, but from bad examples. I had hoped to obtain the large plates of Albinus, but had been disappointed. Well, he could not lend me them, for he had not got them, but he could lend me a very clever book if I would take care of it. This I promised: he went and brought it. "The plates," he said, "twenty-seven, are small, but very good; the letterpress, which you can't read, is by John Lav-ater" (he always pronounced Lavater with the accent on the first syllable), "son to the physiognomist. It is dedicated to me, and the only copy, I believe, in England. If you lose it or injure it, never come near me again, for I will hang you with my own hands."

I was drawing one day in the Academy when the weather was very dull, and it was difficult to find any light or shade. He was passing through, and, clapping his finger on the "Fighting Gladiator," from which I was drawing, cried out, "What is dis?" I looked up suddenly, with my head full of my difficulties, and said, "A light, sir." "A light! Any child could tell me that. It is the *Trochanter Major*. Do you make no use of what you learn?"

Another time he told me that hair had a shape if I would look for it; and he would advise me to do so immediately. When I showed him my first portrait, which was that of a middle-aged gentleman with a round face and small features, very fair and much colour, he laughed heartily. "Oh, what an unfortunate girl you are! I am very sorry for you. You have had a man to paint with neither light nor shade in his face. Why, he's all pink and blue, and red and yellow, like a squeezed peach!" I never could resist a joke, however much against myself, and laughed as heartily as he did. As a pupil, no severity of remark ever offended me: I wished to know my faults. It was a capital criticism, well worth painting a bad picture for. He was no niggard of praise, where praise was merited. I usually sent my copies the day before I called, that he might compare them with the originals at his leisure; and the first salutation generally let me fully into his opinion. When I had copied the "Othello and Desdemona," "I congratulate you! I give you joy! I congratulate you sincerely! You have pleased and surprised me. You have made an excellent copy. I knew you could paint Othello, but I did not think you could paint Desdemona: she is very difficult. You ought to be very happy."

Some time before I had chosen for myself a design from Cowper. Fuseli rather recommended another, which, by way of compromise, I said I would take the next time. He smiled, and let me take my own way. I never had such trouble in my life; but, persuaded it was only my own stupidity, I worked on, trying every expedient I could think of, and at last made something like it. "Well, I like your copy very well. Did you find it very easy?" "No, indeed, sir; I could hardly do it at all." "I did not expect you would do it at all. How did you get the man?" "Oh, I know I did not get him rightly. I got him as well as I could." "But how did you get him? What means did you use?" "Why, sir, I painted him several times; but he never was the right tint, and never looked like yours; so at last I was obliged to take one coat of thin colour after another, for I could not get it any other way." "And a very good way, too. I got it myself by one coat of thin colour over another; but it is a way you must not trust too much to."

Fuseli never sought to dazzle me by a display of his own knowledge, and carefully avoided confusing or embarrassing me by too many instructions or too much information at once. The *bourgeois gentilhomme* was not more overwhelmed by finding that he had been speaking prose for forty years than I was some time afterwards to find that I had actually perpetrated *glazing* without knowing it. He would say to me, "Do you remember when you painted such a picture?" perhaps three or four months before. "Yes, sir." "Well, what did I say to you respecting it?" I would tell him. "And you are sure I told you nothing else?" "Yes, sir." "You are right; but I could have told you something else, but you would not, as well as you can now, have understood me. You have mastered what I told you then: you must pay equal attention to what I tell you now." He would

then, as clearly as if the picture had been before him, point out the defects of my inexperience, and instruct me how to avoid them in future. It was relating this and other instances of Mr. Fuseli's mode of instructing me that made the late George Dawe exclaim,—"Miss Patrickson, if you live to be a hundred years old, and paint every day of your life, you won't know at its close the extent of your obligations to Mr. Fuseli."

I have heard Dawe accused of meanness and avarice: it might be true; I knew but little of him. He gave me one day, in the British Institution, a piece of information respecting colouring which has been useful to me ever since; and he was fond of conversing upon art and artists. "I don't like your friend Dawe's eye!" (said Fuseli to me, one day); "he has a cunning eye,—a d—d cunning eye!" "Dawe is not particularly my friend, sir." "Well, I don't care whether he is your friend or not; I don't like his eye; I would not trust that eye. Whether he is your friend or not, you were very anxious that he should be made an Associate." "I meet Mr. Dawe sometimes, sir, and he is always very good-natured to me; and I liked his picture, and so did you; and you told me that, being, in Mr. West's absence, in the chair, you did not vote; but, had it come to a casting vote, you would have given it to him." "Well, and you told him so; and he came to call upon me. I suppose he wants to be an Academician."

Sam came into the room one day with a roll of drawings, and the compliments of one of the Academicians, I forget which, requesting Mr. Fuseli to look at them, and, if they met his approbation, to permit the young man to draw in the Academy. Fuseli did so; gave his permission, and requested he would give his compliments to the gentleman he came from, and say he was much obliged to him for sending him so clever a young man. I have known instances where Mr. Fuseli refused permission, and counselled longer study at home; but never knew or heard of one in which he wounded the feelings of the applicant.

Fuseli himself gave me the particulars of his re-election to the Professorship of Painting. I had been reading his Lectures (the three first published), and was combating, or endeavouring to combat, his own censures upon his own works, which he denounced as too florid, and intended to correct. "I dare say you like the style," he said, "you are young and enthusiastic; but as you grow older, your taste and judgment will improve, and you will learn that the simple is preferable to the florid." I asked him how Mr. Opie came to be elected Professor of Painting. He explained that a law of the Academy forbade one individual holding two appointments. "But you hold two now, sir!" "And you want to know how that has happened. Well, I will tell you." He then told me that when Opie died, Tresham was appointed. Tresham, I think he said, died or resigned, without delivering any lectures. The professorship was then declared vacant, and a time appointed for sending in applications. The time expired without one offering. He then wrote to the Academy, stating (his own expression), that as it was an indecent thing for the British Academy to be without a lecturer on painting, he was willing, without any remuneration, to deliver his lectures as formerly, until one was appointed. He was immediately re-elected.

I shall continue Miss Patrickson's "Recollections," and conclude what I have to say of Fuseli in my next communication.

PETER CUNNINGHAM.

MONTREAL.

THE possession of good building-stone is even more advantageous to the art-character of structures in a city, than might at first be expected. It conduces, or is favourable, to a more general regard for design than we witness many results of in a place like London, where stucco is the ordinary material for attempts at decoration. The exceptional case of the stone-fronted buildings in the City of London, about the Exchange and the Bank of England, where architecture of a creditable sort prevails, tends to prove the rule, which we may be justified in laying down, that the opportunity of employing ready-cast details of ornament is unfavourable to the manifestation of study, and to the order of merit required in the production of works which may be those of the true art. It seems to be unfavourable even in the buildings designed by architects. In London however, the services of architects at all, would appear to be dispensed with, or sought for, much as according to whether the building is to be stucco-fronted or built of stone. There is a good illustration of the unfortunate results of use of imitative stucco, in some of the details of the front of the building lately finished in Pall-mall for the Institute of Painters in Water Colours. There, the general forms are good: their arrangement in the upper stories indeed, is particularly clever; and the whole treatment of the difficult case of a very narrow-fronted structure, without being ruined in the effect by the appearance of the party-walls at the top, is a lesson. But in the ground story, the eye is shocked by the vulgar masks, or console-heads, of the side doorways, which are two of the worst things that could be found in any plasterer's shop. The curved pediment of the central doorway also, is less satisfactory than it might have been made.

The use of stone, to which we are attaching importance beyond what might be at first supposed in considering the material, is in our mind one cause of a generally satisfactory architectural character that we find, is becoming declared in one of the most important places in the colonies, Montreal. We have heretofore, given one or more views of buildings in that city; and our attention is again drawn to it, by a copy of the *Montreal Herald* of September 15th, which publishes as "Illustrated Edition," two large sheets, with ample and minute particulars, of all the building-work in progress at the time, in the city, arranged under the names of the several streets. The sheets contain about twenty woodcuts, some of which are engraved in superior style. The same journal has given previously, similar accounts of building progress. The fact of this, and the manner in which the particulars in the present case are given, deserve to be set down as very creditable to the *Montreal Herald*. The journals at home, in the little they attempt, do not acquit themselves better than has the colonial paper in the present case.

The impression produced upon us by the printed particulars, is that there is in Montreal, an appreciation of architectural effect, or a yearning for the production of art in building, which is so far decided that it may be taken as promise of important works in the future. Beyond the advantage that such a city has in the possession of stone, there is we suppose that other which generally results from the use of wood as fuel; for, as we have lately endeavoured to show, a thick and smoke-laden atmosphere, which we always have in London, and especially in winter,—a time when the Canadian atmosphere is clear,—is unfavourable to the production of architecture with us, as it is to the visual perception, to the popular appreciation, and to the preservation and economy of it, when produced. So far, we find that Montreal has advantages which are those of Paris; and, possibly, traditions, and the French race of descendants of the original colonists, are not inoperative to the desire for decoration and art: for, there is unquestionably a marked difference between this race and the Anglo-Saxon, as to the importance attached to decoration relatively to simple utility. Another advantage which Montreal has over London, is like that which Paris, and even Manchester has: it is comprised in the larger size or frontage of the buildings. A "store" indeed, may be a simple *shop*, named in the American vernacular: but the tendency of colonial and American wants and habits is towards the formation of establishments for sale of many varieties of articles. "Stores" therefore, have generally the advantage of dimensions; albeit a large building, as a small one, may be spoiled by a basement of glass, uninterrupted, as are the basements of the buildings in Paris by that saving feature, the *porte-cochère*.

Recent buildings of Montreal, indeed, are, or many of them, due to architects who have lately gone to the colony from England. The satisfactory part of the matter, and that which is creditable to the colonial public, is the general employment of architects. The *Montreal Herald* deserves to be thanked for giving in nearly every one of the cases, in its long enumeration of recent works, the name of the designer. The names that we have collected, are those of Messrs. Lawford & Nelson, J. W. Hopkins & Frederick Lawford, Larue & Colborne, John Hester, H. M. Perrault, M. Laurent, A. B. Taft, John James Brown, W. H. Hodson, Savage & Windeyer, J. Garven jun., C. P. Thomas, J. H. Wells, and Fahrland. Several of these have in hand, many works.

Without a plan, it is difficult to realize the whole character of the architectural movement which Montreal must unquestionably be exhibiting, or see what importance the many streets and buildings that are named, bear to the general city. Great fires have helped to the demand for new structures, as in New York. In future, however, the prevalence of the destroyer, but sometimes helper to architectural life, may be lessened. At least the materials now named as used, are generally "stone," or "cut stone," or "Montreal stone." Frequently however "brick," or "brick and stone," are mentioned as the materials of fronts. Where brick is used, it is often described as "on stone *foundations*;" that is to say, the ground-story, or basement, as with us, is stone, or stone-fronted. In the internal fittings of houses, there is no lack of expensive material and work; and in one case we note mention made, not merely of "marble mantels," but of "wash-stands" of the same material, as though the latter were fixtures. There is strangely prevalent error in these days of the diffusion of knowledge, as to the civilization of the colonies; although the Exhibition of 1862 should have left no delusion with those who saw the works, even of taste or luxury, from the colonies, on the occasion. Canada at all events, has passed, by some small number of centuries, an epoch in history of our art when mere building is supposed first exchanged for architecture. The principal difference between Canadian buildings and English, seems to consist in the materials of the roof-covering,—tinned-plate being often used,—and in certain provisions rendered necessary by the climate. Thus, a covering of slate slabs, would have to be designed very carefully to allow for the immense difference between the temperature of the summer and winter. For the latter season, there are special provisions of heating. No house would be thought habitable without them, or with nothing more than open fire-places. So that, Canadians spending a winter in England, complain much of cold indoors. A very simple arrangement of furnace in the basement of a house, for hot-air, with flues to the skirting of each room, is what is generally described to us; but in the *Herald*, mention is made in many cases of Gold's Patent Heating Apparatus.

Going back to the printed account, we find descriptions of public gardens, with drinking-fountains; and frequently we read of sculpturesque accessories of the ground attached to houses, and of other features which we associate rather with Italy than with Canada. We should have no farther faith indeed, in some of our theories, did not art gain something in a country where nature is so grand.

The city of Montreal contained in 1861, as found by census, a population of 100,000; and our authority gives it, by estimate, as now 120,000. The city is rapidly extending; former swamps are being covered by suburban mansions and blocks of dwellings; the wharves are extending far eastward; whilst, in the heart of the city, churches, banking establishments, and other public edifices, are rising up, and are of the improved character that we have spoken of. It is to be hoped that the sanitary requirements of such a city keep pace with the extension. The paving at least, is said to be greatly improved.

There are similar styles of architecture in Montreal, to those which are observed in England; and there is the same characteristic of different styles contemporaneously prevailing. Generally, as with us, the prevailing street architecture, and such buildings as banks and club-houses, are "Italian;" whilst the churches are Gothic. The recent Gothic is certainly superior to colonial Gothic in general. One of the most important works in Canada, considering purpose and size, is the Parliament Buildings at Ottawa. We some time since gave a view of it as designed. It has ranges of pointed-headed windows, of the Oxford Museum Gothic character, masses as pavilions with lofty roofs, and a central tower with a high truncated, but coronet-finished, capping.

The Gothic has changed greatly since the date of the Roman Catholic Cathedral of Notre Dame, a building which has very Batty Langley details. St. Andrew's church is of Early English style. It has transepts, and a western tower with broach-spire. In the view, it seems to stand on a lower level of ground than that of the surrounding streets. From these there are external stairs to side doorways of a story of the tower above the western entrance; the arrangement seeming to show that galleries are reached that way. Christ Church Cathedral is really a very meritorious work in Geometric Decorated

Gothic. It is a cross-church with central tower and spire, aisles and clerestory, octagonal and pyramidal capped chapter-house, and south porch; and at the western entrance is a porch of three arches and canopies, which though scarcely harmonious with the rest, is itself well designed. The Church of the Messiah is Romanesque. It is to be finished with a square campanile on the Italian model. The French Protestant Church, in Craig-street, to which schools and residence are attached, is a building to contain 450 sittings. It is of plain Early English character, and has a projection (*quasi*-tower), in the centre of the west front, which with the wall carries a spiriel-crowned belfry. The church of St. James, St. Catherine-street, is a small building of good Early English character: the tower and spire at the side, however, are too much as those of a large church reduced.

Of the non-ecclesiastical structures, (always excepting that wonderful work the Victoria Bridge,) one of the principal illustrated in the *Herald*, but which may not be of last year's date, is the Bank of Montreal. It has a portico of six Corinthian columns, antæ at the angles, and an attic terminated by a dentil cornice and *antefixæ*. Though the portico has windows at the back, there is good effect in the whole building. The City and District Savings Bank, and Liverpool and London Insurance Company's building, one of those of which we gave a view some time since, is Italian with superimposed orders, and crowning attic story, cornice and balustrade, all excellently treated. The Ocean Steam-ship Company's Offices form a small two-story building with Italian coins and window-dressings. The Colonial Life Assurance Company's buildings have a three-storied front, of Italian character, but having some novelty in the details of the upper stories. The basement has three rusticated arch-headed openings.

Of the buildings which are at this moment about completion, the best is the new Ontario Bank, in the Place d'Armes. Messrs. Lawford & Nelson are the architects. It is a structure of four stories of windows, and those of the basement; and is of Italian character, with architraved, corniced, and balconied windows, all, with the string-courses and cornice, being pleasingly varied. The jambs and archivolts of the openings of the ground story, and other architraves, are vermiculated rusticated. The *Herald* calls this last kind of ornamentation, *picque*-work.

The Royal Insurance Building, of which Mr. J. W. Hopkins is the architect, is now about finished. It is of Palladian, or Venetian Italian character in the details. There is a square tower at the end, rising from the ground. The upper stage of this is not in good proportion. The tower is surmounted by a square domical roof-covering of zinc laid in "fish-scale" pattern. A central court to the building is laid with white Dutch tiles. The offices are lined with carved oak throughout.

A new building for the St. James's Club is being completed at the corner of Dorchester-street and University-avenue, and occupies an area of 68 feet by 62 feet, exclusive of bay windows. It is a commodious building. The architects are Messrs. J. W. Hopkins & F. Lawford. The details are of Italian character. The upper of the two stories has the walls of red brick. A curved sided and flat-topped roof completes the design. A view of the Victoria Skating Rink, which has a roof of semi-circular arched principals, appeared in the Exhibition of 1862. The height is called 50 feet; so that the span would be 100 feet, without the side passages. Messrs. Lawford & Nelson were the architects.

THE CATHEDRAL AND TOWN OF AVILA, SPAIN.

THE following sketch of the cathedral and town of Avila, in Old Castile, may interest some readers:—

A railway ride through Old Castile is anything but interesting. Fancy England denuded of its trees and grass; fancy every brook and river to flow through a broad, shallow bed, in summer almost dry; fancy all the scattered houses of the villages and small towns collected into a group upon hills of reddish-brown sandstone, at whose feet long rows of black poplars beside a dry river indicate the promenade, or *paseo*;—fancy all this, I say, with a universal hue of dirty brown over all, and you will have a fair idea of Old Castile. Still, notwithstanding unfavourable appearances, there is much to interest a traveller in these same dull-looking towns. All, indeed, have something to show, some church or convent containing a majestic sculptured altarpiece or *retablo*, some beautifully-carved and inlaid stalls or cunningly-wrought iron railing, some cloistered court or ornate frontal, which well repays the trouble of the journey. The small city of Avila is situate at the foot of the Guadarraria, in a country of immense granite boulders and sparse vegetation, where grow a few small trees: a great improvement, however, on the flat country left behind, while the grey of the granite rocks seems quite a relief after so much brown. The walls of the town present a most striking appearance, with their circular turrets at intervals, and bold machicolated gateways. The cathedral has not much to recommend it outwardly, it having but one tower, like most Spanish cathedrals, and that more curious than beautiful; while the west entrance is disfigured by that vile rococo called by the Spaniards *churriguresco*. The view on entering is, however, most impressive. The screen, or *trascoro*, which, as in all Spanish cathedrals, obstructs the nave, is here sufficiently low to allow the whole length of the vaulting to be seen. The ribs and capitals of the vaulting shafts are gilt, but not too profusely; and the crown of each compartment of the vaulting is adorned by painting in subdued colours. I do not think the nave, which is the most modern part, can be later than the end of the twelfth century; for though the arches are Pointed, the capitals are Romanesque in form and detail, while the bases are almost Roman. The variety of capitals is something wonderful—there are no two even similar to each other: animals and monsters of every conceivable shape and in every conceivable position; foliage, sometimes Gothic, sometimes mocking the acanthus or twisting into the Ionic volute; while some have the plain forms of our earlier Norman capitals.

The choir appears older. The arches here are round and without mouldings: the triforium, formed of large arches inclosing two smaller, with a small column in the centre, is painted in chaste patterns, somewhat similar to the Romanesque churches of the north of Italy. The most singular thing about the east end is the double aisle surrounding it; the narrower arch being stilted to the height of the wider, while the round granite column in the centre is tied to the wall by a slab of the same material. The colour, red and grey, in the same block, of the stone of which the choir is built, gives it a singular and pleasing appearance: indeed, so much did the Spaniards like the look of it, that they have in the cloisters daubed the stones with patches of red in a vain attempt to imitate it. Though there is no really Moorish detail about the building, there is a Moorish sentiment which can be *felt*, produced by the stilting of the arches and the forms of some of the capitals. An artist might employ himself for months sketching the richly-carved tombs, the painted glass, and grotesque capitals. Some of the early Gothic tombs are far superior to anything of the same date which we have in England; those in the first chapel to the left on entering at the west, and those in the south transept, are particularly good. The painted glass is by one Juan de Santillana, 1498. The transept aisle being narrower than the first bay of the nave gives rise to some curious vaulting. The cloisters are simple, of the thirteenth century, but disfigured by the filling up of the openings, and by the daubing of red paint spread over them. From them entrance is obtained to a chapel with florid fifteenth-century vaulting. One of the windows alone has real tracery, and is of later date; the others are all pierced with an elaborate arrangement of circles, quatrefoils, &c., without mouldings. Outside, there is one good Gothic entrance of the same date as the window just mentioned; the pinnacles are simple pyramidal masses; the flying buttresses massive and without mouldings; the cresting of the only tower (apparently of the thirteenth century) is very singular; but what forces itself most on the attention is the prevalence of a hollow moulding filled with a row of ball-flowers: it surrounds almost all the windows, and forms the cornice both of the nave and circular apse. The bosses, as at Saragossa and elsewhere, are large rosettes covered with gilding. The "trascoro" is a fine work of the Renaissance period, with very beautiful reliefs; there is also a Renaissance tomb with a sitting figure, well carved, of Alfonso Joslado de Madrigal, a learned bishop of Avila. Opposite this tomb, which is in the aisle round the apse, stands the old altarpiece, with Early Gothic paintings. The present altarpiece fills up the whole height of the choir, and was painted with subjects from the life of Christ by Bevruguete, the famous Spanish sculptor and painter, a pupil of Michel-angelo.

Murray gives the date 1350 for the later work of the transept, and that of 1107 for the remainder of the church: if so, however, its building must have extended through a considerable period, as there is a perceptible difference of style between the choir and nave, and it is easy to perceive where the later part commences.

The church or basilica of San Vicente is both beautiful and interesting, being built, both externally and internally, in the same style as the choir of the cathedral. The windows have mouldings of massive members, and a billet moulding of very minute parts. The two principal entrances are deeply recessed with several bold ranges of mouldings, among which the chevron is prominent. The church is triapsal, and there is a low central tower, giving to the east end an appearance not unlike the churches of Auvergne. The exterior is undergoing restoration, and, strange to say, very judicious restoration, in the same style, the architect being one Autres Carrejo, of Salamanca. There is a portico of much later date round part of the building. The interior is scarcely inferior to that of the cathedral. The triforium is exceedingly beautiful, with its slender columns and bold-spreading capitals, in which the same variety of detail can be noticed which renders so great a charm to the cathedral. There is a crypt beneath the choir; but any originality it might have once possessed is completely hidden by whitewash and tinsel altars. The church is said to have been built by a converted Jew,—converted by a miracle at the martyrdom of St. Vincent in 303; but that must have been a previous erection on the same spot. Again, the date 1313 is given for the present edifice, but is evidently much too late, as its architecture cannot be more recent than the twelfth century. The tomb of St. Vincent is of the fifteenth century. There is a great deal more to interest in Avila than is here described, as my stay there was too short to see all, and I could not enter the Dominican convent, said to contain much that is beautiful. The great charm of the buildings at Avila is that they are little disfigured by recent additions, and are entirely free from the abomination of whitewash, which destroys the effect of Toledo and most other cathedrals in Spain.

W. N. LOCKINGTON.

THE LATE MR. W. C. MYLNE.

STILL another honoured name is added to the number of the members of our profession whose decease we have had, as lately, to record, and of whom the loss will be greatly felt. Mr. W. C. Mylne, best known as the London engineer to the New River Company, but also an architect, and a member of a distinguished family of architects, died on Christmas-day at his residence, Amwell, Hertfordshire, in the 83rd year of his age.

The late Mr. W. C. Mylne was the son of the celebrated Robert Mylne, the architect of Blackfriars-bridge, who was himself one of a line of men attached to the same calling, commencing in Scotland not later than the sixteenth century. In the Architectural Exhibition in Conduit-street, last year, three views in one frame were exhibited by the present Mr. R. W. Mylne, of steeples in Scotland, belonging to the same class as the Newcastle-upon-Tyne and St. Dunstan's-in-the-East examples. With two or all of these, the name of a Mylne was in some way connected. The steeple of St. Giles's Church, Edinburgh, is said to have been restored and partly rebuilt in 1648, by a John Mylne who was King's principal Master Mason. It appears there was a John Mylne in 1587, engaged upon the Dundee harbour and town works, and about the same time upon Lord Bannatyne's house at Newtyle; and he, in 1600, built the bridge of eleven arches which crosses the Tay at Perth. If this John Mylne were the King's Mason named above, he must have lived, like the last deceased of the family, to a good age. There was a Robert Mylne, King's Master Mason in Scotland, in 1671. He constructed Holyrood Palace and many other works.

Robert Mylne, the celebrated one of the name, was born in Edinburgh in 1734. He went to Italy early in life; and he was elected a member of the Academy of St. Luke at Rome. He could not have been more than five-and-twenty years of age, when the competition of designs took place, for the erection of a bridge across the Thames at Blackfriars. His design was chosen, according to the statements in some encyclopædias, out of twenty that were sent in; but,

according to the valuable "Biographical Sketch" of John Gwynn, by Mr. Wyatt Papworth, in our last volume (p. 455), there were upwards of fifty plans and models submitted on the 1st of November 1759; and out of that number, eleven were selected for further consideration,—these including, as stated in January 1760, a design by "Mr. Gwynn, known by his drawing of the section of St. Paul's," and one by "Mr. Milne, who finished his studies in Italy." Out of the eleven, three were selected. One of them by Gwynn had semicircular arches, whilst Mylne's had elliptic arches. A controversy ensued, of which mention is made by the writer of the "Biographical Sketch," who refers to a long account in the "Life of Dr. Johnson" by Sir John Hawkins. Johnson took up a defence in favour of his friend Gwynn, of the principle of semicircular arches against elliptic. Mr. Smiles, in the first volume of his "Lives of the Engineers," has a slight reference to the dispute, and says that Mylne was the first to introduce the elliptic arch. Mr. Papworth says, alluding to Mylne's project,—"The approved design was submitted to eight of the leading scientific professors of that day; who reporting favourably on the principles displayed, it was eventually adopted and executed." Boswell, in his "Life of Johnson," writing after trial had been made in the bridge, defends the design of Mylne. The bridge was commenced in 1760, and was finished in 1769. The foundations unquestionably were defective in the original provisions and building, or beyond the insufficiency of depth adequate to protect them against future scour of the river. The difference between the total bearing surface of the heads of piles, and that in Waterloo Bridge or London Bridge is considerable. Nevertheless Mylne was entitled to rank as an "engineer," interpreting the designation as now accepted. He combined the practice of the architect and the engineer in his own case; and the example has been followed by his descendants. The studies at least, ought always to be combined. At the date of the building of Blackfriars Bridge, however, there could be no question of the profession to be entrusted with bridge-building: the only one in the eleven names that would be claimed now by engineers as belonging to their branch of the profession, is the name of Smeaton; and he, were the Eddystone lighthouse to be taken as evidence, had more of the architect, and of the sense of the beautiful with him, than belongs to many who are called engineers now. The rest of the projects for Blackfriars Bridge, without reference to Gwynn's, included designs by Chambers, Ware, and Dance. Robert Mylne was surveyor of St Paul's Cathedral. He it was that suggested the celebrated inscription in memory of Wren. He was engineer to the New River Company. He seems to have been engaged to report on many engineering questions, as those of the conservancy and navigation of rivers. One of the reports, of which the title is before us, dated 1791, relates to the course of the Thames between Lechlade and Day's Lock. The date of his death is given in the Encyclopedia Britannica, 1821; but the date May the 5th, 1811, in other biographies, we have no doubt is accurate. The latter date would place his death in about the 77th or 78th year of his age.

William Chadwell Mylne, was the son of the Robert Mylne just now noticed. His second name is generally taken as having originally had allusion to the Chadwell springs of the New River: but we should not assume so much, as of necessity. He was born on the 5th of April 1781. We have few particulars of his youth and early education, further than a suggestion that he had not at first been intended by his father for the engineering or architectural profession. He however had from the nature of his father's works, early association with engineering. In 1797, we find him assisting to stake out the lands purchased for his father's great scheme of the Eau Brink Cut at Lynn; but which came to a standstill, until Rennie, in 1817, secured the necessary capital and executed the work. He succeeded his father as engineer of the New River Water-works, in the year 1811. This gave the main bent to his career, although he designed and carried into execution one church and other buildings, and was extensively engaged as a surveyor and valuer.

At the date of his appointment by the New River Company, the only water-works at the north side of the Thames, were those of this company, the London Bridge Water-works, and the Chelsea Company's Works. Thenceforward, Mr. Mylne's name is associated with the water-supply of London, as with that of numerous towns in the country, and of some places abroad. Whether, at last, and notwithstanding his competence to advise,—and little doubt that we have that advice was tendered by him,—some improvements came to be *required* to be forced upon the companies by the public, the press, and Parliament, we are not called upon now to examine,—more than we are, in this place, to show, as we have urged often, that others remain to be effected.

In his capacity as engineer to the New River Company, he recommended and carried into execution in their district, between Charing-Cross and Bishopsgate-street, the conversion of the numerous wooden mains and service pipes of Sir Hugh Myddelton's time, into cast-iron. This substitution, and other works, which, including engines, allowed of service at a higher level than the Clerkenwell reservoirs, are said to have cost a quarter of a million sterling. In consequence of the purchase by the Company, of the water-works connected with Old London-bridge, a powerful steam-engine, by the terms of the agreement, was erected at Broken Wharf, Thames-street, to take water from the Thames in case of accident to the New River. This was used only occasionally, during extreme drought or frost, and has since been wholly removed. The suction-main was 33 inches diameter, being then considered large in cast-iron. About the year 1828, he constructed 50 acres of settling-reservoirs at Stoke Newington, with a steam-engine for raising the water to a higher level, for the better supply of the upper and outlying districts on the northern side of the metropolis. In 1850, we find him giving evidence before the Metropolitan Sanitary Commission of the General Board of Health, on the supply of water to the metropolis. He had then been in office about forty years. His evidence shows that he was favourable to the use of 4-inch tubular drains, and of 6- or 9-inch branch sewers with proper inclination, and to the abandonment of cisterns and tanks, and resort to the constant supply for dwellings of the lower classes,—but for these only, and albeit perceiving the difficulty of carrying out the changes, if in connexion with the then existing arrangements of the Company.

In compliance with the Act of Parliament of 1852, the reservoirs at the New River-head were converted into filter-beds. From these the lower districts of London obtain their supply, whilst the upper districts obtain theirs from the mains under pressure of steam-power, and from the reservoir in Claremont-square, into which the water is raised by pumping. This reservoir was deepened; and it was arched over to keep the water from being contaminated by the atmosphere and London dirt, and thus from one of the great evils of the previous system which the Act had to meet. Other reservoirs were erected about the same time, and covered over, at Highgate, into which the water was pumped by steam-power. Extensive filter-beds were constructed at Stoke Newington in connexion with a large pumping establishment, whereby the upper districts of the metropolis are now supplied with filtered water. Other filtering-beds have been constructed at Hornsey; and the New River has been shortened several miles, by cutting off much of its circuitous course; whilst the remaining portions of it have been deepened and improved to the spring-head at Chadwell, near Ware. The connexion with the river Lea has been altered so as to yield a larger supply of water than formerly; and the drainage of the town of Hertford, above the source from whence the supply from the river Lea is taken, has been removed, and so prevented from contaminating that part of the stream.

The several works following the Act, are said to have cost the company three quarters of a million sterling. For some of these particulars, we have to acknowledge assistance from Mr. John Murray, civil engineer, who was a pupil of Mr. Mylne; and from Mr. Forrest, the active secretary of the Institution of Civil Engineers.

During the period of his association with the New River Company, Mr. Mylne was engaged in numerous works unconnected with the Company; and he furnished many able reports. These related as well to drainage as to water-supply. In the Fen district he was much occupied. He carried into effect works of improvement in the river Ouse, between Littleport and Ely, and others on the river Cam, and the drainage of Burnt Fen and the country adjacent. He reported on various works on the south level of the Fens. Amongst his reports were one on Lynn Harbour, one on the banks of the river Ouse, and one (dated 1825, in conjunction with Mr. Walker) "in consequence of the late intended Eau Brink Act," addressed to the Corporation of Bedford Level and Commissioners of Eau Brink Drainage.

Amongst his works was the intercepting drain at Bristol, by which the sewage was removed from the floating harbour. He made designs for the suspension bridge at Clifton, also for piers at Portishead at the mouth of the Avon, for the mail-packets. His reports include several on proposed docks, besides the works at Lynn and Bristol,—as at Liverpool, and Sunderland; and from his position and reputation, his evidence was frequently sought by commissions and parliamentary committees.

In 1847, Mr. Mylne and Mr. H. B. Gunning, as "surveying officers" under the "Act for making preliminary Inquiries in certain Cases of Application for Local Acts," conducted several inquiries, and reported to the Commissioners of Woods and Forests, as on the Leeds Water-works Bill and the Leeds and Thirsk Water-works Bill, the Rochdale Water-works Act Amendment Bill, a bill for Darwen, and possibly, other proposals. Mr. Mylne was consulted upon the Glasgow old Water-works; and, upon Mr. Rolfe's scheme for the Birmingham Water-works, he gave a detailed report with estimate. There was also a project for the supply of Paris, which we believe went to some length, and wherein the present Professor Donaldson was associated with him. Mr. Mylne also had something to do with the supply for Greenwich Hospital.

As surveyor to the New River Company, he laid out their property, near Islington, for streets and buildings. The ground has been some time appropriated as he proposed. He designed and superintended the erection of St. Mark's Church, Myddelton Square, which is Gothic, and some other buildings in Clerkenwell. For the University of Cambridge, he designed and superintended the erection of Gerrard's Hostel Bridge over the Cam. It was erected by the Butterley Company. Illustrations of it will be found in Hann and Hosking's book on bridges.

Mr. Mylne, besides the important office for the company so often named in this notice,—an office held by him for half a century at least,—was during the same time, surveyor to the Stationers' Company. As a valuer, he was employed by the Crown, in connexion with the improvements in the Strand.

Mr. Mylne was for upwards of fifty years, treasurer of the Smeatonian Society of Civil Engineers. On the anniversary, in 1862, of his appointment, a dinner was given to him by the members. He joined the Institution of Civil Engineers only on the 28th of June, 1842; but in 1844, he was elected on the council, and served office five years, or inclusive of 1848 and the previous date. Mr. Mylne was also a Fellow of the Royal Society, as well as of the Institute of British Architects.

Two or three years before his death, he had retired from professional life; but just a century after the building of his father's bridge, he had some gratification in seeing a design by his son, for a new bridge at Blackfriars, selected as one of the five that were reserved for further consideration. His estimable qualities and high professional character have made his loss regretted by numerous friends. He is said to have been the representative of at least eight consecutive generations of architects, or men filling a similar office, of the one family.

OPENING OF THE ATLANTIC AND GREAT WESTERN RAILWAY, BETWEEN CLEVELAND AND NEW YORK.

IN November last this railway, part of which is soon to connect St. Louis and Cleveland with New York and Boston by a continuous railway track of 6-feet gauge, was opened with great *eclat*. The figures of the road, its branches and "broad gauge" connexions, are as follows:—Main trunk from Salamanca to Dayton, 387 miles, and 60 miles additional from Leavittsburg to Cleveland. Branches: from Dayton to Cincinnati, 60 miles; Old Creek-road, 55; Leavittsburg and Youngstown, 17; Hubbardstown, 12. "Broad gauge" connexions: New York and Erie from Salamanca to New York, 414 miles; Ohio and Mississippi, 360; from Fishkill to Boston (now under negotiation), about 240. When, therefore, the main stem of the Atlantic and Great Western Railway is completed, which will be by the opening of the next year, there will be a continuous "broad gauge" road from St. Louis to New York, 1,201, and from St. Louis to Boston, 1,441 miles in length. Mr. T. W. Kennard, to whom

the undertaking was entrusted, began operations in 1860, in which year he built the 60 miles from Salamanca to Corry. The war then stopped the spade, and the works were not resumed until May, 1862. Between that time and January 1, 1864, twenty months, Mr. Kennard will have built and stocked 500 miles of road. To do this he has imported from Canada and Europe 15,000 men. None of the work, since the resumption, has been done by men living on the line of the road. All of it, too, has been done by the day. No contractors have intervened between the proprietors and the operatives. Mr. Kennard's assistants have been Messrs. John H. R. Rose & Clinton Coleman, assistant engineers; Daniel B. Bostwick, superintendent of bridges, timber, and stations; and Wm. Lee, superintendent of construction. Mr. J. Wrey Mould, of New York city, architect, furnished the designs for some of the structures built by the company.

At the dinner, which took place after the opening, the president, Mr. W. Reynolds, proposed, "The alliance between Great Britain and America, the best security for the peace of the world," which was warmly received.

Mr. Mason, in proposing the health of Mr. Kennard, said the railway "had been accomplished by English enterprise,—six-sevenths of it with foreign capital, and substantially all of it by imported labour. Nine thousand labourers from Canada alone were distributed along its line. I express myself in terms of prudent moderation when I say that the enterprise, energy, and ability which have thus speedily accomplished this undertaking challenge our unqualified admiration. But, in awarding to its promoters the just measure of honour, let me remind you of the extraordinary circumstances and difficulties under which the enterprise was resumed and prosecuted. Four hundred miles of this line and branches will have substantially been constructed within two of the years of the great rebellion. It was the iron of English product that was used in the construction of this commercial and national ligament. Her manufacturers sent it to our shores, not in the shape of hostile iron-clads—'take any other shape but that'—but they furnished it to build us together by stronger ties, and to bind us to England by commercial intercourse."

Mr. Kennard was received with great warmth, and, in responding to the toast, took occasion to thank the various members of his staff.

General Rosecrans was present. Good feeling towards England was the order of the day.

THE THREATENED DESECRATION OF BUNHILL-FIELDS BURIAL-GROUND.

IT appears to be threatened that Bunhill-fields Burial-ground will be disposed of for building purposes. Already several of the metropolitan burial-grounds have been desecrated, grave-stones and other memorials have been removed, and in some instances the remains of the dead carried away by wholesale. In all cases the desecration of graves is a matter most offensive to right feeling, not to mention the danger and unwholesomeness of planting dwellings on soil which is composed of the bodies of the dead. Besides, it is a most unjust act, for comparatively enormous sums have been paid for the freehold of vaults and ground.

Since the time of the Great Plague, two hundred years ago, Bunhill-fields has been until lately the chief place of interment in the metropolis for Dissenters, and many of their leading men lie there. Besides, it is here that Daniel De Foe, John Bunyan, and Isaac Watts lie buried. Surely these great names alone should be sufficient to prevent the desecration which is threatened.

In this ground, during two centuries, countless thousands of the dead have been laid, until the earth has been raised considerably above the original surface. The land has been paid for again and again. In whatever way this matter may be considered, it is clearly seen that to dispose of this place for building on would be an act disgraceful to the great Dissenting community. It will, however, be said that the place is private property, and that those to whom it belongs may do what they like with their own. It is not their own: we repeat, the ground has been purchased again and again, on the understanding that the human ashes here deposited would be allowed to remain unmolested.

If some of those who have vaults here, and have purchased the right of burial, were to appeal to a legal tribunal, an injunction against the removal of their property would be readily obtained, so that the proprietors would be unable to sell the ground for building sites without an Act of Parliament; and it is not probable that any measure would be allowed to pass through the House of Commons for the misappropriation of a spot which, besides other associations, contains the graves of the authors of "The Pilgrim's Progress" and "Robinson Crusoe."

SANITARY INSPECTION IN CLERKENWELL.

IT is satisfactory to find that the sanitary committee of this parish have been making a round amongst some of the neglected parts. In some instances their attention has been directed to particular localities by the Commissioners of Police, in consequence of the reports of the officers of Mr. Reason's staff. At Bishop's-court the committee were satisfied with what had been done. They viewed Berkeley-court, in accordance with the direction of the vestry board, on the medical officer's report relating to overcrowding and the occupation of cellars. The committee reported that, though the cellars were occupied, they did not seem to be so overcrowded as to call for action. On the discussion of this point in the vestry, it was very properly remarked that cellar dwellings are as illegal as they are unwholesome. Upon remonstrance, this matter was proposed to be referred back to the sanitary committee for re-consideration; but the proposition was opposed, and led to some discussion, on which, after we have taken an early opportunity of examining the state of these different premises, we may remark at more length.

Eagle-place was viewed before, and the owner required to fulfil several sanitary requirements. Nothing, however, was found to have been done, and the committee resolved that the owner be proceeded against. Broad-yard was found not to have been attended to, and it was resolved that the owner be summoned before the magistrates.

Respecting Fryingpan and Bill alleys, parts known to our readers, communication had been made by the Commissioners of Police. The committee viewed them, and reported that, owing to the extremely careless and filthy habits of the people, nothing but absolute removal would improve the condition of these places. [The committee, while referring to the dirty habits of the people, make no reference to the state of the water-supply here.]

Wilmington-yard and Guildford-place were remarked upon; but the consideration of the matter was postponed.

HOUSE VENTILATION IN THE LIME-HOUSE DISTRICT.

A CASE of considerable importance has been brought before Mr. Partridge, the magistrate of the Thames Police Court, by Mr. Scott, the sanitary inspector of the Board of Works for the Limehouse district, in consequence of complaints which had been made of a house, No. 22, Angel-gardens. Mr. Scott stated that he had examined the house, and found the windows only movable at the bottom; the upper sashes were fixtures, but the house was perfectly clean. Mr. T. Orton, the medical officer of health of the district, said that typhus fever to a great extent had prevailed in Angel-gardens, particularly at No. 22. There were nine cases of typhus fever in that house, five upstairs and four down. These cases, as well as others in the same street, were caused by defective ventilation. The upper sashes of the windows could not be pulled down, and no current of air could be freely carried through the rooms. It was impossible to have perfect ventilation in the small houses of the district without the upper sashes of the windows could be opened for the admission of air. Mr. Orton observed that the mortality from typhus in St. James's, Westminster, had been seventeen; in Marylebone, twenty-seven; and in the Limehouse district, comprising Wapping, Shadwell, and Limehouse, seventy-seven. The medical officer remarked that the parishes of St. James and St. Marylebone were more densely populated than the Limehouse district; but the mortality in the first two parishes is much less, owing to the houses being better ventilated. He had letters from Dr. Letheby and Dr. Lancaster, and from the medical officer of St. Marylebone, all agreeing that the upper sashes of every house in the metropolis should be movable, and frequently opened. After an observation by the magistrate, Mr. Orton continued to observe, that in many houses the stench was so great that he could not enter them; the tainted atmosphere of the interior of the dwellings caused fever, and, consequently, the death-rate was greatly in excess of what it ought to be. He also mentioned that the sick poor frequently cried for more air; and he would say advisedly, that until the dwellings of the poor were better ventilated and the upper sashes of the windows constructed so as to let down when required, there would be no decrease of fever cases.

Mr. Rabey, the proprietor of forty-four houses in Angel-gardens, said that he had latterly put them into a state of repair at a vast expense, and the cost of altering the windows as desired by the Board of Works would amount to 25*l.* more; and he was of opinion that there was already plenty of ventilation; and, moreover, that ventilation did not prevent fever, instancing the deaths of three children from this cause of the secretary of the Limehouse Board of Works, in a house situate in an open road, with a garden at the front and back, and whose establishment was a large and commodious one.

Mr. Orton, however, observed, that the cases referred to were scarlet fever, arising from specific poison, not from want of cleanliness or fresh air.

The magistrate thought that the defendant might alter the upper sashes of the windows in the manner required. Mr. Rabey said that he should have to alter the construction of every window if this were to be carried out; and Mr. Scott suggested a ventilation with movable hinges at the top of each window.

The magistrate considered altering the upper window-frames necessary, and adjourned the case for a fortnight, in order to allow the proprietor of this property to carry out the requirements of the Limehouse Board of Works.

THE METROPOLITAN POOR-BOXES.

IT is with regret we hear that the poor-boxes of several of the metropolitan police-courts are in a very low state, especially in those neighbourhoods where they do most good. Few of the London charities are more worthy of support than this, which is so admirably administered, and in a manner which almost prevents the possibility of imposition. Few except those who move amongst the distressed classes of this great population, can judge of the good which is done by means of this fund, which is not intended as a substitute for parish relief, but for the help of those who by some extraordinary or sudden emergency, are driven to distress. Thus the homes of deserving persons, some of them sick,—persons ill and discharged from the hospitals, have been saved from distraint, &c. Some have been supplied with necessary clothing, or with tools for their work; young girls on the brink of ruin, sent in safety to their friends; in extreme cases, assistance given for the purpose of burying the dead. Fifty other matters might be mentioned which have come to our notice, to show the great value of this means of relief; but we believe that it is simply needed to be made known that at this season of the year some of these boxes are almost empty, to ensure their speedy replenishment.

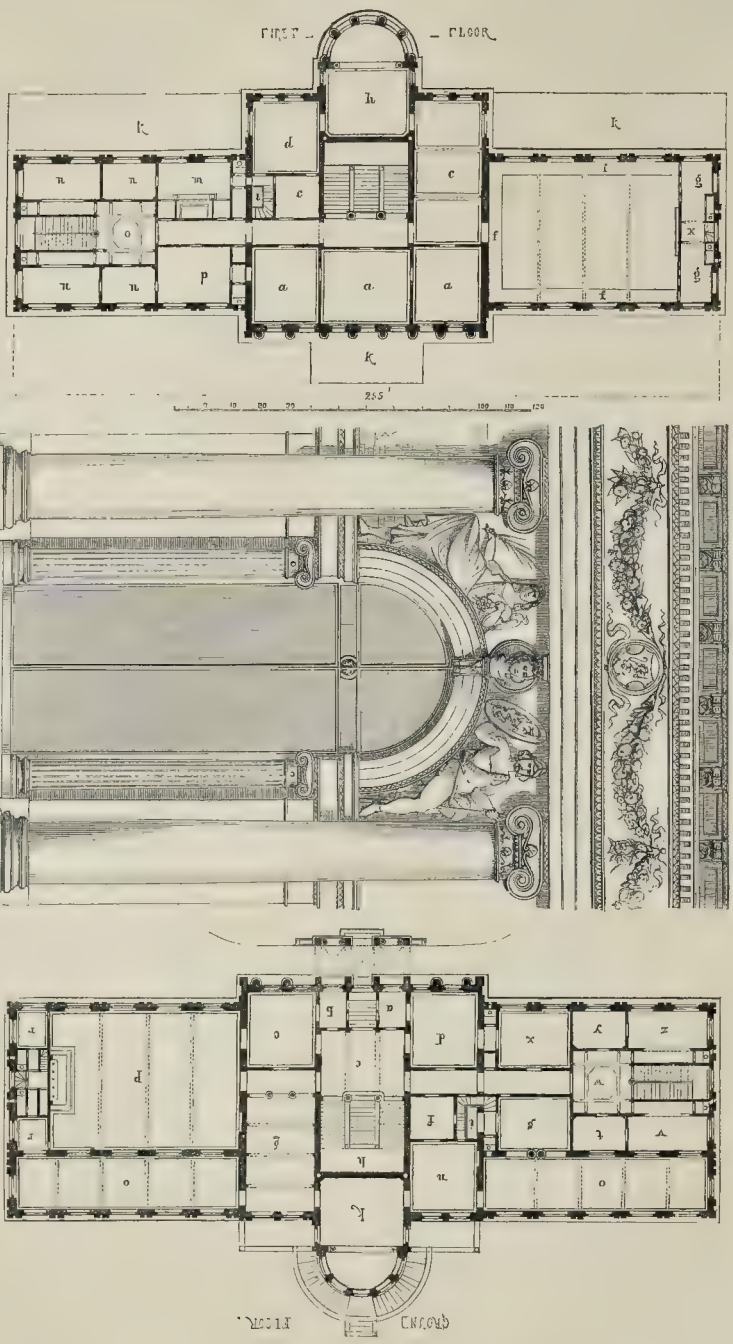
"ST. PAUL'S CHURCHYARD."

WHY is the *north side* closed against carriage traffic? The carriageway there is the most direct line from Ludgate-hill to Cheapside. Then let it take its natural course, leaving the southern side free for Cannon-street traffic. For years there has been a cry for a new street between St. Paul's Churchyard and Newgate-street. Why not utilize the existing thoroughfare? Widen the street where necessary by throwing in a portion of the churchyard. Double-glaze the windows of the cathedral, if the noise be complained of; but give a chance, at any minor sacrifice, for the congested traffic, now forced to take one route only, finding for itself a vent in two directions.

The carriageway runs close to the southern portico—why, then, may it not run equally close to the northern? NOT TOO LATE?

PHOTOGRAPHIC PROGRESS.—A Mr. W. S. Shirras, of Aberdeen, is busy transferring photographs from paper to china, as a new discovery. That photographs had already been transferred to glass is well known, but we rather think the transfer to china itself is not quite new.

PALACE OF T.R.H. PRINCE AND PRINCESS LOUIS OF HESSE.



DETAIL OF FIRST FLOOR WINDOW.



PALACE OF T.R.H. PRINCE AND PRINCESS LOUIS OF HESSE, IN DARMSTADT.—DESIGNED BY MR. CONRAD KRAUS, ARCHITECT.

THE PALACE OF T. R. H. PRINCE AND PRINCESS LOUIS OF HESSE, DARMSTADT.

A PALACE is being built in Darmstadt, a description of which cannot fail to be of interest to our readers, as it is destined to become the home of a member of the Royal Family.

It is the Palace of their Royal Highnesses Prince and Princess Louis of Hesse. The new building will form a prominent feature in the town of Darmstadt by its size and position. The site (a large garden of 350 feet by 1,500 feet) is the property of the Crown; it was formerly used for botanical purposes, and will now be laid out as a garden for the use of the Prince and Princess. The east end of the site faces the Wilhelminenplatz, a handsome square, with the Roman Catholic church, a cupola-covered structure, designed by the late esteemed architect Moller. To the west the garden extends to another square, called Marienplatz, while towards the north and south it is bounded by two broad streets, from which it is separated by rows of chestnut-trees.

Being, moreover, situate in the highest part of the town, with a gentle slope from east to west, this garden combines all the advantages of a site at once healthy and beautiful. The view from the first floor of the Palace, over the garden and the wide valley of the Rhine towards the hills of the Palatinate, the hills near Mayence, and the Taunus mountains, is truly charming.

The building stands at a distance of 120 feet from the east end of the garden. As it will be seen on referring to the plans, it consists of a principal or centre part and two adjoining wings; the back elevation, or garden front of the former, being enriched by a projecting rotunda, winged on both sides by terraces and flights of steps leading to the garden. The principal front, facing the Wilhelminen-square, has a projecting entrance-porch, constructed for carriages to drive under it, that visitors may alight under cover. This porch forms a spacious balcony, with a balustrade on the top.

On entering under this porch, we reach the entrance-hall and principal staircase, 52 feet by 32 feet, the latter being approached between columns of the Ionic order. The centre flight of steps is 12 feet, and the two upper flights are 10 feet wide. The staircase and hall are lighted by a large skylight, with a stained glass cupola beneath. The ceiling round the cupola will be richly decorated. The principal staircase is of black Belgian marble, polished, and is decorated with a rich bronze balustrade. The height of the ground-floor, as well as of the principal floor, is 20 feet.

The ground-floor contains,—

a. Waiting-room.
b. Porter's lodge.
c and h. Entrance-hall and principal staircase.
d and x. Reception-rooms and study of H.R.H. the Prince.
l, n, and s. Ante-rooms, reception-rooms, and boudoir of H.R.H. the Princess.
k. Library and billiard-room.
g. Dining-room.
e. Reception-room.
p. Ball-room,* 32 feet by 68 feet.
o, o. Promenade galleries, or loggie.*
r, r. Visitors' toilet-rooms.*
v, t, z, y. Gentlemen's rooms and offices.
w. Vestibule and staircase for ladies and gentlemen in waiting.

The principal floor contains:—

a, a, a. Spare saloons.
c. Music saloon.
f, f. Galleries of ball-room.
g, g. Visitors' box and orchestra.
x. Servants' staircase.
h. Boudoir and conservatory of H.R.H. the Princess.
d. Bed-room.
i. Their Royal Highnesses' private staircase.
m. Dressing and bath room of H.R.H. the Princess.
e. Dressing-room of the Prince.
p. Study of the Prince.
n, n, n, n. Spare rooms.
o. Vestibule.
k, k, k. Balcony and terraces on the top of entrance-porch and loggie.

The plan of each floor is arranged in such a manner that the whole of the private apartments can easily be separated from the other parts of the building by closing the two doors of the corridor, so that visitors and ladies and gentlemen in waiting may use the staircase at the further end of the left wing, by which arrangement the ease and comfort of the private apartments are left undisturbed. In the third story are the nursery and visitors' rooms, saloons, and bed-rooms of the ladies in waiting. In the right wing, above the ball-room, are the female servants' bed-rooms and wardrobes—the latter part of the building being in communication with the basement story by back-stairs, for the use of servants and musicians only. The basement floor includes the bath-rooms, store-rooms, servants' hall, kitchens, larder, scullery, pantry, still-room, housekeeper's, butler's, cook's, and steward's apartments, the footmen's bed-rooms, and the usual domestic offices which the comfort of a royal dwelling requires.

There is a wine-cellar beneath the basement floor.

The walls of the building are constructed of brickwork. The rusticated plinth, the columns, the archivolts, the architraves, and cornices are of red sandstone from the quarries of the Odenwald and the banks of the Main. The decorative parts of the cornices, as dentils, &c., the capitals of the columns and pilasters, the balustrades, the sculptured frieze, having medallions with trophies and other suitable emblems, and the festoons, are executed in terra-cotta.

Of the external decorations, the rose, shamrock, and thistle, the Hessian arms surrounded by the garter, and the English arms, will form characteristic and ornamental parts.

The style is Italian, and more purely carried out than is usually the case on the Continent. We give an illustration on a larger scale of one of the seven arches of the arcade of the principal floor, being of the Ionic order. The fourteen spandrels of this arcade are sculptured with life-size male and female emblematical figures, representing Germania, Britannia, &c.

The building is being executed from the design and under the superintendence of the architect of their Royal Highnesses, Mr. Conrad Kraus, of Mayence, and will be finished in the autumn of 1864.

* To be used on State occasions.

THE GOVERNMENT WORKS NEAR FAREHAM.

IN August last an inquiry was held at the Red Lion Inn, Fareham, to assess the amount of compensation which should be paid by Government to Mr. Whettam and his sisters for some land belonging to them, which was required for the defence of the realm. The jury assessed the compensation at 3,758*l.* 6s. The land, which was used as a brickfield and lime and brick burning works, had been for thirty years in the occupation of Mr. Whettam, brother of the owners, who, after having received the compensation, refused to give him notice to quit, and the Government, requiring that the land should be kept free from buildings, were compelled to do so. This they did on the 8th of September last, offering 200*l.* as compensation for possession of the premises, but the claimant would not accept it, and the Government therefore took steps to secure immediate possession. An inquiry accordingly took place at Fareham, before two justices of the peace and a special jury. Various evidence was led to show the produce and value of the brickfield to the tenant. The manager of claimant's brickyard said he had worked at the trade, as practical brickmaker, for over seventeen years. Occupied the waste ground, about 2½ acres, brick earth being under it. The good earth is 9 feet, the first 6 being thrown away. Should think the earth would last twenty years, according to present consumption. Had bored in six different places, and found brick earth at 25 feet, and then sand and loam. Both the latter can be used in manufacture. The average make of bricks per annum during the time he had been in the yard was about 400,000, tiles 100,000, and drain pipes about the same. The lime is about 50 quarters a week all the year. The numbers named do not represent the capacity of the kilns. More trade could be done.

Mr. James Whettam, the claimant, said, the number of bricks manufactured in two years was 634,500, the actual selling price being 25s., and the cost of production 17s. 6d. per 1,000. Had, as near as he could get at it, for the last three years, received 200*l.* net annual profit. The capital invested was 1,400*l.*

Mr. Johnson, in stating the case, said that the property was occupied by the claimant under his brother and sisters, at a nominal rent of 20*l.* per year, nothing like the real value, which would really be more like 60*l.*, 70*l.*, or even 80*l.*; indeed he believed it had been assessed to the poor-rate at a gross rental of 75*l.*

Mr. Hawkins, for the Government, submitted that the claimant had no legal right to the premises, and that he should be dealt with just the same as if he were an ordinary tenant. If he had received a notice at Michaelmas to leave, he must have done so at Lady-day next. He reviewed the evidence, and suggested that 150*l.* would be a liberal compensation.

After five minutes' consultation, the jury awarded 280*l.*

LONDON LIFE AMONG THE MILLION.

TENEMENTED DWELLINGS OF THE BETTER CLASS.

THE inconveniences and unpleasant circumstances of the chief part of the tenemented dwellings in the metropolis which are of a better description than those in Bethnal-green, and are inhabited by a vast multitude, can only be estimated by those who have had the unfortunate experience to reside in them. They are bad even to those who have been reared in such places; but to those who have been differently circumstanced, the evil is almost intolerable.

First, there is the feeling of a want of privacy, which is painful: there is an incessant wandering of feet, from early morning till late at night, up and down the uncarpeted and noisy wooden stairs common to several families: there is the thundering noise of children, &c., in the rooms above or the rooms below: a fender or a chair cannot be moved in one family without making a certain amount of annoyance to other families: the noise of the children seems never to cease: the voices of the women, well exercised in attempts to preserve order, are generally loud and shrill. Then there is the daily shooting of half-hundredweights and other small quantities of coals; disputations amongst the neighbours; the whirling, it may be, of two or three hired sewing-machines in one small room, and the thumping of shoemakers in the attics. In most of these houses there is one troublesome family, or even more: it may be that this is in a measure caused by the husband coming tumbling home drunk early on the Sunday morning, or on other nights late, when he is in a humour for expressing his ideas very unpleasantly. In this way children whose parents would be sorry to teach them anything wrong, hear language horrible to think of. There is also danger to all from such a fellow, and perpetual anxiety on his account; for fires have often been caused by such persons. We lately heard, for example, of a man coming home drunk late on a Saturday night, after which his wife was obliged to go to market for the next day's provisions: the children were asleep in bed, and the beast of a father and husband lay down on the floor, after placing the candle so as to set fire to the furniture. We mention this amongst the complaints in connexion with tenemented dwellings, which are built in the most inflammable manner, because our belief is that the risk in this way is greater than is supposed.

When we look at the accommodation, we find that, with the exception of the kitchens (which, as our readers know, are seldom fit for the habitation of a family), there are no arrangements for cooking,—no boilers, which are so necessary for the preparation of hot water, where there are young children; nor are there ovens, which at no extra cost, would enable managing housewives to prepare many a nice dish. With better accommodation such as this, instead of buying cooked meat at a price of nearly twice as much as it is worth, for the dinners of the men and boys who work at a distance,—pies and other tasty and nutritious dishes could be got ready, which would be far cheaper and better than what can otherwise be obtained.

Frequently the cupboard accommodation in these rooms is very scanty, and pots and pans have to be hidden under the beds. As for coals and wood, there is probably no other place than the bottom part of a closet, in which the bread and provisions must be kept;—persons thus being obliged, if even they can afford to do otherwise, to purchase small quantities of fuel, in general deficient both in quality and in quantity, and far dearer than it ought to be. The rent of such rooms, nevertheless, is large; and these and other items which might be mentioned, add materially to this outlay of families.

Where water is to be had in sufficient quantities, the women, who have large families, complain of the labour which there is carrying it up and down three or more flights of stairs: there is also dust, &c., to be carried away. The stairs in each house create difficulties: there are differences about the cleansing; and in one and the same dwelling it is likely that there will be some children kept clean and some dirty; some women who are slatterns, and others who pride themselves in having their rooms and everything about them perfectly clean, but who are thus liable to have their children poisoned by

the filth of indoor neighbours. The children, dirty or clean, escape out of the rooms, and crowd the stairs, causing, besides other risks, much confusion as well as noise.

To add to the incessant din within most of these houses, in which there are five, six, or more families, there is a constant noise without; for among these teeming populations numbers of small traders come, who, as is usually the case with those who have little to sell, make much noise; but it may be that even the more substantial of these dealers find it necessary to exert their lungs, for the purpose of making the exterior sound override that of the interior. But as regards the noises outside, from four to six o'clock in the morning there are discharged, by the door-knockers, thuds which sound like the reports of small pieces of ordnance: sometimes one, two, or three heavy strokes are fired off at particular doors, by policemen on the beat, who perhaps neglect their other duties in consideration of a small weekly stipend, for rousing persons to go to their early employment. This also awakens the smaller children; and in those places where poultry is kept, the cocks begin to crow and the ducks to cackle with tremendous violence, dogs to bark, and clamping feet to come down wooden staircases and along resounding passages, finishing off by the regardless slamming of doors; and there is but little pause ere the noisy opposition railway milkmen and their fellows begin to bellow, sweetly mingled with the musical reverberances of water-*cresses* and mild *Yaaarmit*. Following these come almost unbroken arrays of costermongers, mingling their rough notes together until about one o'clock, intermixed with the redeeming visits of organ-men, or occasionally a coarse brass band and a still coarser ballad-singer, or a street speaker stating his lugubrious begging case with an air and manner so well got up that he can only appear in his right aspect to experienced eyes. Between 12 and 2 crowds of boys rush from the National and other schools. It may be, however, that if this adds materially to the great noise of London, *it* is not a matter which Mr. Babbage or any other lover of repose would object to. The hideous combinations of sounds to which we have but briefly referred, however, must be hard for any one to bear.

If the arrangements of these tenemented dwellings are bad for the adults, they are infinitely worse for the children, who are usually situate as follows:—

It is seldom that the mothers, on week-days, can take the children out; as clothing for that purpose is often only availabe on the Sundays,—the pawnbroker being the costly wardrobe-keeper. If the mother be desirous of peace, the little ones, to whom air and exercise are as needful as food, are scarcely allowed to move; and in order to keep up this unnatural state of things, there is unceasing altercation between parents and young children. When it happens that the father is much engaged at home, it makes matters worse; for his authority, which should only be brought into exercise on serious occasions, is exerted at all hours, and about the most trumpery matters; and by these means the influences which should overawe children are weakened, and they grow up to be disobedient and uncontrollable.

The manner of shutting up children in rooms which are for the most part insufficient in superficial extent and in ventilation, without enough of exercise, dwarfs their limbs and impairs their faculties; but the dangers of the streets, where boys and even girls of all kinds—good and bad—can mix without reserve together, are even a greater social evil: there are hundreds now lodged in our prisons who can trace their downfall to the inconvenience of their homes, forcing them into the streets amongst bad associates.

Will the day be long distant when the working classes, and others of limited incomes, will no longer submit to live under those miserable conditions which we have briefly, and we fear imperfectly, described? The change must depend in a chief measure on these classes themselves; for when once there is shown a clear determination to have homes in which they can live in privacy, and in quiet and comfort, with their families, and not either be or suffer any annoyance in their association with immediate neighbours, they will speedily be provided. The writer has lately mixed with large numbers who live in some of the better-conditioned of the tenemented dwellings, and is glad to see that attention has been directed far more than formerly to those newly-planned houses where they can live in comparative safety in consequence of fire-proof construction; where the floors are noise-proof, and where every convenience for the use of a family is provided within their own particular set of apartments. In connexion with all future dwellings for the use of families, a playground for the children, where they could be kept under the eyes of their friends until old enough to go to school, should be considered a requisite accompaniment.

Having said this much, it is but fair to add, that the bickerings and feuds to which reference has been made seem to be mainly a consequence of the want of isolation, and other things needful for the especial use of one household; for in time of sickness and distress we have not heard complaints of the failure of kindly and neighbourly actions among the thousands of ill-housed Londoners.

THE GIPSY SPRINGS, YORKSHIRE.

THERE are on the Chalk Wolds of Yorkshire a number of remarkable springs bearing this name, and if not strictly ebbing and flowing wells, as those at Chapel-en-le-Frith, Derbyshire, they approach to them in their character of being intermittent.

These springs are of great volume, and extend over a district of several miles, and water the dale towns above Driffield, passing through Wold Newton, Rudston, Thorpe, and Boynton, and finally discharging themselves into the sea at Bridlington Quay. Although they supply several mills in their course, they entirely disappear in summer, and suddenly and in great volume reappear in autumn, and the stream is called by the villagers the Gipsy Race, from its sudden rise and rapid flow.

Some years ago a railway tunnel was cut through the Chalk Wolds, for the Malton and Driffield Railway, and it was supposed to have diverted the source of these springs, which have considerably diminished of late, and caused much inconvenience and drought on the estates through which these waters used to flow, more especially to that of Mr. Wentworth Bossville, of Thorpe Hall, whose ornamental waters, of over 10,000,000 gallons, were entirely dependent on these springs for their supply.

It was thought desirable to have the district surveyed by an engineer, to see if it were possible to regain the springs by making an outlet for them on a lower level. During the present summer this has been done by Mr. J. F. Fairbank, and we are told, a supply equal to 1,000,000 gallons per week has been obtained at Rudston, to the great satisfaction of the farmers and others in the neighbourhood, who suffer much during the summer season from drought in the parched-up chalk districts.

IRISH NEWS.

Re-opening of Down Cathedral.—This cathedral, which has been closed for the last three years while undergoing repairs and alterations, has now been re-opened. Internally and externally a good deal of labour has been expended on the edifice. The roof, tower, and walls have been repaired, and the pinnacles, which under the action of the weather exhibited symptoms of decay in several places, have been restored to their original proportions. Formerly the middle of the centre aisle was obstructed by a number of unshapely pews, for which have been substituted open seats, carved in front and at the ends, and varnished. In each of the aisles a new row of seats has been constructed along the walls, similarly enriched with carvings, and on the backs of some of them have been mounted shields with the crests and mottoes, carved in wood, of the families to whom they have been appropriated. The carving of the crests and mottoes was executed by Messrs. R. & J. Quaile, of Downpatrick. As regards the painting and varnishing, an unpleasant hitch occurred. The contractor failed to execute it in a manner satisfactory to the dean and chapter, who made representations on the subject to the Ecclesiastical Commissioners, who, after repeated remonstrances and solicitations on the part of the dean and the other authorities of the cathedral, as well as the bishop, finally complied, and the painting and varnishing were handed over to Mr. P. Ferguson, of Downpatrick. The features in the interior of the building which most arrest attention are the piers and arches which separate the centre from the side aisles, the forms of the piers being oblong, with the angles taken off, and ornamented on the east and west faces with semicircular shafts of cut stone, the capitals of which appear sculptured with figures of human heads, grotesque animals, and foliage. These piers, as well as the shafts and groins of arches and the vaulted ceiling, have been coloured with a delicate salmon tint. The alterations in the centre aisle impart a more spacious appearance to the interior; while the furnishing of the pews and open seats, and the brilliancy of the painting and varnishing, are an agreeable change upon the aspect almost of squalor which the old interior presented. The organ, as well as the building, has received many alterations and improvements. The organ work has been done by Mr. J. C. Combe, of Belfast, who has applied a pneumatic lever to act upon the great organ. The heating is accomplished by means of hypocausts in the crypt, from which pipes extending under the floor convey hot air over every part of the building; and in the nave are two ornamental stoves, faced with encaustic tiles, and supplied by Messrs. Musgrave Brothers, Belfast. The monumental brass erected in the vestibule to the memory of the late Dr. Brabazon has been retouched and polished.

Dublin.—The bequest of the late Mr. Drummond, amounting to 20,000*l.*, to found a school at Dublin for the education of children the orphan daughters of soldiers, has been securely established for the object intended by the testator. The amount of the bequest has been paid into the Court of Chancery by the executors, and a scheme for the future management of the charity has been approved by the Master in Chancery, printed, and circulated. The school will be managed, as nearly as possible, on the plan of the Royal Hibernian Military School for Soldiers' Sons.

Drogheda.—A circular has been issued inviting a meeting of leading citizens, to be held in the assembly-room in the Tholsel, to confer with the gentlemen to whom Mr. Benjamin Whitworth, of Manchester, made the offer of erecting a town-hall for Drogheda, and to appoint a committee to carry out his views.

Clanabogan.—The new church of Clanabogan has been opened for Divine service, by the Bishop of Derry and Raphoe. To Mr. Samuel Galbraith, the proprietor of the ground on which the church is erected, it is chiefly owing that a church and district have been obtained in the locality.

NEWS FROM SCOTLAND.

Albert Memorials.—At a meeting of the Edinburgh committee for promoting the Scottish National Memorial of the Prince, the report of the acting committee was read, and Sir William Johnston moved the following resolution:—"That the committee approve of the report which has been read, and record their thanks to the acting committee for their diligence in prosecuting the movement, instruct the honorary secretary to intimate to the acting central committee that the sum of 4,113*l.* 4s. 9d. has been collected up to this date, and to state that it will be satisfactory to the committee that a meeting of the acting central committee be convened upon an early day to consider the steps which should be taken for carrying out the proposed memorial." In supporting the resolution, Sir William said that they had just heard from the report that many people had refused to pay their subscriptions, and others who had sums collected in different towns were retaining them, and not sending them to the central committee, in consequence of the long delay that had taken place. Although he was a member of the central committee, he must say that this matter had given very great dissatisfaction to many parties; and he thought that very much of the grace of the honour to the Prince Consort had been taken away by the delay that had taken place. Every one complained of the delay, and yet no one could give a good reason for it. His Grace the Duke of Buccleuch had undertaken to ascertain the wishes of her Majesty—he questioned whether that should have been done at all—but as it was in March, 1862, that his grace had undertaken to do so, certainly there had been ample time for reporting the result to the committee. In every instance—he thought three at least—where her Majesty was asked to give an opinion upon a matter of this kind, her opinion had been disregarded, and he was very much afraid the same thing would take place here. They were restricted as to means, as they would not have more than 12,000*l.* or 13,000*l.*; and they were also very much restricted as to sites. He thought it was the duty of this meeting to urge upon the central committee the importance of taking immediate steps towards the completion of the proposed memorial. After some discussion the

resolution was unanimously adopted.——The citizens of Perth having resolved that their subscriptions should not be thrown into the Scottish National Fund, but devoted to the erection of a statue of the Prince in Perth, some time since commissioned Mr. William Brodie, R.S.A., of Edinburgh, to execute the work. The model is now nearly completed; and this is the first statue of the Prince by a Scottish artist. The statue itself will be colossal—at the least 8 feet in height—but the model is not full size, being about 5 feet high. The Prince is represented as attired in robes of the Order of the Thistle, his right foot slightly advanced, his right hand leaning on a square pedestal, and displaying a drawing or elevation of the Great Exhibition building.——The *Dundee Advertiser* says the committee of the Albert Institute have received subscriptions to the amount of 14,850*l.*, and Sir David Baxter has intimated that whenever the general public make the subscription 17,000*l.* he will become responsible for the remaining 3,000*l.*

Edinburgh.—A bust of Lord Cockburn, by Mr. Steell, the sculptor, has been placed in the great hall of the Parliament House, by desire of the committee of subscribers.

Additions to the Royal Pictures at Holyrood Palace.—Several valuable additions to the collection of royal pictures at Holyrood, Edinburgh, are about to be made by command of her Majesty, from the large collection at Hampton Court, where there are a good many duplicate portraits of royal personages connected more or less directly with Scottish history.

An Edinburgh Cooking Depot.—A few days ago Prince Alfred and Prince William of Hesse paid a visit to the Ulbster cooking depot for the working classes, established by Miss Catherine Sinclair, at Queensferry-street, Edinburgh. The Princes, without being recognized, entered the crowded dining-hall, and were served with the usual 4½*d.* dinner supplied to frequenters of the depot. After dinner, they visited the kitchen of the establishment, and before leaving expressed their entire satisfaction with all the arrangements. The depot is self-supporting, and is visited by about 500 persons daily.

Glasgow.—The Lansdowne United Presbyterian Church, on the Great Western road, near the banks of the Kelvin, has been opened for Divine service. The designs for the edifice were furnished by Mr. Honeyman, of this city, architect. The building will accommodate nearly 1,100 persons. The arrangement of the pews in the area is unlike any other church in this neighbourhood, except the Free West Church in Greenock, by the same architect. There is only one passage in the centre of the area: half of the pews enter off this passage, while the rest enter off spacious side corridors extending along at each side outside the main walls of the church. The doors of these side pews, when closed, form a continuous panelling on each side, finished above with a timber cornice. The side corridors communicate with the front vestibule, which is 12 feet 6 inches wide, having the entrance door in the centre, and a door of egress at each end. There is also a door of egress at the east end, and a separate door for the use of the minister. The side galleries are only 6 feet wide, and are carried on iron brackets, thus obviating the necessity for iron pillars except at the transepts where the galleries are wider. The ceiling is almost semicircular in form, and the height from the floor is 54 feet. The three windows of the apse behind the pulpit are filled with stained glass by Messrs. Ward & Hughes, of London. The design is mosaic, surrounding medallions, containing figures emblematical of the law, the prophets, and the gospel. The extreme length of the interior, including the apse, is 100 feet. The height of the spire, which stands at the south-east corner of the building, is 218 feet. The building immediately to the east of the spire, having a high gable towards the Great Western road, contains on the ground-floor a session-house, ladies' room, vestry, and other apartments, and upstairs a hall, capable of accommodating above 300 persons; there is also a beadle's house and offices at the north side of the church. The style of architecture is Early English Gothic, of an ornate character, carving being freely introduced. The cost of the whole of the buildings, including a large unexpected outlay on foundations, and the cost of retaining wall forming new street between the church and the Kelvin, amounts to about 9,700*l.* The contractor for the mason work was Mr. J. Coghill, and for the wright work Mr. J. Morgan: the inspector was Mr. J. Kintrea. The special collection made at the three opening services on behalf of the building fund amounted to 1,230*l.* 8s. 2d.——The sum of 18,000*l.*, which is to accumulate at compound interest for twenty-one years, has been given by Mr. George Baillie, the eldest member of the Faculty of Procurators in Glasgow, and formerly Sheriff-Substitute of West Perthshire, for the establishment and maintenance of free libraries and public schools in Glasgow.

Denny.—We learn from the *Falkirk Herald*, that scarlet fever, of a malignant character, prevails in this town, and in the neighbouring village of Dunipace. It is now several months since this epidemic appeared in the district, and during that time the death rate has been largely increased. As yet there is not the slightest appearance of the disease abating. Few families have escaped, and many households have lost one of their number, several two, and in one instance three have fallen victims to the malady. The imperfect sanitary condition of the place, it is added, may account in some measure for the malignancy of the disease.

CHURCH-BUILDING NEWS.

Twickenham.—The new portion of Holy Trinity Church, Twickenham-green, was consecrated on Christmas-eve. The church, which stands on the south side of Twickenham-green, originally consisted of a nave, aisles, shallow chancel, recess, and tower at the north-west angle. The new portion consists of north and south transepts, with aisles, measuring from north to south 72 feet, and from east to west 34 feet; beyond which is a chancel, with an apsidal termination, which on plan is a semi-decagon. The old chancel arch has been retained, and now forms the eastern line of division between the old and new portions of the church. In the transepts are nearly 400 additional seats. The apsidal portion of the chancel is paved with Minton's encaustic tiles, the passages in the transepts with plain black and red tiles. The roof and seats are of deal, stained, the latter being varnished. It is intended ultimately to fill the windows with stained glass throughout the new portion of the church. Externally, among the chief features are the three-light windows on the north and south ends of the transepts. The sides of the apse are surmounted by gables, with crockets and finials. The windows in the apse are five in number, and single lights. A new porch on the north side and a vestry at the south-east angle have also been added. Under the vestry is the furnace-room for the hot-water apparatus whereby the new portion of the church is warmed. The style adopted is Middle Pointed, and the material employed is white brick, with Bath-stone dressings, &c., to assimilate with the old building. As the increased length of the church necessitates additional height to the tower, it is intended to surmount it with a lofty spire. The cost of the additions, exclusive of the spire, is about 2,800*l.*; and the alterations have been executed from the designs and under the superintendence of Mr. Francis T. Dollman, architect.

Yarmouth.—Sir: Under the general head "Church-building News," and "*Norwich*," page 901, you give what purports to be some information about St. Nicholas Church. As this must refer to the church of that name at *Great Yarmouth*, allow me to call attention to this error, and to inform you that I am the architect engaged for its restoration. May I request you to mention this fact in some future impression of your journal?—JOHN. P. SEDDON.

Otford (*Kent*).—The ancient church of Otford has been reopened for Divine service, after having undergone a restoration internally. The old wooden pillars have been removed, and a new arcade of four bays substituted, divided by stone columns. At the first pillar an arch is thrown over the nave, which creates a chancel sufficiently large to accommodate the choir. The whole of the roof is new. The chancel is paved with Minton's tiles. The gallery is removed, and the arch opening into the tower thrown open. The seats are all open, and of oak. The warming is accomplished by an air-chamber which passes under the aisles, and at convenient and not unfrequent distances fireplaces are made, and over them an iron plate with very small openings. The arrangement, we were informed, consumes its own smoke. Mr. G. E. Street was the architect employed.

Dorking.—The chancel of the parish church is at last to undergo a thorough restoration, at the sole cost, it is understood, of Mrs. Hope, the Deepdene, as a memorial of her late husband.

Sevenoaks.—A small church has been erected by Mr. Jay, the contractor for the new South-Eastern Railway, for the use of the workmen, this place being the centre for extensive works now in progress. The building, which has been opened for public worship, has been erected within three minutes' walk of a large number of labourers' huts: it is of galvanized iron. The seats are of plain deal, and are calculated to hold about 150.

Tenterden.—At a meeting of the committee for the restoration of the church, there were three tenders sent in, viz.—H. Runnacles, Halsted, 2,231*l.* 14s. 11d.; P. Newnham, Tenterden, 1,850*l.* 4s. 9d.; and J. Bourne, Woodchurch, 1,814*l.* 5s. 4d. Mr. P. Newnham's tender was accepted. The secretary reported that the sum already contributed amounted to 1,543*l.*, and it was resolved that the architect (Mr. E. Christian) be instructed to prepare a form of contract to be entered into with Mr. Newnham, for re-seating, re-paving, re-plastering the walls of the interior, and restoring the arches; taking out the dormer windows in the roof, and restoring the carved oak; repairing and oiling the oak roofs in the side aisles; restoring all the doorways and doors; restoring the stonework of the west window [the stained glass of this window is the gift of Mr. Whelan]; for new windows in the north side of the church; and six new windows in the south side. According to the contract, after doing the above work, a sum of 17*l.* will remain towards the warming and lighting, which with a few other things, such as wire doors, hassocks for the poor (required as a condition of the grant given by the Church Building Society), matting, &c., will require about 200*l.*

Grimley.—The chancel of Grimley Church, which has been for some time under restoration, has now been reopened. The chancel arch and east nave wall have been rebuilt, chiefly by the landowners in the parish. The north wall of the chancel has been also rebuilt, and the whole put in repair; a new open roof of stained fir and gilded iron gable-cross put on; the floor raised and laid with tiles; longitudinal benches, with desks and subsellæ, of varnished deal, substituted for the former seats. The lessons are read from a lectern, of oak, from the ancient roof of the now demolished Guesten-hall, at Worcester. This latter was designed by Mr. Hopkins, of Worcester, architect, and executed by Mr. Finch. The material work of the chancel was done by Mr. Smart, of Malvern, under the direction of Mr. Christian, architect, and at the cost of the Ecclesiastical Commissioners.

Shipston-on-Stour.—A cemetery is about to be formed here. The Burial Board have fixed upon a spot on the London-road, and have agreed for the purchase of two acres. The architect employed in the matter is Mr. W. H. Knight, of Cheltenham, who has furnished designs for the necessary buildings, being two chapels, with spire, entrance lodge, &c. The Burial Board have lately advertised for contracts.

WORKS IN STAINED GLASS.

Armagh Cathedral.—Messrs. Lavers & Barraud have completed a window for Armagh Cathedral, to commemorate the late Primate. It is of considerable dimensions, and contains three lights, with tracery: its cost, together with two small side windows, is 500*l.* The late Archbishop Beresford, it is well known, was a great restorer of churches: he spent a very large sum, we believe nearly 40,000*l.*, on the restoration of the cathedral. These circumstances suggested the design, which illustrates the dedication of the Temple by King Solomon, and its subsequent restoration under Ezra and Nehemiah. These events occupy the chief space in the window. At the bottom, however, is a predella of the three following subjects:—The Mission of St. Columba to Ireland; the Founding of Armagh Cathedral; and its Restoration by the late archbishop, whose portrait appears in this panel: at the bottom is an inscription. The tracery is filled with a large Majesty and beatified Saints. The window promises to be very effective if there be plenty of light outside.

All Saints' Church, East Clevedon.—A stained glass window has recently been placed in this church by Mr. T. Andrews. It has been manufactured by Mons. L'Evegne, of Beauvais, and is a design of foliated tracery. The window has twelve principal lights, intersected with twelve quatrefoils, with a large quatrefoil in the centre. Sir A. H. Elton, bart., has presented it to the church.

St. Catherine's, Angel Meadow, Manchester.—This church has been re-opened after a thorough cleaning and decorating of the interior. All the old windows have been taken out and replaced with cathedral-tinted rolled glass, with rich borders. The chancel window is a triplet, and the centre light contains a full-length figure of St. Catherine; and in a panel above is a descending dove. The side lights are of geometrical design, having medallions of the four Evangelists, Agnus Dei, cup and vine, &c. The wall decoration and stained glass were executed by Messrs. Edmundson & Son, under the superintendence of Messrs. Speakeman & Charlesworth, of Manchester, architects.

Saints Simon and Jude, Manchester.—This church has undergone considerable alteration lately. In addition to the alterations and wall decoration in the chancel, there are three lancet lights now filled with stained glass. In the centre is "The Crucifixion," attended by the beloved disciple, John, and the mother of our Lord, with the Magdalen weeping and embracing the feet of Jesus. In the side lights are half-length figures of St. Simon and St. Jude. The emblems of the Evangelists, &c., are in medallions. A large wheel in the gable is also filled with stained glass of geometrical design. The whole was under the superintendence of Mr. J. M. Taylor, architect, of this city. The stained glass was by Messrs. Edmundson & Son.

Holy Trinity Church, Halifax.—The chancel window of this church, which is large and of Romanesque character, has just been filled with stained and painted glass. The large square-headed opening in the centre is filled with the subject of the Crucifixion: the semi-circular head, which is divided from the light below by a stone transom 20 inches thick, is occupied by a representation of "The Raising of Jairus's Daughter." The square-headed sidelights have full-length figures of Faith and of Charity, in panels of diaper-work. It has been erected by Dr. Alexander, of Halifax, in memory of his late wife and several of the Alexander family. The whole was designed and executed by Messrs. Edmundson & Son, of Manchester.

St. Peter's Church, Newcastle-upon-Tyne.—A stained-glass window, in memory of the late Mr. John Abbot, has been placed in one of the north side windows of this church. The illustrations on the glass appear principally to have been taken from the parable of the Talents. The first group of figures, in the centre compartment of the base of the window, represents Christ in the act of delivering the talents to the three servants. In the compartment to the left side of the centre one are the two faithful servants ploughing and sowing, while the third servant is represented as hiding his talent. In the compartment to the right side of the centre the two faithful servants are shown to be reaping the fruits of their industry; and the third servant in the act of digging up his talent. In the three compartments immediately above the base of the window, the servants are represented to be awaiting the return of their Lord; then, producing before him the increase they had made in properly using their talents; and, lastly, a representation of the two faithful servants kneeling before their Lord, whilst he pronounces the benediction upon them. Above these last-named groups are the usual architectural canopies or quatrefoils. The tracery round the edge of the window is filled with ornamental glass. Messrs. Wailes were the artists

St. Mary's Roman Catholic Cathedral, Newcastle-upon-Tyne.—A memorial of the late Mr. Wm. Dunn, of Bath House, has been put up in this church. It consists of a window of three lights, and tracery above. It is situate in the baptistery, on the right-hand side on entering the church by the west door. The principal subject occupying the centre light is that of our Lord's baptism in the Jordan by St. John; the trefoil in the tracery immediately over it containing the descending dove, surrounded by rays of light. The side compartments of the window contain large figures of the Virgin Mary and St. William of York, respectively, each carrying distinctive emblems. These three subjects are depicted under architectural and floriated canopies, and raised on lofty bases, under which is a kneeling figure of the deceased at Pridieu, and, in the background, an elevation of the church and presbytery attached to it. The tracery is occupied by figures of angels bearing scrolls with texts. The centre panel contains the family arms, and two smaller ones the monogram of the deceased. Along the base of the window, and extending over the three lights, is the memorial inscription. This window was also by Mr. Wailes.

PROVINCIAL NEWS.

Tunbridge Wells. — The first of a series of schemes for hotel accommodation has assumed a decided form, and the Kentish Royal Hotel Company has been formed. A capital of 50,000*l.* in shares of 10*l.* each (a large portion of which is already subscribed for), is to be raised and expended in the reconstruction of the hotel, from plans by Mr. F. H. Fowler, architect of the Strand and Hastings Hotel Companies. One of the features of the scheme is the construction of an arcade of shops facing to Chapel-place and High-street.

Ryde. The town commissioners have unanimously approved of the new plan of Mr. Cutler for increasing the accommodation of the county-court, and for making other improvements required for the public convenience. Mr. T. Hellyer, architect, said the plans possessed the advantages of including a residence for the hall-keeper and improving the telegraph-office. The new rooms would provide the accommodation required for the county-court. The enlargement is to be made on the west side of the hall, so as not to mar the present building more than necessary, although Mr. Cutler said it could be done with greater economy on the east side. The report of the committee asked for powers to advertise for tenders, and to carry out Mr. Cutler's plans; and the report was unanimously adopted.

Wellington (Salop). — A company has been formed, with a capital of 20,000*l.*, to provide new and suitable market accommodation for this town, and an Act will be applied for in the ensuing session to obtain the necessary powers of purchasing property in the town and carrying out the project. It is proposed to erect a covered market on or near the site of the present market-hall, having convenient approaches from Market-square, Walker-street, and Butchers'-lane. It is proposed to establish an additional market on Saturday; and powers will be taken in the Act to enable the company at a future time to provide a Smithfield. The company have appointed Mr. Bidlake, of Wolverhampton, their architect.

Glossop.—At a public meeting of the ratepayers, the guardians have been authorized to apply to the Poor-Law Board for power to make several new streets in and about the town, under the Public Works Act. The estimated cost of the works is 3,300*l.*, two-thirds of which will be paid by Lord E. G. F. Howard, M.P., the lord of the manor. There are already 222 men at work under the Act, most of whom are engaged in draining inclosed lands on his lordship's estate.

THE PATENT CONCRETE STONE.

A COMMITTEE from London, including Mr. C. H. Smith, Mr. Hayward, Mr. Geo. Dines, Mr. O. Hansard, and Mr. Wyatt Papworth, went to Ipswich the other day to test Mr. Ransome's patent concrete stone, and were met by a number of other gentlemen there. One system of testing was by small sections of the stone being clutched by a pair of grapnels, which were suspended—the upper one from the centre of a long iron beam, like the beam of a pair of scales, the under one being connected by stout iron links with a beam on the floor. A heavy weight hung at one end, and at the other were hooks to receive the weights, as the strength of the material required. By this means a strain was put upon the stone till it broke. Several pieces of Ransome's stone, which had been made in the presence of the committee, in London, were put to the test, together with other specimens of stones similarly prepared, the results, according to the statements that have reached us, being as follows:—Five specimens of Coignet's *Bétons Agglomérés*, yielded to the following strains: 656 lb., 544 lb., 1,168 lb., 448 lb., and 384 lb. on the surface of 6 square inches. Mr. F. Ransome's specimens next tested, showed the following results:—1,104 lb., 752 lb., and 1,184 lb. on the 6-inch surface; 1,304 lb. on a 5-inch surface, and two pieces of concrete stone, made on Saturday night last, from road scrapings, combined by the use of silicates, withstood respectively, 1,616 lb. and 1,552 lb. to the 6-inch surface.

Other tests followed by the application of pressure in hydraulic presses, to several 4-inch cubes of Ransome's stone. These withstood pressures varying from 11 to 16 tons; and the only 6-inch cube tried, at last failed under a weight of nearly 70 tons, from faults in the wood packing on which it rested.

The patent is in the hands of a company to which Mr. Thos. Piper acts as honorary secretary.

ARCHITECTURE PROP-ER AND SHAMISTIC.

SIR,—This little essay is for the information and instruction of those who long to see architecture divested of all mystery and exclusiveness,—taken out of the hands of artists, and put into the hands of those whom Mr. Fergusson calls the "plain cooks." This would certainly be "all very fine, Mr. Fergusson," and there is a great deal of meaning in your recommendation to study cookery-books to obtain a proper knowledge of architecture.

Architecture Proper, as its name implies, is founded on a system of props. Properly carried out, or "architected," as the Athenians have it, it forms one of the bulwarks of a nation as it were,—the props and buttresses on which not only the æsthetic welfare, but the personal safety of a people, is founded. Architecture may be looked upon,—in fact, *is* looked upon by the "plain cooks" who dabble in the trade, and make messes both in the department of public taste and the pockets of their unfortunate employers,—as a system (to make use of the legal Latin of a talented author) of mixandum, roast-andum, boilandum, and fryandum. Let it be candidly admitted that this is a very fair and comprehensive view of architecture; a view that is calculated to enlarge the ideas of architectural tradesmen who undertake to teach pupils what but for this information they themselves might never have known. How often, for instance, do we witness the vigorous attempts of the aspiring genius of a Pecksniff trammelled by the notion that architecture may not be brought down to the level of "plain cookery" and £. s. d., and in such cases all that is produced is a pump, or something equally watery. But in spite of this it cannot be denied that architecture is looked upon by many as a system of repetition, reproduction, and redoubled replication; and doubtless much is to be said in favour of this view.

Before architecture became a trade, the prop was not invented. How and when this artistic and solemn feature originated is a curious and absorbing question. How for long ages the only prop in existence had been the clothes-prop; how the ideas of our ancestors for ages did not advance one peg beyond the ordinary clothes-peg; how at length building after building was erected upon the clothes-prop principle; how, although no one was able to point to the architect who first propped up his buildings, yet the propagation of these principles, and the force with which they influenced subsequent times, are questions each one of which demands a wide field of expatiation and affords a matter of absorbing interest to every lover of architecture proper.

The origin of architecture, although in some probability having its seat in the requirements and necessities of human nature, is far removed from those requirements and improvements which have since obtained. The inherent snobbery of human nature, and the development of the sham and the sensational, form sources which were never dreamt of in times of crude simplicity; these elements of comparatively modern growth have been most powerful in their influence on architecture. The discovery by Rumfungus Addlebrain of the shamistic element was an era in architecture. Modern London, with all its crookarious sinuosities of plan and omnivorous variegated monotony of front elevation—*front*—for, poetically speaking,

> "They puts a front up to the street,
> And builds the back part shabby;"—

Modern London affords an example of the shamistic element of perhaps the highest order. Before this principle obtained there existed a gabular and protruding frontal style of building, each upper story projecting beyond the lower, and in narrow lanes and alleys disclosing a small ribbon of sky by day and a strip of stars by night,—that is, on clear nights. Buildings at this time were wooden; and there being then no insurance societies, were often burnt down. In spite of the sanitary arrangements of the period, a most frightful epidemic broke out, which spread death around in hideous form. This was the "Great Plague" of Old London. Fortunately there came a devouring fire, and swept away the loathsomeness, the crowding, and the contagion, and for a time let air and daylight into the dungeon holes. *Fortunately;* but although Old London was burnt down, Modern London was rebuilt. Yes; then came brick and mortar; then came chimney-pot and pantile; then arose the hole-in-the-wall style; then flourished the waterbutt style. Now sprang up

miles of front and back wallage, with numberless square holes; in streets and squares, vast, tremendous, prodigious, and pleasingly monotonous; slices and wedges of which placed here and there in various parts of the country, provided residences for the aristocracy and the amphibiosity.

By-and-by came the discovery of "compo." With this discovery came a redoubtable change in architecture. That "compo" influenced composition is very certain; and, like Mr. Briggs's builder, many an architect found, and many a tyro still finds, that "a little compo is all that is necessary."

Coeval with compo reigned a wide-spread gravitation towards the antique. The beauty and symmetry of the forms in the architectural remains of Greece and Italy struck the eye of the age, and acted like a talisman on the newly-discovered element, compo. Now began the peculiar and distinctive Compo style,—a style which produced architects like tadpoles; a style which proved that "compo made the architect," on the same principle that Beau Brummel taught "starch made the man;" and a style which still, to a large extent, is an ornament to London, as far as its features are not obliterated by time and soot.

The Compo style, in the composition of its component parts, is adaptative and imitatory. For instance, here is a column from the Temple of Jupiter Jampots, at Rome; there a pediment from the baths of Nebo Squash, or a portion of the justly celebrated chapel-of-ease to the Colosseum. Well, what can compo effect in such cases?—rather, what can it *not* effect (and I speak now of "compo" both in its material and moral signification)? Its results are marvellous. That which was conceived by deep and mature reflection, developed by genuine artistic feeling and devotion, and wrought out with love and consummate skill, can be dabbed up in compo (we have an eye to *business* in these days) before a man can say "Jack Robinson!"

HI, JACULIS ILLI DEFENDERE SAXIS.

PROVINCIAL TASTE.

SIR,—Knowing you to be earnest in your endeavour to promote the progress of the arts, especially architecture, and that you from time to time insert in your paper commendatory notices of such new works as merit them, and also point out any works that are carried out in a manner contrary to good taste, I venture to acquaint you with a specimen of architecture recently added to our town, Wirksworth, Derbyshire (which already boasts of a Temperance Hall that for ugliness cannot be surpassed), which I am at a loss to describe. Suffice it to say, the building in question is a private residence, intended, I imagine, to be in the Elizabethan style. It has high-pitched roofs, with ornamental crested ridges, gables coped with stone, and surmounted with wheel crosses, very elaborate of the Decorated period. The walls are rough cast, and relieved by square sash windows. The porch I can liken to nothing I have ever seen before. It is of wood framing, panelled, the upper part sashed, and the top flat. It is zigzag on plan, and conveys the idea that it has been some time or other a photographer's studio, built to accommodate itself to some restricted space, such as one sometimes sees at the back-yard of a lodging-house on the hill sides at third-rate watering-places. Why do not owners, when about to build, employ an architect instead of carrying out their own ideas, or relying on the genius of a country builder, for the result is invariably the production of buildings alike discreditable to a town, and offensive to all those who have the slightest pretension to taste?

CRITIC.

ACOUSTIC POTTERY.

YOUR recently published notes on the singular subject of Acoustic Pottery will be read with interest, and, doubtless, bring to light many instances of its use.

The references made in your number of the 19th ult. to the discoveries of vases in the Churches of St. Peter Mancroft and St. Peter Mountergate, both in Norwich, have a possible significance that is evidently not suspected by your correspondent, Mr. M. Phipson, who furnishes them.

I shall best indicate the point to which I refer by quoting from the "Urn Burial" of Sir Thos. Browne, the famous writer and learned physician of Norwich, the following passage in the epistle dedicatory to Thomas Le Gros, of Crostwick, Esq., the discovery on whose estate of certain Roman burial-urns was the fortunate occasion of the incomparable essay in question:—

"We cannot but wish these urns might have the effect of theatrical vessels and great hippodrome urns in Rome, to resound the acclamations and honours due unto you. But these are sad and sepulchral pitchers, which have no joyful voices; silently expressing old mortality, the ruins of forgotten times, and can only speak with life, how long in this corruptible frame some parts may be uncorrupted; yet able to outlast bones long unborn, and noblest piles amongst us."

The reference to the "hippodrome urns" is to the main point before us, and indicates knowledge of their functions in the mind of the learned writer, who was a parishioner of St. Peter's Mancroft, I believe, and was certainly buried, as a tablet on one of the pillars attests, in the church where, in 1850, the examples of acoustic pottery were discovered.

My idea is, that as these vessels were discovered under the wooden floor of the chancel, and without other covering than it afforded—which suggests that they were coeval with it, and not older—they might have been placed where they were found at the instigation of Sir Thomas Browne himself. The form of the vessels, as engraved by you, seems to confirm the notion that they are of the date in question.

F. G. STEPHENS.

FRENCH GOTHIC IN ENGLAND.

SIR,—The French nation is one in which stateliness, grandeur, and glory are essentially national traits, inherited from the Romans. It has come down to this day, and forms even a leading feature in modern Parisian architecture. In the Middle Ages French architecture bore the same external character. In England, however, stateliness and grandeur were not traits in our Gothic architecture. Like our scenery, it was confined, homely. English poetry, in like manner, was never of a "grand" kind. It is noticeable for its tenderness of thought and homely nature: and so our architecture. If, in the present day, grandeur is necessary, all I can say is that England has lost its traditional beauties of thought, and, I am sure, will never succeed in aforeign line. But, I believe that the unnatural fight for *position* in modern English life creates that unsettled state of mind which can only find pleasure in unnatural excitement. Hence the origin of "sensation" dramas, novels, &c. This state of life is very detrimental to a love of home, of fireside, and not likely to produce much poetry. Our modern poets are precisely those men who are least influenced by such national vices. I maintain and challenge any one to refute it, that the stately grandeur of French Gothic is wholly contrary to English poetry—is wholly contrary to *true* English feeling; and, if we admire it in a Latin race, we cannot admire it at home, since it is destructive of all that is most to be cherished in the sweet homeliness of English country life. It does not agree with our scenery,—nor with our innermost feelings.

QUAM DILECTA.

CHANCELS OR NO CHANCELS.

As Mr. Elliott has openly accused me of dishonesty; and as throughout his letter of the 12th ultimo he endeavours with an ingenuity worthy of the great Mr. Chaffanbrass himself to throw dust in the eyes of the jury by making me appear to contradict myself, and by interlarding his cross-examination with funny stories of *Lord Dundreary* and a great deal of "prave 'orts," as Parson Evans would call them, about "walls of salvation," "apostolical specifications," "lines of judgment," "plummets of righteousness," &c.; I must ask you to allow me space to say a few words in vindication of myself, and to endeavour to put the real question at issue more plainly before your readers.

The whole thing "lies in a nutshell." Mr. Elliott asserts that, in the primitive churches, the altar stood *without* the bema, "*in the midst of the people;*" and that it thus affords no prototype whatever of the "chancel" of Mediæval and modern churches. His theory is that the building and adorning of chancels arose entirely out of the dogma of transubstantiation: well nigh every word of his letter in your number for November 28, and most of that in yours of the 12th ultimo, rest wholly on the supposition that this assertion is true, and go for nothing if he cannot prove it. As his opinion on this question is totally opposed to that of most architects, and, indeed, most Churchmen of the present day, the *onus probandi* lies with him. As yet he has given us bare assertions, and nothing more. Can he *prove* that in any church built previously to the ninth century (putting out of the question those circular ones originally designed as tombs or baptisteries) the altar did not stand, and could not have stood originally *within* the bema? He has challenged all the world to give an instance of a church built at that period in which it *was* placed there. I have quoted a passage which seemed, and still does seem, to me to prove that, in the very earliest church of which we have any description, it *had* that position *within*, and not without, the *cancelli*. Mr. Elliott boldly accuses me of having garbled the quotation, and by substituting "bema" for "temple," made Eusebius say the opposite of what he really does. This is a grave charge, and not lightly to be brought against any one. It so happens that I quoted from Bohn's translation (the only edition at hand at the moment), *without altering a word*. The historian begins his description at the atrium, and goes down the church till he has come to the end; and, in quoting the final passage, beginning "This he adorned with lofty thrones," &c., I simply remarked that Eusebius was clearly speaking of the bema. Mr. Elliott himself confesses that he is speaking of it in the beginning of the sentence; and most persons of ordinary common sense and unbiassed minds would, therefore, suppose that in what follows he is still speaking of it. But, no, argues Mr. Elliott; the altar stood in the midst of the church; and, therefore, the historian must be going back to describe something he had passed by. This is simply begging the whole question. The fact that the altar was "made every way inaccessible to the multitude," which Mr. Elliott confesses, is quite irreconcileable with his theory that it stood "in the midst of the people," who at the Lord's Supper "were reclined or seated round it" as at an ordinary *triclinium*.

In the passage which Mr. Elliott translates "*all over the temple,*" putting it in italics to make it seem the more contradictory to my rendering "all round" the bema, the word "temple" does not occur at all in the original, which I have now before me, though it does occur in the previous sentence, from which he has seen fit to transpose it. Again, when speaking of "the Holy of Holies," as Eusebius calls it, he tacks on his own pet phrase, "in the midst of the people," as though he would have his readers believe, that Eusebius was on his side, in his attempt to show that the "*substitution* of *temple* for *church*," and "*altar* for *tomb*, or *table*," is of comparatively modern date! Farther on he says, I am "not content with being wrong in one instance," &c., for, "*it is not true* that only in the adapted basilicas the orientation principle was avoided;" when he knows very well that I never asserted anything of the kind; but said plainly, "a basilica facing north and south, *or a site which, though otherwise convenient, compelled such an arrangement.*" Again, when he expresses himself as *amused* at my denying that the compilers of our Prayer Book meant to refer to the arrangement of churches of an earlier than Mediæval epoch,—in the rubric; as though this denial implied that there *was* a difference between the primitive and Mediæval arrangement; he must be aware that my words, as I wrote them, do not imply anything of the kind. I leave it, then, to your readers to determine whether Mr. Elliott or myself best deserves the charge of want of "*common honesty.*" And I repeat that it *is* "an insult to common sense," to say that the men who ordered, "*chancels shall remain as they have done in time past,*" meant "they shall *not* remain as they have done for the last 500 years and more," which is the construction Mr. E. would have us put upon their words. That gentleman goes on to ask whether I do not know, or have forgotten, that "the Church of England condemns as idolatrous and blasphemous those doctrines of the Church of Rome which originated the Mediæval chancels?" just as if my whole letter were not an emphatic denial of his assertion, that they originated in the dogma of transubtantiation; and as if I had not plainly shown that while the Church of England renounces that dogma, she does not condemn, but holds and teaches, the doctrine of the Real Presence, which, as I said, "gives all its life and meaning to the whole system of eucharistic worship, and to that archetypal arrangement of the Christian temple

which, by common consent, the church adopted from the earliest times." Mr. Elliott finds it convenient to ignore all that I said touching the arrangement of the oldest Eastern churches, such as the churches of Sergius and Bacchus, at Constantinople (built in the reign of Justinian), those of St. Clement at Ancyra, and Trabula in Lycia (only a little later in date); of St. George at Salonica (built circa A.D. 400), of which Mr. Fergusson remarks that it has "*a well-defined choir with its apse, evidently part of the original arrangement;*" and many others. But as he seems bent on *going to Rome* for his archetype of a Christian temple, let me remind him that in the basilica of St. Peter (A.D. 300) there is a chancel nearly 90 feet in length between the termination of the nave (the chancel arch, in fact) and the bishop's throne at the back of the apse. In the church of Sta. Maria Maggiore there is one of at least half that length, which was built by Pope Sixtus, A.D. 432; while the church of S. Apollinare Nuovo, at Ravenna (A.D. 493–525), presents the very prototype of a modern chancel built out far beyond the termination of the nave and side aisles, and ending in an apse. Will Mr. Elliott undertake to prove that at any given time since the erection of these churches (in each of which the chancel and apse are evidently contemporaneous with the rest), the altar did *not* stand where it has stood from time immemorial *within the chancel*; or that in any one of them at any known period it *did* stand in any other position? I have thought it right to make this reply to Mr. Elliott's most unfair letter; but here the controversy may stop, as far as I am concerned. I am quite content to leave the question at this point in the hands of your readers.

WILLIAM PURTON.

P.S. Perhaps I ought to have referred to the church of San Clemente in preference even to those I have mentioned, built in the fourth or fifth century, and rebuilt in the ninth: it has remained all but unaltered in its arrangements since; and there the altar, with its canopy supported on four pillars, stands far within the railing of the bema, outside of which are the seats for the choir.

ARE THERE ANY DRAWINGS IN EXISTENCE OF THE PALACE OF CANONS, NEAR EDGWARE? IF SO, WHERE ARE THEY?

THOSE who feel interested in the fine arts, especially that department relating to architecture, as practised in this country during the early part of last century, may meet with many passages in the writings of that date alluding directly or indirectly to the magnificence of the expensive palace of Canons, erected some time between 1715 and 1744, by James Bridges, Esq., created a baronet, baron, viscount, earl, marquis, and ultimately duke of Chandos, who by some means acquired a princely fortune, as paymaster of the forces in Queen Anne's reign. He was usually called "the Grand Duke," from the grandeur and almost regal state in which he lived. His grace expended on the building alone about 300,000*l.*: the same quantity of materials and labour would now cost double that sum. The entire edifice was designed and executed under the direction of John James, architect (of Greenwich): it stood at the end of of a spacious avenue of trees, being placed diagonally, so as to show two sides of the building, which at a distance gave the appearance of a palatial structure of great extent. Vertue describes it "as a noble square pile, all of stone, with statues on the front: within was a small square of brick, not handsome; the out-offices, of brick and stone, very convenient, and well disposed; the hall richly adorned with marble statues, busts, &c. The ceiling of the staircase was painted by Sir James Thornhill; the grand apartments finely adorned with paintings, sculptures, and furniture." The columns and pilasters which separated the hall from the grand staircase, were each made of one entire block, rather more than 20 feet in length, of the finest quality of Italian veined marble: all the steps of the principal staircase were of similar material. The locks, hinges, and furniture of the doors were of silver: the internal decorations, of historical painting and sculpture, were of the most costly description: the grounds were adorned with a profusion of statuary, by Charpentiere and other sculptors. The chapel was equally elaborated and embellished with paintings of the Italian school, by Bellucci. The vocal and instrumental portions of the services were arranged and performed by the most eminent musicians of the day. Handel, who resided at Canons, as "chapel-master," is said to have composed his sacred drama of "Esther" for its consecration.

During the very short time that the Palace of Canons remained undisturbed, except by royal or aristocratic entertainments, it was frequently celebrated, both in verse and prose, especially indirectly by Pope; but admitting what there is little doubt of, the poet's intended application of his satire to Canons, his concluding lines are singularly prophetic:—

> "Another age shall see the golden ear
> Imbrown the slope, and nod on the parterre,
> Deep harvests bury all his pride has plann'd,
> And laughing Ceres reassume the land."
>
> *Moral Essays.*

This sumptuous mansion, and nearly all belonging thereto, by a fate as transient as its founder's career, barely survived him: after many fruitless attempts to dispose of it entire, it was pulled down soon after his death, which occurred on the 9th of August, 1744, at the age of seventy-one years, and the materials were sold by auction in the year 1747. The duke was involved at the time of his death, probably in consequence of having lost enormously by the "South Sea bubble" in 1720. The site and most of the building materials, together with the park and demesne lands, were purchased by William Hallet, the cabinetmaker, living in Long-acre, London, who had been extensively employed by the duke. The Corinthian portico was removed to and erected at Wanstead house: the beautiful marble staircase and columns were erected in the Earl of Chesterfield's residence in South Audley-street, London, at present occupied by the Marquis of Abercorn; and all that remains of the celebrated equestrian statue of George I., with its pedestal, has long decorated the area of Leicester-square. The present villa, or dwelling-house, once occupied by Lady Plumer, is said to have been only a distant outhouse, perhaps a residence built by Mr. Hallet, forming no part whatever of the original main edifice.

These are some of the scraps or gleanings about Canons and the grand duke, collected during a long search amongst periodicals, poems, novels, biographies, topographies, &c., all of them written more than a century ago. The general inference seems decidedly to allude to a residence of more than ordinary pretensions; and, judging from the various buildings still remaining in or near London, which were executed from designs by the same architect, who was employed by his grace at Canons, we have a right to conclude that a mansion erected so near the metropolis, apparently without regard to cost, and which was intended to surpass or outshine all others in the kingdom, must have presented many features in the mass, if not in detail, well deserving the attention of architectural students or the criticisms of established practitioners. Every trace of the building itself at Canons seems to have been annihilated, both on the site and in the neighbourhood. I have searched numerous publications and inquired far and wide unsuccessfully: no printed plans, elevations, or views of any kind whatever, can I find or even hear of. During the progress of the building there must have been hosts of working drawings, emanating from the architect's office. Are these all destroyed? Surely some print, drawing, or diagram of that extraordinary edifice must have escaped the general wreck, and it is hoped will be forthcoming, if, through the medium of this journal, these hints respecting the interest attached to such drawings should perchance meet the eye of those who possess them.

C. H. SMITH.

THE LINSEED OIL QUESTION.

SIR,—Last week's *Builder* contains a letter from a "Practical Man" on this subject. Upon reading it I am induced to reiterate my former assertion, that the manufacturers are wholly responsible for the bad oil that is being supplied us. "Practical Man," in his attempt to palliate them and, perhaps, himself, admits that "English crushers are not so particular as they ought *to crush selected seed.*" Thereon lies the whole of the evil complained of; and we surely ought to be much obliged to him for this frank and candid admission; and I can only say that they ought to be particular, and crush only the best selected seed. They have it in their power to do so, and, until they do, they are guilty of *intentional dishonesty and rascality.*

As Sterne says, "they manage those things different in France." At Marseilles there is a standard of quality. All seed brought into the market containing more than 4per cent adulteration is sold at two-thirds less price; thus rendering it the interest of importers to have the seed as clean as possible. And why not crushers adopt the same plan here? It is found to work satisfactorily there, and all cause of complaint against the oil is thereby removed. With regard to "heated seed," if, as "Practical Man" states, it be unfit for crushing, let all that have any regard for their reputation avoid the use of such. But it would seem from this letter that scoundrelism and rascality are rampant and distinguishing features in the operations of English oil-crushers; that they do not hesitate to use any and every kind of seed, both fit and unfit,—not as "Practical Man" would have it, from compulsion, in order to compete with foreigners. If foreign oils are adulterated, I believe it is English competition that has been the cause. Foreigners have the advantage of us in production. Labour, rent, and taxes are less with them than with us; and these are circumstances not to be lightly treated when comparing the producing powers of nations. And I think the assertion is amply refuted of foreigners preferring our oils to their own, when "Practical Man" admits that we adulterate in order to compete; thus showing that there is little or nothing to be gained in point of *quality*, as I apprehend the price to be the same.

With regard to improving, or removing the bad qualities of linseed oil, by any process, I think this to be fallacious also. There can be nothing like to producing a genuine article at first hand, and thus saving additional trouble and expense. I do not see how a thing even renovated is to compete with a thing requiring nothing of that kind. I am not aware that genuine linseed oil contains anything objectionable. It is the bad qualities incorporated by adulteration, from whatever cause, that painters complain of, and that render it impossible to make good work. And I very much doubt whether we shall witness any improvement in this direction as things stand at present. That we shall be liable to further adulteration may be expected; and particularly in turpentine, is to be drawn from your correspondent's letter: thus satisfying me that the superiority of English commercial goods and transactions is a fiction, and that we abuse and stigmatize other nations merely to cover our delinquencies.

Permit me to observe that Continental Governments are more severe upon adulterations of all kinds than we. In France a conviction for certain kinds of adulterations renders the delinquent liable to keep a paper in his window announcing the fact; and the removal of it before the proper time entails heavy penalties. What shall we place against this? Our Government encourages this species of fraud rather than represses it: hence the prevalence of it; and I am sure, if there is one subject demanding immediate attention from the Legislature, it is the adulterations in the oil, colour, and varnish trade; and if not dealt with, they promise to become in time one mass of fraud and corruption. This oil question cannot be too extensively ventilated. The interest and well-being of thousands of honest tradesmen in the painting trade are bound up in it, and who would only be too glad to witness a mitigation of this intolerable evil.

NATHANIEL BESLEY.

THE THEATRES.

The Haymarket. — The new extravaganza, "King Arthur, or the Days and Knights of the Round Table," is written by Mr. W. Brough, and includes some pretty music, very well sung by Miss L. Keeley, and some very well-painted scenery by Mr. O'Connor and others, especially the "Realm of Faëry Pleasaunce," and so forth; but it sadly lacks humour and poetry. We want a higher and more satisfying class of entertainment, to make head against the horrible word-torturings to double-shuffle accompaniments now unhappily prevalent. The Haymarket is the house to which we should look for it. "Lord Dundreary" has returned, and, backed up by Mr. Buckstone as Asa Trenchard, promises to be as popular as ever for some time to come. The piece has been remodelled to a considerable extent, offering sufficient inducement to those who have laughed before to go and laugh again.

The Princess's.—Well done, Mr. F. Lloyd. The transformation scene for the pantomime here, "Harlequin Little Tom Tucker," is one of the most successful achievements of the season, a charming conception admirably carried out. In the first instance, a lake illumined by moonlight is seen, to all appearance covering the stage. The water is real, flows in freely at the back, and ripples gradually towards the front of the stage. Nautilus shells float from side to side, and fairies reclining in them (plural, naughtylasses) throw up jets of water with their shells. Then the moonlight fades, and glow-worms and fairy lamps at the edge of the lake find their sparkle reflected in its surface. Finally, the whole character of the scene changes. The water remains, but groves of tropical verdure spring up on all sides, flowers and silver bells glitter on every branch, and shells, with what seems to be a fringe of diamonds drooping gradually forward, reveal the hiding-places of the fairies. These mount and mount till in the background towers a monument of living figures, reflected like the rest in the lake below. A previous scene is also remarkably well painted. The pantomime is altogether a good one, and Mr. George Vining has commenced the season auspiciously.

Sandringham.—It is stated that the Prince of Wales is erecting a private theatre at Sandringham, where plays are to be acted after Christmas.

The Box-keepers at Drury-lane Theatre.—Sir,—It is time Mr. Falconer were informed of the opinion entertained out of doors of some of his box-keepers. They are little better than harpies. A female servant of mine took two youths to the upper boxes on Monday night, and having paid her money, was refused admittance by the box-

keeper until she gave him sixpence. In her flurry with her purse she also gave him a half-crown, which he refused to refund. To make the case worse, one of the lads was left in the lobby, and this respectable person, to whom the public in that part of the house are entrusted, would not open the door for him without sixpence more. My servant went down to a policeman afterwards, but could get no redress. If the money be sent back to your office, with an apology, within a couple of days, the matter may drop, so far as I am concerned,—though I hope others will take warning and avoid the risk: if it be not, I will try what a summons to Bow-street will do towards exposing the system.

A FATHER.

Books Received.

Another Blow for Life. By GEORGE GODWIN, F.R.S., assisted by Mr. J. BROWN. London: W. H. Allen & Co., Waterloo-place. 1864.

IN simply notifying the publication of this book, we quote the Preface to show its scope:—

"Lately, the people of Great Britain have been so violently excited by death in the workroom, amongst satin and flowers, death in the mother's arms, and death in the dank cellar; by death in Regent-street, death in Clerkenwell, and death in Bethnal Green, all premature and unnecessary, that they can scarcely require many more violent impulses to lead them to take any steps that may be necessary to prevent the repetition of such horrors,—to stop the involuntary suicide and unintentional murder now daily and hourly committed in the very centres of civilization.

Some previous endeavours on the part of the writer, humble but most earnest, to make apparent the frightful condition of parts of the metropolis and other large towns; the way in which life is shortened, health depreciated, happiness prevented, how the manners are degraded, crime and sorrow increased, to show the evils that lie hidden around us on every side, and in the suppression of which all classes are, even selfishly, concerned, met with wide and satisfactory recognition.

These endeavours had the countenance, if the observation may be permitted, of the good and illustrious Prince whom the nation does not cease to deplore; and her Majesty the Queen was pleased 'very graciously to accept,' in special terms, the little volumes setting forth some of the results of many examinations of the houses and resorts of the toiling population, made with a view to that suppression.

The evils pointed out, the dangers deplored, unhappily still remain,—modified to some extent, it may be, by the efforts of a gradually advancing public opinion, the result of increased knowledge; and I am impelled and encouraged once more to place before the public a body of observations bearing on the subject, with a statement of some definite requirements attainable without difficulty by governing powers, and some hints that may, it is hoped, be useful to those moving in a much higher sphere than the miserable dwellers in the fever-tainted dens of Bethnal Green, Whitechapel, and Spitalfields.

Ten years ago I pointed attention to the miserable condition of these districts, and said, 'From dirt comes death.' The warning, however, failed to produce any appreciable effect, or the country might have been spared the ghastly recitals which, day after day, have recently filled the public journals.

All are willing to admit that evil is done by want of head as well as by want of heart; but few, even where the will is good and disposition kindly, stop to inquire how far their own head fails,—to what extent they might themselves aid in changing a state of things they know to be evil, and deplore. It will be a reward if any such be brought to thought and so led to action by the statements in this little book."

Many of the particulars given have appeared in these pages, but the whole is rearranged, verified to the present moment, and for the most part rewritten. The volume has forty-one illustrations, is beautifully printed by Messrs. Cox & Wyman, and bound by Messrs. Bone & Son.

On some Legal and Economic Questions connected with Land-credit and Mortgage Companies. By A. G. HENRIQUES, Esq., Barrister-at-Law. London: E. Wilson. 1863.

LAND-CREDIT and mortgage companies are well known and esteemed in Germany and France, and one has even been established in Canada, of which Mr. Henriques does not seem to be aware; nor that one is about to be established on the Canadian model in this country; but the British public as yet have little or no knowledge of the subject, although such companies bear a somewhat similar relationship to the land with that which respectable building societies bear to house property, only in general on an extensive scale. Thus the Credit Foncier de France, which commenced with a nominal capital of 2,400,000*l.* sterling, has, at the present time, effected loans by way of mortgages with landowners to the extent of no less than 19,000,000*l.* sterling. Its bonds are not locked up in a useless way, but constitute a sort of circulating medium much esteemed and trusted in by all classes and descriptions of investors, and commanding a premium in the money market.

Public joint-stock companies seeking to employ their capital and funds, in making advances, by way of mortgage, on the security of land; or intending to purchase land with the view to subsequent sale; or desiring to promote land cultivation, by aiding improvements, &c., on the land, have been recently established for Australia and New Zealand, for some of the South African colonies, and also for India; and as we have said, a land-credit company is now proposed for England.

All of these companies have for their original model the Credit Foncier de France, the very great success of which has no doubt stimulated and induced the establishment of kindred institutions.

The Credit Foncier de France allege that, by means of their bonds, they have solved the long-vexed question of giving currency to land; that the facility of obtaining, on the security of land, a negotiable instrument bearing interest, and transferable from hand to hand, has given to land the advantages usually believed to be exclusively possessed by moveable and personal property. Money, it is contended, is no longer locked up in investment on land, inasmuch as a mortgage effected by a landowner with a land-credit company, coupled with an issue by the company of land-bonds readily turned into money, ensure that "play" of capital which financiers hold to be essential to its profitable employment. These allegations lead to the consideration of the important economic questions connected with land-bonds and negotiable securities charged on land generally, and especially with the bonds or debentures of land-credit companies. These questions are considered by the author of the pamphlet under notice. The subject is an important one, and well merits the public attention.

VARIORUM.

"The Art-Union of London Almanac, 1864." 444, West Strand, W.C. This is one of the best, and it is the least, of all the almanacs. Its dimensions are 3¼ inches by 2¼ inches, so that it is suitable either for the waistcoat pocket, or the lady's pocket; and many a pocket of both sorts usually contains it. Among the miscellaneous information which it gives, are the meetings of scientific and other societies, and all the red-letter or other notable days throughout the year. ——"Chambers's Journal of Popular Literature, Science, and Art:" Fourth Series: extra new year's double number. William and Robert Chambers, Paternoster-row, and Edinburgh. This "new year's" number is the Scottish equivalent for the English Christmas numbers of periodicals, for Christmas Day is not much held as a holiday in Scotland, New-year's Day, as in France, being the great day there. The number of "Chambers's Journal" under notice is titled, "In the Box." It comprises a series of capital stories, strung together by the members of a jury, by way of convincing an obstreperous unit of the twelve. First the case under consideration is stated; then we have what Mr. Sunnyside, the photographer, thought of it, and his story; which calls up Mr. Drumfich, an intelligent foreign gentleman; but Mr. Crasket is not yet convinced, and Mr. Richards is induced to tell *his* story, which Mr. Watkins caps; and the Messrs. Rooster, they tell their Aunt Sarah's story, which at last satisfies Mr. Crasket, and the twelve are agreed, and all goes merry as marriage bells. Various improvements are contemplated for this new series of the oldest of our cheap journals.

Miscellanea.

THE DRINKING-FOUNTAIN MOVEMENT.—Mr. C. P. Melly has offered to erect twelve additional founts in districts of Liverpool where they are greatly needed. Mr. Melly has submitted his proposition to the water committee.

THE NEW STREET IN SOUTHWARK. — Mr. Thwaites and the Metropolitan Board of Works are to open the new street in Southwark, throughout its whole length, on this (Friday) morning, including the subway now finished.

LECTURE ON THE ADVANTAGES OF A KNOWLEDGE OF SCIENCE AND ART. — At Macclesfield Town-hall, in connexion with the Macclesfield Useful Knowledge Society, Mr. Buckmaster, of the Department of Science and Art, South Kensington Museum, recently delivered a lecture upon this subject, with a statement of the conditions upon which aid is afforded by the Department to classes in connexion with Mechanics' Institutions. The mayor occupied the chair.

LIMESTONE MINERS' STRIKE. — 500 limestone quarrymen have been on strike for several weeks through the district of South Staffordshire and East Worcestershire for an advance in their wages, but have resumed work, the masters having made a full concession to their demands. This is the second advance of 6d. per day which has been made since the present general spur in the trades of the district. Their present wages are 4s. per day. The limestone loaders have also got an advance, and are now in receipt of 5s. 6d. per day.

ARCHITECTURAL SOCIETY OF ARCHDEACONRY OF NORTHAMPTON. — The annual meeting of the members of this society was held at the society's room, Gold-street, Northampton. The chair was occupied by the Rev. Lord Alwyne Compton. The meeting having been opened, the secretary, the Rev. N. F. Lightfoot, read the annual report, which was unanimously adopted. The statement of accounts was read by the Rev. D. Morton, and showed that last year there was a balance in hand of 29*l.* 14s. 6d. There had been received 137*l.* 10s., making a total of 167*l.* 4s. 6d. The expenditure had been 135*l.* 13s. 8d., leaving a balance of 31*l.* 10s. 10d. The Rev. N. F. Lightfoot was appointed secretary, in the place of the late Rev. T. James.

TELEGRAPHIC.—An offer has been made to connect the whole of the West India Islands by telegraph with the mainland at Cayenne, in French Guiana, and at Key West, near Florida, if a guarantee of 6 per cent. on the outlay can be obtained. The cost is estimated at 300,000*l.* ——Some interesting experiments with printing inks have just been taking place at the printing-office of Miss Faithfull, printer to her Majesty, the object being to test the utility of ordinary printing by telegraph. An Italian gentleman has invented a process of printing by telegraph, which is said to take less than half the present time of transmitting a message. The Lord's Prayer, composed and printed at Miss Faithfull's office, and forwarded to Liverpool, is stated to have taken two and a half minutes only.

LIABILITY FOR NEGLIGENCE. — The case of Byrne *v.* Boadle, in the Court of Exchequer, involved a question of negligence. The defendant had used and occupied the entire warehouse and premises from which a barrel of flour was being lowered. The plaintiff was passing along a public road by the warehouse, when the barrel fell from the warehouse upon and injured the plaintiff. The Court held that this was *primâ facie* evidence of negligence by the defendant, or those for whose acts he was responsible. The plaintiff was not to be obliged to go about and inquire the cause of such an accident—who were in the warehouse above him, and their business there; how it was done, and such like: it was similar to that of a man who had to go through a public passage where a building was being erected, and an injury was caused to him by some of the materials falling on him whilst passing. This would be *primâ facie* evidence of negligence against the builder. It having been shown in this case that the defendant had the entire possession and exclusive use of this warehouse, it would be presumed that the accident arose from his want of care, unless he gave some explanation of the cause by which it was produced.

DISCOVERY IN CULLEN CHURCH, BANFFSHIRE.—During the repair of this church lately, it was found necessary to unroof the eastern aisle; and light being thrown in at the back of the Chancellor's monument, a piece of carving was discovered built into the wall, and which proved to be a cell or repository for the Sacramental elements, built of Covesea freestone, and about 6 feet 10 inches high, by 3 feet in width. In the lower division is a cubical cell, 16 inches by 14 inches. Around it are marks, or holes for "bats" for hinges. Around the outer edge of the cell is a neatly carved moulding, with a vine border, terminating in an arch. Above is the representation of two angels supporting an *Expositorium*, or monstrance, surmounted with a tablet, on which is carved, in bas-relief letters, a Latin inscription, which may be translated, "My flesh is meat indeed, and my blood is drink indeed. He that eateth my flesh and drinketh my blood shall live for ever." The whole is inclosed within a Gothic moulding. On the cornice over the frieze are the marks of two holes; and, as there are two holes below at a corresponding distance from each other, it is presumed they had been used for fixing a veil to cover the carving. The *Banffshire Journal* gives a lithograph of the repository.

THE GLOUCESTER PUBLIC PARK.—The committee of the Gloucester Temperance Society having offered to erect a drinking-fountain in the park, on condition that the Board of Health provide a supply of water and keep the fountain in repair, the offer has been accepted. The fountain is composed of cast-iron. The design is rather Alhambresque than Gothic. The cost will be about 40*l*. The site will probably be at the end of the broad walk towards California.

THE CASTLE HALL, TAUNTON.—The hall of the old Taunton Castle, which has been unoccupied and useless for a considerable period, is a place of much interest. Mr. R. Mattock, the lord of the manor, has just had some alteration effected in the building with a view to its being in future used as a room for public purposes, concerts, balls, public meetings, &c. These alterations have been intrusted to Mr. E. Jeboult, who, according to the local *Courier*, has prepared an historical sketch of the building. The lighting of the room has been intrusted to Mr. Trudell.

NEW GREAT SEAL PATENT OFFICE AND LIBRARY. The Commissioners of Patents having so long neglected to provide accommodation either for their own officers or the public, although it is stated that they have over 250,000*l*. of surplus fees in hand, and that this amount is rapidly increasing each year, an influential joint-stock company, with limited liability, has been projected, for providing the requisite buildings. Mr. Thomas Webster, F.R.S., the patent-law barrister, is amongst the principal promoters. The necessary Parliamentary notices for enabling the site to be acquired have been given. The Inventors' Institute have resolved that it is desirable that steps should be taken for providing a patent-office, conference and arbitration rooms, reading-rooms, library, and all requisite appurtenances, and that a joint-stock company, with limited liability, is the best means of carrying out the object.

THE MIDDLE LEVEL.—The leakage which appeared a short time since in the great dam, constructed so laboriously in the summer of 1862, across the Middle Level outfall drain, has been made good, at any rate for the present. Some doubts are entertained as to whether the syphons erected to discharge the waters accumulating in the drain could really be relied on to meet any extraordinary exigency, such as the sudden melting of a great quantity of snow, or a protracted period of rainy weather; and it is stated that the necessity of erecting a new sluice may possibly come on for discussion. The cost of erecting such a work would be about 30,000*l*. With reference to the case of Cave *v.* Wise, an action brought on behalf of the sufferers by the flood of 1862, to test the liability of the Commission to make compensation for injuries then sustained through the alleged negligence of its officials, should the liability of the Commission to make compensation be finally affirmed, it will have to pay a sum of from 70,000*l*. to 80,000*l*. to the sufferers from the flood.

THE GOVERNMENT BUILDINGS AT DUNEDIN, OTAGO, NEW ZEALAND.—A report by Mr. Millar, the city engineer of Dunedin, on a site for these buildings, together with a map of the site and plans of the buildings, have been forwarded to us from New Zealand. In the report the engineer says:—"The site which I have the honour to propose and recommend as in my opinion the best which the city affords, is that portion of Bell-hill (as shown in provincial engineer's reclamation map as a level plateau, standing at an elevation of 45 feet above the water of the harbour, and containing five acres) at present appropriated to the erection of Dr. Burns's church. This site is the most commanding one which the business centre of the city presents, and is worthy of an edifice upon which the best architectural talent of the Southern Hemisphere may desire to be employed. The site may compete in every respect most favourably with those adopted either in Melbourne, Sydney, Adelaide, or Hobart Town. Indeed, it would be difficult to conceive a finer architectural effect than can be produced by a highly-educated æsthetical mind upon this site, the terraced 'acropolis' of the city,—the Calton-hill of Dunedin." Lest it might not be available, however, he proceeds to describe the next best site, namely a portion of Bell-hill. "The merits of this site," according to the report, "are similar to those of the last, but in a somewhat modified degree. It has the advantage of close contiguity to the business centres of the city, including the courts of law, &c., and yet is far enough removed out of the noisy thoroughfares to insure comparative quietude."

STREET RAILWAYS.—The management of the city railroads in Philadelphia are about to introduce steam upon their various street lines. The value of human life must surely be at a discount amongst the staid old-fashioned people of the "Quaker City."

SALE AT STUDLEY CASTLE.—The Castle of Studley and estate, in Warwickshire, comprising the castellated mansion and nearly 2,700 acres of land, manorial rights and privileges, and the advowson of the rectory of Moreton Baggott, in the county of Warwick, have been sold at Garraway's, for the sum of 145,000*l*., Mr. Walker, of Birmingham, being the purchaser.

ST. GEORGE'S (HANOVER-SQUARE) IMPROVEMENT.—A numerously-attended meeting of the principal inhabitants and others of property in New Bond-street and Oxford-street, likely to be affected by the projected arcade, was held at the company's offices, on the 22nd ult., at which the architect and others gave explanations of the objects and intentions of the company. It was the unanimous feeling of the meeting that the contemplated improvement was a most desirable one; and that in the event of preliminary contracts being made with the several owners of the property required, before the second reading of the Bill intended to be applied for in Parliament, the company need not apprehend any opposition on their part, but that they would give it all the assistance in their power.

ACCIDENTS TO PROPERTY AND PERSON.—The roof and a great part of the side walls of the new Primitive Methodist chapel, Smith-street, Rochdale, has fallen in. The damage done is about 150*l*.——At the Albert Memorial College, in course of erection at Framlingham, three men were engaged in placing a large flagstone, weighing about a ton, in the upper corridor of the building. The stone had been hoisted to the scaffold, and while moving it on a trolley across the passage, one of the bearers broke in two, and tipped over the stone, which carried with it three of the six men engaged at the work to the first-floor corridor, smashing through that, and falling to the ground-floor, a distance in all of about 25 feet. The men were severely injured, and one has since died. The coroner's jury have returned a verdict of Accidental Death, adding, that no blame seemed attachable to any one.

THE WORKMEN'S CLUB MOVEMENT.—Premises have been hired at Margate for a workmen's club-house. At Tipton, in Staffordshire, a meeting has been held for the formation of a club and institute for that district. Sir Horace Paul, bart., was in the chair. Various donations of 5*l*., 10*l*., 50*l*., and 100*l*. were presented. At Hull, a crowded meeting of working men has been held for the like purpose. The mayor, a large employer of labour, presided. Subscriptions, amounting to 60*l*., were announced. The project for establishing a club and institute in York is about to be realized: premises have already been taken. The success of the Birmingham club, in Newhall-street, has given rise to a similar project for Birmingham-heath and Smethwick, where it is proposed to erect a club-house by help of a limited company, with a capital of 500*l*., in 1*l*. shares, with calls easy for working men to pay; all the managers and shareholders to be working men.

THE GREAT SHIP. The misfortunes of this hitherto unlucky ship seem never to end, and the last and not the least calamity appears to have just befallen her. The officers of the sheriff are on board, and the costs of the lawyers are to be added to the already enormous losses. The last passage in the history of this vessel states, that Mr. Justice Mellor ordered that the stores should be sold on shore, and the furniture and other articles which could not be removed without damage to the ship to be sold on board, and the public to have access to the ship. It thus seems that the monster vessel is to be dismantled, a circumstance which most persons will regret; but more is likely to come; and it is not improbable that if arrangements are not speedily made, the sale of the hull will be the next event. Should this become necessary, it is hoped that the vessel will not be sold to foreigners; for a ship which can with extraordinary rapidity convey 6,000 persons at once to any seashore in Europe or America, and which might be employed in the conveyance of immense quantities of stores, should be added to the strength of the British navy; for into the possession of whatever country this vessel may come, it will with good management become a power of the State.

ELY SURVEYORSHIP.—From the three candidates who attended the Board on being written to, Mr. S. Mather, of Epsom, was elected.

THE GREAT FIRE IN THE CITY.—In the newspaper accounts of this fire it was mentioned that but for a revolving iron shutter, protecting a large window belonging to Messrs. Morley, at the corner of Gresham and Wood streets, the ravages of the fire must have extended to Messrs. Morley's premises as well. We are asked to state, and we think it but fair to do so, that the iron revolving-shutter which arrested the fire was manufactured in 1849 by Messrs. Bunnett & Co., of London and Glasgow, the patentees.

MONUMENTAL.—A Leeds memorial of the late Sir Peter Fairbairn, knt., has been started at a public meeting convened by the mayor, at the request of 1,136 memorialists, who propose to erect a statue of their late mayor in Leeds.——A movement in the East Riding of Yorkshire, for the erection of a monument to the late Sir Tatton Sykes, of Sledmere, is making progress.——A tablet to the memory of the late Messrs. Pearce, and W. H. Baldwin, of Stourport, has been erected on the Wesleyan chapel there, at the cost of various workmen employed by the deceased brothers. The monument is executed in Caen stone, and is of the Geometric period of Gothic architecture. The total height of the monument is about 9 feet. It was designed and executed by Mr. P. Horsman, of Wolverhampton, sculptor.

MAPS OF THE METROPOLIS SHOWING PROPOSED RAILWAYS.—Mr. James Wyld and Mr. E. Stanford have each published a map of the metropolis, showing upon it the proposed railways, new roads, and other improvements, as they did last session. It is but right to state that Stanford's is the most complete, giving also the names of the engineers and architects engaged, length, &c., and probably costs a little more. It is scarcely too much to say, that every inhabitant of London and its suburbs should look at one of these maps, and consider in what way his individual interest and the general interest will be affected by the schemes now awaiting Parliament. The House of Commons will, it is to be hoped, order a report upon the *whole*, by competent men, before proceeding to deal with the various projects singly.

PROPOSAL TO BUILD SCHOOLS IN ST. LUKE'S CHURCHYARD.—A deputation has waited upon the rector of St. Luke's, to press upon his consideration the desirability of steps being taken to obtain a new site in the churchyard for the schools now standing in Golden-lane, the building for which has been declared by the medical officer to be totally unfit for the purpose to which it is put. The rector said that neither he nor the bishop could grant churchyard ground for the purpose, although the bishop could grant a faculty for removing bones. He would not urge the present site again, although they must remember that, "bad as the air of Golden-lane was, the children slept in it, and it was their native air." The deputation said all they wanted was the rector's signature to a memorial to the bishop; but the rector said he must consider what was the law on the subject.

CARPENTERS IN PARIS.—A writer in the *Morning Post*, who is examining French workshops, says:—The manner in which Paris carpenters are paid is very trying and very disadvantageous to them. It is the custom of their employers to pay once a month—that is to say, on the first Saturday after the expiration of a month. Some masters reserve to themselves the right of holding a drawback from the workman's salary. In the great workshops a certain sum of the workman's wages is always kept back. When the month finishes on a Monday, the days intervening between it and the following Saturday are reserved for the settlement of the following month, and on this plan wages are reserved from month to month until the end of the year. In short, the working carpenter is compelled to give credit for his labour, even when this is underpaid: on the other hand, he is forced to pay his rent in advance. The payment of a London carpenter's day's work is two-fifths more than that of a Paris carpenter. The Paris workman's board and lodging are at least as dear as these necessities are in London. The Paris workman is, moreover, compelled to provide himself with a large quantity of expensive tools. The Paris workman looks at his London brethren with envy. The *charpentiers* cry aloud that their work is diminishing, and that their numbers are still increasing. In building operations iron is everywhere replacing wood.

GLASGOW INSTITUTE OF THE FINE ARTS.—The 100 guineas offered in three premiums for the best pictures exhibited were awarded as follows:—50 guineas for the best figure picture in oil, to J. Noel Paton, R.S.A.; 30 guineas for the best landscape in oil, to Samuel Bough, A.R.S.A.; 20 guineas for the best water-colour, irrespective of subject, to Henry Tidey, London. The competition was confined to British artists and to pictures painted within the last two years.

MANUFACTURE OF ZINC.—In connexion with the manufacture of zinc, two inventions have recently been provisionally specified—the one by Mr. Adrien Muller, of Paris; the other by Mr. Samuel Healey, of Hackney-road. According to the first of these inventions, it is proposed that the fuel employed shall be raised to a high temperature in special furnaces before being supplied to the blast furnaces, which are to be closed at the top, and provided with a suitable cover or plug. The invention of Mr. Healey consists in constructing the furnaces employed in the melting and annealing of zinc in close proximity to each other, so that the process of annealing may be effected by means of the waste heat escaping from the melting-furnace.

A TRAMWAY FOR MONT CENIS.—A proposal was some time ago submitted by Mr. Fell, in concert with Messrs. Brassey and Jackson, to the French and Italian Governments, for laying down a tramway on the present Mont Cenis route, covering the same with wooden, iron, and stone galleries, and working it by means of a new and lighter species of locomotive. The first series of experiments for producing a low engine capable of carrying a train of 100 passengers, with their luggage, over the mountain, have, according to the *Morning Post*, had satisfactory results. These Mont Cenis locomotive experiments have been carried on at the Cromford and High Peak Railway, Whalley-bridge. It is hoped thus to solve the problem of a rapid and comparatively cheap communication, not only across the great passes of the Alps, but likewise over those of the Apennines.

LEAMINGTON.—The new Roman Catholic chapel here will be completed in a few months. It is situate in Dormer-place, opposite to the Royal Pump-room Gardens. The total estimated cost of the building, including the erection of a presbytery, is 7,000*l*. Under the direction of the contractor, Mr. W. Gascoyne, a large number of workmen have been actively engaged upon the work for several months, but the building operations are now fast approaching completion, and in the early part of next summer, it is in contemplation that the opening services will be held. The designs of the building were prepared by Mr. Clutton, of London, architect,—the style of architecture partaking somewhat of the Gothic and Byzantine orders. Externally, the chapel presents little ornamentation, the materials being red brick, with Bath-stone used in the window and door-work. Internally, the division of the building is threefold; consisting of the nave, which, from the altar to the entrance-door, is 120 feet, and two porticos or aisles, one on either side, each about 100 feet in length. The roof rises over the nave to a height of 70 feet, is circular in form, and has been painted by Monsieur Tony Dury, of Warwick, to represent a coffered ceiling. The two roofs over the aisles have also been treated in a similar manner.

HOTEL AT SUTTON COLDFIELD.—A new hotel is about to be built at Sutton Coldfield. Mr. Edward Holmes is the architect. The building, for the erection of which, at a cost of 6,500*l*., a tender has been accepted from Mr. Charles Jones, is expected to be completed in April next. The elevation is an adaptation of Early English to the domestic purposes of the present century. The building is of red brick, with Bath and Forest of Dean stone dressings, with blue brick, in various designs, interspersed over the large masses of red brickwork. The main body of the building is three stories in height, the wings being carried up four stories, and the central portion over the principal entrance forms a tower, terminating in an observatory, with casements, to open on to a work-stone platform, which is supported on wrought-iron brackets, the roof of the tower being covered with lead, surmounted by an iron pronal. The other roofs will be covered with alternate bands of green and blue slates, and crowned with ornamental iron ridge cresting. The hotel will be situate on the high ground immediately above the railway terminus, and will command views of the scenery of the neighbourhood.

SOUTH KENSINGTON MUSEUM.—The number of visitors during the week ending 26th December, was 12,682.

BRANDY, GIN, AND WHISKY FROM COAL GAS.—Coal appears to be the modern Proteus. A Scottish paper, after stating that brandy has been produced from coal gas in France, under a patent both for France and Britain, says, "the work of manufacture is on the point of being started in London. The richer any coal is in olefiant gas the better fitted is it for the manufacture of spirits (brandy or whisky). The old joke that represented a man who was half-seas over as being 'gassed,' will not be found far from the truth after all."

AUCTIONEERS' COMMISSION.—A mortgagee cannot, when he advances his money, stipulate for an advantage not naturally arising out of his mortgage. Therefore, where auctioneers, at the time of advancing their money upon mortgage, stipulated for an authority to conduct the sale of the estate, and for a commission of five pounds per centum upon the amount of the purchase-money, over and above the re-payment of the principal and interest, it was held by the Master of the Rolls that the charge for commission was not covered by the security. This was the case of Broad *v.* Selfe, in which his Honour said he was not competent for a person under colour of a mortgage to stipulate for a distinct collateral advantage.

INAUGURATION OF THE WHITWORTH INSTITUTE, FLEETWOOD.—The largest meeting ever held in Fleetwood recently took place, on the occasion of the inauguration of an institute built by a Mr. Whitworth, and intended to be devoted to the elevation of the social and moral condition of the working people of the town, by the provision of such comforts and attractions within its walls as will in some measure counteract the corrupting influences of the ale-bench and the taproom. The building stands in Dock-street. Its character is Gothic. Passing through the entrance, on the immediate right and left are the library and coffee-room, each apartment being 21 feet 6 inches by 16 feet 6 inches, and 13 feet high, the latter having independent connexion with the curator's or librarian's residence at the back, which is fitted up also conveniently for any social gatherings. Above the library and reading-room, the lecture-hall is gained by a stone staircase, 5 feet 6 inches in width, the size of this room being 37 feet 9 inches by 42 feet 6 inches, and 37 feet 3 inches high to the top of the ceiling, where the opened timbered roof ceases. This hall has its retiring-room, &c., and a gallery, the latter being reached by the stone staircase above mentioned. The total cost of the whole is estimated at about 3,000*l*. Messrs. Speakeman & Charlesworth, of Manchester, were the architects; and Mr. Drummond, of Fleetwood, the contractor.

RHYL (FLINTSHIRE).—The new Roman Catholic Church of St. Mary, at Rhyl, has been opened. It is in the Norman style, of brick, in red and black bands up to the sides of the windows, and reticulated above, with stone dressings. The windows are narrow and tall, the last two nearest the altar on each side in triplets. There is a wheel window in the west gable. The high wood roof, as well as the whole of the walls, have been painted by Mr. Pollen, with scroll-work, animals, and flowers, in a grave key of colour, black, grey, and yellow predominating. The altar is of white alabaster, chased and carved, the execution having been intrusted to Mr. Hall, of the Derby Marble-works. The reredos is of carved stone and marble, and is also painted. The west window is filled with stained glass, by Messrs. Powell, of London, from the architect's design. The proportions of the building are as follows:—Length, 85 feet; breadth, 30 feet; height of roof, 43 feet. The carvings of the church have been executed by Mr. Williams, of Talacre, and the statues are from the designs of Mr. Pollen, by Mr. O'Shea, carver, from the new Oxford Museum. The total cost of the work, exclusive of fittings and organ, is 200*l*. The whole work has been carried out by Mr. R. Jones, builder, of Rhyl.

TENDERS.

For residence in Bridge-road, Battersea, for Mr. W. Sugden. Mr. J. W. Quilter, architect:—

Deacon	£692	0	0
Simpson	680	0	0
Wardle & Baker	670	0	0
Godbolt	641	0	0
Lathey, Brothers	620	0	0

For the erection of warehouse, for Mr. Robert Morgan, Cock-lane, Snow hill. Mr. A. E. Taylor, architect. Quantities supplied by Mr. J. Clover:—

Higgs	£1,698	0	0
Kilby	1,625	0	0
Brown & Robinson	1,425	0	0
Henshaw	1,432	0	0
Macers (accepted)	1,393	0	0

For restoring the parish church of Trefeglwys, in the county of Montgomery. Messrs. Poundley & D. Walker, architects:—

Jones	£1,320	0	0
Hamer, jun.	1,178	0	0
Woolley	1,050	0	0
Porteous	950	0	0
Evans & Son	790	0	0

For the erection of warehouse for Mr. George Bowles, in West Smithfield. Mr. A. E. Taylor, architect. Quantities supplied by Mr. J. Clover:—

Macers	£2,095	0	0
Higgs	2,067	0	0
Ashby & Son	2,034	0	0
Henshaw	1,932	0	0
Kilby (accepted)	1,900	0	0

For alterations and additions to premises, No. 11, Abchurch-lane, City, for Messrs. Blades, East, & Blades. Mr. T. Pearson, architect. Quantities supplied:—

	Gross amount.	Allowed for old materials.	Net amount.
Wells	£2,746 ...	£55 ...	£2,691
Carter	2,297 ...	40 ...	2,257
Axford	2,180 ...	50 ...	2,130
Hill	2,100 ...	80 ...	2,020
Sharpington & Cole	2,047 ...	70 ...	1,977
J. C. Ramsey (accepted)	1,984 ...	56 ...	1,928

For villa residence, Wimbledon Park. Mr. John Giles, architect. Quantities supplied by Mr. James Barnett:—

Piper & Wheeler	£5,417	0	0
Stap	5,370	0	0
Patman & Fotheringham	5,283	0	0
Peskett	5,234	0	0
Roberts & Strange	5,165	0	0
Bowley, Brothers	5,100	0	0
Baldwin & Dalton	5,012	0	0
Rudkin	4,328	0	0
Aviss & Son (accepted)	4,393	0	0

The contract for the erection of two residences at Erith, for Mr. H. Swaine, has been taken by Mr. J. Drake.

TO CORRESPONDENTS.

R. B.—A. R. T.—R. D.—E. C.—F. C.—T. P.—W. S.—Newcastle-on-Tyne.—F. T. D.—A Subscriber (quite legally).—Mrs. D.—Stockport Cotton-spinner.—W. J. H. (we cannot advise).—W. R. (shall appear. A proof shall be forwarded).—H. H. R. (declined with thanks.—W. L. N. (is in type).—A Subscriber (write to the inventor).—J. S.—M.—Messrs. A., R. B., & F.

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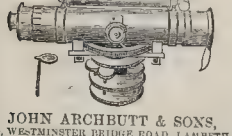
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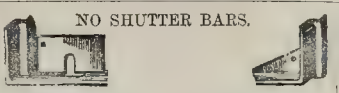


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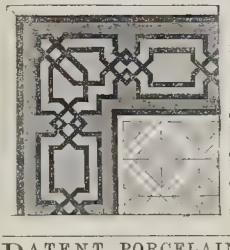
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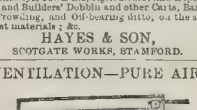
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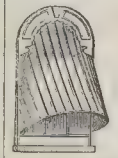
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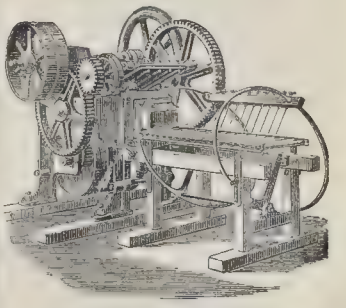
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CREEK WHARF, BOW CREEK, BROMLEY, E.
Has always on hand at the above Wharf a large Stock of Broken BLUE BOMBAY, BLUE PORT PHILLIP, and GREY CHINA GRANITE, which he can supply, well broken and sifted, in barges on the river, at 12s. 6d. and 13s. per yard.
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Tooled, Rubbed, and Self faced hard York Paving.
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Guernsey, Groby, and Aberdeen Granites, in Curb and Pitching of various sizes.
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Plaster of Paris, Plasterers' Hair, &c.
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A large stock always on hand at the above wharfs.

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Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
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Apply, for prices, &c. to
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This stone (which is a perfect colite) is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is more used for sea-walls and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the Kingdom.
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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from any station by any railway company.
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Seasoned Caen Stone always in Stock, and a large assortment of Sawn Stone Paving, Hearthill, &c. &c.
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This Granite is selected for the New Westminster Bridge.
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WORKS Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862
Red, Blue, and Grey Granite for every description of architectural construction, monuments, memorials, and general purposes.
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Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour possessing all the qualities of the best Portland, in which range it is placed geologically.
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Specimens, Price, &c. may be obtained of
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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landing steps, sills, slabs, &c.; Bath, Caen, Portland, Aubigny, and Grantham Copings direct from the quarries. Wright's work executed at moderate prices. Agent JOSEPH CHADWICK

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THE MOST APPROVED INTERNAL STUCCO.
CAN BE PAINTED IN TWELVE HOURS.
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THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

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For Account of Experiments on the Strength of their
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Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
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N.B. Can be Painted in Twenty-four Hours.
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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MANUFACTURERS OF WOULDHAM PATENT
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HUBBUCK'S PATENT WHITE ZINC PAINT.
By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not
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CLEANNESS. Not only is ... per Pound ... weight, but two hundred weight of this Paint, with six gallons of oil covers as much ...face as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

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By Her Majesty's Royal Letters Patent.
McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
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H.R.H. PRINCE ALBERT'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

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HARWOOD & HATCHER
Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the
BEST PORTLAND CEMENT,
On the most reasonable terms
Orders received at the JAMAICA COFFEE HOUSE, CORNHILL, LONDON; or at the WORKS, NORTHFLEET.

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PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.

ROMAN, PORTLAND, PARIAN, and
KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1 SOUTH WHARF, PRAED STREET, PADDINGTON

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stemming, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B. Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and along side. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
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SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
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PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the lias cements, so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the cargo or yard, and may be had fresh ground daily, by steam power, for ensuing.
BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by rail from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Pipes, Tiles, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
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MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
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FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER OF PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last Half century, may be had (fresh ground daily) by Shippers and the Trade
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
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Orders and Letters addressed to 3, Canal-road, Kingsland-road; or to 17, Abingdon street, Millbank street, Westminster, will receive prompt attention.

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Whereat can be obtained, of the best quality:
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
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WHITE and RED SUFFOLK FACING BRICKS, FLAYS, and DOOR JAMBS
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YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED BRICKS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS
TERRO-METALLIC GROOVED and SALT GLAZED BRICKS, CHANNEL BRICKS, and CHIMNEYS, and BUFF LINERS
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YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

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KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stemming, brickwork, blocks for breakwaters, tidal work, or otherwise.
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LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
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BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
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PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
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GREY STONE LIME BURNER,
WOULDHAM HALL GREY-STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, N.W., the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and connecting powers for salt-water in stone, can be supplied by rail or water to any part of the Kingdom, either in lump (loose), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co.'s Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John street, Liverpool.

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LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch

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SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 15, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
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THOS. W. ELLSTON
begs to offer to the Trade and Public generally the undermentioned Goods, at the following low prices, in quantities of not less than 3 at the Public Docks, viz.—

Good 2½ Mill-sawn White Battens . . . . from £8	0 per 120 of 12 feet
Good 3 Mill-sawn Yellow ditto	8 15 "
Good 3 by 9 Mill-sawn Yellow Deals	18 0 "
Good 3 by 9 Yellow Deals	16 10 "
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Good 3 by 9 White Deals	15 0 "
Yellow Fir Timber (good length and size)	45s. per load
Good and well-prepared ¾ Flooring Boards . . . . from	11s. 6d. per square
" ⅞ " "	12s. 6d. "
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Also a large Stock of Matched Linings, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of cash or P.O. orders. All sawn goods delivered free to London railway stations.
109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side).
ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, ¾ 10s. per 12; 12 feet; Yellow ditto, 2¼ ditto ditto ¾ Match Boarding, 14s. per square; ¾ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
80,500 feet in Plank and Board, sawn three years.
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JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
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At 6d. 7d and 8d per foot, at
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For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Basses and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass-house Lights, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
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⅞-inch White Flooring, good quality	11s. 6d. per square.
⅞-inch White Matched Lining	12s. 0d. "
¾-inch " "	14s. 0d. "
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½ inch White Battens	9l. 0s. "
3 by 9 Yellow Deals	16l. 10s. "
Honduras Mahogany	0s. 6d. per foot super.

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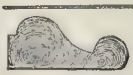
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

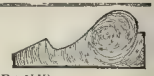
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 3os. per Load.	
Good Yellow Deals	£16 10 0	per 120, or 2½d. per foot.
Spruce Deals	15 0 0	" 2¼ "
2½-inch Battens	9 0 0	" 1¾ "

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
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A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.



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SMITH & McGAW



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BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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MANUFACTURING JOINERS,
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
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N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

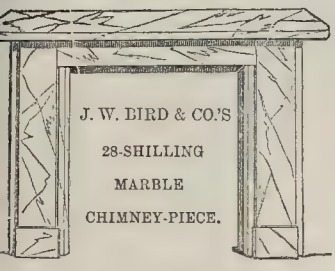
FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅞ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 "	13s.	13s. 6d.	14s. 0d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
1¼ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as Low as advertised.
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SHOP FRONT BUILDER,
4, CHRISTOPHER STREET, HATTON GARDEN,
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Of well-seasoned Mahogany and superior Workmanship.
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SEVERAL DESKS IN STOCK.

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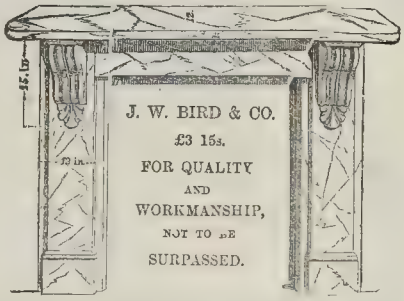
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Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



1851. 1862.



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BLACKFRIARS ROAD,
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MARK H. BLANCHARD & CO.
Successors to COADES.

Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the



e Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, e the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED n the above Works with every article in this imperishable and invaluable Material in Sculptural Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found e unequalled in price, quality, and durability; and the Works of this Establishment have stood the of time.

A beautiful variety of Statues, Statuettes, Vases, Tazzæ, Fountains, Flower Pots, Balustrade minals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at es unprecedented. Estimates furnished.

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Translucent as the beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

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7 Caxton-row, Westminster, December 7, 1863

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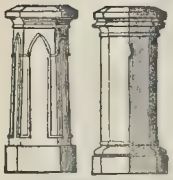
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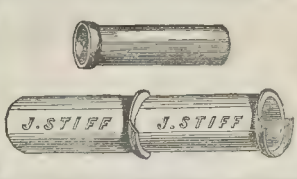
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HALF SOCKET PIPES same pieces as the Whole Sockets, but the [illegible] which Drains may be readily [illegible] inserted, in [illegible] opposite direction.

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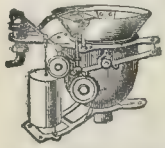
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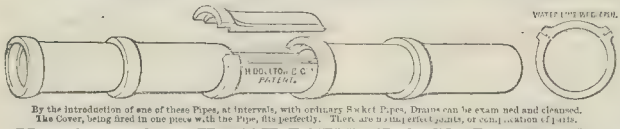


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By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no [illegible] joints, or combination of parts.

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STORES—70, SOHO STREET, LIVERPOOL,

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3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

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LONDON.

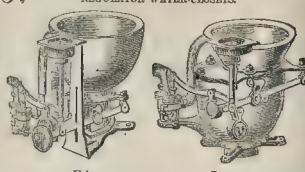
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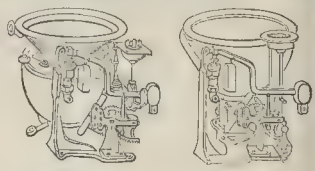
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The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intermediate cocks, or valves required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, [illegible] street London.

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Lord's Hotel, Mr. THOMAS BEGGS.



ESKHOLME'S PATENT PNEUMATIC REGULATOR and VALVE CLOSET.

Suitable for first and second class houses, being most efficient and simple, free from all smell, and requires no cisterns, service boxes, cranks, wires, or levers, but is complete in itself ready for attachment to any ordinary house service pipes. It is supplied in three qualities, all equally efficient, differing only as to the style of fitting up. A second quality is also manufactured. The Regulators are usefully applied to the ordinary Pan Closet when dispensing with all cisterns, service boxes, levers, cranks, wires, &c. The Regulator is supplied separately, as well as connected to ordinary direct Service Main Cottage Water Closets.

Chrimes's Patent High Pressure Single and Double Loose Valve and Screw Down Cocks; Improved Self-acting and Pull Water Closets; Patent Absolute Water Waste Preventer; Plumbers' and Gas-Fitters' Brass Work of every description. Drawings, Descriptions, Prices, and Testimonials will be forwarded per post on application as above.



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REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred

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Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling in discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Christmas must be renewed within fifteen days thereafter, or they will become void.

Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

PLASTER ENRICHMENTS,

CENTRE FLOWERS, SHOP FRONT TRUSSES, PANELS, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

242, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb.



No. 38.



No. 4.

CLINTON & OWENS,

Late FOWLER & CO.

WHITEFRIARS STREET, FLEET STREET, LONDON

Pumps of every description, for Hand, Horse, Water, or Steam Power.

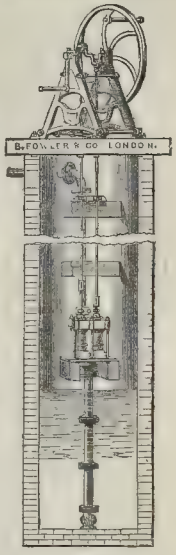


THE LANDSCAPE SKETCH ABOVE SHOWS THE IMPROVED HYDRAULIC RAM.

This is a simple Self-acting Machine for Raising a considerable Supply of Water where a fall can be secured from a Stream, Brook or Springs. A great many have been fixed in various parts of the country, for raising from 600 to 6,000 or more gallons per day to elevations varying from 20 to 300 feet, and forcing through main pipes from 50 yards to several miles in length. The fullest particulars and estimates will be furnished on application.

No. 28A.—Double barrel Force Pumps, for Raising Water from Deep Wells for the Supply of Tanks in Mansions and Public Buildings. Messrs. CLINTON & OWENS also Manufacture and Erect every other Form of Pump for Deep or Shallow Wells for Hand or other Power.

No. 33.—Portable Pumps, with Flexible Suction Pipes. No. 4.—Yard, Farm, Cottage, and other Pumps.
No. 18.—Brass Lift and Force Pumps, on Planks.



No. 28a.



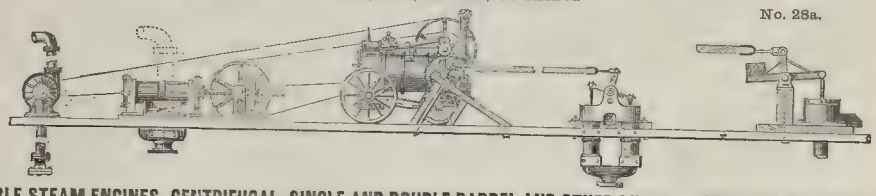
No. 18.

CLINTON & OWENS

MANUFACTURE AND ERECT EVERY DESCRIPTION OF ENGINEERS' WORK REQUIRED IN PUBLIC OR PRIVATE ESTABLISHMENTS, SUCH AS

PUMPS FOR ANY PURPOSE,

ON THE LARGEST OR SMALLEST SCALE, STEAM-ENGINES, WATER WHEELS, TURBINES, HOISTS, WARMING AND DRYING APPARATUS, BATHS, GAS-WORKS, AND FITTINGS.



PORTABLE STEAM ENGINES, CENTRIFUGAL, SINGLE AND DOUBLE BARREL AND OTHER PUMPS, ON HIRE OR PURCHASE.

FULLER PARTICULARS and ILLUSTRATED PRICE LISTS on Application.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	3 15
4 "	5 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

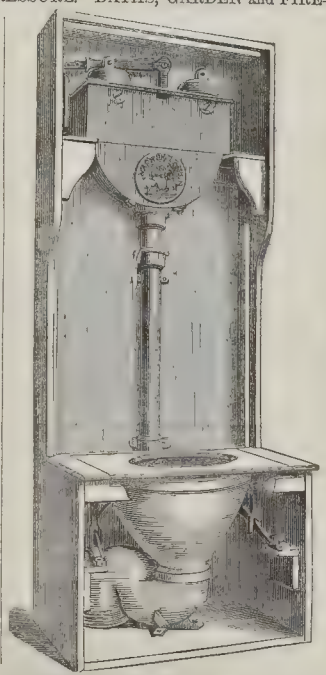
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	3 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

IN BANKRUPTCY.—To CARPENTERS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Assignees of Messrs. J. & J. Binns to SELL by AUCTION, on the PREMISES, 5, Munster-street, Regent's park, on TUESDAY, JANUARY 12, at TWELVE the First Portion of the extensive and valuable SECOND-HAND TRADE of recently-erected BUILDING MATERIALS, FIXTURES, and FITTINGS, comprising about 1,100 glazed sashe lights of plate glass, 1,000 mahogany, wainscot, and other doors, forty plate glass and other sash frames with sill, steps, richly marble and other chimney pieces, forty French casements, 3,000 feet painted and glazed partitioning, stained glass easements and casements, both and show cases and frames, marble spongetop counters, knee drawers, desks, 6 new deals and battens, 800 square of prepared floor boards, 18,000 feet of moulding, 14 square match boarding, 4,000 feet rough boards, 50 feet run of spring mould, 6 bundles of slating battens and pantile battens, 20 iron cisterns, 1 ton of wrought and cast iron, iron sales and doors, patent gas-stoves, and other effects. Catalogues had of the auctioneers, 20, Southampton-street, Bloomsbury; and at the premises, where they may be viewed the day previous, and catalogues had of Messrs. J. & W. SHEFFIELD, Solicitors, 68, Old Broad street; of E. EDWARDS, Esq., Official Assignee; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore street, E.C.

METROPOLITAN RAILWAY.—FINSBURY EXTENSION.—BUILDING MATERIALS of several large Factories, Warehouses, Dwelling-houses, and Premises, Adelaide street and Long-lane.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 18th, at TWELVE, in Lots, all the valuable BUILDING MATERIALS of extensive Factories, Warehouses, ranges of Buildings, Dwelling-houses, and Premises, situate in and near Aldersgate-street and Long-lane; comprising excellent stock bricks, oak and fir timber in roofs and floors, slates, plain and ornamental lead and cast-iron pipes, cisterns, ranges, and internal fittings, doors, sash & window lights, flooring boards, gates, a large quantity of pebble, clinker, and other paving, rocks, hoop iron, and stable fittings, and gutters, pipes, and other stoneware, gasbrackets, and all other valuable things in—May be viewed on SATURDAY previous. Catalogues had of Messrs. HILL, Pollard lane, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

TO SCULPTORS, MASONS, BUILDERS, and OTHERS—CARRARA WHARF, GROSVENOR ROAD, PIMLICO.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs Fabricotti Brothers to SELL by AUCTION, at their PREMISES, as above, on THURSDAY, JANUARY 28th, a large assortment of STATUARY MARBLE (including figure and bust blocks and good manufacturing sizes); also Vein, Sicilian, Siena, and other designs Marbles, slabs of slate, and various portions being for absolute Sale, to liquidate Stock); also a quantity of Garden Vases and Figures, Mortars, and Alabaster Ornaments. May be viewed on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C. Approved bills at four and six months. Luncheon at ELEVEN o'clock.

SOUTH NORWOOD, SURREY.

MESSRS. BLAKE will SELL by AUCTION, upon the PREMISES, Pascall's Pottery, near the Norwood Junction Station, on TUESDAY, JANUARY 12th, at TWELVE for ONE o'clock precisely, the First Portion of the STOCK and MACHINERY of the Company, consisting of 15 lots of capital pipe moulding, loading, and other machines, a quantity of pipes (from 3 to 12 inches) 12,000 paving tiles, 25,000 plain, pan, and ridge tiles; 3,000 feet of patent ridge, 50,000 kiln, stock and place bricks; 1 powerful working horse, cottage furniture, and sundry effects. Sale and garden pots, two prize drain-pipe and tile machines, by Williams, Bedford; a nearly new 8-horse horizontal steam-engine, with boiler, by Rawlings & Sims; pair of genuine 4-year-old Suffolk mares, and three with their waggons and gear, a small lot of timber, Scottish oak and elm, ash and beech plank, limetree board, deals, boards, mahogany, sycamore, walnut, blue birch, walnut, and other woods. Four powerful Cart-horses, harness, &c.—To be viewed two days prior and morning of sale. Catalogues had upon the Premises, and of the Auctioneers, No. 9, Bridget-street, Fenchurch-street, E.C.

REIGATE, SURREY.—Highly Valuable Building Land, near Crookham Hill, by

MR. THOMAS PAGE, under Instructions from the Proprietors, at the WHITE HART HOTEL, Reigate, on TUESDAY, JANUARY 19, at TWO o'clock precisely (unless previously disposed of by private treaty, of which notice will be given), in Two Lots, a valuable FREEHOLD ESTATE, containing 2a. 3r. 12p. or thereabouts, free from tithe and land tax. This property is delightfully situate on a commanding eminence, next to Rockhill and the English Rock, at the eastern entrance to the town of Reigate. The position of the land is eminently qualified for the erection of a mansion, or of villa residences, and the views from the same, of the Vale of Holmesdale, the valley of the Weald of Surrey and Sussex, and the picturesque scenery of Reigate Park, and the surrounding beautiful country. The property will be sold with the first-class cottage and premises and will be approved to purchasers each having an extensive frontage. One plot will be sold and marked for the erection of a first-class villa. The soil is admirably adapted for building, and a supply of excellent water by the Reigate Water Company will be available. The nearness of Reigate and Redhill Stations, one of the best in all its character.—Lithographic plans are being prepared, at the Inn, with particulars, terms, and conditions precisely as are at the Estates' Gazette Office, Fleet-street, E.C.; Greyhound and King's Arms Hotels, Croydon; King's Head, Epsom; Red Lion, Dorking; King's Head, Horsham; Crown, East Grinstead; Market Hall, Redhill; of Messrs. CHARLES MORRISON, Esq. Solicitor, Reigate; and of Mr. THOMAS PAGE, Surveyor and Valuer, Donyng's-place, Redhill.

STATION ROAD, REDHILL, REIGATE.—Valuable Leasehold Estate.

MR. THOMAS PAGE is instructed by the Proprietor to submit to PUBLIC AUCTION, at the WHITE HART HOTEL, Reigate, on TUESDAY, JANUARY 19, at TWO o'clock in the afternoon, a Highly Important LEASEHOLD ESTATE, admirably situate on the corner of the Redhill and Reigate Station road, having a frontage to the Station road of upwards of 200 feet, and a depth of 200 feet, comprising Seven detached Villa Residences, all built upon ground entirely new, and in the most substantial manner. The houses are let to unexceptionable tenants, and each produces a rental of £40 per annum, the ground rent being only £3 3s. per annum. The whole of the houses are in perfect repair, and have recently been put into thorough sanitary condition. Also, a range of Stabling, with coach-house, harness-room, loft, and two commodious lock-up coach-houses, with a capital supply of excellent water. The whole of the premises are held for a long term of years, at a low ground-rent, and will be sold in one lot, or divided and submitted separately. A portion of the purchase-money may, if desired, remain on mortgage. A lease will be granted direct from the freeholder for a term of nine-and-nine years from Lady-day, 1863, at a ground-rent for the whole estate, of 7l. 10s. per annum. The railway facilities of Redhill are becoming increased, as regards the number of trains at that station, and the value of property in the neighbourhood has of late years greatly increased. Plans and particulars may be had 10 days prior thereto, at the Estates' Gazette Office, Fleet-street, E.C.; at the Greyhound and King's Arms Hotels, Croydon; King's Head, Epsom; Red Lion, Dorking; King's Head, Horsham; Crown, East Grinstead; Market Hall, Redhill; of Messrs. C. & J. ALLEN & SONS, Solicitors, Carlisle-street, Soho, W.; and of Mr. THOMAS PAGE, Surveyor and Valuer, Donyng's-place, Redhill.

NORTH LONDON RAILWAY.—Extensive and Important Sale of Materials.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, in the Large Room at the "Spread Eagle" Tavern, near Broad-street Station, on the 6th, 7th, 13th, and 14th days of JANUARY, 1864, at TWELVE for ONE o'clock each day, the MATERIALS, FIXTURES, and FITTINGS of the Buildings at the Goods' Depôt, Cow-cross-street, Hatton-garden, Farringdon-street, and Skinner-street, Clerkenwell, comprising about Ninety Houses and Shops, situate in Worship street, Bateman's-row, Norfolk-street, Holywell-lane, Old-street road, and Kingsland-road (including the Punch and Bull Tavern), the King Arthur (late Marsh), and several Factories and Warehouses, comprising stock bricks, fir and oak timbers, floors, sashes, doors, shop-fronts, pubic lamps, iron railings, lead and other pipes and gutters, about 14,000 feet stoves, mahogany and other fixtures and fittings, paving and kerb stone, granite pitchers, stable fittings, &c.—May be viewed the day prior, and Catalogues had at the Auctioneers' Offices, Camden-town, and at Kingsland-gate.

MESSRS. KENNEDY & BONNY will SELL, early in JANUARY, the FIXTURES, FITTINGS, and FURNITURE of the Plough Tavern, Shoreditch, and the King John (Jem Mace's).

CHILD'S HILL, FINCHLEY ROAD.—Valuable Lease of a Brick-field, Free-and-House, Stabling for Twenty-five Horses, Hay and Straw House, Office, &c.

FREDERICK KING will SELL by AUCTION at the MART, opposite the Bank of England, on MONDAY, JANUARY 18th, 1864, at ONE precisely, the valuable LEASE, for an unexpired term of Nine Years, of the LITTLE TEMPLE PARK BRICKFIELD, one mile from the Finchley-road Station of the North London Line, with foreman's house, stabling for twenty-five horses, chaff and straw house, &c. The estate possesses an inexhaustible supply of excellent brick earth, and is abundantly supplied with water. The purchaser will have the option of taking the prepared clay, shed, barge, and the entire capital in work and in mould complete, &c. either by valuation or at a price to be named at the sale, as he may elect.—Particulars may be had of CHARLES SAWBRIDGE, Esq. Solicitor, Wood-street, Cheapside; of Messrs. HARDING, PULLEIN, WHINNEY, & GIBBONS, 3, Bank buildings; at the Mart; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

CHILD'S HILL, FINCHLEY ROAD.—700,000 Bricks, Plant of a Brick-yard and Contractor, Thirteen Horses, Harness, Carts, Chaff, &c.

FREDERICK KING will SELL by AUCTION, at the Little Temple Park Brickfield, Child's Hill (one mile from the Finchley-road Station on the North London Line on WEDNESDAY, JANUARY 20th, at TWELVE, in Lots, 700,000 new BRICKS, together with the PLANT of a BRICK MAKER and CONTRACTOR, including the well-known and powerful horses, short harness, 15 brick and dobbin carts, light cart, a four-wheel chaise, carpenters' benches, 70 10-feet iron working plates, 3 barrows, &c. &c. Also a superior 2-year-old filly, open to any public exhibition for trick and the usual ingredients of a brickfield.—Catalogues may be had of Mr. WILLIAM NASH, the Foreman, on the Estate; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, at MAIDENHEAD PLACE Old Street, near The Nelson, on MONDAY, 18th JANUARY 18th, at TWELVE for ONE precisely, the MATERIALS of a superior thirty leads of large number of massive flooring and landing boards, doors, sashes, &c., other fittings, deals, battens, and stock bricks. The whole are of recent erection, and of the best description.—Catalogues may be had on the Premises, two days prior, and of the Auctioneer, Newington Green.

GROVE LANE, CAMBERWELL, Superior BUILDING MATERIALS, and the large LEAD CISTERNS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JANUARY 19th, at TWELVE for ONE precisely, the large and valuable STOCK of BRICKS, comprising about 200,000 stock, place, and pan tiles, 1,000 feet of cast-iron rain-water pipes, long and short lengths, with the necessary heads, shoes, and bends, 1,000 yellow deals and battens, 1,000 feet of elm, ash, and beech plank, limetree board, mahogany, and Spanish mahogany, Riga wainscot, white and

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1092. JANUARY 9, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BALL.

This ANNUAL BALL will take place at WILLIS'S ROOMS St. James's, FEBRUARY 18th, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, under the patronage of the Right Hon. the Lord Mayor, the Lady Mayoress, and the Sheriffs.

COMMITTEE OF MANAGEMENT.

Mr. T. Cozens	Mr. M. Hall	Mr. G. Plucknett	
„ T. Chapman	„ W. Hutchens	„ T. Stirling	
„ S. Coming	„ T. Morris	„ C. D. Sewell	
„ C. Fish	„ D. Nicholson	„ T. Thorn	

The lists of Stewards will shortly appear.

JOSEPH BIRD, Hon. Sec.

10, Hanover Cottages, Regent's Park, N.W.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

THE METROPOLITAN BUILDING ACT, 1855. Section 33.—The Institute of British Architects hereby give notice, that an EXAMINATION of Persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover-square, W. on FRIDAY, the 29th day of JANUARY, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before TUESDAY, the 19th day of JANUARY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

Signed, JOHN P. SEDDON, } Hon. Secs.
CHAS. FORSTER HAYWARD, }

Conduit-street, January 5th, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within, November, 1863.

NOTICE is hereby given, that the PARTNERSHIP lately subsisting between the undersigned Nancy Armitage and George Armitage (as Executors of John Armitage, deceased) and between the undersigned Nancy Armitage, George Armitage, William Armitage, John Armitage, and Henry Armitage, or some of them, in the businesses of Stone-merchants and brickmakers, or any other business or businesses carried on at Robin Hood Quarry and Thorpe Quarries, both in the parish of Rothwell, in the county of York, or at any other place or places, under the style or firm of "George Armitage & Brothers," or any other style or firm, was this day DISSOLVED by mutual Consent. And that all debts due to and owing from the late Firm will be received and paid by the said George Armitage alone, whose receipt shall be a sufficient discharge for the same.—Dated this 31st day of December, 1863.

her
Witness to the signatures of all the parties,— NANCY + ARMITAGE.
mark.
J. C. TURNER, Solicitor, Rothwell. GEORGE ARMITAGE.
THOMAS CLARK, his Clerk. WILLIAM ARMITAGE.
JOHN ARMITAGE.
HENRY ARMITAGE.

GEORGE ARMITAGE (Partner in the late firm of GEORGE ARMITAGE & BROTHERS) begs respectfully to thank Customers and Friends for their past support, and to inform them that he intends henceforth to carry on BUSINESS as a STONE MERCHANT in all its branches, at ROBIN HOOD and THORPE-LANE QUARRIES; and he solicits future orders, which shall be punctually attended to, and be executed in such a manner as to insure approbation.—Address, GEORGE ARMITAGE, Robin Hood Quarry, Lofthouse, near Wakefield.

Robin Hood Quarry, January 1st, 1864.

JOHN ARMITAGE, WILLIAM ARMITAGE, and HENRY ARMITAGE (Partners in the late firm of "George Armitage & Brothers"), beg respectfully to thank their Customers and Friends for their past support, and to inform them that they intend henceforth to CARRY on BUSINESS in PARTNERSHIP as STONE MERCHANTS, in all its branches, at the OLD ROBIN HOOD QUARRY, under the firm of JOHN ARMITAGE & BROTHERS; and they solicit future Orders, which shall be punctually attended to, and be executed in such a manner as to ensure approbation.—Address, JOHN ARMITAGE & BROTHERS, Robin Hood Quarry, Lofthouse, near Wakefield.

Robin Hood Quarry, January 1st, 1864.

CHATHAM HOUSE COLLEGE SCHOOL, Ramsgate.—The TERM for 1864 will commence JANUARY 28th. A Prospectus of Terms (which are moderate) and further information may be obtained of the Rev. the PRINCIPAL.—Four Boys from this School passed the Senior Oxford Local Examination in June last, all of them in Honours.

COMPETITIONS.

TO ARCHITECTS.—The Commissioners of her Majesty's Works and Public Buildings give notice that they are prepared to receive DESIGNS from Architects for TWO NEW MUSEUMS, to be erected on part of the land at South Kensington recently purchased by the Government, and used in 1862 for the International Exhibition. Plans of the ground, together with a statement of the premiums and other particulars, will be forwarded to Architects on application by letter, addressed to the Secretary, at Her Majesty's Office of Works, 12, Whitehall-place, London.

January, 1864.

CONTRACTS.

TO BUILDERS and OTHERS.—TENDERS are required for COMPLETING, fit for occupation, the CARCASES of FOUR Houses, situate and being Nos. 9 to 12, in Lawn-terrace, Lee, Kent, near the Blackheath Railway Station, on the North Kent Railway; and the drawings, specification, and contract for these works can be seen at the Offices of Mr. F. F. THORNE, Architect, at No 4, Corbet-court, Gracechurch-street, London, and Lee-road, Lee. The Tenders are to be delivered at No. 4, Corbet-court, Gracechurch street, London, at TWELVE o'clock, on MONDAY, the 25th instant; and the lowest or any other Tender will not necessarily be accepted.

January 6, 1864.

HAILEYBURY COLLEGE WATER-WORKS.—TENDERS WANTED.—The Council of Haileybury College are desirous of receiving TENDERS for the following WORKS required at Haileybury College, viz. the Providing, Delivering, Laying, and Jointing the necessary Mains, Services, and Fire Plugs.—The plans and specification will lie for inspection of contractors at the Office of JOSIAH FORSTER FAIRBANK, C.E. No. 20, Parliament-street, Westminster, from TWELVE to FOUR each day, from the 11th to the 15th day of JANUARY instant, on which day Tenders should be sent in to the Rev. LEWIS DEEDES, Hon. Secretary, Bramfield Rectory, Hertford, endorsed "Tender for Mains." The Council do not undertake to accept the lowest or other Tender. Copies of quantities, &c. can be obtained of the Engineer.

20, Parliament-street, Westminster, 7th Jan. 1864.

TENDERS are required for GENERAL REPAIRS to Twenty HOUSES in Shadwell, E.—For specification and particulars, apply at the "Apollo," Francis street, Tottenham-court road, between NINE and TEN p.m. on TUESDAY, 12th of JANUARY.

TO BUILDERS.—CHINNOR, OXON.—Parties willing to CONTRACT for the RESTORATION of, and other WORKS at Chinnor Church, in the county of Oxford, are hereby informed that the drawings, specifications, and conditions of contract thereof, may be seen at the National School-room, Chinnor, on and after the 14th instant.—Tenders properly endorsed and sealed, to be sent to the Rev. F. BUTLER-SHAW, Chinnor, Tetsworth, on or before the 30th instant.—The Committee do not bind themselves to accept the lowest or any other Tender.

EDWARD BANKS, Architect.

Wolverhampton, January 6th, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTING a READING-ROOM, &c. at the New Barracks, Gosport.

Parties desiring to Tender for the erection of these Works must leave their names at the Royal Engineers' Office, Gosport, on or before the 11th day of JANUARY, 1864, and pay the sum of Ten Shillings and Sixpence, for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portamouth, 23rd December, 1863.

TO BUILDERS.—WESTGATE CHAPEL, Heckmondwike.—TENDERS are required for the whole or any part of the WORKS in REBUILDING the CHAPEL now known as the "Lower Chapel," Heckmondwike. Drawings, specification, and conditions of Contract may be seen in the Vestry of the present Chapel from MONDAY, the 11th of JANUARY next, to the SATURDAY following, both inclusive. Bills of quantities may be obtained, without charge, after MONDAY, the 11th of JANUARY, upon application at our Offices in Bradford, No. 18, Kirkgate. Sealed Tenders to be delivered to Mr. FRANK SYKES, of Cleckheaton, before ELEVEN A.M. on MONDAY, the 18th of JANUARY. The Committee will not be bound to accept the lowest or any Tender.

PAULL & AYLIFFE, Architects.

India Buildings, 20, Cross-street, Manchester,
Dated 22nd December, 1863.

TO BUILDERS and OTHERS.—Persons willing to submit TENDERS for BUILDING a new RECTORY-HOUSE and OFFICES at Elmswell, Suffolk, on a site about half a mile from the Elmswell Station, on the Haughley and Bury Railway, are informed that the plans and specifications will lie for inspection at the Lion Inn, at Elmswell, from MONDAY, the 11th JANUARY, to SATURDAY, the 23rd, inclusive. Tenders, upon forms supplied, to be forwarded by post, prepaid, on or before MONDAY, the 25th of JANUARY, addressed to the Architect, Mr R. J. WITHERS, 21, Doughty-street, London, W.C. and from whom any further particulars may be obtained. The lowest or any Tender will not necessarily be accepted.

W. H. C. LUKE, Rector.

Elmswell Rectory, Woolpit, Suffolk, December 26, 1863.

NORTHAMPTON NEW TOWN HALL. DRAWINGS and Specifications for Furniture and Fittings for the New Town Hall, Northampton, prepared by the Architect, E. W. Godwin, Esq. may be seen at the Office of the Town Clerk, Townhall, Northampton. Persons desirous to CONTRACT for MAKING such FURNITURE and FITTINGS must send Sealed Tenders to the Town Clerk's Office, addressed to the Building Committee, on or before the 12th day of JANUARY, 1864.—By order,

JOHN JEFFERY, Town Clerk.

Northampton, 23rd December, 1863.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Lockwood to Meltham, near Huddersfield. Length about 3¼ miles.—Plans and specifications may be seen, and forms of Tender obtained at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 4th JANUARY proximo, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the Secretary not later than MONDAY, the 15th FEBRUARY, 1864.

Manchester, December 18, 1863. WM. S. LAWN, Secretary.

TO ENGINEERS, COPPERSMITHS, &c. The Guardians of the Poor of the Whitechapel Union will meet in their Board Room, at the Workhouse, on TUESDAY, the 12th day of JANUARY, 1864, at SIX o'clock in the Afternoon, to receive TENDERS for erecting and fitting up certain BOILERS and COOKING APPARATUS at their Industrial School, Forest-lane, Stratford, Essex. The Specification, and Plans may be inspected on application to the Master at the School as above, from whom forms of Tenders may be obtained; no others than those on the printed forms to be supplied will be noticed. And the Guardians do not engage to accept the lowest or any Tender.

G. ADAMS FARR, Clerk.

Clerk's office, Workhouse, 28th December, 1863.

KEIGHLEY and WORTH VALLEY RAILWAY.—The Directors are prepared to receive TENDERS for the EXECUTION of the WORKS required in the CONSTRUCTION of the above RAILWAY.—Plans, sections, drawings, and specifications may be seen, and schedules and forms of Tender obtained, upon application to J. MCLANDSBOROUGH, Esq. Civil Engineer, 23 and 24, Queensgate, Bradford. Tenders are to be delivered as addressed, on or before MONDAY, the 11th JANUARY next, 1864. The Directors do not hereby pledge themselves to accept the lowest or any Tender.—By order of the Directors,

JONATHAN GILL, Secretary.

Oakworth, December 22, 1863.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 18th day of JANUARY, 1864, at SIX o'clock in the evening, at the Office, 15, Great Alie street, White hapel, to receive TENDERS for the CONSTRUCTION of a BRICK SEWER in Dock street, Whitechapel.—Plans, sections, and specifications may be inspected, and further particulars, with printed forms of Tender obtained, on application to Mr. FRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, in which a 10l note is to be enclosed, must be delivered at the Office previous to the hour of meeting; and any Tender which is not upon the form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board

15, Great Alie street, Whitechapel, 9th Jan 1864

TO BUILDERS and OTHERS.—Parties desirous of TENDERING for the ERECTION of a MUSIC-HALL, on a plot of land in Commercial-street, Whitechapel, can inspect the Plans and specifications, and obtain bills of quantities, on application to the Architect, Mr. R. H. HODGES, 10, Walbrook, Mansion House, on and after MONDAY, 11th instant, between the hours of Ten and Five o'clock.

TO SCULPTORS and MASONS.—
CEMETERY STONE WORKS TO BE DISPOSED OF, close to Brompton Cemetery, in consequence of the death of the late proprietor. The widow will dispose of it on very moderate terms.—373, Fulham road, West Brompton

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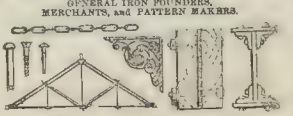
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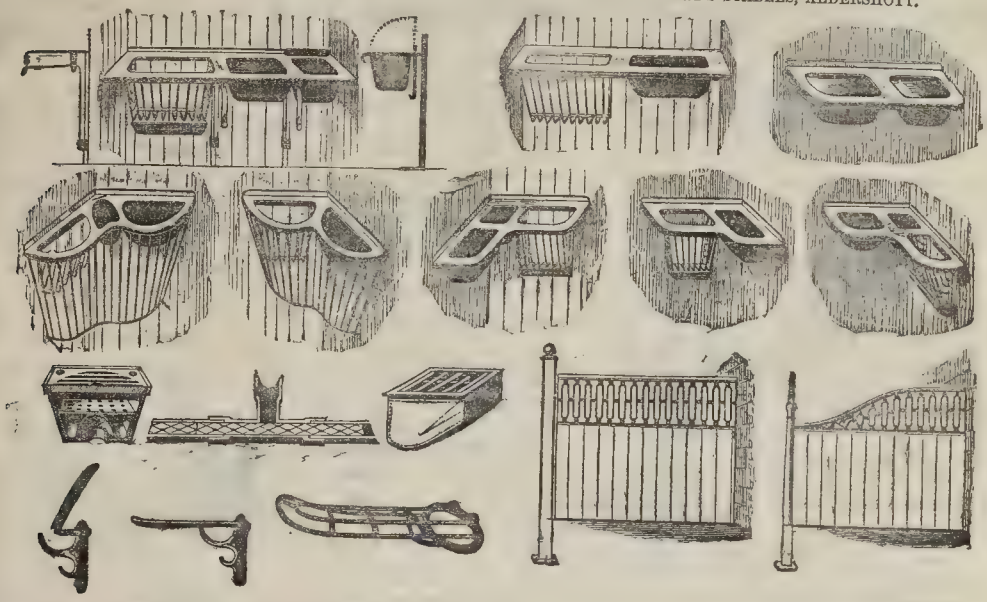
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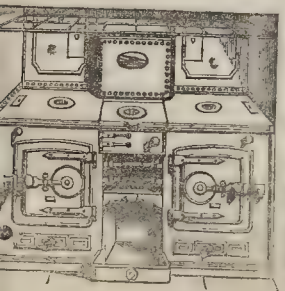
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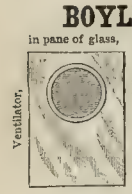
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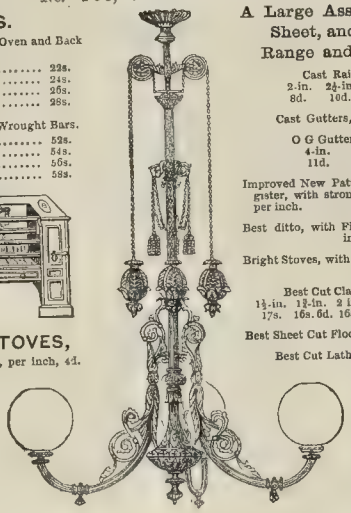
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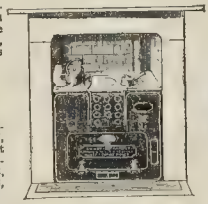
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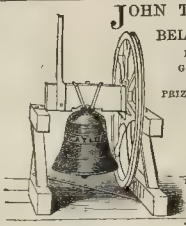
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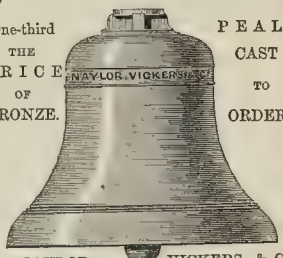


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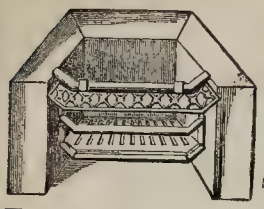


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18 inches wide, 10 inch bars			7	6		8	6
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27	"	18 "	16	0		18	0
30	"	21 "	20	0		—	
33	"	24 "	30	0	Extra strong.		
38	"	27 "	36	0			
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These Stoves give a considerable heat with a small consumption of coal.

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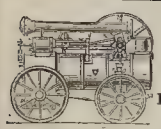
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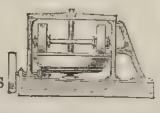
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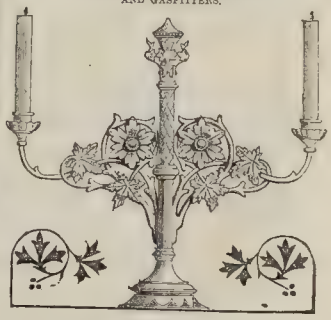
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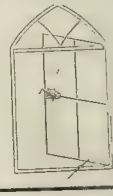
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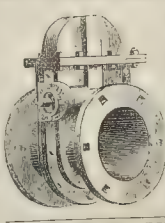
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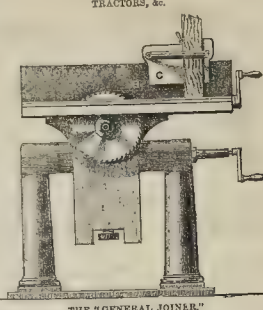
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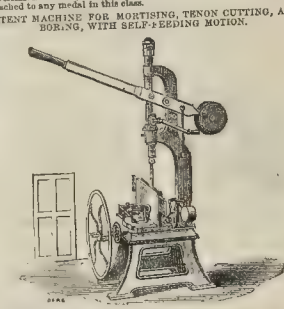


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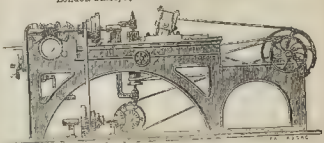
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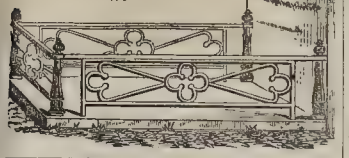
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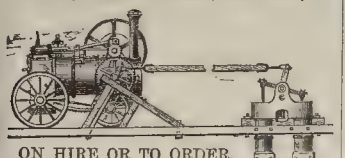


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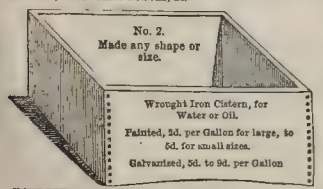
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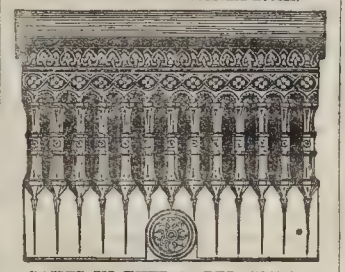
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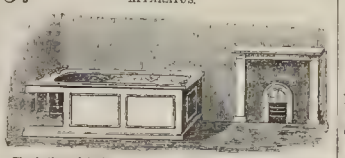
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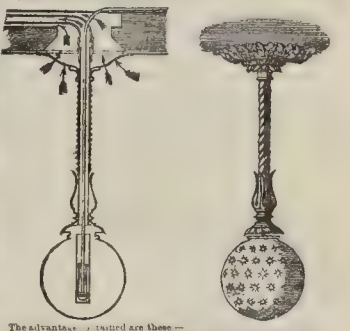
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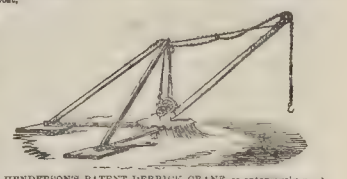
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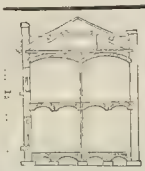
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VOL. XXII.—No. 1092.

Fish Manufactories.

FISH-BREEDING as an art has been carried on in its revived state for some time in France, and is extended throughout that kingdom. In our own country it is practised in a very limited manner; but it may be pursued so advantageously and profitably that we may hope soon to hear of its more vigorous prosecution, and find an acre of water made as productive as an acre of land. An immense quantity of fish is eaten in London alone: and this quantity would be much larger but for the price at which it is sold. Left to itself, the price will become greater and greater: but let pisciculture be properly extended, and fish will be so cheapened as to place it easily within the reach of all, and increase the resources of struggling thousands. The *Times*, and other important organs of intelligence, have recently drawn attention to the subject, with special reference to the extensive establishment at Huningue, near Bâsle, for the collection and distribution of the eggs of those kinds of fish most suitable for propagation in the fresh-water streams and canals, and it has appeared to us that we may advance the subject by giving illustrations of some parts of the buildings forming that establishment.

The system of spawning fish by manipulation owes its success to the fact of the fecundation of fish-eggs being an external act,—in other words, the roe of the female is not fecundated by the milt of the male fish till after it has been deposited in its watery bed. A fisherman of the department of La Bresse, in the Vosges, one Joseph Remy, was the first in France to discern that the natural principle of fish fecundation could be easily imitated, and so be turned to profitable account in the pursuit of his business. The Chinese have long practised the art, and have carried it to such an extent as to be able to keep up a constant supply of those particular fishes which inhabit their seas and rivers, so that any quantity of this kind of food can be obtained all over the kingdom, at the rate of about threepence a stone weight. In an article on the subject in *Fraser's Magazine*, it is pointed out that—"An ingenious method of artificial hatching has been resorted to by the people of China, which is worth noting as a piscicultural novelty. These ingenious celestials carry on a business in selling and hatching fish-spawn, collecting the impregnated eggs from various rivers and lakes, in order to sell to the proprietors of canals and private ponds. When the proper season for hatching arrives, they empty the hen's egg, by means of a small opening, sucking out the natural contents, and then, after substituting fish-spawn, close up the opening. The egg thus manipulated is placed for a few days under a hen! being removed, the shell is broken, and the contents are placed in a vessel of water warmed by the heat of the sun only: the eggs speedily burst, and in a short time the young fish are able to be transported to a river or lake of ordinary temperature." Heat expedites the birth of the fish. Salmon-eggs deposited early in the season, when the temperature is high, come sooner to life than those spawned in mid-winter. Salmon have been brought to life in sixty days at Huningue; but the quickest hatching ever accomplished at the Stormontfield breeding-ponds took 120 days. The Romans achieved great wonders in the way of fish-breeding. Lucullus at one time sold his stock of fish for the sum of 35,000*l.*

To get some idea of the fecundity of fish, look at what is said concerning the herring. "The produce of a single female is (say) 36,000 eggs, but we may—and the deduction is a very reasonable one—allow that half of these never come to life, which reduces the quantity to 18,000. Allowing that this fish will be able to 'repeat the story of its birth' in three years, we may safely calculate that the breeding stock will be reduced to 9,000 individuals; and granting half of these to be females, or say, for the sake of rounding the figures, that 4,000 yield roe, we shall find, by multiplying that quantity by 36,000, the number of eggs in a female herring, that we obtain a total of 144,000,000 as the produce in three years of a single pair of that fish." Although half of these may be taken as the food of man as soon as they are large enough, there would still be left an immense breeding stock, even after all deductions for casualties had been given effect to.

Fish-breeding had been practised in Germany 100 years before Remy, and experiments in salmon-breeding had been made some years before his time by Mr. Shaw, at Drumlanrig Castle; but of all this Remy was ignorant, it seems, and went his own way in the matter. Knowing how enormously prolific all kinds of fish naturally are, he could not understand why they were yearly becoming less plentiful; but he found, first, that an immense proportion of the ova was never properly fecundated; secondly, that even if all the eggs obtained the benefit of the milt, a vast proportion never came to life, from being deposited in places where they were ultimately bereft of water; that others were eaten by waterfowl, or devoured by other fishes; and a proportion swept away to the sea, and so lost for ever. He therefore soon saw that the best way to increase the supply was by obtaining the eggs and protecting the young fish till they were able to take care of themselves. He accordingly went to work, obtained a great degree of success, and was taken up by the Government, who established Huningue, where millions of eggs are given away every year.

Mr. Frank Buckland, who devotes himself to the animal kingdom, and seems equally at home whether in attendance on a life-guardsman or a porpoise (we do not quite agree with him, by the way, in the treatment he adopted in the latter case when the patient slipped through his fingers), points out that a large number of gentlemen, proprietors of fisheries, &c., in England, are quite as anxious to take up pisciculture as the 296 applicants for ova from the French fish-breeding establishments at Huningue; nay more, that there are at this moment fish-hatching boxes either actually at work or waiting for fish ova whereon to operate, at the following places; viz., Hampton, Twickenham, Watford, Carlshorton (two in number), Farningham, the Zoological Gardens, Regent's Park, and the Crystal Palace; also near Dublin; Canterbury; Petersfield, Hants; Beyfordbury, Herts; Ashbourne, Derbyshire; Mansfield, Notts; Reading, Witney, and Woodstock; in all of which he has more or less interest; to say nothing of the larger establishments at Stormontfield, Mr. Ashworth's, Galway, and other places.

Mr. Stephen Ponder, of Hampton, and himself having undertaken to hatch fish for the Thames Angling Preservation Society, he gives the following as the result of their labours last year:—"We let loose on the shallows in the neighbourhood of Hampton, Sunbury, Walton, &c., 22,000 English trout, 6,000 Rhine salmon, 2,000 French trout, 3,000 ombre chevalier (charr), and 2,000 grayling, in all 35,000 fish; being when let loose about the size of minnows. Should there be any doubt as to whether these fish are doing well in the Thames, let me beg the reader to take a boat some warm morning next spring and paddle gently along the shallows above Hampton, and I shall be much mistaken if he does not see a considerable number of our little silver-scaled beauties darting away like water-swallows from the bank side." This is very promising; but we want the practice on a much larger scale, and we have no doubt Mr. Buckland quite agrees with us.

Let us now turn again to the establishment at Huningue, of which we give three illustrations. These do not indicate the full extent of the grounds and buildings, but convey a correct idea of the place. One represents the exterior of the offices and laboratory, the others the interior of the hall, where the eggs are kept, and the basins for the growth of the young fish.*

The establishment occupies a space of 80 acres, and the suite of buildings necessary for carrying on the business has been erected in the form of a square. They comprise a principal building, 48 metres long by 11 metres broad, and two buildings placed square with the front, at the ends, having a length of 60 metres by a breadth of 9 metres. In front two guard-houses form the fourth side of the square. At the principal entrance in the centre is a plot of shrubbery, relieved with two ponds, and behind the principal building a shed has been erected to serve as a storehouse.

The supply of water necessary for carrying on the piscicultural operations is derived from three sources,—the springs on private grounds at Huningue, the Rhine, and the Augraben stream. The water of the higher springs is directed towards the buildings through an underground conduit, whilst those rising at a lower level are used only in the small basins and trenches for the experiments in rearing fish on the outside. The waters of the Rhine, being at a higher level than the springs, can be at once employed in the *appareils* and basins. Being uncovered, however, they are easily frozen, and are besides frequently muddy and troubled. The waters of the Augraben stream which cross the grounds are of very little use. Nearly dry in summer, rapid and muddy after rain, they have hitherto served only to supply some small basins for *l'alevinage extérieur*.

In the middle of the principal building there is a pavilion, containing on the ground-floor in front the laboratory, used for such operations as require particular care, or are undertaken as experiments. Behind, on one side, is the bureau of the clerks, with the archives, library, and drawings; and on the other a room for implements and material; and between these two places there are stairs, with outlet to the court behind. The residence of the manager is on the first flat. On both sides of the central pavilion, the building, formed beneath a large open verandah, is surmounted at both ends by a small flat, where the assistant manager and *explorateur* live. In the buildings, of which the wings communicate with each other underneath the middle of the pavilion, are the arrangements for incubation. The waters of the spring enter by the end, running through three underground trenches, surmounted by higher trenches. The waters of the Rhine run along one of the sides, at their natural level, in a built trench, whilst the opposite side is edged with troughs, with falls. The reservoirs containing to a certain height the waters of the spring, allow them to fall into the higher trenches. All the *appareils* of incubation of this building preserve the primitive type of trenches in a continual stream; but in some

* See pp. 28, 29.

the ova are deposited under hurdles of glass rods.

The building to the right, on the corner of the principal edifice, is a large hall, containing the apparatus of incubation. The waters of the spring there flow into three trenches, built underground, and capable of receiving the hurdles. These trenches are surmounted through their whole length by fittings of earthenware, with falls and hurdles. The higher reservoirs contain the waters of the spring, distributed into all the troughs by pipes and cocks. At the higher end of the building are placed two small turbines, set in motion by the waters of the Rhine, which drive two pumps to raise the waters of the spring into the reservoirs. The waters of the Rhine, conducted at their natural level in a built trench, run along one of the inner sides of the building on the right, to return into the principal building and the left wing. They can, at will, be directed over the *appareils* of incubation, in case the waters of the spring should fail.

The building in line with the front, on the left, was constructed to receive at once the *appareils* of incubation, and built ponds for the trials of *élevage par la stabulation* in small spaces; also for experiments in the acclimatization of strange species of fish requiring particular care. There are placed at the higher end, two turbines with pumps, serving at once to replace for the time the turbines on the right, should the mechanism be deranged during the hatching, and to furnish a special supply for the rearing-basins.

Behind the main building a series of simple open air-ponds and running streams have been formed for the purpose of showing the various stages of growth attained in a given period by the Rhine salmon, the ombre chevalier, the trout, and other of the fishes which are of interest to the French people. These can be seen at all ages, some a few weeks old, others having attained their fourth year. We may explain here that the fish are not bred from the eggs in these outside ponds -they are only transferred to them from the basins we have alluded to, and where, of course, the temperature is a great deal higher and more conducive to the speedy ripening of the ova than it would be in the open air. At Stormontfield, again, the salmon breeding-boxes are quite unprotected, and all through the winter lie open to the frost or snow of the season; hence the ova there are not hatched under a period of one hundred days, whilst in a warmer temperature eggs have come to life in little more than half that time. We may just state here, in passing, that the breeding-ponds on the Tay at Stormontfield have been so successful as to induce the erection of others both in Scotland and Ireland.

Considering that only twenty years have expired since the re-discovery of the art by Remy, a wonderful amount of good has been accomplished in the repopulating of those streams that had become by overfishing barren of fish. Many millions of eggs are annually distributed throughout the country by the French Government; these being first collected and sent to Huningue, where they are nursed on the apparatus we have described till they are ripe enough to be transported to any required distance. The principle of fish life that has given rise to pisciculture is, as we have said, the external incubation of the eggs. From this fact has arisen the plan of manipulation, whereby the fish, after being caught, may be carried to a place of safety, and there be deprived of their eggs, which can be nursed into life under protection from all enemies. But the chief business at Huningue is the receiving and despatching of ova, few fish being bred there except by way of experiment. Persons are employed to collect the eggs from the streams of Switzerland and Germany; and these, after being kept for a time, are given to departments or persons who may require them for the stocking of rivers and canals. It is but just to state that the buildings and ponds at Huningue have been expressly designed for the purposes of pisciculture by M. Coumes, of Strasbourg.

NEW MATERIALS FOR THE LIFE OF HENRY FUSELI.*

I RESUME and conclude this week Miss Patrickson's very interesting "Ana" respecting Professor Fuseli:—

I never saw anything like professional jealousy in Fuseli, unless it was his annoyance at the excessive rage for West, just when he painted his "Christ in the Temple," and "Christ rejected." And, perhaps, I might never have known it if I had not expressed my own sentiments first. He also made use of the only light and profane expression I ever heard from him. "Have you been to see Mr. West's picture?" "Yes, sir." "Well, and it's very fine? Is it not very fine?" "I suppose so, sir." "You suppose so! Don't you know? Did you shut your eyes?" "No, sir; but I did not like it very much; and the longer I looked the less I liked it." "And what for? what fault do you find?" I told him. "Oh! so you are a critic, and have an opinion of your own! We must take care of you when you attack the President of the Academy himself!" "I didn't attack Mr. West, sir; I only answered your question, and I would have liked the picture if I could. It's a pleasure the less, you know, not liking it." "Well, I don't like it very much myself, but unless you are directly asked your opinion, you had better perhaps not say anything. Mr. West is the fashion at present; there must always be something in fashion; there have been four wonders lately for every one to talk about. First, there was—(I forget the first and second); then it was Bluebeard and the Horses;† and now it is Mr. West and Jesus Christ!"

Fuseli was exceedingly interested in Haydon; but personal feelings never interfered with his judgment of art. He liked much in the "Macbeth;" but he pointed out two improprieties respecting the grooms or guards. He thought that, even in that rude age, they would not have slept in the regal chamber; but would, as a matter of safety, have been placed in the anteroom, and might have been represented through an open door. I think, so far as recollection serves me, that he thought highly of their execution, but that they were brought too forward for subordinate subjects; and that it was a capital error, obscuring any part of the principal figure by them: one of the feet and part of its leg were so obscured; neither did he like the Lady Macbeth listening. He thought many parts of the "Solomon" very fine, and the heads of the two Rabbis "equal to anything in the Venetian school." That Haydon should not have availed himself of the natural ornament of hair, surprised him much. "It was so essential to female beauty," he said, "that he never could imagine a nun to be beautiful." I said something which he thought slighting of Mr. Northcote's picture of "Solomon." He reproved me immediately; spoke highly of the picture, and highly of Mr. Northcote, as I have often heard him do. Mrs. Fuseli was particularly partial to Northcote. Fuseli could convert anything into an occasion of improvement. One very foggy day, it was impossible to do anything in the council-room. I gave up long before he did. When he had moved the position of every shutter in vain, he turned to me with a strange mixture of vexation and humour in his face,—"I wonder what the Persian ambassador thinks of our sunshine!" Then making me look towards the darkest corner of the room, where the door leading to the Academy was not even discernible, he desired me to notice that, obscure as all was, I should still have no doubt, if I were standing there for the first time, that the whole end of the room was of one colour, and at one distance. That shade never could bestow a colour different from the real one of the object; and followed up the observation by what was, in truth, a lecture upon the depth and transparency of shade; and what to observe and what to avoid in endeavouring to produce it upon canvas. "Always remember, if you wish to represent darkness and distance, that if you begin by painting dark you will defeat your own object." I used the term "shadowed." "Don't say shadowed, it is incorrect." "Shaded, then, sir?" "Yes. I know Sir Joshua uses 'shadowed;' but it is not right. You may be in the shade, but you can't be in the shadow of a body. I sit in the shade, and I make a shadow."

You [Allan Cunningham] think that Fuseli had not the art of gaining affection; and I think that he was master of it, and that, without ever losing respect. For myself, I know that the superiority was always felt, but the inferiority was never painful. There were no sneers at learned ladies, and no contempt for involuntary ignorance. I never felt so much awe and admiration for any human being; neither did I ever converse so freely with any one, or find any one's conversation so delightful. Perhaps my extreme ignorance of the world, and such reading as I had, made me more sensible of this pleasure, and might also to Mr. Fuseli render this frequent and familiar intercourse less troublesome and annoying than it might have been with individuals much more generally agreeable. A young lady, who led a life of gaiety and visiting, and whose reading consisted of the literature of the day, would not have enjoyed all that I did, and Mr. Fuseli could not so easily perhaps have gratified her tastes and his own. At first he could only have tolerated me; but we all in some degree like the objects of our kindness. I never professed gratitude or offered flattery. It is true that I was seldom inclined to think differently from him; some of my tastes and sentiments were naturally similar to his own; but exceptions did arise, and I was obstinate enough, when I disagreed, to prove that I was sincere when I agreed with him.

He never could bring me round to his opinion, that Miss O'Neill was as great an actress as Kean was an actor. I thought she was deficient in power of countenance, and that in *Isabella* she put herself in such a passion when her creditors came to her, that I wondered Villeroy did not run away. She was not, I thought, the Isabella that Southerne intended to draw; but Kean being the Richard and Othello that I had imagined, I had no doubt they were such as Shakspeare meant them to be. Fuseli always got my opinions from me, but he always closed the contest good-naturedly. He said, in this instance, that perhaps he took a more lively interest in Miss O'Neill because she was a female; and perhaps I might criticise her more severely on that account.

I was called by some an odd young woman. Fuseli, however, never gave any indications of such an opinion, and it was among my early sources of gratitude to him that he did not. And though the superiority of his intellect over mine was infinitely greater than that of any other person with whom I was acquainted; still there were subjects familiar to my mind which naturally came forward in conversation, from the subjects upon which he was so frequently employed. I was familiar with the Pagan mythology, Pope's translation of the "Iliad," Dryden's "Virgil," and Shakspeare, and was acquainted with Grecian history, Milton, and Cowper. I so little cared for the "Odyssey," that I never read it but once; my unconquerable dislike to Ulysses rendered me blind to the beauties of Homer, and deaf to the arguments of Fuseli. Whether Fuseli really very much admired Ulysses or not, I never felt sure; but a painting of his, addressing the ghost of Ajax, often brought the subject forward, and I luxuriated in the glare of Ajax's eye, and the fixed determination of his step. Had you listened to the playful good-nature with which Fuseli would carry on a dispute of this kind, you would think that affection could not easily be denied him. "Oh, you have been deceiving me all this time. I thought you were a Grecian, but you are a Trojan. It's the wooden horse you can't swallow." Then all the things without which Troy could not have been taken, and which Ulysses had procured; and at last,—"Well, I am sorry he is not in your good graces; but I must paint him, for all that."

There were characters of Homer's which Fuseli seemed to wonder at anybody painting, and which he said he never felt that *he* could paint. Achilles and Andromache were of the number. Every one, he said, who had read and felt Homer had a personification of those characters in his mind; and which, as no others might resemble, no others could embody. He was not afraid of the gods and goddesses; and many of these had prescribed forms and features as well as costumes and characteristics. I had seen the sketch for the "Hercules assailing Pluto," but when I saw the picture shortly after

* See p. 4, *ante*.

† At Covent Garden Theatre in the season of 1810-11.

its commencement, I was confounded at the majesty of Pluto, and told Fuseli that I had never conceived him to be half so handsome, and that I should rather have taken him for Jupiter. "Well, and he is the brother of Jupiter, and a god; and the Jupiter of Hell; and Hell, you know, is not merely Tartarus. I am sure you know better than to wish me to paint him black, with horns and a tail. When Jupiter is present, Pluto and Neptune must be represented as inferior to him; but when he is absent you may make them as handsome as you like, or rather as you can. Here he is a king upon his throne, and he must not show fear; he must only express astonishment and indignation at the daring presumption of a mortal. Proserpine may show fear, but not enough to take away dignity. Her attendant, may very properly be more frightened."

"And, upon what occasion, sir, did Hercules assail Pluto? I don't remember anything about it." "It is contained in only three lines in Homer, and the occasion is not mentioned. Dione, in comforting Venus, who complains to her of being wounded by Diomedes (Diomedes, you know, is one of your favourites. How comes that? He was a great friend of Ulysses, and helped him to get the horses of Rhesus!), tells her that her misfortune is not unprecedented, even Hell's dread king having been so severely wounded by Hercules as to flee to earth to be cured."

I write entirely from memory; for, since that time, I have enjoyed no advantages of books, society, or leisure, calculated to keep up any little acquaintance with such subjects, which I then possessed. I think, however, that I am correct; but, if in names, or any other matter, I am not so; the fault rests with me, and not with Mr. Fuseli.

I give you all these particulars, because they show a patience and accessibility very rarely to be met with. Fuseli, no doubt, expected that this picture was to tell its own tale, to all competent judges; yet, he indulged by explanation my ignorance and inexperience. He once gave me a severe, but important lesson. I told him something I had heard; he turned round in violent anger,—"It's a lie,—a d—d lie! and you told me a lie the last time you were here! Where do you pick up all these lies?" I could only say that I did not know I had told him any lies. "Yes, you did. You told me that Haydon had sold his 'Macbeth' to Lord Mulgrave for six hundred guineas; and I congratulated him. And it was a lie." "Well, sir, I am very sorry to hear it—especially on Mr. Haydon's account; but, if it is a lie, I did not make it." "I know you did not make it. I know you would not make it. But you must be more careful in repeating what you hear. You may do as much harm by repeating the lies of other people, as inventing them yourself."

Fuseli began one morning to alter the drapery of Pluto, much to my regret, and by no means to his own satisfaction. The space it occupied on the canvas was immense, and the quantity of colour he expended very great. He stamped, swore,—called himself an ass,—a fool,—and a blockhead,—while the rapidity with which he almost flew up and down from his frail perch terrified me exceedingly. Its construction was two large tables placed beside each other, with a chair, and a small flight of steps upon them,—and he used either as he found it convenient. As he never liked the confinement of his palette on his thumb,—for he used the brush with equal facility in either hand, and in his own room it lay upon a table,—here, that he might reach it when on the top step, he had put three of the small boxes or stools from the Academy in a pile, and still he had to stoop greatly to take up his colour. (He did come down one day when I was present, with the whole of these articles, but was happily not hurt.) I durst not speak, for I had objected to the alteration, and he bestowed upon me from time to time some grim smiles. At length he flew out of the room, making the opening of every door be well heard, and returned with a very excellent shirt, which he unfolded very deliberately, took a survey of, and then tore into large pieces. By using nearly the whole of this, and the aid of turpentine, he scrubbed out his whole day's work. I ventured then to join him as he was contemplating the picture, and to say I was glad that he had restored it. "It will come out yet," said he; "Mr. West is a happier man than I am; he can sit all day with his man standing him what he wants, satisfied with what he has done as soon as he has put it in; while I go backward and forward, studying and altering my work, and can't please myself at last. People may say what they like of my faults. I know my own faults better than anybody else does; but I can't mend them: I wish I could."

"But, after all, sir, you would not change minds with Mr. West?"

"I would not change minds with any one. I would not change minds with Raffaelle if he were living; though I know very well that I never did and never shall paint as well as he did. I paint as well as I can. Nobody would choose to give up his own mind, his own identity." Of the pictures which I saw him paint, I think one of his own greatest favourites was the "Wife of Sarpedon awaking and discovering the dead Body of her Husband." He had the canvas enlarged twice. The Romeo, in a picture where the spectator was supposed to be in the balcony with Juliet, caused him great trouble. "D—n that little fellow," he cried, "he will look like Tom Thumb!" Fuseli could look as fierce and speak as loud as any one; but he could also smile as benevolently and speak as gently.

"You know nothing of accumulation, do you?" was Fuseli's abrupt inquiry of me at the Academy. "You don't know that money begets money?" "Not very well, perhaps, sir," was my reply. "You don't know it at all," he continued, hastily, "and you will never be married, Miss Patrickson!" "Why not, sir?" "Because you don't take the way; and you never will. Your mind is already pre-occupied. It is filled with other things. You don't invite the attention of men, by paying attention to them; and if you don't make men of consequence, they will never make you so. If you don't care for men, they will never care for you. Never! never! So you will never be married while you live."

I don't know from what he judged of me, for I think he had no opportunities of observing my conduct.

He had but few people who called upon him, and did not always admit them. I thought he liked best to see Marchant* and Flaxman. He was vexed sometimes with the too ready goodnature of the latter; and thought that he did not sufficiently preserve his dignity in the council, but, when books and papers were wanted, would run and bring them. I liked to see both these gentlemen, for they would look at what I was doing and speak to me.

I don't think Sir Thomas Lawrence has been happy in his portrait of Fuseli;† the miniature painted by Moses Haughton is much more so; it was engraved by himself, and painted, I think, for the Countess of Guildford. . . . . .

You mention the spelling of Fuseli's name,—the dedication in Lavater's book was headed simply, and I think beautifully, "To my friend Henry Fuesslin, in London." I remember from other circumstances, that it was in the spring of 1815 that he named his age to me. It was the only occasion upon which I am aware I ever said anything to him like a compliment; but I was taken by surprise, and could not check the expression of my feelings. I was ill, and going to the country. Fuseli was unusually grave. "You are going to the country for your health! I sincerely hope you will find benefit." I said something expressive of good wishes for his, when he replied that he could expect little change but the last. "Are you ill, sir?" I cried, alarmed. "Ill! I am seventy-one. Is not that enough?" "But what is seventy-one, sir? Michelangelo lived to ninety, and why should not you?" He smiled kindly, and said, "So you think I might live as long as Michelangelo, do you?" "I wish, sir, that you may live as long as your faculties are unimpaired, and as you enjoy life; and I know of no reason for supposing that Michelangelo at seventy-one was superior to you in those respects." "You are very kind, and I am much obliged to you; but I am not Michelangelo." "But you are more like him than anybody else, sir."

Sir Joshua Reynolds's description of Michelangelo's colouring, and his approbation of it, as in consonance with the grand style, had given me this idea before I knew Mr. Fuseli; and they were identified together in my mind: I don't think from his manner he had ever any idea of it before. It is likely,—as you mention it was an idea he was fond of himself,—that Mr. Haughton might have contributed to my impression. I learned with great regret, some years ago, from a Miss Fowke, that he had quitted Somerset House, and not upon good terms with the keeper. The same lady told me, and on his authority, that Fuseli was unrivalled as an entomologist; and so indefatigable, that he would rise at four o'clock and walk several miles to watch the operations of spiders on a hedge.

If Fuseli showed no contempt for involuntary ignorance, as little did he show toleration for the indolence or inattention which neglected to call into exercise knowledge already possessed. If I asked him the subject of a picture, and he thought I really did not know it, he would generally tell me very fully. Two or three times he has said: "It is a story that you do not know, and which it is not necessary you should know." But, if he was painting from an author with which he knew me to be well acquainted, he was very angry. I sometimes asked him when I thought I knew, but was afraid if I was wrong that he might think I wished to appear to know more than I really did; but I once made an inquiry so inconceivably stupid, that I am ashamed to relate it. The subject was "Macbeth questioning the Armed Head." He answered in a tone not of loud, but of serious displeasure. "I shall not tell you. You knew when you asked; or, if you did not, you ought to have known. What do you read for? what do you paint for? what do you come to me for, if it is not to increase your knowledge? You have some knowledge—why don't you make use of it? Would you go in leading-strings all your life? When you ask me anything you don't know, I am happy to tell you, if it is right for you to know; but when you ask me what you know already, you give me unnecessary trouble; and you ought to give no one unnecessary trouble."

You* will long since have thought that I shall never have done; but I can accomplish my purpose no other way. It took the mouse a long time, and many a nibble, to free the lion. Like her I must use the means I have; and the object is thus far suited to them, that it is not an important benefit conferred in a single art, but a long-continued series of kindnesses, which could only arise from benevolence, in a man so quick in temper, so tenacious of his time, and so impatient of intrusion, towards one who had no claim upon him, whose family he did not know, and whom he never saw herself beyond the walls of Somerset House. And, setting aside painting, if my mind and principles were not benefited, the fault must rest with my negligence or incapacity.

When I consider all that I remember, I cannot help regretting the much more that I have probably lost, partly from the inevitable lapses of even the best memory, and mine is a retentive one; and still more from the certainty I feel that I must have been incompetent to be conscious always of all the good within my reach. Dawe† said well, that I should never know the extent of my obligations. How patiently he endeavoured to cure me of anything childish or silly! I had always a steady hand, and a mall-stick was an incumbrance to me. Some of the students in the Gallery thought that I did not look like an artist without. I asked Fuseli if it was necessary to use one. He said he did not know what I meant; I was the best judge. All these helps were good when they assisted, and should be rejected when they did not. I told him I had tried to use one, but it was always in my way, and sometimes in that of other people. "And why were you such a fool? Can't you judge for yourself? Keep a mall-stick by you, and everything else that may be necessary: use them when they are so, and never at any other time. Never mind what people say to you, unless you find it to your advantage." Often after I had left his study I used to linger in the largest of the three rooms leading to it. He sometimes, but not often,—for I always made my escape if I heard him,—found me there, and it was generally before the same pictures. Of one particular favourite, "Christ the instant before his Disappearance from his Disciples at Emmaus," he promised to give me his original sketch; and often he looked for it, as well as for a second edition of his Lectures (then out of print), which he likewise promised me; and much I saw in these researches, and much came to light that Fuseli had not seen for long; but not the Lectures, nor the sketch; and I am sure they never did; for he promised, before I came away, to

* Nathaniel Marchant, sculptor, elected a Royal Academician in 1809.

† The head engraved for Mr. Cunningham's "Life of Fuseli."

* Allan Cunningham.

† George Dawe, Esq., R.A.

keep them for me; and he never forgot what he promised.

Two things in your Life of him gave me pain; but I have no right to speak upon either, for I am utterly ignorant upon both. *You* don't seem *certain* of either; and I regret that they are there:—one, what you term his wife's original "vocation," of which I never heard the slightest hint, and which may lessen her in general estimation; and she is an excellent woman. The other, the probable cause of his leaving as much as he did. Mrs. Fuseli's personal expenses must have been moderate. I have always understood that their table was frugal, and that Mr. Haughton paid handsomely,—120*l.* per annum. But for these particulars I cannot vouch, any more than for Lord Rivers being a liberal purchaser of his works; but I have often heard it. I think, if Mr. Fuseli had really wanted money, he would have accepted it from liberal friends; and that, had circumstances been reversed, he would cheerfully have assisted others. But, if he did not require it, I cannot think that he would have failed to decline it. On my part, this is certainly mere opinion; but you will, I trust, excuse my giving it freely.

Looking over to-day, for the second time, your Life of Fuseli, I see that you have mentioned the piece of plate. Writing as I do, by snatches, with my mind much, but not agreeably occupied, I cannot methodize, and trust you will excuse it. Another word of Fuseli: he had no little tricks, no petty concealments; his process of colouring, his method of producing his tints were all at your service; and his doubts of himself were equally candidly expressed. "What do you think that is?" he said once, pointing to a part of his picture. "Blood, I think, sir; but I don't know where it comes from." "Well, that is right; I mean it for blood; but I am not exactly sure about its appearance. I should not like them to think it was drapery; and that the man was frightened at an old red cloak." I see, on looking over what I have written, that I have given the foreign peculiarities of Fuseli's pronunciation. I had no intention of doing so; but seeming to see and hear him, it came naturally and irresistibly.

Make any use of this letter you please, except destroying it: I may wish for it again myself. It is the only record I have ever made of my best friend and benefactor, and I have conceived a value for it. I have never, since I left London, seen any picture which impressed me with such deep, engrossing admiration as Fuseli's did, excepting Danby's "Upas Tree."

I have not yet succeeded in getting a sight of your first volume; and I am most anxious to do so because I hope to find the Life of Owen; not merely because I was a great admirer of his colouring, and that he was very kind in giving me information in the British Gallery, but that I heard much of his love of his art, and contrivances for painting during the latter period of his life. One of my best friends in the Gallery was Mr. Jackson, always goodnatured and ready to assist the inexperienced, either by precept or taking the brush himself. But I am always best pleased to hear of Mr. Northcote's being well. I never knew him, and was only in his company twice. I liked his manners, they were very kind and encouraging.

And now, sir, that I say I will release you; I wish you not altogether to think it a release, for I would willingly have you as interested in Henry Fuseli as is his grateful pupil, who is, sir,

Yours, very truly.

MARGARET PATRICKSON.

Allan Cunningham, Esq.

I conclude Miss Patrickson's to me very agreeable paper with an early notice of Fuseli overlooked by the biographers of the painter. In the "Miscellanies" of John Armstrong, author of that fine didactic poem "The Art of Preserving Health," the reader will see, at vol. ii. p. 236, the following passage:—"*Even this barren age has produced a genius, not indeed of British growth; unpatronized, and at present almost unknown; who may live to astonish, to terrify, and delight all Europe.* But true genius is such an uncommon production of nature, and is so much superior to all quackish arts of recommending itself, that when it does appear, it is no wonder that a generation of people without taste do not know it."

The "unknown genius" of the year 1770 was Henry Fuseli, a name of note in the history of English art rather by what he might have done than by what he did.

PETER CUNNINGHAM.

THE NEW "SOUTHWARK STREET."

ON the 1st inst., the Board of Works opened to the public the last portion of the new street which has been formed by them, leading from opposite the end of Stamford-street, in the Blackfriars-road, to High-street, Southwark, not far from London Bridge. The street is 70 feet wide from front to front of houses, and will be recognized as a very important improvement. It is to be regretted that it is not straight. In conjunction with Stamford-street it forms the double curve known as the "line of beauty,"—a line by no means desirable in thoroughfares, if we would have the public make use of them. An Englishman has an unconquerable aversion to a "round," though fully aware from his own experience in stoppages, that very often "the farthest way round is the nearest way there." Doubtless, however, there were cogent reasons for adopting the present line. Even the Board of Works cannot do what cannot be done.

A memorandum given by the Superintending Architect affords some particulars that are interesting. The Board obtained their Act for the street on the 10th of August, 1857; the first notices to treat were served in April, 1858; and the Streets Committee commenced their negociations for acquiring the property at Midsummer, 1858. On the 1st of October, 1861, the first contract for the formation of the street was taken by Mr. Downs, of Union-street, Southwark, who constructed the part from High-street, Borough, to Great Guildford-street (including the main sewer, vaults, subway, and pipe-connexions), the portion from High-street, Borough, to Southwark Bridge-road, being opened for public traffic in July 1862, and that to Great Guildford-street at the end of that year. On the 31st of March, 1863, the second contract for the construction of the street, from Great Guildford-street to Blackfriars-road, was let to Mr. Thomas Pearson, of Kennington-cross, who has now completed it, as far as regards the construction of the sewer, subway, roadway, and vaults, and it was this portion that the Board opened on the 1st inst. The operations, it is stated, have been greatly retarded by two or three serious cases of compensation, which it was necessary to contest in the Courts of Law.

The total length of the street is 3,450 feet, or about two-thirds of a mile. About 400 houses have been pulled down for the formation of the street, and the vacant building-ground on each side consists of about 200 separate plots, seventeen of which have been already let. At the south-eastern corner of the Borough end of the street, several plots have been let to the Alliance Bank of London and Liverpool, who have just erected their offices; and plots have been let to hop-merchants and others, so that the vacant land at this end of the street is being rapidly covered. Several plots about the middle of the street, too, have been let, and the Board anticipate that as soon as the advantages of the thoroughfare have been felt, the vacant land which they have now to dispose of will be speedily taken.

The cost has been immense, though probably it ultimately will not be quite so large as was originally estimated, larger returns being expected from the land than were at first anticipated. The estimated cost stood thus:—Purchase of property, goodwills, &c., 464,137*l.*; 10 per cent. for contingencies, 46,412*l.*; sewer, paving, &c., 8,875*l.* — total, 519,424*l.* The actual expenditure has been, for first item, 480,012*l.*; the second, 27,936*l.* professional, law, and other charges; and the third, Mr. Down's contract, 24,153*l.* expended in subway, sewer, paving, and vaults for cellars, instead of a sewer, and paving only. The cost of the cellars is to be repaid by the persons taking the building frontage; and Mr. Pearson's contract, 24,950*l.*, making a total of 557,051*l.*; or an excess of actual over estimated expenditure, caused by the formation of subway, not originally contemplated, and building of vaults, amounting to 37,627*l.* The receipts, partly realized and partly estimated, are now put at 267,031*l.*; leaving the actual cost of the new opening, 3,450 feet in length, 290,020*l.*

It will serve as an answer to more than one correspondent if we mention here that the Metropolitan Board of Works are bound to sell within a given period the rents obtained for land which comes into their possession in making improvements.

The subway, a capital specimen of brick-work creditable to all concerned, if we may judge from the face of it, is precisely similar to that in the new street leading to Covent Garden, of which an engraved illustration will be found in our volume for 1860 (p. 640), together with estimates of cost. The subway itself contains the gas and water mains, and there are side arched passage-ways for the service-pipes to the houses. Below the subway is the main sewer. Belief has been expressed that the escape of gas from the pipes in the subway will lead to accidents, not to be avoided by the best ventilation attainable. Even should this prove to be the case, it must not be viewed as an argument against the provision of subways, but a reason for the use of gas-pipes and joints capable of preventing leakage.

THE NATIONAL SHAKSPEARE MEMORIAL.

THE arrangements proceed very slowly; so slowly, indeed, that unless a move be made forthwith they will not be sufficiently perfected by the 23rd of April. A magnificent committee has been formed; strong enough even now to carry the project to a most successful issue if the proper course be adopted. There are, however, in it too many who think they have a right to lead, with a few elements of discord, and unless some give way, —unless 380 of the 400 members of the general committee will, sensibly, subside into "subscribers," and depute the remaining twenty to do the work for them, constant collision of opinion must result, delay is inevitable, and failure after all not impossible. The course is now so simple and straightforward, if taken *immediately*, that nothing but dismion and bad management is to be feared. The proposed public meeting should be held as soon as possible, let who will take the chair: certainly not later than the last week of the present month. An immediate appeal should be made to the country for subscriptions, not waiting, under the circumstances, even for the public meeting. By the end of February an idea must be arrived at of the probable amount of money forthcoming, and steps must be taken to obtain a design founded on that probable sum, in the following six weeks: a ridiculously short time for the work; but no more is left. Meanwhile, the best possible site must be obtained; not an easy matter. We would suggest, without now going into particulars, a portion of the Green Park, adjoining Piccadilly, as eminently well adapted for it. There the monument would be seen by all without looking for it, and it would lend itself well to the adornment of the metropolis.

An alternative plan contemplates the laying of the first stone of a monument in April, without determining the design; leaving that to be regulated by the amount of subscriptions a longer time might enable the committee to obtain. There would be a spice of absurdity, however, in this proceeding, which should be avoided if possible. Let there be no jealousies; no personal ambitions; but let all unite for the common object of raising a worthy evidence of the nation's homage. The great cry out of doors is, what description of monument do the committee contemplate?

A correspondent on the subject of the proposed memorial writes, — As the coming Shakspeare celebration more nearly approaches, the attention of the public is being more particularly directed to the subject, and it is satisfactory to find that the Urban Club and other bodies, who were rivals in a good cause, are now working with the central committee. There seems, however, to be a want of some express plan, and also of method in collecting the subscriptions. To do honour to Shakspeare, is a matter which concerns every one; it is therefore hoped that all classes will cheerfully contribute, and that on this occasion the working men will show their appreciation of our great poet. During the recent subscription for the relief of Lancashire distress, the sums contributed by the working-classes proved in the aggregate enormous; and in the instance of the Shakspeare Memorial, there is little doubt that if the matter were properly started, the same satisfactory results would be the consequence.

In our manufactories and workshops, a subscription of from 1d. to 6d. each man, would produce a considerable amount. In other ways there would be large funds forthcoming, provided the matter were properly set moving; and it is suggested, that with a view to this the working-classes should be represented in the committee

of management. With this exception the committee includes representative men of nearly every profession, grade, and opinion in Great Britain.

ENGINEERING SURVEYING.*

IT is a trite observation that a book, whether good, bad, or indifferent, is always more or less a sign of its time. A man cannot well write a book without some consultation with and inquiry of other men; he must get a publisher to undertake it; he must correct the proofs and review his own work before it makes an appearance in public. It is indeed but seldom that a book may be looked upon as an expression of the opinions of one man alone. The two works, the titles of which we have given below, are in themselves distinct expressions of opinion that the standard of scientific education amongst professional men—or would-be professional men—in England, is exceedingly low; at any rate, as compared with the scientific professional preparation of the Continent generally, and more especially of Germany. Mr. Merrett's work in particular sets out with the assumption, that it will meet with a circle of readers consisting of scarcely educated men. Not that his book is bad. By no means. It is remarkably well fitted for its intended purpose,—that of instructing a class of ill-prepared readers in the duties of land-surveying. But we can assure him that his note to Continental publishers,—"That the right of translation is reserved,"—is quite unnecessary. Mr. Merrett will never have to utter the old complaint—*Traduttori, traditori!* But how is it that the class in England devoted to what may be termed the technico-scientific professions should be—as a class—so behind their continental brethren? The question cannot be answered in a few sentences, and we have not space to enlarge upon it at present. But the fact is, that we have been inferior to France and Germany in an organized system of scientific education ever since the time of the first Napoleon. It is sixty years ago that the First Consul himself a first-class mathematician, and an excellent civil engineer, and aided by Monge, Lagrange, Laplace, De Prony, and others, organized the *Polytechnique*, the *Ecoles des Arts et Métiers*, and the other educational institutions destined to do the work intended to be done by such books as those now before us. The principal towns of the Continent speedily followed his example. Education, like the other good things of this earth, gets cheaper in proportion as it gets more common. A first-class scientific preparation for a technical profession can now be had for about 5*l.* per annum at Carlsruhe; at some of the other German Polytechnische Schulen for even less! Of course these establishments receive Government grants, and the students are subjected to a Government examination. We find Mr. Mark Friar, in the introduction to Mr. Hoskold's work, stating that "Men are employed as responsible managers [of collieries] who are totally ignorant of the most elementary principles of mechanics, the laws of gases, the principle of the safety-lamp, the geometry of figures formed by faults and heaves, and the theory and accurate practice of surveying and levelling. . . . . The speediest and most effective remedy that we can suggest is, that all responsible managers of mines be required by Government to obtain certificates of practical and theoretical competency for their situations before being allowed to enter upon them. Local Boards of Examiners could easily be established for this purpose; and it would be no difficult task so to combine the practical in examinations with the educational and scholastic, as to preclude the possibility of any mere theorist obtaining a certificate." What Mr. M. Friar says of mining engineering can be repeated of many other branches of the profession. It has been often remarked that doctors and lawyers have to be officially examined before they can legally handle the lives and property of their fellow-subjects; but that engineers, who deal with both life and property, can practise without any examination; that in the engineering profession the man of true science and the rule-of-thumb charlatan are both on the same level in the eyes of the unprofessional and necessarily undiscriminating public. The status of the engineer is now mainly determined by success in the world. We vote a man an engineer upon the same principle as we give a vote to a 10*l.* householder.

Mais revenons à nos moutons. We have said that Mr. Merrett's is an excellent popular work on surveying—in spite of its grammatical mistakes and of its illiterate style. But Mr. Merrett seems to fancy that common logarithmic tables are as scarce as before the days of Briggs; and that excellent treatises on arithmetic and geometry are not to be bought for a few pence at the first best old-book stall. More than one-third of the book is devoted to the most elementary parts of arithmetic and geometry. This portion of the work is evidently too short for those who are expected to take up surveying before being taught the first elements of science; while it is evidently in the way of more educated students. Mr. Merrett advises his uneducated readers to spend their leisure hours with the best authors on mathematics; but we cannot see any sign that he himself has really gone through a mathematical curriculum. Seventy pages are next devoted to an excellent practical treatise on land-surveying; forty to levelling; twenty to calculating quantities; and some forty pages to a description of most of the instruments used in surveying and plotting, and of their several uses. This last part is the best portion of the book. On the whole, we may say that the work is good of its kind, but that its kind is not good.

Mr. Hoskold's work is of a decidedly superior class, but the common vice of book-making is also here prominent. Fifty pages are given to the ordinary trigonometrical tables of sines, &c., and to an introduction to these tables in which our old friends "the Arabians" figure with their usual persistency—rivalling Lord Macaulay's irrepressible "New Zealander." Another portion of nearly fifty pages is given to such elementary subjects as practical geometry, practical plane trigonometry, and the nature and use of logarithms. Not much less than one-half of the book is thus filled up. The work is substantially a treatise on mining surveying; the book by no means encompasses its pompous title of "Land and Railway Surveying, Engineering," &c. The chapters devoted to land surveying in connexion with underground work, and to setting out railways to mines, are the best and the most original parts of the book. We have no doubt that the great extension of underground railways will cause this work to meet with a ready sale.

Cynics often observe that the greater part of the "scientific" works,—from the elaborate quartos, in all the dignity of large print and steel engravings, to the more humble pamphlets on new inventions with which we are perennially inundated; that the majority of the "scientific" papers read at all times and seasons before the multitudinous mutual admiration societies of the metropolis, are not always published from honest promptings of having really something to write or to say on a scientific question. Too often are these printed or *viva voce* demonstrations but refined puffs, either of the men themselves, or of their personal friends, or of their businesses, or of their patented inventions. We will not go so far as to say that the books we have just examined are intended to give a puff to a purchaser seeking bread. But we cannot help noticing that neither of our authors has forgotten to have an eye to business. The most prominent object in Mr. Hoskold's work is "Hoskold's Miner's Transit Theodolite," "manufactured only by John Archbutt & Sons," &c. &c. Mr. Merrett has not forgotten "Merrett's patent improved quadrant" and "Merrett's patent improved scale." A neat little advertisement at the end of the book gives us Mr. Merrett's address, and informs his more obtuse readers that he is ready to help them, "on moderate terms," out of any little difficulty. Should a more venturous student undertake some surveying work, and fail in the attempt, he is told that Mr. Merrett, again, executes "professional works of any description with neatness, accuracy, and despatch." A perusal of this little circular will show that its style and grammar are rather questionable—as to its meaning and good taste there can be no question. Whether this sharp eye to business is calculated to raise the general status of the profession is another inquiry that our readers can answer for themselves.

* "A Practical Treatise on the Science of Land and Engineering Surveying, Levelling, Estimating Quantities, &c. With a General Description of the several Instruments required for Surveying, Levelling, Plotting, &c., with Illustrations." By H. S. Merrett, Architectural and Engineering Surveyor. London: E. & F. W. Spon, 16, Bucklersbury. 1863.

"A Practical Treatise on Mining, Land and Railway Surveying, Engineering, &c. Containing the Errors of the Magnetic Needle; Practical Geometry and Trigonometry; with Description, Use, and Adjustments of the Miners' New Transit Theodolite; also, a new Plan of Setting out Underground Railway Curves; Underground Levelling; Construction of Longitudinal, Transverse, and Geological Sections of Mines, &c. With Tables of Distances from Planes of the Meridian and Latitude, Tables of Natural Sines, Secants, Tangents, Ratios of Inclined Planes, &c. Illustrated by numerous plates and woodcuts." By H. D. Hoskold, Mining Engineer and Surveyor. London: Atchley & Co.

LANDOWNERS, COMPANIES, AND SURVEYORS.

A FEW days ago the *Times* printed a letter, signed "A Sufferer," asserting that surveyors who were employed by owners of property to make claims and support them against railway companies requiring the property, sacrificed their employers in order that they might not offend a company. The writer said,—

"It is perfectly well known that, if a surveyor venture to claim the full value for property taken by a railway company, he not only incurs the enmity of that company, but is virtually placed under a ban by others, and may for the future look elsewhere than to them for patronage and support.

When, then, on the one side are ranged the railway companies, with an enormous amount of business to bestow or to withhold, and on the other stands the unfortunate claimant, with little or none at his disposal, it is not difficult to divine which party is the more likely to carry the day.

In fact, it becomes the interest of the very surveyors employed by the owner for the establishment of his claim to depreciate his property to the greatest possible extent. The claim made by them in his behalf is still further cut down by the surveyors retained by the company; and if the matter go to arbitration (the course, for some reason, always advocated by the claimant's agents), the amount of compensation is decided by another surveyor, and the owner may consider himself very lucky if he obtain half the marketable value of his property, receiving nothing for compulsory sale and the damage done to surrounding land or buildings.

Now, without saying that surveyors are worse than their fellow-men, it is not to be supposed that they are one whit better; and we all know, when men, who are totally irresponsible are exposed to the fear of injury or the temptation of gain, even when the two are not (as in these cases) united, what the probable result of such a combination of circumstances will be. Now, I do fearlessly say that an immense amount of injustice is daily and hourly committed; that this injustice is to be traced to the land-agents and surveyors; and that these land-agents and surveyors are totally irresponsible."

The impulse on the part of any who has had large experience in such cases is to deny the accuracy of both statements. There are plenty of able surveyors who when employed think only of their clients' interests (some, indeed, ready to support very extravagant claims), and they are *responsible* for culpable negligence in the discharge of their duties, as any other agent would be.

While we unhesitatingly say this, we are forced to agree with one inference from "A Sufferer's" letter, namely, that matters are not as they should be in respect of the settlement of claims for property taken under Acts of Parliament; and the tone of a number of letters which have been written to the *Times* since the appearance of the first, and of other, which, on different occasions, have reached ourselves, serves to show that this opinion is widely spread. Quotations from a few on both sides will serve to bring the matter before our readers. The first, "Surveyor," who replies to "A Sufferer," says,—

"Is 'A Sufferer' quite sure that the surveyor and not the claimant is always at fault? Are not claimants sometimes disposed to ask more than their property is worth? May not this account for the surveyor advising the claimant to be more moderate in his demands? And is the surveyor fairly open to the very serious imputations cast upon him by 'A Sufferer'? Should I be thought uncharitable if I reminded 'A Sufferer' that juries, and not arbitrators only, sometimes awarded a moiety,—a third, a fourth, a fifth even,—of the amount claimed?

My conviction is, that the members of my profession, as a rule, are too willing to lend their influence in support of unjust claims against the railway companies, and that they would do claimants more substantial service if they were to seek at the outset to put their clients right on the question of value, and not only so, but positively refuse to support what in their conscience they know to be unjust and sometimes grossly absurd claims against the companies.

I confess, with shame, that the profession is being brought into disrepute by the time-serving propensities of some in its ranks.

There is one gentleman, for instance, who is sufficiently accommodating to state on his oath, when giving evidence for a railway company, that a certain class of property is worth only sixteen years purchase; whereas, if he is giving evidence for a claimant, he will maintain on oath that it is worth twenty-four years'. The truth would probably be, as it so frequently is, midway between the two extremes."

"A Landowner" replying, asserts that,—

"Of late years there has been a disposition to cut down to the lowest possible point the claims of landowners; and, in my belief this has been brought about, as 'A Sufferer' contends, by the necessary connexion of almost every respectable surveyor with one or more of those companies which, in all disputes with landowners, constitute the more powerful and, for the nonce, the more popular side of the question at issue. Whoever doubts this may satisfy himself by referring to the report of, and the evidence

given before the Lords Committee in 1845, and comparing the cases of that day with the scale of compensation that is now given, e.g., 50 per cent was the rate at which compulsory sale was assessed by that Committee, and I believe I am right in saying that 25 is the very highest figure that is awarded now, and frequently not more than 20 per cent."

A surveyor to a railway company then comes in with,—

"From the long experience I have had in connexion with the subject, I am fully justified in saying that no claims are ever made below the marketable value of the properties which they relate, but, unfortunately, many are made highly beyond it. Nor are these after always made by the surveyors of the claimants themselves. Never, nevertheless, let your correspondent take courage, and when next he has a case of disputed compensation, let him write to me, and I will, without charge, give him a list of surveyors, who will go very far—perhaps not quite so far as he may wish, but very nearly so—towards that marketable value which his property possesses in his own ideas. Upon that list I promise him shall be the name of a surveyor who claimed of me more than 1,000*l.* for the leasehold interest in a house held for an unexpired term of two and a half years at 30*l.* a year, an Irish perch for the whole term at 5*l.* a year. I will also add the name of another gentleman who claimed for the interest of a yearly tenant, under a six months' notice to quit, in respect of one perch of garden land, upwards of 400*l.* But I submit that the reason alleged by 'A Sufferer' for his imaginary grievance is as erroneous as the grievance itself. If a surveyor of good position and experience is known to entertain a high opinion of any particular class of property which a railway company has to purchase, the company are more likely to retain him on their side to prevent the claimant from having the benefit of his evidence than they are to withhold him from employment because his estimates are high. The fact is, that the best men are employed indiscriminately on both sides, and they usually accept the retainer which is first offered to them."

Another "Surveyor" asserts truly, that by the Lands Clauses Act of 1845, companies are enabled and of late have been accustomed to treat unfortunate owners and occupiers in the most iniquitous way. The Act above referred to, under which all cases of compensation are settled, lays down express directions for procedure by a jury or by arbitration. But the 85th section of the Act enables companies, without making any agreement with owners of property, to go before a justice (giving no notice whatever) and get him to appoint a surveyor (generally of their own nomination), who, [illegible] act without any inquiry into the circumstances, fixes some sum, for which the company gives a bond, and forthwith enters into possession of any premises required. The owner has of course a claim against the company, but they keep him at bay; he is under every disadvantage in supporting his claim, and pending the settlement is put to great straits. He urges that a claimant should be entitled to a special jury, and goes on to speak of arbitrators,—

"If John Jones have a claim against a railway company, they must feel that while John Jones may never have another opportunity to employ them, railway companies can employ them all the year round. It is generally supposed that arbitrators' decisions have of late been nearly always unfavourable to claimants, by the Act referred to, the appointment of an umpire has, in case of dispute, with the Board of Trade, and up to within the last two years the Board appointed nearly always one gentleman, who resolutely declined to be concerned either for companies or for claimants, and so he might be considered an impartial judge; but this did not suit the companies, and so a great strain was put on the Board of Trade, when it appointed as a rule one of four gentlemen, all 'highly respectable men.' But still men who are largely employed by companies."

Another "Surveyor" maintains that the railway companies do work in concert, and frequently act vindictively against any surveyor who does his duty. There are, nevertheless, it is to be hoped, men of standing and independence to be found who are not to be awed or browbeaten; but a young rising surveyor has a hard struggle indeed should he incur the enmity of a company. He agrees it is a hardship that an owner is obliged to put a value upon his own land upon that which he is most unwilling to part with. A claimant has no other course but to ask enough, and then he is abused by counsel on the other side as a cheat and an extortioner. In France, the companies are obliged to make the first offer. If this is not accepted within a given time, the owner on his side must make a claim; and then if the parties cannot agree, and the matter goes to either a jury or arbitration, the costs are apportioned between the parties according to the award. Thus, if the claimant gets the whole of his claim, the company pay the whole of his costs, and *vice versâ*. If any intermediate sum is awarded, the costs are assessed to be paid *pro ratâ*. This seems to be a fair course, and to check alike exorbitant demands and niggardly offers.

In arbitrations, the method the companies pursue is this,—they narrow their list of umpires to as small a number as possible. Once give an award against a company, and you are no longer on their list. Having got a roll of what they call "safe men," what is the consequence? They will not agree to take any one who is not in their good books. The upshot is that the same umpire is in case after case, sees the same solicitors, and is addressed by the same counsel day after day. He knows he owes his position to the companies, and that in all probability he will never see or hear of the claimant again. It seems impossible that a man so placed, let him be ever so honourable, should escape from some bias. To prevent this the Legislature has provided a third method, which at first sight seems extremely fair to all parties. In case the parties could not agree on an umpire, a clause in the Act empowers the Board of Trade to appoint one *ex parte* to decide between them. Unfortunately, however, their list is even more restricted than that of the companies, and the persons appointed, though most honourable men, are liable to all the dangers of prepossession and bias alluded to above,—nay, as the number is more restricted, perhaps in a still greater degree. We have known some very unfair awards made by one of the number.

We agree with those who would compel the companies to make the first offer. This is no hardship on them, as they must have had all the separate properties valued for the purposes of their bill. We call upon the Board of Trade to enlarge the list of their umpires, and think it would be much fairer if they would not place in that list the name of any surveyor who is engaged in getting up cases, and going into the witness-box to support them.

It is nonsense to say that all surveyors are at times engaged as valuers by railway companies. For every one surveyor who has acted for a railway, a score may be found who have never done so. To state that surveyors, when acting as valuers for the public are "exposed to the fear of injury or the temptation of gain," is not worth replying to. Every company have a staff of surveyors to whom they always entrust their business, and their number being limited in proportion to the number of gentlemen practising as surveyors, the majority look to the public for support, and are totally independent of the companies. It is to the interest of each side to do their best for their clients, and the surveyor dependent on the public has every inducement to use his best energies, as an introduction to other business, irrespective of his charges being a per-centage on the amount of compensations awarded.

In London, a certain small number of gentlemen contrive to monopolize the great bulk of this description of business, appearing now on one side and then on the other, but, of course, more connected in consequence with the companies who remain, than with claimants, who change. How this may gradually have acted upon their notions of value we cannot say. Claimants have the remedy, to a certain extent, in their own hands. They should not run like a flock of sheep after one bell. Let them exercise discretion; take proper advice; and they will be able to find plenty of intelligent and competent surveyors, without bias or fear, ready to set forth and maintain just claims to the uttermost farthing.

ARCHÆOLOGIC ITEMS FROM ROME.

ON the 11th ult., the German Archæologic Institute met in their Library on the Tarpeian Rock, to open their session for the winter, and, at the same time, to unite with other objects, on this occasion, their customary celebration of the birthday of Winckelmann. To a large audience, among whom were some of the distinguished, were read two long papers by Dr. Henzen, the president, and Dr. Braun, the perpetual secretary, in which, besides other antiquarian intelligence, and general reports on the Institute's labours, were described, by Dr. Henzen, different monuments and epigraphs found in Umbria, referring to the Etruscan priesthood, and other public offices of that nationality. By Dr. Braun was given a learned criticism on a bronze bust lately found in some ruins of uncertain character, near Perugia, and now in the collection of a private proprietor in that city;—supposed, at first, from its delicacy and sweetness of expression, the head of a female; but, as the lecturer well argued, inferring from analogies with a classic statue at Madrid, really intended for Hypnos, the god of Sleep. A photograph of that statue was handed round, and on a table was exhibited a cast of the bust, enabling us to test the correctness of the lecturer's report, to admire the poetic character and fine melancholy distinguishing this head, which is, indeed, quite feminine in type, with braided hair parted in the midst, and two wings issuing laterally from the downcast forehead. Besides other photographs exhibited on the tables of the library, their subjects different antiques and portions of building lately brought to light on the Palatine or elsewhere in Rome, was handed round an interesting representation of a marble relief found at Porto (site of the ancient seaport at the Tiber's mouth, now a desolate and unfrequented spot) in excavations begun there last November, by Prince Torlonia. This sculpture has given rise to much comment, and contains a curiously complicated assemblage of figures (some evidently intended for colossal statues of gods), public buildings, ships, symbols: two galleys are seen approaching the mole of a seaport adorned by several splendid edifices. On one of these vessels is a colossal figure of Neptune among the human beings by whom it is manned; beyond are figures, apparently statues, of Bacchus, Ceres, Victory, a chariot drawn by elephants, with a female guiding them, the wolf suckling Romulus and Remus, a flowing altar, and (near the centre) a large eye. This mystic relief had been made the subject of an essay read by Visconti at the first meeting for the season of the Pontific Archæologic Academy, a week previously to the assemblage of the Germans; and that gentleman assumed it to be a *sacrum donativum*, one of those religious offerings made by the ancients as *ex viso*, under the influence of a dream—the spectacular representation, namely, of a particular scene supposed to be preternaturally spread to view, the subject here being the Port of the Tiber as enlarged and embellished by Trajan, with all its public monuments and statues of gods, the symbolic eye introduced as sign of the visionary character under which this splendid reality is here presented. The sculpture, regarded by the light of such interpretation, is almost unique among Classic records of Paganism in Rome.

At Ostia, the works of excavation were lately recommenced by order of the Pope, and are being continued at his private expense, liberally pledged for this object by Pius IX.; their most valuable result during this season being the discovery of a beautifully-executed mosaic, among the decorations of Thermæ, with figures of the Seasons, distinguished by their usual attributes and their names, *Ver*, *Æstas*, &c. At Prima Porta, site of the Vigentine villa of Livia, were also commenced early this winter the works, for a time suspended, for further laying open those ruins where the statue of Augustus (now in the Vatican) proved so inestimable a discovery; and a bust of his empress, lately brought to light, evinces the fact that art-treasures are not yet exhausted on that site. The works on the Palatine are progressing, nor have been interrupted since their commencement, in the Farnese estate purchased by the French Emperor; and here the most important detail in the imperial buildings, lately disencumbered of soil, is a remnant of the bridge thrown across the Forum by Caligula,—such, at least, is the theory as to this portion of ruin adopted by Signor Rosa, director of the Palatine excavations. On one of the vaults near the same spot an exquisitely-beautiful example of stucco relief, with floral designs and different figures divided by quadrate bordering, has been brought to light among recent discoveries,—this also in the section of the palace ascribed to Caligula, at the north-eastern angle, above the Forum.

In the course of restorations and improvements at a series of offices that form a wing of the Quirinal Palace, on the steep slope of the hill whence it takes its name, were lately reached, at a depth 40 palms below the street level, the remains of a massive structure, measuring 21 palms in height by 18 palms in width, with an archway spanning its front, and the epigraph above that detail: *Cn. Sempronius Cn. F. Romilia* (this probably the designation of a tribe) *Sempronia Cn. F. Soror Lucia M. F. Mater*,—assumed, in a notice given by the official *Gazette*, to be one of the sepulchres that flanked the Flaminian Way, and therefore external, as law enforced, to the limits of the city, marked by the more ancient walls—those, namely, of Servius Tullius. To this hypothesis we might object the height of the situation, just at the brow of the hill, where these ruins stand, far, indeed, above the level of the Flaminian, which passed under the Quirinal declivities.

On occasion of the Christmas solemnities at S. Maria Maggiore, two new features of rich deco-

ration attracted the public gaze in that superb basilica; the lately-completed "confessional," or elliptical chamber communicating with a crypt-chapel, and descended into by a double staircase, below the high altar, a veritable museum of precious marbles, the entire incrustation being of the richest kinds, oriental alabaster, amethyst alabaster, *rosso* and *verde antico*, *fior di persico*, *bianco e vero antico*, *breccatello*, &c.,—the design by the architect Vespignani, gracefully appropriate, and accordant with the character of this church; also a complete new set of altar furniture, in all the chapels as well as the principal sanctuary, consisting of forty-eight candelabra, and crucifixes in metal gilt, the donation of the Parizi and other noble families, and all wrought with much elegance of design and elaborate finish, at the establishment of Bellis, one of the first Roman goldsmiths. The restorations at the basilica of S. Lorenzo beyond the walls are actively progressing, and seem, so far as one can yet judge, in harmony with that ancient church's type of primitive Christian architecture.

The sarcophagi found, a few years ago, in sepulchres on the Latin Way, about two miles from Rome, and remarkable for their highly-finished reliefs of mythic subjects, bearing allusion to the destinies of the soul, have been restored and transferred from those tombs to the city, eventually to be placed in some museum. A late donation from the Pope to the library of the Archæologic Academy consisted of several artistic works, much valued; and another library has just been re-arranged, on better system, by desire of his Holiness,—the music archives, namely, at the Vatican,—a collection unique of its kind, comprising the MS. and printed compositions of all the great masters engaged for the Papal choir, from the latter half of the fifteenth century down to modern dates, the MS. codes in many instances adorned by exquisite illuminations and miniature paintings; the aggregate, however, diminished by the fatal spoliations suffered through the brutality of the troops who sacked Rome after the siege by Bourbon, and who *lit their fires*, in the Vatican chambers, with these and other volumes never to be replaced!

THE REMODELLED SCHOOL OF FINE ARTS IN PARIS.

THE Council for Instruction in connexion with the Imperial and Special School for Fine Arts, the formation of which was prescribed by the 7th article of the decree of the 13th November, 1863, has just been constituted by the Minister of the Emperor's household and of Fine Arts, as follows: The Duc de Morny, honorary president; the Superintendent of Fine Arts, president; the director of the administration of Fine Arts, vice-president; Messrs. Leon Cogniet, painter, member of the Institute; Muller, painter; Duret, sculptor, member of the Institute; Cavelier, sculptor; De Gisors, architect, member of the Institute; Lefuel, architect, member of the Institute; Forster, engraver, member of the Institute; Dumas, senator, member of the Institute; Mérimée, senator, member of the Institute; Noizer, General; Théophile Gautier, author.

The director is the immediate head of the staff of the school. He enjoys a salary of 320*l*. The professors for the courses receive an annual salary of 96*l*. The titles and privileges of the present professors and those who are superannuated are suppressed. The professors, chiefs of studios, independently of the localities which are conceded gratuitously to them for the installation of their studios, are remunerated by means of indemnities worth about 96*l*. a-year.

In connexion with the school a superior council is established, which is composed of a superintendent of fine arts, president; a director for the administration of fine arts, vice-president; two painters, two sculptors, two architects, one engraver, and five other members, named by the Minister.

The imperial and special school for fine arts is entirely devoted to the teaching of painting, sculpture, architecture, and engraving, in copper-plate, medals, and precious stones.

The following courses are given by the staff of the school:—1. History of art and æsthetics. 2. Anatomy. 3. Perspective. 4. Elementary mathematics. 5. Descriptive geometry. 6. Geology, elementary physics, and chemistry. 7. Administration and book-keeping, construction and application in work-yards. 8. History and archæology.

The daily exercises prescribed by the third article of the rule annexed to the ordinances of the 4th of August, 1819, are replaced by works executed by the students in the studios. For this purpose, attached to the school are three studios for painting, three studios for sculpture, three studios for architecture, one workshop for engraving copperplate, one workshop for engraving medals and precious stones. These workshops and studios are directed by artists who hold the title of professors, heads of studios, as has been stated.

The obligations are:—That all the pupils of the school attend the courses of history, æsthetics, and of archæology; that all the pupils who learn painting, sculpture, and engraving, attend the courses of anatomy and perspective; that all the pupils learning architecture attend all the courses except anatomy.

The competitions for the great Rome Prizes are open to the Imperial and Special School for Fine Arts. All artists, from the age of fifteen to twenty-five, whether pupils or not at the school, can compete for the great Rome Prizes, after having succeeded in two preliminary tests, on the condition that they are French.

One prize only will be awarded in each section.

For the future, the candidates who obtain the great prize in their section, and who are sent to Rome, will only receive pensions for four years. They are obliged to stay at home two years at least; for the other two years they may, if it is convenient, and they like to, devote them to instructive journeys, informing beforehand the superior adminstration of their intentions.

M. R. Fleury, member of the Institute, is nominated for five years Director of the Imperial School for Fine Arts.

SCHOOLS OF ART.

The Carlisle School The annual meeting of subscribers to this school has just been held in the Town Hall. The Mayor of Carlisle, who is president *ex officio*, took the chair. The secretary read the report of the committee, according to which, "during the first half of this year the attendance has not been so great as usual: this was owing to the illness of the late headmaster, Mr. Lord, who was at length obliged, through indisposition, to resign his situation. At the commencement of the present half-year, your committee succeeded in re-engaging the services of Mr. Lees as headmaster, and from their former experience of his capabilities as a teacher, have the utmost confidence that the school will soon resume its former numbers: indeed, at the present time, the number of students is almost as great as at any former period since the establishment of the school. At the annual examination of the works of the students, held in the school, by Mr. R. G. Wylde, in June last, thirteen medals were awarded; forty-eight candidates passed in the first grade examination, of whom fourteen received prizes; and twelve in the second grade, of whom six received prizes. These numbers are not so large as in the previous year, there being no master during the most important part of the half-year for the students.

The Southampton School.—At a public meeting held at the Hartley Institute, the Mayor distributed the prizes awarded by the Government Department of Art, and also those given by Mr. W. A. Rose, M.P. The Mayor said they had met there that evening for the eighth time to distribute the prizes, and he hoped that the advantages they could derive from this school would be more appreciated, that it would be more successful in future. Mr. Baker, the master, read the report. According to this document, the total number of students receiving art-instruction in direct connexion with the school during the current year was 1,017, the various classes at the school have been more regularly attended than in previous years, and as a consequence there had been a larger amount of successful work produced. The artisans, however, for whom the evening classes are specially formed, do not avail themselves of the advantages of the school to anything like the extent expected. The annual examination for the award of medals and prizes, by Mr. S. A. Hart, R.A., the inspector appointed by the Department of Art, took place in October. There were thirty-five works competing for medals, of which nineteen received awards of medals, and four others were marked by "honourable mention." Five of the best works, in certain stages, were selected by the inspector for the national competition for medallions, to be held in London next May. The inspector expressed himself perfectly satisfied with the display, and regretted that greater facilities could not be furnished to the more advanced students in the prosecution of their studies, particularly in reference to the light, which is quite unsuited for painting and drawing from casts, &c., in the day time.

The mayor afterwards distributed the prizes, and Colonel Sir Henry James and other gentlemen addressed the meeting. In course of his speech Sir Henry remarked, that to say that the study of art among the people of this country is a public advantage, was only to say that which is recognized by every one, for persons who had arrived to years of maturity could not but be struck with the tasteful manner in which the fabrics of dress for the daughters and wives of the present generation were got up, and how favourably they contrasted in an artistic point of view with the materials of forty or fifty years ago, with their coarse designs. Now one may walk through any of our principal streets, and see elegance of design, whether in textile fabrics, in gold, silver, or bronze, glass or china. The dresses of ladies of the present day were, as even a novice might see, distinguished not only by the beauty of their texture, but as well by the elegance of their design and colour. Nothing struck him more forcibly when in Scotland in the autumn than the report made on all sides of the wealth of that country, which had been developed indirectly by means of this extension of art study. Since the ports of France have been open to our produce, our manufacturers have been able to compete with the French in their own markets, not only as regard the elegance and fineness of texture of their woollen goods, but in the beautiful colouring and designs with which the fabrics are ornamented. Was not this, then, a public good—a benefit to the whole kingdom?

Wenlock.—The distribution at this school of the various prizes awarded by the Department of Art, at the recent examination of the Borough of Wenlock School, which has its central school at Coalbrookdale, has just taken place. The principal residents in the Dale, and a large number of friends of the recipients, were present. The medals and secondary rewards, according to the Report, may be classified as follows:—

	1862.	1863.
Local Medals	8	10
First Grade Prizes	33	65
Second Grade Prizes ...	22	11

Last year four students received their prize studentships. The number of students upon the registers of the central and branch schools was, in 1862, morning class, 25; evening class, 60. In 1863, morning class, 18; evening class, 42: and in each year the number of children in the seven schools in the district, which avail themselves of the services of the master for instruction in drawing, is reported as about 1,066. There has been an apparent diminution in the number of pupils; but this circumstance is attributed to temporary and local causes. The money prizes offered by the Coalbrookdale Company and Messrs. Maw, for competition among the artisan students, produced a number of works which evidenced great merit, particularly in the class of original compositions, in which the competing works were excellent, affording promise of additional satisfactory results. Similar prizes are again offered by both firms.

GWYNN AND MYLNE.

EARLY THOUGHTS ON THE COFFERDAM SYSTEM.

MAY I add a few additional facts to my "Biographical Sketch" of John Gwynn, R.A., which appeared in your last volume (p. 455), and to which reference is politely made in the remarks on Mylne last week? I lately turned up among my own books a copy of one of the little publications which I had named but had not seen; it has proved to be very useful in affording information of Gwynn's early literary attempts. It is "The Qualifications and Duty of a Surveyor explained. In a Letter to the Right Honourable the Earl of ******. In which the Essential Accomplishments are particularly described and considered. Necessary to be perused by all Persons concerned in Building." 8vo., 1752, price 6d., 28 pages, and without name, Followed by "A Second Letter, &c., with some further Remarks on their supposed Imperfections. Necessary," &c. 1752, price 6d., 33 pages. It contains that story of an intelligent surveyor who could not read the blacksmith's bill, and deducted from it more than the charge, which

HUNINGUE.



THE HALL OF INCUBATION, IN THE RIGHT WING.

Jos. MacPacke (alias Peacock, in his "OIKISIA," published in 1785, puts forward apparently as his own. The following "Tracts, wrote by the Author of this Letter," are mentioned as for sale: "An Essay on Harmony as it relates chiefly to Situation and Building; price 6d." This is already named by me as published in 1734. Then follows "The Art of Architecture, a poem, in Imitation of Horace's Art of Poetry, price 1s." This was published, as he states in the text of "The Letter," in 1742. Then succeed, "An Enquiry after Virtue, a Poem, price 1s.;" "Part the Second, being an Appendix to the same, price 6d.;" and lastly, "Rupert to Maria; an Heroic Epistle, with Maria's genuine Answer, price 1s." The "Essay on Design," published in 1749, is not mentioned.

This list, from the detail given, is further of interest in the matter, on account of the passage, underlined for italics, as of course it is not brought forward so prominently in the original, in the following rather long extract, which I have ventured to append. The words are, "for he was till of late of another profession." This was written in 1760, and the above-named publications include his productions from 1731, but do not elucidate his "profession." unless it may be presumed that of "surveyor" is simply meant; whereas in 1760 he was putting himself forward as an "architect," by sending in a design for Blackfriars Bridge; and at which period he appears only to have been known by his drawing of the section of St. Paul's." Besides this section, I have seen a large plan of that cathedral, also bearing the names of Gwynn and Wall; it was published June 26th, 1755, in two sheets: the dimensions are carefully figured.

A few days since, seeing in a catalogue the title "Observations on Bridge-building, and the several Plans offered for a New Bridge," 8vo, 1760, I became the purchaser of it. No name appears, but the word PUBLICUS is appended to the last page (50), and there are eight more of "postscript," which, from the wording of the first paragraph, intimates that my copy may be a second edition. The so-called "letter" is "addressed to the Gentlemen of the Committee appointed by the Common Council of the City of London, for putting in Execution a Scheme of building a new Bridge across the Thames, at or near Black Friars."* The writer first gives his own notions of what is required, and then criticises the eleven designs selected. As this pamphlet appears but little known, I offer the following remarks as specimens of contemporary criticisms. The text shows that the designs by Mylne and by Smeaton had *elliptic arches*, the others being all semicircular. This is a point which has not been heretofore noticed. Of Chambers's design the writer says, "This plan has a grand, a lofty, and a magnificent appearance at first sight. His thought of making this bridge a triumphant one is glorious, and well becoming at present the dignity of the English nation;—a beautiful piece of architecture, which stands upon the middle arch." On the whole, however, the author does not approve of the design. What has become of it? Evidently the decision lay between the productions of Gwynn and of Mylne. The latter has the longest criticism of the whole number; but to copy it would be trespassing too much upon your pages, especially as the structure itself is so well known. I may, however, probably be allowed to complete my "biographical sketch" by an extract of the remarks on the design by Gwynn:—

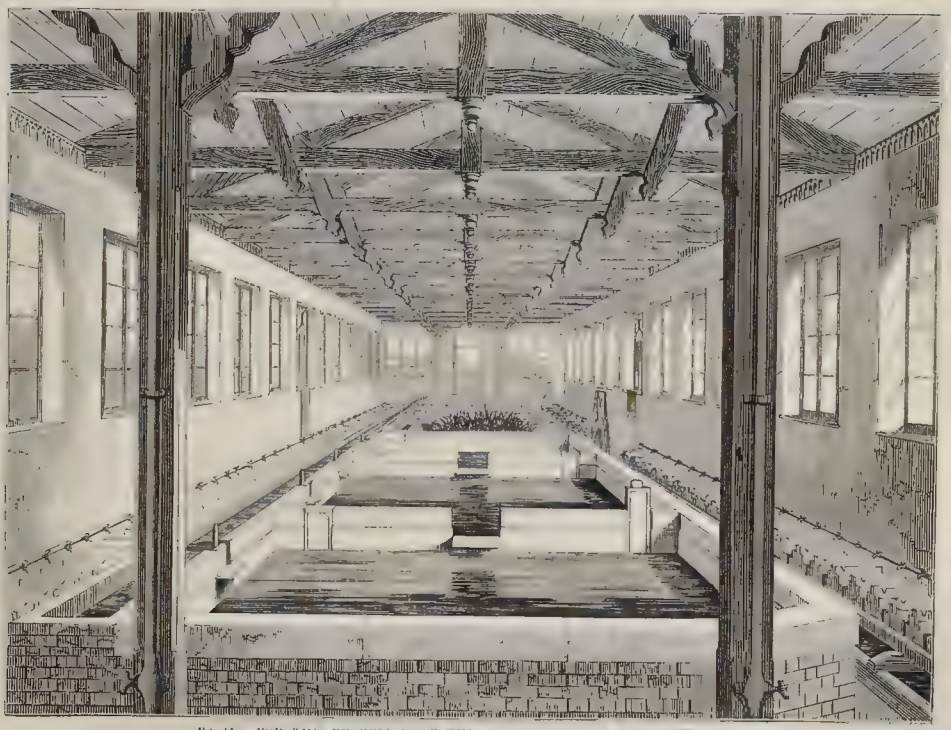
"This design at first sight strikes me something like looking at a Turkey carpet; where one is pleased with the whole because of its variety of colours; but when our attention is taken up with any single part, we are dissatisfied, and wonder how any one could throw away so much labour in making these parts, which have no resemblance or connexion with what one might expect there. This gentleman, when he sat down to invent, had some ideas of producing a thing striking and magnificent, but the manner in which he has done it, renders it a trifling gew-gaw. Although there may be a difference in taste, yet I find that everybody agrees when the magnificent is procured by the simple and the genuine, it pleases universally all ages and nations. Witness the Ægyptian, the Greek, the Roman buildings. Witness, for example, Covent Garden Church. Is there anything tawdry there? Are any pastry-cook ornaments hung on it, to deck it out, which fashion in half a century might find fault with? No; that rigid virtue and severity will convey the sublime idea to all ages, when fashion will condemn, and time will have mutilated everything that looks like candy'd sugar. This is treating it in a poetical sense; but this otherwise ingenious gentleman might have known, if he had received a regular education (*for he was till of late of another profession*), that there is a certain circuit of forms in architecture, produced by the materials of which it is composed, from which a man should never deviate. If he had considered the connexion and almost sameness of forms produced by the Druids, the Mexicans, the Ægyptians, the Greeks, the Etruscans, he would never have deviated so far from stone and lime as to borrow a form from the foot of a drinking-glass or front of an organ. Yet this is his taste, and of that species which commonly last from one birthday to another. The drawing part is very well executed, and for that purpose, I have been told, he had the helping hand of Mr. Wall, who goes partner with him in this venture. There is placed upon the two middle piers a group of small columns, like organ-pipes, to support either a recess or a clock. The form is taken from those of Westminster Bridge, which look more like a sentry-box than any form produced by the squareness of stone. There are no more columns till you come to the piers next the shore, and those intermediate ones are covered by a thing like twisted glass, which supports—what are things of vast importance to the benefit of mankind—a globe or a pine-apple! The groups of columns next the land, being shorter than the middle ones by the fall of the bridge, and not intermediate gradation between, look like dwarfs of columns or overgrown bannisters. By showing the joints of the arch-stones which tend towards the centre of the arch, and not the cross ones which make the length of the stones also, the arch looks as if it was composed of deal boards, or beams lying side by side. In short, the whole of the ornaments are of a piece with these examples, in illustration of which I shall lose no more time.

* If we remember rightly, Dr. Johnson published a pamphlet on this subject.—ED.

THE FRENCH PISCICULTURAL ESTABLISHMENT AT HUNINGUE, NEAR BASLE.*



VIEW OF PRINCIPAL BUILDING, CONTAINING THE OFFICES AND LABORATORY.—M. Coste, Member.



BASINS FOR THE RECEPTION OF THE YOUNG FISH, IN THE LEFT WING.

[* See p. 21, ante.

The height 28 feet of the great arch from high water, and the width 84, might have been a little more, for the easy passage of the tide and barges without giving any inconvenience otherways. The height of the arches next the land is so much, that the forced earth is 21 feet, which upon consideration of what has been said on that head in Mr. Dance's plan, will be found to be a great deal more than necessary, as no advantages accrue from it. All the arches are semi-circular, and the piers in such proportion to them, as would render it strong."

The writer uses the term "forced earth" for the "made earth" used in making up the road-way at each end for access to the bridge.

I must beg space to quote one more passage, relating to the mode of constructing the piers, as it is so much to Mr. Dance's credit, the then clerk of the works to the City. "The manner in which he proposes to lay the foundation of the piers, he says, is no chimera, because it is an invention of Vitruvius. It is a lamentable case that all the inventions of great men come under a disrepute, by being made use of by people less knowing. Vitruvius recommends in building a mole, to make an enclosure all round, and pump the water out, so as to make it dry; and this only in such places of the Mediterranean Sea where no Puozzollo earth could be found. Mr. Dance might have observed that Vitruvius recommends this in a sea where there is no rise and fall of tides. The greatest size that can be found for piles is 14 inches square; so that the strength of these piles, 17 feet long and 11 inches thick, is the most preposterous thing ever proposed, even although there should be a double row, with what he pleases to put between, to support a body of water 24 feet deep, in continual motion against the sides of this enclosure, and having the weight of 8 feet of silth all round on the outside of it. He surely would not have thought it eligible to be put in execution." Evidently (as we know), "cofferdams" were not then believed in. Further on, in his criticisms on Smeaton's design, he says, "He proposes to build the piers within an enclosure or batter-dean, for my sentiments on which you'll be so good to turn over to what is said in that respect of Mr. Dance's plan." And in the postscripts he writes, "That he has proposed to build his piers in an impracticable method, when he proposes to build them upon a dry bottom. For allowing him to make his enclosure strong enough to resist the water on its outside (which I doubt much of), yet the bottom of the river, being a gravel, cannot resist the weight of water on it; but by the openness of its texture, will allow the water to boil up in the middle of the enclosure. When ballast is dug out of the river Thames, the barges never shift their place, for the gravel comes boiling up in the same place always, as they take it away; how much more so would water come, if such a weight of it as 30 feet was pressing on the outside of the enclosure?" The writer of this would be rather astonished at what is now done with this principle of constructing foundations in water.

I am also able to add another bridge to his works, through the kind assistance of a friend. On the 27th of July, 1769, was laid the first stone of the bridge over the river Severn, at Atcham, four miles below Shrewsbury, consisting of seven arches, of less span and width than the bridge also by him, at that city. The inscription on the stone is given in the *New Universal Magazine* for 1814, p. 343, in a biographical account of Viscount (if I remember rightly) Hill, one of whose ancestors, "Rowlandus Hill, Baronettus," laid the first stone; and it may also be found in Gough's edition of "Camden's Britannia," fol., 1789, ii. 417. It appears that the "bridge of Terne," noted by me, and mentioned by many authors, as one of his works, is not to be so included.

WYATT PAPWORTH.

THE CLAIMS OF ART UPON AN AGE OF BUSINESS.

IN the course of the address on this subject, delivered by Mr. Gambier Parry, at the recent meeting of the Gloucester School of Art, Mr. Parry, after speaking of the light the English had made for position, said,—I do not see why we should not eventually excel in art, if only we go about it in the right way. Hitherto as regards art we have been a nation of contradictions. For instance, in the genius of poetry, which is the very life-blood of the arts, where was there ever a nation more brilliantly, more variously endowed, than that of Chaucer and Spenser, Shakspeare and Milton, Byron, Tennyson, Browning, and every gradation of spirit between the spice of old Ben Jonson and the sentimentality of Moore? But in other arts we have had no such pre-eminence. I do not believe that we have lacked genius, but simply that it has been dispirited by public indifference. Take our painters for instance. It was but comparatively a few years ago that the greatest of our landscape painters, and he the greatest in that branch of art that the world has ever seen—I mean, of course, Turner—so grieved at the want of public encouragement, ordered his greatest picture to be made his winding-sheet. That picture is the famous one of Carthage, now in the National Gallery. He was happily bullied out of his intention by his good-humoured friend Sir Francis Chantrey, who wound up a long argument with him by saying, "Well, my boy, if you will be buried in that picture, we will most certainly have you up again the next morning." The lives of our artists have too often been tales of disappointment and sorrow, because the hearts of our people have not been trained or open to love the arts. If in those arts a genius has been born to us, he has been like a star without a heaven to shine in; or, at any rate, the British public was by no means the kind of heaven that would have suited him. People like to have their ugliness perpetuated in portraits. Portrait painters, bad and good, got on equally well: portrait sculptors, bad and good, got on equally well; pictures which two generations after were usually consigned to the attics or converted into a target; busts which two generations after were usually consigned to the garden wall for a family cock-shy. But for works of higher art there was no public sympathy. It has been only within the last thirty years that they have opened their eyes to the merits of such men as Hilton, Opie, and Etty. Our people have not cared for ideal art. Their taste in such matters has been for that which gave them no trouble to think about—hence our most popular artists have been the representers of domestic scenes or simple natural subjects which told their own story at once, like those of Wilkie and Landseer. The works of these great men were full of poetry, but it was not so much the poetry as the simple facts which our people cared for. How could they?—for it had been a sealed letter to them. Then turn for a moment to other arts. Take music. We have had deep and sweet musicians—we have no need to blush for Purcell, Farnant, Crotch, Attwood, and Bishop,—but whom had we to compare with Bach and Beethoven, Mozart and Mendelssohn, Spohr and Rossini? Then turn to sculpture. Whom have we had except the almost unrivalled Flaxman, and in portraiture the equally great Chantrey? In architecture, alas! how few! The taste of the times was enough to crush all genius. So men miscalled artists and architects contented themselves by copying and repeating what had been better done centuries before in Verona and Venice, Genoa and Rome. No! strange it may seem, that in poetry we may have excelled all modern nations, while in the other arts we had ingloriously lagged behind. But I deny our lack of genius in those arts. What we have lacked has been the power, the intelligence, the refinement, of the public to foster or to appreciate them,—and so they died. But the scene is changing now, and rapidly. Those realities in the romance of sorrow which made up the lives of so many men of genius are not likely to be repeated. Our people are opening their eyes and their hearts to the beauty of their works. And, what is a good deal to the purpose, since we have heard what prices have been paid for pictures, they have also lately been most decidedly opening their pockets. No, hitherto our people have had other resolute work to do; to conquer our soil, to master our waves, and to develop our resources. Time was when we were among the most artistic of nations. In the thirteenth and fourteenth centuries art schools flourished in many parts of England, and English art was highly prized all over the world. Then the tide turned the other way, and trouble came at home and abroad, and drove us to dull hard work again. We had our ups and downs of life. In the time of Queen Elizabeth, again, foreign ambassadors reported us to be among the "blythest, merryest, and most musical of people." What now, to go no further, what impression does this rapid sketch of our past doings produce upon us? I confess that my impression is strong. I feel it to be impossible that this country can have produced such genius as in her poets, such genius as in the sister arts of Wren, Gainsborough, Hogarth, Flaxman—it is impossible, I say, that such men, such poets, architects, artists, sculptors, should have come of our stock—few in number, but worthy to stand with the foremost in the great ranks of Christian art—and not feel convinced that there does lie beneath the surface of our society a power dormant only until public sympathy awaken with it, waiting only for the fostering warmth of public care, to come forth into full and beautiful and vigorous life. In what nation that has ever risen to pre-eminence has not the demand brought forth the man? How else should we have heard of the genius of Cromwell, of Nelson, of Napoleon? Men are often found where they are least expected. I am confident that there exists a capacity in our people to answer all demands. I believe that ambition to excel is not always vanity—but that there is in all our classes an honourable ambition to excel for the very love of the excellences of what it excels in. We have excelled in all else, why should we not excel in art? I firmly believe that we shall. Whether right or wrong, people's minds are now alive to an idea of taste, and the next thing they will be alive to will be an idea of beauty. But now you, gentlemen, who, however much you are engrossed in the hard business of life, yet have hearts for the social improvement and domestic happiness of your people, look at this great subject in still *another* way. Look at the effect which the pressure of competition, the universal obligation of hard work, is producing, especially in large towns. Men must have relaxation and refreshment. They will take it in one way if they cannot get it in another. They do not so much need repose as change of occupation. They will follow the bent of their own minds. They have been hard bound at work all day; they must have a fling of some sort. In the brighter air and brighter soil of Sussex and Kent, Surrey and Hampshire, they may and do take it out in cricket. But look at our large pent-up towns, and the difficulty of any good and sufficiently varied relaxation and refreshment for the occasional spare days and long evenings of our hard-working classes. You gentlemen in this city of Gloucester have well and generously gone to work in earnest to provide that those spare days and long evenings shall not be unprofitable. The lecture-room, the reading-room, the concert-room, are all going in the right direction. But they have by no means filled up every need. There is yet another quality of mind that you have to provide for—one inseparable from our nature: I mean the love of beauty. It is inconceivable that the whole creation should have been clothed with beauty without purpose—that all things, everything, should have been endued with that subtle quality without meaning, without object. We know it, we feel it, but we cannot grasp it; it is above and beyond our reason, but still it is within the scope of even children's thoughts. It fascinates us, we know not why. We judge of other qualities in things about us, that one is the measure of their strength, another the measure of their utility, but of their beauty we can only judge that it is the measure of their perfection. When I speak thus of beauty I mean no mere prettiness, no mere creature of fancy, no mere thing of outward show, unimportant, evanescent, to which all within is indifferent, and could dispense with it. Who could wipe off the beauty of a humming-bird? Who could pare down the beauty of a man, and that he could live? No! Beauty is as universal in nature as life itself—and for aught we know as important. It is inseparable from life. The love of it, the craving for it is a healthy appetite. The absence of it, whether in mind or matter, is an evidence of disorder and degradation. Here there is a quality common to us.

"One touch of nature makes the world akin."

Here is something for which library, reading-room, lecture-room, has ill provided, if at all. There is a blank. I think your school of art does fill up that blank. I speak of no sentimentality, but of a reality which is daily pressing on public attention more and more. I by no means wish to put art upon stilts. I by no means wish to put it on a false position of importance. But I believe it is this,—it is *the thing* which is wanted to trim the balance of our national character; to correct its hardness, its coarseness, its vulgarity; and to draw out its *finer* and not less noble qualities. I look upon it as a great field which we have left uncultivated. I believe that thousands of our workmen have been forced into trades unsuited to them,—occupations which were repulsive to them. The world has dealt harshly with them. The idea of a common working man having tastes and talents, definite and refined aptitude,

and even genius, hidden beneath his rough exterior, has been ignored. His heart has yearned for other things. He has felt like a race-horse harnessed to do cart-horse duty. He has become indolent, depressed, dispirited. His temper embittered, his life resourceless, has driven him to vice for relief, and then vice has driven him into crime. I suspect that this is neither an exaggerated nor uncommon picture that such a man as I describe, who might have been happy in himself and an honour to his family, has become an outcast and a criminal. The character on which such misfortune as this is most apt to fall is that of the genuine artist. I know that the artistic spirit is impatient of control, impulsive, erratic; that it loathes red-tapeism and routine; it hates the unsuggestive ledger and the hideous office of regular Anglo-Saxon life. But you can't put an extinguisher on it, you can't put out its fire, you can't get rid of it. You have got it, and you will have it always about you somewhere. You must accept it with all its errors, its impulses, its fire, and its impatience. The only thing for you to do is to *employ* it. You must put it to its *right* wheel. It will not turn every wheel. The man who would blunder your accounts, lose the key of your office, and put you into a commercial fever, would have done you good and noble work if you had only put him to the work for which God made and fitted him. Every man in Staffordshire was not born to make tiles and pots; every man in Sheffield has not a genius for knives; no. Remember what class the great geniuses of the arts have arisen from,—that Giotto was a common, not an uncommon shepherd boy on the mountains; that our Stanfield was a sailor; our Turner the son of a poor barber. Conceive if Turner had been forced into his father's trade, just as the sons of Egyptian mummy-makers were screwed down all their lives to do nothing but make mummies! Conceive, I say, our great landscape painter, Turner, forced into his father's trade, to spend his life in cutting hair and plaiting pigtails! Why his heart would have been in the highlands; he would have trimmed people's heads like trees, and cut their whiskers into hedgerows! Remember, too, what poor Hogarth was; that Tintoretto was the son of a dyer, Pallajolo a poor apprentice, Andrea del Sarto the son of a tailor, and Correggio as poor as a rat. Perhaps, after all this you will say, "Ah! but this is a commercial country; we must live by our trade,"—

> "Men must work and women must weep,
> There's little to earn, and many to keep."

But I say that your men would work better, and your women would weep less, if you only studied a little more to put people into their right places, and to do the right work; if you would not always be forcing a round man into the square hole, and your square man into a round hole. Look what other nations, equally commercial as you, have done. What do you say to Venice, to Pisa, to Genoa?—little kingdoms of merchants. I know that their political and social life will not bear comparison with ours for a moment. We have had the experience of the past to mould our wisdom to. But see how they turn every man to account, how they put him to grind at his right wheel. How grandly did their commerce flourish, and how grandly did their arts flourish side by side with it! If you admire the energy of their trade, admire too, I pray you, their cultivation of the higher sentiments, tastes, genius of their fellow citizens. They made money, they accumulated wealth. What else were trade and commerce made for? But see how they use this wealth. A public spirit ran through the whole community: noble monuments, religious foundations, schools, hospitals, were their work; they covered their public buildings with frescoes and mosaics, to fill the eyes and hearts of their children's children with the scenes of their country's glories; and they strove together to make their cities beautiful. Now turn to London. Is there any merit in the dulness of its streets? Is there any virtue in the poverty of its architecture? Is there any piety in ugliness? Out with such Puritanism, and do not let us profess as modesty that which is simply meanness. Let us not blink this fact any longer, that people—the commonest, the lowest—are open to the deep and noble impressions of external things: that depressed and sordid minds are capable of elevation by objects of beauty: that cheerful streets, bright open squares, noble monuments, and graceful arts, do content and cheer and animate a people.

But there is a nobler spirit rising rapidly among us. We have brought up our people to value only what was useful. We see the mistake. We see the materialising, brutalizing effect of separating the beautiful from the useful. We had been going directly counter to the whole order and tenor of Creation. We see how God's works are in no single instance useful without being beautiful. Yes, beautiful not only in construction, beautiful not only in aptitude, but beautiful in plain abstract beauty. We are opening our eyes to a new and real wisdom—we are offering to men and women means of occupation and opportunities of expanding what talents they possess in an atmosphere and a manner congenial to them. The capacity for artistic pursuits among our people is being developed with a rapidity as great as it was unexpected. We have always been a people famous for our ingenuity. *Practical* art is but cultivated ingenuity. The demand for artist-workmen is increasing daily. Buildings are rising in all our principal towns demanding skilled hands in all forms of design and execution. Our art-manufacturers are beginning to compete successfully with those of the most artistic nations. Our art-schools are turning out accomplished draughtsmen, and scattering widely a general knowledge of art-principles among hundreds of pupils annually. Let this then be our line. We shall be no more forcing the race-horse to do cart-horse duty. The dock and the counting-house, the labourer, the mechanic, and the accountant, will go on still; only the artist, who put them all out, will be drafted off to do his own and his proper work. If then by such means as all these we can supply the increasing demand at home and abroad for better style and purer design in all our manufactures, our woven fabrics, our china, our glass, our metal work, we shall have made a great gain commercially. If by these means we can improve our cities, clear them of the eyesores of modern vulgarity, and erect monuments more worthy of our times, we shall have gained in the cheerfulness of our people, our own self-respect, and in the honour of our neighbours. If by these means we can supply fresh opportunities of employment, fresh occasions of enjoyment, fresh outlets for the various talents of our mixed race, I think then, ladies and gentlemen, that we *have* founded a claim for art "upon an age of business"—and I trust that we shall make it with success.

"TATTERSALL'S."—THE NEW BUILDINGS, KNIGHTSBRIDGE.

THIS arcum, with its several buildings, is now in a sufficiently advanced state to show the general design of the architect, and give a definite notion of the extensive arrangements which are being made for the increased accommodation and comfort of the Jockey Club, its subscribers, and the general public. The plot of ground upon which it stands is nearly two acres in extent. It is approached from the east by Knightsbridge-green; and the *façade* consists of two square wing-blocks of yellow brick, with stone dressings, pierced with six windows each, and surmounted by a stone parapet with ball terminals. These blocks are divided by a pedimented gateway, carved, and two side entrances. The left-hand block is dedicated to the subscribers; the right to the secretary's offices, business departments, harness-rooms, and the private dwelling of the superintendents. Although this entrance presents a comparatively narrow face, the space within gradually enlarges to a depth of 300 feet, until it increases to more than double the width of the façade. The subscription-room is approached by a side foot entrance, railed off from the centre road so as to preserve to its frequenters the utmost privacy. It is entered by lofty double mahogany doors; is 60 feet long by 30 feet in width; while a clear height of 26 feet 6 inches is obtained. It is lighted by day by two large domes, 18 feet high, covered with lunette lights, each formed of one large piece of glass. A third dome is in the centre of the ceiling, in which an enormous sun-burner is placed to illuminate the whole by night. The principle, which is that of Messrs. Forrest & Son, of Fetter-lane, is peculiar; by a duplex arrangement, the whole of the ceiling being lighted and not thrown into shadow, or half tint, as by most of the ordinary means, these domes are bordered by a *guilloche* pattern, and will be enriched with coloured devices. The walls are divided with the same *guilloche* border, and will probably receive painted decoration. The floor is to be paved in a geometric pattern, with ornamental tiles, as a repeat, and in harmony with the decorations of the ceiling. A raised daïs, about 6 inches in height, surrounds this room, and is skirted or edged with marble, the pattern of the external tile design carried out upon the daïs being repeated, as a border to complete the whole of the floor. Upon this daïs seats will be placed. Under each of the two extreme domes, a large octagon slab of marble will support the desks appropriated to the recording of wagers, the writing of letters, despatches, &c. At the south-west corner is another set of folding-doors which lead into an area of about 70 feet by 40 feet, for open-air betting, somewhat similar to the present "lawn," but paved, in this case, and provided with many conveniences, and amongst the latter will be the telegraph-office. The room is warmed by two open stoves, lined with Minton's tiles, and surrounded by appropriate chimney-pieces, from the marble-works of Warwick House, Regent-street, and surmounted by pier-glasses.

The central entrance leads onwards through a tall iron gateway, over a granite tramroad, for heavy traffic, into the principal public yard, 108 feet long by 60 feet wide, for sales by auction. In the centre of this area will be found the old and familiar Temple of the other premises, at Hyde Park-corner, with its Fox, and the bust of George the Fourth, when young, at the top, and in the north-west corner the pulpit of the auctioneer. The whole of this yard is covered by a roof of Hartley's Patent Glass, 150 feet in length, 102 feet in breadth, and 60 feet high. It is supported on iron girders, and constructed to admit or exclude at pleasure the external air, and thus obtain the greatest amount of ventilation. Surrounding and opening into this enclosure are some of the stalls and loose boxes. Behind the north and west portions of this inner row of stalls, is a wide roadway, upon the sides of which, entirely free, are loose boxes, some of them for entire horses, and mares with their foals: the dimensions of these are 12 feet by 14 feet. These are lighted by a ventilating louvre top, to which all foul air is at once carried without retardation by the form of the sloping roof. The doors are likewise provided with the means of additional light and ventilation. All the divisions of the stalls are boarded up to 5 feet 6 inches in height with elm planking, and have iron cappings. A system of trapping the drains, rendering each independent of its fellow, is likewise observable in these divisions. We need not add that there are numerous corn-rooms, hay-lofts, washing departments, gas and water to each stall, &c.; but we may not pass the manure-pits without saying they are arched over, and that effluvium is carried aloft by shafts. Nor should we omit to state that above the inner square of stables, and equally beneath the protection of the glass roof, is a gallery running the entire length of the oblong square, for the repository of carriages. Under a portion of this gallery the tramway terminates in a turn-table, upon which the carriages rest, and are raised and lowered upon it to or from the upper lever by Easton & Amos's hydraulic apparatus, which is set in motion by simply turning a tap, the machinery being similar in principle to that now used at the monster hotels. Mr. Charles Freeman, of Lincoln's-inn, is the architect; and Messrs. Holland & Hannen are the builders; the clerk of the works being Mr. B. Pyle.

ADOPTION OF THE LOCAL GOVERNMENT ACT AT BOWDON.

ON Saturday afternoon, a meeting of the ratepayers and owners of property in the township of Bowdon was held, to take into consideration a resolution for the adoption of the Local Government Act; the Rev. W. Pollock, the vicar, in the chair.

The chairman said, that in the event of the Act being adopted, and being found to work in an unsatisfactory manner, they had the power of getting rid of it in the same way that they adopted it. He moved the adoption of the Local Government Act, 1858.

Mr. W. E. Lycett said he would briefly explain that the clauses of the Act embraced all powers necessary for the good government of a town, but the only clauses it was imperative on them to adopt were those connected with the health of the inhabitants. They were required to drain and sewer the township; but all the other clauses were merely of a permissive character. Some parts of the township were strictly agricultural, and others partook of the nature of a town.

The closely inhabited parts were in greater need of a complete system of sewerage and drainage than the agricultural portion.

Mr. Alderman Neild said the drainage of the township was in a truly horrible state. There was not one man in twenty in the township who was aware of the danger in which he lived owing to the want of drainage, and it was their duty as Christian men to join to obtain the Act which, if the right men were selected to carry out its provisions, would prove a blessing to the township.

On the motion being put, it was carried by a majority of 17 to 36. The minority was composed principally of women and labourers.

THE DESTITUTE HOUSELESS POOR IN THE METROPOLIS.

THIS is a subject on which we have more than once treated of late; and we are glad to note that the Central Poor-Law Board has taken it up. A minute on the subject has just been issued, in which the Board say:—

"The Poor-Law Board have recently obtained from the several metropolitan unions and parishes returns showing the extent of accommodation provided for destitute vagrants and wayfarers, and the numbers who either received, or who were refused, a night's lodging during the first week of each of the months of January, March, May, and August, 1863.

It appears from those returns that, in the aggregate, accommodation is provided in the several metropolitan workhouses for 997 such persons.

But the accommodation is very unequally distributed.

It is unnecessary to remark that to provide lodging for every applicant indiscriminately in this vast metropolis would encourage vagrancy and imposture of the worst description, and perpetuate all those evils which were pointed out by the Board in their minute of the 4th of August, 1848.

But the obligation upon the guardians and their officers to afford the requisite relief to all really destitute applicants is, nevertheless, imperative, and cannot be evaded.

The next consideration, therefore, which arises is with respect to the manner in which relief can be provided with the least liability to abuse.

In every union, or parish not comprised in a union, there should be, either in the workhouse or elsewhere, proper and sufficient wards, according to the special circumstances of the locality, for destitute wayfarers and wanderers; and means, such as the law contemplates and the Poor-Law Board have frequently suggested, should be provided, with the view of testing the real condition of each applicant.

In unions and parishes where the existing wards and workhouse accommodation may be insufficient, the Board consider that it is the duty of the guardians to make such further arrangements, whether permanent or temporary, as will insure for every wanderer and wayfarer actually destitute, and applying there for food and shelter, sufficient protection and relief for the night.

The Board have decided that the master of a workhouse within the metropolitan district may properly admit, under the above regulations, any person who may be brought there by a police-constable, and described as having been found abroad in a state of destitution, the presumption being that the applicant has been guilty of no offence that would authorise his detention in custody.

It is the duty of the relieving-officer also, in every case of sudden or urgent necessity, to relieve every destitute applicant, either by offering admission to the workhouse, or providing, so far as practicable, all such necessaries as may be actually requisite, without reference to the time of application or to the place where the pauper has last slept.

The Board are desirous of impressing upon Boards of Guardians the importance of giving special directions to the master and matron of workhouses, and also to the porter, that whenever the workhouse or vagrant wards are full, they should be extremely careful to inform all applicants for admission of the residence of the relieving-officer, in order that the requisite relief may be supplied by him.

Printed tickets with the name and residence of the relieving-officer should be provided and delivered in such cases by the master, matron, or porter, to every applicant.

Under the existing law, if properly and judiciously applied, sufficient arrangement may be made for affording relief to every destitute person without incurring the risk of encouraging vagrancy."

The minute, which enters into other details as to the respective duties of the masters, matrons, and porters of workhouses, concludes with a hope that these officers will give practical effect to the minute, which is signed C. P. Villiers, President.

LONDON COW-HOUSES.

A MEETING convened by the London Cow-keepers Association has lately been held, to protest against the refusal of licenses for cow-sheds.

It is very unwillingly that we oppose a class of respectable tradesmen; but the public health is of greater importance than the interests of a small section of the community; and each month's experience shows that the keeping of cows in dense populations is injurious to health and unwholesome for the animals. Moreover, we believe that the removal of the cows to the open country will be found eventually to be of advantage to the proprietors, and that those who are so violent in their opposition will in the end be as well satisfied as the undertakers now are with extramural burial, and those connected with offensive trades with the removal of their quarters. We hope that the magistrates will continue to resist firmly the licensing of cow-sheds in London as much as possible; and we would urge the cow-keepers, instead of offering opposition, to consider how they can with most advantage conform to the necessities of changed conditions, and the peculiarities of the metropolitan population.

REPAIR OF LONDON SEWERS.

At the meeting of the Metropolitan Board of Works, on the 1st inst., the engineer, after reporting the satisfactory progress of the Main Drainage works, presented a report on the works necessary to put all the existing main sewers in efficient working condition, with the estimated cost. He said that the main sewers should be rendered more efficient, and that the total estimated cost of the necessary works amounted to 800,000*l*. There are 165 miles of main sewers, of which 105 miles are on the north side, and 60 miles on the south side of the Thames. About one-fifth of the number are open sewers, and portions of the covered sewers are defective and require extensive re-construction. It will not be necessary to do a portion of the work for some years to come, but the works which should be immediately executed would cost 270,000*l*. As it is probable that the metropolitan area will be extended by the erection of additional houses, the engineer suggested that the entire sum of 800,000*l*. should not be raised at once, because hereafter there would probably be a greater number of buildings chargeable with the expense. He, therefore, proposed that they should raise year by year the sums required to carry on the works.

CURIOUS DISCOVERY IN GLOUCESTER.

It may not be generally known, or it may possibly be forgotten, that in the olden time county families often came into their principal city or town for some of the winter months, where they had their regular town houses, and those who had not, bestowed themselves in lodgings. A visit to the metropolis was then a much more serious business than it is now-a-days. Folks were then content with the amusements the city afforded them: the theatres, the assemblies, parties, &c., were a sufficient attraction; consequently many fine old mansions will be found in our principal towns, now devoted to very different purposes from what they were originally built for. One of these abodes, the town house of the Guises, a mansion of about Queen Anne's period, has of late been occupied as a school of art; and in making some alterations for this purpose the architect observed an unusual and, as it seemed to him, a needless projection of panelling in a small sitting-room, always called "Pope's room." He made up his mind to remove this projection, and in doing so brought to light a fine portrait of Pope. This led him to suspect that the opposite side might also contain some treasure, and on taking it down a painting was revealed, since said to be the "Temptation," by Guido. A man in a rich dress of the time of François Premier is holding up a string of pearls to a woman, who appears to be resisting his entreaties and tempting offer. It is described to us as a remarkably fine painting.

Pope was a frequent visitor in Gloucestershire and the neighbouring county of Hereford. His well-known lines to the "Man of Ross" were written during his sojourn in the neighbourhood. In Gloucestershire he was a guest of the family of the Guises, who had a seat, Highnham Court, not far from the city; another, called Rendcombe, in the same county; and the house in Gloucester alluded to. He was also a not infrequent visitor at the Bathursts', Lydney Park, near Cirencester.

Why these pictures were "walled up" one cannot form any reasonable conjecture: there were no public troubles in Gloucester at that time. Are we justified in attributing their concealment to some anticipated family dispute respecting them, which might have been avoided, perhaps, by thus shutting them out from the world? Fortunately they were in a dry place, on each side of a fire-place, and have received no injury from their long imprisonment.

The pictures are now in the possession of Mr. Baylis, Thames Bank, Fulham.

TRACTION ENGINES.

THE late visitor to the Kensington Museum of Patents will have scarcely failed to observe the famous Wylam Colliery engine, "Puffing Billy," one of the first locomotives ever made. Appropriately appended to this remarkable relic is an ancient document, the perusal of which will show it to be the written opinion of an eminent barrister of bygone times, that locomotive engines could be indicted as a nuisance, from their noise being a cause of disturbance to grazing cattle. A modern improvement in land-transit, of only secondary importance to that of the use of the locomotive on the rail, is the employment of the traction engine on common roads. The introduction of these engines has to meet similar obstacles to those encountered by railways during the first decades of this century. "Traction engines frighten cattle,—traction engines destroy the roads, traction engines take up too much room in the roadways." Similar are the cuckoo cries against every innovation. Trains moving at the rate of fifty miles an hour often run parallel to long lengths of road; thrashing-machines, that have been commonly used for the last fifteen years, take up more room than a traction-engine; the hoofs of horses injure roads to a greater extent than the wheels of carriages. We noticed that a special meeting of the waywardens of the Faversham Highway Board was held on the 28th of December, for the purpose of considering a resolution to the effect that in the opinion of the Board the use of locomotives on the public highways is dangerous and inconvenient to the public; and therefore that an application be made to the Home Secretary, under the powers of the 24th and 25th of Victoria, cap. 70, to prohibit the use of all kinds of locomotives on any highway whatever within the district. On a division, we are glad to say, only two hands were held up for the prohibition, and more than fifty against it.

According to a careful estimate, the cost of removing twelve tons of material a distance of ten miles gives a difference of 1*l*. 8*s*. 8*d*. in favour of steam as compared with horses.

CHURCH-BUILDING NEWS.

Lutterworth (*Leicestershire*). Misterton Church has been restored and re-opened for divine service. The cost of restoration about 2,500*l*.—has been (with the exception of donations from the churchwardens, Messrs. W. Daniels & Henry Bond, of 50*l*. each) borne by the Rev. G. H. Franks, the rector. The pews which were of old form, with the pulpit, desk, and other fittings, have been removed and given place to others of a more modern character, embellished with tracery and carving of a great diversity of pattern, uniform, and in the style of the old ends, a number of which have been restored and replaced. The seats are open. The pulpit and desk, like the seats, are of oak, carved, and placed on either side of the chancel. The floor of the latter is paved with tesselated pavement, especially within the altar, which consists of alabaster and stone. The inner part of the south aisle, with the east end of the nave, has been rebuilt: the chancel arch is new. The

brick buttresses on north side and part of north aisle have been removed, and others raised to correspond with those on the south side. The roofs are boarded, stained, and oiled, and covered with mulled lead throughout. The plastering and masonry of the exterior have been renovated. The soil to the depth of 3 feet around the lower base of the structure has been removed. The porch has been restored and supplied with a pair of gates. The lower part of the south door consists of panels in imitation of folding drapery, whilst the upper parts are filled with tracery and carving. The font, standing in the middle aisle, near the tower, is surmounted by a cover of polished brass. A new organ, by Messrs. Bates & Son, has been erected and placed on the right side of the pulpit. A warming apparatus has been added, the pipes of which are under the floor and covered with an ornamental grating designed by the architect, Mr. W. Smith, of London. The whole of the contracts were taken by Mr. J. Law, builder, Lutterworth.

Birkenhead. — St. Paul's Working Men's Church, Birkenhead, erected on the site of the schools which formerly stood in Argyle-street, at the corner of Market-street, has been consecrated by the bishop of the diocese. The edifice has been named from the circumstance that a service for working men was for a considerable time conducted in the schools, and the sittings on the ground floor of the new building having been appropriated to the working classes free of charge. The site, which cost about 800*l.*, was presented by Mr. Thomas Brassey, who has also given an endowment of 1,000*l.* towards the incumbent's stipend, as well as paid for a parsonage house at Clifton, which is equal to another 1,000*l.* The edifice occupies the north-west corner of Argyle and Market streets. The site of the church is quadrangular; and as the land was so costly, the building comes close to the parapet. Architectural effect has been obtained by recessing the walls to a considerable height from the ground, and by the arrangement of the roofs and tower, which present a broken outline. The plan of the church consists of a nave with one aisle terminating in an engaged tower. The basement consists of two large apartments, suited for Sunday or day schools or public meetings, and by being raised several feet above the level of the adjoining footways uninterrupted light is obtained. The interior of the church, which is treated in the style prevailing during the course of the fourteenth century, is simple. The front to Argyle-street consists of the gable of then ave, in which are three double-light windows under a deeply worked arch and drip mould, over which is a large wheel window, worked in a pattern of the hexalpha or two inverted triangles. Each spandrel formed by the triangles is again finished with quatrefoils. The gable itself terminates in a large stone cross. The ends of the gables where they join the gutters terminate in carved gurgoyles. The tower forms the angle of the two streets. It is slightly removed from the north wall of the nave, and terminates in a pyramidal roof, with a vane of metal work on the top, springing from a group of four lucarnes filled with louvres, over the bell-room. The total height from the footpath to the summit of the tower is about 72 feet. The elevation towards Market-street consists of a large centre gable and a minor gable on either side of it, and filled in with recessed foliated and cusped windows. The underside of the gallery, which runs along the side to Market-street, is lighted by ten cusped openings. The aisle is divided from the nave by four pointed arches, carried on iron pillars, with wrought-iron foliated capitals: these pillars also support the gallery. The communion is at the east end, opposite the entrance from Argyle-street, behind which is a reredos of carved timber, and above it the organ-loft, with a projecting gallery of timber supported on carved brackets. The opening for the organ is an arch in the east wall, supported by stone pillars, with moulded bases and caps. The organ itself has no case, but shows the pipes, illuminated in colours. The benches are open. The pulpit and reading-desk are, like the other fittings, of deal, stained and varnished. The roofs are open-timbered and plastered between the rafters, the woodwork being finished in stain, as the other portions. The altar-rail is of oak, and supported on floriated standards. The vestry is at the south-east angle, under the organ-loft, and fitted up with all the usual requirements. The church, having a lofty basement story throughout, will be dry, and in winter will be artificially warmed. The lighting is by means of coronæ, painted blue, and the prominent parts set off in gold. The cost of the building has been defrayed by public subscription, aided by the result of a bazaar held in Birkenhead Park, which produced over 1,000*l.* The building will accommodate 850 persons; all the sittings on the ground-floor free. Mr. Walter Scott, of Liverpool, and Birkenhead, was the architect, and Mr. John Hogarth, of Rock Ferry, the general contractor. The gas fittings were done by the local commissioners, and the warming arrangements by Mr. W. Bennett, of Liverpool.

Evershot.—The chancel and organ-chamber of Evershot Church have been consecrated, at the cost, principally, of Lord Ilchester, Mrs. W. Jennings, and Mr. A. Martin. The chancel has now been made to accord with the other portions of the church. The work was done under the superintendence of Mr. Shout, architect, Dorchester. Mr. Dendle, of Barnstaple, was the contractor. A stained-glass window for the eastern end of the chancel is being executed by Mr. Hardman, of Birmingham. The chancel is built of Forest marble, contributed from the quarries of Lord Ilchester, at Holt, and the dressings are of Hamhill. The walls in the interior are lined with Ham-stone ashlars. The carvings in stone were by Mr. Grassby, of Powerstock.

Scaldwell (*Northants*).—The parish church has been restored and re-opened. The architect employed was Mr. Slater; and the builder, Mr. W. Parker, of Thrapston. The work has been done under the superintendence of Mr. Thompson, the clerk of the works, under whose supervison the church at Kingsthorpe has recently been restored. When pulling down the chancel south wall portions of an old sedilia were found. The north aisle has been extended westward, and a new chancel south aisle has been built. There is a new arch in the south wall of the chancel, with the sedilia just mentioned and a piscina. There is a new arch opening into the south aisle. The old plastering has been hacked off the walls, and the old masonry has been scraped and cleaned. The jambs of the chancel arch are new, and the arches between the north aisle and the north chapel are also new. The plastering has been removed from the ceiling of the nave, the north aisle and north chapel, and the timbers have been covered with deal, and formed into panels, and stained and varnished. The roofs of the south aisle and chapel are new. The seats are chairs, made with a rest for the hats to be placed on under the chair, and a rest at the back of each chair for the prayer-books and hymn-books of the persons sitting behind in the next row. A kneeling cushion is also suspended on a hook behind each chair.

Sutton-on-the-Hill. — The restoration of the church here, dedicated to St. Michael, having been completed, the edifice has been re-opened by the Bishop of Lichfield. With the exception of the chancel the whole has been entirely rebuilt. It now consists of nave, north aisle, also organ chamber, and vestry, with access from the chancel. Two hundred and thirty sittings are provided. The principal entrance is on the north side, through a porch, facing a small avenue of very old yew trees, leading from the road through the church. The tower and spire together rise to the height of 105 feet, being 25 feet higher than the old one. The seats are open benches. The timber and boarding of the roofs, as well as the woodwork throughout, are stained and varnished. The pulpit, reading-desk, and reredos are all worked in Derbyshire alabaster. The east window is filled with stained glass, by Messrs. Hardman, of Birmingham. The chancel floor is laid with Minton's encaustic tiles—the remainder of the church with blue and white tiles. The building is warmed by one of Gurney's patent stoves. The style of the church is Early Decorated Gothic. The works have been carried out by Messrs. W. H. & J. Slater, builders, from designs and under the direction of Messrs. Giles & Brookhouse, of Derby, architects.

Birkenhead. —St. Paul's Church, Birkenhead, has been consecrated. The church is built on land situate at the corner of Argyle-street and Market-street, purchased by Mr. Brassey, at a cost of about 800*l.*, and presented by him to the working men of Birkenhead: hence it bears the name of St. Paul's Working-man's Church. Mr. Brassey also gave 1,000*l.* as an endowment, in addition to purchasing a house in Clifton-park, valued at another 1,000*l.* as a residence for the incumbent.

Malpas (*Cheshire*).— The Parish Church of Malpas has just undergone some improvement. The gallery at its west end has been swept away, as well as the ringing-loft which stood behind the organ in the tower. The tower arch is now seen in its entire proportions, and a pointed window in the tower, after long obstruction, has once more been recovered to view. The stonework of this window has been renewed. The interior of the tower, besides being entirely restored, has been groined with stone, and the window has been filled with stained glass. The subject depicted is the Ascension. The design was by Mr. H. Clutton, London; and the glass was executed by Mr. O'Connor.

Carlton-in-Snaith (*Yorkshire*). —The new church and burial-ground here have been consecrated. Mr. Atkinson, of York, was the architect of the church; and Mr. Elliott, of Goole, the builder. The edifice occupies an elevated site, and its spire affords a landmark for miles over the flat surrounding country. The east window has four lights, and represents Christ bearing the Cross, His Crucifixion, Resurrection, and Ascension. This window was done by Mr. Wailes, of Newcastle. On the south side of the chancel is another stained glass window put in as a memorial to the Hon. Agnes Stapleton, by her brother, Lord Beaumont. It is a simple figure of St. Agnes. All the other windows have stained glass borders. The font is carved in stone, and was the gift of the late Miss Stapleton. The organ was provided by Messrs. Foster & Andrews, of Hull. It is placed in the north aisle of the church, and is enclosed in a case the front pipes of which are coloured blue and gold. The greater portion of the works are built in a recess in the wall. The total cost of the church, including everything, is about 4,000*l.*, and is defrayed by Lady Beaumont. This includes the organ, which cost 170*l.*

Halesworth.—The restoration and enlargement of this church have been completed. The whole of the north side of the church, which was enlarged during the time that the late Archbishop Whately was rector of the parish, has been entirely pulled down and rebuilt; and a portion of the churchyard at the east end of the old chapel being inclosed within the walls, an entirely new north aisle has thus been formed, and additional sittings obtained. The architectural design is in unison with the other parts of the church. The new roof, of open wood work, is of foreign timber stained, and rests on carved spandrels. These improvements and additions have been made by the voluntary contributions of the parishioners and other personal friends of the late Mr. Andrew Johnston, as a memorial to him. The roof of the north aisle being sadly out of repair, and reported by the architect to be in a very dangerous state, a sum of money was voted by the parish for its reparation. A new roof has also been raised over this part as well as the porch. The entire work, with the exception of the glazing of the windows (which is the gift of the late rector, the Ven. Archdeacon Hankinson), has been performed by tradesmen in the town, the bricklayer's work by Mr. S. Howard; the carpenter's by Mr. J. Smith; the masonry by Mr. R. Balls. The architects were Messrs. Francis, of London.

DISSENTING CHURCH-BUILDING NEWS.

Kensington. — The new Wesleyan chapel, erected at Warwick-gardens, Kensington, has been opened for divine service. The building is in the Geometric style, faced in red brick, with dressings of Bath stone, and is from the designs of Messrs. Lockwood & Mawson, of London and Bradford. The west or principal front has a slated spire at the angle, rising to a height of 120 feet. The principal entrance to the chapel is in the centre of the façade, and consists of a double pointed doorway enclosed in a triangular head, and enriched by pierced tracery and surmounted by a finial. Above the doorway a large five-light window, with traceried head, forms externally, as well as internally, the principal feature in the design. The gable is surmounted and supported at the opposite extremity by carved pinnacles and gilded metal terminals, the side elevations being broken up by windows and buttresses to correspond. Separate entrances to the galleries are also introduced into this façade. Internally the chapel is divided by two rows of pillars into nave and side aisles, the central portion being of considerable height, and steeper in pitch than the side aisles. The roof is of open framed timber work, and, along with the galleries and pew-framing, is stained and varnished. The galleries run round three sides of the chapel, within the line of the pillars. Behind the pulpit

is a recess for the organ, decorated by a moulded arch, springing from slender stone shafts, with carved capitals and corbels. Accommodation is provided for about 1,000 persons. A semi-basement story, with open areas on both sides, is planned beneath the body of the chapel, wherein are provided schools and class-rooms, and a residence for the chapel-keeper. The warming of the chapel and schools has been executed by Messrs. Stuart & Smith, of Sheffield. The building contract has been carried out by Mr. N. Simmonds, of London. Mr. Dilworth acted as clerk of the works. The total cost of the chapel and schools, exclusive of the site, but including the spire and boundary-walls, not arranged for in the original contract, has been about 4,500*l*.

Bilston.—The foundation-stone of a new Congregational chapel at Bilston has been laid. The new chapel is being erected on the site of a former one, the removal of which was necessitated by its dilapidated condition. It will be in the Byzantine style, faced externally with red brick, with bands and dressings of Hollington stone. It will contain accommodation for about 600 adults, and will have a lecture-room, 52 feet by 37 feet, in the basement. The cost of the entire building will be about 1,150*l*. The architect is Mr. Bidlake, of Wolverhampton; and the builder, Mr. Hickman, of Bilston.

Selby.—The new organ for the Wesleyan chapel, Selby, has been inaugurated. The instrument is inclosed in a case of Grecian design, having semicircular towers, with a centre supported by Corinthian columns with carved capitals and painted cream-colour and gold. In this organ a new system of applying iron rollers to the finger movements is introduced.

Leek (*Staffordshire*). The new Congregational church and schools, which stand at the junction of Derby-street and Russell-street, have been formally opened. The style is Decorated Gothic. The materials used in the erection are Ladder-edge, Hollington, and Bank House stone. The Derby-street elevation comprises a tower and spire (120 feet high) on the one side, and a porch on the other, forming the entrance to the church. A principal feature in this elevation is a large five-light window, filled with tracery in the head. This window is glazed in geometric patterns of stained glass, in lead quarries, by Mr. Wailes, of Newcastle-upon-Tyne. The other windows of the church are also by Mr. Wailes, but have stained borders only, excepting the tracery, which is filled with stained glass in geometric patterns. There are several other windows of minor interest. The side elevations are divided by buttresses into six bays, with a two-light traceried window in each. Under these, in what may be called the basement, are three-light windows, with tracery, lighting the school-room under the church. The floor of the church is raised about 4 feet 6 inches above the Derby-street level, and this, with the inclination or declivity of Russell-street, has enabled the architect to obtain a well-lighted room beneath the church, 12 feet 6 inches high in the clear, entered by a trifling descent from the street level at the lower end of the building. This room is intended for a boys' Sunday-school and a general assembly-room, and will accommodate 500 or 600 persons. The porch and tower entrances have been brought nearly to the line of the street, and to avoid the inconvenience of entering the church direct from the street, the entrances are planned laterally from an open area between the porch and tower. A corridor and lobby, with panelled and glazed screen, with tracery, separate the church and entrances. The entire length of the church, within the walls, is 72 feet, and the width 34 feet; but, including an apse for organ and choir, the entire interior length is 85 feet. The apse is separated from the church by a high pointed and moulded arch, springing from carved stone corbels with shafts; and the ceiling is groined, with moulded ribs and arches, springing from moulded corbels. The hammer-beam roof of the church, the curved ribs of which, with tracery on the under-side, spring from moulded and carved stone corbels, covers the entire width in one span, and the spandrels of the same are filled with perforated tracery. The ceiling, slightly curvilinear in form, is brought down to the level of an elevated straining-beam, and is formed into panels by moulded ribs. The principal constructive timbers of the roof are exposed, and the ironwork is painted in colours. A moulded stringcourse runs round the walls in the interior. The pulpit, which is of oak, with carved enrichments and traceried panels, stands on one side of the choir-opening. In the apse will be placed a new organ, designed in keeping with the style of the church. The whole of the benches are open, of uniform character. The walls all round at the ends of the seats, are cased with deal, finished above the top of the seats with perforated tracery. A gallery, at one end of the church only, is approached by a stone staircase in the tower, but the general arrangements are such as to admit of side galleries, if required. At the rear of, and attached to the church, is the girls' school building, comprising, on the ground-floor, corridor, class-rooms, and Sunday infant-school; and, on the upper floor, a girls' school, extending over the whole. Between the schools and the church, over the turret stairs to the apse, is a spire, 66 feet high, with ornamental iron terminal, and covered with slate in coloured bands. The whole of the interior woodwork is stained and varnished. The church is lighted by coronæ, suspended from the roof. The spires are made available as outlets for vitiated air. The buildings are warmed by the apparatus of Messrs. Haden & Sons, of Trowbridge. Mr. Sugden, of Leek, was the architect, and under his direction and superintendence the works have been carried out by the following contractors, viz.:—The stonemasons' and bricklayers' work, by Mr. J. Naden; the carpenters' and joiners' work of the chapel, by Messrs. Nixon, and of the schools, by Messrs. Hudson; and the plumber, glazier, and painters' work, by Mr. Howard, all of Leek.

STAINED GLASS.

Pembury Church (*Kent*).—An east window, of stained glass, the gift of the Hon. Mrs. Shaw Stuart, has been put up in this church. The window was made by Mr. Gibbs, of London. It is divided into four compartments, and each compartment contains a good-sized picture. The subject is Martha and Mary; and accordingly, in the first light, there is "The anointing of our Lord's Feet by Mary." The two centre lights are, "Jesus weeping at the Tomb of Lazarus," and "Jesus raising Lazarus from the dead," whilst the fourth light shows "Mary sitting at the Feet of Jesus." At the foot of the window are eight angels, two in each light, holding texts.

Claines Church (*Worcestershire*). — In this church, at the east end of the north aisle of the chancel, some stained glass, by Messrs. Clayton & Bell, is inserted in a three-light Perpendicular window, and contains in the centre light "St. John writing on a Book," and a scroll running across the window with the inscription "Blessed are the dead which die in the Lord; even so saith the Spirit, for they rest from their labours." In the left-hand light is St. John leading Mary, the mother of the Saviour, from the cross; and on the right, St. John and St. Peter at the sepulchre. Above are angels, with scrolls, and the inscription, "He is not here; He is risen." Between the mullions of the head tracery are the sacred monogram, the Alpha and Omega, &c. This window was erected in memory of a husband by his widow.

Barbourne.—At St. Stephen's Church, Barbourne, the west window has recently been filled with stained glass, designed and executed by Mr. Preedy. The four lights contain six subjects, in two tiers, representing events in the life of St. Stephen: his Ordination as a Deacon; Speaking before the Council; Distributing Alms to the Widows; Laying his Clothes at the Feet of Saul; his Stoning; and being carried to his Burial. The second and fifth subjects occupy the two centre lights, the others being confined to the width of one light. The large circle in the traceried head of the window contains a half-length standing figure of Our Lord, His right hand raised in benediction; while each of the two smaller circles has the figure of an angel.

Salwarpe Church (*Worcestershire*). — In Salwarpe Church, two stained-glass windows have been recently put into the chancel. Both have been executed by Messrs. J. Hardman & Co., of Birmingham. The one which is in the north side of the chancel is a memorial window to the Rev. J. V. Vashon, and Mary Anne his wife, afterwards Mrs. Hastings, and the subjects are, "The Good Shepherd," and "Our Lord bearing His Cross." The other is the east window, consisting of four lights, and is a memorial of the Rev. Robert Douglas, Frances his wife, and their eldest son, the Rev. Henry Douglas. The subjects are, "The Crucifixion," and "The Descent from the Cross."

Kildwick Church, Craven, Yorkshire.—A stained-glass memorial window has just been erected in this church by Mr. Thomas Bairstow, Royd Hill, Sutton. The window is a three-light. In the left-hand one is represented "Elijah restoring the Widow's Son;" in the centre is Christ as the Good Shepherd; in the right-hand light is "Timothy receiving Instruction from his Mother and Grandmother." The subjects are surmounted by foliated canopies. The spaces above are filled in with diaper-work. Messrs. Ward & Hughes were the artists.

PROVINCIAL NEWS.

Faversham (*Kent*).—The new almshouses at Faversham, recently erected on the site of the town Orchard, are now completed. They comprise thirty almshouses, with a chapel in the centre. The frontage towards Ospringe-road is about 470 feet. The return wings respectively facing Tanner-street and South House have a depth of 120 feet. The site, comprising about 2½ acres, is surrounded by a fence, composed of brick, stone, and iron. Each almshouse contains an entrance passage, a living-room, kitchen, pantry, and out-buildings. On the upper floor are two bedrooms, closet, &c. In the rear of the houses are small yards, one yard being common to two houses, and separated from the others by the out-buildings attached to each almshouse. The arcade, or covered way, which continues throughout the whole line of frontage, is supported by cast-iron columns, each having a carved stone cap, annulet of iron, and moulded stone base. The floor of covered way is paved with red and blue Staffordshire tiles, laid to a pattern, the roof being covered with slates, the timber stained and varnished, and plastered between. At the extreme end of the covered ways in the main elevation, facing Ospringe-road, stand the water towers: in each tower is a cistern, from which the whole of the houses are supplied. These towers are furnished with a spire, constructed with timber, and covered with tiles, terminating with wrought-iron ornamental finials. Exteriorly the buildings are of red brick, relieved by white brick bands. All the window arches, and the dressings generally, are of Bath stone, from the Box quarries. The roofs generally are covered with plain tiles, and are of high pitch. In the centre of the structure, and conspicuous by its height and general appearance, stands the chapel, built of stone. The entrances to it are on the north and south sides; and, beneath, are octagonal turrets, rising 80 feet in height. The covered ways lead direct into the chapel, so that the inmates may attend Divine service without inconvenience in case of inclement weather. The dimensions of the chapel are as follows: total length, from east to west, 80 feet; width, 24 feet; width of each aisle, 8 feet; the height to wall plate, 30 feet; and total height to ridge of roof, 54 feet. The chapel is apsidal, the apse being pentagonal. The style selected has been that which prevailed during the latter part of the thirteenth and beginning of the fourteenth century.

Dudley.—The new Mechanics' Institution has been formally opened by Earl Dudley, in the presence of a crowded and influential assembly, and the occasion was observed as one of general rejoicing. The structure is from designs by Mr. W. Bourne, of Dudley, architect; and the builder was Mr. Millward, of the same place. It is of Italian palatial architecture, and is fronted with stone. It contains a museum, minor lecture-rooms, a class-room, a library, a large public hall, and other accommodation.

Bristol.—At a recent meeting of the town-council, Mr. Warren proposed a resolution to the effect that it was desirable to cover the quadrangle of the Corn Exchange. Plans, he said, for the alteration were prepared some time since; one for merely covering over the area, and the other for including the whole of the building, and making a spacious hall capable of holding 3,000 persons. He wished the plan to be submitted to the finance committee, who should bring up the report. A long discussion took place upon the subject, and ultimately Mr. Warren's motion was altered, referring the matter to the finance committee, requesting them to examine the existing plans, inquire into the matter, and report to the council.

Cottingley.—For two or three years past a number of gentlemen in the neighbourhood of Cottingley have been anxious for the erection of a building at this village, for the various purposes of a day and Sunday school, a lecture-room, and a place of worship for all sections of

the Protestant church. The foundation-stone of such a building has just been made by Mr. W. E. Glyde, of Saltaire. The ground on which it is to be raised has been given to the inhabitants by Mr. W. Ferrand, M.P. It will be erected in the Italian style of architecture, from designs by Mr. S. Jackson, of Bradford. On the basement floor there will be a school-room, and over that a large lecture-hall. At each side of the entrance will be a class-room. The lecture-room will be furnished with a gallery, which will extend over the entrance and the class-rooms. An apparatus will be provided for heating purposes. The building will cost over 1,000*l.*, and towards that sum about 850*l.* have already been promised.

WATER IN LONDON AND GLASGOW.

YOUR correspondent "Anti-Monopoly," in a late number, whilst advocating the supply of water to London by gravitation, gives some interesting information concerning the aqueducts of ancient Rome, and also as to the mode of supply recently carried out in several cities in Europe and America.

As an additional argument, he might have cited the case of the Glasgow Corporation water supply, which will bear comparison with any similar work.

It is unnecessary to give many details of this work, as it has been described in your pages. I may, however, repeat, that the storage is about 160,000,000 of cubic feet, chiefly obtained by raising Loch Katrine and Loch Vennachar. The aqueduct from Loch Katrine to the receiving reservoir, is about 27 miles in length, which for upwards of half this distance consists of a series of tunnels, cut through the hardest description of rocks. From the receiving reservoir the water is conveyed to the city, by means of several lines of pipes, each 3 feet diameter. The aqueduct is capable of delivering 50,000,000 gallons per day, when the wants of the city shall require this quantity.

The cost of the works has been about 750,000*l.*, but including the purchase of the works of the former water company, water privileges, and other expenses, the total cost to the city has been upwards of 1,500,000*l.* If London were to expend ten times this sum in obtaining a similar boon, the sacrifice would not be greater than in the case of Glasgow, regard being had as well to the relative wealth as to the population.

SCOTIA.

ARCHITECTS IN STOCKPORT.

SIR,—A few weeks ago a "Stocktonian" complained in your pages of their great want of an architect. I think, however, the "Stockportonians" feel the want in a still greater degree. The only representatives of the architectural profession in Stockport, a town of 60,000 inhabitants, are a firm who advertise themselves as "Builders, Timber-dealers, Surveyors, Valuers, and Architects," and their place of business is a saw mill.

Surely there is an opening here for an architect. During the last three years there have been four churches erected, and others restored, and more than a hundred houses (I mean good houses, not cottages).

A STOCKPORT COTTON SPINNER.

ACOUSTIC POTTERY.

YOUR correspondent, "Mr. F. G. Stephens," is quite in error in supposing that the chambers and vases at St. Peter's Mancroft Church, Norwich, are of the period of Sir Thomas Brown. He died in 1682, and his work called "Hydriotaphia; or, a Discourse on Urn Burial," was published in 1658. Now, there were very clear indications that the walls of the chambers into which the vases were built were of the same date as the church, which was finished and consecrated in 1455, or 200 years before Sir Thomas Brown wrote his book; and the stalls and flooring which covered the chambers (two or three of the former are still existing) were certainly of the middle of the fifteenth century. Besides, why should the arms appear again, precisely similarly arranged, at St. Peter's Mountergate, with which the worthy knight, so far as is known, had no connexion?

I would take this opportunity of correcting an error in my last. Instead of the chambers being about 1 foot wide by 1 foot 6 inches deep, I should have written, about 2 feet wide and 2 feet 6 inches deep.

MARLWAINE PHIPSON.

PROCEEDINGS UNDER THE METROPOLITAN BUILDING ACT.

Open Shed Buildings. At the Wandsworth Police Court, on the 29th ult., Mr. Norris, junior, builder, of Tooting, appeared before Mr. Ingham to a summons taken out by the District Surveyor of Wandsworth, Mr. Hiscocks, for non-compliance with the rules of the said Act, viz., 1st schedule, "That every building shall be enclosed with walls constructed of brick, stone, or other hard and incombustible substances;" and section 27, rule 1, "Every building shall be separated by external or party walls from any adjoining building."

The defendant had erected on the Christ Church estate, at Tooting, an open shed, about 70 feet long, 9 feet high, and 7 feet wide, extending over certain detached buildings recently erected by him, and abutting on wooden buildings of an adjoining owner, Mr. Hooper, and he contended that the shed complained of was not a building.

Mr. Ingham observed that there was no definition of the word building in the Act

The District Surveyor contended that "All new buildings," section 7, included all buildings of what nature soever, and that the word building was no doubt left undefined to avoid difficulties that might otherwise arise in attempting a definition; and that if this was not a building, then the defendant could, if he had so chosen, have covered the roof with thatch instead of tiling, and then it would be contrary to section 19, as to roof coverings: this, he thought, proved that it was a building.

Mr. Ingham then urged the necessity of seeing that the rules of the Act should be carried out. Mr. Hiscocks frequently brought before him difficult points for decision; but in this case there could not be any doubt as to what should be done; and he therefore ordered that the work should be amended or demolished: the costs to be paid by the defendant.

Books Received.

The Ghost! as produced in the Spectre Drama. By HENRY DIRCKS, C.E., the Inventor. London: Spon, Bucklersbury. 1863.

ALTHOUGH this volume gives an account of the "Dircksian Phantasmagoria," growing out of the paper read to the British Association for Science in 1858, with a description of the patented arrangements, and suggests fresh subjects, the real object of it is obviously to show that the inventor has been very badly treated by the directors of the Polytechnic Institution. What he complains of is, and it certainly seems reasonable enough, that having given them his invention *free*, desiring only a full and fair acknowledgment of his name as the inventor, he has had the greatest difficulty in forcing them to spread abroad his name in connexion with it. This, if correct, was surely most ungenerous. The course is apparently not persisted in, as we perceive his name now in all their advertisements, and we have no doubt the directors are busily considering the best shape in which they can present to Mr. Dircks some magnificent acknowledgment of the great service his invention has been to them.

VARIORUM.

The Railway News and Joint-Stock Journal, of which the first number has been published, proposes to take higher literary ground than is at present occupied by the Railway Press; whether it can do so or not remains to be seen. Amongst the articles in the first number is one opening the question of "Railway Rating," an important matter. It has latterly been stated elsewhere that the London and Brighton Railway, which is largely a suburban railway, and which also contributes largely to the rates in Brighton, where the taxes are heavy, pays 155*l.* 15s. per mile per annum. The North London pays 281*l.* 9s., a very heavy rateal, but nothing to equal that of the Blackwall line, for which the company pays in rates and taxes not less than 4,073*l.* per annum, or 815*l.* 12s. for each mile of its length. The writer of the article in the *Railway News* says the total amount of local rates and taxes paid by the railway companies of the United Kingdom was in 1862, 596,410*l.*, or at the rate of about 4¼ *per cent.* on the gross traffic-receipts. The London and North-Western Company alone pay upwards of 85,000*l.* a year.——A newspaper devoted to telegraphy has been started under the title of the *Telegraphic Journal*, a weekly record of electrical progress.——*Fraser's Magazine* contains an article on "The Royal Academy Commission," the writer of which demurs to the continuance of the Academy "in the exercise of its three several functions, as dispenser of honours, art teacher, and exhibition proprietor," as inconsistent with the true interests and becoming position of art in this country. He would restrict the Academy to the first, and would have the means of exhibition and fine art-schools established and maintained by the State.——*The Social Science Review, and Journal of the Sciences*, now takes a book shape, and is edited by Dr. B. W. Richardson. It will be issued monthly. The editor commences an interesting subject, "The Diseases of Overworked Men."——The January number of the *Churchmen's Family Magazine* contains some pleasant reading and illustrations.——Mr. E. Stanford (Charing-cross) is re-issuing the "Useful Knowledge Society's Family Atlas," with all the latest corrections and additions. The maps are beautifully printed on good paper, and have a "thumb index" to facilitate reference to them. The publication will include 80 maps in 20 half-crown parts.——Under the title of "The Brown Book," Saunders & Otley have issued the first half-yearly specimen of a guide intended to supply several wants: to show the nearest post-office, telegraph-office, fire-engine, cab-stand, and so forth, to any given street; list of lodgings, the various societies, theatres, &c., &c. Why are the artistical exhibitions and societies left out?——The *Art Journal*, edited by its originator, Mr. S. C. Hall, commences the new year with renewed vigour, and promises a number of engravings from the works of Turner and from paintings by E. M. Ward, O'Neill, Frith, F. R. Pickersgill, Dyckmans, and others. Mr. Dafforne will continue his notices of the works of British artists, and Mr. Thomas Wright, Mr. I. B. Pyne, Mr. Llewellynn Jewitt, and other writers, will contribute articles. The January number is a good one.

Miscellanea.

ARCHITECTURE AT THE ROYAL ACADEMY.—Professor Smirke delivered the first lecture of his course on Thursday evening. We shall return to it. The second lecture will be given on the 14th inst.

QUARTERS FOR MARRIED SOLDIERS AT CANTERBURY.—The new quarters for married soldiers at the Canterbury Barracks, which have been erected at a cost of nearly 10,000*l.*, including extras, are now ready for occupation. They have been built by Messrs. Cozens Brothers, and their erection has occupied about twelve months. There are four blocks of residences, each containing twenty rooms, ten on the basement and ten on the upper story. The entrances to the latter are by verandahs with open iron staircases at the ends. Each room is about 18 feet by 16 feet, and is fitted up with oven and boiler, cupboard and shelves, gas, &c.

GREAT IMPROVEMENTS AT CARDIFF. — The guardians of the Marquis of Bute are about to lay out nearly two millions sterling in making new docks at Cardiff. The marquis already owns two docks there, each about a mile long, and vessels are lying in them six and eight deep. He is lord of the manor of the country round Cardiff. In his father's time this property was valueless,—it would not even feed sheep; but steam coal mines were discovered there, which have proved to be of enormous value. The royalty of these mines and the dock revenue bring in a princely income. The marquis's waterside property was given to his father by the town for the purpose of making docks.

CLAIM AGAINST THE METROPOLITAN RAILWAY COMPANY.—At the Sheriffs' Court a claim for compensation was made in the case of Madame André *v.* The Metropolitan Railway Company, for 4,790*l.*, for the loss of the business of a chiropodist, in the Marylebone-road, through the obstructions caused by the works of the Underground Railway. According to the evidence of the claimant, she made 15*l.* a week, in the season of four months, by corn-cutting, and averaged 8*l.* a week for the remainder of the year. For two years and more the works of the company had obstructed her business, and prevented her carriage people coming to her house. She, in consequence, became bankrupt. After some proceedings, the jury assessed the damages at 850*l.*

THE MANUFACTURING DISTRICTS.—At the last meeting of the Relief Committee, in the Town-hall, Manchester, Mr. Rawlinson read a statement, in which he said,—"There are at present forty-nine (places) cities, towns, and districts, in which the Public Works Act is in operation, representing upwards of 1,000,000 of population. The Public Works Act became law at the end of July, 1863. My first report to the Poor-law Board, on works, was made on the 13th August, 1863 (Blackburn), for 78,300*l.* Since that time I have examined sites of proposed works, and have prepared and forwarded some seventy reports, recommending estimates for sanction amounting to nearly 1,200,000*l.* The Poor-law Board have prepared and issued fifty-one orders, for sums amounting in the whole to about 620,000*l.*; first and second instalments, amounting to 265,306*l.*, having been sanctioned; other orders are in progress. There are at present about 2,000 men at work under the Public Works Act; but this number is increasing. The action of the Public Works Act is in every respect permissive. Its adoption and its execution depend on the local authorities. The works proposed to be executed must be of a beneficial character."

PROPOSED PURCHASE OF THE "GREAT EASTERN."—The arrangements for the purchase of the Big Ship by lottery are going on. There are to be 240,000 subscriptions of 1*l.* each, 200 of which will gain prizes of shares in the ship ranging from 40,000*l.* to 19,500*l.* each. The drawing is to take place in Frankfort, should nothing adverse occur.

THE PROPOSED ALBERT WING AT THE BATH UNITED HOSPITAL.—A deputation from the Albert Memorial Committee has waited upon the Borough Property Committee to request them to surrender the fee simple of the land belonging to the corporation, upon which it is proposed to erect the new wing, offering the sum of 2,000*l.* for the same. The committee expressed their hearty concurrence with the wishes of the deputation, and unanimously passed a resolution to submit the matter to the town council, at the same time asking the consent of the Lords of the Treasury to the transaction, without the sanction of whom they cannot act.

DINING-HALL FOR THE LIVERPOOL DOCK WORKMEN.—Great inconvenience having been experienced by the workmen employed by the Dock Board, mostly living at such distances from their work that they cannot get comfortable dinners, the Board has established a dining-hall, where well-cooked dinners will be provided at the lowest possible charges, and the men will enjoy a cleanliness and comfort which will be new to many. The hall, which is rectangular in shape, has been built on some spare land adjoining the dockyard and fronting the river. It is divided into an upper and a lower compartment, each of which is 100 feet long, 15½ feet wide, and about 10 feet in height. It is well lighted by windows facing the river, and is supplied with everything that can enhance the comfort of the workmen. The management of the hall will be thrown as much as possible into the hands of the men themselves. The rooms will accommodate 500. The men bring their own provisions, and cook and eat them in the hall.

ARTESIAN WELL AT SHEERNESS. Water has been found in boring the new well of the Board of Health at the depth of 310 feet below the surface. At seven o'clock a.m., on the 22nd ult., the water had risen 237 feet in the well, or to within 103 feet of the surface. During that day (Tuesday) it rose another 17 feet. At noon on Wednesday there was found to be 272 feet of water in the well, and it was still rising. The water-bearing strata now reached are of the same nature as those found in the dockyard well at 352 feet below the surface, and were there found to be 15 feet thick. The yield of water, however, was not thought to be sufficient; and it is understood that the Admiralty authorities have entered into an agreement with Mr. Tilley to sink their well deeper. The contract of Mr. Tilley with the Board of Health requires him yet to bore 40 feet, should it be found necessary. The yield of water for the first 237 feet was at the rate of 2,290 gallons per hour; but later in the week, with a head of 237 feet on the spring, it yielded water at the rate of 295 gallons per hour.

THE DWELLINGS OF THE POOR.—A meeting of gentlemen interested in the formation of a company or association for improving the dwellings of the poor in Norwich, has been held at the Guildhall in that city; the mayor in the chair. After some preliminary discussion, in the course of which several speakers expressed their opinion that the object of the proposed society should be to buy up and improve old dilapidated and ruinous dwellings, the Bishop of Norwich said the first practical step would be to form an association and define the object it had in view, what amount of capital would be required, and the amount of shares in which that capital should be taken. He thought that the object of the association should be threefold; viz., the improvement of the dwellings of the better class of the poor, then the improvement of the dwellings of the very poor, and the establishment of lodgings for single men. He moved that a company be formed for the improvement of the dwellings of the labouring classes in Norwich and its vicinity. Some discussion ensued as to the desirability of calling the proposed body a "company" or an "association," but a decision was eventually arrived at in favour of the former designation. The resolution of the Bishop was carried unanimously. Sir J. P. Boileau remarked that the object of the company was experimental: if it were successful, more speculative persons would take the matter up commercially.

GROCERS' ASSISTANTS.—A new Friendly Society has been started, to meet the wants of that numerous body the grocers' assistants, and for the mutual advantage of employer and employed. The movement is well supported by the leading houses in the trade.

BRONZING. The Chinese are said to bronze their copper vessels by taking 2 ounces of verdigris, 2 ounces of cinnamon, 5 ounces of sal-ammoniac, and 5 ounces of alum, all in powder, making these into a paste with vinegar, and spreading it upon the surface of the article, which should be previously brightened. The article is then held over a fire till it becomes uniformly heated; then it is cooled, washed and dried. It thus receives one, two, or several of such coats until the desired colour is obtained. An addition of sulphate of copper to the mixture makes the colour chestnut-brown.

RECIPE FOR A HAPPY HOME.—We have somewhere met with this assertion, which seems worth repeating:—"Six things are requisite to create a happy home. Integrity must be the architect, and tidiness the upholsterer. It must be warmed by affection, lightened up with cheerfulness, and industry must be the ventilator, renewing the atmosphere and bringing in fresh salubrity day by day; while over all, as a protecting canopy and glory, nothing will suffice except the blessing of God."

THE MARSHLAND SMELTH AND FEN DRAINAGE. The works of diverting the course of the Marshland Smeeth and Fen drain, and erecting a new outfall sluice, are being pushed on rapidly by the contractor, Mr. W. D. Harding. Although the works have been but recently commenced, the progress made is very apparent. The present position of the works is somewhat as follows: The dam constructed after much time and at great expense by Mr. Page at the mouth of the drain has been all removed, or nearly so, and a portion of the old sluicework also. A few yards higher up the drain, Mr. Harding constructed, an earth dam, which has been flanked with banks to render the country safe from the sea water. The roadway across the drain over the old sluice will be soon completed, and a permanent blocking up of the old mouth of the drain be thus effected. The excavation for the new course of the drain has already been cut to the depth of some feet

THE FEVER DENS OF ISLINGTON.—The owner of premises in Brand-street, Islington, was summoned before Mr. D'Eyncourt, at the instance of the vestry of St. Mary, Islington, to answer a complaint under the Nuisances Removal Act, to the effect, that the said premises were in such a state as to be a nuisance and injurious to health, and unfit for human habitation. Mr. Layton, the vestry clerk, stated that the defendant was the owner of four small washhouses, cottages the defendant called them, which were occupied as dwellings. When they were built they were never intended for human habitation. These places were in a filthy condition, and improperly ventilated, having no back windows. There was only one closet for the use of the occupants of the eight houses. The yard was also unpaved; there was no dust-bin, and two of the waterbutts were rotten. In addition the places were very damp, and were quite unfit for human habitations. One of the cottages was occupied by four persons, and as the entire area of each house was only 708 feet 9 inches, there was only 177 feet of air to each person. The defendant said the houses were his, and no one could do more than he did to keep them clean, for every morning he threw water down the drains. As for the houses being damp, that could not be, as he had composed them. Dr. Ballard, medical officer of health, said the places were unfit for families to reside in, and there was no through ventilation: they were in a filthy condition. Mr. D'Eyncourt made an order for the houses to be properly ventilated, and also that other work required should be done. An owner of premises in Graham-street was summoned for a like offence. Mr. Layton said that the state of one of the houses would show pretty nearly the state of the whole of the others. At No. 3, the house was in a bad state of repair, and very filthy, the paving also being defective: the drain, owing to its being made of brick, and not having a proper fall, was offensive. There were no dust-bins to any of the houses, and the yards were very dirty. The waterbutt was rotten, and not covered, and had no tap or ball-cock, and the tenants had to dip the water. Mr. D'Eyncourt made an order for the immediate doing of the necessary work, and ordered costs.

THE LATE MR. J. J. SCOLES, ARCHITECT.—We notice, with regret, the death of Mr. Scoles, on the 29th ultimo, at his residence, Crofton Lodge, Hammersmith. On another occasion we will give some account of his professional career.

LIVERPOOL ARCHITECTURAL SOCIETY. — On Wednesday night, the 30th ult., the fortnightly meeting of this society was held at the Royal Institution, Mr. W. H. Weightman, the president, in the chair. Mr. Frank Howard read a paper on "Fresco-Painting and its Substitutes."

COCKERMOUTH AND THE LOCAL GOVERNMENT ACT. An order, signed by Sir George Grey, has appeared in the *London Gazette*, ordering that the Local Government Act, 1858, shall henceforth have the force of law within the township. A vestry meeting will decide as to what number of members shall constitute the local board.

THE CANADIAN OIL-WELLS.—It appears that from most of the principal wells in Canada the oil has ceased flowing and cannot be obtained without machinery by the expensive process of pumping. In Pennsylvania the cost of pumping has been encountered, but the oil obtained there is much superior in quality to that of Canada.

THE ARCHITECTURAL MUSEUM: COLOUR PRIZES. It may be useful to mention that this competition remains open until March 1st, and that casts for coloration may now be had by letter to the honorary secretary, enclosing a post-office order on Charing-cross for 5*s.*, or for 7*s.* if case and packing be required. The subject selected is the "Miserere," which obtained the second prize in the recent wood-carving competition, "The Gleaners," which has already received our commendation. The prizes offered are 5*l.* 5*s.* and 3*l.* 3*s.*, with extra prizes for deserving specimens.

THE COPPER TRADE.—Copper is advancing in price, and the demand for it is increasing in a greater ratio than the supply. A company, of which Mr. Pender, M.P., is one of the directors, has been formed to increase the supply by undertaking to buy and to work the Panuncillo Mine, in the province of Ovalle, in Chili. This district, it is said, contains some of the richest mines in South America; and the Panuncillo alone produces more ore than any mine in the world, not excepting the Devon Great Consols. In the two principal workings the lode of clean ore is 60 feet wide, and worked horizontally and cheaply. The extent of the lodes is practically inexhaustible. The capital of the company is 200,000*l.*, in 4*l.* shares.

VENTILATING LONG LEVELS. In the Latrobe tunnel, in Virginia city, Nevada territory, a mode of ventilation, said to have been in use amongst the ancient Germans, has been introduced. It is reported that when the tunnel was in only a few hundred feet, an air-shaft had to be sunk, and at about the same distance further another was put in: at this point the bottom of the shaft was closed up, except a hole about 10 inches square, through which passed a wooden box flume of that size, by which the air is conducted into the further extremity of the tunnel. The draft is so strong that no other shaft has yet become necessary. The tunnel is now about 2,600 feet. The Santa Fe Mine has adopted a similar system of ventilation.

THE NEW GYMNASIUM AT CHATHAM. — This building is now completed. It is said to be the most complete of the eight which have been constructed for Government by Mr. A. Maclaren, of Oxford. The main structure consists of two large divisions, each in the present instance 100 feet in length by 50 feet in breadth. The primary object of this form of building is to insure perfect supervision and inspection, every portion of either part being overlooked from the other. The first division consists of the school of arms. The second division includes the gymnasium proper, and is appropriated for every variety of exercises with the fixed apparatus comprised in the system. In this department the floor is formed of a soft elastic substance, so that from whatever height a fall should occur, comparatively little injury would be the result. A lofty lantern tower which surmounts one portion of the building has been appropriated for the apparatus for high climbing, and these being placed vertically, are closely grouped together. The lower end of the school of arms terminates in a series of rooms, including the officers' fencing-room, instructors' rooms, dressing-rooms, &c. The officers' fencing-school is itself the largest building of the kind yet erected, being 50 feet in length by 25 feet in breadth. Ample arrangements are made for light and ventilation.

ANCIENT RELICS FOUND NEAR NEWSTEAD ABBEY.—There have just been discovered some very interesting relics near to Newstead Abbey, Notts (the seat of the late Lord Byron). They were found by labourers employed in making a new carriage-drive in the park. The relics consist of a portion of a statue, representing a warrior in the time of Henry III., as exhibited in the chain mail of that period; an ancient freestone floor, probably part of an ambulatory; a great quantity of window tracing of the fourteenth century, and some small jamb shafts of the thirteenth century.

FROM SCOTLAND.—The Trinity (United Presbyterian) Church was opened on the 29th of December. The edifice is built after the designs of Mr. F. T. Pilkinton, of Edinburgh, architect. It possesses many features; among others, the absence of mouldings, which are supplied by carvings of natural foliage, arranged by Mr. Henry Weekes, of London. There are two stained-glass windows by Messrs. Field & Allen. The plan of the building is fan-shaped, and it is seated for 800. The front view would be very monotonous without the breaking up, or relief, given in colour. Blue limestone, with white sandstone and red occasionally, are the chief materials. The estimated cost was 3,500*l.*: actual cost was 4,600*l.*, owing to a bad foundation. The builder was Mr. H. Wright, of Irvine. The building has an open timber roof, supported upon four columns carved with emblems of Virtue, Baptism, Marriage, and Eternity.——The New National Bank Building is now fully completed, from the design of the architect, Mr. David Macgibbon, of Edinburgh.

ACCIDENTS.—A warehouse at Wisbeach, used for many years for bar iron, being loaded with nearly 800 quarters of barley, gave way and fell out into an adjoining yard, injuring a man, but not seriously.——An inquest has been held on the body of a workman, who fell from a scaffold at the new hotel buildings, Brighton. A fellow-workman stated that deceased was a bricklayer, and at the time of the accident he was engaged in cutting bricks. One of his feet was standing upon a brick, and as he was in the act of turning his body round to place a trowel of bricks on the scaffold, his foot slipped, and, overbalancing himself, he fell off the scaffold to the ground. The scaffold was about 4 feet wide. A verdict of accidental death was returned.——The new culvert at Grimsby, has been partly destroyed. It appears, that the watchman whose duty it was to look after the works had been discharged by Mr. Clarborough; and some obstruction having hindered the flood-gates from closing, the tide rushed into the culvert, and the hydraulic pressure completely forced the upper portion from its bed. This casualty will entail a loss on the contractor, and it is said to be not altogether certain that it was accidental.

PRIZES TO THE EXHIBITORS OF THE "SOCIÉTÉ DES BEAUX-ARTS APPLIQUÉS À L'INDUSTRIE," PARIS.—On the occasion when these prizes were given, M. Guichard briefly alluded to the medals presented by the Emperor and Empress, and then proceeded to explain how this exhibition should not be confounded with the industrial exhibitions hitherto held. The juries of the latter were pre-occupied with numerous important considerations entirely independent of art. Beauty of form, happy harmony of colour, clever execution,—in fact, art was shown by him to be the data on which the jurors of this exhibition based their verdict. M. Guichard terminated his speech with an announcement of the financial results. The receipts amounted to 77,000 francs, the expenses were about 45,000 francs, and a fund, founded by Baron Taylor, for the assistance of inventors and industrial artists, was about 32,000 francs. M. Guichard's address was followed by one from M. Tresca, who said in the course of it,—"The jury is divided into several sections, each of which presents a report. The section for painting have most particularly accepted the task of appreciating original works, due either to the pencils or to the brushes of our industrial artists. The section for engraving have included under their task the necessity of examining every species of reproduction, whether by lithography or photography. Our engravers on wood have no further cause to be envious of foreigners. Our litho-chromes and printings in colour hold good comparison with those of England. M. Rohault de Fleury has preceded his report on sculpture by an attempt to re-establish the true rules of good taste, and by warning artists against a too great abundance and richness in details."

WEEKLY TRAFFIC RETURNS.—The traffic returns of railways in the United Kingdom for the week ending 26th December, 1863, show on the twelve principal lines having termini in London an aggregate receipt of 356,035*l.*, the corresponding week of 1862 being 311,017*l.*; increase, 45,028*l.* The mileage for these lines was in 1863, 4,651¼; in 1862, 4,549; increase, 102¼ miles.

THE RAISING OF THE FLEET VALLEY.—With reference to a letter signed "Too Late" in a recent Number, Messrs. J. S. Atkinson, Raphael Brandon, and H. G. Freshwater have sent us a communication pointing to a design by them exhibited in Guildhall, which contemplated raising the surfaces, as urged by "Too Late." Another Competitor writes us to the same effect; but we cannot find space for the letters.

RAILWAYS FOR CHILI, IN SOUTH AMERICA.—A letter from Valparaiso, in a New York paper, says that "the contractor and capitalist, Mr. Brassey, who has constructed nearly all the railways in Spain and India, has sent an agent to Chili—a Mr. Bayles—with instructions to tender for all the railways the Government of Chili may desire to contract for, and guarantees an interest of 6 per cent. per annum on all the capital invested."

TENDERS.

For parochial schools and master's house, Chelsfield, Kent. Mr. Joseph Clarke, F.S.A., architect:—

Green	£953	0	0
Maers	927	0	0
Townsend	908	0	0
Francis & Son	807	0	0
Marsland & Son (accepted)	780	0	0

For residence at Addiscombe. Mr. J. F. Matthews, architect, Reigate. Quantities not supplied:—

Fieldwick	£885	0	0
Soden	829	10	0
Shilton	789	12	0
Dunk	777	0	0
Cook	722	0	0
Wesley	700	0	0
Wilson & Raynham	614	0	0
Drake	558	12	6

For the erection of Congregational chapel and school-room, Henham, Essex. Mr. Jasper Cowell, architect. Quantities supplied:

Savell	£1,375	0	0
Cole	1,470	0	0
Wheen	1,376	0	0
Burton	1,320	0	0
Glasscock	1,285	0	0
Glen (Brothers)	1,255	0	0
Thoday & Clayton (accepted)	1,246	0	0

For two masters' boarding-houses, Malvern, for the Malvern College Building Company. Mr. Charles F. Hanson, architect. Quantities supplied by Mr. J. A. Clark, Bristol:—

	House A.	House B.	Total.
Allen	—	—	9,130
Osborne	4,509	4,510	9,109
Smart & Son	—	—	8,888
Griffiths	4,237	4,122	8,359
M'Cann & Everall	—	—	7,984
Wood & Son	—	—	7,841
Jones & Son	—	—	7,790
Warburton, Brothers	3,743	3,642	7,385
Edwards	3,590		
Beavers & Son	3,514		
Wilson	3,370		
Field	3,277		

For the erection of a cigar manufactory and warehouse in Commercial-street, Whitechapel, for Mr. G. Phillips. Messrs. Hammack & Lambert, architects:—

Ennor	£3,875	0	0
Hedges	3,474	0	0
Gibson	3,370	0	0
Newman & Mann	3,342	0	0
Perry & Judson	3,285	0	0

TO CORRESPONDENTS.

OVENS AND FURNACES.—A correspondent asks for some particulars of the latest improvements in bakers' ovens and furnaces.

Ars jacutis, &c.—Messrs. B.—A. D.—J. E. (must condense).—J. D. W.—A Corporation Surveyor.—*Quocunque*.—T. L. D.—E. E. A.—C. C.—H. C. (we cannot advise as to safe investments).—Messrs. H. (thanks).—L. de V.—A Fifteen Years' Subscriber (write Atchley & Co., Great Russell-street).—J. C. M. (shall be referred to in our next paper on Condition of Buckinghamshire).—N. B.—T. L.—T. G.—J. F., Preston (apply to Weale).—R. P.—A. J. H.—O. P. Q. (a fee is due. Owner is liable).—Dr. M'C.—J. W.—M. J. L. (the *Builder* is published on Friday).—W. C. (light bridges over some of the London crossings have been often urged in our pages).—J. K.—W. D. H.—W. N. L.—S. C. R. (shall appear).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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[ADVERTISEMENTS.]

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"OUT OF PRINT" is an expression almost as annoying to the public as it is to the publisher. Although some editions of Lett's Diaries are certainly scarce, yet it is believed that few, if any, are in this predicament; while at same time the gradations of size and form are so gentle as to render a temporary substitution unimportant. Sold by all Booksellers. Catalogues gratis.

PRIZE DESIGNS.—"As affording the most striking contrast, Mr. Benson shows with these a fresh exhibition of modern watches, with cases made from prize designs at the South Kensington Museum, some of which are fine specimens of engraving."—*Times*, Sept. 15, 1862. Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on watches (free by post for two stamps) contains a short history of watchmaking, with prices from 3 to 200 guineas each. It serves as a guide in the purchase of a watch, and enables those who live in any part of the world to select a watch, and have it sent safe by post. Prize Medal and Honourable mention, Classes 33 and 15.—J. W. Benson, 33 & 34, Ludgate-hill, London. Established 1749. Watch and Clock Maker by Special Warrant of Appointment to H.R.H. the Prince of Wales.

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My Lord and Gentlemen,—

I beg leave respectfully to offer myself as a CANDIDATE for the vacant office of CITY SURVEYOR. Although I do not place my claims to your consideration upon any other basis than that of professional integrity and professional ability, I may be allowed perhaps to claim, through my late father, who, up to the time of his decease, eighteen years ago, was well known as a merchant of high standing, some connexion with the great trading interests of the City of London.

I shall have the honour of submitting to your notice testimonials of my competence to perform the duties of the office which I seek, and of personally soliciting your support.

In the mean time I may remark that in order to acquire a thorough practical knowledge of construction, I was articled to a first class London building firm, and subsequently entering the office of Mr Edward Lamond, the eminent architect, remained his principal assistant for nearly eight years, during which time I was actively engaged in numerous important valuations and negotiations relating to City property, and in all the other branches of one of the most varied and extensive practices in London; and for the last few years (during which I have been in independent practice) I have been enabled to apply the knowledge which I had previously obtained in such a manner as to secure the uniform approbation of my clients.

Should I be so far honoured with your confidence as to be elected to the office which I seek, I shall spare no exertions to discharge its onerous duties in so zealous a manner as to justify your choice.

I have the honour to be,
My Lord and Gentlemen,
Your most obedient Servant,
FREDERICK WALLEN.

68, Old Broad-street, December 3rd, 1863.

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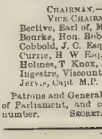
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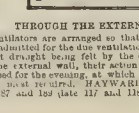


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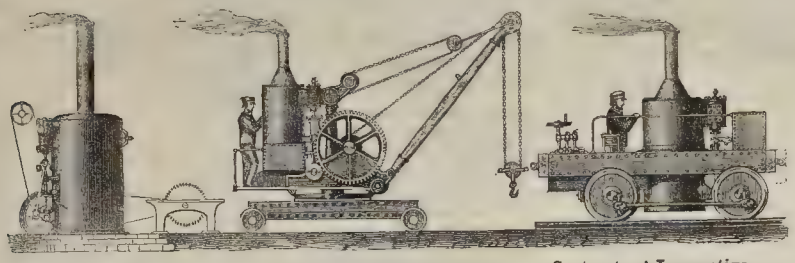
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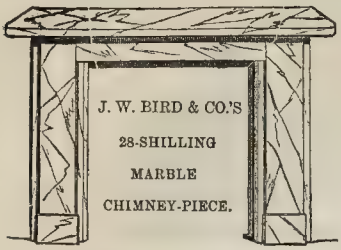
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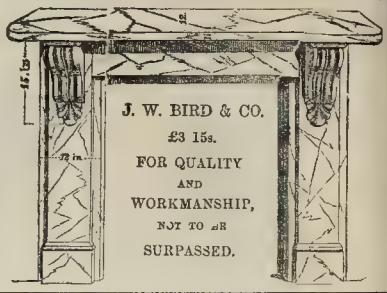
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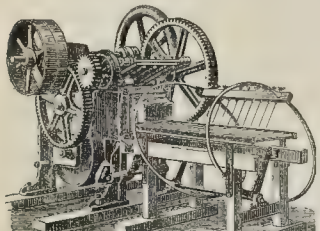
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CONTINUOUS FEED MACHINES

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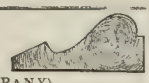
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(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UPON RECEIPT OF ONE POSTAGE STAMP.

STAINED GLASS WINDOWS
of every description, Ecclesiastical and Domestic;
MURAL DECORATION, MONUMENTAL BRASSES, and ILLUMINATED ILLUMINATIONS,
BY A NEW PROCESS ON PLATE GLASS.
R. B. EDMUNDSON & SON,
NEW WAKEFIELD STREET, OXFORD STREET,
Near the Bridge, Manchester.

LEAD GLAZING for CHURCHES and
other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead, Lights and Work by Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City road, E.C.
Estimates forwarded on receipt of particulars.

STAINED GLASS and WALL
PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

SOHO PLATE and GENERAL GLASS
WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PAINTED GLASS WINDOWS and
MURAL DECORATION.
LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and
43, JOHN DALTON STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies
BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

STAINED GLASS WINDOWS,
GLASS MOSAIC, AND ENCAUSTIC DECORATIONS FOR CHURCHES.
MOBERLY & LYON,
13, BERNERS STREET, OXFORD STREET, W.
Descriptive prospectus, drawings, and estimates sent on application.

PATENT SILVERING COMPANY
(Limited), 7, Lower Kennington-lane, near the Elephant and Castle. GLASS SILVERED by NEW PROCESS, with PURE SILVER. Not liable to injury from damp, heat, or sun's rays. Silvered Glass and Looking glasses supplied to order. Embossed and Ornamental Glass at moderate rates. Bent Plates special prices.

TIMBER! DEALS!! FLOORING!!
THOS. W. ELLSTON
begs to offer to the Trade and Public generally the undermentioned Goods, at the following low prices, in quantities of not less than 3 as at the Public Docks, viz.—

Good 2½ Mill-sawn White Battens	from £8 0 per 120 of 12 feet
Good 3½ Mill-sawn Yellow ditto	£12 ,,
Good 3 by 9 Mill-sawn Yellow Deals	13 0 ,,
Good 3 by 9 Yellow Deals	16 10 ,,
Good 3 by 8 Mill-sawn Yellow Deals	15 10 ,,
Good 3 by 9 White Deals	15 0 ,,
Yellow Fir Timber (good length and size)	4l. 5s. per load
Good and well-prepared ¾ Flooring Boards....	from 11s 6d. per square
,, ⅞ ,, ...	12s. 6d. ,,
,, 1 inch ,, ...	14s. 6d. ,,

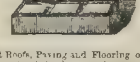
Also a large stock of Matched Linings, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of cash or P.O. orders. All sawn goods delivered free to London railway stations.
109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side).
ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, MATCH BOARDS, DEALS,
&c. as low as advertised. White Battens, 2½ 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 11s. per square; ⅞ ditto, 12s. ditto. Venetian Blind Laths, 5s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
80,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to
inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent up to their Last Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark bridge Wharf, Bankside, S.E.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE END GATE.

POLONCEAU and SEYSSEL ASPHALTE.
ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte in now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. apply to JOHN PILKINGTON, 15, Fish street Hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

GUTTA-PERCHA MILL-BANDS.—The
Gutta-Percha Company beg to state that the increasing demand for the Gutta-percha Stuffing for Driving bands, Lubricators, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent compactness and uniformity of substance, the ready applicability of any form to suit with ease, and flexibility under all varieties of working powers, at a moderately low comparative Economy of Gutta-Percha Articles, such as Piping, Sheeting, Printing-Rollers, Buffers, Valve Joints, Pulleys, Bearings, Bosses, Indiarubber, Oilcloths, Solutions, Bottles, Belting, Tubing, &c. &c. manufactured by the Gutta-Percha Company, are sold by their Wholesale Depôts throughout the country.
THE GUTTA-PERCHA COMPANY, PATENTEES,
18, WATERLOO ROAD, CITY ROAD, LONDON.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION,

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

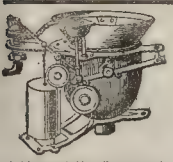
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

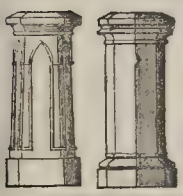
JAMES STIFF & SONS,

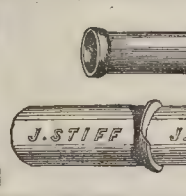
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

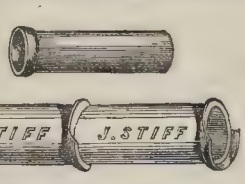
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



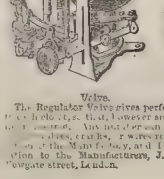
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of t greatly in reased sale, D & W have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

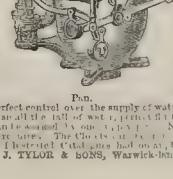
Experience has shown that this object is the most simple and efficient, and that at once the cheapness, durability, and cleanliness, at combine is surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

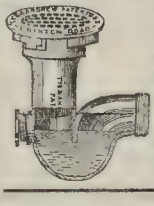


Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to the closet, so that, however small the fall of water, perfect flushing is secured. An instant can be assigned to any pan. No [illegible] cracks, or waste of water. The Closets are in use at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane Newgate street, London.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cleansing Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. B. H. CHICHESTER, of Cuttlebampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PURE LINSEED OIL, from Genuine Baltic and Bombay Linseed, supplied by the LONDON OIL and COLOUR COMPANY (limited), Nos. 65, 66, 67, Saint George's-street, London Docks.—Mr. THOMPSON, Manager.

TURPENTINE. GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,

Varnish, White Lead and Colour Manufacturers,

86, Upper Thames street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 28s. per cwt. Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon. Turpentine, 6s. 6d. per Gallon. Fine Pale Oak Varnish, 9s. per Gallon

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 36, Upper Berry-street, and 45, Cobourg-street, Pimlico, S.W. Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 27s. per cwt. Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon [illegible] Varnish, 9s. per gallon.

For cash, at HANNIS LACY'S OIL AND COLOUR WAREHOUSE, No. 18 EDGWARE-ROAD, PADDINGTON. Work executed to the Wingfield seal, within half a mile walk of the Great Western Railway Terminus. Agent for Hamilton's celebrated Painting and Graining Brushes.

SALES BY AUCTION.

IN BANKRUPTCY.—To CARPENTERS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD

are instructed by the Assignees of Messrs. J. & J. Bacon to SELL by AUCTION, on the PREMISES, 5 Munster street, Regent's park, on TUESDAY, JANUARY 12, at TWELVE the First Portion of the extensive and valuable STOCK-IN-TRADE of new and second-hand BUILDING MATERIALS, FIXTURES, and FITTINGS: comprising about 1,000 glazed sashes (part plate glass), 70 mahogany, walnut, and other doors, forty plate-glass and other shop fronts with shutters, eighty marble and other chimney pieces, forty French casements, 10 iron fret-panneled and glass l partitionings, stained glass sashes and cornices, bar and show cases and counters, mahogany-top counters, nests of drawers, desks, 6 0 new deals and battens, 800 square of prepared floor boards, 18,000 feet quarterings, 40 squares match boarding, 4,000 tar floor boards, 2,000 feet new pine plank, 50 bundles of slating battens and pantile laths, 50 iron columns, 50 tons of wrought and cast iron, iron safes and doors, railed gates, sorting van, cart, and a great variety of valuable property.—May be viewed the day previous, and catalogues had of Messrs. J. & W. SHEFFIELD, Solicitors, 6, Old Broad-street; of F. EDWARDS, Esq. Official Assignee; and of PULLEN, HORNE, & EVERSFIELD, 45, Parliament-street, S.W. and 80, Fore street, E.C.

METROPOLITAN RAILWAY—FINSBURY EXTENSION.—BUILDING MATERIALS of several large Factories, Warehouses, Dwelling houses, and Premises, Aldersgate street and Long lane.

PULLEN, HORNE, & EVERSFIELD

are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 18th, at TWELVE, in Lots, all the valuable BUILDING MATERIALS of extensive Factories, Warehouses, ranges of Stabling, Dwelling-houses, and Premises, situate in and near Aldersgate-street and Long-lane; comprising excellent stock bricks, oak and fir timber, iron roofs and floors, slates, plain and pan tiles, glazed sashes, plate and skylights, chimney pieces, and interior fittings, doors, weather boarding, flooring boards, fittings, gates, a large quantity of pebble, clinker, and other paving, racks, mangers, and stable fittings, lead gutters and pipes, cisterns, stoves, gas-fittings, and other useful fixtures and fittings-up.—May be viewed on SATURDAY previous. Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 45, Parliament street, S.W.

TO SCULPTORS, MASONS, BUILDERS, and OTHERS—CARRARA WHARF, GROSVENOR ROAD, PIMLICO.

PULLEN, HORNE, & EVERSFIELD

are instructed by Messrs. Fabricotti Brothers to SELL by AUCTION, at the PREMISES, as above, on TUESDAY, JANUARY 19th, a large assortment of STATUARY MARBLE (including figure and bust blocks, and good manufacturing sizes); also Vein, Sicilian, Sienna, and other Coloured Marbles, in blocks and slabs (a portion being for absolute Sale, to liquidate Stock); also a quantity of Garden Vases and Figures, Mortars, and Alabaster Ornaments.—May be viewed three days prior to the sale, when catalogues may be had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 45, Parliament-street, Westminster, and 80, Fore-street, City. N.B. Approved bills at four and six months. Luncheon at ELEVEN o'clock

GROSVENOR ROAD, PIMLICO.—To SCULPTORS, MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD

are instructed to SELL by AUCTION, on the PREMISES, Lloyd's Marble and General Landing Wharf, foot of Vauxhall Bridge, on TUESDAY, JANUARY 26th, at TEN for ELEVEN, a superior assortment of MARBLE, comprising about 500 blocks (of suitable dimensions for sculptors or masons), also about 150 blocks of vein, Sicilian, Bardilla, and Emperor's red; also about 10,000 feet of slab and a selection of sculpture work, consisting of garden figures, monuments, tables, mantels &c. Approved bills at four and six months.—May be viewed one day previous, and Catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 45, Parliament-street, S.W. and 80, Fore street, E.C.

SOUTH NORWOOD, SURREY.

MESSRS. BLAKE will SELL by AUCTION, upon the PREMISES, Pascall's Pottery, near the Norwood Junction Station, on TUESDAY, JANUARY 12th, at TWELVE for ONE o'clock, the First Portion of the Manufactured STOCK and MACHINERY (in consequence of the lease of the premises having nearly expired), comprising 8,000 basket drain pipes (from 3 to 15 inches), 15,000 paving-tiles, 25 0 0 plain, pan, and ridging tiles; 3,000 feet of patent ridge, 50,000 kiln, stock and place bricks; 10,000 paving brl ks, 10,000 land draining pipes, chimney-pots, kale and garden pots, two pair drain pipe and kiln machines, by Wilkins, Bedford, a nearly new 8 horse horizontal steam-engine, with boiler, by Ransome & Sims; pair of granite edge-runners, a single iron bound ditto, sand sieve, wash and pug mills, small tenement tramway and two trucks, iron wheeling-plates, barrows, building tables, 80 yards of road sand, erection of sheds, iron office safe, three brick-carts, with Crosskill's patent wheels; two spring trade carts, harness, and chaff machine. Also, six young draft horses, and a five-year old rag mare.—May be viewed three days preceding the sale (Sunday excepted); and catalogues had on the Premises, at the Inns in the neighbourhood; at Garraway's Coffee-house, Change-alley; and of Messrs BLAKE, Croydon.

NORTH LONDON RAILWAY.—Extensive and Important Sale of Materials

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, in the Large Room at the "Bread Eagle" Tavern, near Shoreditch Church, on the 6th, 7th, 13th, and 14th days of JANUARY, 1864, at TWELVE for ONE o'clock each day, the MATERIALS, FIXTURES, and FITTINGS of the Buildings to be taken down between Old street road and Worship street, including about Ninety Houses and Shops, situate in Worship street Bateman's row, Norfolk street Holywell-lane, Oil street road, and Kingsland-road, including the Long Shop and Yard, the king John (late Mace's), and several Factories and Warehouses, comprising stock bricks, fir and oak timbers, floors, sashes, door, shop fronts, public house fronts, bar-fittings, and other gutters and lead pipes, ranges, stoves, mahogany and other fixtures and fittings, paving and coping stone, granite pitching, stable fittings, &c.—May be viewed the day previous to Sale, and Catalogues had at the Auctioneers' Offices, Camden-town, and at Kingsland gate

MESSRS. KENNEDY & BONNY will SELL, early in JANUARY, the FIXTURES, FITTINGS, and FURNITURE of the Fough Tavern, Shoreditch, and the King John (late Mace's)

CHILD'S HILL, FINCHLEY ROAD.—Valuable Lease of a Brickfield, Foreman's House, stabling for Twenty five Horses, Hay and Straw Houses, office, &c.

FREDERICK KING will SELL by AUCTION, at the MART opposite the Bank of England, on MONDAY, JANUARY 18th, 1864, at ONE precisely, the valuable LEASE, for an unexpired term of four years, of the LITTLE TEMPLE PARK BRICKFIELD, one mile from the Finchley road Station of the North London Line, with foreman's house, stabling for twenty five horses, chaff and straw houses, &c. The estate possesses an inexhaustible supply of excellent brick earth, and is abundantly supplied with water. The purchaser will have the option of taking the prepared clay, ashes, breeze, the whole of the canvas capping, wash mill complete, &c. either by valuation or at a price to be named at the sale, as he may elect.—Particulars may be had of CHARLES SAWBRIDGE, Esq. Solicitor, 126, Wood-street, Cheapside; of Messrs. HARDING, PULLEIN, WHINNEY, & GIBBONS, 3, Bank buildings; at the Mart; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

CHILD'S HILL, FINCHLEY ROAD.—700 000 Bricks Plant of a Brickmaker and Contractor, Thirteen Horses, Harness, Carts, Chalk, &c.

FREDERICK KING will SELL by AUCTION, at the Little Temple Park Brickfields, Child's Hill (one mile from the Finchley road Station, on the North London Line), on WEDNESDAY JANUARY 20th, 1864, at TWELVE o'clock, in Lots, 700 000 new BRICKS, in all or with the PLANT of a BRICKMAKER and CONTRACTOR, consisting of 13 well seasoned and powerful horses stout harness, 10 truck and dobbin carts, light cart, a four wheel chaise, carpenters' benches, 79 10 feet iron wheeling plates, 5 barrows, tools, gimp stone, 12 f et square level, reed hurdles, corn bin, poultry, &c. about 50 tons chalk, and the usual appendages of a brickfield.—Catalogues may be had of Mr. WILLIAM NASH, the Foreman, on the Estate; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

FOUR DAYS' SALE of TIMBER, on WEDNESDAY, FEBRUARY 3rd, at ELEVEN for TWELVE o'clock precisely, and Three Following Wednesdays.

THOS. ROBERTS & CO. have received instructions to DISPOSE OF by PUBLIC AUCTION, on the above days, the well seasoned STOCK of Messrs. Robert Ward & Son, on the PREMISES, 101, Bermondsey New-road, near the Brunswick Arms, all in consequence of the premises being let and their removal to Grosvenor-road, Pimlico; and which consists of large quantities of Honduras and Spanish Mahogany, Rose wainscot, white and yellow deals and battens, pine planks, spruce deals, prepared flooring Baltic timber, English oak and elm, ash and beech plank, limetree board, chesnut, hornbeam, sycamore, walnut, American birch, walnut, and other woods. Four powerful Cart horses, harness, &c.—To be viewed two days prior and morning of Sale. Catalogues had upon the Premises; and of the Auctioneers, No. 9, Billiter street, Fenchurch-street, E.C.

BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, at MARLBOROUGH-PLACE, Old Kent-road, near The Nelson, on MONDAY, JANUARY 11th, at TWELVE for ONE, 160 Lots of superior MATERIALS; comprising thirty loads of long timber of all sizes, flooring and lining boards, doors, sashes, and other fittings, stone paving, tiles and slates, firewood, and an extensive assortment of other useful materials, fittings, and fixtures.—On view, and catalogues on the Premises, two days prior; and of the Auctioneer 10, Newington place, S

GROVE LANE, CAMBERWELL.—Superior BUILDING MATERIALS, and five large LEAD CISTERNS

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JANUARY 13th, at TWELVE for ONE, punctually, 300 lots of long and TIMBER in scantlings, varying from 4 inches by 2½ inches up to 16 inches square, long sound flooring boards, 2-inch doors, sashes and frames, handsome wood columns and pilasters, 5 cwt. of nine sheet gl ss, pan and plain tiles, stack firewood, stores, &c. &c being the materials of buildings pulled down for improvements. On view, with catalogues may be had on the Premises the day prior to the Sale; or of Mr. C. F. SMYRK, 10, Newington-place, S.

WANDSWORTH COMMON, SURREY.—ELIGIBLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, JANUARY the 18th 1864 at TWELVE for ONE o'clock, Twenty-five Lots of Eligible FREEHOLD BUILDING LAND, free from tithe and land tax, situate on the roads leading to Wandsworth, Tooting, and Clapham, close to Wandsworth Common, and within a short distance of the Wandsworth, Clapham Junction, and Balham Stations, on the South Western, Victoria, Crystal Palace, and Kensington Railways. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent; to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice.—Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 69, Coleman-street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, MIDDLESEX.—Eligible FREEHOLD BUILDING LAND, near the Railway Station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JANUARY 18th, at TWELVE for ONE, in thirty-nine lots, the remaining portion of the eligible FREEHOLD BUILDING LAND, being part of the orchard of the Grove House Estate, situate near the village of Acton, and to the Acton station on the North and South-Western Junction Railway. One lot, with a frontage to the road leading from the church to the station, is most eligible for villa residences, and the only one on this portion of the estate set apart for that purpose. Nine tenths of the purchase-money may remain on mortgage or contract, at five per cent to be paid in nine years, by equal half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained ten days before the sale, at the Inns of the neighbourhood; of Messrs. RUSSELL & DAVIES, 69, Coleman street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 25 h of JANUARY, 1864, at TWELVE for ONE o'clock, a further portion of this eligible Estate, consisting of about Fifty Lots of Eligible FREEHOLD BUILDING LAND, like the rest, and land for redeemed, situate close to the proposed Addiscombe Station on the Mid Kent Railway, with frontage to the St James and Channingroads, and forming a portion of the most eligible property. The lots are well adapted for first-class residences, and one corner plot, close to the station, is set apart for a shop. The Parade and East Croydon Railway Stations are within ten minutes' walk, and that at West Croydon about a mile distant. Nine-tenths of the purchase money may remain at mortgage or contract, at 5 per cent, to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of Sale may be obtained (ten days before the Sale, at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 69, Coleman street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale

TWO DAYS' SALE OF MAHOGANY AND TIMBER.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY and THURSDAY, 20th and 21st of JANUARY, 1864, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

- 35,000 Spruce Deals, Battens, and Ends
- 2,000 Quebec Pine Deals
- 2,000 St Petersburg Red and White Wood Deals
- 4,000 Onega Red Deals, Battens, and Boards
- 6,000 Archangel Red Wood Deals and Battens
- 1,200 4 by 11-inch Fresh Redwood Memel Deals
- 3,400 Swedish Redwood Deals, Battens, and Ends
- 1,000 Wyborg Redwood Deals
- 2,000 4 by 9-inch Sandarne Deals
- 500 Loads Quebec Board Yellow Pine
- 200 Loads Quebec Red Pine
- 600 Loads Quebec Pine
- 50 Loads Quebec Oak
- 5 Loads Quebec Elm
- 250 Loads Fresh Memel Timber
- 350 Loads Danzic Redwood Timber
- 300 Loads Swedish Timber
- 1,000 Norway 4 to 6-inch Spars
- 20 Fathom Hemlock, Mixed, and Danzic Fresh Lathwood Flooring

With other Goods.

SECOND DAY'S SALE, JANUARY 21, 1864.

- 197 Logs Mahogany, Cargo per "Eliza Jenkins," from Manatitan direct
- 15 Tons Log Ends
- 100 Logs Fresh Birch (to arrive)

A quantity of Mahogany Planks, Boards, &c.

With other Goods

Catalogues will be issued in the Week of Sale

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, January 4th, 1864.

TO BUILDERS AND OTHERS.—Sale of the Second Portion of the Timber, Stone, Bricks, and other Materials of the Portman street Barracks

F. HALL & SON will SELL by AUCTION, on THURSDAY and FRIDAY, JANUARY 14th and 15th, at TWELVE o'clock each day, on the SITE of the PORTMAN-STREET BARRACKS, Portman-street, Oxford street, the MATERIALS of the same, taken down and fitted, and comprising the looks of capital timber (large sizes), in 1 e feet of joists from 25 to 40 feet long, 10 000 feet of flooring and plates, 2 0 squares of sound yellow flooring 10,000 good old bricks in stacks, 3,000 paviles, 1,000 feet of landing and yards of pebble pitching, slates, large quantity of firewood, and other effects.—May be viewed and catalogues had on the Premises, and per post or otherwise of the Auctioneers, Kennington, and 1, Thurloe terrace, Wandsworth road.

TO PIANOFORTE AND CABINET MAKERS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden town, on MONDAY, JANUARY 11th, 1864, at ELEVEN for TWELVE o'clock the second portion of capital dry 1 inch LIMETREE BOARD, about 15,000 feet, 6,000 feet of birch, 2,000 feet of white sycamore, 1,000 feet of chesnut, 2,000 feet of mahogany and oak, 1,000 yellow, white, and pine planks, deals and battens, wide pine, quartering, flooring, die square, 10,000 feet of mouldings, cut stuff, scaffold-poles, ladders, old materials, &c.—Auction Offices, Cardington-street, Hampstead road, N.W.

NEAR THE HIGH-CROSS, TOTTENHAM

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, on WEDNESDAY, JANUARY 13th, at TWELVE, by order of Messrs. A. Humphreys & Son, who have completed the contracts with the Local Board, FIFTEEN useful CART HORSES, off constant work; fifteen brick or gravel CARTS, four dobbin-carts, twenty five sets of harness, mortar-mill with 2 feet 6 inches granite runner, worked by horse-power, navvy barrows, wheeling planks, cliff an line, sacks, quantity of new boards, quartering, deals, scaffold-poles, stone, fencing, &c.—May be viewed the day previous; catalogues obtained on the Premises and of the Auctioneer, Tottenham

REPOSITORY, BARBICAN.—Railway Horses—TO BE SOLD by AUCTION, by

MR. J. GOWER, on FRIDAY, JANUARY 15th, at ONE o'clock, about Ten first-class Young CART HORSES, Brougham Gelding, Grey Pony the property of Messrs Knight & Mander. Have been employed on the Carmarthen and Cardigan Railway nearly completed.—The Horses are known as having been used to jibbing. On view two days prior.

METROPOLITAN RAILWAY.—Red Cross-street, City.
Building Materials and Effects

MESSRS. PHILLIPS & SON are instructed to SELL by TENDER, in Five Lots, the whole of the first-class BUILDING MATERIALS of the PREMISES known as the WHEATSHEAF BREWERY, and the House adjoining, being No. 12, Red Cross street, consisting houses, lanthorn, malting, and other erections, comprising a large quantity of sound brickwork; a large number of sinders, 12 by 12, and 11 by 3; and other large scantling. Joists, flooring, sashes, weather boarding, plain and pan tiles, lead cisterns flats, and sinks; a quantity of 6-lb and 7-lb. lead, stone paving, York tramways, Dutch clinkers and patch paving, stationary marble and other chimney pieces, stoves, fittings, and effects.—May be viewed. Particulars and conditions may be had at the office of PHILLIPS & SON, No. 2, City road, Finsbury square, to whom all Tenders must be sent on or before the 12th instant.

THE GREAT FIRE IN THE CITY.—

"A closer examination yesterday of the track of the recent fire in Wood-street, shows in a striking manner how much it was confined to a class of buildings the interior arrangements and means of communication of which appear to have been made in defiance of ignorance of the principles which regulate such matters, under the operation of the Metropolitan Building Act. The warehouses and offices which have perished seem to have been separated from each other by thin lath and plaster partitions for the most part, and only in one instance was there an iron door between the party of the same building and another, such as is now commonly used and made imperative, indeed, in the construction of warehouses, and as a valuable means of shutting off communication in case of fire. That iron door, too, which remains unpierced, would have been completely effectual in arresting the flames had they not penetrated by a vulnerable point into the part of the building which it protected

THE TRIUMPH OF IRON FOR SAFETY AGAINST FIRE was most conclusively proved by a very remarkable circumstance. The large and handsome warehouses of Messrs. J. & R. Morley, situate at the corner of Wood-street and Cheapside, presented to a large window on the ground floor at the back the little court in which the fire originated, and to such it was at first confined. THIS LARGE WINDOW WAS FURNISHED WITH THE OUTSIDE BY A REVOLVING IRON SHUTTER, AND THAT MORE AGAINST ROBBERY THAN FIRE.

On this occasion the door was found closed fiercely, but harmlessly, about the outside of the window so guarded by the iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250 000 to 300,000l., would inevitably have been destroyed, if indeed the devastation would have ended in that case but pile of building. Upon such a fact, London and property almost fabulous in value, all belonging to a single firm, depend in this case."—*Times*, 29th December, 1863.

THE REVOLVING IRON SHUTTER THAT ARRESTED THIS FIRE WAS MANUFACTURED IN 1849, BY

BUNNETT & CO., Patentees,
London & Glasgow.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION

(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

ADVANCES are made by the SOVEREIGN LIFE OFFICE, 48, St. James's street, London, of sums not exceeding 1,000l. to Officers and other persons resident in England, upon their personal security, repayable for repayment by instalments in three years, at five per cent. interest.

TO MILLWRIGHTS, ENGINEERS, &c.

By order of the Executors of Mr. J. T. Coltman deceased.—TO BE SOLD, the GOODWILL of a BUSINESS, which has been successfully carried on by the late proprietor and his sons, in the town of High Wycombe, for upwards of 100 years. The Stock in Trade, Fixtures, Steam-engine, Machinery, and Tools, to be taken at a valuation, with the option of purchasing the House, Garden, and Premises. For information, or to view the premises, apply to Mr. H. HAYDEN, Esq. or the Executors, Messrs. R. WHEELER and T. LUCAS, all of High Wycombe, Bucks.

POLYTECHNIC. — Patron, H.R.H. the PRINCE of WALES. — Professor Pepper.—The Ghost.—J. H. Pepper's adaptation of H. Dirks's Ghost Illusion, with the new patented improvements by the Inventor, Alfred Smith.—Mr. Boodtree's The Illustrated Fairy Tales, the Sixteen Pantomime, the Christmas Tree, the Improved Chinese Fireworks. The Entertainments and Lectures provided this year are on the most liberal scale.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS—their cost, and mode of procedure—to be obtained gratis by the General Patent Company (Limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, January 9, 1864.

The Builder,

AN ILLUSTRATED WEEKLY PAPER

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1093. JANUARY 16, 1864 PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BALL.

This ANNUAL BALL will take place at WILLIS'S ROOMS St. James's, FEBRUARY 15th, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, under the patronage of the Right Hon. the Lord Mayor, the Lady Mayoress, and the Sheriffs.

COMMITTEE OF MANAGEMENT.

Mr. T. Cozens	Mr. M. Hall	Mr. G. Plucknett
„ T. Chapman	„ W. Hutchons	„ T. Stirling
„ S. Cuming	„ T. Morris	„ C. D. Sewell
„ C. Fish	„ D. Nicholson	„ T. Thorn

The lists of Stewards will shortly appear.

JOSEPH BIRD, Hon. Sec.

10, Hanover Cottages, Regent's Park, N.W.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES FOR COLOURED DECORATION.

5l. 5s., and 3l. 3s. are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, price 5s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if case and packing required, 7s.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within, November, 1863.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, No. 9, Conduit-street, Regent-street.—The ANNUAL MEETING of the above Institution will be held on WEDNESDAY EVENING next, JANUARY 20, 1864, when officers for the ensuing year will be elected, and other business of importance brought before the meeting. The chair will be taken at EIGHT o'clock.

JOSEPH KAY, Corresponding Secretary.

LONDON INSTITUTION, January 9th, 1864.—At the SECOND CONVERSAZIONE of the present season, WEDNESDAY, the 20th instant, a LECTURE will be delivered by C. T. BEKE, Esq. Ph. Dr. F.S.A. &c. Manager, London Institution, on the SOURCES of the NILE, and on the means requisite for their final determination. To be commenced at EIGHT p.m. precisely. By order, WM. TITE, Hon. Secretary.

GEOLOGY.—KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S assisted by the Rev. T. WILTSHIRE, M.A. will give a COURSE of LECTURES on GEOLOGY, on WEDNESDAY evenings, from EIGHT to NINE o'clock. The first Lecture, JANUARY 20th, to be continued to Easter. A more extended Course will be given on WEDNESDAY and FRIDAY mornings, from NINE to TEN o'clock, commencing JANUARY 27th, and will be continued to JUNE. R. W. JELF, D.D. Principal.

COMPETITIONS.

WYGGESTON'S HOSPITAL, LEICESTER.—To ARCHITECTS.—The Trustees of the above Hospital are desirous of receiving DESIGNS, with general specifications and estimates, for the ERECTION of a NEW HOSPITAL, for Twenty-five Inmates, with a Chapel, a House of Residence for the Master of the Hospital, a similar House of Residence for the Chaplain Brother, a Board-room, a Muniment-room, with other convenient Offices, and a Porter's Lodge, with suitable Entrance Gates; and for the Laying out of the Ground. It is proposed to expend on the above object the sum of 13,000l. Premiums will be awarded by the Trustees for the three best designs. All designs are to be sent in under a motto, to be accompanied by a sealed letter by which the author may be identified, with his designs, but which letter will not be opened until after the selection has been made by the Trustees from the several designs. A lithographic plan of the site, with sections of the land and conditions and Instructions for the guidance of intending competitors, may be had at any time after the 1st of FEBRUARY next, upon application to the undersigned, and on payment of the sum of 7s.; and all plans are to be forwarded carriage free to the said undersigned on or before the 25th day of APRIL next.

WILLIAM H. MACAULAY, Solicitor, Leicester,
Clerk to the Trustees of the above Hospital.

January 8th, 1864.

CONTRACTS.

TO BUILDERS and OTHERS.—TENDERS are required for COMPLETING, fit for occupation, the CARCASES of FOUR Houses, situate and being Nos. 9 to 12, in Lawn-terrace, Lee, Kent near the Blackheath Railway Station, on the North Kent Railway; and the drawings, specification, and conditions of contract for these works can be seen at the Offices of Mr. F. P. THORNE, Architect, at No. 4, Corbet-court, Gracechurch-street, London, and Lee-road, Lee. The Tenders are to be delivered at No. 4, Corbet-court, Gracechurch street, London, at TWELVE o'clock, on MONDAY, the 25th instant; and the lowest or any other Tender will not necessarily be accepted.

January 6, 1864.

TO BUILDERS.—CHINNOR, OXON.—Parties willing to CONTRACT for the RESTORATION of, and other WORKS to, Chinnor Church, in the county of Oxford, are hereby informed that the drawings, specifications, and conditions of contract thereof, may be seen at the National School room, Chinnor, on and after the 14th instant.—Tenders properly endorsed and sealed, to be sent to the Rev. F. BUTTENSHAW, Chinnor, Petersham on or before the 30th instant. The Committee do not bind themselves to accept the lowest or any other Tender.

EDWARD BANKS, Architect.

Wolverhampton, January 6th, 1864.

LANCASHIRE and YORKSHIRE RAILWAY. The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Lockwood to Meltham, near Huddersfield Length about 3¼ miles.—Plans and specifications may be seen and forms of Tender obtained at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 4th JANUARY proximo, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the Secretary not later than MONDAY, the 15th FEBRUARY, 1864.

Manchester, December 18, 1863. WM. S. LAWN, Secretary.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 18th day of JANUARY, 1864, at SIX o'clock in the evening at the Office, 15, Great Alie-street, Whitechapel, to receive TENDERS for the CONSTRUCTION of a BRICK SEWER in Dook-street, Whitechapel. Plans, sections, and specifications may be inspected, and further particulars, with printed forms of Tender obtained, on application to Mr. FINCKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, in which a 10l. note is to been closed, must be delivered at the Office previous to the hour of meeting; and any Tender which is not upon the form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board

15, Great Alie-street, Whitechapel, 6th Jan. 1864.

BUILDERS desirous of TENDERING for the COMPLETION of FOUR HOUSES, near Herne Bay, are requested to send their names for selection to Mr. MANNE, Ramsgate, Kent. Those parties who require copies plates and abstract must remit half-a guinea.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—Persons desiring to TENDER for the SUPPLY and DELIVERY at the Royal Arsenal, Woolwich, of certain RAILWAY RAILS, CHAIRS, FISH PLATES, SLEEPERS, &c. can obtain Forms of Tender, and all other information, by applying at the Works Department Office, Royal Arsenal, Woolwich, on or before WEDNESDAY, 20th JANUARY, 1864.

The Secretary of State does not bind himself to accept the lowest or any Tender.

January 14th, 1864.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a MUSIC HALL, on a plot of land in Commercial-street, Whitechapel, can inspect the plans and specifications, and obtain bills of quantities, on application to the Architect, Mr R. H. MOORE, 10, Walbrook, Mansion House, E.C. on any day until THURSDAY, the 21st inst. when the Tenders are to be delivered at the above address, at THREE o'clock p.m.

TO BUILDERS, &c.—Notice is hereby given, that plans and specifications for the ALTERATION and RESTORATION of the PARISH CHURCH of Baldon Toot, six miles from Oxford, will be lying at the School house from the 25th to the 30th proximo, both days inclusive; and all persons desirous of CONTRACTING for the works must send in sealed TENDERS, directed to the Rev EDWARD PEEL, The Vicarage, Baldon Toot, on or before the 10th day of FEBRUARY next. Neither the lowest Tender nor any will necessarily be accepted. The contractor must be prepared, if required, to enter into the usual legal bond for the due execution of the work, with two good and approved securities.

TO BUILDERS. — Persons desirous of TENDERING for the WORKS required in the ERECTION of a NEW WESLEYAN CHAPEL and SCHOOLS intended to be built in Marlborough-road, Banbury, Oxon, may see the plans and specifications, and obtain quantities at Mr. KILBY'S Office, No 43, High-street, Banbury, from FRIDAY, the 15th JANUARY, till THURSDAY, the 4th FEBRUARY, next.—Sealed Tenders to be sent in, not later than THURSDAY, the said 4th day of FEBRUARY, to JOHN KILBY, Esq. Banbury, Oxon, endorsed "Tender for Chapel and School." The Committee do not pledge themselves to accept the lowest or any Tender. G. WOODHOUSE, Architect.

St. George's-road, Bolton-le-Moors, January 13th, 1864.

TENDERS.—Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for the SUPPLY of 140 Cast Iron GULLY GRATINGS and FRAMES. The specification and models may be seen, and further particulars had, on application at the Town Clerk's Office, High street, Hastings, where Tenders, duly signed, must be delivered before TEN o'clock of the morning of MONDAY, the 1st day of FEBRUARY next. The Local Board do not bind themselves to accept the lowest or any Tender

ROBERT GROWSE, Town Clerk.

Hastings, January 13th, 1864.

TO BUILDERS and CONTRACTORS.—A Pair of semi-detached HOUSES, now in carcase, require FINISHING. Plans and specifications to be seen, with all particulars, at the Office of JOHN NEWBERY, Esq. Architect, North End, Croydon. Sums of not less than 200l. will be paid as the works proceed and are certified.

CROYDON LOCAL BOARD of HEALTH. To STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the DELIVERY at Croydon of a quantity of 4 in. by 19 in., and 6 in. by 12 in. PORTSDOWN KERBING, and 12 in. by 6 in. GRANITE KERBING, can forward Tenders to me, on or before the 1st day of FEBRUARY next. The Board do not bind themselves to accept the lowest or any Tender.

BALDWIN LATHAM, Engineer and Surveyor.

Engineer and Surveyor's Office, Townhall.

SAFFRON WALDEN HOSPITAL.—To BUILDERS.—The Committee are prepared to receive TENDERS for the execution of the WORK required in the ERECTION of a HOSPITAL at Saffron Walden, Essex (to contain about thirty beds), according to drawings and specifications prepared by WILLIAM BEALE, Architect, 31, Finsbury-circus, London. Quantities have been prepared, and a copy of them and form of Tender can be had on application at the Offices of the Architect on payment of one guinea. An early application is requested in order to regulate the number or copies. The Tenders are to be sent sealed, under cover to me, on or before TWELVE o'clock on MONDAY, the 8th FEBRUARY next. The Committee do not bind themselves to accept the lowest or any Tender; and any party whose Tender may be accepted must provide good and sufficient security GEORGE STOKES, Secretary.

Saffron Walden, 13th January, 1864.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Spring-gardens, Charing-cross, on WEDNESDAY, the 2nd MARCH, next, at TWELVE o'clock at Noon, precisely, and will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all or any of certain PLOTS of GROUND, situate on the north and south sides of Southwark-street, from High-street, Borough, to Blackfriars road. Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed cover, addressed, "Tender for Ground in Southwark-street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour The Board do not bind themselves to accept the highest or any Tender.

JOHN PULLEN, Clerk of the Board.

Spring gardens, Charing-cross, 9th January, 1864.

[For remainder of Contracts see next Page.]

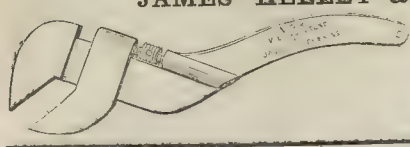
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JAMES HEELEY & SONS,

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The superiority of this Spanner consists in its novel and rapid mode of adjustment by a double action screw, and its new and convenient arrangement of curved handle and oblique jaws, which, combined with its superior strength and excellent workmanship, renders it by far the best and handiest tool of its class hitherto produced. It is being extensively used by Furnishers, Manufacturers, Machinists, and Railway and Steamboat Companies, and can be had of all respectable Ironmongers.

TO CONTRACTORS and CARPENTERS.—Parties desirous of furnishing a TENDER for PROVIDING and ERECTING THREE QUARTERS of a MILE of ROUGH POST and RAIL FENCING on Morden Common, Surrey, may obtain further particulars from Messrs. WIGG, SON, & OLIVER, 9, Bedford-row, W.C.

TO WELL-SINKERS.—The Uxbridge Board of Local Board of Health hereby give notice that they are desirous of receiving TENDERS for SINKING a WELL, 52 feet deep, 7 feet in diameter, and in doing other works at their Cemetery, situate in the Western-road, Uxbridge. The specification and plan may be seen at the office of Mr. GEORGE EVES, Uxbridge. The Board do not bind themselves to accept the lowest or any Tender. Tenders, endorsed "Tenders for Well," must be sent in to the Surveyor of the Board, Uxbridge, on or before TWELVE o'clock of THURSDAY, the 4th of FEBRUARY next.

NATIONAL SHAKSPEARIAN TERCENTENARY FESTIVAL, STRATFORD-UPON-AVON.—To DECORATORS and OTHERS.—Persons desirous of tendering in Designs and Builders for the DECORATION of the PAVILION now being erected at Stratford-upon-Avon, can see the specification and particulars at the Office of Messrs. THOMPSON & COLBURNE, Architects and Surveyors, Henley-street, Stratford-upon-Avon, on and after MONDAY, the 18th inst. Tenders to be sent, addressed to the Chairman of the Building Committee, Town-Hall, Stratford-upon-Avon, endorsed, "Tenders for decorating the Pavilion," on or before TWELVE o'clock, Noon, MONDAY, FEBRUARY 8th. The Committee do not bind themselves to accept the lowest or any Tender.

ROBERT E. HUNTER, Secretary.
By order.

TO BUILDERS.—The Directors of the Farnborough Cottage Company (Limited) are prepared to receive TENDERS for the ERECTION of TWELVE COTTAGES, at Farnborough, near Aldershot. The plans, specification, and conditions of contract may be inspected at the Architect's Office on and after SATURDAY, the 16th inst. The Tenders are to be delivered at the Office of the Architect, on TUESDAY, the 26th instant, at TWELVE o'clock, sealed, and endorsed "Tenders for Cottages at Farnborough." Before we will be required, and the Directors do not bind themselves to accept the lowest or any Tender.

HENRY CURREY, Architect.

4, Lancaster-place, Strand, W.C. January 14, 1864.

MOORE'S OLD-ESTABLISHED WINDOW LEAD WORKS.—MOORE'S PLAIN and ORNAMENTAL LEAD GLAZING for CHURCH and other PURPOSES. All descriptions of Glazing executed on the most reasonable terms and well despatched. Old windows releaded and restored. Manufacturer of all kinds of window lead to the trade.—No. 37, Castle-street East, Oxford-street, London.

N.B.—Estimates given for the Staining and Varnishing of Roofs, &c. and every description of Church Decorations.

PATENT and BRITISH PLATE GLASS.—JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 65, Soho-square, London.

EBOR STAINED-GLASS WORKS.—J. W. KNOWLES, 73, Goodramgate, York, begs to inform the clergy, gentry, and others, that he can execute GROUP or FIGURE WINDOWS in the first style of art, and at the lowest scale of prices. Geometrical windows from 6s. per foot; Quarries from 3s. per foot. Designs and estimates on application.

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British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

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WINDOW GLASS! WINDOW GLASS!—Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental Rough, Rolled, and Patent Plate. Sashes fitted for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at

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Adjoining the Polytechnic Institution.

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ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

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Descriptive price-lists, drawings, and estimates sent on application.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95½, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)

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COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Iron work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

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FACTORY.—116, Dorset street, Fleet street.
January 1st, 1864.

PRIZE MEDAL, CLASS X. B. 1862.

WARMING and VENTILATION.
HOT WATER, STEAM, and WARM AIR HEATING APPARATUS
The Improved LOW TEMPERATURE AIR WARMER, specially for CHURCHES.
SYLVESTER'S PATENT GILL STOVES, and
RADIATING HEARTH GRATES
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FILES marked T. TURTON. Superior to any other make.
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EDGE TOOLS marked WM. GREAVES & SONS. Electro Borocle Steel, warranted to wear out three Tools made of Cast Steel.

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Offer important advantages to Architects, Builders, and the Public generally.—GARDNER'S, No. 453, Strand, Charing cross, four doors from Trafalgar square, London.
ESTABLISHED 1752.

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes.....	2½ in.	10d.	3 in.	1s. per yard.
Eaves Gutter	3½ in.	6½d.	4 in.	8½d. "
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Sash Weights, heavy..... 2s. per cwt.
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CRANE WANTED, to LIFT ONE TON, with the necessary gear, on a carriage with wheels.—Address' with full particulars and price, to X Y Z Leathwait & Simmons, Newspaper Office, Pope's Head alley, Cornhill.

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A matured experience, extending over twenty-five years, has convinced the Patentees that *no permanent dependence can be placed in any other*

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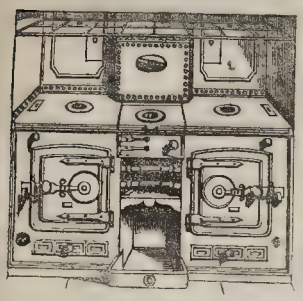
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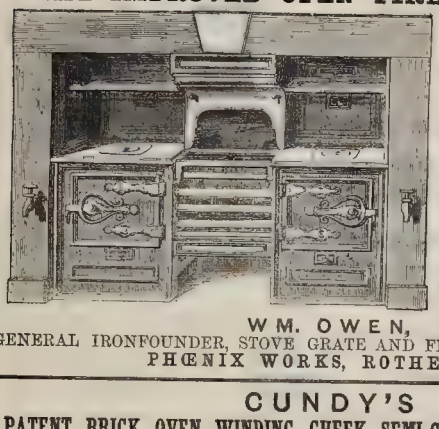


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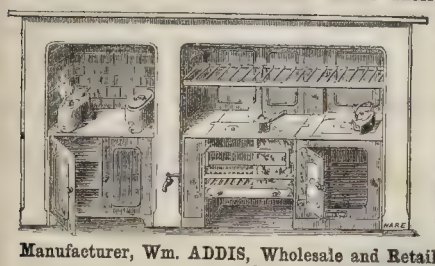
Possesses all the advantages of the ordinary Close Fire Kitchener, in having excellent Hot Plates on top of Ovens, for boiling, steaming, or stewing, with the additional advantage of having a thoroughly effective and deep OPEN Fire for roasting purposes.

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DOUBLE FALL-DOWN BAR KITCHEN RANGE,
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CUNDY'S PATENT COTTAGE RANGE.
Also CUNDY'S Patent Original Fire-Brick Warm Air Ventilating STOVE,
Suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,
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A Prospectus, with full Description and Price of the above, will be sent per Post on application.

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Wrought-Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
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IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

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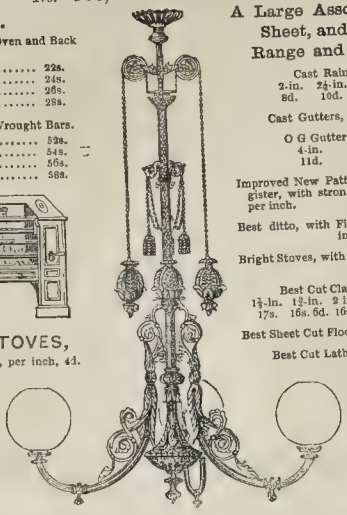
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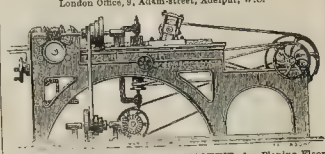
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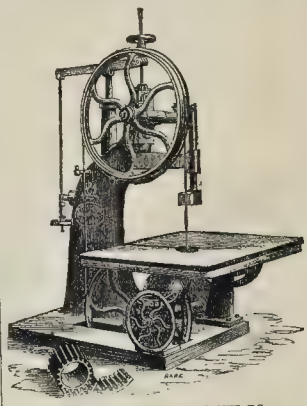
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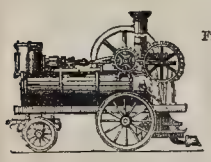
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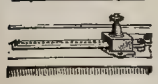
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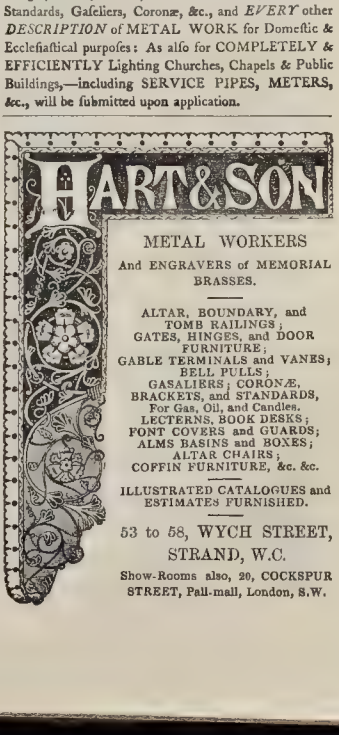


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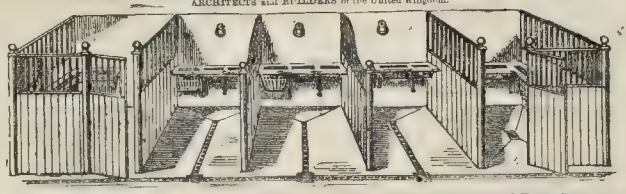
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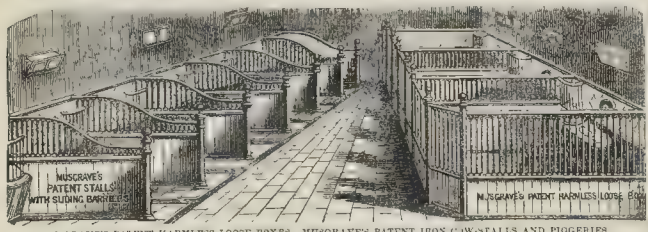
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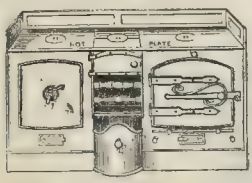
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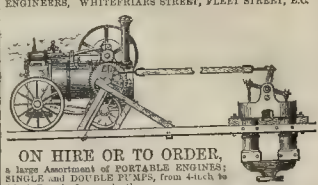
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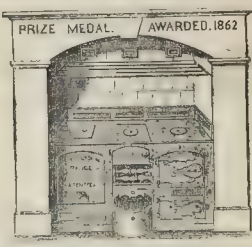
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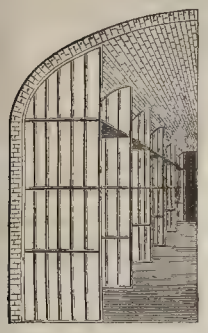
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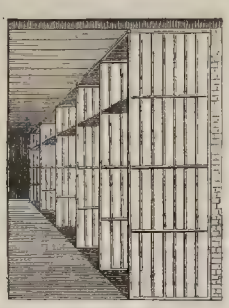
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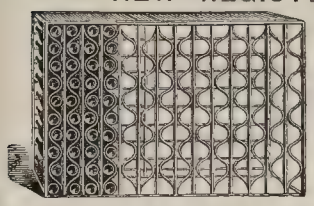
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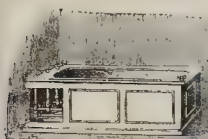
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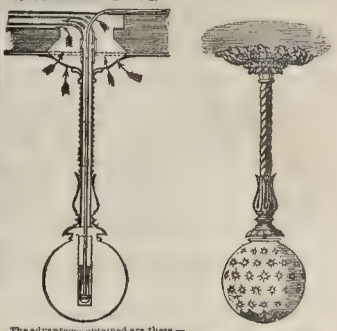
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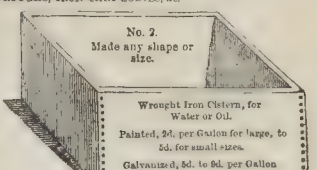
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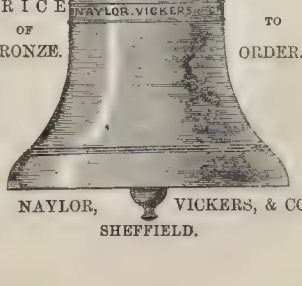
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VOL. XXII.—No. 1093.

"Going Along." Como. Turin.

A VISIT to Como from Milan, and back, may be made a day's jaunt; and a right pleasant one. An hour and a half on the rail suffices for the journey thither; a steamboat, when the town has been glanced at, will show the visitor the lake, leave him at Cadenabbia, where he may dine and gaze; and will pick him up afterwards to convey him back to the rail, and so again to those Milaners, of whom we have a permanent memorial at home in the name given to every little dressmaker. Travellers who are wise, however, and able, will devote a little more time to the dreamy delights of the place, and will call first at Monza, with its very interesting town-hall or *broletto*; its cathedral, with marble west front; some good brickwork; and rich collection of Mediæval curiosities and metal-work.*

Como, too, the *Comum Novum* of Pliny, junior, who was born there, and calls it his "darling," has a broletto with a front of black and white marble, in alternate stripes, and here and there a little red. The lower story is open, as in the case of many of our old town-halls and market-houses, the upper floor being carried on four pointed arches and columns with sculptured capitals. The window-openings, three in number, above, are semicircular, but have the arch-stones cut so as to give a pointed form on the outer line. Before the centre window is the *ringhiera*, whence the assembled people were addressed, called in common language the *parléra*. We get our word "parliament" from such assemblages as were there addressed, though more immediately from France. The building was finished quite at the commencement of the thirteenth century; but has not escaped meddlers since. The workmanship of some parts of it reminded us that the neighbourhood of Como, in early times, was long celebrated for its masons. Muratori says that even under the Lombard kings, the inhabitants of Como were so superior as masons and bricklayers, that the appellation of *magistri Comacini*, or masters from Como, became generic to all those of the profession. Thomas Hope, who quotes this statement, in his well-known "Historical Essay," connects them with the first associations of Freemasons.

Adjoining one end of the broletto is a lofty square tower without any striking features, unless, meaning no pun, we may except its huge clock; and next the other end is the marble-fronted cathedral, ranging in date over several centuries. The quaint façade of the latter, belonging to the fifteenth century, is noticeable for its pilasters filled with figures in niches one above another, some curious emblematic carvings in bas-relief on the lower part of the fronts, a statue of Pliny with inscriptions, and a very fine rose-window. Within we find a well-vaulted Gothic nave and aisles, and a choir of later date and style; with some good paintings by the delicate-handed Luini, several richly-adorned altars, and two stained glass windows by Bertini, of Milan, of whom we have spoken. Amongst the curiosities of the interior, not its beauties, is a carved figure of the crucified Saviour, having the chin and head covered with a "shock" of real hair,—a shock in more senses than one.

The church of S. Fedele, with a straight-sided arch over the doorway and some curious early stone carvings; and the very old church of S. Abondio, at a short distance off, would reward longer examination than we can give them; but the steamer is ready and we must to the *Larium lacum*, not to settle the site of Pliny's Villa, or to test elsewhere the correctness of his description of the intermittent fountain minutely described by him, but to gaze, breathe, and enjoy. We blurted out in the previous chapter some of the characteristics of the lovely scene, and expressed admiration of the tree-covered mountains on both sides; in one part craggy and precipitous, in another dotted with villas and flower-ful gardens; with here a village and there a convent: the lake smooth as a mirror; the sky a blue field speckless. Everywhere the scenery has a cultivated aspect:—

> "Sublime, but neither bleak nor bare,
> Nor misty are the mountains there,
> Softly sublime -profusely fair;
> Up to their summits clothed in green,
> And fruitful as the vales between,
> They lightly rise,
> And scale the skies,
> And groves and gardens still abound;
> For where no shoot
> Could else take root,
> The peaks are shelved and terraced round."

At Cadenabbia, we said, the traveller may dine. He most certainly *will* do so if wise: and there, not forgetting to taste the "Lachryma Christi" and the "Asti," both excellent at the charming hotel close to the water, he may enjoy the most interesting as well as the most extensive view that can be obtained of the lake; a view commanding the two branches into which it divides itself, with Bellagio at the elevated extremity of the promontory that lies between the two. Here we would willingly linger and dream away the time, garnering up for afteruse,—

> "The harvest of a quiet eye;"

but that would not be "going along:" the steamer has again arrived, and after a hasty sketch of the "lay of the land," we are again *en route* for Como; the sky as serene and the water as placid as before. But this smiling lake is something like a cat's paw; at one moment smooth as a piece of velvet, to be touched not merely with impunity but pleasure; the next, *presto*, a spiky claw not to be carelessly approached. In other words, it is subject to very sudden and very unpleasant outbreaks of ill-temper; and one such on this occasion curled up its surface into foam-crested waves, obliged the sailors to take down the awning of the boat with much noise and flurry, and at the same time sent many of the passengers below, where they lay about the cabin in all the helpless misery of *quasi* seasickness. This was the *avant-coureur*; and, before long, grand masses of purple clouds gathered thickly around, grouping themselves into most fantastic shapes. One, in particular, if we were writing a sensation novel, we should point to as in the form of a floating figure, with long sweeping drapery, head bowed Flaxman-wise, and arms crossed on the breast, as if, while reluctantly compelled to commit devastation, lamenting the ruin it could not avoid causing. Then came the rushing rain; while lightning, first playing magnificently in amongst the mountains, accompanied us all the way back to Milan, and continued to make itself visible and audible far into the night.

The railway from Milan to Turin (out of Lombardy into Piedmont), runs through Magenta, Novara, and Vercelli. Between the first two a pyramidal monument of stone is nearly completed, in memory of the French soldiers who were killed in that campaign for the restoration of Italy to the Italians, wherein the Emperor Napoleon III. unhappily fell off from his intent, and broke his word to Europe. Many dangers has that act brought and is bringing him. At Novara several new buildings are going on. The Cathedral here has an atrium. In Vercelli there are several matters to make a visit profitable. The church of S. Andrea, built about 1218, is transitional between Lombard and Pointed work. Externally it shows a central octagon tower, with two smaller towers at the west end and semi-circular arches. The cathedral is sixteenth century work, Italian. The library here contains, with other treasures, a fourth-century copy of the Gospels, known as the *Codex Vercellensis*. How oddly, by the way, words get fresh meanings. *Codex*, in its Latin sense, was the inner bark of a tree. How comes it, then, now to mean a manuscript? some young reader may ask. For the simplest possible reason. This inner bark was used to write on; and so the Romans got to apply the word to any piece of writing. When we talk of a *codicil*, we scarcely think of a tree, or that in this case, again, the *bark* is the *root*.

Turin is in a state of re-construction, including the interior of our resting-place, the Hôtel de l'Europe. This stands on the fine *place* del Castello, with the old palace and its quaint round red towers to the right, on the other side of it, and in front the Royal Palace, with effective gaseliers on the piers of the gates, enclosing the forecourt of the Palace, and two good equestrian statues—Castor and Pollux. The Gallic tribe, the *Taurini*, who made the city their capital, certainly would not now know it. The streets, with very few exceptions, cross each other at right angles, and continue from one side of the town to the other both ways; so that the snowy Alps or wooded Apennines that everywhere form a background to the city, are seen at the end of every vista. There are many arched promenades, shady avenues, and large and handsome new public gardens without any enclosure. The old public gardens are on elevated ground, covered with fine trees, which is to be lowered, we are told, and built on. This should be avoided, if possible. The area will be needed by and by, and should be kept open. Amongst the new buildings in progress should be mentioned a large station for the Geneva line of railway. Here, as well as elsewhere abroad, inclined planes are formed, from story to story of new works, for the use of the workmen instead of ladders. Granite tramways, we may note, are laid for vehicles throughout the streets, as they are also in Milan. The Victor Emanuel Piazza, opening on the river Po, with the bridge, and the church on the other side, has a good effect. Further on there is a suspension-bridge over the river, dangerously slight. Seen from this ricketty structure, the Royal Palace of Valentino groups admirably with surrounding trees, and, later in the evening, with a star-spangled sky, and a bright crescent moon forming a long pathway of light on the river at its foot, gave us a favourable picture.

The buildings in Turin make no great claims in an architectural point of view. The Cathedral is chiefly rememberable for the Royal Chapel at the end of it, mainly of black marble, designed by Guarini, who was much employed by the reigning monarch in the seventeenth century; but was a poor architect. The roof is formed by a series of flat arches, one upon another, curiously ugly. The large white marble monuments which surround the chapel tell forcibly. One to Francisco T. C. Emanuel I., by G. Gazzini, dated 1849, is particularly good. There is also a very elegant sitting statue of the late Queen, by Salvator Revelli, dated 1854. It was ordered by the Queen herself, and, she

* The present façade of this cathedral, a curious specimen of what has been called expressively the "cabinet style," was commenced in the year 1396, by the architect Matteo di Campione. He was buried in the church, and Gally Knight transcribed his epitaph, still there, as thus,—

"Hic jacet magnus Edificator, Magister Matteus de Campilliono, qui hujus Sacrosanctæ Ecclesiæ fatiem edificavit; Evangelicatorium, et Baptisterium—qui obiit A.D. 1396."

dying in 1855, it was used as her monument. The *pose* is easy, and the drapery remarkably good.

The church for the Protestants, finished in 1853, in sham Lombard style, is very ugly. Still it is a building of cost and importance.

In the Church of the Holy Martyrs, some paintings in fresco, effective and fairly good, have been executed by Signor Goneng. The Church of La Consolata, wherein there is a most curious and heterogenous assemblage of offerings to the Virgin, contains two kneeling figures in marble of Queen Maria Theresa, and Maria Adelaide. The hand of the latter figure over the *prie dieu* is a fine piece of workmanship. A charming little Italian girl, who, attended by her mother, was making a very good painting of this group, seeing that we were examining it whispered modestly, "Both these figures are by Signor Vela." Thanks, Signora. You gave us not merely acceptable information, but a pleasant impression of your own intelligence and grace.

We could not find a better moment to leave off.

PROFESSOR SMIRKE ON ARCHITECTURE AS A FINE ART.*

IN commencing a short course of lectures this season, it is right that I should request you to understand the nature and object of them. To use the exact terms of the constitution of the Royal Academy, it is my duty, as Professor, to endeavour "to form the taste of the students and to instruct them in the laws and principles of composition."

These are terms which you will perceive preclude me from treating Architecture as a practical science; binding me to confine myself to those æsthetic considerations by which Architecture is allied to the sister arts. It appears to have been a part of the original intention of the founders of the Academy, in 1768, that it should comprise a school of architecture in the full sense of that term. In this, as in many other respects, we may perhaps recognize the good sense and sound judgment of our founders.

Their object was clear, simple, and definite; they desired to advance "the fine Arts," and they prudently refrained from comprising within the sphere of their educational curriculum objects of a different nature, such as the theory and practice of mere building must be admitted to be.

However useful it might be to advance practical science, *that* was not their aim; and surely we cannot deny the sound judgment and policy of thus limiting their scope, and leaving mechanical processes to some other school of instruction.

It must be remembered that by far the largest portion of their members, and consequently of their students, *were* as they still *are*, votaries of those sister arts, Painting and Sculpture, from whom it would not be reasonable to require or expect any systematic study of those branches of mechanical knowledge which are so essential for the student in architecture. I do not venture to say that it may not be right, now that the Royal Academy has reached its present state of maturity, that a complete and comprehensive school of architecture should be established within these walls. I do not enter here into that consideration, nor would it be becoming in me to do so. But, certainly as the Royal Academy is now constituted, these lectures must be limited to the consideration of architecture as a Fine Art. Viewed in this light, the art with which I have to do is as much deserving of your study as either of the other sister arts. Perhaps I should say it *demands* your study; for certainly the painter and the sculptor must be regarded as very imperfectly acquainted with their art unless they have rendered themselves fully conversant with the principles of design in architecture. There is one other preliminary remark which is, I think, needed.

Too much must not be expected from these or any other *lectures*. The amount of knowledge that can be verbally communicated by speaking for a few hours during the year, must be slender indeed. General principles and general criticism can alone be dealt with. I may endeavour to illustrate those principles by adverting to examples of admitted excellence, and I may draw further illustration from the contemplation of the errors of licentious or capricious art. But still it is to *principles* mainly that I can here invite your attention. The great volume of architectural knowledge *in its details* must remain closed. Nor should I lead you to expect that that great volume can be mastered by any labours but your own.

The student must be the artificer of his own fortune: the teacher may, according to his ability, arm the student with the appropriate weapons or instruments of his profession,—he may point the way and administer some facilities for advancement; still the art-student must expect progress only in proportion to the toil of his own hands, and to the inspirations of his own genius.

The literary student has, doubtless, as wide a field to cultivate; but *his* labours are wholly mental; whilst the student in architecture has to exercise his hands as sedulously as his head, and to make himself as intimately acquainted with the *material* as with the *moral* elements of his art. He must unite that essential constructive knowledge from which the very name of architecture is derived, with a perception of those graces of form and decoration to which architecture owes its place in the circle of academical fine arts. Our profession is peculiarly complex, and comprises obligations essentially different, — nay, sometimes apparently *discordant*. We have not only to conjure up a thought and express it on paper, but we have also to make it a reality; and in that task we are liable to be embarrassed by a thousand difficulties—of cost, of construction, of deficient material, of limited and prescribed site; a weight of *serious* and *lasting* responsibility lies heavily on us; and we are not seldom sorely tried by those whose tastes we find ourselves called upon at once to submit to and to control.

Such are the difficulties which await the architect, which beset his path with pitfalls and with thorns. But I offer them to your notice with no fear that they will dismay or discourage the real student: to a mind of energy and spirit, difficulties to be overcome tend but to strengthen the resolution and heighten the courage.

The student will ever let it be present to his mind that the study of his profession is no light thing; and he will not fail to enter upon that study with a becoming earnestness and a thorough appreciation of the gravity of his vocation.

I need, however, scarcely remind you that the utmost diligence will be of little avail unless that diligence be wisely directed. That a proper direction be given to your studies is, indeed, absolutely and obviously essential to their future success. There must be no impatience under the restraint of rules: the mind must be disciplined and reconciled to subordination, for he who would command must first learn to obey. Our great master, Reynolds, has said, with his wonted sagacity, "The impetuosity of youth is disgusted at the slow approaches of a regular siege, and desires, from mere impatience of labour, to take the citadel by storm: they wish to find some shorter path to excellence, and hope to obtain the reward of eminence by other means than those which the indispensable rules of art have prescribed."

We often hear "rules of art" condemned as leading to academic coldness, and to a tame, lifeless formality. True it is that no mere rules, no prescriptive teaching, can supply the want of that innate perception of grace, which is not made, but born; which must come uncalled for, if it come at all: but let us by no means be led hastily to infer from thence the inutility of such rules. They will not suffice to give life to a school-copy any more than they will animate a lay figure; yet sound rules of art serve to inspire the best artists with confidence, and, above all, will curb the erratic tendencies of even genius itself, ever prone to overlook the line which distinguishes the bold from the extravagant, the sublime from the ridiculous, even the right from the wrong. Let no student suppose, in whatever amount of conscious strength he may indulge, that he can with safety trust himself to the trackless wastes of his own imagination, and shut his eyes to the lights that have been set up by long experience, or to the landmarks which the *past* has left for the guidance of the *future*. It is a false and vulgar opinion that rules are the fetters of genius. "He who begins by presuming on his own sense," says Sir Joshua, "has ended his studies as soon as he has commenced them." Now, the Orders of Architecture are instances of such *rules of art*, and have been instituted, not as fetters to embarrass, but rather as helps to strengthen, the judgment.

It is no uncommon thing to hear these orders spoken of with disparagement, as tending to inculcate a servile adherence to arbitrary rules, destructive of originality and of inventive talent. I think that this impression is founded on a misapprehension of the nature of these orders; a misapprehension, I am ready to admit, likely enough to arise from the dogmatical tone in which the proportions of the five orders are often laid down.

The truth is, that the artists of ancient Greece in its best days, endowed with an unmatched perception of beauty and of the most refined cultivation, were led by their observation and experience to adopt certain general forms and proportions; and students, struck with their beauty, have sought to trace it back to its original sources by an analysis of those forms and proportions; that is, by their exact measurement and delineation,—a very legitimate, natural, and indeed necessary process.

In thus deducing a system of proportions from the practice of the best architects, we are surely acting as reasonably as the student who would deduce rules of poetical composition from the poetry of Milton or of Pope.

It is thus that the orders of architecture have been instituted; but it is an error to regard them as composing an infallible standard of taste from which any deviation must be heresy. With a praiseworthy adherence to truth, the travellers who have measured and delineated these works, in giving us their transcripts of ancient examples, have figured for our information minute fractions—any hair's breadth—and thankful we should be for their laborious exactness; but it would be a gross mistake to represent that to these fractions we are to pay a superstitious reverence: this was far from the practice or intentions of the great authorities themselves. Vitruvius tells us of the diversity of practice that prevailed even in his own times. In truth, any wide diversities exist even among the best examples.

In the relation of the diameter to the length of the shaft of the Greek Doric order there is a difference of 33 per cent. between the heaviest and lightest examples even in the best times. In the Ionic order a similar, though perhaps not so great, diversity, prevails; and every tyro is aware, also, of the extreme variety in the form and character of the details existing between even pure examples of these two orders. Similar comparisons might easily be multiplied, abundantly sufficient to show that the best masters of classic times held the reins with a loose hand; indeed, under the easy sway of these Five Orders we recognize a regimen so mild as to satisfy any reasonable love of liberty.

The value of these great examples has been not unfrequently tested and proved by the fantastic variations which have been sometimes boldly grafted upon them. In these attempts at new or amended orders, we find little to encourage any wide departure from the parent forms; but, on the contrary we recognize in them more clearly the convenience and wisdom of adhering pretty closely to *known standards*, which the eye has learnt to appreciate as accurately as the cultivated ear distinguishes the intervals of scientific harmony. To set at naught the architectural forms which the age of Pericles has bequeathed to us, is about as idle and undiscerning a task as to contemn the rules of counterpoint, or the musical scale which has descended to us from Guido of Arezzo.

If we turn to the other great system of architecture, that which grew up in the Mediæval period, we shall find artists still acknowledging certain general and leading principles, singularly differing, indeed, from those which guided their predecessors, but still rules of art.

It is true that, so far, at least, as relates to ecclesiastical structures, these rules have been influenced in a material degree by the dogmatic teaching of the Christian Church; which, if it has, on the one hand, inspired many very striking and sublime conceptions, so, on the other hand, it has imposed some restraint on the erratic tendencies of Mediæval genius.

I confess that I am unable to assign to the favourite symbolism of the early Church many of those forms and features which were in truth of earlier growth. We recognize in the Romanesque Church the familiar forms of the Roman basilica, and no ambiguous tendency to Roman architectural decoration; yet we cannot fail to see that a symbolism grafted on pre-existing forms which sought to appropriate and to sanc-

* Delivered at the Royal Academy, January 7th, 1864.

ify the most admired features of Pagan art, did n fact gradually pervade the whole system of Christian architecture, and impressed upon it a character which departed widely from the types of ancient art.

Thus it is that architecture has ever submitted tself to a wholesome control, without imposing any impediments to the exercise of inventive genius. No art has stagnated less than our art; perpetual change has rather been the law of her existence. The student, therefore, as I have already urged, should learn to reconcile himself to the discipline of the schools, and use it as the safest foundation to receive the superstructure of his subsequent education and practice.

An important portion of his preliminary studies should be the acquisition of a comprehensive knowledge of the works of past times. A large and conscientious survey of such works exercises the judgment, forms the taste, and fertilises the mind of the observer, and promotes the growth of new thoughts and new combinations.

Sir Joshua, with his usual felicity says, "The student unacquainted with the attempts of former adventurers is always apt to overrate his own abilities; to mistake the most trifling excursions for discoveries of moment, and every coast *new to him* for a new-found country;" and to congratulate himself on his own arrival at regions which they who have steered a better course have long since left behind them."

Our art has been often subjected to the reproach that it has not advanced *pari passu* with other branches of human knowledge; and it is useless to deny that æsthetics generally have not kept pace either with physics or with the exact sciences.

We must, however, bear in mind that there are important heads of human knowledge which are not in their nature susceptible of indefinite extension, and in which it is idle to expect progressive discovery.

There is every reason to believe that the works of nature supply, and will ever supply, an inexhaustible field for the research of human ingenuity. We can hardly contemplate the time when the facts which lie concealed beneath the surface of created beings and things, will become revealed to all mankind. The Omnipotence that made can alone fully make known the infinite wonders of his own creation. But, as it certainly *is* in morals, so in æsthetics it *may* be, that no new important principles remain to be discovered; and that we can look only for new combinations, for the employment of new materials, and for the discovery of new constructive inventions. A hasty retrospect will, I think, confirm this supposition.

Upwards of 2,000 years ago a more refined and delicate taste, and a more thorough mastery of the power of representing beauty, existed, than the world has since been able to acquire. Nor was that extraordinary æsthetic development confined to a few rarely-gifted artists; for there is not wanting good ground for believing that it pervaded the general mind of the Greek people.

Again, 1,700 or 1,800 years ago, the grandeur of the Roman empire was well typified by a corresponding grandeur of architecture which has never since been equalled.

We find, 1,200 years ago, in the Gregorian chants, musical compositions conceived of a grander character and far deeper feeling than the music of the modern school can lay claim to. It seems to be in accordance with these general views which I have ventured to express in explanation of the *supposed* tardy advance attributed to our art, that a great musical composer of the present day—Rossini—has attempted to account for the admitted want of originality in modern musical composition, by expressing his suspicion, that probably all the material *changes* of which the notes of music are susceptible may have been already *rung out*.

I cannot, indeed, adopt this theory, even in respect of music, and I am still less disposed to damp the aspirations of young *architects*, by countenancing any such doctrine of exhausted originality.

I believe, indeed, that the *fundamental principles* of architecture leave but little room for important future discovery; but the combinations which the component materials of art permit,—their variation, composition, and decoration, are practically infinite and inexhaustible.

May we not discern some relation between the progress of fine art and the corresponding development of the individual man? Our first pleasures are all sensuous,—our earliest efforts are limited to the exercise and gratification of our senses. The eye and the ear are, I believe, as acutely sensitive in early youth as in the after man; it is not until the faculties of the mind are somewhat matured that it begins to discriminate, to survey nature with a more intelligent observation, to take a deeper interest and to recognize a more pregnant meaning, a more mysterious harmony in its forms, its sounds, and its colours.

And so it may be that in the earliest ages of civilization, men mainly cultivated those arts which address themselves to the *senses*.

It seems, indeed, to be conformable with our ideas of the Divine will, to suppose that we should be *instinctively* supplied with the power of enjoying the pleasures arising from these simple elements, whilst purely intellectual pleasures, such as are derived from acquired knowledge and matured experience, are left to be gradually attained by the slower process of self-culture.

These inquiries, however, are scarcely fitted for the present occasion, and must not be here pursued; but the fact can hardly be disputed that not in this country only, but elsewhere, and everywhere in our hemisphere, whatever may be the cause whatever the remedy,—the fine arts—or at least *our* art—has not kept pace with time: and I may add (although I hope that there is no inherent connexion between the two phenomena), that those countries in which, in modern times at least, political and commercial improvements have been most remarkably developed, have been, perhaps, the least fortunate in the cultivation of æsthetic talent.

In this country architects are not unfrequently asked in a somewhat disparaging tone (and the same inquiry may be made in other countries), "What is the style of the nineteenth century? We know with precision the distinguishing style of the eleventh, and of the thirteenth, and of the fifteenth, but what is the style which is claimed as distinguishing the nineteenth century?" This is a question which, I am bound to admit, it is extremely difficult to answer; for buildings from every climate under the sun, and of every period since the Pyramids, are candidates for our admiration, and find spectators willing to be pleased. After making every allowance for the charm of variety, and the monotony of uniformity, especially in street architecture, I cannot but think that the Englishman's claim of right to do what he will with his own, and adopt the style that may seem good in his own eyes, is to be lamented as tending to make our architecture motley, and our buildings incongruous with each other, causing our gables to be of every conceivable angle, and our columns of every imaginable proportion. But so it must be until the republic of taste shall submit to a dictator, or the vision of an eminent writer of the present day shall be realized, who dreams of some happy future, when we shall *all, by common consent*, agree to build in accordance with the canons of the thirteenth century.

But there is another class of enthusiasts with whose views it is impossible not to sympathise. Full of hope and confidence, they watch day and night, in the full assurance that a new style will one day spring up, fresh and bright, from the mint of genius, ready for the current use of the remainder of the nineteenth century.

I have already, in former lectures, said enough to show that I can hold out little hope of such a new birth, or, at all events, that the effort to generate such a phenomenon would be productive of any creditable result.

The experience of all ages shows that the fluctuations of style are the result of causes over which man can exercise but slight control. The varieties of soil—of climate—of available materials, are among the obvious causes of diversity in architectural style: the discovery of a new material, or of a new region,—the requirements of religious, political, or commercial movement: these have been the chief agents that have given birth to those modifications of style which mark the history of our art.

It may not be unprofitable to occupy a few moments in noting some instances of the operation of these external influences.

The style now known as Byzantine owes its origin *not* to the inventive labour of any individual artist of Byzantium, but to the struggles for imperial power in Rome, which led Constantine to establish the seat of his government on the Bosphorus, and so brought Eastern and Western art into *such* combination,—each imbuing the other with many of its peculiarities,—that this *tertium quid*, the Byzantine style, came into existence. Again, the style known as that of the Renaissance is traceable, not to the mere ingenuity of the artists of that period, but to the extraordinary growth of the power of the Turks, who, sweeping before them the degenerate remnants of Roman power, pillaged Constantinople, and scattered its comparatively polished inhabitants over Europe, there to sow the seeds of a taste for classic literature and art. The style of architectural decoration called Raffaellesque, after the great artist who first practised it, really owes its origin not to the inventive powers of that master, but to the eager excavations in search of classical antiquities which led to the *accidental* discovery of the Bath of Titus, the beautiful decorations of which building suggested to Raffaelle their resuscitation. Then, if we turn to another class of architectural design, we shall find that castellated structures, with their lofty towers and frowning machicolations, totally altered their style and aspect, at about the fifteenth or sixteenth century,—not from the caprices or ingenuity of artists, but because some unknown person had chanced to discover the chemical effects of combining in certain proportions, nitre, sulphur, and carbon,—thus totally altering the mode of warfare. If we descend to times nearer to our own, we shall find like examples of the influence of accidental causes over the fate and fortunes of high art. Napoleon, for a while, found it his policy to take imperial Rome as his model, and to obliterate, as far as possible, the reminiscences of the ancient *régime*. Hence Percier and Fontaine, following out, not an æsthetic law, but a political necessity, inundated France, and, by consequence, Europe, with representations of curule chairs and the lictors' fasces; and at once the florid school of Louis XVI. was superseded by the severer forms of classical antiquity.

I might draw further illustration from the ardent revival of Mediæval art in our own days. An enthusiasm which all the labours of a Carter, a Britton, and the elder Pugin, *failed* to kindle, blazed forth at the call-note of archæology,—but of a class of religionists who sought to feed the eye and the imagination with the materials of a more *objective* worship. But, I have adduced enough to show how secondary a part man's *inventive* powers seem to have played in bringing about the revolutions that mark the history of art. He may seek to lead, but he finds himself condemned in no small degree to follow: he may catch the favouring gale, but the helm is held by other hands: he may cultivate, and graft, and train, but the seed has been sown for him.

In saying this, I would not be thought to deprecate individual aspirations to originality; but I would dissuade you from being misled, by the specious cry for *something new*, to tempt the dangers of that wild and perilous pursuit.

Seek rather for that which is *good*, than for that which is *new*, and in this search you may perchance fall in with something *new* which is *good*. The genius of our forefathers has conceived two great styles into which all architecture, as hitherto developed, may be ultimately resolved, the Classic and the Mediæval. These are the two great mines in which you have to work; they are not only not exhausted, but they are practically inexhaustible. They are two systems which, however gradual in their growth, however originally intermingled, have now become perfectly distinct and widely different. Yet both are alike true and simple, both are alike rational and consistent, for both are based, more or less, on the laws of nature and the rational wants of man. The spirit of party, which is apt to enter into most of our speculations where the mind is free, enters somewhat too largely into the republic of art; and architects, as well as connoisseurs, are too apt to range themselves as *partisans* of this or that style. So long as this spirit tends only to promote emulation, and to raise up zealous patrons of art, it is *not* to be lamented; but when,—as such a spirit is apt to do,—it narrows our view, or warps our judgment, the effect becomes injurious to the cause of art and of *truth*.

For myself, I see no reason why both styles should not flourish together in like honour. There is no *monopoly* of *style* in the works of *nature*. She excites our admiration—awes us—delights us—with every possible variety of means; with all the magic of colour, figure, and dimension. From certain laws, it is true, she *never departs*: certain principles are with her fixed and immutable; but beyond those of truth and of aptitude, what bounds does she submit to? She loves to resort to a thousand expe-

dients: she is fain to adopt a thousand different modes of doing the same thing, surprisingly varied. Why, then, should *we*,—though humbly following her, as becomes us, at a remote distance, why should we conceive ourselves under any obligation to adopt as our rule of design one special system? We see *her* expatiating over the whole material world, importing beauty from endless sources. Why should we *run in a groove*, and hold our own to be the only orthodox line in which true taste can be permitted to run?*

VANDYCK IN ENGLAND.

"Most other men, set next to him in view,
Appear'd more shadows than the men he drew."
Cowley, (1641) "*On the Death of Sir Anthony Vandyck, the famous Painter.*"

"Let a man read a character in my Lord Clarendon (and certainly there never was a better painter in that kind), and he will find it improved by seeing a picture of the same person by Vandyck." *Jonathan Richardson.*

THOSE persons alone who have made the writing of Lives a study will best appreciate the labour which the garnering, correcting, sifting, and the right ordering of facts (certain—received or assumed) give at every turn to a conscientious writer of Lives. Nineteen years have passed since I commenced annotating Mr. Carpenter's quarto volume about Vandyck. Nor have I been idle since, or, in some way, unsuccessful. The Public Record Office (thanks to Sir John Romilly) is accessible when good grounds are shown for asking unpaid access. To the Works Accounts of the Accountants to the Crown I had for many years unrestricted access: they were under my care; and from this hitherto scarcely wrought mine I have already contributed "materials" of moment to the columns of the *Builder*. If English history do not become correct to a fault, the blame will in no way rest with the present keepers of the Records of Great Britain.

In forming the Portrait Gallery of the Manchester Art Treasures, I had many Manchester committee disadvantages. The idea was mine; the execution was mine; and I am still proud of the result. I determined to show Vandyck on his throne. Men who preferred to see on canvas

"An ass on the common, a goose on the green,"

to the cavaliers of King Charles, were worsted by what I was able single-handed to accomplish: more examples of "Vandyck in England" were in Manchester in 1859 than will ever be again seen on the banks of the Irwell,—that Fleet Ditch of rivers translated from London to Lancashire.

Every so-called "Vandyck" in England is not a Vandyck. Smith's List is not a Dorling's Correct List. It has been my good fortune to see the Perkin Warbeck Pretender by the side of the True Lion—the Jew's fac-simile on the same counter with the real Koh-i-Noor.

Sir Anthony Vandyck (the famous Fleming among us), is an Englishman. "His works," says Walpole, "are so frequent in this country that the generality of our people can scarcely avoid thinking him their countryman."

Allan Cunningham intended to have added "Vandyck" to a future edition of his Biographies of British Painters. Let us retain Sir Anthony among us, if we can only establish a fair claim to the better half of what he has done. All his honours were acquired in England: he was pensioned, decorated, and knighted by an English king; married a Scottish lady; bore English arms; had his town house in London and his country house in Kent; painted, repainted, and re-repainted portraits of the King, the Queen, their children, and many great personages of the English Court; and, dying among us, was buried, by his own desire, in the cathedral church of St. Paul, in London. This is something, though not all. The better portion of what he has done we have still among us. The critic in art who wishes to study and comprehend Vandyck must go to Windsor Castle, Warwick Castle, Longford Castle, Wilton House, Wentworth House, Stafford House, Montague House, Castle Howard and Combe Abbey, Althorp, Euston, Eaton Hall, Holkham, Petworth, Panshanger, Drayton Manor, to Gorhambury and The Grove, to the National Gallery, and to Earl de Grey's.

The whole Continent can show nothing to compete with our collection. The famous Vandyck of the Louvre is an English portrait. Let us therefore still stand sturdily out in asserting that the greatest portrait-painter the world has ever seen was an Englishman in everything but the accident of birth. Our claim was infinitely less feeble to the throne of France; yet we asserted and made good our right, and only reasserted and made good our right, and only resigned the claim we supported by the sword when it was useless to retain it. We can return Holbein to Basle, Lely to Westphalia, Kneller to Lubec, Gibbons to Rotterdam, Roubiliac to Lyons, and Fuseli to Zurich; but Anthony Vandyck to Antwerp is more than Englishmen will readily consent to.

This thoroughly English artist, the great Lord Clarendon of portrait-painters, was born at Antwerp, in Brabandt, on the 22nd day of March, 1599. Velazquez, the great master of Castille, was born the same year—possibly the same day.* His father's name was Francis, and his mother's maiden name Maria Kupers, or Kuperis. She was his second wife. His first wife, Cornelia Kersbroon, was admired for painting flowers in small, and for needlework in silk. The father was a merchant, and Anthony was his only son. He had sisters: three are mentioned in his will,—Susannah, a nun, in a convent at Antwerp; a second named Isabella; and a third, Catherine, married to Sir Adrian Dircks.†

Anthony evinced a love for art from a very early period, and his father, perceiving the particular direction of his genius, placed him with Henry Van Balen, a painter of name in his day, but now best remembered by the reputation of his pupil, and the portrait he has left us of him. But the fame of Rubens drew him away to a better school, and leaving Van Balen in 1615, he became, in his sixteenth year, the pupil of the great painter whose name is now inseparably connected with his own.

His first employment in the studio of Rubens was in making from pictures finished drawings for engravers to work from. But he soon escaped from this drudgery,—was called to assist his master in something more than mechanical labour; commenced portrait-painter on his own account, and made such attempts in history pieces as attracted the envy, so it is said, of his great master. The tradition of the studios has been that Rubens advised him to confine his attention to horses and human faces. "One of the highest gratifications of superiority," says Hogarth, "to whom we owe the tradition, arises from the pleasure which attends instructing men who do not know so much as ourselves; but when they vergo on being rivals, the pleasure in a degree ceases: hence the story of Rubens advising Vandyck to paint horses and faces, to prevent, as it is said, his being put in competition with himself in history painting." It is more pleasing and probable to suppose that the advice, if given at all, was not given maliciously. Posterity has confirmed the decision of Rubens that Vandyck's strength lay in portraiture and not in history.

While yet a pupil—and a pupil only—in the studio of Rubens, the talents of Anthony attracted the attention of Thomas Howard, Earl of Arundel,—an early and well-known name in the history of art in England. Lord Arundel, it appears, had written to Rubens to request that he would paint for him the portrait of his countess; and to Vandyck, through an agent of his own, "to induce him to remove." The letter to Rubens was delivered by Lord Arundel's agent at Antwerp. Mark the answer, it is all important:—

"Immediately on my arrival in this city, I presented your Lordship's letter to Signor Rubens, the painter, who received and perused it with evident marks of satisfaction. I give you his reply:—'Although,' said he, 'I have refused to execute the portraits of many princes and noblemen, especially of his Lordship's rank, yet from the Earl I am bound to receive the honour which he does me in commanding my services, regarding him as I do in the light of an Evangelist to the world of art, and the great supporter of our profession.'"

The portrait of the countess (Alathea Talbot) by Rubens is now in the Gallery at Munich. Lord Arundel's agent adds:—

"Vandyck lives with Rubens, and his works are beginning to be scarcely less esteemed than those of his master. He is a young man of one-and-twenty: his parents are persons of considerable property in this city; and it will be difficult, therefore, to induce him to remove, especially a he must perceive the rapid fortune which Ruben is amassing."

This letter, a discovery of the present century, is written in Italian, and dated "Antwerp, 17th July, 1620."

That the temptation to remove was made by Lord Arundel, is the conjecture of Mr. Carpenter—a conjecture fully confirmed by a letter from Antwerp, of four months' later date, from the once famous Sir Toby Mathew to Sir Dudley Carleton.

"You will have heard," says clever, conceited Sir Toby in a letter about Rubens and a picture of a chase, "how Vandyck his famous Allieno is gone into England, and that the King hath given him a pension of one hundred pounds per annum. I doubt," he adds, "that he will have carried the design of the 'Chase' into England; and if he have, I durst lay my pair of hands to a pair of gloves that he will make a much better piece than this is for half the money that Rubens asks."

What Rubens asked for his "Chase" (and he confessed it was not all by his own hand), was one hundred Philips and an injured picture of "The Creation," by Bassano, belonging to Lord Danvers. Toby offered him, first, fifty ducats, and then—a little more; but the demands of "the cruel courtier painter," as Sir Toby calls him, were like "the laws of the Medes and Persians [I use Sir Toby's words], and could not be altered." *

Vandyck (that famous Allieno) is now in his twenty-second year, and in England. He was lodged in Drury-lane, with a painter of the name of Geldorp; as nine years later Rubens, when in England, was lodged with Gerbier, a painter living in the Strand. Such, at least, is the tradition which Vertue preserved and Walpole printed. Geldorp was a painter of Antwerp, and a countryman and fond of Vandyck. Gerbier, in a letter to King Charles, calls him that babbler Geldorp "caquetteur." His house in Drury-lane was a "garden-house" belonging to the Crown. Milton, it will be remembered, lived in a "garden-house" in London.

His stay was very short,—that he used his pencil while here we have no evidence; that he rendered some special service to King James I. the Order Books of the Exchequer contain the most positive proof:—

"By order dated xvi of Feby. 1620.
To Anthony Vandike the some of one hundred pounds by way of reward for speciall service by him performed for his Matie without accompt imprest or other charge to be sett upon him for the same or for anie part thereof."

Twelve days later we have this entry in the Register of the Privy Council of the King:—

"28 Feb. 1620-1.
A passe for Anthonie van Dyck gent his Maties servaunt to travaile for 8 months he havinge obtayned his Maties leave in that behalf as was sygnifyed by the E. of Arundell."

Lord Arundel was present at the council when the pass was granted. The wording of it denotes a return to England, and the description of him as his Majesty's servant confirming the gossip of Sir Toby.

And what did Vandyck see in England? A prince of his own age busy forming at St. James's a collection of pictures and works of art which has still, though dispersed, world-wide reputation. A peer of the realm, his patron Lord Arundel, equally busy forming a similar collection, and which, though unhappily dispersed, has still a reputation nearly as extensive as King Charles's. Of his master Rubens he could see but one picture, and that not good. "I could wish," writes Lord Danvers to Sir Dudley Carleton, then the king's ambassador at the Hague and the friend of Rubens, "that the famous man would do some one thing to register or redeem his reputation in this house, and to stand amongst the many excellent works which are here of all the best masters in Christendom, for from him we have yet only Judith and Holofernes, of little credit to his great skill."†

But Vandyck saw more. He saw Inigo Jones busy with a new Whitehall, and that portion of it nearly completed, the ceiling of which his master was to cover with the magic of his pencil, and the walls of which he himself was before long to commence enriching with the fertility of his own.

From pictures executed in England he could learn but little, the works of Hans Holbein and

* To be continued.

* Stirling's Velazquez, 8vo. 1855, p. 25.

† Mr. Carpenter, copying Walpole, calls him "Mr. Dirrick." In the will, as printed by Mr. Carpenter, he is called Sir Adrian Dircke, but in the original will signed and sealed by Vandyck himself, he is called Sir Adrian Direks. A search after this Sir Adrian may possibly throw some light on Vandyck himself.

* Sainsbury's "Rubens," 8vo., 1859. The picture, after some further hustering, was sent to England.

† Lord Danvers to Sir Dudley Carleton, St. James, May 27, 1621. (Sainsbury, p. 57.)

Antonio More and the miniatures of Hilliard and Oliver excepted. Before the accession of King James I. the art treasures of England lay in tapestry hangings, inlaid cabinets, coins and medals, and small objects of ornamental art in silver and gold. King Henry VIII. had the "St. George" of Raffaelle, now in the Louvre. Prince Henry, the son of James I., though but a boy at his death, seems to have had those around him who advised him well, for he had assembled at St. James's a very fine collection of works of art, which descended to his brother, and formed no insignificant portion of King Charles's collection. In the accounts of the Prince's expenses,—unknown to Vertue and to Walpole,—are entries of payments for pictures from Venice and other places, the agent employed by the Prince being the same person, Burlamachi, afterwards employed by his brother in the transmission of his purchases from abroad.

When Vandyck was in England, died in London the most popular full-length portrait-painter of the age of Shakspeare and Bacon. He was encouraged much in the same way that Vandyck was employed and patronized a few years later, as Lely was in the reign of Charles II., Kneller in the reigns of King William and Queen Anne, Hudson in the long reign of George II., as Reynolds was in the longer reign of George III., and as Lawrence was during the regency and reign of the last of the Georges. He was an imported artist, a native of Antwerp, like Vandyck; his name Paul Vansomer. Bacon sat to him for that portrait now at Gorhambury, which, happily, with the "Sic sedebat" statue at St. Alban's, so characteristically preserves to us the features of the great philosopher and lawyer. Full justice has not been done to Vansomer. Nor, as he seldom affixed his name to his pictures, have his works been sufficiently distinguished from the handywork of his contemporaries. With Mytens he is too often confounded; for collectors have failed to observe the truthful remark of Walpole by which their works may be distinguished,—the whole-lengths of Vansomer are commonly placed on a mat, those of Mytens on a carpet. Happily, two of his very finest portraits are to be seen, in excellent preservation, at Hampton Court. He lived (such minute particulars are often of moment) in the Strand, on the water side, next door to Sir Edward Dymock, and dying in 1621, was buried in the adjoining church of St. Martin-in-the-Fields.

When Vandyck left England he left two painters of portraits behind him, both foreigners and both recent arrivals—Cornelius Jansen and Daniel Mytens. Jansen took up his residence in the Blackfriars,—for many years the Newman-street of painters; while Mytens selected the old locality of Vansomer, St. Martin's-in-the-Fields. The latter obtained, and perhaps deserved, the larger patronage.

PETER CUNNINGHAM.*

THE LATE MR. J. J. SCOLES, ARCHITECT.

MR. JOSEPH JOHN SCOLES, whose death in Hammersmith, on the 29th December last, we mentioned, was born in London in 1798. He was educated at the well-known old Roman Catholic school at Baddesley-green, and was articled in June, 1812, to Mr. Ireland, the leading Catholic architect of his day. The revival of the Gothic style was then dawning, and the influence of the Rev. Dr. Milner drew the attention of both master and pupil to this important subject. About the year 1818, chapels were erected by Mr. Ireland, at Leicester, and elsewhere, in this then unfamiliar style; that remarkable antiquary, John Carter, being occasionally consulted for correction of details.

In 1819 Mr. Scoles quitted Mr. Ireland's office, and commenced practice with the erection of a house for Mr. Roberts, at Esher. A few years after, namely, in 1822, he left England to complete his education by foreign travel, visiting the chief continental countries: he also made researches in the Levant and Egypt; and in Syria devoted so much labour to the survey of the holy places, as to have furnished much valuable matter for later authors.† If we mistake not, he had reason to complain in one case that a discovery made by himself had been appropriated by another.

At the end of 1826 Mr. Scoles returned to England, and recommenced the practice of his profession, but he does not appear to have had any important commission till 1831, when he commenced the erection of St. Peter's Church, Great Yarmouth. His other works for the established church were a chapel at Southtown, Great Yarmouth, and a church at Egbaston, erected by Lord Calthorpe. For the Roman Catholic church in England, he erected churches at Stonyhurst (1832), St. John's-wood (1833), Holywell (1833), Preston (1834), Colchester (1837), Newport, Monmouth (1840), Cardiff (1842), Bangor, Merthyr Tydvil, Lydiate, near Liverpool, Chelmsford (1847), Great Yarmouth (1850), St. Helen's (1862). The church of St. John, Islington (1843), provoked some animadversion, which in reply was criticised in the pages of the *Builder* at the time.

The Church of the Immaculate Conception, Farm-street, Grosvenor-square, is the most elaborate of Mr. Scoles's works, and is justly the most popular. He commenced a magnificent church at Prior Park, which was never completed. For the order of St. Philip, he erected a spacious residence, the London Oratory, at Brompton, and connected with it a temporary church of unusual size. In Charles-street, Drury-lane, very large schools were erected by him.

Mr. Scoles was one of the earliest members of the Royal Institute of British Architects, of which he was during ten years honorary secretary, and subsequently vice-president. He was also one of the founders, and since an active member, of the Syro-Egyptian Society.

In recent years Mr. Scoles had expressed a wish that his old pupil, Mr. S. J. Nicholl, should carry out his imcomplete works, which will accordingly be done by that gentleman, in connexion with his partner, Mr. T. J. Willson.

CANONS, IN MIDDLESEX.

THE following notes may be acceptable to Mr. C. H. Smith, respecting the extraordinary building of the Duke of Chandos at Canons. I have never seen any drawings of the house, but in King George III.'s collection of prints and drawings in the British Museum, there are two engravings of the principal façade. They are drawn geometrically, but neither of them has the scale attached. I should judge, however, that the front would not exceed 200 feet in length. This shows two stories, rusticated, within an Ionic order of six half or three-quarter columns in the middle of the front, having three windows on each side, thus making eleven windows on each floor. Above the entablature is a tall attic story, with another row of windows, surmounted by figures over the columns, and a vase at each end over an Ionic pilaster, which finishes each angle of the building. The whole has rather a heavy appearance, and no great merit.

One of the plates is inscribed, "Cannons, in the county of Middlesex, one of the seats of his Grace James, Duke of Chandos, &c. Is most humbly dedicated by his Grace's most obedient humble servant, Joseph Smith. 1731."

The other and better engraved plate is inscribed,—"The South Front of Cannons, in Middlesex, the seat of his Grace James, Duke of Chandos, &c., to whom this plate is most humbly inscribed by his Grace's most obedient servant, John Price, architect. Built anno 1720. J. Price, delin.; H. Hulsbergh, sculpt."

As Lysons states that the building was commenced about 1712, the above plate would tend to show that it was published soon after the completion of the work; but Mr. Smith states that John James, of Greenwich, was the architect. If that be the fact (and Lysons is the authority), what connexion could Price have had with the work to issue a view with such a superscription as would naturally lead one to presume that he was the architect employed? He might have been the deputy surveyor, or clerk of the works. Mrs. Cresy, in the continuation of her translation of the "Lives of Architects," by Milizia, states that James was employed by the Duke "to erect his house at Cannons, where he neither displayed taste nor science." She also gives to him the church at Greenwich; Sir Gregory Page's mansion at Blackheath; St. George's Church, Hanover-square; and the body of the church at Twickenham. These are, perhaps, correctly given; but her statement that the Church of St. Luke, Old-street, is also by James, is not quite correct, as it is undoubtedly by G. Dance. The memoir does not add when he died.

Besides this question of James or Price, I have lately met with a manuscript memoir of James Gibbs, which though not, as I judge, in his own handwriting, has the appearance of having been copied from an original one. In that it is expressly stated that he designed Canons for the Duke. Somewhat in confirmation of this employment, Lysons notices that a bust of Gibbs was existing on the staircase of the mansion at Brockley-hill, near Edgware, formerly belonging to — Sharpe, esq., the secretary to the Duke of Chandos. Perhaps some further evidence may turn up hereafter to decide the question.

I have lately been making inquiries whether there are any original drawings existing by Sir John Vanbrugh. The result hitherto is, that no one remembers having seen any. Such drawings of Blenheim and of Greenwich Hospital as I have seen, are by N. Hawksmoor, who was deputy surveyor at both places.

WYATT PAPWORTH.

THE ARCHITECTURAL ASSOCIATION.

THE BUILDING ACT.

THE usual meeting of members was held at the House, in Conduit-street, on Monday, the 8th inst., Mr. T. R. Smith (the President) in the chair.* The following gentlemen were, on ballot, elected members of the Association:—Messrs. E. W. Cox, J. T. Perry, G. Billington, J. W. Tobin, and L. E. Riddell.

The President directed attention to the drawings executed by their Vice-President (Mr. R. Phené Spiers), for which the Royal Academy had awarded a gold medal and a scholarship for two years.

Mr. Ridge, Secretary of the Voluntary Architectural Examination Class, made a statement with reference to the disappointment and regret which were experienced by himself and others at the non-attendance of members on the last evening appointed for the assembling of the class. Mr. Burnell had promised to read a paper that evening, "On the Strength of Materials;" but finding that the members of the class were "conspicuous by their absence," he of course retired. It could only be accounted for by the severity of the unusual weather and the holiday season.

The Chairman suggested that Mr. Burnell should be invited to read his paper before the Association, at an ordinary meeting, and not before the members of the voluntary examination class only; and this was determined on.

Mr. Mathews read the report of the sub-committee appointed to consider the best mode of improving the library, and making it accessible to members generally. The report contained a number of recommendations and suggestions with that view; and after a short discussion it was ordered to be received, with power to the committee to give effect to the recommendations contained in it.

Mr. C. J. Adams then read a paper "On the Metropolitan Building Act," in which he explained the steps which had been taken by the Legislature, from 1666 to 1856, to regulate the erection of buildings in the metropolis. He entered at considerable length into the provisions of the recent Acts with reference to sanitary arrangements, precautions against fire, ruinous habitations, temporary buildings, exemptions, and the duties and remuneration of district surveyors. In conclusion, he condemned all exemptions. He pointed out Her Majesty's Theatre, in the Haymarket, as a suitable object for legislation in any improved building Act that might be introduced to the notice of Parliament.

Professor Kerr said, in his opinion, one of the weak points in the Act was the administration of it by police magistrates. So defective, indeed, was the law in this respect, that it was merely a matter of time when it should be done away with. One of the oldest and most respectable district surveyors in the metropolis had said to him on this subject, "I will go down on my knees if necessary to ask a builder to alter a work, but I will not bring him before a police magistrate." The police magistrates ought to be made to understand that in these matters they were subject, like the district surveyors, to higher powers, and the Board of Works should be appealed to. As matters now stood, the magistrates virtually set the law aside. With regard to mortar used in buildings, Mr. Adams

* To be continued.

† Supplementary volume to Stuart and Rivett. Ruins at Cadacchio.

* The erroneous date given for this meeting in a recent number came to us officially from the Association.

had produced a sample which was very bad indeed; but it was not so bad as some which he had been invited by Mr. Andrew Moseley to examine. When he arrived at the place, he found a heap of mortar and a heap of garden mould, and specimens of each were laid before the magistrate. The latter declared that he could not distinguish the one from the other: at the same time he was observed to pick something out of one of the parcels, and throw it behind him. This proved to be a worm which had been taken, not from the mould, but from the mortar. There was lime enough to kill the worm, but not to make good mortar. The police magistrates,—who seem to sit as autocrats, and who objected to any interference in the discharge of their duties,—were in the habit of describing the Building Act as nonsense, or, at all events, unintelligible to ordinary comprehension, whereas there was really no just ground for such an assertion. The whole of the practical portion of the Act was contained in a few chapters, which any person of average abilities might master in the course of a single evening. For his own part, he had a great objection to go before a magistrate, as he knew that if at all possible, the decision would be given against him. He did not consider "footings" a weak point in the Building Act, nor did he think that surveyors had any fair reason for complaining against it. There was, however, a hitch about underground dwellings, which he thought operated unfairly so far as district surveyors were concerned. It was not, for instance, fair that surveyors should be called upon at any time to inspect these buildings without any fee or reward. It was also contrary to the spirit of our laws, which inferred that no man was to give his labour for nothing, and which attached responsibility only in cases in which payment was made for work done or duties discharged. He was aware that some surveyors, while keeping literally within the letter of the law, evaded the inspection of underground dwellings in their districts. In his own district, he had got over the difficulty by stating that if the sanitary inspector would furnish him with a list of the buildings, he in his turn would furnish the facts as regarded the application of the Act of Parliament. With regard to detached buildings, he thought the exemption ought not to be absolute, but subject to the approval of the Board of Works. With respect to public buildings, some persons were of opinion that the district surveyor had a discretionary power to enable him to dispense with the provisions of the Building Act. This, however, was not the case; for the district surveyor, although a discreet person, had no discretion whatever, his only duty being to see that the law was carried out. As an instance in point, he might mention that he was applied to some short time since to sanction the erection of a wooden staircase in her Majesty's Theatre, referred to by Mr. Adams. He declined to do so, on the ground that the Act required that such a staircase should be made of incombustible materials, such as stone or iron. The latter, however, were objected to on the ground of expence. The result was that the staircase was not made, and that when he applied as district surveyor for some remuneration for inspecting the premises several times, reporting, &c., he was informed that he was not entitled to anything, because the Act of Parliament contemplated that the district surveyor should be paid only in cases in which works were actually carried out. In this case, therefore, he got nothing, simply because he had discharged, without fear or favour, what he knew to be his public duty.

Mr. Fowler said he could not quite agree with Professor Kerr that the Act of Parliament gave no discretionary power to the district surveyor. In his opinion, the great drawback to the Act was the difficulty of construing it, owing apparently to the desire of the Legislature to make it as brief as possible. This objection especially applied to sanitary regulations.

Mr. E. Nash considered the Act a very excellent one. In his own district of Lambeth he had not experienced any difficulty with the police magistrates, and he had never sustained a reverse when compelled to appear before them. In his opinion, there ought not to be any exemptions whatever, for the district surveyor had as much trouble with such property as with any other.

Mr. Adams explained the nature of district surveyors' charges, and advised young architects to assure themselves that the builder did not charge his employer more than the actual fees so paid, which were in all cases extremely moderate, regard being had to the responsible duties which the surveyor had to discharge.

After some further brief discussion,

The Chairman announced that, on the 22nd inst., Mr. F. C. Penrose would read a paper on "Greek Architecture," and that the next subject for the class of design would be the central hall of a mansion or club-house.

SONNETS CONCERNING BEAUTY.

1st. Objective, is not the result of *subjective*, beauty: for however much the influence of the latter on the former, it is never more than a temporary influence.

WHAT has more beauty woven in its frame
Than this most wondrous mystery, the Soul?
And if from hence the adversary stole
The brightest threads, let Him from whom it came,
Lift but His hand, and 'tis restored and whole.
And when His touch from hence has banish'd shame,
Forth in a flood the inward glories roll,
And all around return responsive flame.
Yet, only with a *transitory* glow,
If their own fulness nourish not the fire.
If flashing lightning kindle gather'd tow,
A moment sees its hasty light expire:
But touch a wood with flame,—the flame shall grow,
Mount high to Heaven in light, and higher yet, and higher!

2nd. Neither is beauty the result of *association*, for while association develops the beauty of the beautiful, it does not create it. The Lord has given beauty to *all* Nature, and has inspired with beauty her servant Art: and beauty such as man may study, not exhaust.

Not in association is the spring
Of all this loveliness our souls admire:
Familiarity owns no such fire
As can ennoble *one* degraded thing.
And if, but him whom watchings never tire,
New wonders still the starry fields shall bring,
They *were* of *old*: nor own his gaze for sire.
So round true Art's, and Nature's doings, bend
Such golden mists of beauty manifold
As man may love, but never comprehend.
With them, then, be familiar, and behold
New stars of loveliness thine heaven ascend;
But as the glorious pageant is unroll'd,
Praise Him, whose tender mercy hath not end!

3rd. Wherefore, TRUE TASTE is catholic; she abides with Art and Nature, and never fails of perceiving their glories,—whether the glory only of the star, or the glory of the sun. All things are her magnificent library: her house is full of beauty and love.

True Taste is catholic. 'Tis not *her* lore
That sets men groping in contracted ways,
Covering some darling splendour aye with praise,
Hiding all else, so that may shine the more.
True Taste is catholic. From mead or shore,—
From days of storm,—from summer's vivid blaze,
Gay childhood's laugh,—brook ripples,—flocks a-graze,—
Athena's face, and Lincoln's minster hoar,—
From limnings, marbles, books, from all* the store
Of wealth which Nature and which Art displays,
Taste doth not turn aside with captious mien,
But more or less of loveliness doth draw
From all by sense or soul discern'd or seen.
She does not call things "common or unclean."

S. C. ROGERS.

THE SHAKSPEARE CELEBRATION.

A MEETING of the general committee, very numerously attended, Mr. Geo. Godwin in the chair, was held on Monday evening last, in the large room of the Society of Arts, when matters were discussed at considerable length. Mr. Theodore Martin, Mr. Hepworth Dixon, Mr. Westland Marston, Mr. R. Bell, Mr. Tomlins, Mr. Durrant Cooper, Mr. Ottley, the Rev. Dr. Vaughan, Sir Chas. Nicholson, Sir Joseph Paxton, Mr. Lucas, and others took part.

We confine ourselves to a mention of the business actually done. It was resolved that four members of the acting committee should be appointed to sit with four members appointed by the general committee, to draw up and issue an address; and Dr. Vaughan, Mr. Shirley Brooks, Mr. T. Martin, and Mr. Tom Taylor, were appointed on the part of the meeting.

Mr. H. Dixon reported that arrangements were being made for holding a public meeting. A deputation had waited upon the Lord Mayor that day, who had promised to reply in a short time to the request for the use of the Mansion-house. He proposed that the Lord Chief Baron, Sir H. Cairns, Mr. C. Gruneisen, and Mr. Deputy Reed, be a committee to arrange all the details of that meeting. The resolution was agreed to.

A monument committee was then appointed, to consist of the Archbishop of York, the Duke of Devonshire, the Earl of Clarendon, the Presidents of the Society of Antiquaries, of the Royal Academy, the Society of British Artists, and the Architectural Museum, the Master of Trinity, the Professor of Sculpture at the Royal Academy, Mr. David Roberts, Mr. Daniel Maclise, Mr. Clarkson Stanfield, and Mr. Godwin.

Mr. Dixon next read a programme proposed by the council for the tercentenary celebration of the birthday of Shakspeare, namely, that the 300th anniversary should be celebrated by laying the first stone of a monument in London. That the committee should use its influence to have Saturday, the 23rd of April, kept as a general holiday. That gold, silver, and bronze medals should be offered for the first, second, and third best poems on Shakspeare. That the foundation-stone should be laid about noon; that in the afternoon there should be a performance of Shakspearean music in Covent-garden Theatre; a performance at Drury-lane in the evening; and that a great *soirée* should be held in Westminster Hall, at which Shakspearean books, prints, and other relics should be admitted.

This programme gave rise to another debate; but it was carried, with the understanding that it was to be looked upon in the light of an instruction to the committee in framing their address.

The meeting was then adjourned till Monday next.

THE BHORE GHAUT INCLINE.

THIS celebrated engineering work, which has been opened by the Governor of Bombay during the past year, deserves a more detailed description than the brief notice which we were able to give it in a late number. We shall therefore condense an interesting account of it given in *The Engineer's Journal* of Calcutta.

The Western Presidency is cut off from the rest of India by the range of the Syhadree Mountains, a volcanic scarp which has been well described as an enormous steppe in the superstructure of the country. Rising on the Bombay side to a height of 2,100 feet at the lowest point of its margin, this remarkable natural obstacle has no corresponding depression on the other side, and simply subsides gradually into the general sea level of the country. Many of the mountain spurs, however, attain considerable elevation, reaching in some cases to 5,000 feet above the sea level. Its distance from the sea coast is about 30 miles; and as it extends, with more or less variation, from Goa to Broach, or between six parallels of north latitude, it has proved hitherto an almost impassable barrier to all trade between Bombay and the interior of the country. The dangerous and almost impassable mountain tracks of the Syhadree range, however, have given place to a now finished railway, and the trade with the interior, which has hitherto dragged its clogged steps by tortuous routes through dense, unhealthy, unpeopled jungles, and over often unbridged, rugged, precipitous mountain roads, now moves over the same ground with as much ease and rapidity, as the provisions of Scotland pass, by the great northern lines, into the heart of London.

The Bhore Ghaut Railway Incline rises almost sharply and abruptly from the plain. In the course of a journey of less than an hour in duration and 15¼ miles in length, the traveller will ascend to a height of 1,832 feet. The highest gradient is 1 in 37, and the lowest 1 in 330; the average being about 1 in 48. A reversing station was adopted with good effect for flattening the gradients. There are in all twenty-six tunnels, the shortest being 29 yards and the longest 437 yards. Fifteen are over 100 yards, eight over 200, and two over 300 yards in length. The tunnels have been mostly cut out of the trap rock, so that they have seldom required masonry. This has largely increased both the cost and labour of the work, however, as it was necessary to mine them throughout. In mining, the work was commenced at both ends of the tunnel with headings about 12 feet wide and 9 feet high, and this operation was followed up by the excavation of the tunnel to its full size.

* All. For do we not divide and classify too much? Why should we, I wonder, separate our life into two parts, and call the *little portion this side of death*, so preeminently life? Is it not calling a symphony the song?

The total quantity of cuttings amounts to 2,067,738 cubic yards, of which the largest contains 113,000. The greatest depth of cutting is 80 feet. The embankments amount to 2,453,308 cubic yards, the heaviest containing 364,300. The total length of viaducts and vaulting arches is 1,330 yards; and of retaining walls 3,640 yards. These walls, which have been required in places where the mountain is too steep to allow of embanking in the ordinary manner, are generally from 30 to 40 feet in height, and are built of substantial rubble masonry.

The construction of this vast work has been, as may well be supposed, attended with difficulties almost at every step. After an unusually heavy fall of rain, for example, about 40,000 cubic yards of a hill side, supporting one of the embankments, slid off the face of the rock upon which it rested, and became stationary about 60 feet below the level of its former position. On another occasion more than 100,000 cubic yards were displaced by the benching being thrust out by the weight of embankment. In the cuttings, masses of rock, termed boulders, have not only fallen away in large masses, but have frequently been found lying in a thick stratum upon sloping beds of rock, from which they have slipped as soon as the cutting was sufficiently advanced.

In the last two working seasons the average number of men employed on the incline was more than 30,000; of whom 10,822 were drillers and 2,659 masons. In March, 1861, this number rose to 42,000. To the liberal arrangements for the comfort of the workmen, as we have before noted, may in a great measure be traced the abundant supply of labour which, at all events for the last three seasons, has been obtained. The rates of wages of all classes below the foreman, varied from 1½ anna to 1½ rupee per day.

A period of eleven years has been occupied in the construction of this great work, at a total cost in money of 1,100,000*l*. The engineer, who designed and nearly completed it, was Mr. Berkley; who, however, has not lived to see the successful termination of his labour; having fallen a victim to an overworked brain in a tropical climate.

CONDITION OF BUCKINGHAMSHIRE.

THE houses in Dinton are, with but few exceptions, in a more dilapidated state than any we have mentioned: the want of "conveniences" is most objectionable; and even the few which are provided are placed in the most injudicious situation. Take one for instance, which, with its poisonous cesspool, is immediately below the only window of one of those small sleeping-rooms to which we have referred. The piggeries are also in dangerous proximity to the dwellings. In the summer time especially, when the greatest care is needed, refuse of various kinds is allowed to collect in heaps, until it is convenient, in the autumn, for those who have small plots of garden-ground, or the farmers, to collect it for use.

The plan which is generally followed, of keeping what is intended for manure carelessly strewn about, instead of being carefully covered up, causes an unnecessary pollution of the atmosphere, and also renders the manure of comparatively little value. Here, as elsewhere throughout this district, the surface drainage of the villages is neglected, notwithstanding that good farmers find it to their advantage, as regards the value of both their cattle and crops, to drain well. In this important matter human beings, in these places, seem to be entirely overlooked. There are some cottages in which a kind of external restoration has been made: this consists of a flat layer of plaster over the rough surface, marked with lines in imitation of masonry. This disguise, however, soon falls off, and shows the original work, which is of a most rotten description. The walls, which are often of a thickness of from 15 to 18 inches, have been planted without preparation on the ground: up to the height of 2 or 3 feet limestone is mixed with a sort of muddy concrete, of which the remainder of the walls is entirely composed, except in some instances where timber framework is partly introduced. This concrete seems to have been chiefly formed of the light-coloured mud which abounds, mixed with a little lime and gravel: it is so soft that it crumbles with the slightest touch, and is so porous that it absorbs water and impurities almost as readily as a sponge. A specimen of this kind of construction was shown in a recent number of our journal (vol. xxi., page 897), where there are some other illustrations of the Dinton dwellings.

Anything more dreary and neglected than the group of dwellings shown in the adjoining engraving could not readily be imagined, and the rear of the premises is even worse than the front. We will give a view hereafter to show how the piggery is often situate in connexion with the house; but we have been forced in the sketch to throw down the wall of the pig-sty in order to show the animals. Actually there is only a small door-way, which was closed. The rain had been pouring through the thatch, which was falling to pieces: in the little room adjoining this place was the fire; and notwithstanding that this burnt brightly, the walls, hearth, and brick floor were soaked with damp; the fire seeming, instead of drying, to attract the moisture from the piggery and adjacent parts.

A casual observer would think by the outward appearance of many of these cottages that the interior cubic space of the rooms was far larger than it actually is; but it should be considered that when a depth of 18 inches for each mud-built wall is taken from the internal space, the interior extent is greatly diminished; and the high-pitched roofs are also deceptive, for little of the large space is added to the area of the upper rooms, as the pent is stuffed with thatch, supported on rafters, which are but slightly raised in pitch above the square.

Some of the houses at Dinton are about a century old, and others are of greater antiquity. Bad as is the condition of these homes, the dwellers in them, although they are for the most part aware of the evils, and complain grievously, would not know what to do if they were removed; there being much difficulty in obtaining even this miserable kind of shelter at a place near where the people are employed; and this suggests two or three matters of objection, which have been made by certain landowners against the erection of groups of cottage dwellings. There is, for instance, the question of the poor-rate, to which we have already referred: it is also stated that the drainage of houses thinly spread over a considerable surface would be much more expensive than in small towns, where the population is more compactly gathered together, and that it is therefore better for the people themselves,—even if the distance be greater which they have to go to and from their work,—to live in communities sufficiently numerous, placed in good positions, where the houses might be raised and drained at a cost that would be remunerative. There is much in the observation which is worthy of careful thought. As regards the latter point, we think that, provided the law of settlement were abolished, we should find villages of a greatly improved kind rising up, especially on the larger estates, on which it is an undoubted duty for the landowner to provide decent and healthy homes for those who are employed upon the land; and the same may be said in a proportionate degree respecting all landlords. However, as the law now is, few are willing to grant ground or incur the expense of building at a slight profit, and at the same time saddle their estates with a largely increased amount of poor-rate: this is not a philanthropic way of putting the question, but it is the common sense and truth of the matter.

In Dinton the miserable cottages, some with a piece of garden attached and some not, let at a yearly rental of from 3*l*. to 3*l*. 10s.: from 3*l*. to 4*l*. is the usual rent for two-roomed cottages throughout this district. When looking at the neglected condition of parts of this property it was with surprise we learnt that it belonged to Lady Franklin, well known far and wide for her devotion to an idea, and for her kind disposition: we were told, however, that the lady does not personally visit this property, but that it is left in the management of an agent, who is regardless of complaint. We think that if Lady Franklin were to make a personal inspection a beneficial change would be effected here.

It is to be noticed, both at Dinton and elsewhere, that where the dwellings have been allowed to fall into decay, there a proportionate want of care is shown in the keeping of the interiors: the flowers in the windows fade, and if you look into the garden, you see—

"The wild briar,
The thorn, and the thistle growing broader and higher."

So it is that the state of the homes materially affects, not only the health, but also the social condition of the inmates, leading on from bad to worse.

A rough walk of about three-quarters of a mile through wet newly-ploughed fields brings us to Gibraltar, a strange name for a place in this situation. We endeavoured without success to discover how the name originated. Here is a small roadside inn; and beyond this, at a short distance down a lane, is a small group of cottages: some of these are on one side of the lane, and five or six others stand at right angles in small gardens. The general appearance of these houses is not worse than that of those in many other villages in this district: the cottages are in better general repair than those at Dinton. Notwithstanding, it was here, fourteen years since, in the month of August, that cholera attacked every one of the dwellings, and carried off a chief part of the population; the remainder seem to have been saved by removal to tents erected for their reception in the neighbouring fields.

In one house, an entire family, consisting of father, mother, and five children, all died; and not one dwelling escaped visitation. A woman who still lives here in the same house in which her husband died of this cholera attack, and who had some of her children sick, says, that the scenes were terrible: the bodies were removed directly after death, and on some days five and more coffins were carried from this small hamlet. There is no doubt that the little ill-ventilated rooms were a means of rendering the disease much more fatal than it would otherwise have been: the effluvium in the houses, especially in the sleeping-rooms in which cases of cholera were, was almost unbearable; and neighbours in attendance upon the sick were infected by the concentrated poison of the air of the apartments. With great rapidity the pestilence passed from house to house, and it is reported that for some days before the first case occurred, an extraordinary and sickly smell was perceived throughout the village, but no one seems to have noted the particular cause, nor could we learn satisfactorily if there had been any removal of manure from the place, or if any had been cast upon the adjoining fields. Neither does there seem to have been, so far as we could learn by careful inquiry on the spot, any express cause for the outbreak: there was, however, then, as there is now, sufficient sanitary derangement to account for it.

A chief cause is the overcrowding of the rooms: most of these are of similar dimensions to those referred to in the last paper, viz.,—room on the ground, 12 feet long by about 7 feet wide, and less than 6 feet high; the sleeping-room above only 5 feet. And outside, the evil is added to by the neglect of drainage. At the back of some of the cottages there is a large field, which rises by a very gentle gradient for a considerable distance: this is a cause of dampness; for sometimes in rainy weather there is water to the depth of from ½ to 2 feet lodged against the walls. The want of a sufficient number of privies, and the disuse of even surface drains, cause dangerous matters to be left in large quantities close to the doors and windows; and as the cottages are a hundred years old or more, there must here have been absorbed into the soil a large part of the refuse of three generations of tenants. So, likewise, the water from the ill-walled well must be constantly polluted, especially after rain, by the impurities which must drain into it.

Here, and in other parts, where the homes of the labourers are of a similar description, we find in the faces of the children pale and cadaverous tints, instead of the rosy hue of health, and frames weak and attenuated, which in better circumstances would be robust and active. We noticed also many cases of skin disease; but, much as the children seem to have suffered, the mothers of families appear to have fared worse. In one house here, a man of much intelligence said, "How can we expect to be better, pent up in this box? There sits my wife, sir: what age would you take her to be?" Being naturally anxious to evade a delicate question of this kind, we did not express a clear opinion, or give a direct answer to the query, of "how much older do you think she is than fifty?" It appeared, however, that this woman was only thirty-three years of age, although, if we had given a candid opinion, it would have been that she had lived for upwards of half a century. We found many similar instances.

The basement rooms at Gibraltar, notwithstanding that fires were lighted, felt cold and cave-like, and the air was adulterated with a damp, deadly smell, similar to that met with in ill drained and badly ventilated churches when the vaults have been well filled. In one of these apartments was a woman, as careworn as most of the others in similar situations, who was working at cushion lace-making, a beautiful

THE COTTAGES OF BUCKINGHAMSHIRE.



MUD COTTAGES, EDDEESBROUGH. EACH A SINGLE ROOM.



COTTAGES AT DINTON: CLOSE AND CONFINED: BAD DEPOSITS AROUND.

kind of work, which twenty or thirty years ago was a very remunerative description of employment, and occupied a large number of women and girls, in Buckinghamshire, Bedfordshire, and Hertfordshire. This labour is now so ill paid that it is scarcely worth the while of the most skilful hands to devote their time to it: bonnet straw cutting and plaiting have, however, come into use as branches of female employment.

In other rooms the children were huddling together within the recess and around the open fire-places, in which the fire-dogs were in use in the same manner as they were eight or nine hundred years ago. It was pitiful to see pale and delicate infants in those cold, damp interiors. Inspection shows it to be out of the question generally to use these basements for sleeping; and this drives the families into the rooms above. The open fire-places and wide chimneys are useful for ventilation: less of the heat is wasted than in most of the modern fire-grates; and although the wind was at times howling in the wildest manner and sounding through the telegraphic wires like a monster Æolian harp, and whirling among the tree branches with a pressure of upwards of thirty pounds on every square foot, there was but little complaint of smoky chimneys.

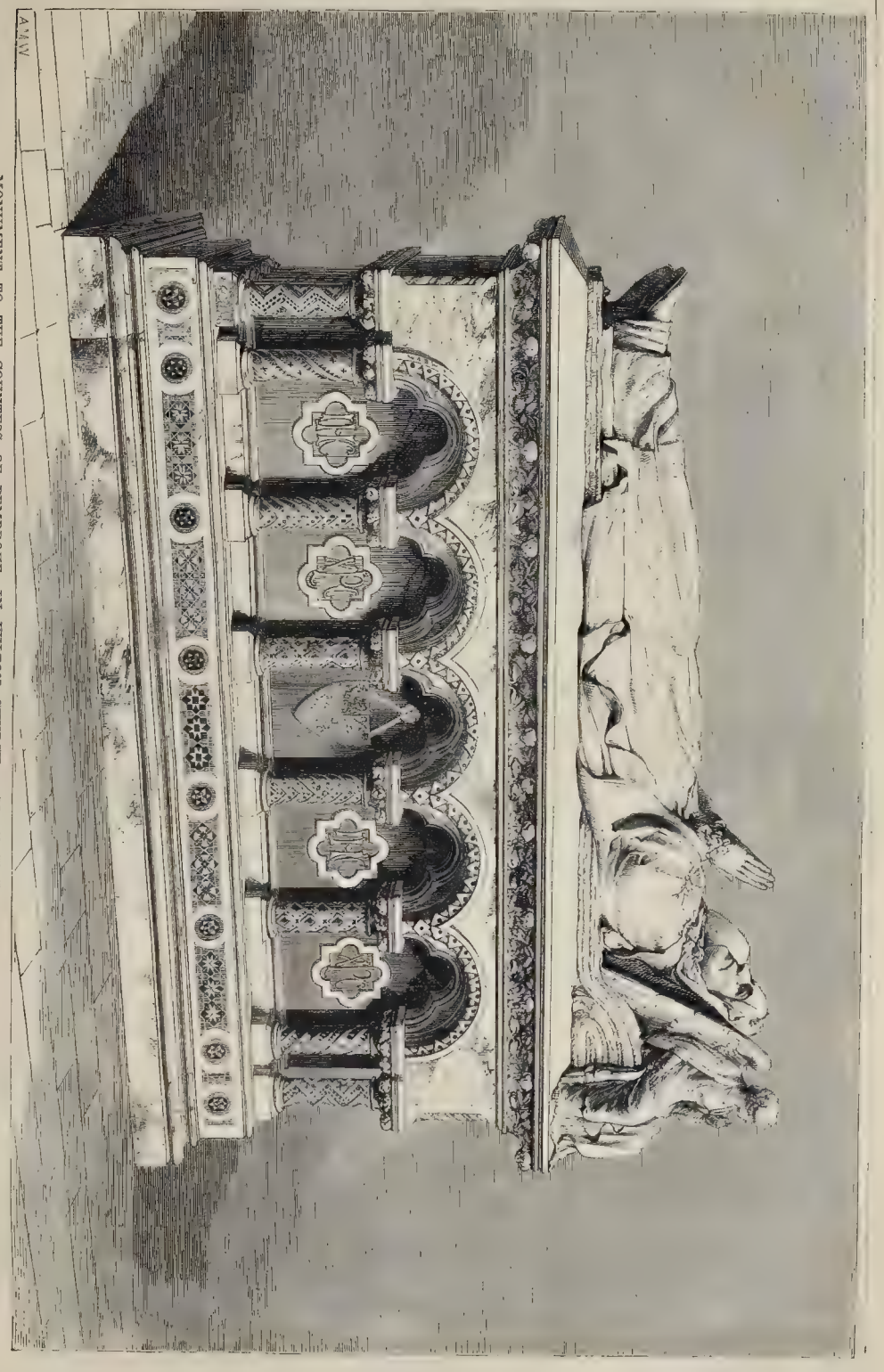
Inland coal, brought by railway and the Union Junction Canal, to Aylesbury, and by the canal to other places, can be had at from 18s. to 20s. a ton, a price which is increased in proportion to the distance to which it is necessary to carry it by horse and cart from the depots; but most of the poorer people who have accommodation for the purpose store up a quantity of wood for use in winter. Several persons of whom inquiry was made, reported that the wages of men employed upon the land were very small, often not averaging throughout the year 8s. for each week: but there are, as has been mentioned on other occasions in the *Builder*, in the country, means by which the small stipend can be increased; for instance, the mother may be able to earn a little; the children can be put early to work; and it is more easy for the girls of well-conducted families to find places in service than it would be for those of the poorer and industrious class in Bethnal-green and other metropolitan districts. But the bright winter sun is getting low, and it is time to wend our way again to Aylesbury. At Hartwell a singularly large flight of rooks was whirling in a thick black cloud in the neighbourhood of this house. A sage-looking rustic doubted if those black birds did most good or mischief, and whether agricultural produce or destructive insects were the most largely consumed. We must take another opportunity to finish our notes.*

* With reference to a note in our previous article on Buckinghamshire, mentioning the death of Mr Hedgkins, who had planted many of the trees about Aylesbury, we are asked to mention that his pupil, Mr. J. C. May, may be viewed as his legitimate successor in that department.

MONUMENT OF THE COUNTESS OF PEMBROKE; WILTON CHURCH, WILTSHIRE.

Two handsome monuments have lately been placed in the parish church of Wilton, in memory of the late Lord Herbert of Lea, and his mother, the Countess of Pembroke. The design of these monuments is by Mr. T. H. Wyatt, the architect of the church. The effigies have been designed and modelled by Mr. J. B. Philip, sculptor. They are sculptured with great skill, and being good likenesses, will be deeply valued by the congregation of that church to whom the originals were so endeared by untiring acts of benevolence and friendship. The effigy of the Countess of Pembroke is executed in Pentelic marble, that of Lord Herbert in Carrara marble. The tomb is chiefly of alabaster, mixed with marbles of various colours, and enriched with mosaic work panels. Round the top of each monument is a brass containing inscriptions. The monument of the Countess of Pembroke has been erected by her children, that to the memory of Lord Herbert by his widow. These monuments form interesting adjuncts to the church.

TO CLEAN MARBLE.—Mix together two parts of common soda with one part of pumice and one part of finely powdered chalk; sift through a fine sieve and mix some of this powder with water, rubbing it all over the marble, or over the stained parts; then wash it off with soap and water.



MONUMENT TO THE COUNTESS OF PEMBROKE, IN WILTON CHURCH.—MR. T. H. WYATT, ARCHITECT; MR. PHILIP, SCULPTOR.

SIR STAFFORD NORTHCOTE ON ART EDUCATION.

IN speaking on this subject, at Exeter, Sir Stafford Northcote said:—Education in drawing conduces to make men certain and correct in what they do. It induces them to do that in the general education which writing does in their intellectual education. It conduces to make what a man does know certain. How often do we see that a man, if you explain anything to him, thinks he understands you, and that he would perhaps give you a tolerably good answer if you put questions to him; and yet if you ask him to write down the matter upon which you have been discoursing it appears that he does not thoroughly understand it. Just in the same way is it with drawing. A man takes notice of an object, and, thinking he knows all about it, goes away. But if he tries to draw it, then he finds there are many points of it which he had not noticed, or of which he has taken an incorrect impression. Drawing, therefore, gives a man correctness of observation, which is one of the most valuable qualities of education. This view is confirmed by the opinion of others who are better able to judge than myself. I was very much struck, not long ago, in the course of an inquiry which I and others have been carrying on as to the public schools of the country, by the answer of the very distinguished headmaster of a very celebrated school. He was asked, with regard to drawing, whether it was taught in his school. On his replying that a number of boys had learnt drawing, he was asked whether he had found that the boys who had done so were in any way assisted in their classical studies by it. That was a question which seemed rather curious at first, because it was thought that drawing might take them from their classical studies. The answer was that he had not the slightest doubt they were assisted in their classical studies, because it enabled them to realize to themselves many of those things of which the classical poets wrote; that they were accustomed to draw from descriptions or from pictures which were set before them; and that they thus obtained a much more accurate knowledge than others not able to draw. That is the case with all those studies which conduce to greater accuracy of observation; they improve the mind—they improve the intelligence of those who prosecute them.

FRAUDULENT TRADE MARKS.

ON the 1st of January, the Merchandise Marks Act came into practical operation for the first time. This statute makes it a misdemeanour to forge or counterfeit any trade mark, or falsely to apply any such trade mark, with intent to defraud, whatever the article to which it may be applied, whether it be a cask, bottle, stopper, vessel, case, cover, wrapper, band, reel, ticket, label, or any other thing in or with which any commodity is sold, or intended to be sold. Again, it is from henceforth an offence for any one to sell or expose, either for sale, or for any purpose of trade or manufacture, articles with forged or false trade marks attached, the penalty being the forfeiture of a sum of money equal to the value of such articles, and a sum besides, not exceeding £5 nor less than 10s. By another provision, every addition to and every alteration and imitation of any trade mark made with intent to defraud—the intent being of the essence of the offence in all cases—are to be deemed forgeries, and punishable as such—namely, in addition to the penalties for misdemeanour, by the forfeiture of every instrument used for the purpose of the fraud, and of every article to which such false mark shall be applied. It is made obligatory on every person who shall sell an article having a false trade mark to give information, on a demand in writing being made upon him as to where he procured it; and power is given to Justices of the Peace to summon parties refusing or neglecting to afford such information; and, in the event of their persisting in their neglect or refusal, to impose a penalty of 5*l*. Further, to mark any false indication of quantity upon an article with intent to defraud is made punishable by a penalty equal to the value of the article and the payment of an additional sum not exceeding 5*l*. and not less than 10s. A conviction under the powers of the act is not to affect any right or civil remedy, to which any person aggrieved may be entitled at law, in equity, or otherwise; nor in any indictment, information, or proceeding under its provisions, need an attempt to defraud any person in particular be alleged or proved. The punishment, on conviction of any offence, which by the act is made a misdemeanour, is to be, at the discretion of the court, imprisonment for not more than two years, with or without hard labour, or by fine, or both by imprisonment, with or without hard labour and fine, and also by imprisonment until the fine (if any) shall have been paid and satisfied. There is a clause according to which the vendor of an article with a trade mark is to be deemed to warrant or contract with the purchaser that the mark is genuine, unless the contrary shall be expressed in some writing signed by or on behalf of the vendor and delivered to or accepted by the purchaser. The seller of an article, too, with a description upon it of its quantity, is to be deemed to contract and warrant that the description is true, unless as before, the contrary shall be expressed in writing delivered to and accepted by the buyer.

THE WEAR DOCK CONTRACTS.

AT the last monthly meeting of the River Wear Commission, at Newcastle-upon-Tyne, the Executive Committee reported that they had received the tenders for new dock works, but found them much higher than was anticipated, the contractors having evidently put on a large sum for sea risks. For the proposed Hendon Dock and entrance they had received seven tenders, varying in amount from 238,987*l*. to 161,458*l*. They advised the rejection of the whole of these tenders, as they were satisfied the work could be done for a much smaller sum. If the commissioners carried out the work themselves in detail, by contract, a large sum might be saved.

The Engineer said, his original estimate for the work was 85,000*l*., and he was still satisfied that it might be done for that amount in the way indicated in the report.

After some discussion the commission resolved to carry out the works themselves, employing small contractors under them.

The committee reported, that for the solid inner pier on the north-east side of the sea-outlet, they had received eight tenders, varying in amount from 48,079*l*. to 19,447*l*. These estimates, they also considered, were much higher than the work might be done for, and they recommended that the tenders should be declined. The engineer had prepared another plan and model, according to which it could be accomplished during the ensuing season, at a cost of 12,000*l*., so that by this plan a saving of 8,000*l*. would be effected. They also recommended that the commissioners should do the work themselves. This also was agreed to.

The committee reported that they had received fourteen tenders for the construction of the new graving dock, varying from 32,234*l*. to 14,277*l*., and they recommended that the tender of Mr. Hurst, amounting to 14,375*l*. be accepted.

There had been only two tenders for the caisson, but they recommended that both be declined, as they were considered too high. They would take steps to have the work done in some other way. The lowest price was 3,384*l*., but they considered the work might be done for 2,500*l*. This portion of the report was also adopted, and the committee were authorized to proceed at once with the work.

THE PROGRESS OF BELFAST.

THE flax trade, which is in a flourishing condition at Belfast, has of late years led to a great increase in the buildings of Belfast. The growth during the past year, according to the *Newsletter*, has been especially rapid. The total number of new houses included in the valuation was 1,260, or 420 more than in 1862, the increase being exactly 50 per cent. The increased value of the new buildings in 1863 over 1862 was nearly 50 per cent., the figures being, for 1862, 7,618*l*., and for 1863, 10,408*l*. The total valuation, which at the close of 1860 was 270,930*l*., increased in the years 1861, 1862, and 1863 nearly 10 per cent., or about 26,000*l*. A considerable number of new houses are also in progress, which cannot be valued until next October. The increase on the County Down side of the river is especially great. With the exception of five houses valued at 23*l*. in Ballynafeigh, it is confined to Ballymacarrett, in which, therefore, within the year, 200 new houses were erected, valued at 1,167*l*.; and there will probably be a still further increase in 1864. The opening of the bridge, the removal of many destitute families, and the wide-spread employment which is being given, have all contributed to this improvement in Ballymacarrett. According to the census of 1861 there were in the borough 18,100 inhabited houses. There were, of course, many stores, warehouses, and other buildings not coming under that denomination; and the total number of buildings of all classes was probably about 20,170. If to these we add the 2,860 buildings since erected, we have a total at the present time of 23,000.

COMPETITIONS.

Rochdale Town-hall—The Town Council of Rochdale have decided upon the erection of a town hall, at a cost, for the shell of the building, of 20,000*l*. Prizes of 100*l*., 60*l*., and 40*l*. are to be offered for the best designs.

Pitsligo Union Chapel.—In answer to the advertisement of the guardians for design; for a new chapel, proposed to be built on a piece of ground adjoining the Union House, twelve sets were sent in, from which the committee selected a design prepared by Mr. Robert Hutchinson, architect, Huntingdon, and appointed him to carry it out.

GAS EXPLOSIONS.

A SEMI-DETACHED villa, No. 21, Tollington-road, Holloway, has had its front completely blown out by a gas explosion. The two adjoining villas, as well as Nos. 10, 12, 14, 16, 18, and 20 opposite, some 60 feet across the road, had a greater part, and some entirely all, of their windows smashed. The gentleman who occupied the house and his wife are severely burnt. It appears that on entering the front parlour with a light to see if all was safe before retiring, Mr. Byrne was suddenly thrown down, his light having exploded the gas which had been allowed to escape from the chandelier.

An explosion has occurred at the City Gas Works, Whitefriars, causing the death of a workman. At the inquest Mr. Mann, superintendent of the works, said that the hydraulic room was a well by the side of the gas-holder. The gas-pipes passed through the well for the purpose of entering the gas-holder. There was generally water at the bottom of the well. The well was covered with iron. There were two doors at the top of the well for the purpose of enabling the well to be examined. The gas-pipes were obliged to be covered with water before they entered the gas-holder. The well doors were always kept closed to prevent the entrance of air. After the explosion the doors were found to have been blown open. There was a pump down into the well. In the opinion of witness the explosion was caused by the mixture of gas with atmospheric air in the well. He had made inquiries and could not find that any one was in the well that day. In his opinion there was no leak in the well. The top of the well was used as a thoroughfare. For some days previous to the explosion a pail containing burning coke had been kept at a distance of 4 feet 6 inches from the pump down into the well, and it was so placed because the pump was frozen. He did not think that any of the lighted coke had come in contact with the gas in the well.

Faulkner, a labourer, said that a piece of the lighted coke in the pail might have been thrown upon the iron doors of the well. In those doors there were two key-holes. Through those holes a slight escape of gas might have taken place, and so have become ignited. In future there were to be no fires lighted near the pump.

After some further evidence,

The jury returned the following verdict:—"That the deceased was killed by a certain explosion of gas, but how the said explosion was caused there was no evidence to show."

NEW STABLES, LYME HALL, CHESHIRE.

THESE stables are being erected for the owner, Mr. W. J. Legh, M.P. The building is rectangular on plan, the various apartments being arranged round a courtyard, 72 feet long by 67 feet wide. There will be accommodation for twenty-two horses, all (with the exception of four stalls) being loose boxes, formed by walls of blue bricks built up to 4 feet 6 inches above the floor, and

finished with an ornamental iron railing. The wall in front of the horses' heads will be lined with light buff-coloured glazed tiles to a height of about 3 feet, having bands of chocolate-coloured tiles running the whole length of the range of boxes. The building also contains coachman's dwelling, coach-houses, harness-rooms, cleaning-rooms, and apartments for stablemen and grooms. The material is stone, procured on the estate, known as the Parks Moor stone, and backed up with brick. The style is Italian, in keeping with the Hall, and the total cost will be about 5,000*l*. The building is being erected from designs and under the superintendence of Mr. A. Darbyshire, architect, Manchester, Mr. T. Howard acting as clerk of the works.

On New Year's Eve Mr. Legh gave a dinner to all concerned, including about 130 workmen engaged upon the works.

THE WORKMEN'S CLUB MOVEMENT.

A NUMEROUSLY-ATTENDED public meeting has been held in Kennington for the purpose of promoting the establishment of a Southwark Workmen's Club. Mr. A. H. Layard, M.P., occupied the chair; and appropriate resolutions promotive of the object in view were unanimously passed.—The opening of the Bristol Working Men's Club and Institute has been inaugurated by a public meeting in the lecture-hall of the Institute, in College-place.——A public meeting has been held at Yeovil, the mayor in the chair, and several of the employers and a large number of working men present; when the Rev. H. Solly explained and advocated the principles and objects of the movement. Resolutions in favour were enthusiastically carried.——At Bridport, in the Town-hall, a meeting has also been held, and Mr. Solly there also delivered an address to the Working Men's Association.——A working men's club has been successfully opened in Preston, called the "Central Working Men's Club." The building comprises a kitchen for cooking, refreshment-room for non-members, large news-room, business-room, class-room, bagatelle-room, and smoking-room, and three other rooms for amusement, such as chess, draughts, dominoes, &c. In connexion with these premises there is a gymnasium, consisting of giant stride swing, inclined ladder and plank, horizontal bar, parallel bars, vaulting horse, high leap, climbing-pole, hand-swings, skittle-alley covered in, nine-pins, dumb-bells, &c., &c. There are now more than 400 members, and this number will make the club self-supporting. The members can be furnished with refreshments in all the rooms except the news-room. Working men in Preston need no longer go to the public-house for recreation, unless they desire to do so.

STATUES AND MONUMENTS.

THE statue of Oliver Goldsmith, by Foley, in front of Trinity College, Dublin, was inaugurated, on the 6th inst., in the presence of Lord Carlisle the Lord-Lieutenant, and of the Provost of Trinity College, and a distinguished company of members of the learned professions, together with a large assemblage of the citizens. The Lord-Lieutenant, in his address, said,—Here we contemplate a genius, of which no more accurate or pithy summary can be given than in the words which his great friend, Dr. Johnson, inscribed upon the stone which bears his name in Westminster Abbey—"There was no style of composition which he did not essay,—none he essayed which he did not adorn;" but of so much variety and so much excellence, if I were called upon to select the most striking specimens, I should naturally name "The Deserted Village," "The Traveller," and above all, perhaps, "The Vicar of Wakefield." Why, the walls of the Royal Academy of England would not know themselves if a single year came round without exhibiting a subject from the "Vicar of Wakefield." Still, novelist, historian, satirist, essayist, dramatist, as he was, it is mainly as a poet that we represent to ourselves Oliver Goldsmith. If I were to search for an adjective by which to distinguish his poetry, I do not think I could find one so fitting as exquisite: others have soared to greater heights, and shed intenser light, in the poetical heaven; but where was ever combined more perfect rhythm, more mellow harmony, more refined simplicity, more graceful truth? Short as my limits must be, I would justify my praise by the most convincing process I could use; by recalling a few notes of the music of his strain to your, I feel sure, not unaccustomed ears. Take the decline of a virtuous old age,—lines I once heard with singular effect applied by Lord Brougham to Mr. Withergere:—

"For him no wretches, born to mourn and weep,
Explore the mine, or tempt the dangerous deep;
No surly porter stands in guilty state
To spurn imposing famine from the gate;
But on he moves to meet his latter end,
Angels around befriending virtue's friend;
Sinks to the grave with unperceived decay,
While resignation gently slopes the way;
And all his prospects bright'ning to the last,
His heaven commences ere the world be past."

Goldsmith had a most happy gift of satire. He could hit off the character of his acquaintance with a touch that was keen, incisive, but never ungentle. Thus of his great friend, Edmund Burke:—

"Here lies our great Edmund, whose genius was such,
We scarcely can praise it too much;
Who, born for the universe, narrow'd his mind,
And to party gave up what was meant for mankind.
Though equal to all things, for all things unfit,
Too nice for a statesman, too proud for a wit;
For a patriot too cool, for a drudge disobedient,
And too fond of the right to pursue the expedient."

Immediately after the inauguration of the Goldsmith statue, a meeting, at which his Excellency the Earl of Carlisle was present, took place in the Provost's House, and it was decided that a statue of Edmund Burke should be erected in front of Trinity College, where the vacant pedestal has been put up by the Goldsmith Statue Committee; and that the honorary secretaries and the members of the committee (with liberty to add to their numbers) of the Goldsmith statue, be requested to carry out the project. Several subscriptions were at once promised.

A monument to the memory of the late Lord and Lady Sudeley is to be erected in a chapel, which is to be specially prepared for the purpose, at the family seat of Toddington. The monument consists of a Gothic platform between two and three feet in height, sustaining two slabs, on which rest life-size figures of the deceased. The baron is represented in his peer's robes, and the lady in a flowing dress. The base of the monument is adorned with eight sculptures, consisting of four angels at the corners, and in the centre of the sides the four Evangelists. The intervening spaces are filled with heraldic shields, tracing the genealogy of the family. The entire tomb is of white marble. Mr. Lough was the artist.

A stone obelisk, 27 feet high, with a white cross at the top, is to mark the resting-place of the late Lord Elgin, under a Himalaya noak in Dhurmsala churchyard.

SCHOOLS OF ART.

The Cambridge School.—On the occasion of the opening of this school, an address on "Art Life" was delivered to the students and their friends, in the small assembly-room, by the Rev. J. P. O. Tomkins, of St. John's College. Mr. H. H. Harris, the mayor, took the chair, and in introducing the lecturer, remarked that the school had been established for five years, and during that period had met with great success. The juvenile and artisan's classes were not so fully attended as could be wished; but this, when it became known, would, he thought, soon be remedied. The lecturer, in course of his address, said, incessant work was the only talisman to open to a man the enchanted portals of fame. Time spent in lamenting the ingratitude of the world, in wailing over hard fortune, and in fault-finding, would be lost time; and many men of great talent had been in some measure lost to the world by allowing themselves to despond, as was the case with Haydon; whilst others, feeling the existence of their talent, had worked on steadily through poverty and discouragement, till finally they took their right place in the world: of this latter class the lecturer alluded to the poet Wordsworth as a good example. Instances were given of men of acknowledged genius who had worked at their art in such a way as to prove beyond a doubt, that any man, however great his natural ability might be, if he would do great things, must work with unceasing perseverance. To succeed in art pursuits, a man must have a real love of his art for its own sake,—he must have a higher view of his calling than the mere making a living by it. If a man wanted to succeed in his art, it must be by love of it and by self-sacrificing effort. In all learning there was much wearisome bitterness to be got over, before they could fully enjoy it, and a hard apprenticeship must be served before they could become masters.

The Kidderminster School.—The annual meeting of this school has been held in the Music Hall, Kidderminster; Lord Dudley in the chair. There was a good attendance. The report congratulated the subscribers and the public on the highly satisfactory position of the school as regards the progress of the students. The total number receiving instruction in drawing in or through the agency of the school during the past year exclusive of private pupils, has been 508. The totals for the year as compared with 1862 are as follow:—1863: Pupils, 508; medals, 14; prizes, 55; honourable mention, 2; certificates, second grade, 14; certificates, first grade, 23. In 1862 it stood: Pupils, 520; medals, 10, prizes, 20; honourable mention, 0; certificates, second grade, 12; first grade, 24. A national medallion was awarded to Mr. Perks, and he received the appointment of art pupil teacher for Kidderminster. At the last examination, five works from the central school were selected for the national competition in April next. In addition to the prizes specified above, a prize studentship was awarded to Mr. Peter Morrison, one of the students of the central school. The artisans' class has been attended by twenty-one persons engaged in designing for carpets. Of these, seven had, during the present year, been selected by manufacturers, and others from amongst the junior students for employment in connexion with the staple trade of the town. Appended to the report was the balance-sheet, which showed a balance in favour of the school of 19*l*. 19s. 3d.

CHURCH-BUILDING NEWS.

Colchester.—The new chapel at Colchester Union-house was opened on New Year's-day by a dedicatory service. The chapel is of Gothic character, in harmony with the main structure; and of course dispenses with anything like ornamentation. The external walls are of grey stock bricks, with stone weatherings to the piers and white brick dressings to the windows. The roof is slated, and surmounted by a small cupola of louvre boarding, which serves as an escape to the ventilating shaft. The inside dimensions are 47 feet by 26 feet, with a height of 15 feet to the wall plates, and of 25 feet to the top of the roof, which is of semi-circular form, with exposed ribs of stained timber supported upon stone corbels, the intermediate bays being ceiled. There are three ventilators in the roof, communicating with the central shaft already mentioned; and the chapel is warmed by an ornamental radiating stove in the centre, with descending flue, communicating with an outside shaft at the west end. The fittings are of stained deal. There is a small vestry attached to the south-west angle of the building. The chapel is approached from the house by a glazed covered way, and there is another entrance by a flight of steps from the hospital yard. The design for the chapel, selected in competition with others, was furnished by Mr. S. C. Mansfield, of Colchester, who also obtained the contract for the building.

Petworth.—The new chapel in the cemetery is now finished, and the funeral service performed there. Ever since the new cemetery was made great inconvenience has been felt in consequence of there being no building in which to perform the funeral service. This having been pointed out to Lord Leconfield, he at once offered to provide the money for the erection of a suitable building. The work was entrusted to Messrs. Whitcombe, builders. The cost of the building amounted to 270*l*., the whole of which was provided by Lord Leconfield. The stained windows were presented by Mr. Henry Upton, of Meadow Lodge, Petworth.

Bedminster.—The parish church of Bedminster has just received the addition of a pair of bronze gates for the dwarf chancel-screen which separates the choir from the nave of the building. The presentation has been made by the sisters of the late Mr. H. W. Alleyne, of Clifton, and Exeter College, Oxford, as a tribute to his memory, and are from the manufactory of Messrs. Hardman & Co., of Birmingham, brass-founders. The gates are finished in chocolate-coloured bronze, relieved by brasswork in the ivy leaf and stem pattern, to harmonize with the architectural character of the church.

Cheltenham.—The subscription for the tower of St. Mark's now reaches over 400*l*., or about one-half the amount the public are invited to

contribute; a friend having offered 400*l.* when 800*l.* shall have been subscribed by others; the total cost of the structure being estimated at 1,200*l.*——The erection of a new church has been for some time past under discussion by certain members of the congregation of St. John's.

Willenhall.—It is proposed to re-build the parish church here. The entire cost of the reconstruction will be about 4,000*l.*

PROVINCIAL NEWS.

Lynn.—The *Norfolk Chronicle*, speaking of the Corn Exchange here, says:—"This building, erected by contract for the Corporation but a few years since, has been a never-failing source of annoyance to its owners and occupants. In external appearance it is about as far from handsome as need be—a thin mask of stone, in the Palmerstonian style of architecture, scarcely concealing an ugly shed of brick, iron, and glass. The interior accommodation combines almost every possible discomfort,—in summer a baking heat, which all expedients (whether in the way of canvas spread over the roof to keep out the sun, or holes cut in the walls to let out the heated air) have failed to remedy; and in winter a perishing cold, the temperature being but a few degrees above that in the open air. The floor, of exceedingly rotten flagstones, is one of the worst ever seen; and the roof deserves a similar *encomium*, as it persistently refuses to keep out wind and water. Some temporary repairs to the roof have been ordered by the committee; but when winter is over, extensive alterations or renovations must be undertaken. Mr. Sinclair, the Great Eastern Railway Company's engineer, has been consulted by the borough treasurer on the subject, and has given some simple and commonsense suggestions as to the rules to be observed in the construction of such roofs."

Bristol.—At the Clifton Suspension Bridge, several lines of links, forming the first chain, have been fixed in permanent position, while the second chain has been begun, and, being connected across the river, will now be carried on simultaneously with that of the first chain, the one running immediately over the other. The third chain, which will finish those on one side of the bridge, will be on the top of this again, and each chain will be composed of twelve lines of links. To the eye of the observer the chains appear to rest on the temporary bridge, but that is not the case. Each chain, as it is connected with the pier on either side of the chasm, supports its own weight.

Cheltenham.—A "Report on the Sources of an Additional Supply of Water to the Town of Cheltenham," by Dr. Wright, compiled at the request of the local Improvement Commissioners, has been printed for private circulation. Dr. Wright thinks it would be better, in the first place, that the town should derive its supply from its "own legitimate district;" and recommends the Dowdeswell valley and the Chelt as the two most promising sources, provided they can be touched at a reasonable cost. Charlton Abbots and Sudeley valley are then recommended as giving a good yield, with the certainty of no opposition from Mr. J. C. Dent. The Severn would also, of course, furnish a sufficient supply; but the "expenses of filtering and pumping, and the distance the water will have to be forced, present difficulties the surmounting of which will involve a large outlay." The Forest of Dean is indicated as a promising source in the event of other suggestions failing; and a spring at South Cerney, near Cirencester, belonging to Mr. W. Boodle, is alluded to at some length. This spring throws out no less than 1,500,000 gallons a day of beautifully clear water; but Dr. Wright points out the possibility of the flow being intercepted before it issues from the ground, the expense of pumping to a sufficient level to insure its flow to Cheltenham, the great distance of transit, and the claims for compensation which would probably arise, as obstacles to its adoption which must not be lost sight of.

Newport (*Monmouthshire*). — The Duke of Beaufort is about to erect a new market at Newport. From the thirteen tenders opened at the offices of the Duke's architect, Mr. T. H. Wyatt, of London, the tender of Mr. H. P. Bolt, of Newport, was accepted, at between 6,000*l.* and 7,000*l.*, for the complete erection of the market. The building will cover an area of 1,875 superficial feet, having a commanding elevation, surmounted by glass domes and roofs, containing an area of 7,716 superficial feet of glass. There will be seven arched entrances,—three from Griffin-street, three from Market-street, and one from the Crown Hotel arcade. The basement floor will contain provision for the clerk's office, 74 meat-stalls, 44 vegetable-stalls, 10 cheese-factor's shops, a weighing-room, a corn-market, 76 feet by 23 feet, and a pitch-sack dry market adjoining. A gallery will be supported by iron girders, resting on 66 iron columns. Four broad stone staircases will lead to that department, where there will be accommodation for 104 sellers of poultry, butter, eggs, &c.; 16 for boot and shoe makers; and twelve for hawkers; with a thoroughfare for the public. The front of the gallery will have an ornamental cast-iron protection. The roof will be all of iron framing, supported by 86 columns. The whole will be probably completed in about 18 months.

STAINED GLASS.

St. Paul's New Church, Southport.—All the windows in this church (which is not yet consecrated), are painted. The principal one is that at the west end. It is a memorial of a child who died twelve years ago, the son of the donor of these windows. The subject of the painting is that scene in the life of our Saviour, where he rebuked his disciples for their uncharitable conduct, and said, "Suffer the little children to come unto me, and forbid them not; for of such is the kingdom of heaven." In the centre of the picture is the figure of Christ surrounded by children and their mothers in all the attitudes of wonder, admiration, and love, while further off stand the disciples grave and meditative under the rebuke which they have received. In the background are seen the temples and houses of Jerusalem. In a separate compartment, at the bottom of the window, the scroll-work contains the inscription. On the way towards the other extremity of the edifice, it is seen that the four smaller windows on each side are painted in grisaille work. In the transept are two windows. In the compartments of that to the south, at the top are represented the three patriarchs, Abraham, Isaac, and Jacob, while the body of the window is occupied by large figures, representing Moses, Samuel, Isaiah, Jeremiah, David, Solomon, Ezekiel, and Daniel. The window at the opposite end of the transept is of circular form, and in the centre is painted an effigy of St. Paul. The surrounding compartments of the window are ornamented in mosaic work. The back of the chancel recess is principally occupied by three windows, of large dimensions, the two outer of which are occupied by representations of the four Evangelists, and under each figure is depicted the appropriate emblem. In the centre window are several small scenes portraying incidents in the life of our Saviour, as his birth, his baptism, his entrance to Jerusalem, his crucifixion, and his ascension. There are several smaller windows in the chancel, and these are stained in grisaille and mosaic work. These windows are all from the manufactory of Messrs. Lobin et Fils, of Tours, Indre et Loire, France, whence workmen have been sent over to place them in the church.

St. Lawrence, Hawkhurst.—The old church at the Moor has just received a donation in the shape of a new east window of stained glass, the gift of Colonel Loyd, of Lillesden. The window is a large one, of the Late Decorated style: it is five-lighted, and occupies the entire width of the chancel proper: the head is of flowing tracery, bearing a resemblance to a rose, the centre of which is over the middle light. Springing from this centre are, as it were, six pointed petals, and on the outer side between each two of these (except the lower two, where the centre light rises higher than the others), are other petals. The subject depicted is the story of the "Crucifixion," the main feature of which occupies the centre lights. On the left our Saviour is represented "bearing the cross," and "dissolving;" on the right his "entombment," and "Noli me tangere." On ten smaller compartments below these are figured an angel with "hammer," another with "spear," another with "bag and rope," with "thorns and pincers," with "hyssop and scourge, rod," &c.; and on the five lowest compartments are represented the "agony," the "betrayal," the "Ecce Homo," the "scourging," and the "crowning with thorns." The head of the window is also pictured, having angels singing their "Alleluias" over the events represented below. The work has been executed by Messrs. Clayton & Bell, and the window is erected in memory of the father and mother of Colonel Loyd.

THE LINSEED OIL QUESTION.

WE continue to receive letters on this subject, but, as they do not advance the position, we cannot find space for them. T. L., amongst them, says,—

"My opinion is that it is in the hands of the painting trade alone to finally settle this question, by meeting together to discuss the subject of forming a company, as soon as possible, to manufacture whitelead, linseed oil, driers, varnish, &c., of the very best quality, for cash at the company's works or on delivery. The expense of travellers might be saved, as there is scarcely a doubt but the trade throughout the country would be only too glad to send orders, feeling fully assured that the very best and genuine articles only were made."

Another,—R. P.,—calls on our correspondent, A. M., to supply information as to his process.

The following paragraph occurred in the *City Press*, Nov. 28th:—

"About the year 1512, the adulteration of oil, &c., was carried to such an extent that Government was forced to interfere, and the result was an Act of Parliament which empowered the mayor, with the consent of the master and wardens of the Company of Tallowchandlers, to examine all oils and tallow, and to punish all those who adulterated the same. But says Chamberlain, 'no reward being ascertained for the searches, it was soon neglected;' and when, in the reign of Elizabeth, they petitioned for further privileges, says Strype (1720), 'the Mayor and Aldermen of the City, and all other the chief governors thereof,' resisted the same."

The Act mentioned might be usefully renewed, but it must evidently not be left to the tender mercies of the Company of Tallowchandlers to enforce it, even if the searchers *be* rewarded.

IMPROVEMENT OF CHURCHYARDS.

AN improvement has been made in the graveyard of St. Mary Elms Church, Ipswich, which deserves notice. The improvements have been planned and the work personally superintended *con amore* by Mr. T. Shave Gowing, who resides in the parish. The *Ipswich Journal* says:—"The method in which Mr. Gowing proceeded with the graveyard itself was to divide it into a system of beds and grass plats, not by means of arbitrary forms and figures, but on such a plan as was suggested to the eye by the manner in which the graves were grouped and by the forms of the intervening spaces. Wherever a number of graves could be circumscribed by an irregular line, the line has been drawn, and all the space within that line has been turned into a bed in which shrubs and flowers are planted. Beds of this irregular kind, never angular or awkwardly shaped, but always cut in flowing, curving lines, have been formed all over the ground, and a connected intervening space without graves has everywhere been spared to lay down with grass, giving access to all parts of the churchyard, and a good approach to all the beds. A number of graves, tablets, and monuments, sometimes clustered together, and sometimes straggling, would leave the operator a choice of forms in which the beds should be made, and of this Mr. Gowing has availed himself to throw the beds and groups of graves and shrubs into such positions and relations towards each other, and towards surrounding objects, as to produce a harmonious and pleasing effect; so that, as the shrubs grow up, here an ugly bit of a neighbouring building will be hid, there a buttress or turret of the church will be brought into relief, and further on, an unseemly straight line of tablets will be broken in appearance and be made to harmonize with the general effect."

THE PICTURES DISCOVERED IN GLOUCESTER.

FROM accidental circumstances, I am enabled to clear up the mystery about the "fine portrait of Pope," and the "Temptation," by Guido, lately discovered walled up in "Pope's room" in the Guise mansion at Gloucester. My grandfather, Richard Guise, of Clewer, Berks, who died at an advanced age in the very beginning of the present century, told me that when his nearest relative, General Guise, left by will to Christ Church College, Oxford, his valuable collection of pictures (so valuable that they were sent to Manchester for the Arts Exhibition in that town, which followed *the* Exhibition in London), his heirs were grievously disappointed at the loss. These pictures, no doubt, hung at his country mansion in the county. Pope's portrait, and the "Temptation," by Guido, formed part of the

furniture in the Guise residence at Gloucester, and, we may naturally suppose, were secretly "walled up" out of sight, to prevent their transmission to Christ Church as part of the legacy to that college. Such a step would shut out any claim or dispute about them afterwards; and they could, in due time, be unwalled, and again restored to the Guise family. The parties privy to this concealment dropped off, and the hidden treasures were entirely forgotten.

It is not improbable that Pope himself presented his portrait to the family, to be hung up in the room to which they had so complimentarily given the poet's name, from his being a frequent visitor at the house, and occupying this very apartment. That he was in the habit of marking his stay at the mansions of the great by some token of his friendship and esteem may be seen by reference to his works (ed. 1770, vol. v., p. 316). A letter there records that the poet, on a visit to Sherborne Castle, Dorset, planted a clump of Scotch firs on "Jerusalem;" but why this name was given to the spot is not known. But a still more touching token of the poet's regard for the Digby family is the epitaph in the Abbey Church on the Hon. Robert Digby, who was early cut off, to the great grief of his father, 1726,—

"A man to all the country dear,"—

whom the people called, *par excellence*, the Good Lord Digby. The son of whom he was thus bereaved was the especial friend and admirer of Pope; and, according to Pope himself, as rich in learning as he was in virtue (p. 317). The epitaph, full of commendation, will be found in vol. iv., p. 54.

The record left by my grandfather on the Guise pictures at Oxford, and my own observations, as a native of Sherborne, on Pope's epitaph, will explain the late interesting discovery at Gloucester mentioned in your last week's publication.

A DESCENDANT OF THE GUISES.

"CHANCELS OR TRANSUBSTANTIATORS."

SIR,—The Rev. William Purton heads his last letter "Chancels or no Chancels;" thus, even in his title, resorting to that common trick of sophists, the raising a false issue. In the same spirit he proceeds to describe as my theory, "that the building and adorning of chancels arose entirely out of the dogma of transubstantiation." This is exactly the opposite to what I have stated; viz., that for the first nine centuries chancels were erected simply as recessed platforms for ministers; and that during the Middle Ages, in countries of new converts, where no architectural precedents existed to control the imaginations of the priestly architects, they erected screened temples, retaining the name of chancels, but resembling them in little else; and that the transubstantiation dogma was the cause of the change. So clearly is this the fact that I could undertake to map out its progress by a collection of the plans of churches from the tenth to the fourteenth centuries.

Short of pulling them down, the Church of England, at the Reformation, by stripping the Mediæval so-called chancels of their screens and altars, and ordering the table to be brought out into the nave, gave a meaning to her words, that "the chancels should be as in times past." That, no sophistry can put aside.

I certainly did accuse Mr. Purton of so quoting Eusebius as to make him speak exactly the contrary to what he wrote; and Mr. Purton now tries to excuse himself by innocently stating, "I simply remarked that Eusebius was clearly speaking of the bema." The writer thus himself defines the very perversion of which he was guilty. Eusebius begins a sentence by speaking of the seats of the ministers, without mentioning the "bema" at all, though, of course, this was implied, as I admitted; and then, in natural sequence, proceeds to describe the seating of the congregation all round, the church being implied; and follows with the statement that the table or altar was in the middle. The seats and the frame near them intervene between the table and the "bema." There is not even the shadow of a doubt about the meaning of the passage.

It will tend to clear the mind of my reverend opponent if he will bear in memory the simple fact, that *cancelli*, in plain English, means railings, and that though at one period the table in the midst of the people was surrounded by *cancelli*, he is not to gather from that fact that it was therefore on the "bema."

It is easily traceable how these light network railings, to keep off the multitude, came to be placed around the table.

The Lord's Supper was instituted at a supper table, and at the end of the repast; and the feast and the rite continued to be celebrated together for nearly three centuries.

The sensual conduct of the people at the preliminary supper led to that being discontinued and to the table itself being railed off, and to full members only being admitted within the railings during the celebration of the Communion.

In the fourth century the Council of Laodicea decreed that the clergy only should go within the railing; the prohibition being itself a proof of the previous practice and of where the table stood.

Another decree of Council in 567 took off this restriction on laical rights, and ruled that the "holy of holies" should be opened both for men and women, to pray and communicate in at the time of oblation.

The change from sitting or reclining to standing was evidently part of the punishment brought on themselves by the misconduct of the people of that day; but it was not till the twelfth century that kneeling while receiving the Sacrament was introduced.

The "Apostolical Constitutions" were forged for the purpose of glorifying the episcopal order; but barefaced forgeries as they are, valuable information can be gleaned from them of the customs prevailing at the time they were really written. Thus, from these "Constitutions," as well as from Chrysostom and other writers, we learn that the sexes were separated in some instances by *cancelli* running between them, the men occupying one side of the table and the women the other,—another clear evidence of where the table stood.

Mr. Purton states that the *onus probandi* lies with me. I tell him once more that I have again and again given this proof, in a shape no architect or antiquary can question, by pointing out that the seats of the presiding bishop and his fellow presbyters were invariably at the extreme end of the apse or recessed platform, against, and built out from, its end wall; and that, therefore, no altar could have stood on the platform between the ministers and the people so long as the old chancels were employed as they were designed to be used. The fact that modern mock chancels have been constructed in front of the old ones, boxing them out from sight as well as use, is conclusive on this point.

The case is made stronger by the fact that in the fourth century we have distinct evidence that the bishop sat while preaching. Thus it is related that Constantine stood while bishop Eusebius was delivering his sermon sitting. The Pope claims to be the successor of St. Peter as bishop of Rome: it is, then, a very significant fact that there are two churches at Rome named after that Apostle, the modern St. Peter's and the old one of the Constantine age; but this latter was never the chief church in Rome. The church of St. John Lateran always did, and still does, occupy the highest rank; and the iron force of precedent compels every Pope to creep into the old stone seat in the old chancel behind the modern one, out of sight of the people, before he goes to the modern St. Peter's to be enthroned in public. The same force of precedent compels the Italian *papa* to go to the old church of St. Peter and say mass on a little wooden table which is affirmed to be the veritable one used by the apostle.

No one of the examples referred to by the rev. gentleman helps his case, because all that he relies on in them as doing so are modern additions.

I cannot pretend to fix the precise period at which the table or stone tomb, called an "altar," was moved from its position in the nave on to the bema: the decree of council at the close of the sixth century proves that at that time the table was in the nave; and the last church referred to by Mr. Purton, that of San Clemente, which he rightly states to have been rebuilt in the ninth century, has the usual apse with its stone seats for the ministers,—a simple, primitive chancel, in fact, with a modern mock one in front of it. Here, then, is a proof that in this church, in the ninth century, the table must have been in the nave.

In writing to architects, your correspondent would do well to be more cautious as to his figures, as he nearly trebles the depth of the apse or chancel in old St. Peter's, and almost doubles that of Santa Maria Maggiore.

If Mr. Purton will seat himself in imagination in the episcopal seat against the apse wall of any one of the real old churches, and look before him at the altar in its modern position, with its pillared canopy and heavy screen in advance of that, and then reflect how the people in the nave were to see him or hear the eloquent discourse, on their rights as kings and priests, that on his to flow from his lips, he will inevitably arrive at the conclusion that the said "altar" and screen were intruders, a fact of which there is incontrovertible proof, as well as of the truth that the Communion-table invariably stood, and ought to stand, in the centre of the church, and in the midst of the people.

JOHN ELLIOTT.

THE SAFETY OF THE NATIONAL GALLERY.

SIR,—A recent notice in the obituary of the *Times* gives reason for believing that a family, apparently numerous, inhabit apartments immediately beneath the rooms of the National Gallery, which contain our priceless works of art. A family must, of course, have cooking, fires, and lights (perhaps gas). Let us hope that no destruction by fire of our national collection may occur; but surely it deserves a serious inquiry. We have seen the Custom House, the Tower of London, the Royal Exchange and the Houses of Parliament burnt down, the latter by overheating the flues. Campden House is supposed to have been burnt down by frying sausages at night. At the British Museum and at the Kensington Museum official readers are under the eyes of the directors. What necessity can there be for a domestic establishment under the very floors of the National Gallery?

IDLER IN LONDON.

CAN THE NOISE OF PAVED ROADS BE LESSENED?

I SHOULD feel much obliged if any of your readers could give information on the subject of preventing the noise arising from paved roads. Paving is, in all other respects, so far superior to macadamizing, that any assistance they can afford readers to lessen this one drawback to paving, I am sure it would be conferring a great boon upon the community.

A CORPORATION SURVEYOR.

CONGLETON TOWN HALL COMPETITION AND THE ARCHITECTURAL ALLIANCE.

WE are requested to publish the following letters which have passed between the officers of the Architectural Alliance and the town-clerk of Congleton:—

"To the Mayor and Corporation of Congleton.

GENTLEMEN,—We, the officers of the Alliance, embracing gentlemen of architectural practice, and including among its members a large proportion of the principals in the kingdom, we beg respectfully to address you in the subject of the competition for your proposed new Town Hall.

Our attention has been called to the report of a meeting of the Congleton Council, at which the town-clerk stated that he had replied to questions by intending competitors, —"No plans were given as to the employment of the successful competitor to carry out his design;" and "that it was not unfrequently the case that the designs of one architect were carried out by another." And also by individual members of the corporation, "that in works involving an outlay of 5,000*l*., it was usual for architects to charge less than five per cent. commission."

Being assured that you wish to adopt the usual course, and would desire that the intending competitors should have confidence that you will adopt that course, we take the liberty of pointing out what is the usual practice of our profession, and, at the same time, the most advantageous for the employer.

Although cases of doubtful character occur in which the design of one architect has been carried into execution by another, they are quite *exceptions* to the general rule; and, both on account of the injustice to the designer, and the unsatisfactory nature of the arrangement to *all* parties concerned, should not be quoted as precedents.

It should be remembered that the premium you offer (25*l*.) is not at all adequate remuneration, *in itself*, for the talent and labour involved in preparing a design for works involving an outlay of 5,000*l*.; if even that sum were assured to every competitor; how much less so when each competitor has only the chance of that sum? It is quite clear that no architect of any position or practice at all would compete for the mere chance of the *premium*. Those who do compete will do so in the hope that the usual course will be adopted, and the successful competitor be commissioned to carry out his design at the usual rate of remuneration. It is also clearly to the advantage of the employer that his proposed building should be carried out by the designer. No one else can fully understand his intentions, as indicated in a few general drawings, but the designer himself; and it is impossible that another architect can take the same interest and trouble in working out the design, especially when he knows that any faults discovered when the work is completed can be laid on the designer, and not on his shoulders.

With respect to the commission, we beg to assure you that the usual and proper commission for such works as you propose is never less than five per cent on the total outlay, and all, nigh the sum is of course considerably more than if the outlay were only 1,000*l*., still, when you take into account the immensely-increased amount of thought, artistic skill, and responsibility, involved in a work of 5,000*l*. than in one of 1,000*l*.—to say nothing of the immense increase in the number of drawings, and the amount of superintendence required, it will be found that five per cent. commission is as well earned on a work of 5,000*l*. as on one of 1,000*l*.

The clerk of the works' salary is never included in the architect's commission. Assuming the works to be completed in eighteen months, the wages of a clerk of works worth anything would consume more than half the archi-

tect's commission. And although it is very important that the clerk of works should be *nominated* by the architect, he is always appointed and paid by the employer.

Although you may find persons who will undertake works for less than the proper professional commission, as a rule they make it up in modes which no respectable architect would condescend to; and you will find in the end that it is much cheaper to employ a competent and respectable architect at the proper remuneration; especially on such works as you propose, in which he should be able to give proper embodiment to the public spirit in which you have originated the scheme.

Hoping that you will adopt and make public the adoption of our suggestions, and assuring you that our only wish is to preserve the honour of our profession and the character of our public work,

We have the honour to be, &c.,
T. ROGER SMITH, President.
J. H. CHAMBERLAIN, Vice-President.
J. P. PRITCHETT, Treasurer and Hon. Sec."

"Borough of Congleton, January 8th, 1864.

SIR,—I beg to acknowledge the receipt of a communication which has been directed to me on behalf of the mayor and corporation of this borough by you, as president, and by Mr. Chamberlain and Mr. Pritchett, the vice-president and hon. secretary of the Architectural Alliance, on the subject of the competition for the proposed new town hall for this borough.

I am much obliged to you for that communication, as it enables me to remove an erroneous impression which appears to exist with reference to my own views on the subject commented upon in your communication, and to the intentions of the corporation with reference to the competition.

I am not aware what newspaper it is which contains the report to which your attention has been called, and in which report I am represented as having said that I had replied to questions from intending competitors that 'no pledge was given as to the employment of the successful competitor to carry out his designs,' and 'that it was not unfrequently the case that the designs of one architect were carried out by another.' I cannot imagine how the first quotation can have been attributed to me, for the very contrary of the quotation is what I actually said. The case is simply thus:—the whole arrangements for this competition were left in the hands of a special committee by the council. The committee, through me, issued plans and particulars to every applicant. Several gentlemen who had so applied for and received the plans, wrote to me, asking if the architect whose plans should be selected would be employed to carry out the work. To every one of these gentlemen I at once replied, unhesitatingly, in the affirmative, and I then believed that to this rule (supposing the architect to be a competent man) there was no exception. The committee, having so far carried out their work, a special meeting of the council was called, to confirm what had been done so far.

To that special meeting I, as town clerk, explained the several acts of the committee, in order that they might be formally confirmed; and in that explanation I distinctly stated that, in answer to inquiries made on the subject, I had replied that the successful architect would be employed; and that I believed the question had been asked because I had since learned there were cases in which the architect simply received the premium offered, the plans were retained, and the work entrusted to another; but that our committee had expressly refused to reserve to themselves that power, and had authorized me to state to all applicants that the successful man would certainly be employed.

That resolution of the committee was, amongst others, unanimously confirmed by the council; and this part of the question, on which there was not and never had been, either in the committee or in the council, or with myself, a second opinion, fully and decisively disposed of,—as the report to which your attention was called ought to have shewn. As I have said before, I did not even know there was an exception to the rule, until I saw an advertisement in the *Builder* which appeared to imply the contrary.

The report is correct so far as the conversation, with reference to the commission, which took place in the council is reported, but what was said was the opinion only of one or two members (of one only, I believe). I shall lay your communication before the council at their next meeting, and there is not the least doubt that, when the proper time arrives for making the necessary arrangements with the successful architect, there will be no deviation from the ordinary rule. You are of course aware that the council have at present in no way entertained the subject of the commission. The conversation, as reported, did not last many minutes, for the subject was not one of those which the corporation had specially met to discuss, and no importance should be attached to what fell from individual members of the council on that occasion.—I have the honour to be, &c.

CHRIS. MOORHOUSE, Town Clerk."

THE STAGE.

Drury Lane.—We very willingly mention that the attention of Messrs. Falconer & Chatterton having been directed to the case of extortion by one of their box-keepers, set forth in our last, they inquired into the circumstances, caused the delinquent to refund the money to the person from whom it was taken, and we believe punished him. The new piece, "Night and Morning," by Mr. Falconer, is not equal to some of his other productions, including no single character for whom the audience care one jot. It will nevertheless serve to run on with the pantomime, which fills the house nightly.

The Princess's.—"Donna Diana," founded by Mr. Westland Marston on the plot of a well-known Spanish comedy, is an elegant and refined production, calculated to maintain his reputation as a dramatic poet. It is acted by Mrs. Charles Young, Mr. Vezin, and Mr. George Vining, the lessee, with remarkable discrimination, ability, and completeness, and must afford genuine pleasure to all who can find it in the able portrayal of character. The title of the Spanish play, "Disdain against Disdain," gives the motive of the plot.

PAYMENT OF ARCHITECTS.

CONGLETON TOWN HALL.

I SEE from your periodical that the promoters of the Congleton Town Hall talk of requiring that the architect employed to erect the building should receive *less* than the usual five per cent. commission. Now, from my experience in this city (Manchester), I have no doubt but that some self-styled architects have made the proposition to the council. It is not uncommon to be asked one's terms, whether five or two and a-half per cent. It is, therefore, time for the profession to better itself, five per cent. being barely remunerative.

The evil has partly arisen from architects taking pupils without, or with very little, premium; also from parties practising who have been builders, bricklayers, masons, and carpenters, supposed by the public to be "practical men," but who are, nevertheless, utterly ignorant at least of the theoretical part of the profession; and who, in cases of emergency, employ a draughtsman to design for them. If they possessed real talent, I should not object to their success. The consequence is, instead of the professors of architecture holding up their heads as equal to those of any of the other professions, they are fast losing *status*.

QUOCUNQUE.

RAILWAY COMPENSATIONS, GUILDHALL.

THE Court was occupied the whole day on Saturday in disposing of a number of claims for compensation upon the Metropolitan Railway Company, in respect of property required for the extension of that line to Finsbury; but the only case calling for particular notice was one in which Mr. Glancy, the occupier of a public-house, known as the Jacob's Well, in Barbican, claimed the amount of 1,232*l.* as compensation for the compulsory removal and sacrifice of his trade profits and goodwill.

Mr. Prentice, instructed by Messrs. Stuchbury & Davis, appeared on behalf of the claimant, and urged in support of the above claim that the trade annual takings were about 1,470*l.*, which, with the additional sum of 84*l.* received for a portion of the premises let off, made the gross income 1,550*l.* The gross expenses of conducting the business, including the stock purchased during the year, amounted to about 1,150*l.*, leaving a net profit to the claimant of 400*l.* per annum. The goodwill was estimated at the value of 560*l.*; the furniture, which it was customary in the trade for the incoming tenant to take at a valuation, was set down at 270*l.*; the loss on the removal of stock, 100*l.*; for loss of business, 280*l.*; compensation to builder for breaking a contract to enlarge the music-hall, 20*l.*; and some smaller items, which made up the amount claimed.

Mr. Burchell, on behalf of the company, submitted that the claim was excessive, inasmuch as the claimant was asking a large sum for his interest in property which his agreement with his landlord expressly stipulated he should not sell or receive any premium for, either directly or indirectly. The company were not in immediate want of the premises, and were, therefore, in a position to purchase the lessor's interest, which would give them the right to serve the claimant with the proper notice to quit without their being called on for a single fraction for compensation. He was willing to allow 20*l.* for the loss on the removal of stock, 20*l.* for compensation to the builder, 13*l.* for unexpired licences, 60*l.* for loss of removal of furniture—being one-third of the value estimated on the principle of three removals being equal to a fire; 40*l.* for loss on fixtures, and 100*l.* for one quarter's trade profits; making a total of 253*l.*; but, if the magistrate thought fit to give a little more, he would not oppose it, as the company's only object was to pay what was right, and if, after the production of the agreement, they paid the claimant for the goodwill, they would have to pay it over again in dealing with the City of London Brewery Company, who were the owners of the property in question.

Alderman Waterlow said nearly all the amounts had been settled, and the only point for him to consider was the question of goodwill. It had been argued that although under the agreement produced the claimant could not sell his property, it was equally valuable to him to retain; but no evidence has been adduced to show that he could have retained it, or that the City of London Brewery had the power to have allowed him to do so. He could not, therefore, assume that the tenant, under all the circumstances, was entitled to the goodwill which the Brewery Company appeared to have reserved, otherwise the Railway Company might be called upon to pay both parties for the same thing. His award was that the company should pay to the claimant the amount of 350*l.* as compensation, and no costs.

Books Received.

Tables for Earthwork. London: Vacher & Sons.

WE notice another issue (a third edition) of Mr. G. P. Bidder's Tables for calculating the contents of excavations, area of slopes, &c. We cannot wonder at the success of this simple sheet of practical tables. They come with a double recommendation,—bearing the name of a gentleman who is at once a successful civil engineer and, at the same time, one of the most remarkable arithmetical geniuses of the age. The former assistant of the Stephensons could scarcely fail to know the requirements of the users of such tables; and the arithmetical skill of the erst "calculating boy" is a guarantee against the arithmetical blunders that too often render tables of this kind absolutely dangerous to be dealt with.

VARIORUM.

"Wedgwood: an Address. By the Right Hon. W. E. Gladstone. London: Murray." This is a reprint of the Chancellor of the Exchequer's interesting address, delivered at the laying of the foundation-stone of the Wedgwood Institute at Burslem. Wedgwood and Wedgwood-ware are the subjects treated of, as our report at the time showed at some length, but not to the extent which the address merited: we are glad, therefore, to find it reprinted, as the subject is one in which the Chancellor of the Exchequer is well versed, notwithstanding his modest disclaimer in the address itself.——"Knowledge for the Time. By John Timbs, F.S.A., author of 'Curiosities of London, &c.' London: Lockwood & Co." Mr. Timbs has here supplemented his very useful volume of "Things not Generally Known," by another, embracing a wide range of subjects, historical, political, social, legal, scientific, and mechanical, compiled with his usual knowledge and industry, and forming a very interesting cyclopædia of miscellaneous information. The author has throughout availed himself of the most reliable views of leading writers on events of the day, in the form of abstracts, abridgments, and summaries, all brief, and considerably over 300 in number; and the volume forms an excellent compendium of concise notions on subjects of living interest, useful curiosity, and amusing research.——"The Patent Question. By R. A. Macfie. London: Johnson, Fleet-street." This pamphlet contains a paper submitted to the Congress of the Social Science Association, at Edinburgh, in October last; together with translations of contributions to patent reform, by M. Chevalier and other continental writers. It professes to give "a solution of difficulties, by abolishing or shortening the inventor's monopoly, and instituting national recompenses."——"Homes without Hands. By the Rev. J. G. Wood, M.A., F.L.S. London: Longman & Co. Part I." This promises to be an interesting treatise on burrowing animals. The present number contains some curious information as to the prairie-dog towns of America, and as to the fox, the mole, and such-like animals.——"The Midland Counties Almanac and Rural Handbook. 1864. Simpkin, Marshall, & Co., London." This almanac contains a great deal of miscellaneous and useful information on rural and other matters, besides the essentials of an almanac.

Miscellanea.

OPENING OF THE CHARING-CROSS RAILWAY.—The Charing-cross branch of the South-Eastern Railway is now open for public traffic. The first train started at ten minutes past seven o'clock on Monday, being well filled, and there were trains as far as Greenwich, at short intervals during the day.

OBITUARY.—We mention with very great regret the death of Mr. Joseph Woods, architect, which took place on Saturday last, the 9th instant, at Southover, Lewes. Some interesting information concerning this venerable gentleman was given in our pages not very long ago.——Last week died Mr. Charles M'Intosh, well known, particularly in Scotland, as a garden architect.——Mr. Behnes, the sculptor, died on Sunday last, after a fit on the previous day. With many foibles, he was a man of great ability.

THE ROMSEY LABOURERS' ENCOURAGEMENT ASSOCIATION.—The annual meeting of this association has been held. The Right Hon. W. Cowper, M.P., presided, in the unavoidable absence of Lord Palmerston. The dinner given to the successful candidates took place in the Town-hall, after which the prizes were distributed by Mr. Cowper, who pointed out the advantages of cultivating habits of industry, honesty, and sobriety. He strongly recommended them to attend a little more to the simple rules of health, observing, that there were many cottagers who had not yet discovered that the air which they breathed over and over again became as foul and as dirty as the water in which they washed their hands. Many people were not aware that air became as dirty as water, just because they could not see the dirt in the air; but it was quite true that air which had been breathed over and over again was just as unwholesome as dirty water could be to drink. Many were so afraid of admitting the cold air, that they excluded the fresh air. They continued breathing the same air over and over again, thus sowing the seeds of disease which too frequently terminated fatally. A large party of the subscribers afterwards dined together at the White Horse Hotel, Mr. Cowper in the chair.

PROVIDENT INSTITUTION OF BUILDERS' FOREMEN AND CLERKS OF WORKS.—At a recent meeting of this institution the librarian announced, that in addition to the books presented to the Library by Professor Donaldson, he had received a volume from the Institute of Architects. We mention this that it may lead to other similar donations.

TELEGRAPHIC PROGRESS. — There is now in Liverpool, and in operation at the Electric Telegraph Company's Offices in Castle-street, says the *Railway News*, an instrument which, from its ingenuity of construction and perfection of results, deserves most careful attention. The object is to transmit autograph messages in the exact form in which they are written; and the most complicated figures, designs, sketches, or indeed anything that can be drawn by an ordinary pen, is transmitted as readily as the simplest dot or stroke.——It is said that in three years it will be possible to send a telegraphic despatch to Pekin from London and back again in a day. This will be by means of the telegraph now erecting in Eastern Siberia.

DINNER-TABLE DECORATION.—All endeavours to improve this have our good will. Mr. Kelk, by means of a prize of 10*l.*, through the council of the Horticultural Society, directs the attention of cultivators to growing plants fitted for the decoration of the dinner-table. Many persons prefer a handsome well-grown plant, naturally covered with flowers, for the decoration of their dinner-table, to a bouquet, however skilfully arranged, or even to such decorations as Sir C. W. Dilke's prizes produced. But the great difficulty has always been to get plants in a small enough pot to admit of being put on the dinner-table. Mr. Kelk offers 5*l.* for three azalcas, and 5*l.* for three roses so adapted; that is, grown in 6-inch pots. Care should be taken that flowers for such a purpose do not screen the guests on one side from those on the other. They must be short enough to be looked over, or sufficiently high above a thin stem to give a view under.

THE NEW WORKHOUSE AT HIGHER TRANMERE. Last week the new Birkenhead Union Workhouse, at Higher Tranmere, was opened. The house, with the garden, occupies an area of nearly twelve acres. The architecture is after the Tudor style. The structure has been built of common brick, but the quoins and angles have been executed in red sandstone. In the centre of the building is a tower, in the upper part of which is a tank: by means of pipes, water can be conveyed to all the corridors of the building. At the back part of the building is a large and commodious dining-hall, capable of seating 400 persons, and which is to be used both as a dining-room and a chapel. It is said the building has cost nearly 13,000*l.*, and that it is capable of accommodating about 400 persons. The architect was Mr. Thomas Layland: the contractors were Messrs. Neil & Co., of Bradford: the work has been under the direction of Mr. Thomas Storey, civil engineer.

FIRE AT THE LONDON BRIDGE STATION.—On Sunday morning, shortly after five o'clock, a fire was discovered in the Crystal Palace department of the London and Brighton Railway station at London Bridge. The flames extended with unusual rapidity to the electric telegraph department, including the lobby, and also to another portion of the station, and to four goods trucks standing on a siding. One or two powerful fire-engines are always kept at the station, in charge of a well-disciplined fireman, but after the ordinary traffic is over this person leaves; and those left in charge, moreover, appear not to have known where the fire-plugs—of which there were several in the station — were situate. Several engines of the London brigade were soon in attendance, when another obstacle presented itself, for it had been forgotten to send for the turncock. The fire, being unrestrained, continued to spread, and seizing upon the book and newspaper depôts belonging to Messrs. W. H. Smith & Son, the whole presented a regular blaze. When water was at length obtained, the firemen succeeded in cutting off the further spread of the fire, but they were unable to get it extinguished until about 60 or 65 feet of the roof of the Crystal Palace department were destroyed, and another part, 60 feet by 40 feet, was much damaged by the action of the fire. The telegraph lobby was burned out, the offices adjoining severely damaged by fire, and four trucks were partially burned, besides the book depôt and the offices of Messrs. Smith, already alluded to, which are also burned down.

DESTRUCTION OF FIRE-DAMP. — Mr. Arthur Wall, of Birmingham, is said to have matured a means of destroying fire-damp by the use of a screen, in each heading of a colliery, containing a material which destroys the dangerous gas; the result being that the most fiery mines can be worked with absolute safety. The merits of the discovery he says can be definitely tested in a mine for less than 100*l.*; and Mr. Wall asserts that the material absorbs and decomposes the carburetted hydrogen without becoming decomposed itself—the screen simply becoming clogged with carbon, which is easily washed out with water.

THE HOTEL MOVEMENT.—An association composed of some of the leading authorities of Amsterdam, Rotterdam, Antwerp, and Brussels, in connection with an English board of equal status in the metropolis, has been lately formed, under the name of "The Grand International Alliance Hotels Company (Limited)," with a view of establishing a thorough system of communication between the hotels of the three countries, so as to relieve travellers of one half of the annoyance they experience in the course of their travels in that part of Europe.

A MAGNETIC ETHER.—In a paper read at the last meeting of the Royal Society, the Astronomer Royal propounds a theory to account for magnetic storms. The phenomena, in Mr. Airy's opinion, represent the movements of a magnetic ether which he supposes to overspread the whole surface of the earth as an impalpable fluid envelope several feet in thickness. If we then conceive this magnetic ether "to be subject to occasional currents produced by some action or cessation of action of the sun, which currents are liable to interruptions or perversions of the same kind as those in air and water," we have a theory by which the disturbances that occur in the observed phenomena of terrestrial magnetism may be explained.

PROPOSED NEW BRIDGE FROM WANDSWORTH TO FULHAM. — It is intended to remove the old bridge, which has been so long an inconvenience to the navigation, and to build a substantial one for carriages and passengers, with approaches and piers commencing at Wandsworth in the York-road, and terminating near the Peterborough Arms in King's-road, Fulham, with an approach road from the latter point, terminating in Moore Park-road, near to where it is crossed by the Britannia-road. The road on the Wandsworth side will commence in York-road and terminate at the junction of the high road from Wandsworth with the high road from there to the new Wandsworth station of the Crystal Palace and West-end Junction Railway. The estimated cost is 40,000*l.*

GREAT DISCOVERIES OF COAL IN BRAZIL.—At the last monthly meeting of the Manchester Geological Society, an announcement was made by Mr. John Plant, of the Salford Museum, respecting the discovery of three extensive coal-fields in Brazil. Mr. Plant said that his brother, Mr. Nathaniel Plant, was the state geologist in Brazil, and he had lately forwarded a description of one of three coal-fields, which were the first that had been discovered in Brazil. Mr. N. Plant, in 1862, fitted out an expedition to the districts of Rio Grande do Sul, and there discovered a large coalfield, which had been named the Candiota, extending over about 150 square miles. The second was on the Rio Ratos, extending over about 50 square miles; and the third was in the province of San Catharina, extending over about 80 square miles.

DESTRUCTION OF WHITTLEBURY LODGE, TOWCESTER.—The mansion of the Earl of Southampton at Whittlebury, has been burned to the ground, nothing remaining but the blackened walls and the stabling, which latter escaped undamaged. The house was lately thoroughly repaired and renovated, and amongst other alterations the gas-fittings and hot-water apparatus had been renewed and extended; and there seems every reason to believe that the calamity is due to the over-heating of some of the flues connected with the latter. It was with difficulty Lord and Lady Southampton, with the family, visitors, and servants, made their escape. The whole of the valuable pictures, plate, jewellery, books, and furniture were destroyed, with the exception of a comparatively few articles, chiefly from the drawing-room, which were saved. The amount of the loss whether it falls upon Lord Southampton or on insurance companies, must be enormous, from the completeness of the devastation.

TIN.—An advance in the price of tin has at last taken place, and the share-market is, in consequence, characterized by vastly increased activity. Up to Friday last the standard for ores must be quoted as follows: — Common, 107*s.*; superior common, 108*s.*; fine 109*s.*; superior fine, 111*s.* As may be supposed, the price of tin (metal) has also correspondingly advanced, as follows:—Common, from 112*s.* to 116*s.* per cwt.; refined ditto, from 117*s.* to 121*s.*

FATAL ACCIDENT WITH SHEARS AT WOOLWICH DOCKYARD. — The paddle steam-vessel Spiteful having been condemned, arrangements had been made for the removal of her boilers and machinery by means of the powerful crane and shears on the wharf, worked by hydraulic pressure. One of the boilers, having been attached to the gear, was lifted from its position, and had just cleared the hold of the ship, when the tenth link from the cylinder of the chain attached to the shears snapped asunder, and the shears suddenly canted round with the gear attached, sweeping with tremendous force over the deck, and killing three workmen, and severely injuring several others. The shears were erected about three years since, and the link of the chain which snapped is about two inches in diameter, weighing several pounds, and of wrought iron.

THE ACROPOLIS AT THE CRYSTAL PALACE.—A model of the whole of the mass of rock which dominates Athens, with its architectural remains, has just been forwarded to this country for exhibition at the Crystal Palace. The model is the work of a lady, Mrs. Avramioti, who has laboured at its completion, even to the most minute detail, for upwards of three years. It has been built to a scale of one thousandth, and in every trifling irregularity of the pile of rock, from the curious angular mass at the back of the Parthenon which in profile bears such a fanciful resemblance to the head of Socrates, down to the weather-worn stairs of the slope facing the Pirœus, this miniature *fac-simile* is said to be perfect. The footways and tracts over the marble steps which lead up from the modern capital to the remains of the ancient Propylæa are delineated. The arrangement, or rather disarrangement, of the masses of marble and *débris* of temples which litter the ground around the Parthenon are reproduced, and all the remains of the monuments are copied.

THE SCOTTISH NATIONAL MEMORIAL OF PRINCE ALBERT.— Among other designs which have been, or are about to be submitted to the committee for this memorial is one by Mr. John Steell, R.S.A., Her Majesty's sculptor for Scotland, who has not hitherto taken any action whatever in regard to this matter. The *Scotsman* thus describes the design, which, if we recollect aright, was some time since submitted to Her Majesty's inspection. The proposed memorial takes the shape of an equestrian statue, on an ornamental and elevated pedestal, the height of the whole from the base to the head of the figure being supposed to be about thirty feet. The prince is represented on horseback. The action of the animal is quiet, but without stiffness, and its head is lowered so as to show the full height of the rider. The prince's right hand and arm are raised in an attitude of peaceful greeting. From the ground the pedestal rises by several successive stages, and the lowest of these shows at each angle—which projects so as to afford the requisite space—a group of representative figures. These figures all look inward and upward to the central group; their action being that of admiration or homage, signified by their hands bearing and offering wreaths. These groups are designed to represent all classes, from the peer to the peasant. Above them the pedestal rises by two further stages, the faces of which it is proposed to inscribe with quotations from the public speeches of the prince. On the ledge of the second or upper of these steps or stages, masses of classic emblems indicative of the tastes and pursuits of his royal highness, will carry the eye up to a series of bas-reliefs panelled in the pedestal proper, which is of a more ornate architectural character than the lower part of the design. In these bas-reliefs the prince is represented as opening the Great Exhibition, in the midst of his family, &c. The design admits of considerable variety of work, embracing, as it does, distinct architectural as well as sculptural features, and would afford important independent commissions to several artists. Mr. Steell is engaged on a second design of a more conventional character. The design, however, is to be obtained by competition.

TO REMOVE OIL-STAINS FROM BOOKS.—If the stains are extensive, roll up each leaf and insert it into a wide-mouthed bottle half full of sulphuric ether, and shake it gently up and down for a minute. On its removal the stains will be found to have disappeared. The ether rapidly evaporates from the paper, and a single washing in cold water is all that is afterwards required.—*Notes and Queries.*

IMPRESSIONS OF SCULPTURED STONES.—At a recent meeting of the Newcastle Society of Antiquaries, Dr. Bruce submitted and explained a plan for taking impressions of sculptured stones. The *modus operandi*, the rev. doctor explained, is by placing upon the stone a thin sheet of gutta-percha, upon which is placed a blanket, wrung out of warm water, and pressed upon the gutta-percha, which very soon takes the impression of the stone, and in the most perfect manner, even to the tool-marks.

VENTILATION OF SHIPS IN THE NAVY.—An important part of Dr. Edmonds's ventilating apparatus has been fitted to the *Royal Sovereign* cupola-ship, at Portsmouth, in which, by a simple arrangement, from 300 to 350 natural channels actually existing in every large ship have been made available for the ventilation of the ship's bilges and the timber spaces. This is done by connecting these latter into a long air-shaft on each side of the ship, through which a draught is created by communicating it by a cross shaft into the funnel. The efficacy of this plan has been already tested in the *Royal Sovereign*, a very slight increase of temperature in the funnel sufficing to draw a current of air through the air-shafts, and necessarily through the whole frame-work of the ship, from the bilges, and which current, passing into the funnel, is carried high into the open air. This mode of ventilation promises to prevent dry-rot, by the free circulation of air which it creates over the interior timber surfaces.

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For a villa residence, for Mr. J. H. Mason, Donnington-road, Newbury. Mr. J. H. Money, architect :—

Hoskings	£2,778	0	0
Church	2,772	0	0
Barrett	2,588	0	0
Futcher	2,549	0	0

For the erection of four houses, Roman-road, Old Ford, Bow, for Mr. H. J. Bliss. Messrs. T. & W. Stone, architects :—

Ellis	£1,260	0	0
Higgs	1,107	0	0
Jay	999	0	0
Mortar	973	0	0
Norman	930	0	0
Wilson	840	0	0

For new main sewers, Huntingdon. Mr. Robt. Hutchinson, Surveyor :—

	No. 1 Contract.			No. 2 Contract.		
Richardson	£503	0	0	£424	9	0
Brown	497	0	0	425	0	0
Balmer	495	0	0	447	0	0
Maile	500	0	0	420	0	0

For warehouses, at Plaistow, for the London Warehousing Company. Quantities by Messrs. Oliver & Paice :—

King (accepted)	£1,670	0	0

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SAMUEL HEATH, Clerk to the Board.

10, Basinghall-street, E.C. January 11th, 1864.

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Townhall, Newcastle, January 7, 1864.

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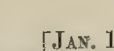
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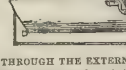
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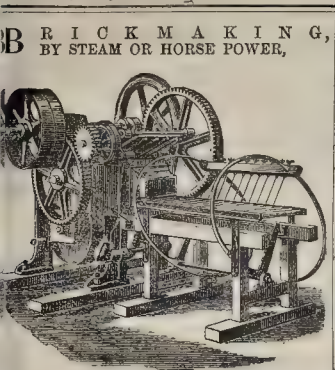
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Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

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Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parksprings, Harehill, &c. &c.

Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes Shipped direct from the Quarries.

Prices and specimens forwarded on application.

TISBURY STONE. The WARDOUR (CHILMARE) and TISBURY STONE COMPANY, Limited,

Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.

It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high class architecture, and works of art, requiring only to be known to become the STONE OF THE DAY.

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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, sinks, &c.; Bath, Caen, Portland, Aubigny, and Granite. Carrocs direct from the quarries. Wrought work executed at moderate prices. Agent, JOSEPH CHADWICK.

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ROOFING SLATES, of various sizes, from 26 inches by 15 inches to 13 inches by 10 inches.

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O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames.

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1851.

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DESACHY'S FIBROUS PLASTER.

GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,

Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of disper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

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(ESTABLISHED IN 1780.)

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PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
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REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
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2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments:—
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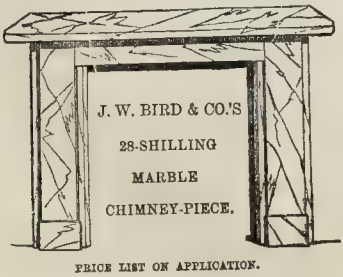
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
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ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

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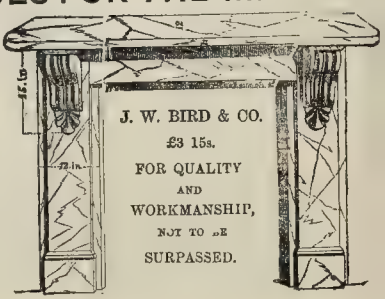


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THE MOST APPROVED INTERNAL STUCCO.
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THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

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CEMENT MANUFACTURERS,
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For Account of Experiments on the Strength of their
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KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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MESSRS. FREEN & COMPANY having completed their NEW PREMISES, at 17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, are prepared to supply all Articles connected with their Trade from the above Wharf.—For particulars see following advertisement.

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MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
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FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
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F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity

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CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed to 3, Canal road, Kingsland-road; or to 17, Abingdon-street, Millbank-street, Westminster, will receive prompt attention.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
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OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
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STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
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Goods forwarded by Railway with despatch.
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FRINDSBURY, near ROCHESTER, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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TO BUILDERS, CONTRACTORS, &c.
PORTLAND CEMENT.—JAMES NESBIT is prepared to supply Portland Cement of superior quality and strength, at such a price as will enable Builders to use it for purposes from which the high price usually charged has hitherto prevented its being used. Terms on application.—Berney Arms, Portland Cement Works, Burgh Castle, Great Yarmouth.

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Nearly opposite Entrance to Goods Station, Great Northern Railway.

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Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

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Manufacturers also of White Lead and Colours.
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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
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HALKIN HYDRAULIC LIME, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, N.W. the same as used in the construction of the Liverpool Docks, &c. and so long celebrated for its strong cementitious and concreting powers for subaqueous masonry, can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in bags and barrels. The Limestone can be had in full cargoes; also L. J. & Co.'s Roman Cement, in barrels, which is of a very superior quality, and warranted pure. Orders to be accompanied by a banker's reference.—Apply to the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs
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Architects' designs carried out on the shortest notice.
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To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

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Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside.

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Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the
BEST PORTLAND CEMENT,
On the most reasonable terms.
Orders received at the JAMAICA COFFEE HOUSE, CORNHILL, LONDON; or at the WORKS, NORTHFLEET.

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PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
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ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

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LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
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THOS. W. ELLSTON
begs to offer to the Trade and Public generally the undermentioned Goods, at the following low prices, in quantities of not less than 30 at the Public Docks, viz —

Good 2½ Mill-sawn White Battens	from £8 0 per 120 of 12 feet	
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Good 2 by 8 Mill-sawn Yellow Deals	15 10	,,
Good 3 by 9 White Deals	15 0	,,
Yellow Fir Timber (good length and size)	45s. per load	
Good and well-prepared ¾ Flooring Boards	from 12s. 6d. per square	
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Also a large stock of Matched Linings, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of cash or P.O. orders. All sawn goods delivered free to London railway stations
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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side).
ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l. 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 14s. per square; 1 ditto, 16s. ditto Venetian Blind Laths, 8s. 6d. per 100 feet super. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
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DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality made the name celebrated
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

PRIZE MEDAL, 1862.
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No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PURE LINSEED OIL, from Genuine Baltic and Bombay Linseed, supplied by the LONDON OIL and COLOUR COMPANY (Limited), Nos. 65, 66, 67, Saint George's-street, London Docks.—Mr. THOMPSON, Manager.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
56, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS White Lead (WARRANTED GENUINE) 29s. per cwt. Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon. Turpentine, 6s. 6d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 80, Upper Ebury-street, and 45, Coleshill street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 29s. per cwt. Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon.
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners street, are prepared to supply Machine made Patented and Solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered. Illustrated Catalogues plans, and estimates free.

TO DUST CONTRACTORS.—WANTED, for immediate delivery, about FOUR THOUSAND CHALDRON of ASHES, and TWO THOUSAND CHALDRON of BREEZE, for Brickmaking, to be delivered alongside, at Crayford, Kent.—Apply to LUCAS, BROTHERS, Lambeth.

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards	from 10s. 6d. per square
10,000 Dry Pine Plank	from 3s. 6d. each
5,000 Yellow Battens	from £10 per 120
4,000 White Battens	from £9 per 120
Matched Lining	from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.

Wainscot Oak	from 6d. per foot
Oak Sills	from 2½d. per foot
Honduras Mahogany	from 5½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Sliding Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
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JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
¾-inch ,, ,,	14s. 6d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

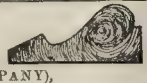
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 30s. per Load.	
Good Yellow Deals	£16 10 0 per 120, or 2½ d. per foot.	
Spruce Deals	15 0 0 ,,	2½ ,,
2½-inch Battens	9 0 0 ,,	1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

DEAL AND TIMBER TRADE.
CHARLES SLEE,
(of the late Firm of SYKES, SONS, & SLEE), has in STOCK at his Premises,
10, HIGH STREET, WHITECHAPEL,
A General Assortment of WOOD GOODS, comprising DRY YELLOW, SEASONED PINE, &c., with the usual thickness of prepared Floor Boards, and Matched Linings.
COUNTRY AND OTHER ORDERS PROMPTLY ATTENDED TO.
PRICES TO SUIT ALL BUYERS.



MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

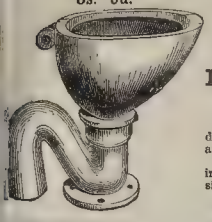
B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
6 by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

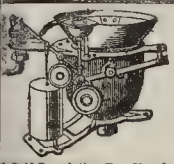
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

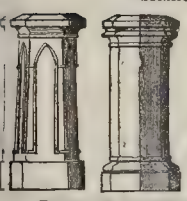
JAMES STIFF & SONS,

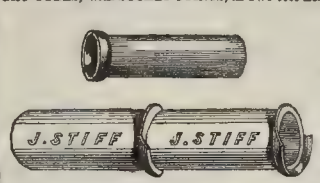
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS, CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

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CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

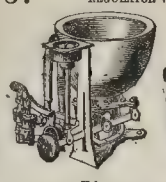
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London

TERRA COTTA and Fine STONEWARE FOTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to Harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City road Basin, N. Secondly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and Sedly, that the 'Reports of the Jurics," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufacturers known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney pieces, Billiard-tables, Table-tops, Baths, Wall linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

TRUSSES, VASES, FOUNTAINS, BALUSTRADES, CHIMNEY-PIECES, MIGNIONETTE BOXES, &c.—The premises at Cannon-row being required for the Thames Embankment, the Patent Concrete Stone Company, Limited, are obliged to clear off the remaining Stock, and therefore offer the same at greatly reduced prices.

7, Cannon-row, Westminster, December 7, 1863.

PATENT PORCELAIN BATHS.

DESIGNED BY HIS LATE R.H PRINCE ALBERT.

PRIZE MEDALS, &c.

THE GOLD ISIS MEDAL OF THE SOCIETY OF ARTS, 1850.

THE INTERNATIONAL EXHIBITION MEDAL 1862.

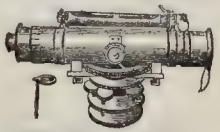
"A great contribution to cleanliness."—See *Journal of the Society of Arts*, 1850. "Nothing can be more cleanly than porcelain, and this is certainly a beautiful specimen."—See *Jurors' Report* 1862, *Class* 16.

Bath Fittings complete, Glazed Bricks, Tiles, Sinks, Plug Basins, Water Closets, &c.

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RUFFORD & FINCH, Patentees.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The Prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE USUAL DAILY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Engineering Depot, Palace Wharf, Stangate, Lambeth S

SALES BY AUCTION.

METROPOLITAN RAILWAY.—FINSBURY EXTENSION BUILDING MATERIALS of several large Factories, Warehouses, Dwelling-houses, and Premises, Aldersgate-street and Long-lane

PULLEN, HORNE, & EVERSFIELD

are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 18th, at TWELVE, in Lots, all the valuable BUILDING MATERIALS of extensive Factories, Warehouses, Range of Stabling, Dwelling-houses, and Premises, situate in and near Aldersgate-street and Long-lane; comprising excellent stock bricks, oak and fir timber in roofs at floors, slates, plain and panelled doors, glazed sashes, plate glass skylights, chimney-pieces, and interior fittings doors, weather boarding, floor ng-boards, folding gates, a large quantity of pebble, ashlar, and other paving, rocks, mangers, and stable fittings, lead gutters and pipes, cisterns, stoves, gas fittings, and other useful fixtures and fittings.—May be viewed. Catalogues had of Messrs. BURCHELL, Solicitors, Thrg orton-street, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO SCULPTORS, MASONS, BUILDERS, and OTHERS—CARRARA WHARF, GROSVENOR-ROAD, PIMLICO.

PULLEN, HORNE, & EVERSFIELD

are instructed by Messrs. Fabbricotti Brothers to SELL by AUCTION, at their PREMISES, as above, on TUESDAY, JANUARY 19th, a large assortment of STATUARY MARBLE (including figure and bust blocks, and good manufacturing sizes); also Vein, Scottish, Siena, and other Coloured Marbles, in slabs and blocks of suitable dimensions for sculptors or masons, also about 150 blocks of vein, Sicilian, Bardilla, and Emperor's red; also about 10,000 feet of slab, consisting of sculpture-work, monumental and tablet figures, monuments, tables, mortars, &c. Approved bills at four and six months.—May be viewed one day previous, and Catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W and 80, Fore-street, E.C

WANDSWORTH COMMON, SURREY.—ELIGIBLE FREEHOLD BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, JANUARY the 18th, 1864, at TWELVE for ONE o'clock, Twenty-five Lots of Eligible FREEHOLD BUILDING LAND, free from tithe and land tax, situate on the roads leading to Wandsworth, Tooting, and Clapham, close to Wandsworth Common, and within a short distance of the Railway Stations, Clapham Junction, and Balham Stations, on the South-Western, Victoria, Crystal Palace, and Kensington Railways. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent to be paid in nine years by half year's instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Personal on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

ACTON, MIDDLESEX. Eligible FREEHOLD BUILDING LAND, near the Railway Station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, JANUARY 18th, at TWELVE for ONE, in thirty-one Lots, the VERY DESIRABLE portion of the eligible FREEHOLD BUILDING LAND, being part of the orchard of the Grove House Estate, situate near to the village of Acton and to the Acton station on the North and South-Western Junction Railway, and with a frontage to the road leading from the church to the station, is most eligible for a tavern, and the only one on this portion of the estate set apart for that purpose. Nine-tenths of the purchase-money may remain on mortgage or contract, at five per cent to be paid in nine years, by equal half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, at the Inns of the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 25th of JANUARY, 1864, at TWELVE for ONE o'clock, a further portion of this eligible Estate, consisting of about Fifty Lots of Eligible FREEHOLD BUILDING LAND (tithe free and land-tax redeemed), situate close to the proposed Addiscombe Station on the Mid Kent Railway, with frontage to the St James and Channing roads, and forming the most valuable portion of this most eligible property. The lots are well adapted for first-class residences, and one corner plot, close to the station, is set apart for a tavern. The New and East Croydon Railway Stations are within ten minutes' walk, and that at West Croydon about a mile distant. Nine tenths of the purchase-money may remain on mortgage or contract, at 5 per cent to be paid in nine years, by half-yearly instalments; but the whole to be paid in at any part of the balance may be paid off at any time, but the whole or any part of the balance may be paid off at any time, with notice. Particulars, plans, and conditions of Sale may be obtained about ten days before the Sale, at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C. of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale,

NORTHFLEET DOCKYARD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, FEBRUARY 2nd, and following days, at ELEVEN o'clock each day, at Northfleet Dockyard, Northfleet, Kent, an assemblage of ENGINEERS' TOOLS, of the largest class, and Cutting Shears, including two self-acting planing machines by Whitworth and Nasmyth, one to take in 10ft wide, 30ft long; the other to take in 12ft wide, 24ft long; a very powerful lathe by Nasmyth, Gaskell, and Co., driven by heavy power; foil bowling mills, one capable of boring a cylinder 12ft. in diameter; a 40-ton overhead traveller, cutting and punching machines, vertical screw frame, heavy cutting shears, punching engine; two back geared lathes, 24 in centres, 9ft beds; two highly finished working models of screw and paddle engines, several ships' models, brass barrel and lift pumps, 2cft fly wheel in segments, 12ft ditto, 4 fire engines and hose, 4 cast-iron chain stoppers, 2 new ship windlasses, 2 steaming kilns, 16 double and single purchase crabs, 50 tool chests, a large assortment of sawing and planing machinery, 2 pile-driving engines, 3 railway earth waggons, 5 tons contra ctors' rails, 10 tons chain cable, slings, &c., 34 tons wrought-iron ring bolts, 1 ton screw eyes, 2 tons nails, 1½ ton cooper screws and bolts, 2 shearing punching machines, one bolt and sheet copper, a quarter-ton metal dumps, 50 pairs metal hinges 20 brass deck and side lights, brass screws, 3 large ship bells, metal water closet fittings, nine copper and brass, sheet lead, varnishes and colours set of 3-throw brass pumps, valuable assortment of wood cleats, 12 tons rope, 150 fathoms of oak, teak, and fir slabs and blocks, 50 c. oak plank 30 loads oak timber, 13 logs of pencil cedar, 100 pairs of wood blocks, 2 strong machine trollies, 2 bogies, 2 timber whims, 2 hand trucks, and numerous other effects. To be viewed on the Saturday and Monday previous to the Sale, when catalogues may be had on the Premises, and of Messrs FULLER & HORSEY, 13, Billiter-street, E.C

CHARING CROSS RAILWAY CITY TERMINUS—BUILDING MATERIALS.

MESSRS. WILLIS & HARROW will SELL by AUCTION, on the Premises, Dowgate Hill, on FRIDAY, 29th JANUARY, 1864, at TWELVE for ONE o'clock, the VALUABLE MATERIALS of several houses and warehouses re-quired for the out-sta- tion of the above railway Catalogues may be had on the Premises at the Contractor's office, Worcester street, Southwark; and of Messrs. WILLIS & HARROW, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

FOREST HILL WORKS.—To Engineers, Builders, Axletree-makers, Manufacturers, Smiths and Others.

MESSRS. DEBENHAM & TEWSON will SELL by AUCTION, on THURSDAY, JANUARY 28th, at TWELVE, on the Works, close to Forest-hill Station, on the London, Brighton, and South Coast Railway, in communication with the Northern lines, the VALUABLE MACHINERY, PLANT, and Stock-in-Trade, including nine back geared and 1 duplex speed foot and power lathes, in excellent condition, varying from 4-inch to 10-inch centres, by Butterworth, Kershaw, Fox Brothers, and other eminent makers; surfacing, gauge-cutting, and boring machines; six-horse-table steam engine, Barrow's can surface boiler by Hodge; Lloyd's patent Fire Wheel's stocks, screws, taps, and bobs; fly and lever punching presses, cart axles, laps, door springs, &c with tools, patterns, and stores of various descriptions. On view before the sale; Catalogues on the Premises; and of the Auctioneers, No. 80, Cheapside.

FOUR DAYS' SALE of TIMBER, on WEDNESDAY, FEBRUARY 3rd, at ELEVEN for TWELVE o'clock precisely, and Three Following Weekdays.

MESSRS. ROBERTS & CO. have received instructions to DISPOSE OF by PUBLIC AUCTION, on the above days, the well-seasoned STOCK of Messrs. Robert Ward & Son, on the PREMISES, 301, Bermondsey New-road, near the Bricklayers' Arms, and in consequence of the premises being let and their removal to Grosvenor-road, Pimlico; and which consists of large quantities of Hard pine and Spanish Mahogany, in planks, wainscot, white and yellow deals and battens, pine planks, spruce deals, prepared flooring, Baltic timber, English oak and elm, ash and beech plank, limetree board, elmtree board, sycamore board, Spanish, American birch, walnut, and other woods. For powerful Cart-horses, &c. To be viewed 1 two days prior and morning of Sale. Catalogues had upon the Premises; and of the Auctioneers, No. 9, Billiter street, Fen-burchstreet, E.C.

CHARING CROSS RAILWAY.—CITY TERMINUS BUILDING MATERIALS.

MESSRS. WILLIS & HARROW will SELL by AUCTION, on the PREMISES, DOWGATE HILL, on TUESDAY, 2nd FEBRUARY, 1864, at 11 o'clock precisely, at TWELVE for ONE o'clock, the valuable MATERIALS of several HOUSES and WAREHOUSES required for the construction of the above railway. Catalogues may be had at the Place of Sale, at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, 3, Newman's-court, Cornhill, E.C and West Molesey, Kingston, Surrey.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, on WEDNESDAY, 27th JANUARY, at TWO o'clock, by order of Underwriters and Owners

5,470 WYBURG DEALS and BATTENS,—sea damaged.
224 PIECES LATHWOOD .... ditto.

Also,

TIMBER .... 500 Loads, Foreign and Colonial.
DEALS and BATTENS 50,000 Pieces ditto ditto.
And other Wood Goods
H. PEDDER & CO. Brokers,
3, Crooked-lane, Cannon-street, E.C.

CHILD'S HILL, FINCHLEY ROAD.—Valuable Lease of a Brickfield, Foreman's House, stabling for Twenty five Horses, Hay and Straw Houses, Offices, &c.

FREDERICK KING will SELL by AUCTION, at the MART opposite the Bank of England, on MONDAY, JANUARY 18th, 1864, at ONE precisely, the valuable LEASE, for an unexpired term of 60 years, of the LITTLE TEMPLE PARK BRICKFIELD, one mile from the Finchley road Station of the North London Line, with foreman's house, stabling for twenty-five horses, chaff and straw houses, &c The estate possesses an inexhaustible supply of excellent brick earth, and is abundantly supplied with water. The purchaser will have the option of taking the property as it now stands, or the whole of the canvas capping, wash mill complete, &c. either by valuation or at a price to be named at the sale, as he may elect.—Particulars may be had of CHARLES SAWBRIDGE, Esq. Solicitor, 126, Wood street, Cheapside; of Messrs. HARDING, PULLEIN, WHINNEY, & GIBBONS, 3, Bank-buildings; at the Mart; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

CHILD'S HILL, FINCHLEY ROAD.—700,000 Bricks, Plant of a Brickmaker and Contractor, Thirteen Horses, Carts, Chalk, &c.

FREDERICK KING will SELL by AUCTION, at the Little Temple Park Brickfields, Child's Hill (one minute from the Finchley road Station of the North London Line) on WEDNESDAY JANUARY 20th 1864, at TWELVE o'clock, in Lots, 700,000 new BRICKS, together with the PLANT of a BRICK MAKER and CONTRACTOR, comprising 13 well-bred and powerful horses, stout harness, 15 brick and rubbish carts, light cart, a four-wheel chaise, carpenters' benches, 70 10 feet iron wheeling planes, 30 barrows, 1 clay grinding mill, 2 capital sand, red-brick and corn bin, pugilry, &c about 50 tons chalk, an 1 the usual appendages of a brickfield.—Catalogues may be had of Mr. WILLIAM NASH, the Foreman, on the Estate; and at the Auctioneer's Offices, Pope's Head-alley, Cornhill, E.C.

IMPORTANT TO BUILDERS DECORATORS, HOUSE-OWNERS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION, at his ROOMS, 12, Holborn-bars, and 1 Castle-street, Holborn, on TUESDAY next, JANUARY 19th, nearly 1 Piece of rich Gilt and French PAPPER HANGINGS and DECORATIONS, in immense variety; about 500 Chimney pieces in almost every kind of foreign marble; 31 Wainscots; gilt Moulding and other effects.—May be viewed and Catalogues had on MONDAY and morning of sale.

TO BUILDERS, SAW-MILL PROPRIETORS, FIREWOOD DEALERS, and OTHERS.—TO BE SOLD by AUCTION, on WEDNESDAY and THURSDAY, JANUARY 20th and 21st, 1864, at TWELVE o'clock each day, by

MESSRS. P. HALL & SON, on the PREMISES, at the Commission-yard, Milner-street, Chelsea, opposite Stanley-street, and near the Anerial at Tavern. The Sale will comprise in wards of Thirty Loads sound Oak and Pit TIMBER, in joists, rafters, long fir timber, quartering, oak and yellow plank, 3-inch four and six panel doors, sashes and frames, partitioning, ship proofs with shutters, counter-tops, Mahogany water-closet fittings and apparatus, 6 cwt feet of clear flooring, lining, and other boards; iron hand cowles, useful iron, tiles, stone paving, long standard ladder, very capital four horse oscillating steam-engine, complete, and in a perfect working order; set of circular saws, from 12 inches to 36 inches diameter, and about fifty lots of dry yellow deals, prepared flooring, new birch and plane tree in planks, quarterings, &c. firewood and other effects May be viewed and Catalogues had on the Premises, at the Auctalian, opposite the Sale Yard; the Adam and Eve, Lombard-street, Chelsea; the Enterprise, Walton street, Chelsea; the Roebuck, corner of Camera-street, Chelsea; and of the Auctioneers, Kennington, S.

UNDER BANKRUPTCY, &c.—TO BUILDERS, CARPENTERS, MANGLE and CABINET MAKERS and OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION on the PREMISES, Camden terrace, Camden Town, on MONDAY, JANUARY 25th, at ELEVEN for TWELVE o'clock, 1,500 YELLOW, WHITE, and PINE PLANKS, DEALS, and BATTENS, 120 square prepared floors, 2,000 feet wide pine board, 10-in. first scantling, 50 sets feet birch, 2,000 feet mahogany, feet feet oak plank, 1,000 feet by square, 1,500 feet arris railing, quantity of dry cut stuff, 1,000 iron stating battens, scaffold poles marble bath, cupboards, &c.—May be viewed the Saturday prior to the sale, and catalogues had on the Premises; of Messrs. J. & W. SHEFFIELD, Solicitors, 68, Old Broad-street, E.C.; of E. EDWARDS, Esq. Official Assignee, 22, Basinghall-street, E.C.; and of the Auctioneers, Cardington-street, Hampstead-road.

TO PIANOFORTE AND KEYMAKERS, AND OTHERS.

MESSRS. LEREW & LEREW are instructed to include in their SALE, on the PREMISES, Camden terrace, on MONDAY, JANUARY 25th, the final portion of the capitally built UNDERBEE BOARD, and white sycamore, in all about 20,000 feet.—May be viewed. Catalogues may be had at Auction Offices, Cardington street N.W.

ELIGIBLE FREEHOLD BUILDING LAND, in the CITY of OXFORD.—The Guardians of the Poor of the Oxford Incorporation will offer for SALE, during the course of next Spring, the SITE of the present WORKHOUSE, in the City of Oxford, containing five acres or more. Further particulars may be obtained of W. JACOB, Clerk to the Guardians.

Oxford, December 10th, 1863.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where houses are in great demand. Bricks supplied on the estate at a low price. Sand may be raised on the ground for building purposes.—Apply to Mr. RODDA, at the Estate Office, Bouverie road, Church-street, Stoke Newington.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length, eleven bed-rooms; stabling for eight horses and four carriages; suitable servants' offices; extensive ornamental grounds, with green-houses, in all 28 acres; pony and pleasure-carriage station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, Somerset.—TO BE SOLD, by PRIVATE CONTRACT by order of the Liquidators, the newly-erected FREEHOLD WORKS, occupying a site of 7 acres, 2 roods, and 26 perches, or thereabouts. The existing kilns and works are capable of producing 150 tons weekly, and from the quality of cement recently made by the Liquidators, and from the testimonials of eminent engineers, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery in all the best description, driven partly by water-power, but with steam power as auxiliary. Coals are supplied to the works at a very low price, as the Great Western Railway Station is within a short distance.—For further particulars, apply to Messrs. NELSON & SONS, Solicitors, 154, Moorgate-street; to F. MAYNARD, Esq. Liquidator, 16, Broad-street, Bloomsbury; and to Messrs. FULLER & HORSEY, 13, Billiter-street, London

FREEHOLD MILLS, with good Water-power, Keynsham, Somerset, well adapted for Corn Mills, Oil Mills, or Paper Mills, TO BE SOLD.—Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

WATERSIDE PREMISES.—TO BE LET, on lease, a capital WHARF, having a frontage, of 127 feet, to the City road Basin The build ngs comprise counting house, dwelling-house (containing four rooms), corn and chaff stores, stabling for 12 horses, with large yard and barge-yard adjoining, engine-house with chimney shaft, smithy, carpenter's shop, &c. the total superficial area being 16,480 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

WHARF.—TO BE LET on LEASE, a WHARF, 200 feet deep, and river front 178 feet 6 inches, with dwelling house, out buildings, gantry-frame, &c as at Charlton, near Woolwich Dockyard.—Apply to the Surveyor on the Premises; or Mr. HARVEY, 23, Holywell-street, Westminster

BUILDING GROUND TO BE LET, Broad-street, Wapping, for a warehouse or five or six dwelling-houses, in a capital situation, adjoining the London Docks.—For particulars, apply to Mr HERBERT WILLIAMS, Architect, 59, Old Broad street, E.C.

BUILDING GROUND TO LET.—GREAT TOWER STREET, in the City of London.—The Commissioners of Sewers of the City of London will deem it the duty of the said City, on TUESDAY, the 9th day of FEBRUARY next, at HALF-PAST TWELVE o'clock precisely, to receive proposals for taking on Lease, for the term of Twenty-one years (the first year at a peppercorn rent), certain PLOTS of FREEHOLD LAND, situate in Great Tower street, in the City of London, in the centre of the Corn and Coal Markets. Further particulars, with conditions and printed forms of proposal, may be had on application at this Office, where plans of the ground to may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals must attend person ally, or by a duly authorised Agent, at the time above mentioned, at HALF-PAST TWELVE o'clock precisely, and the parties whose offers are accepted will be required to execute an agreement and a bond at the same time.—By order, WILLIAM DAW, Print pal Clerk.

Sewers Office, Guildhall, November 6, 1863.

TO BE LET, in the best part of Chelsea, PLOTS of BUILDING LAND, with money advanced to respectable builders; or portions of the premises, if required. In all respects equal to freehold.—Apply to Mr. GRACE, 57, Oakley street, Chelsea

WANTED, in the neighbourhood between the London Docks and Whitechapel church, PREMISES that can be adapted for an Infant School. An open space in the rear necessary. Particulars to be forwarded to Mr. WALKER JOSEPHS, 19, Union court, Old Broad street, City; or to Messrs TULLOTT & CHAMBERLAIN, Architects, Gresham street, City.

TO LIME and CEMENT MERCHANTS, BUILDERS, &c.—Valuable WATERSIDE PREMISES, with extensive River Frontage and inner Dock; also spacious Granaries, Lofts, Grinding House, with Plant and Machinery, Stabling for six horses, Dwelling-house, Clerk's Office, the whole inclosed by folding-gates, situate close to the Victor a Railway Station, Pimlico, held for 38 years at a low rent, including dock dues, FOR SALE, together with the Carts, Waggons, Horses, Stock, and Implements, by PRIVATE CONTRACT.—Apply to Messrs. HARRISONS, Solicitors, No. 5, Walbrook, City, E.C.

BUILDING LAND TO BE LET.—PARAGON ROW, LOCK'S FIELDS, WALWORTH, SURREY, within five minutes' walk of the Elephant and Castle. TO BUILDERS, WHOLESALE TRADERS, and OTHERS, requiring space for building and business premises. The Fishmongers' Company are ready to receive TENDERS, on a Building Lease or Leases, for the GROUND, about two acres, at the east end of Paragon row, Lock's-fields, now in the occupation of Waring & Co. It is a rectangular plot, about 362 feet in length, and about 193 feet average parallel width, well adapted for dwelling houses or business premises requiring space.—For conditions and particulars, inquire of Mr. W. E. TOWSE, the Company's Clerk, Fishmongers' Hall; or Mr. RICHARD SIPPEL, Architect and Surveyor, 28, Finchurch-street. The Tenders to be sent in by TUESDAY, the 16th of FEBRUARY next, at NOON precisely

Fishmongers' Hall, 9th January, 1864.

BUILDING GROUND.—CITY of LONDON.—Notice is hereby given, that the City Land-Committee will meet at Guildhall, on WEDNESDAY, the 20th FEBRUARY next, at ONE o'clock precisely, to RECEIVE PROPOSALS for a BUILDING LEASE for eighty years, of the site of the premises known as Nos. 19, 20, 21, and 22, on the east side of Billiter-st., in the City of London.—Further particulars may be obtained upon application at the Architect's Office, Guildhall

FERDINAND BRIND, Comptroller.

Guildhall, January 7th, 1864.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS.
Sole Agents, HEINTZMANN & HOCHHUSSEN, 2, Bridge-street, E.C.
SOLD BY ALL STATIONERS AND ARTISTS' COLOURMEN.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the 9th office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 16, 1864.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1094. JANUARY 23, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BALL.

This ANNUAL BALL will take place at WILLIS'S ROOMS St. James's, FEBRUARY 18th, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, under the patronage of the Right Hon. the Lord Mayor, the Lady Mayoress, and the Sheriffs.

COMMITTEE OF MANAGEMENT.

Mr. T. Cozens	Mr. M. Hall	Mr. G. Pinecknett
„ T. Chapman	„ W. Hutchens	„ T. Stirling
„ S. Cuming	„ T. Morris	„ C. D. Sewell
„ C. Fish	„ D. Nicholson	„ T. Thorn

The lists of Stewards will shortly appear.

JOSEPH BIRD, Hon. Sec.
10, Hanover Cottages, Regent's Park, N.W.

THE ARCHITECTURAL MUSEUM,
SOUTH KENSINGTON MUSEUM, W.
PRIZES FOR COLOURED DECORATION.

5l. 5s. and 3l. 3s. are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, 2s. 6d. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if case and packing required, 7s.

ARCHITECTURAL ASSOCIATION,
9, CONDUIT STREET.

A Paper will be read at the ordinary Meeting of the Association, on FRIDAY next, the 22nd inst. at EIGHT p.m. by F. C. PENROSE, Esq. M.A. F.R.I.B.A. on "Greek Architecture."

Visitors are admitted on giving their card or name at the door.

The Paper on "French Architecture," by T. HAYTER LEWIS, Esq. F.S.A. F.R.I.B.A. announced for the 5th of FEBRUARY, is postponed till the 1st APRIL.

CHARLES J. ADAMS,
J. DOUGLASS MATHEWS. } Hon. Secs.

BY ORDER of the TRUSTEES of the SOANE MUSEUM.—The MUSEUM, 13, Lincoln's-Inn-fields, will be OPEN this season on the Wednesday in each week in the months of February, March, July, and August; and on the Wednesdays, Thursdays, and Fridays in April, May, and June. Cards of admission to be obtained of the Curator, at the Museum; or from the Trustees.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the price of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

GEOLOGY.—KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. assisted by the Rev. J. WILTSHIRE, M.A. will give a COURSE of LECTURES on GEOLOGY, on WEDNESDAY evenings, from EIGHT to NINE o'clock. The first Lecture, JANUARY 20th, to be continued to Easter. A more extended Course will be given on WEDNESDAY and FRIDAY mornings, from NINE to TEN o'clock, commencing JANUARY 27th, and will be continued to JUNE. R. W. JELF, D.D. Principal.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY-FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The Directors of the Hull Exchange Company (Limited) are prepared to receive DESIGNS for the ERECTION of a PUBLIC EXCHANGE and NEWS ROOM, together with other BUILDINGS. The expenditure not to exceed 6,000l. 50l. will be awarded to the first design, and 25l. to the second, subject to certain conditions, which will be forwarded to competitors, together with a plan of the site, on application to T. W. FLINT, Esq., Bowlalley Lane, Hull, Chairman of the Company. The Designs are to be sent in, carriage paid, and addressed to the Chairman of the Company, as above, on or before the 1st day of MARCH, 1864; and it is requested that an approximate estimate of cost may accompany each plan.

BOROUGH of WIGAN, in the county of Lancaster.—To ARCHITECTS and OTHERS.—The Corporation of the said Borough of Wigan are desirous of receiving, and hereby invite Architects and others to send in DESIGNS, PLANS, SECTIONS, ELEVATIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a BOROUGH GAOL, containing not less than fifteen cells for prisoners, a house for the chief-constable, also a house for the gaol keeper; fire engine-house for three engines, with space for the necessary apparatus; police court and sessions room, reporter's retiring room, barristers' robing-room, attorneys' room, grand jury room, petty jury room, a general purposes room (small), bath-rooms, and kitchen for the prisoners in the basement fronting Chapel-lane), and all other necessary offices for the transaction of the business of the Local Board of Health of the said district and borough of Wigan. Plans to be of a uniform scale of an eighth of an inch to the foot. The cost of the entire building shall not exceed 12,000l. The population of Wigan is about 40,000. The person who, in the opinion of the Town Council of the said borough, produces the best design, plan, section, elevation, specification, and estimate to receive 30l.; the second best to receive 40l.; and the third best, 2l. The designs, &c. for which premiums shall be awarded shall become and be the property of the Town Council of the said borough, but the Council do not bind themselves to carry out the same design, &c. or employ the architect producing them, and will be at liberty to modify the same in any way they may think proper, and in the event of his being selected for that purpose the premium to merge in the architect's commission.

Each set of designs, &c. must be distinguished by a motto and accompanied with a sealed envelope containing the name and address of the competitor, and having a similar motto to that on the design, plan, &c. which envelopes will not be opened until after the plans are decided upon. The designs, &c., and everything intended to be submitted therewith, must be enclosed in a sealed cover endorsed "Plan for Borough Gaol, &c." and addressed to C. HILTON, Town Clerk, Wigan, and be delivered on or before the 26th day of MARCH next. The Town Council will pay to the Architect selected to carry out the work a commission of five per cent. on the outlay, to include all plans, sections, specifications, drawings, estimates, elevations, and all attendances necessary to complete the same, and no charge or extras of any description will be allowed. All the plans, &c., except the premium ones will be returned to parties for, on application to me, and no further liability by the Town Council or claims to remuneration will be allowed in respect to the plans, &c. received beyond the amount of premium herein set forth. A block plan of the site, and any further information that may be required, can be had on application at my Office on payment of the sum of five shillings for each plan.

C. HILTON, Town Clerk.

Wigan, January, 1864.

TO ARCHITECTS.—VILLA and COTTAGE RESIDENCES.—The Directors of the Manchester Villa and Cottage Association, Limited, offer 50l. PREMIUM for the BEST DESIGN, and 25l. for the Second best Design, for FOUR COTTAGES and SIX DWELLING HOUSES.

First a Row of Four Cottages, not to exceed 100l. each in cost.

Secondly, a Group of Two Houses, not to exceed 200l. each in cost.

Thirdly, a Group of Two Houses, not to exceed 300l. each in cost.

Fourthly, a Group of Two Houses, not to exceed 400l. each in cost.

The plans and drawings, at a scale of 8in. to 1ft. with figured dimensions, to be sufficient to show the respective designs, and to be accompanied with a general description of the materials and finish. Plans of proposed sites for the groups may be had from the Secretary. Buildings undertaken by the Association may be built under the superintendence of any architect nominated by the person or persons who covenant to purchase them when built. Messrs. CORBETT & BARRY, the Architects and Surveyors to the Association, will not compete for the above, but will assist the Directors in adjudicating the premiums. The designs to be sent in to the Secretary, sealed and endorsed "Designs for Villa and Cottage Residences," on or before the 30th of APRIL next, marked with a motto, and with sealed envelope containing Architect's address, or signed with name instead of motto, if preferred. Designs not adjudged to receive the premium to be returned.

JOHN WORTHY WILLIAMS, Secretary.

Offices, 26, Market-street, Manchester, January 15, 1864.

WYGGESTON'S HOSPITAL, LEICESTER.—To ARCHITECTS.—The Trustees of the above Hospital are desirous of receiving DESIGNS, with general specifications and estimates, for the ERECTION of a NEW HOSPITAL, for Twenty-five Inmates, with a Chapel, a House of Residence for the Master of the Hospital, a similar House of Residence for the Chaplain Brother, a Board-room, a Muniment-room, with other convenient Offices, and a Porter's Lodge, with suitable Entrance Gates; and for the Laying out of the Ground. It is proposed to expend on the above object the sum of 15,000l. Premiums will be awarded by the Trustees for the three best designs. All designs are to be sent in under a motto, to be accompanied by a sealed letter by which the author may be identified, with his designs, but which letter will not be opened until after the selection has been made by the Trustees from the several designs. A lithographed plan of the site, with sections of the land and conditions and instructions for the guidance of intending competitors, may be had at any time after the 1st of FEBRUARY next, upon application to the undersigned, and on payment of the sum of 5s.; and all plans are to be forwarded carriage free to the said undersigned, on or before the 30th day of APRIL next.

WILLIAM H. MACAULAY, Solicitor, Leicester,
Clerk to the Trustees of the above Hospital.

January 8th, 1864.

TO ARCHITECTS. — CHESTER NEW TOWN HALL.—The Town Council of the City of Chester are prepared to receive DESIGNS for a NEW TOWN HALL, with POLICE OFFICES and LOCK-UPS, proposed to be built upon a site belonging to the Council situate in Northgate-street. Architects wishing to send in Designs may obtain a plan of the site and particulars of instructions upon application to me, the undersigned, at the Public Offices, Lower Bridge-street, at which place the Designs must be delivered, free of cost, on or before the 2nd day of MAY next. A premium of 100l. will be paid to the author of the DESIGN which the Council shall award the first place, and a premium of 50l. to the author of the Design to which they shall award the second place; both of which Designs thereupon to become the property of the Council. But should the author of either of the premiated Designs be employed to carry out the work, the premium awarded to him will be deducted from his commission, which will be 5l. per cent. on the outlay. If the Designs sent in are not, in the estimation of the Council, of sufficient merit, the premium will not be given.

JOHN WALKER, Town Clerk.

Public Offices, Lower Bridge-street, Chester, 18th January, 1864

CONTRACTS.

TO BUILDERS.—CHINNOR, OXON.—Parties willing to CONTRACT for the RESTORATION of, and other WORKS at Chinnor Church, in the county of Oxford, are hereby informed that the drawings, specifications, and conditions of contract thereof, may be seen at the National School Room, Chinnor, on and after the 14th instant.—Tenders properly endorsed and sealed, to be sent to the Rev. F. BUTTENSHAW, Chinnor, Tetsworth, on or before the 30th instant.—The Committee do not bind themselves to accept the lowest or any other Tender.

EDWARD BANKS, Architect.

Wolverhampton, January 6th, 1864.

LANCASHIRE and YORKSHIRE RAILWAY. The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Lockwood to Meltham, near Huddersfield. Length about 3½ miles.—Plans and Specifications may be seen and forms of Tender obtained at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 4th JANUARY proximo, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the Secretary not later than MONDAY, the 15th FEBRUARY, 1864.

Manchester, December 18, 1863. WM. S. LAWN, Secretary.

CROYDON LOCAL BOARD of HEALTH.

The STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the DELIVERY at Croydon of a quantity of 4 in. by 12 in. and 6 in. by 12 in. PURBECK KERBING, and 12 in. by 6 in. GRANITE KERBING, to receive forward Tenders to me, on or before the 1st day of FEBRUARY next. The Board do not bind themselves to accept the lowest or any Tender.

BALDWIN LATHAM, Engineer and Surveyor.

Engineer and Surveyor's Office, Townhall.

TENDERS.—Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for the SUPPLY of 150 Cast-iron GULLY GRATINGS and FRAMES. The specification and models may be seen, and further particulars had, on application at the Town Clerk's Office, Pelham-street, Hastings, where Tenders, duly signed, must be delivered before TEN o'clock of the morning of MONDAY, the 1st day of FEBRUARY next. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT GROWSE, Town Clerk.

Hastings, January 19th, 1864.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office, in Spring-gardens, Charing-cross, on WEDNESDAY, the 2nd MARCH, now next, at TWELVE o'clock at Noon precisely, when will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all or any of certain PLOTS of GROUND, situate on the north and south sides of Southwark-street, from Blackfriars Road to Blackfriars road. Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed, "Tender for Ground in Southwark street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, Charing cross, 9th January, 1864.

[For remainder of Contracts see next Page.]

CONTRACTS.

TO BUILDERS, &c.—Notice is hereby given, that plans and specifications for the ALTERATION and RESTORATION of the PARISH CHURCH of Baldon Toot, six miles from Oxford, will be lying at the School-house from the 25th to the 30th proximo, both days inclusive; and all persons desirous of CONTRACTING for the works must send in sealed TENDERS, directed to the Rev. EDWARD PEEL, The Vicarage, Baldon Toot, on or before the 14th day of FEBRUARY next. Neither the lowest Tender nor any will necessarily be accepted. The contractor must be prepared, if required, to enter into the usual legal bond for the due execution of the work, with two good and approved securities.

CROYDON LOCAL BOARD of HEALTH. Persons desirous of CONTRACTING with the Croydon Local Board of Health for the MANUFACTURE and DELIVERY at Croydon, of about SEVEN MILES of FREE INCH IRON WATER PIPES, and a small quantity of other sized pipes, can inspect the specification at my Office, on or after the 2nd day of JANUARY next, and sealed Tenders, endorsed "Tenders for Iron Pipes," are to be forwarded to me, on before the 1st day of FEBRUARY ensuing.—The Local Board do not bind themselves to accept the lowest or any Tender.
BALDWIN LATHAM, Engineer and Surveyor.
Townhall, Croydon, January 21, 1864.

TO BUILDERS.—Such Persons as may be desirous of UNDERTAKING the several WORKS and REPAIRS that may be required by the War Department to the BARRACKS at the Depôt, from the 30th MARCH, 1864, to the 31st MARCH, 1865, may be furnished, by payment of seven shillings and sixpence, with the printed Schedules of Prices and Conditions of the Contract on persons application at this Office, between the hours of TEN and FOUR daily (Sundays excepted), up to the 10th FEBRUARY next.
The Tenders to be delivered before TWELVE o'clock at noon on SATURDAY, the 13th day of FEBRUARY, 1864, at the War Office, Pall Mall, London, addressed to the Director of Barracks, and endorsed "Tender for Artificers' Work, Chichester."
The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
J. W. GORDON, Colonel,
Commanding Royal Engineer.
Royal Engineer Office, Portsmouth, 17th Jan 1864.

LEAD-PIPING and WATER FITTINGS. The Directors of the Fylde Water Works Company are prepared to receive TENDERS for the Supply of the above Articles during the current year. The quantities and descriptions required will probably be as follows:—

Description.		¾ in. diam	½ in. diam	¼ in. diam.	1 in. diam.
Lead pipes	Quantity in tons	45	10	24	25
Ditto ...	Weight in lb. per yard	9½	7	10	14
Brass ferrules	Quantity in gross	4	4	2	1
Brass stopcocks	Ditto ..		6	1	½

The prices to include delivery at Blackpool, Fleetwood, Lytham, or Kirkham Stations, in such quantities as may respectively be required from time to time. Each delivery to be equal to the sample to be sent. Samples of each diameter of pipe, and of each size of ferrule and stopcock, to be sent in with the Tender to Mr. T. A. WILKINSON, Secretary to the Company, Fylde Water Works Office, Kirkham, on or before the 1st day of FEBRUARY next.

THE VESTRY of the PARISH of LAMBETH.—To SEWER CONTRACTORS and OTHERS.—The Committee for Sewers, &c. hereby give notice, that they are prepared to receive TENDERS from persons or parties, who may be willing to CONTRACT for CONSTRUCTING 15,700 feet, or thereabouts, of Brick SEWERS, together with other Works in connexion with the same, in Cold Harbour-lane, Norwood-lane, Knatchbull Road, Hill-street, Norwood, and Chapel-road, in the parish of Lambeth, and the maintenance thereof in complete repair for twelve calendar months. Plans, sections, and specifications may be inspected, and a form of Tender, and further particulars obtained, from Mr. HUGH McINTOSH, Surveyor, at the Vestry Hall, Kennington-green, on and after MONDAY, the 25th inst., between the hours of TEN a.m. and FOUR p.m. Sealed Tenders, addressed to the Clerk of the Vestry, and endorsed, "Tender for Sewer Works," are to be delivered at the Vestry Hall, not later than FOUR o'clock in the afternoon of MONDAY, the 8th inst., and no Tender will be received after that hour. The parties tendering must be in attendance at SEVEN o'clock in the evening of the same day, when the Committee will meet to open the Tenders. The Committee do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to enter into two approved sureties for the proper performance of the Works.—By order,
THOS. HOFFEY, Clerk to the Vestry.
Vestry hall, Kennington-green, 11th January, 1864.

THE LOCAL BOARD of HEALTH for the District of LEAMINGTON are prepared to receive TENDERS for the execution of WORKS required in the Construction and Sewerage of about 7 miles of Principal Streets, including the Macadamization of the Carriage-ways, the Paving and Guttering of the Footways, the Construction and Paving of about 2,000 lineal feet of Passages, and the laying of about 10,000 lineal feet of 9 inch Socket pipe Sewers, with the necessary manholes, ventilating shafts and grids in connexion therewith, according to the plans, sections, and specifications prepared by Mr. A. MORGAN, C.E. the Surveyor of the Board, and which, with samples of the material to be used, drawings, and forms of Tender may be obtained at his Office, Town Hall, Leamington, between the hours of Ten and One of the clock, on and after FRIDAY, the 22nd instant; and Tenders to be delivered at my Office on or before TEN o'clock in the FORENOON of TUESDAY, the 2nd day of FEBRUARY, 1864. The Board do not bind themselves to accept the lowest or any Tender.—By order,
E. A. WALLINGTON (Solicitor), Clerk.
Town Hall Leamington, 5th January, 1864.

NORTH EASTERN RAILWAY.—DARLINGTON SECTION.—The Directors are prepared to receive TENDERS for the following Works, viz.: ALTERATIONS and ADDITIONS to DALSTON STATION, consisting of Bricklayer and Mason's Work, re-slating and extending the Platforms and Offices: Carpenter and Joiner, Plumber and Painter's Work, in Roofs and Offices; and a large quantity of Ironfounder and Glazier's Work, in general Extension of Station.—ALTERATIONS and ADDITIONS to MIDDLESBRO' STATION, consisting of a New Carriage Shed; sundry Bricklayer and Mason's Work, in altering and extending the Platforms and Offices; Carpenter and Joiner, Plumber and Painter's Work, to Roofs and Offices; and a large quantity of Ironfounder and Glazier's Work, in covering Extensions, Platforms, &c. Plans and specifications of the above may be seen at the Architect's Office, North-gate, Darlington, on and after WEDNESDAY, the 27th day of JANUARY, until SATURDAY, the 30th day of JANUARY, 1864. Tenders to be addressed to the Secretary, and delivered at the Railway Office, Darlington, not later than MONDAY, FEBRUARY 15th, 1864. The Directors do not hold themselves bound to accept the lowest or any Tender. (Signed) THOS. MACNAY, Secretary.
Railway Office, Darlington, January 21, 1864.
N.B.—Bills of Quantities may be obtained of Messrs. O. J. & J. SHOWELL, 54, Great Ormond-row, Manchester, or at the Architect's Office, Darlington.

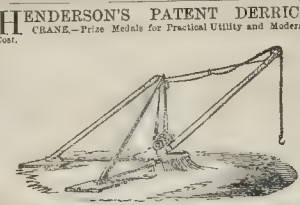
TENDERS are required for a DRILL-SHED, ARMOURY, and SERGEANTS' HOUSE, to be erected at Tetbury. Plans and specifications to be seen, with all particulars, at the Surveyor's Office of the Local Board, Tetbury, on and after Monday next. Tenders are to be addressed to the Clerk of the Board, at the Office, on or before WEDNESDAY, the 27th instant.

TEMPORARY IRON BUILDING FOR SALE. The Metropolitan Board of Works hereby give notice that they are prepared to receive OFFERS for the PURCHASE of an IRON BUILDING of the following dimensions, viz. 70 feet by 30 feet, and 12 feet to the roof plate. The building was constructed by Messrs. Heming for the purpose of testing gas-meters, is situate in King-street, Deptford-green, and may be viewed any day between NINE and FIVE o'clock.—The Tenders are to be addressed to the Clerk of the Board, at the Office, on or before TUESDAY, the 2nd FEBRUARY next, and the building must be removed soon after that date.
JOHN FOLLAND, Clerk of the Board.
Spring-gardens, January 19th, 1864.

TO SAW-MILL PROPRIETORS, CONTRACTORS, and OTHERS.—TO BE SOLD, a bargain, a splendid TIMBER FRAME. Will take in a log 2 feet 6 inches square. Also a light DEAL FRAME, all iron, with foundation stone.—For price and particulars address C. W. TODD, Auckland, Wanderworth Common.

TO ARCHITECTS, BUILDERS, and OTHERS.—FOR SALE, about TWENTY ornamental FLUTED IRON COLUMNS, 9½ feet high, with base plates and pedestals complete. They will be sold cheap.—Apply to DRAY, TAYLOR, & CO. No. 4, Adelaide place, London Bridge, where a specimen can be seen.

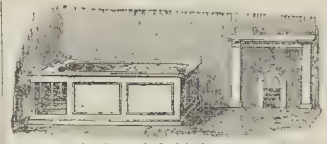
HENDERSON'S PATENT DERRICK CRANE.—Prize Medals for Practical Utility and Moderate Cost.



HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Exhibition, London, can always be had from the Makers, from 15cwt. upwards, Portable, Foundry, Forge, Wharf, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Cranes for the Derrick principle. Water Companies and others can also be supplied with the Improved Sluice Valves.—For further particulars apply to BOWSER & CAMERON, Makers, Springfield Iron Works, M'Neil-street, Glasgow.

NAILS and IRONMONGERY from BIRMINGHAM direct. Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES. A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street London, E.C.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, any where below the level of cold-water cistern. Open or close fire at pleasure. Bath fitted complete. Boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Cata. ogue, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAMBERT, BROTHERS, Manufacturers of Lap-welded Boiler Tubes, Locomotive and Marine Ends, Fittings, Wrought-iron Welded Pipe, for Steam, or High pressure Water and Gas; High-pressure Steam and Water Valves, Hydraulic Machinery, Pumps, Closets, &c.; Stocks, Taps, and Dies, Chandeliers, and Patent Metallic Bedsteads.—WALSALL. New Illustrated GAZELIER CATALOGUE, complete, price 1s. to the trade post-free).

GAS.—SAVING of 40 PER CENT. NORDHOFF & CO.'S PATENT GAS CARBURETTING APPARATUS offers the following highly important Advantages to Consumers of Gas:—
1. Great Economy—a saving of at least FORTY per Cent.
2. Perfect Purity of the Carburetted Gas.
3. Threefold Increase of the Intensity of Light.
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6. No Alteration in the Gasfittings required.
Sole Agent for the United Kingdom,
Mr. MAX SABEL,
No. 2, Coleman street Buildings, Moorgate-street, City, London.
*** RESPECTABLE AGENTS WANTED

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 93, Great Guildford-street, Borough, S.E. in ventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.

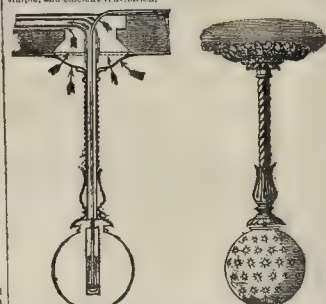


COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

THOMAS TURTON & SONS, MANUFACTURERS OF CAST STEEL for Cutters, Punches, Taps and Dies, Turning Tools, Chisels, &c.
CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, and Forgings of every description.
FILES marked T. TURTON. Superior to any other make. (See results of trial in the *Times*, July 28th, 1851.)
TOOLS of all kinds, for Engineers, Railway Contractors, &c. &c.
EDGE TOOLS marked WM. GREAVES & SONS. Electro Borsetz Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, | SPRING STEEL,
BLISTER STEEL, | GERMAN STEEL,
SPRINGS, BUFFERS, AND CAST STEEL TYRES,
For Locomotive Engines, Railway Carriages, and Waggons.
SHEAF WORKS and SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CITY,
Where the largest Stock of Steel, Files, Tools, &c. &c. in the World, may be selected from.

DAY and GAS LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 99, Hatton Garden, E.C. and 193, Charles-street, Hatton Garden, E.C. A large assortment of Silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Bent Glass Silvered.
N.B.—The usual discount to BUILDERS and the TRADE.

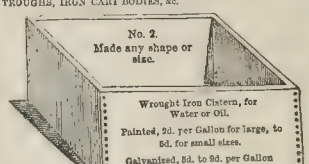
RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these:—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
No. 5, CHANDOS STREET, CHARING CROSS, LONDON, W.C.

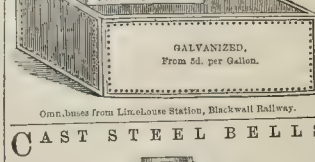
THE INTERNATIONAL EXHIBITION PRIZE MEDAL, AWARDED 1862.
ESTABLISHED 1744.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & COMPANY, Mill-wall, London.
Steam-boats from London Bridge call near the Factory.

JOHN BELLAMY, BYNG STREET, MILLWALL, E. WROUGHT IRON TANKS AND CISTERNS, FOR WATER, OIL, AND TURPENTINE. CATTLE TROUGHS, GIRDERS, CART BODIES, &c.



Omnibuses from Lincolnshire Station, Blackwall Railway.

CAST STEEL BELLS, One-third THE PRICE OF BRONZE. PEALS CAST TO ORDER.



NAYLOR, VICKERS, & CO. SHEFFIELD.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INDORORUS FELT, For Damp Walls, and Lining Iron Houses.
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

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BOYLE'S PATENT DOUBLE LEVEL WINDOW VENTILATORS.



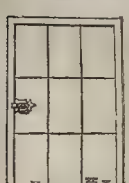
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(LATE HUXLEY & CHING),
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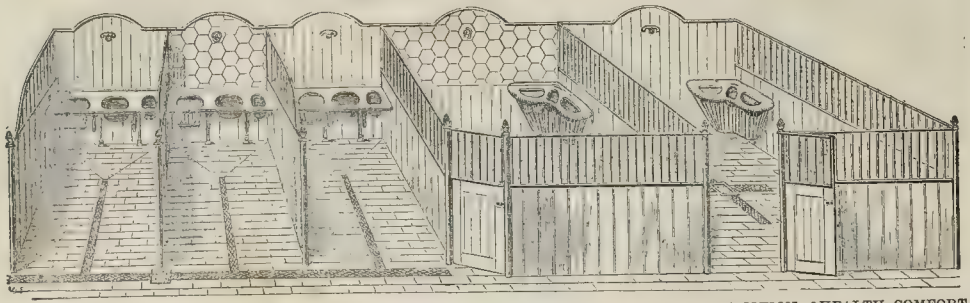
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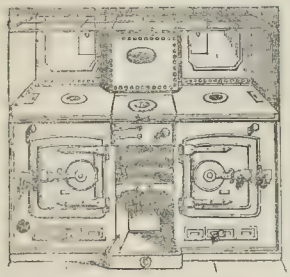
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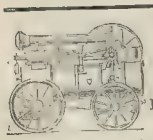
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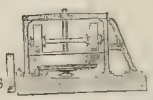


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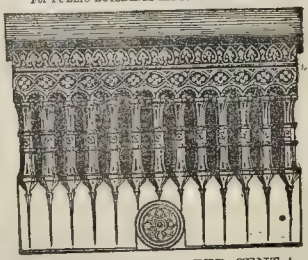
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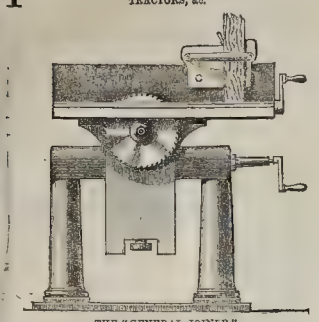
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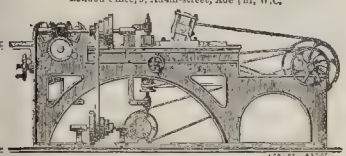
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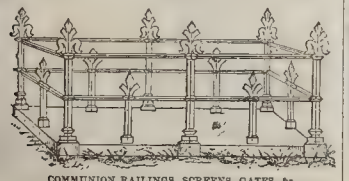
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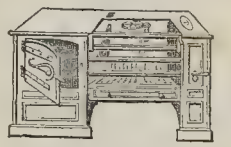
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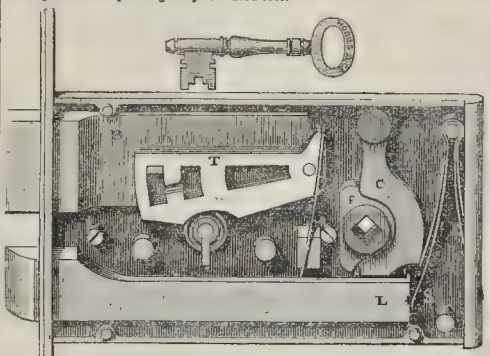
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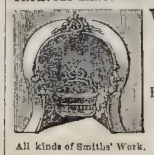
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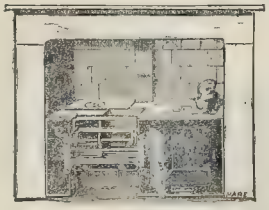
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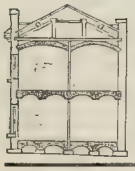
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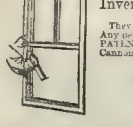


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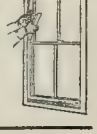
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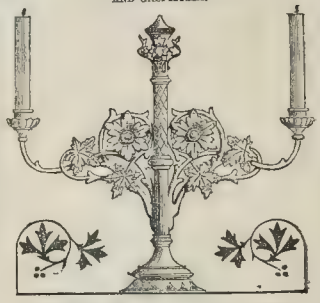
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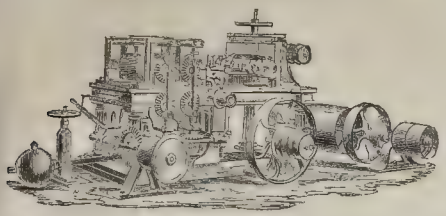
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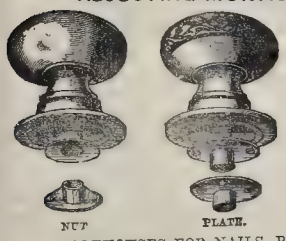
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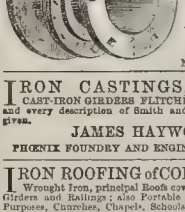
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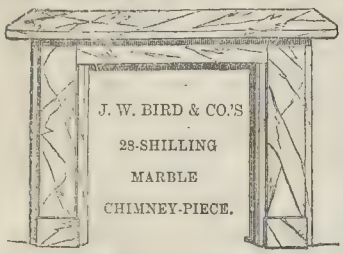
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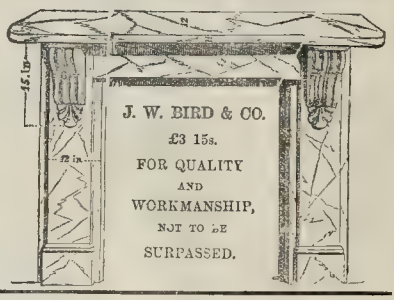
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The Builder.

VOL. XXII.—No. 1094.

"Notes on Hospitals."



EVER was change more complete than that which has occurred in hospital building since we initiated in these pages the movement against the defective plans in use, and showed the advantages of the pavilion system of arrangement now universally adopted. When we asserted with reference to the plans determined on for the new hospital at Netley, before the building was out of the ground, that if these were carried out the hospital would kill more than it would cure; that patients would have a better chance of recovery under a tent in a field than in such a structure, it was met with derision, and we received an amount of personal abuse from various quarters which would scarcely be credited if described. We were quite contented to wait; and had not to wait long. In a very few months the objections raised were generally admitted, and a repetition of the errors there fallen into is not likely to occur for some time to come. The efforts made in these pages to set forth a good system of hospital construction were ably followed up by Miss Nightingale, and the publication of that lady's excellent "Notes on Hospitals" settled the question. These "Notes" have grown, and the object of our present writing is to make known to our readers the appearance of an enlarged edition of the book.* It treats the subject under nine heads:—1. The sanitary condition of hospitals; 2. The defects in existing hospital plans and construction; 3. The principles of construction which ought to be kept in view in building new hospitals; 4. Improved hospital plans; 5. Convalescent hospitals; 6. Children's hospitals; 7. Indian military hospitals; 8. Hospitals for soldiers' wives; and 9. Hospital statistics; with an appendix treating of different systems of hospital nursing. It further contains good clear plans of eleven hospitals, many woodcuts, and sketch-plans of London and of Paris, showing the relative position of the larger hospitals and their distance in direct lines from one central point.

In proof of the condition of some of the existing hospitals, a table of the mortality *per cent.* in the principal hospitals is given at starting, which shows that we have twenty-four London hospitals, affording a mortality of no less than 90·84 per cent., very nearly every bed yielding a death in the course of the year. Next, we have twelve hospitals in large provincial towns, Bristol, Birmingham, Liverpool, Manchester, &c., yielding a death-rate of 83·16 per cent. And there are twenty-five county hospitals in country towns, the mortality in which is no more than 39·41 per cent. "Here we have at once a hospital problem demanding solution. However the great differences in the death-rates may be explained, it cannot be denied that the most unhealthy hospitals are those situate within the vast circuit of the metropolis; that the next lower death-rate takes place in hospitals in densely populated large manufacturing and commercial towns; and that by far the most healthy hospitals are those of the smaller country towns."

The sanitary state of any hospital ought not, however, to be inferred solely from the greater or less mortality. If the function of a hospital were to kill the sick, statistical comparisons of this nature would be admissible. As, however, its proper function is to restore the sick to health as speedily as possible, the elements which really give information as to whether this is done or not, are those which show the proportion of sick restored to health, and the average time which has been required for this object. A hospital which restored all its sick to health after an average of six months' treatment, could not be considered as by any means so healthy as a hospital which returned all its sick recovered in as many weeks.

The master of some large works in London lately mentioned the following fact:—He was in the habit of sending those of his workmen who met with accidents to two different metropolitan hospitals. In one they recovered quickly; in the other they were frequently attacked with erysipelas, and some cases were fatal. On inquiry, it appeared that in the former hospital a larger amount of space was allowed than in the latter, which is also so deficient in external ventilation and in construction, that nothing but artificial ventilation could effectively change its atmosphere.

The want of fresh air, Miss Nightingale justly remarks, may be detected in the appearance of patients sooner than any other want. No care or luxury will compensate, indeed, for its absence. Unless the air *within* the ward can be kept as fresh as it is *without*, the patients had better be away. What must then be said when, as in some town situations, the air *without* is not fresh air at all? *No* artificial ventilation will suffice. Although in badly-constructed hospitals, or in countries where fuel is dear, and the winter very cold, artificial ventilation may be necessary, it never can compensate for the want of the open window. The ward is never fresh, and in the best hospitals at Paris, artificially ventilated, it will be found that, till the windows are opened, the air is close.

Natural ventilation is the only efficient means for procuring the life-spring of the sick,—fresh air; but to obtain this the ward should be at least from 15 to 16 feet high, and the distance between the opposite windows not more than 30 feet. The amount of fresh air required for ventilation has been hitherto very much underrated, because it has been assumed that the quantity of carbonic acid produced during respiration was the chief noxious gas to be carried off. The total amount of this gas produced by an adult in twenty-four hours is about 40,000 cubic inches, which in a barrack-room, say, containing sixteen men, would give 370 cubic feet *per diem*.

"Allowing eight hours for the night occupation of such a room, when the doors and windows may be supposed to be shut, the product of carbonic acid would be 123 cubic feet, or about 15½ cubic feet per hour. This large quantity, if not speedily carried away, would undoubtedly be injurious to health; but there are other gaseous poisons produced with the carbonic acid which have still greater power to injure. Every adult exhales by the lungs and skin forty-eight ounces, or three pints of water, in twenty-four hours. Sixteen men in a room would therefore exhale in eight hours sixteen pints of water, and 123 cubic feet of carbonic acid, into the atmosphere of the room. With the watery vapour there is also exhaled a large quantity of organic matter, ready to enter into the putrefactive condition. This is especially the case during the hours of sleep; and as it is a vital law that all excretions are injurious to health if re-introduced into the system, it is easy to understand how the breathing of damp foul air of this kind, and the consequent re-introduction of excrementitious matter into the blood through the function of respiration, will tend to produce disease."

If this be so for the well, how much more will it be so for the sick?—for the sick, the exhalations from whom are always highly morbid and dangerous, as they are one of nature's methods of eliminating noxious matter from the body, in order that it may recover health.

Second only to fresh air, we should be inclined to rank light in importance for the sick. Direct sunlight, not only daylight, is necessary for speedy recovery, except, perhaps, in certain ophthalmic, and a small number of other cases. Instances could be given, almost endless, where, in dark wards or in wards with a northern aspect, even when thoroughly warmed, or in wards with borrowed light, even when thoroughly ventilated, the sick could not by any means be made speedily to recover. Dark barrack-rooms, and barrack-rooms with northern aspects, will furnish a larger amount of sickness than light and sunny rooms.

Among kindred effects of light, Miss Nightingale mentions, from experience, as quite perceptible in promoting recovery, the being able to see out of a window, instead of looking against a dead wall; the bright colours of flowers, and the being able to read in bed by the light of a window close to the bed-head. It is generally said that the effect is upon the mind. Perhaps so; but it is no less so upon the body on that account.

All hospital buildings in this climate should be erected so that as great a surface as possible should receive direct sunlight.

The axis of a ward should be as nearly as possible north and south; the windows on both sides, so that the sun shall shine in (from the time he rises till the time he sets) at one side or the other. There should be a window to at least every two beds, as is the case now in our best hospitals. The window-space should be one-third of the wall-space. The windows should reach from within 2 or 3 feet of the floor to 1 foot of the ceiling. The escape of heat may be diminished by plate or double glass; but while we *can* generate warmth, we cannot generate daylight, or the purifying and curative effect of the sun's rays.

Let us look to Chapter III., and re-urge some of the principles of hospital construction. The first is to divide the sick among separate pavilions. The essential feature of the pavilion construction is that of breaking up hospitals of any size into a number of separate detached parts, having a common administration, but nothing else in common. And the object sought is, that the atmosphere of no one pavilion or ward should diffuse itself to any other pavilion or ward, but should escape into the open air as speedily as possible, while its place is supplied by the purest obtainable air from the outside.

The question of a general hospital plan resolves itself, first of all, into obtaining the most healthy structure of the pavilion; and second, into arranging all the pavilions in the way best suited to obtain free external ventilation, plenty of light on all sides, and convenient means of communication. To realize these advantages, pavilions may be placed side by side, or in line.

The distance between the blocks should not be less than double the height of the blocks. This rule is specially applicable to English climates, in which it is necessary to preserve as much space as possible for sunshine. A greater distance would be better; but this would involve a greater cost for land, and a greater distance to be traversed by the hospital staff.

There should not be more than two floors of wards to the block. The most healthy hospitals have been those on one floor only; and this because they require less scientific knowledge and practical care in ventilation. If another floor

* "Notes on Hospitals." By Florence Nightingale. Third edition, enlarged, and for the most part re-written. London: Longman, Green, & Co. 1863.

is added, a community of ventilation exists between the ward below and the ward above by the common staircase, and by filtration of air upwards through the floor. And hence there is a strong conviction in the minds of careful hospital physicians, surgeons, and nurses, that patients do not recover so well on upper floors. And there are instances in which the mortality of patients on upper floors has been higher than that of the floors below. Moreover, a *sick population* requires more surface for health than a healthy population. And it is clear that, if patients are placed on three floors instead of on two, the surface overcrowding is increased by one-third, unless the distance between the pavilions is increased in a corresponding ratio.

If the pavilions are single, *i. e.*, if each staircase give access to the end of the pavilion, as in the Lariboisière and Lisbon plans, there should be only one ward on each floor. The pavilion should never be divided so that a second ward or wards is placed beyond the first, to be reached by passing through the first. The reason is, that the floor, however divided by cross-walls, can never be other than a single ward. The cross-walls only obstruct the ventilation. If the doors are accidentally left open, the foul air in one ward passes into the next, and the greatest improvement in ventilation would be to pull down all the partitions and throw the pavilion open from end to end, so as to have only one ward on the floor. But then the ward would be too large.

If the pavilions are double, *i. e.*, if each staircase gives access to a ward right and left off the staircase, as in the Herbert Hospital, provided the staircase be of spacious size, and thoroughly ventilated sides and top, two wards may be placed on each floor with safety; and with this great advantage, that administration, nursing, and discipline are all facilitated, while expense in construction is saved.

Wards of a small size are decidedly objectionable, because unfavourable to discipline, inasmuch as a small number, when placed together in the same ward, more readily associate together for any breach of discipline than a larger number.

The best size of wards for insuring the two conditions of health and facility of administration and discipline, is that for from twenty to thirty-two sick. Wards smaller than of twenty beds multiply both the attendance, unnecessarily, and the corners, unfavourably for ventilation, in proportion to the number of patients. Wards larger than of thirty-two beds are undesirable, because they require a greater height of ceiling, and are hence more costly in construction and difficult to ventilate.

Cubical space obtained by great height of the wards will not compensate for want of area around the bed.

Let us inquire what is the smallest amount of superficial area we can do with. Hospital beds are generally from 3 feet to 3 feet 6 inches wide, and 6 feet 3 inches long, the bed space being increased to 7 feet by the bed being a little removed from the wall. The mere surface required to hold the bed is hence from 21 square feet to 24½ square feet. It is quite clear that, whatever surface area is required for ventilation, administration, or for clinical instruction, must be in excess of this amount. There should be space sufficient between the sides of adjacent beds to avoid stagnation of air altogether. There should also be room for free movement of three or four persons, for the use of a night-chair without annoying the next patient, and also for a portable bath, when required. The distance from foot to foot of opposite beds should be sufficient to afford space for a movable dresser or table, benches on either side, and easy passageway. In a well-constructed civil hospital in England, occupying a healthy, airy position, it cannot be said that 80 square feet *besides* the bed space, are too much. In round numbers, the superficial area per bed should be not less than 100 square feet.

Wards for the numbers of beds already given need not be higher than 15 feet, which would allow 1,500 cubic feet per bed.

If, however, a hospital is built in the centre of a large city, where pure air is not to be had, or in a locality where the circulation of air outside is deficient, it is hard to say what amount of space would make the building healthy.

"A good proportion for a ward of twenty patients would be 80 feet long, 35 (or 26) feet wide, and 16 (or 15) feet high. This would give 1,600 (or 1,560) cubic feet to each bed. It would give 11 (or 12) feet between foot and foot, which is not too much where there is a clinical school. It would give an average of 16 feet to each two beds in width.

Half the sick are supposed to be on each side the ward."

One window at least should be allotted for every two beds; the window to be not less than 4 feet 8 inches wide, the sill within 2 or 3 feet of the floor, so that the patient can see out, and it should go up to within 1 foot of the ceiling.

One of the most difficult points in ward construction is to find a good material for walls and ceilings. An impervious material capable of receiving a polish on a white or tinted surface would make the best lining for a hospital ward. What is wanted is such a surface as can be washed frequently with soap and water, without its being absorbed into the substance, and dried with towels, so as not to interfere with the current use of the ward. Parian cement is the nearest approach to a good material for this purpose hitherto discovered. But the polish is rather costly. And what is of more consequence, the manufacture has not yet reached such a point of perfection as to afford a surface of one uniform colour. Even the best becomes blotchy after a short time, and is liable to crack, especially when applied to ceilings. If manufacturers wish to bring this substance into general use for hospitals, they must improve the material until the cement can be applied over any required extent of wall, and retain a uniform texture, colour, and polish.

The materials used for floors may be oak wood, pine wood, or tiles. Oak wood, well seasoned, is the best. No sawdust or other organic matter capable of rotting should be placed underneath the floor. Concrete, or some similar indestructible substance, would be the best for the purpose.

A hospital floor should never be scoured. A very good hospital floor is that used at Berlin, which is oiled, lackered, and polished so as to resemble French polish. It is wet-rubbed and dry-rubbed every morning, which removes the dust. Its only objection is want of durability. The joints of the flooring must be fitted well together, and cemented with any impervious substance.

Looking again to plan, it is a fundamental principle that the pavilions, whether single or double, should contain nothing but the sick and the offices immediately required for the ward. Everything else, board-rooms, chapels, quarters for officers and servants, except for the head nurse or nurses of each ward, stores, kitchens, laundries, should be placed in a separate building or buildings. It would be better, even, that convalescent rooms, where it is determined that there should be such rooms, should be out of the main building, but accessible under cover; for the obvious reason that convalescents require change of air which cannot be obtained under any circumstances in a hospital. The matron should always have her rooms as near to the nursing staff as possible. And it is highly desirable that the day and night nurses of each ward should be kept as a separate staff, lodged as near to the head nurse as possible; if room can be found for these near their own pavilion, it is better.

Simplicity of construction, involving, as it should always do, a provision of abundant light and ventilation through every part of the hospital in which sick are placed, can only be secured in hospitals of any size by separating the administrative part from the sick part. The smallest country hospital should consist of at least two blocks of building.

We may not now continue farther our notice of Miss Nightingale's admirable book. Suffice it to say, in conclusion, that all who are concerned, or are likely to be concerned, in the erection of hospitals, or in their management when erected, should obtain and master this new edition of the "Notes." A right direction has been given to the planning and the construction of new buildings for the sick and wounded. What is now specially needed is, that the governors and directors of existing institutions of the kind should be led to take steps for their speedy re-arrangement, if not re-erection; so that the great and unnecessary waste of life that stil takes place in them may forthwith be lessened.

PROFESSOR SMIRKE ON ARCHITECTURE AS A FINE ART.*

OTHER more suitable occasions may present themselves for a detailed comparison of the two styles referred to in the previous portion; but there is one point of distinction so broad, and so unquestionable, that I cannot refrain from here adverting to it,—I mean the subordination of horizontal lines to vertical lines in Pointed architecture, and of vertical to horizontal lines in Classic architecture. If we regard the latter in its whole range, from the primæval efforts of Egypt down to the latest vagaries of the Borromini school, we find horizontal lines always *dominant:* the entablature in some shape is scarcely ever wanting; cornice, coping, balustrade, string-courses, all have a horizontal tendency; and when vertical lines *are* resorted to, there appears to be a perpetual eagerness, as it were, to interrupt their continuity. Whilst, when we turn to Mediæval architecture, from its earliest distinct development to its final extinction, a never-failing tendency to vertical lines and upward extension is manifest. When a constructive necessity occurs for a horizontal feature, it is kept insignificant by faint projection and frequent interruption,—*height*, in fact, appears to have been the *dominant thought* of all Mediæval architects.

This striking and fundamental distinction is the chief cause of that impassable line of separation which now exists between these two great systems of design, each so beautiful, yet so different.

I should be ill expressing my own feelings if I were not to urge on you a close, diligent study of both these styles: for both are alike deserving of our attention. The younger style we may pronounce, as compared with the elder, perhaps, more free and picturesque; more plastic and manageable; more varied and copious in its details; more intimately associated with our history; and in ecclesiastical structures the habits of four or five centuries have interwoven it with our religious feelings. On the other hand, the elder style we may regard as more symmetrical, more grand and severe, more refined and polished, whilst in some of its later phases it is more applicable to festive and cheerful purposes.

The great aim and object of all style, as such, is to produce certain forcible impressions on the mind, which impressions are usually classed under the two leading heads of the *sublime* and the *beautiful*. I shall *not* launch out into any metaphysical inquiry on the nature and sources of these two wide topics. The field of inquiry has been so often and so ably trodden, that it would be difficult to gather any new flowers in such a search. The subject has been amply discussed; from Longinus down to Alison, the sublime and beautiful have been favourite topics with the highest intellects and the profoundest thinkers.

To such sources then (if you should have the curiosity to pursue an inquiry from which I cannot promise you very much fruit) I would refer you for the study of the two great instruments by which our art is supposed to acquire its power to affect the spectator's mind.

I hope, however, it may not be held pre-

* See p. 28, *ante*.

sumptuous in me to say that amidst the profusion of written learning lavished on these topics, not a few fallacies may occasionally be encountered; you must, therefore, read with thought and attention, remembering that what is *well* said, is not always *truly* said. Thus, Alison, too eager to prove his favourite dogma, that there is no such thing as inherent beauty in any object, will advance opinions to which all the refinement of his polished pen will scarcely avail to command our assent. He states, for example, that "what we call beauty in colour is not due to any original or independent beauty in the colours themselves, but to associations we connect with them."

He tells us, too, that "no forms or species of forms are of themselves originally beautiful; but that their beauty, in *all* cases, arises from their being expressive to us of some pleasing or affecting qualities." Against this theory we have but to set up the very opposite theory of another writer, that great and original genius, Hogarth, whose whole book is devoted to prove the inherent beauty of one particular line—the *one*, curvilinear, *line of beauty!* As if the sources of beauty were not endless! As if a *line* had an intrinsic beauty independent of the use to which it was applied, or the nature of the object of which it forms the external boundary!

With no greater violation of truth we might attempt to define *the hue* of beauty in painting, or *the note* of beauty in music. Again, it is a prevalent and plausible theory that the true beauty of an object consists solely in its fitness for the purposes for which it is destined. I readily admit that *unfitness* for its purpose is a fundamental defect to which nothing ever can or ought to reconcile us. But to urge that utility is *all* that is required to impress us with a sense of beauty would surely be going too far. In nature, the mother and mistress of all arts, there are many illustrations to which I might appeal. The *legs* of a peacock, for instance, are surely more directly useful than its *tail;* but how unseemly are they, when compared with that gorgeous appendage. No doubt, there is great beauty in the fitness of the leg for its purpose; but there is a beauty in its *plumage*—of another kind, it is true—yet I conceive even more effective in producing lively pleasure in those who contemplate it. The beauty of the leg speaks rather to our reason than to our feelings, whilst that of its plumage needs no exercise of reason to command our admiration. It is that *latter* kind of beauty which the Germans, borrowing from Greek sources, have taught us to call *æsthetic*, and which, I think, needs your chief study, for it is a kind of beauty far more difficult to understand, or define, or hold in our intellectual grasp. The beauty of *fitness* may be measured and weighed by the easy standard of common sense; the other, more subtle, more immaterial, may be perceived and yet not measured or even explained. Like a wreath of mist, the rainbow, the mirage, or the northern aurora, it is a reality; it is there, before us, in a thousand forms of loveliness; yet the vision eludes that closer scrutiny we desire, and refuses to submit to the test of a stricter investigation.

Unfortunately for the teacher of art, it is far more easy to say what is beautiful, than to say wherein that beauty consists.

A sense of what is beautiful in the *physical* world operates like the conscience in the *moral* world; which impels or deters, often, without the intervention of reason. We often, perhaps indeed *usually*, perceive what is morally right or wrong at once and without any process of examination. So the recognition of beauty is an intuitive result, at which we ought to be able to arrive before we have formed any definitive idea of the cause, or have sought to investigate the motives upon which our judgment is founded.

A true student, however, will not rest satisfied with this vague impression, but will endeavour to search out its causes; and whatever may have been the errors into which men of genius may have been misled by their confident reliance on some favourite theory, the student should be thankful for the hints which philosophic inquirers have afforded to aid him in his search.

It is, of course, an essential part of the task of a lecturer on our art to bring before your notice examples of the highest qualities of the art, practically presented to us in the master-pieces which time has spared. Our art may boast a proud pre-eminence among the sister arts, in its *capacity* to present such examples. In addition to the durability of its monuments, it has been truly said of Architecture that she alone is able to excite emotions similar to those excited by the contemplation of the great works of nature. If such be true, it is indeed a very noble incentive to genius that it should be permitted to the architect so to distribute and deal with mere inert matter,—with fragments of rock or pieces of burnt clay,—and so to pile them up as to make them the source of a high intellectual pleasure, and even to strike us with awe and astonishment.

Besides the two primary qualities of sublimity and beauty, a claim has been set up for a third attribute, or quality, as worthy to be classed with them, and as forming one of the great aims of art; though I am by no means satisfied of its claim to be treated on a footing of equality with them. I allude to the *Picturesque*,—a word of modern Italian origin, designating that which is well suited for the painter's art. I believe it was Uvedale Price who first attempted to define distinctly the attributes of the Picturesque, and claim for it an independent position.

Picturesqueness seems to be a term, in our art at least, more applicable to a combination of forms than to any one form. A single object, as a cornice or a column, may be said to be beautiful, or even sublime, but it can hardly be said to be *picturesque*. There must, I think, be *variety* of lines, or of tints, or of chiaroscuro, in order to constitute the true picturesque. One of the most eminently picturesque single objects I know is the Pharos at Genoa; but even here the structure itself can scarcely be so designated. It is its *position*, its *substructure*, and its *accessories* which impress it with that peculiar character.

It is this dependence of the picturesque on a happy combination, or grouping, of forms, rather than on the artful design of any one form, which renders it a dangerous object of pursuit with the architect. It can rarely be the result of premeditation; it should come unbidden. Certainly the happiest and most charming instances of this quality of art have been the result of accident. Perhaps the castles of the Middle Ages, especially those of the thirteenth and fourteenth centuries, abound more than any other class of buildings in the ingredients of the picturesque. Which of us, for example, could ascend the long flight of steps leading to the higher and inner gateway of the great castellated monastery of St. Michel, near Avranches, without fancying that some sublime genius, pregnant with all the poetry of architecture, had designed that gate and moulded its scenic turrets with no other object than to fill the spectator with awe? Yet we may be sure that nothing could have been more remote from the mind of those builders than to *make a picture*. The barbican, the keep, the menacing machicolation, the deeply-recessed archway, the varied outline, the broad chiaroscuro, are all features happily incidental to the military wants and exigencies of those times; and yet, who is so utterly and almost necessarily regardless of the picturesque as the engineer?

Even in Domestic architecture, if we examine any highly picturesque building,—Haddon Hall, for example,—we shall not fail to find that the agreeable effects in which it abounds are by no means the offspring of studied irregularity, or of any *finesse* of art. The embayed window is thrown out just where the *view* invites one; the fireplace projects in bold relief, and its smoke tunnel is carried quaintly off to one side, simply because the ease and comfort of the occupant required that those objects should be placed in those situations. The result *happens* to be highly picturesque, but it is so, as it were, by accident. There is no reason whatever to doubt the ability of the old builders fully to appreciate the effect of all their arrangements, but there was no *straining after that effect*. A bold, almost careless freedom of design, characterized all their work. I need scarcely repeat that a laboured imitation of these happy accidents is sure to lead to failure and disappointment; sometimes, indeed, to the ridiculous.

I do *not* counsel the young practitioner to disregard those superficial arts of design which please the eye; but it should be his chief aim and first consideration so to do his work that each part should answer its purpose thoroughly well; and it is very doubtful whether he can adopt any process better calculated to secure a pleasing result.

Before quitting these general views, I think it incumbent on me to advert to one of the dogmas of our art, the soundness of which is undeniable, but which is attended with some difficulties.

Painting and Sculpture are so fortunate as to have in *nature* a standard of excellence for ever before them, a frequent recurrence to which keeps them on their true course.

But Architecture is less able to draw her inspirations from that pure source: her wants are too artificial; she is too dependent on the requirements of man to enable her to look implicitly up to nature.

But Architecture, still, has a ruling principle, which is *Truth*. From Vitruvius downwards this has ever been taught, although in practice it has often been grievously disregarded.

There is an honest simplicity—a plain manliness—about *truth* which wins our regard, whether in ethics or æsthetics. But whilst we recognize truthfulness as a cardinal virtue in our art, as well as in morals, we must take care not to allow that analogy to carry us too far.

We often meet in the practice of out art with necessities utterly inconsistent with beauty. Hard lines, unsightly angles, heavy, graceless forms, imposed on us by structural requirements; it would be a mischievous error to suppose that, because in our social conduct there should be no deception nor concealment whatever, we are therefore bound to expose to view these mechanical deformities from which we cannot escape; whilst, to depart from the form that is mechanically the *right* form, only to make it more agreeable to the eye, would be a still graver error. That there should be a politic concealment sometimes studiously resorted to, some ingenious art practised occasionally,—such, for example, as the concealed buttresses and the hidden ties and props common in our old buildings,—seems therefore to be an unavoidable condition of our calling. In the most naturalesque schools, nature is not, and never has been, copied with a stern adherence to exact truth. The simplest leaf requires *treatment* to fit it for the purpose of decoration, and treatment implies some modification or humouring of form or of colour; in short, *some* departure from nature, and consequently from truth. Nearly allied to this is another principle of our art, which, although by no means universally acted upon, yet justly claims our most respectful submission. We should have a care how we introduce into our design anything which does not serve *some* good *purpose*. I do not mean that mere *utility* would justify a *deformity*, nor do I mean that every architectural feature in our design should be a structural necessity; but that, although it may not be to add strength or to afford support, it should at least have its appropriate *purpose;* a valid reason should be assignable for it; some good end must be sought to be attained by it; some offensive angle or feature to be removed; some unsightly blank to be relieved; some monotony of line to be broken; some needed light or shadow to be introduced; some discord in form or colour to be allayed.

Doubtless it is a maxim worthy of all acceptation that utility is one of the most important elements of beauty; yet those who recognize architecture as a *fine* art will admit that simple, bare utility is not the sole aim of our art. This qualification of the really valuable and important principle of usefulness will, I fear, scarcely meet with *general* sympathy: the utilitarian current sets in so strongly in some minds that it well nigh carries all other considerations before it. It is enough to say that neither painting nor poetry, nor music, nor letters, nor any of the arts which embellish life, can lean for support on that class of intellect which refuses to assign to them a footing within the domain of social usefulness.

With all respect for so inestimable a guide in the common business of life as *utility*, I will venture to encourage you by pointing out to you the prodigal munificence which has arrayed the lily of the field, which neither toils nor spins, in a raiment of surpassing glory; which has given to the birds of the air not merely their needful feathers but a plumage of infinite beauty; has lavished on the shell-fish of the deep seas tints which no art can reproduce; and the *pearl*, which princes are proud to wear. Nay, *Virtue* itself has found a fit companion in the *beauty of the human form*.

"Gratior pulchro veniens in corpore Virtus."

Why, then, should Architecture be forbidden to indulge, moderately and wisely, in some *graceful inutilities?*

It is the fear of excess and abuse that alone renders this indulgence dangerous; and to arm the student against such danger is one of the foremost duties of the art-teacher.

Truthfulness and usefulness must indeed be taken as our guides in the highway along which we may travel unwarily and without danger. It is when we diverge into the by-paths and inviting lanes of mere æstheticism that we most need to be on our guard against failure.

I have now detained you quite long enough on these general views. Our art is a peculiarly practical one, and needs to be dealt with in details rather than in generalities. I shall, therefore, now close my present discourse, by addressing to the architectural student a few parting words.

You are set out on a pilgrimage which will need much preparation, and a large fund of enthusiasm to cheer you on your way. Set out on it with a conviction that an abundant store of knowledge is the best provision you can make for the journey.

Besides obtaining a thorough mastery over your own art, cultivate an acquaintance with the sister arts. It will be wholesome to bear in your memory the very intimate relation which subsists between *all* the departments of high art, which find their home within these walls. Together they will ever flourish or decay: each needs the aid of the other. It is for Architecture to build the sanctuary; it is for Painting and sculpture to spread out their treasures for its perfection. It is for *them* to give life to its inanimate walls, by peopling them with the story of past times, by refreshing us with the charms of natural scenery, and by making them the depositories of those memorials which link the living with the dead.

Above all things, in your pilgrimage, be especially anxious to dismiss and discard for ever from your minds all petty feelings of personal jealousy.

Pull at no man's skirt: outrun him, if you can, in the race of honourable rivalry; but depend upon it your progress will be impeded—not promoted, by the indulgence of professional jealousy or censorious criticism.

Let not your spirit be weighed down, nor your course turned aside, by any such sinister, unworthy objects. The rivalry in *labour* is the best, and only useful rivalry. You will find the buoyancy of self-reliance wonderfully assisted by that lightness of heart and cheerfulness of spirit which never fail to accompany an habitual goodwill towards others.*

THE LATE MR. JOSEPH WOODS, ARCHITECT.

THE death of Mr. Woods, to which we referred in our last, took place when he was seated in the easy chair of his study: he died, as he had lived, calmly. This estimable gentleman was born at Stoke Newington, on the 24th of August, 1776, and was the second son of Mr. Joseph Woods and Margaret his wife, daughter of Mr. Samuel Hoare, whose son Samuel became the senior partner in the banking-house of Hoare, Barnett, & Co., Lombard-street. His father, although engaged in commercial pursuits, was a gentleman of high attainments, and a frequent contributor to the pages of various literary publications, both in Latin and English prose and verse. In the days of Mr. Joseph Woods's childhood, to use his own words, "there was a great deficiency of good schools among the Society of Friends, to which my parents belonged, and one year passed in attendance on a day-school in London, kept by a Mr. Lord, was the only efficient schooling I had." He was, therefore, in great measure a self-educated man. He entered upon a business life as a pupil of Mr. Alexander, a well-known architect of that day. About three years after he commenced the practice of this profession on his own account. He was one of the first institutors, if not the first president, of the London Architectural Society, founded in 1806, and contributed valuable papers and essays on kindred subjects, to the meetings of this Society, concerning which we gave some information not long ago. His health proving insufficient for the drudgery of his profession, and being possessed of means, which enabled him to act independently, he indulged his artistic taste and talent by a residence of some years abroad. Of this period it was said in our pages by Professor Donaldson, "It is charming to see my old friend Joseph Woods, seated in his study finishing up some of his Grecian studies made above forty years ago, and discoursing of arts and artists with grace and vivacity, and of reminiscences when we were together at Rome, and were meeting Canova, Camucini, Thorwaldsen, and like men of mark there, with John Soane, jun., Basevi, Bond, Saunders, George Rennie the sculptor, and other such, now passed away. Hardwick and myself used to go to his rooms, and we read Goldoni and Alfieri together, and battled it out on many questions of taste regarding Greek and Roman architecture."

The results of his foreign labours were given to the public in a book well known as "Letters of an Architect from France, Italy, and Greece," 2 vols. 4to. 1828, as well as in the editorship of the third volume of Stuart's Athens.

Mr. Woods was himself an artist of no mean pretensions, more to be valued as a faithful and accurate delineator than as exhibiting an imaginative mind. His style of colouring may be considered generally as too cold, but he was occasionally warmed up by his subject, and especially so in later years. It has been one of his amusements to finish off, and present to his friends his sketches of olden date.

Mr. Woods was an old member of the Geological, Antiquarian, and Linnæan Societies, and was best known, perhaps, to the members of the last-named society as a botanist of high European reputation. His tenacious memory, persevering habits, and fondness for country rambles, qualified him for his favourite pursuit botany. His scattered contributions and numerous discoveries in this branch of science are of high value. His "Tourist's Flora," published in 1850, has proved an almost indispensable companion to every botanist, and his name will be perpetuated to posterity by the very rare and beautiful little ferns *Woodsia hyperborea* and *ilvensis*, a very distinct genus named by Mr. Robert Brown, many years president of the Linnæan Society, London. Mr. Woods, up to the day of his decease, was steadily engaged in the preparation of a second and enlarged edition of this work.

Although during his long life a bachelor, his domestic qualities were highly appreciated by both old and young, who had the privilege of his intimacy. Possessed of a sound judgment and a large stock of common sense, he was a constant friend and valuable adviser, but his character, partly no doubt from his feeble state of health, was too unobtrusive and retiring to bring him into that contact with the literary and scientific world to which his talents entitled him. On several occasions he gave our pages the benefit of his varied knowledge. They who knew him best loved him most.

THE LATE MR. CHARLES M'INTOSH, LANDSCAPE GARDENER.

MR. CHARLES M'INTOSH, whose death we mentioned last week, was born at Abercairney, in Perthshire, where his father was gardener to Mr. Moray. He was educated at Maderty, at the school conducted by Dr. Malcolm. He preferred gardening to theology; and after some time spent in the garden at Abercairney with his father, left for a position in the gardens at Taymouth Castle, the seat of the Marquis of Breadalbane. While still a young man he went to seek his fortune in the south; and spent some time in Hampshire, London, and elsewhere, making fast and influential friends wherever he went. It was to Mr. M'Intosh, acting under the directions of Mr. Horner, that the Londoners are indebted for the gardens of the Colosseum. The intelligence and taste of Mr. M'Intosh recommended him to the notice of the King of the Belgians, who was at that time resident at Claremont, and by his majesty he was appointed curator of the Royal Gardens there, and afterwards of those at Brussels. Her Majesty the Queen permitted him to dedicate to her his work, "The Book of the Garden."

In 1838, Mr. M'Intosh returned to Scotland to take the management of the Duke of Buccleuch's gardens at Dalkeith. After a period of nearly twenty years spent as head gardener to the duke, Mr. M'Intosh resigned his appointment to become a landscape gardener or garden architect on his own account; since which time he has been engaged in beautifying the residences of many citizens, and the gardens and parks of many of the gentry and nobility of the country.

Besides his "Book of the Garden," Mr. M'Intosh at an earlier period of life wrote the "Practical Gardener," published in two volumes, and of which he saw three editions through the press before he sold the copyright; "The Greenhouse," "The Orchard," "Flora and Pomona," "The Year Book," in connexion with Dr. Lindley Kemp, and "The Disease of the Larch." He was a frequent contributor to many gardening periodicals besides; and in particular to the *Gardeners' Magazine* and *Paxton's Magazine of Botany*. He was also, along with Dr. Lindley, one of the founders of the *Gardeners' Chronicle*. Many friends deplore his loss.

THE LATE MR. CASEBOURNE, C.E.

MR. THOMAS CASEBOURNE, whose death occurred on the 2nd inst., was a native of Hemel Hempstead, Herts, and was born in 1797. In early life he devoted himself to engineering pursuits, and was a favourite pupil of Telford, the designer of the Menai Suspension Bridge and the Caledonian Canal. Mr. Casebourne was one of the oldest surviving members of the Institution of Civil Engineers, having been admitted an Associate in 1828, and a full member in 1837. He was privileged to assist Mr. Telford in several of his works, and subsequently, amongst other duties, he was engaged in the Lincolnshire Fens Drainage, the London and Liverpool Road, the Metropolitan Water Survey, &c. From 1833, and for twelve years subsequently, Mr. C. was engaged on canal works in Ireland, and the extensive canal connecting Lough Neagh and Lough Erne was constructed under his superintendence. In 1845 Mr. Casebourne removed to the locality now so well known as West Hartlepool—then a mere hamlet—to undertake the Resident Engineership of the West Hartlepool Harbour and Docks; and since that period his name has been intimately connected with all that related to the port, harbour, and town of West Hartlepool. On the incorporation of the Commissioners in 1854, Mr. C. was one of the original commissioners appointed by the Town Improvement Act; and continued to fill the office of commissioner up to his decease. He was for some time chairman of the Board, only resigning that appointment in favour of Mr. R. W. Jackson a week or two before his death. He for a short time represented the West Hartlepool town interest in the Pier and Port Commission; but on the resuscitation of the Refuge Harbour question, retired from that office, so that he might not be said to sit in judgment upon his own amongst other competing plans.

At the West Hartlepool Improvement Board, Mr. Casebourne was a regular attendant. He was also for many years a vice-president and life member of the local Literary and Mechanics' Institute.

ON THE INJURIOUS EFFECTS OF SMOKE ON CERTAIN BUILDING STONES.*

EVERY addition to our knowledge of the causes of decay in stones has a tendency to bring within easier reach the appropriate remedy. At all events, a more comprehensive knowledge of the causes of decay in stones will help us to discriminate with more certainty between good and bad stones, and to avoid the employment of building materials which, although they stand the influence of the weather very well in the open country, or in exposed situations, are nevertheless unfit for particular parts of a building, and cannot be used with safety in some localities. Having been engaged for some time past in examining the characteristic black crusts which are frequently seen on buildings erected of Bath and similar oolitic limestones, my attention was specially directed to the study of the nature of the decay which attacks with great energy some kinds of calcareous stones, and I have come to the conclusion that the injury which the smoke of towns exerts on Bath stone, magnesian limestone, and other calcareous building stones, is far more pernicious in its results than it is generally believed to be. It will, therefore, devolve upon me to direct your attention particularly to the changes which such stones undergo under the influence of a smoky atmosphere, such as we find in most towns.

In common-day life we usually understand by smoke, the black and more or less tangible impure air which rises from the chimneys of fireplaces and furnaces in which the combustion of the fuel is imperfect, in consequence of which some finely-divided carbon and a variety of gases are thrown into the air.

* From a paper read at the Society of Arts, by Dr. Augustus Voelcker, on Wednesday evening last.

* The second and third lectures delivered by the Professor were reported in our pages on a previous occasion, so that it is not necessary now to give them.

That this black smoke exerts an injurious effect on building stones and on vegetation, is admitted in a general way, but I have no hesitation in saying that the extent of the injury done by the smoke that at times obscures the sky in our crowded cities has not been fully recognized. This, perhaps, is the reason why the precise chemical changes which are produced by accumulations of soot on limestones and calcareous sandstones have not been studied with the minuteness which the importance of the subject evidently requires.

Before giving an account of my analytical experiments on the effect of smoke on oolitic limestones, a few general observations on the nature of the decay in stones may not be out of place.

Building stones in general may be divided into two classes:—

1. Stones which, like granite, porphyries, and most sandstones, are not easily acted upon by acids.

2. Stones which, like limestones, dolomites, and some kinds of calcareous sandstones, are composed of materials that are partially or entirely attacked by acids with facility.

Building stones belonging to the second class are much more liable to suffer injury by atmospheric agencies than those belonging to the first class; and as, moreover, limestones and dolomites are principally employed for ornamental buildings, the investigation of the causes which lead to their decay possesses a special interest.

The conditions under which calcareous stones decay when placed in a building, are partially mechanical and partially chemical. The absorption of moisture by porous stones, and the disintegration to which it leads in consequence of the resistless expanding force of water in becoming ice in cold weather, are illustrations of a purely mechanical cause and effect, which frequently manifest themselves in limestones used for building purposes. The changes produced on building stones by carbonic acid and the sulphur compounds in the air of towns, are instances of chemical reactions, which may be seen in their results in some cases as distinctly as the results of purely mechanical force, to which allusion has just been made. Building stones of a loose or irregular structural composition are of course more liable to suffer injury from the absorption of moisture than hard, compact, and crystalline stones of the same or similar composition. The more readily a specimen of Bath or Caen stone is affected by mechanical agencies the more easily it will be found to be acted upon by chemical reagents.

The action of oxygen is of comparatively a subordinate character, its effects confined to constituents which are usually absent or occur only exceptionally, and then in but small quantities of limestones and dolomites. In calcareous sandstones, sulphides of iron and protoxides of iron and manganese occasionally are found, and as these compounds are very prone to absorb oxygen, and the higher oxides thus formed are more voluminous than the original protoxides, such stones are subject to the disintegrating action of atmospheric oxygen. Of far greater importance are the effects of moisture. Water, either in the shape of vapour or liquid, perhaps is the most powerful agent of destruction that displays itself in the gradual crumbling down of calcareous stones. Porous and soft stones of that kind should never be employed for parapets, window-sills, weather-beds of cornices, strings, plinths, or other parts of a building where water may lodge. The changes which water produces in porous stones exposed to drip and alternations of a wet and dry condition, appear to be less of a chemical than a mechanical character.

The expansion which water experiences on sudden alterations in the surrounding atmosphere, and the irresistible force which it then exerts, necessarily exercise a disintegrating action. If the temperature sinks below the freezing-point, this destructive action is most powerful, since water in becoming ice suddenly and greatly expands. But even above the freezing-point, the expansion of water at a sudden elevation of temperature appears to me to exert upon porous building materials a mechanical force sufficiently powerful to account for their gradual decay at seasons of the year when it cannot be referred to the formation of ice within the pores of the stone. There can be no doubt that all stones which possess in a high degree the property of absorbing moisture, are unfit for building purposes. Certain kinds of porous limestones and sandstones, differing widely in composition and in relation to their liability to become attacked by acids, are alike subject to this disintegrating action, thus indicating plainly that their decay is not the result of the chemical action of an atmospheric constituent, but the result of the mechanical action which water exerts on all porous and absorbent materials, no matter what their composition is.

Such stones, it will be readily conceived, must be very liable to crumble down in our moist and changeable climate. In towns, and in the country in sheltered or in exposed parts, on the outside or the inside of buildings, and in short under the most varied conditions, the decay will proceed steadily when it has once begun to show itself in porous and absorbent stones. The fact that these building stones, which decay as readily in open country places as in towns, has led some men to entertain the opinion that the impurities present in the air of towns and in the immediate neighbourhood of manufacturing districts, have nothing to do with the gradual disintegration to which oolitic and other calcareous building stones are subject. But although it is quite true that some building stones do not require to be exposed to the injurious effects of the atmospheric impurities of crowded cities in order to decay, it is no less certain that there are others which stand wind and weather well in the country, but are more or less readily attacked by atmospheric influences when employed in the erection of town residences.

The fact is, the structural composition of some stones is so irregular, and radically bad, and their absorbent powers for moisture so great, that they are alike unfit for the erection of buildings in town or country, whilst there are others possessing sufficiently good physical characters to resist the mechanical effects of water, to which reference has been made, and remain sound in a comparatively speaking pure air, but which are not of such a chemical composition as to be capable of withstanding the pernicious chemical influence of a less pure town atmosphere.

Carbonic acid is a never-failing constituent of the air, and is consequently present also in rain-water. Much stress has been laid on the dissolving action of rain-water on limestones; but it appears to me this action has been greatly overrated. Instead of practical proofs, showing that water charged with carbonic acid really exerts a powerful disintegrating influence upon calcareous stones, merely theoretical reasonings have been advanced in support of that opinion.

It is true, water charged with carbonic acid in contact with carbonate of lime or magnesia gives rise to soluble bicarbonates; but even were the quantity of bicarbonate of lime or magnesia much greater than it actually is, the mere removal of a trifling portion of lime from the surface of the stone does not, I take it, explain the peculiar exfoliation and corroded appearance which many oolitic building stones present to our view. Calcareous stones, exposed to long-continued dissolving action of water containing carbonic acid, exhibit rather a smooth and water-worn but not a corroded appearance.

In the next place we have to consider the effects likely to be produced by the small quantities of nitric acid which are invariably present in the atmosphere. The proportion of nitric acid in the air is so minute that it may be questioned whether these minute traces have any marked influence on our buildings. With respect to the supposed corrosive action of nitric acid of the air, and the formation of nitrates in limestones, I made some experiments, a brief account of which may here find a place. A few years ago my attention was directed to the decay of the oolite limestone of which the lodge at one of the entrances at Badmington is built. This stone was quarried at a place about two miles from Badmington, and, like Bath stone, is not very hard. The stone protected by the porch of the lodge I found in a more advanced state of decay than that freely exposed to wind and weather.

* * * *

In the next place the foreign or accidental impurities of the air of towns will have to be considered.

The quantity of sulphur-acids in the air of towns is quite appreciable. The quantity of coals consumed in London for domestic and manufacturing purposes exceeds three million tons per annum, and as all coals contain sulphur, the greater portion of which is discharged during their combustion as sulphurous and other sulphur-acids, an enormous quantity of these destructive acids must find their way into the air. No numerical data exist with regard to the proportion of sulphur-acids in the London atmosphere, but, according to Dr. Angus Smith, the air of Manchester contains an average proportion corresponding to one part of sulphuric acid in every 100,000 parts of air, which in the centre of the town, rises to 25 parts in 100,000. According to the quality of the coal and the amount consumed in a given space in a given locality, the proportion of sulphur-acids in the air of towns will vary. In some places it may, no doubt, be greater, in others less than in the air of Manchester; but under all circumstances it will be sufficiently large to cause serious apprehensions.

The strong affinity of sulphuric acid for lime and magnesia renders it a destructive agent for calcareous building stones. Sulphuric acid not only renders soluble these earthy carbonates, but, forming with lime gypsum, a compound which contains in round numbers 20 per cent. of water of crystallization, and with magnesia the well-known sulphate of magnesia, a salt remarkable for the large proportion of water of crystallization which it fixes, it gives rise to a mechanical destruction of Bath stone and magnesian limestones similar in every respect to that produced by freezing water. The efflorescences of sulphate of magnesia which have been noticed upon those portions of magnesian limestones where exfoliation has taken place, afford a practical proof of the destructive action of the sulphuric acid that occurs in the air of towns. Hydrochloric acid occasionally has been found in the air of towns. It is, however, not a usual impurity; and as on the 1st of January the Act passed in the late session for the more effectual condensation of muriatic acid gas in chemical works has come into actual operation, and there is no practical difficulty in securing the condensation of this gas, no fear need be entertained that the buildings in towns will be affected by hydrochloric acid fumes.

Still more pernicious in its influence than the free sulphur-acids which exist in the air of towns, I have reason to believe, is the black smoke which deposits soot, to the great disfigurement of our public and private buildings. The soot deposit is particularly destructive to the carved portions of buildings. In order to render intelligible the peculiar chemical action which smoke exerts on calcareous building stones, I beg to invite attention to the following analysis of a sample of ordinary house-coal soot, which I made many years ago. In 100 parts of soot I found:—

Moisture	10·620
Organic matter (chiefly black carbon)	44·736
Chloride of ammonium	·933
Sulphate of ammonia	3·880
Chloride of sodium	·231
Chloride of potassium	·503
Oxides of iron and alumina	15·091
Sulphate of lime	11·051
Phosphate of lime	·530
Carbonate of lime	1·129
Lime in a state of silicate	2·290
Magnesia in a state of silicate	·389
Soluble silica	1·014
Insoluble siliceous matters	4·139
	99·856

The proportion of sulphate of ammonia in different samples of soot, I find, varies exceedingly. In some samples I have found as much as ten, twelve, and even more of sulphate of ammonia. Perhaps 5 or 6 per cent. represents better the average quantity of ammonia than the figures in the above analysis. Soot is essentially a mechanical mixture of finely-divided carbon with sulphate of ammonia, some sal-ammonia, and the fine particles of coal-ashes. An inspection of our public buildings shows that it is carried about in the air, and deposited in considerable quantities on buildings, more particularly on the more sheltered parts. Soot, it need hardly be remarked, is a constituent of the smoky atmosphere of towns, and is calculated to do great injury to the ornamental work of buildings executed in Bath stone or magnesian limestone. The most destructive agent of such a smoky atmosphere, as far as calcareous building stones are concerned, I am inclined to think is the sulphate of ammonia, which, as has been shown, is a constant constituent of soot. This conclusion has been forced upon me by the examination of the sooty deposit which was found on a magnificent church in a large commercial and manufacturing town. This church is built of an oolite limestone found in the neighbourhood, and, on account of the increasing decay, which has quite disfigured the structure, and in many places effaced the finer delineations of the carved work, is now under the process of restoration. On some of the older parts of the church the sooty deposits have penetrated the stone to a considerable depth. The stone here appears to be covered with black crusts, varying from half an inch to more than an inch and a half

in depth. These crusts crumble off spontaneously from time to time, or can be easily removed by the application of a slight pressure. I made them the subject of a rigorous analysis, with a view of ascertaining the changes the original building stone evidently had undergone under the influence of a smoky atmosphere, and I was perfectly amazed to find how radically the original composition of the stone had become changed, and was left in no doubt as to the origin of the black crusts.

The stone of which this church is built is a good oolitic limestone, which is composed chiefly of carbonate of lime, with no more sulphate of lime, magnesia, oxide of iron, and insoluble siliceous matters than generally occur in the latter description of oolitic limestones. The following analysis refers to the composition of the uncorroded limestone :—

Water driven off at 212 degrees	·230
Water of combination	·110
Carbonate of lime	97·690
Sulphate of lime	·153
Magnesia	·370
Protoxide of iron	·540
Alumina	·120
Soda	·044
Potash	·296
Insoluble siliceous matter (silica).	1·350
	101·003

In the course of years this stone becomes covered, as has been already stated, with a dark-coloured incrustation, which increases in depth with the time during which buildings are subject to the corroding influence of a smoky atmosphere. The analysis of some of these black crusts has shown me that as much as two-thirds are soluble in water and only one-third insoluble. Dried at 212 degrees, these crusts yielded the following detailed results :—

Portion soluble in water	65·94
Sulphate of lime	51·23
Sulphate of magnesia	1·81
Chloride of sodium	·47
Water of combination	12·63
Portion insoluble in water	34·06
Organic matter (black carbon)	5·72
Oxides of iron of alumina	2·57
Carbonate of magnesia	·10
Carbonate of lime	19·63
Insoluble siliceous matter	6·04
	100·00

A comparison of the composition of these crusts with that of the stone upon which they were found deposited, suggests the following remarks : —

1. The greater part of the carbonate of lime, which is the chief constituent of the stone, has become changed into sulphate of lime.

Sulphate of lime and water of combination are given separately in the preceding analysis, both having been obtained by direct and separate determinations. Uniting the two together, we have no less than 63·86 per cent. of hydrated sulphate of lime in these black crusts, whilst only 19 per cent. of carbonate of lime have escaped transformation into sulphate.

2. Nearly the whole of the magnesia in the crusts is present as sulphate of magnesia, whilst it occurs in the stone as carbonate.

3. The crusts contained in round numbers 5¾ per cent. of black carbon, showing that a large proportion of soot must have come in actual contact with the surface of the stone.

4. Both the amount of oxides of iron and insoluble siliceous matters in the black deposit is very much greater than the original stone. An examination of the insoluble siliceous matter has shown me that it is of the same nature as the siliccous matter of coal-ashes. The fine particles of coal-ashes, it thus appears, are carried along with the carbon and other constituents of soot not deposited on the more sheltered portions of buildings. It has been shown before that house-coal soot contains a considerable proportion of oxides of iron, and alumina and insoluble siliceous matters in the shape of fine coal-ashes. The occurrence of fine coal-ashes in the black crusts thus shows that soot, of the same general character as house-coal soot, has been deposited on the stone.

In soot the amount of sulphate of ammonia is considerable, and as the black deposit on the stone shows plainly the presence of other soot constituents, sulphate of ammonia might likewise be expected if this salt did not act upon carbonate of lime in the presence of moisture. I have examined several specimens of deposits on calcareous stones, but in no case could I find more than mere traces of ammonia. The sulphate of ammonia in the sooty deposit in contact with water and the calcareous stone evidently has become transformed into the volatile carbonate of ammonia which escaped, and the sulphate of lime which remained behind. There can be but little doubt that such a chemical reaction takes place when a smoky atmosphere comes into contact with a calcareous stone, especially if the stone is porous, non-crystalline, and exposed to damp. I have frequently noticed that the dampest and most sooty and less-exposed parts of buildings are much more subject to decay than the more exposed parts. Now this could not be the case if gaseous constituents of the air were the chief cause of decay, which proceeds with such rapidity in limestone buildings; for if this were so, I imagine the most exposed parts of such buildings could be more easily attacked than the less exposed. But if the corroding action of the air of towns is, as I believe, more properly referred to the tangible portions of soot, it admits of a ready explanation why exactly the sheltered and damper portions of a building are more liable to decay than other parts. In the first place, it may be observed, soot will be more abundantly deposited in the crevices of fine ornamental stonework, or in places sheltered by protruding cornices, than on a plain surface wall, freely exposed to wind and weather; in the next place, it has to be borne in mind that, according to one of the first laws in chemistry, chemical reactions do not generally take place except the materials which act one upon another, or at least one of them, are presented to each other in a liquid state.

In a dry atmosphere, the deposition of soot on Bath stone would not, I imagine, produce any injurious effect; on the other hand, in a damp place, the sulphate of ammonia contained in soot will be dissolved by degrees, and then act upon the limestone, producing by double decomposition sulphate of lime and carbonate of ammonia. In a damp and sheltered position, the conditions for the gradual solution and decomposing action of sulphate of ammonia are evidently more favourable than they are in a more exposed part of a building, where rain will wash away the sulphate of ammonia of soot before it has time to act upon the stone, and the wind in a great measure prevents altogether large accumulations of soot.

The sulphate of lime produced by the action of sulphate of ammonia upon limestones in the presence of moisture, it is hardly necessary to observe, takes up water of crystallization, and thereby leads to the exfoliation of the stone. The longer the action of a sooty atmosphere continues upon limestones, the more complete will be their decomposition. In old and thick crusts, like those examined by me, we have seen that more than 60 per cent. of gypsum may occur. Had I merely analysed the surface of the crusts, I doubt not a still larger proportion of sulphate of lime would have been found.

In another specimen of a black limestone deposit from a public building, I found :—

Hygroscopic water	1·07
Organic matters (chiefly fine carbon)	5·29
Hydrated sulphate of lime	56·10
Carbonate of lime, oxides of iron, alumina, etc. (determined by difference)	34·11
Insoluble siliceous matter	3·43
	100·00

The proportion of ammonia in this incrustation amounted to only ·04 per cent., and that of nitric acid to ·115, which is equal to ·174 of nitrate of lime. Here, again, it will be noticed that the sulphate of ammonia of the soot has almost entirely disappeared, and that it has given rise to no less than 56 per cent. of hydrated sulphate of lime, by acting upon the surface of an oolitic limestone.

The effect of a smoky atmosphere on Caen stone is very injurious, particularly if the Caen stone is porous and hygroscopic. I have lately had an opportunity of noticing the rapid decay of Caen stone employed in the restoration of a church. The decay showed itself in less than three years, and was proceeding with such rapidity that Caen stone had to be abandoned in the work of restoration.

Specimens of this Caen stone, and incrustations formed upon it under the influence of the smoky atmosphere of a large manufacturing town, are placed on the table; also specimens of the stone which is now employed, and which resists better the injurious action of such an atmosphere.

The analysis of the crusts and Caen stone yielded the following results :—

Hygroscopic water	1·56
Organic matters (carbon chiefly)	4·54
Hydrated sulphate of lime	41·78
Carbonate of lime	38·93
Carbonate of magnesia	·58
Oxides of iron and alumina	·33
Insoluble siliceous matter	11·01
Alkalies and loss	1·27
	100·00

The amount of alumina in the deposit was only ·038. A nitric acid determination gave ·246 per cent., which is equal to ·371 of nitrate of lime.

Although this deposit was of comparatively recent production, it nevertheless contained a large proportion of hydrated sulphate of lime. Hard crystalline limestones, of course, resist the action of smoke better than porous soft stones; but it may be questioned whether any description of limestone is well adapted for delicate ornamental out-door work in a smoky town. If the evil of a smoky atmosphere cannot be entirely avoided in places like London, Manchester, Birmingham, &c., every care should at least be taken to mitigate as much as possible the smoke nuisance.

THE SHAKSPEARE CELEBRATION.

THE adjourned meeting of the general committee was held on Monday, his Grace the Archbishop of Dublin in the chair. Mr. Hepworth Dixon having reported fresh facts, and stated what the council desired,

Mr. Westland Marston read the following report of the special committee appointed to draw up an address to the public :—

"The National Shakspeare Committee having appointed us a special committee to prepare a public address, we beg to state that, in the absence of any report from the committee which have been appointed to consider the questions of a form and site of a memorial in honour of Shakspeare, your committee feel it would be premature to submit any address for public circulation. We beg to report for the information of the national committee that the following suggestions have met with the approval of the special committee :—

1. That a memorial be erected in London which shall afford scope for the illustration of Shakspeare's works by architects, painters, and sculptors.

2. The adoption of measures to secure a public holiday throughout the kingdom on Saturday, the 23rd of April next.

3. A performance on the same day at the Theatre Royal, Covent Garden, of music composed of the poetry of Shakspeare

4. An arrangement, if practicable, for one or more performances, dramatic or musical, from Shakspeare's works, to commence on the 23rd of April next, such performances being in addition to those which have been already promised in aid of the fund by most of the principal London managers.

5. A public dinner on the 23rd of April next.

(Signed) ROBT. VAUGHAN (Chairman). WESTLAND MARSTON. TOM TAYLOR. F. G. TOMLINS. HENRY BARNETT. SHIRLEY BROOKS. THEODORE MARTIN. W. H. DIXON."

On the motion of Mr. Deputy Read, seconded by Mr. Jonas Levy, the report was received.

On the motion of Mr. E. H. Lawrence, seconded by Mr. Godwin, it was resolved that it was desirable to raise about 30,000*l.* by public subscription for a Shakspeare memorial. An amendment was proposed to the effect that the naming of any sum was premature; but the majority present agreed with the council, that the public would desire to know something like what the views of the committee were in this respect, and, moreover, that some idea as to the amount available must be given to artists before designs could be obtained.

The Monument Committee will now doubtless meet immediately and determine the mode to be adopted to obtain a worthy design for the desired monument. The want of certainty as to the provision of funds will be a hinderance.

Amongst the suggestions as to site, Mr. Leighton names Primrose Hill, with a new avenue across the Regent's Park, connecting Portland-place with the Finchley-road, and passing the proposed site.

This is too far away for us. We want the memorial to be where every one visiting London must see it without going out to look for it, and that it should aid in the adornment of a frequented part of the metropolis.

The site we suggested, part of the Green Park opening on to Piccadilly, has pleased many persons. Such a memorial erected there as would, in the words of the special committee's report,—"afford scope for the illustration of Shakspeare's works by architects, painters, and sculptors," would add a feature to the metropolis in which the whole kingdom would have an interest, and might be made to show the world the estimation in which we hold our Shakspeare.

Since this was written, we have observed, with equal regret and surprise, that the mover and seconder of the amendment, Mr. Tom Taylor and Mr. Shirley Brooks, with seven of their supporters, have withdrawn from the committee, and published a letter, giving, as the chief reason for doing so, the resolution come to to mention to the public the amount thought to be desirable. In the case of the mover, Mr. Tom Taylor, it must be viewed as the only reason, as

e had but just then joined the committee. We old the gentlemen who have withdrawn in great steem personally, but we must be permitted to ay, the course they have taken is not one we hould have expected from them. We are not ound to defend the executive committee: a reat deal of time has been wasted, and some ant of wisdom shown. Had the gentlemen in uestion withdrawn from active co-operation on hose grounds, little wonder might have been xpressed; but that they should only just now ave come into work, condoning, as it were, any revious objections, and then immediately with-raw because they were in a minority on a ivision,—because a large majority of the general ommittee (not the *executive* committee) differed rom them on a mere question of judgment, hould a sum be named or not?—is, as we have lready said, not what might have been ex-ected from them. They would surely have one better for the cause they doubtless have at eart, if they had remained to assist in giving a ight direction to the movement. There is no uestion whatever, that delay has placed great ifficulties in the way of the committee; but hese difficulties may yet be surmounted, if all who really desire to see the 300th birthday of ur great poet properly celebrated in the metro-olis, and a worthy artistic memorial there nitiated, will give frank and loyal aid to the ork.

At Stratford, the arrangements for a glorious elebration are making very satisfactory pro-ress, and there, too, it is proposed to raise a onument. This is regrettable, as it will tend o lessen the amount obtainable for the National Memorial. More than 3,000*l.* have been already ubscribed, we are told: and the Rev. J. M. Bellew, who is working on both committees, has ssued a programme for Stratford that will doubtless take many there for a gay week. The emporary theatre, 100 feet across, is nearly eady for the roof. It is proposed to decorate it n the style of Shakspeare's period.

THE CAREER OF PAINTING AND SCULPTURE.

LIVERPOOL ARCHITECTURAL SOCIETY.

At a meeting of this society, on the 13th inst., Mr. Huggins read "A Review of the Career of Painting and Sculpture in all Ages: tracing the birth, affiliation, and mutual influences of their consecutive and contemporaneous schools, and their historical relations to the styles of architecture." It was to have been illustrated by a coloured chart, designed as a complement to his Chart of Architecture," but circumstances had caused the postponement of its exhibition to the meeting for a short time. After replying to a criticism of his previous work, he proceeded to the subject of painting among the Egyptians, which was less scientific, and in many important respects inferior to sculpture. In fact, the art of painting, properly so called, did not exist among the Egyptians, and little more could be said in reference to the arts of the Assyrians and Babylonians. After tracing the art of the Etruscans, he proceeded to that of the Greeks, which he believed did not arise till after the first settlement of Greek colonies in Asia Minor. He traced the various improvements introduced into painting by the succession of great masters from Polygnotus downwards, through the several periods of the Greek schools, to the time of Apelles, the most celebrated and excellent painter of antiquity. He traced the art among the Romans, where, he remarked, it found a very different soil from that in which it had flourished in Greece; and from the Roman he went on to the early Christian style, which, he said, was but ancient art re-animated by the new spirit which the new religion supplied, and which had received its birth and spent its earliest infancy in the catacombs of Rome, where the first Christian artists had given utterance at once to their artistic and religious feelings on the walls of their subterranean chapels and tombs. Out of the early Christian style rose the Byzantine and Longobardian, the decaying forms of which he traced through the Middle Ages, till their amalgamation in the twelfth and thirteenth centuries gave rise to the great schools of Italy. It had been often supposed, that during the dark ages all art, with all literature, was lost sight of amid the desolation and confusion that everywhere prevailed. But this was not the case. There was throughout the darkest of the dark ages a faint twilight. Some few sparks of that art of Christianity which had been born and nurtured in the catacombs, monks and bishops preserved and kept alive till they were ultimately rekindled in the thirteenth century into the living flame, which though ages ago culminating, still burnt brightly at the present hour. Mr. Huggins described the rise of the various Italian schools, beginning with the schools of Sienna, Pisa, and Florence, which latter was considered the mother of all the rest. No school was so rich in great masters of design as the Florentine, and in the history of this school alone would be included an account of almost every step of invention and improvement that had taken place in modern art. From the Florentine he went to the Umbrian, which gave birth to the Roman, of which Raffaelle was the head and greatest ornament. The Florentine and Roman schools were rather consecutive than contemporary and rival schools. The Florentine school, which was the general mother of all the rest of the schools of modern Europe, was more especially the mother of the Roman, for she jointly contributed, along with the Umbrian, to the formation of Raffaelle, the founder of the Roman school. All her great masters of design, Giotto, Masaccio, Da Vinci, Bartolomeo, Michelangelo, contributed to the education of that prince of painters, and when this was accomplished her occupation seemed well-nigh gone; for, excepting those formed in the school of the Caracci at Bologna, all the great painters in design and expression after the time of Raffaelle were of the Roman school. He traced the development of the various other schools of Italy and Western Europe—Venetian, Bolognese, Paduan, Parmese, Neapolitan, German, Flemish, Dutch, Spanish, Eclectic, Naturalistic, French, and finally the English, which was the last school founded in Europe. Though the stream of Italian and European art had thus been traced from the art of the ancients, yet painting and sculpture had undergone in their course an entire change, both in their form and spirit; and the chief regenerating influence upon them had been the new religion of Christianity, which was of another nature and spirit from its fallen rival.

CALAHORRA, SPAIN.

CALAHORRA is a quiet little city of Old Castile, situate on a rocky eminence by the side of a confluent of the Ebro,—dried up when I saw it, its course being marked by a bed of sand. Calahorra is an old Roman city, its ancient name being *Calagurris*, and there still exist the ruins of an aqueduct at some distance from the town, and a promenade has been laid out on what was I believe the hippodrome. In the "plaza" (French, *place*) of the town there is a rude painting of a woman on a pillar, holding a sword in one hand, and an arm, meant to be bloody, in the other; these form the city arms, having been adopted in consequence of the Iberian mothers, during the seige by the Romans, having eaten their own children rather than submit. The small cathedral has several points of interest. There is no tower worth speaking of, the "cimborio" at the intersection being low, though not ungraceful. The north transept door is finely sculptured in the Plateresque style of the fifteenth century, but the arches and pillars with which it is adorned are stuck about as if in defiance of architectural propriety. The nave is Gothic, the groining tolerably good, but the transepts and choir are in a very late and debased Renaissance. The chapels are, as usual, of various dates; one of them contains a magnificent marble "retablo" of the best Plateresque period, sculptured with most delicate cinquecento arabesques, and adorned with several well-carved figures, somewhat disfigured, however, by gilt frippery of a later date. Another has a very ancient picture of the patron saints of Calahorra, San Emeterio and San Celedonio, whose history is depicted more at length in a third. It is said that the heads of these saints, being thrown into the Ebro, made the tour of Spain, and came ashore at Santander, while their bodies stayed peaceably at Calahorra till the Moors took it, when they walked themselves off to the mountains, whence they were brought back in the fourteenth century. The stalls are good, but plain; the "trascoro" or screen surrounding it, a mass of niches, columns, statues, &c., completely covered with gilding, quite disfigures the nave.

In the sacristy I quite unexpectedly found some very good pictures. I had expected to find but one—a "Saint Margaret," of Titian's—but found also a copy of Rubens's "Brazen Serpent," the original of which is at Madrid (whether the copy is by himself or not I cannot tell); an "Agony in the Garden," very old, the face of our Saviour most beautiful in its expression; a "Saint Thomas putting his Finger into the Side of Our Lord;" a "Mater Dolorosa;" and a "Christ on the Cross," all of them pictures of considerable merit. There are also two half-length saints, very good; a large canvas of "The Decapitation of the Patron Saints of Calahorra;" a "Judith with the Head of Holofernes," also very good; and a "San Sebastian," the worst thing about which is the head of the saint. There is also a series of large canvases of considerable merit, representing "The Judgment of Solomon," "The Head of Naboth brought to Jezebel" (this is the only painting of the subject I have ever seen), an Annunciation, Visitation, Adoration of the Angels and of the Shepherds, &c.; and another series of small paintings on copper, representing scenes in the Passion of Jesus Christ, which last appear to be of the school of Bayeu, who, except Goya, was the last painter of any merit Spain can boast. The "Saint Margaret" is very fine; the people at Calahorra insist that it is the original of that at Madrid.

It is always very difficult to arrive at the names of the artists who painted the numerous pictures in the Spanish churches: with the exception of perhaps a Titian, Rubens, or Murillo, no one on the spot seems to know anything about them. As Calahorra is not much visited, the priests seemed quite pleased at my intrusion into the sacristy, and asking me if I were a connoisseur, "*Es Usted un intelligente*," began to point out what they considered the wonders of the place. The houses here are very substantially built, being of stone, inclosed, as it were, in a frame of brick bands and piers, forming a substantial whole, very different from the houses of Bilbao or Madrid, where, however paradoxical it may appear, the roofs are put on before the walls are built; for the ground-floor being first built of stone, an erection of wooden posts, with brackets supporting beams, which in their turn sustain the joists, is carried up to a height of four or five stories; then the tiles are placed on the roof; and lastly, the spaces between the wooden posts are filled up with brickwork, leaving apertures for windows and doors. This latter mode of building has long been the fashion in certain parts of Spain, as I find it alluded to as if in general use in one of the comedies of Alarcon, who wrote, I believe, in the early part of the seventeenth century. The bricks made about Calahorra, and, indeed, throughout the whole of that part of Castile which lies along the Ebro, and is called La Rioja, and throughout Arragon, are very good: their colour is almost that of yellow ochre, considerably darker than our white, or, rather, yellow bricks. The form of the Spanish brick approaches that of the Roman, being about 11 inches by 6 inches, and 1½ inch thick. English bricks are, however, coming into use, at least in the Basque Provinces.

W. N. L.

MR. VIGNOLES'S ADDRESS ON CIVIL ENGINEERING.

DUBLIN INSTITUTION OF CIVIL ENGINEERS.

On the 13th inst., an ordinary meeting of this society was held in the Museum Buildings, Trinity College, when Mr. Vignoles, F.R.S., the president, delivered the opening address.

In the course of it, Mr. Vignoles said it gave him much pleasure to learn that the institution had now been established on a principle which enabled them to include the members of cognate professions, viz., architects and manufacturers connected, directly or indirectly, with engineering. At an early period of the history of engineering, architects and engineers were interchangeable terms: and, even in his own recollection, there were often struggles between architects and engineers as to who are to be the proper builders of bridges. In the late competition for bridges in London, some of the finest designs, as far as the eye was concerned, were produced by architects; but, at the present day, usefulness was so much more prized than ornament, that the architects did not occupy so high an engineering place as formerly. At the same time, he might mention that one of the finest bridges in Dublin was built by an architect, and that under circumstances of no small difficulty. Those who knew the history of Essex bridge would remember that the architect of it introduced the coffer dam for the first time in the United Kingdom, that method having been invented by the celebrated French engineer,

Labeyle. Mr. Vignoles then suggested that the young engineers should take every opportunity of bringing a record of their own works before the institution, and of describing the details of important undertakings with which they might be connected. In doing so they should not indulge in fine writing, but state the facts clearly, concisely, and graphically, leaving them as a text on which useful discussions would arise. Having offered some further advice to the younger members of the profession on this subject, the president referred to the improvements which had taken place in Ireland during the last twenty or thirty years. The Lord-Lieutenant, in the course of a conversation which he had with him recently, stated that he considered it a matter of great importance that people in Ireland should turn their attention to something more than agricultural pursuits, and that he considered engineering in all its branches was one of the best guides to be adopted by those who desired to aid in the improvement of Ireland. The improvement which had already taken place was enormous, and had progressed not merely *pari passu* with that of other countries, but in a much greater degree. He thought he could trace in the whole history of Ireland, during the last fifty years, the influence of engineering in its development and progress. The Under-Secretary, General Larcom, himself a distinguished engineer, confirmed the remark of his Excellency in a conversation which he (Mr. Vignoles) subsequently had with him. In fact, as the Lord-Lieutenant said, engineering and farming must go hand-in-hand. Two centuries ago, in France, the illustrious Richelieu considered it necessary that a special school for engineering should be established, with a view to the internal improvement of the country, and he accordingly founded a school, from which many learned and distinguished men had proceeded. As a general rule, French engineers were too theoretical, and were deficient in practical knowledge. The engineer of a great work in France scarcely ever went out of his cabinet. He received a report from an engineer next to him; that engineer received a report from another. This system was carried still further down, until the whole of the practical part of it seemed to emanate from the man called the conductor of works,—a person who, in rank, would correspond with a sergeant in the army, or a foreman; but these were, in fact, the most practical men in the country. The same system was pursued in Germany, Austria, Russia, and Spain. He held, that the essence of the business of a chief engineer was, that he should not only be able to design a work, but to judge of the construction in every detail. He hoped the engineers of this country would never abandon their own system for the Continental one, and that all his hearers would ever bear in mind that engineering, as applied practically, must be learned on the ground and in the workshop. Mr. Vignoles then referred to the progress of engineering in Ireland. From the peculiar circumstances of the country forty years ago, the Board of Works had necessarily to take a great lead and to make a great number of appointments. This was distasteful to the public, and it was probably in a great measure owing to that feeling that the lines of railway laid out by Government had not been those followed by private individuals. In France a different system prevailed, the lines being not only constructed on the plans laid down by Government, but mainly by their assistance. On the whole, however, the French lines, though they were more equally distributed through the country, did not, taking account of the Government contributions, pay as well as the English railways, which were constructed solely by private enterprise. He particularly wished to impress upon all young engineers, the axiom that, in Great Britain, the success of an engineer was merely dependant on the success of his work as a commercial speculation. It was in vain for a man to say that he had constructed a great work, like a tunnel, a viaduct, or a great ship surpassing anything seen before. He might gain fame, but if his works did not pay, he would not advance in the way in which engineers expected to advance in this country. The progress of engineering in Ireland had been greater than in any country he knew of, in proportion to its extent and capital. Every time he came back to Ireland, at distant intervals, he was astonished at the improvements which he saw in every part of the country, and all of which he could trace to some part of engineering. The president then referred to the great improvements in lighthouses which had been suggested and carried out by Mr. Stoney and Mr. Cotton; to the admirable keel-buoys invented by Mr. Stoney, which had excited so much interest in London; and to the successful manner in which that gentleman had constructed concrete walls, by using a cement capable of resisting sea-water. He referred to Mr. Brett's successful contest at Arklow with the sands that threatened to close up the harbour, contrasting it with the failure of similar operations at Bayonne; and having paid a graceful tribute to the abilities and character of the late Mr. Barry Gibbons, he spoke in terms of admiration of the process by which Mr. Hudson had succeeded in consolidating and compressing peat for fuel. The drain on our coal-fields was now so great that he thought not more than a generation would pass before coal would be sold at the pit's mouth many shillings per ton dearer than at present; and if Mr. Hudson could now sell compressed peat at 8s. 6d. per ton, and make a handsome profit, what might not be realized from that source when coal became scarcer and dearer? We had in Ireland two million acres and a half of bog, covering one-fourth of the area of Ireland, available for fuel. Mr. Vignoles again eulogized the engineering school of Trinity College, and stated that he had twenty Irish engineers working as his assistants in Spain, many of whom had been educated in that college, and all of whom acquitted themselves satisfactorily. In Russia, Austria, Canada, and South America, he had heard most gratifying accounts of rising young engineers who had taken out their diplomas in that engineering school. He might mention, as successful Irish engineers, Mr. Hamilton Kenealy, who was largely employed by Government in the construction of public works in Canada; and a relative of his own, Mr. Sheilds, who is one of the best authorities on ironwork in London, and is constantly consulted on that subject. All the details of the iron framework for the great monument which is to be erected from the designs of Mr. G. G. Scott to the memory of the late Prince Consort, have been calculated and arranged by Mr. Sheilds.

ROMAN REMAINS IN CHESTER.

ON Thursday evening, the 14th, at the Society of Antiquaries, a paper on the above subject, by Mr. Tite, M.P., was read by the secretary. It appeared that in the autumn of last year, Mr. Tite was passing through Chester, when his attention was attracted to a photograph in a shop window of some apparent Roman remains, which led him to make further inquiries, when he found they were discovered in digging the foundations for rebuilding the old inn in Bridge-street, Chester, called the Feathers—a building supposed to be as old as the time of Edward III. On further examining these excavations, Mr. Tite found the distinct remains of a small temple or shrine. This temple originally consisted of twenty-four Corinthian columns, four at each end, and eight on each side. Of these ten remained in their places—that is, there were ten bases and considerable portions of the shafts. The account of the discovery appears to be the following:—In the month of June last, in digging the foundations, the workmen came upon two distinct portions of ancient buildings. On the eastern side was a space of about 23 feet square, which was supposed to be the hypocaust of a bath, from the presence of between sixty and seventy stone pillars, 32 inches high, with capitals 12 inches in size, somewhat similar to those discovered in the buried city of Wroxeter. The absence, however, of any flue tiles, led Mr. Tite to infer that these pillars were merely intended to protect from damp the superincumbent tesselated pavements. About a fortnight after the discovery of this so-called hypocaust, there was found to the north of it the base of a Roman column, 27½ inches in diameter across the top, and 4 feet 8 inches high, resting on a square block of red sandstone, standing on the maiden rock. At the distance of 11 feet 9 inches the base of a second column of similar mouldings and proportions was met with, and subsequently a third and a fourth, between the last of which are the remains of a Roman wall, 14 feet deep, cut in the solid rock. In the front of these bases, and at a distance of 39½ feet, have been discovered the bases of six columns, forming part of the other side of the temple. This was the state of things when these remains were fortunately seen by Mr. Tite. He perceived that the ruins were of the same date and character as those discovered at Bath in 1780, and which are extremely well exhibited in the works of Lysons and Carter, and also preserved with great care in the Museum of that city. Mr. Tite caused a careful plan to be taken of all the remains, in which he was much assisted by Mr. Hodgkinson. In the paper read, he stated that though in Britain, Roman walls, pavements, arches, &c., were constantly found, yet he had never before seen the remains of any columnar architecture. Even London had never produced any traces of such decorations. A restoration of the whole building, with its baths, palæstra, gardens, &c., a restoration of the temple or shrine, which must have been 110 feet long by 39 feet 6 inches in width, and a comparison of the Corinthian order at Chester and its ornaments as compared with those found at Bath, were exhibited.

INDUSTRIAL ART IN FRANCE AND ENGLAND.

A TRANSLATION of some portions of an article in the *Revue des Deux Mondes*, by M. A. de Beaumont, is given in the *Journal of the Society of Arts*. We take a paragraph or two:—"Some years ago the superiority of France in industrial art was scarcely a subject of doubt. In this domain, where clever workmanship can only exist corrected and disciplined by a taste for the beautiful, we did not know of any rivals. Even at the Exhibition of 1855 we retained the preference for ingenious inventions and productions of an elegant kind. And yet, in 1862, a remarkable event took place. French industrial art found at the Universal Exhibition of London a rival, an unexpected competitor, nearly a conqueror, in British industrial art.

How explain this sudden triumph of our neighbours? By what secret had they in five years acquired those rare qualities of which we were so justly proud? Such is the question which those who take an interest in a closer alliance between art and industry in France did not venture to put to themselves a year ago without reasonable anxiety. At the present time this question is renewed, and it would seem that at the Exhibition which has been some time opened at the Champs Elysées, French industrial art itself wished, in presence of its new rival, to examine itself as to its real strength, submit to the judgment of the public its newest productions, ascertain what progress had been made in the last few years, and ask itself what remains to be accomplished. This attention to progress in the several branches of art in which we have hitherto been considered superior, is certainly not to be denied. It testifies to a real feeling of the requirements of our period. We live in an age where positions are easily changed, and where it is necessary (and it is the same with mankind as it is with individuals) in order to secure the position already required, to increase our efforts to keep ourselves always in the right direction. Is it sufficient to know our position, to number with pride the riches we possess, to acknowledge with regret the riches we have lost? Certainly not, and France, one must own, deceives herself rather too much about exhibitions. Exhibitions repeated at short intervals cannot have any very sensible influence on art. Our neighbours proceed with less show but more logic, and here we are recalled to the question which evoked the Exhibition of 1862. That exhibition at least taught us one important fact, which is, that in barely ten years England had nearly surpassed us in applications of art to industry; but the explanation of this great advantage for England is in the part she has taken, not at the exhibitions, but in the study of art itself. These years have not been passed in admiring her own productions,—they have been passed in instructing, in strengthening herself by the study of good examples; in a word, by her developing at home instruction in industrial art in the most liberal manner.

After the great international gathering inaugurated by the Exhibition of 1851, England felt her inferiority in that sphere of industry which specially applies to art. A noble spirit, whose memory is justly revered, Prince Albert, pointed out the causes of that inferiority, and took the initiative of those improvements which in ten years have nearly changed the aspect of affairs. England possesses at the present moment 800 or 900 societies, whose mission it is to propagate a feeling for art and taste. These societies number 200,000 members, which in their turn encourage 100 schools of art, and nearly 300 private industrial schools. Museums of all kinds have been created for each industry, with public instruction and special lectures for the different

kinds of manufacture. To this development has been added the purchase of books, drawings, and engravings, which may serve as models and examples. This vast system carries with it a considerable amount of funds, and a body of intelligent men devoted to art and attached firmly to these institutions by a proper remuneration. We saw in 1862, in London, several specimens of the works of these new industrial schools of art, and we must acknowledge that if the students are not so clever as those of our schools, they arrive, thanks to the happy choice of models, at an incontestable superiority. Regarding the excellent movement of Schools of Industrial Art which England presents to us, where is France at the present time? The Exhibition of 1862 showed this to us, for there was the happy idea, which deserves to be encouraged, of bringing the schools of the whole country into that industrial competition. It is, therefore, necessary that France should know how to recognise that which England acknowledged to herself ten years ago, that her instruction in industrial art requires a complete reformation. The study of nature and the old masters, the only fruitful study which manifests itself in England in such important results, is scarcely found, except very feebly, in the drawings exhibited by the students in the Champs Elysées. The greater part of the drawings exhibited betray a bad method applied to the education of our young industrial artists, who are generally kept in a closed room facing a cast without interest, or before those tortured lithographs the laborious execution of which a child is kept for months studiously endeavouring to imitate. How much time is lost in producing these symmetrical hatchings, which make the pupil forget the object of the design, and even the subject which is being copied. If the students were only surrounded by the elegant and precious objects which ornament the palaces, perhaps their imaginations, awakened by the comparison of the beautiful, would not depart from the laws of taste; but this cold atmosphere of the school or class-room is not calculated to give to youth that pure and elevated taste which the grandeur of divine works of art alone can inspire."

NOTTINGHAM ARCHITECTURAL ASSOCIATION.

A CONVERSAZIONE was held at the residence of the president, Mr. T. C. Hine, on the evening of Wednesday, the 6th inst., and was attended by the mayor and ex-mayor of Nottingham, and other gentlemen interested in science and art, the special objects of the meeting being to hear a short paper from the president upon the architecture of Italy, which had been prepared by him from notes made during a recent tour. In order to illustrate the subject and bring it more distinctly before the mind of the hearers, a number of large photographs were hung about the room, together with sketches. The lecturer described in graphic language his own and fellow traveller's feelings as they passed that dreary "Campagna," with hillocks of mouldering earth heaving around them, as if the dead beneath were struggling in their sleep, which form the long and dreary dead sea of land around the "Eternal City." By-and-by a dull purple haze stretches level along the desert, veiling its spectral wreck of massy ruins, in whose rents the red light rests like dying fire on defiled altars; and as unutterable feelings came bubbling up at this first glimpse of the glories of bygone majesty, the travellers wondered that their charioteer showed not one spark of enthusiasm, but drove on his jaded cattle with his "whirr and whoop," as if no greatness had ever been, or no grandeur slept around; and what appeared still more shocking, upon entering the city they found long lines of streets, with gas burning in lamps, supported by lamp-posts, just such as they had left in Nottingham, and with shops, where hats, coats, shoes, and all other English wants could be supplied in English language; and at their hotel they found beefsteaks, coffee, tea, with Burton ale, and London and Dublin stout, served by waiters in slightly broken English words. This, however, was modern Rome shown by gas-light; but when the great light dispelled the mist of the coming morn from the top of the Apennine hills, then the "Eternal City" blazed forth in its awful majesty, and broken column and triumphal arch told them they were now in the city of the giants of the past. A photograph, some 6 feet long by 2 feet wide, of the forum between the Palatine and Capitoline hills, and lying in the small space called the Campo Vaccino, with the Forum of Trajan, the palace of the Cæsars, the temple of Esculapius, mixed up with convents and churches, enabled the hearers to follow the reader closely, as he led them amidst the greatness of the past to some of the present wonders. The Vatican, 1,151 feet long and 767 feet wide, with its eight grand staircases, 200 smaller staircases, 20 courts, and 4,422 apartments, and filled with the choicest antiquities, and the priceless works of ancient and modern times; and the basilica of St. Peter, 607 feet long in its central body, and 445 feet wide in the transepts, and 458 feet high, from the pavement to the cross surmounting the dome.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

THE report read at the annual general meeting of the Institute, and since printed, gives the following abstract of the treasurer's accounts with the Architectural Institute of Scotland, for the year ending 31st of October, 1863:—

Charge.

Balance in treasurer's hands at close of last account		£1	12 4
Balance in account with British Linen Company's Bank at ditto		111	13 1
Arrears at 31st October, 1862		30	9 0
Annual subscriptions for 1862—63		126	0 0
Interest on account with British Linen Company to 15th April last		2	19 9
Special fund for endowing a chair of architecture, consigned in British Linen Company's Bank on deposit receipt, dated 31st October, 1862	£19 6 5		
Interest thereon for year	0 8 3		
		19	14 8
Balance due to Treasurer on 31st October, 1863		17	1 1
		£309	10 2

Discharge.

Rent, taxes, &c., paid for rooms		£17	12 0
Accounts paid for printing		23	18 6
Expenses of lithographs, medals, and drawings purchased:—			
Lithographs	£43 8 0		
Medals	6 0 0		
Drawings purchased	7 10 0		
		56	18 0
Miscellaneous general expenses:—			
Expenses connected with meetings, fitting up rooms, &c.	£18 3 4		
Treasurer for collectors and outlays	11 0 6		
Secretary's outlays for postages, &c.	3 17 6		
		33	1 1
Arrears outstanding at 31st October, 1863		48	6 0
Amount in deposit receipt of British Linen Company, on account of fund for endowing a chair of architecture		19	14 8
Balance in British Linen Company's Bank at 31st October, 1863		109	19 8
		£309	10 2

NORTHERN ARCHITECTURAL ASSOCIATION.

LAST week the annual meeting of this association was held in Newcastle, Mr. Pritchett, V.P., in the chair. Mr. Austin read a report from the committee, from which we learn that two members and two associates have been added to the association during the past year, and two members and associates have sent in their resignations, owing to their leaving the district. The treasurer's report shows a balance in hand of 5*l.* 9s. 1d., which would have been 12*l.* 15s. but for the amount of subscriptions in arrear.

The Chairman then read an address touching on various current topics. He congratulated the association on having brought together with good feelings all the architects of the district. In the course of his observations the reader said:—

"The embankment of the Thames, though not strictly an architectural work, will have really a greater influence on architecture in the metropolis than any event likely to happen in the present century. Land is acquiring such a fabulous value in the metropolis that Government may well pause before they open any new great streets to relieve the stupendous traffic from east to west. But here we have a scheme by which a most magnificent thoroughfare is gained from a useless, unsightly foreshore: and, when both sides of the river are completed, the sail from London Bridge to Westminster Bridge will be one of the finest architectural spectacles in existence. Another project, in fair prospect of accomplishment, is a viaduct across the valley of the Fleet at Holborn-hill. This is capable of great architectural display, and, if well managed, will form a striking object. I now come to a class of structures that are rapidly rising in the metropolis, and threaten even some of our northern towns, which are equally a disgrace to those who perpetrate and those who quietly permit them—I mean the railway-bridges crossing the principal streets at low levels. Of these, the most disgraceful is the one sanctioned across Ludgate-hill, spoiling what is now the best view of the finest work of the cleverest architect of modern times. Well may we ask, what was Parliament about to allow such a scheme to be smuggled through, so that no one knew what they were about till it was too late? In vain may they make it 'an ornamental bridge:' no beauty in the obstructive can compensate for the beauty obstructed; and one of the finest views in London, the drive up Ludgate-hill, is ruined for ever, and that for a mere money-making scheme. Not so important in their results, but far more hideous in themselves, are the enormous pontoons that are being hoisted across some important streets for similar purposes. Very thankful am I to see that the Institute have taken the question up, and are going to memorialize Government to appoint a commission to lay down a comprehensive scheme for metropolitan intercommunication. It is a question we are all interested in, as we all go more or less up to town. So as soon as presented, I shall, as secretary of the Alliance, endeavour to get all the allied societies to support the memorial; believing that if the same plan had been adopted thirty years ago for the country at large, our railway system would have been far more perfect and enormously more economical than it is."

THE WORCESTER SCHOOL OF ART.

THE general meeting of the friends and supporters of this school has been held in the Guildhall, Worcester, the Earl of Dudley, in the chair. One of the honorary secretaries read the report, which stated that the progress during the past year had been satisfactory. The Government inspector, Mr. Wylde, had awarded 22 bronze medals several of them being for works in the highest class of study. At the personal examination in the second grade he passed 29 papers, and awarded 8 second-grade prizes, 20 first-grade prizes, and certificates, and his report was very favourable. At the national competition one Department prize of 10*l.* and one medallion were received by the school. The drawing classes, attended by the masters of the School of Art, at national and other schools in Worcester, had continued in satisfactory operation.

The statistics of the Worcester school and its branches, exclusive of Bromsgrove, for the year 1863, might be summed up as follows:—Total number of persons taught, either in the school or by its agency, 1,142, being an increase of five over the previous year, which included Bromsgrove; but without Bromsgrove the increase would be 223. The state of the finances was more prosperous than heretofore, there being a balance of 36*l.* 5s. 10d. in favour of the school.

The Mayor, in moving the adoption of the report, observed that it was the first time for many years that the financial balance had been on the right side.

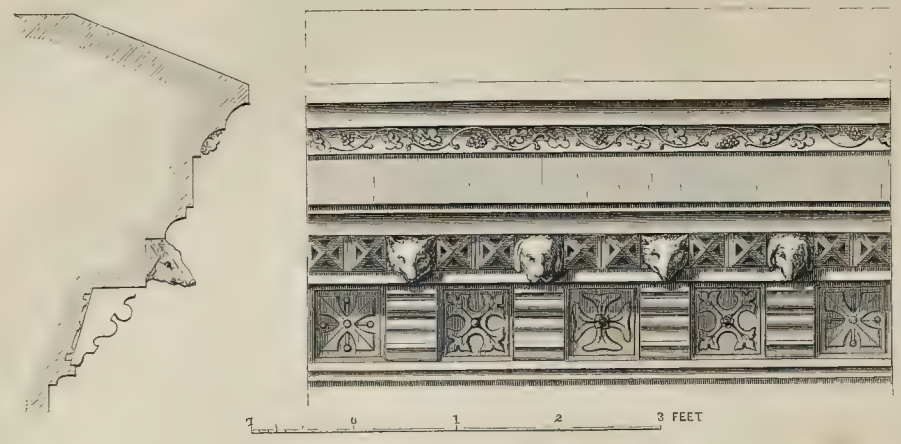
RAILWAY MATTERS.

THE traffic receipts of the railways in the United Kingdom for the week ending January 16th, 1864, upon a mileage of 10,882, amounted to 515,503*l.*, being equal to 47*l.* 7s. 6d. per mile. For the corresponding week of last year the receipts were 474,777*l.*; the number of miles open, 10,494, or 45*l.* 5s. per mile. A comparison of the two weeks shows an increase in the aggregate receipts of 94,726*l.*, and of miles open, 388, at the rate of 105*l.* per mile. On the lines having termini in the metropolis the increase has been: On the Great Eastern, 496*l.*; Great Northern, 4,049*l.*; Great Western, 3,626*l.*; London, Chatham, and Dover, 1,242*l.*; London and North-Western, 7,180*l.*; London and South-Western, 991*l.*; Midland, 2,296*l.*; North London, 223*l.* There is a decrease upon Blackwall of 29*l.*, and on Brighton of 873*l.* In the principal lines in England and Wales there has been an increase on the Lancashire and Yorkshire of 4,043*l.*; Manchester, Sheffield, and Lincolnshire, 886*l.*; North-Eastern, 3,457*l.* A decrease on North Stafford of 1,104*l.* In the Scotch lines, the Caledonian shows an increase of 2,045*l.*; the North British, 848*l.*; the Scottish North-Eastern, 286*l.* And in Ireland, the principal increase has been upon Dublin, Wicklow, and Wexford, 670*l.*

On comparing the traffic receipts of railways in the United Kingdom, published weekly for the year 1863, amounting to 29,953,960*l.*, with those for the year 1857, amounting to 23,729,665*l.*, an increase is shown of 6,224,295*l.*, being at the average rate of 1,037,738*l.* per annum, but the increase in each year differed greatly from the average.

A public meeting of the owners and occupiers of property in the ward of Billingsgate has been held in Botolph-lane, to consider the several metropolitan railway schemes to be submitted to Parliament next session. Mr. Alderman Sidney, M.P., occupied the chair. It was determined that a petition to the House of Commons should be drawn up to restrict the sweeping away of property and trade in the City by new lines of railways, and a hope was expressed that a similar opposition would be shown in other quarters of the metropolis.

It has been proposed, says a *Wexford* paper, to present a Bill to Parliament next year for the



NEW BUILDINGS, EASTCHEAP.—*Cornice in Terra Cotta.*

formation of a railway from Gorey, in Ireland, to Courtown, and of a new pier at Courtown Harbour. The route of the proposed line of railway has been examined and pronounced favourable by Mr. H. P. Ribton, C.E., accompanied by Mr. P. J. Moran, C.E., lately connected with the Dublin, Wicklow, and Wexford line.

NEW BUILDINGS, EASTCHEAP, LONDON.

TERRA COTTA.

THE engraving in our present number exhibits the premises lately erected at the corner of Philpot-lane, occupying the site of Nos. 38 and 39, Eastcheap, for Messrs. Hunt & Crombie. They are six stories in height, including the basement, and will be used by that firm as show-rooms for colonial produce, and as offices on the ground and first stories; the remainder being devoted entirely to warehouse purposes.

The façade on the two lower stories is executed in Box ground stone; the upper stories are built of white bricks, relieved with bands of red and black brickwork, with stringcourses of stone. The fronts are divided into double and triple windows above the ground story; the openings are semi-circular, with gauged arches of red, yellow, and black bricks, with keys and voussoirs of white bricks, and stone label mouldings banding the arches. Each window is divided with detached columns of terra-cotta, having enriched capitals and bases, graceful in design and with a diversity of colour. The building is canted at the corner, and a single window with columns is there introduced on each story.

The large cornice at the top of the building is composed entirely of terra-cotta, and is nearly 4 feet in depth, having corbels, enriched pateræ, and animal heads introduced. This we illustrate more at large. The medallions in the spandrels on the several stories are also of the same material, effectively produced. Those at the corner represent the crests of the architects, and of the chairman of the trustees of the Whitechapel Charity Estates, to whom the freehold belongs. The stone capitals on the ground story, and the entrance-door and spandrels, are enriched with carving and emblematical foliage, and additional richness has been imparted to the central entrance by the introduction of the monograms of the firm, with crested shields.

Internally the construction and arrangement appear to be satisfactory. The staircases, which are of pitch-pine, present several novel features, having enclosures in lieu of balusters, perforated and cut in circles and patterns, with chamfered newels, moulded balls and pendants. The floors are carried on cast-iron girders and columns, and the sashes and doors of the ground-story are of polished wainscot, the former being filled in with circular moulded tracery springing from columns and enriched capitals. Lavatories and water-closets are provided, fitted up with Jennings's patent fittings. The roof is covered with a flat of Vieille Montagne zinc, and is approached by a staircase. The ceiling of the ground story is divided into compartments, by moulded ribs of pine, filled in with plastering.

The design may be considered as an advance in London street architecture for commercial purposes. The architects are Messrs. John Young & Son, of King-street, Cheapside; the builders are Messrs. Piper & Wheeler.

The terra-cotta work has been successfully executed by Mr. Blanchard, of Blackfriars-road; and Messrs. Nettle & Sansom, of Westminster-road, were the architectural sculptors. The total cost will be above 3,500*l*.

ACCIDENT ON THE MIDLAND RAILWAY WORKS.

FOUR arches fell, at Agar Town, on Wednesday morning last, and killed several horses. That portion of the works where this catastrophe took place is abutting on the excavations which are being made for a coffer dam and docks, to be constructed under stores which are to be erected for Messrs. Allsopp & Co. and Messrs. Bass & Co. This excavation is situate between the western side of the Regent's Canal and the King's-road, Camden Town. On the south-western side of the excavation there was, up to yesterday morning, existing a series of exceedingly large arches, forming the viaduct by which means the old road from the King's-road to the upper part of Agar Town was carried up to the level of the iron bridge over the canal, constructed some ten or twelve years since by the Ecclesiastical Commissioners on coming into possession of that portion of the Agar estate. The building contractors were Messrs. Smith & Co., of Leicester, who had sub-let their contract for pulling down these arches to Mr. Lawrence, a builder, of Hackney. Cracks have been observed in the arches for some time, but it is stated not to such an extent as to cause danger to be apprehended.

THE WATT AND WEDGWOOD PHOTOGRAPHS.

THIS interesting subject has been discussed by the Photographic Society of London, but not very favourably to the idea of either Watt or Wedgwood having been a photographer. The photograph found by Miss Meteyard amongst Josiah Wedgwood's papers has, strangely enough, been confronted with one "from the same negative" which was exhibited by Mr. Malone as having been "taken by Mr. Fox Talbot about the year 1843;" and it could not have been among the earliest of Mr. Fox Talbot's photographs, for he himself showed the writer of this one at Glasgow at an earlier date than 1843. How the photograph in question came to be amongst the Wedgwood papers has not yet been ascertained; but it seems that these papers have *not* been locked up for fifty years: so Mr. Boulton says. As to the large "photographs," though peculiar, they are regarded as specimens of printing in colours. One of the silvered copper-plates has been pronounced by Messrs. Hughes & Kimber, the copper-plate manufacturers, to be only about twenty-four years old. It is a curious fact, however, that it has been ascertained that a person named Daguerre was Wedgwood's agent for the sale of his pottery in Paris. It seems to be believed that the Lunar Society, of which Watt was a member, were engaged in photographic experiments, so that there is still some mystery in the whole affair.

THE STEPHENSON STATUE AT EUSTON SQUARE.

A VAST sum has been expended on the railway station at Euston-square. The interior, however, is not very satisfactory. This was the first London railway terminus, and a fitting style of architecture for this especial purpose had not been established. The waiting-hall is of fine proportions, and in parts excessively decorated; but this decoration is not over well applied; for, while the roof and cornices are lavishly ornamented, below, huge bare spaces are left, lacking harmony with the other. Any objects, such as pictures of those connected with the progress of road-making, canals, and railways, would tell well on this space; or perhaps, it would be better to place here a glazed copy of the large ordnance survey, which would be both useful and instructive to the large number of persons who often are obliged to wait here. Our chief object, however, in noticing this station at present is to direct attention to the neglected condition of the statue of George Stephenson, which looks, particularly as regards the countenance, as grim as when in early days he was engaged about the pits. This statue is not, upon the whole, a good one. The dress-coat is of such an indifferent fit, that it raises the idea that he could have made a better one himself: no one ever saw him wearing dress pumps, which he would kick off with the utmost contempt were he alive. The pedestal of this statue is a miserable affair, and should be replaced by a better one, which should not be so high, but broader. The name should be cut upon it too, for few know whom the statue is intended to represent. We lately overheard a gentleman of intelligent appearance telling his son that it represented Mr. Huskisson, who was killed at the opening of



NEW BUILDINGS, EASTCHEAP, LONDON. —MESSRS. JOHN YOUNG & SON, ARCHITECTS.

the first railway. Whether this be done or not, however, the statue should be relieved from the dirt which has been allowed to accumulate upon it.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting on the 12th inst., Mr. J. R. McClean, the president, delivered an address, on taking the chair for the first time since his election. It was resolved that this address should be printed and circulated with the Minutes of Proceedings. The paper read was "On the Closing of Reclamation Banks," by Mr. J. M. Heppel.

The chief objects of the paper were to bring clearly into view the circumstances which determine the velocities of influx and efflux, and consequent scour, attendant on the closing of embankments for reclaiming land from the sea, or a tideway, and constituting the chief difficulty to be overcome in executing such works.

It was shown how, by an easy geometrical process, curves might be constructed which would indicate correctly the difference of the levels of the exterior and interior water surfaces, at any given interval of time from low water; the data for their construction being the rise of the external tide water, the areas of the interior surface at the several successive levels, and the width of opening through which the flux and reflux took place.

It was contended that, in most cases, it would be better, and a safer practice, to determine in the first instance, by such means, the requisite width for the final closing place, and to construct it in such a way as to ensure its capability of resisting the scour to which it would become exposed, than to leave the closing arrangements till the banks had already advanced so far as to have given rise to considerable outward and inward current; as it was argued that, if this were done, the carrying up of the banks to each side of such final closing place would be effected with ease and certainty; and the preparations for final closing, having been made from the commencement, could also occasion no unforeseen difficulty; and that thus the whole operation would be brought more within the province of precise calculation, and adaptation of means to the required end, than according to present practice it usually was.

PRESERVATION OF BUILDING MATERIALS BY THE RESIDUUM OF COAL TAR.

IN France the residuum obtained by the distillation of tar, for the purpose of extracting the oils and hydrocarbons is called *brai* (coal-tar pitch in English). Upon immersing bricks in this resin, melted at 200 degrees, they become fit to use with success in the construction of chlorine chambers, also for condensers for chlorhydric acid. Plaster acquires a strong consistency, and does not crack as it does after being dipped in silicate of potash or soluble glass: by virtue of its porosity, it is thoroughly penetrated by the resin, and becomes permeable to all other substances; while objects moulded in plaster retain their form without the least alteration. This is so true that crystals of gypsum (natural hydrated sulphate of lime) become, in the resin, of a shining black colour, the crystalline form not being changed, but the water of hydration, being replaced by the resin: it is a pseudomorph. Alabaster acts in the same way.

Stones covered with coal tar, or even with greasy or resinous coating, resist the action of wind bringing salt-spray from the sea better than do bare stones. Mr. Kuhlman, according to *Silliman's Journal*, has discovered that resins, greasy matter, and various other substances act in the same way, and that it is also the case with all liquids and bodies in fusion, when they *wet* the body which is to be penetrated. In the case of plaster it is not a simple effect of permeability, but rather of displacement of the water; the plaster becoming anhydrous, is thoroughly penetrated by the tarry matter, and its consistence increases, but the form of the object moulded is preserved unaltered, even when the bath of resin is raised to the temperature of 400 degrees C. At from 150 degrees to 200 degrees C., stearic acid acts like resin; the plaster becomes impregnated with it, and at the same time loses its water of hydration.

WOODWORK IN ASIA MINOR.

BELOW is appended a list of the most common scantlings, plankings, and boardings in use in that portion of Asia Minor which lies between Abydos and Adrymittium. I compiled it when in that country, and it may be depended upon. The reason why I send it to you is because I was lately asked for some information as to *building materials* in Dardanelles, &c.; and as that portion of Anatolia is fast rising into importance, I thought that a copy of it would, perhaps, be useful to some of your readers.

Name (pronounced as written).	Average Length.	Average Width.	Average Thickness.	Why so called.	Remarks.
NATIVE TIMBERS, CHIEFLY LARCH, &c. English Measure.					
	Ft. In.	In.	In.		
Toprak Bitsmessie	13 0	3½	3½	From the word "*joist*."	Shows but little bark.
Araba Bitsmessie	8 0	2½	2⅔	From being easily packed and carted in "*arabas*."	Usually sawn with the bark left on.
Messera Bitsmessie	9 0	2½	1½	From a town of that name.	Very wancy and unbarked, and sold in two pieces joined at bottom.
Harhare Bitsmessie	6 6	1¾	1¾	Do. do.	Sold in three pieces, not quite sawn through like the Messera Bitsmessie.
Serai Derek	8 6	4	4	From the word "*palace*."	Picked timber for posts.
Ossea	10 6	6	6	From a tree of that name.	Barked only: sold unsawn for conversion into scantlings.
PLANKS AND BOARDS.					
Tavania	7 0	8	⅛	From the word "*roof*."	Used for roof covering.
Salichleria	6 0	5	¼	From a town in Anadol.	Used for covering gables.
Ikilcekia	6 6	6	⅛	From being once worth *two piastres*	Used for boarding partitions.
Exendaria	7 6	7	⅜	From being once worth *sixty paras*.	Used for exterior side walls.
Soubiskissee	14 0	9	1	From a river of that name.	Used for flooring.
Souvelecekia	6 0	5½	1¼	From the word "*window*."	Used for window jambs.
Maderea	10 0	8	2	From a place of that name.	Used for tiebeams.
Yermah	5 0	13	⅛	From *yermah*, Turkish for 20, the piece being generally split into 20 laths.	This is always split when nailed on the wall.
IMPORTED BOARDINGS, RED, &c.					
	About				
Venerdika, No. 5	15	16½	⅜ to 1½	From 5 stamps upon it.	The highest quality; no knots.
,, No. 4	..	14	...	,, 4 ,,	The next best, do.
,, No. 3	...	13	...	,, 3 ,,	Medium quality.
,, No. 2	...	11½	...	,, 2 ,,	Worst quality but one.
,, No. 1	...	9½	...	,, 1 ,,	Lowest quality, knotty, &c.

N.B. These Venerdika boards have always rounded ends, and holes in them, where the bolts passed through, which joined them together when being prepared for rafting down the rivers.

These native timbers are felled in the interior by the male *Turkomans*, and sawn up by the females of the encampment. They cut down part of a forest, and generally let it lie for three years before they convert it; by this means seasoning it a little, besides rendering it easier to saw. Despite the poverty of their tool-chests, the carpenters there are very clever, and a masterpiece of their work may be seen at Chigri, at a *Valonea* warehouse, owned by the *Tchelibi* Mekriditch, which is about 180 feet long, 60 feet wide, and very high. W. EASSIE.

COMPETITIONS.

Chester Townhall.—The town council of Chester, on the report of the townhall committee, which recommended the erection of a new townhall, at a cost not exceeding 16,000*l.*, to replace that destroyed by fire about twelve months since, have resolved "that the committee be authorized to advertise for designs for the new townhall, and to offer a premium of 100*l.* for the best design, and 50*l.* for the second best design, upon the terms and conditions laid before the council."

Peterborough.—The designs sent in for a new church at Peterborough, a few days ago, numbered twelve; and those by Mr. Robert Hutchinson, architect of that town, were selected in preference to the others, and he has received instructions to superintend the work.

Wigan.—The town council of Wigan have purchased land in Rodney-street, on which they purpose to erect a new gaol and corporate offices. Architects are invited to send in designs for a building, the cost of which is not to exceed 12,000*l.*; and premiums of 80*l.*, 40*l.*, and 20*l.* are offered for the best designs.

CHURCH-BUILDING NEWS.

Kensington.—St. Philip's Church, Kensington, which was built about four years ago, has now been enlarged, to meet the wants of the growing neighbourhood. The south aisle has been considerably widened, and a transept added, giving additional accommodation to an extent of between 300 and 400 sittings. At the same time, a stone and marble reredos and sedilia have been added, and some additional decorations carried out to the pulpit, the east window, &c. The organ also (by Walker) has been completed. The whole has been designed and superintended by Mr. Thos. Johnson, the architect of the church. The reredos and sedilia were executed by Mr. Farmer, and the decorations by Mr. Castell; whilst the works in the body of the church were carried out by Messrs. Holland, of Kensington, at a cost of about 1,350*l.*

Tackley (Oxfordshire).—The parish church of St. Nicholas, Tackley, which for the last eleven months has been undergoing renovation, has been re-opened. Some time ago damage was done to the church by lightning; the exterior walls having been grazed in several places, while portions of the tracery in the windows had been dislodged. The rector took the opportunity of impressing on the parishioners the necessity of a restoration of the fabric, which had, indeed, long been required. Mr. Street, the diocesan architect, was accordingly consulted, and subscriptions were entered into. The work just completed was carried out from the designs of Mr. Street, by Mr. Franklin, builder, Deddington. Three windows harmonizing with the west window of the nave (fourteenth century) have been inserted in the nave and south aisle, and the whole building has been renovated. The funds not allowing a new roof of higher pitch, principals of a later character have been introduced in the old roof. A reredos and new stone pulpit have been introduced, and low benches have superseded the old pews. The floor has also been laid with encaustic tiles. A memorial window, executed by Messrs. Clayton & Bell, of London, has been inserted by the rector at the east end; and another, of a lighter character, has been provided in the west by contributions from his former pupils. The outlay has been about 2,000*l.*, of which 350*l.* remain to be provided.

Bath.—The new cemetery at Locksbrook, for the parishes of Walcot, Trinity, and St. Saviour, in this city, has been consecrated. The cemetery is situate on a rise of ground. The site enclosed is eleven acres and a half in extent, seven and a half of which are appropriated for the church, and the remaining three and a half acres for the Nonconformists. It has been laid out by Mr. Mitchell, under the direction of Mr. Milner, landscape gardener; and the total cost to the parishes, including the buildings, will be about 10,000*l.* The chapels are in the Early Decorated style: one chapel for the church and another for Dissenters are provided. These chapels are

united by means of an arcade and carriage-way to a central tower, 100 feet high. The arcades are ornamented by columns of Devonshire marble, and relieved by carvings in freestone. A private pew, also carved, is provided in either chapel. The entrance lodge and gate are in the same style as the chapels. The chapels have been erected by Mr. Streeter, from the designs of Messrs. Hickes & Isaac, of Bath; and the carving is by Mr. Porter, also of this city. The grounds are laid out with collections of shrubs. The ancient Roman coffins found in the progress of the works, we regret to say, remarks the local *Chronicle*, are thrown aside as rubbish.

Ipswich.—The Church of St. Mary Tower is being enlarged and restored at the cost of the mayor, Mr. G. C. Bacon. The ground outside has been lowered nearer to the level of the floor inside. The nave has been heightened, the clerestory rebuilt, and a new high-pitched oak roof put on. The north aisle has been entirely rebuilt and enlarged to the width of the old south aisle, or from 13 to 20 feet, by which an additional accommodation for upwards of 100 persons has been obtained. It contains nine windows, one of which, filled with stained glass, was presented by Mr. J. C. Cobbold, in memory of his son Herbert Wilkinson Cobbold. It was put in by Mr. Wailes, of Newcastle. Mr. Day, of Ipswich, will put in a coloured window at the west end of the aisle. It will consist of three figures in floriated canopies, the figures being St. Augustin, St. Alban, and St. Edmund. Both north and south aisles have new oak roofs nearly flat, and covered with lead. The walls will be finished in colours with ornamentation. Various other improvements are to be effected, and it is intended ultimately to take down the tower, which is 70 feet high, and replace it, farther out, with one of 90 feet, after widening the south aisle to the east end. The new tower will be surmounted by a 75-feet stone spire, making the total height 165 feet. Mr. Phipson is the architect employed, and Mr. R. S. Smith the builder.

STAINED GLASS.

Louth Church.—The stained glass west window which, through the liberality of Mr. C. Parker, has just been placed in the parish church, is an illustration of the Te Deum. Messrs. Hardman, Birmingham, were the artists.

Coggeshall Church, Essex.—A stained glass window of four lights, containing four subjects, in large panels, illustrative of the life of King David, has been erected by Mr. Frederick Preedy, of London, at the expense of Mr. Thomas Sadler, of Halsted.

Watford Church.—At the parish church of Watford, the west window, of Early Perpendicular character, has recently been restored and filled with stained glass by voluntary contributions, as a Memorial of the Marriage of the Prince and Princess of Wales. The principal subject is the Marriage Feast of Cana in Galilee, and extends across the centre of the four lights, the upper portions being occupied by foliated canopies. Below are small medallions on light grounds, representing Eve presented to Adam; the meeting of Isaac and Rebekah; the Marriage of Boaz and Ruth; and that of Joseph and the Virgin Mary. The head of the window is filled in with the Royal arms of England, as borne by the Prince of Wales; the arms of Denmark; and those of the Prince and Princess of Wales, empaled; with mongrams, and the date of the marriage in the small openings. The heraldry fills portions of the window frequently treated as of comparatively little importance, and sets forth the occasion of the erection of the window, and tells its "Memorial" story more distinctly than can be done by the inscription at the bottom. The glass was designed and executed by Messrs. Heaton, Butler, & Bayne, and under the superintendence of Mr. John T. Christopher, of Watford, who acted as Honorary Architect.

St. Denis's Church, Stonton-Bickworth, Leicester.—The chancel window of this church has just been filled up by a subject representing the Crucifixion, painted by Mons. T. Dury, of Warwick. The two Marys and St. John are grouped at the feet of our Saviour, and the foliated canopy contains a figure of St. Denis. The window is the gift of Mr. J. Wright, of London.

St. Paul's Church, Warwick.—Another window, the gift of the Rev E. T. Smith, incumbent, has been placed over the font in this church, to the memory of his third daughter. The subject, painted by M. Dury, of Warwick, represents a guardian angel carrying to heaven the infant in his arms.

St. Mary's (R.C.) Cathedral, Newcastle-upon-Tyne.—Another stained glass window has been put up in this cathedral. Its style is Decorated of the fourteenth century. The subject of the design is from a group selected from the life of Saint Elizabeth of Hungary, on foliated backgrounds of a decorated character. The window is in memory of the late Mrs. Eliza Janet Charlton, wife of Dr. Charlton, whose arms and initials are inserted in the tracery. The window was from the stained glass works of Mr. H. M. Barnett, of Newcastle-upon-Tyne.

Fethard Church, Clonmel.—A window of coloured glass, in frame and mullions of Portland stone, has been inserted at the east end of Fethard Church. Mr. William Miller, of London, was the artist. The frame and mullions were wrought in Portland stone by Messrs. H. Poole & Sons, of Westminster. The design of this window is taken from the eastern window of Muckross Abbey. It consists of four compartments, with simple tracery, filled in with toned glass, the pattern being worked out with various tints of deep colouring. Foliage and ornamental scrolls with texts are inserted. A guard of galvanized wire at the back protects the glass. It is wished by some of the committee that two side east windows of coloured glass should be added, out of the surplus fund which remains with them.

STYLE IN ARCHITECTURE.

"Laugh where we must, be candid where we can."—Pope.

DEAR MR. EDITOR,—In my last little essay on "Architecture Prop-er and Shamistic," in your impression of the 2nd instant, when speaking of the influence of stucco or compo upon style, I felt that much could be said about style, but that the subject demanded a separate essay. That essay I now proceed to make.

Style in architecture exercises an enormous and peculiar influence over stylish minds. It has been remarked by a talented author on Architecture, to whom allusion was made in a former essay—Dr. Jobbins—that a building in the "Gothic style" should be "thoroughly consistent with the period of its style." What a building *not* in the Gothic style should be consistent with, he does not inform us. Whether any other style would be altogether inconsistent with everything, or if consistent in any building with anything, we are left to mere conjecture; for the Doctor is so taken up with the "Gothic style," or rather with his own crude notions of the style, that he loses himself—not like Thomson, in "light ineffable," but in *oscuro profundo*.

But then, *style*, and consistency with period—"ay, there's the rub," and also the rubbish. That a building should be thoroughly consistent with the principles of truth, and the object for which it is designed would tend to put that wretched subserviency to "period of styleism" altogether on one side. When the Elysium of Architecture is gained, and the Millennium has arrived, a principle of this sort, according to some, will be recognized, and architecture no longer be diluted by elements of copyism, puerility, and falsehood any more than Horniman's pure unadulterated tea. But as that old serpent, the devil, is still at large, architecture, with other mundane arts, exhibits the "trail" thereof.

A building should be thoroughly consistent with truthful principles, and the objects to which it is to be devoted; and if so, the style is sure to be good and pleasing; that is, of course, if the building be not in the hands of ignorance or incompetency. I am aware I may possibly be charged with Utopian ideas, but who can contemplate the architectural works that have recently been erected in the Metropolis and elsewhere upon this basis without at once acknowledging the force of this principle; a principle which, without doubt, inspired the architects of past ages, and which is happily beginning to release the architecture of the present day from the thraldom and Egyptian, Roman, and Grecian bondage in which it has so long struggled.

I visited the other day the building called the "Tabernacle," erected for the Rev. Mr. Spurgeon. Now, in this instance, we actually have no cement, but genuine stone columns, &c.; which, although ill-proportioned, are truthful and substantial. Of course, sir, the question might occur as to, why on earth, copies of a temple erected to some heathen deity (which the "devil invented," as well as Gothic architecture) should stand at the entrance of a house dedicated to the worship of the true GOD. The excellent arrangement of the interior generally, I could not stop sufficiently to admire, the ventilation being so awful that its effect, as well as that of the sermon, was lost upon me.

Near to this "Tabernacle"—more properly speaking Temple—is a most wonderful building, of cementitious development, which is called "Taylor's depository." It seems to be the central office, from whence issue those astounding pictures of railway engines, and advertisements "To families removing," which are to be met with at almost every railway station in England — caricatures of locomotives at which every honest locomotive coming into the station indignantly protests; but as the highest art here seems to be £. s. d., the public eye winks at the display of artistic feeling exhibited:—though one certainly does see illustrated advertisements at the railway stations which have more respect to truth and the public gaze.

But what has this to do with style in architecture? "Much every way." Something glaring, showy, sham, bold—something mimicking something else; something in "the decorated," "perpendicular," Grecian or Roman "style," or in the "style prevalent during the ——teenth century,"—to effect which a little "compo," mimickery, deception, and a state of mental coma are "all that is necessary."

I cannot here avoid alluding to another work; being a public building devoted to christian worship, put up by the same builders that erected the "Tabernacle." My eye was arrested by it in passing the other day along Claverton Street, Pimlico. Here the truthfulness of the "Tabernacle" has left him, for money is wasted upon huge brick cylinders coated with "compo," supporting nothing, and meaning nothing — except—but never mind.

Style, sir, is a bugbear,—that is to those who practice architecture, manufactures, baking, and plain cookery at the same time. Not that the *past* should in any way be ignored: not by any means. The past is, perhaps, our best teacher, whose form we have been portraying—or, rather, grotesquely caricaturing—instead of learning its lessons. Nor is the present devoid of moral; but, indeed, more than any previous time abundant in examples of "what to eat, drink, and avoid." But, for Heaven's sake, let there be something beyond a *reproduction* of the past or the present. Don't let us have copies of copies, and then such *bad* copies. Don't let us continue to have things in this, that, or the other "style." To adopt a past style is mere copyism; to dub any present style with a name is foppery. I have heard the architecture of the present day styled the "Victorian." This, while preposterous in its prematurity, also indicates that tendency to "finality" that exists to such a large extent in the architectural as well as the political world;—a stupid idea, that, if allowed to prevail, is simply fatal to all originality and improvement. Why, Sir, I have heard of an architect putting up the same spire sixteen times, and thinking that "the more the merrier," in point of credit; although the good people, no doubt, thought they were paying for something new and original, instead of a second-hand affair. The idea of an architect copying and recopying his own productions is almost as amusing as that of one which came under my observation of a builder-architect, whose own ideas on architecture being about worth 2d. per executed work, at every opportunity embezzled those of architects, who little imagined, in their simplicity, that their genuine thought and artistic feeling were tending to such a development (devilupment) of style. This practitioner, I was told, became jealous of his principal assistant merely *looking at* a certain public building when he himself had slyly made tracings of the competition drawings of the architect by whom the building was carried out.

This, by the way, somewhat illustrates the working of the competition system, and suggests the cause why that large quantity of elaborate designs is necessarily detained so long (now nearly two years) by the "Carlisle Bridge Committee, Dublin." Still, one would have thought, sir, that the work of appropriation, amalgamation, and tracing might have been got through by this time. As it seems there are no funds, either for carrying out the project (which the Committee must have known before the hoax) or for remunerating competitors, why not have advertised as the Aldershott people advertise,—I see in yours of the 2nd instant,—"The Committee reserve to themselves the *right* of rejecting the whole of the plans"—which is certainly cool but clear.

Now these are some of the little things that render style such a vexed question. Often have I seen in your pages discussion as to the "possibility of a new style," and many may even now be "vexing their righteous souls" from day to day hoping to be the inventors of a "new style" some fine morning, as once men were hoping to discover perpetual motion. A "new style," in this view, is chimerical; not that there is any lack of constructive or artistic ability in the *bonâ-fide* architectural profession; but I cannot believe that any building, founded on copyism, appropriation, or deception of any sort, mental or material, or having for a basis *merely £. s. d.*, will reflect credit on the architect, his employers, or, least of all, have the slightest effect in developing anything worthily distinctive in style. Although it may be thought that in this essay I have alluded to trivial matters affecting style, yet of this I am convinced, that the architecture of the present day is so affected and impregnated by such causes, that unless there be an improvement in these matters, much in the style of our architecture will be held in utter contempt by future generations; though many of the present abortions, thank heaven,

> The clumsy towers, the gim-crack palaces,
> The stupid temples, and the ugly shams,
> The ill-constructed botches bungled up
> By wretched misled mortals, shall dissolve,
> And, like the fabric of a hideous vision,
> Leave not a wreck behind.
>
> HI JACULIS ILLI DEFENDERE SAXIS.

THE NOISE FROM PAVED ROADS.

A "READER" says,—In answer to the inquiry of "A Corporation Surveyor," as to the best means of mitigating the noise from carriage-way pavements, it has been suggested that veneers of any kind of wood be placed between each course of carriage-way stones. This plan was recommended some thirty years ago, and mentioned in the *Mechanic's Magazine* as "striated pavement."

Another correspondent, "JAS. DUTHIE," says, —Pave the "sets" about 1 inch apart, fill up the joints with small clean hard stone chippings; also put a layer of these chippings, 1½ inch deep, all over the pavement, except the channels; then pour out just sufficient boiling asphalte to bind the whole together in one solid mass. Boulder pavements can also be done in a similar manner; and they are better adapted to this plan than sets, as the joints are larger and more irregular, thereby giving a greater binding principle, and causing the layer of chippings to unite with and adhere to the boulders much better than to sets. In streets or districts where heavy narrow-wheeled traffic is great, the layer of chippings would occasionally get worn through to the pavement, and require repairing, thereby causing some little inconvenience to the public.

WATER SUPPLY FOR THE SERPENTINE.

A MINIATURE TEMPLE is now being constructed on Duck Island, St. James's Park, to enshrine a steam-engine of 20-horse power, for the purpose of drawing an increased supply for the Park waters *from the sewage of Westminster*. The quality of water already furnished from that source has been found, on analysis, faulty; in fact, as the water issues from the pumps now in action, it is offensive to the olfactories; and it is not likely that the well 28 feet deep and 8 feet in diameter will yield a purer tribute when taxed more heavily.

Some six years back a well was sunk for the same object at the head of the Serpentine, Bayswater; that well, too, has been of late deepened, and is capable of furnishing double the quantity now pumped from it, and of the purest water: but the odd conceit of drawing back and circulating the stagnant pool of the Serpentine itself has been practised throughout the past summer, and one of the two small engines at work there has been used in carrying out that crotchet; while the other drew from the depths a small quantity to feed the fountains!

The condition of all our ornamental park waters discovers but too clearly that the sources of augmentation are polluted; and although constant circulation may modify the quality of the lake, it cannot adapt it for the use of the bathing frequenters of summer. Why, then, travel a mile and a half down hill to obtain and force up that supply which nature provides abundantly, and of the purest quality, at the most convenient point—the head of the lake?

The vale of the meeting of the waters, however it may have suited the fantastic imaginings or objects of some projectors, has not as yet made both ends meet, either in a utilitarian or profitable sense. Consult the working engineer at Kensington Garden well, and he will show that there is water enough in the well to employ all the power of both engines which are now employed on the divided work. A. B.

THE PEABODY BUILDING IN EAST LONDON.

THIS building, on which is being expended a part of Mr. Peabody's gift, is rapidly approaching completion, and in about a fortnight the greater number of the apartments will be occupied by tenants, who have applied in such large numbers that a selection has been necessary, and there can be no doubt that several similar buildings would find respectable tenants. This is so far satisfactory; but, after a careful inspection, we are forced, somewhat unwillingly, to say that this structure will not meet the demands of the poor, who are so much crowded together and so ill lodged in this district. We shall find here well-paid mechanics and others, who cannot be designated as belonging to the London poor, for whom provision is so much needed: and even to fit the building for the class mentioned we are mistaken if some important changes will not be required. But before alluding to these we will glance at some of the sets of apartments, each containing two rooms. The size of these two rooms is about 13 feet by 15 feet 6 inches, and 8 feet 7 inches in height; a space sufficient for the health of a small family. The ventilation has been well attended to, and the closet accommodation well cared for; the closet in which food is likely to be kept is ventilated by a window towards the open air. In the front room, which will be used as a sitting-room, there is a fire-grate, with boiler and oven, which is economical in the consumption of fuel; but in the other room there is no fire-place,—an arrangement which will be deplored when women are in their confinement, sick, &c. The want of a fireplace here will be felt particularly when we consider that there is no vestibule between the chief rooms and the corridor along which the apartments are placed on each side: the consequence being that directly the outer door is opened the room is completely overlooked; and besides, in cold weather, a current of cold air will rush in, which will be dangerous to delicate persons and young and tender children. We enter one of those corridors by an open staircase, similar in plan to those in the houses built for Miss Coutts. At the top there are two water-closets and lavatories for the men and lads, who live in the apartments in this portion of the building. At the other extreme end are water-closets for women and young children, a lavatory, baths, &c., and it should be mentioned that the arrangements and construction of these are of the best kind. There are also baths and shafts, by which the dust is conveyed to the basement. There is a plentiful supply of water laid on, and care has been taken by an exhausting process to prevent the freezing and bursting of the pipes. There will, no doubt, even when all is finished, be at times a very strong current of air along those corridors which, with the branching rooms, are at a considerable elevation. It is, therefore, most necessary for health and that degree of privacy which is much to be desired where families live, to have a small lobby to the apartments, which might be either projected into the corridor,—there would be ample space for all necessary purposes,—or there might be a partition somewhat higher than the door inside, which would break the current of air, and prevent the place from being overlooked by every one who happens to call. Matters such as these are of more consequence than may be supposed by some who have attended more to peculiar kinds of construction than the peculiar requirements and feelings of those by whom such houses are intended to be occupied. At the model building in St. Pancras-road, double doors were actually necessary for the preservation of health, and the prevention of serious bronchial and chest diseases. No one can appreciate the advantage of good ventilation more than we do; but right ventilation does not consist of violent currents of air.

Another point should not be altogether neglected in buildings of this description,—for men, women, and children are benefited by the neat appearance of the interior of their humble homes. The rooms here are, however, all in the rough; the brick courses and mortar less smoothed off than they might have been. On this point it may be admitted, that for the general purposes of health, rough walls would prove as efficient as others. Still, there is that in rough brickwork which, if even it be well whitewashed or coloured, does not prove pleasant to the eyes of neat housewives. We believe that wall-paper in tenement dwellings is, for various reasons, to be objected to; but a good coating of plaster, nicely coloured, would not much increase the cost, nor would it be injurious to health, while it would add to the comfortable appearance of the rooms, and be a nice foil to the pictures and other ornaments which the wives of the working classes like to display.

The peculiarity of the under part of this building consists in two rows of shops, each forming parts of the frontage, which will eventually form sides of two important thoroughfares. There are extensive suites of rooms (kitchen, &c.) in connexion with the shops. The shops with the apartments will be let, we are told, at a rental of about 70*l.* a year each.

If trade here should prove prosperous, the shops, &c., would assist in making up any deficiency which might arise from the apartments alone. But there are arrangements here not quite satisfactory. Some of the rooms are at a considerable distance below the surface of the footpaths, and it is said that the lower rooms are almost level with the new main drainage which has been completed here, so that it may not be a very easy matter to carry off the sewage effectually.

In many parts of the metropolis the combination of places of business with healthy dwellings above for the industrious classes might be carried out with advantage. We, therefore, look anxiously for the money results of this experiment; for if it should be proved that shops and places of business can be let at a sure rental of from 70*l.* to 80*l.* a year, it might materially reduce the rental of rooms above.

We are told that the cost of the new building will be about 22,000*l.*, and that the rent of each set of two rooms is 4*s.* per week, and that of those of three rooms, 5*s.* per week. There are a few single rooms at a lower rent.

As we have before said, these apartments will not be found to meet the wants of the poor dwellers in Bethnal-green, and in other parts of the metropolis, who can only afford to pay a weekly rent of from 2*s.* to 3*s.* a week, and more than any other class require help and care. It was expressly stipulated when Mr. Peabody's munificent gift was given, that the money was to be expended for the especial behoof of the London poor. We trust, therefore, that, although this building will not be without advantage, the directors will next direct their serious attention to supply accommodation in harmony with Mr. Peabody's original intention.

ONE WHO KNOWS.

CONCRETE BRICKS.

SIR,—I have read a report in your number of the 2nd inst., as to the patent concrete stone. Having been present at Mr. Dines's yard, Thames Bank, London, when "other specimens" of concrete stone, as well as Mr. Ransome's and Mons. Coignet's were tried and tested, having regard especially to the latter, in the presence of the gentlemen, or some of them, whose names are put forth in your report; and as Mons. Coignet's specimens stood lowest in the scale (in fact, several did not bear a ton by hydraulic pressure), I think in fairness some mention should have been made of "other specimens of stones similarly prepared."

Doubtless Mr. Ransome's productions are very excellent, and may, to some extent, supersede masons' work; but the main feature in all inventions is *cost*. Allow me to say that I have made bricks, moulded plain, comparatively non-absorbent, without burning, equal to Suffolk malms, from *sand, gravel, chalk, clinkers, road-dirt*, or *seabeach*, and, to be practical, they are to be seen in the erection of two villas at Reigate, where they have withstood the rain, sun, frost, and every-day weather; and I have no hesitation in saying, that wherever such materials as I have described are to be had, say, taken out of a basement or for a nominal sum, these bricks, or any other article—drain-pipes,

for instance, or balusters—can be made at any season of the year, and be fit for use in two or three days, without machinery or skilled labour, at a cost which will put Suffolks or any other facing-bricks in the shade; while an inferior article for inside work will compete with stocks.

These bricks and other specimens were made in the presence of the gentlemen alluded to on Mr. Dines's premises. In two months after they were tested, and I believe I am correct in stating, stood more pressure than any other concrete stone produced, viz., 12 and 20 tons; Ransome's cubes, 7, 9, and 12 tons; Portland stone, 9 and 12 tons. I have been looking forward for a detailed report of these proceedings from the gentlemen who were present, which would most likely throw a little more light on the matter, more especially as bricks are daily and yearly increasing in demand and price: I take it, therefore, any process that will tend to increase supply is of very great moment.

It is right to say, that no strain was put on any of the specimens, but simply hydraulic pressure. I have, however, no fear on that score. J. W. SUMNER.

*** The report in our pages to which the writer alludes, referred solely to a trial of one particular material at one particular place. We have no official information of the doings of the committee generally. They will doubtless publish a report themselves hereafter. The bricks mentioned by our correspondent have been described in our pages before now.

DEMOLITION.

So far from being able to help Mr. C. H. Smith in his inquiry as to some graphic records of "Canons," that meteor of pageantry and pomp, immortalised by Pope in lines that, though penned in no friendly spirit, will at any rate rescue the name of the mushroom Duke of Chandos, the founder of a palace destined to be of little less brief duration than that of ice which rose at the mandate of the imperial Russ. As to Canons, it is by no means a solitary instance of coldly and calculatingly perpetrated demolition. For, as if it were not enough that an architect's work should be especially liable to extinction by fire, it is exposed to wanton, at least deliberately planned demolition. Canons is by no means a solitary instance of ephemeral existence. The mansion at Blackheath, erected for Sir Gregory Page by the same architect, proved equally transitory; in fact, a full catalogue of more or less important buildings, which, though spared by fire, have been more ruthlessly swept away by human hands, would be a not little lengthy one, and to such as myself a rather melancholy one also. The disappearance of Vanbrugh's ultra-ponderous, elephantine Eastbury is not at all to be regretted; but some effort ought to have been made to preserve to us the princely Wanstead. Alas! that there should be a far more insatiate and inexorable spoiler than Time'—

> "One at whose touch e'en granite melts away,
> And what's for ages built lasts but a little day."

The hyperbole just uttered may be excused when we call to mind only some of the doings in our own time, of industrious destructiveness, which often masks itself under the name of improvement.

Where is now Holland's Carlton House; that work of his which forcibly, as the French say, "accused" him of being gifted with true feeling for the picturesque of architecture and for *bravura* of perspective effect? The view obtained from the first vestibule, through the deep portico to the open Ionic colonnade, and beyond that into Waterloo-place, was not a little piquant; certainly quite unmatched, nay even unapproached by aught else in our metropolis. Most fascinating, too, was the circular dining-room, even when shown in daylight *déshabille*, just before the house was dismantled. A similar fate has befallen another work of Holland's,—the India House. Neither the Ordnance Office, Margaret-street, Westminster, nor the Excise Office, Broad-street, is now to be seen except in engravings, and those merely pictorial views; for, strange to say, they are not represented technically, and so far trustworthily, in any of the publications taking the title of "Vitruvius Britannicus," although greatly more deserving of being so recorded than are very many of the subjects selected for representation, some of them being of the most hum-drum character.

Of demolition, on a tolerably large scale, we have just had a sample in the sudden sweeping away of Hungerford Market, in what may be called its infancy. Even more potent than Hannibal's vinegar, an Act of Parliament would not only saw through the Alps, but melt the whole of them quite away. With this remark I lay down my pen for the present.

AN ART LOVER.

P.S.—May I be permitted to inquire who was the Miss Patrickson who has almost Boswellized Fuseli?

ORANGE-PEEL.

PASSING down Piccadilly the other day, I saw a lady in the act of falling, but she was fortunately prevented reaching the ground by the gentleman at her side. I continued my walk to the Strand, and there, just beyond Somerset House, a gentleman who was before me suddenly slipped his legs from under him, and fell with violence to the ground. On raising him up, for he was unable to rise without help, he seemed to be fainting from excessive pain. I, with others, hastened to his assistance, and conveyed him to a neighbouring surgeon, fortunately at hand and at home. It was soon discovered that he had sustained a fracture of the small bone of the arm, complicated also with another of the elbow. This was a serious accident, and will probably be felt as such by the sufferer for the remainder of his life.

Now, both these instances,—the one so nearly occurring, and the other so disastrously accomplished,—were caused by the foot slipping over a piece of orange-peel, thoughtlessly, if not wantonly, thrown on the pavement. In the course of my walk to the City and back again to the West-End, I had the curiosity to count, as far as I could, the pieces of peel on the pavement, and I found they amounted to 151. Of course, I could not count them *all*, and it was only on *one* side of the street that I did count. The accidents arising from this cause are neither few nor far between, but are of frequent occurrence; and, though a small number of them may be noticed in the papers, the greater part of them we hear nothing about.

What is the remedy for this most treacherous street evil? A very easy one, I believe. Let it be the duty of those stately street-walkers, the police, to kick with their feet these traps for the unwary off the pavement on to the roadway, where they would be immediately rendered harmless by the traffic going on there.

There would, I think, be no difficulty in making this very simple and easy matter a part of the police duty. It would be found that it would not add much to *their work*. I should rather say it would aid to their amusement, and that they would like it as a relief to the monotony of their slow and solemn march. T. B.

THE COMPETITION FOR NEW MUSEUMS AT SOUTH KENSINGTON.

IT appears that there is to be a competition for the Museums that are to be erected on the site of the International Exhibition: let us hope that it will not turn out as great a *fiasco* as that for the Government Offices.

Most competitions notably fail to attain the object for which it is professed they are intended—that of obtaining the best possible design in relation to cost. This is partly the fault of committees, or agents who represent such amongst the public who are interested in the business; but chiefly that of architects themselves.

It is the fault of committees, because, amongst other reasons, the time devoted to the consideration of the designs submitted is ridiculously short; and because amateur judges are generally incompetent to perform the task of selection. They may be men of taste to a certain degree; and therefore it may be urged they surely may select the design that pleases them best, referring to professional advisers for matters of detail—matters of taste are not to be questioned. This, as regards architecture, I entirely deny; and as the competency of a judge depends upon the amount of taste he possesses, I will endeavour to define what is taste in matters relating to architecture. Taste may be termed the faculty of perceiving beauty. As there are two sorts of beauty, that which is external, speaking to the senses, such as that of form and colour; and that which appeals to the intellect, such as beauty of design, fitness of means to an end, propriety;—so there are two degrees of taste,—that which is natural and inherent in some men, and which leads them instinctively to take pleasure in fine contours or beautiful combinations of colour; and that which is acquired, enabling a person to judge of architectural style, character, stability, and other qualities inseparable from good architecture. The union of these two degrees of taste is required in a good judge of architectural design. The mere symmetry arising from proportion would please the man of natural taste; but the man of educated taste would not be satisfied unless he found combined with it that fitness and character which observation had taught him to look for. This is a digression; but it is intended to show that as but few amateurs can have devoted sufficient time to the study of architecture, few amateurs are competent to be judges in a competition.

But the chief fault of the failure of competitions lies with architects themselves, who, forgetful of the dignity of the art they profess, allow themselves to be treated as a better sort of tradesmen. Advertisements for competitive designs are generally considered to be pledges, on the part of those issuing them, that if architects will devote time and attention to the production of designs, they on their part will, to the best of their ability, and without favouritism, select the best design from amongst those submitted, to be carried into execution. But how are these conditions carried out? We find that all sorts of underhand means are permitted to be employed by the friends of competitors, in order to influence the decision of the committee; and even if a tolerably fair decision be reached, the architect is often "shelved" on the most frivolous pretence, or through the influence of some one on the committee, or possibly a non-competitor is employed to carry out the work.

Now, these things manifestly should not be; they involve the honour of all concerned, not only of committees or their agents, but of the whole body whom they represent. Yet architects are so accustomed to these things, that they look upon them quite as matters of course, and tamely submit to them without a protest.

But it will be asked, how are these evils to be remedied? By architects maintaining the dignity of their profession, and requiring that justice shall be done them in all public competitions. In the case of the competition under consideration, common sense calls for the following measures:

1stly. Let the instructions be clear and explicit, with some limitation as to style and expense, and let them be rigidly enforced.

2ndly. Let the judges be chiefly, if not entirely, professional men.

3rdly. Let it be understood that the successful competitor shall, without fail, be entrusted with the erection of the building.

Unless some such measures as these be taken to ensure a just decision, architects whose time is valuable to them will feel inclined to keep out of the competition. NEMO.

CASES UNDER THE METROPOLITAN BUILDING ACT.

Default of Notice.—Messrs. Glenn, builders, of Islington, were summoned to the Clerkenwell Police-court, before Mr. D'Eyncourt, by the district surveyor of South Islington, for making certain alterations at Mildmay Park Chapel without giving two days' previous notice to the surveyor, as required by the Act. When applied to, they had stated they were about to do nothing but an area wall and a little plastering; whereas, two staircases down to schools in basement had been erected. The defence was, that nothing was said of giving notice in the specification; and the "surveyor" to the work had told them it was not necessary. Ordered to pay a fine of 20s., and 23s. costs.

Insufficient Footings.—Mr. R. Walkington, of Great Suffolk-street, Borough, was summoned at the instance of the same surveyor, for having built wall of conservatory at back of No. 7, Newington-green, without proper footings. Ordered to amend forthwith, and pay costs.

Division of Buildings.—Mr. Jas. Few, Hamilton-place, Highbury-grove, was summoned by the district surveyor of South Islington for dividing a stable building, recently erected in the rear of Park-road East, Highbury, with wooden partitions, into two or more tenements, each having a separate entrance from without; contrary to sec. 27, which declares tenements so divided to be distinct buildings, and requires them to be separated by party-walls. The builder had been warned during the progress of

he building that, if it were to be divided for more than one occupation, party-walls would be required. Ordered to amend the irregularity by he erection of proper party-walls.

Books Received.

The Book of Common Prayer. With Illustrations. London: JOHN MURRAY. 1863.

THIS Book of Common Prayer is no common Prayer-book; every page has a floral border and initial letters, designed by Mr. Owen Jones; and scattered throughout there are forty outline illustrations from pictures, drawn by Mr. G. Scharf. These latter are mainly after Raffaelle and Overbeck; but, for the illustration of Public Baptism, Matrimony, &c., Mr. H. Warren and Mr. J. C. Horsley contribute drawings. Add to what we have said that the whole is beautifully printed, and the assertion that this is an uncommon Prayer-book is surely justified. The only objection we can make applies to some of the red initial letters, which are splotchy. The borders, several of them very elegant, are so numerous that the book will be suggestively useful to "designers" and decorators.

Miscellanea.

ROYAL LODGE CHAPEL, WINDSOR. — The addition of a chancel and a royal pew to the Royal Lodge Chapel, in Windsor Great Park, has been recently completed, and consecrated by the Bishop of Oxford. The style is Early Decorated, and the additions are built with Heath stone (the same as at Windsor Castle) with dressings of freestone. Mr. Teulon was the architect, and the works were executed by Messrs. Fassnidge & Son, of Uxbridge. The carving is by Mr. Earp. The east window is occupied by a rich glazing of Scripture subjects, by O'Connor.

LANDLORD AND TENANT.—Tenant's fixtures are not chattels until severed; and it is competent to a landlord to make an agreement with his tenant which shall, notwithstanding an abandonment by the tenant of his property in such fixtures during the term, in the event of an execution against the tenant, enable the landlord to re-enter and retain such fixtures against the execution creditor. This was the holding of the Court of Exchequer Chamber in the case of Dumergue *v.* Rumsey.

NEW BARRACKS FOR THE HOUSEHOLD BRIGADE AT CHELSEA.—Earl de Grey and Ripon, Secretary of State for War, has decided to appropriate the plot of land which adjoins the Hospital for Pensioners, at Chelsea, to a new barracks for one of the regiments of the household brigade of cavalry. The land on which the barracks will be erected is directly opposite the new buildings which have been erected for and recently occupied by the Guards, and covers an area of about sixteen acres. As soon as the necessary arrangements have been made the works will be immediately commenced. We may hope this is intended to supersede the threatened barracks near Walton-place, Chelsea.

EMPLOYERS AND WAGES A HUNDRED YEARS AGO.—In the July number, 1769, of the *Universal Museum and complete Magazine of Knowledge and Pleasure*, printed for J. Johnson and J. Payne, at No. 8, Paternoster-row, I find the following: "On Thursday, three eminent master tailors at the west end of the town were committed from the public office in Bow-street, for fourteen days, to Tothillfields Bridewell, for giving greater wages to their journeymen than is allowed by law." The above may perhaps be worthy of a nook in the *Builder*.—W. L.

ILLUMINATED SHEETS.—Mrs. Delamotte* has published three illuminated subjects,—Faith, Hope, and Charity,—from drawings by the late Mr. F. G. Delamotte. They have been reproduced by Messrs. Day & Son, and will doubtless please many. Charity seems to us the most successful of the three.——Of a plainer kind, but with a value of its own, is a sheet of "Directions and Precautions against Fire," intended for hanging up in places where the occasional observation of it may serve to induce calmness and presence of mind at the needful moment. It may be usefully distributed.

* 14 and 15, Beaufort-buildings, Strand.

ROYAL GALLERY OF ILLUSTRATION.—The *Opera di Camera*, "Jessy Lea," by Messrs. Oxenford & Macfarren, will, after a limited number of representations, give place to Mr. and Mrs. German Reed's new Egyptian entertainment, written by Mr. Shirley Brooks, and in which Mr. John Parry is announced to appear.

ELECTION OF SURVEYOR TO THE BIRKENHEAD COMMISSIONERS.—The road and improvement committee of the Birkenhead commission have appointed Mr. T. C. Thorburn, C.E., at present surveyor to the borough of Derby, to be surveyor to the Birkenhead commissioners, at a salary of 500*l.* a year. Mr. Thorburn is a native of Leith. The market, recently erected at Derby, was designed by him.

PRIZE COTTAGES FOR THE LABOURING CLASSES.—One hundred and seven designs for cottages have been sent in, in competition for the two prizes of 25*l.* each, placed in the hands of the Council of the Society of Arts by Mr. J. Bailey Denton, and offered for the most approved designs for cottages to be built singly or in pairs, at a cost not exceeding 100*l.* each. It will be remembered that one prize was to be competed for by members of the Architectural Association, and the other to be open to general competition. The latest date fixed for the reception of the designs was the 1st inst.

TUNNEL UNDER LAKE MICHIGAN.—A contract for the construction of a tunnel, extending some two miles under Lake Michigan, at Chicago, for the purpose of supplying the city with pure water, has been awarded; the lowest bid for completing the same being 315,130 dollars. The contract is for a tunnel of 5 feet internal diameter, lined with brick. The tunnel is to be excavated 35 feet below the bed of the lake, and to have 4 feet of dip landward. Strainers will be fixed over the outlet to keep out the fish. The total area of the tunnel will be nearly 20 square feet, an area amply large enough to furnish water continuously to a city five or six times the size of Chicago in the present day.

EXHIBITION OF GLASS; EGYPTIAN HALL. — Messrs. Defries & Co. have filled the Dudley Gallery, Egyptian Hall, with a collection of their works in glass, which will doubtless tend to spread their reputation. The principal feature of it is the colossal candelabrum in cut glass, which has been executed by them for the Rajah of Secunderabad. This marvellous work, which, together with three similar ones, has been made at a cost of 20,000*l.*, is in its general design identical with that which attracted so much attention during the last days of the Exhibition of 1862. Rising to a height of 22 feet, and expanding at its base into an hexagonal figure 7 feet in diameter, while its 145 branches of cut crystal glass radiate from the massive central shaft in three tiers, and fill an almost equal space, the eye is impressed with the magnitude of the work. What is called an Altar Piece is another *tour de force* worth notice. Some very fine specimens of engraving on glass will also be found, as well as of ordinary table glass.

TYPO-ELECTRIC TELEGRAPH.—Chev. Bonelli's invention for printing by telegraph, is being exhibited at No. 7, Angel-court, Throgmorton-street, London. The message is transmitted in the following manner:—When given in at one end of the line it is set up in type, any errors that may occur being immediately discovered and corrected ere transmission. The row of type is then placed in the machine and passed along under a species of comb consisting of five points, each of which is connected by a wire with a corresponding point at the other end of the line. Underneath these last-named five points passes a plate of platinum upon which is placed a paper moistened with nitrate of manganese. Wherever the corresponding point touches the raised letter, it completes the circle, and the electricity, acting upon the solution, decomposes it, liberating the nitric acid and leaving the peroxide of manganese upon the surface of the paper in the form of a brown deposit corresponding with the type at the other end of the lines. The paper is then washed in water to clear away the remains of the solution, and to deepen the colour of the printing, and after being dried is transmitted to its destination. A set of five wires is requisite; but the same wires are used for the up and down traffic; and 400 messages of twenty words each, it is said, have been transmitted by its means in an hour. The proprietors of this telegraph have been enabled to reduce the charges, and transmit telegrams to Liverpool and Manchester, at the rate of 6d. per twenty words.

EXPLOSION OF A SHIP AT LIVERPOOL.—An immense amount of damage to windows and otherwise has been done throughout Liverpool and Birkenhead by the explosion of 11½ tons of gunpowder, forming part of the cargo of a vessel called the *Lotty Sleigh*, bound for Africa, which took fire by an accident with petroleum or paraffine oil, which the steward was pouring out of a flask. No lives were lost. In the Exchange News Rooms alone 250*l.* worth of plate-glass was broken. Birkenhead suffered still more than Liverpool. Why was she not scuttled?

THAMES EMBANKMENT: METROPOLITAN BOARD OF WORKS.—At the last weekly meeting of the Board, the meeting went into a committee of the whole Board on the Thames Embankment, and considered a report from the solicitor as to the substitution of other securities for Messrs. Ritson & Co.'s contract for the embankment from Waterloo Bridge to the east end of the Inner Temple, than those first proposed by that firm. The competency of the sureties proposed, and of Messrs. Ritson to carry out the work, were made out to the complete satisfaction of the Board. It was therefore recommended that the securities be accepted.

SOLID SMOKE.—A working man, writing to the editor of the *British Workman*, states:—"Since I gave up smoking, I have put into a box the amount that I formerly spent every week in tobacco. At the end of the year, on opening the box, I have counted out a sum of money sufficient to provide myself with periodicals and newspapers for the year, which sum I called '*Solid Smoke!*' A friend one day called and asked me, 'Have you found the philosopher's stone?' 'No,' I replied, 'I don't turn the smoke into gold, but prevent the *gold* from turning into *smoke*.'"

SCULPTURE.—A reredos of Caen stone has been sculptured for the chapel attached to the new Beauchamp Almshouses at Newland. The subject of the sculpture is the Crucifixion, in high relief. The reredos will be surmounted by canopy work, supported by angels, and the sides will be ornamented by incised foliage, filled with dark cement. Mr. P. C. Hardwick is the architect of the reredos, and Mr. Boulton, of Worcester, the sculptor. Another work just completed by the same sculptor, is a series of bas-reliefs, to be used as tympana in the arches of the new townhall at Northampton. There are eight of these, four of which are illustrative of Parliaments held in that ancient town. Mr. Boulton has likewise executed a series of figures in wood, of angels and archangels, for the stall-ends in the choir of Hereford cathedral.

FETTES COLLEGE, EDINBURGH. — Contracts have been entered into for the erection, at an expense of about 80,000*l.*, of a college which, when completed, will be one of the greatest of the educational institutions of the city of Edinburgh. The fund for the building and endowment was bequeathed by the late Sir William Fettes, who died in 1836, in his eighty-sixth year, leaving property in the hands of trustees, which, after paying various legacies and bequests, was valued at 166,000*l.* Since 1836 the fund has increased to from 300,000*l.* to 400,000*l.* by the careful management of the trustees, and it has now been resolved to carry out the design of the testator. The site of the new building, which will be surrounded by 20 acres of playground and garden, is on the north-west of the town. The design is by Mr. David Bryce, of Edinburgh, architect, exhibiting a central tower surmounted by a spire, in a style almost entirely new to the locality.

LOCOMOTION BY HYDRAULIC POWER.—Mr. W. Symons proposes, for metropolitan underground or other railways, to have fixed steam-engines at convenient distances, whose work would be to pump water into hydraulic accumulators; this water-power under pressure to be conveyed in pipes along the railway: at proper distances wheels, as in Messrs. Hawthorn's plan, must be placed, but instead of wire ropes each set of wheels must have connected with it a small hydraulic engine; or, where two lines of rail were used, it might be placed between the two. The train, while progressing, would turn on and off the water as required, and thus no useless power would be expended. By the same sort of power he proposes to work through certain wide streets narrow lines of railway contained in and on tubular viaducts, with open latticed sides and bottoms, so as not to obstruct the light and air; these tubular viaducts to be supported on iron arches, one pillar of these arches to be in a line with the curb-stones of the street pavement, and the other against the houses.

APPOINTMENT OF ENGINEER AT THE SOUTH SHIELDS GASWORKS.—Mr. Sanderson, who has managed these works since their commencement, about forty years ago, having retired, about seventy applications were received in answer to an advertisement for his successor. Four gentlemen were selected from that number; and the appointment was, at last, obtained by Mr. Warner, of Bath.

MONUMENTAL.—It has been determined to erect a statue of Sir J. Outram in Aberdeen, where he received his early education.——A monument is to be erected in Cheshire to Field Marshal Lord Combermere. The monument is to be similar in character to those accorded to the Marquis of Anglesea and Lord Hill during their lifetime; but whether in the form of a column or an equestrian statue, has not yet been decided.

BURSTING OF SELF-ACTING BOILERS DURING FROST.—We hear of such cases this winter as heretofore. A school-room boiler at Halifax has burst, injuring a woman and breaking all the windows. Where kitchen ranges are fitted with self-acting boilers, persons ought to be careful about keeping up a constant supply of water. The danger of explosion chiefly arises when the thaw sets in, from a sudden flow of water into the dry and heated boiler. Therefore, if the feed-pipes are not well protected, and the supply of water is interrupted, the fire must not be re-lighted until the proper action of the pipes is restored. A correspondent of a contemporary, pointing out the danger arising from the freezing of pipes attached to bath-boilers, says:—"My object in writing to you is merely to point out the necessity of having for all such boilers a small spring safety-valve, capable of sustaining a pressure slightly above that of a column of water. This need not cost more than five or six shillings, and would afford perfect safety."

THE MONT CENIS TRAMWAY LOCOMOTIVE.—On the 2nd of January we noticed the intention to lay a tramway along the Mont Cenis pass, and that some experiments were being tried at Whalley Bridge. New, and it is said highly satisfactory, trials have been made with the Alpine locomotive invented and patented by Mr. J. B. Fell. This locomotive is constructed on the principle of obtaining increased adhesion without increase of weight. In the centre of the carriage-way a raised rail, considerably larger than on the ordinary lines, is laid down, and the engine and carriages are fitted with well-lubricated horizontal wheels, which, by pressing on either side of the central rail, produces the adhesion necessary for working upon steep inclines. These horizontal wheels, it is said, facilitate the passage of curves; enable the driver to stop the engine in the middle of the steepest gradient; give a propulsive pressure of several tons; and by means of the flanges which underlap the centre rail, render it nearly impossible that the carriages can be overturned. The brakes are extremely powerful.

WARMING CHURCHES AT A CHEAPER RATE.—In the *Scotsman* newspaper there are some particulars as to the warming of Dunfermline Abbey Church by means of the patent multitubular heaters of Mr. W. Clark, jun., of Dunfermline. The church seats over 2,000 persons, is lofty in the roof, and lighted by about 1,900 square feet of glass, in small panes set in lead work, far from being air-tight. The area of the church contains upwards of 425,000 cubic feet of air; and yet, according to the *Scotsman's* correspondent, this church is sufficiently warmed at a cost for fuel of from 1s. 6d. to 2s. The fire "is lighted about six o'clock on Sunday morning; by seven o'clock it is giving a large amount of fresh warm air; and by the time the congregation assembles the temperature is at 55° to 57°, or above temperate, and by mid-day there is so much heat generated in the heaters that no further coaling is required for the rest of the day. The apparatus is so constructed as to throw into the church a constant, powerful stream of fresh air from the outside, which can be heated in its passage through the heaters to a temperature of 200°, or more if required. It requires no fan-blast, or artificial force whatever, and enters the church with such volume and power that its course can be traced upwards to the ceiling, 50 feet high; and such a constant influx of fresh warm air forces off the vitiated air and prevents the disagreeable effects of cold draughts from openings left for ventilation." The plan is said to have been equally successful in various other churches and other public buildings in which it has been tried.

SLATE-CUTTING APPARATUS.—An improved apparatus for cutting thick slabs or blocks of slate has been invented by Mr. G. A. Huddart, of Brynkir, Carnarvonshire. The cutting or planing tool, which is of peculiar construction, is made to pass over the slab and cut a deep groove therein. In carrying out his invention he finds it convenient to operate with two cutting tools simultaneously, one on the upper and one on the lower side of the slab. The slab is easily broken through if the grooves be made half way, but, if desired, the slab may be cut completely through with the cutters.

AMERICAN RAILWAY SLEEPING CARRIAGES.—The New York and Erie Railway Company have just placed upon their road a sleeping-car, which is characterized as superb. It is about 60 feet long and 11 feet wide, with accommodation for fifty passengers. It is divided into three sections, each complete in itself, and each lighted by a chandelier from which the light is distributed by a radiant reflector that crowns it. The woodwork is white maple throughout. The upper or middle roof is lighted through stained-glass windows, which may be used for ventilation. Each set of berths is separated from those adjoining by sliding panels. At either end of the car is a toilet-room and water-closet, these completing the appointments of the New York and Erie sleeping-car. The road is soon to be supplied with a full stock of these cars for night travel.

THE VAUXHALL SCHOOL OF ART.—On Wednesday evening last, the chairman of the committee of management met the students of the Vauxhall School of Art, and explained that in consequence of the new minute issued by the Council of Education, the committee would be obliged to raise the fees of the school to all students not artisans; but to artisans and to those who would become such, the fees would remain as before. The committee were sorry to do this; but under the old code, when the masters had their grant from Government according to their certificates, the expenses of the school were almost more than the income would meet; and in the payment by results obtained through the artisan class of students, the money granted by the Government would be so much decreased, that if the services of the masters were to be retained, the committee of the school would have to increase their salary. It was therefore decided that the new arrangement should commence on the 1st of March, that being the beginning of a new session.

TENDERS.

For manufactory, Broad-street, Ratcliffe, for Messrs. Hanson & Machin. Mr. John Belcher, architect. Quantities supplied by Mr. James Thonger:—

Downs	£10,173	0	0
Jackson & Shaw	9,985	0	0
Lawrence	9,782	0	0
Brown & Robinson	9,482	0	0
Coleman	9,474	0	0
Perry (accepted)	8,984	0	0

For the Brentwood Town-hall, Brentwood, Essex. Mr. W. G. Bartleet, architect. Quantities supplied by Mr. S. W. Iron:—

Lake	£2,070	0	0
Rivett	1,923	0	0
Stephenson	1,888	0	0
Sims & Co.	1,843	0	0
Wood	1,828	0	0
Browne	1,820	0	0
Winter	1,730	0	0
Conder (accepted)	1,685	0	0
Hammond	1,673	0	0

For three warehouses, for the London Wharfing and Warehousing Company, at their premises at Plaistow:—

Stevenson	£2,428	0	0
Wardle & Baker	2,140	0	0
Lamb	2,095	0	0
Richards	2,057	0	0
Tutt	2,045	0	0
Fisher	2,023	0	0
Hill, Keddall, & Co.	2,015	10	0
Tongue	2,003	3	0
Cubitt	1,998	0	0
Rivett	1,955	0	0
Scrivener & White	1,947	0	0
Pearson	1,915	0	0
Sims & Marten	1,890	0	0
Hughes	1,887	0	0
Page	1,735	0	0
Cordery	1,715	0	0
Ring (accepted)	1,670	0	0

For Inns of Court Hotel, Holborn. Messrs. Lockwood & Mawson, architects:—

Sewell & Son	£75,940	0	0
Myers	74,580	0	0
Hayward	69,400	0	0
Clemence	68,350	0	0
Lawrence & Son	67,426	0	0
Mansfield & Son	66,880	0	0
Gammon	66,406	0	0
Holland & Hannen	64,912	0	0
Hill & Keddell	64,228	0	0

For the erection of a warehouse, stables, offices, &c., in Oxford-street, for Mr. Marshall. Mr. Thomas W. Willis, architect. Quantities supplied by Messrs. S. B. Wilson & Son:—

Macey	£4,968	0	0
J. & J. Coleman	4,849	0	0
Dearde	4,765	0	0
Henshaw	4,548	0	0

For restoration of and additions to the parish church of Clutton, Somerset. Mr. John Norton, architect:—

Brock	£1,898	0	0
Banner	1,705	0	0
Beavan & Son	1,683	0	0
Wall & Hook	1,537	0	0
Lewis	1,500	12	0
Bennett	1,392	0	0
Streeter	1,340	0	0
Dives	1,130	5	0

For pulling down and rebuilding the south-west wing of Chelsea workhouse. Mr. George C. Handford, architect. Quantities supplied:—

Steer	£7,975	0	0
Cowland	7,945	0	0
Perrott & Neave	7,832	0	0
Godbolt	7,630	0	0
Rudkin	7,325	0	0
Ward & Co.	7,287	0	0
Bacon	7,283	0	0
Adamson & Sons	7,199	0	0
Scrivener & White	6,768	0	0
Simms & Marten	6,490	0	0
Elliott	6,142	0	0

For villa at Wandsworth. Mr. Eppy, architect. Quantities not supplied:—

Aries & Sons	£957	0	0
Adamson & Sons	924	0	0
Rudkin	895	0	0
Godbolt	795	0	0

For shop-front in Bond-street. Messrs. Wimperis & Freeman, architects:—

Fish	£190	0	0
Southall & Watson (accepted)	168	17	7

For restoring premises and part of damage by fire at No. 26, Milk-street, Cheapside, for Messrs. Charles & Thomas. Mr. Herbert Ford, architect:—

Rawlins (accepted)	£1,030	0	0

TO CORRESPONDENTS.

STOCKPORT.—Mr. T. H. Allen, architect, of Stockport, wishes us to state, in answer to our correspondent "A Stockport Cotton Spinner," that there is a representative of the architectural profession in that town beyond the firm alluded to.

F. P.—Student of the Noble Art (must consult the lists of the London photographers).—B.—J. L. S. (nothing is yet determined on as to the ultimate use of the metropolitan sewage)—J. L.—H. M.—L. de V. (declined with thanks).—Ch. le Cour.—S. H.—B. C.—J. L. W., W. H. R.—A. W. T. (send Mr. B.'s address).—J. O. N. R.—Mr. McC.—J. B. R.—R. M. P.—M. D. (send information to the architect of the Metropolitan Board of Works, and it will be attended to).—H. S. & B.—J. G. B.—H. & K.—H. P.—P. B. B.—D. B. N. (Yes. He was employed as a surveyor; not as a builder. If he be employed to do the work, he will probably make no charge for the specification).—G. C. H.—C. J. H.—E. L.—J. H. B.—M. R. (in type)—R. N. S. (Ditto).—"Vandyck in London" in our next.

We are compelled to decline pointing out books and giving addresses.

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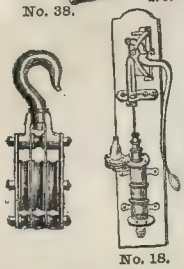
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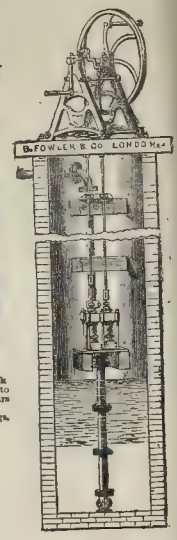
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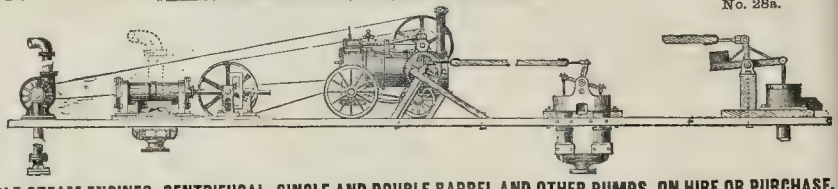
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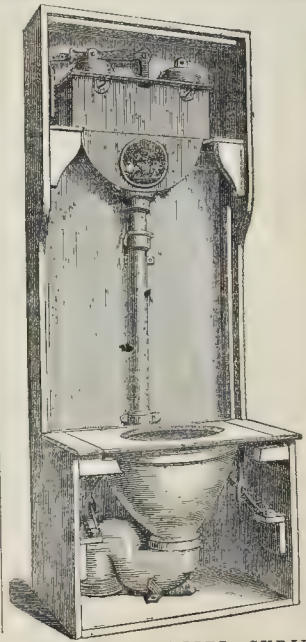
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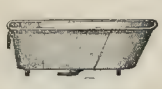


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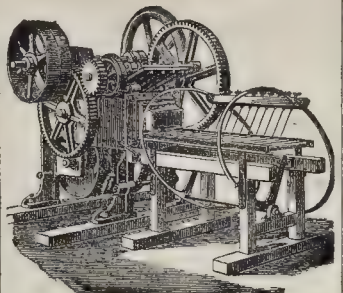
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Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the BEST PORTLAND CEMENT,
On the most reasonable terms.
Orders received at the JAMAICA COFFEE HOUSE, CORNHILL, LONDON; or at the WORKS, NORTHFLEET.

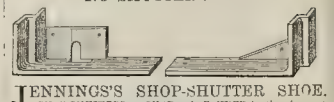
STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch

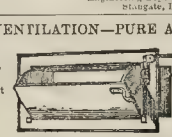
STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

CHRISTMAS PARTIES.
JOHN EDGINGTON & CO.'S WATERPROOF TEMPORARY ROOMS, comfortably warmed, floored lighted, and elegantly decorated. Easily erected and taken down to any distance. Observe the address, JOHN EDGINGTON & CO. 48, Leicester-square, W.C.; and 15, Piccadilly, W. Manufactory, 103, Old Kent-road, S.E.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above at HALF THE COST OF THE USUALLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up
Sold by all Ironmongers, at the Inventor,
GEORGE JENNINGS,
Engineering Depôt, Palace Wharf, Stangate, Lambeth, S

VENTILATION—PURE AIR.
Sheringham's Day and Night Ventilator

for the admission of Pure Air.
THROUGH THE EXTERNAL WALL.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street Borough, London.

TIMBER! DEALS!! FLOORING!!!
THOS. W. ELLSTON

Begs to offer to the Trade and Public generally the undermentioned Goods, at the following low Prices, in quantities of not less than Thirty at the Public Docks, viz :—

1 2½ Mill-sawn White Battens ..... from £8 0 per 120 of 12 feet		Good 3 by 9 White Deals ..... 15 0 per 120 of 12 feet	
2½ Mill-sawn Yellow ditto ..... 9 15 ,,		Yellow Fir Timber (good length and size)..... 45s. per load	
3 by 9 Mill-sawn Yellow Deals ..... 18 0 ,,		Good and well-prepared ¾ Flooring Boards....from 11s. 6d. per square	
3 by 9 Yellow Deals ..... 18 10 ,,		,, ¼ ,, ... 12s. 6d. ,,	
3 by 3 Mill-sawn Yellow Deals..... 12 10 ,,		,, 1 inch ,, ... 14s. 6d. ,,	

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH.

e minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING! DEALS! MAHOGANY!

0,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
00 Dry Pine Plank ..... from 3s. 6d. each
00 Yellow Battens ..... from £10 per 120
00 White Battens ..... from £9 per 120
ched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 5½d. per foot

YELLOW DEALS, £16 PER 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.

List of Prices forwarded on receipt of postage stamp.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
No. 28, GRAY'S INN ROAD, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
¾-inch ,, ,, ...	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens.....	9l. 0s. ,,
3 by 9 Yellow Deals.....	16l. 10s. ,,
Honduras Mahogany	6s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 30s. per Load.	
Good Yellow Deals	£16	10	0 per 120, or	2½	per foot.
Spruce Deals	15	0	0 ,,	2¼	,,
2½ inch Battens	9	0	0 ,,	1½	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

g to inform their Friends and the Trade generally that, having extended their Premises and increased their achinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from hose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l. 10s. per 120, 12 feet; Yellow ditto, 10l. ditto ditto. ¾ Match Boarding, 1s. per square; ¼ ditto, 10s. ditto. Venetian Blind Laths, 2s. 6d. per 100 feet super. — CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
20,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE.

C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand rail Planks, Prepared Flooring, and Builders' Goods in General
COUNTRY ORDERS PROMPTLY EXECUTED.

NORWAY WHARF, RANELAGH-ROAD, PIMLICO, S.W.
B. J. HUDSON,
Mahogany and Timber Merchant, Great Peter-street, Westminster, having purchased the above Wharf, begs to inform the timber and building trade that he can land and deliver Timber, Bricks, &c. to any part of London.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton :—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

PRIZE MEDAL, 1862.

HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

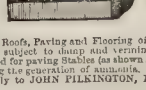
PURE LINSEED OIL, from Genuine Baltic and Bombay Linseed, supplied by the LONDON OIL and COLOUR COMPANY (Limited), Nos. 65, 66, 67, Saint George's-street, London Docks.—Mr. THOMPSON, Manager.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
68, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt. Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 4s. per Gallon. Turpentine, 6s. 0d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Emery-street, and 45, Coleshill-street, Pimlico, S.W. Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—
White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 148, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c., apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S

PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,

FOR

SHOP FRONTS,

2s. 2s. 6d. 3s. and 3s. 6d.

Per Foot Super.

THE MOST SIMPLE AND SECURE SHUTTER EXTANT.

Branch Establishments:—

4, MARKET STREET, MANCHESTER;

GLASGOW, 46, BUCHANAN STREET;

DUBLIN, 17, LOWER GARDENER ST.



CLARK'S PATENT,

FOR

PRIVATE HOUSES,

2s. 6d. and 3s. 6d.

Per Foot Super.

BURGLAR AND FIRE PROOF.

Branch Establishments:—

PARIS, 42, RUE NOTRE DAME DES VICTOIRES;

BRUSSELS, RUE DE L'ECUYER;

AMSTERDAM, BINNEN AMSTEL;

SYDNEY, 51, HUNTER STREET.

HEAD OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.

WORKS, GEORGE YARD, QUEEN STREET.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

LAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

RE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

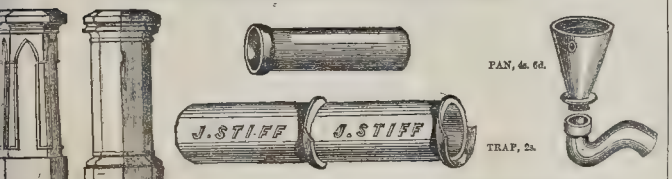
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

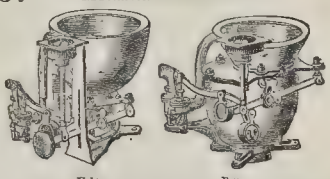
STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No intern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & Co.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and thdly, that the "Reports of the Jurors," page 281, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

PATENT PORCELAIN BATHS.

DESIGNED BY HIS LATE R.H. PRINCE ALBERT.

PRIZE MEDALS, &c.

THE GOLD ISIS MEDAL OF THE SOCIETY OF ARTS, 1850.

THE INTERNATIONAL EXHIBITION MEDAL 1862.

"A great contribution to cleanliness."—See *Journal of the Society of Arts*, 1860. "Nothing can be more cleanly than porcelain, and this is certainly a beautiful specimen."—See *Jurors' Report* 1862, *Class* 10.

Bath Fittings complete, Glazed Bricks, Tiles, Sinks, Fire Basins, Water Closets, &c.

J. FINCH, Albion Chambers, 11, Adam-street, Adelphi, W.C.
RUFFORD & FINCH, Patentees.

SALES BY AUCTION.

GROSVENOR-ROAD, PIMLICO.—To SCULPTORS, MASONS, BUILDERS, and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Lloyd's Marble and General Landing Wharf, foot of Vauxhall Bridge, on TUESDAY, JANUARY 26th, at TEN for ELEVEN, a superior assortment of MARBLE, comprising statuary blocks (of suitable dimensions for sculptors or masons), also about 150 blocks of veined Sicilian, Bardilla, and Emperor's red, also about 1,500 feet of slab and a selection of sculpture-work, consisting of garden figures, monuments, tables, mortars, &c. Approved bills at four and six months.—May be viewed on view days prior, and Catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S. W. and 80, Fore-street, E.C.

METROPOLITAN RAILWAY.—To Engineers, Plant and Fixture Dealers, Wholesale Ironmongers, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, No. 113, Aldersgate-street, on THURSDAY, JANUARY 28th, at TWELVE precisely, the FIXTURES of a Druggist and Manufacturing Confectioner; comprising a capital 4-horse power high-pressure condensing steam boiler with smoke consumer, four exhaust and one copper evaporating pans, plunge machine and 4 cutters, set of four stampers, pair of steel dumb-bells and 4-feet rings, 4 flag machines and frames, steam and water pipes, tinner and zinc cog wheels, and shafting, counters, marble-top work benches, racks and shelves, suite of drawers, iron safe, scoop scales, &c. May be viewed two days prior, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S. W.

ALDERSGATE-STREET.—HOUSEHOLD FURNITURE and EFFECTS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, No. 113, Aldersgate-street, on FRIDAY, JANUARY 29th, at ELEVEN for TWELVE, in lots, the remaining HOUSEHOLD FURNITURE and EFFECTS, comprising mahogany four-post, Arabian, and iron bedsteads, feather beds and bedding, chests of drawers, washstands and tables, dressing glasses, fenders, chimney set of extensive fenders, tables, pedestal sideboard, and easy and other chairs, useful kitchen requisites, gas fittings, and a variety of useful items.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

METROPOLITAN RAILWAY.—FINSBURY EXTENSION.—BUILDING MATERIALS of several large Factories, Warehouses, Dwelling-houses, and Premises in Aldersgate-street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors, to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 1st, at TWELVE, in Lots, all the valuable BUILDING MATERIALS of extensive Factories, Warehouses, Dwelling-houses, and Premises, situate in Aldersgate-street; comprising excellent stock bricks, oak and fir timber in roofs and floors, slates, lead and tiles, glazed sashes, plate-glass skylights, counter, portable and other fittings, doors, weather boarding, flooring-boards, folding-gates, a quantity of York, pebble, clinker, and other paving; lead flats, gutters and pipes, cisterns, stoves, gas-fittings, and other useful fixtures and fittings up. May be viewed on Saturday previous. Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, AND DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—To PRINTERS, PRINTING MACHINE MANUFACTURERS, and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors, to SELL by AUCTION, on the PREMISES Union-street, New Bridge-street Blackfriars, on TUESDAY, FEBRUARY 2 at TWELVE in lots, two superior double-cylinder STEAM PRINTING MACHINES, by Cowper & Applegath, with a Main's single cylinder double royal machine, a 6-horse power high-pressure steam-engine, by Middleton; egg-end steam-boiler, shafting, rigger wheels, flanged bearings, two powerful screw presses, a stamping press, work benches, racks, rails, iron and timber, stabling, sashes, gas fittings, &c. May be viewed the day previous. Catalogues had of Mr. WILDERS, Solicitor, 4, Fredericks-place, Old Jewry, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

IN BANKRUPTCY.—To CARPENTERS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Assignees of Messrs. J. & J. Binns to SELL by AUCTION, on the PREMISES, 5, Munster-street, Regent's-park, on TUESDAY, FEBRUARY 2, and following day, at TWELVE the remaining portion of the extensive and valuable STOCK-IN-TRADE of new and second-hand Building Materials, Fixtures and Fittings comprising 40 lights of cast-plate glass, 7 cwt. of galvanized warmans and other iron, plate-glass and other mahogany doors with shutters, ready-hung cast-iron sash-frames, fancy-brass cornice, 10,000 feet panelled and glazed partitioning, stained glass sashes and casements, deal and elm seasoned planks, mahogany top counters, nested drawers, desks, office deals and battens, 30 square of prepared deal boards, 18 cwt. patterns, 12 square master boarding, 4 pairs of iron floor lards, 50 new iron plank, 6 bundles of sawing lattens and pallet rails, wrought and cast iron, and other large variety of valuable property.—May be viewed the day previous, and catalogues had of Messrs. J. & W. SHEFFIELD, Solicitors, 68, Old Broad-street; of E. EDWARDS, Esq. Official Assignee; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S. W. and 80, Fore-street, E.C.

ADDISCOMBE COLLEGE, CROYDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, 25th of JANUARY, 1864, at TWELVE for ONE o'clock, a further portion of this eligible Estate, consisting of about Fifty Lots of Eligible FREEHOLD BUILDING LAND, tithe-free and land-tax redeemed, situate close to the proposed Addiscombe Station on the Mid Kent Railway, with frontage to the St. Dunstan's and Clumber's roads, and forming the most valuable portion of the most eligible property. The Lots are well adapted for first-class residences, and one corner plot, close to the station, is set apart for a tavern. The New and East Croydon Railway stations are within ten minutes' walk, and that at West Croydon about a mile distant. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of Sale may be obtained about ten days before the Sale, at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

Very important Freehold Site in the Best Part of the City of Chester.

MESSRS. LEIFCHILD & CHEFFINS are instructed to LET on a BUILDING LEASE, a valuable PLOT of FREEHOLD LAND (now built upon and occupied by a draper and tailor), having a frontage of 50 feet to Northgate-street by a depth of 170 feet. This desirable site is within a few yards of the intersection of Northgate-street and Bridge-street with Eastgate-street and Watergate-street; it is in the most central position in the city, is close to the markets and merchants' room, and offers a rare opportunity for the erection of a bank, insurance office, or other public building or a first-class shop. Messrs. LEIFCHILD & CHEFFINS are prepared to receive proposals for a lease of this property, on eligible terms, which may also be addressed to JOHN JONES, Esq. Newgate-street Chester

UNDER BANKRUPTCY, &c.—To BUILDERS, CARPENTERS, MANGLE & CABINET MAKERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, on MONDAY, JANUARY 25th, at ELEVEN for TWELVE o'clock, 1,150 PLANKS, DEALS, and BATTENS, 120 squares prepared flooring, 6,000 feet wainscot, 2,000 feet yard, 10,000 feet scantling, 5,000 feet birch, 2,000 feet mahogany, 400 feet oak plank, 1,000 feet cane square, 1,500 feet arris rails, dry cut stuff, 100 dozen sashing battens, 18 squares match lining, cross feet mouldings, staff-bill poles, marble bath, old materials &c. May be viewed, and catalogues had on the Premises; of Messrs. J. & W. SHEFFIELD, Solicitors, 68, Old Broad-street, E.C.; of E. EDWARDS, Esq. Official Assignee, 23, Basinghall-street, City, E.C.; and of the Auctioneers, Cardington-street, Hampstead-road.

FOUR DAYS' SALE of TIMBER, on WEDNESDAY, FEBRUARY 3rd, at ELEVEN for TWELVE o'clock precisely, and Three Following Wednesdays.

THOS. ROBERTS & CO. have received instructions to DISPOSE OF by PUBLIC AUCTION, on the above days, the well seasoned STOCK of Messrs. Robert Ward & Son, on the PREMISES, 101, Bermondsey New road, near the Bricklayers' Arms, and in consequence of the premises being let and their removal to Grosvenor road, Pimlico, and which consists of large quantities of Honduras and Spanish Mahogany, Rio walnut, white and yellow deals and battens, pine planks, spruce deals, prepared flooring, Baltic timber, English oak and elm, ash and beech plank, linetree board, chesnut, birdseasn, sycamore, walnut, American birch, walnut, and other woods. Four powerful Cart horses, Harness, &c.—To be viewed two days prior and morning of Sale. Catalogues had upon the Premises; and of the Auctioneers, No. 9, Billiter-street, Fenchurch-street, E.C.

REPOSITORY, BARBICAN.—RAILWAY CART HORSES.—To CONTRACTORS, BUILDERS, WHARFINGERS, COAL MERCHANTS, and OTHERS.—TO BE SOLD by AUCTION, by

MR. J. GOWER, on FRIDAY, JANUARY 29th, 1864, at TWELVE o'clock, Twenty known powerful CART HORSES, some very active flippers, by direction of Messrs. Dewey & Bunker. Have been working for the Peterfield Railway, nearly completed. On view two days prior.

KINGSLAND AUCTION ROOMS, near the Gate.—To Paperstainers, Dealers, Builders, and Others.—Important Sale of Paperhangings, Glass, Waste Lead, &c.

MESSRS. TEBB, BROTHERS, will SELL by AUCTION, at their large ROOMS, 11, Kingsland road, next the Lamb Tavern, on THURSDAY, JANUARY 28, at ONE o'clock, 1,000 packs of elegant PAPERHANGINGS, of the newest designs, dry and ground Oxfords, Satins, a useful Carthorse, and Effects. Catalogues at the Rooms and Offices.

In Chancery: "Vokins v. Gray."—Freehold Building Land, Spitalfields.

MESSRS. PRICE & CLARK will SELL by AUCTION at GARRAWAY'S, Change Alley, Cornhill, on WEDNESDAY, the 10th of FEBRUARY, 1864, at TWELVE for ONE o'clock precisely, by direction of the High Court of Chancery, in the above cause, a valuable piece of FREEHOLD LAND, situate in Spitalfields, in the County of Middlesex, containing in front to the south, on the west side, 148 feet 9 inches, or thereabouts, and from east to west on the north side, 94 feet, or thereabouts, having a frontage towards Crispin street of 111 feet, and a frontage towards Raven row of 98 feet, or thereabouts, and three FREEHOLD HOUSES standing on part thereof.—Particulars with Plans may be had of Mr. DOVE, Solicitor, 54, Hunter-street, Brunswick-square; of Mr. BOYDELL, Solicitor, 41, Queen-square, Bloomsbury; and of the Auctioneers, 43, Chancery-lane.

NORTHFLEET DOCKYARD

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, FEBRUARY 9th, and following days, at ELEVEN o'clock each day, at Northfleet Dockyard, Northfleet, Kent, an assemblage of ENGINEERS' TOOLS, of the largest class, and General Stores, including two self-acting planing machines by Whitworth and Nasmyth, one to take in 10ft. wide, 30ft. long; the other to take in 12ft. wide, 24ft. long; a very powerful lathe by Nasmyth, 66in. centre, 41ft. bed; two very powerful boring mills, one capable of boring a cylinder 12ft. in diameter; a 40-ton overhead traveller, cutting and punching machines, vertical saw frame, foundry crane, donkey pumping engine; two back geared lathes, 24in. centres, 9ft. beds; two highly-finished working models of screw and paddle engines, several ships' models, brass barrel and lift pumps, 20ft. fly-wheel in segments, 12ft. disc, fire engine and hose, 4 cast-iron chain stoppers, 2 new ship windlasses, 2 steaming kilns, 15 double and single purchase crabs, 50 tool chests, a large assortment of shipwrights' tools, 2 pile-driving engines, 2 railway earth waggons, 8 tons contractors' rails, 10 tons chain cable, slings, &c.; 3½ tons wrought-iron ring bolts, 1 ton screw spye, 2 tons nails, 2 tons spikes, 2 tons anchors, 50 tons punching machine, new 10in. bolt and sheet copper, a quarter-ton metal dumps, 50 pairs metal hinges, 50 brass dock and side lights, brass screws, 3 large ship-bells, 2 large copper distilling apparatus, 2 powerful screw presses, 2 punching and shears, set of 3-throw brass pumps, valuable assortment of wood patterns, 12 tons rope, 180 fathoms of oak, teak, and fir slabs and planks, 7,000ft. sawn timber, 12 tons of pencil cedar, 100 pairs of wood blocks, 2 strong machine trollies, 2 bogies, 2 rubber whims, 2 hand trucks, and numerous other effects.—To be viewed on the Saturday and Monday previous to the Sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 11, Billiter-street, E.C.

TO TIMBER-MERCHANTS AND OTHERS

MR. WM. HODSOLL will SELL by AUCTION, at the BLACK BOY INN, St. Mary's Cray, Kent, on THURSDAY, JANUARY 28th, at TWELVE o'clock, the above superior ELM TREES, chiefly of large dimensions; also a few cherry trees, a quantity of elm poor wood and bushes, and 12 acres of coal all underwood of the whole standing within a short distance of the Cray railway station.—May be viewed at any time, and catalogues had of the Auctioneer, Farningham, Kent.

CHARING CROSS RAILWAY.—CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on FRIDAY, 29th JANUARY, 1864, at ONE o'clock punctually, the valuable MATERIALS of THE DWELLING-HOUSES and WAREHOUSE, in Bush-lane, Upper Thames street, Chequer-yard, and on Dowgate-hill; comprising several tons of lead, in pipes and gutters; plain and pan tiles on roofs; sash-frames and glazing, good flooring boards, stout timber and joists, excellent sashes and frames, lobpole and other doors and frames, iron guards, cranes, wood pile, and a variety of useful fixtures and fittings up.—May be viewed the day previous and morning of Sale, and catalogues had on the Premises, at the Contractor's Office, 1, Wormwood-street, Southwark, and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

CHARING CROSS RAILWAY, CITY TERMINUS

TO BUILDERS, CONTRACTORS, PAVIORS, AND OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, 26th FEBRUARY, 1864, and following day, at ONE o'clock punctually, the valuable and useful MATERIALS of several houses and warehouses on Dowgate-hill, in Chequer-yard, Bush-lane, and Scott's-yard, comprising several tons of lead in pipes and gutters, plain and pan tiles on roofs, stone sills, good flooring boards, stout timber and joists, excellent sash-frames, lobpole and other doors and frames, iron guards, cranes, wood pile, and a variety of useful fixtures and fittings up.—May be viewed the day previous and morning of Sale, and catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

No. 102, LOWER THAMES STREET, CITY.—BUILDING MATERIALS

MR. T. SIDNEY SMITH has been instructed by Messrs. Overall, Sons, & Co. who are rebuilding, to SELL by AUCTION, on the PREMISES, on THURSDAY, next, JANUARY 28, at TWELVE for ONE, several Tons of LEAD, cisterns, doors, partitions, sash-frames, York paving, &c.—Catalogues of the Auctioneer, 43, Lombard-street.

FREEHOLD MILLS, with good Water-power, Keynsham, Somerset, well adapted for Corn Mills, Oil Mills, or Paper Mills, TO BE SOLD.—Apply to Messrs. FULLER & HORSEY, Billiter street, London, E.C.

WATERSIDE PREMISES.—TO BE LET, on lease, a capital WHARF, having a frontage, of 127 feet, to the City-road Basin. The buildings comprise counting-house, warehouse (containing four rooms), corn and chaff stores, stabling for 12 horses, with large yard and large yard adjoining, eight-horse mill, chimney shaft, smithy, carpenter's shop, &c. the total superficial area being 16,456 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

ELIGIBLE FREEHOLD BUILDING LAND, in the CITY of OXFORD.—The Guardians of the Poor of the Oxford Incorporation will offer for SALE, during the course of next Spring, the SITE of the present WORKHOUSE, in the City of Oxford, containing five acres or more. Further particulars may be obtained of W. JACOB, Clerk to the Guardians, Oxford, December 10th, 1863.

TO BUILDERS and OTHERS.—TO BE LET, several PLOTS of BUILDING LAND, situate in the best part of Stoke Newington, where houses are in great demand. Bricks supplied on the estate at a low price. Sand may be raised on the ground for building purposes.—Apply to Mr. ROUDA, at the Estate Office, Bouverie-road, Church-street Stoke Newington.

A FREEHOLD MANSION TO BE SOLD.

The elegant Farm Estate may be had at a valuation. There are four reception-rooms, one being 24 feet in length; eleven best bedrooms; stabling for eight horses and four carriages; suitable servants' offices; extensive ornamental grounds, with green-houses, in all 24 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

KEYNSHAM BLUE LIAS LIME and CEMENT WORKS, Somerset.—TO BE SOLD, by PRIVATE CONTRACT, by the Proprietor, the Liquidator, the newly-formed FREEHOLD WORKS, occupying a site of 7 acres, 2 roods, and 26 perches, or thereabouts. The existing kilns and sheds are capable of producing 700 to 800 bushels per week, and 120 tons of cement weekly, both produce being approved of by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. The buildings are very substantial and the machinery as if the best description, driven principally by water-power, but with steam power as an auxiliary. Coals are supplied to the works at a very low price, and the Midland Western Railway Station is within a short distance.—For further particulars, apply to Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate-street; to F. MAYNARD, Esq. Liquidator, 19, Broad-street, Bristol; and to Messrs. FULLER & HORSEY, 13, Billiter-street, London.

WHARF.—TO BE LET on LEASE, a WHARF, 200 feet deep, and river front 178 feet 6 inches, with dwelling-house, and large quantity of timber-shed, &c. at Cumberland Wood-wharf, Poplar.—Apply to the Wharfinger, on the Premises; or Mr HARVEY, 24, Holywell-street, Westminster.

BUILDING LAND TO BE LET.—PARAGON ROW, LOCK'S FIELDS, WALWORTH, SURREY, within five minutes' walk of the Elephant and Castle.—To BUILDERS, MANUFACTURERS, WHOLESALE TRADERS, and OTHERS, requiring space for building and business premises. The Fishmongers' Company are ready to receive TENDERS, on a Building Lease or Leases, for the GROUND, about two acres, at the east end of Paragon-row, Lock's-field, now in the occupation of Messrs. Waring & Co. It is a rectangular plot, about 663 feet in length, and of about 131 feet average parallel width well adapted for dwelling-houses or business premises requiring space.—For conditions and particulars, inquire of Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall; or of Mr RICHARD SUTER, Architect and Surveyor, 24, Fenchurch-street. The Tenders to be sent in by TUESDAY, the 16th of FEBRUARY next, at NOON precisely.

Fishmongers' Hall, 19th January, 1864.

PANGBORNE, BERKS.—Valuable Freehold Land, within five minutes' walk of the most beautiful part of the river Thames and of the railway station, and about one hour's journey from London. TO BE LET, in large or small lots, about 20 ACRES of CAPITAL BUILDING ground, admirably adapted for gentlemen's residences and villas, delightfully situated, with fine views of the country and river scenery.—Apply to W. J. RATCLIFFE, Esq. Solicitor, Hyde, Isle of Wight; or to F. NEWMAN, Esq. Surveyor and Architect, Ryde, Isle of Wight.

TO BUILDERS.—LAND TO BE LET for BUILDING, at Camberwell and Rotherhithe.—Apply to Messrs. FINCH & CO. 17, N. Bank-street, Westminster.

HARROW.—ROXBOROUGH PARK.—FREEHOLD LAND TO BE LET, on 80 years' leases, for building VILLA RESIDENCES, in the vicinity of the School, on the slope of the hill, towards the railway, from which it is distant about three-quarters of a mile. The occupant of each house would be entitled to the privileges of the season tickets for the children, and would have a free pass by railway to London for eleven years. Bricks made on the estate.—For particulars, apply at Mr. HESKETH'S Office, No. 7, Royal Exchange, E.C.

TO BE LET, by the Fishmongers' Company of London, on a building lease, for eighty years, valuable BUILDING LAND, Newington, Surrey, within three minutes walk of the Elephant and Castle; about three quarters of an acre of Ground, situate on the east side of the Walworth road, having a frontage of 145 feet to that road, and a frontage of 176 feet 6 inches in Prospect-row; and Eighteen Cottages in the rear, in William's-place. This property is well adapted for shops and business purposes, or dwelling-houses, and is likewise one of the principal thoroughfares of the district.—The Lot or Lots to be taken in one or more lots, to suit the views of different parties wanting the ground.—Apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SUTER, the Company's Surveyor, 24, Fenchurch-street E.C. where plans and particulars may be seen. The Tenders are to be sent in by MONDAY, the 15th of FEBRUARY next, at NOON precisely.

Fishmongers' Hall, 19th January, 1864.

WANTED, YARD or PREMISES suitable, or that can be adapted, for a Builder, within half-a-mile radius of Portman square. Depth not less than 60 feet. Entrance accessible for carts, long scaffolding, &c. No shop required.—Address, stating rent and full particulars, to S. Office of "The Builder."

TO MASONS, JOINERS, PLUMBERS, SLATERS, PLASTERERS, &c.—TO BE LET, the various WORKS required in the erection of a Wesleyan Chapel, at SKIPTON. Plans and Specifications may be seen and bills of quantities obtained at our Offices, Bradford, on MONDAY, JANUARY 25th, until FRIDAY, JANUARY 29th; and of Mr. AILEN, Wesley-place Day School, Skipton, between the hours of TEN and FIVE, from SATURDAY, JANUARY 30th, until 1st February next, by which last day sealed Tenders, endorsed "Tender for Chapel," must be sent to the Secretary, Mr. JAMES TASKER, stamp office, Skipton. The lowest Tender will not necessarily be accepted.—By order, LOCKWOOD & MAWSON, Architects.

Post-office Buildings, Bradford.
10, Lincoln's-inn Fields, London.

SYDENHAM HILL.—LAND TO BE LET, for Building, 430 feet frontage, average 300 feet deep. Beautiful site, with extensive prospects, and fronting a high road. Close to the railway stations, and within ten minutes' walk of the Crystal Palace. May be had in one, two, or three plots, for detached residences.—For particulars, apply personally to Mr. HENRY DAWSON, Architect, 16, Finsbury-place, South, E.C.

ARGYLL HOUSE.—Lord Aberdeen's late Residence.—The handsome Marble Chimney Pieces, Painted Panelled Doors, Wainscot, and other Fittings, highly ornamental Architraves, and a great variety of other Fittings and Fixtures, TO BE SOLD.—Can be seen every day between TEN to FIVE o'clock, at Argyll House, Argyll-street, Regent Circus.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 23, 1864.

The Builder.

AN JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1095. JANUARY 30, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BALL.

This ANNUAL BALL will take place at WILLIS'S ROOMS, ...n, FEBRUARY 18th, in aid of the Funds of the BUILDERS' ...NEVOLENT INSTITUTION, under the patronage of the Right ...n. the LORD MAYOR, the LADY MAYORESS, and the ...HERIFFS.

COMMITTEE OF MANAGEMENT.

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...W. Downs.	Mr. T. Lucas.	Mr. W. Todd.
...W. M. Dunnage.	Mr. G. Myers.	Mr. S. Trickett.
...W. E. Edwards.	Mr. W. Norris.	Mr. W. Watts.
...H. Everitt.		Mr. W. Wood.

...f whom Tickets may be obtained; also of Mr. JOSEPH BIRD, ...w, Sec. 10, Hanover Cottages, Regent's-park; and at the Offices, 23, ...thampton-street, Bloomsbury.

...Double Ticket, 21s.: Lady's Ticket, 8s.; Gentleman's Ticket, 14s. ...including refreshments.

BUILDERS' BENEVOLENT INSTITUTION.

...TION.—An ELECTION of FIVE PENSIONERS—three MALES ...d two FEMALES—will take place 26th MAY next. Candidates ...y obtain forms of application (to be returned on or before 29th ...BRUARY) at the Offices, 23, Southampton street, Bloomsbury. ...sions, 24l. per annum for Males, and 20l. for Females.

A. G. HARRIS, Sec.

UNIOR ATHENÆUM CLUB.—Noble-...men, Gentlemen, Members of the Universities, Associates of ...e Learned Societies, and others desirous of becoming Members of a ...rst-class Club on the basis of the existing Athenæum, are requested ...e communicate with G. E. WRIGHT, Esq. F.S.A. Secretary pro ...Tem. Committee-room, St. James's Hall, Regent-street.

NATIONAL SHAKSPEARE COMMITTEE.—January 25th, 1864.—Notice is hereby given, that ...e Site and Monument Committees meet on the 5th FEBRUARY ...e day after the meeting of Parliament). Artists and others, willing ...submit suggestions, are invited to forward the same, addressed to ...e Honorary Secretaries, 120, Pall Mall, London

W. HEPWORTH DIXON, } Hon. Secs.
J. O. HALLIWELL, }

THE PAINTERS' COMPANY'S EXHIBITION of DECORATIVE and IMITATIVE WORK will take ...ce in JUNE, 1864, with Two Extra Prizes of five Pounds each for ...ecoration. Terms to be had (from Eleven to Two) at the Hall, No. 9, ...tle Trinity-lane, City, E.C. N.B. Early application should be made ...spapace.

F. G. TOMLINS, Clerk.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES FOR COLOURED DECORATION.

5l. 5s. and 3l. 3s. are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, price 5s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if cast and packing required, 7s.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an interest in the same, and have considerably reduced the price of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 13, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

BY ORDER of the TRUSTEES of the SOANE MUSEUM.—The MUSEUM, 13, Lincoln's-Inn-fields, will be OPEN this season on the Wednesday in each week in the months of February, March, July, and August; and on the Wednesdays, Thursdays, and Fridays in April, May, and June. Cards of admission to be obtained of the Curator, at the Museum; or from the Trustees.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.

Notice is hereby given, that TWENTY FIVE APPOINTMENTS in the UPPER CLASS of the ELECTRIC TELEGRAPH DEPARTMENT in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will, accordingly, be held in this office in the month of MAY next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the Appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

November 20th, 1863.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves. Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

MARYLEBONE and WEST LONDON SCHOOL of ART, 203, PORTLAND ROAD, W.

President—A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. &c. &c.

NOTICE.—The ANNUAL EXAMINATION in Drawing, before the Government Inspector, will take place in MARCH. Persons not taught in the School may present themselves for Examination without any Fee, and are equally eligible with the Students to receive the Certificates and Prizes granted by the Government. Special EXAMINATION CLASSES are formed in the School for qualifying in the above subjects of examination. Former Students will be provided for in these classes; and as long as there is room, strangers may join them.

30th January, 1864.

COMPETITIONS.

TO ARCHITECTS. — CHESTER NEW TOWN HALL.—The Town Council of the City of Chester are prepared to receive DESIGNS for a NEW TOWN HALL, with POLICE OFFICES and LOCK-UPS, proposed to be built upon a site belonging to the Council situate in Northgate-street. Architects wishing to send in Designs may obtain a plan of the site and particulars and instructions upon application to me, the undersigned, at the Public Offices, Lower Bridge-street, at which place the Designs must be delivered, free of cost, on or before the 2nd day of MAY next. A premium of 100l. will be paid to the author of the DESIGN to which the Council shall award the first place, and a premium of 50l. to the author of the Design to which they shall award the second place; both of which Designs thereupon to become the property of the Council. But should the author of either of the premiated Designs be employed to carry out the work, the premium awarded to him will be deducted from his commission, which will be 5l. per centum on the outlay. If the Designs sent in are not, in the estimation of the Council, of sufficient merit, the premiums will not be given.

JOHN WALKER, Town Clerk.

Public Offices, Lower Bridge-street, Chester, 18th January, 1864.

NEW WATERWORKS at RIPON.—To ENGINEERS and OTHERS.—The Council of the City and Borough of Ripon, acting as the Local Board under the Local Government Acts, having determined upon providing their District with a supply of pure and wholesome water, constantly laid on at such pressure as will carry the same to the top story of the highest dwelling house within such district, hereby offer a PREMIUM of FIFTY GUINEAS for the best and most practicable SCHEME for obtaining such a supply. Full particulars of the plan proposed, with all necessary specifications and estimates of the cost of carrying out and working the same, are to be left, in sealed covers, pre-paid, and marked on the outside, "Waterworks' Plan," at my Offices, in Ripon, on or before the 8th day of MARCH next, where, meantime, further information may be obtained. The Council are not to be liable to make any recompense or other payment to unsuccessful competitors; nor do they pledge themselves to employ the person whose plans may be preferred, but, if not employed, the above-named premium will be given, and such plans, specifications, and estimates will remain the property of the Council.—By order,

R. W. NICHOLSON, Town Clerk.

Ripon, January 25, 1864.

BOROUGH of WIGAN, in the county of Lancaster.—To ARCHITECTS and OTHERS.—The Corporation of the said Borough of Wigan are desirous of receiving and hereby invite Architects and others to send in DESIGNS, PLANS, SECTIONS, ELEVATIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a BOROUGH GAOL, containing not less than fifteen cells for prisoners, a house for the chief-constable, also a house for the gaol keeper; fire-engine-house for three engines, with space for the necessary apparatus; police court and sessions room, recorder's retiring-room, barristers' robing room, attorneys room, grand jury room, petty jury room, a general purposes room (lavatory, bath-room, and kitchen for the prisoners in the basement fronting Chapel-lane), and all other necessary offices for the transaction of the business of the Local Board of Health of the said district and borough of Wigan. Plans to be of a uniform scale of an eighth of an inch to the foot. The cost of the entire building shall not exceed 12,000l. The population of Wigan is about 49,000. The person who, in the opinion of the Town Council of the said borough, produces the best design, plan, section, elevation, specification, and estimate to receive 50l.; the second best to receive 40l.; and the third best, 20l. The designs, &c. for which premiums shall be awarded shall become and be the property of the Town Council of the said borough, but the Council do not bind themselves to carry out the same design, &c. or employ the architect producing them, and will be at liberty to modify the same in any way they may think proper, and in the event of his being selected for that purpose the premium to merge in the architect's commission.

Each set of designs, &c. &c. must be distinguished by a motto and accompanied with a sealed envelope containing the name and address of the competitor, and having a similar motto to that on the design, plan, &c. which envelopes will not be opened until after the plans are decided upon. The designs, &c., and everything intended to be submitted therewith, must be enclosed in a sealed cover endorsed "Plan for Borough Gaol, &c." and addressed to C. HILTON, Town Clerk, Wigan, and be delivered on or before the 10th day of MARCH next. The Town Council will pay to the Architect selected to carry out the work a commission of five per cent. on the outlay, to include all plans, sections, specifications, drawings, estimates, elevations, and all attendances necessary to complete the same, and no charge or extras of any description will be allowed. All the plans, &c. except the premium ones will be returned, carriage free, on application to me, and no further liability by the Town Council or claims to remuneration will be allowed in respect to the plans, &c. received beyond the amount of premium herein set forth. A block plan of the site, and any further information that may be required, can be had on application at my Office on payment of the sum of five shillings for each plan.

Wigan, January, 1864.

C. HILTON, Town Clerk.

TO ARCHITECTS.—VILLA and COTTAGE RESIDENCES.—The Directors of the Manchester Villa and Cottage Association (Limited), offer 50l. PREMIUM for the BEST DESIGN, and 25l. for the 2nd best Design, for FOUR COTTAGES and SIX DWELLING HOUSES.

First a Row of Four Cottages, not to exceed 150l. each in cost.

Secondly, a Group of Two Houses, not to exceed 200l. each in cost.

Thirdly, a Group of Two Houses, not to exceed 350l. each in cost.

Fourthly, a Group of Two Houses, not to exceed 500l. each in cost.

The plans and drawings, at a scale of 1in. to 1ft. with figured dimensions, to be sufficient to show the respective designs, and to be accompanied with a general description of the materials and finish. Plans of proposed sites for the groups may be had from the Secretary. Buildings undertaken by the Association may be built under the superintendence of any architect nominated by the person or persons who covenant to purchase them when built. Messrs. COMBERT & BABY, the Architects and Surveyors to the Association, will not compete for the above, but will assist the Directors in adjudicating the premiums. The designs to be sent in to the Secretary, sealed and endorsed "Designs for Villa and Cottage Residences," on or before the 30th of APRIL next, marked with a motto, and with sealed envelope containing Architect's address, or signed with name instead of motto, if preferred. Designs not adjudged to receive the premium to be returned.

JOHN WORTHY WILLIAMS, Secretary.

Offices, 36, Market-street, Manchester, January 15, 1864.

PENARTH HARBOUR, DOCK, and RAILWAY COMPANY.—NOTICE to ARCHITECTS, BUILDERS, and OTHERS.—The Penarth Harbour, Dock, and Railway Company are prepared to receive PLANS, DESIGNS, ESTIMATES, and SPECIFICATIONS, for an HOTEL, a Dock-master's House, a Dock Office, a Custom House and Ten Merchants' Offices, to be erected at Penarth. The Company will pay a premium of 50l. for the plans and designs which shall be considered by the Company to be best, and a reward for the next and further particulars obtained on application to the Company's Secretary, at the Penarth Harbour Office. Plans and designs to be sent in addressed to the Directors, on or before the end of FEBRUARY, 1864.—By order of the Board,

BOOTH BACON, Secretary.

Company's Office, near Cardiff, January 27th, 1864.

FIFTY POUNDS PRIZE for Improved VERMIN TRAP.—The Committee of the Royal Society for the Prevention of Cruelty to Animals offer a Prize of 50l. for a TRAP, which shall either, without inflicting torture, secure vermin alive, or instantaneously destroy them. The invention must be simple, inexpensive, certain, and fit for use in game preserves. The Committee, assisted by scientific persons, will be the judges, and the reward will be given to the best trap, provided in their judgment it is efficient for the purpose required.—For further particulars, apply to

13, Pall-Mall, S.W. JOHN COLAM, Secretary.

P.S.—Several country gentlemen and masters of hounds have contributed in support of the above project. Suggestions from sportsmen and game preservers are earnestly desired.

TO SCULPTORS.—The COUNCIL of the ART-UNION of LONDON request that every sculptor intending to COMPETE for the PREMIUM of 600l. offered by the Society, will send to the Office, on or before the 8th of FEBRUARY next, a sealed letter, containing his name and address, and bearing on the outside the title of the work he proposes to send in, and a motto or mark which must also be repeated on the work. This is asked in order that sufficient accommodation for the models may be provided. Due notice will be given by advertisement of the place to which the works are to be sent on the 1st of MARCH next.

GEORGE GODWIN, } Hon
LEWIS POCOCK, } Secretaries

14 West Strand, 23rd January, 1864.

[For Contracts see next Page.]

CONTRACTS.

TO PAINTERS, GLAZIERS, GRAINERS, STONEMASONS and OTHERS to BE LET by CONTRACT, the FINISHING of an ELEVEN ROOMED HOUSE. Specifications to be seen on the premises.—Apply to Mr. GALE, Gale-terrace, Catcliffe-lane. All the repointing, altering, and fixing of seven marble chimney-pieces.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the NEW BUILDINGS (covering nearly half an acre of ground) to be erected on the site of Argyll House, Argyll-street, Oxford Circus. Also for the Old Materials of the existing Premises. Plans, specification, and particulars, can be seen on or after the 27th instant, at Messrs. HAIG'S Office, No. 13a, Fenchurch-street; or at Argyll House.—Tenders to be delivered at No. 13a, Fenchurch-street, by NOON on the 26th FEBRUARY next, but Messrs. HAIG do not bind themselves to accept the lowest or any Tender.

TO PAVIORS, CONTRACTORS, and OTHERS.—Notice is hereby given, that the Fareham Local Board of Health invite TENDERS from Persons willing to CONTRACT for PROVIDING and LAYING in the town of Fareham, for the paving of footways at the rate of superficial yards of 6 inch PENRYN BEKKERING, in the best manner of such kind of work, and fixing of GRANITE KERBING. Copies of the specification and form of Tender, with full particulars, can be had on application to Mr. THOMAS BUCKHAM, C.E. Engineer to the Board, at his Office, Quay-street, Fareham. Tenders, endorsed "Tenders for Paving," to be forwarded to R. PORTER, Esq. Chairman of the Local Board of Health, Fareham, on or before THURSDAY, the 11th day of FEBRUARY, 1864. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED DRIVER, Clerk.

Fareham, January 25, 1864.

EXETER IMPROVEMENT ACT.—The Commissioners of Improvement for the City of Exeter are desirous of receiving TENDERS for LAYING DOWN some new FLAGGING in parts of the High-street of the City, to the extent of about 8 feet superficial feet. The flags must be from the quarries in the neighbourhood of Bradford or Buttas, Yorkshire. The specifications for the work required can be obtained on application at my Office. The Commissioners do not pledge themselves to accept the lowest or any Tender. Tenders to be delivered at the office of Mr. WM. BUCKINGHAM, Clerk to the Commissioners, 12, Bedford-place, Exeter, on or before the 5th of FEBRUARY next.

THOS. WHITAKER, City Surveyor.

Dated, Margrave's alley, Exeter, 9th January, 1864.

TO BUILDERS and OTHERS.—TENDERS are required for the ERECTION of STABLING at the rear of the Wickham Arms Tavern, Brockley-road New-cross for Messrs. COURAGE & CO.—For particulars, apply to Mr. JENKINS, Surveyor, 1, Mount Pleasant-place, Lewisham-road. Messrs. COURAGE & CO. do not bind themselves to accept the lowest or any Tender. All Tenders must be sealed up, and addressed to Messrs. COURAGE & CO. and deposited with Mr. JENKINS, not later than the 13th FEBRUARY next.

TO BUILDERS.—CONTRACT for STATION BUILDINGS and COTTAGES at CROYDON.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the necessary WORKS in ERECTING STATION BUILDINGS in the Selhurst road, Croydon, on the line of railway from Croydon to Redhill, and for the Erection of Twelve Cottages, also in the parish of Croydon. Drawings and specification may be seen at the Office of the Resident Engineer, London Bridge Terminus; and Tenders, in the prescribed form, must be sent to the Secretary, on or before MONDAY, the 8th FEBRUARY next. The Directors do not bind themselves to accept the lowest or any Tender.

London Bridge Terminus, January 26, 1864.

TO MANUFACTURERS of SEWER and DRAIN PIPES, BRICKMAKERS, and OTHERS. The Local Board of the District of Ormskirk, in the County of Lancaster, are prepared to receive TENDERS for the SUPPLY of SEWER and DRAIN PIPES, INVERTS, and RADIATE BRICKS, required for the sewerage works of the said district. The estimated quantity of pipes required is 8,000 yards. The specification and conditions may be seen and forms of Tender and necessary information obtained on application to Mr. BRIERLEY, Civil Engineer, Blackburn.—Sealed on application to Mr. BRIERLEY, Civil Engineer, Blackburn.—Sealed Tenders, endorsed "Tender for Sewer Pipes," must be sent to my Office, No. 2, Hall-lane, Wigan, on or before SATURDAY, the 6th day of FEBRUARY next.

JOHN PICKOP, Law Clerk.

January 27, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of a PAIR of SMALL VILLAS, on the Addiscombe Estate, for Mr. G. Mathews. The drawings and specification can be seen at the Crown Hotel, Croydon, until TUESDAY, 9th FEBRUARY, on which day Tenders are to be delivered.

HENRY BANCE, Architect and Surveyor.

Croydon, January 28, 1864.

CONTRACTS, 1864.—PARISH of ST. GEORGE, HANOVER-SQUARE.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for One Year, from the 25th day of March, 1864, viz.:—

Supply of Paints and Oils,
Supply of Guernsey Granite,
Purchase of the Manure and Ashes,
Carting away the Slop and Sweepings of the Streets,
Furnishing Carts and Horses for Day work,
Spreading Water in the Streets,
Masons' Works,
Paviors' Works,
Supply of Paving Materials,
Supply of Thames Ballast, Sand, and Hogging,
Supply of Workmen's Tools and Hammers for Stone-breaking, and Repairs of the same,
Smiths' Works,
Gasfitters' Works,
Supply of Bass Brooms,
Drain Pipes,
Shoeing of the Horses,
Veterinary Cure of Horses;

may deliver in PROPOSALS, sealed up, at the Office of the Boardroom, Mount-street, Grosvenor-square, on or before NOON, on Monday, 15th February, 1864, and attend at the Vestry-room, Parish-buildings, on or before SATURDAY the 13th of FEBRUARY, 1864. Persons tendering are hereby further notified that all Proposals must be made up in, and strictly in accordance with, the printed forms of Tender, to be obtained at the above Offices.—Further particulars may be obtained on application to Mr. E. C. BICKHAM, Surveyor, at the Office, 1, Bow-street, any morning between the hours of NINE and ELEVEN o'clock. Contracts to be prepared by the parish solicitors, at the expense of the Contractors; and the Vestry do not bind themselves to accept the lowest or any Tender. By order,

JOSEPH HENRY SMITH, Clerk to the Vestry

TO BUILDERS and OTHERS.—The Directors of the Commonwealth Land, Building, and Investment Society are prepared to receive TENDERS for the ERECTION of a Pair of Semi-detached COTTAGES, on Lots 12 and 13 in Block 4 on the Ascot Estate, fronting the railway station. Plans and specifications are prepared, and may be obtained upon application to Mr. JACKSON, Manager, at the Offices of the Society, No. 31, Assembly-row, Mile-end-road. Tenders to be delivered on MONDAY, the 8th day of FEBRUARY; but the Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a New BANK and PREMISES for the London and County Bank, with HOUSE adjoining, at Newbury, Berks, are desired to inspect the plans and specification on and after MONDAY, the 15th of FEBRUARY next, at the London and County Bank, Newbury, or at the Offices of the Architect, Mr. FRED. CHANCELLOR, Palmer's-road, Old Broad-street, London. The Tenders to be delivered at the London and County Bank, Lombard-street, London, before TWELVE o'clock on MONDAY, the 29th of FEBRUARY. The lowest or any Tender will not necessarily be accepted.

BOGNOR RAILWAY.—To CONTRACTORS and BUILDERS. The Directors of the Bognor Railway Company are prepared to receive TENDERS for the ERECTION of the BOOKING OFFICES, Waiting Rooms, Platform, Goods Shed, Weighing Machine, and other Buildings required at the Terminus Station at Bognor, in the county of Sussex. Drawings and specification may be seen for inspection at the Office of the Engineer, Mr. JACOMB HOOD, 5, Little George-street, Westminster, S.W. and Tenders on and after MONDAY, the 1st of FEBRUARY next, and Tenders must be delivered to the undersigned, at the London Bridge Terminus, not later than TWELVE at NOON on TUESDAY, the 16th of FEBRUARY.

N.B. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.

London Bridge Terminus, January 22, 1864.

TO CONTRACTORS, PIPE MAKERS, EXCAVATORS, BUILDERS, and OTHERS.—LOCAL BOARD of HEALTH STANFORD-LE-HOPE and WEST THURROCK.—Notice is hereby given that on WEDNESDAY the 10th day of FEBRUARY next, and not after that day, Plans, Specifications, and Forms of Contract, for the DRAINAGE WORKS of Stanford, will be submitted, at the Office of the Surveyor to the Board, at Shanklin, to the inspection of those persons desirous of TENDERING for the EXECUTION of the same—Sealed Tenders to be addressed to the Chairman of the Shanklin Local Board, and to be delivered at his residence, in East Cliff road, Shanklin, on or before the 16th day of FEBRUARY next. The Board do not bind themselves to accept the lowest or any Tender.

25th January, 1864.

TORQUAY.—To BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of FOUR HOUSES in Ellacombe-street, Torquay, can inspect the drawings and specifications at my Office on and after TUESDAY, the 9th of FEBRUARY. The Tenders must be delivered at my Office on or before the 16th of FEBRUARY. The lowest or any Tender will not necessarily be accepted.

EDWARD APPLETON, F.I.B.A. Architect.

Torquay, January 27, 1864.

GREAT HARWOOD LOCAL BOARD of HEALTH.—To EARTHENWARE SEWER-PIPE MANUFACTURERS.—The Local Board of Health of the District of Great Harwood desire to receive TENDERS for the SUPPLY of EARTHENWARE SEWER and DRAIN PIPES required for the purposes of their District. Quantity required about 1,000 yards. The specification, and conditions may be seen, and forms of Tender and necessary particulars obtained, by application to Mr. BRIERLEY, Civil Engineer, Blackburn. Sealed Tenders, endorsed "Tender for Sewer Pipes," &c. may be sent to the undersigned, at his Office in Rockburn, not later than SATURDAY, the 6th day of FEBRUARY, 1864.

THOS. CLOUGH, Law Clerk to the said Local Board.

Blackburn, 27th January, 1864.

TO BUILDERS.—The Guardians of the Poor for the Union of Pontypridd, in the county of Glamorgan, are desirous of receiving TENDERS for the ERECTION of a WORK HOUSE, and Offices connected therewith. Plans, specifications, &c. may be seen at my Office, and Bills of Quantities obtained. Tenders to be sent to E. C. SPICKETT, Esq. Clerk to the Board, Pontypridd, endorsed "Tender for Workhouse," on or before the 1st day of MARCH next. The Board do not bind themselves to accept the lowest or any Tender. Each Builder will be required to give in with his Tender the names of two sureties, who will be held responsible for the fulfilment of his Contract.—By order of the Board,

GEO. E. ROBINSON, Architect.

Cardiff, January 26th, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Bacup to Meltham, about 4½ miles.—Plans and specifications may be seen and forms of Tender obtained at the Engineer's Office, Hunt's Bank, Manchester, on and after MONDAY, the 8th JANUARY instant, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the Secretary not later than MONDAY, the 15th FEBRUARY, 1864.

WM. S. LAWN, Secretary

Manchester, December 19, 1863.

METROPOLITAN IMPROVEMENTS. SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will receive TENDERS for the Sewerage, Paving, Channelling, &c. on WEDNESDAY, the 2nd MARCH, now next, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties then present, for the WORKS and BUILDING LEASES of the Portion of certain LOTS of GROUND, situate on the North and South sides of Southwark-street from High-street, Borough, to Blackfriars road, Surrey, and for the formation and form of Tender, and such information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Southwark-street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, Charing-cross, 25th January, 1864.

TO BUILDERS.—Such Persons as may be desirous of UNDERTAKING the several WORKS and REPAIRS that may be required by the War Department to the BARRACKS at Chichester, from the 16th MARCH, 1864, to the 31st MARCH, 1865, may be furnished, by payment of seven shillings and a penny, with the printed Forms of Tender, Conditions of Contract on personal application at this Office, between the hours of TEN and FOUR daily (Sundays excepted), up to the 10th FEBRUARY next.

The Tenders to be delivered before TWELVE o'clock at noon on SATURDAY, the 13th day of FEBRUARY, 1864, at the War Office, Pall Mall, London, addressed to the Director of Contracts, and endorsed "Tender for Artificers' Work, Chichester."

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

J. W. GORDON, Colonel,
Commanding Royal Engineer.

Royal Engineer Office, Portsmouth, 17th Jan. 1864.

NORTH EASTERN RAILWAY.—DARLINGTON SECTION.—The Directors are prepared to receive TENDERS for the following Works, viz.:—ALTERATIONS and ADDITIONS to DARLINGTON STATION, consisting of Brick and Masons' Work, in altering and extending the Platforms and Offices, repairing and altering Timber and Slater's Work, in Roofs and Offices; and a large quantity of Ironfounder and Glazier's Work, in covering Extension Platforms. ALTERATIONS and ADDITIONS to MIDDLESBRO' STATION, consisting of a New Carriage Roofs, Joinery Bricklayer and Mason's Work, in altering and extending the Platforms and Offices; Carpenter and Joiner, Plumber, Plasterer's Work, to Roofs and Offices; and a large quantity of Iron founder and Glazier's Work, in covering Extension Platforms. Plans and specification of the above may be seen at the Architect's Office, Darlington, on and after WEDNESDAY, the 27th day of January, until SATURDAY, the 13th day of FEBRUARY 1864. Tenders to be addressed to the Secretary, and delivered at the Railway Office, Darlington, not later than SUNDAY, FEBRUARY 15th, 1864. The Directors do not bind themselves to accept the lowest or any Tender. (Signed)

T. KENT'S PAINTING-BRUSH MANUFACTORY is continued by his Successors, CROWDEN & GARROD, Falcon-square, London, E.C. Where the TRADE is supplied with the same superior quality under the name of "Kent." N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes. Also Manufacturers of the Patent India rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

Railway Office, Darlington, January 20th, 1864.

N.B.—Bills of Quantities can be obtained of Messrs. O. J. & J. SHOVELL, 72, Bundy-row, Manchester; or at the Architect's Office, Darlington.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graining Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & Co. at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

PURE LINSEED OIL, from Genuine Baltic and Bombay Linseed, supplied by the LONDON OIL and COLOUR COMPANY (Limited), Nos. 53, 55, 57, Saint George's-street, London Docks.—Mr. THOMPSON, Manager.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
58, Upper Thames-street, London, E.C.

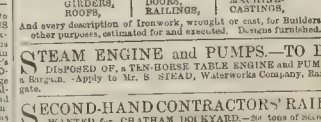
IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt. Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 7d. per Gallon
Turpentine, 6s. 6d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses 30, Upper Ebury-street, and 45, Coleshill street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon.
For cash at FRANCIS TUCK'S Old Established VARNISH and COLOUR WAREHOUSE, No. 148, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

INDIA-RUBBER MILL BANDS WASHERS for STEAM JOINTS, HOSE PIPES, and GARDEN SYRINGE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS,
and every description of Contractors', Builders', and Decorators' Ironwork.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug mills, Jack rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Hay-rack, Trestles, &c. Lent on Hire. Price Lists on application.
GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON ROAD LONDON N.W.

PRIZE WAGGONS and CARTS.—HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials.
HAYES & SON,
SCOTGATE WORKS, STAMFORD.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS 17, Union-street, and 95a, Great Guildford street, Borough, S.E. Inventor of the Rotary Shot Proof, Patentee of the Tubular Railings, now Compensating Girder Irons, &c. &c.)
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.

COLUMNS, GIRDERS, ROOFS, TANKS, DOORS, RAILINGS, STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

STEAM ENGINE and PUMPS.—TO BE DISPOSED OF, a TEN-HORSE TABLE ENGINE and PUMPS, a Bargain. Apply to Mr. S. STEAD, Waterworks Company, Ramsgate.

SECOND-HAND CONTRACTORS' RAILS WANTED for CHATHAM DOCKYARD.—30 tons of Second-hand CONTRACTORS' RAILS are required immediately for the use of Her Majesty's Dockyard, at Chatham.
To be good condition, straight, and in lengths from 15 to 21 feet, and averaging in weight 30lb. per yard. To be delivered on the Wharf of Her Majesty's Dockyard, at Chatham, within 14 days after the acceptance of Tender, free of all charge beyond the rate tendered for. TENDERS will be received for the whole or for any part of the quantity, not being less than 25 tons.—Tenders sealed, and endorsed "Tender for Rails," to be sent to the Office of the Captain Superintendent, Chatham Dockyard, on or before WEDNESDAY, the 10th FEBRUARY, 1864.
Chatham Yard, 23rd January, 1864.

TO IRON MERCHANTS, CONTRACTORS, and OTHERS.—WANTED to PURCHASE, about 12 to 20 tons of IRON TRAMWAY METALS, of a light description.—Address, Mr. J. HAYWARD, 92, Mitcham-road, Croydon, stating in answer how much per ton and how many yards to the ton. All answers to be returned by FEBRUARY 8th, 1864.

A SIX-HORSE PORTABLE ENGINE, New, and Warranted, price 135l. net, at WAYGOOD'S NEWINGTON IRON-WORKS, Robert's place, Great Dover road. Crabbs, Cranes, and all other descriptions of Machinery.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
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&c. &c.

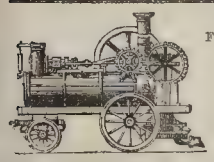


PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS.
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES **FOR HIRE** OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, **TO LET ON HIRE,** by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

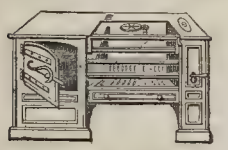
CLARK & HUNT, IRONMONGERS, MERCHANTS, &c,
No. 159, SHOREDITCH.

RANGES.
Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Self-acting, with Bright Wrought Bars.

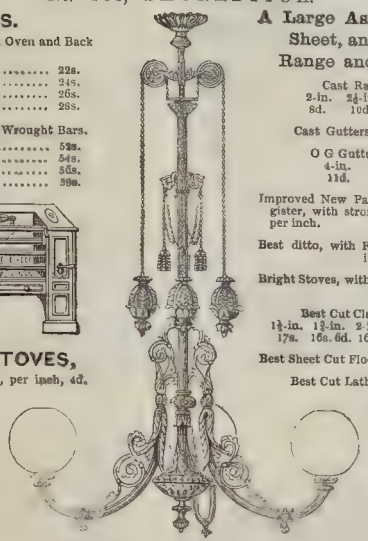
34 inches	52s.
36 ,,	54s.
38 ,,	56s.
42 ,,	60s.



REGISTER STOVES,
with Strong Bars, from, per inch, 4d.

GAS PIPES
and
FITTINGS.

CHANDELIERS
and
BRACKETS.



A Large Assortment of Bar, Sheet, and Hoop Iron, Range and Stove Metal.

Cast Rain-Water Pipe,

2-in.	2½-in.	3-in.
8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on.

4-in.	4½-in.
11d.	1s. per yard.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.

1½-in.	1¾-in.	2-in.	2½in.	3-in.
17s.	16s. 6d.	16s.	15s.	14s. 6d. per cwt.

Best Sheet Cut Floor Brads, 14s. 6d. per cwt.

Best Cut Lath Nails, 17s. per cwt.

BRICK MOULDS
KEPT IN STOCK.
Any Size made to order.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
No. 73, LIME STREET (late of Lawton Street), LIVERPOOL.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

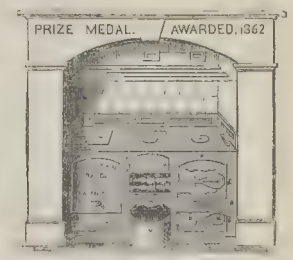
REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road E.C. near the Canal Bridge.

BENJAMIN SLATER
(Late E. GOLLOP), SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring hinges, Rising and Not-rising Door Back-springs, &c

Price List and Drawings on application as above.

PATENT WORCESTERSHIRE RANGE.



PRIZE MEDAL 1862, AWARDED FOR EXCELLENCE.

The above RANGE is most complete, and strongly recommended for its unrivalled ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.

It is an entirely new invention, and consists of JOINT MEAT ROASTER, PASTRY OVEN, and WROUGHT IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 3 feet wide is equal to an ordinary Range 8 feet wide.

Extracted from the "London Daily Telegraph," May 19th, 1862.

"INTERNATIONAL EXHIBITION, CLASS II.

"Of the most recent inventions it should be said that Messrs. JONES & ROWE'S Patent Worcestershire Range has attracted very special attention, and has been commended by the best authorities. A valuable peculiarity of their Range is the glazing of the OVEN and ROASTER one above the other instead of *side* by *side*; and the ROASTER is constantly replenished with fresh air."

INVENTORS AND MANUFACTURERS,
JONES & ROWE, WORCESTER,
AGENTS FOR LONDON: BARRON, SON, & WILSON, 436, STRAND, W.C.

Illustrated Catalogues, with Testimonials and Prices, forwarded on application.

KITCHEN RANGES.—BROWN BROTHERS' are the best adapted for heating BATHS, CONSERVATORIES, &c. and perfectly performing every other culinary operation. Require little or no fixing, save half the coals, cure smoky chimneys. The only Range which can use the Patent Automaton Roaster. In operation daily at the Depôt.—LONDON: 63, CRANBOURN-STREET, W.C. Illustrated Catalogue post free. Hot Water Apparatus for Buildings.

PATENT HEATING and VENTILATING APPARATUSES,
For PUBLIC BUILDINGS and PRIVATE HOUSES.



SAVES IN FUEL 50 PER CENT.!

A prospectus, containing a full description of their action, and numerous advantages, will be given on application to the Patentee, G. LEWAL, 5 and 6, PHILPOT LANE, LONDON, E.C.
Agents Wanted.

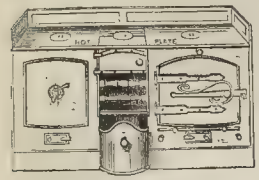
DAY and GAS LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. and 38½, Charles-street, Hatton Garden, E.C. A large assortment of Silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Bent Glass Silvered.

N.B.—The usual discount to BUILDERS and the TRADE.



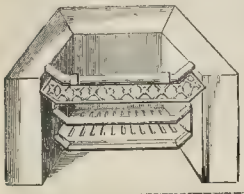
DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern*).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work OLD or NEW.
Self-acting Spring Slides for the bottom of doors.
The most imperfect door can be made air-tight without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
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THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within Five Miles.
BURT & POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS
38 and 65, York-street, Westminster.



FIRE-LUMP STOVES,
FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOLROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.
With hanging trivet.

				s.	d.		s.	d.
18 inches wide,	10	inch bars	..	7	6	.....	8	6
21	12		..	10	6	.....	12	0
24	15		..	13	0	.....	15	0
27	18		..	16	0	.....	18	0
30	21		..	20	0	.....	—	
33	24		..	30	0	.....		
33	27		..	36	0	.....	Extra strong.	
41	30		..	42	0	.....		

These Stoves give a considerable heat with a small consumption of coal.
EDWARDS & SON,
STOVE GRATE & KITCHEN RANGE MANUFACTURERS,
No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

EXHIBITION PRIZE MEDAL, 1862, AND MEDAL OF ROYAL AGRICULTURAL SOCIETIES OF ENGLAND AND IRELAND.
MUSGRAVE'S PATENT STABLE AND HARNESS FITTINGS.



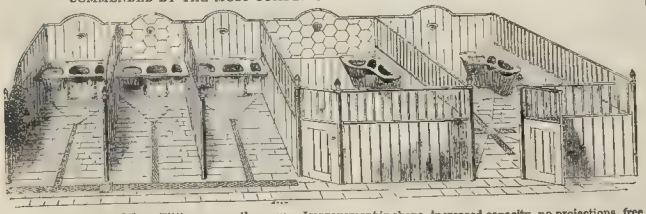
MUSGRAVE'S PATENT HARMLESS LOOSE BOXES, MUSGRAVE'S PATENT IRON COW STALLS AND PIGGERIES.
Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first-class stables in almost every county in England and MUSGRAVE, BROTHERS, are now fitting several very large establishments under directions of London Architects, noted for adopting only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to
MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.

THE PRIZE MEDALS
(LONDON, 1851. PARIS, 1855. LONDON, 1862)
Awarded to
COTTAM & COMPANY,
2, WINSLEY STREET, LONDON, W.
For progressive and general improvements in
STABLE FITTINGS AND HARNESS BRACKETS.





PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction, and cleanliness in use.
STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

HART & SON
Ornamental Metal Workers in Iron, Silber, and Brass.
Chalices, patens, crosses, flower vases, lecterns, candlesticks, coronæ, standards, and brackets for lighting; gates, hinges, memorial brasses, &c., &c.
Catalogues on application.
53 to 58, Wych Street, Strand, London, W.C.; Show Rooms also, 20, Cockspur Street, S.W.

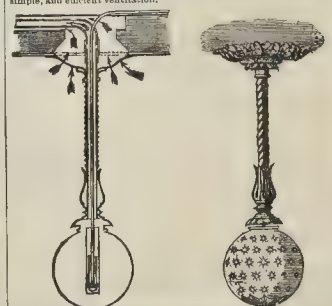
HARD & HUTCHESON
MANUFACTURERS OF
MEDIÆVAL ART METAL WORK
159 HIGH HOLBORN WC
Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gaseliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Drawings and Estimates furnished.

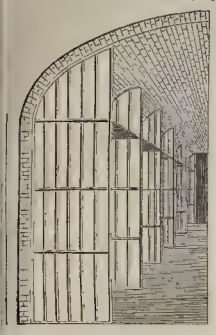
RICKETT'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.

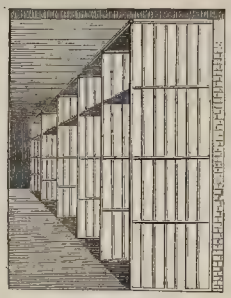


The advantages of this fixture are these:—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 15 feet per hour.
No. 5, CHANDOS STREET, CHARING CROSS, LONDON, W.C.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED
TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55 High Holborn.

WROUGHT IRON WINE BINS.





FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING nearly FORTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

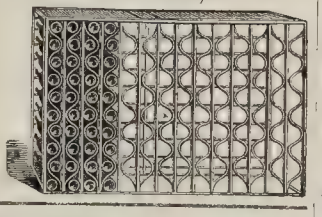
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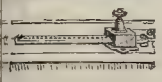
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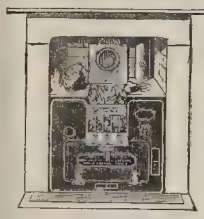
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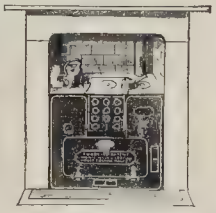
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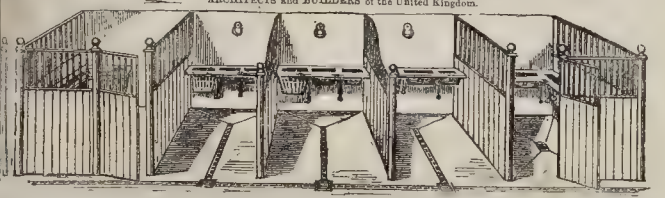
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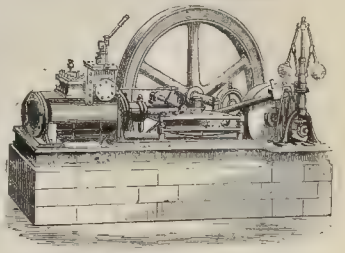
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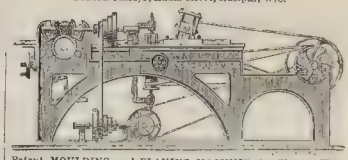
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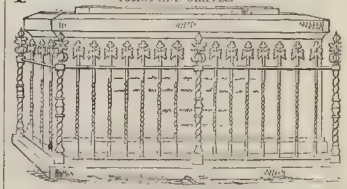
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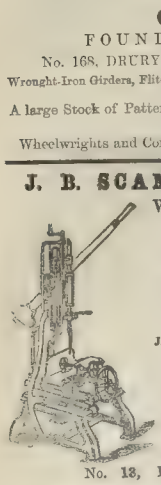
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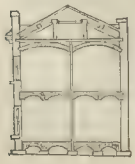
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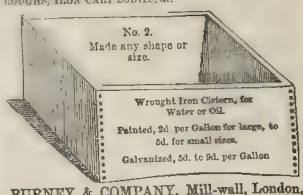
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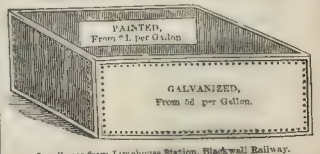
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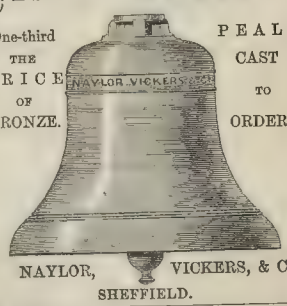
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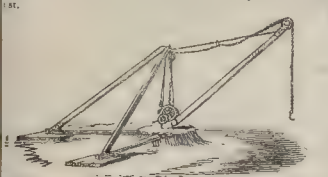
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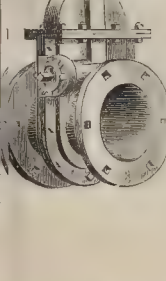


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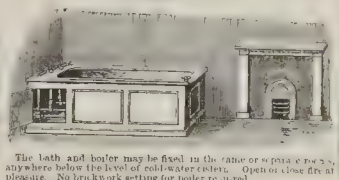
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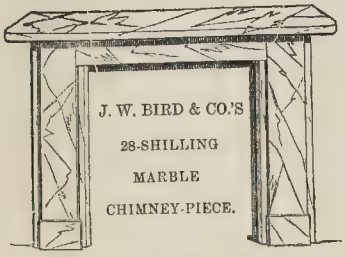
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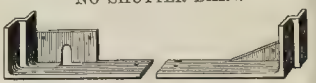
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The Builder.

VOL. XXII.—No. 1095.

"Going Along:" Turin and Italian Lakes.

SIGHT-SEEING is naturally the order of the day, and we rush off at once to the more prominent and best known Lions yet unvisited in Turin, nearly all of them, luckily, pretty close together. Pity the poor foreigner, in a parenthesis, who wishes to do the same thing in London in a short time,—who, putting up say at the Victoria Hotel, starts to get a peep at the Thames Tunnel and the South Kensington collections, and perhaps dip into the British Museum, northward, between the two. In Turin, however, things lie together. In the Royal Palace, there are some modern pictures, amongst which may be specially mentioned the Judgment of Solomon, by Podesti (very good, particularly the figure of the real mother); "Frederic Barbarossa at the Siege of Alexandria," by Arienti; and the charming portrait of the young Duchess of Burgundy in her red-velvet, gold-laced walking-dress, with powdered hair, and hat in her hand. There is a handsome suite of reception-rooms, elaborately gilt; and the throne-room has a fine parquetted floor. Many other points of interest present themselves in the Royal apartments here, which since the death of the Queen and the Queen-Mother have not been used,—the *Salle de Reception*, for example, where the Princess Clotilde was asked in marriage for the Prince Napoleon, and the Princess Pia for the King of Portugal; two excellent busts of these princesses, by Santovarini, of Genoa; the chandeliers of rock crystal, on frames of finely-worked steel; and the lift, or descending-room, constructed beyond the external wall, to lower the Queen-Mother from her apartments to the gardens, to spare her fatigue.

In the museum, connected with the palace, we find the very interesting and well-known collection of armour and arms, the *Armeria di Carlo Alberti*, including many fine equestrian suits admirably mounted on well-modelled horses covered with skins from the Royal stable. By a little confusion of recollections, easily understood, this peculiarity was attributed to the horses in the Ambras Museum, Vienna, in our description of that admirable collection. It belongs, however, exclusively to those in the Turin collection. There is one horse in especial, a cream, quite lifelike, and carrying a graceful rider,—the whole a perfect specimen of the manner in which equestrian suits should be displayed. We are again led to think with little satisfaction of our armoury in the Tower at home, which ought to be the finest collection of the kind in the world, and might be soon made so under proper direction. In the Turin collection there are two or three suits of the fifteenth century, more than usually well wrought and gilt; some excellent swords and breastplates; and the arms given to Philibert Emanuel by Charles V. of Spain, finely worked on ivory and in metal. One suit, noticeable for its very large size, is powdered with a coronet, the letter F, and the pentacle,



Amongst the curiosities and caprices is a winged Burgonet taking the shape of the winged head of an animal with fangs, and yet not unlike an ugly sort of flying fish. This is a recent addition from Germany, purchased by the present *Re Galantuomo*; and a genuine specimen, which is more than can be said of some winged burgonets we know of. The attendant insists on its belonging to the eighth or ninth century; but that is simply nonsense. It is probably not earlier than the time of Maximillian and our Henry VII. or VIII.

The Museum of Antiquities includes some remarkable Egyptian monuments and relics, and a tablet in honour of Champollion, who studied there.

The Royal Gallery of Painting gives us about 610 works, many of them excellent specimens. As a whole, the collection is much better than we had been led to expect, and in some points stands alone. Here, for example, may best be made a right estimate of the talent of Gaudenzio Ferrari, a painter who is much less esteemed in England than he should be. He was the pupil of Bernardino Luini, who had his inspiration, it will be remembered, from Da Vinci; and Gaudenzio, next to Luini, is the greatest of the Milanese masters. He had been a pupil of Perugino also, and at that time had made Raffaelle his friend, whom he helped about the year 1517 in painting some of the apartments in the Vatican. Gaudenzio died in 1549, and yet waits for a full appreciation.

Of the work of Paulo Veronese there are some excellent specimens, particularly "The Magdalen in the House of Simon the Pharisee," a grand picture in the most perfect state of preservation. The head of the Saviour is not the best part of the picture;—a circumstance not uncommon in similar subjects.

Rembrandt's "Portrait of a Rabbi" (that with lights on the table: there are two so entitled) is one of the finest of his works, and seizes the spectator by the eyelids: a very different affair from much of the rubbish in the world said to be by the Leyden master. Holbein's "Portrait of Calvin" is another speaking head. His portrait of Martin Luther, dated 1542, is a less agreeable picture; and, moreover, is not so well painted. The portrait of Pope Paul III., attributed to Titian, is a marvellously good head, with fine old hands. A "Portrait of a Man," grave and grand, under the same painter's name, admits of less doubt as to its authenticity. The gallery is strong in Guercinos (he lived from 1591 to 1666): especially beautiful is his "Virgin and Infant Jesus."

Many English visitors, when looking at two pictures hung together, and titled, "Portrait of a Man," and "Portrait of a Woman," both by Ravestein, portraits most delicately and carefully painted, have said,—and who is Ravestein? Jean Van Ravestein was born at the Hague about the year 1580, and lived until he was seventy-five. He was one of the best portrait-painters of the Dutch school, and that is saying something. There is a third picture by him in the Turin gallery, a "Portrait of a Princess," remarkably delicate. One of Memling's masterpieces is here, sometimes called "The Seven Griefs of Mary," but more properly in the catalogue, "The Passion of Jesus Christ." It is perhaps inferior to the "Seven Joys," at Munich, as we said when speaking of the latter, but is, nevertheless, a picture the sight of which is worth the journey from London. If that inducement, however, should not be sufficient, add to it the Vandyck portraits of the Princes of Savoy and of the children of Charles I., and all doubt will be removed.

There is a remarkable picture of "Cows in a Prairie," signed *Paulus Potter*, 1649; for which they say Charles-Albert refused a Raffaelle offered by the Grand Duke of Tuscany. The only picture in the collection seriously attributed to Raffaelle is one known as the *Madonna della Tenda*, from the character of the background. Some strong opinions have been given in favour of its authenticity, but it will never be received undoubtingly by all, though it be quite certain that Charles-Albert paid 3,000*l.* for it. The colour is brick-dusty, and portions of the picture, at any rate, are the work of a poor hand.

Pictures by Albert Durer, Rubens, Mantegna and others, come back to recollection, but we may not venture to dwell upon them; though we could willingly loiter in the rooms all day. High is the enjoyment, great the advantage to be found in a fine gallery of art. Art?—

> "Say what is Art? Th'acquirement of a sense
> Discoverable, dormant, incomplete—
> Poetry, Painting, Music; do they cheat
> The understanding with false ravishments
> Of things that are not? No: when man invents
> He but discovers; and with favour'd feet
> Walks privileged where angels pass and meet,
> And bringeth back, as 'twere, the rudiments
> Of their high language."

Leaving this mental trysting-place we go where *mortals* "pass and meet,"—to the Chamber of Deputies, the outside displaying a rough kind of cut brickwork, very curious to the sight; and afterwards to the Upper House. Off went our companion's hat, and justly, to the memory of one whose seat, not very long vacant, was pointed out. Camille de Cavour will long live in the hearts of his countrymen: his name will go down to posterity as that of a true patriot and a wise man. Nice and Savoy threw a stain upon his memory; but time, which gives more complete knowledge of events, is rapidly effacing it. A tablet distinguishes the house wherein he dwelt. If Cavour had lived, Italy by this day would have had less to strive for. The good time, however, is but delayed,—

> "Freedom's battle once begun,
> Bequeath'd from bleeding sire to son,
> Though baffled oft, is ever won."

The Chamber of Deputies, we may go back to say, is semicircular in plan, and has 500 seats for 444 members, who all speak, as in our own House of Commons, from their places, not from a tribune.

And now Turin, with its arcaded walks and back-ground of mountains (the Superga basilica on one of them four or five miles away); its university, its academy, its sprinkling of statues, the pleasant river, and active people, must be left. Our faces are set towards the Lago Maggiore, so we turn upon our footsteps; again use the railway back to Novara, and thence by another line go northwards, to Arona, at the foot of the lake. Let us first note, however, as to the river on which Turin stands, once called the Bodinco, or bottomless, and now the Po, what Eustace points out, that in its course, which, including its windings, extends to three hundred miles, it receives thirty rivers, bathes the walls of fifty towns and cities, and gives life, fertility, and opulence to extensive plains. Truly a good river.

The view of the Alps, on one side, going away from Turin, as many of our readers will recollect, is superb. The peaks, covered with snow, stand out in the pure air bright and clear, against a blue sky; while on the other side are seen the less rugged Apennines, covered with trees and herbage. It was an exquisite morning—everything smiled. Add to this a row on the lake in the evening, with a first view of Monte Rosa, Europe's second mountain, high upreared behind the nearer hills in a pale yellow sky, with, later in the night, the moon and a myriad of stars in the sky,—our one boat the only moving thing over the expanse of placid and illumined water,—and it becomes a day of sensations to be long remembered.

By sunlight the prominent object at this end of the lake is the colossal statue of the good Carlo Borromeo, built up of metal plates on a lofty stone pedestal, high on a mountain. A minute description of it was given in the *Builder* a few years ago. Suffice it now to say, to convey a notion of its size, that the head will hold

five persons, and that a man can walk upright within the outstretched arm. The stone-work of the pedestal is in a bad state, for want of pointing: and a house or two that have been recently built near it mix up awkwardly with the statue from several points of view, and spoil the effect of it. Some supervision by those in authority should be exercised in such respects.

The characteristics of the Lago Maggiore, its lofty banks covered with trees, detached residences, hamlets, and villages, embellished with flowers, and backed up by mighty mountains, with occasional intervals of cultivated plains, are too well known to make many words about them here excusable; and we must now go along even more rapidly than heretofore, simply indicating the continuity of our six weeks' route. The residence on the Isola Bella, the whole a glorious feature seen from a distance, and indeed offering much for near examination that is very curious and interesting, is occupied by the present Count Borromeo; the rooms, lined with pictures of not very high character, being well kept. Some mosaic beds, by the way, such as have been imitated in the new gardens of the Royal Horticultural Society at home, will be noticed in the grounds, with many things that are more pleasing. At one time Isola Bella was deemed an enchanted island, a paradise on earth. Then "taste" changed, and nothing good could be said of it. Both opinions must now be thought wrong. Few will visit, with moderate expectations, this remarkable example of what energy and money can accomplish with only a barren crag to work on, without full satisfaction and great pleasure. Lovers of nature will find even more to delight them on Isola Madre, close by, where the vegetation is of the richest character. The prickly pear, of an immense size, with leaves 18 and 20 inches long, enormous aloes, some in bloom, growing out of the rocky sides of the island; oranges, citrons, the bamboo, with its lovely light green spiky leaves, and a poplar "*Carolina*," with leaves of startling size at the top, are some of the features that first attract attention and excite wonder: while the more minute inquirer in such paths will perhaps note down the *Oleacles Dichimales*, with oleander-like leaves and scarlet bloom; the *Datura Umilis*, for its pleasant scent; the *Plombago Zelenica*, with a small blue flower and honeysuckle leaves; or the *Arbutus Integrifolia*, looking, poor thing, as if flayed alive. The view of the lake from the summit-terrace of this remarkable place, thus rock mantled with gold, where many bits of the gardens are quite as startling as any of Beverley's fairy retreats in paint, is truly suberb; beautiful to sublimity.

The Lago d'Orta is about seven miles to the west of the Lago Maggiore, into which, indeed, it discharges its surplus waters, and is the object of a pleasant drive from Arona. It is small, about eight miles long, but very picturesque, and presents two or three points of great interest; as, for example, the pleasant villa and gardens of Count Natta, admirably laid out in winding paths, shaded by trees and fringed with ferns; the Sacro Monte, at the back of the town, with its remarkable groups of terra cotta figures; and the ancient church on the Isola san Giulio, in the lake. Taking the last first, a date as early as the fourth century is claimed for part of the church, and, without combating or inquiring into this, we are quite ready to consider the capitals of some of the attached and detached cylindrical columns in the nave aisles as belonging to a period anterior to the tenth century. These capitals are square blocks, the lower part sloped away on all sides to accord with the size of the column, and ornamented on the faces with incised lines, in the shape chiefly of simple volutes, and, on most of them, a star-form, not unlike the common star-fish. The pulpit, according to a remarkably intelligent and genial priest who accompanied us over the building, was set up in the year 900, under known direction. The sculptured ornaments of it include early leafage and a Sagittarius. Scattered about, the piers and walls display frescoes, some of them excellent, but all much decayed and destroyed. In the sacristy are a few paintings, some of them under good names. The island, as a whole, has evidently seen better days.

The groups on the Sacro Monte, the toilsome ascent to which is shortened and made agreeable by a road through the gardens of the villa we have named, are contained in some twenty buildings which we may call Stations, and represent events in the life of St. Francis of Assisi, to whom the church crowning the whole is dedicated. One of the groups represents St. Francis in Palestine freeing Christians; another a carnival at Assisi. The figures are life-size, brightly coloured after nature, energetic and expressive. Carlo Beretta, Bussola, and others, were the artists. The walls of the various buildings are decorated with paintings to correspond.* The whole is a strange puppet-show that fatigues before half is seen. As a relief, we ascend the unfinished Belvidere, and enjoy the splendid panorama there presented. The lake is divided into two; the mountains,—one at the end of the lake bears an old castle,—are sprinkled with villages, villas, and churches. The water is blue as a sapphire; the sky a paler tint without a speck; the near hills are covered with verdure: observe that one delicious bit where its bright green cuts against the intense blue of the lake. It is impossible to talk: it is as much as one can do to enjoy!

And now back to Arona: to-morrow we must re-cross the Alps, and say Farewell to Italy,—for a time.

ON GREEK ARCHITECTURE.†

FORTY years ago a lecture on Greek Architecture must have had a different scope from that which it has at present. For the cycle of architecture which the civilized nations have been running over during the last three hundred years has been this, that instead of developing from previous types as the Greeks did, and our European ancestors in the twelfth and thirteenth centuries, who attained a place in art more meritorious certainly than the Romans, whose architecture is little more than an echo of the Greek—fainter and more confused than the original,—we have been content to imitate old forms of art. This system of imitation, which now seems inveterate, was then running strongly in the Greek channel, and a lecturer must have had the knowledge that his hearers (could such a circle have then been gathered before him) were actually engaged in putting Greek dresses on their designs, no matter whether they would fit them or not, if only they would pass muster as Greek. It is now extremely improbable that any of us should be called upon to design anything in Greek; and we can afford to smile at the follies which have passed away from us. But are we not subject to a tyranny quite as illogical, tied and bound by similar bonds, but of another colour? We have changed our fashion, but not our way of life.

We are cured of the Greek mania, which almost exclusively occupied our architecture from 1770 to 1830, and with perhaps only one remarkable exception, are ashamed of its results. But are we to regret our admiration for the Periclean arts? Assuredly not. We shall sooner or later be disenchanted of our present thraldom, and be ashamed of most of the works of the present day. But should we do well, then, to regret our admiration of such buildings as Lincoln, Salisbury, and Westminster, Chartres, or Bourges? As little the one as the other. It is the habit of retrospection that is our bane, and we shall regret the use of forms and details which we choose, not because they are in themselves well adapted for our modern wants, but because they have been successful under other conditions. It is, perhaps, a necessary state of things, that as a reaction and co-existing with this servility to precedent, there is an extreme hankering after novelty, and it takes the form of rendering us sticklers for details, but careless of principles: could we reverse this order, we should, I believe, find what we desire.

It may be asked what use can we make of the older and recognized styles, if we are not called upon to reproduce their forms. Much every way. The spirit and principle cannot be too deeply studied. The Greek and Early Gothic are the two most remarkable of the bygone styles, and both were arrived at by a similar process. We have not so many links of the chain extant in the case of Greek architecture; but, as I shall hope to show, enough to satisfy us of the truth of the assertion, that the Greeks arrived at their architecture by adopting germs which they found among the older races from which they sprang. They did not transplant, but raised a new tree from seed, and went on adapting and refining for a long period. Our Mediæval ancestors did the same, and if I deprecate our now imitating their architecture, it is not from want of the most profound love and veneration for the works of the great period from 1100 to 1250. The practice of copying Greek architecture is passed away, and it is well. That of copying the Gothic will not be enduring, and the sooner it is passed away the better for true architecture. But there are deep principles involved in both styles which are essential to art in general, and it is for the evolution of these principles that Greek architecture claims so high a place in our regard.

The origin of Greek architecture is involved in mystery. I recommend to those who wish to pursue the subject further than is possible in a lecture, the careful study in Mr. Fergusson's "Principles of Beauty in Art," of the whole of the 110 pages which treat on the architecture and arts of Greece; but for the illustration of what I have claimed of the free spirit in which the Greeks derived their architecture from germs of pre-existing work, and so altered and naturalized it that they made it absolutely their own,—a few observations are necessary.

It is clear that Greece was peopled by two distinct races, at least as distinct as Celtic and Saxon among ourselves: namely, one race the semi-Asiatic Pelasgi, akin to the Ionians and Etruscans; and the other race, the Dorians. Of these two, the Pelasgi are first known to us as the dominant race; and to them belong the rude remains at Mycenæ, and similar works of fortification, and of an engineering character of a date probably not less than 1200 B.C. About the year 1100 B.C., the Dorians, who had repeatedly struggled with the Pelasgi, obtained the ascendant. This event is a turning point in Greek history, and is called the return of the Heracleidæ. The Pelasgi who remained in Greece became subject to them, as our Saxon did to our Norman forefathers. The head-quarters of the Pelasgic race was then found in Asia Minor, from which the race had originally come; and from thence their arts reacted upon Greece. The Doric architecture, however, although perhaps not older than some Asiatic Ionic, claims the earliest examples in Greece proper. The Dorians, if not akin to some of the Egyptian races, at least had inhabited Crete, and their traditions assigned to their Jupiter a Cretan origin. The intercourse between Crete and Egypt must have been considerable; and we have a remarkable connecting link between an Egyptian monument and the Greek Doric. The rock-cut tomb at Beni Hassan, in middle Egypt, doubtless is an excavated representation of some structural type, and points out that the Dorians derived the form of their column from the banks of the Nile; but derived the germ only, for where we meet with it first at Corinth, we find the dry shaft and the abacus turned by the magic of genius into a most noble form, the magnificent echinus giving it a meaning and a purpose which were merely latent in the Egyptian example. The framed timber construction of the primitive temples of Greece suggested the superstructure. But observe with what nobility and skill the type is translated into stone. The massive architrave intensely square giving value to the circular features of the columns. The frieze still square, but relieved by the upright lines of the triglyphs. The cornice, with its mighty shadow emphasized by the undercutting of the soffit, the mutules added to break up the cast shadow upon the frieze and architrave. It is unnecessary to consider at length whether the triglyphs and mutules are petrified beams and rafters. It seems likely that the wooden type suggested the idea, but in the

* At Varese, by the way, there is a similar Sacro Monte dedicated to the Virgin. The groups there illustrate the mysteries of the Rosary.

† By Mr. F. C. Penrose; read at the Architectural Association, as elsewhere mentioned.

stonework the artist has taken possession of them, and used them with creative intelligence for contrast of form, and light and shadow. Compare the poverty of the treatment of the carpentry type in the Lycian tombs, of which we have examples in the British Museum, where the details of the carpentry are shown with amusing reality, and without any feeling of repose or breadth.

The Ionic order appears to derive its origin from Persian and Assyrian prototypes; and there seems to have been considerable affinity between these races and the Ionians, whose abode also was in the western parts of Asia Minor and the adjacent islands. The exuberant growth of the Asiatic soil was refined by the free nature of the Ionians themselves, and finally perfected when grafted on to the Dorian stock, especially at Athens.

Athens, Tegea, and Bassæ contain all of which we have any record of Ionic architecture in Greece proper. The remains at Tegea have not yet been brought to light. Those at Athens and Bassæ are most important. But there are remains of great beauty in various parts of Asia Minor. The British Museum has lately been enriched with specimens from the Mausoleum of Halicarnassus of this order; and the Temple of Bacchus at Teos has lately been explored by the Society of Dilettanti and found to have been a temple of very great beauty. The prototype of the Ionic order seems to be found at Persepolis; and a bas-relief representing a fishing-lodge or pavilion has been claimed as exhibiting the germ from which the Erechtheum was developed.

If in the two cases cited, one of the Doric and the other of the Ionic prototype, it be contended that, granting these are both rightly so claimed, yet such rude elements could not have been adapted by the Dorians or Ionians without improving on them, and that improvement may be expected in proceeding from such simple and barbarous elements; but that we, who have originals both of classical and Mediæval architecture of high perfection as our prototypes, cannot proceed in the same manner, but must content ourselves with such variety as may spring from composition. It must be borne in mind that there were then existing both in Egypt and in Persia buildings of the very highest technic excellence; but the Greeks borrowed little from these, but saw what they wanted latent in these less important structures.

With the exception of propylæas, or ornamented gateways, which exist in several places most conspicuously at Athens, our knowledge of Greek architecture is chiefly confined to temples. Their private architecture was humble,—this is the secret of their great results in public works;—and the remains of their lesche and gymnasia, which served to them the purpose of clubhouses, are very slight indeed. Dicæarchus, speaking of Athens about the year A.D. 400, remarks that the streets were so narrow, and the houses so small and inconvenient, that a stranger suddenly placed in the town would doubt that he was in famous Athens, but would soon be convinced of it when he saw the Odeum, the handsomest in the world; the theatre—magnificent, great, and wonderful; the sumptuous, conspicuous, and admirable temple of Minerva, rising above the theatre, and filling the spectator with admiration.

A knowledge of the different classes of temples is necessary to our appreciation of the subject; and this cannot be better given than in the words of the late Mr. Woods, "Letters of an Architect:"—

"The cell of a Greek temple is an oblong building. In the earlier periods it was probably nearly destitute of ornament except the cornice. Afterwards, a porch was added, supported by columns, and the entablature began to receive some embellishment. Even this disposition, when the front came in view, was highly beautiful, and more so when an additional range of columns was added to the portico; after which, columns were added at the back also, by which means the variety and contrast produced by them would catch the attention from every point of view. The next step was to continue the columns all round, such as the arrangement of the Temple of Theseus.

The simple cell had, I believe, no peculiar appellation; and yet, from the great multitude of temples existing in ancient Greece, it is probable they were not uncommon. Temples of the second sort were said to be *in antis*, because in them the flank walls were prolonged beyond the front, so as to form the sides of the porch, and these prolongations were terminated in pilasters of three faces, which pilasters were called *antæ*. The third arrangement was called *prostyle*; the fourth, *amphiprostyle*; the fifth, *peripteral*. Besides these, there were also *dipteral* temples, having two rows of columns roundt he cell—such was the Temple of Jupiter Olympius at Athens; and *pseudo-dipteral*, which differed from the dipteral by the want of the inner row of columns, and from the peripteral by having a much larger space between the cell and the external colonnade. . . . .

The simple cell must always have been deficient in richness of detail; for though the walls and cornices might be richly ornamented, yet those details could not have produced sufficient effect on the whole composition. For that purpose it is necessary that the building should be divided into principal masses, whose position with respect to each other must produce some degree of variety and intricacy.

The temple *in antis* must also, in some degree, be deficient in richness; and I know of no temple of this sort which has been much admired. But the prostyle, and still more the amphiprostyle, if well proportioned, will always be admitted in the rank of beautiful buildings. From almost every point of view you see at least one column gracefully detaching itself from the mass of the building, and the nakedness of the side walls contrasts with the bright lights and shadows of the ends, and claims our admiration, even when compared with the higher finish of the peripteral temple. The eye, however, will not be satisfied with some intricacy in the disposition of the general masses. It will require a similar gratification when it comes to examine the details; and this we find accomplished by fluting the columns, moulding the capitals, dividing the frieze, at least, by triglyphs, and frequently placing sculpture at intervals between them, and adorning the pediments with sculpture, and placing antefixæ or ornamental convex tiles along the eaves."

Temples with four, six, eight, or ten columns in front were called respectively tetrastyle, hexastyle, octastyle, decastyle, &c. It is, however, impossible in a single lecture to proceed with any further analysis of the peculiarities of different temples. What concerns us most is to endeavour to catch the key-note, and see wherein the great strength of their system lies.

A state of political excitement and of considerable freedom was favourable to the perfection of the arts of Greece, and it cannot be denied that the "peculiar domestic institution," as well as the climate, which allowed the freemen ample time for moving in public and out of doors in the market-places and schools, led to keen discussions on matters of art and to the intimate knowledge of the subject which pervaded all ranks of the free population. This, however, would not have sufficed to secure the perfection in art of which we are so sensible, had not the Greeks had the good sense or instinct to confine themselves to a comparatively limited range of subject, such as working out, with moderate variations, only the classes of temples which have been enumerated; every succeeding work, up to a certain time, being an improvement on what had gone before. The oldest Doric temple which exists is the hexastyle temple at Corinth. The date is unknown, but it is impossible to assign it a date later than 600 B.C., or to suppose that the Doric order had not been developed for at least half a century previously (I wish in these dates to keep well within the mark). The most recent Doric temple in Greece proper, of any importance, is probably the hexastyle temple at Nemea, to which an approximate date of 400 B.C. may be ascribed. The temple called the Portico of Philip, in the isle of Delos, must have been built about 350 B.C.; the Parthenon was finished 438 B.C. We thus see the most versatile nation of antiquity engaged in the continuous pursuit of what seems at first sight a very simple problem during three hundred years at the least, and that two hundred years must have been occupied in working up from the example at Corinth to the higher perfections of the Parthenon, which was finished, as before mentioned, in 438 B.C., when Athens culminated under Pericles, just previous to her unfortunate collision with the military power of Sparta, when her light, although not quite extinguished, lost its lustre, and the arts of Greece followed her decline. What Greece might have produced but for the Peloponnesian war it is vain for us to conjecture: enough was achieved to make us thankful for what she did, and to invite us to imitate her principles of action.

The stages between the example at Corinth and the Parthenon (speaking of extant remains only), seem to be the Temple of Jupiter Panhellenius in Ægina, and the Theseum at Athens. The temple at Pæstum in Italy, and Selinus, Segeste, and Syracuse, in Sicily. The results of this elaboration and continuous effort in one direction were a thorough knowledge of the effect of position, harmony between the supports and voids, and exact contrasts between the round and the square, and the light and shade. They attained also a profound knowledge of the effect of perspective on the distribution of their columns. Observe the unbroken stylobate giving the temple a foot, as it were, to rest upon. The column gracefully diminishing—multiplied without being weakened by its shallow flutes tapering in such delicate curves of entasis, that in the Athenian examples, the existence of it was at first denied. The echinus—distinctly but delicately separated from the shaft by its annulets—itself a marvel of refinement. The hyperbolic curve receiving a cast shadow from the abacus of infinite gradation, and varying with every altitude and angle of the sun. The column, moreover, inclined inwards, at an angle imperceptible to the eye except by its indirect effects, viz., the feeling of perfect security, and a sense of more absolute perpendicularity imparted than if its axis had been true to the plumb line; for if columns are placed quite perpendicular, the effect is that of a slight divergence. Again, the horizontal lines are not straight and level, but are slightly curved, rising towards the centre. Otherwise the contrast of the sloping lines of the pediment with horizontal cornice was found to make them appear depressed in the middle.

Observe, too, the light and shadow caught on mouldings of exquisite form and finish, and of simple and refined proportion contrast everywhere perfectly understood, and the most dignified reserve exhibited both in the quantity and quality of the ornament; and above all, the whole temple made the framework to receive sculpture of such surpassing merit, that even those who would fain depreciate Greek architecture have not dared to cast a slur upon it, or challenge its accepted excellence.

Surely for such an achievement as this, it was worth while to go on for three hundred years without departing much from the track of those that had gone before; to give up the luxury of designing every new building as unlike as possible to what had preceded it. This morbid desire for novelty of composition, accompanied as it is by a demand for precedent in detail, is one of the great stumbling-blocks of modern architecture, and while too much obeyed ease and breadth are impossible.

All these reflections might have been arrived at from considering the development of the grand style of the later Romanesque and the earlier Gothic from the rude modifications of the Roman type, as adapted to the uses of the day by the builders of the tenth and eleventh centuries; but the aim being much simpler in Greek architecture, and the success more perfect, it appears to give the more valuable lessons.

The question we may frequently ask ourselves with advantage is, what these architects would have done under such and such circumstances. A Greek architect certainly would not have built the cell of a temple,—a form which was essentially a shrine,—to hold a congregation of 2,000 persons, as our St. Pancras, any more than an architect of the twelfth or thirteenth century if required to design a church where a great object was to place a large congregation near the pulpit, would have encumbered the most valuable part of the space with the supports of a central tower.

It may be asked, how can we oppose ourselves to the demand for a prevalent style, or influence the taste of the public? It cannot be done suddenly. If it could, it might not be desirable. No one can choose his own line without reference to other people; but consistency and the determination to give common sense the preference over fashion whenever circumstances will permit it, will do much. Some people have dreamed of an altogether new style of architecture. This I consider quite impracticable. They would break the magnetic circle of art, and leave us, so to speak, paralysed, or in a wild state, as it were, of mental aberration. As reasonable would it be in our old families to forswear their predecessors, and give up the *prestige* of noble birth; or, as a still better analogy, it would be as unreasonable in our philosophers were they suddenly to deter-

mine to divest themselves of all they have learnt in mathematics, in the hope that something might turn up different from the course of study which has been enriched by the labours of Newton and Laplace, and thousands of others of less individual distinction, but whose aggregate labours have contributed not less than those gigantic intellects. The wish so fondly expressed for a new style of architecture, however, has its foundation in a real want. If some phase were developed, founded although it might and must be, on something which has gone before, but by no means copied from it; which was sufficiently expansive for all modern wants,—which could accept the help offered by new materials, and digest and thrive upon them, although either classical shapes or, as it might be, Mediæval, still characterized its decorative features,—if it were something which all thinking men could conscientiously approve, we should then hear little more about the wish for a new style of architecture.

I cannot think that the present movement is unfavourable for such a development. We have almost ceased even in the Gothic revival to copy the masterpieces of the thirteenth century. I do not say to those who are enamoured of the Gothic that they should relinquish it, but I ask them to look forward a little and see what we seem to be coming to. Can anything be so incongruous as the new pseudo-Gothic buildings which are rising all around us? I do say to them,—If you consistently believe that Gothic architecture will lead to the best results; is most adaptible to the requirements of modern civilization: if it can accept the service of iron and the massive materials which ought to be used in this day, when, instead of having at our command, as the Egyptian kings, the brute labour of myriads of slaves, we have at our beck a power a thousandfold more mighty and far less expensive: choose, then, your elements out of the finest Mediæval architecture, and develope what is wanted out of them, and let all who sympathise work together continuously at the improvement of such development. I cannot but think, however, that some form or phase of the Classic architecture is more adapted for such development, especially the variety called the Cinque Cento; that is more plastic, more in unison with modern wants and feeling. To those, then, that can receive it, I would say,—Look at what was done in the North of Italy between 1450 and 1550, and to some extent also, in a similar style, in France; Germany and our own country having a few examples. It has several points of excellence in common with Greek architecture, especially the tenderness of its carved ornaments and the perfection of the sculpture with which it is generally enriched. Look, then, to the elements of this architecture, and see if something fit for our nineteenth century may not, by judicious treatment, be derived from it. The great secret, however, is, whichever way we pull, to pull altogether.

Reverse the advice which was given to young men some years ago, and perhaps is still, viz.: that we must avoid all similarity to the works of contemporary architects, for fear of being plagiarists, but may copy as closely as we please old examples. It would be far wiser, not, of course, to copy as too closely, but to steer in the same direction with such contemporary architects whose works well fulfil their purpose, and try to improve upon them. Let us remember that ease and breadth are far greater qualities than originality as now understood. Ease and breadth patiently sought for really lead to far deeper properties of originality than result from trying to design in a manner unlike our contemporaries. Natural preference and honest obedience to common sense in following the conditions of our work cannot fail to keep us from being plagiarists without taking any violent steps to avoid it: but union is strength, and pulling together in the same direction can alone overcome the inertia of the present dead-lock.

In recommending the development of the Cinque-cento, I consider that the current is now perhaps setting too strongly against Greek architecture to allow of any *point de depart* which is strongly imbued with Greek feeling; but there was one lately amongst us who more fully and intimately understood this architecture than any of the moderns—who entered into its spirit—whose mind found there something to reflect its own purity and refined elegance—whose works not in one instance show the timid hand of the copyist, but the genius of one capable of developing a new current of architecture out of the Greek type—one who rarely, if ever, allowed blind admiration for past beauties to interfere with modern requirements.

Very lately in these rooms were exhibited the sketches by that master-hand and the compositions of that discriminating and inventive intellect. His name is already in your minds, and, I may add, in the hearts of all of us who had any intercourse with him. I say distinctly, that if his works were to be chosen as a *point de depart* in all designs of a classical character that are demanded, and if our efforts were continuously exerted to improve upon them, and to reduce the style which he has mapped out more uniformly and universally into harmony with modern requirements, launching out boldly into the deep, and not refusing, if called upon, to sail where no landmarks of classical times are in sight, we should, in a very few years, have an architecture of our own equal to all our aspirations. When, in the beginning of this lecture, I spoke of our being on the whole ashamed of the results of the Greek revival, I stated that there was one remarkable exception. You will now readily understand what I was thinking of. We are *not* ashamed of Professor Cockerell's works.

VANDYCK IN ENGLAND.*

"And often took leave, but seem'd loathe to depart."
Prior, circ. 1699.

RECROSSING the English Channel, Vandyck visited Italy by way of Antwerp and Brussels. With Rubens he would appear to have parted on the most friendly terms, leaving behind him for his illustrious master's acceptance a portrait of his wife (a capital performance), an "Ecce Homo," and a night scene of the "Seizure of our Saviour on the Mount of Olives." Rubens, in return, acknowledged his pupil's compliment by the gift of one of the finest horses from his stables. Noble impulses of this nature are not common among artists. When Reynolds spoke of his rival Romney, he spoke of him as "the man in Cavendish-square." When Romney spoke of his rival Reynolds, he spoke of him as "the man in Leicester-fields."

Venice, Genoa, and Rome, first attracted and retained Vandyck's attention. At Venice he drank deeply of Titian, Tintoretto, and Paul Veronese. At Genoa he painted several portraits in what is called by some his earliest and best manner. Two were procured at Genoa by Sir David Wilkie, for Sir Robert Peel, and are still at Drayton Manor. They are companion pictures, full-lengths, seated, and represent a Genoese senator and his wife. These two portraits are valuable specimens of the master, full of truth and character, particularly the head of the old senator. In both, the hands are painted as only Vandyck could paint them. Several still remain. In the Durazzo Palace are "Two Boys and a Girl," in his finest manner, richer in colour and with more rotundity than Wilkie had before remarked in the same master.†

From Genoa he went to Rome, where he avoided the low conversation of his countrymen, and was commonly called "Pittore Cavalieresco." Here he drew his famous portrait of Cardinal Bentivoglio, one of the glories of the Pitti Palace, and the picture of Vandyck's Italian period which artists and connoisseurs alike esteem as the masterpiece of the master.

Quitting Rome he removed to Palermo, from whence he was soon driven by the plague, but not before he had extended his reputation by a portrait of Prince Philibert, of Savoy.

From Palermo he retraced his steps to Genoa, where he resided until his return (1626) to his native Antwerp. He was then twenty-six. His journey enabled him to add some of the noble qualities of the Italian school to the glowing characteristics of his Flemish style.

Memorials of what he wrought in Italy are still to be seen in Italy. I have already mentioned what remains at Genoa. In the Pontifical Palace on Monte Cavallo are two historical pictures of great value, "The Ascension" and "The Adoration of the Magi;" others are to be found in the Braschi, Colonna, and Corsini palaces,—for his was always a ready and industrious pencil.

The next six years of his life (1626—1632) were spent at Antwerp and the Hague. He was not idle. He painted three Crucifixions for three different churches; one for Antwerp, a second for Mechlin, and a third for Ghent. Sir Joshua Reynolds describes them with great minuteness in his "Notes of a Tour in Flanders and Holland;" and few who travel (*Murray-handed*) omit to read and apply the judicious observations which Reynolds was so well qualified to make. The picture at Ghent, one of his most capital works—since all but ruined by over-cleaning—is now best known by the fine engraving from it by Bolswert.

To this period of his career belong a "Marriage of St. Catherine," in her Majesty's collection; a "Virgin and Child," in the Bridgwater Gallery (the original of the fine duplicate at Dulwich); a "Virgin and Child," in the Grosvenor Gallery; an "Assumption of the Virgin," in the gallery of Mr. Hope; and the "St. Ambrosius refusing to admit the Emperor Theodosius into the church at Milan," an Angerstein picture, and now in the National Gallery in London. Other works assigned to his middle period are at Berlin, Munich, and Vienna.

Portraits, too, of this period of his pencil are numerous and fine,—none, perhaps, finer than the companion whole-lengths of Philip le Roy and his wife, bought (1850) by the Marquis of Hertford, at the King of Holland's sale, for the sum (nor was the price thought large) of two thousand five hundred guineas.

At Castle Howard is the far-famed to-the-knee portrait of Snyders, the painter, one of the treasures of the Orleans collection; and at Warwick Castle, the companion picture of Snyders's wife, from the same gallery. They have been seen together on the walls of the British Institution, and were much and deservedly admired;—Lord Carlisle envying Lord Warwick, and Lord Warwick envying Lord Carlisle. At Holkham (Lord Leicester's), is Duke Aremberg on horseback, one of the most spirited of his equestrian portraits; at Panshanger (Lord Cowper's), his Nassau family; at London, in our National Gallery, that marvel of art, the so-called "Gevartius;" and at Montagu House, Whitehall (the Duke of Buccleuch's), thirty-five sketches (*en grisaille*) for the celebrated series of portraits etched in part by himself, and published by Martin Vanden Enden.

A very celebrated picture, painted at this time, is "The Holy Family," 7 feet 0½ inch high by 9 feet 1½ inch wide. It belonged to King Charles I.; was twice sold for 1,400*l.*, and from the house of Orange was bought by Sir Robert Walpole. It hung in the large saloon at Houghton, has been well engraved, and is now at St. Petersburg. "The chief part of it," writes Horace Walpole, "is a dance of boy-angels, which are painted in the highest manner. The Virgin seems to have been a portrait, and is not handsome; and the piece is too much crowded with fruits and flowers, and birds. In the air are two partridges finely painted." In the Houghton valuation the sum placed against this picture was 1,600*l.*

In the Pell Records of the year 1629, is the following entry:—

"By order, dated the 23rd of March, 1629.—To Endymion Porter, by one of the Grooms of His Majesty's Bedchamber, the sum of 78*l.* for one picture of the story of Rinaldo and Armida, bought by him of Monsieur Vandyck, of Antwerp, and delivered to His Majesty without account, &c."

This picture, King Charles's *first* acquisition of a Vandyck, is now at Clunber, in Notts, the seat of the Duke of Newcastle, and formed No. 653 of the Manchester Art Treasures Exhibition of Ancient Masters.* It is a large picture, and is described by Dr. Waagen in a note made by him on the spot, as "fine in keeping and carefully finished;" but what the learned doctor fully means, or meant, I will not pretend to explain.†

In the appraised catalogue (among the Harleian MSS.) of King Charles's Collection, may be seen this entry:—

"Fol. 150. A piece of Nicholas Laniere to the knee. 10*l.* Sold Nicholas Laniere, 2nd November, 1649, for 10*l.*"

It was on seeing this half-length portrait of his servant Laniere that King Charles I. was induced to invite Vandyck into England. The story, as told by Sir Peter Lely (and preserved by Mr. Beale, the husband of Mary Beale, who painted portraits in the reign of Charles II.), is as follows:—

"Mr. Lely told me at the same time as he was most studiously looking at my bishop's picture

* See p. 40, *ante*.
† See Wilkie's Journals in his Life by Allan Cunningham, 3 vols. 8vo.

* I may mention in a note that the information in the text was unknown to Mr. Scharf, the compiler of the catalogue of "Paintings by Ancient Masters."
† Sir Robert Peel had a sketch in sepia of the same subject (Waagen, Art Treasures, i. 415).

of Vandyck's, and I chanced to ask him how Sir Anthony could possibly devise to finish in one day a face that was so exceedingly full of work and brought up to so extraordinary a perfection. 'I believe,' said he, 'he painted it over fourteen times;' and on that he took occasion to speak of Mr. Nicholas Laniere's picture of Sir Anthony Vandyck's doing, 'which,' said he, 'Mr. Laniere himself told me, he sat seven entire days for it to Sir Anthony, and that he painted upon it of all those seven days, both morning and afternoon, and only intermitted the time they were at dinner.' And he said, likewise, that though Mr. Laniere sat so often and so long for his picture, that he was not permitted so much as once to see it till he had perfectly finished the face to his own satisfaction. This was the picture which being shew'd to King Charles I. caused him to give order that Vandyck should be sent for over into England."

This fine picture, long in the collection of Lord Chancellor Henley at the Grange, in Hampshire, is now (1864) the property of the Marquis of Westminster.

Of Nicholas Laniere, made immortal on canvas by Vandyck, so little is known that I may be excused a short digression concerning him.

There were two Lanieres of the same Christian name in England between the years 1560 and 1646, well-known men at court in the reign of Queen Elizabeth, King James I., and King Charles I.

In the M.S. accounts of the Treasurer of the Chamber to Queen Elizabeth, the following entries (now first published) are to be found:—

"Payd to Nicholas Lanuyer flute in the rome of Gillm Trochea deceassed upon the Q. Ma^s warrant donn during lief dated at St James' the xxv^th of October A°. iij^e [1560] for his wages of xx^d ꝑ diem—vij^li xj. vij^d yerely for his boarde wages and xiij^li. vj^s. viij^d. yerely for his lynery all to hee payde quarterly dew unto him for one hole yere ending at Mich^as A°. iiij^o. lij^li. vj. viij^d. and also in wave of her Ma^s rewarde for that tyme onely xvj^li. vj^s viij^l In all lxiij^li viij^s iij^d."

"Payde to Nicholas Lanyer musicon for the flutes upon the counsell's warrant dated at Westm^r. the last daye of March 1561 [4th of Eliz.] being sent wth. Letters into Fraunce to S^r. Nicholas Throgmton x^li."

These entries relate to the father; the following relates to his accomplished son—Vandyck's sitter:—

"The accomptaunte is allowed for money paid to Nich^as Lanyer his Ma^s servaunte for provicon of pictures in the partes beyond the seas for his Ma^s service by Privy Seal and acquittaunce xvij^m. vij^ch viij"

That is 18,700*l.* 7*s.* of the reign of Charles I. money, or some 57,000*l.* of the money of Queen Victoria; in other words, as much as England gave in the reign of George IV. for the Angerstein collection.

I will now return to Vandyck.

There was a man much employed at this time by the king and the Duke of Buckingham, and Lord Treasurer Weston,—conceited and crazy,—in short, a second Sir Toby Matthew. This was Sir Balthazar Gerbier, to whom I have had occasion already to refer: a kind of Dominus Do-all, painter, architect, negotiator and gossipping correspondent of great men: what he himself was like and what his family were like many will call to mind who remember the large family Gerbier group in the Rubens Rooms at Windsor. It was this Gerbier who bought abroad Vandyck's "Virgin and St. Catherine" for Lord Treasurer Weston; it was with this Gerbier, in his house in the Strand, that Rubens was lodged (as I have already had occasion to relate) during his visit to England, the king paying the charges of Sir Peter's entertainment; it is the same Gerbier who gives us the next earliest notice of Vandyck. Writing from Brussels on the 13th day of March, 1632, he informs King Charles I. that Vandyck was at Brussels and resolved to go over into England,—"*Et fait dire qu'il est resolu d'aller en Angleterre.*"

That he was expected in England there cannot be a doubt, for among Secretary Windebank's memoranda of "things to be done," still preserved in the State Paper Office, Mr. Carpenter discovered the following interesting entry:—"To speak with Inigo Jones concerning a house for Vandyck." He would appear to have arrived among us before any arrangement could be completed, and to have taken up his residence in the Blackfriars with Edward Norgate, a herald and illuminator, Keeper of his Majesty's Organs, and ultimately Clerk of the Signet to King Charles. On the 10th of May, 1632, a warrant was issued by the king for an allowance to Norgate of 15*s.* a day "for the diet and lodging of Signor Antonio Vandyck and his servants, to begin from the first day of April last past, and to continue during the said Vandyck's residence there."* This fixes the date of Vandyck's arrival in England: he came to reside and die among us on the 1st of April, 1632.

No one has told us why Vandyck went to live in the Blackfriars; but his reason for going there is at once characteristic and delicate. Mr. Carpenter supposes that "the Crown must have held property at this time in the Blackfriars, for the Count de Tillier, ambassador from France, in the latter end of the reign of James I. was lodged there; and Walpole states that Cornelius Jansen dwelt in the Blackfriars." There is no authority, however, for supposing that the Crown at this time held property in the Blackfriars, nor is there any necessity that such should have been the case to account for Vandyck's residence there. The painters of the reigns of James I. and Charles I. who settled in London, or visited London, lived without the City liberties; and they had two favourite places—the Blackfriars, then a privileged precinct for Puritan feather-makers, players, and painters; and the Strand and St. Martin's-lane, then, as long after, a fashionable quarter of the town, and near the Court. Mr. Carpenter, in mentioning Cornelius Jansen's residence in the Blackfriars, has omitted to refer to the more interesting circumstance, that Isaac Oliver and his son, Peter Oliver, great masters in the art of limning, lived there before him. Lady Ayres, wishing to have a copy of Lord Herbert of Cherbury's portrait, to wear in her bosom, went "to Mr. Isaac, the painter, in Blackfriars, and desired him to draw it in little after his manner."† The Painter Stainers' Company was at this time an active and acting company; and the rules they issued and the fines they levied on painters (foreigners especially) pursuing their callings *within* the limits of the City were extremely stringent and heavy. By living *within* the Blackfriars, the picture-drawers, as they were then called, were *without* the jurisdiction of the Painter Stainers; and this is amply sufficient to account for the selection of a locality of this kind. At the bottom of St. Martin's-lane, when Vandyck was before in England, lived Vansomer; and at the period of his present visit Mytens was living in St. Martin's-lane, about half-way up on the west side, two doors from Sir John Finett, Master of the Ceremonies to the King, and three from Sir Theodore Mayerne, physician to the King. Of the two localities which custom prescribed for painters at this time, Vandyck would appear to have selected the Blackfriars, though farther from the Court, because Mytens was already established in St. Martin's-lane, and his taking up his residence there would have looked like indecent opposition; while the Blackfriars, by the removal of Cornelius Jansen to Bridge, near Barhamdown, in Kent, was without a painter of either reputation or promise.

A painter of great promise—of promises amply fulfilled—set up his easel in the Blackfriars of London in the year 1632. What wonders he wrought, what thoughtful faces and lovely eyes, what manly forms and graceful figures he was to perpetuate, with a skill as yet unsurpassed, perhaps unequalled, will form the subject of my next communications. PETER CUNNINGHAM.

* Lord Chamberlain's Warrant Book MS. in the Lord Chamberlain's office.

† "Lord Herbert of Cherbury's Autobiography." See also "Isaac the French Painter in the Blackfriars," in "Court of James I." vol. i., p. 145.

BETHNAL GREEN.

OUR of evil good sometimes comes; and we are not without hope that the neglect, mismanagement, and want of proper feeling shown by the board of guardians of this large district, will be the means of causing the laws which are at the present time in force to be stringently applied, and will, if necessary, lead to fresh enactments, which would be the means of protecting the lives of the poor and distressed. It is difficult to understand the principles upon which the Bethnal-green guardians act: their operations are as contrary to all the rules of common sense as of justice and humanity. They have so far set at defiance public opinion, and seem to pride themselves on the "bars" which prevent the poor from obtaining proper relief.

It is impossible to convey any notion of the deep distress which rages here,—no pen could describe it,—no pencil could give a clear picture. Yet read the following note from the *Daily Telegraph*:—"Mr. Collins (the chairman) congratulated the board that, while there were eighty-eight applications this time last year, there were none at present. Amongst the applicants who had declined the test, was a widow, with four children. Mr. Collins thought that an exception might be made in favour of such parties." There was positively considerable discussion before this boon was granted.

So great is the misery here, that it is difficult to know where to begin, to convey some idea of the condition of a large part of the district. The more we investigate the more terrible appears the state of peril in which a great multitude are placed. Fortunately, the severe weather has ceased.

As we pass along, calling at house after house, we find in room after room the same deplorable depth of poverty. In some, women and children are without coal, and are sheltering for warmth in their miserable beds. It is not, upon the average, in one room in six that there is any bedstead,—only a bundle of black-looking rags in a corner. In one apartment a woman and her daughter were busy making lucifer-match boxes. The floor was covered with some hundreds of them, and, work as hard as the two could, they were not able to earn more than 5*s.* a week. The rent is 1*s.* 6*d.* a week, leaving 3*s.* 6*d.* for food. The girl, about sixteen years of age, looked modest and well-mannered, and might be useful as a domestic servant, but her clothes were in such a bad state that she could not seek for any employment in that way. In this instance, and in many others, at a very small cost, young girls might be rescued from extreme poverty and temptation, and put in the way of earning a respectable living. In one room, in No. 2, Shepherd's-court, we found the family of a house-painter who had been some time out of work. Notwithstanding the broken ceiling, everything in the place was perfectly clean. One child was sick without any hope of recovery. It had been attacked by scarlet fever, which had been followed by dropsy. Here were complaints of the neglect of the parish medical officer, but into these it would scarcely become us to enter. In this place and in others the eyes of the sick children have an anxious gaze, which haunts us long afterwards. In bustling thoroughfares, in the midst of crowded rooms, and in the still hours of the night, those imploring eyes seem to urge the continuance of a painful duty, in the hope that even the Bethnal-green Board of Guardians may be induced to do something for suffering humanity. This man and his wife has usually lived in houses of the same description as this, and of thirteen children only five are now alive. Before long the number will be four.

The ingenuity which is shown by the managers of ill-drained and ill-conditioned property—when reports are made to the magistrates, and orders for necessary changes given, to evade what is required to be done, is remarkable. On the pretence of doing what is needful, persons are set to work, who make some show at the entrance of courts and elsewhere, leaving the more important parts untouched. During this last inquiry, the opinions before expressed are more strongly confirmed, that in such a neighbourhood as this, the health of the poor should not be trusted to the Vestry Board. Some of the worst property—the most neglected—belongs, we are told, to a clergyman, who is also a *member of the Board of Guardians of this parish.*

The sanitary staff of the police, without any parade, but with great firmness, continue to perform their difficult duty; and the comparison between their work and that of the parish inspector of nuisances, is remarkable. Mr. Price, the police inspector, is not satisfied with one visit to an unwholesome place, but sees that what is ordered to be done is thoroughly carried out. The progress of improvement in this way is slow; but so far as the means afford, it is sure, and will, we trust, be carried forward to a much greater extent. The back-slums must be looked to, even when the outward appearance of a place would deceive many who have had experience; for instance, we will just glance at one spot, in Church-street, Bethnal-green. We see a barber's shop, gaily decorated: at each side of the door is the representation of a bear, with the announcement that the genuine article, bear's-grease, is to be had there: inside the place is smartly fitted up, and there are indications of prosperous circumstances,—notwithstanding, there have been nine cases of typhus-fever in the house and one death. The proprietor of the shop, at the time of our visit, was himself dangerously ill of this preventible complaint. Although at first there might seem to be no

proximate cause for this disease, when the premises are looked at the reason is evident. Except in those parts of the premises which the hair-dresser has put in order at his own expense, the place is miserably dilapidated; but bad as this is, the state of the drainage is far worse: from the untrapped closet passes an imperfect brick drain, which allows the poisonous gases to be distributed throughout the house.

ECONOMY OF FUEL IN STEAM ENGINES.

WE very much doubt whether the warning of Sir William Armstrong will have much indirect effect on the consumption of coal,—time alone will show. We hope, indeed, that the time is far distant when coals will be taken to Newcastle; but there can be little doubt that a good many of the coals yet at Newcastle might be saved. Prodigious quantities of what is in truth the heat, the light, the power of England, are being hourly converted into a gaseous form, and launched unconsumed into the vast airy ocean. Ceaselessly are heaps of fuel poured down the greedy throats of blast and other furnaces, boiler fires, and, not least, innumerable kitchen grates. There are, however, certain situations of, and uses for, the steam-engine, in which economy in the use of fuel is absolutely needed. A pretty large factory owner, for instance, with (say) 200-horse power on his premises, finds that economy of fuel, even where coal is cheap, means a large annual income. He knows that he cannot get an economical engine without some additional complication of its parts, but he also finds that the slight additional cost of repairs is more than counterbalanced by the coal bills. Not that factory owners, as a rule, are very economical in fuel. A tabulated statement now before us,—by the excellent Manchester Association for the Prevention of Boiler Explosions,—shows that the average consumption of fuel during the year 1860, in and about Manchester, was not much less than 7 lb. or 8 lb. per horse-power per hour. It appears to us that we may expect further improvements in the economical use of steam in those forms of the steam-engine in which it is either self-propelling or has to be carried about. Economy of fuel means economy of water; economy of fuel and water means a saving in steam and water space, and thus, as a further result, a saving in boiler-power, weight, and space. In no form of the self-propelling engine besides that of the marine engine is condensation admissible, from the great quantity of water required for the operation. We are thus mainly thrown on the resources to be found in the use of high-pressures of steam, and of expanding these high-pressures down to the atmospheric limit. Of course there are other means of saving fuel,—such as a very careful combustion of the coal, heating the feed-water, super-heating the steam, and other plans. A thorough and careful expansion of the steam appears to us the most legitimate way of saving fuel. An only very partial expansion of the steam is carried out in the railway locomotive by means of the cap of the slide valve, and the expansion slide link;—it remains to be seen whether the conservative tendencies of locomotive engineering enforced by the great need for simplicity on railways—will be overcome by some good mechanical arrangement. There is undoubtedly at present a great demand for economy of fuel in the portable and traction engines now used by building contractors, and by farmers for ploughing and thrashing. Here, again, comes into play what we may term the locomotive tendency towards economy of fuel. The cost of coal in ploughing is something like one-third of the expenses, and water and coal carrying make additional holes in the farmer's pocket. A great impediment to the general introduction of the traction engine lies in the absence of stations on common roads where it may take in its provisions of coal and fuel. A camel in the desert of Sahara, after having drunk up the water in what engineers would call its stomach tank, is not as helpless as our great monsters of traction engines far away, on a country road, from any supply of water or fuel. The economy of fuel in steam-engines is a vast subject, involving very many interesting problems in thermo-dynamics, requiring for their practical solution often very ingenious arrangements. For it may be laid down as an axiom that no economy of fuel can be got without some additions to the condensing steam-engine, some additional complication, if you like, and if the ordinary cylinder and piston, fed by a common slide valve, be accepted as the *beau idéal*, the *summum bonum*, the *ultima ratio* of engineers.

We have just examined what would appear to us a very efficient way of using steam.

At the New Foreign Office, now being erected by Messrs. Smith & Taylor, a portable engine is employed in working a set of stone-sawing frames. The engine appears at first sight like the ordinary 8-horse engine of the makers—Messrs. Hornsby & Sons, of Grantham. It will, however, be noticed that the cylinder is a little larger than twice the throw of the crank. It will be seen that the inventor aims at getting the advantages of a double-cylinder compound engine by means of one cylinder alone. This is, indeed, the leading idea of the construction of the engine, which is denominated "*a double-expansive single-cylinder steam engine*" by its inventor, Mr. E. E. Allen. A section of the cylinder shows that this long cylinder is divided in the centre, and on this division works a trunk, at either end of which is a light piston, held together by the piston rod,—in this case, a pistons' rod. Each of the two pistons works between the cylinder cover at the end and the division in the middle. There is thus a necessity for a separate slide-valve, and separate inlet and exhaust ports to each piston. On starting the engine, steam at the boiler pressure enters first the annular space through the steam port, and it may be cut off at 5-8ths of the stroke by means of the cap on the valve. The exhaust steam from the annular space having done its work therein, is led through the D-slide valve into the other end of the cylinder on the whole surface of the piston, and is at last exhausted from thence by the ordinary means. The return stroke is effected in the same way with the other half of the double cylinder. It will thus have been seen that the expansion is in the ratio of the area of the annular space to that of the whole piston—besides that afforded in the annular space by the cap of the valve. The valves are packed at the back in order to take off the steam pressure. The inventor purposes to adapt his cylinders to any engine where this may be feasible,—in fact, to accomplish with the horizontal engine what was attempted with the beam engine, by the so-called MacNaught system. We have seen some excellent indicator diagrams of these engines. It is a very great pity that this engine was not publicly tried on the friction brake, at the Worcester Show of the Royal Agricultural Society. It would then have been in strict competition with these complicated and unpractical *bêtes de luxe* racing engines. Mr. Allen will have to wait till 1866, we believe, for the next trials of this kind. The engine at the Foreign-office is stated to consume less than half the fuel used by engines of the same class. Of course, this is no accurate comparison. The peculiarity generally adopted by the Messrs. Hornsby, of putting their engines inside the fire-box, will be in this instance, where expansion is carried so far, highly beneficial—perhaps for the first time. We have every hope that this engine will stand the searching test of practice. Of course, cavils could be raised against it; but we know too well the usual difficulty of introducing an improvement, to increase the difficulty in this case by anything we might utter. Success, and success alone, makes engines, as well as statesmen,—shall we also say engineers?

THE DECAY OF BUILDING STONES.

IN the discussion which took place on the reading of Dr. Voelcker's paper on "The Effect of Smoke in producing Decay in Building Stones."

Mr. C. H. Smith said,—He had often been perfectly bewildered by the many scientific theories that had been propounded in reference to this subject. The paper had not alluded to the great variation in quality even in the same description of stone. As regarded Caen and Bath stones, they had been treated as being usually of one quality; whereas, it was well known that in every quarry of this stone there were four or five different varieties, as distinct from each other as possible; therefore it was not right to treat of it merely as Caen stone. The same might be said of Bath, Portland, and all the other colitic stones. If it were left to the builder or mason, he would soon find out the softest in the quarry, for it could be worked with half the labour that was required for the harder kinds, besides making the finest looking work when it was finished; and it was owing to this often occurring that an almost incredibly rapid decay of the material took place. In every district of the Caen stone there were eight or ten different quarries, and each of these had five or six different beds, so that there were at least fifty varieties of Caen stone, all varying in some respects from each other, and many of them of an inferior character. The decay of the stone in building was, therefore, in a great measure, owing to the bad selection of the material in the first instance. He had seen many instances of this, both in London and the country. He could mention many public and other buildings in London and elsewhere, in which the decay of the stone had been almost as striking as in the case of the specimens on the table. The Roman Catholic Church of St. George was almost as bad as it could be. The structure had been built within the memory of most present, and yet the stone was in a complete state of decay. The materials used were Caen and Bath stone, but not of good quality; and it was, therefore, in his opinion, more important to be able to select the best qualities of stone, than simply to ascertain their chemical constituents. Generally speaking the stonemason could tell, almost at a glance, the good and bad qualities of stone; but it was often not his interest to say anything about it. To give an instance of good and bad qualities of stone of the same kind, he would mention Portland stone, which had been used in London a great deal since the time of James I. The Chapel Royal, in Whitehall, was one of the first large buildings erected of that material, and Sir Christopher Wren used it for all his churches. The Monument on Fish-street-hill and Temple Bar were both constructed nominally of the same stone, and while the bas-relief representing the Great Fire of London was as perfect as possible, without a bad stone in it, it was well known in what a state of decay the west front of Temple Bar was, with exactly the same aspect. The different states of preservation of the two buildings were entirely owing to the different qualities of the same description of stone. At Somerset House, again, there was another remarkable instance of this. The river front was built by two different masons, under the same architect. One built the upper part and the other the lower. The part below the terrace was as black as could be, and was at the same time remarkably perfect: the upper portion was almost white, and there was scarcely a good stone in it; yet both portions of the building were of the same aspect, and the portion nearest the water was perfect, while that which was furthest from the water was very much decayed. It was after the bad stone had been used that chemists were set to work to try and find out something to stop the decay of our large public buildings, whereas the better plan would have been to have taken more care in the selection of the stone. He believed several thousand pounds had been expended upon the Houses of Parliament in trying processes to prevent decay, but up to this time he was not aware of any plan that was practically useful. A specimen was put into his hands some time ago to show how far the indurating material employed in one of these processes had penetrated into the stone, and he found that it had entered as far as three quarters of an inch; but that stone had been in the first instance put into a hot-air chamber to drive out all the moisture, and afterwards immersed in the boiling fluid, and by that means this result had been produced; but he need hardly say that it was not possible to put the Houses of Parliament or Somerset House either into a hot-air chamber or into a boiling fluid. Those appliances answered in the laboratory, but not in practice. His own opinion was that any of the substances at present known applied to the preservation of stone would not be neutral in their effects: they would either tend to preserve it or to hasten its decay. A great deal had been said in the paper as to the effect of water on stone: his own belief was, that if the stone was really good the water would have little or no effect upon it. By experiments he had made, he found that a cubic foot of Caen stone would absorb two gallons of water without showing more than a slight dampness on the surface. Hardly anything was more absorbent of water than a well-burnt grey stock brick; yet it was a very durable material. Mr. Smith referred to the church of St. Dunstan, in Fleet-street, as an example of exceedingly porous limestone exposed to the London atmosphere; and yet it had proved very durable. The decay of bad quality of stone was by no means restricted to London or other large cities, the

atmosphere of which was impregnated with the acids, &c., to the effects of which the destruction of stone was attributed by scientific men. The town of Oxford presented a remarkable instance of this. He knew of no town in so deplorable a state in this respect; and he attributed it entirely to the injudicious selection of the quality of stone. The effects of varieties of temperature upon stone had not been sufficiently taken into account. The extreme difference in the temperature of winter and summer in this country might be stated at 100 degrees. That, in his opinion, had more effect in producing the decay of stone than anything else. Take the case of a building exposed to two different aspects, such as the Horse Guards, which was built throughout as nearly as possible with the same stone. The north and east sides of that building were blackened and in a perfect state, while the decay was principally observable upon the sides facing the south and the west; owing, as he believed, to the greater variations of temperature to which they were exposed. Dr. Voelcker had implied that limestones were unfit for outdoor carvings, and if so, he should be glad to know what sort of stone was suitable, because they could only carve at great expense in sandstone; and, moreover, it was more or less laminated, and, in order to be durable, required to be put up in the position in which it was laid in the quarry, otherwise it became exfoliated.

Mr. G. F. Wilson, F.R.S., thought that Dr. Voelcker had treated this subject in a strictly practical manner. When a scientific chemist in the position of Dr. Voelcker explained what the particular form of decay in the stone was, showing that so large a proportion as fifty per cent. of sulphate of lime was present, it must direct the attention of practical men to the importance of using those particular kinds of stone which were not so liable to be acted upon by the sulphate of ammonia in the sooty atmosphere. The remarks of Mr. Smith, as to choosing the best portions of stone in a particular quarry, were very important. Dr. Voelcker attributed the decay of particular kinds of stone to the corroding effect of the black smoke of large towns forming an incrustation which reacted on the stone, somewhat in the same way as tartar acted upon the teeth, only with a different chemical reaction. That subject had been treated of several times in this room, and the different modes of getting rid of the smoke which occasioned the evil had been considered. A very simple method of preventing smoke in house fires was stated to be the having a grate with a false bottom and putting the coals in below, and removing them when in a glowing state from the bottom to the top of the grate.

Dr. Bachhoffner remarked that, judging from what had fallen from his friend Mr. Smith, every architect should be a Hugh Miller: but he thought very few architects could give that time to the study of geology which was requisite to bring them up to the practical standard suggested by Mr. Smith, as judges of the different qualities of stone. Hence the advantage of this Society and of the admirable paper brought before them this evening. He had not heard anything in the remarks of Dr. Voelcker as to discarding of limestones, and he apprehended that their disuse for ornamental purposes was not suggested; but the novel point with him, and one which was of considerable importance, was the action of the sulphate of ammonia in the soot producing double decomposition, and thus contributing to the decay. He knew no reason why every household should not be made to consume its own smoke. Mr. Wilson had alluded to a plan which he (Dr. Bachhoffner) patented some years ago, but no one would take the trouble to employ it. It had been shown by Dr. Arnott and many others that the proper way of lighting a fire was from the top. Lighting from the bottom was a wasteful plan, for the heat distilled the coals at the top, and their heat-producing qualities were thus to a great extent lost. A fire lighted in the way he had just recommended would remain alight for four or five hours, and require no stirring. He thought Dr. Voelcker was quite right in saying that smoke was the cause of the destruction of stone in buildings, and he supposed they must submit to this till the legislature made it imperative that every house should consume its own smoke. The table in the paper showed them that whilst the original composition of stone contained only one-tenth per cent. of sulphate of lime, in the decayed stone fifty-one parts out of 100 were converted into this salt.

Mr. F. A. Abel remarked, that there was no doubt the facts brought before them in this paper formed an important contribution to our knowledge as to the various causes which brought about the decay of stone. Mr. Smith had properly called attention to the importance of selecting proper descriptions of stone, of uniform quality, in future buildings; but it must be remembered that we had to deal with buildings already erected. With regard to the effects of moisture and of the different salts contained in soot, they were deserving of great consideration. Those who had given attention to the decay of stone would have noticed, that where the stones remained moist, as they would in some parts of a building, there the decay was greatest. This was not alone owing to the disintegrating action of the moisture, but was due, in a great measure, to the absorption of the saline materials which constituted so large a proportion of the composition of soot. On one point he differed from Dr. Voelcker—that was, as to the preservation of stone by artificial means. He had led them to believe that such a process as Mr. Ransome's would be successful. In that he (Mr. Abel) did not agree. In the composition used by that gentlemen there were different salts, which, by chemical reaction, were intended to deposit an insoluble substance upon the surface and within the pores of the stone. Doubtless this insoluble substance, silicate of lime, was produced; but there was also produced a soluble substance,—common salt,—which soon dissolved away, and left the pores of the stone open. The result was, the stone was not permanently protected; indeed, not more effectually than if some such substance as beeswax were applied, which for a time would fill up the pores of the stone, but would soon decay and require renewal. If they could discover a process (and he did not despair of this) by which they could get a preservative matter into the pores in a perfectly insoluble form, it would no doubt be valuable. To that end they were tending. He believed it was not impossible to deposit silica in a hard form in the pores of the stone without also depositing a soluble salt, and in this way they would effect what Dr. Voelcker had shown to be so desirable to prevent the decay of stone.

Mr. Bishop could state that what had been treated of as occurring to buildings in this country, took place to a considerable extent in other parts of the world, under totally different climatic influences. The English church at Alexandria, although erected only six or seven years ago, in sandstone, already exhibited signs of decay in some parts, particularly in the ornamental portions; whilst the mosques in Cairo, which had been built hundreds of years, also of sandstone, were in the most perfect preservation, and the richly-ornamented domes of those buildings, exceeding anything we have in this country, remained perfectly sound. Damp had been spoken of as having a great effect upon some description of stones. In Alexandria, however, there was no rain whatever for eight months in the year, but there was a palpable dampness in the atmosphere of an evening. He had no doubt the stones took up a great portion of that dampness. On visiting the obelisk at Heliopolis, on the sides on which the current of wind set, there was an incrustation nearly half an inch thick, with slight vegetation upon it. That appearance was presented on only two sides of the obelisk, and there must be some considerable degree of moisture to fix that earthy matter. A similar appearence was presented by the stones all over Egypt: there was something deposited on them which would produce vegetation if there were sufficient moisture for that purpose. With regard to the destructive influences of frost upon stone, they were, no doubt, considerable, though in many places in the East, where there was no frost, the stone was, nevertheless, much decayed. The Colosseum at Rome, though built of a very porous stone, was in excellent preservation. The Cathedral of St. Peter was built of the same kind of stone, as were most of the buildings in Italy which were not of marble. It was very porous, though also very durable. The Cathedral of Cologne appeared to have suffered from the decay of the stone more than any similar building in this part of Europe, and many portions had to be entirely rebuilt. With regard to Caen stone, as far as his own knowledge went, it appeared that those stones which contained the greatest portion of silica were the best resistants of the influences of the weather.

The Chairman (Mr. Hawes) proposed that the thanks of the meeting be given to Dr. Voelcker for his paper. This paper was of a highly practical character, containing, as it did, a collection of chemical results obtained by experiment upon decayed stones taken from various buildings. It was true that no remedy had been suggested in the paper, but perhaps that was not the object, but rather that of eliciting discussion and information. This was the kind of paper most likely to bring out that information, either as to what stone should be avoided, or how to make the material employed more durable. Mr. Smith had given them another set of facts, those of his experience as to the differences between one bed of stone and another. He had also shown how, in the same building, different degrees of disintegration in the same description of stone had taken place. Taking the instance of Somerset House, he had stated that the lower parts and those nearest to the water had suffered less than the higher portions of the building. Then, with respect to the Horse Guards, Mr. Smith had told them that the northern and eastern portions were less decayed than the southern and western, and this he attributed to the greater change of temperature to which the latter were exposed, but it must be remembered that these were also exposed to the winds most prevalent in this country; therefore, the condition of the stone being originally the same, we must infer that the sides of the building exposed to the winds and rains nine months out of the twelve would be mechanically acted upon to a greater extent than the other parts, and there would also be a larger quantity of sulphur salts thrown upon those portions. These causes combined, no doubt produced that difference which Mr. Smith had very truly stated. Here were the observations of a practical man pointing out where the decay took place, but he did not show them how the evil was to be avoided. Dr. Voelcker had shown them the chemical changes which took place in certain descriptions of stone, and in the case of the specimens of dilapidation exhibited this evening, it appeared that this destruction was going on while the restorations were in progress, so rapid was the decay in some instances.

WOOD SAWING AND SHAPING MACHINES.

AN invention has been patented by Mr. J. W. McCarter, of Londonderry, and is described with engravings in the *Engineer*. It comprises improvements applicable to machinery for sawing wood, and more or less to other wood-cutting machinery. Deal frames upon his plan are sawing thirty-two deals per hour, two being cut at the same time. The invention does not relate to the saws with their frames and guides. The first portion of the invention relates to an improved silent feed motion, the principal part of which is a disc fixed on a shaft driving the feed roller shafts. A second portion of the invention relates to improved rollers for carrying, moving, and guiding the wood through the machine, these rollers being so contrived as to dispense with the fence, side rollers, weights, and springs hitherto employed. — Another invention, by Henry Wilson, of London, is described as consisting in the construction of machinery whereby wood is shaped, either one piece or several pieces at one time, to the form of a metal or other suitable hard template or guide by means of rotating cutters, which act upon the wood in the direction of the grain, whereby a smooth and even surface is obtained. These inventions cannot be fully described without the aid of the engravings.

THE COTTAGES AT HARTWELL AND STONE, BUCKS.

A CORRESPONDENT urges that our informant "was misled in regard to the proprietorship of some of these cottages; for, although the acreage of the two parishes does principally belong to Dr. Lee, many of the cottages in question do not. Even where there is a row of connected dwellings," he goes on to say, "only a portion of these belongs to Dr. Lee. The doctor maintains a large staff of bricklayers and carpenters, whose duty it is, under the direction of an inspector, to enlarge, reinstate, or repair both farm-premises and cottages."

We are very glad to find that Dr. Lee's friends repudiate for him the ownership of the dog-holes at Hartwell, and that we were misinformed in that respect. All we will say is, that the people thereabouts should also be set right in their knowledge; for it was not one informant, but half a dozen informants, who gave us the



MONUMENT IN MEMORY OF CANON M'CARTHY, MALLOW, CORK.—Mr. J. J. M'Carthy, Architect.

statement in question. The condition of these "homes" of our labouring population no one defends: our sketches put that out of the question; and others that we shall probably give soon will further confirm all that has been said. It is to be hoped the real owners will see the necessity of attempting some immediate improvement.

THE M'CARTHY MONUMENT, MALLOW.

The monument recently erected in the parish church of Mallow, county Cork, in memory of the late Very Rev. Justin Canon M'Carthy, is composed principally of Caen stone, inlaid with spars and marbles of various colours. The effigy, which is life-size, is of alabaster; and the cresting of roof of wrought-iron, gilt. The total height of the monument is 11 feet. The entire work has been executed by the Messrs. Hardman, of Dublin, from designs by Mr. J. J. M'Carthy, R.H.A., architect, at a cost of 165*l*.

FRAMLINGHAM COLLEGE.

PRINCE CONSORT MEMORIAL FOR SUFFOLK.

In February, 1862, the country was full of the idea of memorials of the Prince Consort. On the one hand, the Central Committee wished to gather into one all the contributions for a great national object: on the other hand, each particular county and province, eager as the central body to perpetuate the memory and example of so great and good a man, was nevertheless desirous to see on its own soil the particular monument which might be erected.

In Suffolk, the idea of a cheap and good education for the sons of the middle classes soon gained ground. A county meeting was called, and 6,000*l*. subscribed on the spot. The Lord Lieutenant, who is identified with every movement for the good of the county, lent the weight of his influence, and the nobility and gentry rallied round him, and the list soon swelled to larger proportions; but a crowning feature was to be contributed by Sir Edward Kerrison. Belonging to Pembroke College, Cambridge, there lie at Framlingham and elsewhere sundry estates willed in the old times for educational purposes. After lengthy conferences with the Fellows of Pembroke, who were willing enough to devote a part of the disposable property for the benefit of those for whom it was intended, when only the method was decided, Sir Edward succeeded in gaining a plot of land for the site, and a Bill was passed in Parliament, at the instance of the Charity Commissioners, empowering the grant of fifteen acres of land as a site for the Middle Class School.

The subscriptions now amount to more than 13,000*l*., in addition to other benefactions; and Suffolk promises to provide for her less favoured sons a preparation for the very highest position for which they may be fitted by their genius or acquirements. To illustrate the spirit with which the movement has been inaugurated, the following have contributed 500*l*. each:—Lord



FRAMLINGHAM COLLEGE, SUFFOLK.—THE REVEREND C. [illegible]

radbroke (lord lieutenant), patron; Sir Edward errison, president; Sir Fitzroy Kelly, M.P.; rd Henniker, M.P.; Sir George Broke Middle- a; the Marquis of Bristol; Sir Charles Bun- ry; Mr. T. Lucas, Lowestoft; Mr. K. Wilson; . R. Garrett, Leiston; Mr. J. Berners; Mr. G. Mantle, Leicester-square. Mr. Goldsmith, rliament-street, gives 700*l*. Many other large scriptions swell the sum total to the above- ntioned amount.

The committee have laboured continuously to ng the undertaking into shape, and the build- , of which we give a view, is in course of erec- n at Framlingham. The edifice is designed the Gothic style, of a collegiate character, nped together in such a manner as to give ersity to the general outline, and is of con- erable extent, covering an area of 240 feet by feet; containing accommodation for head ster, four under-masters, officials, and 300 s.

The general elevation presents a central block uilding, with clock tower, and in this portion the building it is intended to denote the norial character of the edifice, by erecting a ue of the Prince Consort, in a canopied niche the entrance doorway. On each side of the ral building the college extends about feet, being three stories in height, and ning the residences of the boys and under- ters. At the west end of the college is placed head master's residence, and it is proposed rect at the opposite end a chapel for the use he students. The upper and lower schools in the rear at each end of the building, and of similar elevation as the front of the college. rary, lecture-room, and class-rooms, are pro- d for each of the schools. At the back of central building is the dining-hall, capable ccommodating 500 boys. Near the dining- are placed the kitchen, matron's and domes- offices, and, separate and distinct, an in- ary for sick boys.

e building is a red brick structure, and ns the summit of a hill: it has already ned the first story. It looks down upon rich ures, ending in a small flat tract, the re- s of the ancient moat; and on the oppo- slope is perceived the quiet old town, the fitting in every respect for an educational e, being connected by rail with every part e county, surrounded with classic remini- ces, and said to be eminently healthy.

is also free from the disadvantages of a population. The chief attraction in the cape, however, is the extensive circle of d fortifications, comprising the remains of ld castle.

e committee anticipate that the progress being made will enable them to open the ings about the Midsummer period of this

The architect, under whom the works are d, is Mr. Frederick Peck. The contractor . Lacey, of Norwich. The cost of the build- xclusive of chapel, will be about 13,000*l*.

is gratifying to observe that not only re- s in the county, from the Lord Lieutenant farmer, are heartily supporting the move- ; but even natives of Suffolk, whose for- have been made elsewhere, still take a in the county which gave them birth, and ckoned among the largest contributors.

E ARCHITECTURAL ASSOCIATION.

ordinary meeting of members was held day, the 22nd inst., Mr. T. Roger Smith in air.

following gentlemen were, on ballot, d members of the Association: Mr. Thomas , Mr. Thomas Wisedale, and Mr. F. H. ister.

J. D. Mathews (hon. secretary), in an- ing donations to the library, called atten- to the advantages which it offered to the ts of architecture, and observed that it e only lending library of the kind in the polis, and as such was entitled to the sup- the profession.

Chairman concurred with Mr. Mathews, pressed a hope that, should any member Architectural Association be so fortunate obtain the Society of Arts' prize for the sign for a labourer's cottage, he would his gratitude by a liberal donation to the .

Penrose then read a paper on Greek cture, which will be found in another

e conclusion,

Mr. Penrose stated, in reply to questions from Mr. Spiers, Mr. Blashill, Mr. Ridge, and other members, that the general impression was that the Parthenon (of which a coloured diagram, executed by the late Professor Cockerell, was exhibited) was coloured when it was originally built, and not at a later period when the Romans had ascendancy in Greece. There was no trace remaining of gilding in the Parthenon, but in the annals of the Erectheum records were still preserved to prove that gilding had been used in the ornamentation of the building. With regard to the roofs of Greek temples, there were places which seemed to have received scantlings of timber. It was believed that marble tiles were placed over the timbers, and that the rain-water was allowed to drip off. No cement was used in the pillars of the Parthenon, but the blocks of stone seemed to have been rubbed or ground down very fine, so as to make them fit exactly when set upright. There were also traces of iron and bronze cramps, but many of the latter had been stolen. He had not been able to discover any traces of masons' marks, so often found in ancient buildings in England and elsewhere.

Mr. Spiers having proposed a vote of thanks to Mr. Penrose,

Mr. Blashill, in seconding it, expressed his gratification at finding that Greek art had been popularized of late; and recommended all who desired to know more about the subject to attend Professor Donaldson's lectures at the London University.

The Chairman having put the motion, which was carried, said the Athenians at one time appeared to have reached perfection in architecture, sculpture, and literature. We could not hope to rival them in an age like this, when beauty in architecture was too often sacrificed to utility; but we might improve ourselves, and make our architecture more grateful to the eye by studying nature in landscape and in the human figure. He looked forward to a revival of architecture by the harmonious action of architects in favour of a general style and general progress. The works of Mr. Cockerell were amongst those which could always be studied with advantage, and he hoped the members of the Association would profit by them.

The Chairman then announced that as Mr. T. Hayter Lewis would be unable to read his promised paper on the 5th of February, on "French Architecture down to the Renaissance," Mr. Bunker had promised to read a paper on "The System of Measuring and Valuing in the Metropolis." The paper by Mr. T. Hayter Lewis would be read on the 1st of April, in lieu of that promised by Mr. Molecey, who was about to leave the country.

It was also announced that the subject for the next class of design would be "a library."

MANSFIELD STONE.

AT a recent *soirée* of the Mansfield Mechanics' Institution, held in the townhall, and presided over by the Speaker of the House of Commons, Sir Roderick Murchison, in the course of an address, drew attention to the structure of the county of Nottingham, and of the stone of the neighbourhood. He had before him maps prepared by the Geological Survey of the British Isles. That survey, of which he was the unworthy director, had in their possession maps so constructed as to represent all the younger formations and all the older formations which existed in the British Isles, and any person so disposed might obtain copies of them at a small price. With regard to that particular town (Mansfield), it rested upon a rock which was singularly interesting to himself, as he had occupied a very large portion of his life with the development of those organic remains which succeed each other in the crust of the globe. Mansfield stood upon the very highest of these formations, and next under it was the great carboniferous formation which was important to that district, inasmuch as it contained the only great mass of coal, and was superior to all other, or any other, of the younger deposits. The formation on which Mansfield stands, to which he had given the name of Permian, was of enormous importance to this county. It was so because it overlaid that great pabulum—it was the great feeder of the industry of our country; it was the great coal deposit of England. The question also was: to what depth could they find coal beneath the magnesian limestone? He gave the name of "Perm" to it for this reason:—Whilst travelling through the vast expanse of Russia, he there found, in the government of Perm and other vast regions of that kingdom—regions as extensive as the territory of France proper,—this deposit of which the limestone of Mansfield is the centre. This Mansfield limestone was of great, nay, of universal, importance in the structure of the globe. It contained the same organic remains in Russia that it did here, only in Russia it was disseminated in very small bands. Still it contained the same organic remains as those which are found in this country, and was surmounted, as well as underlaid, by great masses of red sandstone.

In this country, on the other hand, whilst the limestone was predominant, those great masses of overlying sandstone did not exist,—the deposit which overlies our limestone belonging to another age. The new red sandstone of Sherwood Forest, which immediately succeeds from Newstead Abbey, immediately to the east of Mansfield,—this Permian group or system was of immense importance when we considered the singular value which it possessed within itself, as being one of the finest building stones to be found within the British isles. Knowing how great was its value in this respect, he very much regretted that, when a scientific friend advisedly, and with great talent, recommended that this magnesian limestone should be used in the construction of the Houses of Parliament, the Mansfield stone was not selected in preference to that which was used. If the Mansfield stone had been selected, not one pinnacle in that otherwise grand building would have been subject, as it now was, to perish; not one of those sandy, yellow, incoherent beds, would have been selected by the contractors; or rather, he should say, that they were only too anxious to meet the wishes of the architect-in-chief, in getting large masses of stone, whatever might be their quality. Here he would tell them an anecdote, relating to his friend who recommended the Anston stone for building. His audience were aware that there were various qualities of the Anston stone. Well, there was an officer appointed, at a very small salary,—a person well calculated to select the stones which were only proper for the construction of our great Houses of Parliament; but, by one of those miserable pieces of economy which from time to time take place, this officer, whose duty it was to mark and send back such stones as were unfit for the purpose, was paid off, and the consequence had been,—he would say it in the presence of the Speaker of the House of Commons,—great deterioration in the structure of the Houses of Parliament.

THE "METROPOLITAN DISTRICT RAILWAY" BILL.

THE preamble recites—

"That the streets of the metropolis are inadequate to the wants of the vast and increasing population which now frequents them, and they are further encumbered by the passage through them of goods and minerals between railways having terminal stations in the metropolis, and it has become indispensable that they should be relieved of portions of that traffic, partly by the construction of railways within London, and partly by the construction of railways around the metropolis, which shall unite the railways having termini in London, and thus become a channel for the conveyance of goods and of minerals from one railway to another, and especially from those lying on the north to those on the south side of the Thames."

The project is set forth as a main outer circle, a main inner circle, and a series of branches connecting the outer circle with the following systems:—West London Extension; West End of London and Crystal Palace, Hammersmith and City; Great Western; London and North Western; Midland; Hampstead and City; Great Northern; Great Eastern; North London; Blackwall; Brighton; South Eastern.

The "inner circle" is to commence at the proposed extension of the Metropolitan and Brompton, and to pass by Westminster Bridge and along the north bank of the Thames to join another proposed extension of the Metropolitan near Fenchurch-street, thus completing a circle of railway in London which will communicate with, or be in close proximity to, all the stations in London north of the Thames.

The "outer circle" is to commence on the south side of the Thames by a junction with the Chatham and Dover, in the parish of Clapham, passing across the Thames between Chelsea and Battersea bridges, connecting itself with the main inner circle at Brompton; thence passing through Kensington, Kilburn, Kentish Town, Stoke Newington, Clapton, Hackney, and Bow; and ultimately from Bow across the Thames at

Rotherhithe, to join the South Eastern near New Cross.

It is provided in regard to that part of the outer circle which will lie between the Great Eastern at Bow and the South-Eastern at New-cross, that the construction of a bridge across the Thames at Rotherhithe, below London Bridge, should be deferred until the execution of the other portions of the undertaking shall have insured that the ultimate object of connecting all the railways around London will be attained. In order, also, to complete the system of intercommunication which is intended to be formed between the different railways, it is declared expedient that powers should be given to use short portions of the Brighton, of the London, Chatham, and Dover, and of the West London.

The capital is estimated at 10,000,000*l.*, whereof 4,000,000*l.* are to be borrowed.

The first members of the board are the Earl of Devon, and Messrs. Samuel Laing, George Worms, jun., Alderman Dakin, W. A. Wilkinson, W. Lee, W. Austin, Hon. F. Lygon. The works to be proceeded with are to be completed within seven years. The tolls for the inner circle are 6d. first-class, 4d. second, and 3d. third. Small parcels from 2d. to 3d.; exceeding 28 lb., 6d.; exceeding 56 lb., such a sum as the company may think fit. The tolls on the outer circle are to be 2d. per mile, and regulations as to the conveyance of cattle, coal, iron, and other merchandise are minutely described. The maximum rate of fares for passengers is fixed at 3d. per mile first-class; 2d., second; and 1½d., third. The company is not to be compelled to carry manure on the inner circle.

RESTORING STATUES AT LINCOLN.

THE newspapers say, the reparation of the Cathedral at Lincoln is being steadily proceeded with, by Messrs. W. & J. Sandall, under the direction of Mr. C. Ward, architect. The eleven figures of early English kings will be thoroughly restored. "A portion of the Norman work at the sides of the entrance is very much decayed, and this also will be restored, the new work already executed consisting of grotesque heads and angular tooling." This sounds very alarming. We offer no objection, in the absence, at present, of precise information; simply a caution to those who are concerned.

THE ARTISTIC SOCIETY OF PAU, FRANCE.

THE president of the Society "*des Amis des Arts*," of Pau, asks us to make known to English artists that their exhibition will open on the 15th of March next, and that they would gladly receive works of art from England. We willingly do this. Pau is occupied during the winter by many English families, who would be pleased to see works of their countrymen in the exhibition. Purchases are made by subscription, and allotted as prizes. Some copies of the programme will be found at our office, 1, York-street, should any English artists feel disposed to forward works to Pau.

SANITARY STATE OF MARYLEBONE.

FROM the monthly report on the health and climate of St. Marylebone during December, 1863, by R. D. Thomson, M.D., F.R.S., medical officer of health for the parish, printed by order of the Vestry, it appears that the health of the district has been more favourable than in the preceding month, since 356 deaths are recorded in the *five* weeks of December, and 305 in the *four* weeks of November. There were twenty-four fever cases in the past month contrasted with twenty-one in the four weeks of November. The disease, however, continues the report, "is increasing in the eastern districts of the metropolis; and it is necessary to be prepared to provide for the isolation of the sick in such a contagious complaint, should it make its way among our own population during the severity of the winter. From the total want of sufficient means of isolating epidemic and contagious diseases in the public hospitals, and from the increasing density of the population of the metropolis,—the most frequent cause of the spread of contagious disease,—the local authorities must, in future, make up their minds to provide for a certain number of sick during the prevalence of infectious zymotic disease. It is to be hoped that the larger and more wealthier hospitals will see fit to provide distinct isolated wards for contagious disease, as is universally the case in country infirmaries. If this desideratum be not supplied, these institutions will, in a great degree, be superseded by parish infirmaries and dispensaries."

THE NEW WORKHOUSE AT CARLISLE.

THOUGH not altogether completed, this workhouse has been opened to the public for inspection. The building is in the Italian style of architecture, of red brick with white stone facings. Above the main entrance, and between two lofty ornamental turrets, is the clock with transparent dial. The first apartments on the right and left are the master's office and parlour, and at this point the house is equally divided for males and females by a passage running through to the dining-room, which is 70 feet by 30 feet, and will also be used as a chapel. Throughout the whole length of the building, on each story, runs a long corridor 250 feet in length. From these corridors the various departments branch off. The right half of the building will be devoted to the females, and the left to the males; and on both sides the arrangements are uniform from bottom to top. The infirmary adjoining the house is a large building in the same style as the main building. The architects are Messrs. Lockwood & Mawson, of Bradford. The following were the tenders for the work, selected from fifty-nine sent in:—Messrs. Armstrong, excavating, brick-work, and masonry, 5,407*l.*; Court, joiner, 3,111*l.*; Irving & Lowthian, plumbers, 690*l.*; Johnston, plasterers, 618*l.*; D. Clarke, ironfounder, 429*l.*; Hill & Sutcliffe, slaters, 681*l.* 10*s.*; W. Stephenson, painter, 259*l.*; making a total of 11,195*l.* 15*s.* The glazing was done by Messrs. Slee & Morgan. The architect's estimate was about 12,000*l.* The total cost of the land and building together will amount to 12,715*l.* 7*s.*, to be paid off in twenty-one years, and involving a rate of 1¼d. per pound per annum.

LONDON FIRES DURING THE PAST YEAR.

THE annual report of the superintendent of the London Fire-Engine Establishment deserves attention. In the year 1863 the number of alarms given at the various stations of the metropolis alone was 1,624. Of these 81 were false, 139 proved to be only chimney alarms, and 1,404 were fires; of which 39 resulted in the total destruction of buildings, &c.; 310 in serious damage; and 1,055 in slight damage. The fires of 1863 show an increase, compared with those of 1862, of 101; and compared with the average of the previous thirty years, the increase is 582. This is an enormous increase, which is not to be accounted for by the increase of population and buildings. The report, however, shows that in the management of fires there is an improvement. The totally-destroyed list, 39, compared with that of 1862, shows an increase in number of six; but compared with reference to the average population of the thirty previous years, there is a decrease of nine. The amount of total destruction will, we hope, decline, as the facilities for telegraphic communication are in more complete working order between the various districts and the fire brigade stations, and through the general introduction of the steam fire-engines: but the figures which follow show that a considerable portion is caused by the distance between the suburban districts and the stations; for of the buildings destroyed, 4 were over 2 miles from the nearest station, 7 over 3 miles, 1 over 5, 2 over 6, 2 over 7, 1 over 8, 1 over 11, and 1 over 12 miles; 3 were lost from want of water, and 1 fell down before the fire was extinguished. We thus learn that a great part of the thorough mischief is done at a distance of about 3 miles from the stations at present established.

Of the 39 totally burnt-out buildings, 18 were completely alight, and 17 others burnt down, before the arrival of the engines. It is said that the telegraphic communication between the chief station and the outlying ones,—a plan which we recommended years ago,—has been completed; and now we urge, not only the erection of fresh stations, but telegraphic communication in case of fire throughout the part where the total burning is the most rife.

Than the men and officers of the Metropolitan Fire Brigade, there is no class who with so much energy and so much risk devote themselves to their important duty. They have also to contend against damp, and at all hours with the changes of temperature. In 1863 the list of casualties to firemen was less than in the previous year. There have been eighty-six cases of illness, totally incapacitating the men from duty, against ninety-eight cases for the year 1862; but although less in number, more severe in character. Of the total number, thirty-three have arisen from accident, and several are of a very severe form, demonstrating the hazardous nature of their employment. Respecting these men, who are not very well remunerated, and who, in consequence of the risk, would find difficulty in insuring their lives or providing against sickness, Superintendent Shaw says, "At the close of another year it has become my pleasing duty to bear testimony to the general efficiency and excellent conduct of all ranks of the establishment, and to state my most sincere belief that the steadiness, unanimity, fearlessness, and zeal, with which they devote themselves to the arduous duties of their profession, fully entitle them to that confidence and liberality of which they receive such numerous instances at your hands."

The figures, in connexion with other large cities are worth note, although the accounts of some of those abroad may not be quite exact. Average per annum:—Philadelphia, 363; New York, 331; Paris, 300; Berlin, 260; Hamburg, 244; St. Louis, 189; Boston, 172; St. Petersburg, 140; Montreal, 104; Brooklyn, 83; Troy, 42; Charleston, 31; Liverpool, 297; Manchester, 238; Glasgow, 221; Dublin, 174; Birmingham, 127; Sheffield, 51; Leeds, 47; Hull, 26; Bristol, 25; Cork, 23; Sunderland, 22; Belfast, 17; Birkenhead, 8; York, 11; Exeter, 10; Waterford, 5; Yarmouth, 4; Tynemouth, 3; and in London, as we have above recorded, 1,404.

Hodges's Fire Brigade.—An elaborate report has just been published, containing statistics as to the number and character of fires which have been, as usefully as disinterestedly, attended by the fire brigade maintained at the expense of Mr. Hodges, the distiller, of Lambeth; from which it would appear that the public are greatly indebted to that gentleman and the men under his command. During the past year the total number of fires attended was 108; whilst in 1862 they only amounted to sixty. Of the former, eighty-four took place on the south, and twenty-four on the north side of the Thames. Two steam fire-engines, the "Torrent" and the "Deluge," have been added to the plant of Mr. Hodges's fire establishment, and have proved very effective. 2,200 feet of hose, and other appliances, are kept in thorough repair, and in readiness at a minute's notice. He has also purchased from Mr. Salt, of Saltaire, a steam road locomotive, called the "Fly-by-night," which runs at the rate of 12 to 20 miles an hour, according to circumstances, and is worked by two men, and capable of carrying twenty persons. Notwithstanding the useful services which Mr. Hodges and his fire brigade appear to render to the metropolitan public, it is to be regretted (as a correspondence published in conjunction with his report intimates) that he has grounds of complaint of want of courtesy, as well as obstruction received at the hands of the authorities and *employés* of the London Fire Brigade, at a time when the most determined energy and unity of action are necessary to prevent the destruction of valuable life or property.

ANOTHER NOTE ON THE ANCIENT WELL AT CLERKENWELL.

FROM time to time we have adverted to the desirability of preserving one of the most interesting old London landmarks,—a spot from which a parish containing a population of 65,68 persons has taken its name. The important in days long gone by, of this ancient site, has been more than once referred to in our pages; but without now repeating the details, it may be mentioned that notices of the site of this well fill many pages of old London history: kings and queens have come here in pomp, attended by courtiers, who little thought of underground or other railways passing close by; and by which even stage coaches and stage waggons would have been looked upon as fabulous things suggested to them.

Wishing anxiously for the preservation of historical sites of old London, we keep striving to force those who are in duty bound to do so to restore those landmarks which are in danger of being forgotten or of perishing by decay, especially to cause those who have wilfully neglected or misappropriated such relics, to be

.ck what has been wrongly removed, or to re-
ore those memorials which have been wrongly
dowed to go by neglect and to decay.

In furtherance of these intentions we quote
om one of an interesting series of papers on
e Clerkenwell charities in the *Clerkenwell*
ws. It is clear, as we have said before, that
e Marquis of Northampton *left by gift* to the
or of Clerkenwell, in 1674, Clerk's Well in
-y-street, &c., at a peppercorn rent; also a
hall room at the back of the pump, let to a
r. Giles at 2*l*. 12s. per annum.

"The following extract from the vestry minutes of 167[illegible]
ows the means by which the parish became possessed
the well in Ray-street, and the purposes for which it
s given, together with the manner in which it was after-
rds disposed of by the vestry :—

"It was unanimously ordered by the ancient inhabitants
the parish met in this vestry (Dec. 1671) That whereas
Right Hon. James, Earl of Northampton, hath given
rtain spring of water for the use of the poor of the
d parish of St. James, Clerkenwell, during his lord-
p's pleasure; and whereas the parishioners have
ught fit to let out the said spring of water for the
nefit of the poor of this parish to such person or persons
o will give the most or greatest rent, or annuity, or
ome, for the same; and whereas John Crosse, of this
rish, brewer, hath offered to give a greater rent than
r other person, out of charity and goodwill to the poor
the said parish; we, whose names are hereunto sub-
ibed, have therefore thought fit to order that the pre-
it churchwardens do let a lease for twenty-one years of
said spring of water to the said John Crosse, for the
t of 40*s*., one moiety whereof to be paid at Midsummer,
next moiety at Christmas following, and so yearly to
churchwardens for the time being, during the term,
the use of the poor.'

Mr. Pascall says,—'I am here induced to remark that,
r the free gift of the spring by the earl to the use of
poor, it was not very generous on the part of the
try to take it from them and let the same on a lease
twenty-one years for the sake of getting forty shillings
ear, of which most probably the poor never had a
thing.'"

We still hope that the vestry will move for the
urn of the memorial which stood upon the
e of the well. It is undoubtedly the property
the parish, and of much public interest; and
is stated that this record of the ancient well
n the possession of a member of the vestry of
rkenwell.

HOLBORN VALLEY.

At the last meeting of the Court of Common
uncil, a petition was presented by Mr. F.
rrable, architect, praying that his letter to the
mbers of the corporation on the subject of the
mniated designs for the improvement of
lborn valley might be taken into considera-
n. The petitioner, it appears, considers him-
aggrieved by the decision to which the com-
tee intrusted with the examination of the
eral plans arrived, and which he believed was
tually influenced by the engineer consulted by
m. The petitioner therefore prayed that the
n of Mr. Bell, to whom the first prize of 250*l*.
s awarded, and that of Mr. Sorby, who received
e second prize of 150*l*., might be submitted to
e scrutiny and judgment of some professional
n or men of the highest eminence, free from
predetermined view on the subject, and who
uld be able to decide without prejudice or bias
ether these designs were in accordance with
e conditions of the competition expressed and
plied as regards the accuracy of the estimates
the practical working of the gradients and
ls, and which of the designs, including his
n, was best calculated to meet the public con-
ience.

n the course of the discussion that followed
was stated that Mr. Haywood had received
00*l*. for his services in going over the compe-
on designs and for the preparation of plans
e deposited in Parliament.

he petition was ultimately rejected by a large
jority.

COMPETITIONS.

Public Cemetery for Manchester.—From the
eteen sets of designs received in answer to
blic advertisement, the three premiums which
been offered for plans for laying out and
mining the land, and designs for the chapels,
rance-gates, and other buildings required for
proposed public cemetery, have been awarded
he designs sent in under the following mono-
n and mottoes, viz.:—"Trefoil in an Octa-
," 100*l*.; "Père la Chaise," second, 40*l*.;
"Hoc Signo," the third, 20*l*. The sealed
elopes relating to such plans were, subse-
ntly to such decision, opened; when it ap-
ed that the plans obtaining the first premium
been sent in by Messrs. Paull & Ayliffe,
nitects, India-buildings, Cross-street, in con-
ction with Mr. William Gay, landscape gar-
er, Bradford. The plans obtaining the second
premium were by Mr. Henry Littler, 1, Albion-place, Higher Broughton; and those obtaining the third premium were by Messrs. Lucy & Littler, of 9, James-street, Liverpool.

PROVINCIAL NEWS.

Bristol.—The Government, in reply to a memorial signed by upwards of seven hundred of the principal merchants, bankers, and others, have consented to erect a new post-office, money-order office, and savings bank, for this city, at a cost of 10,000*l*., provided the citizens will contribute the sum of 2,000*l*. towards such outlay, subscriptions having been made by other cities and towns where new post-offices have been erected.

York.—The Inspector of Prisons who visits York has intimated that a communication will shortly be received from Sir G. Grey, the Home Secretary, requesting various alterations and improvements to be made in the House of Correction. These alterations will have principally for their object the adoption of the silent system; and the estimated cost, according to the *Intelligencer*, is about 3,000*l*. This expense, if incurred, will be defrayed by the ratepayers of York. In case the requirements made are not fulfilled, the inspector threatens that the prison will have to be closed.

ARCHITECTURE AS A FINE ART.

When we fail in any undertaking whatever, we do not usually content ourselves with mere endless repetitions of the attempt. But if after very great changes in the conditions we still fail, the suspicion will creep in that our whole process is faulty. Possibly we begin wrong, and so cannot possibly succeed. We and our neighbours have copied the Classic, Gothic, &c., and now are completely at sea, without any style at all: see Mr. Fergusson.

The usual practice seems to be to design an *outside* first, and then to squeeze an inside into it. Thus the inside is often sacrificed to the out. As such a proceeding produces no good result, let us reverse this process, and in all cases design the *inside* first. Modern wants would then by degrees mould or form a style. The true architect would be he who succeeded in making an internal want sightly. In his lecture on this subject, Professor Smirke approves of the judicious use of "accident" in producing the picturesque; but no internal want ought to be talked of as accidental. The architect is called on to provide for those wants,—if possible with beauty, but on no account to stunt them like a clumsy shoemaker.

R. T.

Athenæum.

THE COMMITTEE OF THE ROYAL HOSPITAL FOR INCURABLES.

TREATMENT OF ARCHITECTS.

Sir,—Nearly three years ago the Board of the Royal Hospital for Incurables applied to some half-dozen architects and myself to send them designs in competition for their new hospital, to be erected near Reigate. Their letter of invitation informed me that the building would be in accordance with instructions furnished, which stated among other things that the Board contemplated an expenditure of about 30,000*l*.

After informing the Board that the prizes (73*l*. 10s. and 31*l*. 10s.), were no inducement whatever to me to compete, and eliciting from them in reply a distinct assurance that it was their intention to employ the successful competitor in the erection of the building, I consented on this condition alone, and little suspecting the real state of the case, to send in designs, which, with those of the other competitors, were reported upon by Mr. Bellamy; and on the 19th December, 1861, I was informed that the first prize had been awarded to me, and that the drawings were on view to subscribers and others.

Since that time, though the Board have retained my designs, and even applied to me for a perspective view of the building, I have received no communication from them except in reply to letters addressed to them; and it now appears that they have never possessed the 30,000*l*. named in their instructions as their contemplated expenditure, nor do they appear to have ever had any definite prospect of being able to build their new hospital.

Having recently seen by advertisements that the Board have purchased an old building, and have accepted plans for its alteration, without any communication with me, I inquired whether they had abandoned the idea of erecting a new hospital from my designs, but have not been able to get any satisfactory reply to this reasonable question.

Architects are unfortunately not unaccustomed to want of courtesy and fair dealing in open competitions, but I think the competitors in this case had a right to expect that the Board of a respectable and useful charity, with such a man as Mr. Henry Huth as its treasurer, would not have sought to obtain from professional men, by a promise of something which it was out of their power to give, designs for a building for the erection of which they were fully aware no funds were available.

Edward M. Barry.

*** Is not this a case which might usefully be confided to a lawyer, with the view of teaching committees that they have duties as well as rights?—Ed.

CANONS, NEAR EDGWARE.

John Freeman, Esq., of Fawley Court, in A.D. 1748, purchased the pews, pulpit, altar, and font of the chapel of Canons, and with them fitted up his parish church of Fawley. At the same time he modernised the windows and doorways of the church. The seats are arranged choir-wise, facing north and south. The carving is by Grinling Gibbons.

Fawley is in the county of Buckingham, and about three miles from Henley-on-Thames. The pulpit and stalls are still to be seen, unless the church has been restored within the last twelve months.

E. J. Payne.

A SUGGESTION AS TO THE SO-CALLED "ACOUSTIC POTTERY."

My attention has been directed to some correspondence, accompanied by an illustration, in your columns bearing the mysterious and rather incomprehensible title of "Acoustic Pottery." Though a careful description is given of the whole arrangement, there is not the slightest suggestion as to *how* these jars are supposed to have aided in the acoustic effect, nor any reference to known laws on the transmission of sound. Of course every one knows that earthenware pots share in common with all hollow vessels the power of developing sound to a wonderful degree, but I have never noticed in any crockery-shops that the empty pickle-jars conduced in any way to produce unusual acoustic effects; and it is difficult to understand how, if those exposed on the shelves failed in this respect, that the jars under the counter or down in the cellar were likely to have assisted much.

Now this seems to be the case as regards the position of the jars discovered in the churches at Norwich: they seem to be built into walls at the side of a narrow channel, like an open drain, under the seats of the choir, and were of course covered over by the floor of the stalls. Is it to be supposed that the voices of the choir went by some mysterious means straight down through an oak floor, entered the jars, were developed there somehow, and then issued out in a grand solemn body of sound and filled the whole church with its volume? This may have been so, and as I do not know much about acoustics I should only be too glad if any one learned in the science could explain it. In the mean time I would venture to offer a suggestion, viz., that the arrangement is neither more nor less than a fifteenth century *heating apparatus*. Both the arrangement and the position seem to favour this idea. If a little charcoal were placed in each, or even in alternate pots, the draft in the flue would have the effect of keeping it burning for a long time, and the warmth generated thereby, and ascending through perforations in the floor, would of course be very grateful to the occupants of the stalls during the services of the church. The fires, when once kindled, would keep in at the least for twelve or fourteen hours without any touching, and could at any time be easily replenished. Of course a flue from the chambers would greatly accelerate the draft; and some such flue may possibly have existed, the remains of which may have been destroyed during the subsequent alterations.

One of the churches in Peterborough is, I am told, still heated by an apparatus somewhat similar, invented and patented many years ago by some ingenious person, whose name I cannot at this moment find out.

In this case there are six pits like little cesspools, about 1 foot 6 inches square, and 2 feet

deep from floor level. They are placed at nearly equal distances over the church, are built of fire-brick, and covered over level with the floor by a cast-iron plate. These chambers are connected by a fire-brick channel or flue, passing from one to the other, laid immediately under the paving, and consequently about 15 or 18 inches above the bottom of the fire-chamber. The last pit of the series communicates with a common vertical flue in the wall; a certain quantity of fuel being placed in each of the pits, the one next the flue is lighted, and allowed to burn up a little, so as thoroughly to warm the flue; the others are then lighted in rapid succession, and without any trouble, as the first fire acts as a pilot stove. The fires are then allowed to burn gradually down, lasting about twenty-four hours, the result being that the church is thoroughly warmed.

We have here almost identically similar apparatuses. In the one case, the pots are small and many; and in the other case, the pots are large and few.

Mr. Phipson says, that when the pots at Norwich were discovered, there were no remains of any kind in them. When the fires are burned out in Peterborough, there is hardly anything left in the pits, the strength of the draft having carried away the particles of consumed fuel.

It seems curious that such an arrangement, very peculiar in itself, and very unusual, should be found in two churches in the same city, and nowhere else; for we do not hear of any of your correspondents ever having seen anything like it except at Fountains. This certainly seems to open the way to the idea that it must have been the invention of an individual; and that possibly the plan having proved troublesome, and not very satisfactory in its results, it had soon ceased to be used, and of course, from its position, forgotten. Possibly it may have been the first of a long line of heating schemes to which the people of this country have, during the last few years, been constantly falling victims. To judge from the illustration, it must, at least, have had one merit, not generally possessed by most of our modern contrivances, viz., it must decidedly have been cheap, even if not very effective.

R. NORMAN SHAW.

IMPROVEMENTS IN "CLOSETS."

MESSRS. READE & HEWITT, of Liverpool, have patented an invention for regulating the supply of water to water-closets, which they call the Pneumatic Vessel. The object of it is to prevent a waste of water, and to obtain a perfectly regulated supply, whether the head of water be 8 feet or 200 feet, and whether the cistern be immediately overhead or at a distance from the closet: thus, with pan closets, meeting all the exigencies of site which can occur in any building. The regulating valves now frequently used the inventors consider to be very imperfect pieces of mechanism, and not even equal to the old-fashioned cistern-valve with cranks and wires. The pneumatic vessel, when applied to pan closets, is placed in a recess in the wall behind the wood casing, and about 6 inches above the seat. A disc service-valve is contained in the bottom of the vessel, with a spindle working through a stuffing-box and guide eye, and secured by a joint to a connecting-rod, the other end of which is attached to a weighted lever. The whole apparatus is fixed to a board in the manner of an ordinary force-pump. By moving the connecting-rod of valve nearer to or further from the fulcrum of the lever, the waterway can be enlarged or diminished to suit the pressure; so that if the rod is attached to the lever by the hole nearest the fulcrum, the weight on the lever will keep the valve balanced against the highest pressure from the main; and, on the contrary, if the rod is moved to the hole furthest from the fulcrum, the waterway is enlarged and allows a free flow at low pressure, which is much assisted by the valve opening into the bottom of the vessel instead of in a bend of the pipe, as is usually the case. Out of the side of the vessel, near the bottom, a ¾-inch syphon service-pipe is carried above the top of the vessel, the longer leg entering the basin in the ordinary way.

At the top of the vessel is a floating air-valve, formed of a hollow indiarubber ball, 2 inches diameter, resting on cross-wires, which, when the vessel is full, is floated up against a brass bell or seat, from which a ½-inch air-pipe is carried to a hole under the flush rim of basin. The action may be explained as follows:—On the handle of the closet being lifted, the water flows through the service-valve into the vessel, rising level in the syphon-pipe, the air contained in the vessel escaping by air-valve and pipe. When the water reaches the floating ball, it rises and closes the bell orifice of the air-pipe, and then rising in the syphon, delivers into the basin the water flowing, and the vessel keeping full as long as the handle is held up. On the handle being dropped, the air re-enters the vessel by the air-valve, and the contents are syphoned out into the pan, forming the after supply. It will be seen from this that no water can flow into the basin until the vessel is full, and that it syphons itself empty when the service-valve is shut. In conjunction with this apparatus a high-pressure cistern, which is a part of the patent, may be used, and in some situations would prove of great utility, as it, as well as preventing a waste of water, containing only sufficient to once flush the closet, accumulates and utilises the pressure from the main, which is dissipated by an open cistern, and discharges its contents with great force into the basin, on the service-valve being opened. When the water-supply is constant from the main, this cistern is likely to be patronized by the water companies, no regulating cistern having before been contrived for pan-closets, the after-supply forming a difficulty not readily surmounted. The cistern acts by compressed air, but it is well known that the air contained in a close vessel at high pressure, becomes rapidly absorbed by the water. This is one of the defects of fire-engines, the air-vessel becoming water-logged; and in hydraulic rams a provision has to be made by a capillary tube, called a sniffling-valve for the renewal of the air on the return stroke. The high-pressure cistern possesses an inlet air-valve, by which the air is renewed each time the closet is used, thus sustaining its elastic force, and preventing its destruction by frost. The pressure due to the head of water is retained in this cistern, even though it should be supplied through 200 or 300 yards of ¾-inch pipe. The orifice of the supply-pipe is not more than ½-inch bore, and one cistern would work a dozen closets, thus effecting a great saving in piping, both for the supply and service. The apparatus is on view in Liverpool.

BRICK CROSSINGS.

WILL any of your correspondents inform me, through the *Builder*, in what town street-crossings are laid in with bricks, of what kind of bricks, their durability in metalled streets where the traffic is constant and heavy; also average cost per superficial foot or yard?

A SURVEYOR.

THE LEVERAGE OF TOOLS.

SIR, Probably some of your readers may at some time or other have had occasion to use a screwdriver, a carpenter's tool which everybody knows; and I probably they have found by experience that a long driver has far more power than a short one: the longer it is (providing its dimensions do not exceed such limits as to make it otherwise than a "handy tool"), the greater is the power with the same force at the extremity in proximity to the hand.

The same practical result is arrived at with a "borer." For instance, suppose a man had to bore a hole through a piece of timber, or to increase the diameter of a perforation in a piece of iron, he would do it with greater facility with a borer 2 feet long than with one only half the length.

Can this proportionate power be reduced to figures?

F. B. B.

COST OF "QUANTITIES,"

CHELSEA WORKHOUSE ADDITIONS.

SIR,—Will you inform me whether it is usual for a surveyor to charge 3*l.* 3*s.* for a copy of quantities, besides 1½ per cent. on the amount of contract? The architect of Chelsea Workhouse additions has done this, and will not return the 3*l.* 3*s.* to the competitors, eleven in number, whose payments make a sum of 34*l.* 13*s.*

ONE OF THEM.

COMPENSATION CLAIMS.

A CASE of some importance occupied Mr. Under-Sheriff Burchell and a special jury nearly the whole of Thursday, the 21st, at the Sheriffs' Court, Red Lion-square, on a claim made by Mrs. Desormeaux, of the Northumberland Hotel, Northumberland-street, against the Charing-cross Railway Company, for obstructing her business through the "block-up" by their works. Mr. Hardinge Giffard and Mr. Maclaughlin were for the claimant; and Mr. Lloyd, Q.C. (Mr. Shield with him), for the company. The house being situate at the corner of Northumberland-passage, was some way from the railway works, but they had caused the obstruction. It was admitted that for pulling down Hungerford Market no compensation could be claimed, but only for the obstruction to the business by the railway works. It was alleged that the traffic was likely to return through the passage. The business had fallen off, and a tunnel had lately been opened near the spot. Mr. Giffard said it was a nice question whether a market could be abolished without an Act of Parliament. Mr. Lloyd said if a large sum were awarded the case might give rise to a number of claims, and it might be taken to the Court above whether the present claim came within the Act of Parliament. The Under-Sheriff placed the case before the jury, and at five o'clock they awarded 300*l.* damages.

CASES UNDER THE METROPOLITAN BUILDING ACT.

PUBLIC BUILDINGS AND POLICE MAGISTRATES.

An important decision under the Building Act was made in the Court of Queen's Bench, last Wednesday, 27th inst. (the Queen *v.* Carruthers), as regards the bearing of the 30th section on public buildings, the subject being a church now building at Hackney. It appears, that Mr. Legg, the district surveyor of West Hackney, has held the opinion that this 30th section, instead of exempting public buildings from the prescribed rules of construction, imposes all these rules, and, in addition thereto, whatever else the district surveyor may consider necessary, subject to reference to the Board of Works.

The architect of the church, Mr. Edward Hakewill, himself a district surveyor of long standing, on the other hand, has always held and acted on the assumption that this 30th section freed public buildings from all the rules of construction, throwing the responsibility on the district surveyor, subject to the reference to the Board, in case of disagreement between him and the builder.

Acting on this, which is certainly the grammatical reading of the section in question, the builder of the church, Mr. Carruthers, having previously deposited with Mr. Legg the drawings of the church, proceeded in June last to dig trenches, fill in the concrete, and commence the walls, during which time Mr. Legg simply drew attention to the fact, that the footings of the walls were not twice the thickness of the walls; and Mr. Hakewill, in reply, contented himself by showing that they were constructively sufficient, and reminding the district surveyor, that in case he was not of that opinion, reference should be made to the Metropolitan Board of Works.

Thus matters went on till the walls were about 7 feet high, when the district surveyor took the matter, not to the Metropolitan Board, but to the police-court; and the magistrate, not seeing his own way to a jurisdiction, gave an order in accordance with the district surveyor's requirement, that the footings should be made twice the thickness of the walls, with costs.

This was at once appealed against on the part of Mr. Hakewill, and as the courts were not then sitting, the judge of vacation issued a writ of *certiorari*, to remove the case to the Queen's Bench, allowing the works to proceed in the interim.

A rule *nisi* was granted on the 12th November last, which was argued against at great length by Mr. Lush, Q.C., on the 20th inst.; but the judges unanimously decided that the order of the magistrate was erroneous and must be quashed, and gave judgment accordingly. Mr. Addison appeared for Mr. Hakewill.

In the course of the argument,—

Mr. Justice Blackburn observed that it might well be that the Legislature had refrained from placing public buildings under the jurisdiction of police magistrates. Such a jurisdiction, for instance, might press very hardly upon an architect of eminence who departed somewhat from the ordinary rules of the profession—as, for example, in the case of Sir Christopher Wren in the construction of St. Paul's.

The Lord Chief Justice said the clause which referred to public buildings gave an appeal to the board, but no power to magistrates to enforce the order; and public buildings, as regarded rules of construction, were excluded from the operation of other clauses giving the magistrates that power. Now, certainly the manner of making a wall was a matter of "construction;" and so, without straining and almost perverting the terms of the Act, the matter in question could not be brought within the jurisdiction of the magistrates. It was only as regarded matters not of construction that public buildings were under such jurisdiction. It might be that there was an omission in the Act as to the means of enforcing the requirements of the board as to the construction of public buildings. But whether it was an omission or not, there was no such power in the Act, and therefore the order was without jurisdiction.

Books Received.

Letter on Corpulence. By WILLIAM BANTING. Harrison, Pall-mall. 1864. Third edition.

LETTERS to the public recommending some individual medical attendant are little better than professional puffs; but we must do Mr. Banting the justice to state that it was not till his Letter to the public had reached a third edition that he published the name of the medical man to whom he attributes his cure of corpulency. He had published or distributed his first two editions gratuitously; but, finding his correspondence on the subject becoming rather troublesome and expensive, he issues the third edition at cost price (6*d.*), and, to save trouble, names his physician. However, Mr. Banting is evidently in downright earnest as to his extraordinary cure; and he publishes the simple principles of regimen on which it was effected. Our readers may recollect an article in our columns on "Popularizing Physiology," based on a popular little treatise by Dr. Lawson, Professor of Physiology at Birmingham College. In that article, as in the book noticed in it, the subject of fat, and its connexion

ith the liver and with saccharine and starchy od material, was treated of. Now, Mr. Bant- g's case is one of notable scientific importance e bearing upon this subject. It is by avoiding od of the kind just indicated that he has dimi- shed his corpulency; reducing his weight from 12 lb. to 156 lb., or by the very material quantity 46 lb.; diminishing his waist girth by 12¼ shes; enabling him to go down stairs like ier people, and not backwards, as he used to ; and also to tie his shoe-strings, &c., which many years before he could not do; and so . The food which he especially avoids is tter, sugar, potatoes, milk, and beer. He now es chiefly fish, except salmon; butcher's meat any sort, except pork; any vegetable except tato; any kind of poultry or game; fruit; and toast, &c.; so that he is by no means an bhorite, and he does not even stint himself in antity: it is the quality of food which makes the difference.

Mr. Banting's is a very instructive case, and pamphlet may do much good in such cases, well as in the reverse process, where a little re fat is desirable. The idiosyncratic action the liver, however, has doubtless much to do h differences of attainable result in different es of both kinds.

Might not that terrible modern scourge, "fatty eneration of the heart," which cuts off pre- turely so many valuable members of society, greatly mitigated, if not often cured, by Mr. ting's simple plan. He himself, and others b have imitated his example, have been cured alpitation, which is a concomitant of this ad disease.

Due to Railway Compensation, the Value of States, and Parochial Assessment. By Thos. ORRIS. London: Simpkin, Marshall, & Co. 863.

DENTS and others desiring to get a first no- of the mode of making and maintaining ms for compensation for damage done by ways, or for property taken away, may ob- it from Mr. Morris's little book. They t not, however, stop here. A little know- e in this particular case is a very dangerous g; and they must apply themselves to more plete and elaborate treatises on the subject, re they attempt to meddle either with the rests of others or their own.

Miscellanea.

IE NAIL TRADE.—The horse-nail makers in Dudley and East Worcestershire district given notice that, unless they receive an ance of 3d. per 1,000, they will give notice an advance of 6d. Other classes of nailers also notified their intention of claiming an ance.

HE ACME OF UGLINESS.—Sir: If any one is ous of seeing the most frightful thing that et been perpetrated in the way of drinking- tains, he will find at the corner of the ware and Marylebone roads such a concen- ion of ugliness as will equal his most san- e expectations. I am aware it has been ed some little time; but it is surely never ate to protest in the name of public taste, h is damaged greatly by all such erections.— . S.

GRESS OF DUMBARTON.—According to the barton *Herald*, the increase in the popula- of this town during the past twelve years been at the rate of 100 per cent. It now ains 721 more dwelling-houses and places of ess than in 1851. The rental is greater by 87. About 220 vessels have been built at yards in the town, the estimated cost of h was 3,275,445*l.* The annual quantity of consumed in 1851 was 1,635,300 cubic feet: now 6,714,000, being a yearly increase of 3,700 feet. Within the same period the in- tants have been supplied with an efficient e establishment; water has been intro- d; the lighting of the town has been im- ed; the river has been deepened; the public ion has been embanked at a cost of several sand pounds; four new churches have been ed; the slaughter-house has been removed de the town; a public cemetery has been ed; a new academy and public hall are to be erected; a thorough system of d drainage is shortly to be gone into; and balance to the credit of the corporation is rds of 3,000*l.* greater than it was twelve ago!

METROPOLITAN BOARD OF WORKS: THE CHAIRMAN'S SALARY.—On the motion of Mr. Tite, the salary of Mr. Thwaites, by a majority of 27 to 4, has been raised from 1,500*l.* to 2,000*l.*

THE SHAKSPEARE COMMITTEE.—It will be seen that the Site and Monument Committee are to meet next Friday (the 5th of February), and that artists and others desiring to make suggestions bearing on the desired result, are invited to forward them to 120, Pall Mall. The meeting is to be held at the house of the Right Hon. W. Cowper, M.P. A public meeting will probably be held as soon as the above committee have reported so as to inaugurate a general subscription.

WOBURN BEDS.—Some excitement has existed in this town for a few weeks, owing to the threatened demolition, and re-building, of the parish church, which is described as a very "pretty" building, erected by the last Abbot of Woburn, and now in excellent repair, having a very fine, though inconsistent, chancel ceiling, the work of Sir William Chambers, and to have been handsomely ornamented by Mr. Blore, at considerable expense, for the present Duke of Bedford's grandfather. It seems, however, by the *Bedford Times*, that the inhabitants, with a very few exceptions, strongly regret the change, being much attached to the old church, and finding it ample for the existing population; and it is thought that the Duke, absent from indisposition, but known not to have originated the scheme, may direct its reversal.

THE NEW BOOKS OF 1863.—According to the *Publishers' Circular*, 3,878 is the number of titles of publications issued in the past year. This falls in a trifling degree short of the number in 1862, which amounted, after similar deductions, to exactly 3,913. These figures, however, though interesting in some respects, afford really little indication of the relative prosperity of the trade in different years. Of course, if the number of titles of new works fell greatly in any particular year, it could not but indicate some real depression. But the true index of prosperity does not lie in the number of titles, which remain pretty nearly stationary from year to year, but in that far less easily ascertainable indication, the number of issues.

THE BARTLOW TUMULI.—Mr. Purnell, the secretary of the Archæological Institute, lately submitted to the members a profile of the Bartlow tumuli, prepared for them by the engineer of the Great Eastern railway, in order to show the manner in which he proposes to bring a new line between these interesting relics. At the same meeting a communication from the Society of Antiquaries was received. That body promised, by resolution, to offer strenuous opposition to the passage through Parliament of any Bill that shall give power to the Great Eastern Railway Company to injure the Bartlow gravemounds. Several members of the Institute having condemned the wanton and daily increasing disregard of public opinion shown by railway companies, it was unanimously resolved,—"That the proposed method of carrying a line of railway through the Bartlow hills is objectionable, and that no scheme would obtain the sanction of the Institute the adoption of which would in any degree injure or deface these singular monuments of antiquity."

THE GUERNSEY STONE TRADE AND THE THAMES EMBANKMENT.—A large contract has been taken for the supply of Guernsey Syenite for the Thames embankment. Professor Tennant, of King's College, has certified that the rock is composed of quartz, felspar, hornblende, and mica, very hard and compact, and one of the best stones that could be selected for the purpose, being less likely to perish than granite. A hundred thousand tons, much of it dressed, have been ordered. The specimen sent to London was taken from the Ville Baudu Quarry, belonging to Mr. James Monfries. The first stone for the undertaking has been worked.——A quantity of stone, amounting to 40,000 tons, has been prepared by the workmen employed by the contractors for the Alderney breakwater. This large quantity was intended for the eastern arm, which has not yet been commenced; but preliminary inquiries have been made with a view to having it transferred to Chatham Dockyard.——There is a strike among the stone-crackers at St. Sampson for an increase of 2d. per ton. Some of the men who are natives of the island wished to continue at the rates given at present, but were intimidated by the Irish portion of the labourers who were on strike.

THE INTERNATONAL EXHIBITION BUILDING.—The upper part of the eastern dome has been taken down, and the work of removal is going on.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—At the meeting of the Architectural Institute of Scotland, to be held on the evening of Monday, the 1st of February, the business will be a letter from the hon. sec of the Architectural Alliance in reference to competitions; and a paper on—"A National Memorial—what it should be?"

THE LATE MR. PATRICK BYRNE, ARCHITECT.—Mr. Byrne, who died on the 10th inst., at the age of eighty-one, has erected a considerable number of churches in Dublin and its neighbourhood, besides buildings of a secular character. He was one of the vice-presidents of the new Institute of Architects of Ireland, and a member of the Hibernian Academy.

MONUMENTAL.—The *Englishman*, of India, states, that Mr. Burne has gone to Dhurrumsala, to complete the monument there being erected over the last resting-place of the late Lord Elgin. The design for this monument was chosen by Lord Elgin himself, during his dying hours, from designs drawn, at his own request, by Mr. Gordon, of Umritsur, civil engineer.— It is proposed to erect a statue to Bernard Palissy, the famous worker in pottery, at Saintes (Charente Inférieure), his birthplace.

EXTIRPATION OF INSECTS.—A correspondent asks for the best remedy for the destruction of insects of a very small size, which infest his kitchen, in the vicinity of Bryanston-square. Perhaps some of our readers may now be able to tell us of their experience with those insect powders of the pyrethrum class, a trial of which we suggested. Keating's insect powder is, we believe, of this class, and has been found effectual in killing some sorts of insects.

CASSELLI'S "PANTELEGRAM."—Some interesting and successful experiments have recently been made between the Liverpool and London stations of the Electric Telegraph Company with the telegraphic apparatus invented by M. Casselli, and termed the "Pantelegram." M. Casselli's principle is the transmitting to distant stations of *fac simile* copies of messages and signatures as written by the sender, and also exact counterparts of designs and portraits.

THE CHATHAM SURVEYORSHIP.—Mr. Weeden, the surveyor to the Local Board of Health, has recently died. The deceased gentleman held this office for a great number of years. The salary of Mr. Weeden, as surveyor and inspector of nuisances, was only 120*l.* The local board have ordered candidates for the office to be advertised for in the *Chatham News*, the election to take place this Friday, after rejecting attempts to reduce the salary to 100*l.*, with a foreman at 28*l.*, and even to 80*l.*, and an assistant at 60*l.*

THE GREAT NORTHERN HOSPITAL.—The Metropolitan Railway Company having carried their line immediately under this hospital, the committee have found another site and building in the Caledonian-road, midway betwixt King's-cross and the Cattle-market, and in the immediate vicinity of large manufactories and building yards, as well as the dwellings of the poor. A correspondent wishes us to urge the claims of this very useful institution on the public patronage, and this we most willingly do. The district contains a population of at least 500,000, heretofore without any hospital accommodation; and it is to be earnestly hoped that ere long it will be furnished with an hospital adequate to its wants. Subscriptions are received by the secretary at the present hospital, 235, Caledonian-road.

GLASGOW ARCHITECTURAL SOCIETY.—The usual monthly meeting was held in the rooms of the society on the 18th instant, Mr. J. Honeyman, jun., vice-president, in the chair. The chairman intimated that the fitting up of the rooms was now completed; the books had been arranged and catalogued, and arrangements had been made for lending them out to members. Mr. Campbell Douglas then read a paper entitled "Some Remarks on Fergusson's 'History of the Modern Styles of Architecture.'" After reviewing Mr. Fergusson's opinion that Italian is the *vernacular* of this country, Mr. Douglas showed that the old styles were all the products of ages of faith; that now-a-days men will not be confined to one style any more than to one faith; that when we all believe in common we shall have a new style; and when we have one faith we may hope for one style of architecture. He denied that a revived Italian was our vernacular.

BRIGHTON WEST PIER.—We perceive, by the first report of the Brighton West Pier Company, that "the contract for the erection of the pier has been let to Messrs. Laidlaw & Sons, of Glasgow, for the sum of 21,890*l.*"

THE FAIRBAIRN ENGINEERING COMPANY.—The large machinery and iron business of Messrs. Fairbairn & Co., of Manchester, is about to be merged into a joint-stock establishment, to be called the Fairbairn Engineering Company, with a capital of 250,000*l.*, in shares of 10*l.*, of which the chairman, Mr. Thomas Fairbairn, the sole representative of the old firm, subscribes for 70,000*l.*

THE ENGINEER TO THE LIVERPOOL DOCKS AND HARBOUR BOARD.—It has been agreed, in consideration of the services of Mr. Lyster, the engineer, to increase his salary to 2,500*l.* per annum, to commence from the 7th of November last, the end of the second year of his service. The Works Committee testified as to the zeal, diligence, and talent which Mr. Lyster had displayed in his department, and recommended the increase of salary thus given by the Board.

THE METROPOLITAN MAIN DRAINAGE PUMPING ENGINES.—The pumping engines for the Main Drainage works at Crossness, are now being constructed by Messrs. Boulton & Watt, at the Soho Works. These pumps will consist of an arrangement of four steam cylinders and eight pumps, fixed in an engine-house of large size. The four cylinders, each 48 feet in diameter by 9 feet stroke, will stand at the corners of a square. The pumps, eight in number, will each be 12 feet in diameter, and consist of a suction, middle, and delivery piece. Each steam cylinder will work eight plungers, the four nearest to the centre having a stroke of 2 feet 3 inches, and the other four a stroke of 4 feet 6 inches. They are all 57 inches in diameter. The suction valves will be vertical, the lower or suction pieces being cast like a circular open grate, 12 feet in diameter, the openings, some thirty in number, affording ample waterway. The delivery-valves will be the same in principle. The exact height of the lift will be about 18 feet. The boilers will be twelve in number, each 30 feet long by 6 feet in diameter.

SANITARY STATE OF NOTTINGHAM.—The report of the Sanitary Committee of the town of Nottingham for the year ending in September last has been printed. From this report it appears that the mortality at Nottingham, as elsewhere, has been high during the past year, but the increase has not brought the rate of mortality beyond 23 deaths to 1,000 living persons. The rate of infant mortality is still very unsatisfactory, seven-sixteenths of the whole number of deaths being of children under five years of age. The excess of 134 deaths this year over the last arises chiefly from the increase of 42 deaths under 5 years and 60 above 70 years of age upon the previous year. The report concludes with the remark that sanitary reform outside dwellings is progressing, but that such a reform interiorly, as regards ventilation and house-drainage, cleanliness, and general attention to the laws of health, is pressingly needful. The main outfall sewer for the drainage of the town, we may here add, is on the eve of completion, according to the local *Guardian*.

THALLIUM KNOWN TO THE ANCIENT MEXICANS.—It is reported upon good authority, says the *Mining Journal*, that a distinguished German chemist has just made an important discovery in connexion with the alloy now generally designated thallium. It appears that among the most ancient records of the ancient Mexicans an account is given of the mode of preparing the alloy used for producing the brilliant green fire which was freely burnt during the sacrificial ceremonies in honour of Vitzipultzi, one of their principal deities; and that in the attempt to prepare a similar alloy, from the details given, a discovery opening up an entirely new field of chemical science has been made. By the peculiar treatment of certain proportions of silver, lead, and selenium, a black powder was produced, so much resembling that designated thallium that the experimenter was induced to test it. The weight of alloy was precisely equal to that of the metals used; yet the whole of the reactions of thallium were obtained, and salts, bases, and acids of the alloy were produced, precisely as if the alloy had been a perfect metal. Even in the spectroscope the well-known green line was produced. It is anticipated that some tons of thallium will shortly be ready for sale in England at less than the price of silver.

DESTRUCTION OF A CHURCH BY FIRE.—St. Ann's Church, in the village of Parr, near St. Helen's, has been destroyed by fire. The damage is roughly estimated at about 1,000*l.*, and the building was not insured. The fire originated through the overheating of the flues, as usual, in airing and preparing the church for divine service.

ATMOSPHERIC PRESSURE AS A REMEDIAL AGENT. At a scientific meeting in Paris, a singular paper was lately read by Dr. Foley, in which the writer recommends a high atmospheric pressure as a cure for various diseases. This can be done by constructing a small chamber communicating with a forcing-pump, and provided with an air-gauge and safety-valve. By this treatment catarrh, asthma, and complaints of the respiratory organs, it is said, may be removed; and in disorders arising from weakness, compressed air will arterialise the blood, and increase the vital power of the patient.

THE NIAGARA OUTRIVALLED.—A detachment of troops recently scouting in the valley of the Snake or Lewis fork of the Columbia, discovered a waterfall which, it is said, is entitled to the distinction of being called the greatest in the world. The entire volume of Snake river pours over a sheer precipice 198 feet high, 38 feet higher than Niagara. Snake river is fully as large as the Niagara, and the cascade is one solid sheet or body. The locality of this immense waterfall is near the point heretofore designated as the Great Shoshone or salmon falls of that river, but they have always been enveloped in mystery.

THE BIRMINGHAM SOCIETY OF ARTISTS.—The annual exhibition of this society has been a good one. The sales for the season of 1862-3 were;—General sales, 1,516*l.* 16s.: this amount includes 500*l.* of purchases made by the Art-Union of Great Britain; while the purchases of the Birmingham Art-Union amounted to 1,009*l.* 16s.; or total sales, 2,525*l.* 12s. In the last season, 1863-4, the general sales amounted to 1,450*l.* 11s., and the Birmingham Art-Union purchases to 950*l.* 7s.; making a total of 2,400*l.* 18s. Deducting 500*l.* spent by the National Art-Union in 1862, the sales of the present season compare advantageously with those of the season preceding. The number of persons who during the four weeks of cheap admission visited the exhibition was 11,760; while an additional 6,500 availed themselves of the free admissions given to all purchasers of Art-Union tickets. Thus, in one month, 18,260 persons—mostly of the working class—visited the exhibition.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.—The half-yearly report of the directors has been published. The amount of capital raised on the 31st of December, 1863, was 11,708,974*l.* The amount of capital expended during the half-year was 625,580*l.* The gross revenue has been 537,160*l.*, showing a diminution of 43,401*l.*, when compared with the corresponding half-year. The directors, in announcing so large a reduction, state that it was hardly unexpected, inasmuch as the comparison is with the exceptional period of the International Exhibition of 1862. Besides this, it is to be attributed, to a considerable extent, to the great reduction of fares, which took place on the 1st of August last; whilst, considering the short period during which it has been in force, that reduction could not be compensated for by the augmentation which experience proves to have always followed diminution of charges, and of which the realisation must not be expected until time has been given to produce this unfailing result. The directors, however, remain of opinion that the policy which they adopted will ultimately be productive of benefit to the company. The balance available for dividend is also much diminished by a further heavy debt (21,632*l.*) for compensations in respect of accidents not occurring during the past half-year. The works on the South London line are making rapid progress; and by the end of the year 1864 it is hoped that these, as well as the widening of the Greenwich viaduct, and the necessary enlargement of the London Bridge Station, will be ready for traffic. Bills have been introduced seeking for powers to enable the company to complete the northern link of the Streatham, Mitcham, and Sutton line of last year; to carry out the arrangements concluded with the London, Chatham, and Dover Railway Company, as regards the access to Victoria Station; to extend the New Croydon line into the town of Croydon; and for other minor matters.

DECORATION OF ST. PAUL'S.—The work of carrying out the adornment of the interior of St. Paul's Cathedral lags for want of funds. It is estimated that 40,000*l.* at least are required for the completion of the work. This sum, it is proposed, should be raised mainly by a guinea subscription, to which the whole nation shall be asked to contribute. A resolution to this effect was carried at a meeting at the Mansion House, yesterday, and a committee was appointed to carry it out.

TENDERS.

For forming fair ground at Reading, Berks. Mr. W. H. Woodman, borough surveyor:—

Orton	£2,897 0 0
Adams & Kirby	2,702 0 0
Hartland & Bloomfield	2,388 0 0
Shaw	2,277 10 0
Rentmore	2,119 0 0
Hawkes (accepted)	1,987 12 0
Oliver (not opened: delivered after time).	

For restoration of Letcombe Regis Church. Mr. W. H. Woodman, architect.

Kent (accepted)	£6,980 0 0

For completing the Paxton Arms, Wimbledon, for Mr. W. F. Hodgson, Kingston. Messrs. Wimble & Taylor, architects:—

Adamson & Son (accepted)	£1,955 0 0

For the first block of granaries, engine and boiler houses, and chimney-stalk, for the Patent Ventilating Granary Company, Rotherhithe. Mr. James Edmeston, architect. Quantities supplied by Mr Parr.

Lawrence & Sons	£16,273 0 0
Mansfield	16,200 0 0
Holland & Hannen	15,835 0 0
Myers & Sons	15,825 0 0
Simms & Marten	15,575 0 0
Browne & Robinson	15,296 0 0
Shellfold	15,290 0 0
G. J. Watts	14,732 0 0
Hack & Sons	14,000 0 0

For alterations and additions to premises, 55, Wood-street, City, for Mr. A. Shore. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Brass	£3,499 0 0
Hill & Keddell	3,485 0 0
Ashby & Sons	3,459 0 0
Wills	3,442 0 0
Cannon	3,434 0 0
Patrick & Son	3,400 0 0
Hill & Sons	3,365 0 0
Piper & Wheeler	3,271 0 0
Fish (accepted)	3,260 0 0

NOTE.—The above amounts are exclusive of the old materials.

For the erection and completion of a house and offices at Leominster, for Mr. James Jones. Messrs. Elmslie, Franey, & Haddon, architects. Quantities by Mr. A. Coombes:—

Page (accepted)	£1,930 0 0

For new hospital for incurables, Putney Heath. Mr. Griffiths, architect. Quantities not supplied.—

		Extra if Stone Dressings to Fronts.
Mansfield	£9,780	£285
W. Lawrence & Sons	9,422	390
Browne & Robinson	9,218	399
Brass	8,886	—
Foster	8,390	—
Adamson	8,335	800
Bird	8,250	710

TO CORRESPONDENTS.

R. L.—J. B.—Z.—A Hawkboy.—P. T.—A. S. (shall hear).—H. N. H. H. J. M.—London Workman.—A. I (usually).—T. G (shall hear). M. P. (letters that reach us on Thursday morning have little chance of attention in that week's number).—Mr. Macpherson (MSS. were returned several weeks ago).—A. M.—H. I. Jones (look to any elementary treatise on hydraulics).—B. & L.—R. C.—R. C. (judgment is left as requested. It seems to us very erroneous).—L. C. B.—"The Chancel" (in type).—W. B.—J. H. W.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

[ADVERTISEMENT.]

PERFECTION OF MECHANISM.—"As engineers we can say that it really approaches much nearer the perfection of mechanism than any other example of clockwork we have yet seen on anything like the same large scale."—*Engineer*, August 15, 1862. Clocks by the first artists of the day for the drawing-room, dining-room, bed-room, library, hall, staircase, bracket, carriage, church, turret, railways, warehouse, counting house, musical, and astronomical. Church and turret clocks specially estimated for. Benson's illustrated pamphlet on clocks (free by post for two stamps), with descriptions and prices, enables those who live in any part of the world to select a clock. Also a short pamphlet on cathedral and public clocks, free for one stamp. Prize Medal and honourable mention in classes 33 and 15.—J. W. BENSON, 33 and 34, Ludgate Hill, London. Established 1749. Watch and Clock Maker by Special Warrant of Appointment to H.R.H. the Prince of Wales.

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London: Wm. H. ALLEN, 13, Waterloo place, S.W.

THE QUARTERLY REVIEW, No. CCXXIX. is published THIS DAY.
CONTENTS:
I. CHINA.
II. NEW ENGLANDERS, AND THE OLD HOME.
III. FORSYTH'S LIFE OF CICERO.
IV. GUNS AND PLATES.
V. SPEKE'S TRAVELS ON THE NILE.
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TEN POUNDS to Twenty Pounds will be given to any one procuring a thoroughly qualified and experienced SURVEYING SITUATION. Will go town, land, railway, and other surveying. A good leveller and draughtsman. No objection to the country. Strictly confidential.—Address, A. Z Post-office, Gower-street North, W.C.

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THE Advertiser, who understands his business, wishes to ENGAGE, by Contract or otherwise, the entire MANAGEMENT of a BRICK, TILE, and PIPE WORKS, and the SOCKET LAND-DRAINING PIPES, so much approved of late. Unexceptionable references.—Address, A. B. Brick and Tile Works, Winston, Stowmarket, Suffolk.

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LIGIBLE FREEHOLD BUILDING LAND, in the CITY of OXFORD.—The Guardians of the Poor Oxford Incorporation will offer for SALE, during the course of Spring, the SITE of the present WORKHOUSE, in the City of d, containing five acres or more. Further particulars may be ed of W. JACOB, Clerk to the Guardians. ord, December 10th, 1863.

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O BE LET, by the Fishmongers' Company of London, on a building lease, for eighty years, valuable DING LAND, Newington, Surrey, within three minutes' walk e Elephant and Castle: about three quarters of an acre of nd, situate on the east side of the Walworth-road, having a age of 105 feet in Crown-row, and a frontage of 166 feet 6 inches espect-row and Eighteen Cottages in the rear, in William's . The property is well adapted for shops and business purposes ering space and ready access to the principal thoroughfares of the opolis. To be Let by Tender, in one or more lots, to suit the s of different parties wanting the ground.—Apply to Mr. W. B. SE, the Company's Clerk, Fishmongers' Hall, London Bridge; or R. RICHARD SUTER, the Company's Surveyor, 28, Fenchurch t, E.C. where plans and particulars may be seen. The Tenders o be sent in by MONDAY, the 15th of FEBRUARY next, at N precisely. Fishmongers' Hall, 19th January, 1864.

YDENHAM HILL.—LAND TO BE LET, for Building, 400 feet frontage, average 500 feet deep. Beauti- ite, with extensive prospects, and fronting a high road. Close ster railway stations, and within ten minutes' walk of the Crystal ce. May be had in one, two, or three plots, for detached resi- es.—For particulars, apply personally to Mr. HENRY DAWSON, itect, 16, Finsbury place South, E.C.

UILDING GROUND TO LET.— GREAT TOWER STREET, in the City of London.—The Com- missioners of Sewers of the City of London will meet in the Guild- all of the said City, on TUESDAY, the 9th day of FEBRUARY next, HALF-PAST TWELVE o'clock precisely, to receive proposals for ng on BUILDING LEASES, for a term of eighty years (the first at a peppercorn rent), a PLOT OF FREEHOLD LAND, ate in Great Tower street, in the City of London, in the centre of Corn and Colonial Markets.—Further particulars, with conditions printed forms of proposal, may be had on application to the e, where plans of the ground may also be seen. The Commis- ers do not bind themselves to accept any proposal unless deemed dvantageous. Persons making proposals must attend personally, or duly authorized agent, or the above-mentioned day, at HALF- T TWELVE o'clock precisely, and the parties whose offers are epted will be required to execute an agreement and a bond at the s time. JOSEPH DAW, Principal Clerk. wers Office, Guildhall, November 6, 1863.

UILDING GROUND.—CITY of LON- DON.—Notice is hereby given, that the City Land is Committee meet at Guildhall, on WEDNESDAY, the 10th FEBRUARY , at ONE o'clock precisely, to RECEIVE PROPOSALS for a LDING LEASE for eighty years, of the site of the premises wn as Nos. 12, 13, 21, and 22, on the east side of Billiter-street, in City of London. — Further particulars may be obtained upon ication at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller. uildhall, January 7th, 1864.

ANUFACTURING PREMISES WANTED, in or near the City, extensive, suitable to a whole- manufacturing business. With a chimney-shaft preferred.— tress, M 21, Aldersgate-street, E.C.

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NITY of LONDON.—BUILDING GROUND.—The Court of Assistants of the Worshipful Com- ny of Grocers are prepared to receive TENDERS for taking on a uilding Lease, for a term of eighty years, a PLOT OF GROUND, con- ining about 1,650 superficial feet, situate on the east side of the Old erry, in the City of London.—A plan of the ground and full parti- ars may be obtained, upon application to the Clerk or Surveyor, Grocers' Hall, Poultry, E.C.

URSUANT to an order of the High Court of Chancery, made in the matter of the ESTATE of GEORGE OMAS HARRIS, deceased, late of Newmarket, in the County of Mon- th Harris. The creditors of the said George Thomas Harris, late of tory-row Stepney, in the county of Middlesex, Builder, deceased, o died in or about the month of AUGUST, 1863, are by their Soli- rs, on or before the 24th day of FEBRUARY, 1864, to come and ve their debts, at the Chambers of the Master of the Rolls, Chan- ery-lane, Middlesex, or in default thereof they will be peremptorily lude from the benefit of the said order. MONDAY, the 28th day FEBRUARY, 1864, at TWELVE o'clock at noon, at the said Chamb- s, is appointed for hearing and adjudicating upon the claims.— ted this 21st day of January, 1864. GEORGE WHITING, Chief Clerk.

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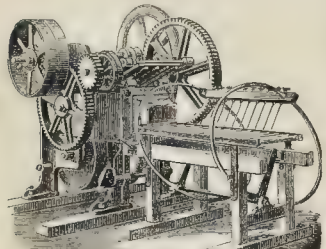
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The usual commission allowed to merchants of the trade.
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The Company are now prepar. to supply, at the shortest possible notice, their well-known HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE, Westbourne Grove, Paddington, W.

ESTABLISHED 1852.
PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded Alongside.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
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STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard soapstone imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DAVIES'S WHARF,
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GREAVES'S BLUE LIAS LIME.
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9d. 10s. per 120, 12 feet; Yellow ditto, 10s. ditto ditto. ½ Match Boarding, 14s. per square; ⅜ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church street, Kennington.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

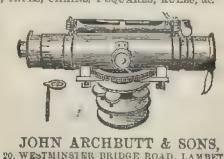
JOSEPH & ALFRED ROSLING beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark bridge Wharf, Bankside, S.E.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

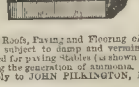
C. R. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.
COUNTRY ORDERS PROMPTLY EXECUTED.

NORWAY WHARF, RANELAGH-ROAD, PIMLICO, S.W.
B. J. HUDSON,
MAHOGANY and TIMBER MERCHANT,
GREAT PETER STREET, WESTMINSTER.
Having purchased the above Wharf, begs to inform the Timber and Building trade that he can land and deliver Timber, Bricks, &c. to any part of London.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMPERANTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

POLONCEAU and SEYSSEL ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.
Country Builders supplied with Asphalte in Balk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TIMBER! DEALS!! FLOORING!!!
In quantities of not less than Thirty at the Public Docks, viz.:—

Good 2¼ Mill-sawn White Battens	from £8 0 per 120 of 12 feet	Good 3 by 9 White Deals	£15 0 per 120 of 12
Good 2¼ Mill-sawn Yellow ditto	8 15 ,,	Yellow Fir Timber (good length and size)	45s. per load
Good 3 by 9 Mill-sawn Yellow Deals	16 0 ,,	Good and well-prepared ½ Flooring Boards	from 11s. 6d. per square
Good 3 by 9 Yellow Deals	7 10 ,,	,, ¾ ,,	12s. 6d. ,,
Good 3 by 8 Mill-sawn Yellow Deals	15 10 ,,	,, 1 inch ,,	14s. 6d. ,,

Also a large Stock of Matched Lining, Mouldings, &c. at equally low prices. Goods or Dock Orders promptly forwarded upon receipt of Cash or P.O. orders. All sawn goods delivered free to London railway stations.
THOS. W. ELLSTON, No. 109, SNOW'S FIELDS, KING STREET, BOROUGH.
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING! DEALS! MAHOGANY!

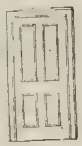
100,000 Dry prepared Flooring Boards	from 10s. 6d. per square
10,000 Dry Pine Plank	from 3s. 6d. each
5,000 Yellow Battens	from £10 per 120
4,000 White Battens	from £9 per 120
Matched Lining	from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.

Wainscot Oak	from 6d. per foot
Oak Sills	from 2½d. per foot
Honduras Mahogany	from 5½d. per foot

YELLOW DEALS, £16 PER 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings of any pattern, Shop Fronts, Shop and Office Fittings, Arch light Window Fittings, Glass Show Cases, &c.
Green houses, Hot Houses, and Conservatories, on the most improved principles.
An illustrated List of Prices forwarded on the receipt of stamp.
Estimates Furnished on application.



JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, DEALS, MAHOGANY, &c.

¾-inch White Flooring, good quality	11s. 6d. per square.
¾-inch White Matched Lining	12s. 0d. ,,
1-inch ,, ,,	14s. 0d. ,,
2½-inch Yellow Battens	10l. 0s. per 120 of 12 feet.
2½-inch White Battens	9l. 0s. ,,
3 by 9 Yellow Deals	16l. 10s. ,,
Honduras Mahogany	0s. 6d. per foot super.

PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.		Laths, 30s. per Load.
Good Yellow Deals	£16 10 0	per 120, or 2½d. per foot.
Spruce Deals	15 0 0	,, 2½ ,,
2½-inch Battens	9 0 0	,, 1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

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SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased the Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS, CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

MARCUS BOURNE NEWTON, LONDON AGENT.

DEPOT, No. 4, GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

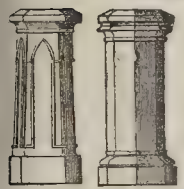
JAMES STIFF & SONS,

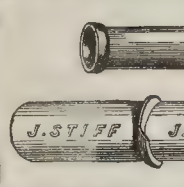
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

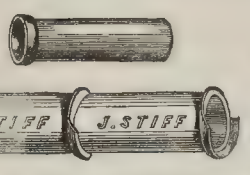
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.









PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



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The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

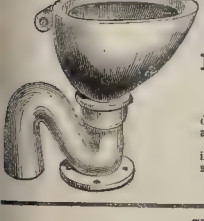
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

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DOULTON & WATTS, LAMBETH POTTERY,

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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its Lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

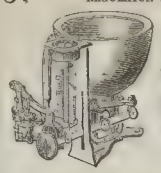
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No intern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and commenced the manufacture of TERRA COTTA and FINE STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Corners, Garden Edging, Guttering, Sanitaire, and two-inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform Architects, the gentry, and others, that in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show Room, at their Establishment, No. 50, Conduit-street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

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IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c. Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road, Boston, N. 2ndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tilaries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Truly imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 59 and 60, Upper Belgrave-place, Pimlico, S.W.

PATENT PORCELAIN BATHS.

DESIGNED BY HIS LATE R.H. PRINCE ALBERT.

PRIZE MEDALS, &c.

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"A great contribution to cleanliness."—See *Journal of the Society of Arts*, 1860. "Nothing can be more cleanly than porcelain, and this is certainly a beautiful specimen."—See *Jurors' Report* 1862, *Class* 10.

Bath Fittings complete, Glazed Bricks, Tiles, Sinks, Plug Basins, Water Closets, &c.

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RUFFORD & FINCH, Patentees.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, tongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture-galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 20, New Bond-street W.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Boxes, Union Joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY ROAD, LONDON.

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METROPOLITAN RAILWAY FINSBURY EXTENSION.—BUILDING MATERIALS of several large Factories, Warehouses, Dwelling-houses, and Premises, Aldersgate-street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors, to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 1st, at TWELVE, in Lots, all the valuable BUILDING MATERIALS of extensive Factories, Warehouses Dwelling houses, and Premises, situate in Aldersgate-street, comprising excellent stock bricks, oak and other timber in roofs and floors, slates, pantiles and pan tiles, glazed sashes, plate-glass skylights, chimney-pieces and interior fittings, doors, weather-boarding, flooring-boards, foldings, &c.; a quantity of York, pebble, clinker, and other paving, lead flats, gutters and pipes, cisterns, stoves, gas-fittings, and other useful fixtures and fittings-up.—May be viewed. Catalogues had on Messrs. BURCHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, AND DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—To PRINTERS, PRINTING MACHINE MANUFACTURERS AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors, to SELL by AUCTION, on the PREMISES, Union street, New Bridge street, Blackfriars, on TUESDAY, FEBRUARY 2, and following day, at TWELVE the remaining Portion of the useful and valuable PLANT in TRADE of new and second hand Building Materials, Fixtures, and Fittings: comprising about 1,000 plate-glass sashes (part plate glass), 700 lineal yards, wainscot and other doors, fancy plate glass and other shop fronts with shutters, eighty marble and other chimney pieces, forty French casements, 10 or feet panelled and glazed partitioning, stained glass sashes and doors, bookcase and show cases and presses, mahogany-top counters, nests of drawers, desks, 6-in pine deals and battens, 800 square of prepared floor boards, 18,000 feet quartering, 40 square match boarding, 4,000 feet oak floor boards, 2,000 feet new plain plank, 60 bundles of slating battens and pantile laths, wrought and cast iron, and a great variety of valuable property.—May be viewed the day previous, and catalogues had of Messrs. J. & W. SHEPFIELD, Solicitors, 53, Old Broad-street: of K. EDWARDS, Esq. Official Assignee; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

NEW CHELSEA BRIDGE.—Surplus Plant and Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at the FOOT of the NEW SUSPENSION BRIDGE, Chelsea, on FRIDAY, FEBRUARY 5, at TWELVE for ONE, a quantity of SURPLUS PLANT and MATERIALS; comprising about 400 scaffold-poles, 200 planks, 6 ladders, 30 feet of quartering, wrought iron scaffold hooks, about a ton of paint, the erection of stone-yard, 27 feet by 15 feet; an office, two patent diamonds for cutting plate glass, and other effects.—May be viewed two days previous, and catalogues had at the Office of her Majesty's Works, &c. 18, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

THAMES EMBANKMENT. TO COAL MERCHANTS, LIGHTERMEN, and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by the Proprietors, in consequence of their premises being immediately required by the Metropolitan Board of Works, to SELL by AUCTION at CANNON ROW WHARF, Westminster, on SATURDAY, FEBRUARY 6, at TWELVE for ONE, TWELVE RIVER BARGES, of 42 tons each.—May be viewed three days previously, and catalogues had at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

In Chancery: "Vokins v. Gray."—Freehold Building Land, Spitalfields.

MESSRS. PRICE & CLARK will SELL by AUCTION at GARRAWAY'S, Change Alley, Cornhill, on WEDNESDAY, the 10th day of FEBRUARY, 1864, at TWELVE for ONE, pursuant to an Order of the High Court of Chancery, made in the above cause, a valuable piece of FREEHOLD LAND, situate in Spitalfields, in the County of Middlesex, abutting from north to south, on the west side, 184 feet 10 inches, or thereabouts, and from east to west in the north side, 94 feet, or thereabouts, having a frontage towards Crispin-street of 110 feet, and a frontage towards Raven-row of 80 feet, or thereabouts, and three FREEHOLD HOUSES standing on part thereof.—Particulars with Plans may be had of MESSRS. SOLOMON, 31, Canter-street, Bermondsey-square; of Mr. BOYDELL, Solicitor, 11, Queen's-row, Bloomsbury; and of the Auctioneers 48, Chancery lane.

POSTPONEMENT OF SALE.

MESSRS. WILLIS & HARROW respectfully announce that their SALES of BUILDING MATERIALS advertised for Friday, 29th January, and Tuesday, the 2nd proximo, and following day, are unavoidably POSTPONED.

NORTHFLEET DOCKYARD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, FEBRUARY 9th, and following days, at ELEVEN o'clock each day, at Northfleet Dockyard, Northfleet, Kent, an assemblage of ENGINEERS' TOOLS, of the largest class, and in General Use, including two self-acting planing machines by Whitworth and Naasmyth, one to take in 10ft. wide, 30ft. long; the other to take in 12ft. wide, 24ft. long; a very powerful lathe by Naasmyth, centre, 41ft. bed; a very large powerful boring mills, one capable of boring a cylinder 12ft. in diameter; a 40-ton overhead traveller, cutting and punching machines, vertical saw frame, boiler-makers' drilling machines; four back-geared lathes, 24in. centres, 8ft. beds; two highly-finished working models of screw and paddle engines, several ships' models, brass barrel and lift pumps, 36ft. fly-wheel in segments, 11ft. dia.; a fire engines and hose, 4 cast-iron chain stoppers, 2 new ship windlasses, 2 steaming kilns, 15 double and single purchase crabs, 80 tool chests, a large assortment of ships' and engines, 2 railway engines, 3 railway earth waggons, 5 tons contractors' gails, 10 tons chain cable, slings, &c.; 34 tons wrought-iron ring bolts, 1 ton screw eyes, 2 tons nails, 14 ton iron screws with dies, punching machines, nest bolt and sheet copper, a quarter-ton metal dumps, 60 pairs metal hinges, 30 brass desk and side light, brass screws, 2 large ship-bells, metal water closet basins, old copper, old copper bolts, patent varnishes and colours, set of 3-throw brass pumps, valuable assortment of wood patterns, 12 tons rope, 150 fathoms of oak, teak, and elm plank and blocks, 50cft. oak timber, 10 loads of timber, 14 logs of pencil cedar, 100 pairs of wood blocks, 2 strong machine trollies, 2 bogies, 2 timber whims, 3 hand trucks, and numerous other effects.—To be viewed on the Saturday and Monday previous to the Sale, when catalogues (price 6d. each) may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

NORTH LONDON RAILWAY, CITY EXTENSION.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company, on THURSDAY, FEBRUARY 4th, 1864, at TWELVE for ONE o'clock, in the large Room at the SPREAD EAGLE TAVERN, near Shoreditch Church, the third portion of the valuable MATERIALS of the houses, shops, factories, public-houses, and other buildings required to be cleared from the Old-street-road to Worship-street, Bishopsgate-street, comprising Stock Bricks, oak and fir timber, slates, tiles, York paving, stoves, ranges, and fittings, counters, plate-glass shop fronts, public-house fronts and bar fittings, lead and other cisterns, gutters and pipes, &c.—May be viewed the day previous to sale, and Catalogues had at the Auctioneers' Offices, Camden Town and Kingsland Gate.

ALRESFORD, HANTS.—Important Sale of Fine NAVY TIMBER.

MR. ELFORD has been honoured with instructions from Sir Alfred J. Doughty Tichborne, Bart. to SELL by AUCTION, at the SWAN HOTEL, Alresford, on THURSDAY, FEBRUARY 4th, 1864, 200 Fine OAK TREES, with their LOP, TOP, and BARK, growing on Tichborne Down, Fully Wood, and in Wolfhanger Copplice. Lunch will be provided at ONE o'clock, and the Sale will commence at half past TWO o'clock punctually. The Auctioneer, in drawing the attention of Timber Merchants, Ship Builders, and others, to this Oak, begs to assure them that it is well worthy of their notice, much of it being very large and of great length, and all in the vicinity of good roads and within easy distance of the railway stations of Winchester, Petersfield, and Alton.—Descriptive catalogues will be ready a fortnight prior to the sale, which will be forwarded by post on application to the Auctioneer, Basingstoke. To view, apply to Mr. BURDUS, the Agent, Tichborne Cottage, Alresford, Hants.

MAHOGANY AND TIMBER.
FOR SALE BY PUBLIC AUCTION, AT

F. K. BARNES & SONS' TIMBER-YARD, CANONS' MARSH, BRISTOL, on THURSDAY, the 4th day of FEBRUARY, 1864, at ONE o'clock precisely.
Luncheon at Half past Twelve o'clock.
For account of Importers.

900 Logs Cuba Mahogany	Being the entire Cargo per Arab
48 Logs Havannah Cedar	from Manzanilla direct
120 Logs Fresh Birch	
123 Logs Board Yellow Pine	
1,000 Quebec Pine Deals	
500 St. Petersburg Whitewood Deals.	

With other Goods.
Catalogues will be issued by the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, January 22nd, 1864.

IMPORTANT SALE OF BUILDERS' AND GENERAL IRONMONGERY KINGSLAND.

MESSRS. TEBBE, BROTHERS, will SELL by AUCTION, at their spacious AUCTION ROOMS, 11, Kingsland-road, near the Gate, on TUESDAY next, at ONE, a varied STOCK of IRONMONGERY adapted for builders, upholsterers, smiths, and others, comprising cut and wrought nails, iron and wire, nice locks, screws, hinges, bolts, latches, brass fittings, 10 stoves and ranges, pans, spouts, gutters, shovels, files, horse nails, farriers' and carpenters' tools, pole, colours, pumps, vice, bed, taps, punching press, spring and cast steel, and effects. — On view day prior, and catalogues at the Rooms, and 3, Adelaide-place, London-bridge.

CAMDEN TOWN.—To BUILDERS, CARPENTERS, CABINET MAKERS, PAINTERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION on the PREMISES, Camden-terrace, Camden Town, on MONDAY, FEBRUARY 8th, at TWELVE for ONE o'clock, the BUILDER'S STOCK: comprising a large quantity of planks, deals, and battens, 1,000 square of flooring 3-inch feet of white pine, 1,000 feet mahogany, oak, beech, and sycamore, match lining, sounding, fine square, slating battens, 25 doors, 4,000 feet mouldings, dry cut stuff, steps, ladders, ironmongery, colours, painters' tools, old materials, &c.—May be viewed, and catalogues had.—Auction Offices, Carlington street, Hampstead-road, N.W.

TO IRON DEALERS, COAL MERCHANTS, SAW-MILL PROPRIETORS, GASFITTERS, AND CARMEN.

MESSRS. F. HALL & SON will SELL by AUCTION, on THURSDAY, FEBRUARY 4, 1864, at TWELVE o'clock, on the PREMISES, near the "Stanley Arms" and Cremorne Gardens, King's-road, Chelsea, to be cleared immediately, under a bill of sale, a large quantity of MISCELLANEOUS EFFECTS, comprising weighing machines and weights, gilt and bronze chandeliers, gas tubing and fittings, mahogany nests of drawers, tobacconists' fittings, plate glass and pictures frames, zinc hip bath, iron water troughs, wheelers' iron work, wrought-iron boilers, an excellent hot air stove, iron sashes, hot stove for greenhouse, mowing-machine, quantity of wheels, spirit casks, carved oak chests, iron bedsteads, large pair of scales and beam, mahogany desks, 4 tons of logwood, 500 Lucifer dipping machines, 300 Bosselaer's patent bottling machines, a quantity of building materials, 18 inches by 9 inches, fastening, stone paving, coping, stoves, ranges, plate-glass shop front, iron columns, wrought-iron gates, 15 excellent circular and 1 set of segment saws, quantity of marble and slate slabs, 2 capital jobbing sheet, and other useful iron, pumps and gratings, excellent light nearly new spring cart-van, with Foupard's machine and weights, and patent sales, excellent strong light spring cart, with patented axles, 2 light spring carts, Shofel cab, baker's barrow, 3 useful horses, three sets of harness, and other effects.—Catalogues on the Premises; and of the Auctioneers, Chandos-street, Kensington.

No. 15, UPPER-STREET, ISLINGTON.—To BUILDERS, OWNERS of HOUSE PROPERTY, &c.

MR. EWINS will SELL by AUCTION, as above, on TUESDAY next, at ONE o'clock, without reserve, 17,000 pieces of MODERN PAPERHANGINGS, in gold, flocks, marbles; whiteland, dines, colours, glass, &c.—View morning of sale, and catalogues as above.

THE ESTATE of JOHN PRICE, Esq., deceased.—The Merton Abbey Lodge Property, an exceedingly valuable Freehold Estate, available for building, surrounded by good Roads, and in close Proximity to certain important Railway Works.

MESSRS. EDWIN FOX and BOUSFIELD will SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, FEB. 24, at TWELVE for ONE, in Lots, an important and valuable FREEHOLD ESTATE, distinguished as Merton Abbey Lodge, most advantageously situate in High street, Merton, Surrey, about one mile from the Wimbledon Station on the South Western Railway, and half a mile from the Merton Station on the Wimbledon and Croydon line, consisting of a spacious and very substantial mansion-house, standing at an agreeable remove from the road, approached by a carriage sweep, with lodge at entrance. It is surrounded by about 33 acres of land in pleasure and kitchen gardens, orchards and meadows; there are first-rate stabling and coach houses, and all necessary detached offices, within an enclosed yard. Also, adjoining the King's Head publichouse, in the main road, three cottages, farrier's shop, yards, &c. The whole is leased for a term expiring at Midsummer next, when possession can be had. The estate possesses a commanding frontage of about 1,100 feet to the high road from London to Epsom, and a frontage of 770 feet to an important leading road at right angles thereto, and is well adapted for opening up other roads between the two, thus creating many thousand additional feet of available building frontage.—Particulars may be obtained of HENRY WANEY, Esq., Solicitor, 30, Moorgate-street; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

Preliminary Advertisement.—To RAILWAY CONTRACTORS and OTHERS.—Bristol and South Wales Union Railway.

MESSRS. BARNARD, THOMAS & CO. have been favoured with instructions from Mr. R. Brateel (the Contractor) to SELL by AUCTION, a large quantity of RAILWAY PLANT and MATERIALS, at or near the Patchway, Filton, and Portskewet Stations on the above Railway, to commence on TUESDAY, FEBRUARY 16th, 1864; consisting of Three Narrow-gauge Light Contractors' Engines; a number of Narrow-gauge Earth Waggons; Contractors' Tanks; and other Plant and Materials; further particulars of which will be given in future Advertisements, and 10 Catalogues to be issued by February 12th.

Four Days' Sale of Timber, on WEDNESDAY, FEBRUARY 3rd, at ELEVEN for TWELVE o'clock precisely, and Three following Wednesdays.

THOMAS ROBERTS & CO. have received instructions to DISPOSE OF by PUBLIC AUCTION on the above days, the LARGE and WELL-SEASONED STOCK of Messrs. Robert Ward & Son, on the PREMISES, 101, Bermondsey-wall, near the Bricklayers' Arms. Sold in consequence of the premises being let, and their removal to Grosvenor-road, Pimlico, and which consists of large quantities of Honduras and Spanish Mahogany, High Walnut, White and Yellow Deals and Battens, Pine Planks, Spruce Deals, Prepared Flooring, Baltic Timber, American Birch, English Oak, Elm, Ash and Beech Planks; Limetree Boards; Chesnut, Hornbeam, Sycamore, Walnut Felloes, Spokes, Stock; and other Woods; an overhead steam Travelling Crane, by Ellis, Manchester; 2 Powerful Young Cart Horses, a thorough-bred Brown Mare in foal; by Young Emancer, and a very fast dark brown Cob, Harness, &c. To be viewed one day prior to morning of sale. Catalogues to be had on the premises, and of the Auctioneers, 9, Billiter-street, Fenchurch-street, E.C. The Horses will be sold at TWO o'clock the first day.

VALUABLE AND EXTENSIVE LIBRARY OF an eminent Architect and Civil Engineer.—Five Days' Sale.

MESSRS. PUTTICK & SIMPSON'S Auctioneers of Literary Property, will SELL by AUCTION at their HOUSE, 47, Leicester-square, W.C. (West side), on MONDAY, FEBRUARY 8th, and following days, the interesting and valuable LIBRARY of an EMINENT ARCHITECT and CIVIL ENGINEER, comprising many highly valuable and important works in all branches of Literature; Dugdale's Monasticon Anglicanum, by Caley, Ellis, and Bandinel, 8 vols.; Nash's Mansions, 4 vols.; King's Munaments Antiqua, 4 vols.; Dibdin's Bibliographical Decameron, 3 vols. and other works; Ruding's Annals of the Coinage, 3 vols. and other Numismatic Books; Beauties of England and Wales, 27 vols.; Fosbroke's Encyclopædia of Antiquities, 2 vols.; Fox's Acts and Monuments, 3 vols. black letter; Duhamel, Traité des Arbres, 5 vols.; Sowerby's Botany, new edition, 12 vols.; Stuart's Athenians, 5 vols.; Knight's Pictorial Shakspere, 8 vols.; Knight's Penny Cyclopædia, 27 vols.; Knight's Old England, 2 vols.; Nicholson's Architectural Dictionary, 2 vols.; Gwilt's Encyclopædia of Architecture, 2 vols.; Hosking's Architectural Perspective, 2 vols.; Britton's Cathedrals, 5 vols.; Britton's Architectural Antiquities, 5 vols.; Britton's Fonthill Abbey, 1 vol.; Britton's Redcliffe Church, 1 vol.; Britton's Beauties of Wiltshire, 3 vols.; Britton's Cathedral Antiquities, 14 vols.; Britton's Architectural Antiquities, 5 vols.; Britton's Bristol and Clifton, 1 vol.; Britton's Beauties of Somersetshire, 3 vols.; Britton's Beauties of Devonshire, 2 vols.; Britton's Beauties of Cornwall, 1 vol.; Britton's Beauties of Kent, 2 vols.; Britton's Beauties of Surrey, 5 vols.; Britton's Beauties of Middlesex, 2 vols.; Britton's Beauties of Oxfordshire, 1 vol.; Britton's Beauties of Northamptonshire, 1 vol.; Britton's Beauties of Gloucestershire, 2 vols.; Britton's Beauties of Worcestershire, 1 vol.; Britton's Beauties of Warwickshire, 1 vol.; Britton's Beauties of Shropshire, 2 vols.; Britton's Beauties of Staffordshire, 1 vol.; Britton's Beauties of Cheshire, 1 vol.; Britton's Beauties of Lancashire, 1 vol.; Britton's Beauties of Yorkshire, 3 vols.; Britton's Beauties of Durham, 1 vol.; Britton's Beauties of Northumberland, 2 vols.; Britton's Beauties of Cumberland, 1 vol.; Britton's Beauties of Westmoreland, 1 vol.; Britton's Beauties of Wales, 2 vols.; Britton's Beauties of Scotland, 2 vols.; Britton's Beauties of Ireland, 2 vols.; Britton's Beauties of Hampshire, 1 vol.; Britton's Beauties of Sussex, 1 vol.; Britton's Beauties of Berkshire, 1 vol.; Britton's Beauties of Buckinghamshire, 1 vol.; Britton's Beauties of Hertfordshire, 1 vol.; Britton's Beauties of Essex, 1 vol.; Britton's Beauties of Suffolk, 1 vol.; Britton's Beauties of Norfolk, 1 vol.; Britton's Beauties of Cambridgeshire, 1 vol.; Britton's Beauties of Huntingdonshire, 1 vol.; Britton's Beauties of Lincolnshire, 1 vol.; Britton's Beauties of Rutlandshire, 1 vol.; Britton's Beauties of Leicestershire, 1 vol.; Britton's Beauties of Nottinghamshire, 1 vol.; Britton's Beauties of Derbyshire, 1 vol.; Britton's Beauties of Herefordshire, 1 vol.; Britton's Beauties of Monmouth

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1096. | FEBRUARY 6, 1864. | PRICE FOURPENCE. By Post, 6d.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. 34, Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

PRIZES FOR COLOURED DECORATION.

£5. £3. and £2. 2s. are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, price 3s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W. A. J. B. BERESFORD HOPE, President.

GEO. GILBERT SCOTT, Treasurer.

JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if case and packing required, 7s.

THE PAINTERS' COMPANY'S EXHIBITION of DECORATIVE and IMITATIVE WORK will take place in JUNE, 1864, with Two Extra Prizes of Five Pounds each for Decoration. Terms to be had (from Eleven to Two) at the Hall, No. 9, Little Trinity-lane, City, E.C. N.B. Early application should be made for space.

F. G. TOMLINS, Clerk.

CIVIL ENGINEERING UNIVERSITY COLLEGE, LONDON.—Professor POLE, F.R.S. Mem. Inst. C.E. will commence his COURSE, on MONDAY, FEBRUARY 8th. Lectures will be delivered during the months of February, March, April, and May. Days of Lecture, Mondays and Wednesdays of the second and third weeks of February, and of the first three weeks in each of the other three months. Hours, Half-past Twelve to Half past One, and Three-quarters past One to Three-quarters past Two, on each day. Fee for the Course, £5. On payment of 10s. College fee in addition, the Course is open to any gentleman who is not attending other classes in the College. The present year's Course will include a Series of Lectures on the application of the Dynamical Theory of Heat to Engineering Problems, and on Mechanical Prime Movers.

HENRY MALDEN, Dean of the Faculty of Arts and Laws.

CHARLES C. ATKINSON, Secretary to the Council.

January 29, 1864.

BUILDERS' BALL.

THIS ANNUAL BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 18th, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, under the patronage of the Right Hon. the LORD MAYOR, the LADY MAYORESS, and the SHERIFFS.

COMMITTEE OF MANAGEMENT.

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Of whom Tickets may be obtained; also of Mr. JOSEPH BIRD, Hon Sec. 10, Hanover Cottages, Regent's-park; and at the Offices, 23, Southampton-street, Bloomsbury.

Double Ticket, 21s.; Lady's Ticket, 8s.; Gentleman's Ticket, 14s. including refreshments.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of FIVE PENSIONERS—three MALES and two FEMALES—will take place 30th MAY next. Candidates may obtain forms of application (to be returned on or before 29th FEBRUARY) at the Offices, 23, Southampton-street, Bloomsbury. Pensions, 24l. per annum for Males, and 20l. for Females.

A. G. HARRIS, Sec.

MARYLEBONE and WEST LONDON SCHOOL of ART, 202, PORTLAND ROAD, W.

President—A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. &c. &c.

NOTICE.—The ANNUAL EXAMINATION in Drawing, before the Government Inspector, takes place in MARCH. Persons not taught in the School may present themselves for Examination without any Fee, and are equally eligible with the Students to receive the Certificates and Prizes granted by the Government. Special EXAMINATION CLASSES are formed in the School for qualifying in the several subjects of examination. Former Students will be provided for in these classes; and as long as there is room, strangers may join them.

30th January, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

73—74, Bishopsgate-street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the price of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

TO ARCHITECTS.—VILLA and COTTAGE RESIDENCES.—The Directors of the Manchester Villa and Cottage Association, Limited, offer 50l. PREMIUM for the BEST DESIGN, and 25l. for the Second best Design, for FOUR COTTAGES and SIX DWELLING-HOUSES.

First a Row of Four Cottages, not to exceed 100l. each in cost.

Secondly, a Group of Two Houses, not to exceed 200l. each in cost.

Thirdly, a Group of Two Houses, not to exceed 300l. each in cost.

Fourthly, a Group of Two Houses, not to exceed 200l. each in cost. The plans and drawings, at a scale of five to fifteen feet to the inch, figured dimensions, to be sufficient to show the respective designs, and to be accompanied with a general description of the materials and finish. Plans of proposed sites for the groups may be had from the Secretary. Buildings undertaken by the Association may be built under the superintendence of any architect nominated by the person or persons who covenant to purchase them when built. Messrs. COLBERT & RABY, the Architects and Surveyors to the Association, will not compete for the above, but will assist the Directors in adjudicating the premiums. The designs to be sent in to the Secretary, sealed and endorsed "Designs for Villa and Cottage Residences," on or before the 20th of APRIL next, marked with a motto, and with sealed envelope containing Architect's address, or signed with name instead of motto, if preferred. Designs not adjudged to receive the premium to be returned.

JOHN WORTHY WILLIAMS, Secretary.

Offices, 26, Market-street, Manchester, January 15, 1864.

TO ENGINEERS, MACHINISTS, &c.—The Sociedad de Messageries à Vapor, Buenos Ayres, is prepared to offer a PREMIUM of 100l. for the best approved system of TRACTION ENGINE, suitable for passenger traffic in a country void of metaled roads. The requirements of such an engine would be to convey a load of ten tons ten miles per hour; construction to combine simplicity, strength, and economy in fuel.—Plans and proposals to be forwarded to the Managers of the Society, care of ROBERT KING, Esq. C.E. 25, Poultry, E.C.

ASHFORD, KENT.—PROPOSED NEW CHURCH near the RAILWAY WORKS.—The Committee are desirous of receiving DESIGNS for a NEW CHURCH, capable of holding not less than 600 persons. The outside walls to be of Kentish rag, tiled roof, open sittings of stained deal. The Architect is to state the sum for which the work may be completed; and must be prepared, if required, to find a builder willing to undertake it for such sum. 20l. will be paid for the selected design. Plans and specifications to be sent, under cover, to the Committee, at the College, Ashford, on or before the 1st of MARCH next.

JOHN PRICE ALCOCK, Chairman.

Ashford, January 29th, 1864.

TO ARCHITECTS and LANDSCAPE GARDENERS.

Prizes—100l. 50l. and 25l.

The Directors of the Alexandra Park Company, Limited, offer 100l. for the best DESIGN for LAYING OUT about 250 ACRES of BUILDING GROUND, including DESIGNS for a MODEL VILLAGE adjoining the Park; 50l. for the second best, and 25l. for the third best design.

Plans of the Estate, and all particulars, may be obtained at the Offices of the Company.

The designs must be sent in to the Secretary on or before the 29th day of FEBRUARY next; and the Prizes will be awarded and paid on the 15th day of MARCH following.—By order of the Board,

F. K. PARKINSON, Secretary.

12, Tokenhouse yard, London, E.C. January 23th, 1864.

NEW WATERWORKS at RIPON.—To ENGINEERS and OTHERS.—The Council of the City and Borough of Ripon, acting as the Local Board under the Local Government Acts, having determined upon providing their District with a supply of pure and wholesome water, constantly laid on at such pressure as will carry the same to the top story of the highest dwelling-house within such district, hereby offer a PREMIUM of FIFTY GUINEAS for the best and most practicable SCHEME for obtaining such a supply. Full particulars of the plan proposed, with all necessary specifications and estimates of the cost of carrying out and working the same, are to be left, in sealed covers, pre-paid, and marked on the outside, "Waterworks' Plan," at my Offices, in Ripon, on or before the 8th day of MARCH next, where, meantime, further information may be obtained. The Council are not to be liable to make any recompense or other payment to unsuccessful competitors; nor do they pledge themselves to employ the person whose plans may be preferred, but, if not employed, the above-named premium will be given, and such plans, specifications, and estimates will remain the property of the Council.—By order,

R. W. NICHOLSON, Town Clerk.

Ripon, January 20, 1864.

CONTRACTS.

TO BUILDERS.—Such Persons as may be desirous of UNDERTAKING the several WORKS and REPAIRS that may be required by the War Department to the BARRACKS at Chichester, from the 10th MARCH, 1864, to the 31st MARCH, 1865, may be furnished, by payment of seven shillings and sixpence, with the printed Schedules of Prices and Conditions of the Contract on personal application at this Office, between the hours of TEN and FOUR daily (Sundays excepted), up to the 14th FEBRUARY next.

The Tenders to be delivered before TWELVE o'clock at noon on SATURDAY, the 13th day of FEBRUARY, 1864, at the War Office, Pall Mall, London, addressed to the Director of Contracts, and endorsed "Tender for Artificers' Work, Chichester."

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

J. W. GORDON, Colonel,
Commanding Royal Engineer.

Royal Engineer Office, Portsmouth, 17th Jan. 1864.

POULTON, BARE, and TORRISHOLME LOCAL BOARD of HEALTH.—MORECAMBE WATER SUPPLY.—To IRONFOUNDERS and OTHERS.—The Local Board of Health for the district of Poulton, Bare, and Torrisholme, in the County of Lancaster, do hereby give notice, that they are prepared to receive TENDERS from all parties willing to SUPPLY CAST IRON PIPES and other CASTINGS required for the Proposed WATER SUPPLY of Morecambe, within the said district.—Drawings may be seen, and copies of the specification, with duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained (on payment of one pound) on application at the Office of C. T. CLARK, Esq. Solicitor, Lancaster (Chairman of the Local Board); or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament street, Westminster. Sealed Tenders, endorsed "Tender for Cast-iron Pipes," must be forwarded to the Chairman of the Local Board, on or before MONDAY, the 29th day of FEBRUARY, 1864. The Local Board do not bind themselves to accept the lowest or any Tender.

C. T. CLARK, Chairman of the Local Board.

Morecambe, 12th January, 1864.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK STREET. The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Spring-gardens, Charing cross, on WEDNESDAY, the 24th day of MARCH, now next, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all or any of certain PLOTS of GROUND, situate on the north and south sides of Southwark-street, from High street, Borough, to Blackfriars-road. Particulars, conditions, at Form of Tender, and every information may be obtained of the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed, "Tender for Ground in Southwark-street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 24th MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, Charing cross, 9th January, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

TO PAVIORS, CONTRACTORS, and OTHERS.—Notice is hereby given, that the Fareham Local Board of Health invite TENDERS from Persons willing to CONTRACT for PAVING and LAYING in the Streets of Fareham, for the purpose of forming a flat surface, and supporting the sides of such PEBBLE PAVING, and at 8 Souiretsn of 8 inch by 12 inch PENRYN GRANITE KERB. Notice of the specification and form of Tender will full particulars, can be had on application to Mr. THOMAS BUCKHAM, C.E. Engineer to the Board, at his Office, Quay-street, Fareham. Tenders, directed "Tenders for Paving," to be forwarded to Mr. PORTER, the Chairman of the Local Board of Health Fareham, on or before THURSDAY, the 11th day of FEBRUARY, 1864. The Board do not bind themselves to accept the lowest or any Tender. ALFRED DRIVER, Clerk.

Fareham, January 25, 1864.

TO BUILDERS and OTHERS.—TENDERS are required for the ERECTION of STABLING at the rear of the Wickham Arms Farm, Brockley road, New cross for Messrs. COURAGE & CO.—For particulars, apply to Mr JENKINS, Surveyor, 1, Mount Pleasant-place, Newington-road Messrs. COURAGE & CO. do not bind themselves to accept the lowest or any Tender. All Tenders must be sealed up, and addressed to Messrs COURAGE & CO. and deposited with Mr. JENKINS, not later than the 13th FEBRUARY next.

CONTRACTS, 1864.—PARISH of ST. GEORGE, HANOVER SQUARE.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for one Year, from the 25th day of March, 1864, viz :—

Supply of Flints and Gravel,
Sifting of Gravel and Grinding,
Purchase of the Cinders and Ashes,
Carrying away the slop and Sweepings of the Streets,
Paving Hay Carts and Horses for Day-work,
Spreading Water in the Streets,
Masons' Works,
Paviors' Works,
Supply of Paving Materials,
Supply of Thames Ballast, Sand, and Hogging,
Supply of Workmen's Tools and Hammers for Stonedressing, and Repairs of the same,
Smiths' Work,
Coopers' Work,
Supply of Bass Brooms,
Drain Pipes,
Shoeing of the Horses,
Veterinary Care of Horses;

may deliver in PROPOSALS, sealed up, at the Offices of the Board-room, 1, Mount-street, Grosvenor-square, on or at the Board room, 1, Elizabeth-place-west, Pimlico, on or before SATURDAY the 24th of FEBRUARY inst. Persons Tender are to desire it to take notice that all Proposals must be made up in, and strictly in accordance with, the printed forms of Tender, to be obtained at either of the above Offices; further particulars may be obtained on application to Mr E. CURRIMAN, Surveyor, at the Office, 1, Elizabeth-place-west, aforesaid between the hours of NINE and ELEVEN o'clock. Contractors to deposit with the Proposals Sollicitors, at the expense of the Contractors; and the Vestry do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH HENRY SMITH, Clerk to the Vestry.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a New BANK and PREMISES for the London and County Bank, with HOUSES adjoining, at Newbury, Berkshire, may inspect the plans and specifications on and after MONDAY, the 15th of FEBRUARY next, at the London and County Bank, Newbury; or at the Offices of the Architect, Mr. FREDERICK HILLIER, Finsbury-chambers, Old Broad-street, London. The Tenders to be delivered at the London and County Bank, Lombard-street, London, before TWELVE o'clock on MONDAY, the 29 h of FEBRUARY. The lowest or any Tender will not necessarily be accepted.

TO CONTRACTORS, PIPE MAKERS, EXCAVATORS, BUILDERS, and OTHERS.—LOCAL BOARD of HEALTH, NEWPORT, ISLE OF WIGHT.—Notice is hereby given, that on WEDNESDAY, the 10th day of FEBRUARY next, and Two following days, at Two o'clock in the afternoon of each of that day, the following WORKS of SEWERAGE will be submitted, at the Office of the Surveyor to the Board, in Shanklin, to the respective Tenders for the same being delivered in EXECUTION thereof, viz.:—Sealed Tenders to be addressed to the Chairman of the Board, at Shanklin Local Board, and to be delivered at his residence, in East Cliff road, Shanklin, on or before the 10th day of FEBRUARY next. The Board do not bind themselves to accept the lowest or any Tender. 25th January, 1864.

TORQUAY.—To BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of FOUR HOUSES in Fleet-street, Torquay, can inspect the drawings and specifications at my Office on and after TUESDAY, the 2nd of FEBRUARY. Tenders must be delivered at my Office on or before the 16th of FEBRUARY. The lowest or any Tender will not necessarily be accepted.

EDWARD APPLETON, F.I.B.A. Architect.

Torquay, January 27, 1864.

TO BUILDERS.—The Guardians of the Poor for the Union of Pontypridd, in the county of Glamorgan, are desirous of receiving TENDERS for the ERECTION of a WORKHOUSE, and Offices connected therewith. Plans, specifications, &c. may be seen at my Office, on and after the 1st of FEBRUARY next. Tenders to be sent in to E. C. SPICKETT, Esq. Clerk to the Board, Pontypridd (indorsed "Tender for Workhouse"), on or before the 1st day of MARCH next. The Board do not bind themselves to accept the lowest or any Tender. Each Builder will be required to give in with his Tender the names of two sureties, who will be held responsible for the fulfilment of the contract. All orders of the Board,

GEO E. ROBINSON, Architect.

Cardiff, 1st January, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—Tenders are required to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Lockwood to Meltham, near Huddersfield. Length about 3¼ miles.—Plans and specifications may be seen and forms of Tender obtained at the Engineer's office, Hanover's Bank, Manchester, on and after MONDAY, the 8th JANUARY proximo, and Tenders, properly endorsed and addressed to the Directors, must be in the hands of the Secretary not later than NOON of the 12th FEBRUARY, 1864.

Manchester, December 18, 1863. WM S LAWN, Secretary.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of a NEW CHURCH and PRESBYTERY, Blackburn Lancashire, may obtain full particulars and copy of quantities, upon application to the ARCHITECT, enclosing 5s.—The lowest Tender will not necessarily be accepted.

J CUNDALL, Architect, St. Mary's Hall, Coventry.

TO BUILDERS.—TENDERS are required for the FINISHINGS to Three DWELLING HOUSES in the Lewisham-road, now in carcase, agreeably to a specification which can be seen on application to Mr. JOHN HOUGHTON, No. 11, Fleet-lane, City; or to Mr DINWIDDY, No. 47, Rokeby-road, Lewisham-road, Deptford, who will give further particulars (if required), and to whom the Tenders are to be delivered, not later than MONDAY, the 15th day of FEBRUARY next instant

LONDON and NORTH-WESTERN RAILWAY. TO CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of a Locomotive ENGINE SHED and OFFICES, at Ordsall-lane, Manchester. Parties desirous of Tendering may see the drawings, and obtain a Statement of the quantities, upon application to Mr. WILLIAM BAKER, Engineers' Office, Euston Station, on and after MONDAY, FEBRUARY the 8th, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary, at this Office, to be sent in on or before MONDAY, FEBRUARY the 15th. The Directors do not bind themselves to accept the lowest Tender.—By order,

Euston Station, January.

TO BUILDERS.—TENDERS are required for EIGHT PAIRS of VILLAS at Surbiton. The drawings and specifications may be seen at the Office of the Architect, W. C. REID, 2, Adelaide place, London Bridge, on and after the 8 h instant.

NOTICE to BUILDERS.—The Commanding Royal Engineer at Sheerness hereby gives notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, on or before TUESDAY, the 1st day of MARCH 1864, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of three years, commencing on the 1st day of APRIL, 1864, for the SUPPLY of MATERIALS, and for the performance of such Brick layers', Mason's', Carpenters', Slaters', Plasterers', Plumbers', Smiths', Painters', Paint-rs', Glaziers' Pavers-hangers', and flagsters' Work, as may be required by the Royal Engineer Department at Sheerness, including Chatham Works and Queenborough. The Isle of Grain with the Tower, and Sloven Fort.

Only one contractor will be accepted for the whole of the trades; and the parties tendering must state what sum on each schedule, according to the printed directions thereon, the rate at which they are willing to perform th work, which rates of per centage may be different for each trade, sought to be done or expended.

Printed schedules and every particular relating thereto may be obtained at this Office, between the hours of TEN and FOUR, till the 27th FEBRUARY, instant, after which date none will be issued.

Tenders for the above works to be addressed to the "Director of Contracts, War-office, Pall-mall, London, S W." and endorsed "Tender for Builders' Work, Sheerness, &c." in the left hand corner of the envelope.

No Tender will be attended to which is not filled up strictly in conformity to the instructions, as stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may tender.

N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Sheerness, Feb. 3, 1864.

TO CONTRACTORS. — Notice is hereby given, that the Vestry of the Parish of Saint George-the-Martyr, Southwark, is prepared to receive TENDERS for SCAVENGING and WATERING, for the REMOVAL of DUST, for MASONS' and PAVIORS' WORK, for SUPPLYING GUERNSEY GRANITE, SPALLS, ROCHESTER FLINTS, and YORKSHIRE and DRIVERS with in the said Parish.—Every Tender must be upon a form that may be obtained at the Office of the Vestry Clerk, and must be delivered, under seal, and endorsed "Tender," at the said Office, on or before the 15th day of FEBRUARY, 1864; and the person tendering, or his duly authorised representative, must attend at the Vestry Hall, at 11 o'clock in the forenoon of the TUESDAY next thereafter. The Vestry does not engage to accept the lowest or any Tender.—By order,

DANIEL BIRT, Vestry Clerk.

Vestry Clerk's Office, Vestry Hall, Borough-road, S.E.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex CARTAGE and HORSE HIRE. The Vestry of the Parish of Chelsea will meet, at the Board room of the Vestry Hall, King's-road, on TUESDAY, the 16th inst. at THREE o'clock in the afternoon, to consider TENDERS from persons willing to contract from the 1st day of March next to the 1st day of March, 1865, for CARTAGE WORKS, and for DRIVERS and CARTS, at 1 DRIVER as many may be required in any part of the Parish. Parties tendering must appear personally on the day the Tenders are opened, and the Contract, if agreed to, will be upon the printed forms to be obtained here. Sealed Tenders, signed by the proposed Contractor, with the names and descriptions of two sufficient sureties for the performance of his Contract, are to be left at the Office, on or before TWELVE o'clock on TUESDAY, the said 16th inst. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, February, 1864.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING RATE.—The Vestry of the Parish will meet in the Board Room, at the Vestry Hall, King's-road, on TUESDAY, the 16th FEBRUARY instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Hall aforesaid, for which may be seen on application to the Vestry Clerk, for SCAVENGING the STREETS and PUBLIC PLACES within the entire District, Kensal New Town, from the 1st of MARCH next* to the 1st day of OCTOBER next; and for the removal of the SLOP from the said Streets, from the 1st day of MARCH next* to the 1st day of MARCH, 1865. The Tenders are to name one amount for both SCAVENGING and WATERING, and are to be upon printed forms, to be had at the Office, on or before the day appointed for the Parties tendering, or their agents, to attend at the Vestry Hall aforesaid, at which time the Tenders are to be opened, and the parties whose Tenders are accepted, and the terms they are to pay for the said Contract. Sealed Tenders signed by the proposed Contractor, with the names and descriptions of two sufficient sureties for the performance of a Contract, are to be left at the Office, on or before TWELVE o'clock on TUESDAY, the said 16th inst. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, February, 1864.

* Note.—The date for commencing to cleanse and water the portion of the Harrow-road from Plough Land to Cumnock Wharf will be JULY 1st.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of the Parish will meet in the Board Room, at the Vestry Hall, King's-road, on TUESDAY, the 16th FEBRUARY instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a Draft Contract, now lying for inspection at the Vestry Hall aforesaid, for which may be seen on application to the Vestry Clerk, for WATERING the STREETS comprised in one or other or both of the Districts in the Parish, for the period of Kensal Town from the 1st MARCH* to the 1st day of OCTOBER next, and for the REMOVAL of the SLOP from one or other or both of the Districts, from the 1st of MARCH* next to the 1st day of MARCH, 1865. The Tenders are to name one amount for each District, and are to be upon printed forms, which may be obtained at the Office. Parties tendering must appear personally on the day the Tenders are opened, and the Contract, if agreed to, will be upon the printed forms to be had at the Office. Sealed Tenders, signed by the proposed Contractor, with the names and descriptions of two sufficient sureties for the performance of the Contract, are to be left at the Office, on or before TWELVE o'clock on TUESDAY, the said 16th inst. The Vestry do not bind themselves to accept any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, February, 1864.

* Note.—The date for commencing to cleanse and water the portion of the Fulham road from Thistle Grove to the Parish Boundary at Stamford Bridge will be JULY 1st

TO IRONFOUNDERS.—TENDERS are required, by the 19th of FEBRUARY, for about 2,000 tons of PIPES, and other CASTINGS, coated, for export. Specification may be obtained, and tenders sent, on application to WM. BIRD & CO. 9, Laurence Pountney-hill, London, E.C

PADDINGTON.—Notice is hereby given, that the Vestry of Paddington are ready to receive TENDERS from parties willing to CONTRACT for the CONSTRUCTION of about 770 feet run of 3 feet 9 inches by 2 feet 6 inches whole BRICK SEWER, in Petersburg mews and adjoining streets.—Plans, sections and other Works tendered for may be seen at the Surveyor's Office, and directed "To the Vestry," and left at the Vestry Hall, Harrow-road, on or before MONDAY, the 15th of FEBRUARY next, previous to noon, by which time are requested to be in attendance on the following morning (TUESDAY) at TEN o'clock precisely. Specimens, plans, and sections may be seen, and all particulars obtained, from Mr. W. MERRY, Surveyor, at the Vestry Hall aforesaid, between the hours of TEN and TWELVE a.m. The party whose Tender may be accepted will be required to procure two sureties of 200l. each for the due performance of the works. The expense of the contract bond to be paid by the contractor. The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

FREDK. AVELING, Vestry Clerk.

Paddington, February 4, 1864.

EXETER IMPROVEMENT ACT.—POSTPONEMENT of TIME for RECEIVING TENDERS.—The Commissioners of Improvement for the City of Exeter are desirous of receiving TENDERS for LAYING DOWN a new FLAGGING in parts of the High street of the City, to the extent of about 3,000 superficial feet. The flags must be from the quarries in the neighbourhood of Bradford or Halifax, Yorkshire. The specifications for the work required can be obtained on application at my Office. The Commissioners do not engage to accept the lowest or any Tender. Tenders to be delivered at the Office of Mr. W. BUCKINGHAM, Clerk to the Commissioners, 12, Southernhay, Exeter, ON OR BEFORE FRIDAY, THE 26TH OF FEBRUARY INST.

THOS. WHITAKER, City Surveyor.

Dated, Musgrave's-alley, Exeter, 20th January, 1864.

TO BUILDERS. — TENDERS are required for the ERECTION of an ASSEMBLY ROOM at the GUN TAVERN, Church-street, Croydon, for Mr. Boyston.—The drawings and specification can be seen on the premises until TUESDAY, the 16th instant, on which day Tenders will be opened at THREE o'clock p.m. The lowest or any Tender will not necessarily be accepted. HENRY BANCE, Surveyor.

Croydon, 4th February, 1864.

TO BUILDERS. — Persons desirous of TENDERING for the different WORKS to be done in the ERECTION of a RESIDENCE, for J. H. Craven, esq. at Stronglone, Keighley, may see the drawings and specifications of the same, and obtain bills of quantities, at the White Swan Inn, in Keighley, aforesaid, after FRIDAY, the 12th inst. Bills of quantities may also be obtained, and further information, if required, on application at the White Swan Inn, or at my Office, after the said date. Sealed Tenders, endorsed "Tenders for Residence," to be delivered at the said White Swan Inn, or at my Office, in Leek, on or before MONDAY, the 22nd inst. The lowest or any Tender will not necessarily be accepted, and sureties will be required for the due performance of the contract.

WILLIAM SUGDEN, Architect.

Leek, Stafford, February 3, 1864.

ABERDEEN WATERWORKS EXTENSION.—Gravitation Supply from Cairnton.—Alteration of Former Plans and Specifications.—The Commissioners under the Aberdeen Police and Waterworks Act, 1862, are prepared to receive TENDERS for CONSTRUCTING and MAINTAINING the REQUIRED WORKS, consisting of the Aqueduct (about 20 miles long; for conveying water from the River Dee at Cairnton to Aberdeen, with the several filters tanks, conduits, hydrau ic engine, cast iron pipes, &c. and other appurtenances. The plans and specification of the works, with general conditions of Contract, all as now revised, may be seen at the Commissioners' Office, No. 50, St. Nicholas-street, Aberdeen, and sealed TENDERS are required to be delivered on or before MONDAY, the 29th day of FEBRUARY, 1864, at TEN o'clock before the forenoon, addressed to "The Commissioners of Police, Aberdeen," marked "Tender for Waterworks." Persons desirous of contracting may submit offers for constructing and maintaining the whole of the works, or such portion or portions, section or sections thereof, as are particularly defined and described on the plans and in the specifications and general conditions. The ironwork forms one of the sections for which a distinct Tender may be made. The Commissioners do not pledge themselves to accept the lowest Tender or any Tender, unless the same shall be satisfactory in all respects, and the securities approved.

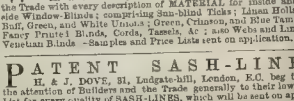
Aberdeen, 28th January, 1864. GEO. MILNE, Clerk of Police.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 15th day of FEBRUARY, 1864 at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie street, Whitechapel, to receive TENDERS for CLEANSING the STREETS and GULLIES, and for REMOVING the DUST and other REFUSE within the District, for the period of One year from the 1st of April next, and for WATERING the SAME during the Summer months of such District, for the period of six months from the same date. Persons disposed to Contract may obtain printed forms of Tender, and such information as they may require, at the Office of the Board, No. 15, Great Alie street. Tenders, in a 40l. note is to be inclosed, must be delivered at the Office of the Board previous to the hour of meeting; and any Tender which is not upon the printed form prepared by the Board, and Signed by the persons or persons Tendering, as well as by the persons proposed as sureties, will be rejected. Persons Tendering are required to attend the Board at Half past SIX o'clock to sign the preliminary agreement to be signed by the person whose Tender is accepted. The Board do not, however, bind themselves to accept the lowest or any Tender. ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, 2nd February, 1864.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS) 17, Princes-street, and 95A, Great Guildford street, Borough, S.E. Inventor of the Rotary Shop Front, Patentee of the Tubular Railings new Compensating Girder Truss, &c. &c.

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COLUMNS, GIRDERS, ROOFS. | TANKS, HURDLES, RAILINGS. | STAIRCASES, MACHINE CASTINGS.

And every description of Ironwork, wrought or cast, for Builders' or other purposes, estimated for and executed. Designs furnished.

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They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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H. & J. DOVE, 31, Ludgate-hill, London, E.C. Supply the Trade with every description of MATERIAL for inside and outside Window-Blinds; comprising Sun-blind Sticks; Lines Hollands; Bull, Green, and White Scrims; Cotton, Linen, and Blue Tammies; Fancy Printed Blinds, Cords, Tassels, &c.; also Webs and Lines for Venetian Blinds.—Samples and Price Lists sent on application.

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THE NEW UNPICKABLE LOCK (PATENT).
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THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

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The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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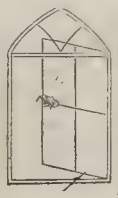
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THEY CAN BE MADE TO ANY DESIGN.

FULL PARTICULARS AND PRICES ON APPLICATION.

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CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS:

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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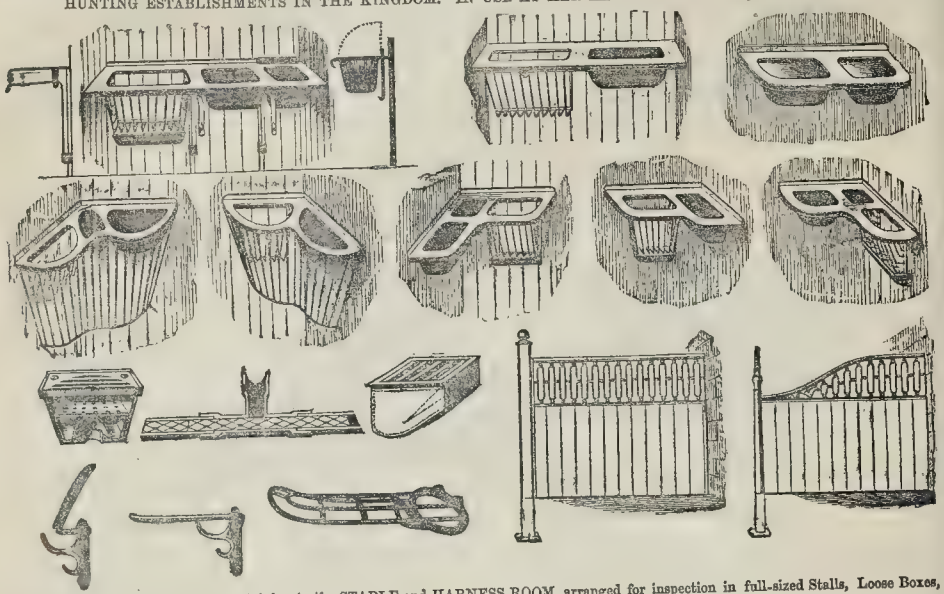
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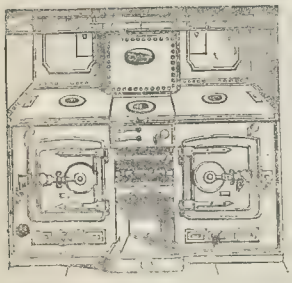
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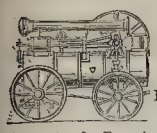
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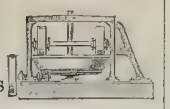
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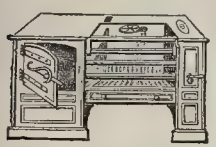
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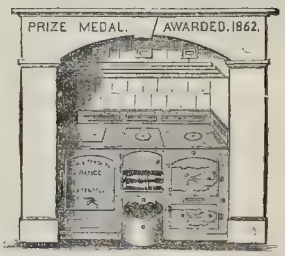


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Extracted from the "London Daily Telegraph," May 19th, 1862.

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HYGEIAN STOVE, heated either by coal or gas. With one penny worth of coal this Stove affords for twenty-four hours a genial, healthy, and uniform temperature, free from any smell or decomposition of the air. It was favourably noticed in the "the Lancet" of February 1st, 1862, and recommended as the only stove particularly suitable for the bed or sick-room.—For particulars apply to the Depôt, where the Stove is sold and may be seen in action.

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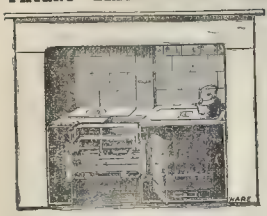
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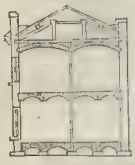
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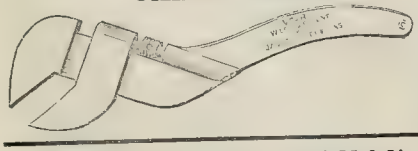
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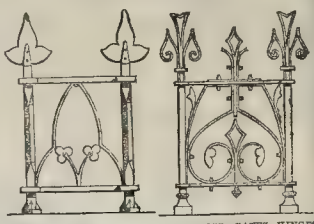
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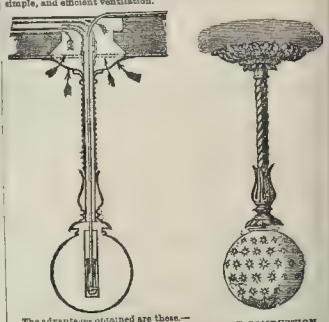


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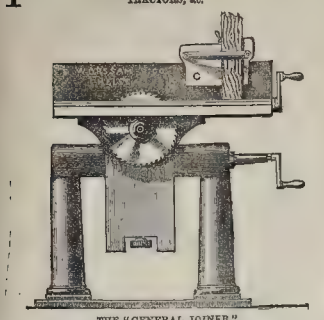
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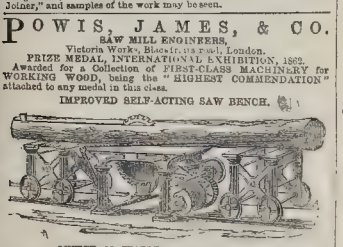
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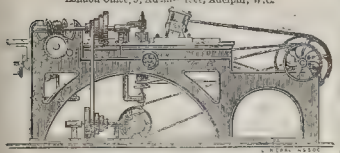
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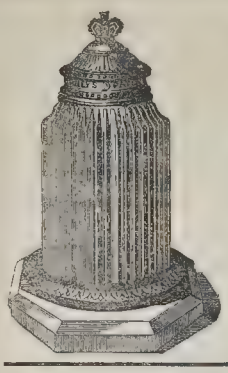
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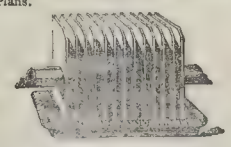
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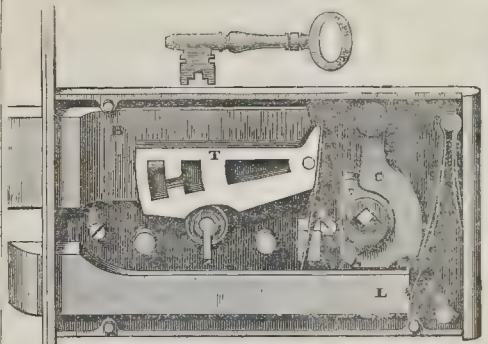
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Nearly opposite Entrance to Goods Station, Great Northern Railway.

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MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
LIME BURNERS, AND LATH RENDERS.
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CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

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FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

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Manufacturers only of first class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

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STAFFORDSHIRE RIDGING and ROOF-ING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various patterns and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

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Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the BEST PORTLAND CEMENT, On the most reasonable terms.

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The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c to be addressed to
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This can be obtained either direct at the Works, or at Messrs. ESDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.
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30,000 feet in Plank and Board, sawn three years.
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At 6d. 7d. and 8d. per foot, at
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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.
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Having purchased the above Wharf, begs to inform the timber and building trade that he can land and deliver Timber, Bricks, &c. to any part of London.

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PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 561, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

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MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
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SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
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IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

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Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models bearing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

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N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

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Good Zinc badly laid will still be a failure, for there is much more importance in the mode of laying than is yet generally known; and parties who will intrust their work to Mr. TYLER will find that this important point is thoroughly attended to, and at no extra cost.

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VOL. XXII.—No. 1096.

Condition of Buckinghamshire.

THE Cottage dwellings to which we directed attention in our previous notes of this district,* were of comparatively old date. If we look to the more recently constructed houses which are intended to supply the place of those which are rapidly passing away, we find with regret little increase in the size of the rooms. The foundations are better laid; the red-brick walls, the internal plastering, and the slated roofs, are better than the thatched roofs and mud walls of the older places: but the new rooms are often but little if any larger. Even when different materials are brought into use, it seems difficult to fall into other and better plans. Experience of the old cottages should have taught the builders to allow additional space, and increased sanitary knowledge should have shown the need for larger windows, and thorough ventilation. Small windows, the result of bygone legislation and the dearness of glass, are still used, though the reasons have disappeared. In parts of Aylesbury some new houses have been built back to back, and in some instances two-roomed dwellings, of two stories in height, have been erected without any opening at all at the back. There are better planned houses which have been recently erected in Aylesbury, but it is to the homes provided for the labouring classes that we wish particularly to direct attention, and it would be well if better plans were introduced for such residences than any we have yet seen in this district. Let us again remark that the amount of poor-rates, both in the country and in the town districts, materially affects the condition of the homes of the poorer classes. In Buckinghamshire parishes, the variation of the rates is no less marked than it is between those of Whitechapel and Bethnal-green, and St. George's, Hanover-square. For instance, in Aylesbury, the poor-rate is 1s. in the pound per quarter, on the rental; in Fleet Marston, it is only 2d. in the pound; and in some parishes it is less than that; but even this difference is very marked. The poor-rate on a rental of 3,000*l.* at 4s. in the pound per annum would amount to 600*l.* a year; the 2d. rate per quarter on the same rental would amount only to 100*l.*, leaving a difference of 500*l.* a year; a sum which, if wisely used, might effect many improvements. So far as we are able to judge, except the driving of families from surrounding districts, there seems to be no particular reason why the rates at Aylesbury should be so much in excess as they are.

We will, however, look in another direction, and so proceed towards Tring, on a pleasant road leading towards the Chiltern Hills. On this, as on the other roads, the absence of cottage-dwellings for a considerable distance from the town of Aylesbury is a marked feature of the landscape. The cemetery is neatly laid out, and there are chapels for the use of Church people and Dissenters. And here it may be remarked that throughout this county there are several Dissenting places of worship, some of them belonging to the Wesleyan Methodists, who have shown a praiseworthy activity in the establishment of schools.

On the roads we meet some painful groups: families, consisting of a man, his wife, and two or three children, each with a wallet of size proportionate to their strength, containing all their worldly possessions. Some of them are decent-looking people, in search of work, going a few towards Liverpool and others towards London. There are sailors, sadly foot-sore, who, having failed for some reason in procuring a ship in the Thames, are on their way to the Mersey. Some artisans have had relief at different towns, in consequence of being connected with the trade societies. These were also assisted in procuring lodgings; but from others we heard complaints, particularly from those who had children with them, of the difficulty of finding a shelter for the night. Houses founded, like Watts's Charity, for the reception of decent people when on tramp, would be very useful in such places as Buckingham, Tring, and Aylesbury. Besides the worthy class mentioned, there are sturdy and practised beggars who take to the road, on the pretence of seeking work, often levying contributions at lonely houses or from solitary wayfarers.

At Halcott the parish church has been restored and a school built by Baron Rothschild. The school is presided over by certificated and pupil teachers, and well conducted. The ventilation of the rooms for boys and girls is well attended to, and here, besides ordinary learning, there is taught the knowledge of the principles of health. Proof occurred to us in a little house at which we called. A girl said, "Mother, depend upon it, if we shut the bed-room door and window again, we shall be found dead one of these mornings; for, being shut up, we poison ourselves with our breath." This girl was a pupil at the Baroness Rothschild's school, from which we trust many sanitary missionaries may be sent out. Besides the restoration of the church here, the Baron has shown his liberality in assisting Dissenting congregations. We heard a story of an elderly lady who, calling on Baron Rothschild, said that their chapel sadly wanted a stove, and without it the winter weather would be bad for old people to bear. In the course of a short time a good stove was in its place.

* See p. 43, *ante*.

BUCKINGHAMSHIRE HOMES.



Sketch of Cottage referred to in our last, showing dangerous Proximity of the Piggery. The wall is removed for the purpose.





Modern Cottage, Ashton Clinton.

Ashton Clinton is a beautiful village, and, in the summer time must display masses of greenery most pleasant to the eye. This village, which lines the road to Tring for a considerable distance, with the parts surrounding, chiefly belongs to the Baron and Sir Anthony Rothschild. Here, in all directions, are indications of improvement; many old cottages have been removed, and new ones built; such as we have sketched. But we are again forced to complain of the small cubic space allowed in the interior of some of these dwellings. If, instead of from about 11 feet by 7 feet in length and breadth, and 6 feet in height, the dimensions were 13 feet in length by 9 feet in breadth and 7 feet 6 inches in height, in the lower room, the advantage would be great. The upper rooms of two-roomed cottages are generally made of even smaller size than those below. This, remembering the manner in which the upper apartments are used, is a great mistake. Considering the numbers who often crowd them, and their being generally without fireplaces, there should be more space allowed them in the rooms below. If they were of the size we have named, it would only be an allowance for four persons of 220 cubic feet of space each. In the Portman-street Barracks there was an allowance of 250 cubic feet of space for each inmate, and that was found to be barely half enough for the purposes of health. In all instances the space of the sleeping apartments might be considerably increased by making the ceiling at the same angle as the roof instead of horizontal, still keeping a space between the two. Small gables on each side of the roof, in which a glazed ventilator could be fixed, would be of advantage. We press these figures upon the attention of cottage builders; for the extent of space is a matter most insufficiently considered.

We fear that there is much overcrowding in this village. Near the Aylesbury end of it there is a beer-shop which has not been long built, and the ale trade not proving very flourishing, the place has been let in tenements. In one of the rooms the occupants were, we heard, a man and his wife, a boy sixteen years of age, two other boys of about four and five years, and four young women,—in all nine persons. Without remarking on the indecency of the arrangement, the evil to health of nine people using an apartment during the day and sleeping in it at night, in a space of not 900 cubic feet—allowing only 100 cubic feet to each inmate,—is evident.

In another room in this house, we are told, on reliable authority, there are generally nine lodgers accommodated each night, and often more. Some of this number are shoemakers, who are constantly there, and the others are tramps. The regular lodgers pay 1s. a week each, and the casual lodgers 4d. a night. A large rent must in the year be derived from this apartment, which is one of the certain sources of typhus fever and other serious disorders.

Some pretty houses come to view as we pass through this village — houses of a better class than those occupied by farm labourers: some of the gardens, even at this time of the year, are pictures of neatness. The "everlasting flowers" of red, yellow, and other hues, foiled by green plants of various healthy tints, the snow-white curtains, and the clear glass in the windows, show that the care taken with the village has not been bestowed in vain. The picturesqueness of the woods which rise on one side, backed by the grey tops of the Chiltern hills, and the peeps over a distant country on the other, delight the wayfarer. With better drainage, better water supply, improved cottages, having better closet accommodation, this might be made as healthy and delightful a village as any in the south of England. At present the water is partly obtained from wells in the usual way; but some gather this necessary from a brook which runs rapidly from the hills. When, however, the scheme of the Aylesbury water supply is completed, as we hope it shortly will be, pure water will be brought in pipes through the place, and will be available for general use.

Passing on towards Tring, we find, on the land of another proprietor, that a row of brick cottages has been built in front; and extending over a considerable space are plots of garden-ground. The site for these is not well chosen, being at some depth below the highway, and forming a sort of platform, from which the ground rises for a considerable distance. These situations are always dangerous, unless the drainage is well intercepted and carried from the platform to the lower levels. Gibraltar, near Dinton, is situate somewhat in this way (as our sketch shows), and we have before referred to other places in similar positions, where serious sickness has been the result.

Cultivation is rapidly spreading. Extensive fields of young corn, of a most delicate green colour, from a distance present a perfectly smooth surface, contrasting with the rougher and more broken ground above, which is not without considerable value as sheep-walks.

Cultivation amongst the hills has a beauty as well as the more natural and rugged aspects there presented. A corn-field, either in the winter or spring time, or when the ripe grain is waving in autumn, is a pleasant object.

The formation of the ground here is singular; for parallel with the base of the hills run, in long ranges, gigantic furrows of a semicircular form, which decrease until they disappear in the level plain. It is near this spot that the new water reservoirs are to be made.

A short and agreeable journey leads to Tring, which is snugly placed near the bottom of the Chiltern hills. It is a neat and pleasant-looking town. In the main thoroughfare there are several good shops, and a number of inns with projecting signs, and some very old houses. The back parts are not satisfactory, and there are certain sanitary derangements which require especial care, and to which we may refer by and by. Tring is distant about seven miles from Aylesbury, and the station of the London and North-Western Railway is about two miles farther. A small omnibus goes two or three times during each day between Tring and the station; but there is no regular carriage between Aylesbury and Tring; and persons who have been accustomed to a bustling commercial population find the want of coach-conveyance from place to place inconvenient. By a roundabout route Aylesbury is put in communication with the metropolis; and at Winslow, ten miles and a half from Aylesbury, there is another branch station of the London and North-Western Railway. This line will ere long be carried through to Aylesbury, putting that town in communication with the town of Buckingham, and will be a means of adding much to the prosperity of both places and the district through which it passes.

There have been some model farms established in this county, and in other ways improvement has been made. Notwithstanding, there is much more to be done, not only in connexion with farm dwellings, but also in the general management of the land and the breeding of cattle. The refusal to grant long leases, and in some cases any lease at all, stands greatly in the way of improvement.

The education of the children of those who are employed on the land has been miserably and criminally neglected. They are sent to work for the chief part of the year at a very early age, and this prevents attendance at school during the day. They have to rise between four and five o'clock in the summer, and do not reach their homes until seven o'clock, and often later, in the evening, when, as the parents say, they are too tired to go to school. Some live scattered about at the distance of a mile and more from a school; and many mothers object to allow boys and girls to ramble for a distance in the dark winter nights. Nor does the difficulty as regards education exist amongst the agricultural class alone.

In one village we met with a man who had seven children: one was an infant, and the others boys and girls varying in age from three to fifteen years of age, who all, as well as the parents, worked at different branches of straw cutting and plaiting; their united earnings being considerable. None of them had been at school, although there is a good one close by the house in which they live. We spoke with several young men and women who did not know a letter in the alphabet; and when recommending the evening schools to them, they expressed regret that in more early years their education had been neglected, but they did not like to go amongst little ones to learn their A, B, C. There can be no doubt, however, that much of this feeling might be changed if the clergy of the parishes, and other persons of intelligence who take an interest in visiting the dwellings of the industrious poor, were to press the value of the evening schools upon the attention of those to whom they would be useful.

It is surely time that some strong and united efforts were made to raise the condition of the thousands who till the land.

VANDYCK IN ENGLAND.*

FAMILY PICTURES.

"When pensive on that Portraiture I gaze,
Where my four brothers round about me stand—
And four fair sisters smile with graces bland
The goodly monument of happier days—
And think how soon insatiate Death, who preys
On all,—has cropp'd the rest with ruthless hand:—
While only I survive of all that band
Which one chaste bed did to my Father raise,
It seems that like a column left alone,—
The tottering remnant of some splendid fane,
'Scap'd from the fury of the barbarous Gaul
And wasting Time which has the rest o'erthrown
Amidst Our House's ruins I remain,
Single unpropp'd, and nodding to my fall."
Thomas Edwards, circ. 1751.

Of *Family Pictures*, pictures something more than portraits, which Vandyck painted during his nine years' residence in England, the "Pembroke Family," at Wilton ("Pembroke's princely dome"),† is perhaps the most important. The hero of the composition (if I may be pardoned the expression) is that Philip Herbert Earl of Pembroke and Montgomery, son of "Sydney's sister," the same earl to whom the players dedicated the first editions (1623 and 1647) of Shakspeare and Beaumont & Fletcher. The composition consists of ten life-size figures, eight standing and two (the earl and countess) sitting. The grouping is not dramatically connected—all look out of the picture, all look unemployed. With these defects, it is still a very noble work; carrying the true Vandyck stamp upon it in every part,—better, as a whole, than the "Cornaro Family" of Titian or the "Arundel Family" of Holbein,—its range is more excursive,—and superior to the "Marlborough Family" of Sir Joshua, because it possesses more true nobility of character, though less of the lighter graces peculiar to the President.

This fine historical picture (for in this light the student of English history must necessarily view it) has suffered from fire and ignorant attempts at restoration. A large but poor engraving of it by Baron was published in 1740. Vandyck's small study for the composition is at High Clere, near Newbury, the seat of another Herbert, the Earl of Carnarvon.

A *second* family picture with life-size figures is at Windsor Castle—the family of the Sir Balthazar Gerbier to whom I have already had occasion to refer. This attractive composition—by some attributed to Rubens—was discovered and identified by Vertue; and on Vertue's recommendation was bought by Frederick Prince of Wales, father of George III., a prince who, had he lived to become her king, would have done much for the advancement of art in England.

A *third* family picture is the "Arundel Family," representing Thomas Howard, Earl of Arundel (of Marble, and now "Society" memory), his wife, and children; a picture never completed,

* See p. 76, *ante*. † Thomas Warton.

and now best known by a first design perpetuated by the graver of Vertue.

A *fourth* portrays the "Strafford Family," the three children of the great Earl of Strafford, viz., William, Lord Wentworth, afterwards Earl of Strafford (died 1695); Anne, married to Edward, Lord Rockingham; and Arabella, married to a son of the Earl of Clancarty. This picture was at Wentworth Castle, in Yorkshire, but I do not remember seeing it when I visited Wentworth in 1857. Vertue engraved it (1739) for the folio publication of "Lord Strafford's Letters and Despatches."

The *fifth*, the "Villiers Family," at Blenheim, admirably painted in a broad and sombre tone, represents the widowed Duchess of Buckingham, Catherine Manners (of the Rutland family), her two sons and a daughter; all in black dresses.

The *sixth* and last was the "Endymion Porter Family," now in the possession of Percy Smythe Viscount Strangford, a descendant of the once famous Endymion, to whom Sir William D'Avenant delights to allude so often in his "Herringman" folio. Its history is curious. It belonged to Sir Peter Lely, and was sold at Lely's sale to Sheffield Earl of Mulgrave and Duke of Buckinghamshire, for 155*l*. At the sale at Buckingham House (*circa* 1720) it was resold for 63*l*.* Beale, the friend of Lely, calls it "an excellent picture." This picture I have never seen.

Of *double portraits* (or two portraits upon the same canvas) the most celebrated is the half-length seated of "Thomas Wentworth, the Great Earl of Strafford, and his Secretary, Sir Thomas Maynwaring."

I will not attempt to describe this masterpiece of art,—what Lord Macaulay has done so well,† *ad vivum*, as it were, it would be presumption to rival or even seek to excel:—

"But Strafford, who ever names him without thinking of those harsh dark features, ennobled by their expression into more than the majesty of an antique Jupiter; of that brow, that eye, that cheek, that lip, wherein, as in a chronicle, are written the events of many stormy and disastrous years, high enterprise accomplished, frightful dangers braved, power unsparingly exercised, suffering unshrinkingly borne; of that fixed look so full of severity, of mournful anxiety, of deep thought, of dauntless resolution, which seems at once to forebode and defy a terrible fate, as it lowers on us from the living canvas of Vandyck."

Not content with this word painting, the noble historian has yet another attempt:‡—

"Portraits which condense into one point of time, and exhibit at a single glance the whole history of turbid and eventful lives,—in which the eye seems to scrutinize us, and the mouth to command us,—in which the brow menaces, and the lip almost quivers with scorn,—in which every wrinkle is a comment on some important transaction. The account which Thucydides has given of the retreat from Syracuse is among narratives what Vandyck's Lord Strafford is among paintings."

The *original* is at Wentworth House, Lord Fitzwilliam's seat, in Yorkshire, and will repay a pilgrimage to see it. The duplicate at Blenheim is comparatively poor.

Of a work like this, so deservedly famous, no particulars of moment can be too minute. In the diary of Mr. Beale is the following entry:—

"1677, May 22. Mr. Francis Knollys came himself and fetched away the original pictures of the old Earl of Strafford and Sir Philip Maynwaring, which had been left here for some years. It was carried away by two of the Lord Hollis's servants, whom Mr. Knollys brought with him for the purpose."

It is to a Knollys that we are indebted for the publication of the Strafford Despatches,‖ and the entry quoted proves that Knollys carried away *the original*, no doubt for the then Earl of Strafford, the son of the great earl, represented in the piece.

Next to the Strafford and Secretary in importance is (No. 2), the truly noble full-lengths of James Stanley, seventh Earl of Derby, beheaded at Bolton in 1651;§ his Countess Charlotte de la Tremouille, died 1663) and child, now at The Grove (Lord Clarendon's), in Hertfordshire. This picture was the property of Lord Chancellor Clarendon, and was estimated by his son Henry, in the valuation he made of his father's gallery, at 200*l*. The earl is in black, on the right of the composition: his wife, the noble defender (1644) of Latham House, who survived him, is in white satin, and the child in orange. The foliage is Titianesque; the condition all that can be desired.

A *third* and very celebrated picture is the double portrait of William Russell, Earl of Bedford (the first duke of the family), and George Lord Digby, afterwards Earl of Bristol—whole-length life-size figures. The fair-haired Earl leans in black with one arm on the base of a column, while Digby, in a rich red dress, stands erect, with his right hand resting on his hip. The original is at Althorp, in Northamptonshire, the seat of Earl Spencer, and is not only the finest Vandyck at Althorp, but is one of the master's most capital performances. Evelyn saw it in Beaufort House, Chelsea, then the Countess of Bristol's. The same subject at Woburn is an indifferent copy.

The Earl of Bedford, of this fine picture, died in 1700, and was the last survivor of the many who sat to Vandyck, the boy Duke of York (King James II.) only excepted; but Bedford sat as a man, and could say as he looked on his own portrait—"Vandyck, or 'tis sixty years since,—I remember the occasion, and I remember Sir Anthony."

A *fourth* not less fine full-length portrait portrays Lord John Stuart and his brother, Lord Bernard Stuart, legitimate Lenoxes,—lads of twenty and eighteen. The former fell at Cheriton Downs (1644); the latter at Rowton Heath (1645), both fighting for Charles I.* This expressive canvas is at Cobham Hall, in Kent, the seat of Lord Darnley. A duplicate (not so fine) may be seen at Wimpole (Lord Hardwicke's), in Cambridgeshire, and a *third* at Earl de Grey and Ripon's, in London. Lord de Grey's picture was bought by Anthony, Earl of Kent, at Sir Peter Lely's sale. Let the directors of the British Institution bring these three pictures together in one of their annual Pall Mall Exhibitions of Old Masters, and they will render a real service to Vandyck and to art.

A *fifth* of this twin-canvas character represents George Villiers, second and last Duke of Buckingham of the Villiers family (died 1687), and his brother Francis, killed at Kingston in 1648, at the age of nineteen, in the cause of King Charles I. When this picture was painted the Duke (Dryden's Zimri) was a boy of eleven, his brother about nine. It is most charmingly conceived, and most exquisitely coloured, full of unaffected dignity and ease. "Nothing [I endorse the words of Walpole] can exceed the nature, lustre, and delicacy of this sweet picture." It is at Windsor, and there is a fine mezzotinto from it by McArdell.

The *sixth* of this class maintains to the full the reputation of Vandyck. It is a knee-piece, painted in a light, yet warm tone, and represents Tom Killigrew, the wit (died 1682-3), and Tom Carew, the poet, the date of whose death is unknown. Killigrew was one of the Pages of Honour to the King, and Carew was "sewer in ordinary." Carew is seen nearly in profile; Killigrew (a pale, pensive, fair-haired young man) is drawn nearly full face, with a paper in his hand. It is marked with the name of Vandyck, and the date "1638.' Its descent is unknown beyond its purchase by Frederick, Prince of Wales (father of George III.), from Mr. Baguols, a dealer in pictures.†

There is a tradition connected with this picture which Vertue preserved and Walpole perpetuated. Killigrew and Carew had, it is said, a remarkable dispute in the presence of Mrs. (really Miss) Cecilia Crofts, Maid of Honour to Queen Henrietta Maria. What the dispute was about Walpole does not tell us, but he supposed the subject turned on "jealousy," as in a play by Killigrew, called "Tomaso, or the Wanderer," *was* a song "against jealousy, written on the same occasion." This is conjectural enough. I may add what Vertue did not know or had forgotten, that Killigrew was married to Henrietta's Cecilia in 1635-6, and that Carew wrote a poem on their nuptials.

That this exquisite specimen of Vandyck's art represents Killigrew and Carew I more than doubt. We have no other testimony, good as it is, than the faithful Vertue. I rather suspect that I have found the right persons (Vandyck's real sitters) and the occasion, in a pretty pastoral, too little known:—

A Song, by Sidney Godolphin, Esq., on Tom Killigrew and Will Murray.

Tom and Will were shepherds twain,
Who liv'd and lov'd together,
Till fair Pastora crost the plain,
Alack! why came she thither?
Pastora's fair and lovely locks
Set both their hearts on fire;
Although they did divide their flocks,
They had but one desire.

Tom came of a gentle race,
By father and by mother;
Will was noble, but, alas!
He was a younger brother.
Neither of them no huntsman was,
No fisher, nor no fowler;
Tom was still the properer lad,
But Will the better bowler.

Tom would drink her health, and swear
The nation could not want her;
Will would take her by the ear
And with his voice enchant her.
Tom was always in her sight,
And ne'er forgot his duty;
Will was witty, and could write
Sweet sonnets on her beauty.

Which of them she lov'd the most,
Or whether she lov'd either;
'Twas thought they found it to their cost,
That she, indeed, lov'd neither.
And yet she was so sweet a she,
So comely of behaviour;
That Tom thought he, and Will thought he,
Was greatest in her favour.

Pastora was a beauteous lass,
Of a charming sprightly nature,
Divinely good and kind she was,
And smiled on ev'ry creature.
Of favours she was provident,
But yet not over sparing;
She gave no loose encouragement,
Yet kept them from despairing.

Now flying Fame had made report
Of fair Pastora's beauty;
That she must needs unto the Court,
There to perform her duty.*
Unto the Court Pastora's gone
(It were no Court without her);
The Queen herself, with all her train,
Had none so fair about her.

Tom hung his dog, and flung away
His sheep hook and his wallet;
Will broke his pipes, and curst the day
That e'er he made a ballet.
Their nine-pins and their bowls they broke,
Their tunes were turned to tears;
'Tis time for me to make an end;
Let them go shake their ears."†

Will Murray, of the bedchamber (afterwards Earl of Dysart), was the too-much-trusted servant of King Charles I. Will picked his master's pockets at night and betrayed him. That fine Jacobean house at Petersham, near Richmond, in Surrey, has many memorials of him. His daughter was Duchess of Lauderdale, a name of note in English and in Scottish history.

PETER CUNNINGHAM.

ARCHÆOLOGIC ITEMS FROM ROME.

CERTAIN writers on Christian antiquity have questioned the validity of the decision put forth, in 1668, by the Roman "Congregation of Rites," respecting the signs of martyrdom infallibly to be recognized as such on tombs in the catacombs; and the conjecture having lately been revived, that the phial, stained with or bearing traces of blood, so often found in these hypogees, is *not* in every instance to be admittted as proof that the dead had suffered as martyrs for the faith; that same congregation has issued a decree confirmatory of the earlier one on this subject; defining, in the usual style of ecclesiastical absolutism, that phials of glass or terra-cotta, stained, outwardly or inwardly, with blood, when found in any tomb of the catacombs, *ought* to be received as indubitable evidence of the martyr's fate,—*censeri debeant martyrii signum*; a document dated December 10th, but more recently made public by the Congregation, which consists of several cardinals, prelates attached to the Papal court, and certain members of religious orders.

Fuller details have been published respecting the music archives lately re-arranged, catalogued, and transferred to a more suitable locality, in the Vatican, by order of the Pope. These mention, among the original MS. compositions by masters anterior to the sixteenth century, those of the most ancient "chapel-master" known to have been engaged for the papal choir, a Frenchman, named Dufay, who came to Rome in the suite of Gregory XI., on the restoration of the Holy

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* Lely's sale catalogue. "Walpole," by Dallaway, ii. 25. At Mr. Porter's, in Canterbury, Gray, the poet, saw Endymion Porter with a dead hare, a gun, a dog, and his son, a boy. By Dobson." (Gray's MS., formerly in possession of Mr. Penn, of Stoke Pogeis). Is the "whereabouts" of this picture now known?

† Review of Lord Nugent's "Hampden."

‡ *Edinburgh Review* for May, 1828, p. 337.

‖ Two vols. folio. 1739.

§ He was only Lord Strange when Vandyck painted him: his father, whom he succeeded, died 29th September, 1642, and Vandyck was then dead.

* Douglas's Peerage by Wood, vol. ii. p. 101.

† I have traced a Mr. Bagnols, a dealer in pictures, to the year 1728-9 (*Gentleman's Magazine* for January, 1851, page 19).

* As Maid of Honour.—P.C.

† Dryden's Miscellany Poems (Examen Poeticum). 8vo. 1693. Third Part, p. 425.

See from Avignon; also, about a century later, those of the Flemish composer, Jean Ockeghem, whose most admired work was a motet for thirty-six voices, produced in 1440. Among these codes, the most valuable, from an artistic point of view, are several adorned with exquisite miniatures, of the time of Leo X. and Paul III.

The *Bulletino di Archeologia Cristiana*, so ably edited—indeed, entirely written—by the Chevalier de Rossi, completed the first year of its existence at the end of December; and in that last number we have an interesting review of the progress of antiquarian discovery, at least in the sacred walk, during the past twelve months, in and near this city. Among these reports we may notice the additions to the range of catacomb-monuments secured by the extended excavations begun, and still in progress, under De Rossi's superintendence: the discovery, in the hypogee called after Pretextatus, of a chapel identified as the burial-place of Januarius, is another (not yet fully excavated) constructed in brickwork of the best imperial period, probably for the sepulture of Quirinus, another martyr, who suffered at the same time with the former, either under Trajan or Hadrian; and in the paintings of the chapel of Januarius (who was one of the seven sons of St. Felicitas, all martyred together with their mother) is presented a most valuable monument of the sacred art and symbolic system of the Church in the second century,—still more important than those in the Calixtan catacombs, hitherto considered among the earliest Christian paintings extant, which De Rossi refers to the period from Septimius Severus to Alexander Severus's occupation of the empire. In the *Ager Veranus*, or catacombs of St. Lawrence, above which stands the basilica of that saint, has been found a sepulchre (or rather sepulchral chapel), surrounded by symbolic pictures, interesting for their novelty and variety of meanings, full of mystic significations under the veil of biblical parable,—one assumed to be allusive to the mysterious vision said to have appeared in the sky to Constantine. A delicately-wrought gold cross, bearing religious inscriptions in Latin on both sides, found attached to the neck of a skeleton in a sarcophagus opened during the works (still in progress) for restoring the *S. Lorenzo* basilica, is referred to the period of Theodoric and the Visigothic kingdom. This relic has been placed in the library of the Vatican, in one of the cabinets filled with Christian antiquities from the catacombs; and the museum of that palace is soon to be enriched by other objects, recently purchased by the Pope, of high value in the range of antiques from Pagan source,—two gold vases, exquisitely wrought, found in the waters called *acque Apollinari*, at Vicarello (in the Comarca, or Roman province), and another vase of silver, on which is chiselled an itinerary from Cadiz to Rome, similar to those in the museum of the Roman College, engraved on three silver vases, all found in the same waters (whose classic name was *aquæ Aureliæ*), referred severally to the times of Augustus, Vespasian, and Nerva. At the last meeting of the Roman Archæologic Academy was read a second dissertation by Visconti on the mystic relief lately dug up at Porto (near Ostia), assumed to be an *ex voto* representing that ancient seaport of Rome in the time of Trajan. The Tiberine Academy, on a recent occasion, listened to a treatise by Padre Vercellone, a Barnabite monk, on the editions of the Scriptures printed in Italy during the fifteenth century; the learned father particularizing, among other noticeable productions of the early press in that sacred province, a complete Hebrew Bible printed at Soncino, near Milan, in 1488; three editions of the Greek Psalter brought out at Milan and Venice between 1481—1498; and no fewer than thirty-one editions of the Latin Vulgate, the first produced at Rome, 1471; the last and most perfect at Venice, 1495, in four folios, with notes, by a then distinguished Camaldolese monk, Bernardino Gadolo,—all these Vulgates being printed from MSS., the earliest of which did not ascend higher in date than the thirteenth century. At the last celebration of the Epiphany by the "Polyglot Academy" annually held at the Propaganda College, were declaimed compositions, prose and verse, in thirty-two languages (including dialects), some in the form of dialogue, several of the Oriental tongues illustrated by specimens of national song, or rather chant, as the mournful monotonies might be described; and this feast of languages was rendered more entertaining to the crowded audience by a *cantata* with vocal and instrumental music, expressly composed by Padre Jacovacci, professor of singing at this college,—a really grand and pathetic work of the oratorio class, its theme the Massacre of the Innocents; the performers, for the most part, Propaganda students; but the most gifted and fervently applauded, was a young Englishman, of Roman birth, named Davis, whose tenor voice may secure for him the highest triumphs attainable by *artistes* of the stage or concert-halls.

The census of the Roman population just issued, shows a number yet unequalled in past years, since this city has been governed by Popes,—201,161; being an increase of 4,083 on the returns for 1862; and among these numbers are at present living 31 cardinals, 36 bishops, 1,457 of the secular clergy, 2,569 of the regular, or monks and friars, 2,031 nuns, and 367 seminarists or students of ecclesiastical colleges.

A late discovery at Perugia, reported by the Institute, is that of an "Iliac Table," or series of small reliefs in several piles, or stories, on the same marble, representing scenes from the "Iliad," each explained by a Greek inscription above; similar in general conception and plan to a very curious illustration of the same epic subject in the Capitoline Museum, but still more valuable because comprising one scene from the "Odyssey," apparently belonging to a *second* series, in the same poetic reference, of which the rest has perished, the state of this marble rendering it indeed evident that we have here but a fragment of the antique original. A beautiful publication, lately issued from the chromo-lithographic establishment, founded here under the patronage of the Pope in 1861, and now occupying a wing of a deserted convent, is appropriated to the subject of the Virgin as represented in primitive Christian art, and contains six coloured plates from the earliest known pictures of this, the "Madonna and Child" subject, all extant in the catacombs; the historic monument, in the greater number, being the "Adoration of the Magi;" one only, from the catacombs of St. Agnes, being a distinct and abstract group in what might be called, the ideal presentment of this sacred theme, apart from historic particularities. The text to this work, in a different volume, is supplied by the able pen of Signor di Rossi; and the general conclusion we are led to is, that the place assigned to the Virgin Mother in the Church's primitive symbolism was subordinate to the historic circumstances of the various situations in which she is introduced to us by the evangelic writers, totally different therefore from that she occupies in Mediæval as well as modern art.

The draining of the Lake Celano, undertaken by Prince Torlonia for agricultural objects, is now so near to completion that only about one-fourth its body of water remains to be drawn off: the celebrated Emissary made under Claudius may now be penetrated in its entire length, though not without personal inconvenience; and a striking scene was presented when this tunnel was illuminated throughout on occasion of a visit to inspect the works from the minister of the newly-constituted Italian kingdom, Signor Peruzzi. Through the urgency of like utilitarian demands two other classic lakes, in the Roman Campagna, that of Gabii and the Regillus, have been caused to disappear, within recent years, to leave their dried beds for the growth of grain, their scenery deprived of its most impressive and historically important feature.

A German artist, of Munich, who has joined the Capuchin order, and is now an inmate of the S. Lorenzo convent, near Rome, has designed a church in the early Gothic style, to be erected shortly in the uninhabited region between S. Maria Maggiore and the Laterau: this will be served by the same friars, for whom a convent is to be raised on the spot; and as to the architecture, we may state that Fra Bernardo Teckel (its author) will be the first to set the example of a pure and nobly-conceived type conformable to the ideal of the Pointed style, and executed with consistency to that leading purpose in all details, not found in any church yet erected within the walls of Rome.* Besides being an able architect, he is also a painter, dedicated to the illustrating of sacred themes, and displaying in his several pieces, some in oils, some in water-colours or crayon, a poetic feeling combined with technical skill far from ordinary; remote, indeed, from all the characteristic qualities of the modern Roman school.

The exportation of art works, ancient and modern, from Rome, annually reported by the ministry of commerce and public works, was during the past year to an amount whose aggregate value we give as follows, from the official statement, in *scudi* and *bajocchi*:—Pictures, antique, 5,746*s.* 70*b.*; sculptures, antique, 1,648*s.* Pictures, modern, 116,427 *s.*; sculptures, modern, 23,130 *s.*

* We might except indeed, and point out as a meritorious novelty, amidst the poor common-places of sacred architecture in Rome, the small church built for the Redemptorist Fathers, a few years ago, from the designs of Mr. George Wigley.

MR. BRIGHT AND THE "TIMES" ON PATENT LAW.

Mr. Bright gave his opinion the other day upon patent law, as well as upon some other little matters. This late "extra-Parliamentary utterance" of the honurable member for Birmingham appears to us to afford an interesting study of human nature. Mr. Bright says that "he is not very much alarmed at the prospect of the total abolition of patents;" and that, indeed, he would rather like it than not. He feels greatly touched at the many inventors that are ruined by their inventions; and he believes that "not one in twenty of them makes his expenses," and that a good many out of the twenty are nearly ruined." However, he does not believe that a total abolition would be practicable, as there is no other possible mode of rewarding an inventor besides that of giving him a patent. Mr. Bright advises the adoption of the American system of examination, and the deposit of models showing the invention,—a plan also adopted in America.

Two forces appear to act upon Mr. Bright in the question of patent law. He is an extensive carpet manufacturer. We all know, as mechanics, that force cannot be created from nothing. The bursts of steam from under a safety-valve, that relieve surplus pressure on a boiler, must be paid for,—must consume coal. The prosaic fuel of Mr. Bright's last "extra-Parliamentary utterances" is the price he gets for carpets. Carpets, now-a-days, cannot be very cheaply made without looms. Carpet-looms are very complicated and ingenious machines. They thus give a wide field to the labours of ingenious machinists. No speeches, however eloquent, can force a clumsily-made loom to do its work cheaply and well. Mr. Bright's eloquence would have no effect on cranks and wheels. As Dr. Cumming's millennium is not yet come to pass, the ingenious machinists who devote their time and abilities to build and improve carpet-looms naturally require a certain amount of bread and beer. However philanthropically these inventors may feel, they find themselves obliged to take out patents for their inventions,—that is, a right to prosecute carpet-loom makers and carpet manufacturers who use their inventions without leave. Of course, this is very selfish on their part. Why should a manufacturer have to replace valuable old looms by new ones, if he wish to keep pace with competitors? Why should these innovators be continually making clean sweeps of factory arrangements? Let those selfish patent laws be done away with. Let us have Free Trade in ideas. Give me your improved looms for my eloquent speeches.

But now another force acts on Mr. Bright. This force is the continual attraction he feels towards the happy institutions of the model republic. He thus gazes across the Atlantic towards the land of the sowing machine and the reaping machine. "This won't do," he says. "Why, the Americans have a patent law. Let us, therefore, alter our patent law to their model." Mr. Bright's mind thus exemplifies the familiar mechanical problem of "the composition of forces:"—"If a body be acted upon by two forces, one of which would cause it to move from A to B in any given time, and the other would cause it to move from A to C in the same time; then if these forces act upon the body at one instant, it will move in neither of the lines A B, A C, but in the line A D, which is the diagonal of the parallelogram of which the two lines A B and A C are containing sides." In our little problem we may call A B = total abolition of the patent laws; A C = complete copy of the American law; A D = the resultant lately expressed by the honourable member for Birmingham.

But what are the sad experiences in patent law to which Mr. Bright alluded so pathetically the other day? We find, in the first place, that the Messrs. Bright have been accused of infringing two patents belonging to Mr. Crossley. The suit for the infringement of the patent granted

to William Wood (No. 12,937, A.D. 1850), for "improvements in the manufacture of carpets and other fabrics," has been lost by Mr. Crossley. Another suit for infringement of a patent granted to C. Crossley, G. Collier, and J. Hudson, A.D. 1850 (No. 13,267), has been pending about two years. Messrs. Sharp, Stewart, & Co., of the Atlas Works, Manchester, have also entered actions against the Messrs. Bright for infringements of two patents granted to Mr. William Weild, C.E. (the inventor of the spooling machine, so well-known to the visitors of the Western Annexe)—No. 505. A.D. 1855, and No. 267, A.D. 1857—both for improvements in carpet looms. Messrs. Bright allege that their looms are made on the patent of W. Moxon and J. Clayton (No. 791, A.D. 1857). All this of course shows great enterprise on the part of the Messrs. Bright. But bold, enterprising conduct is not all that we expect from people. Mr. Bright would like to have Free Trade in ideas. But is he the right advocate? What would the world say of a man who, after having been four times brought up before the late lamented Sir Cresswell Cresswell for an undue amount of attention to the ladies of his acquaintance, should now propose an abolition of the Divorce Court?

Our leading journal, the *Times*, which differs from Mr. Bright in almost everything except in a hankering after an abolition of Patent Law, on Saturday last devoted a leader to patting Mr. Bright on the back for his last feat. Mr. Bright, who also differs from the *Times* in everything, even as to the way in which its esteemed editor spends his evenings, has thus found one unexpected ally. No one can deny the power and abilities of either the *Times* or of Mr. Bright. We do not believe, as the *Times* occasionally appears to believe, that Mr. Bright is a dangerous demagogue. But we do believe that his "extra-parliamentary utterances" are not to be accepted as either competent or disinterested evidence in the question of patent law. Mr. Bright is a manufacturer, and not an inventor; he is, therefore, a consumer and not a producer of inventions. One party wishes to use a new plan for nothing, and the other to get cash as well as fame for his time and trouble. We have here two interests directly opposed to each other. With regard to the *Times*, we can say sincerely that, like the majority of Englishmen, we are proud of it, and believe the country can never sufficiently remember the services it has rendered, and continually renders. But in technical matters, the *Times* is not *always* correctly advised, to our thinking. And the question of patent law or no patent law, is a technical question—a question to be settled by engineers, by chemists, by inventors generally, and not by barristers, however clever, or by writers, however elegant. The *Times* and its writers see in London only one side of the patent law. The litigated cases brought to London form a kind of museum of morbid patent anatomy. Let anyone travel in the manufacturing districts, and see the number of men whose rise in life dates from a successful patent; the number of new manufactures that have grown up under the fostering influence of the patent law, and a different view is taken.

As to the right of a man's requiring remuneration for a new invention, we consider that it is out of the pale of discussion, and we hold that a man has as much right to his own idea as to the shirt on his back; very often more. That the present state of the law is attended with great grievances to inventors and the public generally there can be no doubt. Whether these grievances can be easily remedied is another question. Mr. Bright and the *Times* complain that patents are now granted for frivolous inventions. "In my opinion," said Mr. Bright, "patents are granted in many cases for very insignificant things, and they are nothing but a nuisance to the trade with which they are connected. Frequently the improvements are so trifling, almost so childish, that it is quite absurd to give a man a monopoly which may be the cause of harassing every extension in manufacturing operations."

It is difficult to conceive that a "childish," "trifling" thing can be such a powerful means of annoyance. At any rate, the supposed "trifle" does not seem to have been so obvious as to have occurred to several at once. What is a "trifle" in any art? Michelangelo often said that perfection consisted in trifles. After burning coke for thirty years in our locomotive fire-boxes we now burn unprepared coal. We now prevent the smoke by means of a "trifling" baffle-plate to the fire-box door, and a fire-brick arch in the fire-box. Our thrashing-machines used to break the grain, until an observant man made the trifling addition of a few oblique grooves to the beater. It seems a very trifling thing to taper the blades of a fan, but much power is saved by this "trifling" expedient. All the modern improvements in gunnery are based upon the simple substitution of a conical for a spherical bullet. Upon such "trifling" things depends the success or failure of any machine. If utility be thus measured by size, the previous examination proposed by Mr. Bright, "for the purpose of ascertaining whether the invention is worth a patent," will be no easy task. The composition of such a board of examiners will be no easy thing. It would be difficult to find a jury perfectly free from any interest for or against any particular patent.

If the question were to be left to lawyers alone, it would be merely a change from one bad system to another. The question of utility must be entirely placed out of the reach of any board. They would find enough to do in merely considering the question of novelty. The adoption of the American system of a board of examiners appears, however, the only way of getting out of the present difficulties of the law.

A patent can now be taken over and over again for the same invention. For one man, or even several men, it is almost physically impossible to investigate the soundness of his patent as to novelty. At any rate, the task could not be finished within less than a five or six weeks' constant search. The present system is thus a fraud upon the inventor. A patent right is in substance the right of setting in motion the machinery of the law against infringers. A patent thus wrongly given is evidently a fraud on the public. If the present price of a patent be reduced, models could with justice be required from inventors; but a professional man, who ought to be able to read a drawing, does not require a model. As to patent litigation, the number of cases may be reduced by the success of such a patent commission; but all law is an expensive luxury in England. Patent litigation must always be expensive from its special character, requiring special barristers at the bar, and experts in the witness-box.

If Mr. Bright's remarks on patents have at least the effect of quickening the movements of the Patent Commission now sitting—the majority of whom, by the way, are lawyers—he will have deserved our thanks.

ARCHITECTURAL LONDON IN 1884.

THE possible aspect of London as it might appear to the problematic New Zealander, in that far-off future in which civilization and commercial prosperity may have been displaced from their present centre and removed to the antipodes, has been traced by a master hand. But that dreamy picture of architectural ruin belongs to a state of things too distant, and too inconceivable to create any really serious interest in the present generation, or to materially influence the studies or aspirations of our existing architects and engineers.

It may, however, prove more suggestive to sketch out a pen-and-ink picture of architectural London at no more distant epoch than twenty years hence—a picture, the outlines of which are already making themselves visible, and which cannot fail to flatter our national vanity, instead of suggesting the depressing idea of a London in ruins, in the far-off New Zealandic epoch—should such an era ever arrive, which, in the present state of Maori progress and politics, seems less and less probable.

At a period not more distant than the year of grace 1884, it may be fairly assumed that the architecture of London will have assumed an artistic character as far in advance of its present aspect as its present is from that of the year of those famous treaties and conventions of 1815, which were thought to have settled everything, both political and artistic, upon a permanent basis, while passing events are every day proving to us that they settled neither the one nor the other. At that epoch (1815), scarcely more than fifty years ago, the vast dingy mass of old brick-and-mortar London, with its mean, low houses, crushed with their cumbrous tiled roofs, and unenlivened by their small, badly glazed, and insufficient windows,—half of which were built up to avoid William Pitt's too celebrated window-tax—was still intact.

In the north-west, it is true, Portland-place and a few squares, and wider streets, containing more spacious and better-lighted houses, had been gradually making their appearance during three quarters of a century; but the metropolitan agglomeration of crowded and dismal buildings, and narrow streets and alleys, which formed the main portions even of the aristocratic parishes of St. James and St. George, still enjoyed all their ancient prestige of density, dirt, and dinginess. And then they were so blackened by successive coatings of the coal smoke of centuries, that whether they were themselves built of coal instead of brick might have been a point open to discussion.

It was only about the year 1815, that it was determined to cut a broad roadway through the murky centre of a mass of streets and alleys, which then disappeared for ever from the map of London, in order to form a grand new street, considerably above a mile in length, leading from Carlton House, the residence of the Prince Regent, to the newly-formed park, which was to take its name from the then existing Regency.

The new line of communication arising on the sites of Glasshouse-street, Swallow-street, and a host of smaller streets and alleys, became gradually the Regent-street of to-day; and being commenced soon after our great military triumph at Waterloo, the broad opening opposite Carlton House received the name of Waterloo-place; the whole forming what may be termed our "Boulevard Sebastopol" of that time. So thoroughly established now is that Regent-street as the leading feature of the street architecture of western London, that it is difficult to conceive an "architectural London" without it; the fact being, that before that time there was, in the matter of streets, no architectural London at all. The effect produced by the designs of Mr. Nash was considered very great among the more advanced critics of that day, and they were, doubtless, an immense advance upon the artistic state of things in the matter of street architecture which he found generally prevailing at the time. The style has since been mercilessly criticized, and it is certainly true that the conventional addition of parasitic columns, and the creation of sham façades of imposing extent, produced by swamping the individuality of half a dozen or more houses, in order to make them form (in external aspect) a single building, was not a very lofty kind of art; but the plan, such as it was, was fairly carried out, in its own fashion, and completely answered its temporary purpose (a very important one), that of demonstrating the advantage and necessity of wide thoroughfares, and more ornamental buildings, even for a street of shops. Nevertheless, John Bull, in his good honest conservatism, scoffed a good deal at the wholesale innovation. The good public of the time did not take kindly to the "Roman cement" and other "extravagant" and "new-fangled things," about the great new street. Those new things, however, in this fast-moving age, have already become obsolete—and already is the great new street of the Regency doomed to speedy demolition. Steam and railways have made our architects, and even our general public, acquainted with the architectural splendours of the Continent, and with the taste acquired by their study the real short-comings of the Regent-street style of architecture have become very plainly apparent. The yards upon yards of Mr. Nash's Corinthian and Ionic façades of stucco, which even at the time of their erection were ridiculed as the *Nash*ional style, are no longer found satisfactory, and are silently, but surely, doomed to early destruction. The first blow was struck some years ago, when the Club Chambers were built, in Waterloo-place; but the public mind had then just begun to get accustomed to the architecture of the Regency, and the dwarfish height of the buildings in regard to the great width of the street had not been as yet much remarked, and, therefore, great was the outcry against the "ugly monster of a building" which utterly dwarfed its neighbours, and reduced to pigmy dimensions the adjoining chapel, which is, in fact, a pretty little structure enough. The removal of the cast-iron colonnade of the Quadrant, after a considerable interval, was the next serious blow—a very serious one, indeed, as it removed at one fell swoop the most original feature of the entire street. But now has commenced the promiscuous onslaught upon individual houses in good earnest. The restaurant at the corner of Burlington-street has just been entirely rebuilt, and the new structure, of course, far overtops all the neighbouring houses; exhibiting in its design a fair amount of most of the approved features of our street architecture of the present day. Most important among these

new features is the construction of additional stories. The *quatrièmes* and *cinquièmes* of Parisian houses, which but recently we ridiculed with considerable hilarity, have now become indispensable in our own ordinary dwellings. Indeed, when we reflect upon the scanty supply of sleeping apartments which it was usual to construct in an ordinary London house of the annual value of from 80*l.* to 120*l.* a year, at the time that Regent-street was built, and which scarcely ever exceeded in number two principal bedrooms and three or four attics, it becomes difficult to conceive how the last generation bestowed themselves in their sleeping arrangements. At all events, it may be asserted that our present ideas on the subject render increased accommodation in this respect absolutely necessary. And so, as it is evident that we cannot spread out our ordinary dwellings laterally, on account of the high value of building ground, we are necessarily driven to the extension of the building upwards. This has now become a fixed principle with our builders, and all private residences in the endless new streets, terraces, and squares of Belgravia, Tyburnia, and Westbournia, are provided with extra floors of bed-rooms; thus affording sleeping accommodation more in accordance with our present ideas of comfort, propriety, and health. The external architecture is made to agree (more or less) with the increased importance imparted to the building by its superior height; and thus it is that the new house in Regent-street has been made to overtop all its fellows, while the rising Langham Hotel will soon afford a far more striking example of a similar tendency in our modern street architecture. In short, it may be safely asserted that, within the next twenty years, a new Regent-street will have arisen, which will creditably sustain comparison with the famous buildings of the new Parisian boulevards, or even the line of palaces of the Roman Corso, or the most beautiful of the marble dwellings of Florence "the elegant," or Genoa "the superb."

We shall have no more of rolling out eight or ten houses into one sham façade; but in its stead, that charming individuality of architectural effect which we have so often admired as distinguishing each separate house in the fine old cities of Belgium and Germany, belonging to the great periods of Flemish and German art. In many of the finest specimens of those noble old houses, each dwelling presents us with as marked an individuality of character as its inhabitants. Each doorway, which may be called the mouth of the architectural face, smiles on the approaching visitor, after its own peculiar fashion; its crisply decorative foliage of stone or marble, seeming, in its playful exuberance, to break into actual words of welcome, symbolized by fruits or flowers cast forth, as it were, in our path. And then these symbols of welcome are generally blended, by the ingenious fancy of the designer, with characteristic implements or emblems connected with the calling or profession of the occupier. Next come the windows—seeming the glistening eyes of the architectural physiognomy,—and they beam on the passers by, each with its own peculiar and delicately different expression — sometimes open and brilliant, where the framing is broad or lofty, as looking forth from lids widely and fearlessly raised: while from other window-eyes of the architectural face a somewhat languishing though not the less pleasing glance steals softly towards us, as though from gracefully drooping lids, formed by a more than usually depressed curve of the superincumbent wreath or label. Then comes the gable, the forehead of the edifice—now high and bold—now soft and low each wearing its own peculiar coronal, its jewels or flowers peculiar to itself—jewels of stone or marble, made more precious than those of the *soi-disant* precious metals by the skilful hand of the carver. All this and more we shall see exemplified in the houses of our streets within the next twenty years, instead of the poor, low, characterless fronts and unmeaning length of sham façades of factitious Corinthian or Ionic that exist in our present Regent-street. It is true, that in so far as Regent-street is concerned, great impediments to change exist. The ground is Crown property, held under leases drawn up by Crown lawyers, and, of course, stuffed cram full of clauses intended to form insurmountable barriers to alterations or improvements of any kind. One would be induced to imagine that the high authorities in whose departments such business is transacted would be disposed to facilitate such arrangements as might render costly improvements more practicable; but such is not found to be the case. A recent philosophic investigator of such matters, Professor Charles Dickens, has discovered the cabalistic principle on which questions connected with public improvements are manipulated in those quarters. It is the principle of "how not to do it"—in face of which motive power, possessing, as it does, a powerful double-backward action, it is found exceedingly difficult to get forward. Nevertheless, and in spite of all the battling of the Partingtonian broom, the tide of improvement has sternly set in, and will inevitably sweep away Regent-street, notwithstanding all the bindingest of clauses in the most stringent of crown leases.

Next, and which ought to have come first, let us consider the architectural prospects of the banks of the Thames, that Thames to which London itself owes its existence. Within the time specified, its present filthy state will have been thoroughly purified, and the wretched agglomeration of inferior and squalid buildings on its shores will have given place to a noble series of spacious quays, which we may fairly hope to see embellished with a series of public and private edifices worthy of the name of architecture. We may also safely conclude that the present ideas of purification will have assumed a so much higher standard by that time, that a vast stream of perfectly clear water will be constantly flowing in unimpaired beauty through the heart of the metropolis, receiving at the same time a great additional interest from the fact, that many kinds of fish, such as are not driven away by the mere activity of the steamboat traffic, will flourish abundantly and greatly multiply in its limpid waters.

In order, however, that the vast plans of the Thames Embankment may be fitly carried out to their ultimate results, the public must inform itself more fully on the subject. If all that vast avenue of murky warehouses and dark cellars, varied by intermediate spaces of black mud, are really to be swept clean away, and we are to get in their places an *unbroken* line of spacious quays, with all their concomitant features of broad and noble stairways, and balustraded parapets, while the land side of the wide roadway MAY become bordered by a series of stately buildings, —the public must make itself thoroughly acquainted with the plans actually in progress, the grasp and splendour of which will necessarily expand as the public becomes aware of what is really being done, and applies its sturdy shoulder to the somewhat sluggish chariot of official progress.

How much stimulation from the power of "pressure from without" is required to ensure a perfect carrying out of the plans, as yet but vaguely indicated, may be inferred from the course of events, during which the cold shadow of official inertness so long rendered abortive all the plans for a Thames embankment which had from time to time been pressed upon successive Governments for the last forty years. There was Col. French's complete and elegant plan, in which full advantage was taken of all existing public buildings, such as the river front of Somerset House, &c. Beautifully illustrated plans of the effect of the proposed quays were published at the time by their spirited projector; but all was of no avail. Then there was the bolder and more comprehensive plan of John Martin, the painter of "Belshazzar's Feast," which included a vast plan of metropolitan drainage without polluting the Thames. But the long effective official principle of "how not to do it" successfully swamped both these and many other plans. The stimulations that eventually forced the How-not-to-do-its to reverse the power of their celebrated official engine were of a somewhat irresistible character. Nothing less than three destructive visitations of a fearful pestilence, combined with the utter obstruction of the increased traffic in the old thoroughfares, and at the same time such indications of general public opinion as rendered further opposition something more than unadvisable. Under this unusual pressure the "How-not-to-do-it" principle broke down; and, therefore, now that the narrow end of the wedge is at last got into the question, the public must see that it be fairly driven home. It must see that the proposed quays be of sufficient spaciousness, and of *unbroken* continuity;* and that the noble sites for public and private edifices be not jobbed away, as other important sites have been before.* With due vigilance, we have now a chance of seeing, within the next twenty years, such a line of river quays, bordered by such a line of stately buildings, as shall not be matched in the world; in presence of which the boasted Parisian quays of the Seine will sink into comparative insignificance.

The projected new bridges form another interesting subject for architectural consideration. The projected and already commenced new bridge at Blackfriars will be a very remarkable structure. The effects of natural colour, if the smoke be not found to reduce them to one dingy monotone,† will be very striking, resulting, as they are intended to do, from the use of red and blue granite, relieved by richly-sculptured features of white Portland stone. The whole design of this bridge is of very original character, and its only drawback is the iron portion, which, as we at present understand its use, does not seem to amalgamate in effect with the stone and granite. But the most important considerations on the question of the new bridges are those connected with the rapid extension of the Metropolitan railway system. We are, in fact, threatened with too many bridges of that description, insomuch that the aspect of our noble river may be materially interfered with. Much, however, may be done to palliate this objection by such stringent clauses in Metropolitan Railway Acts as shall compel the erection of really fine structures when the lines of rail have to be carried across the Thames. Moreover, in order not to obstruct, more than necessary, the general view of the river from the projected quays, two or more such bridges might be combined in one structure. For instance, the rebuilding of the bridge at Blackfriars *might* have been combined with the proposed railway bridge of the Chatham and Dover line. That part of the new Blackfriars Bridge facing west might be set apart for a carriageway only; while the central portion might be occupied by the railway line, erected of course at the company's expense; the eastern portion being devoted to a separate footway. The raised enclosure, roofing in the railway portion of the structure occupying the central part should be made as splendid as possible, and the ridge or ridges of the roof should present a richly-decorated sky-line, broken at three or four points by lantern-like pinnacles, serving at once to light and ventilate the bridge tunnel, and, at the same time, to enrich the general structure. Such a combination might be made to form one of the most splendid and original examples of bridge architecture ever attempted; blended, as it would be, into a colossal and magnificent piece of architectural construction such as our architect-engineers have never yet accomplished or attempted,—a monument of an entirely new class, originating, as it should do, in England, the undisputed parent of the railway system.

As one of the collateral results of the realization of the projected line of quays, the alterations and improvements in the old lines of traffic which will necessarily occur should be next considered. It was the choking up of the old narrow thoroughfare of the Strand, Fleet-street, and Cheapside, by the demands of a vastly-increased traffic, that in part forced on the great embankment and quay system. In fact, the immense crowd of vehicles, often brought to a stand for hours by the continually increasing numbers of enormous railway-vans, had at last conferred upon that line of thoroughfare the name of the "Vandemonium,"—forming, sometimes, a general impediment three miles in length, which vehicles bound for other parts of the metropolis were effectually prevented from crossing. The creation of the new quays, and of the new Southwark line of streets, will not only decrease the amount of Strand traffic, but it will do so to such an extent as seriously to depreciate, for a time, the value of the house property along the whole line. This state of things will compel the owners to resort to measures which shall renew to the old thoroughfare, by means of attractiveness, all it will have lost by ceasing to be the only line, or at all events, chief line, of communication between east and west. With this view, the roadway will be widened by entirely taking down

* Already the Charing-cross Railway Station has been allowed to create an impediment which it is difficult to see the way through; and the gasworks business at Blackfriars is another difficulty of the Board's own creation.

* The Act limits the operation to creating the roadway mainly out of the present river space, so forming frontages for the proprietors of land now bordering the water, which, without potent supervision, may be greatly abused. An additional Act for this purpose is imperatively required.

† The artificial colouring of Westminster Bridge is already rendered nearly undistinguishable by smoke, while scarcely more than a year old.

the houses on the north, the least frequented side, and rebuilding them farther back, on the land, of comparatively small value, in the rear. An Act of Parliament for such an indisputable metropolitan improvement would be easily obtained; and the houses there rebuilt would necessarily be of a spacious and magnificent character, because buildings of that class would "pay" best. The whole suggested improvement would, in fact, be carried out by the proprietors, or a company, not because of its public utility, or because it would be a great metropolitan improvement, but because it would pay. It might be found that the houses on the south, or river side, would be the most easy to remove, in which case we may imagine them re-appearing on a highly magnified scale, nearly as far back as the line of frontage indicated by the grand façade of the new Charing-cross Railway-station and Hotel. What an architectural vista we should then possess—terminated at its first stretch by the churches of St. Clement-Danes and St. Mary-le-Strand. Beyond this point the widening process would necessarily continue along Fleet-street and up Ludgate-hill. The new structures in this part of the line would be of a palatial character, as may already be plainly foreseen by the style of the buildings which are yearly replacing the old houses of the Strand, Fleet-street, Cheapside, and Cornhill. Thus will this great ancient artery of the metropolis regain its former importance and dignity, and form a grand central thoroughfare consisting of a long avenue of important buildings, each realizing in a greater or less degree the interesting individuality of character previously alluded to. The dingy old monotonous brick is, indeed, already fast disappearing, to be replaced by handsomer structures, not of the sham stucco, like Regent-street, but buildings of real stone, enriched with inlays or columns of polished granite, marble, or terra-cotta, and decorated with real sculpture of great artistic merit, and of suitable character, as to its symbols, foliated decorations, or statuary. That this will be the case we may infer from the Music Hall, now advancing towards completion, in the Strand; in the façade of which well-sculptured busts of the greatest musicians, and other appropriate emblems, enter into the composition, which, notwithstanding many drawbacks, is really a very striking one.

To return to the commencement of the great Strand line. It may be taken for granted that the shabby houses forming the only remaining side of Cockspur-street will, in twenty years, have entirely disappeared, and have been replaced by edifices worthy to form the south side of Trafalgar-square. The new south side will probably be then made to run due east and west, so as nearly to complete the quadrangle, leaving at the south-west corner an open space for a pair of magnificent gates forming a Spring-garden entrance to St. James's Park. On the north side of Trafalgar-square the present National Gallery will be improved by the erection of an additional story, enriched with columns, after the manner of the "Garde Meubles," of the Place de la Concorde; or an entirely new and more magnificent building will arise, really worthy of the name of a "British National Gallery," which will occupy the entire space of the barracks in the rear, making the building form itself into a noble quadrangle, equal in every respect to that of the new portion of the Louvre. Of Pall-mall and Parliament-street we reserve our remarks for a future occasion.

The northern, and the new southern approaches, from the west to the City, next invite consideration. Of the new and convenient southern roadway, on the Southwark side of the river, it only need be remarked that the roadway itself is now complete; that a double line of handsome houses cannot fail to spring up very rapidly in a thoroughfare that must become a most important one; and that the opening of this new line of street has already greatly eased the pressure of the traffic along the old line of road to the London Bridge Railway Stations. The northern line, that of Holborn, has a more remarkable future in store for it. A greater part of the line (allowing the impedimental Middle-row to have already disappeared) is of noble width; and when some strong stimulus shall have been applied which will induce proprietors to replace the present houses by a superior class of structures, it will at once assume an importance which it has never enjoyed before. The creation of New Oxford-street was the first instalment towards the creation of an entirely new era for the Holborn line; but a far more important improvement is now about to be immediately realized in the construction of the great Holborn-valley viaduct, which will bridge over the ancient valley of the Fleet ditch, and at once put an end to that severe hill work, both on the Holborn and Skinner-street side, which has so long been the dread of both horses and drivers, and ruinously destructive, in the form of severe wear and tear, to vehicles of all classes.

The viaduct, as now proposed to be carried out (by means of the City's share in the coal duties), is one of the largest undertakings* that was ever projected for the improvement of a metropolis. The improvement will, in fact, consist of the utterly pulling down and rebuilding of a mass of habitations equal in extent to a moderate-sized county town. That is to say, nearly the whole of the buildings on both sides of Holborn-hill all the way from Hatton-garden to Farringdon-street, and those on both sides of Skinner-street from Farringdon-street to Newgate-street, with many others, will have to be taken down. The viaduct itself will be constructed at such an elevation as will make the continuous roadway nearly a dead level from the high ground at Furnival's Inn to the corresponding height in the neighbourhood of Newgate.

The ground on either side will be leased for building shops and houses of a superior description; and if the character of the viaduct itself, and the new buildings connected with it, be at all equal to that of the elevations shown in the designs sent in by several of the competitors, this new portion of the great northern artery of metropolitan communication between the west end and the City may be made to form one of the most remarkable objects in the street architecture of Europe. This stimulus given to the architecture of Holborn will doubtless spread epidemically along Oxford-street, and in the twenty years specified nearly the whole of the low and mean buildings which still remain in that important thoroughfare will have been replaced by others fully equal to those which we shall doubtless see occupying the whole of the Strand and Holborn lines.

Not only the great changes referred to, but many others of scarcely secondary importance, will have taken place within the time specified; and our young architects, who are yearly becoming more original in the treatment of their works, and are shaking themselves more and more free from the enervating coils of that slavish imitation into which the beauties of Mediæval monuments had seduced them, will embellish street after street with lines of noble houses, each of which will be, in every sense of the word, an architectural study. And not only will the dingy old brick and the unartistic stucco be abandoned in favour of stone, marble, and granite, and also of superior classes of washable bricks of different tones of colour, accompanied by terra-cotta ornaments of superior character, which will have come into general use; but other materials, which are also destined to play a conspicuous part in the London architecture of the future, will by that time have been called into requisition. Of the character of these new materials we should like to say a few words, but want of space precludes the possibility of doing so on the present occasion.

In conclusion, it may be stated, that whether such wholesale and sweeping alterations be to the taste of the great mass of the public or not, they will most certainly take place within the next quarter of a century; or, in their stead, something equally extensive and very much of the same character. Those, for instance, who are lamenting the contemplated destruction of some of the beauties of Finsbury, to make way for railway stations, will have to submit to their hard fate; for these and more wholesale changes than can yet be conceived will inevitably take place. The only thing to be guarded against is, not to allow *open spaces* to be filled up, rather make more, for such breathing spaces form the very lungs of the metropolis. Another thing is, for the future, to prevent positive disfigurements, such as the threatened one at Ludgate-hill, the injuriousness of which will probably be reduced by a rider to the bill, early in the coming session. In the main the metropolitan railways will lead to many opportunities for architectural embellishment; and if the companies are restrained from stretching great ugly iron boxes across roadways, in conspicuous situations, like the tubular viaduct at Vauxhall, we shall get good instead of evil out of all their proceedings; especially if in passing the Thames they can be made to go under it instead of over it. On the whole, it may be safely asserted (without referring to our new churches, or our great joint-stock hotels, or new public buildings), that a splendid architectural future is in store for London, and that the remark of the Roman orator, that Augustus found a Rome of brick, and left one of marble, may yet be fitly repeated in regard to London in the reign of Victoria, if our sovereign should be blessed with that length of days which is heartily desired by all her subjects.

* Of course putting out of the question the structure of main sewers,—from the vast structures which are still the wonder of subterranean Rome, to the great London drainage scheme of the present day.

THE VIOLIN, OR VIOL, IN ECCLESIASTICAL AND OTHER SCULPTURES.

An instrument more capable of discoursing "celestial music" than the modern violin perhaps does not exist; but in unskilful hands not even the bag-pipe can excel it in diabolical, screeching, and nerve-lacerating harshness. Whether it was from its celestial or from its diabolical capabilities, or both, that the rote or crowd, the viol, fyvele, or fythele, or other ancient form of instruments of the violin class, came to be sculptured, as the bagpipe itself was, on our ancient churches, it may now be hard to say: assuredly we must not take it for granted that because it was ecclesiastically used, therefore it must have been regarded as exclusively a celestial and not also a diabolical symbol, for we have the devil himself not seldom "holding his own" place in such sculptures; and, indeed, it is fitting, in the nature of things, that the field of battle for the Evil Spirit should be precisely that on which the Good Spirit is at work; and probably this is the reason why devils, satyrical and diabolical faces, and other symbols of horror, should have been sculptured, as well as cherubim and angels, on our sacred edifices.

Whether the ancient viol ever really yielded anything like celestial strains, therefore, we cannot ascertain from the mere fact that it was symbolically used in edifices devoted to the Divine service. But no one who ever heard Paganini play on his one-stringed violin can doubt the *possibility* at least of even the ancient viol having been capable, in skilful hands, of yielding really excellent music, relatively inferior and imperfect though it was, by comparison with the modern violin.

In an interesting article in the *Builder* on "The Build and History of the Violin," by the late Mr. A. F. Ashton, architect, an able musical critic and writer on art generally, as our readers will remember, the author remarks that "an elaborate work on the violin is much wanted; but so nice is the subject, so fine the thread upon which excellence depends; that it is extremely difficult to describe the rules for obtaining it; and, like that of the Freemasons, 'the secret' is likely to be confined to the craft." Whether the new work which we are about to make use of in gleaning a few particulars as to the viol in ecclesiastical sculptures (referring our readers to the article in the *Builder* of 4th August, 1855, for historical and other details as to the instrument under its various forms and names) be up to the mark desired, we shall not decide; but at least its authors may be said to belong to the craft as amateurs and something more, who for many years have been collecting materials for such a work as that under notice,* which, however, they modestly characterize, in their preface, as "Collections towards the history of the Violin" rather than the history itself. Mr. Forster appears to be a descendant of the celebrated violin-makers of that name; and the work is by permission dedicated to the aristocratic "Bohemians" well known as "The Wandering Minstrels."

The crwth, or crowd, an ancient form of the violin or viol, was of early date in England, Wales, and Scotland; and an instrument of this nature was among the ornaments on the outside of Melrose Abbey, founded in 1136. There are some curious representations of the viol and other instruments painted on the interior of the roof of Peterborough Cathedral, called of the date 1194, or a little earlier, when the work was completed by Abbot Benedict, who presided from 1177 to 1194. The ceiling was retouched a little previous to 1788, and repaired in 1835; but great care, it is said, was taken to retain every part, or restore it to its original state, so that

* The History of the Violin and other Instruments played [on with the Bow. By William Sandys, F.S.A., and Simon A. Forster. London: J. R. Smith, Soho-square. 1864.

the figures, even where retouched, are in effect the same as when first painted. One is a grotesque figure, playing on a viol with three strings and four sound-holes; the general make of the instrument very much resembling the modern form of the violin, and the bow also like that now in use. The figure is represented not only as playing, in the usual way, with the viol held to the left shoulder, but evidently also, as we think, both dancing and singing, as well as playing. Another is a crowned figure, with a viol having two sound-holes quite like those of the modern violin, and played much as usual; and a third is a woman with the viol on her lap and a very doubtful-looking bow across it: the neck of this instrument is bent at right angles. Each figure on the roof is placed in a separate lozenge-shaped ornamental compartment, differing occasionally in the style of ornament and in the colour of the ground. The instruments have even inward curvatures at the sides like the modern violin, and there is an appearance of finger-boards and tail-pieces, though none of bridges. On this roof, we may remark, by the way, there is a curious representation of an ass playing on the harp, which may have some reference to the singular celebration of "the Feast of the Ass," wherein part of the service was called "*Asinus ad Lyram*;" but it would fill an article in itself to give even a slight idea of this curious subject and of the numerous varieties of "the Feast of Fools." In "Monnaies des Fous," &c., mention is made of the figure of an ass on the old tower of Chartres, playing on a stringed instrument, which, from the account given, appears to be more like a harp than the vielle, but the figure had the name of "L'Âne qui vielle."

The viol may frequently be found in the sculptures on our cathedrals and old churches. Carter, in his "Ancient Sculpture," has given some representations of the viol from Ely Cathedral, of the early part of the fourteenth century. One appears to have five strings and a tail-piece, but with no appearance of bridge or sound-holes; the other has more the form of the rebec, without inward curvatures. The screen in York Cathedral, separating the nave from the choir, has numerous figures of angels (no doubt celestial, and not infernal ones), playing on musical instruments, and the viol among them. In Exeter Cathedral there is a small fabric of stone projecting from the north wall of the nave, of date about the middle of the fourteenth century, and called the minstrels'. gallery. The front is supported by thirteen pillars, dividing it into twelve niches, each containing an angel, playing on a musical instrument, and among these also is the viol. It is still the custom for the choristers to go to this gallery on Christmas-day, and sing a hymn. Carter represents the figure of an angel on the lower tier of the screen at the west front of this cathedral, playing on a pear-shaped viol. Minstrel galleries, with figures playing on musical instruments, are likewise mentioned at the cathedrals of Winchester, Lincoln, and Worcester. Carter gives the figure of an angel playing a crwth or crowd in Worcester Cathedral, of about the twelfth century, under part of the seats of the choir: it resembles a viol without a neck. Dibdin, in his "Bibliographical Tour," gives engravings of what he calls "Drolleries at Strasbourgh Cathedral," of about the date 1370. One of these grotesque figures is playing on a sort of pear-shaped viol. On the minstrel's pillar, at St. Mary's Church, Beverley, of the time of Henry VI., one of the five figures is playing on a viol, of oblong shape; and in the same church are several figures playing on musical instruments, and among them an angel with a long oval-shaped viol, and another with a large or tenor viol.

Instruments played with the bow do not appear to have been numerous on the Continent before the eleventh century, but they increased in number and variety towards the middle of that century. The form at first was conical or pear-shaped, having the body and neck formed of one piece; but it soon assumed a more oval shape, with neck and body separate. There is said to be a representation of an ancient French king in the Church of Notre Dame, with a bow in one hand and a viol in the other, of about the last date; but there is some doubt whether this be Chilperic or Robert, who commenced the building in the tenth century: Montfaucon says it was the former. There is a curious figure of a performer on the viol on a medallion of the eleventh century at Boscherville: he holds it under the chin, and seems to be singing as well as playing. Among the figures on a capital at Boscherville, of the twelfth century, one is playing on an oval instrument like a viol; but M. de Coussemaker, in his account of ancient instruments, considers it to be a gigue. A crowd or crwth, at Amiens Cathedral, of the thirteenth century, is described by Coussemaker: it is like a viol without a neck, the strings being managed through a hole at the lower end. The same author mentions a viol, of the twelfth century, on a window at the Royal Chapel of St. Denis. There is also a grotesque and horned figure, like the devil himself, but called, by Coussemaker, Neptune, who is playing on a viol with a trifoiled head. In the left hand of one of the elders in Amiens Cathedral is an oval-shaped viol, with two sound-holes and three strings, like that in the horned figure's hand just noticed. Among the sculptures at what is called the Musician's House, at Rheims, of the thirteenth century, there is a figure playing on a three-stringed oval-shaped instrument with two ear-shaped sound-holes. The bow is of iron, and of light construction, almost as if it were an addition of modern date. Oval two-stringed viols appear in the hands of two female figures on an antique enamelled basin found near Soissons, said by Burney to be of the ninth century, but now considered to be of thirteenth, and described both by Potier and Coussemaker.

The pear-shape appears to have been the more ancient form of the viol. It afterwards became more oval, and subsequently the inward curvatures, more or less defined, were introduced, in order to facilitate the use of the bow; and the instrument in time became much in form like the modern violin, though of heavier make: this, however, was only after the lapse of centuries. Before the inward curvatures were introduced, the rounded sides must have interfered with anything like execution, and checked the action of the bow, which, it would appear, from the form of some of these instruments, must have struck several strings at once. Frets were introduced after the inward curvatures, to guide the fingers. The strings varied from one to six, sometimes, but rarely, even many more. At first, there was no detached finger-board, but the neck was an elongation of the body of the instrument: the sound-holes were generally two; but there are examples of four. There was, though not always, a bridge, varying in size and position, and usually a tailpiece.

The earliest representation which Messrs. Sandys and Forster have been able to find, is that in the learned work of Gerbert, "De Cantu," &c., plate 32, taken from a M.S. supposed to be of the eighth or ninth century, and called "Lyra." It is pear-shaped and one-stringed, with neck, bridge, tailpiece, and sound-holes, and the bow is not very different in general appearance from the modern one.

The approach to the present shape of the violin was probably gradual; the first makers of violins being also makers of viols.

The violin proper was known in England some years before it became the favourite in "good society;" and although we find it in the hand of Queen Elizabeth, yet it was generally associated with wakes, revels, and other noisy merry-makings; but on Charles II. introducing his band of "four-and-twenty fiddlers all in a row," the instrument rose in estimation, much to the annoyance and grief of the author of "Musick's Monument," that the noble and brave lute, also the majestic theorbo, should be "overtop'd with squaling, scoulding fiddles."

The volume under notice contains a great deal of matter relating to the history of celebrated makers of violins, besides a fund of anecdote connected with this and other instruments; and although the whole might be arranged better, it is full of interesting and curious reading. The matter is well illustrated by engravings of the various forms of the instrument treated of.

THE VESTRY DOOR IN THE CHURCH OF ST. NICHOLAS, HAMBURG.

The church of St. Nicholas, Hamburg, was begun from the designs of Mr. G. G. Scott shortly after the great fire of 1842, but it was not until last autumn that the internal works were sufficiently advanced to allow of the consecration taking place. Even now the internal arrangements, especially the carvings, are far from actual completion, as the original costs were very much exceeded and the parish funds were impoverished. The church (which, as our readers know, is Gothic), is cruciform, with side aisles and transepts, has a lantern at the intersection of the ridges, and will ultimately have a tower and lofty spire at the west end. The altar, font, &c., are formed of various marbles, and were sent out from England; whilst the pews, which are open, are partly of oak, richly carved; partly of deal, stained and varnished. At the angle formed by the chancel and south transept is the vestry, the door of which has just been put up, and is, from what we hear, a masterpiece of its own kind.

It was presented to the church by Mr. Plambeck; and his brother, Mr. C. F. H. Plambeck, has been constantly occupied at its completion during the last *three years*. The door is of oak, 8 feet 10 inches high by 3 feet 8 inches wide, and is divided into one large oblong panel, with four smaller square panels over and under. These panels are covered at the back with foliage, the leaves and flowers being executed in parquetry of light and dark oak; but it is the other side (facing the chancel) which calls for the greatest notice.

The middle or large panel contains a picture representing "The Lord's Supper," and the four smaller panels above this contain "The Carrying of the Cross," "The Burial," "The Resurrection," and "The Ascension of our Lord." All these *pictures*, as we must call them, are composed of thousands of pieces of mother-of-pearl, various woods, glass, &c., inlaid and forming a kind of mosaic. The attitude of the figures is good, the drapery severe without being conventional; but the chief beauty of these compositions, according to our authority, consists in the peculiar richness of colour, brought strongly forward by a background of black ebony. Here we have shells of various colours employed for brown or green drapery, which suddenly become yellow or black by a change in the position of the spectator. Others, again, sparkle in all the glories of the rainbow, as in the garment of the figure carrying the cross. Some idea may be formed of the minuteness of detail lavished upon this work, when we mention that one letter alone (the S in the I.H.S. on the cup which the Saviour is blessing) is composed of sixteen pieces! Each of the four lower panels contains a bunch of flowers, inlaid on a dark brown ground of Spanish walnut. The flowers are chiefly the *Nemophila* (light blue) and the *Iochyton* (bright red), in mother-of-pearl and enamel. The stems are of Tompack wood, and the leaves of brass. All these compositions are framed in by rich arabesques, still on the level of panels, but next frame. A plain chamfer leads up to the thickness of the frame, and is also ornamented with various woods, which are again inlaid with ivory, mother-of-pearl, and white metals. Finally, a narrow bead of ebony, with small white flowers let in flush, runs round each panel. The frame is, as we have said, of oak; but this, too, is richly overlaid with beads of the Tuja wood (a favourite wood of the Romans, and indigenous to the North of Africa, where it was lately re-discovered by the French), inlaid with arabesques in brass; and, at the meeting of styles and rails, are raised octagonal nail-heads, of ebony, the nine surfaces of which are enamelled red, blue, or green, and inlaid with flowers, wreaths, or crests of mother-of-pearl. There are two inscriptions; one, executed in Gothic characters, under the panel containing the Lord's Supper,—"This do in remembrance of me;" the other in small white letters,—"This door was presented to the Church of St. Nicholas, Hamburg, by N. H. Plambeck, designed by G. G. Scott, London, and executed by C. F. H. Plambeck, 1861—63." Notwithstanding all the minuteness of detail and richness of colour above described, the total effect of this door is described as very pleasing, especially by the contrast which it affords to the cold grey of the masonry around.

HOUSES AND HOUSE-BUILDING ACCORDING TO THE CENSUS.

A Parliamentary Paper, giving the results of the Census, has been published. We take from it the following facts touching houses:—

"We have, in conformity with the practice since 1801, for the sake of uniformity, enumerated as houses all the distinct buildings which were inhabited, as well as uninhabited houses, and houses building; and after thus avoiding the inextricable difficulties of the 'flats,' we have still many heterogeneous structures mixed up with houses in the ordinary sense of that word. The house is a very variable unit: it includes in the census the hut on the moor, the castle on the hill, and the palace; so that every one of these structures, and of the intermediate mansions

and cottages, is reckoned as a house. The ordinary house varies in size and structure in town and country—in its cubical contents, in its hearths, in its doors, and in its windows; so that to give a correct view of the accommodation which houses afford the population, and of their value, and of their sanitary influences, a special inquiry is indispensable.

The inhabited houses in England amounted in 1861 to 3,739,505, showing since the last census an increase of 461,166.

The great difference in these houses is shown by their annual value. Thus 519,991 houses are returned at rentals varying from 20*l.* to 20,000*l.* a year; or at 52*l.* 8 on an average.

3,219,514 householders, or more than six in seven, pay no house duty; and the annual value can only be estimated approximatively, by continuing the series as shown in the Table 31 (p. 92, App.). By this method the average rent of houses at rents under 20*l.* a year is 9*l.* 5; and the mean annual value of all the houses in England is 15*l.* 5 (15*l.* and 5 florins).

The annual value of all the houses at this rate is 58,013,181*l.*, of which 7,159,000*l.* is due to the 461,466 new houses erected in the last ten years.

At 15 years' purchase the dwelling-houses erected in ten years are worth 107,000,000*l.*; and all the houses standing in 1861 are worth 870,000,000*l.*

1,575,923 houses were inhabited in 1801, and the subsequent additions of new houses, besides replacing houses decayed and destroyed, leave a surplus of 2,163,582.

The value of the houses has probably increased in a greater ratio than their number.

181,691 houses were uninhabited, and 27,305 were building in 1861. To 1,000 houses inhabited there were 49 uninhabited and seven building.

The number of 'houses building' was 27,305, or in the proportion of one house building to 137 inhabited and to seven uninhabited.

The houses building were first enumerated in 1811; and the enumeration has been since repeated at every census. In a country under depopulation the old houses fall into decay; many houses are uninhabited; and few new houses at a census are "building." And as the question, is England increasing or decreasing, decaying or flourishing? was seriously discussed during the last French war, it was thought that the inquiry into the 'houses building' might assist in its solution.

Upon comparing the number of 'houses building' with the total number standing, this result is elicited:—In 1811, to one house building there were 114; in 1831, the proportion was one to 105; in 1861, it was one to 144.

This seems to imply that since 1831 this "indication of prosperity" has taken an unfavourable turn.

The question requires investigation, as it is by no means so simple as it appears to be on the surface.

Houses are built to replace old houses, and to provide for the new families of the increasing population. If we assume, for the sake of illustration, that one house in 100 falls into decay every year, so as to require reconstruction, the 3,431,533 houses of 1851 would be reduced, by the decay of 328,116, to 3,103,417 in ten years; but the houses in 1861 amounted to 3,924,199, or to 492,666 in excess of the houses in 1851: the new houses sufficing to replace the old houses, and to leave the enormous surplus, must upon this estimate have amounted to 820,782, or to 82,078 annually on an average.

If an equal number of houses is built every year, and they last on an average the same number years, the proportion which the number of houses building bears to the number of houses existing will depend on the mean time it takes to build a house. Thus, if the houses of a place amount to 1,000, and each lasts 100 years, the 1,000 houses will be kept up by the erection of ten new houses every year; and if each of the ten houses is built in a year, the numbers 'building,' corresponding to those at the census, will, on an average, be ten. If each house takes two years for its construction, twenty houses building will figure in the census return: if the houses are built in half a year on an average, five only will be building, for five built in the first half of the year, and five in the second half of the year, make ten annually.

The change in the proportion of the houses building to the subsisting houses is probably the consequence of the more rapid system of construction which is now carried on in the towns. Thus, if houses, including huts and cottages, as well as castles and palaces, were built at the rate of 82,078 a year, then the 27,305 building in 1861 would imply that they were built on an average in about four months. If the houses were built on such a system as to require five months and a half for completion in 1831, and four months in 1861, the difference in the proportion of houses building in 1831 and in 1861 would be accounted for by this cause alone.

That such an increase in the relative velocity of building houses has taken place, is quite in conformity with experience, and justifies us in refusing to consider the decrease in the proportion of houses building as any indication of the failing prosperity of England.

The uninhabited houses amounted to 184,694; or there were forty-nine uninhabited houses, besides seven building to every 1,000 inhabited houses. This number represents the number of houses absolutely uninhabited on the census night; for the Census Act did not enable us to distinguish the number of houses unoccupied by tenants paying rent to the landlord. The house unlet, in charge of a single woman, is counted as an inhabited house; and it happened in some cases that a house occupied by a tenant was uninhabited on the census night.

A return of the number of houses unlet would throw much light on the relative value of house property; but we found it impracticable to deal with this question without special local inquiries.

The number of inhabited houses was 3,739,505, and on an average there were 537 persons to 100 houses, making the proportion 5·37 to a house, or nearly 16 persons to three houses.

If the 397,582 persons in 1,684 institutions and ships are excluded, the persons to an inhabited house are reduced to 5·26.

The proportion of persons to 100 inhabited houses has gradually decreased from 575 in 1821 to 537 in 1861. This is a satisfactory movement, for the isolation of families in separate dwellings is in every way salutary.

This average, it is understood, is a mean result, and includes extremes and varieties of the utmost importance. We give illustrations of the variety of distribution in the houses of 14 sub-districts.

Thus, of 48,273 houses, institutions excluded, —2,417 were uninhabited; 1,601 houses contained one person in each, or 1,501 inhabitants; 5,361 contained two inhabitants in each house, or 10,722 in the aggregate; 6,627 houses contained three inhabitants in each house; 7,048 houses (the maximum) contained four inhabitants in each house; the numbers then gradually decline. Each of 25,319 houses contained five or more people; 4,465 contained 10 or more people; 1,389 contained 15 or more; 596 contained 20 or more; and 142 contained 30 or more inhabitants.

While more than half of the houses contain five or more inmates, more than half of the inhabitants live in houses containing seven or more inmates."

THE VIBRATION CAUSED BY RAILWAY TRAINS IN PASSING THROUGH A TUNNEL.

IN 1846, a railway through Greenwich Park having been threatened, Sir James South, with the permission of Lord Essex, freely given, erected a temporary observatory above the Watford tunnel, and watched the effect of passing trains in disturbing his astronomical observations. All risk of railway disturbance at the Greenwich Observatory passed away for the time, but the recent threatened extension of the metropolitan railways has led to the issue of Sir James's experiments in a printed form, through the medium of the Royal Society, to whom he presented a paper on the subject, which appears in No. 59 of Vol. XIII. of their Proceedings, under date 17th of December, 1863.

The chief results of these experiments were, that while the Pole-star's image as reflected from the mercurial surface, when no train was near, appeared as a very small, perfectly steady disk, this disk, as the train approached, broke up into a quintuple. As the disturbance increased, the form became linear at right angles to the length of the mercury-vessel. When the train was considerably advanced in the tunnel, a cross formed; and when near the perpendicular from the observatory, three parallel lines of disks appeared. As the tremors became more distant, these transformations of the image took place in a reverse order, until the star resumed its original disk-like form.

The tremor which is sufficient to produce that disturbance of the mercury which shows a cross of stars is propagated to considerable distances —in one case to 1,176 yards; and 24 per cent. of the entire are above 1000. Such distances do not pass the northern end of the tunnel, but go far beyond the southern. In the latter case the vibrations are excited while the train is in an open cutting; and those who suppose that the tunnel has much power in deadening them would of course expect that they would be sensible at a greater distance than at the other end. This does not seem, however, to be the case. There is no protecting power in the tunnel against the lateral propagation of tremors, whatever may be the case immediately above the crown.

In general, one might expect trains to produce disturbance in proportion to their speed and their weight. To a certain degree this is true; but the exceptions are sufficient to show that other influences must be taken into consideration. Any plan of protecting an observatory by slackening the speed of trains passing near it is entirely useless, even if it could be enforced. Slow trains have a high disturbing power; and it is probable that one cause of this is the long-continued accumulation of vibration, the quick ones passing beyond distance before the mercury has got into full vibration, the others having full time to do their work though with less intrinsic force. On this account also long trains are more disturbing than short.

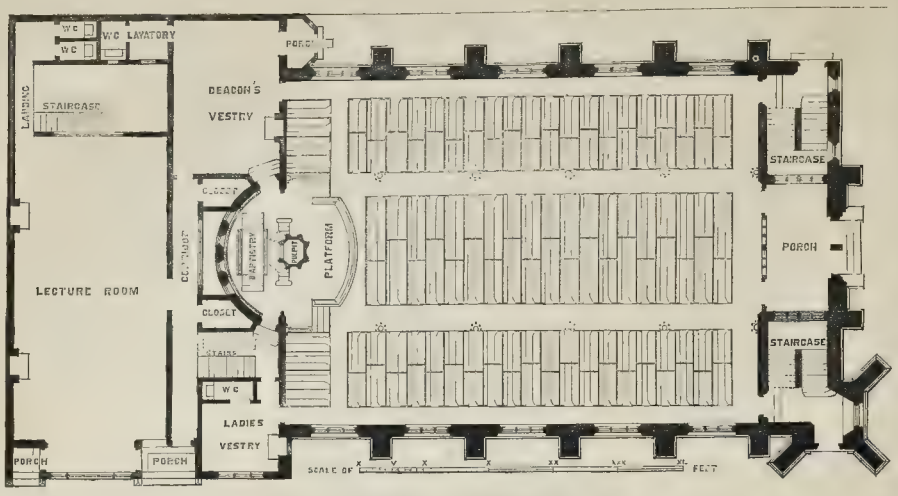
The engine is not so paramount a disturber as might be expected, the heaviest, and even a pair of them, not causing more tremor than occurs with the smaller ones.

STREET LAMPS.

IN a pamphlet, "On Supplying Gas to Street Lamps," Mr. J. O. N. Rutter, whose name will be familiar to many of our readers, comes to the following conclusions; That the contract system is wrong in principle and inequitable in practice; that the only proper method for supplying gas to street-lamps is by meters—a separate meter to each lamp; that preparatory to the use of meters exclusively, and until various local or other special obstacles are removed, a system of meter averages might be advantageously adopted; that all the arrangements for lighting streets should be under the control of local authorities; that the only means by which the lighting of streets will be conducted in a satisfactory and economical manner, is by establishing and maintaining friendly feelings between the respective representatives of gas companies and local authorities; that improvements in columns, lamps, adjusting-taps, burners, regulators, meters, the means of lighting and putting out gas, and of fixing and protecting meters, should be sought for, encouraged, and subjected to impartial examinations and experiments. Mr. Rutter thinks that the price of gas for street lamps ought to be about the same as the lowest rate to private customers.

THE DEATH-RATE.

THERE is an old proverb in the northern parts of England, that "A green Christmas makes a fat kirkyard;" that is, when the weather is mild and open at Christmas time we may look for an excessive number of deaths. In a certain way the truth of the ancient saying has been proved in the present season, for the last autumn and the Christmas-time were remarkable for very fine and unwinter-like weather: the cold, however, was sufficient to cause that closing of doors and windows to which we have so often referred; and the air was not sufficiently bracing to prevent the spread of disease. During this time there was an excessive fever-rate; but when the frosty weather set in after the mild weather, the death-rate in the metropolis from various causes became excessive; and the same will be shown to have been the case throughout the country. The Registrar-General tells us that in the week ending the 22nd of January, although the deaths in London were less excessive than they had been during the week before, still there was an increase far above the average. The deaths registered during the three weeks up to the above date were 1,798, 2,427, and 2,180: in one week the number of deaths thus increased 629. In the corresponding weeks of the years 1854-63, the average number of deaths was 1,389, which, with a correction for increase of population, becomes 1,529; so that the deaths beyond the



WYCLIFFE CHAPEL, BIRMINGHAM——*Plan.*

average during the three weeks were 269, 898, and 651;—in all, 1,818 deaths. Supposing we take the entire population at about ten times the number of the dwellers in the metropolis, we should have in the three weeks 18,180 extra deaths. During the last week there were 403 deaths from zymotic diseases, including 88 from typhus, 73 from scarlet fever, 77 from whooping cough, 34 from measles, and 12 from smallpox.

WYCLIFFE CHAPEL, BIRMINGHAM.

THIS building is erected in Bristol-road, Birmingham, and is in the fourteenth century style of Gothic architecture, carried out with stones of different kinds and colours; Bath stone, from the quarries of Messrs. Randal & Saunders, being employed for most of the wrought parts and for the spire. It accommodates about 800 persons, and is built by private subscription among the Baptists of Birmingham; the outlay for the building being 6,000*l*. In addition to the chapel, with its tower and spire, the building contains three vestries, two large schoolrooms, library, kitchen, and the usual offices.

The interior of the chapel is divided widthways into three parts by columns of iron, which run up to carry the roofs, and also support side and end galleries. The roofs over the side galleries are groined in wood, and the central roof is boarded and panelled, the wood being of red deal, varnished. All the fittings are of the same material, with the exception of the pulpit, which is of white stone, wrought and carved with natural foliage, by Wood, of Lichfield. The iron columns in the chapel are of wrought and cast metal, combined with wrought hammer-beaten foliage to the capitals; and round the platform at the end of the building (upon which the pulpit stands) wrought metal balusters are placed. All this metalwork, as also the railings round the building externally, and the fringes on the point of the main roof, the terminals, vane, &c., were from the works of Mr. Thomas Brawn, in Clement-street, Birmingham. The baptistry is formed behind the pulpit, and is lined with white marble, wrought ironwork surrounding it, matching that round the platform. Along the centre of the main roof an air-chamber is provided, open at the bottom of the chapel, by panels filled with wire gauze; and externally, in connexion with this air-chamber, are erected the four-point ventilators, as patented by Muir & Son, of Manchester. The heating of the building was also done by the same firm. The ventilators are covered with lead and iron, and are intentionally introduced as features in the design. The chapel is entirely of stone, two sides fronting the Bristol-road and St. Luke's-street, and the third front coming within a few feet of the neighbouring houses, allowing only a passage-way to the vestry and library building; but here, although not much seen by the public, the same character has been bestowed upon the work, the windows, gables, buttresses, &c., being counterparts of those seen in the side of the building, as represented in our engraving.

The works were executed by Mr. Joseph Hardwick, of Bradford-street, Birmingham. The architect employed was Mr. James Cranston, also of Birmingham.

THE ARCHITECTURAL MUSEUM LECTURES.

THE usual course of lectures will commence in March next, and will include the following subjects:—"The Art-Workman's Position," by the President, Mr. Beresford Hope; who will also distribute the prizes for wood-carving and coloured decoration. "The Prospects for Good Architecture in London, judging from the Past and Present," by Cardinal Wiseman. "The Influence of Local Scenery on Local Architecture," by the Rev. J. M. Neale. "The Monumental Architecture and Sculpture of this Country during the Middle Ages," by Mr. M. H. Bloxam. "Early Brickwork in England," by the Rev. E. L. Cutts. "The Interior of a Gothic Minster," by the Rev. Mackenzie Walcott. "The Mediæval Houses of the City of Wells," by Mr. J. H. Parker; and "Painted Glass in its Connexion with Architecture," by the Rev. G. Ayliffe Poole.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting held January 27th, Mr. G. Vere Irving, V.P., in the chair, Mr. Irvine exhibited the upper half of an exceedingly rare embossed tile, discovered on the site of Whitland Abbey, Carmarthenshire. In the centre was depicted the Holy Lamb, supporting the banner of the Cross, encircled by a band holding four shields, charged as follows:—1, a bend; 2, two bars; 3, a chevron; 4, a cross. Between the shields are placed a peacock, a peahen, a dragon, and a lion; and in the spandrels, *fleurs de lys*. It is of the thirteenth century. Mr. Cuming exhibited an encaustic tile of the fourteenth century, found in North Wales, stamped with the device of a rose of five petals. It has been glazed. Mr. S. Wood exhibited some relics discovered at Maidstone; an encaustic tile of the time of Edward I., a polychromic gally tile. Mr. Wood also exhibited two gally tiles with a geometric pattern of Moresco design. Captain Tupper exhibited some forgeries of antiquities purchased by a friend, from a man dressed as a "navvy," at St. Paul's Chain, whence he stated they had been obtained. Mr. Gould exhibited two others from Dowgate-hill; and Mr. Levien stated that within a short time as much of that rubbish as would fill a large wheelbarrow had been brought to the British Museum. Mr. Cuming stated that all these specimens tasted of nitric acid, into which they had been dropped from the plaster of Paris moulds in which they were made. A key of lock metal exhibited was of a novel character of this but too successful species of fraud, and antiquaries should be more careful.

The chairman, on the part of Mr. Greenshields, of Kerse, exhibited photographs of a discovery made in excavating at Carlisle, representing an assuarium of stone containing a large bottle with incinerated remains, a terra-cotta lamp, and small urn placed at the mouth of the vessel, upon which were found several iron objects, which, by extensive oxydation, had assumed the form of figures, and had been conjectured to have been penates. They are simply rusty nails, and were exhibited to the meeting.

Mr. Planché read an account of the discovery of a stone coffin, having on the lid a cross of the thirteenth century, found in Ash Church, near Sandwich. It had been the resting-place of an ecclesiastic, concerning whom Mr. Planché made some ingenious conjectures. Mr. Baigent communicated the particulars of the discovery of a leaden coffin at Bishopstoke, Hants, on the 16th January. In digging for gravel near the railway-station, the labourers struck upon some metal, which, on examination, proved to be a leaden coffin, so much oxydised that, upon its removal, it fell into portions and exposed the skeleton of a young female, with whom had also been buried three or four glass lachrymatories, or vessels, much injured by the falling in of part of the coffin. The coffin is unquestionably Roman, so also must be the glass.

The Rev. E. Kell also sent a notice of this discovery, and Mr. J. D. Smith drawings of the coffin and glass, and the subject was referred over to the next meeting for comparison. Mr. George Collins exhibited two photographs of the Bartlow Hills, threatened with destruction by a proposed line of railway. The Association had strongly expressed its opinion against the removal of objects so interesting to historians and antiquaries, and well known by the papers of the late Mr. Gage Rokewode in the "Archæologia." There can be but little doubt that the



WYCLIFFE CHAPEL, BIRMINGHAM. —MR. JAMES CRANSTON, ARCHITECT.

irectors and engineer of the railway will pay ttention to the representations so strongly made y societies and private individuals, and avoid njury to these interesting objects.

INSTITUTION OF CIVIL ENGINEERS.

On January 26th, Mr. J. R. M'Clean, President, n the chair, the paper read was, "The East Coast, between the Thames and the Wash Estuaries," by Mr. J. B. Redman.

The object of this paper, like that of 1852, on "The South Coast," was to describe the characteristics of a range of coast within certain limits; o trace the changes produced by constant natural causes, and the resultant influences on he various harbours; those of Harwich, Orford, Southwold, Yarmouth, Blakeney, Wells, and Brancaster, being mainly dependent on such natural barriers as those described; as also their improvement, or deterioration: in some nstances, as at Yarmouth, by judiciously-constructed works, material improvement was effected; and as at Orford, where no assistance was rendered, great changes occurred; or as at Harwich, where, from constant progressive change, it was difficult to speculate on the ultimate result of the continued operation of natural agencies, unchecked by works of a conservative character.

OPENING OF THE IRISH NATIONAL GALLERY AND INAUGURATION OF THE DARGAN STATUE.

On the 29th of January the Irish National Gallery was opened by the Lord-Lieutenant, after inaugurating the Dargan statue, in the presence of a large number of the nobility and gentry.

In order to associate the name of Mr. Dargan with the Great Exhibition at Dublin in 1853, which was carried out mainly at his cost, the genius of Mr. Catterson Smith, President of the Royal Hibernian Academy, and Mr. Thomas Farrell, R.H.A., was called into requisition, and the portrait in the gallery and the statue now inaugurated were the result. The trustees transferred to the Lord-Lieutenant the guardianship of the statue, which stands on Leinster-lawn, on the site of the Great Exhibition.

The Lord-Lieutenant at the inauguration, said;—

"My Lords and Gentlemen,—We have just performed our part together in a most just and becoming tribute to the excellent public servant and citizen whose statue we have now unveiled. His natural modesty, almost as remarkable as his merit, has prevented our seeing him at any side this day; but, at all events, I believe the talent of another citizen of Dublin, Mr. Farrell, enables us to recognise the form and features of William Dargan. We raise his statue because he supplies a memorable instance of how a simple, earnest, honest man, without any help from birth or fortune, by the energetic exercise of the faculties which God has given him, may not only raise himself to a commanding level beyond his own original position, but may also confer signal benefits on the men of his day and upon the country which has learnt to be proud of him and thus prides to show it. In the adjoining building which we are about to open we shall pay fitting honour to those fine arts which bespeak the highest progress of refinement and adorn the summit of the social column. While thus recognizing upon our way these illustrious workmen, we do well to mark that the true base of all national prosperity is to be found in the steady industry of which William Dargan was so eminently the type and teacher."

The Lord-Lieutenant then proceeded to the National Gallery, followed by the distinguished company on the platform around the statue. The hall was occupied by a crowded assembly of the nobility and gentry, and the leading citizens; among whom were the Archbishop of Dublin, the Lord Chancellor, the Lord Justice of Appeals, the Lord Mayor, Lords Roden, Howth, Meath, Talbot de Malahide, Dufferin, and many other persons of note.

SANITARY CONDITION OF THE CITY OF LONDON.

At a recent meeting of the Commissioners of Sewers, Dr. Letheby presented his annual report on the sanitary condition of the City, in which he states that, in the course of the last year, there were 2,962 births, 2,870 deaths, and 1,701 marriages registered in the City. Each of these numbers is below the average for the last ten years. The births have declined from an annual proportion of 3,350 to 2,962; the deaths from 2,969 to 2,870; and the marriages from 1,712 to 1,701. Taking all the males in the City who are at twenty and upwards, the mean death-rate is 22·9 per 1,000; but with shopkeepers, merchants, and butchers, it is only about 16 per 1,000; with shoemakers, blacksmiths, carpenters, and watermen, it is from 23 to 24 per 1,000; with clerks, porters, messengers, tailors, and painters, it is 26 per 1,000; with cabmen, ostlers, and costermongers, it is 29 per 1,000; and with labourers, masons, and bricklayers, it is nearly 44 per 1,000. There were 214 deaths in every 1,000 of all the deaths from tubercular diseases, 164 in every 1,000 from inflammatory affections of the lungs, and 235 from diseases of a zymotic character. In all England the proportions are 160, 149, and 194 respectively. The miasmatic diseases during the last year have been in excess of the common average not only for the whole country, but for the City. The chief increase has been caused by an excessive mortality from smallpox and scarlet fever, both of which have been unusually prevalent during the last twelve months. Fever has had a general mortality during the last nine years of 38 per 1,000 of all the deaths among males of fifteen and upwards; but among clerks, butchers, cabmen, and watermen it has ranged from 43 to 49 per 1,000 of the deaths; and with male domestic servants and labourers it has been from 51 to 54 per 1,000. Among females the average mortality from fever is but 36 per 1,000; but among the wives of cabmen it has been 55; and among needlewomen, nurses, charwomen, and domestic servants, it has been from 103 to 106 per 1,000.

THE GIBSON ALMSHOUSES, BISHOPWEARMOUTH.

The Gibson Almshouses in Bishopwearmouth were founded by Mrs. Gibson in the year 1727, for the use and maintenance of twelve poor women. In 1862 the buildings had fallen into a damp unwholesome state, and the trustees placed the matter in the hands of Mr. E. R. Robson, architect, of Durham. The rebuilding commenced in the spring of 1863, and has now been brought successfully to a close. On plan, the building assumes the shape of the letter L, and was so arranged that all the living-rooms might have a sunny aspect. Each of the inmates (of whom four will be men) has an airy living-room, in which is a small cooking-range; a bedroom, and a roomy pantry; the whole inclosed by one door. Of the rooms belonging to one inmate, four sets are entered by one front door, viz., two on the ground-floor and two on the first-floor. Each landing has a water-closet communicating with the outer air. The style is Early English. It has been the architect's aim to make these buildings look like plain, substantial almshouses; and, while adhering to the style, not to refuse the assistance which modern science can afford. The roofs are slated, and their monotony is broken by gabled windows terminating with sculptured finials. On one of the two main gables of the building will be sculptured the arms of the Right Hon. J. R. Mowbray, M.P. for the city of Durham (who, by his marriage with and taking the name of Miss Mowbray, became the principal trustee of the charity), and anthor of the rebuilding. On the other gable the following inscription will be placed:—

"Has Ædes
in usum egenorum
a Joanná Gibson
fundatas, A.D. 1727,
restituendas curavit
Elizbta Gray Mowbray,
A.D. 1863."

The cost of the building will be a little above 2,200*l*. The trustees of the almshouses deserve great credit for having already swept away a den of filthy lodging-houses in the neighbourhood of their property; and the sanitary committee of the corporation is about to demolish an abominable ashpit, &c., in the same neighbourhood.

THE GALLERY OF ILLUSTRATION, REGENT STREET.

The new entertainment here, "The Pyramid, or Footprints in the Sand," is very successful. Mr. Shirley Brooks wrote it, Mr. German Reed composed the music, Mr. Telbin painted the scenery, and Mr. and Mrs. Reed and Mr. Parry act and sing it. The principal scene shows, with various effects of light, the Sphynx, the Nile, and the Great Pyramid, and is received each night, as it deserves to be, with a long shout of applause. As in life, each man, and woman too, plays many parts: thus Mrs. Reed, besides herself, represents Miss Rose O'Grady (with an admirable sketch of a journey, the best thing in the piece), Achilles Rododaculos, a Greek interpreter (with a capital dissimulation song), Abdallah, an Arab boy, Mrs. Stratford Bow (with another telling song), and Fatima, a slave; Mr. Reed is otherwise the Hon. Dangleton Spangledore, the Pasha Suleiman Ataglan, Arthur Wimbleton, a model cadet, Bobby Bow, and then himself again; while popular John Parry takes the mien and bearing of Mr. Barnabas Boanerges Bradshaw, M.P., Signor Morgantino, a magician, Ibrahim Boshkoku, a dragoman, and Muley Ali Hassan, a slave merchant. It is one of the very best things they have done.

RYFFEL'S HYGEIAN STOVE.

The arrangement of this stove seems to us very good. Between the fire-box and the outer cylinder there is everywhere a space, so that the latter is warmed only by heated air, and emits no fumes; while the mode of supplying air to the fire is such as to admit of the most complete control.

When the stove is lighted, no further attention is needed. The smoke is carried off by a small pipe passing into a chimney or flue, or in any other convenient way. In the words of the patentee, "The firewood is lighted on the top of the coal, and the fire then shut in with the cover of the fire-box: the supply of air being thus cut off from the top, a vacuum is produced, which immediately causes a downward suction of the fire to, and an upward draught of the air from, the grate; the two elements meet, and the action of the stove is at once established. The coal ignites very quickly. When this has taken place, and the regulator is partially closed, the fire is fed by highly rarefied air, which not only greatly retards the combustion of the fuel, but actually controls the fire in such a manner that, without losing any of its intensity, it can neither increase nor decrease, but continues burning regularly until all the fuel is consumed."

The stove is evidently economical, and produces uniformity of temperature.

SCHOOLS OF ART.

The Norwich School.—The annual meeting of the subscribers of this school has been held at the Free Library. The report stated that the past year had been one of progress. At the examination in the early part of the year, the number of local medals awarded was the largest that could be held by the school, namely, thirty, besides a National Medallion for a work by Francis Hill. The committee trusts that the friends and patrons of art in Norwich will support the school through the present crisis in the history of such schools by increased pecuniary aid, and thus save a valuable institution from all danger of decreased usefulness.

The Sheffield School.—The annual *conversazione* of this school has been held, at the rooms in Arundel-street, which were filled with a numerous company. The chief attraction which this annual *conversazione* possesses, is the collection of paintings that is always made; this being the only exhibition of the kind that the people of Sheffield have ever an opportunity of seeing within their own town. The attraction has been attributed mainly to the taste and energy of the late and present head-masters, Mr. Young Mitchell and Mr. W. H. Sounes. The present exhibition, this year, according to the local *Independent*, has never been surpassed, with one exception, and the school is now in its twenty-first year. Mr. W. Overend occupied the chair, and delivered an elaborate address on the subject of art, in the course of which he said:—

"The revival of art in England has manifested itself in a very remarkable way. In former times art was mainly dependent upon such encouragement as it received from the noble and the great. Within the present century a neighbour of ours, known to many of you, but who would probably not like me to mention his name, went to Turner, and gave him a commission for one of his great paintings. He was the first man of his rank in life who had done so; and he remarked to Turner, 'I dare say you will not execute it. I am not a lord—I am only a manufacturer, and you are not in the habit of taking commissions from any but the great and noble.' Perceiving at once the value of having patrons among the middle classes, the great painter replied, that he should be only too happy to execute the order; and he did execute it, producing one of his very highest works of art. Since then there has sprung up amongst the manufacturers of Manchester, Liverpool, Preston, Sheffield the manufacturers of Yorkshire and Lancashire generally—a great desire for works of art, encouraging artists, and making the pursuit of art lucrative to an extent never before realised. Instead of having to rely upon the patronage of the noble, artists now find their chief customers amongst the wealthy and intelligent manufacturers of our great centres of industry. No one has visited amongst the manufacturers and mer-

chants of Yorkshire and Lancashire without being astonished at the splendid collections of pictures to be found in their drawing and dining rooms. In looking at the teaching of the schools in France, and the works of art produced there, we find in them, as contrasted with those in England, this marked difference: in France we have all sorts of grotesqueness. There is often great firmness of outline, and beauty of drawing, but there is a want of that severe taste which can only be obtained by a cultivated study of the models of the antique, and which is one of the characteristics of English schools. And that is not the only testimony in our favour. We were behind the French at the Exhibition of 1851; but our position was much improved at the Exhibition of 1862."

The chairman afterwards distributed the prizes, and offered one of 50*l.* for future competition. The candidates of the first and second grade of this school are characterised by the Government authorities as having reached a higher standard of success than in any year since 1860.

The Wolverhampton School.—The annual meeting of this school for the distribution of medals and prizes to successful students has been held; the Earl of Dartmouth in the chair. There was not a large attendance, except of students. Numerous works of art executed by the students were exhibited. Mr. Loveridge, the chairman of the committee, read the report, which drew attention to the fact that at the end of 1862, after nine years' existence, which was successful in everything but its pecuniary results, the local School of Practical Art ceased operations. Many of the old pupils and some of the active supporters of the school then induced the present committee to make a last effort to maintain such a school in Wolverhampton. They consented, secured the services of Mr. Sturtevant as master on very liberal terms, and the school was allowed to be held in that building upon the payment of 80*l.* per annum. In every respect but pecuniary matters the school had been prosperous, the balance against it being 36*l.* The number of scholars had steadily increased, and at the annual examination by the Government Inspector, in October last, eight local medals were awarded, five works were selected to go up to London for national competition, and four passed the second grade examination in freehand or model drawing. Thirty-eight scholars in connexion with chapel schools also passed, being ten above the previous year, when seven schools were examined. The total number that had been taught through the agency of the school was 788, 135 of whom had attended the central school. The Earl of Dartmouth afterwards addressed the meeting and distributed the prizes.

The Newcastle School. The Christmas exhibition of the works of students connected with this institution has been opened. The Christmas competition is a purely local one, the prizes given being provided at the cost of the committee, or of private gentlemen, and differs, therefore, from the Midsummer examination by the Government inspector, when certificates and prizes are awarded by the Board of Trade. The exhibition is considered to be a good one. A Newcastle paper, in noticing it, says:—"That a very slight effort on the part of a few opulent gentlemen would give an impetus to the school is seen in the spirit of emulation which is excited by the competition for Mr. George Cooper's annual prize for designs for paper-hangings, picture-frames, &c. A design for a villa, or some other residence, given by the Architectural Association; designs for plate or gas-fittings, given by some of our local silversmiths or manufacturers; designs for earthenware in form or pattern, or designs for furniture, would also doubtless be as eagerly competed for."

Mr. Potter, M.P., on Schools of Art.—Mr. Potter, M.P. for Carlisle, recently attended a meeting of the committee of the Carlisle School of Art in the Townhall, to confer with them upon the subject of the Government grant to the schools of art throughout the kingdom. In the course of his address he said he thought if the country schools were to put some pressure upon the Government, and bring the facts of the case before them, some good might be done. It would be a matter of great regret if the provincial schools had to be given up. The Kensington schools had certainly produced a very good class of training-masters, which they could not meet with at first; but they could not expect the supply could be kept up if the emoluments were so small. Looking at the enormous expenditure at South Kensington, where the 575 students cost as much, he should say, as the whole of the art students in the kingdom, he thought the other schools should have a better share. Of course the Government would have a perfect right—indeed, it would be their duty—to inspect the schools. The country schools only wanted what was fair, and he feared the reductions made in them would be greater and greater still unless some appeal were made to Government. It was finally resolved that the committee of the school should prepare a petition to Parliament, praying for a more equitable distribution of the Government grant.

THE METRIC SYSTEM OF WEIGHTS AND MEASURES.

At the Society of Arts, Adelphi, on the 27th ult., the paper read was "On the Metric System of Weights and Measures, and its Proposed Adoption in this Country," by Mr. Samuel Brown, F.S.S., Vice-president of the Institution of Actuaries; in the course of which he expatiated on the great advantages, social, commercial, and political, which would attend the use of one system of weights, measures, and coins throughout the world. Such a result, he said, is frequently deemed to be merely the dream of a visionary, or the speculation of a philosopher who has no practical knowledge of the world, and it must be granted that the difficulties are great. Yet, the present century has witnessed great changes in the old practice, and all tending towards a uniform standard. He then proceeded to give a sketch of the present position of the question, and to show what has been done and is doing to carry it on. In conclusion, he remarked that though the metric system appears to be in all respects distinct and opposed to our own, there are several points in which it would nearly accord with existing weights and measures. A meter, which is the basis of all, corresponds to 39·37 English inches, about $1\frac{1}{10}$ yard; 1 pole or perch ($5\frac{1}{4}$ yards) = 5·029 meters, about 5 meters; 1 furlong (220 yards) = 201·165, about 200 meters; 5 furlongs = 1,005·822, about 1 kilometer; 1 foot = 3·048 decimeters, about 3 decimeters; they are = 119·5 square yards, nearly 120; the liter = 61·03 cubic inches, or 2·1135 wine pints, nearly 1 quart; the gram = 15·434 grains; the kilogram = 2·205 lb. avoirdupois; the half-kilogram = about 1 lb.; the ton = 1,015·65 kilograms, say 1,000.

Our exports to countries using the metric system have increased from 23,696,000*l.*, in 1847, to 55,242,000*l.* in 1861, an increase of 133 per cent.; whilst to countries using the English system they increased only from 16,262,000*l.* in 1847, to 24,211,000*l.* in 1861, or less than 50 per cent. increase.

If the metric system be once legalized in this country we can hardly form an estimate of the immense benefits that would follow to the commerce of the world. Our colonies would naturally, and for their own sakes, adopt the system of the mother country, with whom their trade principally lies. India, which has no common system of weights and measures, but, under the varieties of native governments, is full of incongruous and absurd systems, by which it cannot be doubted the labouring classes especially are exposed to false weights and trade frauds, might by our influence gradually find one simple system prevailing throughout the whole of those vast dominions. The Americans, who have long agitated this question, would not, we are assured by the American delegates who have been sent to our European congresses, hesitate to make the change. They are only deterred now by the disturbance that would arise in their large trade with this country as long as our present system continues. An impetus would be given to Russia and Germany to complete the work to which they are already half committed.

The expression in the old English statute that "there should be but one measure and one weight throughout the land," might be expanded into the grander idea which would then be almost realized, that there should be but "one measure and one weight throughout the earth." Commerce, the real harmonizer of nations, uniting them in the bonds of mutual interest and growing esteem, would then receive a still greater development than has occurred even in the last few years, diffusing everywhere the blessings of peace, and causing all nations to pause ere they precipitated each other into the calamities of war.

A discussion followed in which, amongst other speakers, Mr. W. Hawes, the chairman of the council, opposed the system, and Dr. Farr defended it. Professor Leone Levi, Dr. Waddilove, Mr. F. Lawrence, and other gentlemen, also took part in the discussion.

CHURCH-BUILDING NEWS.

Kensington.—A new district church has been commenced at Campden-hill, to be called St. George's. It will accommodate 1,500 persons and will be built externally of Bargate stone with dressings and decorative details of Bath, red Mansfield, and Kentish rag stones; and finished internally with brick in various colours. The style is Continental Gothic, freely treated. The contract has been taken by Messrs. Geo. Myers & Sons, at 7,000*l.* The church is being erected at the sole cost of Mr. John Bennett, of Westbourne Park-villas; and the architect is Mr. E. Bassett Keeling.

Hampstead.—The reconsecration of St. Paul's, Hampstead, in the Avenue-road (a chancel and aisles, and transepts having been added), was to take place on Thursday in the present week. It is a little elaborate. The arches are all set in bricks, as a mosaic, and the walls finished in stencil fresco as well as the roof. The reredos is not yet complete: it will be a work of stone and marble, remarkable for panels occupied by Scripture subjects in Italian mosaics. Mr. S. S. Teulon was the architect employed.

Mortlake.—Christ Church, East Sheen, which met with a disaster in the spring of last year, has been finished, except the belfry part of the tower which is now in the course of being completed. The total cost, when completed, will be 5,940*l.*, and over 5,000*l.* had been subscribed previously to the consecration. The style of architecture is French Gothic. The interior dimensions of the building are as follows: the chancel is 29 feet 6 inches by 24 feet: the vestry, which is situate on the north side of the chancel, is 14 feet by 9 feet 6 inches: the length of the nave to the chancel is 76 feet: the width of the nave and south aisle is 46 feet: there is no aisle on the north side at present. The tower, which is situate on the south side of the chancel, will be 100 feet in height; and underneath is an entrance. The main entrance is at the western end, by two doors, over which is a tracery wheel window of twelve lights. Mr. A. W. Blomfield is the architect; Mr. Carter, of Islington, is the builder; and the whole of the works since the accident referred to have been carried on under the superintendence of Mr. J. R. Edmunds, as clerk of the works. Over the communion-table is a stained-glass window of five lights. In the three centre lights is illustrated the "Parable of the Talents," and beneath them "The Parable of the Wise and Foolish Virgins;" in the opening on the left hand "The Good Samaritan and the Prodigal Son;" and in that on the right "The King's Vineyard and Lazarus and Dives." In the tracery is the subject of the Ascension, with angels, emblems, &c. In the base of the window is the following inscription:—"In memory of Edward Penrhyn, Esq., formerly one of the Chairmen of the Quarter Sessions for the County of Surrey. This window is erected by his brother Magistrates, A.D. 1863." The window cost 250*l.* In the north aisle is a two-light window, the gift of Major Penrhyn, as a memorial of his three children. In this the following subjects are illustrated:—"Christ Blessing Children," "The Good Shepherd," "Gehazi meeting the Shunamite Woman," "David Fasting after his Child's Death." In the tracery, "The Nativity attended by the Angelic Choir." In the south aisle is a window of two lights, the gift of Capt. O. Ommaney, illustrating "The Queen of Sheba visiting Solomon," and "The Adoration of the Wise Men." In the tracery "Solomon Building the Temple." Capt. O. Ommaney has also given a stained-glass tracery window of seven lights, representing "The King of Kings" in the centre, with a choir of angels in the other separate lights. These windows have been erected by Messrs. Heaton, Butler, & Bayne.

Rochester.—The committee for providing a parsonage house for the parish of St. Nicholas, Rochester, have issued a statement, in which they say,—The Governors of Queen Anne's Bounty are now in treaty with the Governors of Christ's Hospital for the purchase of a most eligible piece of land, containing one acre and a quarter, for the sum of 380*l.* The Ecclesiastical Commissioners are willing to grant for this purpose an amount equal to any that can be locally raised. If the sum of 500*l.* can be collected from the inhabitants and friends of the parish by the 1st of June next, it is believed that sufficient funds can be obtained to provide a suitable parsonage house, without laying any burden on the living by the necessity of a loan.

Ryde.—A meeting of influential inhabitants has been held for the purpose of considering the

irability and the practicability of erecting a
y church for the St. Thomas's district of
de. The vicar opened the proceedings, after
ich it was unanimously resolved "That it is
irable for the town of Ryde that a new
rch should be built," and "That a parson-
house should be built in connexion with the
rch." A committee was formed to carry out
objects in view.

Tenterden.—At a meeting of the church resto-
ion committee, the following and other reso-
ions were carried unanimously:—That 10*l.*
compensation be given to Mr. Bourne for
trouble in preparing a tender. That it be
nmunicated to Mr. Bourne that the committee,
exercising their right to select other than the
west tender, did not mean to imply any doubt
his professional competence. That the vicar,
rchwardens, the mayor, and Mr. W. C. Whelan,
authorized on the part of the committee to
n the agreement—prepared by Mr. E. Chris-
n, and approved by the vicar, churchwarden,
d vestry clerk—with Mr. P. Newnham. That
r. Aylon's tender for 23*l.* 10*s.*, for moving the
gan, be accepted.

Ifley (Oxfordshire).—A gift has been made by
iss Marshall, of Ifley, to the parish church, in
e shape of a new reredos, which has been
ecuted by Mr. John Fisher, builder, from the
sign of Mr. J. C. Buckler, architect. Painswick
one has been employed: there is an alabaster
oss in the centre, and the columns are serpen-
ne and of different colours, while the recesses
e decorated.

Cambridge.—Great St. Mary's Church was to
e re-opened for Divine service on the 2nd of
ebruary. The alterations in the University
urch, at the cost of the members of the Univer-
ty, are as follows:—The doctors' gallery, which
ed to block up the chancel, the undergraduates'
estern gallery, and the pulpit, have been re-
oved; the chancel fitted with carved oak stalls,
nd the whole body of the church reseated with
ak benches, from designs by Mr. G. G. Scott.
he church is now open from the western arch
nder the tower to the extreme east end: the
de galleries, which are necessary for the accom-
odation of the University, rather mar the
eneral effect. The east end is still very shabby.
rofessor Lightfoot is going to put up a reredos
t his own expense. The pulpit is to stand
gainst the north pier of the chancel arch.

Stow.—The work of completing the restoration
f Stow Church is about to be resumed by the
ncumbent, the Rev. G. Atkinson, who, with
ther members of his family, contributes 1,500*l.*
Several thousands of pounds will be required to
arry out the restoration of the whole fabric:
he total sum now raised amounts to about
,000*l.*

DISSENTING CHURCH-BUILDING NEWS.

Newmarket.—The new Congregational Chapel,
n this town, is now completed. The site upon
which this edifice is erected is a portion of that
f the well-known palace, built by King Charles
I., from designs by Sir Christopher Wren, which,
when given up by the sovereigns of England,
was given by William IV. to the late Duke of
Rutland, who used it as a shooting-box up to
the time of his death. The foundation-stone was
laid by Mr. John Crossley, the Mayor of Halifax,
on the 9th of October, 1862. The chapel is of
the Mediæval English character, the style being
that of the latter half of the Early English
period, and forms a parallelogram 68 feet by 42
feet, internal dimensions, divided into nave and
aisles by means of ornamental iron columns. At
the south end of the building is a large octagonal
apse, in which a carved pulpit, made of the old
oak of the palace, is placed, as well as a per-
manent platform enclosed by oaken rails, and
intended for the administration of the Holy Com-
munion and for speakers at public meetings. At
the north end is a gallery extending the whole
width of the chapel, supported by iron pillars,
with an open traceried iron front, beneath which
is a lobby forming an extensive vestibule to the
external projecting porch, paved with encaustic
tiles. The roof is divided into nave and aisles,
and admits of an arcaded clerestory between
them, glazed from end to end. This is sup-
ported by the iron columns, carrying a series of
five wooden arches springing from hammer-beams.
The flank walls of the edifice have each a corre-
sponding number of plain two-light trefoil-
headed windows; and in the gable fronting the
High-street of the town is a window of geo-
metrical tracery, 25 feet by 12 feet. The sitting
portion of the chapel is formed of low open
benches, the backs and ends of which are made
of the oak taken from the roof of the old palace,
and the communion-table, chair, and the major
part of the joiners' work are of the same ma-
terial. Including the end gallery, there is
sitting accommodation for about 700 persons.
Attached to the chapel, on the west side, is a
prominent tower surmounted by a bell-turret,
containing an illuminated clock. A vestry and
sacristy complete this building, which has been
erected at a cost of about 2,200*l.*, exclusive of
the value of the old material of the palace. The
architects were Messrs. Habershon & Pike, of
London; the builder being Mr. Haines, Gurt-
ford. The members of this church contemplate
building a school and class-rooms upon the space
at the back of the chapel.

Wolverhampton.—The new Baptist chapel in
this town has been opened for divine service. It
is situate in the Waterloo-road, and will accom-
modate about 550 persons, with space for further
increase, by the addition of side galleries, for a
total of 750. A lecture-room, 60 feet by 45 feet,
is provided in the basement, and a second
lecture-room, 39 feet by 17 feet, and vestries,
in the rear of the chapel. Externally it is faced
with red brick, relieved by bands and arches of
blue brick and Bath stone dressings. The prin-
cipal front is finished with a low-pitched gable,
with a stone cornice and wrought-iron finial, and
contains in its upper stage a triple group of
semicircular-headed windows, divided by wide
Bath stone mullions and red Codsall stone
columns, with white stone moulded bands and
carved capitals and springers. Its lower stage
is occupied by the principal entrance doorway,
consisting of a deep semicircular-headed arch,
supported on stout red stone columns, with
carved capitals. The arches generally of the
principal front are alternated in brick and stone,
and have moulded and carved labels, and the
jambs and mullions have attached shafts of red
stone. The south angle of the principal front is
occupied by a staircase tower, with slated curb
roof, and the north angle by an apsidal staircase
wing. Internally the chapel is roofed in one
span, and is ceiled at the level of the collar-
beam, the ceiling being divided into panels by
chamfered timber ribs, stained and varnished,
and the plastering tinted a light grey and deco-
rated with stencilling. The baptistery is placed
behind the pulpit, under a lofty semicircular
moulded arch, and is enclosed with an orna-
mental railing. The chapel is lighted by gas
"starlights," the gas-fitting being executed by
Mr. Fuller, of Hatton-garden, and is heated by a
hot-air apparatus, by Messrs. Claridge & North,
of Wolverhampton. The architect was Mr. Bid-
lake, of Wolverhampton; and the builder, Mr.
Burkitt, also of Wolverhampton. The entire
cost of the building will be about 2,600*l.*

Darlington.—Mr. J. R. Wilson, painter, of this
town, has just completed and fixed a window in
the south gallery of this church, its cost being
defrayed by a few of the members of the con-
gregation. The workmanship is in the diaphanic
process, a cheap substitute, as our readers are
aware, for stained glass. A contemporary says
that "without close examination it cannot be
known from it."

STAINED GLASS.

St. George's, Bickley (Kent).—The five win-
dows to the chancel of this church, which is
apsidal, have been filled with painted and
stained glass. Each window comprises two large
openings, with a tracery heading, and each
opening contains two groups. Beginning on the
north side, this window relates to St. Thomas.
One group represents the Grief of St. Thomas for
the Death of Lazarus. 2nd. The Incredulity of
St. Thomas. 3rd. St. Thomas preaching to the
Indians. 4th. The Martyrdom of St. Thomas.
In the tracery light are the emblem of St.
Matthew, and ornamental devices. Each open-
ing throughout the whole of these windows is
surrounded by flower-borders, the groups being
on grisaille backgrounds and mosaic. The next
window illustrates an event relating to each of
the evangelists, viz.;—1st. The Call of St.
Matthew from the Receipt of Customs. 2nd. The
Martyrdom of St. Mark. 3rd. St. Luke writing
the Acts of the Apostles, dictated by St. Paul, a
prisoner. 4th. St. John with St. Peter healing
the Lame Man. In the tracery light is the
emblem of St. Mark, &c. The next window,
which is in the centre, relates to Our Saviour.
1st. The Nativity of Our Lord. 2nd. His Bap-
tism. 3rd. The Crucifixion. 4th. The Ascen-
sion. In the tracery are the shield of St. George,
&c. The next window contains four scenes re-
lating to the good Samaritan. 1st. Shows the
traveller attacked. 2nd. The traveller is passed
by the priest and Levite. 3rd. The Samaritan
pouring in oil and wine, and dressing the
wounded traveller. 4th. Their arrival at the
inn. In the tracery light is the emblem of St.
Luke, &c. The next window contains four scenes
relating to St. George (the patron of the church).
1st. St. George and the Dragon. 2nd. St.
George tearing down the Edict from the Church
Doors for the Persecution of the Christians. 3rd.
St. George leading the Army at the Siege of
Antioch. 4th. The Martyrdom of St. George.
In the tracery light is the emblem of St. John.

St. Andrew's, Romford.—A painted window,
memorial of Mr. George Coope, has been recently
placed in the east end of this church. The sub-
ject carried through the three great lights is
"The Institution of the Holy Eucharist." Above
is a coloured arcade of grapes and wheat. The
figure subjects are enshrined in jewelled cano-
pies. In the four chief openings of a flowing
tracery are seated figures of the evangelists, and
in the two lights next in importance are stand-
ing figures of St. Peter and St. Andrew, to the
latter of whom the church is dedicated. The
remaining portion of the tracery is filled with
ornament of the vine, emblem of the church of
Christ. Messrs. O'Connor, of London, were the
artists.

St. George's, Kidderminster.—A new stained-
glass window will shortly be placed in this
Church, and other improvements are likewise to
be made there. The new window is from a de-
sign by Messrs. O'Connor, of London, and is of
circular form. It is divided into thirty-two par-
titions, and contains a small centre panel, having
within it the letters "I. H. S." The partitions
are filled up with figures of angels bearing harps,
intermingled with scroll work, and wreathed
with olive-leaves. The window, which is up-
wards of 12 feet in diameter, will be filled in
above the Communion-table. The cost of the
glass is 115*l.*, but a further sum will be required
to defray the expense of placing the window in
position, and cleaning and renovating the church.
Promises to the extent of 170*l.* have been given.
The pulpits are to be removed, and a carved oak
eagle for a lectern has been presented by the
Earl of Dudley, at a cost of eighty guineas.
His lordship purchased one in the Exhibition,
but owing to the wood having split, he has
ordered another to be made from a solid block of
oak. The eagle and pillar stand above 6 feet
high.

PROVINCIAL NEWS.

Braintree.—The new Braintree and Bocking
Literary and Mechanics' Institution has been
opened. The new building has been presented
to the Literary and Mechanics' Institution by
the late Mr. George Courtauld. It has been
erected at a cost, including purchase of site, &c.,
of about 2,000*l.*; the architect being Mr. Henry
Stock, of London, the Essex county surveyor;
and the builder, Mr. J. Brown, of Chelmsford
and Bocking. It is built in the Italian style, the
front being faced with white bricks, and the
mouldings executed in Bath stone. The front
portion, containing reading-room, library, com-
mittee-room, hall, and staircase, is two stories
high; and the lecture-hall, capable of seating
upwards of 500 persons, runs out behind upon
the ground floor. The lecture-hall walls are car-
ried about 10 feet high, with piers projecting
inside: these support moulded arched ribs, the
ceiling being a semicircle, and rising to a height
of about 26 feet. The platform at the end runs
entirely across the room, and is about 9 feet
wide. At the back of this is a retiring-room,
for lecturers or performers. The hall is lighted
by day with windows on either side; and at
night, by two rows of hanging starlight gas-
burners. The reading-room runs along the en-
tire front, on the first floor, and is 37 feet long
and 17 feet wide, with five circular-headed win-
dows in front. Out of this opens a small room,
for chess, &c. The library and committee-room
and offices are on the ground floor. The entrance
from the road is formed by an iron fence and
gates, and white brick piers, with stonework,
surmounted by globe lamps. The interior fit-
tings of the building have been executed by Mr.
W. Parmenter, of Bocking, and Mr. F. B. Crittall,
of Braintree.

Romsey.—A deputation of the committee con-
cerned in carrying out the new Town-hall and
Exchange project in Romsey, waited upon Lord
Palmerston to submit the plans of two sites

which had been selected as eligible for the new building, and to report progress in general. The deputation was accompanied by Mr. Bedborough, of Southampton, who had prepared the plans. His lordship expressed a preference in favour of the site in the Market-place to that in the Corn Market, and agreed to double his subscription to start with. He approved of the front elevation designed by Messrs. Hinves & Bedborough.

Bridgwater.—The new Market Hall and Corn Exchange building has been opened. The new building is of Composite order. The designs were prepared by Messrs. Barrett & Son. The dimensions are 56 feet long by 36 feet wide. The lower part is fitted up as butchers' shambles, with seats and tables for butter, eggs, poultry, and general merchandise. The upper part is to be used as an assembly-room and Corn Exchange, the dimensions of which are 52 feet long by 22 feet wide, with two retiring-rooms, each 16 feet long by 11 feet wide, approached from below by a staircase of pitch pine, with mahogany handrail and oak balusters. The assembly-room has a cornice, with line enrichment and three centre ornaments, in flowers, from which are suspended three chandeliers. There is also an orchestra over the staircase open to the assembly-room, 16 feet long by 11 feet wide.

Bewdley.—The local council have taken steps towards the erection of a public building for the general use of the town. They have resolved to apply to the Treasury for a sum of money for that purpose, not to exceed 1,500*l.*, out of the borough funds.

Stourbridge.—The new County Court, in Hagley-street, has been opened. It is in the Italian style, and is built of Hollington (ashlar) stone. The public entrance is in front, and the private entrance at the side of the building. It is two stories in height, and the windows on the ground-floor are segmental, while the upper ones are semi-circular. The ground-floor consists of a court-room, 50 feet by 31 feet, and 21 feet high. This, however, is not large enough for the requirements. It is lighted from two lantern windows in the roof, and likewise from semicircular side-lights. At night the room will be lighted by gas from brackets. The other part of the same floor consists of a plaint office, a money office, registrar's office, and judge's private room. A flight of stairs leads to the first door, this including high bailiff's office, sub-bailiff's office, ante-room, and four rooms for domestic accommodation. Mr. Lovatt, of Wolverhampton, was the builder, and furniture and fittings have been furnished by Mr. Stringer, of Stourbridge. The cost of the building (independently of land) is 3,300*l.*, and the contract for fittings and furniture 750*l.*

South Molton.—The new market here has been opened. It has been erected at a cost of something over 10,000*l.*, of which 5,000*l.* have been raised by the sale of corporate property. The market adjoins the town hall, and is situate in the principal street. The site, purchased from the late Mr. J. E. Cutcliffe, cost 1,600*l.*, and the building contracts amount to 6,667*l.*; while the extras are estimated at 100*l.*; the architect's charges, 350*l.*; premiums for plans, 30*l.*; and the legal expenses, 1,393*l.* 6s. 6d.;—thus making a total of 10,140*l.* The building is in the Italian style of architecture, and the material brick and stone combined. Over the market is a large assembly-room. The market is flagged, at a cost exceeding 700*l.* Mr. W. F. Cross, of Exeter, was the architect; and Mr. J. Cock, jun., of South Molton, the builder. The sub-contractors were Mr. Horne, of Barnstaple (who executed the masonry), Mr. Willshire, of Barnstaple (the iron-work), and Wigery, of Southmolton (the glazing). The market is situate on an irregular piece of land, sloping towards the south. The ground has been raised so as to bring it nearly level with the front street, supported by walls. The extreme interior dimensions of the building are 320 feet long and 150 feet wide. The principal front is towards Broad-street, and almost entirely of Portland stone, the entrance being effected by means of three archways. Above the arches are the windows of the assembly-room. Above the side windows are circular ventilators, festooned with fruits and flowers. The whole is surmounted by a cornice and an open parapet of square balustrades. The roof is of wood and wrought iron, lighted from the top by skylights, supported by cast-iron ornamented columns, with brackets and girders; and divided into a nave 45 feet span; south aisle, 35 feet span; north aisle, 24 feet: the width of each is regulated by the form of the site. The height of the roof of the nave is 40 feet to the ridge, and is raised above the roofs of the aisles by a clerestory, filled with Hartley's patent glass in the louvre form. The walls are built of stone found in the locality, relieved with brick piers and courses. The dressings of the windows are also brick, to correspond with the rough-faced keystones of the arches, the openings being filled with rough glass louvres, except the windows of the south end, which have iron frames and plate-glass. The assembly-rooms are approached by a separate entrance in Broad-street, by an oak staircase. The room is 63 feet by 33 feet. The roof is formed by five circular ribs, springing from corbels, enriched by festoons of flowers carved in stone. The ceiling is of Parian cement. The walls are stuccoed with tinted grey.

Keswick.—The New Cumberland Union Bank, Keswick, has been opened for business, forming an ornamental addition to the street architecture of Keswick. It is built after the design of Mr. Eaglesfield, of Maryport. The masonry was done under the superintendence of Mr. J. Gibson, jun.; and the joinering by Mr. J. Crosthwaite, both of Keswick. The walls are of blue ashlar stone, faced with quoins and pilasters of white Tallentire freestone, supplied by Mr. H. Graves, of Aspatria. The entrance to the bank is from the main street, opposite Museum-square, the site of the old establishment. On the south-east side of the building premises are fitted up for a post-office. The bank, which is detached, occupies a frontage of about 44 feet, and is more than 50 feet deep. There is a raised causeway of flagging in front of the edifice.

COMPETITIONS.

Croydon New Union House Hospital, &c.—The designs submitted by Mr. John Berney, of Croydon, in a limited competition for these works, have been chosen by the Guardians. The buildings will be erected near the Croydon Cemetery.

Belclaroute (Jersey), Cricket.—Forty-one designs for this new edifice have been received from architects, and have been placed on view in the Fratery. The church will be constructed for the accommodation of 1,000 worshippers, the population of the proposed district being 4,500; and the cost of the building is intended to be 3,000*l.*, exclusive of fittings, school-house, and other expenses. The subscriptions amount to 2,126*l.*

STATUES AND MEMORIALS.

Baron Marochetti has received a commission to execute a statue of the Queen in bronze. It will be placed in the mausoleum at Frogmore, beside the statue of the Prince Consort.——Prince Alfred is at present giving sittings to Mr. John Steell, at his studio, Edinburgh, for a bust, to be placed in the College Library, uniform with that of the Prince of Wales in the High School.——A memorial stone, of white Carrara marble, is being erected in Addington Church, Surrey, to the memory of the late Archbishop of Canterbury.——A subscription, with a view to the erection of a memorial to the late Prince Consort in Pembrokeshire, Wales, has been commenced by the Mayor of Tenby. No sooner was the project made public than a considerable sum was realised.——The Macaulay memorial for Trinity College, Cambridge, is nearly finished by Mr. Woolner. The historian, says the *Athenæum*, is seated in his college gown, with a book in his hand, the fingers pressed into the open leaves, as if he had been collecting points in an argument. The attitude is graceful and the face noble. It has not been settled where this memorial shall stand.——A marble bust of the late Field Marshal Lord Seaton, executed by Mr. G. Adams, has been placed in the grand hall of the Senior United Service Club, Pall-mall. It stands upon a pedestal of Belgian red variegated marble, and bears an inscription in gold letters. The bust was presented to the club by Colonel the Hon. Francis Colborne, C.B., the field-marshal's second son.——Permission has been given by the Herefordshire magistrates for the erection of the statue of the late Sir George Cornewall Lewis, by Baron Marochetti, in front of the Shire Hall, at Hereford.——A proposition is mooted to form a memorial cairn to the late Duke of Athole, by the hands of his own people. The site mentioned is the shoulder of Craig-y-barns-hill, in the vicinity of Dunkeld.

NEWS FROM IRELAND.

The erection of the new cathedral at Cork is progressing rapidly. About 9,000*l.* have been raised towards defraying the cost of the building.

The new parochial schoolhouse at Dowpatrick is in progress of building, and will considerably improve that part of the town in which it will be situate. The contractor is bound to have it completed by May next. It is to be hoped that some effort will be made to erect a town-hall or assembly-room on the unsightly ruins which adjoin this schoolhouse, and which have been long an eye-sore in the very centre of the town. It has been said, that Mr. Ker, M.P., the lord of the manor, intends to erect, at his own expense, some ornamental buildings on the ruins alluded to. A town clock is very much required.

New works, according to the *Galway Vindicator*, are in progress at Lismany, the seat of Mr. Allan Pollok. The office, houses, stables, laundry, servants' apartments, graperies, &c., are on an extensive scale. The architect is Mr. James Franklin Kempster, the county surveyor. The contractor is Mr. P. Cody, of Laurencetown.

The subject of a new cemetery for Drumragh, Omagh, is being mooted, and Sir H. Bruce has been requested to give a portion of his lands to the parish for the purpose. The estimated cost is 500*l.* The Omagh Board of Guardians, so far as they are concerned, however, have decided against the outlay.

THE LEVERAGE OF TOOLS.

The question proposed by your correspondent "F. B. B.," p. 86, *ante*, can be answered by means of the investigations in the chapter on "Resistance to Torsion," in Fenwick's "Mechanics of Construction." Let us take the case of a steel borer, having a handle at right angles, so as to form a tool of the shape of the letter **T**. In the first place, the effect of any power applied at the handle, to twist the tool round, is directly proportional to the length of the handle. Secondly, the twisting force obtained at the lower end of the tool is directly proportional to the length of the tool, and inversely as the fourth power of its diameter. The increase of length and decrease of diameter are, however, limited by the power which the metal possesses of resistance to torsion; and this is ascertained by experiment only on different materials.

E. Wyndham Tarn, M.A.

BUILDERS' PRICES.

I have occasionally addressed a few lines to you on the inconsistencies of "Price-books." I now do so to elicit information on a very important subject in connexion with builders' prices. In "the good old times," when tradesmen received a fair remuneration for their work, and were honest enough to try to excel in their several departments, some uniform standard seems to have been adopted by the surveyors of the day, who appear to have been men intelligent in their callings, if, at the same time, as has been represented, they were given to indulgence in the good things of life, the order for dinner being the first important thing to be attended to on measuring day. But now, in these days of cutting contracts, the young architects are completely ignorant of the value or nature of the materials and workmanship they have to deal with. Contracts are taken haphazard: some may yield a profit of five per cent., and more no profit at all, excepting the successful individual may be clever enough to scamp his job without detection. But when extras come to be charged, by some sudden inspiration the builder finds he must charge prices that will yield him from twenty-five to fifty per cent. profit—"he really cannot afford to do it for less." If you remonstrate with him, "it is the usual rate of charge in the locality: Mr. So-and-so always allows it, and you could not think of cutting him down below a living profit." Now, as fashions change, and I am getting somewhat towards the stage of "the sere, the yellow leaf," my ideas may be behind the times, and it would be a gratification to know what might be considered a fair and *legal* profit on builders' work, and whether the same be applicable to all branches; or if each department is entitled to its separate standard. Also what is to be done in reference to discounts, *i.e.*, supposing the standard of profit to be fifteen per cent.,

and the tradesman is receiving a discount of thirty per cent. from the manufacturer's list: the terms of payment should also be named in connexion with the per-centage of profit. In contract work, the builder generally receives seventy to seventy-five per cent. as the work advances, which might be considered as the terms where extras were concerned; and if longer credit were taken, a proportionate scale should be adopted to suit the case. Another question also arises: should the per-centage be equalized over every item in the account? because I have seen an article in plumbers' day-bills charged 100 per cent. upon the cost, under the plea that a sufficient profit was not realized by the other portions of the account. As these very charges often lead to a *disputed account*, on what data must an arbitrator found his standard for a just and equitable arrangement?—his own idea of a fair equivalent, the prices that the tradesmen in the locality think well to charge, or some recognized legal standard? I need not say that no fixed standard could apply to any but first-class work. Unsound work and unseasoned materials must always be subject to the opinion of the surveyor; but even these would bear some proportion to the standard set up in his own mind in reference to sound work. Lastly, would the quantity have any effect on the price to be allowed, except where a large proportion of one description of work or material was supplied?

Z.

VENTILATING CEILINGS.

HAVING read your article on Hospitals, I beg to suggest whether the difficulty of ventilating the wards might not be overcome by doing away with the present plastered ceiling, and having one formed on the undermentioned plan.

The floor of upper ward to be carried on iron deck beams: allow a space of say 2 feet below the floor; then have a very light iron beam, with flanges: if the span be large, it would have to be attached by a light rod or two to the deck beam. On the flanges of the beam sheets of light perforated metal are to be placed, and the ceiling is complete.

Objections might be raised respecting its unsightly appearance; but, by fixing thin strips of metal, cut to any pattern, on the lower side of flanged beams, a very ornamental appearance might be given, and it would allow a wide field for colour.

The thin perforated metal being painted, and made in pieces of say 5 feet long, or to fit pattern, could be removed when they required cleaning, without, in any way, interfering with the ward; or duplicates could be used.

The way of getting the air would be by external iron gratings, with slopes rising to keep the air from striking down the walls: there would also be a moveable flap to each opening, so that it might be closed at pleasure.

The advantages of the above plan would be—

1st. Ventilation without draught.

2nd. Great cleanliness, it being quite impossible for vermin to live, being so continually disturbed.

3rd. Fire-proof.

4th. Gas and water-pipes could be got at.

FREDERICK ELTZE.

CITY THOROUGHFARES.

You did me the favour to notice, some time since, a suggestion of mine of an admirable opportunity that occurred (by the taking down of some houses) of continuing the line of Cannon-street from St. Paul's across to Eastcheap, and so on to the Tower; thereby doing away with a very awkward corner; opening up a very crowded thoroughfare, the traffic along which to the Docks is very considerable; and forming a handsome and commodious street throughout.

A chance of a more important improvement, which ought to be made in our much-encumbered City, presents itself now. Any one walking over London Bridge towards the City would remark that a church spire in Lombard-street, on one side, and the tower of St. Michael's, Cornhill, on the other, exactly mark out the line which King William-street should follow, if prolonged to Cornhill; while, on the other side, the tower of St. Michael's, as seen from Bishopsgate-street, shows how, by an easy bend, one of the finest approaches, and one much required, might be made to one of the best of our bridges with about the largest thoroughfare in the world.

A very considerable opening is now made in George-yard, and in that part of Lombard-street, for building a new club-house and other buildings; and such an opportunity for the commencement of this glorious improvement may never occur again.

I believe that it was the Great Duke of Wellington who first suggested this line when the new bridge was built; and it is a great reproach to the City that the suggestion has never been carried out, as nothing can be more paltry and unworthy of the site than the present miserable abrupt termination of that part of King William-street behind King William's statue. The necessity for relieving the overcrowding in Grace-church-street has long been allowed. The new City Club would be well placed in a handsome new street; and St. Michael's-alley, George-yard, and Three Kings-court are all open spaces on the line. For a *railway*, it would be cleared in a few weeks. Can nothing be done before fresh buildings are erected?

May railway companies disfigure our river and sweep away our houses by the thousand, and cut our poor City to pieces as they will; when, to make a much required and manifest improvement, such as a short piece of street or a small space for a decent view of our metropolitan cathedral, one is met by hosts of opponents, and the old winding lanes and crushing stoppages are to be endured, without a hope of redress, unless the public and the public press come to the rescue? In mercy help us to arrest the mania for dismembering our poor town by railways, while our street communication is utterly neglected. Help us, ere it be too late.

A CITIZEN.

THE CHANCEL.

"To be or not to be, that is the question?"

I SAID in my last letter that I did not wish to prolong my controversy with Mr. Elliott; but, as he has coolly denied my facts, I feel that my silence at this point might perhaps be misconstrued. It is not I, but Mr. Elliott, who is guilty of "raising a false issue." In his first letter he argued that we ought to cease building "*chancels*" in the ordinary acceptation of the word, and erect in their stead "chancel-platforms" for the minister,—such, I suppose, as the stage on which Mr. Spurgeon performs in the Metropolitan Tabernacle. He proclaimed to the whole world that he was in a position to *prove* that in the primitive churches the altar stood "in the midst of the people," without, and not within, the *cancelli* which formed the boundary of the *bema*; and challenged any one to give an instance earlier than the ninth century in which it was placed otherwise. I gave him half a dozen and more in my last. He says that in each of these examples the portions I speak of are "modern additions." I repeat, on the authority of an architect a hundred times better known to the world than Mr. John Elliott, that in every one of the cases I produced "the chancel and apse are *undoubtedly* contemporaneous with the rest of the church." He states further, that I have "nearly trebled the depth of the apse *or* chancel" (I said apse *and* chancel) "of St. Peter's, and almost doubled that of St. Maria Maggiore." If so, the fault lies with the architectural plans professedly drawn to scale, which I consulted. But even then the chancel would be large enough for my purpose,—larger than that of most Mediæval parish churches. The mere fact that seats for a greater number of clergy and a larger choir, have in some instances been inserted at a later period, is simply "*nihil ad rem.*" Mr. E. says it will "tend to clear my mind" if I remember that "the *cancelli* were simply *railings*;" and that though the altar was "surrounded by railings," it was not, therefore, "necessarily" on the bema. I was perfectly aware of the fact before Mr. E. informed me, and stated it in my first letter. But Mr. Elliott has undertaken to *prove* that the railings between the altar and the people, spoken of by Eusebius, *were not* the railings in front of the bema; and that the altar did *not* stand in the bema at all. I have challenged him to give his reasons,—to bring forward a single instance to prove this point. And what is the result? With all the self-complacency imaginable he answers, "I have again and again given this proof, in a shape no architect or antiquary can question, by pointing out that the seats of the presiding bishop and his fellow-presbyters were invariably at the extreme end of the apse" . . . . "and therefore (!) no altar could have stood on the platform between the ministers and the people." This is really too childish and ridiculous! After all the bombastic verbiage and arrogant self-assumption of his four lengthy letters, the only proof that Mr. E. has to offer, that the altar in primitive times stood "in the midst of the people," and not in the apse, is this,—that the clergy sat in the apse, and, therefore, the altar was not there.

The position of the seats for the bishop and clergy in the early churches was perfectly well known to every "architect and antiquary" before Mr. Elliott was born or thought of, though he seems to think he has made a discovery. I have admitted that proposition from first to last. What I want to know, and what your readers want to know, is, how can Mr. Elliott *prove* that which he has challenged the whole world to disprove, viz.; that the altar did *not* stand in the centre of the apse in front of the bishop's throne? How can he *prove* that it *did* stand in the middle of the nave, *outside* the *cancelli* of the bema? Absolutely not so much as the merest shadow of a proof can he bring, not a single fact or instance, in support of his new theories and strange assertions. I must say, Mr. Editor, I think he owes you and your readers an ample apology for the space he has occupied in your valuable columns with his "mountain in labour," for the "*mus*" that has resulted is "*ridiculus*" enough. His arguments, if they can be called so, are really scarcely worth refuting. The bishop's throne was usually quite elevated enough (I know an instance where it was raised *ten* steps above the floor of the bema), and the altar and cancelli quite low enough to admit of his being both seen and heard, though sitting behind the altar. The Orders of Council quoted by Mr. E. prove absolutely nothing, for they are, to say the least, quite as intelligible (I think most of your readers will agree with me, far more so) on the supposition that the altar stood within the bema, as they are on Mr. Elliott's. The decree of council of 567 simply permitted the laity to enter the chancel to communicate, instead of the elements being brought out as heretofore, and as is still the case in the Greek Church, and administered in the nave. It is only right to point out that in the sentence in which he speaks of the *cancelli* separating the sexes, the word "*table*" is gratuitously added by Mr. Elliott in place of "temple." As to his theory of connexion between the growing size of the chancel (to admit larger staffs of singers and clergy), and the development of the dogma of transubstantiation, it would be as easy to prove a similar connexion between that dogma and the gradual development of *church spires* since the ninth century. But I have done with a controversy which the utter inanimity of my opponent's arguments has already made me ashamed of having entered upon.

WILLIAM PURTON.

P.S. In most of the churches mentioned in my last the altar *does* stand, and therefore *could* have stood, and probably *did* stand at the first, in the centre of the bema, in front of the bishop's throne.

THEATRES.

THEATRES in England continue to be built just as ill-arranged behind the scenes as ever. You never find a stage thoroughly warmed in winter: you never find a theatre that is not like a well in the daytime—cold, windy, damp. It is in this respect that the Russian theatres are so excellent; the same temperature throughout, so that in winter-time the singers are at their ease during a day rehearsal; and not, as in England, in greatcoats, wrappers, and the like. The German theatres are also excellent for heating arrangement. At Munich, the walled-in stage, with passages outside, and the dressing-rooms opening thereon, is by far the best arrangement. The stage is thoroughly free from cold windy passages, and the heating apparatus is excellent. This subject deserves attention. When are we to have a really complete theatre—architecture and all good; a simple English Gothic building, expressing the old traditions of our Chaucer?

X. Y. Z.

HOLIDAYS FOR THE WORKERS.

I SEE it is the intention of the National Shakspeare Committee to endeavour to make the 23rd of April a general holiday. I hope they will succeed, for I believe that it is a step in the right direction,—and that we ought, in London especially, to have more days set apart, purposely for recreation. I believe, if we could only get a few holidays in the pleasantest part of the summer time,—when there are none at all, except, perhaps, Whitsuntide,—it would go a

long way towards diminishing the number of Sunday excursion trains. I do not wish to say anything as to whether the Sunday excursion in itself is right or wrong, but I know that it is a great scandal to many; and, I believe it would be far better if we could get a little fresh air now and then on working days and keep the Sundays for rest. I wish the church could shift Christmas and Easter into the summer for the benefit of us in London.

Would it not be possible, just for the sake of an experiment, for employers and their workmen to set apart some day in June or July for a general holiday? If any large number agreed to do so, the railway companies would be sure to run excursion trains in plenty. I would rather see the workmen agree to forego the day's pay altogether, for I am sure they would gain by it in the long run by increased health: those, however, who did not like to do this, might make up by working an extra hour or so for a few nights.

Perhaps I may be allowed to quote a few words from John Stuart Mill's "Political Economy," which bear a little on this subject, and which contain some good advice for us all. He says that,*

"Every real improvement in the character of the English, whether it consist in giving them higher aspirations, or only more numerous and better pleasures, must necessarily moderate the all-engrossing torment of their industrialism. There is no need, however, that it should diminish the strenuous and business-like application to the matter in hand which is found in the English workmen, and is their most valuable quality. The desirable medium is one which mankind have not often known how to hit, when they do labour, to do it as well as their might, and especially with all their mind; but to devote to labour for mere pecuniary gain, fewer hours in the day, fewer days in the year, and fewer years of life."

A London Workman.

FORMATION OF SCAFFOLDING.

Having come here lately from Glasgow, and being connected with the building trade, I was a good deal surprised at the manner that builders erect their scaffolding in this part of the kingdom, with poles and ropes.

Poles and ropes might be nearly done away with by having strong wooden or iron masts, placed 30 feet or 40 feet apart, and 100 feet high (if required), having iron grooves and rack-work fastened thereon for the purpose of supporting wire ropes and iron rods. These grooves, rods, and rack-work would be fixed to the masts or posts, at such heights as corresponded with the different flats, or stories; and on the chains and rods light carriages, on rails, would convey the building materials to the workmen.

Such scaffolding could be easily and cheaply put up and taken down; and, being much stronger than the present method, many valuable lives would be saved, and numerous accidents prevented. Robert Climie, C.E.

"CHELSEA WORKHOUSE ADDITIONS."

Sir,—Your last number contains a letter from one of the competing builders in this matter, and he has not adhered to the truth in stating that I have charged eleven three guineas for the quantities, as those sums were received by me and for my own use, but on behalf of the guardians of the poor, according to the advertisements inserted by their order in the *Builder*; and each builder was told at the time he applied for the quantities that the guardians would not return the money.

It is not unusual for public Boards to charge and retain an amount for the quantities. George C. Handford.

Books Received.

The Use and Preservation of Iron ("*Uso del Ferro e sua Conservazione Tradizioni ed Esperanze*;" *Raccolte dal Giuseppe Novi, Ufficiale Superiore d'Artiglieria al Riposo*). Naples, 1863.

Signor Joseph Novi, a retired officer of the artillery, has published a work on "The Use of Iron, and its Preservation. December, 1863. Acts of the Royal Institution of Naples," which deserves notice. Before France and England offered premiums for the invention which should best preserve iron ships from destruction, whether by insects or incrustation, this officer had directed his studies to this subject, reading carefully all the experiments which had been made, especially in America. Signor Novi begins from the beginning, enumerating what has been done from remote ages, whether by Jews, Egyptians, Phœnicians, Pelagians, Assyrians, Persians, Greeks, Romans, Danes, Germans, or Britons. The result of his observations is the belief that "asphalte, oils and essence of asphalte," were the predominant matters employed, and are the most efficient now, as is expressed in his concluding sentence:—"The future of iron, cast-iron, and steel, depends on the use of bitumen, naphtha, asphalte, and such like substances." We incline to his opinion, that engineers, mechanics, marines, soldiers, artists, agriculturists, and chemists, will gather from his researches practical knowledge of service. References are made to every author he has quoted, and serve to show his research.

Another great cognate commercial question has been the subject of lively discussion in the Italian Parliament, the extraction of iron and steel from the magnetic sands on the Italian shores: now that Bessemer's system has opened a grand prospect for the future, the subject becomes more important.

The Omnibus (a Neapolitan journal), of the 11th of January, has an article by the same Signor Novi, against the patent granted by the Italian government to Mr. Long, of Genoa, for his mode of "extracting iron and steel from sea sand," in utter disregard of the *Codice Napolitana*, 1826, and the *Codici Albertino*, 1859 (the laws especially relative to mineral productions). His argument is, that such patents should only be granted to an invention, or an introduction, hitherto unknown; whereas in this instance neither the one nor the other has occurred. The extraction of iron has long been practised in Naples and Ischia, especially, where much sand is found containing crystallized magnetic iron. In fact, so far back as 1845, Signor Salvi, proprietor of the iron foundry at Atripaldi, built furnaces especially for the casting of this sand, and Signor Novi himself at the establishment of Arms, at Torre Annuncinta, proved the value of the iron thus extracted, by the fact, that out of one hundred gun-barrels made therefrom, not one failed in proof.

* Book I., chap. 7, § 3.

VARIORUM.

Several of the serials this month present features of special interest to our more technical readers. The *Art Journal*, for example, commences with a paper by Professor Ansted on "Cyclopean Architecture in the Ionian Islands," illustrated with examples from Santa Maura; Cranea, Cephalonia (2); and Samos. The number has the usual allowance of excellent engravings, including one of "The Reading Girl."——In the *Social Science Review*, the whole of which of course concerns one section of our readers, there is an interesting paper on "Art amongst the Buddhists," founded on M. Barthélemy St. Hilaire's report on Mr. Hodgson's drawings given by him to the Institute of France.——*Fraser's Magazine*, under the head of "Public Works," makes an onslaught on the management of the Government Board of Works, and goes with those who consider that it should be under permanent management.——In the *Gentleman's Magazine* the "Notes on the Architecture of Ireland" are continued, and treat of Clonmacnoise, the place of the Seven Churches. The writer believes there is no stone building remaining there of any importance of a date prior to the eleventh century, the era in which, as he maintains, building in stone was revived in other countries. The writer is not disposed to accept any dates which would force the belief that Ireland was at that time in advance of other countries.

Miscellanea.

The Royal Gold Medal of Architecture.—M. Viollet-le-Duc is named to receive the next medal.

The Victoria Cross Gallery.—We understand that a gentleman of Leeds has purchased from Mr. Desanges all the pictures forming this gallery, and will keep them together as a collection illustrative of British valour.

Magazine for Girls.—Many will hear with pleasure, as we do, that Mrs. S. C. Hall has undertaken to conduct a Magazine for young ladies. Mrs. Hall's mind, as we happen to be informed, has been much directed to such a publication for some time past; and all who are acquainted with her will know how honestly, earnestly, and lovingly she will work in such a path. With the good literary and artistic aid Mrs. Hall may command, the intended new venture can scarcely fail to succeed.

Aston Park, Birmingham.—The town-council have agreed to purchase the park, as a place of recreation for the people of Birmingham, for 26,000*l*.

Proposed Sale of the "Auction Mart," London.—The company of proprietors to whom the well-known Auction Mart, by the Bank, belongs, are about to sell it. Written tenders are to be sent in on the 29th inst., and if a sum be offered equal to a reserved price placed under seal prior to the opening of the tenders, it will be accepted. The company was formed in 1808, to purchase land and erect suitable buildings for the purposes of a general auction mart. It will be instructive to compare the value of the land then with its value now.

Desecrations at Jerusalem.—The proceedings of M. de Saulcy in the "Tombs of the Kings," at Jerusalem, have excited considerable attention, and still greater indignation, among the Jews of the Holy Land. The desecrations with which the Frenchman is charged have altogether been denied; but according to the *Jewish Chronicle*, authentic news has reached London, placing the fact beyond all doubt. In a letter to the board of deputies, from the heads of the Jewish community of Jerusalem, these desecrations are minutely described.

The Workmen's Club Movement. An effort is being made to form a club in Clerkenwell. The Bethnal-green club is progressing: the incumbent of St. Matthias, Hare-street, the Rev. J. Colbourne, has given the use of his schoolrooms to the club, till a suitable house can be procured. Over fifty men having paid their first subscription, it was decided to open the club forthwith. The half-yearly *soirée* of the Holloway Club has been held, when an address was delivered by the Rev. H. Solly, secretary to the Central Union. A conference of London secretaries (the first held) has taken place at the Central Offices, 150, Strand, when the following metropolitan clubs were represented: Battersea (forming), St. George's Mission, Shoreditch, Holloway, Duck-lane, Westminster, Homerton, Forest-hill, Holborn (forming), Soho, Brentford, Kent-street, Borough (forming), Gravel-lane, Southwark, Kentish Town, Clerkenwell (forming), Wandsworth, Bishopsgate, St. Martin's-in-the-Fields, Victoria Docks, and Hare-street, Bethnal-green.

The Extinction of Fires in the Metropolis. At the Inventors' Institute, Conduit-street, Regent-street, Mr. C. B. King, C.E., has read a paper before a numerous audience on "The Means and Appliances adopted for the Suppression and Extinction of Fires, and a Review of the Engines at present in Use." Mr. King considered that the chief cause of fires was carelessness on the part of servants. The fact that large fires were inextinguishable was in some way accounted for in science. The water thrown upon them became disintegrated [decomposed?] Mr. King considered the steam fire-engines best for all practical purposes. The most efficacious mode of extinguishing fires, however, was without engines. In Liverpool, Manchester, Leeds, and several other large towns, a high pressure was constantly kept upon the fire-mains, which enabled the water to be projected a sufficient height, without the use of fire-engines. Were such a system introduced in London, it would go far towards entirely superseding the use of fire-engines.

Grove's Gas Battery.—A theoretical consideration of the arrangements and action of this battery leads Mr. T. A. Malone, late director of the laboratory of the London Institution, to suggest, in the *Philosophical Magazine* for January, 1864, that *antecedent static action is necessary to produce true voltaic phenomena*. The gas battery of Mr. Grove consists of a series of cells, each containing two tubes of glass sealed at one end, and in which are inserted, by fusion, long narrow platinum plates and attaching wires, the plates reaching a little below the bottom of the tubes. These tubes are partly immersed, by means of a ground collar, into a square three-necked Woulfe's bottle, the centre hole between the tube-holes being stoppered. The tubes are usually two-thirds filled, the one with hydrogen, two volumes,—the other with oxygen, one volume—the bottle and remaining part of the tube holding the usual dilute sulphuric acid to complete the circuit. The platinum is, in order to promote contact with the respective gases and the liquid, covered with platinum-black. Metallic contact between the tubes, or to the galvanometer, is made by mercury cups attached to the platinum wires.

The Permanent Exhibition Building, Paris.—Bills have just been posted in Paris announcing the sale of the Palace of the Permanent Exhibition at Auteuil. The upset price is fixed at 2,250,000f. The affairs of the company are about to be wound up. This a bad ending before beginning.

The Chatham Surveyorship.—The Chatham Board of Health had eighteen applications for the office of surveyor to the Board, according to the local *News*: the applicants were mostly from Chatham, Rochester, and Brompton. The list was reduced to two, Mr. Greenstreet, of Walworth, and Mr. Blackader, of Gillingham; and ultimately Mr. Greenstreet was unanimously elected.

Lewal's Patent Heating and Ventilating Apparatus.—This apparatus has been recently fitted up in the new Police-station at Blackwood, Monmouth, by Mr. H. B. Sketch, builder, of Blaina, and we are told that the presiding magistrates recognize in it a great improvement upon ordinary methods of heating and ventilation. The apparatus consists of prismatic tubes, is placed at the back of the grate, and has connected with it pipes for conducting the warm air generated in the tubes into the room. These pipes can also be conveyed to other parts of the building. If there be no possibility of the admitted air being *burnt* in its passage through the tubes, the arrangement seems a good one. The constant admission and circulation in the apartment of large quantities of pure warm air is, of course, a great advantage.

Proposed "Junior Athenæum Club."—The number of the candidates seeking to enter the Athenæum Club, and who have to wait some seven or eight years for ballot, has led to a proposition for the establishment of a new Club upon a similar basis. The promoters announce that the new Club is not projected in a spirit of rivalry to the Athenæum, "but to meet the growing wants of literature, science, and art; and with that view they will most cordially entertain the candidature of those gentlemen whose names may have been, probably for many years, upon the waiting list of the Athenæum." A very strong committee, we are told, is in course of formation, and about 200 applications have been received already from would-be members. Letters may be addressed to Mr. G. R. Wright, F.S.A., the secretary *pro tem.*, at the committee-room of the Club, St. James's Hall, Regent-street, London.

How Cities grow in America.—When the first sod of the Union Pacific Railway, for completing railway communication from the Atlantic to the Pacific, was dug last week at Omaha city, a citizen gave the assemblage an account of his arrival at that city, or rather at the site, in October, 1854. "Along the narrow path," he said, "cut by some stalwart men through the tall, rank prairie grass, I wended my way in search of the post-office. At length I found an old pioneer seated apparently in solitary rumination upon a piece of hewn timber, and inquired of him for the post-office? He replied that he was the post-master, and would examine the office for my letters. Thereupon he removed from his head a hat, to say the least of it, somewhat veteran in appearance, and drew from its cavernous depths the coveted letters. To-day, our postal service, sheltered by a costly edifice, spreads its Briarean arms towards north, south, east, and west," &c. Omaha city is now the capital of Nebraska.

The Pneumatic Despatch.—It appears from the report of the directors of the Pneumatic Despatch Company that various difficulties and delays have arisen from a combined opposition of tenants on the Bedford estate, and that, to avoid a protracted litigation, the main works from Euston-square to the City are being carried by the more circuitous route of Tottenham-court-road, about 800 feet of tube having been already laid down between Francis and University streets. Other portions of the line are being commenced in Broad-street, and the tube will now be laid at the rate of fifty yards a day. The commissioners of sewers wish the company to re-consider their route between Fleet-valley and the Post-office, suggesting the desirability of carrying the tube through the grounds of Christ's Hospital, to avoid the obstruction to traffic in Newgate-street. The branch line from Euston station to the district post-office in Eversholt-street continues in good repair, and works satisfactorily. About 4,500 trains have been despatched through the tube during the past half-year with perfect regularity, and the wear and tear has proved merely nominal.

The Wesleyan Jubilee.—The Wesleyans of the London district have commenced the celebration of the jubilee of their Foreign Missionary Society. The sums already given or promised to the jubilee building fund have reached 105,000*l.*, and the committee are confident that not less than 150,000*l.* will be ultimately raised.

Discoveries at Pompeii.—Among the articles recently discovered at Pompeii, says the *Chronique des Arts*, is a small head of Juno, in silver, of exquisite workmanship; also the body, in silver, but broken; a bridle-bit in bronze; a lamp in the same metal, complete, with cover, suspending chain, and extinguisher; a patera; a large and handsome vase, with the handles terminated by winged genii holding a cornucopia; other small vases in bronze; and a seal in that metal, bearing the name of the master of the house in which the articles were found,—Lucio Cornelio Diadumeno.

The Stained Glass Exhibition, South Kensington Museum.—All the space is appropriated excepting one very large opening, which affords a good opportunity for the exhibition of a great window for a cathedral, should such be going on in any of the studios. It is to be hoped that our artists in glass, taking the unmistakeable hint given by, amongst others, those who are directing the decoration of St. Paul's, and have thought it necessary to go abroad for the painted glass required, will show what they really can do.

Society for the Encouragement of the Fine Arts.—The opening lecture of the present session was delivered before the members of this society, at their rooms in Conduit-street, by Mr. James Dafforne, who took for his subject, "British Art, Past and Present." The lecturer briefly reviewed the growth and development of architecture, sculpture, and painting, as evidenced in the works of the most eminent men who have contributed to make the English school what it now is. While according full justice to what appeared worthy of commendation, he condemned much that was done in the present day, considering that the injudicious patronage too commonly bestowed upon art of every kind, and the false tastes which prevailed, are not calculated to exalt the fine arts to the high position they might reach under more discriminating encouragement. The lecture was listened to with great attention by a numerous audience. Mr. Dafforne is doing good service by his lectures.

Report to City Commission of Sewers.—Mr. William Haywood, C.E., the engineer and surveyor to the Commission, has reported for the past year on the works executed for the Commission. The report states, under the head of improvements, that freeholds in Great Tower-street have been purchased, for widening the thoroughfare between Mark-lane and Tower-hill, and frontages in Upper Thames-street, and in Gracechurch-street and elsewhere, arranged to be set back. Negotiations are pending as to purchase of properties in Newgate-street and Little Knight Rider-street, Threadneedle-street, St. Martin's-le-Grand, and St. Paul's-churchyard, for widening Church-passage, Gresham-street, and Dowgate-hill. The sanction of the Commission had been asked, but withheld, for the laying down of a pneumatic despatch-pipe, at a very great depth, through Holborn, Skinner-street, and Newgate-street, to the Post-office, and an application to Parliament by the company is anticipated. The street gas-lighting is satisfactory, and the carburation useful when a proper supply of naphtha is afforded.

Ecclesiological Society. — A committee meeting was held at Arklow House, on December 16; present, Mr. A. J. B. Beresford Hope, the president, in the chair. Designs for various churches were submitted by their architects, including Mr. Slater's designs for a cheap church at Belfast, and for adding a low pyramidal capping to the tower of Sheen Church, Staffordshire; Mr. St. Aubyn's design for a new parsonage at Devonport, and for a lichgate to a churchyard at St. Michael's Mount, Cornwall; designs by Mr. Buckeridge, for the chapel, &c., of the hospital or priory of the Holy Trinity, Ascot, Berks, for a new church at Egutpoora, in the diocese of Bombay, for the restoration of Mursley Church, Bucks, and Streatley Church, Berks, and for a new probate registry lately built at Oxford. A curious collection of bell emblems and inscriptions, made during the course of many years by Mr. John Mears, a workman in the employ of Messrs. Mears, of Whitechapel, was submitted. The committee much wished that so interesting a series could be published.

New Prisons in Glamorganshire, Wales.—The total cost of the new prisons in Glamorganshire was 87,087*l.*, exclusive of architect's commission and some other expenses. The additions to the county gaol cost 40,766*l.*, and the new buildings of the House of Correction cost 41,807*l.*

Coating of Ships with Glass.—By direction of the Admiralty, experiments, which are stated to be highly satisfactory, have been carried out at Woolwich dockyard to ascertain the practicability of coating the bottom of iron ships on a plan invented by Mr. Leatch, which consists in coating the iron surface with gutta-percha or other cement, and on this soft material to fasten sheets of glass about a quarter of an inch thick. The glass is previously bent to the shape of the ship, and pierced for the reception of the screw or bolts, the apertures being lined with a soft adhesive composition, which prevents the fastenings from coming into immediate contact with the glass.

Substitute for Gutta Percha. — At a late meeting of the French Academy of Sciences, M. Serres gave an account of the *Valata*, a shrub which abounds in Guiana, and affords a juice which he asserts is superior, for many purposes, to gutta percha, but especially as an insulating material for enveloping telegraphic wires. The milk or juice is drinkable, and used by the natives with coffee. It coagulates quickly when exposed to the air, and almost immediatley when precipitated by alcohol, which also dissolves the resin of the *Valata* juice. All the articles made with gutta-percha can be made with the sap of the *Valata*, and it has no disagreeable smell. When worked up it becomes as supple as cloth, and more flexible than gutta-percha. M. Serres exhibited a number of articles manufactured of *Valata* milk. Up to the present time it seems, from M. Serres's account, not to have become an article of commercial export.

Capital expended on Railways.—The capital expended in this country on railways to the present time has been upwards of three hundred and eighty-five millions sterling, or nearly half the national debt. This amount has been devoted to the construction of eleven thousand five hundred miles of railway in the British Islands, which are now open for traffic. The works executed in connexion with these undertakings have been of extraordinary magnitude. Navigable rivers, and even arms of the sea, have been crossed over; hills have been pierced by tunnels, and viaducts, embankments, and cuttings made in all directions. All this has been accomplished within the life-time of a single generation of men, who have not only executed the work, but provided the means out of their private resources, without any assistance whatever from the funds of the State. In a word, the railway system of England has been the spontaneous out-growth of the native industry, energy, and enterprise of its people.—*Railway News.*

Railway Matters.—The traffic receipts of the railways in the United Kingdom for the week ending January 22nd, 1864, upon a mileage of 11,083, amount to 532,519*l.*, being equal to 48*l.* 1s. per mile. For the corresponding week of last year the receipts were 490,755*l.*; the number of miles open, 10,712, or 45*l.* 16s. per mile. On the lines having termini in the metropolis the increase has been—on Great Eastern, 1,417*l.*; Great Northern, 4,805*l.*; Great Western, 3,896*l.*; London, Chatham, and Dover, 1,334*l.*; London and North-Western, 8,933*l.*; London and South-Western, 544*l.*; Metropolitan Extension (London, Chatham, and Dover), 620*l.*; on the Midland, 4,272*l.*; North London, 132*l.*; South-Eastern, 546*l.* On the metropolitan lines there is a decrease upon the Blackwall of 48*l.*, and on the London and Brighton of 1,483*l.*——Among the projects of the year is a scheme for sending a railway through the Thames Tunnel. The scheme is designated "The East London Railway," and Mr. William Hawes, chairman of the Thames Tunnel Company, is also its chairman. The intended line will proceed from a station close behind the Bank of England, across London-wall, Bishopsgate-street, Whitechapel-road, under the London and Blackwall Railway and Ratcliff-highway; thence in a deep tunnel under the eastern entrance to London Docks, and so on to the Thames Tunnel, through which it will pass southwards to form junctions with the South-Eastern and Brighton Railways. There will be about two miles of tunnelling under streets and docks; yet the estimate is only two millions.

Value of City Property.—It is stated that the premises occupied by the Colonial Life Office, in Lombard-street, have just been sold for 30,000*l.*, the lease having about seventy years to run at a rent of 500*l.* a year. The area occupied is about 1,000 feet.

Projected New Railway over the Pyrenees. In the Spanish Cortes Signor Carriguiri has brought in a bill for the construction of a railway from Pampeluna to Eguy, with prolongation over the Pyrenees to Bayonne, in France. The proposition was referred to a committee. This newly projected railway, according to the *Railway News*, is to pass over the celebrated valley of Roncesvalles — in French, Roncevaux — where the rear-guard of Charlemagne's army, under Roland, was defeated and destroyed in 778. There is to be a station at this place.

A New Ventilating Hat.—A most simple and complete ventilating hat, and which is applicable to helmets and other head coverings, can be easily and cheaply constructed, by merely perforating the hard and stiff inside body of the hat, after the manner of perforating the paper used for postage and receipt stamps. By the principle on which the proposed hat would be ventilated, the head would always be kept cool and comfortable, conducing to the general health of the body, preventing premature baldness and loss of hair.—B. C.

Recreation Grounds for Derby.—A public meeting, convened by the Mayor (in compliance with a requisition presented to him), has been held in the Town-hall, Derby, "to take into consideration the desirability of recreation-grounds being provided, both on the north and south sides of the borough, for the free use of the inhabitants, and for proposing a memorial to the Corporation on this important subject." There was a good attendance, a large number of the working classes being present. Appropriate resolutions promotive of the object in view were unanimously passed, and a memorial prepared and agreed to.

Lecture on Lead for Working Men.—Dr. Percy has been lecturing on metallurgy at the Royal School of Mines, Jermyn-street. In lecturing on lead, he remarked that if lead is heated it tarnishes, which is due to the action of oxygen on the metal. If we raise the temperature to a low red-heat, it is converted into a yellow powder, known as litharge. If heated further, it passes into the state of a higher oxide, which is red-lead. The oxides may be easily reduced to the metallic state by being heated along with carbon. The carbon burns at the expense of the oxygen. The lecturer now alluded to lead poisoning, and suggested a remedy in the use of beer slightly acidulated with sulphuric acid, which converts the soluble oxide into the insoluble sulphate, thereby preventing absorption. The principal ore from which lead is obtained is the sulphide known as galena.

Accidents to Person and Property. — At Hanley, a builder has been killed by the giving way of a scaffold-plank while removing the scaffolding from a new house which he had been erecting in Richmond-place. A coroner's jury returned a verdict of "Accidental death."—— At Dereham, near the railway station, one half of a large malt-house has fallen. It contained nearly 600 coombs of malt and barley. Settlement of the soil is blamed, but the materials used in the building are thought to have been insufficient. The damage is estimated at 1,000*l.* ——Some serious accidents have occurred at the military excavations near Newpassage-hill, Devonport, from stones during blasting, thrown to a distance of 200 yards. Neglect of public warning is attributed to the soldiery.——In the Liskeard County-court the other day, a heavy iron chandelier broke from the ceiling while an official was trying to turn it round to light it. Fortunately, no one was below it at the time. —— A serious accident has occurred at Birkenhead Docks. The gates leading to the northern tunnel had only opened a short distance, when the force of the water rushing from the higher level of the Great Float tore the gates from their massive iron fastenings as if the latter were so many pieces of packthread, snapped the chains and hawsers which had been added by Mr. Lyster, the dock engineer, for additional safety, and carried away the granite masonry, which chipped like glass. The overwhelming force of the water carried the wrecks of the gates, machinery, and masonry into the large domed chamber, from which it will be difficult to recover them.

The Law Life Assurance Society.—From the printed statement of accounts for last year of this Society, which was founded in 1823, we extract the following items:—Assurance fund, at 31st December, 1862, 4,301,210*l.*; at 31st December, 1863, 4,435,440*l.*: new premiums received 31st December, 1863, under 228 policies, assuring 308,760*l.* — viz., 12,736*l.*; renewal premiums, 283,634*l.*; interest on investments of fund, 154,874*l.* Disbursements: claims upon death under 201 policies, 31st December, 1863, in sums assured, 210,233*l.*; in bonuses, 64,527*l.*; total, 274,760*l.*: for surrender of policies and bonuses, 14,103*l.*: income-tax, 5,606*l.*: commissions on premiums, amounting to 296,371*l.* received, 12,368*l.*: directors' fees, 3,000*l.*; charges of management, 7,176*l.*

The Potters' New Drying Chamber.—Simple and efficient drying-rooms have been recently introduced at the works of Messrs. Minton & Co., Stoke, and Messrs. L. Elliot & Son, Dalehall, which entirely remove all the hitherto attendant evils of the drying process on the health of the workmen and boys, and at the same time facilitate the operation and economise heat. The principle of these plans is a rotating cylinder, which in the one case is placed vertically, in the other horizontally, both fitted with shelves, and enclosed in a chamber furnished with flues, so that a uniform heat is maintained at all parts. The cylinder is subdivided into several sections, and is easily turned as required by the hand of the mould-runner: each of these is filled in rotation with the greatest facility, through an aperture for the purpose, and with very little escape of heat.

The Profits on Gas.—By a Parliamentary return quoted by the *Journal of the Society of Arts*, it appears that the metropolitan gas companies paid dividends in 1862 as follows:—The Chartered paid dividends at the rate of 9 and 10 per cent., including back dividends at 1 per cent. per annum for the half-year to Christmas, 1856; the City of London, dividends at 9 and 4 per cent., with a balance of 658*l.*; the Commercial, 30,513*l.* on a capital stock of 322,195*l.* (less sums remaining outstanding); the Equitable paid dividends at the rate of 11, 14½, 14, and 10 per cent. (less sums remaining outstanding), with a balance of 396*l.*; the Great Central dividends at the rate of 6 and 8 per cent. (less sums remaining outstanding), with a balance of 18,445*l.*; the Imperial at the rate of 10 per cent., with a balance of 58,500*l.*; the Independent at the rate of 10 per cent., with one year's back dividend (1,500*l.*) and a balance of 3,548*l.*; the London paid 36,827*l.* on 548,843*l.* (less sums remaining outstanding); the Phœnix paid 10 per cent., with 8,190*l.* dividend arrears for 1856, with a balance of 930*l.*; the Ratcliffe dividend was 8*l.* 15s. per cent., without a balance; the South Metropolitan, 10 per cent., with a balance of 10,369; the Surrey Consumers', 10 per cent., with a balance of 4,047*l.*; and the Western, 10 per cent., with 5,285*l.* "towards back dividends of less than 10 per cent."

The Metropolitan Improvements.—Between the Railway Companies and the Board of Works there will within the next five years be carried out in the metropolitan districts alone a greater variety of the most stupendous engineering works than any other capital or country in the world can show. The Main Drainage and the Thames Embankments are in themselves achievements which from their cost, difficulty, and usefulness would suffice to crown the fame of any capital. The Holborn Valley Viaduct will be a gigantic work; the extension of the underground railway into Finsbury another; the Charing-cross bridge is no ordinary specimen of ironwork; that for the railway into Cannon-street will, it is said, equal it. If Mr. Fowler carries out his high-level bridge at Limehouse, visitors by the river will enter London under an iron gateway, compared to which that at Menai will be an ordinary structure; while, further on, the railway at Blackfriars will span the river with a bridge which, from its size and strength, the solidity of its workmanship, and the rapidity of its construction, is long likely to be regarded with wonder. When all these great works are finished, it is to be hoped the next will be a project of adequate magnitude for a constant supply of pure water to the metropolis,—some such work as that by which Glasgow has already provided itself with pure water from the highland lochs. Relatively speaking, the supply of London from the Welsh highlands would be no greater or more difficult or costly work than Glasgow has already done.

The Penydarren Iron Works at Merthyr Tydvil.—These works have been reopened with great rejoicing, after having stopped working for five years. The present proprietor (Mr. Davies) once worked in the Penydarren Works himself, for 4*d.* a day.

Steel Ships and Steel Shot. — Mr. Henry Bessemer states that two ships are being built in foreign waters entirely of Bessemer steel, and that the plates for a merchant vessel to be built in England have been ordered. Thousands of Bessemer steel projectiles are now being made for Russia, and other orders for steel shots have been given to the extent of 120,000*l.* in value. "Have we," he says, "a single ship afloat that can keep out these simple round steel shot fired from a common smooth-bored gun, if ever directed against us?"

Westminster Palace Hotel Company. — At the thirteenth ordinary half-yearly meeting of this company the report stated that the gross receipts for the half-year had been 12,872*l.* 18s. 1d., and the expenditure 9,660*l.* 10s. 9d., leaving as net profit 3,212*l.* 7s. 4d., which, after deducting 734*l.* 3s. 2d. for interest on debenture loans, 28*l.* 10s. 9d. loss on sale of Madras railway stock, and carrying 941*l.* 19s. 1d. to the reserve fund, will, with the amount carried over after paying the last dividend, leave available for present dividend the sum of 2,172*l.* 3s. 1d. The directors, therefore, recommend a dividend at the rate of three per cent. per annum, which would leave 222*l.* 3s. 1d. to be carried to next dividend. This dividend, added to that of the previous half-year, will make 5½ per cent. dividend for the whole year. The directors regret to have to announce that although there is a decrease in the expenditure, there is a falling off in the receipts to the extent of 5,516*l.* 3s. 10*d.*, as compared with the corresponding six months ending December 31, 1862. The business, however, at the present time is again improving.

TENDERS.

For new shop-front at Great Malvern, for the proprietor of "Nott's Malvern Relish." Messrs. Elmslie, Francy, & Haddon, architects. —

Edards	£143	0	0
McCann & Everal	125	0	0
Allen	114	0	0
Inwood (accepted)	113	18	0

For preaching-hall, at Notting-hill. Mr. Tarrin architect. The quantities by Mr. Eppy :—

Fish	£1,990	0	0
Dove	1,975	0	0
Cowland	1,966	7	0
Higgs	1,959	0	0
Myers & Son	1,952	0	0
Richards	1,916	3	0
Saunders	1,899	0	0
Rudkin	1,845	0	0
Scrivener & White	1,748	0	0

For the erection of a residence at Sidmouth, Devon, for Mr. L. H. Braham. Mr. W. F. Cross, architect :—

Butler & Turner	£1,387	7	3½
Hill	1,200	0	0
Gosling	1,000	0	0
Crabbe	993	0	0
Manley	960	0	0

For alterations and additions to Caldy Manor, the residence of Mr. Richard Barton. W. & J. Hay, architects. Quantities supplied :—

Harkness & Dempster	£2,728	0	0
Thomas	2,564	0	0
Nelson	2,495	0	0
Westmorland	2,423	0	0
Nott	2,350	0	0
Comer	2,205	0	0
Barker (accepted)	2,178	0	0

For three houses, for Mr. Charles Akins, Spitalfields. Mr. Reddall, Architect :—

Pritchard	£1,850	0	0
Larke	1,847	0	0
Scott	1,796	0	0
Turner	1,769	0	0
Ashby & Sons	1,731	0	0
Macers	1,693	0	0
Case	1,470	0	0

For the vestry-hall and offices of St. Mary, Newington. Mr. Henry Jarvis, architect :—

Mayers	£8,499	0	0
Kelly	8,189	0	0
King & Son	7,945	0	0
Rudkin	7,825	0	0
Scrivener & White	7,816	0	0
Simmonds	7,789	0	0
Robinson	7,785	0	0
Hill & Keddle	7,735	0	0
Johnson	7,687	0	0
Sims & Martyn	7,485	0	0
Kent	7,330	0	0
Myers & Son	7,242	0	0
Howe	7,200	0	0
Harding	7,190	0	0
Humphries & Co.	6,876	0	0

For additional buildings to Pitt Press, Cambridge. Mr. W. M. Fawcett, architect :—

Smith & Co.	£1,656	0	0
Bradwell	1,220	0	0
Attack	1,158	0	0
Bell & Son	1,045	0	0
Gray & Co.	936	0	0

For the erection of a residence, for Mr. T. C. Tothill, Topsham, Devon. Mr. W. F. Cross, architect :—

Grant	£1,160	0	0
Hill	1,155	0	0
Periam	1,060	0	0
Manley	974	0	0
Phillips	927	0	0
Crabbe	889	0	0

For new distillery, Victoria-street, Westminster, for Messrs. Joseph & John Vickers & Co. Messrs. William Mayhew & Calder, architects :—

Excavations.

Reddin (accepted)	£1,277	0	0

Accepted for alterations at the Old Harrow, Borough-market, for Mr. Corbett. Messrs. William J. Mayhew & Calder, architects :—

Hyde (Builder)	£240	0	0
Warne (Pewterer)	£54	10	0
Green & Co. (Bar-fitters)	£62	10	0
Comyn, Ching, & Co. (Gas-fitters)	£35	0	0

For the erection of three warehouses, in Milk-street, City, for Mr. William Vivian. Tillott & Chamberlain, architects. Quantities supplied :—

Turner & Sons	£5,629	0	0
Fish	5,190	0	0
Patrick & Son	5,150	0	0
Nicholson & Son	5,100	0	0
Hill & Keddall	4,989	0	0
Piper & Wheeler	4,958	0	0
Ashby & Sons	4,900	0	0
Brass	4,889	0	0
Myers & Sons	4,869	0	0
Cannon (accepted)	4,706	0	0

For an addition to Melrose Hall, Putney Heath, for the Royal Hospital for Incurables. Mr. W. P. Griffith, architect :—

	Portland Stone	Hoard. Dressings.
Mansfield	£9,780 ... £385	... £48
Lawrence	9,422 ... 490	... 35
Browne & Robinson	9,248 ... 599	... 20
Brass	8,886 ... 538	... 20
Foster	8,390 ... —	... 50
Adamson	8,335 ... 800	... 36
Bird (accepted)	8,250 ... 710	... 35

[We are asked to insert the above in lieu of a list that appeared in our last, and comply, though contrary to our custom.]

TO CORRESPONDENTS.

Leeds New Infirmary.—We shall commence next week complete illustration of this building, about to be erected from the designs of Mr. G. G. Scott, R.A.

"Going Along" will be continued in our next number.

Mr. H.—E. R. R.—C. N. A. (shall appear.—Printers (must look to published accounts).—J. S.—Inquirer (the matter is perfectly clear, and wants no comment. Before *ground-rents* can be sold they must exist; the land must be let).—W. H.—G. W.—A Young Architect.—L.—E. R. R.—A. J. C.—A Young Architect (must look to the code of prices).—W. M. F.

We are compelled to decline pointing out books and giving addresses.

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ADVERTISEMENTS.

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CONTENTS :

I. CHINA
II. NEW ENGLANDERS, AND THE OLD HOME.
III. FORSYTH'S LIFE OF CICERO.
IV. GUNS AND PLATES
V. SPEKE'S TRAVELS ON THE NILE.
VI. ELS
VII. ROME IN THE MIDDLE AGES.
VIII. THE DANISH DUCHIES

JOHN MURRAY, Albemarle-street.

THE ART JOURNAL (price 2s. 6d. monthly). The February Number contains the following Line Engravings :—"Purity," by H. Bourne, after H. O'Neil, A.R.A.; "The Battle of Trafalgar," by W. Miller, after J. M. W. Turner, R.A. in the Hall of Greenwich Hospital; "The Reading Girl," by W. Reffe, from the Statue by P. Magni. The literary contributions include :—"Cyclopean Architecture in the Ionian Islands," by Professor Ansted, illustrated; "Dante's 'L'Inferno,'" illustrated; "On the Preservation of Pictures painted in Oil Colours," by J. B. Pyne; "The Arundel Society"; "Mr. J. D. Harding: a Biography"; "British Artists: their Style and Character," by J. Dafforne, illustrated; "Almanac of the Month," from Designs by W. Harvey, illustrated; "Art-Work in February," by the Rev. J. G. Wood, M.A.; "Portrait Painting in England," by Peter Cunningham, F.S.A.; "The Scottish School of Art"; "Gold Casket presented to H.R.H. the Prince of Wales," illustrated; "The 'Casket' Portrait"; "Sacred Poetry," illustrated; "Robinson Crusoe," illustrated; "Thorwaldsen's Sculptures"; "History of Caricature and of Grotesque in Art," by T. Wright, M.A. F.S.A., illustrated; "Jerusalem and the Holy Land"; "Another Blow for Life"; "Aluminium Bronze"; "Sir Stafford Northcote on Schools of Art," &c. &c.

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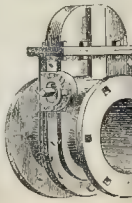
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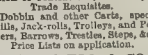
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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. That Asphalte is now extensively used for paving Stables (as shown above), the absence of pools preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
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Oxford, December 10th, 1863.

SYDENHAM HILL.—LAND TO BE LET, for Building, 450 feet frontage, average 200 feet deep. Beautiful site, with extensive prospects, and fronting which road Close to three railway stations, and within ten minutes' walk of the Crystal Palace. May be laid in two, three, or four plots, for detached residences.—For particulars, apply personally to Mr. HENRY DAWSON, Architect, 16, Finsbury-place, South, E.C.

BUILDING GROUND.—CITY of LONDON.—Notice is hereby given, that the City Lands Committee will meet at Guildhall, on WEDNESDAY the 10th FEBRUARY next, at ONE o'clock precisely, to RECEIVE PROPOSALS for a BUILDING LEASE for eighty years, of the site of the premises known as Nos 19, 20, 21, and 22, on the east side of Basinghall-street, in the City of London.—Further particulars may be obtained upon application at the Architect's Office, Guildhall.
FERDINAND BEAND, Comptroller.
Guildhall, January 7th, 1864.

CITY of LONDON.—BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are prepared to receive TENDERS for taking on a Building Lease, for a term of eighty years, a PLOT of GROUND, containing about 9,000 superficial feet, situate on the east side of the Old Jewry, in the City of London.—A plan of the ground and full particulars may be obtained, upon application to the Clerk or Surveyor, at Grocers' Hall, Poultry, E.C.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 30 feet in length; eleven best bedrooms; stabling for eight horses and coach-house; capital servants' offices, extensive ornamental grounds, with green-houses, in a 28 acres grass field; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

THAMES BANK, PIMLICO.—Extensive PREMISES, with the partial use of a private dock entering from the Thames, suitable for a builder's establishment or a factory. TO BE LET on LEASE, for a long term, at a moderate rental.—Apply to Messrs. SCURRY & WRIGHT, Surveyors, 6, Salisbury-street, Strand, W.C.

TO BUILDERS and OTHERS.—HOUSE WANTED to PURCHASE, in the Western Suburbs: Brompton preferred. About ten or twelve rooms. Address, stating lowest terms, to E. J., Rudge's Library, 2, Craven-place, Hyde-park, W.

TO BE LET, by the FISHMONGERS' COMPANY of London, on a BUILDING LEASE for 80 years, valuable BUILDING LAND, NEWINGTON, Surrey, within three minutes' walk of the Elephant and Castle. About three-quarters of an acre of GROUND situate on the east side of the Walworth-road, having a frontage of 106 feet in Crown row, and a frontage of 136 feet to the Walworth-road, and eleven COTTAGES in the rear in Wild Lane-place. The property is well adapted for shops and business purposes requiring space and ready access to the principal thoroughfare of the Metropolis. To be Let by TENDER, in one or more lots, to suit the views of different parties wanting the Ground.—Apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SUTER, the Company's Surveyor, 23, Fenchurch-street, E.C. where plans and particulars may be seen. The Tenders are to be sent in by MONDAY, the 15th of FEBRUARY next at noon precisely.
Fishmongers' Hall, Jan. 19, 1864.

WESTMINSTER CHAMBERS.—OFFICES and CHAMBERS TO LET.—Apply to Messrs. BANKS & BARRY, 27, Sackville-street; or G. S. SIDNEY, Esq. Secretary to the Mutual Tontine Westminster Chambers) Association, Limited, 39, King-street, Cheapside, E.C.

BRICK-FIELD and BUILDING LAND, about 7 acres (including 3 acres of brick earth), with valuable frontage to the high road, situation very pleasant and healthy, with in one mile of a proposed station on the Tunbridge Railway, now making, and about 11 miles from town, where extensive building is going on, will shortly be commenced.—Apply to Messrs HARDS & VAUGHAN, Auctioneers, Church-street, Greenwich, S.E.

ALUM BAY ESTATE.—FRESHWATER, ISLE OF WIGHT.—BUILDING LAND.—This ESTATE, situate on the western coast of the island, is now TO BE LET for Building Purposes. It possesses the advantages of a dry soil and a lofty position. The air is extremely invigorating, and the scenery varied, comprising as it does the Needles, the Channel, and the English coast, whilst the beach and downs ensure ample amusement to visitors. It is, in fact, a most attractive spot. Several houses are now being erected, and the roads are in course of formation. Term, Ninety-nine Years.—Particulars may be obtained of Mr WILLIAM RAWLINS, Solicitor, Winchester; of Mr. C. P. FISHER, Solicitor, Ventnor and Ryde, Isle of Wight, and of Mr AUGUSTUS FRERE, Architect, 23, Henrietta-street, Covent-garden, London, where plans, showing the disposition of the estate, may be seen.—The journey from London to Lymington and Yarmouth, can be accomplished in about five hours.

TO BE SOLD, a FREEHOLD ESTATE, of 25 acres, near Southgate, with half a mile of frontage, well timbered, admirably adapted to cut up in plots, which are in great demand, for villas of 100l per annum rental. The subsoil is gravel, and the situation high, with magnificent views, and easy of access to the City. Price, 6,500l.—very cheap.—Address, Z, 49a, Lincoln's-inn-fields.

FREEHOLD LAND.—TO BE SOLD, about 42 Acres, with beautiful sites, on rising ground, for one or more villas, 8½ miles S.W. of London and 3 from a station (Farnborough); but there will be one close to the estate. A frontage of 1,000 feet on the turnpike road and a great lodge. Gravel in abundance. Tithe-rent 70s. land-tax redeemed. Price, 1,800l. Three-fourths on mortgage.—To view, apply to Mr NICHOLSON, near the Golden Farmer, Frimley.—Another Plot, of 2½0 Acres, in the rear of this, for 6,000l.

WHARF.—TO BE LET, on LEASE, a WHARF, 200 feet deep, and river front 173 feet 6 inches, with building, coal buildings, gantry frame, &c. of Charlton, near Woolwich Dockyard.—Apply to the WHARFINGER, on the Premises; or Mr. HARVEY, 23, Holywell-street, Westminster.

HARROW.—ROXBOROUGH PARK.—FREEHOLD LAND TO BE LET, on 99 years' leases, for building VILLA RESIDENCES. It is situate near the school, on the slope of the hill, towards the railway, from which it is distant about three-quarters of a mile. The occupant of each house would be entitled to the privileges of the school for his children, and would have a free pass for a day to London for eleven years. Bricks made on the estate.—For particulars, apply to Mr. HESKETH'S Office, No 7, Royal Exchange, E.C.

NOTICE.—The LAND advertised by Mr. T. J. HILL last week, on the South Western Railway, TO BE LET or BUILDING LEASE, is withdrawn, and he has since received another FINE ESTATE of 14 Acres, about three miles from the last, with a river frontage, TO LET in the same way. Plans and particulars will be ready in a few days.—Money Advanced.—Offices, 70, Old-street, E.C.

FOR SALE, or TO BE LET on Building Lease, a DOUBLE PLOT of FREEHOLD LAND, 32 feet frontage, 114 feet deep, situated Gurney road, Leytonstone, Essex, Freehold Price 120l or 7l. per annum on Building Lease.—Apply to W. B. 122 Curtain road, Shoreditch.

CLERKENWELL IMPROVEMENT ACT.—BUILDING LEASES.—The Improvement Committee of the Corporation of London hereby give notice that they will meet at Guildhall on MONDAY, the 29th day of FEBRUARY inst. at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the office of the City's Architect, from parties willing to take BUILDING LEASES of certain plots of ground on the east side of Lett-street, on the south side of Ray-street, and the west side of Farringdon-road (formerly called Turnmill-street), in the county of Middlesex, and to Ray-street, and conditions to be agreed upon application at the Architect's Office, Guildhall. WOODTHORPE.
Guildhall, February, 1864.

TO BUILDERS.—TO BE SOLD, the LEASE of EIGHT CARCASES, close to the Norwood Station, each containing Four Rooms each, Offices, with Back Gardens. The work done is in a very superior manner, and they will be immediately when finished at about 200l. each. There being a very great demand for these classes of houses. Part may remain on mortgage. This is an excellent chance for a respectable Builder with a little capital.—Apply personally to Mr. ROBY, 38, Mongrale street.

TO BE LET, in the City of Wells, Somerset, a HOUSE of the FOURTEENTH CENTURY, carefully restored and decorated. It is situated at the north-east corner of the Close, opposite to the Cloister House, and the North Transept of the Cathedral, with which it is connected by a covered passage carried on arches over the road, commonly called "The Chain Bridge." It contains on the ground floor a dining-room 30 feet long by 16 wide and 16 high, richly decorated in the style of the period; a parlour 16 feet square, with a groined stone vault, also richly decorated; a bedroom 16 feet square; and a convenient back kitchen. On the first floor two good bedrooms, one with an oriel window, commanding a fine view of the Cathedral; and on a kitchen of the sixteenth century unaltered. This house is well calculated for an elderly couple of moderate means, wishing to attend the daily services in the Cathedral. Also, a SMALL HOUSE or COTTAGE, in the Vicar's Close (as built by Bishop Ralph in the reign of Edward III., entirely restored, with the decoration carefully restored, and furnished in the style of the period. This cottage is very suitable for a student of the Theological College.—Apply to Mr. HIPPESLEY, House Agent, Wells.

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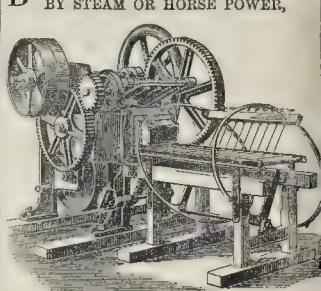
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Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.
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The advantages of this plan are two-fold.
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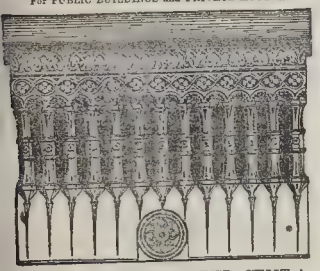
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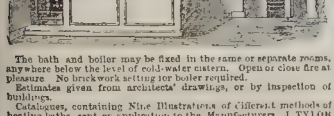
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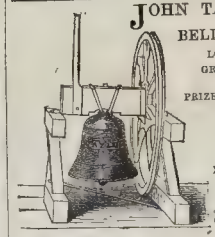
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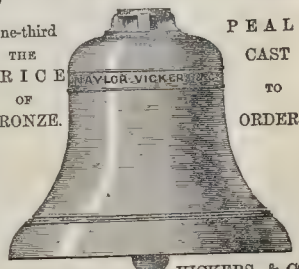


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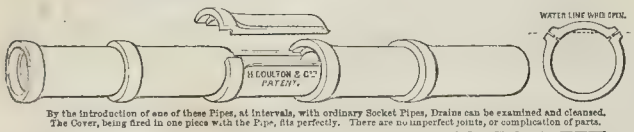
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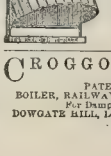
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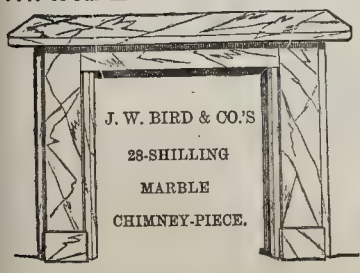
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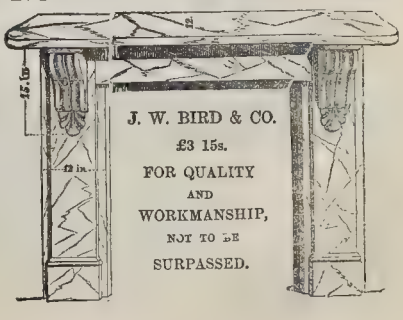
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LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



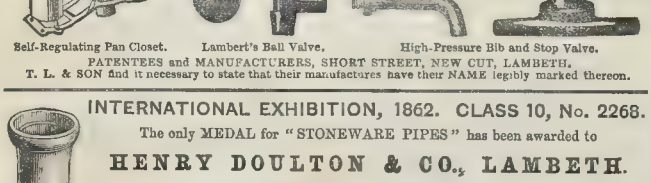
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of re-quiring further connections.

Manufacturers since

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleaned without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

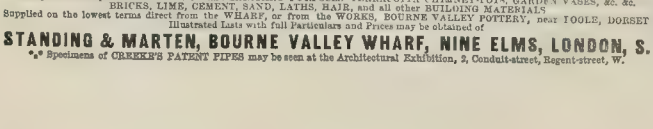
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET

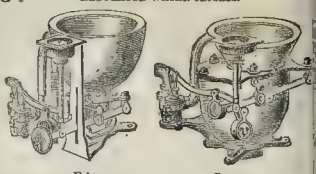
Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of wat to each closet, so that, however small the fall of water, perfect flus ing is insured. Any number can be worked by one supply-pipe N cistern-valves, cranks, or wires required. The Closets can be seen action at the Manufactory, and illustrated Catalogues had on appl cation to the Manufacturers, J. TYLOR & SONS, Warwick lan Newgate street, London.



UNDERHAY'S PATENT

REGULATOR CLOSETS for con stant or intermitting supply, dispensi with Caterns, Service Boxes, Valves, Lever Cranks, &c. &c. Much time is saved i fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servant Closets on this principle, may be seen a the Works. They are very cheap, the efficiency is guaranteed, 50,000 of the have been sold, and no instance of failu has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTC of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUN his Patent Regulator Water-Closets, Valve Gas Meters, &c. on the same principles.

CRAWFORD PASSAGE, CLERKEN-WELL, LONDON, E.C.

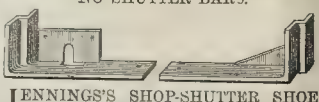


TYE & ANDREWS'

NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

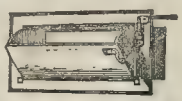
Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Engineering Depot, Palace Wharf, Stangate, Lambeth, S.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity o air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply o fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough London.

CLINTON & OWENS

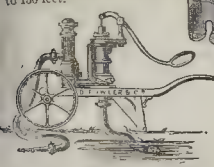
(LATE FOWLER & CO.),

WHITEFRIARS STREET, FLEET STREET, LONDON,

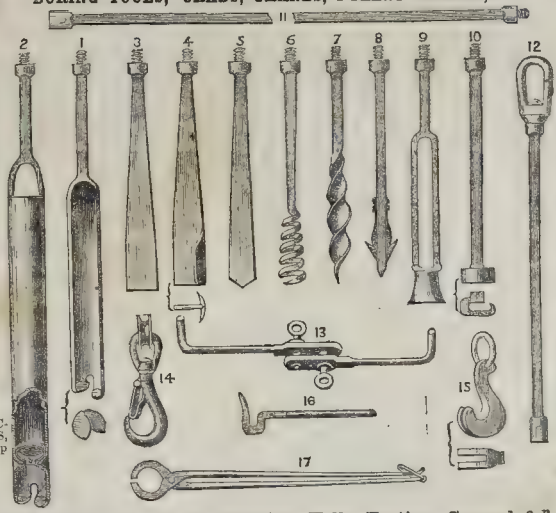
MANUFACTURERS OF PUMPS OF ALL DESCRIPTIONS, AND OF BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



Nos. 82 and 86. CONTRACTORS' PORTABLE PUMPS, of all sizes and for any depth up to 150 feet.



Useful Double Acting and other Portable Force Pumps.



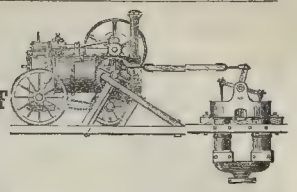
Boring Tools for Artesian Wells, Testing Ground for Railway Works, Bridges, &c. and for Miners' use,

Are manufactured of the best description and of all sizes by

CLINTON & OWENS.

Any of the Goods above represented may be had ON HIRE. A large Stock is kept ready or in a forward state.

Full information and Priced Lists, with Terms, may be had on application.

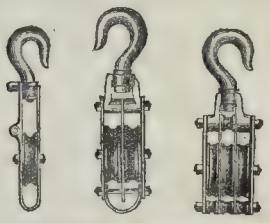


ON HIRE OR TO ORDER.

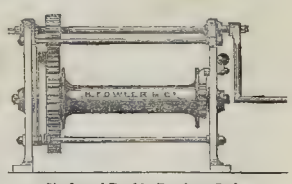
PORTABLE STEAM ENGINES,

With Double Pumps, from 8-inch to 24-inch Barrels. Also

CENTRIFUGAL and other PUMPS.



PULLEY BLOCKS and HOISTING TACKLE, of every description and for all purposes.



Single and Double Purchase Crabs, Cranes, &c. to lift any ordinary weights.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will once water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

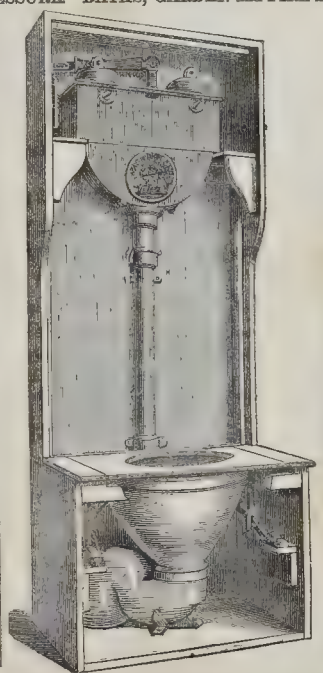
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 3 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch.....	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	3 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £3 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

NORTHFLEET DOCKYARD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, FEBRUARY 9th, and following days, at ELEVEN o'clock each day, at Northfleet Dockyard, Northfleet, Kent, an assemblage of ENGINEERS' TOOLS, of the largest class, and Sundries from General Stores, including two self acting planing machines by Whitworth and Nasmyth, one to take in 10ft. wide, 20ft. long; the other to take in 12ft. wide, 24ft. long; a very powerful lathe by Nasmyth, 66in. centres, 41ft. bed; two very powerful boring mills, one capable of boring a cylinder 12ft. in diameter; a 40 ton overhead traveller, cutting and punching machines, vertical saw frame, foundry crane, donkey pumping engine; two back geared lathes, 24in. centres, 9ft beds; two highly finished working models of screw and paddle engines, several ships' models, brass barrel and rifle press, 36in. fly wheel in segments, 1ft. ditto, 4 fire engines and hose, 4 cast-iron chain stoppers, 2 new ship windlasses, 2 steaming Kilns, 15 double and single purchase crabs, 50 tool chests, a large assortment of shipwrights' tools, 2 pile-driving engines, 5 railway earth waggons, 5 tons contractors' rails, 10 tons chain cable, slings, &c.; 34 tons wrought-iron ring bolts, 1 ton screw eyes, 3 tons nails, 1¼ ton coach screws and bolts, 2 sheathing punching machines, new bolt and sheet copper, about 15 tons galvanized corrugated iron, a quarter-ton metal dumps, 50 pairs metal 8 ngcs, 50 brass deck and side lights, brass screws, 3 large ship-bells, metal water-closet fittings, old copper and brass, sheet lead, varnishes and colours set of 3 throw purse pumps, valuable assortment of wood and iron patterns, 12 tons rope, 150 fathoms of oak, teak, and fir slabs and blocks, 500ft. oak plank, 50 loads oak timber, 13 logs of pencil cedar, 100 pairs of wood blocks, 2 strong machine trollies, 3 bogies, 2 timber whims, 2 hand trucks, and numerous other effects.—To be viewed on the Saturday and Monday previous to the Sale, when catalogues (price 6d each) may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter street, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on WEDNESDAY, MARCH 16th, at TWELVE o'clock at the AUCTION MART, London, in One Lot, unless an acceptable offer be previously made by private contract, the newly-formed FREE-HOLD WORKS and ESTATE of the Keynsham Blue Lias Lime and Cement Company (Limited), together with the modern PLANT and MACHINERY. The property is freehold, and comprises a site of 7a. 2r. 36p. or thereabouts. The works were established for manufacturing blue lias lime from stone quarried on the estate, and for making cement. The existing kilns and levers are capable of producing 70 tons of lime of lime and 120 tons of cement weekly, both products are well approved by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance. The building is of a substantial and the machinery of the best description; the motive power is given by two iron water-wheels, driven by the river Chew, a regular stream of water, of great power; and there is a steam engine, with boilers, if required. Additional supply of lias stone to be raised from adjoining quarries on favorable terms. May be viewed till the Sale, and particulars had of Messrs. LINDO & SONS, Solicitors, 4a, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 19, Bread-street, Cheapside; at the Mart; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, 9th FEBRUARY, 1864, and following day, the Valuable and Useful MATERIALS of several Dwelling Houses and Warehouses, situate on Dowgate hill, in Turnwheel-lane, Bush-lane, Cherry-tree yard, and Scott-yard; comprising, several tons of lead in pipes and gutters, slates, plain and pan tiles on roofs, stone paving and coping, excellent flooring boards, joist timber and joists, wrought jambs, sashes and frames, panelled doors, bolts and other doors and frames iron railing, guard bars, and a variety of useful fixtures and fittings up. May be viewed the day prior and morning of Sale, and catalogues had on the Premises at the Contractor's Office, 1, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 17th day of FEBRUARY, 1864, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

20,000 Spruce Deals, Battens, and Ends
5,000 Quebec Pine and Spruce Deals
2,000 St. Petersburg R. and Whitewood Deals
4,000 Onega Bed Deals, Battens, and Boards
2,500 Archangel Redwood Deals and Battens
1,300 4 by 11 inch Fresh Redwood Mould Deals
8,500 Swedish Redwood Deals, Battens, and Ends
7,000 Fresh Redwood Deals Battens
1,200 Wyborg Redwood Deals
3,000 4 by 9 inch Sundarne Deals
200 Loads Quebec Board Yellow Pine
200 Loads Quebec Red Pine
200 Loads Quebec Pine
20 Loads Quebec Oak
30 Loads Quebec Elm
200 Loads Fresh Memel Timber
50 Loads Dantzic Redwood Timber
80 Loads Dantzic Oak
200 Loads Swedish Timber
1,000 Norway 4 to 8-inch Spars
20 Fathoms Hemlock, Memel, and Dantzic Fresh Lathwood Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canon's Marsh, Bristol, February 3rd, 1864

SALE of the AUCTION MART, LONDON.

The Directors of the Company of Proprietors of the Auction Mart will be prepared, at ONE o'clock p.m. on MONDAY, the 29th day of FEBRUARY next, at the Board-room of the said Company, in the Mart, to open sealed TENDERS from persons desirous of PURCHASING the premises generally known as the AUCTION MART, opposite to the Bank of England, London. Each Tender must be accompanied with a receipt annexed to it, signed by the proper officer of the Union Bank of London, acknowledging that the sum of £ has been paid into the Bank by the person making such Tender to an account there of "The Trustees of the Auction Mart," and no cognizance shall be taken of any Tender not so signed. And no Tender delivered his Tender with such receipt annexed thereto into the hands of the Secretary of the said Company, either on SATURDAY, the 27th of FEBRUARY next, between the hours of TEN a.m. and FOUR p.m. or upon the morning of MONDAY, the 29th day of FEBRUARY, between the hours of TEN a.m. and ONE p.m. after which time no Tender for or for any such Tender will be received. The highest Tender will be accepted, provided the sum tendered shall be equal in amount to, or exceed, a reserved price determined upon by the Directors of the said Company and unknown prior to the time of opening of any of the Tenders. If upon opening the Tenders it shall be found that two or more Tenders are of the same amount, with such amount the highest tendered, the Directors of the said Company reserve the power of reading which one of such two or more Tenders shall be accepted, and of rejecting the one or more not so accepted. A form of agreement to be entered into will be ready to be executed by the person whose Tender shall be declared accepted, immediately upon any such declaration being made by the Directors of the said Company, and the deposit money of such person shall absolutely forfeit to the Company the sum he shall have previously deposited in the said Bank. Copies of the said agreement, together with copies of the Conditions of Sale and Terms of Tender, and Forms of Tender, have been printed, and may be had gratis on application at the Auction Mart, or at the Offices of the Solicitors to the said Company, Messrs. UPTON, JOHNSON, & UPTON, 20, Austinfriars, E.C. The moneys deposited by all parties whose Tenders may not be accepted will be returned to them on application at the Union Bank of London, on the 29th of February, between the hours at which a final declaration may be made with respect to the Tenders received and Four p.m. or on the ensuing day between the hours of Ten a.m. and Four p.m. The premises may be viewed by all persons provided with tickets, to be obtained as above.—By order of the Board of Directors,

Auction Mart, January, 1864 G. H. JAQUES, Secretary.

TO BUILDERS and OTHERS.—SALE ROOMS, 13, High Holborn.—A Large STOCK of BUILDERS' IRONMONGERY, and BRASS FOUNDERS' GOODS, of every description; 10 tons of nails and screws, register and slipper stoves, kitchen ranges, 600 yards O G and hollow moulding, iron stable-fittings, marble chimney-pieces, one ton mill-boards, spring carpets, linens, colours, varnishes, tools and leather; sundry materials. Without reserve.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, at the SALE-ROOMS, 13, High Holborn, on MONDAY next, at TWELVE o'clock precisely, without the least reserve, the STOCK-IN-TRADE of a Black and General IRONMONGER, and other Building Materials.—On view. Catalogues ready.

COLLECTION of PICTURES, removed from 28, Ovington-square, Brompton, to the Auction Rooms, 71, Old Bond-street, by order of the Executor of Robt. Lynn, Esq. of Dublin.

MR. FRED. GODWIN will SELL by AUCTION, on TUESDAY the 16th FEBRUARY, and Two Following Days, at TWELVE for ONE, a large COLLECTION of PICTURES, Ancient and Modern, 1,500 in number, and including specimens by—

Cuyp	Sir D. Wilkie	Westermans
Hughtenburg	Reynolds	R. Wilson
Both	Van Dyck	Cavalett.
Watteau	Rembrandt	Vanderveldc
Wyck	Sir Geo. Beaumont	S. Rosa

and by various other masters. The Pictures may be viewed on the 13th and 15th inst. and catalogues had at the Rooms; and at Mr. GODWIN'S Offices, 3, Halkin-terrace, Belgrave-square, S.W.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on THURSDAY, the 25th FEBRUARY, 1864, at FOUR o'clock precisely (by order of the Importers, &c.)

1,000 Swedish Deals and Battens
2,000 Norway ditto
11,000 Petersburg ditto
6,000 Quebec Pine and Spruce Deals
— Lods French and Colonial Timber
— Quebec Pipe Staves
12,000 Lath Staves.

And at SIX o'clock precisely.

MAHOGANY..... 200 Logs Honduras Mahogany (northern wood, of superior quality and good dimensions, now landing ex "Sea Serpent" from Belize.

ROSEWOOD ..... 1,500 Planks Bahia.
WALNUTWOOD .. 84 Ditto Italian.
And other goods.

Catalogues in due time of THOMAS ROBERTS & CO. Brokers, 9, Billiter street, E.C.

TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION, at TWELVE, Holborn-bars, and 1, Castle-street, Holborn-hill, on TUESDAY next (FEBRUARY 9), at ONE, a large and important STOCK of FRENCH and ENGLISH PAPERHANGINGS, in extraordinary variety, nearly 200 white and coloured marble chimney-pieces, comprising almost every style in use, and including some of great beauty, 10 feet of white tiled, a few water-closets, and other effects.—May be viewed and catalogues had on MONDAY and morning of sale

WESTMINSTER.—Valuable and extensive Plot of Freehold Building Land, in Victoria-street, for immediate Sale.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION at the MART, near the Bank of England, on WEDNESDAY, the 24th of FEBRUARY, at TWELVE o'clock, in one lot, a very valuable FREEHOLD ESTATE, consisting of a large PLOT of first-class BUILDING LAND, in a desirable position, in Victoria-road, Westminster, close to the Abbey and the Houses of Parliament. It has a frontage of about 660 feet to Victoria-street, and of about 150 feet to Bessborough-street, with a considerable depth, and has an area of about two acres. The situation renders this land well adapted for the site of any public building or institution, or for the erection of professional chambers, or mansions in the best neighbourhood; and a block of this size, in the heart of London, is becoming daily more difficult and costly to obtain. The land (except as to a very small portion), will be free from the ordinary burdens, and will not be affected by the liabilities of the Westminster Improvement Commissioners.—Particulars, with plans, may be had of Messrs. W. and W. A. WALLER, 27, King-street, Cheapside, E.C.; at the Mart; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, No. 10, Waterloo-place, Pall-mall, S.W.

TO TIMBER MERCHANTS, SHIPBUILDERS, WHEELWRIGHTS, BUILDERS, and OTHERS.

MESSRS. ROBERTS & CO. will SELL by AUCTION on WEDNESDAY next, FEBRUARY 10th, at TWELVE o'clock precisely, in the SECOND PORTION of the WELL-SEASONED STOCK of Messrs. R. WARD & SON, on the PREMISES, 101, Bermondsey New-road, Southwark, S.E.; comprising 10m. ft. run mahogany in logs, planks, and boards, oak and teak timber, mill plank, beech plank, birch, dry Honduras and walnut panel board, spokes, felloes, stocks, and every description of wheel and shipwrights' timber, dry yellow and white deals, planks, and battens, dry white and yellow prepared flooring, matched boards, &c. On view day prior, and morning of sale. Catalogues had on the premises, and of the Auctioneers, 9, Billiter-street, E.C.

BUILDING MATERIALS.—To Carpenters, Builders, and Others.

MESSRS. F. HALL & SON will SELL by AUCTION, on THURSDAY, FEBRUARY 11th, 1864, at TWELVE o'clock, on the PREMISES, Cheshire street, Shoreditch-gardens, Kensington, the excellent MATERIALS of some MODERN HOUSES, & taken down for the London, Chatham, and Dover Railway: comprising sound timber in long joists, rafters, plate, and quartering, long fresh cut scantling, fir girders, and prestanuons, oak ground posts, excellent long flooring and warehouse boards, 2 by 4 and 3 inch floors and other deals, 11 pairs modern sashes and frames, French casements, partitions, doors, &c. coachhouse gates, plain tiles, York paving, stone slabs, ornamental ironpipes, hearths, &c. stoves and ranges, force pump, water-butts, a few lots of dry yellow deals and planks, and other useful materials and effects.—May be viewed, and catalogues had, of the Auctioneers, Chester street, Kensington, S

LUTON, BEDS. To ENGINEERS, MACHINISTS, SEWING-MACHINE MAKERS, and OTHERS.

MR. GEORGE HALTON will SELL by AUCTION, on WEDNESDAY, FEBRUARY 17th, 1864, at TWELVE o'clock, on the PREMISES, Foundry Lane, Luton, Beds, by order of the Trustees of the Estate of Mr. BLAND, the VALUABLE MACHINERY, in excellent condition, in its SIX HORSE POWER CYLINDRICAL EGG-END STEAM BOILER, 6-in horse power table engine, with piping, &c. complete; a 50 feet screwing lathe, 12-inch centres, vertical drill head combined, driving chuck, and face-plate complete; a very powerful fly press; 8-inch centre back-geared lathe, 8-feet bed, with hand and slide rests, drilling jack and plate, vertical drill, with moving table complete, fitted for power; camb cutting machine, with over-head motion; set of four gearing drivers, four pulley couples; shafting, riggers of various width, banding, forge, bellows and frame, a sewing machine, various tools, and other effects.—May be viewed two days prior and morning of sale, and Catalogues had at the Auctioneer's Offices, Luton and Woburn, Beds, or by post on application.

HELD AT A PEPPERCORN RENT.—A commanding Corner Upholsters Shop and Premises, with handsome double plate-glass Front, Stalling, &c occupying an excellent Business Position, fronting the Cattle Market, No. 13, Eden-place, near Commercial road, Old Kent-road; let at the low net Rent of 64l; Term, 60 Years; free of Ground-rent. Also that valuable Engineer's Factory, the "East London Iron Works," Stepney-causeway, Old Kent-road, comprising Three Floors, Clerk's Office and private Room, Counting-house, three-stall Stable, Cart Shed, and separate Cart Entrance, and Manager's Residence; the whole let to a yearly Tenant at the inadequate Rent of 70l. per Annum: worth 84l.; Term, 60 Years; at the usual Ground-rent of 6l

MESSRS. TEBB, BROTHERS, will SELL by AUCTION at the AUCTION MART on WEDNESDAY, FEBRUARY 17th, at ONE o'clock. Particulars at the Auction Mart and Auctioneers', 11, Kingsland-road, and 3, Adelaide-place, London-bridge, E.C.

In Chancery: "Vokins v. Gray."—Freehold Building Land, Spitalfields.

MESSRS. PRICE & CLARK will SELL by AUCTION at GARRAWAY'S, Change Alley, Cornhill, on WEDNESDAY, the 10th FEBRUARY, 1864, at TWELVE for ONE, pursuant to an Order of the High Court of Chancery, made in the above cause, a valuable piece of FREEHOLD LAND, situate in Spitalfields, in the County of Middlesex, containing from north to south, on the west side, 138 feet 10 inches, or thereabouts, and from east to west on the north side, 94 feet, or thereabouts, having a frontage towards Crispin-street of 110 feet, and a frontage towards Raven row of 80 feet, or thereabouts, and three FREEHOLD HOUSES standing on part thereof.—Particulars with Plans may be had of Mr. DOVE, Solicitor, 64, Hunter-street, Brunswick-square; of Mr. BOYDELL, Solicitor, 41, Queen-square, Bloomsbury; and of the Auctioneers, 48, Chancery-lane.

MAIN DRAINAGE WORKS.—CART HORSES.—TO RAILWAY CONTRACTORS, WHARFINGERS, BUILDERS, AND OTHERS.

MR. J. GOWER will SELL by AUCTION, at his REPOSITORY, Barbican, FRIDAY, FEBRUARY 12, by direction of that well-known Contractor, Mr. Geo. Furness, (Second Portion of) TWENTY-FIVE Young, Powerful, Active CART HORSES. Have been employed at the Northern Outfall of the Main Drainage Works at Plaistow, nearly completed.—On view two days prior.

CAMDEN TOWN.—To Builders, Carpenters, Cabinet-makers, Painters, and Others.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, on MONDAY, FEBRUARY 8th, at TWELVE for ONE, the BUILDER'S STOCK, comprising a large quantity of planks, deals, and battens, 700 squares of flooring, 5,000 feet of wide pine, 4,000 feet mahogany, oak, beech, and sycamore match linings, scantling die square, plating battens, 25 doors, 4,000 feet moulding, dry cut stuff, steps, ladders, trestles, dry colours, painters' tools, old materials, &c. May be viewed, and catalogues had, at the Auction Offices, Cardington-street, Hampstead-road.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, farm cases, &c. combining great transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. A quarrums with slate or marble bottoms of various sizes, with or without fountain, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PURE SILVER LOOKING-GLASSES manufactured by NEW PROCESS.—Unequalled in brilliancy. Not liable to injury from damp, heat, or handling. EMBOSSED, ORNAMENTAL and BENT GLASS, SILVERED, at MODERATE RATES.

PATENT SILVERING COMPANY (LIMITED), 7, LOWER KENNINGTON LANE, S.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 6, Bath-street, City-road, E.C. Estim. strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and
45, JOHN DALTON STREET, MANCHESTER.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cranbourn-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes may be procured WHOLESALE and RETAIL in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

STAINED GLASS WINDOWS, GLASS MOSAIC, AND ENCAUSTIC DECORATIONS FOR CHURCHES.
MOBERLY & LYON,
13, BERNERS STREET, OXFORD STREET, W.
Descriptive price-lists, drawings, and estimates sent on application.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet, Rough Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
ROBERT WRIGHT'S CITY GLASS WAREHOUSE,
No 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

WINTER PLASTERING.
BARHAM'S "RENDERING" CEMENT,
Now in use at the New Station, Exeter, for covering 6,000 yards of rough stone wall, WITHOUT MORTAR. Manufactured by
BARHAM, BROTHERS,
BRIDGWATER,
Manufacturers, also, of Artificial Portland Cement, Roman Cement, Plaster of Paris, Ground Aberthaw Lime, Whiting, &c.

PENCILS, BLACK LEAD, and COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS.
Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday-street, E.C.
SOLD BY ALL STATIONERS AND ARTISTS' COLOURMEN.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 6, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1097. FEBRUARY 13, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BALL,

This ANNUAL BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 18th, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, under the patronage of the Right Hon. the LORD MAYOR, the LADY MAYORESS, and the SHERIFFS.

COMMITTEE OF MANAGEMENT.

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Mr. W. L. Edwards.	Mr. G. Myers.	Mr. W. Wood.
Mr. H. Everat.	Mr. W. Norris.	
	Mr. J. H Notley.	

Of whom Tickets may be obtained; also of Mr. JOSEPH BIRD, Hon. Sec. 10, Hanover Cottages, Regent's-park; and at the Offices, 23, Southampton-street, Bloomsbury.

Double Ticket, £1s.; Lady's Ticket, 8s.; Gentleman's Ticket, 14s. including refreshments.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.

PRIZES FOR COLOURED DECORATION.

51. 5s. and 2l. 2s. are now offered. The Competition will be open till MARCH 1st, 1864. Casts for colouration, price 5s. and full particulars may be had by letter to the Honorary Secretary, at 13, Stratford-place, W., A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

All requests for Casts for Colouration must be accompanied by a Post-office Order on Charing-cross for 5s.; or if case and packing required, 7s

SOUTH KENSINGTON MUSEUM

COMPETITION.

TO ARCHITECTS and OTHERS preparing DESIGNS for the Above.—The Advertiser begs to draw the attention of those who intend competing to his patented IMPROVED FIRE PROOF MATERIALS for BUILDING PURPOSES, pronounced by the most eminent authorities to be the only effectual means of rendering buildings fireproof. Communications and inquiries are respectfully solicited by W. B. HOGG, 10, Rotherhithe-wall, S.E.

THE PAINTERS' COMPANY'S EXHIBITION

of DECORATIVE and IMITATIVE WORK will take place in JUNE, 1864, with Two Extra Prizes of Five Pounds each for Decoration. Terms to be had (from Eleven to Two) at the Hall, No. 9, Little Trinity-lane, City, E.C. N.B. Early application should be made for space. F. G. TOMLINS, Clerk.

JUNIOR ATHENÆUM CLUB.

—Noblemen, gentlemen, members of the universities, associates of the learned societies, and others desirous of becoming Members of a first-class Club on the basis of the existing Athenæums, are requested to COMMUNICATE with G. R. WRIGHT, Esq., F.S.A. Secretary pro tem. Committee-room, St. James's Hall, Regent-street.

ARCHITECTURAL EXHIBITION,

9, CONDUIT STREET, Regent-street.—All Drawings to be sent in between NINE and SIX on FRIDAY, MARCH 4th. Application should at once be made for the limited space allotted to materials by those who wish to exhibit.

JAMES FERGUSSON, F.R.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

NATIONAL SHAKESPEARE COMMITTEE,

120, PALL MALL.

Notice is hereby given, that an ADJOURNED MEETING of the GENERAL COMMITTEE will be held on MONDAY, FEBRUARY 15, at the SOCIETY OF ARTS, to receive (1) a Report from the Site and Monumental Committee; (2) a Report from the Dramatic and Entertainment Committee. The chair will be taken at FOUR o'clock, p.m. by His Grace the DUKE of MANCHESTER.

W. HEPWORTH DIXON, } Hon. Secs.
J. O. HALLIWELL, }

NATIONAL SHAKESPEARIAN TERCENTENARY FESTIVAL, STRATFORD-UPON-AVON.

—TO CHAIRMAKERS and OTHERS.—Persons desirous of TENDERING for the SUPPLY or HIRE of 2,000 CHAIRS, to be used during the Tercentenary Celebration in the Pavilion now being erected by the Stratford-upon-Avon Shakespeare Tercentenary Celebration Committee, can obtain form of Tender and full particulars, on application to Messrs. THOMPSON & COLBOURNE, Architects, Stratford-upon-Avon. Tenders to be sent in on or before TWELVE o'clock noon, on SATURDAY, the 20th day of FEBRUARY, 1864, addressed to the Chairman of the Tercentenary Festival Building Committee, Town-hall, Stratford-upon-Avon. The lowest or any Tender will not necessarily be accepted.—By order,

ROBERT E. HUNTER, Secretary.

ART-UNION of LONDON.—Subscription

One Guinea.—Prizeholders select from the public exhibitions. Every Subscriber has a chance of a valuable Prize, and, in addition, receives a handsomely-bound folio copy of Coleridge's poem of "THE ANCIENT MARINER," illustrated by twenty Plates, designed expressly for this Society, by J. Noel Paton, R.S.A. The Work is now ready for delivery.

444, West Strand, February, 1864. GEORGE GODWIN, } Hon. Secs. LEWIS POCOCK, }

ROYAL SCHOOL of MINES, JERMYN STREET.

—Professor WILLIS, F.R.S. will commence a COURSE of THIRTY-SIX LECTURES, "On Applied Mechanics," on MONDAY, the 15th FEBRUARY, at TWELVE o'clock, to be continued on every Week-day but Saturday. Fee for the Course, 3l.

Professor RAMSAY, F.R.S. will commence a COURSE of THIRTY LECTURES, "On Geology," on MONDAY, the 15th instant, at TWO o'clock, to be continued on each succeeding TUESDAY, WEDNESDAY, THURSDAY, and MONDAY, at the same hour. Fee for the Course, 3l. TRENHAM REEKS, Registrar.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.

The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work

72 74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

ASHFORD, KENT.—PROPOSED NEW CHURCH

near the RAILWAY WORKS.—The Committee are desirous of receiving DESIGNS for a NEW CHURCH, capable of holding not less than 600 persons. The outside walls to be of Kentish rag, tiled roof, open sittings of stained deal. The Architect is to state the sum for which the work may be completed; and must be prepared, if required, to find a builder willing to undertake it for such sum. 20l. will be paid for the selected design. Plans and specifications to be sent, under cover, to the Committee, at the College, Ashford, on or before the 1st of MARCH next.

JOHN PRICE ALCOCK, Chairman.

Ashford, January 28th, 1864.

TO ARCHITECTS.—VILLA and COTTAGE RESIDENCES.

—The Directors of the Manchester Villa and Cottage Association, Limited, offer 50l. PREMIUM for the BEST DESIGN, and 25l. for the Second best Design, for FOUR COTTAGES and SIX DWELLING HOUSES.

First a Row of Four Cottages, not to exceed 100l. each in cost.

Secondly, a Group of Two Houses, not to exceed 200l. each in cost.

Thirdly, a Group of Two Houses, not to exceed 300l. each in cost.

Fourthly, a Group of Two Houses, not to exceed 500l. each in cost.

The plans and drawings, at a scale of 1in. to 1ft. with figured dimensions, to be sufficient to show the respective designs, and to be accompanied with a general description of the materials and finish. Plans of proposed sites for the groups may be had from the Secretary. Buildings undertaken by the Association may be built under the superintendence of any architect nominated by the person or persons who covenant to purchase them when built. Messrs CORBETT & RABY, the Architects and Surveyors to the Association, will not compete for the above, but will assist the Directors in adjudicating the premiums. The designs to be sent in to the Secretary, sealed and endorsed "Designs for Villa and Cottage Residences," on or before the 30th of APRIL next, marked with a motto, and with sealed envelope containing Architect's address, or signed with name instead of motto, if preferred. Designs not adjudged to receive the premium to be returned.

JOHN WORTHY WILLIAMS, Secretary.

Offices, 26, Market-street, Manchester, January 15, 1864.

PENARTH HARBOUR, DOCK, and RAILWAY COMPANY.

—NOTICE to ARCHITECTS, BUILDERS, and OTHERS. The Penarth Harbour, Dock, and Railway Company, are prepared to receive PLANS, DESIGNS, ESTIMATES, and SPECIFICATIONS for an HOTEL, a DOCK-MASTER'S HOUSE, a DOCK-OFFICE, a CUSTOM-HOUSE, and TEN MERCHANT'S OFFICES, to be erected at Penarth. The Company will pay a premium of 50l. for those Plans and Designs which shall be considered by the Company the best. A ground plan may be seen and further particulars obtained on application to the Company's Secretary, at the Penarth Harbour Office. Plans and Designs to be sent in, addressed to the Directors, on or before the 19th MARCH, 1864.—By order of the Board,

BOOTH BACON, Secretary.

Company's Office, near Cardiff, Feb. 10th, 1864

CONTRACTS.

ARMY CONTRACTS.—TENDERS will

be received at this Office until TWELVE o'clock, Noon, on TUESDAY, the 23rd FEBRUARY, from parties who may be willing to enter into CONTRACTS for the SUPPLY of FUEL and LIGHT, in such quantities as may be required, for the use of Her Majesty's Forces and Military Departments at the following places, from 1st APRIL, 1864, to 31st MARCH, 1865:—

Aldershott Camp.—WALLSEND COALS, COKE, KINDLING WOOD, CORFSTITE and DIP CANDLES.

Royal Military College, Sandhurst.—WALLSEND COALS.

Waterworks, Bourley—SMALL COAL (such as that known as "Newport Smalls").

Separate Tenders are required for each of the above-named places, and for Fuel and for Light.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock, where every information on the subject will be furnished.

The Tenders must be made on the printed forms, properly filled up, signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Army supplies"), by the hour appointed, and no Tender will be noticed that is not in compliance with these conditions.

Commissariat Office, Aldershott, 5th February, 1864.

NOTICE to BUILDERS.—The Commanding Royal Engineer at Sheerness hereby gives notice, that

sealed TENDERS will be received at the Office of the Director of Contracts, War-Office, Pall-mall, on or before TUESDAY, the 1st day of MARCH, 1864, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of three years, commencing on the 1st day of APRIL, 1864, for the SUPPLY of MATERIALS, and for the performance of such Bricklayers', Masons', Carpenters', Slaters', Plasterers', Plumbers', Smiths', Paviors', Painters', Glaziers', Paperhangers', and Gasfitters' Work, as may be required by the Royal Engineer Department at the Stores, including Cheyney Rock and Queenborough, the Isle of Grain, with the Tower, and Slough Fort.

Only one contractor will be accepted for the whole of the trades; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work, which rates of per-centage may be different for each trade, should it be deemed expedient.

Printed schedules and every particular relating thereto may be obtained at this Office, between the hours of TEN and FOUR, till the 27th FEBRUARY, instant, after which date none will be issued.

Tenders for the above works to be addressed to the "Director of Contracts, War-office, Pall-mall, London, S.W.," and endorsed "Tender for Builders' Work, Sheerness, &c." in the left hand corner of the envelope.

No Tender will be attended to which is not filled up strictly in conformity to the instructions, as stated in the printed schedules nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may tender.

N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Sheerness, Feb. 4, 1864

POULTON, BARE, and TORRISHOLME

LOCAL BOARD of HEALTH.—MORECAMBE WATER SUPPLY.—To IRONFOUNDERS and THERS. The Local Board of Health for the district of Poulton, Bare, and Torrisholme, in the County of Lancaster, do hereby give notice, that they are prepared to receive TENDERS from all parties willing to SUPPLY CAST IRON PIPES and other CASTINGS required for the Proposed WATER-SUPPLY of Morecambe, within the said district.—Drawings may be seen, and copies of the specification, with duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained (on payment of one pound) on application at the Office of C. T. CLARK, Esq. Solicitor, Lancaster (Chairman of the Local Board); or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Cast iron Pipes," must be forwarded to the Chairman of the Local Board, on or before MONDAY, the 29th day of FEBRUARY, 1864. The Local Board do not bind themselves to accept the lowest or any Tender.

C. T. CLARK, Chairman of the Local Board.

Morecambe, 12th January, 1864.

METROPOLITAN IMPROVEMENTS.—

SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office, Spring-gardens, Charing-cross, on WEDNESDAY, the 2nd MARCH, now next, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all for any of certain PLOTS of GROUND, situate on the north and south sides of Southwark street from High-street, Borough, to Blackfriars-road. Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Ground in Southwark street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring gardens, Charing-cross, 9th January, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—LEEDS MECHANICS' INSTITUTION and SCHOOLS of SCIENCE and ART.—CONTRACTS are required for the ERECTION and COMPLETION of the proposed NEW BUILDING for the above Institution. The plans, specifications, and terms of conditions may be seen at the Office of Mr. CUTHBERT BRODRICK, C.E., Park-place, Leeds, on and after MONDAY, the 15th of FEBRUARY. Tenders are to be delivered to the Honorary Secretaries, the Lads Mechanics' Institution, South Parade, not later than MONDAY, the 7th of MARCH. The lowest Tender will not necessarily be accepted.—By order,

H. WARDMAN, } Hon. Secs.
W. J. NEILD, }

February 9, 1864.

CROYDON LOCAL BOARD of HEALTH.—WELL SINKING and BORING.—The Board are desirous of CONTRACTING for SINKING and BORING a Well, 4 feet 6 inches in diameter, through the Lambeth Hill Rock, and 3 feet 6 inches in diameter through the Chalk, in the Yard of the Workhouse, Croydon, and for supplying and fixing a Pump and Iron Pipes complete. Plans and Specifications may be seen at the Office of the Board, and Tenders, endorsed "Tender for Well," are to be delivered at my Office, before FOUR p.m. on the 22nd day of February inst. The Local Board do not hold themselves bound to accept the lowest Tender.

BALDWIN LATHAM, Engineer and Surveyor.

Engineer's Office, Town Hall, Croydon, Feb. 11th, 1864.

TO BUILDERS, CARPENTERS, and OTHERS.—NOTICE.—The Nevill Memorial Committee are prepared to receive TENDERS for the ERECTION of a BUILDING adjoining the Athenæum, Llanelly, consisting of a Museum, Class-rooms, Reading-room, Dwelling-house, and Stabling. Plans prepared by James Wilcox, F.R.A.B.E. (Bath), which may be seen at the Town Hall, Llanelly.—Sealed Tenders, addressed to "The Honorary Secretaries of the Nevill Memorial," at the Hon. Bankers, may be sent in on or before the 1st day of MARCH, 1864. The Committee do not pledge themselves to accept the lowest or any Tender.

FRED. L. BROWN,
RICHD. T. HOWELL, } Hon. Secs.
E. B. JONES,

Llanelly, 5th February, 1864.

TO CONTRACTORS.—DRAINAGE.—The Halstead Local Board of Health are prepared to receive TENDERS for CONSTRUCTING and LAYING the MAIN DRAINAGE for the Town of Halstead. The drawings and specifications may be seen, and forms of Tender may be obtained, at the Office of Mr. E. MONSON, Surveyor to the Local Board, at Halstead; and sealed Tenders must be sent to me on or before SATURDAY, the 27th of FEBRUARY inst. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

G. P. ARDEN, Clerk to the Board.

Halstead, February 12, 1864.

BOROUGH of PORTSMOUTH.—LANDPORT and SOUTHSEA TRAMWAY. To CONTRACTORS.—The Directors of the Landport and Southsea Tramway Company are desirous of TENDERING for the CONSTRUCTION of the above TRAMWAY from the Railway Terminus at Landport to the Southsea Pier, including the ADDITIONS to and at the PIER. The specifications and drawings will be found in the Offices of the Engineer, Mr. HOOD, 6, Little George-street, Westminster, on and after MONDAY, the 15th instant; and Tenders upon the prescribed forms can be had and delivered to the undersigned at the Knight's Arms, Southsea, before NOON on FRIDAY, the 26th instant. The Directors will not be bound to accept the lowest or any Tender, unless they think fit to do so.

HENRY HOLLINGSWORTH, Secretary.

King's Rooms, Southsea, 10th February, 1864.

CONTRACT for IRON ROOF and BUILDINGS.—PATENT FILE COMPANY, LIMITED. Plans and Specifications may be had on application for TWO CONTRACTS, viz.:—

For Iron Roof, about 35,000 Square Yards, and Builder's Iron Work.

For the Buildings to be erected in Birmingham.

Persons desirous of Tendering for the above, or either of them, are requested to communicate by Letter, addressed to me, not later than TUESDAY, the 16th instant, addressed to the Manager Mr RICHARD ALLINSON, 23, Waterloo-street, Birmingham.

February 9, 1864. HENRY ROWEL, Secretary.

PARISH of SAINT MARY ABBOTTS, KENSINGTON, in the COUNTY of MIDDLESEX.—WATERING of STREETS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish aforesaid, will receive TENDERS at their Office, High-street, Kensington, on FRIDAY, the 19th day of FEBRUARY instant, at TWELVE o'clock in the forenoon, for the WATERING of the STREETS of the said Parish, HORSE-DRAWN and MEN, for WATERING certain STREETS in the said Parish, for Eight consecutive Months, commencing on the 1st day of MARCH next. The Vestry have ordered the Parish to be bounded, and to be divided into District.—South District, the parties Tender to be at liberty to Tender for the District, or any part or parts thereof. Printed Forms and schedule of streets can be obtained on application at the Vestry Hall, where the Tenders, sealed, and endorsed "Tender for Street Watering" are to be delivered, before the hour named for the delivery of the same. The Committee will be prepared to enter into a written contract, and to require two good and sufficient sureties in a bond of £200. The contractor to pay the expenses of contract and bond.—By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, February 8, 1864.

LONDON, CHATHAM, and DOVER RAILWAY.—To TIMBER MERCHANTS and OTHERS.—The Directors of the London, Chatham, and Dover Railway Company are prepared to receive TENDERS, on or before the 22nd instant, for the SUPPLY of 6000 BEECH SLEEPERS, 2000 SAWN HARD WOOD SLEEPERS, 10 inches by 5 inches, delivered free, on their Wharf at Faversham. The specification and form of Tender may be had, on application at the Office of Mr. WILLIAM MILLS, the Company's Engineer, at Victoria Station, S.W. The Directors do not hold themselves to accept the lowest or any Tender.—By order,

E. W. JOHNSON, Secretary.

Office, Victoria Station, 9th February, 1864.

TO BRICKLAYERS, &c.—The Vestry of the Parish of Rotherithe will meet on TUESDAY, the 1st day of MARCH next, at HALF-PAST SIX o'clock in the evening precisely, at the BOARD-ROOM at the Workhouse, Deptford Lower-road, to open and consider TENDERS from such persons as may be desirous of CONTRACTING for the execution of such DRAINS as the Vestry may direct to be performed in the Parish of Rotherithe. Printed forms of Tenders and particulars of the work to be done, may be obtained at the Clerk's Offices, 61, Paradise-street, Rotherithe; or of Mr. GEORGE LEGG, the surveyor, 61, Kirby-street, Hatton-garden, London. Tenders, accompanied with the names of two responsible persons, to be bondsmen for the contractor, and addressed to the CLERK of the VESTRY, must be sent in on or before TWELVE o'clock on TUESDAY, the twenty-first day of MARCH, after which time no Tender will be received. The Vestry requires the parties tendering, or some persons on their behalf, to be in attendance at HALF-PAST SIX o'clock on the day appointed for opening Tenders. The Vestry will not accept the lowest or any Tender, unless signed by—By order,

HAWKS & STOKES, Clerks.

February 12th, 1864.

TO STONE MERCHANTS and PAVIORS.—The Vestry of the Parish of Rotherithe will meet on TUESDAY, the 1st day of MARCH next, at HALF-PAST SIX o'clock in the evening precisely, at the BOARD-ROOM at the Workhouse, Deptford Lower-road, to receive TENDERS for such persons as may be desirous of CONTRACTING to SUPPLY, for the use of the Vestry, GUERNSEY GRANITE PAVIORS' YORK PAVING, HALF-SOVEREIGNS for CARRIAGE PAVING, CURB, GUERNSEY GRANITE CHIPPINGS or SHIVINGS, &c., for one year, to be delivered alongside Wharf at Rotherithe.—Forms of Tender and Schedule of Articles required may be obtained at the Clerk's Office on or before TWELVE o'clock on TUESDAY, the 22nd day of MARCH, after which time no Tender will be received. The Vestry require the parties tendering, or some persons on their behalf, to be in attendance at HALF PAST SIX o'clock on the day appointed for opening Tenders.—The Vestry will not accept the lowest or any Tender, unless signed for.—By order,

HAWKS & STOKES, Clerks.

February 12th, 1864.

BOARD of WORKS for the HACKNEY DISTRICT.—CONTRACT for CAST-IRON LAMP POSTS.—Notice is hereby given, that the Board of Works for the Hackney District will at their Meeting, to be held at the TOWN HALL, Church-street, Hackney, on THURSDAY, the 25th of FEBRUARY next, CONTRACT for the supply of 50 CAST-IRON LAMP-POSTS, to weigh not more than 3½ cwt. each post, with H. B. W. pattern Bracket Head. The quality of iron to be not inferior to that used, marked thereon. The quality of iron to be seen by applying at the office contained in the pattern, which can be seen by applying at the office of the Surveyor, Mr. JAMES LOVEGROVE, C.E., Town Hall, Hackney, any morning between the hours of NINE and TEN. To be delivered, free of expense, at the Store beneath the Railway arch, near the Hackney Station, before the expiration of two months from the date of order, under a penalty of 20s. per day per and above the said two months. Pattern for the casting to be provided by and at the expense of the Contractor. The Tender to be addressed and sent in to the Clerk on or before the 24th day of FEBRUARY next, in the Envelope, endorsed "Tender for Lamp Posts." The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

RICHARD ELLIS, Clerk.

Board, February 6th, 1864.

TO BUILDERS.—TENDERS required for a DETACHED HOUSE, at Staines, near Windsor, and for a DETACHED HORSE and STABLES, at Shirley, near Croydon, Surrey.—For particulars, and copies of the drawings and specification, apply to Mr. HERBERT FORD, Architect, 1, Charlotte-row, Mansion House, E.C. (four references will be required.)

TO BUILDERS.—WESLEYAN CHAPEL, LEVENSHULME.—Drawings and specification and conditions of Contract, may be seen and Tenders delivered at land free of charge at my Offices, on or before FRIDAY, the 19th instant. Tenders to be delivered on SATURDAY, the 27th inst.

THREE o'clock in the afternoon, to consider TENDERS from persons wishing to contract, from the 1st day of March next to the 1st day of March, 1865, for the supply of HORSES, CARTS, and DRIVERS as may be required by any part of the Parish. Parties tendering must appear personally on the day the Tenders are opened, and the Tenders must be upon the printed forms to be obtained here. Sealed Tenders, signed by the proposed Contractor, with the names and descriptions of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the 22nd inst. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, February, 1864.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of this Parish will meet in the Board Room at the Vestry Hall, King's-road, on TUESDAY, the 16th FEBRUARY inst, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT pursuant to the terms of a Draft Contract now lying for inspection at the Vestry Hall aforesaid, and which may be seen on application to the Vestry Clerk, for WATERING the STREETS comprised in the following Districts, viz.:—

1. That portion of the Parish lying to the north of the Brompton Canal, and to the west of Sloane-street, including Cadogan-place, Sloane-gardens, Pont-street, Cadogan-terrace, Lower Sloane-street, Holbein-place, Upper Sloane-street, Chelsea Barracks, Ranelagh-road, Ranelagh-gardens, Ranelagh-terrace, Ranelagh-grove, Ranelagh-cottages, Hamilton-terrace, Hamilton-place, Grosvenor-road, Grosvenor-terrace, Grosvenor-cottages, Grosvenor-place, Grosvenor-gardens, Grosvenor-mews, Grosvenor-row, Grosvenor-street, Grosvenor-crescent

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WROUGHT AND CAST IRON
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Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
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Orders requiring Despatch and Punctuality can be executed in a few days.

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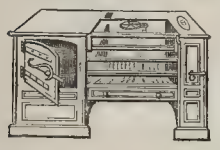
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Self-acting Cottage, with Oven and Back Boiler.

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34 ,,	26s.
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Self-acting, with Bright Wrought Bars.

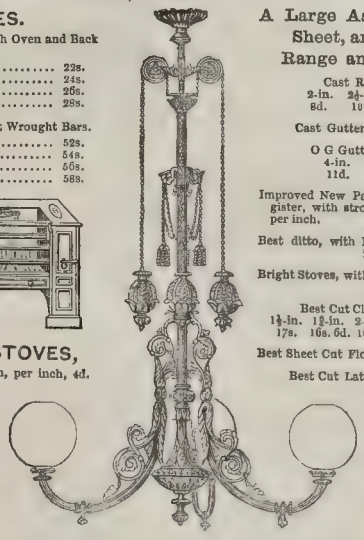
34 inches	52s.
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REGISTER STOVES,
with Strong Bars, from, per inch, 4d.

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A Large Assortment of Bar, Sheet, and Hoop Iron, Range and Stove Metal.

Cast Rain-Water Pipe,
2-in. 2½-in. 3-in.
8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on.
4-in. 4½-in.
11d. 1s. per yard.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 6d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.
1½-in. 1⅞-in. 2-in. 2½in. 3-in.
17s. 16s. 6d. 16s. 15s. 14s. 6d. per cwt.

Best Sheet Cut Floor Brads, 14s. 6d. per cwt.

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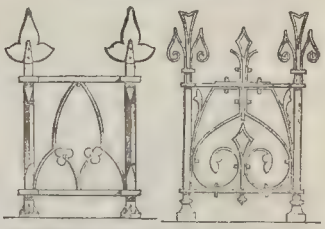
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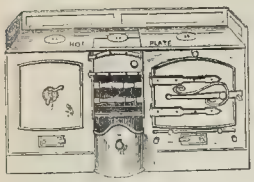
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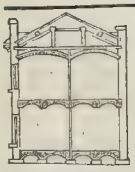
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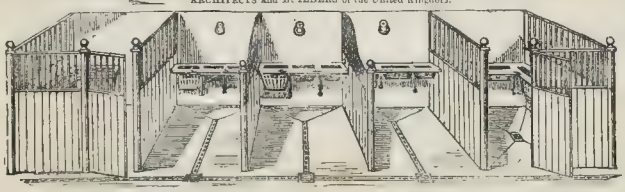
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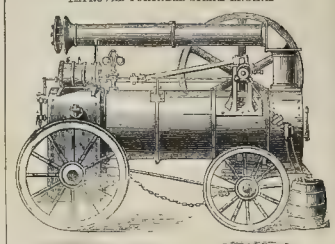
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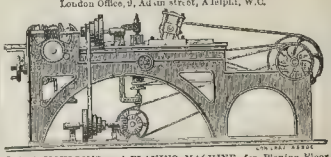
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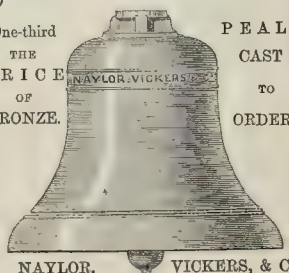
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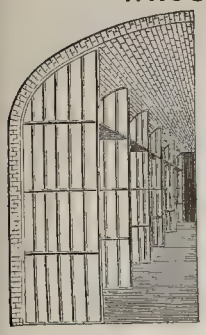
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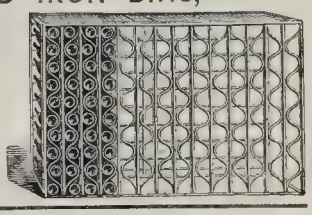
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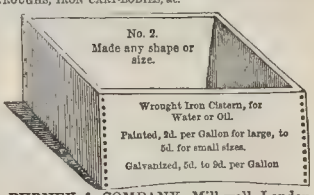
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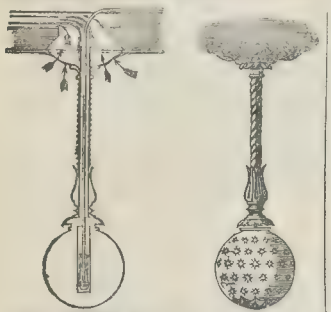


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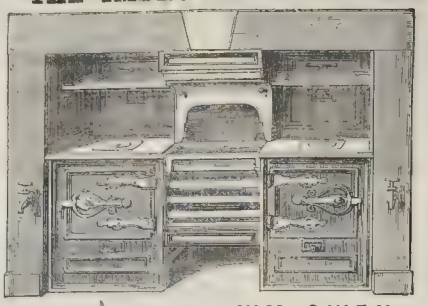


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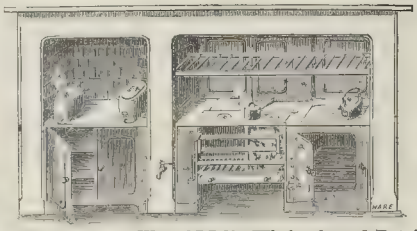
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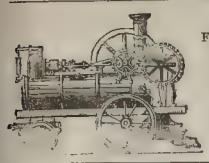
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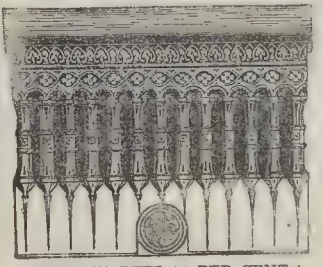
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BRICKS, TILES, SLATES,
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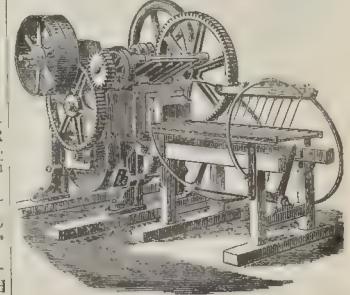
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BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

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The advantages of this plan are two-fold.

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THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.

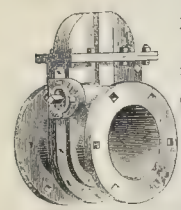
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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

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SILVER.	Guineas	GOLD.	Guineas
Strong Silver Lever Watches ...	5	Ladies' or Gentlemen's Gold Lever Watches	16
Do. do. superior ...	6 to 10	Ditto superior ...	18 to 35
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For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 136, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.

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PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

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Best Gelatine, prepared, and ready for moulding 2s. per lb.

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VOL. XXII.—No. 1097.

"Going Along." The Simplon Pass: Lausanne.

CALLED early, the luggage well packed, and all things arranged for a long journey and a night on the mountains, we take the road from Arona for the Simplon Pass, and have plenty of opportunity as we proceed to comment on the miserable taste shown throughout Italy, especially in their painted house-fronts. Anything more atrocious of their kind than these n scarcely be imagined. Between Arona and aveno granite quarries are met with, where en are engaged on column-shafts 16 feet long, d other large masses. The road shows the revalence of granite; the telegraph-wires e carried on shafts of it, 17 or 18 feet in ight, held up by cross pieces of the same aterial. We are now, however, to go along st, saying nothing of the fine porphyry-oloured mountains, with green trees interixed, that meet the sight, and giving no etails of Domo d'Ossola, where we sleep. he customary five horses rattle us out of it the morning, and then it is all up, up, up, nidst scenery that has often been described, t can never be adequately conveyed by words the mind of those who have not seen it. very one knows the road was commenced by der of the first Napoleon, and has not been ished sixty years. It includes more than 600 idges, and miles upon miles of masoned ter-ces. In places the road is cut through the anite mass, parts above overhanging. The cks are splitting and falling in every direction ith "mountainous o'erwhelming;" huge masses ing scattered about as if the Titans had been aying at "chucky-stanes." Here and there hole

> "——— mountains have fallen,
> Leaving a gap in the clouds;"

d filling up the valleys with destruction's linters. Here we have a waterfall; there a ock of goats. By the side of the road for miles ashes, and foams, and gambols a roaring torrent, ver,—

> —"Scatter'd heaps
> In ruin thrown,
> Wild desert shapes
> Of rock and stone."

verywhere Alps o'er Alps arise. The scene sternly magnificent. It is interesting to notice we go, evidences of the powers that are in peration to abrade the mountains, and produce country fit for cultivation. The process will ccupy long years, but it is sure. Heat, frost, ind, water, avalanche, glaciers, the action of egetation and of man are all playing their part gradually effecting the revolution. Within a ry few years soil has been formed wherein plants nd trees now flourish, where before was only ony barrenness.

On the road hither, men and women, inhabi-nts of Alpine valleys, are met suffering from oitre, or, to use the more technical word, *ronchocele*, which says in Greek, "throat mour." Surely it is discreditable to the science nd humanity of the country that this fearful isease, to say nothing of cretinism which ac-ompanies it, should be suffered to afflict, as it oes, whole villages, generation after generation. appears tolerably certain that it depends on he bad condition of the atmosphere breathed. f knowledge were spread teaching on what the disease depends, and how it might be avoided, the evil would in time be lessened. In certain places where goitre always prevails, if there be no known means of rendering the spot healthy, people should be forbidden to dwell there, and prevented by the State. They ought no more to be permitted to entail on their helpless offspring a foul and frightful disease, than they are to administer poison to them, or to cut off their legs. We are not without the scandal in England.

Where we enter Switzerland a stone pillar by the roadside marks the division from Italy, and a few miles beyond we meet with a small bridge over a yawning chasm, and which is said, popularly, to be prepared with gunpowder ready for destruction on the approach of an enemy: certain it is, at any rate, that a parapet wall on the opposite mountain-side affords good cover for riflemen to pick off an advancing foe.

At starting, the heat had been excessive; a day before scarcely bearable: but this state of things had changed; and when we reached the inn at Simplon, a wood-fire mouldering on the hearth, but speedily replenished and made to blaze, was a right pleasant sight, and a great comfort. A heap of the *Illustrated News*, and a pianoforte, that did not long remain unused, gave the room a look of home; and a capital dinner, including chamois steaks, was eaten jovially, with the thick clouds around us and the rain knocking impatiently against the window-panes: a wild look-out, but great contentment within.

A few miles farther on, and we reach the summit of the pass, barren and hard; a few miles more, now descending, and we are at the Hospice, an establishment somewhat similar to that on the Great St. Bernard, where belated or befogged travellers may pass the night in good rooms, and be well attended to. The monks who tenant it are of the Augustine order, and agreeable persons.

The ride thence to Brieg, entering on the Swiss mountains and long extending valleys, is delightful: the sun has again come out to show the beauties of the district. Most luxuriant foregrounds are capped by snow peaks and glistening glaciers, of which latter, by the way, in the Swiss Alps alone 608 have been counted. The roads are admirably formed and kept: in a few cases covered with a building to protect travellers from the constantly recurring avalanche,—"the thunderbolt of snow." In one instance, perhaps more, the roofed-in road passes under a vasty waterfall which is guided over it, and then, first forming a curtain of water before one of the openings of the gallery, falls away, thundering, to a depth below.

At Sion, noticeable for its castles, admirably placed, and forming fine pyramidal groups, we get the railway (opened in 1857) for Villeneuve at the eastern end of the Lake of Geneva. The tower of the cathedral at Sion is early in date. The church of St. Francis, late Gothic in style (dated 1516), has a porch, built in 1546, the stones of which exhibit on the face Masons' Marks,—the latest we remember. The number of passengers on the line was considerable (so were the stoppages), and here we met many Alpine travellers—more or less Alpine travellers,—all, at any rate, with alpenstocks of the best "brand;" sometimes suggesting, to inquiring minds, a quiet doubt whether "Pilatus" or "Rigi," burnt into a stick, would be admitted as proof in a court of law that the owner thereof had been at the top of the mountain aforesaid. How many of these tourists had waited and waited for what they were not permitted to behold? and which of them was it who sang,—

> "Nine weary uphill miles we sped,
> The setting sun to see;
> Sulky and grim he went to bed,
> Sulky and grim went we.
>
> Seven sleepless hours we toss'd, and then,
> The rising sun to see,
> Sulky and grim we rose again;
> Sulk and grim rose he."

The Swiss want sanitary knowledge terribly much. Round about most of their picturesque, but often trumpery and ill-cared for cottages, lie heaps of refuse and manure, tainting the sweet air, and so warning the instructed nose of the danger there existing. Notwithstanding some rubbish to the contrary talked at the Edinburgh Congress of the Social Science Association, a bad smell, nine times out of ten, shows evil and dangerous conditions. To a nasty odour, as to more positive pain, we ought to feel grateful: it shouts with all its voice, "Look out, my boy, you are on dangerous ground." Pain is, in truth, one of man's best friends, and, like many other true friends, is not half so well thought of as it should be. Eat something injurious, and pain at once calls out for physic for you; run against a sharp point, and the same sentinel says, "Mind what you are at, or you will touch a vital part;" or get a bullet in your body, and the ever-watchful guardian says, "Let this be taken out, or you will certainly die." Pain is a real good friend, who should be listened to carefully and regarded gratefully; not abhorred and grumbled at. However, we have nothing to do with pain just now. Villeneuve and the "Hôtel Byron" there, with its charming gardens overlooking Lake Leman, bring thoughts only of pleasure. To the left are the mountains of Savoy; to the right, reposing in the lake, is the Castle of Chillon, made by patriotism and poetry a place of world-wide resort, a shrine for countless pilgrims. When Byron says, as every one knows he does say,—

> "Lake Leman lies by Chillon's walls;
> A thousand feet in depth below
> Its massy waters meet and flow;
> Thus much the fathom-line was sent
> From Chillon's snow-white battlement;"—

he exaggerates the profundity of the water at that particular point, where, being at the narrow end of the lake, and close to the shore, a depth of 350 feet is nearer the truth; but more westerly, and in the centre, the late Sir Henry Delabeche, in 1827, found the depth that Byron gives, 1,000 feet, as nearly as might be. Seen in the daytime, the adjective "snow-white" scarcely applies to the castle, but by moonlight the term is precise. As we saw it, at such a time, it was a swan on a sea of ink: though this might have been an accidental effect, for the night was exceptional, including in its phenomena what we should be disposed to call the simoom rather than the sirocco, for the wind was dry as well as hot, and suggested sandy deserts heated intensely by the sun. The effect of this hot wind was singularly curious.

In Chillon Castle there are several things to be seen besides the actual prison of Bonnivard, its inmate during six years till 1536: such as the chambers of the Duke and Duchess, with painted walls and ceilings; the Hall, also adorned; a so-called *oubliette*, and a place of torture. The prison, partly formed in the living rock, is about 120 feet long (thirteenth century), with a row of columns along the centre which form a slightly curved line. Nearly all the stones of the one column to which Bonnivard was chained show, as the Mason's Mark, the pentacle. Amongst the million names which have been written on the pillars since Byron placed his there, we noticed those of Victor Hugo, "Geo. Sands," and Mr. Dana.

The railway that runs all round the lake on the north bank makes Lausanne an easy trip from Villeneuve, and this pretty place should be visited for the sake of its very fine cathedral even by those who would not care for its picturesque position or desire to see what remains of the summer-house and garden where Gibbon wrote the last lines of the "Decline and Fall," as he himself so touchingly tells. This incident alone, however, takes thousands to the place, such is the interest felt by man in man and man's work. It was in 1787 that the great historian finished

his work here. In 1793 he returned to England on account of the Continental troubles; and in February of the following year he died while on a visit to Lord Sheffield, at Fletching, in Sussex, and was buried in the parish church there. One caution we give intending visitors to Lausanne, and that is, not to expect any civility at the Hôtel-Gibbon if, as passing travellers, they call there desiring, say, only a dinner.

Professor Willis has pointed out some of the peculiarities of the main columns, the arches, and the groining of the nave of the cathedral. The eastern apse contains the most beautiful set of Romanesque capitals, belonging probably to the end of the eleventh century, that we remember. The Romanesque caps to the short columns of the arcading throughout the nave-aisles have been "restored" into Corinthian capitals! The stones everywhere, in both the eleventh and the thirteenth century work, present a rich harvest of Masons' Marks, very various in form, but in many cases precisely similar to some observable in the cathedral of Geneva, to which we shall refer by and by. The body of the church, Pointed in style, with a fine handsome interior, the triforium practicable throughout, is of the thirteenth century. There is a remarkable rose-window in the south transept, and the same term may be applied to the large south porch, which has three gables and a spirelet at the junction of the three roof-ridges.

Some carved wood stalls, by the way, against the south wall, in the nave, dated 1635, display German Gothic tracery. The cathedral being on very high ground, covered flights of steps have been made to lead up to it at one end, and produce a picturesque feature: indeed, much of Lausanne is remarkably picturesque; beautiful views, including the lake, abound; many elegant residences are scattered about, while new ones are building; and at Ouchy, its port, where there is a very large new hotel (still, never large enough during the season), the steamboat touching, as it passes up or down the lake, gives additional life and animation to the scene. We use the boat to return to Villeneuve, and there once more enjoy from the parapet of the gardens a glorious moonlight on the vast expanse of hill-encircled waters:

——"The rocks in prospect rise,
A flood of glory bursts through all the skies."

Moonlight, while it softens and beautifies what it touches, disposes the mind to regard with a tender interest all that is seen. It thus operates towards the same end in two ways.

The next chapter must close our relation.

STAND TO YOUR GUNS.

WHITWORTH *v.* ARMSTRONG AND OTHERS.*

The true and original invention of ordnance (smooth-bore) has, with much plausibility, been ascribed by Milton to Satan himself. With all the *super*natural interest of an inventor in the progress of his invention, Mephistophiles has doubtless kept pace with the times, is well up in practical engineering in its application to guns, and is thoroughly acquainted with all the intricacies of rifling, twist, breech- and muzzle-loading, initial velocity, initial tension.——But all the high-minded and patriotic inventors of ordnance say that every improvement of ordnance is a step towards the Millennium; "as the deadlier the weapons of warfare become, the less is the chance of war being undertaken, or, at any rate, long continued." We rather doubt this sophistical and flattering belief, and could bring many practical counter reasons. But supposing this argument to be true, then it would indeed be strange if the Enemy of Mankind should take much interest in the progress—even by such a queer path—of the children of men towards universal peace. For,—

..... "der Teufel ist ein Egoist
Und thut nicht leicht um Gottes Willen
Was einem Andern nützlich ist."

But the history of improvement in ordnance during the last ten years would have a special interest to its Original Inventor, quite independent of its scientific side. For a curse,—the curse of strife—seems to have fallen on almost all connected with this march of progress. We have noticed it to be a popular belief in many countries, that the inventors of instruments of destruction and torture are sure themselves to die a violent death. It is to be hoped that none of the very amiable as well as able men who have of late years given their attention to the improvement of ordnance will undergo such a fate. But it is a remarkable coincidence that our great-gun men do certainly not lead pleasant lives on their uneasy eminence. Nearly three millions of pounds sterling have been spent, amidst the execrations of the nation, on the original Armstrong gun—now literally "shunted" on one side. Mr. Whitworth has spent—well, we should be afraid to say what Mr. Whitworth has spent on his cannon. His artillery battles, and his fights on paper with Sir William Armstrong, have been a perennial source of excitement to the most *blasé* newspaper reader. Mr. Whitworth's rejected offer of his guns to the Emperor of the French—at a time when there was every belief that an attempt would be made to re-import them in a forcible manner—was an interesting instance of Manchester patriotism. The gallant Captain Blakeley is another doughty champion in this artillery warfare. Captain Blakeley believes that both Armstrong and Whitworth have pillaged his invention, and picked his brains. It is fortunate that duelling is no longer fashionable, otherwise—if we are to judge from the epistles from the gallant captain which have appeared at various times, within late years, in the public prints,—a not merely practical, but also personal test, would have been required by Captain Blakely. He also finds that the British Government "has forfeited all claim to his consideration," and he intends "that in future all his skill" shall be at the service of foreign Governments. Mr. Lancaster—one of the ablest of gunmakers—will be scarcely delighted with his career in the improvement of ordnance. The histories of some other gun inventors have been written in the annals of the Bankruptcy Court. The whole career of ordnance improvement during the last decade is of a most extraordinary interest, whether from a scientific or a social point of view. The Battle of the Guns would, indeed, call for a scientific and mechanical Homer for its bard. One of the most remarkable appearances in the contest has been the never-ending and still-existing disputes about priority of invention. The history of invention has yet to be written, and the philosophy of invention is yet undreamt of; but our opinion about true and original invention is that of the witty sage, Sydney Smith, who says,—"It does not follow that a man is a discoverer of any art merely because he is the first to say the thing; but he who says it so long, and so loud, and so clearly, as to compel mankind to hear him. It is the man who is so deeply impressed with the importance of his discovery that he will take no denial; but, at the risk of fortune and fame, pushes through all opposition, determined that what he feels he has discovered shall not perish for want of a fair trial." We have watched with much interest the progress of late years of modern artillery, and can conscientiously witness to the truth of Sir Emerson Tennent's remark, that there is "not a single feature in the recently patented improvements in gunnery that has not been the object of contested claims and vituperative animosity." Let honour be given to him who really brings the invention into such a shape that it is worth disputing about.

Sir Emerson Tennent is not quite fit for the task he has undertaken. With all consideration for his accomplishments, we cannot help seeing that he evidently neither possesses the deep knowledge of science, nor is master of the sound mechanical practice required for the undertaking. Above all, he has not exercised the logical and judicial faculty that would have prevented his being a partisan. He does not possess the power of saying "no," when a sharp Manchester man takes him by the button-hole, and persuades him to say "yes," to lending the power of a distinguished name to the furtherance of what is, after all, a commercial undertaking, no more connected with patriotism than selling broomsticks. "The Story of the Guns" is simply a popular, readable apotheosis of Mr. Whitworth, of Mr. Whitworth's rifle, of Mr. Whitworth's shot, of Mr. Whitworth's gun,—in one word, of Mr. Whitworth and the Manchester Ordnance Company's cause. Of course, Si Emerson Tennent's position is above that of a partisan for this or that man's gun; and hi partisanship is that of an honest and ingenious English gentleman, who is delighted with things that he only superficially understands, an acquaintance with which he has only made lat in life. But this book is another experiment o the ridiculous and absurd popular notions o mechanical men and matters. What are thes latter-day improvements in artillery, the echoes of which have thundered from Shoeburyness in the columns of the press? Simply and merely th application of the steam-hammer and the slide rest to the manufacture of big guns. Who i Mr. Whitworth? A long-established Mancheste tool-maker. He is a very good workman, and a excellent man of business, and his long standin has enabled him to charge long prices for hi machines,—as we English always believe tha abilities are like cats, that adhere with all th force of nine lives to old houses. The professio does not think much of his machines; it is wel known that as good or even better tools ca now be got from other firms, and for less prices The machines exhibited by Mr. Whitworth a Kensington were the worst designed in th whole Western Annexe, and they showed littl or no advance upon those he sent to the 185 Exhibition. If we had to choose between Si William Armstrong and Mr. Whitworth, w should very much prefer Sir William, who although his gun is in a great measure a failure has the inventive and philosophical faculties in considerably higher degree than Mr. Whitworth The success of his rifle may be said to hav spoilt Mr. Whitworth as a maker of ordnance. rifled cannon is only in a popular sense a larg rifle. The two problems are almost totally dis tinct. It is now, after millions have been spent generally known that the great difficulty i simply to make a heavy gun strong enough t bear some 30,000 lb. pressure per square inch created by the explosion of powder. Neithe Whitworth nor Armstrong heavy guns have suc cessfully fulfilled this absolute condition of suc cess. Captain Blakeley has not pinned his nam to any particular system of rifling, but to him i undoubtedly in a great measure due the demon stration of the value of "reinforcing" th strength of the gun breech by shrinking o forcing thereon a wrought iron or steel ring— thus bringing the breech into a state of "initia tension," to meet the explosion of the charge.

To those wishing for a pleasant, popular ac count of the modern improvements in ordnance we cannot do better than recommend this book, a the same time cautioning them against its to evident bias in favour of Mr. Whitworth. We hav not space to enter into the subject of ordnanc with any satisfaction to ourselves. It is a sub ject in a great measure protected from th popular eye by its very complication. A mass o blue books, reports, letters, rejoinders, and coun ter-rejoinders, cover it up, and hide it away lik a needle in a bottle of hay. Sir Emerson Ten nent's book is divided into three parts:—the firs is devoted to the development of the Whitworth rifle; the second to rifled ordnance, and is sub stantially the apology of the Whitworth rifle gun; the last portion of the work is mainly relation of how "Whitworth projectiles pene trate iron-clad ships," and how "the Whitwort shells penetrate armour plate." Occasiona little blunders show that Sir Emerson Tennen is but a novice in practical mechanical matters.

Such is, *e.g.*, his description (page 49) of th steel used by Mr. Whitworth (ironically calle "homogeneous iron"), as "a mild kind o steel." Or "Devereux" for "Daverel" at page 5 At page 178 we find Sir Emerson Tennent th exponent of the popular delusion that a hamme (say) weighing 50 tons, and falling 10 feet "accelerated by steam acting above, strikes blow *equal to* 2,000 *tons weight*. Impact is thu represented by pressure." (!) Further on we fin something quite beyond us. There is a peculia flash of light generated whenever a bullet strike an iron target. This is accounted for by Mr Hulse, of Manchester (whom we believe to b Mr. Whitworth's manager), by the suggestio "that the carbon contained in the plate and th highly carbonized projectile, being *driven out* (by the collision, and combining automically wit the atmospheric oxygen, is ignited by the hea generated by the concussion." Well done, Mr Hulse! This is an interesting instance of th danger of a little knowledge, and its liability t make a man ridiculous. Does Mr. Hulse suppos that the carbon in the carburet of iron we cal steel is in little separate bits of combustible?

* The Story of the Guns. By Sir J. Emerson Tennent, K.C.S., LL.D., F.R.S., &c. London: Longmans, 1864.

e fact simply is, that heat, however generated, her by percussion or by any other means, vays accompanied with more or less light— gh what is heat? or what is light? are very ent questions.

is a remarkable circumstance that we owe perhaps most important discovery of the -Bessemer steel—to the exertions made by Bessemer to procure a good metal for guns. om all the experiments in ordnance of late , the acquisition to engineering of the mer process were our only gain, this alone l be sufficient to remunerate the country he time and trouble spent on these heavy

It is, indeed, in the direction of improved llurgical processes that we must look for mprovements in our heavy ordnance. All orities are pretty well agreed that the par- r method of rifling used is of little impor- *per se*, so long as accuracy and durability t neglected in its construction and design. ittle is now left to be achieved in the field rdnance improvement by ingenuity alone. less ingenuity and the more simplicity a gun the better. Only those well pro- with capital for costly experiments can in future for any success in this line. The three competitors now really left in the may be said to be Armstrong, Whitworth, Blakeley, all three of whom are at the head tensive companies, and with, practically, t unlimited means at their command.

RESCO PAINTING AS A SUITABLE MODE OF MURAL DECORATION.

SOCIETY OF ARTS.

Wednesday evening last a paper on this ct was read by Mr. J. Beavington Atkinson. ke from it some passages:—

enty years ago the Royal Commissioners e Fine Arts determined that fresco painting t be applied with advantage to the decora- f the Houses of Parliament. The benefits promised from the adoption of the process either by fatality or fault, failed in realiza-

After labours extending well nigh over a er of a century, the commission is dissolved, rescoes are in decay, and a new method, im- l from Germany, has obtained the ascend-

The frustration of hopes reasonably ained, that in the revival of fresco painting y and great era was about to dawn on our al arts, now comes as little less than a lity on the country. It had been thought that le of mural painting which the practice of reatest artists of the Middle Ages had proved durable, economical, and architectonic, , with success, in these our modern times, plied to the internal decoration of public municipal buildings in the metropolis and ncial cities. I repeat that any disappoint- of this well-grounded anticipation must be ded by architects, painters, and art work- s no less than a calamity, for it is manifest f we allow a hostile verdict to be given st fresco painting, a large field which was to art development high in style and popular wide area of its teaching and appeal, be- practically closed. I, for one, will rebel st any such fatal judgment. The hostile t, if verdict there be, has been founded on l and insufficient evidence, and I think good service will be done to the cause of st art by the attempt which I shall now ed to make, to marshal concisely and y the facts of this fresco trial, just as they

It will be seen that the experiment was ade in England until after mature delibera-

It will be shown that any failure or decay frescoes executed at Westminster is partial, within the reach of remedy; and the con- n, we believe, will come as irresistible, that ethod which, in the hands of Raffaelle and elangelo was the vehicle for the noblest hts, is still an art fitted for all time, in the arm that is strong will rejoice, and ind that is large must glory.

is scarcely needful that the well-known ss of fresco should be described. In order, ver, the more clearly to comprehend the facts case as they at present stand, a short ex- tion may be desirable. I will call your tion, then, to three several important points ich frescoes contrast with oil painting and pictures. First, as to the material or sur- pon which the artist works. Easel pictures ainted upon panels or canvas, the recipient e being dry. In contrast, frescoes are painted on a wall, the surface of which is wet: hence the term fresco—fresh, or newly laid. This is the fresco *buono* or *puro*. However, the practice of the Italian masters admitted of certain latitude. A large composition, for example, might, in the first place, be laid down, in its breadth and simplicity, upon the mortar while moist, and then touched up and finished when dry by the secco or tempera process. And this liberty which the artists of the Middle Ages were permitted ought, I think, to be, and indeed has been, extended to our modern practitioners. Accordingly, I shall feel justified in using the term fresco in its more popular and extended sense, as a mural painting begun upon the mortar while wet, but oft-times elaborated and finished after the wall has become dry. This, and possibly other minor modifications, were, in the original fresco eras of Italy, as in the modern and revived epoch in Europe, matters of personal convenience, and nothing more. Certain artists, of sure and rapid hand, had found themselves, even in the first sweep of the brush, certain of the desired result, and hence their works would need no retouching. But other painters, more sensitive and timid, discovered that it was needful to revise their compositions, even as an author his proof-sheet prior to publication. By such retouching and revision, however, when kept within legitimate limits, the original thoughts and style of the painter or writer suffer no absolute reversion. In other words, the fresco, in its largeness of treatment, in its immunity from surface gloss or varnish, in its brilliancy and power to give off light, is scarcely to an appreciable extent prejudiced. But I think it is generally admitted that the less of secco retouching the better; and I have no hesitation in saying that some of the frescoes in the Houses of Parliament have, by the inordinate laying on, probably both in fresco and secco, of opaque body colour, lost the transparency and the pure liquid quality by which the lovely works of the best Italian masters are distinguished.

Easel pictures, as I have said, are on panel or canvas; fresco paintings upon wall; and this difference in first foundation involves a corresponding contrast in the causes which secure durability or accelerate decay. Canvas may rot; worms eat away a panel; and not less does the mortar, in its constituents of sand and lime, become subject to chemical agencies which conspire for the picture's overthrow; and these agencies, which were not in abeyance in the Middle Ages, are of course active still. They have occasioned, as we shall see, the partial destruction of the frescoes at Westminster, as they had already wrought the demolition of like works in Italy. But this failure, when it overtook the painter of old, only served as a caution to greater care: never was it permitted to annul a method which in the hands of genius had been proved capable of grandest results. A like persistency in the pursuit of a noble end would well become our English artists. . . . . .

Such being the inherent dignity and worth of fresco, we cannot be surprised that the Royal Commissioners of the Fine Arts, with the late Prince Consort as their chief, should have deemed the adoption of the process as singularly suited to the decoration of great national buildings—a method, let me add, which could receive no more timely revival, than at the period when architecture, taking to renewed development, craved from sculpture and painting consonant aid a style which, by its largeness, and by the extent of its historic range, seemed peculiarly fitted to impart to our English school a much-needed power, mastery, and grandeur.

Accordingly a trial of the ancient art of fresco was, as we all know, made under high auspices, in the Palace of Westminster. I have just closed a rapid survey of the process in general, and now proceed to the details of the actual experiment which has been made in this country. . . . . .

We must now enter on the most difficult, not to say distressing portion of our subject,—the decay of works which had entered upon a life so bright in promise. It is best, in the first place, that facts should simply be stated, without any conjecture as to causes.

We have spoken of three separate series of pictures, each to be found in a distinct locality. One group is in the House of Lords; a gallery of historic works runs along the corridors; thirdly, illustrations of the poets occupy the Upper Waiting Hall. These last have suffered most severely, therefore will best serve as examples for the general description which I at once proceed to give. A close and detailed examination of these works will reveal distinct stages, and, probably, different processes of decay. An early and premonitory symptom of disease would seem to be a blooming or frosting of the colours, which thus become as if mildewed. This affection extends, and then the pigments undergo further change, and begin to fall from the surface of the plaster. Sometimes the process of disintegration would seem to have an external origin, possibly arising from the atmosphere. In other instances the agencies of destruction appear to be internal, dependent, probably, on the constitution and constituents of the mortar. Certain portions of the fresco are upheaved by some inner rebellious force, as if antipathies had sprung up between lime and sand and pigments. In this disruption, as in the other phenomena of decay, several stages may be marked. The incipient traits of the distemper come in mitigated form. At first, the fresco may give signs of dissolution simply by the colours having lost their fixity to the wall. The reds, the yellows, and the blues will come off when rubbed with the corner of a white pocket-handkerchief: spots or pimples may here and there be seen on the surface: these become aggravated into blotches, extending into confluent sores, so that the very tissues of the picture are eating and rotting away. Then it is that large blisters heave bloatingly on the arms, neck, and face of the figures, till at length the pictured forms peel off bodily, and fall as dust and ashes to the ground. Yet this destruction, though terrible just where it sets in, is far from universal. And this its essentially partial character we must in the present inquiry never for one moment forget. Partial effects point to like limitations in their causes; and causes which can be stayed in their operation admit of counteraction. Most worthy, indeed, is it of remark, that of two adjoining pictures one shall have suffered ravages, while its neighbour shall be saved all but harmless. Furthermore, in the same fresco some colours have stood, while others have fled. In one picture, for instance, a blue dress remains firm, while a patch of brown close by has been dissipated. In another case, the light green sleeve of a woman's dress is peeling off to the thickness of cambric, while the body of the same dress, being painted with modified materials, lies hard to the wall. It is, then, I repeat, of great importance that we should mark that the decay is, after all, but partial in its extent. Yet, after making this fair concession, I am bound to say, that of all the sad cases in which premature death has overtaken youth and beauty, this is one of the most melancholy. In Italy I have known frescoes which have suffered cruelly from wind, rain, cold, and burning heat, or the reckless violence of man. Still they struggled on, and have survived for centuries. But these hapless offspring, cradled in an upper waiting-room, have barely entered on their teens: two decades are not complete since they saw the light. Surely we may well pause to ask by what fault this judgment has fallen on our labours.

As to the precise causes of decay, little, unfortunately, is known. A committee was appointed early in 1862, under the presidency of the First Commissioner of Works, to inquire into the condition of some of the frescoes. This committee consisted of Sir Coutts Lindsay, Mr. Gambier Parry, the late Mr. Le Strange, Mr. Ruskin, and Dr. Hofmann. The paintings, not only in the Upper Waiting Hall, but throughout the building, were carefully and repeatedly inspected, and various artists and other competent witnesses examined. Yet we are told that the committee "have not been able to arrive at any satisfactory result." Rough notes were taken of the proceedings, but no report had been issued; and the committee is now defunct, leaving as the only record of its labours a well-considered letter from its chemist, Dr. Hofmann. "The general theory," says Dr. Hofmann, "of the fixation of the fresco assumes that the surface of the finished picture becomes coated with a pellicle of carbonate of lime, which protects the painting like a varnish. Carbonate of lime being practically insoluble in water, but soluble in water containing free carbonic acid," the question was naturally suggested whether the carbonic acid and water generated by the combustion of coal gas and by respiration might not have occasioned the deterioration of the paintings at Westminster. Accordingly, by way of experiment, a stream of water saturated with carbonic acid was allowed to run across the face of a fresco. We are told that after twenty-four hours the effect became very visible; that the colours grew paler and paler; and that,

after the lapse of some days, the pigments were actually colourless. Dr. Hofmann proceeds to remark that, though he was not in a position to offer a definite opinion regarding the true cause of deterioration in the frescoes generally, he has yet been led to the belief "that the injuries are partly attributable to the fact of the surface of the wall having, in too many cases, been too long exposed to the action of the air, and thus become carbonated before the paint was put on. To use an intelligible, although not absolutely correct, mode of expressing it, the picture was put *upon* instead of *under* the protecting pellicle." This valuable letter, then, from Dr. Hofmann, which I shall proceed shortly to examine, is, I repeat, the only known result of the committee's labours.

This committee no longer exists: the Royal Commission itself is dissolved: the frescoes are allowed to proceed steadily in course of decay; and the only remedy taken is the abandonment of the process. This, the present state of the case, I deem, as I have already said, most disastrous. Discouragement has thus laid hold of professional men and the general public; and the progress of the arts, I fear, has thereby suffered material check. On the purely chemical causes of the decay, which we all deplore, I shall say nothing, partly because I am wanting in the needful knowledge, and also because the investigation which alone could give value to a judgment stretches far beyond the limits of private and individual labour. The subject is of public importance and moment, and ought to be undertaken on public grounds, and at the general expense. I shall not attempt, then, to exhaust this question, which is indeed inexhaustible. One thing only I will do, which at this moment ought to be done promptly and positively: I will endeavour to prove to you that the reversal which has been sustained at Westminster should in no way militate against the further adoption of the fresco process, either in the metropolis or the country at large.

In the first place, it may be well that we should mitigate our surprise that these frescoes have decayed at all. It has been too much the fashion to hold the art as indestructible, as if indeed any art could be imperishable. Pictures of all kinds are endowed with constitutions proverbially sensitive, and the utmost that can be hoped for is that a stamina may be gained sufficiently robust to hold up in some degree against the ravages of time. But absolute immunity from decay is obviously unattainable. The mural paintings in Egypt, at Pompeii, and in the Baths of Titus, in Rome, have suffered injury: the mosaics in front of the cathedral at Orvietto, and in the façade of St. Mark's, in Venice, have fallen away and been restored; the panels and the canvas of oil pictures rot; and so in like manner it has been always known that the frescoes executed in the Middle Ages were amenable to special agents of destruction.

That English artists and English patrons need feel but little discouragement from the failing of materials or the fault of climate, it is easy to show. We have already said that the fewer, the simpler, and the more natural the colours used, the better. The painters of the Middle Ages knew no royal road where pigments might be picked up ready for their use. The practice of these men was the growth of patient experience: their ultimate success was purchased at the cost of repeated failure. The materials they used are known to us, and lie within our reach; and modern science, to boot, brings to our aid far-searching eyes and wide-spreading hands. Any artist, then, who shall be heard to utter complaints against his materials may be at once put down with the workman who quarrels with his tools.

As to faults in the English climate, or the vicious elements in our town atmospheres, there has been more talk than the facts of the case warrant. I have suffered from cold and damp in the chapel of Giotto, in Padua, to an extent that could not possibly be experienced in the halls and corridors of Westminster. I have seen, in Pisa, frescoes streaming with rain and condensed moisture; and yet some of the pictures executed by Benozzo Gozzoli, about the year 1450, are as fresh as if painted yesterday. In Munich, the centre of the German revival, the snow lies for three months of the year, and the streets are traversed by sledges. Furthermore, we should bear in mind that in northern Italy and southern Germany it has been deemed no madness to brave the bold experiment of fresco-painting in the open air. In England we have ventured on no such rash attempt. All the mural paintings hitherto executed in London or the provinces have been safely housed. Our much-abused English climate, therefore, which is usually made responsible for the sins of its inhabitants, offers no absolute impediment to the practice of the fresco art.

In like manner the injurious effects ascribed to the noxious elements with which our city atmospheres are loaded have been greatly overrated. At all events, it may safely be asserted that the destruction of the frescoes in the Houses of Parliament is to no appreciable extent to be ascribed to such agencies.

The best, because the most practical answer which can be given to the objections touching climate and populous towns, is in the simple fact that certain frescoes painted in the metropolis are still in a good state of preservation. I have, for example, carefully examined, with a powerful opera-glass, Mr. Watts's fresco in the dining-hall of Lincoln's-inn, and find, with the exception of one or two square inches, that its vast extent of surface is still intact. Mr. Watts has shown me frescoes executed by him in Little Holland House: I have also seen rooms of a mansion in Carlton-terrace decorated by the same artist; and the colours in all these examples are just as fast as when first painted. Again, Mr. Armitage some years since painted a fresco in a chapel at Islington, and that, too, lies firm on the wall, and the colours are unchanged. Such instances are sufficient evidence of the practical knowledge of our English artists, of the soundness of materials at command, and of the benign temper of our English climate.

The interest of high art demands that some recognized authority should put an end to the present state of uncertainty, so perplexing to painters and bewildering to the public at large.

The manipulation of fresco is simple, and the conditions for ensuring its permanence cannot surely be difficult to discover. And yet, in the absence of any constituted tribunal entitled to pass a judgment, the entire question of mural decoration is left in doubt and confusion. The Royal Academy has never in these matters taken that lead which might have been reasonably expected. The Royal Commission, as we have seen, is dissolved; and yet there never was a time when knowledge and guidance were more needed. It strikes me forcibly that in this state of interregnum the Society of Arts could, with advantage, come to the rescue. A preliminary inquiry, entrusted to a joint committee of men of proved knowledge in science and art, might be instituted; a report, decisive in its facts and definite in its conclusions, should then, after due deliberation, be issued. But, in default of any such further and final investigation, advantage might be taken of the accumulated material locked up in Parliamentary Blue Books, and lying dormant in the scattered art-literature of the last twenty years. A "Handbook to Mural Decoration" could thus easily be compiled, which should give to the artist all needful information touching lime, sand, and the preparation of the mortar, together with well authenticated facts relating to pigments, vehicles, and modes of execution. Such a guide would do much to prevent the recurrence of the blunders incident to inexperience.

That the art of fresco is peculiarly noble, monumental, and architectonic, all authorities are agreed; that in its severe and stately forms it is peculiarly calculated to bring to our English school the discipline so much needed, all persons conversant with high and historic styles readily admit. The very difficulties of fresco, says Mr. Watts, are, in the present state of our English school, advantages. The necessity of a definite plan, of a fixed and firm outline; the need of architectural treatment, with its inherent symmetry and severity, all these are not disabilities, but elements of power. Again, the demand for rapid execution renders simplicity imperative, and in simplicity is grandeur. These things considered, it is not surprising that many witnesses examined before the late Royal Academy commission—Mr. Layard, Sir Coutts Lindsay, Mr. Watts, and others—look forward in confidence to the time when the historic deeds which have conferred honour on England shall shine forth upon the walls of our national buildings and municipal institutions; when the beauteous thoughts of our poets shall adorn our literary clubs; when the classic designs of Flaxman shall ennoble our public schools; and when the English mind, which has spoken through Shakspeare and Milton, and which responds to the choruses of Handel, shall obtain, through the noble art of fresco, worthy pictorial manifestation. In fine, that art which was living and so abiding a reality for Italy, ce remain, as at present, in practical Engla mere illusive dream. The transient disho which we have suffered in the too speedy c of the paintings at Westminster must be trieved; and works, I trust, may shortly executed in this country, which will prove the grand frescoes of the Middle Ages, noble enduring.

THE RAILWAY ORGANIZATION OF METROPOLIS.

Something like order and fixed idea are coming out of the chaos of railway projec mercilessly cutting up the metropolis into pieces. The key-note, as it were, of the harm railway chords, was struck by the Lords' mittee; and further investigations by the B of Trade and the metropolitan authorities great extent harmonize with the outlined sch of the Lords. This scheme, if we can sc it, chiefly comprises the formation of two rai rings or circuits, an outer and an inner, o tirely new and intercommunicating lines; system, however, connecting the various met litan stations or termini of existing rail round London; the inner circuit to be a su of which the Metropolitan Undergroun form a part, with stations, such as it has, thro out the circuit. These two rings, especiall inner one; a well-considered line from the ing-cross station northwards, in connexion bably, with some new street project, to junctions between the South-Western line the Great Western, North-Western, and Northern, or the North-Western lines; and through the Thames Tunnel connecting the Eastern and other north-eastern lines wit Brighton and other south-eastern ones, com nearly all that is recommended for the pre so that all the rest of the 417½ miles of ra projects within the metropolitan limits, their 70,000,000*l.* capital, will be swept wholesale as not coming within the sphe these simpler and more reasonable req ments.

The report of the Streets Committee of Metropolitan Board, on consideration of engineer's report, appears to advocate just arrangements. It also concedes the probal that the new embankment may be used, u the surface, by new lines of railway; insists on the surface being kept clear, and embankment carried out in its integrity. railway-bridge to be permitted to cross the below London Bridge, but the Thames Tu to be used if the engineering difficulties ca overcome. The Board has referred this re back to the Streets Committee for further sideration till the question of new railways be discussed by the Board itself at a fu time.

The report to the City Sewers Commis by their engineer, Mr. Haywood, states, there are twenty-three projects affecting City; that within its limits no less than tw miles of railway are proposed to be for involving an area of 211 acres; some of space, however, being the same for different jects; but, in all, requiring an actual are 160 acres, or one-fourth of the entire City! these projects 300 public ways are interf with, and the sewerage of a very large po of the City virtually annihilated! One steers clear of all "public ways," except river, up the middle of which it proposes t as high-minded folks, in times of old, used along the "crown of the causeway." A sing instance of reverential moderation on the pa *all* the projectors is, that not one propose knock down a single church, preferring to c and twist around and about them, rather go straight through them. They are n heedful, however, of churchyards. Mr. Hay considers the extension of railway commu tion to some degree, even through the Cit be inevitable, but requiring the utmost care attention, as affecting the interests of the C

The report of the Board of Trade Comm is very much in accordance with that of Lords' Committee, as to an inner and outer of railways, as well as the other chief re mendations of that committee.

The House of Commons has passed a resol appointing a committee of five to join a si committee of Lords, in order to consider best method of dealing with the whole ques and we doubt not that the valuable repor

h we have referred will greatly aid both ies towards a final settlement of this very rtant matter.

FRENCH MANUFACTORIES.

TURGAN continues his descriptions of the manufactories of France.* This selection fficiently comprehensive to make his series able to various circles. In his first volume ave us accounts of the gobelines; the mills t. Maur; *l'imprimerie impériale*, or vast ing establishment; the candle factory at y, detailing the various processes employed the gathering together of the ingredients rm the *bougies* to their dispersion in the est form of soap and decorated lights; paper-mills of Essone, beginning with the nous picking up of rags by the *chiffoniers* in gutters of Paris and going through the s of sorting, washing, bleaching, and transation from pulp to paper; the porcelain facs at Sèvres; and the Christofle goldsmith's blishment. In his second volume he gives ls of the works of Derosne & Cail, and of machines and locomotives there manufac; of the Arnavon soap factory; of the ; of the imperial manufactory of tobacco; e "literie Tucker," or bedding warehouse; piano manufactory of Messrs. Pleyel, Wolf, .; and the wool-spinning factory of M. Da- The third volume, besides the *livraisons* ing to the St. Gobain manufactory of plate- and La Fondre cotton-mill, constructed by Fairbairn, which we briefly noticed early in ast year, has been made up of information he following subjects;—the manufacture of y the Parisian gas company; the manufac- of portable gas; the printed stuffs of Thierry, Mieg, & Co., of Mulhouse; the *alterie* of Baccarat, with a history of the cation of crystal in France; on the nursery- nds of André Leroy, at Angers; the omni- system in Paris; the great central bake- e of the Parisian *Hopitaux;* and the steel s of Messrs. Jackson.

connexion with the last-mentioned estament, M. Turgan informs us that in all ce the Bessemer process is only applied to manufacture of steel in the *acierie* named. ill be remembered that Mr. Bessemer, in read a paper to the congress of the British ciation at Cheltenham, in which he anced the discovery of his process, by n he can obtain steel in large quantities at siderable diminution in the labour ordinarily and, consequently, in the price. His prowas immediately tried at the Atlas Works, ield; at the works of M. Göranson, at Hozbo, reden, and in India, and is now in use at Saint n. M. Turgan states that the operation in is so strange in its simplicity, so fairy-like aspect, and so superhuman in its results, he can easily understand the hesitation of who doubt its efficacy. Saint Seurin is ntageously situate upon the river D'Isle, e it is confluent with the Dordogne, at which vessels can be easily brought along the s, and there is a fall of water of sufficient r to give motion to five wheels. The natural ilities of this site induced the purchase of Mr. Jackson, who, joined by his father, conted the necessary furnaces, twenty crucibles, and small hammers, flatting-mills, and all pparatus required to convert as much as ilograms of metal at a time into steel.

ter five years' experience they constructed ond apparatus, yielding 3,000 kilograms of steel at a time. This is situate on the nd-floor, and consists of two enormous re- covered with thick sheet iron strongly d, which turn upon pivots in a manner h permits of their adaptation to the exigen- of the manufacture. Between them is a en circular area surrounded by a little *fosse*, hich are placed the moulds which they are red to fill. From the centre of this area a hollow pivot carrying a crane at right s which can be made to descend by hydrauessure at pleasure. An illustration shows minor details. The increased demand for is one of the wonders of commerce, and doubtless lead to still further simplifications manufacture. At a higher price, steel was available for first-class purposes, such as ry, arms, tools, polished mirrors and other ments, needles, and magnets; but at its present price something like five millions of kilograms are used for the single purpose of forming those feminine curiosities Mr. Turgan calls the cages of women (crinolines).

Concerning the development of the manufacture of portable gas in France, our author tells us that the idea of transporting gas in recipients is as ancient as the discovery of its use, having been applied to the lighting of carriages by Murdoch, the inventor of oil gas, in Cornwall. Messrs. Ternaux & Gandolphe, at Paris; Taylor & Martineau, at Lille and Rouen; Dauzé, at Marseilles and Bordeaux, first made gas with oil of resin, fish oils and the greases they contain, at thirty atmospheres, in cylinders of sheet iron or copper of a resistance proportionably calculated; but this apparatus, being costly to construct for so considerable a pressure, was disused. In 1828, M. Houzeau, of Rheims, druggist, tried the transport of uncompressed gas in large ugly carriages each containing a reservoir of varnished linen which was filled when wanted and emptied at the consumers' by means of a roller; but this plan was also abandoned. After several trials a bituminous *schist* was adopted in place of the resins and oils, and was found to give a very rich gas without disagreeable odour, and of easy management. This *schist* is extracted in Scotland, near Glasgow, and at various places on the Continent. It is an aluminous silicate, containing a little iron and potass, and is impregnated between its lamellations with bitumens from 60 to 100 of its weight. But few fossils are found in it, some vegetable acotyles and the cactus leaving only here and there rare imprints. It is carried to Rouen or Dieppe, and thence to Paris, either by boat or rail, doubling its price by the transport. The first process to which it is subject is breakage into pieces of about 5 centimetres cube. It is then distilled in flat retorts, strengthened near their openings with bolts or pins. The retorts are disposed seven by seven, in ovens heated by internal furnaces in which is either coke or heavy tar, the first residue of condensation. When the retorts are heated to a red heat, they are charged, and the process of distillation is then effected in the course of three quarters of an hour. The oils contained in the *schist* are disengaged and destroyed by the intensity of the heat; and the product of the distillation, rising by an ascending tube, is received in a small cask. It has been attempted to utilize the residue of the distillation in various ways: among others, an experiment was tried to use it for the manufacture of porcelain, and as a disinfecting agent in slaughter-houses, privies, and elsewhere. At Charonne it is employed to macadamize the yard. An illustration shows the apparatus of the Parisian Gas Company, with the present arrangement of the twelve pumps, tubes, regulator, and other ingenious contrivances of M. D'Hurcourt, engineer. The most curious part of the proceedings, to an Englishman, is, however, the transport of the gas when manufactured. Most visitors to Paris will have been puzzled at the first sight of the huge waggons, containing a set of sheet-iron cylinders, which, stopping at door after door, provide such of the Parisians with gas as live beyond the limits of the districts supplied by pipe. These cumbrous machines are filled at the gas-works, and emptied at the consumers' in the following mode:—The empty carriage is brought up to the sheds containing the compressing pumps: a tube is fixed, a tap is turned, and the pumps are set to work to fill the nine cylinders contained in each carriage, the openings into which are made to communicate with one another by means of a ramp or brass rail placed in their rear. Tar mixed with paraffine and grease is used as a lubricator. As they are filled, the tap of each cylinder is turned off, and then the tap communicating with the tube which conducts the gas from the reservoir to the carriage, and, finally, the tube, are removed. Then, drawn by two horses, the waggon commences its tour with a load of 63 cubic metres of compressed gas. M. Turgan mentions that it is of particular value in the environs of the capital, in villages where the gas is not current, and in workshops and printing-houses where only oil and *bougies* can be used, because of the flickering movement of the light dispensed by gas conducted through pipes. The consumer receives his supply upon the roof of his house in small cylinders, varying in number according to the quantity he requires. These are made of sufficient resistance to receive the gas at six atmospheres of pressure. An india-rubber tube is attached from these cylinders to those in the waggon, when the gas immediately ascends from the one to the other, passing, in its course, first a regulator then a teller. The gas thus conveyed, although dearer than oil gas, is declared to be superior to it in brilliancy, and to be without the disadvantage of creating intense heat. The increase in the number of consumers since M. Hugon assumed the direction of this branch of industry is, perhaps, a better chronicle of its merits than any other.

In 1855 there were but fifty subscribers: at the date of the compilation of these notes there were 1,157. Eighty-five *communes* are already supplied; but the number of these will be largely increased, if M. Hugon's plan of transporting the gas by rail should find favour in the eyes of the provincial public. Nothing could be easier, he declares, than to convey cylinders full of compressed gas on trucks by rail, or upon boats by canal, and the larger the number of consumers the greater the perfection of the gas, and the smaller its cost. For a small town to go to the expense of manufacturing its supply of gas is a gain made at a disproportionate sacrifice, when the same lengthener of the hours of pleasure or of work could be obtained without a sunken outlay, at a fixed annual rate. It is expected that a further source of profit will accrue to the company when the composition of the tars and other condensed products of the *schist* is ascertained. Observations conducted by M. Payen indicate that the deposit of these is greater in winter than in summer. Besides proto-hydro-carbon and bi-carbonate [of ammonia ?] the distillation produces water, ammonia, carbonic acid, sulphuric acid, traces of oxyde of carbon:—

		Densité de vapeur.	
De l'amylène	$C^{10} H^{10}$ bouillant à	+ 30°	2,450
Benzine	$C^{12} H^{6}$	86°	2,380
Densité liquide	0,850		
Cumène .	$C^{18} H^{12}$	151°	3,960
Eupione ...	C H	160°	
Acide phénique	$C^{2} H^{6} O^{2}$	188°	
Liquide	1,065		
Ampelène	$C^{24} H^{6} O^{3}$		

picotine, aniline, quinoline, pynhol, petiniue, paraffine and *brai* (a matter analogous to asphalte)." These materials are directed to a part of the works devoted to experiments for their utilization under the superintendence of M. Temoine, chemist of the establishment.

Experiments were made by the Eastern Railway Company, in December, 1858, and May, 1859, to employ this gas in the lighting of trains. To prevent the flickering of the gas likely to be caused by the tremulation and oscillation, M. Hugon suggested the use of a case or box, to serve as a regulator. A brilliant light was obtained, which lasted from Strasbourg to Paris, at a cost of about 40 centimes, for twelve hours' consumption.

The account of the Mulhouse manufactory of printed stuffs proves the possibility of commercial enterprise keeping pace with the fleetness of fashion. The firm of MM. Thierry, Mieg, & Co., founded in 1800, escaped without suffering from the crisis which wrecked Alsacienne industry in 1828; but, to maintain its ground, it has found that it is necessary to seize every novel idea suggested by fashion, and to abandon them one after the other when left behind by the caprice of the day. Sixty years ago, the fabrication of chintz for dresses and handkerchiefs, printed with patterns in madder reds and indigo blues, was the order of the day. This was superseded by the dyeing and printing of articles with Turkish or Adrianople red. In the course of forty years these were quite exploded as necessaries of female attire, and the firm took to the manufacture of woollen shawls and silk handkerchiefs, and, subsequently, to the printing of mousseline de laine by hand. These have given way, in their turn, to the printing, in various colours, of newer woollen stuffs,—an introduction viewed with so much favour that the firm have constructed, in the faubourg of Dornach, three enormous blocks of buildings, five stories in height, for the prosecution of the various processes involved. For details of the last-mentioned we must refer such of our readers who are curious in these matters to the pages of our author, with their thoroughly French illustrations of unmistakably French men and women at work.

* es grandes Usines de France. Paris: Michel Lévy, s, Rue Vivienne 2 Bis, et Boulevard des Italiens 15.

THE PADDINGTON SCHOOLS.—A gentleman in Paddington has given 1,000*l.* towards the cost of completing the Paddington schools. There was a deficiency of 2,000*l.*, and even now a sum of 900*l.* is wanting. The donor has requested that his name may not be published.

THE RELIEF OF THE POOR.

Each week's experience of the present management of the metropolitan poor shows both cruelty and injustice, and the persistence of many of the boards of guardians in a decidedly wrong course. Fresh arrangements are needed for preventing the poor from suffering miserably, both from sanitary neglect and from actual starvation.

Scarcely a day passes but we read of deaths which result from the want of food; and what meets the eye in the public prints gives but a feeble idea of the suffering which really exists. None know this better than the metropolitan magistrates, to whom the poor are driven in their extremity for that aid which should be afforded by the parish authorities. We believe that if the votes of the police magistrates throughout the metropolitan districts were taken, they would be unanimous in opinion as to the necessity for change. Let any one who is doubtful as to the truth of this take up at random a batch of newspapers, of recent date, and he will be convinced by such accounts as the following:—At Worship-street Police Court, the applications of the poor from Whitechapel, Spitalfields, Bethnal-green, and other surrounding parts, are very numerous. Here, Mr. Cooke complains that the Board of Guardians will take a whole family into the workhouse, but refuses any other relief. Now, this, the magistrate rightly thinks, is false economy; for many persons require only temporary relief, especially in inclement weather, which drives large numbers out of employment. Mr. Cooke thinks, that if the attention of guardians were properly directed to the circumstance, a little out-door relief would often enable the distressed to bridge over temporary difficulties, and that they would see that it is better to afford a little assistance than to saddle the rate-payers with permanent paupers. The magistrate said, that cases had come before him where the poor people, either from age or physical infirmities, were not in a condition to be sent to the stone or labour yard: if they were sent there they were not able to obtain enough by their labour to support themselves; "and when they tell me that they can only earn a few pence a day, which is obviously the case, that is not enough to meet their evident necessities. One old man had been sent to pick oakum; but at this, owing to the soreness of his hands, and from not being accustomed to the work, he was unable to earn 3d. a day. Prisoners in the gaols are put to pick oakum, as a severe punishment; but they are decently lodged, fed, and clad. It is surely not right that a poor old man, who has, so far as we know, no taint on his character except poverty and misfortune, should be put to degrading employment, and treated in a worse manner than criminals." Women and children had applied at the workhouses for relief, but had, in consequence of refusal, been obliged to make application for help from the magistrate.

It is not from the East-end alone that we have complaints. At the Marlborough-street Police Station, a man who had applied at the St. Martin's workhouse, with his two children, on a day of pelting rain, was brought before Mr. Tyrwhitt, the magistrate, charged with being drunk and disorderly. In the course of the case, the porter replied, in answer to the magistrate, that the casual ward only held sixteen. Mr. Trywhitt then said, "This is a disgrace to the parish, to limit it to such a number. We are, after all, the only persons who can stand up for the poor; and although I do not speak for popularity, I think it time to speak. With regard to the man, they were right in keeping him out, but not the children; and it was a disgraceful thing to keep them out, especially in such weather. The great parish of St. Martin refuses to admit poor children in the night-time, and only has a ward to hold sixteen poor persons. It is disgraceful. I have had to do with the St. Martin's people before, and know their practices. I shall discharge the prisoner."

An inquest was held in the Board-room of St. George the Martyr's, Southwark, on the body of Hugh Irvine, aged forty, who had died from want of food in a lodging-house in Mint-street, having in vain applied for relief at the workhouse. The relieving officer denied that the application had been made, as the name did not appear in the book. We are inclined, however, to credit the dead man's tale, for we know that in many workhouses it is the practice for the porter to prevent, as much as possible, access to the relieving officer to those who are not acquainted with the manner of proceeding. The jury found according to the medical evidence, that death had resulted from want accelerated by previous illness.

At the Middlesex Sessions a man was convicted of stealing some property from the St. Pancras workhouse. It was stated that he was an able-bodied pauper, and had been troublesome. The Assistant Judge remarked that the evidence showed the man had been discharged with a pound of bread, and was then left to starve in the street. In a destitute state he seems to have been again admitted into the workhouse, when the act for which he had been committed was done.

With another recent case in Bethnal-green we must close this list of the grievances of the poor; not, however, from any lack of materials, for we might fill pages with as bad or worse instances. In one family, in very poor circumstances, the wife fell sick of an illness which required the greatest care and the best nourishment: the remainder of the family, with difficulty and by constant application, could earn a bare existence: they were unable to properly nurse or maintain the woman, and wished her to be taken into the infirmary of the workhouse for a time. This was refused, unless the others would also go into the house.

Thousands of instances of this kind are happening yearly in the metropolis, and the poor are in fear of applying, in their greatest distress, to the relieving officers. It is, however, not so much the fault of these officers: it is the system which requires immediate change. Let us hope it will be made.

THE SHAKSPEARE MEMORIAL.

The General Committee will meet at the Society of Arts, on Monday afternoon next, to receive reports from the site and monument committee, and from the entertainment committee. We have reason to believe that the site we pointed out for the proposed monument some time ago, a portion of the Green Park fronting on Piccadilly, is most in favour. A public meeting will be held on the 17th inst., and the country will be appealed to for subscriptions. A good deal of ungenerous nonsense has been printed in some of our contemporaries, for which the writers of it, we are disposed to believe, will feel sorry hereafter. Of this, at any rate, they may be assured; there are men working on the committee who have but one desire in the matter, and that is, to see raised in a prominent position a noble memorial of our great poet, which shall tend at the same time to the adornment of the metropolis. That this will be done, and done satisfactorily, within a reasonable period of time, we have not the slightest doubt.

THE SCOTTISH NATIONAL MEMORIAL OF THE PRINCE CONSORT.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

At the last meeting, Mr. Miller, honorary secretary, read a paper, entitled "A National Memorial—What should it be?" After some preliminary remarks, Mr. Miller said;—The first principle which he thought suggested itself was, that a national monument must be placed in the metropolis. It was obvious that the placing of a monument anywhere else than within the environs of the capital city of the country, must be to restrict it to a local character, or to the commemoration of some striking fact connected with the particular locality, and that it cannot be the memorial of a nation's estimation of the whole man's public life. The mistake of not adverting to this principle was committed in the recent instance of the Stirling monument to Wallace. A second rule was, that it should be independent of other structures. It ought not to be made an accessory merely to another and distinct building, because that necessarily was to sink its individuality and lessen its importance. This was more especially true should it be made a necessary to something else,—say to some building with which one act of the deceased's life had been connected; for the effect of such a juxtaposition was to associate the monument with the idea of its being erected to commemorate this one act in his history. It was, consequently, to derogate from the tribute which was intended to be paid to his memory. If this view were correct, it would follow that the proposal to place the monument in connexion with the General Post Office w mistake, as implying that that for which S land felt indebted to the Prince Consort, o which she desired to erect a monument t memory, was the condescending act of perfo ing the ceremonial of laying the founda stone of that building, which would be tho simply to make the monument ridiculous. the same time he took the liberty of sugges that to erect, though not as a national monun a statue or bust of the late Prince in the ha some other conspicuous part of this impor and elegant building, which is now risin grace the city, would be most appropriate desirable. In the third place, a national m ment ought to proclaim itself. In selecti site for the purpose of commemorating a m great celebrity and high position, he thoug was right in laying it down as a rule, th give it most the character of national, it sh be raised to such a height, or placed upon a commanding situation, as would make it from a distance. In Edinburgh there are n rous unoccupied sites of an elevated descrip such, for example, as the ridge of George-st the centre of Charlotte-square, the Calton the ridge of the High-street; and it is t noted that, if there is anything in which w particularly wanting, it is in lofty spires, to and monuments. Fourth, it must be m mental, to the entire exclusion of utiliti considerations. He might state here, what not generally known, that the National Monu on the Calton-hill owed its failure to the a sion of utilitarian views. In order to secur concurrence of a small minority of subscri a clause was added to the Act of Parlia under which this monument was to be ere making it imperative that the structure sh comprehend a place for divine worship, wit option to construct cells for sepulture i vaults beneath; and this most unhappy re tion (so thoroughly at variance with the upon which people in general had subscr was the cause why a structure, begun with paralleled enthusiasm, under the auspices of a list of noblemen and gentlemen, and unde especial patronage of the throne, came to mination which raises the finger of ignor and scorn to that which, even in its impe state, is perhaps the grandest thing they in Scotland. Fifthly, a national monument be subject to all the other rules applicab monuments of all kinds, and in partic it ought not to be inappropriate to character, pursuits, and station of the to be commemorated. Mr. Miller, under head, showed that either the design triumphal arch, or an equestrian statue inappropriate for a memorial to the Prince Consort; the former being sui only for commemorating a victory great military commander, and the only appropriate to kings or military comm ers. Having made these general observa he trusted that he might be pardoned for m the suggestion which he knew pressed str upon the minds of many members of the tute, that the design for the Scottish P Consort Memorial should be the subje general and open competition. There had a vast variety of proposals made, at lea writing, as to what the nature of the monu should be, and where it should be placed the preparation of designs was at once st by the resolution adopted at a very early p to submit the matter to the Queen. This lution, he understood, resulted in her Ma appointing a committee to consider what w be done; and he believed that this comm would not be uninfluenced by any resoluti opinion to which the Architectural Institu Scotland should come to on the subject. H a letter in his hand from the Lord Provost was a member of that committee, in whic lordship expressed a desire to learn the co sion that might be arrived at by the pr meeting. He was anxious to know what w prevailing wish in Edinburgh with regard t site and style of the monument, and he felt the opinion of the Architectural Institute sure to be esteemed a very valuable one. Institute was, therefore, apparently expec express an opinion; and, seeing that bodies, scarcely so much interested, had do it was fitting it should. Mr. Miller, after u at some length that this was one of those in which they were most likely to obtain th suggestion both as to site and as to charac design, by inviting competition, open to a world, and bringing before the public its r

in an exhibition of design, and referring to the Scott monument as an enduring instance of the advantage which might be derived in such a case from competition, concluded by saying that the sum advertised as already subscribed on behalf of this memorial was somewhere about 13,000*l*. This, fortunately, was too large a sum to be spent simply upon a statue. Its amount obviously and happily pointed to an architectural structure; and they might reasonably conclude from the fact that so large a sum was subscribed in entire ignorance of how it was to be expended, that if a design of great excellence should be produced, it ought not to be set aside because the cost of it might be much greater than the sum in hand.

The question is to be discussed at the next meeting.

THE OFFICE OF CITY ARCHITECT.

AT a meeting of the Common Council on Tuesday last,

Mr. R. N. Philipps brought up a report upon the subject of the office vacant by the death of Mr. Bunning, the late City architect, which recommended that no appointment of City architect should be made, but that in lieu of it a gentleman should be appointed under the ancient title of clerk of the works and surveyor to the City, at a salary of 1,200*l*. per annum; all public buildings to be open to competition; and the report also recommended certain alterations in the salaries of the clerks to be appointed under this officer. Mr. Philipps, having gone at some length into the subject of the report, which likewise suggested that the Court should take steps to have some memorial in remembrance of the late Mr. Bunning, and as a testimonial of the valued services of that gentleman, concluded by moving that the report should be adopted.

Some discussion took place upon the motion; and

Mr. Rowe expressed his opinion that the title of City architect should be maintained, and that the proposed salary was not sufficient: he suggested that the amount should be 1,500*l*. instead of 1,200*l*. per annum. He moved an amendment, embodying both these alterations, to the report.

Alderman J. C. Lawrence said that he did not believe that any eminent man would be found to accept the office for less than 2,000*l*. per annum, and he proposed an amendment to that effect, which was seconded by Mr. G. J. Cockerell.

The proposition of Mr. Rowe was, however, eventually carried; and the report, thus amended, was then agreed to.

ACCIDENTS IN THEATRES.

THEATRICAL managers have been holding a consultation with the Lord Chamberlain on the subject of accidents to ballet girls or others by fire, and also on the means of exit from theatres during alarms from fire or other causes. The coroner of Middlesex had written to the Lord Chamberlain on the subject of accidents by fire, with reference to the late inquest on the Pavilion Theatre Columbine. The Lord Chamberlain endeavoured to impress upon the managers present the necessity of taking additional measures to insure safety, and pointed out that, in the event of another accident, a coroner's jury might make the manager responsible, and bring in a verdict of manslaughter against him. Several of those present stated that there were great difficulties in the way of further security. The lights were already guarded, but the girls were uncontrollable, and *would* get into danger, in spite of all orders to the contrary, as was the case with the Pavilion Columbine. Materials to make their dresses uninflammable had been given to them, but they would make no use of them, although it was generally their under-clothing which took fire, and managers had no control over that: instead of wearing crinoline, the girls put on no less than thirteen or fourteen gauze under-petticoats at a time. Moreover, in cases where the managers had themselves caused the materials for rendering the dresses uninflammable to be used, they had themselves found that the result was not satisfactory. There were also many dresses which would be spoiled by these materials. Ultimately, the Lord Chamberlain said it would be his duty to send them a circular on the subject of lights, and also as regarded exits, impressing upon them that the public would hold them responsible for future accidents. This he has since done.

Sir W. Fraser, M.P., has given notice, we observe, that he intends asking the Vice-Chamberlain of her Majesty's Household whether the Lord Chamberlain is prepared to grant licences to theatres in which adequate provision is not made for escape in case of fire. Other buildings should be looked to besides theatres.

PROPOSED MEMORIAL OF THE LATE WILLIAM MULREADY, R.A.

WE are glad to find that good progress is being made with the subscription for this purpose. The committee propose that a suitable memorial be erected over the grave of Mr. Mulready, at Kensal-green; that a bust of the deceased artist, at the cost of 130 guineas, shall be provided, and offered for the acceptance of the trustees of the National Gallery, or the National Portrait Gallery; and that the remainder of the subscriptions shall be invested for the purpose of founding an art prize, to be called "The Mulready Prize." The subscription already amounts to about 500*l*.

THE BALL FOR THE BUILDERS' BENEVOLENT INSTITUTION.

OUR readers will have seen that the annual ball in aid of the funds of this excellent charity will, under the immediate patronage of the Right Hon. the Lord Mayor, the Lady Mayoress, and the Sheriffs of London, take place on Thursday next, the 18th instant, at Willis's Rooms, St. James's, when we hope that the friends and supporters of the Institution will assemble in large numbers and support the honorary secretary, Mr. Joseph Bird, and the stewards, in their laudable endeavours to increase not only the comfort and enjoyment of those who attend, but, what is of equal importance, the funds of the charity.

We perceive also that an election of five pensioners, three males and two females, will be held in May next, which we take to be an indication of the progress of the Builders' Benevolent Institution,—a progress which ought to be even more rapid than it is.

COMPETITIONS.

Croydon Union Workhouse. — Designs were submitted to the guardians, in competition, by five architects. From these, in a very short time, the guardians selected one which is pronounced in a printed paper issued by one of the competitors, "an imperfectly developed design, which is not only not in accordance with their own resolutions, but which is also inconsistent with itself, and is likewise *untruly* represented by the drawings." The writer calls upon the guardians to refer all the designs to the judgment of some experienced architect of eminence.

Wantage Corn Exchange. — A considerable number of designs have been received, and are to be examined on this, Saturday.

Church at Carlisle.—Forty-one sets of designs have been sent in for the proposed Church of St. John the Evangelist, London-road. The main conditions imposed upon the competitors were, that the church should seat 1,000 worshippers, and that the cost should not exceed 3,000*l*. It was also stated, we believe, that architecture of the Early English style would be preferred. Few of the designs exhibited are in the style proposed. The decision is as follows:—1st. Mr. R. Clarke, Nottingham (motto "Trefoil"), to whom will be entrusted the carrying out of the work; 2nd. Mr. D. Birkett, Carlisle (motto, "*Pro virtute*"), who gains the 10*l*. premium; 3rd. Mr. T. K. Green, Cannon-street, London, who will receive the 5*l*. premium.

Congleton Town Hall.—The town council have decided on calling in an architect, to assist them in the selection of the best design.

THE NEW INFIRMARY, LEEDS.

WHEN it was determined to erect a new Infirmary, in Leeds, the committee resolved that it should, as far as might be, embody all the more recent improvements; especially that it should be planned on the pavilion system; and they premised by requesting their architect, in company with Dr. Chadwick, the chief physician to the infirmary, to make a careful inspection of the hospitals of Paris, Brussels, Bruges, &c.

The site for the infirmary presented some difficulties as to the introduction of the system in its normal form, being of a very long and narrow shape, and rising rapidly from front to back, the direction of its length; while the front or lower end was almost of necessity the position for the entrance, though it was rendered equally necessary, by the great slope of the ground, that the principal and lower floor of the hospital wards should be on a level nearly 20 feet above that of the entrance.

This difficulty has been met by the following arrangement. The central court, from which the pavilions diverge, is placed in the middle, and from it the pavilions extend towards the front and back, and on the level of the latter. The entrance is in the centre of the southern end, which is the principal front, and is, consequently, under what would naturally be the centre pavilion, but which is, for various reasons, omitted. From the entrance-hall a corridor runs back nearly as far as the central court, where it reaches the main staircase, by which the corridor or cloister of that court is reached. This surrounding corridor is repeated, however, on the entrance story, and from it are hydraulic lifts for patients to each pavilion. By this arrangement there is obtained a second ground story below the ground story of the hospital itself, which is devoted to the various departments of management and administration.

In this extra story are placed the entire out-patient departments, which are very extensive; the dispensary; the temporary receiving wards for accidents; the committee and secretary's rooms; the rooms for students, whether resident or otherwise, for the house surgeon, the matron, &c.; the cooking department, the stores, the dead-house, *post-mortem* room, &c.

Arriving by the great staircase on the principal hospital floor, we find the arrangements to assume a more normal aspect. We have the usual central court, with its surrounding corridor and its diverging pavilions, three behind and two in front. The court has a gateway entrance to the west from a side street,—the chapel to the east; and, in place of a central pavilion on the south, are the great staircase and the operating theatre.

The pavilions are, in arrangement, nearly like those at the Lariboisière hospital, excepting in that of their farther ends, which differs from that of any existing hospital. In this arrangement the object has been to unite three great desiderata:—

1. The obtaining of a large end window, so essential to the cheerfulness of a ward.

2. The providing of the water-closets, urinals, baths, &c., without encumbering the arrangement inconveniently.

3. The giving *thorough* ventilation to these adjuncts.

These objects have been effected by means of projections in a diagonal position from the angles of the ends of the wards, which angles are canted so as to approach, in outline, to a portion of an octagon.

The proportions and general scheme of the wards may be at once seen by reference to our illustrations, which are, for the sake of clearness and utility, given as much as possible in a geometrical form, and to a uniform scale. The section (transverse) through one ward will, when we give it hereafter, with its relative elevation, supply the essential information; while to these will be added, to a larger scale, diagrams explaining the system of ventilation, which is by flues in connexion with stove-flues, and by means of air trunks communicating with the circles in the heads of the two-light windows, as well as by the perforations, for admitting the external air, which are introduced at the levels of the floors themselves.

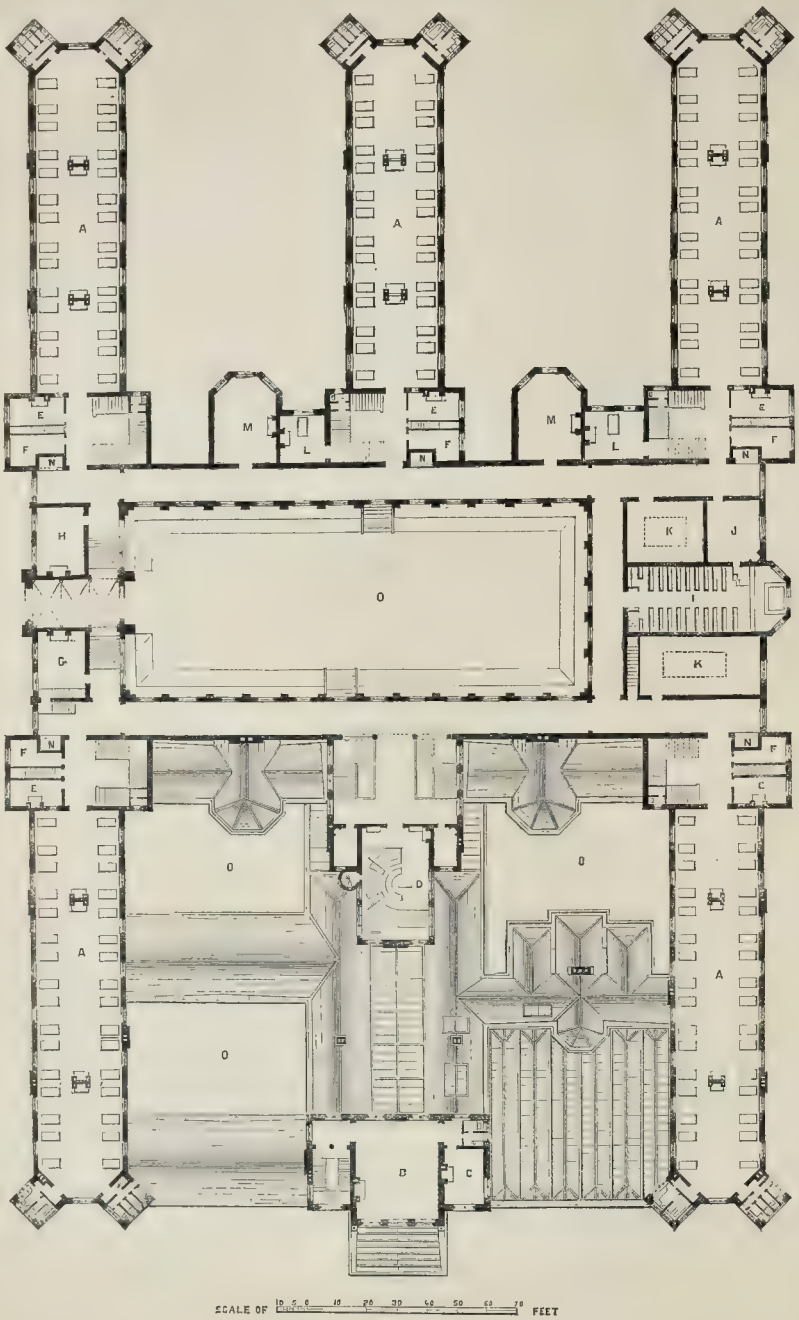
These wards are to have double open stoves in the centre, as seen on the plan, and their smoke will be carried off by descending flues. The walls and ceilings will be finished in either Keene's or Parian cement, and the floors are to be of oak. The staircases throughout the building are spacious, and constructed of stone.

The material for the walling is pressed brick, stone being used for dressings, &c., only where indispensable. Mr. G. G. Scott, R.A., is the architect.

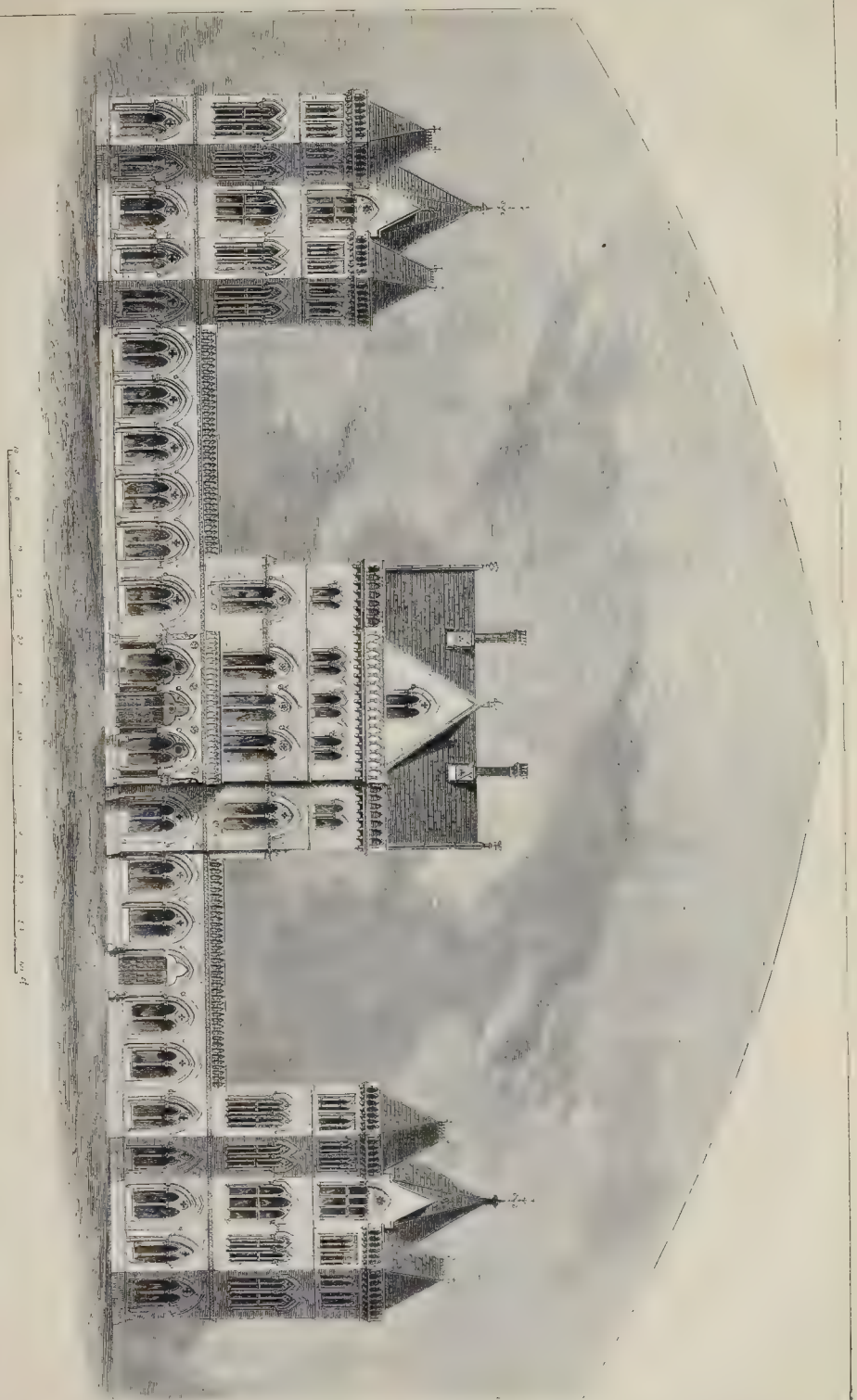
The first stone will be laid in March next.

REFERENCES.

A. Wards.
B. Board-room.
C. Private room.
D. Operating theatre.
E. Head nurse.
F. Scullery.
G. Bedroom for nurses.
H. Sitting-room for nurses
I. Chapel.
J. Vestry.
K. Bath-room.
L. Single ward.
M. [illegible]
N. Lift.
O. Open court.



LEEDS NEW INFIRMARY.—*Plan of One Pair.*



NEW INFIRMARY, LEEDS. SOUTH ELEVATION.—MR. G. GILBERT SCOTT, R.A., ARCHITECT.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening, the 5th inst., at the House in Conduit-street.

The chair was taken by the president, Mr. T. Roger Smith.

Some discussion ensued with reference to the advisability of the Association presenting a petition to Parliament in favour of some general and comprehensive plan of railway communication in the metropolis by which the growing wants of the public might be supplied without the disfigurement of the principal thoroughfares.

Mr. Paraire suggested that a petition similar in terms to that already adopted by the Royal Institute of British Architects should be presented to Parliament as soon as possible, in order that the Select Committee of Lords and Commons, to whom the subject of railway communication in the metroplis was about to be referred, might be put in possession of the views of the profession on this important subject.

A petition, as suggested, was unanimously agreed to.

The Secretary called attention to the particulars of the competition for Mr. Tite's prize, offered for the best design for a metropolitan police-court. The following accommodation was to be provided:—A court-room, about 33 feet by 23 feet; magistrates' private room, 12 feet by 10 feet; clerk's office, 16 by 16 feet; office for summoning officer, 16 feet by 13 feet; gaoler's room, 10 feet by 12 feet; usher's room, 10 feet by 12 feet; public waiting-room, 16 feet by 20 feet; prisoners' waiting-room, 16 feet by 18 feet; about four rooms for an office-keeper, four water-closets, and six cells. The accommodation, except that provided for the office-keeper, should be on the ground-floor. The entrance for the magistrates to be apart from that of the public. The magistrate's private-room and closet to be adjoining the end of the court that he will occupy. The prisoners and police should have a separate entrance from that used by the public, and should be in connexion with the prisoners' waiting-room and cells. The required drawings to be two sections, one elevation, two plans, one bird's-eye view, and one sheet of details, if the building be inclosed; or one section, two elevations, two plans, one perspective view, and one sheet of details, if the building be open all round. The general drawings are to be drawn to a scale of one-eighth to a foot, and the perspective view is to be on paper of imperial size.

Mr. J. A. Bunker then read a paper on the "System of Measurement as adopted in the Metropolis."

At the conclusion,

Mr. Paraire observed that although he agreed with Mr. Bunker generally in his description of the well-known system of measure and value as practised in the metropolis, he could not quite agree with him as to what were commonly termed "sporting items." Such items were extremely dangerous unless properly described in a specification. As an illustration, he might mention that in a case at Islington which came within his own knowledge, tenders were invited for raising to the extent of 2 feet 300 feet of brickwork surmounted by a stone kerb, into which a railing was fixed (leaded) in the ordinary manner. The tenders varied in amount from 250*l.* to 76*l.*, and he believed that the builder who took it at the latter price got more out of it than the person would have done who asked 250*l.* The manner in which he did it was to raise the kerb and iron railings in 12-feet lengths, and then introduce his courses of brickwork. By this means he was saved the expense of taking up and resetting the kerb and refixing the rails. With regard to the standard measure, he believed it would be very important if a recognized standard could be established for general use. There was one some years ago at Somerset House, but he was informed that it had disappeared long since. This was a subject which the Architectural Alliance would do well to take up, because if there was a uniform standard adopted all work could be done by the cube up to a certain thickness, and all above it by superficial measure. With regard to decorations, he was not of opinion that they could be satisfactorily measured.

Mr. G. B. New agreed that if there was one uniform method of measuring stone work, there would no longer be the many disagreements which now prevailed on the subject.

Mr. Bunker said that Mr. Paraire had misunderstood him as regards decorations. The only decorations which he referred to as measurable were plain gold lines, or lines of colour with a little scrollwork.

Mr. New expressed himself favourable to the introduction of a system of measurement by decimals.

Mr. Rickman was of opinion that the decimal system would not help them much. For his own part, he preferred the duodecimal system, which would get rid of a vast number of unnecessary fractions. He had no hope, however, of seeing it carried. The London system of measuring was gaining ground throughout the country, and it was now very much adopted in Birmingham, where it was comparatively unknown some years since. There were, no doubt, good reasons for the diversity in the system of measurement which prevailed in various portions of the empire. In London, all materials used in building had more or less labour expended on them before they came into use; but in the country, the chief materials, such as stone, bricks, lime, sand, &c., were at hand; and in Ireland and Scotland, stone was usually found on the site of all new buildings. It was consequently not desirable in such cases to adopt the same principle of measuring as that in vogue in London. In the neighbourhood of Dublin, for instance, the royalty paid for quarrying stone was so small that the cost of the article was nearly nominal. In the neighbourhood of Bristol, and many places on the south-west coast of England, the standard thickness was 18 inches. In the Isle of Man, the practice was to take the girth all round the house, giving in addition the reveals and openings, by the thickness of the walls.

Mr. Paraire said, that the conclusion to be drawn from the observations of Mr. Rickman was, that measuring stonework was a geographical difficulty. He approved of the decimal system, the value of which was proved by the fact that it was invariably adopted by all Continental states.

Mr. Matthews observed, that as there were, no doubt, good local reasons for different measurements: if a fixed system were laid down, country builders would not agree to it, because they would fancy that it would operate disadvantageously for them.

The Chairman said that the introduction of a decimal system would be a great improvement on the ordinary system of vulgar fractions; but he feared that the duodecimal system could never be adopted. The object of measurement was either for the purpose of making out an estimate or a bill, and the London system went into minute details; while the practice in vogue in the country was based on a broader principle, and the estimate was made, so to speak, more in groups. He believed that many architects were of opinion that the London system was too refined. It was, however, just possible that a good deal of uniformity might be arrived at if London measurers would adopt in some instances country practices, and country measurers conform in some degree to the metropolitan system.

Mr. Bunker said, that although, in measuring, a great number of small items were named, they were not moneyed out. The object of referring to them so much in detail was, that the builder might be able to know precisely what he was expected to do or what to supply.

Thanks to the reader of the paper having been voted,—

It was announced that the next subject for the Class of Design would be, "Offices on an Acute Angle of Street, 40 feet by 20 feet frontage;" and that on the 12th inst., Mr. E. J. Tarver would read a paper "On Figure Drawing."

MR. RUSKIN AT THE WORKING MEN'S COLLEGE, LONDON.

MR. RUSKIN said it was always very pleasant to him to come and find himself surrounded by such sympathetic faces as his old friends in the college presented to him, and explained his long absence by saying how unwell he had been, and how necessary it had been to him to live where the sky could be seen without the intervening smoke which always hid its beauty from Londoners' eyes. He had been hard at work too, perhaps too hard for his strength, and he had had many discouragements. He had used the best part of his life in the endeavour to make one English painter understood, and he feared his success had been but small. To this day Turner was a mystery to his countrymen, and his paintings were something worse than a mystery—they were a trouble and a bore. Nobody appeared to know what to do with them. They were first put into Marlborough House, then into the galleries at Kensington, and now they are put all together into a room at the National Gallery, where not one of them could be seen. The drawings had fared even worse. He had begged of the trustees of the National Gallery, and almost gone down on his knees before them, that he might be permitted to put them into such frames as would admit of their being seen. This having been done, no further steps had been taken in the matter. Neither the trustees nor the nation could find a place in which Turner's drawings could be exhibited, and they had become mildewed and damaged for want of proper care during the alterations at the National Gallery. Mr. Ruskin complained that pre-Raffaellitism, having established the principle that the dignity of a picture depended largely upon its subject, was now degenerating in that direction, and its professors showed signs of forgetting the true dignity which always lies in the conscientious performance of work as such. In architecture, though great things were being done in England—less, perhaps, in London than in other parts, owing to peculiar restrictions and conditions which might be unavoidable; and most notably in Manchester, where, besides the magnificent museum, were many noteworthy specimens of the Gothic style—the present generation of Englishmen would pass away before any true appreciation of the glories of Gothic architecture was arrived at. Another source of disappointment to the lecturer was the small success which had attended his efforts to cultivate a love of nature. He had been told he had been successful here, and what did he find? That the most lovely natural scenes in Europe—the Falls of Schaffhausen and the Lake of Geneva—were marred for ever. At the falls a railway bridge, as hideous as such things usually are, had been thrown across; the Mediæval castle which crowned its heights had been converted into an hotel; while lower down the falls, factories had been built, poisoning the air with coal smoke. So much for love of nature in that quarter. At the lake a railway embankment had probably for ever divorced the lovely green slopes from the blue waters, when it would have been just as easy to have carried the railway on the other side of the lake; but it might have involved a few minutes' more travelling, and in such a case poor nature must needs go to the wall.

Mr. Ruskin concluded with an expression of the faith he has in the value of the principle of association as opposed to competition, and the good that will result to true art from the progress of the former principle.

VICTORIA STREET, WESTMINSTER.

IT is satisfactory to observe, that this street, which has for many years presented so waste and desolate an aspect, is assuming an appearance of activity, and that building operations are being proceeded with. In addition to the extensive chambers in course of erection by the Mutual Tontine Association, of which an illustration appeared in our last volume, we perceive that the excavation has been commenced for large premises of an ornamental character, for Messrs. J. & J. Vickers & Co., the distillers, whose removal from the Borough has been rendered necessary by the formation of the Charing-cross railway. The architects engaged are Messrs. William J. Mayhew & Calder.

So far as these improvements have progressed we have reason to thank the Legislature for the change in the constitution of the Board of Commissioners. It may be hoped that, under the presidency of the chairman, Mr. Tite, M.P., supported by the exertions of zealous officers, this undertaking will yet realize the expectations of its promoters.

PROPOSED NEW ROAD FROM SOUTH KENSINGTON TO BELGRAVIA.

AMONGST the numerous schemes, plans of which have been deposited for the ensuing session of Parliament for consideration, we have noticed one that is likely, if carried out, to improve and influence the architectural character of the west end of London. It is a design for a new road, or rather boulevard, to connect the district of Belgravia and the Cromwell-road and South Kensington districts. It is by no means a new idea, as, if we mistake not, it was approved of some years ago by the late lamented Prince Consort, who saw the expediency of a direct communication between the abovenamed districts. It is proposed to form a boulevard, upwards of 130 feet wide and more than half a mile long, commencing at the east end at Pont-street, Belgrave-square, by a handsome approach through an archway, and thence in a straight line to a point facing the Kensington Museum in the Cromwell-road. The road is to be lined with handsome attached and detached mansions on each side. It will be an immense improve-

ment to the whole of the surrounding district, and must command very general assent.

The scheme has our cordial approval, and we shall be glad to find the promoters enabled by Parliament to carry out the undertaking.

THE LEVERAGE OF TOOLS.

In answer to the question as to the power obtained from the increased length of screw-drivers and similar instruments, I think that the principle rests on that of the wheel and axle, and depends upon the amount of lateral motion obtainable from the instrument.

The relation sought to be obtained is that existing between the diameters of two circles, both described about the axis produced of the screw or hole, and the radii of which are the distance of the centre of force from this line, and half the distance between the extreme biting points of the blade of the instrument.

Thus, in a driver, let the width of the blade $=2b$, and the length of the handle $=c$; then if the radius of the circle described by the force $=x$, the relation desired will be $\frac{b}{x}$. Let the angle formed by the axis of the driver with the axis of the screw $=a$; then $x=c$ Sin. a, and the above relation will become $\frac{b}{c \text{ Sin. } a}$. If in this equation $a=90°$, the result becomes $\frac{b}{c}$, which is a case of the ordinary lever.

From the above, it is evident that in the case of any instrument which has no power of lateral deviation, an increase of length will make no corresponding increase in the amount of power developed,—a result apparent from a simple inspection of the proposition. A. J. C.

ACOUSTIC(?) POTTERY.

This subject being still under discussion in your journal, I venture to draw your attention to a position other than any heretofore noticed in your pages—of earthenware jars or pipes built into a church.

In St. Mark's Cathedral at Venice I saw from a gallery used as a passage to the top of the vestibule, that a considerable portion of the mosaics at the west end of the nave was removed, showing the brick barrel vaulting quite bare, in which, at intervals (whether regular or irregular I cannot say), were built earthenware pipes, radiating with the voussoirs, about 4 inches in diameter, and projecting apparently about 2 inches. Are these "acoustic pottery?" or are they intended to carry off any dampness in the cement in which the mosaics are embedded? or are they for the purpose of more easily threading the vaulting for the lamp chains?

I was in St. Mark's about a month before this subject was last mooted in your journal, or I should have been more particular in my observations, especially as the church is remarkably resonant. C. Noel Armfield.

THE PICTURES "DISCOVERED" IN GLOUCESTER.

Sir, My attention has been directed to an article in the *Gloucester Chronicle*, giving a different account of the "discovery" of two pictures in the mansion now occupied by the School of Art there to that which I had detailed to you.*

All I can say is, that I distinctly understood, when I purchased these pictures, that they were found in the recesses walled up as I described; but it appears, on further inquiry, that they were panelled into walls, and removed by the person from whom I bought them, and to whom they have been since returned. The version of the *discovery* in the *Gloucester Chronicle*, allowing it to be accurate, certainly destroys the romantic incident of walled-up recesses or chambers, but the important questions are untouched, and would be equally interesting whether the pictures were panelled into walls or found in recesses walled up, viz.—Is the portrait an original portrait of Pope? Is the larger picture a work of art, and by Guido? I have no longer any personal interest in these questions, but the portrait has a strong likeness to Pope, with certain differences from the more known portraits of him; and it appears to be an original picture of the time. As to the alleged "Guido," we all know how seldom it is that connoisseurs, however eminent, can agree as to the authority of a work by an Italian master, unless the pedigree be unquestionably established; but so far as I can pretend to judge, I should say that the picture, though boldly and vigorously, is not coarsely painted, as the writer in the *Gloucester Chronicle* considers it to be; and that the head of the male figure has not been painted in, as the same writer intimates, but is original. These are, however, matters in which any persons who may desire to become the possessors of the pictures in question will probably rely upon the opinions of authorities in whom they are accustomed to confide. Thomas Baylis.

Thames Bank, Fulham.

* See p. 32, *ante*.

TO DESTROY VERMIN.

Sir,—In answer to your invitation to give the results of experiments on the destruction of insects, I may tell you that after trying nearly if not all the advertised nostrums in town or country, for twenty years, I have found nothing equal to the "Magic Paste" of C. Penney, 4, Roseberry Cottages, Dalston, for the almost immediate riddance of cockroaches, ants, and the lepisma, but it did not always prove effectual against crickets. These will very quickly disappear under a simple remedy,—Calomel and powdered white sugar, in equal quantities, well mixed, and strewn about the hearth or places frequented. I am told this is equally effectual against all the pests above enumerated, but I had only crickets left when I tried it. Samuel Woods.

*** Care should be taken to prevent domestic animals from tasting the pastes and powders used for killing insects. Those of the pyrethrum class are said to be harmless in this respect.

ARCHITECTS' ACTIONS.

KETLING *v.* THE BRIGHTON CLUB AND NORFOLK HOTEL COMPANY.

This was an action brought (in the Court of Common Pleas, Westminster) by the plaintiff, an architect, to recover for his professional services in making plans and specifications for the erection of a new hotel and club, on the site of the Norfolk Hotel, at Brighton. The plaintiff also alleged that he had been appointed architect by the provisional committee of the company, and he claimed compensation for having been wrongfully dismissed. He had made plans and elevations for the proposed new hotel, which had been laid before the company and the shareholders, but not carried out. The proposed new hotel was to cost 26,000*l.*, and he claimed 5 per cent. on this sum, or 1,300*l.*, for his plans and sections. The company, when established, had purchased the old Norfolk Hotel and the land for 22,000*l.*, and still carried it on, contemplating only some future additions to the building; and the directors denied that they had appointed the plaintiff their architect, or that they had any immediate need for one at all. They also denied that they had given the plaintiff authority to make the plans and sections, which he had done to show the shareholders, and asserted that the plaintiff had set about them at the suggestion of some of his friends, promoters of the company, and had accepted a bill of exchange for 500*l.*, in consideration of those promoters appointing him the architect of the company, to build a new hotel on the site of the old one before the company was established, but the directors altogether repudiated these proceedings. As, however, they had accepted and used his plans, they paid 150*l.* into court as sufficient remuneration for them. The plaintiff's witnesses estimated them as worth 1 or 1½ per cent. of the estimated outlay, or from 250*l.* to 350*l.* The case occupied the day.

Mr. Serjeant Parry and Mr. Waddy appeared for the plaintiff; Mr. Karslake, Q.C., Mr. Henry James, and Mr. Staveley Hill for the defendants.

The jury found a verdict for the plaintiff for 300*l.*

PROVINCIAL NEWS.

Brighton.—To the town council recently, the general purposes committee reported in favour of establishing public baths in Brighton as "a great public benefit" and as "promoting the health and comfort of the inhabitants, and especially of the labouring classes." A plan was appended by the surveyor, for the conversion of the dome of the Pavilion stables into baths, and providing for an entrance thereto from Church-street. The consent of the inhabitants in vestry being necessary under the Act, the committee recommended that it be obtained, and they add that "the gentleman who made the offer of 1,000*l.* towards the expense of constructing baths has communicated to the committee, through Mr. Alderman Burrows, his desire that the baths should be constructed under the dome of the Pavilion, instead of under the King's-road." Wash-houses are not recommended at present.

Tavistock.—A public hall has been opened at Tavistock. The hall stands immediately to the north of the Abbey. It is built of local free stone, contrasting with Fremin Tor granite dressings and mullions. The hall proper occupies the upper story of the building. It is calculated to seat eight hundred persons, and would afford standing room for upwards of a thousand. Five windows on either side—the centre one in front a bay—give light during the day; and at night the hall is illuminated by upwards of 120 jets of gas, proceeding from eight bronze coronæ, pendant from the roof, and manufactured by Messrs. Hart & Son, Mediæval metal workers. The roof itself is open-timbered, and the ceiling, when finished, will have about it a considerable amount of fret-work. Machinery will be provided for hoisting the seats out of the way whenever occasion requires. The walls, to the height of 6 feet from the floor, are panelled in stained deal. At the north end of the hall is an apsidal-formed recess, lined with the same material, and which will serve either for an orchestra or a platform for the purpose of meetings: the front is moveable. Facing this, at the other end of the room, but high up in the wall, is a projecting wooden gallery, also of stained deal, which will accommodate about thirty. The design was furnished by Mr. Edward Rundle, of Tavistock, architect to the Duke of Bedford, under whose directions it has been erected by the duke's workmen. One of the chief uses of the hall is for the local Mechanics' Institute.

Sheffield.—A meeting of the Cutlers' Company has been held to receive the report of a committee with reference to plans for the alteration of the Cutlers' Hall, and to finally adopt one or other of the plans. Promises of subscriptions to the amount of 3,050*l.* having been obtained, the general committee had issued applications to the local architects for designs for the proposed alterations, stipulating that the area of the banqueting hall, as enlarged, be 5,000 feet, and the ladies' gallery 1,000 feet. Six designs were sent in, and the Building Committee unanimously agreed to recommend the company to adopt the designs of Messrs. Flockton & Abbott, and to award 20*l.* to Mr. M. E. Hadfield. The meeting of the company unanimously approved the recommendations of the Building Committee, and the designs of Messrs. Flockton & Abbott are, therefore, finally adopted. They also re-appointed the committee, with power to carry out the proposed alterations. The subscription was announced to have reached 3,725*l.* It is understood that, though tenders will probably be at once invited, the alterations will not be commenced until the full sum required, about 5,000*l.*, has been raised. The Building Committee did not, at the time they invited designs, contemplate any enlargement of the front of the building at present, and Messrs. Flockton & Abbott's principal design embraces the partial enlargement only; but they have added a supplemental plan, showing how the front extension can be carried out in conformity with the other, whenever the funds are forthcoming. The present size of the banqueting hall is 72 feet by 29 feet, and it will be increased to 100 feet by 50 feet, by extending it 21 feet to the right, and pushing the far end 28 feet further out. The height of the room will be 45 feet. At the front end of the hall will be a gallery, 12 feet deep, extending the entire width of the hall. At the other end will be another gallery, 13 feet deep and two-thirds the width of the room. The larger gallery will be for lady spectators, the smaller one for an orchestra. The style of architecture will be Corinthian, with a sub-base 9 feet high, three-quarter columns rising at intervals in pairs, from bases projecting 20 inches, the columns supporting a massive entablature. The room will be lighted by circular windows over the entablature, and by slightly curved roof lights.

CHURCH-BUILDING NEWS.

Stamford.—The new church and presbytery at Stamford are drawing near completion. The style of work adopted is French Gothic, from designs by Mr. G. Goldie, of London, architect; Mr. T. Lait officiating as clerk of works. The plan consists of nave and north aisle, with chancel, lady chapel, and sacristy. The church inside is 80 feet long by 26 feet wide. The aisle is 33 feet long by 11 feet wide. It is approached by two large arches, with moulded bases, in Casterton stone, and red polished granite shafts. The lady chapel is entered by three arches, supported by polished Aberdeen granite shafts, with moulded bases and capitals. On the north side of the chancel is the presbytery, with sacristy, hall, dining-room, parlours, kitchen, and scullery, on the first-floor, with sitting-room and three bed-rooms on the upper floor. The whole of the interior of the woodwork exposed to view is stained and varnished, the roofs being all boarded on the back of the rafters, and open to the ridge. The entrance is on the north side, through an open porch. The

porch, chancel, and lady chapel, are paved with Maw's tiles. The whole of the buildings are covered with blue Bangor slates, with ornamental red ridge tiles. The dressings are all in Casterton stone, with rubble limestone rock-faced walling, laid in courses varying from 2 to 6 inches thick. The nave of the church is lighted by a four-light tracery window, at the west end, and on the south side by four lancet windows. On the north side is the aisle, which is gabled with a two-light tracery window in each gable. Nearer the chancel, on the north side, are two lancet windows, which add much to the light of the nave. The lady chapel is lighted by a tracery window in its west end. The chancel has a tracery window on the north side of its apse. The principal front being west, is arcaded on each side of the four-light window with buttresses of two stages, which are finialled. A bell tower has been built to the height of the eaves of the church, but, through funds being not forthcoming, is temporally covered over. Its omission gives for the present an unfinished appearance to the front of the building. The contractors for the whole of the works are Messrs. Halliday & Cave, of Greetham, Oakham; Mr. George Walters being foreman of the works.

Uxbridge. — We extract the following from a circular lately issued by Mr. H. Bird, the honorary secretary to the committee for building St. Andrew's Church, Uxbridge:—"The subscriptions towards the general fund are about 2,730*l.*, besides 150*l.* from the Diocesan Church Building Society, and a similar grant is expected from the Incorporated Church Building Society. To these sums which, roughly speaking, amount to 3,000*l.*, there has been added a noble gift of 2,000*l.* from Miss Ede, part of which is at her wish to be applied to the chancel, and the remainder (which it is to be hoped will be about 1,100*l.*), is to be at the disposal of the committee for general purposes. It will thus be seen that the contributions already promised amount to about 5,000*l.* On the other hand, the expenses of the undertaking are estimated as follows:—The erecting of the entire church (excepting tower and spire), 4,500*l.*; the site, 450*l.*; architect's fees, fencing, consecration, law expenses, and sundries, 410*l.*; making altogether, 5,360*l.* The church has been designed by Mr. George Gilbert Scott, R.A., in the Early English style, to contain 700 sittings, of which one-half are to be reserved for the poorer inhabitants of the district. It is proposed to build it in brick, without any unnecessary ornament, but still in handsome proportions suitable to its position at the entrance of Uxbridge. The drawings are nearly completed, and the preliminary works are proceeding without delay."

East Peckham.—The parish church has been re-opened. In 1857 the owners of the chancel and adjoining mortuary chapel set an example of restoring those portions of the building, when the four arches were entirely rebuilt, the floors paved with Minton's tiles, and two painted windows inserted,—one by O'Connor, to the memory of the late Mr. William Cook, jun., and one by Warrington, to the memory of the late Mr. Hugh Boorman. Since then nine of the most decayed of the old windows have been reinstated. In the early part of last year the present works were taken in hand. They consist of raising the floor by one step, and concreting the surface; underpinning a portion of the walls, and re-plastering them all; re-seating the whole of the nave and south aisle, which has been done in oak; erecting a new pulpit and prayer-desk, and an oak screen in the tower arch; re-paving the aisles, porch, and tower; essentially repairing the roof, and introducing an apparatus for warming by hot water; besides which there has been the addition of a large west window, which was much needed, and which had once before existed, but the space had been bricked up after the window had fallen into decay. This window was principally the gift of a few friends. At this time also the stonework and glass of the east window has been renewed; and the chapel has been improved by its owner by the removal of a large pew, and the substitution for it of two stall seats; as also by the insertion of a painted window, by Messrs. Hardman. The work was done under the direction of Mr. J. Clarke, of London, the diocesan architect. The builders were Messrs. Bowley, of Westminster, and for the stonework Messrs. Sutton & Vaughan, of Maidstone.

Cheam.—The funds for the finished portion of the church here have been raised, so that the edifice thus far is paid for. The tower is now carried up to the height of 40 feet only. The chancel, of which the foundations at present only are laid, and the concrete put in, will make the whole length of the edifice more than 100 feet. The seats are open benches; the pulpit a low stone one, with carvings. The roof is open, and of varnished timber. A feature of the building is the low columns with their carvings, and the arches and walls formed with alternate courses of red and black brick. The architect is Mr. Pownal, of London. The contractors for the building of the finished portion were Messrs. Sharpington & Cole, Westminster-road. The cost has been somewhat above 3,000*l.* A tradesman of Sutton, Mr. W. Noble, took an under-contract for the brickwork, at a price, it is said, that left him poorer for the undertaking.

Cirencester.—Subscriptions for the restoration of the church, amounting to 7,548*l.*, have been received, but the cost will be 12,000*l.*

Bengeworth (*Worcestershire*). — Some months ago a committee for the restoration of the parish church was formed, who consulted Mr. Preedy, of London; and his report, after a survey, showed that the building was in a most dilapidated state, some portions being absolutely dangerous. It was proposed generally to restore the church, remove obstructions impeding both sound and light, remove the galleries, and extend the chancel eastward, whereby additional sittings would be gained. It was estimated, that to carry out the architect's proposal in a satisfactory manner, at least 2,174*l.* would be required, and about 1,800*l.* have already been raised; but as the committee have resolved not to incur liabilities without a probability of sufficient assets, no progress has yet been made in the restoration itself. Until lately there has been no parsonage-house held with the living. The present vicar has, out of private means, and by the aid of the Ecclesiastical Commissioners, recently erected a parsonage-house on the glebe; and this step, it is hoped, will stimulate exertions to place the church itself in a proper state for the due celebration of Divine service. The new vicarage is a building with steep roof and varied gables, and red and white brick have been introduced in the structure. Mr. Christian was the architect on behalf of the Ecclesiastical Commissioners; and Mr. Gardner, builder, of Bengeworth, carried out the design.

Pontefract.—All Saints' Church, having been closed for several months, has been reopened. A set of six bells have been added, at a cost of 328*l.* The stalls in the church have been made more comfortable, and the floor boarded. The font, which has hitherto been placed in rather an obscure place, stands now in front of the communion table. The picturesque ruins of the church, which were getting into a very dilapidated condition, have been secured as far as practicable. A new heating apparatus has been supplied, and the organ has been enlarged and improved by Mr. Harrison, of Rochdale.

Darlington.—The new Duke of Cleveland has expressed his readiness to contribute 500*l.* towards the sum wanting to complete the restoration of St. Cuthbert's Church, Darlington, provided 1,000*l.* be raised by other contributors. The late duke was also a donor to the restoration fund.

DISSENTING CHURCH-BUILDING NEWS.

Newcastle-upon-Tyne. — The members of the United Methodist Free Churches in Newcastle-upon-Tyne have reared several chapels in the most populous parts of the town, the latest having been recently opened in Gloucester-street, Scotswood-road. This is the fourth within the last five years. It is in the Italian style, the details in brick and stone dressings. The building is a parallelogram in form, the main entrance being through a doorway beneath a three-light window, which forms the principal architectural feature of the elevation, and fronts towards Gloucester-street. A polished stone porch forms the entrance into a corridor, with stairs at each end leading to galleries constructed on three sides of the edifice. The chapel is 56 feet in length, 42 feet in width, and 32 feet in height from floor to ceiling, and will afford accommodation for about 600 persons. All the seats are open benches, formed of red and yellow pine stained and varnished; and the gallery front is constructed of the same materials, and divided into decorated panels. Below the chapel is a school-room, capable of holding 350 children; also a large class-room and minister's vestry, which has a staircase direct to the pulpit. Both the chapel and school-room are heated with hot water. Mr. J. Hogg was the contractor for the masons', bricklayers', carpenter and joiners', plumbers', slaters', and plasterers' works; Mr. E. J. Thompson for the painting, glazing, and decorating; Mr. G. Patton for the gas-fitting; and Mr. D. Donkin for the iron gates and railing. The hot-water apparatus was erected under the superintendence of Mr. W. Pickering, one of the building committee. The whole of the works have been carried out from the designs and under the direction of Mr. G. Snaith, of Newcastle-upon-Tyne.——The corner stone of a new Baptist Chapel has been laid in Rye-hill, near the Scotswood-road. The building will be Italian in style. The ground-floor will be occupied by the school, above which will be the chapel. There will be three entrances to the chapel, approached by a flight of stone stairs. Immediately above each door will be a circular-headed window, of ornamental design, with a balcony. A feature in the front elevation will be imparted by the introduction of Minton's bright-coloured enamelled tiles. Galleries are carried round three sides of the chapel. The whole will accommodate about 1,500 persons, and the school beneath about 900 scholars. The outside dimensions of the chapel are 85 feet by 59 feet. Mr. James Cubitt, of London, is the architect; and the following have been appointed to carry out the various works:—For mason work, Mr. R. Robson, builder, Newcastle; for the joiner work, Mr. Berry, Newcastle; and for the plumbing, Mr. Watson, Newcastle; and for the slating, Mr. T. Sanderson, Newcastle. The amount of the present contracts for the chapel is about 3,300*l.*

Derry (*Ireland*). — The third Presbyterian church in this city has been re-opened for Divine service, after having undergone alterations and improvements. The interior of the building has been remodelled and renovated.. The ground-floor and gallery have been improved. The pews are reduced in height, the backs being sloped, and capped with Italian walnut, polished. The front of the gallery has been new panelled, having also a new cornice. The box pulpit has been superseded by one of a platform kind. The entire works, which have involved an expenditure of about 1,500*l.*, were carried out from plans furnished by Messrs. Boyd & Batt, of Belfast and Derry, architects, and under their superintendence. Mr. Matthew M'Clelland, builder, was the principal contractor. The contract for heating and lighting was carried out by Mr. A. Baxter, and the painting and decorations were done by Mr. W. Sterling.

SCHOOL-BUILDING NEWS.

Yarmouth.—The trustees of the Grammar School have announced that it is in contemplation to erect a permanent building capable of accommodating 200 boys.

Stradbroke (*Ipswich*).—A National School, which owes its existence in a great measure to the exertions made by the Rev. J. C. Ryle, has been opened in this village. The building is of red brick and slate, of that peculiar compromise between the picturesqueness of the Tudor and the lightness and economy of space of the modern utility style, which has been so much favoured of late years in National schools. The building mainly consists of two large school-rooms, one 60 feet by 18 feet, and the other 47 feet by 18 feet. These are placed in such a position towards each other as to form a right angled triangle, the side of one, finishing with the gable end of the other, forming the principal face of the structure towards the road. A broken coping in steps runs up the sides of the gable. A large Gothic-shaped window in a series of lights throws a body of light through the gable end into the room: there is a projecting string of moulded bricks under the window, and the unbroken space of the walls is everywhere adorned with designs in black brick. The chimneys are not stacked, but are of the Tudor style, and there is a stained timber belfry over the centre of the building: a fancy ridge crowns the pitch of the roofs. In front of the building is a tolerably spacious playground for the children of the lower school, and at the back is a similar space set apart for the boys of the upper school, and in the angle at the back, formed by the junction of the two large school-rooms, are a class-room, 13 feet by 13 feet, a stable for the use of the upper school, and other provision, affording separate accommodation for the two schools. The school-rooms have open stained timber roofs, 20½ feet from the pitch to the floor, and the walls are 16½ feet high. Mr. R. M. Phipson was the architect of the schools, which have been built under the

superintendence of Mr. Albion, clerk of the works, from London. The builder was Mr. Godbold, of Harleston. The contract was 645*l.*; the cost of the land 90*l.*; the fencing and gates 53*l.* 11s. 5d.: and the fittings 50*l.*, making a total of 838*l.* 11s. 5d.

Buckland (*Aylesbury*). — The new National Schools at Buckland have been formally opened by the Bishop of Oxford. The cost of the erection, exclusive of site, has been about 650*l.* Sir A. Rothschild presented the site, half an acre, and a donation of fifty guineas. The Queen, who was an owner of land in the parish, gave twenty guineas. About 100*l.* still remains to be raised. The schools are Early English. Mr. Devey, of London, was the architect.

Chipping Campden (*Gloucestershire*). — The completion of the restoration of the Campden Grammar School, one of the most ancient foundations in the country, has just been celebrated. The undertaking was commenced in 1860, the inadequate revenues, and the absence of accommodation for boarders, threatening the gradual decline of the school unless vigorous efforts were put forth. The result has been the collection of about 1,500*l.*, which sum has been devoted to new buildings suitable to the requirements of the district. The old school-room has been retained, the walls being carried up for the advantage of the interior; the ancient ceiling, with its oak beams, raised; and the windows heightened by the introduction of transomed lights. A class-room, with open timber roof, has been appended on the east side; and spacious dormitories, in two stories, have been constructed over the school. An entirely new residence has been built for the accommodation of the head master, in communication with the school building and the several dormitories. The entire structure forms an elevation of picturesque outline, with gables, dormers, and bell turret, in masonry, and in harmony with the style of the ancient domestic architecture, of which the interesting old town of Chipping Campden retains numerous examples. In the gable over the principal bay window is a sculptured panel, with the armorial bearings of Fereby, the original founder, and of the co-founder, Baptist Hickes, first Viscount Campden. The work of restoration and re-building has been carried out by Mr. E. Tomes, of Chipping Campden, from the designs and under the superintendence of Mr. C. A. Buckler, of Oxford, architect.

STAINED GLASS.

St. Mary's, Wokingham (*Berks*).—A stained-glass window has recently been placed in the east end of the south side aisle of this church, the gift of Miss Twycross, of Wokingham, and executed by Mr. Holland, of Warwick. The subjects are our Lord's Baptism, Crucifixion, Resurrection, and Ascension, under appropriate canopies, with pedestals and inscription. In the tracery are angels bearing crowns, palm-branches, and scrolls, with texts of Scripture, the lamb, pelican, &c. A south aisle memorial window has also been put up by the same artists, containing representations of Christ raising Jairus's daughter, in three lights, under a floriated canopy of the lily, in tracery. Figures representing Faith, Hope, Charity, Piety, Prudence, and Devotion.

St. Mary's, Guildford.—A stained-glass ornamental window has been erected in this church, with medallion, containing angels bearing texts; also a lancet light containing monograms and thorn ornament, both the gift of Sir H. Austen, and executed by Mr. H. Holland, of Warwick.

Dodford Church, Daventry (*Northants*). — A stained-glass window has been placed in Dodford Church, by Mr. R. Hewitt, of Northampton. The window is at the east end of the north aisle, and is a Perpendicular one, of three lights. The north aisle itself is Early English, but a later window had been inserted in the east end. This was found so dilapidated from age, that the stonework had to be made new. A repetition of the old window has been put in by Mr. Roberts, of Weedon, builder. The glass is the work of Messrs. Powell, who have been employed for windows at St. Giles's, Northampton. The centre light represents the birth of our Saviour; the right-hand light the Magi on their journey; the left-hand light the angel appearing to the shepherds. Inscriptions on the glass, and on a marble slab underneath, commemorate the members of Mr. Hewitt's family.

Windsor Chapel.—Part of the glass for the Prince Consort's memorial window has reached Newark, and workmen have been engaged in the necessary work for its completion. The new window will be erected in the place of the large plain glass window in the east. About 900*l.* have already been subscribed for this purpose.

Kendal Church.—This church has just been embellished by a further addition to its numerous stained-glass windows. The church itself being Perpendicular, the window is the same. It consists of three main openings surmounted with tracery, which contains an angelic host bearing symbols of our Lord's Passion. The lower part contains the three principal subjects,—the centre consisting of the Resurrection of our Lord, with the inscription, "I am the Resurrection and the Life." On the left-hand of this is St. Paul preaching at Athens, his right-hand pointing to our Lord in the centre, his left to the idolatrous Athenian temples which are delineated in the same compartment. On the right-hand occurs the third subject, which contains a conventional resemblance of the deceased vicar (to whose memory the glass is dedicated), in his robes of office performing the burial service. Kendal Church, in its unrestored condition, is shown in the distance. The subjects are surmounted with tabernacle work on ruby grounds, containing, in the apertures, the Crucifixion, and St. John and Mary. These canopies are supported by columns which inclose the subjects, having angels displayed upon them. At the foot of the subjects are pedestals having inscribed scrolls. The artist was Mr. Warrington, of London. The same artist has also inserted in the centre compartment of the Strickland window the coat of arms, in stained glass, of the ancient family of Sizergh Castle.

THE MARYLEBONE AND WEST LONDON SCHOOL OF ART.

This school is now, we believe, the largest in London, excepting the Central School, at South Kensington, and deserves the help of those who are able to give it, especially from the manufacturers of the district. The following analysis of the occupations of the students during the year 1863, is interesting:—Artists and designers, 32; draughtsmen, 14; modellers, 8; decorators, 36; glass painters, 25; goldsmiths' chasers, &c., 21; metal workers, 15; cabinet-makers, 24; carvers in wood and stone, 42; upholsterers, 23; carpenters and joiners, 29; engineers, 16; salesmen and clerks, 22; teachers, 27; engravers, &c., 8; coach-painters, 2; die-sinkers, 7; photographers, 6; pianoforte and harmonium makers, 8; gardener, 1; plasterers, 5; chairmaker, 1; gilders, 5; mould-carvers, 3; painter, 1; sign writers, 6; lace maker, 1; bricklayers, 3; ivory carvers, 4; turners, 2; bookbinders, 2; papier-maché workers, 2; lamp maker, 1; marqueterie cutters, 2; herald painters, 3; at school, 16; miscellaneous, 7. This school obtained two national medallions, ten medals, sixteen prizes, and fifty-nine "passes" in various subjects of personal examination before the Government inspector. Two of the students have been recently admitted students of the Royal Academy. The master is Mr. Macdonald Clarke, and the school is held at 202, Portland-road.

GAS.

The committee of the Devizes Gasworks are about to enlarge their means of gas production by an outlay of 2,000*l.* This expenditure has, it is said, become absolutely necessary to enable them to meet the increased demand.——The Windsor Gas Company are reducing the price of their gas to 5s. 6d. per 1,000 cubic feet, being a reduction of 6d. per 1,000.——The Worcester New Gas-light Company have declared a dividend of 10 per cent. per annum, free of income-tax, for the past half-year. The last report of the gas inspector to the Local Board of Health states that in five experiments he found the average illuminating power of the gas to be 13·42, or 1·42 above the contract quality, which is 12 candles' illuminating power.——The Newcastle-under-Lyne Gas Company promise to reduce the price of their gas 6d. per 1,000 feet at the end of a year from the time when they took the concern into their own hands.——A bill, for port, Alverstoke, and Rowner with gas, has just been printed. Clause 32 limits the price of the gas supplied to 4s. 6d. per 1,000 cubic feet, including the supply and fixing of meters. Clause 37 provides that the gas shall be of such a quality as to produce from an argand burner, having fifteen holes and a 7-inch chimney, and consuming 5 cubic feet of gas per hour, a light equal in intensity to that produced by 12 sperm candles of six in the pound, burning 120 grains per hour; and shall, as far as reasonably practicable, be free from sulphuretted hydrogen and other compounds deteriorating its purity.——The Collingham Gas Company (Newark) have declared a dividend of 6 per cent. The report stated that the consumption of gas has again increased considerably, and the works have been extended and improved without trenching on the reserved fund.——It is proposed to enlarge the Devizes Gas Works at a cost of 3,000*l.*——The price of gas in Gloucester has been reduced from 5s. to 4s. 6d. per 1,000 cubic feet.——The Brecon Gas Company have declared a dividend at the rate of 10 per cent. per annum, besides "deficiencies" of former dividends for 1856, 1857, and 1858.——The Chester United Gas Company have declared their usual dividend of 7 per cent. on the preference stock and new shares, and a dividend of 10 per cent. on the ordinary stock; also the arrears of dividend of 1860, amounting to 33s. 4d. per cent.——The York Gas Company have declared a dividend of 10 per cent. per annum for the last half-year.——The Thorne Gas Company are said to be "in a flourishing condition; and the committee are enabled to declare a handsome dividend for the past year, besides reducing the price of gas 10d. per 1,000 feet, and also keeping a very respectable reserve fund."

Miscellanea.

The late Leo Von Klenze, Architect.—We content ourselves at present with mentioning the death of this eminent architect, in Munich, on the 26th ult.

The Metric System.—Mr. Ewart, M.P., has given notice in the Commons that on a future day he will move for leave to bring in a Bill to legalise the use of the metric system in this country.

A Valuable Brick.—A notary has forwarded to the Bank of France a brick with a 1,000fr. note glued on it, which has been paid, and will be kept in the Bank Museum of Curiosities. It had been for fifteen years glued on the wall of a peasant's house, and considered as a pictorial curiosity by the man who found it, and did not know its value.

The Suez Canal.—We understand that Mr. Aiton, the contractor for the Dumfries and Lockerbie Railway, has contracted for the formation of about 40 miles of the Suez Canal in Egypt. The work is expected to extend over a period of four years. Mr. Aiton has advertised for enginemen, firemen, deck-hands for dredging-machines, bargemen, smiths, carpenters, and able-bodied labourers.

The Threatened Nailers' Strike.—A meeting of nail masters has been held at Dudley, "to further consider the workmen's prices." It was unanimously resolved that an advance of wages of 10 per cent. on hobs and other leading nails, and on such nails as are brought into competition with machinery, and those also the work of women and children, a considerable advance, though on a rather lower scale, should be given. Within the last eight months the nailers' wages have been raised from 10 to 15 per cent., and on spike nails 20 per cent.

The Newcastle-upon-Tyne Society of Antiquaries.—The fifty-first annual meeting of this Society has just been held in the old Castle at Newcastle. The Rev. Dr. Bruce read the report. In it the council states that the object for which subscriptions were raised and ground purchased, namely, the erection of a new museum for the collection of Roman and other antiquities, has not, as yet, been attained. The ground, indeed, has been secured, but no funds are forthcoming for the building. They announce that plans, drawings, &c., were prepared for the museum buildings by Mr. John Dobson, architect, and that the cost of these, amounting to upwards of 38*l.*, was presented to the Society by that gentleman. Mr. Longstaff called attention to the proposed restoration of Brancepeth Church by Mr. Salvin. The church, he said, was perhaps unique in the kingdom, and it was to be regretted that any alteration was to be made. Lord Boyne and Mr. Salvin were to be written to on the subject.

THE THAMES AND THE METROPOLITAN SEWERAGE.—Sir John Rennie, in commenting on the drainage works in London, is said to have predicted that water will run short in the Thames, and that ships will not be able to come as high up the river as they do now. He says that already the effects of the sewers in carrying off water are felt at Kew, where the plants have suffered seriously from want of water.

STATUE OF ROSSINI.—The Marquis Salamanca and the Chevalier Delahante, in the name of the Society of Roman Railways, have presented to the town of Pesaro a statue in bronze of Rossini, designed and manufactured by Marochetti. The inauguration of the statue will probably take place on the 29th of February, the anniversary of his birth, when he will attain his seventy-second year.

THE PROPERTY SURVEYORSHIP OF NEWCASTLE-UPON-TYNE.—At a recent meeting of the town council, a list of candidates for the vacant office of property-surveyor was presented. Fifty-three candidates had sent in testimonials. After some discussion, it was agreed that the list should be referred to the finance and town improvement committees jointly; these committees to call a special meeting of the council when they are ready with their selection.

RAILWAY MATTERS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 16th of January, on 11,146 miles, to 533,795*l.*, and for the corresponding week of last year, on 10,749 miles, to 490,231*l.*, showing an increase of 397 miles, and of 43,564*l.* in the receipts.——The "General Terminus and Glasgow Harbour Railway Company" have transferred their undertaking to the Caledonian Railway Company on the guarantee of a dividend on the company's stock, at the rate of 4 per cent. per annum, for three years, commencing on 1st February, 1864, and at the rate of 4½ per cent. per annum in perpetuity after 1st February, 1867. The Caledonian pay all debts and costs.

THE HOLOCAUST IN SANTIAGO.—The frightful burning to death of 2,000 ladies in the church of La Campania, Santiago, by the ignition of the hangings with which the church was decorated to celebrate the dogma of the "Immaculate Conception," has struck all with horror, and has led to many speculations as to the possibility of a similar dreadful calamity in any of our own theatres, churches, or assembly-rooms,—a possibility to which we have often before now pointed attention, and to which we shall return. Had the arrangements in the Santiago church been made with the express view of bringing about such a catastrophe, they could scarcely have been more complete.

A PLAGUE AND POVERTY STRICKEN VILLAGE.—Lady Pasley, of No. 7, Esplanade, Plymouth, tells in the *Times* a terrible story of the misery of a little fishing-village, called Beer, in the neighbourhood of Axminster. The place is plague-stricken with measles. The inhabitants are all fishermen, and at this time of the year always in want. The children do not die of the disease so much as of weakness and starvation after it. Mrs. Bingham, Lady Pasley's sister, who lives near Axminster, writes, "The bell is tolling constantly, and five or six children brought over here in a cart to be buried daily. The mothers themselves look like hungry wolves. The poor children die in the dark, and their mothers have to watch for daylight to see them, not having a candle in the house."

ELECTRO-CHEMICAL ENGRAVING ON METAL.—A paper, "On a Method of Instantaneous Engraving on Metal," has been read at the Society of Arts, by M. Vial, of Paris. He described various modifications of his discovery, which are patented. In one case, a drawing in metallic ink is laid damp upon a zinc or steel plate, and pressed for two minutes, when the design is transferred to the plate. In another case, an engraving on paper is saturated with a metallic solution, as of copper, and laid upon a zinc plate, and pressed, when the copper is precipitated in a few moments over the plate, except where the greasy ink covers the paper. After a farther process positive plates are taken from these negatives by means of printed impressions. A third process consists in drawing on a steel plate with greasy ink, and plunging it into a copper solution, containing a little nitric acid. This also is perfected by a subsequent process. In the discussion on the paper the processes were generally admitted to be of value and importance. M. Vial has had the recognition and thanks of the French Institute.

THE LATE MR. W. H. HUNT, ARTIST.—We notice with extreme regret the death of Mr. Hunt, the well-known admirable painter in water-colours, which took place on the 10th instant. Mr. Hunt had attained the age of 74.

RAILWAY BILLS.—The Board of Trade have reported to the House of Commons that the Bills relating to railways in the United Kingdom ask authority for new companies to construct 2,264 miles, and existing companies 835 miles,—in all, 3,099 miles of new railroads. There are also 66 miles of deviation lines proposed.

SCULPTURE COMPETITION OF THE ART-UNION OF LONDON.—The works prepared in competition for the premium of 600*l.* offered by the Art-Union of London for a life-size group will have to be sent in by the 1st of March. We understand that the Science and Art Department will afford space for the exhibition of the groups in one of the new courts of the South Kensington Museum.

WOODEN PAPER.—M. Bardoux, a manufacturer, of Poitiers, is said to have succeeded in manufacturing paper from various descriptions of timber, such as oak, walnut, pine, and chestnut, and from vegetables, and without the addition of rags. M. Bardoux asserts that his invention will cause a reduction of from 60 to 80 per cent. in the price of paper. Samples of the wooden paper have been exhibited at the office of the *Journal des Inventeurs*.

PORTRAIT OF THACKERAY.—Mr. Ayling (New Oxford-street) has published a photograph of a portrait, by Mr. Samuel Lawrence, of our eminent countryman—too soon lost. It is the last portrait for which Mr. Thackeray sat to a painter, and is remarkably characteristic and like. He is represented reading, with the paper held upright and near the face, as was his manner, and conveys strikingly his best expression. As a photograph, too, it is very good.

BRITISH INSTITUTION.—The present exhibition of the works of British artists, in the gallery of the British Institution, Pall-mall, consists of 633 pictures and 16 pieces of sculpture. Altogether deficient as usual in works of high class, it nevertheless includes several good pictures by Sir Edwin Landseer, Mr. E. W. Cooke, Mr. Alexander Johnston, Mr. Pickersgill, Mr. J. R. Powell, Mr. T. Danby, Mr. G. Smith, Mr. F. Dillon, Mr. F. Weekes, Miss Kate Swift, Mr. J. Pettie, Mr. George Stanfield, and others.

THE LIVERPOOL WOOD TRADE.—From the local circulars it appears that the American pine import trade has greatly increased, and prices have hence fallen, although the Lancashire and other consumption has also much increased beyond that of the previous year. From the Baltic the imports have been on the increase; but Hull is a chief port for the Baltic deal, batten, and timber trade. The last year's imports to Liverpool of Colonial woods, including, of course, the importation of American woods from Canada and New Brunswick, was the largest ever known.

BARRACKS. The improvements suggested by the Army Sanitary Commissioners on the occasion of their visit to St. Mary's Casemated Barracks, Chatham, on that establishment being evacuated by the invalid depôt, have now been carried into effect; and the building, which will accommodate about 1,200 officers and men, will be ready for the reception of troops during the coming summer. The *Army and Navy Gazette* says, in order to render the barracks more healthy as quarters for troops, the ventilating arrangements in each of the casemated rooms have been very materially altered and improved, while the accommodation will be still further increased by placing a smaller number of troops in each of the compartments.

ELECTRO-MAGNETIC ROTARY ENGINE. — The proposition to introduce electricity as a motive power has been revived in America; Captain John Reeves, of New York, having invented and patented an electro-magnetic rotary engine for producing motive-power by electricity to any extent, and for any purpose required. The inventor states that in his experiments "he has discovered, and is now prepared to verify the fact, that electricity can be diffused over surfaces to the extent of hundreds of superficial feet, and thereby cause an electro-magnetic attraction, which acts on and sets in motion the most powerful machinery for producing motive-power, and this at a most reasonable expense for material consumed." The inventor has a working model at the Capitol, Washington, with plans of different descriptions, which he is preparing to exhibit to the Government.

THE THAMES EMBANKMENT.—The men are proceeding actively with that portion of the embankment which will extend from Waterloo-bridge to the east end of the Temple Gardens. The contract is being executed by Mr. Ritson. It is understood that none of the houses either in Norfolk-street, Arundel-street, or the Temple will be removed.

THE RESTORATION OF ST. DAVID'S CATHEDRAL. There is every probability that the proposed restoration of this ancient cathedral will be eventually carried out, as subscriptions amounting to about 10,000*l.* have already been promised towards the work. The estimated cost is 30,000*l.*

RE-VALUATION OF THE PARISH OF NEWCHURCH, RYDE.—The committee appointed at the late vestry meeting met by appointment at the York Hotel, Ryde, for the purpose of considering the list of tenders for the valuation of the whole of the parish of Newchurch. The tender of Mr. Francis Newman, of Ryde, amounting to 400*l.*, was accepted by a large majority.

METALLIC BELTS FOR PULLEYS. — Mr. Thos. Luders, of Rue Gaillon, Paris, proposes the use of steel bands as a substitute for leather for driving machinery. The metallic bands are to run upon wooden or iron pulleys, covered with two or three folds of leather. The ends are either brazed or laced together with leathern thongs, the holes being in the latter case bushed with soft metal.

THE HOUSES OF PARLIAMENT. — Sir Goldsworthy Gurney, by whose exertions the physical atmosphere of the Houses of Parliament has been much improved, has for some months been severely afflicted by paralysis; augmented, it is thought, by the attention which he has for some years bestowed upon the ventilation of the Houses. Being quite unable to resume his duties, he has received a prolonged leave of absence; and Mr. Alexander Gordon, civil engineer, has been installed in the office.

METROPOLITAN RAILWAYS AND THOROUGHFARES.—A deputation from the Royal Institute of British Architects has had an interview with the president and vice-president of the Board of Trade, at the office of the Board of Trade, Whitehall, on the subject of metropolitan improvements and throughfares in connexion with the various railway and other projects affecting the metropolis, and in support of petitions presented to both Houses of Parliament on this matter by the Institute.

LANDLORD AND TENANT.—The case of Bargent *v.* Thomson, before Vice-Chancellor Stewart, was where a lessee, under a covenant to repair on three months' notice, with penalty of re-entry, received notice on the 16th September to repair, according to a specification, and out of the twenty-two items specified only two were not commenced, and eight not completely finished, on the 18th December, the latter having been delayed by the state of the weather. The Vice-Chancellor held, under the circumstances, that the lessee was entitled to be relieved by injunction against ejectment for the breach of covenant.

THE RIVER WEAR COMMISSIONERS.—The committee say in their report, read at the last meeting of the Commissioners,—"We have to report that we have carefully considered the last proposal of Mr. Meik for strengthening the north-east pier of the South Outlet; and have determined, under the authority given to us at the last Board meeting, to adopt it. And in furtherance of that object we have obtained tenders for the work, and have accepted the offer of Mr. W. Scott to complete this work for 11,929*l.* 11s. 6d. We have also obtained additional tenders for the caisson for the Graving Dock, and beg to recommend the Board to accept the offer of Messrs. Hawks, Crawshay, & Co. for the sum of 2,300*l.*"

OVERCROWDING AND FEVER. From the village of Festiniog, in Merionethshire, and the hamlets immediately adjacent, an "epidemic" was recently reported, of so serious a character, as to call for the intervention of the medical department of the Privy Council. In a population of 6,000 or 7,000, there had been 600 or 700 cases of fever. Dr. Buchanan was accordingly despatched on a mission of inquiry. He reports that in cottages containing two low bedrooms, one 8 feet by 6 feet, and the other 12 feet by 6 feet, ten, and even twelve people were found to be lodged. In some of the lodgings the beds were never vacated, nor the rooms ventilated, either by day or by night. The work in the quarries was continued all through the twenty-four hours by relays of labourers.

Vendor and Purchaser.—Conditions of sale under a decree of the Court of Chancery, in the suit Defree *v.* Bedborough, contained no provision for the return of the deposit in the event of non-compliance by the purchaser, but a stipulation that, in the event of non-payment of the purchase-money, or other default, an order might be made by the Court for a re-sale and for payment by the purchaser of any deficiency and costs. A purchaser at the sale paid his deposit, but, before completion, became bankrupt, and his assignees elected not to complete. The deposit was held to be forfeited. The case was that of Mr. Boucicault, the well-known dramatist, heard before Vice-Chancellor Stuart.

Shakspearian Readings: Plymouth.—Miss Glyn, too seldom heard in London, is reading Shakspeare at the Plymouth Mechanics' Institute with great success. The play of "Antony and Cleopatra" has been especially praised. Our informant says, "Mark Antony's passionate love—a love which overpowers his reason, and makes both him and his army the slaves of a woman's caprice—was finely depicted; and Miss Glyn succeeded no less in the representation of the vain, jealous, and doting Queen of Egypt. The part of Cleopatra is one of the finest pieces of Miss Glyn's impersonations on the stage; and in the reading it lost little of the intense feeling which she always threw into it."

The Workmen's Club Movement.—A workmen's institute, in connexion with Holy Trinity district, has been inaugurated at Maidstone.——At Eastbourne, an effort is being made to establish a workmen's hall, and one-fourth of the furnishing fund has been subscribed. The hall has been provided by Mr. Leaf.——An influential meeting has been held in Liverpool, for the establishment of club-rooms for the working classes there. The mayor presided, and the secretary to the London Workmen's Club and Institute Union was present, and explained the nature of the movement. Appropriate resolutions in favour of the objects of the meeting were passed.

Battersea Working Men's Club and Institute.—The opening of this club took place on the 8th inst., under the presidency of the originator, Mr. Charles Curling. From the report of the Provisional Committee, it appeared that a house in Church-road had been taken, and, under the superintendence of Mr. E. C. Robins, the honorary architect, had been repaired and fitted up for the purposes of the institute. About 200*l.* had been expended, and, as little more than half was as yet subscribed, pecuniary aid was desired from the wealthy to enable the institute to start free of all liability. The Rev. H. Solly, the secretary of the Union, said, about sixty clubs had been established during the last two years. In the course of his address, Mr. Solly observed that the object of clubs and institutes for working men was to supply a great and acknowledged want, and to satisfy the craving for social intercourse which he believed to be divinely inspired for a good purpose, and therefore intended to be gratified. They sought to do this without leading the working man into habits of intemperance, but rather by offering him a helping hand to enable him to resist the seductions of the gin palace, and to be interested not only in his own improvement, but also in the welfare of his fellows.

Opening of Salisbury and South Wilts Museum.—The nucleus of this collection consisted of objects brought to light during the excavations made for the drainage of the city. These were collected by Mr. Brodie, and were purchased by subscription. A room at the Market House was temporarily rented, in which the drainage relics and other articles subsequently acquired were deposited, and the collection was thrown open to the public in 1861. The progress of the Museum has since been rapid. The late Doctor Fowler and his wife purchased a range of buildings in St. Ann's-street, which they conveyed to trustees for the exclusive use of the Museum. Since that time, numerous alterations have been made in the building itself. The rooms have been lighted with gas, and fitted with cases in which this now rather important collection has been arranged. On the evening of the day of opening a crowded *conversazione* was held in the local assembly-rooms, when the Mayor and the Bishop of Salisbury and other gentlemen spoke, and Archdeacon Harris delivered an address on the Ancient Lake Settlements of Switzerland, and the Rev. W. H. Jones one on Names of Places in the Vicinity of Salisbury.

Monument to Mrs. Browning, the Poetess.—Mr. Leighton has undertaken to design a monument to be placed over the grave of Mrs. Browning, in the Protestant Cemetery at Florence. The work will be of white Carrara marble, except decorations of black marble, inlaid on the white. The style adopted most resembles the Early Italian Renaissance. The composition comprises a large sarcophagus, sustained by six pillars, and having a lid of low pyramidal form.

Steam Cultivation.—A public meeting was held at Hereford, on Wednesday, the 10th inst., to take preliminary steps for the formation of a limited liability company. A large number of farmers of high reputation for intelligence and skill, cultivating upwards of 30,000 acres of land, have given in their adherence to the principle of steam cultivation, and no doubt ere long the steam-plough will be tearing up the red lands of Herefordshire.

Maidstone Cottage Improvement Society.—The first annual meeting of this society has just been held. Their first purchase was nine cottages in Stacey's-passage, Warwick-row, on which they expended, purchase and improvements inclusive, a sum of 702*l.* The net returns were already equal to nine per cent. per annum. A dividend at the rate of five per cent. was declared, and the residue set apart for a reserve fund. Six cottages in Peter-street were about to be purchased. Of the society's shares, 167 have been taken, and 1,670*l.* realized.

Factitious Blocks of Wood.—Gustave Colomb, a civil engineer, of Switzerland, has patented an invention for manufacturing factitious blocks of wood of diversified shades or colours, intended especially to be divided by sawing into thin sheets for veneering, although the blocks can be applied to other purposes. The inventor takes shavings, made by hand-planing or by machine, which are rolled up by means of a spindle with crank, compactly on each other, to form bundles, several of which are closely packed in suitable frames. The bundles can be formed with shavings of the same kind of wood, or of several different kinds and colours; in some cases shavings of other thin and pliable substances are introduced; such as thin strips of soft metals, horn, whalebone, ivory, tortoiseshell, papier-maché made of sawdust, and any substance capable of being glued together with the wood shavings. When the frame has been filled up with bundles of shavings, it is dipped in a hot bath of well-liquefied glue. After this immersion, the bundles are submitted to strong pressure, and the blocks thus formed are then carried to a hot-air chamber, where they are sufficiently dried to be cut into thin sheets.

The Drainage of Bedford.—The council of the borough, acting as a local board under the Local Government Act, having it in contemplation to adopt a comprehensive and efficient system of sewerage and drainage, have thought it advisable, in preference to advertising for plans, to invite the attention of a few gentlemen who have had experience in the construction of works of this nature. The board propose to give a premium of twenty guineas for each set of plans not adopted. The projector of the scheme approved will be expected to make a trustworthy survey and furnish working drawings and specifications, and to superintend the carrying out of the works on terms hereafter to be agreed upon. The board will require a project for the disposal of the sewage matter, and also a general scheme of sewerage and drainage, so arranged that it will admit of being carried out by degrees. Copies of a circular to this effect have been sent to the following:—Mr. John Lawson, Westminster; Mr. Stephens, Borough Surveyor, Leicester; Mr. Clement Trapp, Manchester; Mr. Horsford, Bedford; Mr. Clements, South Shields; Mr. Usher, Bedford; Mr. Wm. Haywood, London.

TENDERS.

For new board-room and offices, for West Ham Gas Company, at Stratford. Quantities supplied by Mr. D. Cubitt Nichols:—

Hedges	£2,830 0 0
Sanders	2,725 0 0
Wood	2,683 0 0
L'Anson	2,674 0 0
Perry & Judson	2,657 0 0
Rivett	2,643 0 0
Hack	2,495 0 0
Hill & Keddell (accepted)	2,480 0 0

Alterations, &c., at No. 132, Regent-street. Messrs. Wimperis & Freeman, architects:—

Duncanson & Moultrie	£280 0 0
Tyler (accepted)	260 0 0

For furnishing ninety-six long and twenty-four short benches, for St. James's church, Bury, according to plans and specifications agreed upon:—

	Dantzic Oak.	English Oak.
Clarke	...	£1,200 0
Frost	£812	892 0
Burrell	...	879 0
Andrews	...	720 0
Redsall	690	...
Fake (the whole number)	685	...
Ditto (half the number)	...	342 10
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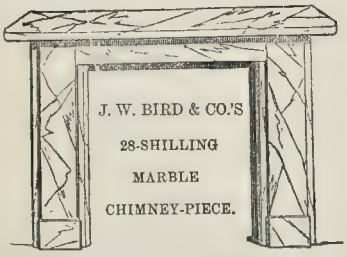
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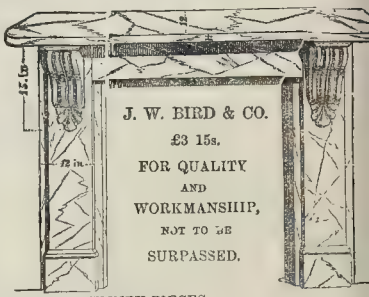
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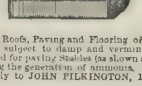
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For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
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YELLOW DEALS, £15 10s. per 120.
Good 2¼ Mill-sawn White Battens . .... from £8 10 per 120 of 12 feet
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Yellow Fir Timber (good length and size)..... 45s. per load
Good and well-prepared ¾ Flooring Boards.....from 11s. 6d. per square
„ „ ¾ inch „ ..... 12s. 6d. „
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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YE

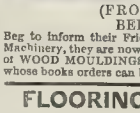
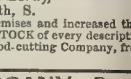
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualitie
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 33s. per Load.
Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
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FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, well prepared, White ..... 11s. 6d. Yellow... 12s. 0d. per square.
1¼-inch „ „ „ ..... 12s. 0d. „ ... 13s. 0d. „
1-inch „ „ „ ..... 14s. 6d. „ ... 16s. 0d. „
2½-inch Battens ..... Yellow, £10, White, £9 per 120 of 12 feet.
3 by 9 Deals ..... Yellow, £18, White, £16 10s. „
Matched Linings, ¾-inch..... White, 12s., Yellow, 13s. per square.
Deals and Battens, in the Docks, at a considerable reduction.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

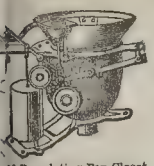
J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRON STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.


MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased th Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every descript of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, fr whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.
Spruce. White. Yellow.
⅝ by 7 Flooring, from ..... 12s. ..... 12s. 9d. ..... 13s. 6d. per square.
⅝ by 7 „ ..... 13s. ..... 13s. 6d. ..... 14s. 6d. „
1 by 7 „ ..... 15s. ..... 15s. 6d. ..... 16s. 6d. „
1¼ by 7 „ ..... 17s. ..... 18s. 0d. ..... 19s. 6d. „
180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



THOMAS LAMBERT & SON,



-lif-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

JAMES STIFF & SONS,

ANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufactures also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the us- which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

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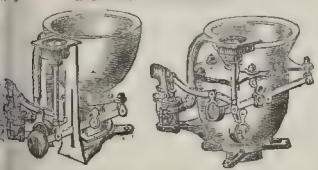
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

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J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water each closet, so that, however small the fall of water, perfect flu- is insured. Any number can be worked by one supply pipe. No -trin valves, ground joints or screws required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on appli ation to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LITTLE CASTERTON FREESTONE.

Apply, for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 39, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite) is raised in blocks of any workable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

*** The above WEATHER STONE is 1s. 9d. per cubic foot, delivered in London.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

SERPENTINE,

large size and great variety,

EQUAL TO GRANITE IN DURABILITY;

adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.

Manufactured by

THE LIZARD SERPENTINE COMPANY (Limited),

Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall.

Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

CAEN and AUBIGNY STONE.

FOUCARD, BROTHERS,

STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

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THE Messrs. FREEMAN & CHEESEWRING GRANITE CO. LIMITED, PENRYN, CORNWALL.

London Agents, TREGELLES & TAYLOR, 23, Cannon-street, E.C.

The Granite is selected for the new Westminster Bridge.

Drinking Fountains, Monuments, and Ornamental Works supplied.

Edge runners of Superior Quality.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Cases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S

Marble Works, 318, Euston-road, London, N.W.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851. Silver Medal in 1855, and Two Prize Medals in 1862.

Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.

Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depôt, 404, Euston-road, N.W.—DAVID WILLET, Agent.

ROCHE ABBEY QUARRIES.—STONE from the above Quarries, in blocks of all sizes, consigned in trucks from Bawtry, Doncaster, Worksop, or Masborough Railway Stations, or worked at the Quarries, and delivered at either of the above Stations without injury.—Full particulars as to price, &c. may be had on application to Mr. TIPPET, Sandbeck Office, Tickhill, Rotherham.—Samples sent if required.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.

Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.

Grindstones, Steps, Slabs, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RED MANSFIELD STONE,

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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, sinks, &c.; Bath, Caen, Portland, Aubigny, and Granite. Cargoes direct from the quarries. Wrought work executed at moderate prices.

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36, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

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Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

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SHOWROOMS:—

No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.

Estimates will meet with prompt attention.

MANUFACTORY at WALTON STREET.

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CONTRACTORS, BUILDERS, and MASONS.

All Estimates made at a considerably reduced cost for Marble Work.

Good Vein Box Chimneypieces at the reduced price of 30s. to 50s.

Statuary Chimneypieces, from new designs, carved 10*l.* to 40*l.* each.

A great variety of Coloured Marbles always ready to select from.

The Trade will find a Liberal Discount at this Establishment.

WESTMINSTER MARBLE WORKS,

EARL STREET, HORSEFERRY ROAD, S.W.

TO BOARDS OF WORKS, VESTRIES, ROAD TRUSTS, SURVEYORS, AND CONTRACTORS.

CHARLES ROSS,

STONE CONTRACTOR,

CREEK WHARF, BOW CREEK, BROMLEY, E.

Has always on hand, at the above Wharf, a large Stock of Broken BLUE POMBAY, BLUE PORT PHILLIP, and GREY CHINA GRANITE, which he can supply, well broken and sifted, in barges on the river, at 12s 8s. 6d and 5s per yard.

Address, 4, ALBION TERRACE, Commercial-road, Limehouse, E.

TISBURY STONE.

The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,

Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.

It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high-class architecture, and works of art, requiring only to be known to become the

STONE OF THE DAY.

Specimens, Price, &c. may be obtained of

SAMUEL TRICKETT,

General Stone Merchant, Millwall; or at the Offices of the Company, 3, Adelaide-place, London Bridge.

BELLMAN & IVEY,

GENERAL AND ORNAMENTAL PLASTERERS,

Manufacturers of

SCAGLIOLA MARBLE

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SUPERIOR PLASTER OF PARIS.

This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 50 per cent in use, from its covering one-third more superficies than the general plaster.

PRIZE MEDALS

were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.

PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C.

SHOW ROOMS AND OFFICE,

14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W.

PORTLAND STONE.

Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico.

THORN & CO. Stone Merchants and Contractors.

TILDESLEY & SON,

2, IRON GATE WHARF, & 15, SOUTH WHARF, PADDINGTON, W.

STONE AND GRANITE MERCHANTS, &c.

Supplied in ship or truck loads direct from the quarries, or delivered at any part of London or country

Portland Bramley Fall, Potter Newton, and Harehill Blocks,
Robinhood, Parlington, Potter Newton, Bretton, and Harehill SAWN LANDINGS AND SLABS.

Tooled, Rubbed, and Self-faced hard York Paving.
Ditto ditto Landings.
Tooled York Sinks, Sills, Coping, and Steps.
Guernsey, Groby, and Aberdeen Granites, in Curb and Pitchings, of various sizes.

BILSTON GRINDSTONES.

Roman, Portland, and Martin's Cements.
Plaster of Paris, Plasterers' Hair, &c.
Fire Bricks, Glazed Drain Pipes, Terra Cotta Chimney Pots, &c.

A large stock always on hand at the above wharfs.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts, Bangor, Garston, Saltney, Chester, and Gloucester.

Prices forwarded and estimates given on application.

1, BOLD TERRACE, CHESTER.

ROOFING SLATES, of various sizes, from 26 inches by 15 inches to 13 inches by 10 inches,

At W. SQUIRE & CO.'S,

Slate Merchants and Slaters.

OAK WHARF, 261, CITY ROAD, E.C.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge Ballast, screened or unscreened, by the yard or per barge Stocks, Lime, and Old Bricks. Dry Rubbish, delivered, per barge, in any quantity alongside the Thames.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St Cecilia, Eolus-mores and other Organs usually in Stock. Also as to the Purchase of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

WOOD PAVING.

MESSRS. THORN & CO.

CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.

THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.

Asphalte for Railway Arches and Iron Bridges.

SALES BY AUCTION.

TO SAW-MILL PROPRIETORS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Administratrix to SELL by AUCTION, on FRIDAY, MARCH 4th, at TWELVE o'clock, on the PREMISES, Mermaid court, High-street, Borough, the PLANT and MACHINERY of a STEAM SAW MILL; including two beam steam engines of 20 and 24 horse power, two elephant steam boilers and fittings, five deal and timber saw frames, a circular saw bench, a grooving machine, moulding, 4 and 1 sash bar machine by Horne, shafting and pulleys, leather bands, frames and circular saws, 12 ft. mortise wheel and pinion, 2 lathes, fire-engine, quantity of tools, steam road carriage, chaff machine, two portable offices, two carts, a mare horse, and other effects.—To be viewed the day previous and morning of sale, when catalogues may be obtained on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on WEDNESDAY, MARCH 16th, at TWELVE o'clock at the AUCTION MART, London, in One Lot, unless an acceptable offer be previously made by private contract, the newly formed FREEHOLD WORKS and ESTATE of the Keynsham Blue Lias Lime and Cement Company (Limited), together with the modern PLANT and MACHINERY. The property is freehold, and occupies a site of 7a. 2r. 26p. or thereabouts. The works were established for manufacturing blue lias lime from stone quarried on the estate, and for making cement. The existing kilns and ovens are capable of producing 700 to 800 tons of lime and 120 tons of cement weekly; both products are well approved by large contractors and eminent architects, the cement being used in many of the Government fortifications now in progress. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance. The buildings are very substantial, and the machinery of the best description; the motive power is given by two iron water-wheels, driven by the river Chew, a regular stream of water, of great power, and there is a steam-engine, with boilers, if required. Additional supply of lias stone can be had from adjoining owners on favourable terms.—May be viewed till the Sale, and particulars had of Messrs. LUNDIN & SONS, Solicitors, 47A, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 19, Broad-street, Chesapide; at the Mart; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

SALE of the AUCTION MART, LONDON.—The Directors of the Company of Proprietors of the Auction Mart will be prepared, at ONE o'clock p.m. on MONDAY, the 29th day of FEBRUARY next, at the Board-room of the said Company, in the Mart, to open sealed TENDERS from persons desirous of PURCHASING the premises generally known as the AUCTION MART, opposite to the Bank of England, London. Each Tender must be accompanied with a receipt annexed to it, signed by the proper officer of the Union Bank of London, acknowledging that the sum of £500 has been paid into the Bank by the person making such Tender to an account there of "The Trustees of the Auction Mart," and no receipt will be taken of the Tender of any person who shall not have delivered his Tender with such receipt annexed thereto into the hands of the Secretary of the said Company, either on SATURDAY, the 27th day of FEBRUARY next, between the hours of TEN a.m. and FOUR p.m. or upon the morning of MONDAY, the 29th day of FEBRUARY, between the hours of TEN a.m. and ONE p.m. after which last named date and hour no Tender will be received. The highest Tender will be accepted, provided the sum tendered shall be equal in amount to, or exceed, a reserved sum to be determined upon by the Directors of the said Company, and placed under seal prior to the opening of any of the Tenders. If upon opening the Tenders it shall be found that two or more Tenders are of the same amount, such amount being the highest amount tendered, the Directors of the said Company reserve the power of deciding which one of such two or more Tenders shall be accepted, and of rejecting the one or more not so accepted. A form of agreement has been prepared, which will have to be executed by the person whose Tender shall be declared accepted, immediately upon any such declaration being made by the Directors of the said Company, and in default of his so doing such person shall absolutely forfeit to the Company the sum he shall have previously deposited in the Union Bank of London. Copies of the said agreement, with copies of this advertisement, conditions of Tender, and forms of Tender, have been printed, and may be had gratis on application at the Auction Mart, or at the Offices of the Solicitors to the said Company, Messrs. UPTON, JOHNSON, & UPTON, 20, Austinfriars, E.C. The moneys deposited by all parties whose Tenders may not be accepted will be returned to them on application at the Union Bank of London on the 29th of February, between the hours at which a final declaration may be made with respect to the Tenders received and Four p.m. on the day ensuing any between the hours of Ten and Four p.m. The premises may be viewed by all persons provided with tickets, to be obtained as above.—By order of the Board of Directors, Auction Mart, January 30, 1864. G. F. JAQUES, Secretary.

WESTMINSTER.—Valuable and extensive Plot of Freehold Building Land, in Victoria-street, for immediate Sale.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, the 24th of FEBRUARY, at TWELVE o'clock, in one lot, a very valuable FREEHOLD ESTATE, consisting of a large PLOT of first-class BUILDING LAND, in a first rate position, in Victoria-street, Westminster, close to H.M. Abbey and the Houses of Parliament. It has a frontage of about 60 feet to Victoria-street, and of about 150 feet to Brewers green, with a considerable depth, and has an area of about two acres. The situation renders this land well adapted for the site of any public building or institution, or for the erection of professional offices, so much in demand in this neighbourhood; and a block of this size, in the heart of London, is becoming daily more difficult and costly to obtain. The land (except as to a very small portion), is held direct from the original freeholders, and is not affected by the liabilities of the Westminster Improvement Commissioners. Particulars, with plans, may be had of Messrs. W. and W. A. WALLER, 12, King-street, Cheapside, E.C.; at the Mart; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, No. 10, Waterloo place, Pall-mall, S.W.

COLLECTION of PICTURES, removed from 28, Ovington-square, Brompton, to the Auction Rooms, 21, Old Bond street, by order of the Executor of Robt. Lucas, Esq. of Dublin

MR. FRED. GODWIN will SELL by AUCTION, on TUESDAY, the 16th FEBRUARY, and Two Following Days, at TWELVE for ONE, a large COLLECTION of PICTURES, Ancient and Modern, Objects in Amber, and including specimens by—

Ostade	Sir D. Wilkie	Wouvermans
Huchtenburg	Reynolds	R. Wilson
Both	Van Dyck	Cuyder
Watteau	Rotydiel	Vandervelde
Wyck	Swebach	E. Goss

and by various other masters.—The Pictures may be viewed on the 12th and 13th inst. and catalogues had at the Rooms; and at Mr. GODWIN'S Offices, 3, Halkin-terrace, Belgrave-square, S.W.

RAILWAY HORSES.—OFF THE BOGNOR BRANCH.—TO BE SOLD BY AUCTION, BY

MR. J. GOWER, at his REPOSITORY, BARBICAN, FRIDAY, FEBRUARY 19, at ONE o'clock, about 40 first-class, young CART HORSES, the property of Messrs. Jackson & Dyer, that have been employed on the Bognor Branch of the London, Brighton, and South Coast Railway, nearly completed. The horses are known as five Horses, bred by farmers in the neighbourhood; were bought expressly for the work, regardless of cost, and are now in excellent condition, for absolute sale. On view two days prior.

TO TIMBER MERCHANTS, BUILDERS, CABINET and PIANOFORTE MAKERS, AND OTHERS.

THOMAS ROBERTS & CO. will SELL by AUCTION the third portion of the STOCK of Messrs Ward & Son, on the PREMISES in Bridgeway New road, near the Archway Tavern, N. on WEDNESDAY next, FEBRUARY 17, at ELEVEN for TWELVE punctually in consequence of the Premises being let and required to Immediately. Teak Wharf, Gravel-lane, Pimlico, S.E. The portion to be sold includes dry wainscot and Honduras mahogany in log, plank, and board, some wide counter tops, American walnut and birch, yellow and white deals, planks and battens, spruce deals, prepared flooring and matched boarding, lime, sycamore, cherry, pear, bird's-eye walnut, oak, ash, beech, and all kinds of English timber in the round, plank, and boards. On view day prior, and Catalogues had on the Premises; and of the Auctioneers, 9, Billiter-street, Leadenhall-street, E.C.

TEDDINGTON and HAMPTON-WICK, Middlesex.—Valuable FREEHOLD BUILDING LAND, tithe free, exonerated from the Land-tax, and arranged in plots forming suitable sites for the erection of villa and other suburban residences.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, MARCH 4th, at ONE o'clock precisely, 41 lots of valuable FREEHOLD BUILDING LAND, well situate between the picturesque villages of Teddington and Hampton wick, near the towns of Kingston, Bushy Park, the river Thames, Hampton Court, and other attractive features of this favourite residential district. The property is within forty minutes' ride of London, being close to the Hampton-wick station on the Kingston branch of the South-Western Railway, and only a short distance from the Teddington station.—Particulars, with plans, may be had at the railway-stations in the neighbourhood; at the Auction Mart, London; of Messrs. TERRELL & CHAMBERLAIN, Solicitors, 30, Basinghall-street, City; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

WEST LONDON EXTENSION.—TO BUILDERS and OTHERS.—OLD BUILDING MATERIAL.

GEO. TODD is instructed to SELL by AUCTION, on THURSDAY next, FEBRUARY 18th, at TWELVE for ONE o'clock, in lots, the remaining portion of the old BUILDING MATERIAL of the Manor House adjoining the Batter sea Railway Station, consisting of good sound bricks, rafters, principals, doors, frames, heads, sills, stone pitching, iron and plain tiles.—May be viewed the day prior and morning of sale, and catalogues had of — SIMPSON, Esq. 13, Wellington-street, London-bridge; or at the Auctioneer's Office, Battersea-bridge-road, Battersea Park, S.W.

HELD AT A PEPPERCORN RENT.—A commanding Corner Upholstery Shop and Premises, with handsome double plate glass Front, Stabling, &c. occupying an excellent Business Position, being No. 705, Old Kent-road, let at £70 per Annum Rent of Half a Term, 60 Years; free of Ground-rent. Also that valuable Engineer's Factory, the "East London Iron Works," Shenton-street Old Kent road, comprising Three Floors, Clerk's Office and private Room, Counting-house, three-stall Stable, Cart Shed, and separate Cart Entrance, and Manager's Residence; the whole let to a yearly Tenant at the inadequate Rent of 70l. per Annum: worth 84l.; Term, 60 Years; at the nominal Ground rent of 6l.

MESSRS. TEBB, BROTHERS, will SELL the above at the AUCTION MART on WEDNESDAY, FEBRUARY 17th, at ONE o'clock. Particulars at the Auction Mart and Auctioneers', 11, Kingsland-road, and 3, Adelaide-place, London-bridge, E.C.

NEW BARNET, HERTS.—Valuable Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, FEBRUARY 15th, 1864, at TWELVE for ONE o'clock, Thirty-one Lots of Eligible FREEHOLD BUILDING LAND, land-tax redeemed, situate at Hill-side, and in the Richmond-road East, within a few minutes' walk of the Barnet Station, on the Great Northern Railway, and commanding extensive and beautiful views of the surrounding country. The Metropolitan Railway brings the property within half-an-hour's ride of the city, and makes it very desirable for persons having to reside a short distance from town. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained at the Railway Hotel and Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, No. 26, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; of the Foreman on the Estate; and at the Place of Sale.

WANDSWORTH-COMMON, SURREY. -Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, on MONDAY, 15th of FEBRUARY, at TWELVE for ONE o'clock, 46 lots, the third portion of the Eligible FREEHOLD BUILDING LAND, free from tithe and land tax, situate on the roads leading to Wandsworth, Tooting, and Clapham, close to Wandsworth-common, and within a short distance of the Wandsworth, Clapham Junction, and Balham Stations, on the South-Western, Victoria, Crystal Palace, and Kensington Railways. The corner lot, at the junction of the high road from Wandsworth and Clapham to Tooting, is most eligible for the erection of a Tavern. Nine tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole, or any part of the balance, may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained (ten days before the sale) at the principal Inns in the neighbourhood; of Messrs. RUSSELL & DAVIES, 26, Coleman street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on THURSDAY, the 25th FEBRUARY, 1864, at FOUR o'clock precisely (by order of the Importers, &c.):—

11,500 Swedish Deals and Battens	
8,000 Norway	ditto
11,000 Petersburg	ditto
6,000 Quebec Pine and Spruce Deals	
500 Loads Foreign and Colonial Timber	
500 Quebec Pine Staves	
12,000 Teak Staves	

And at SIX o'clock precisely,

MAHOGANY ..... 300 Logs Honduras Mahogany (northern wood, of superior quality and good colour), now landing ex "Sea Serpent" from Belize.

ROSEWOOD ..... 1,500 Planks Bahia.
WALNUTWOOD ..... 24 Pieces Italian.
And other goods.

Catalogues in due time of THOMAS ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

WATERSIDE PREMISES.—TO BE LET, on lease, a capital WHARF, having a frontage, of 127 feet, to the City-road Basin. The buildings comprise counting-house, dwelling house (containing four rooms), corn and chaff stores, stabling for 12 horses, with large yard and large yard adjoining, engine-house with chimney-shaft, smithy, carpenter's shop, &c. the total superficial area being 36,480 feet.—For further particulars apply to Messrs FULLER & HORSEY, 13, Billiter-street, E.C.

ELIGIBLE FREEHOLD BUILDING LAND, in the CITY of OXFORD—The Guardians of the Poor of the Oxford Incorporation will offer for SALE, during the course of next Spring, the SITE of the present WORKHOUSE, in the City of Oxford, containing five acres or more.—Further particulars may be obtained of W. JACOB, Clerk to the Guardians. Oxford, December 10th, 1863.

SYDENHAM HILL.—LAND TO BE LET, for Building, 430 feet frontage, average 500 feet deep. Beautiful site, with extensive prospects, and fronting a high road. Close to three railway stations, and within ten minutes' walk of the Crystal Palace. May be had in one, two, or three plots, for detached residences. For particulars, apply personally to Mr. HENRY DAWSON, Architect, 35, Finsbury-place, South, E.C.

CITY of LONDON.—BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are prepared to receive TENDERS for taking on a Building Lease, for a term of eighty years, a PLOT of GROUND, containing about 9,085 superficial feet, situate on the east side of the Old Jewry, in the City of London.—A plan of the ground and full particulars may be obtained, upon application to the Clerk or Surveyor, at Grocers' Hall, Poultry, E.C.

TO BE SOLD, a FREEHOLD ESTATE, timbered, admirably adapted to cut up in plots, which are in great demand, for villas of 100l. per annum rental. The sale is private, and the situation high, with magnificent views, and easy of access to the City. Price, 6,500l.—very cheap.—Address, Z, 49A, Lincoln's-inn-fields.

A FREEHOLD MANSION TO BE SOL
The elegant Furniture may be had at a valuation. There four reception rooms, two being 50 feet in length, eleven bed rooms; stabling for eight horses and four carriages; suitable servan offices; extensive ornamental grounds, with green-houses, in al acres; gravelly soil; near Sunningdale Station, South-Western R way, half a mile from Windsor Great Park, and fifty minutes fr the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russ square.

TO BE LET, by the FISHMONGER COMPANY of London, on a BUILDING LEASE for 80 ye valuable BUILDING LAND, NEWINGTON, Surrey, within th minutes' walk of the Elephant and Castle. About three-quarters an acre of GROUND situate on the east side of the Walworth-ro having a frontage of 166 feet in Crown-row, and a frontage of 126 fe inches in Prospect-row, and eighteen COTTAGES in the rear in W liams place. This property is well adapted for shops and busin purposes requiring space and ready access to the principal thorough fares of the metropolis. To be Let by TENDER, in one or more lo to suit the views of different parties wanting the Ground.—Apply Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' Hall, Lond Bridge; or to Mr. RICHARD SUTER, the Company's Surveyor, 1 Fenchurch street, E.C. where plans and particulars may be seen. T Tenders are to be sent in by MONDAY, the 15th of FEBRUARY ne at noon precisely.

Fishmongers' Hall, Jan. 19, 1864.

BRICK-FIELD and BUILDING LAN about 7 acres (including 3 acres of brick earth), with valua frontage to the high road situation very pleasant and health within one mile of the Metropolitan station on the Tunbridge Railway, n making, and about 11 miles from town, where extensive buildi operations will shortly be commenced. Apply to Messrs. HARDS VAUGHAN, Auctioneers, Church-street, Greenwich, S.E.

ALUM BAY ESTATE.—FRESHWATE ISLE OF WIGHT.—BUILDING LAND.—This ESTA situate on the western coast of the island, is now TO BE LET f Building Purposes. It possesses the advantages of a dry soil and lofty position. The air is extremely invigorating and the scene varied, comprising as it does the Needles, the Channel, and t English coast, with the beach always covered with people amusing to visitors. It is, in fact, a most attractive spot. Several houses a now being erected, and the roads are in course of formation. Ten Ninety-nine Years, or would be disposed of. Mr WILLIA RAWLINS, Solicitor, Winchester; of Mr. C. F. FISHER, Solicit Ventnor and Ryde, Isle of Wight; and of Mr. AUGUSTUS FRE Architect, 32, Henrietta-street, Covent-garden, London, where plan showing the disposition of the estate, may be seen.—The journey fro London via Lymington and Yarmouth, can be accomplished in abo five hours.

FREEHOLD LAND. — TO BE SOLD about 42 Acres, with beautiful sites, on rising ground, for or more villas, 29 miles S.W. of London and 3 from a station (Farn borough); but there will be one close to the estate. A frontage 1,500 feet on the turnpike road and a neat lodge. Gravel in abund ance. Timber about 20l. Land-tax redeemed. Only 1,200l. Three fourths on mortgage.—To view, apply to Mr NICHOLSON, near th Golden Farmer, Frimley.—Another Plot, of 200 Acres, in the rear o this, for 5,000l.

WHARF.—TO BE LET, on LEASE, WHARF, 200 feet deep, and river front 178 feet 6 inche with dwelling-house, out-buildings, gantry frame, &c. at Charlton near Woolwich.—Apply to Mr. THEW WHARFINGER, on the Premises; or Mr. HARVEY, 23, Holywell-street, Westminster.

CLERKENWELL IMPROVEMENT ACT.—BUILDING LEASES.—The Improvement Committee of the Corporation of London hereby give notice that they will meet at Guildhall on MONDAY, the 29th day of FEBRUARY inst. at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, which are to be obtained at the office of the City's Architect, from parties willing to take BUILDING LEASES of sundry lots of ground on the east side of Little Saffron-hill, the south side of Bowling-green-lane, and the west side of Farringdon-road (formerly called Victoria-street), in the county of Middlesex. Plans can be inspected and conditions seen upon application at the Architect's Office, WOODTHORPE.

Guildhall, February, 1864.

FOR SALE, THIRTY ACRES of LAND more or less.—First-class building site, within seven miles of London and one of the City Line, close to a new station, and unsurpassed for first class houses.—For terms, apply, by letter, to G. WOOD, Esq 8, Grove-terrace, Grove-road, St. John's Wood.

VALUABLE PREMISES.—Large OPEN SPACE, with an area of 1,230 square yards, TO BE LET, immediately, with or without workmen's cottages. There is a frontage of 167 feet to the road, situate in a main thoroughfare, one mile north of the Bank. The extension of railways and city improvements causing such a consequent scarcity of premises, render these so extremely valuable.—Apply to E. & W. STURGE, Bridge Wharf, City Road, E.C.

LAND TO LET, on Building Leases, in Granville place, Portman square (the proposed new street on the site of the late Portman Barracks), also the adjoining properties in Portman-street and Orchard-street, on repairing leases.—For particulars apply to Mr. BARLOW, 11, Portman-street, W.

COUNTIES of SURREY, KENT, or MIDDLESEX.—WANTED, to PURCHASE, a FREEHOLD ESTATE, of not less than Twenty Acres, with or without building thereon, to be situate in one of the above counties, and within twenty five miles of Hyde Park corner. The estate must be very near to a Railway Station, in a dry and healthy situation, with good water and a gravelly soil. Early possession will be required.—Full particulars, with a statement of the price, to be sent to Messrs PALMER, REYNOLDS, & WOOD, Solicitors, 4, Trafalgar-square, London, W.C. on or before FRIDAY, the 19th instant.

WESTMINSTER CHAMBERS, opposite the India Offices in Victoria-street, and close to the Houses of Parliament.—OFFICES and CHAMBERS TO BE LET.—Apply to Messrs. BANKS & BARRY, 37, Great George street, or G. S. SIDNEY, Esq. Secretary to the Mutual Tontine (Westminster-chambers) Association (Limited), 39, King-street, Cheapside E.C.

BUILDING LAND, at KENTISH TOWN.—TO BE LET for VILLA RESIDENCES.—Term, 99 years. Road, Paving, and Sewer may be included in Ground Rent. For plans and terms apply personally to Mr. JOSEPH SALTER Land Agent, No. 311, Kentish-town-road, N.W.

ELIGIBLE FREEHOLD BUILDING LAND for SALE by PRIVATE CONTRACT. Tithe free, and land tax redeemed. The Lots remaining unsold on the following Estates may be purchased by Private Contract:—

Addiscombe, Surrey.
Bromley, Middlesex.
East Ham, Essex.
Upper Clapton, Middlesex.
Wimbledon, Surrey.

The purchase-money may be paid by a deposit of 10 per cent. and the balance in nine years by equal half-yearly instalments, with interest at 5 per cent. with the option of paying off the whole at any time without notice.—For particulars and plans, apply to Mr E. WHITTINGHAM, Auctioneer, 14, Moorgate-street, London, E.C.

London:—Printed by CHARLES WYMAN, Printer, at the Printing office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 13, 1864.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

C. DOWLING, Sc.

Vol. XXII.—No. 1098. FEBRUARY 20, 1864. PRICE FOURPENCE. By Post, 5d.

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THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.—SESSION 1864.—The following LECTURE will be delivered in the Theatre of the South Kensington Museum:—

TUESDAY, MARCH 1.—The Influence of Local Scenery on Local Architecture. By the Rev. J. M. Neale, M.A.

TUESDAY, MARCH 15.—Distribution of Prizes to Art-Workmen, with an Address on the Position of the Art-Workman. By A. J. B. Beresford Hope, esq. M.A. D.C.L. President.

TUESDAY, MARCH 29.—Early Brickwork in England. By the Rev. R. L. Cutts, M.A.

TUESDAY, APRIL 12.—Judging from the Past and Present, What are the Prospects for Good Architecture in London? By His Eminence Cardinal Wiseman.

TUESDAY, APRIL 26.—The Interior of a Gothic Minster. By the Rev. Mackenzie E. C. Walcott, M.A. F.S.A.

TUESDAY, MAY 10. The Monumental Architecture and Sculpture of this Country during the Middle Ages. By M. H. Bloxham, esq. Hon. Local Sec.

TUESDAY, MAY 24. Painted Glass in its Connexion with Architecture. By the Rev. G. Aylliffe Poole, M.A.

TUESDAY, JUNE 7.—The Mediæval House of the City of Wells. By J. H. Parker, esq. F.S.A. Hon. Local Sec.

The chair will be taken on each evening at Eight o'clock precisely.

The particulars of the Prizes to Art Workmen for 1864 will shortly be announced.

Art-Workmen may apply for cards of admission by letter, addressed to JOSEPH CLARKE, Esq. at 13, Stratford place, W. and personally at the Office of "The Builder," York-street, Covent Garden.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
February, 1864. JOSEPH CLARKE, Hon. Sec.

Terms of subscription to the Architectural Museum, including admission to the whole of the collections in the South Kensington Museum.

Members (including orders for admitting Visitors or Art Workmen and additional cards for Lectures), 1l. 1s. per annum, or a life subscription of 10l. 10s. Students, 10s. per annum. Art-Workmen, 5s. per annum.

Full particulars may be had on application to the Hon. Secretary.

BUILDERS' BENEVOLENT INSTITUTION.

—An ELECTION of FIVE PENSIONERS—three MALES and two FEMALES will take place 9th MAY next. Candidates may obtain forms of application (to be returned on or before 29th FEBRUARY) at the Offices, 23, Southampton-street, Bloomsbury. Pensions, 24l. per annum for Males, and 20l. for Females

A. G. HARRIS, Sec.

BILLING'S PATENTS.—CHIMNEY

TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, who will also affort any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within, November, 1863.

TO the Right Hon. the LORD MAYOR, ALDERMEN, and COMMON COUNCIL of the CITY of LONDON

My LORD AND GENTLEMEN,—

Understanding that the Honourable the Corporation of the City of London has determined to Elect an Architect and Surveyor to the Appointment held by the late Mr. Bunning, I beg most respectfully to offer myself as a Candidate for the Office. I trust to forward in the course of a day or two, such professional testimonials as will fully entitle me to solicit your Vote and Interest.

I would add that I am a Freeman and Citizen, and that for eighteen years I have been in the active practice of the professional duties of an Architect and Surveyor, and having previously been regularly educated for, and having studied my profession, both in the offices of regular practitioners, and while improving my taste and knowledge by travel and study, both at home and abroad. Among other works I have designed and executed are the British and Irish Magnetic Telegraph Company's Office, in Threadneedle-street; the Sovereign Assurance Office, in Piccadilly; the Royal Surrey Music Hall; Messrs. Marshall & Snelgrove's premises, Oxford-street; Messrs. Hyam & Co's premises, Oxford-street; several of the new warehouses in the neighbourhood of Cannon street and St. Paul's Churchyard, including a fireproof warehouse for Messrs. Cook, Son, & Co. in addition to many public and private buildings in the country, such as Cardiff Town Hall, Caversham Park, church and school buildings, gentlemen's seats, and mercantile and commercial edifices. I have also been extensively engaged in the survey, valuation, and management of property for the various purposes of purchase, sale, loan, improvement, and preservation, and am well versed in the Lands Clauses Consolidation Act, and accustomed to the assessment of city and parish property. I would only refer at present to such estates as the Tufnell Park Estate; the Duke of Buckingham and the Barnard Estate, Bethnal-green; besides others in and near London.

I am, my Lord and Gentlemen, your obedient Servant,
HORACE JONES.

16, Furnival's-inn, E.C. February 17, 1864.

TO ARCHITECTS. — Notice is hereby

given, that the Trustees appointed by Sir John Soane will meet at the Museum, No. 13, Lincoln's-inn-fields, on THURSDAY, the 24th of MARCH, at 3 PRECISE o'clock in the afternoon precisely, to DISTRIBUTE the DIVIDENDS which shall have accrued during the preceding year, from the sum of 5,000l. Reduced 3l per Cent. Bank Annuities, invested by the late Sir John Soane, among distressed architects, and the widow and children of deceased architects left in destitute or else needy circumstances. Forms of application may be had at the Museum, and must be delivered there on or before TUESDAY, the 15th of MARCH, after which day no application can be received.

COMPETITIONS.

FIFTY POUNDS PRIZE for Improved

VERMIN TRAP.—The Committee of the Royal Society for the Prevention of Cruelty to Animals offer a Prize of 50l. for a TRAP, which shall either, without inflicting torture, secure vermin alive, or instantaneously destroy them. The intention must be simple, inexpensive, certain and fit for use in game preserves. The Committee, assisted by such gentlemen will be the judges, and the reward will be given to the first man, provided in their judgment it is efficient for the purpose required.—For further particulars, apply to

12, Pall-Mall S.W. JOHN COLAM, Secretary.

P.S.—Several country gentlemen and masters of hounds have contributed in support of the above project. Suggestions from sportsmen and game preservers are earnestly desired.

CONTRACTS.

MANCHESTER CEMETERY COMPETITION.

—The Cemetery Committee having decided to EXHIBIT only the SELECTED DESIGNS, three of the Authors of the remaining ones purpose to SUBMIT their's to the INSPECTION of the PUBLIC, and will be obliged to other gentlemen if they will join them.—Address, R. H. D. Office of "The Builder."

TO BUILDERS.—An Ornamental Builder

is required to ALTER and IMPROVE a Licensed Place of Public Resort. Any tradesman willing to accommodate the Advertiser by taking a fraction of the cost down, and accepting security for a weekly payment in future may address R. R. R. care of Mr. Wastie, Chemist, Kensington-cross.

ST. PANCRAS, MIDDLESEX.—To CON-

TRACTORS and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Office of the Department of Works on MONDAY, the 29th day of FEBRUARY, 1864, at SIX o'clock p.m. to receive TENDERS from persons willing to CONTRACT

For SUPPLYING GUERNSEY, MARKFIELD, GROBY, and MOUNT SORRELL GRANITES;

For SUPPLYING FLINTS, GRAVEL, and other ROADWAY MATERIALS; and for CARTAGE;

agreeably to the terms of specification to be seen at the said Office daily (Saturday excepted). Sureties will be required for the due performance of each Contract.—Further particulars, with forms of tenders, may be obtained, on the payment of 1l. for each contract, at the Office of Mr. WILLIAM BOOTH SCOTT, Chief Surveyor, as under. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms. Tenders must be delivered by SIX o'clock p.m. on the said MONDAY, 29th FEBRUARY, 1864.—By order,

CHARLES WORRELL,
Chief Clerk of the Department of Works.

10, Edward-street, Hampstead-road, February, 1864.

TO BUILDERS. — Parties willing to

TENDER for the ERECTION of the NEW CATHOLIC CHAPEL and PRESBYTERY, at Horsham, may see the plans and specification by applying to Mr. HARWELL, at the Estate-room, in Arundel, from MONDAY, FEBRUARY 8th, to MONDAY, 15th, on which latter day Tenders, addressed to the Architect, are to be delivered by TWELVE o'clock at noon. No pledge given to accept the lowest or any Tender.—For further information, apply to Mr. M. E. HADFIELD, Architect, Corn Exchange, Sheffield.

CONTRACTS.

METROPOLITAN IMPROVEMENTS.—

SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Spring-gardens, Charing-cross, on WEDNESDAY, the 2nd MARCH, now next, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all or any of certain PLOTS of GROUND, situate on the north and south sides of Southwark-street, from High-street, Borough, to Blackfriars-road. Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed, "Tender for Ground in Southwark-street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.

JOHN POLLARD, Clerk of the Board.
Spring-gardens, Charing-cross, 9th January, 1864.

TO BUILDERS. -LEEDS MECHANICS'

INSTITUTION and SCHOOLS of SCIENCE and ART.—CONTRACTS are required for the ERECTION and COMPLETION of the proposed NEW BUILDING for the above Institution. The plans, specifications, and bills of quantities will be at the Office of Mr. CUTHBERT BRODRICK, 2, Park-place, Leeds, on and after MONDAY, the 15th of FEBRUARY. Tenders are to be delivered to the Honorary Secretaries of the Leeds Mechanics' Institution, South Parade, not later than MONDAY, the 7th of MARCH. The lowest Tender will not necessarily be accepted.—By order,

H. WARDMAN,
W. J. NEILD, Hon. Secs.

February 9, 1864.

CROYDON LOCAL BOARD of HEALTH.

To WELL SINKERS and OTHERS.—Persons desirous of CONTRACTING for SINKING and BORING a WELL, at the Croydon Waterworks, and LINING the same with CAST-IRON CYLINDERS, can inspect the drawing and specification at my Office. Sealed Tenders, endorsed, "Tender for Well," are to be delivered at my Office, before FOUR p.m. on the 23rd FEBRUARY next. The Local Board do not bind themselves to accept the lowest or any Tender.

BALDWIN LATHAM, Engineer and Surveyor,
Engineer's Office, Town Hall, Croydon, Feb. 10th, 1864.

TO CONTRACTORS. — DRAINAGE. —

The Halstead Local Board of Health are prepared to receive TENDERS for CONSTRUCTING and completely FINISHING the MAIN DRAINAGE for the Town of Halstead. The drawings and specification may be seen, and forms of Tender may be obtained, at the Office of Mr. E. MONSON, Surveyor to the Local Board, at Halstead; and sealed Tenders must be sent to me on or before SATURDAY, the 27th of FEBRUARY inst. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

G. P. ARDEN, Clerk to the Board.

Halstead, February 12, 1864.

LONDON, CHATHAM, and DOVER

RAILWAY.—TIMBER MERCHANTS and OTHERS.—The Directors of the London, Chatham, and Dover Railway Company are prepared to receive TENDERS, on or before the 22nd instant, for the SUPPLY of 2,000 RECTANGULAR, and 5,000 HALF ROUND SLEEPERS, 10 inches by 5 inches, delivered free, on their Wharf at Faversham. The specification and form of Tender may be had, on application at the Office of Mr. WILLIAM MILLS, the Company's Engineer, Victoria Station, S.W. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

W. E. JOHNSON, Secretary.

Offices, Victoria Station, 9th February, 1864.

BOARD of WORKS for the HACKNEY

DISTRICT.—CONTRACT for CAST-IRON LAMP POSTS.—Notice is hereby given, that the Board of Works for the Hackney District will at their Meeting, to be held at the TOWN HALL, Church-street, Hackney, on THURSDAY, the 25th of FEBRUARY next, CONTRACT for the supply of 200 CAST-IRON LAMP POSTS, of weight not more than 7 cwt. each post, with Bye Laws attached thereto. The quality of iron to be used for the castings contained in the pattern, which may be seen by applying at the office of the Surveyor, Mr. JAMES LOVEGROVE, C.E. Town Hall, Hackney, any morning between the hours of NINE and TEN. To be delivered, free of expense, at the State beneath the Railway arch, near the Hackney Station, before the expiration of two months from the date of order, under a penalty of 2l per day over and above the said two months. Pattern for the casting to be provided by and at the expense of the Contractor. The Tenders to be addressed and sent to the Clerk on or before the 24th day of FEBRUARY next, endorsed "Tender for Lamp Posts." The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

RICHARD ELLIS, Clerk.

February 6th, 1864.

LONDON WHARFING and WARE-

HOUSING COMPANY (Limited).—Builders desirous of TENDERING for the ERECTION of a range of STOREHOUSES, to be built on Lower Thames-street, near London Bridge, can see the plans and specification, on SATURDAY next, at their Offices, No. 8, Mark-lane, City, where also the Tenders are to be delivered on or before MONDAY, the 29th inst. The Company do not bind themselves to accept the lowest or any Tender. G. MOONEY, Manager.

TO DRAINAGE CONTRACTORS and

OTHERS.—TENDERS are required for LAYING DOWN about 2½ feet of 18 inch PIPE DRAINAGE, and other WORKS, upon the Lown farm at Feltham, Bedfordshire, the drawings and specification for which can be seen at the Office of Mr. F. THORNE, Architect, No. 4, Carmelite-street, Grosvenor-square, London. The tenders are to be delivered to the Architect's Office at TWELVE o'clock on MONDAY, the 29th inst. The lowest or any other Tender will not be necessarily accepted.

18th February, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—TENDERS required for a DETACHED HOUSE, at Staines, near Windsor, and for a DETACHED HOUSE and STABLES, at Shirley, near Croydon, Surrey.—For particulars, and copies of the drawings and specification, apply to Mr. HERBERT FORD, Architect, 1, Charlotte-row, Mansion House, E.C. (Good references will be required.)

TO CONTRACTORS and BUILDERS.—TO BE LET by TENDER, the CONSTRUCTION of a BUILDING at Penzance, for the purposes of the Town Council, the County Court authorities, a Public Building Company, and the Royal Geological Society of Cornwall; containing a Guildhall and County Court, Council Room and offices, perhaps Bank Apartments, Lecture Halls Museums, Libraries, Committee rooms, House-keeper's apartments, &c. Plans and specification of the Works may be seen, and all information obtained, at the Architect's Office, Corn Exchange Buildings. Sealed Tenders, marked "Tender for Penzance Public Buildings," to be delivered at the Office of E. H. RODD, Esq., Penzance, on or before SATURDAY, the 20th of MARCH next. The Building Committee do not bind themselves to accept the lowest or any Tender.

JOHN MATTHEWS, Architect.

Penzance, 11th February, 1864.

TO BUILDERS and DEALERS in BUILDING MATERIALS.—A large CHAPEL and other BUILDINGS for SALE, in one or more Lots.—TENDERS are required by the 29th instant for the whole of the MATERIALS (including the pulling down and clearing the latter, consisting of capital stock bricks, stone, timber, slates, iron girders, rails, &c.), and the usual fittings.—Particulars can be obtained at the Offices of EMCK CHARLES SEWELL, Surveyor, 22, Buckingham-street, Adelphi, W.C. between TEN and FOUR daily. The proprietors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Plans and Specifications for an HOTEL to be ERECTED at Alum Bay, Freshwater, Isle of Wight, may be seen at my Office after ELEVEN o'clock on TUESDAY, the 1st of MARCH. Tenders to be delivered on or before the 7th of March. The lowest or any Tender not necessarily accepted.—FREKE, Architect, 22, Bennett's-street, Covent Garden, London.

TO ROADMAKERS, &c.—The Board of Works for the Fulham District hereby give notice, that they will be prepared to receive at their meeting to be held at Broadway House, Hammersmith, on WEDNESDAY, the 24th day of FEBRUARY, 1864, to receive TENDERS for MAKING the CARRIAGEWAY and PART of the FOOTWAYS of Munbro' road North, in the Parish of Hammersmith, in accordance with a specification of particulars, which may be seen at Broadway House, any day from TEN am to FOUR p.m. up to the day prior to receiving the Tenders. The Tenders to be delivered at or before TEN o'clock in the forenoon of the day before mentioned, addressed to the Chairman of the Board, and endorsed "Tender for Munbro' road North."—The Board does not pledge itself to accept the lowest or any Tender.—By order,

W. LOVELY, Clerk.

TO BUILDERS.—TENDERS are required by the 29th of FEBRUARY, for the ERECTION of THREE SMALL HOUSES and SHOPS, at Anerley. The drawings, specification, &c. may be seen at the Surveyor's Office, J. JOHNSON, 22, Buckingham-street, Strand.—The lowest or any Tender will not necessarily be accepted.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of a BAPTIST CHAPEL, at Bormor, Herts, may inspect the drawings, specifications, &c. at the Residence of the Rev. H. LEONARD, Beech Down, Bormor, on MONDAY, FEBRUARY 15th, until SATURDAY, MARCH 5th, on which day the Tenders are to be delivered to the Rev. H. LEONARD, before ONE o'clock p.m. The Committee do not bind themselves to accept the lowest or any Tender.

NEAR DORKING.—Builders desirous of CONTRACTING for the ERECTION of a COTTAGE RESIDENCE, at Abinger, near Dorking, may see the plans and specifications, at Mr. F. S. CARY's, Abinger, on Monday, the 22nd inst. to the 4th of MARCH. Sealed Tenders to be delivered on the 5th of MARCH, to Mr. F. S. CARY, 21, Bloomsbury-street. The lowest or any Tender not necessarily accepted.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION.—The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT at TURSLEY. Persons desirous of Contracting for the Works may see the drawings and specification, and obtain forms of Tender and any further information after the 15th inst. by application at the Offices of Mr. J. MEDLAND, County Surveyor, Clarence street, Gloucester. Tenders sealed and marked "Tenders for Police Station, Dursley," to be sent in addressed to the Clerk of the Peace, Shire Hall, Gloucester, on or before SATURDAY, the 12th of MARCH next. The lowest or any Tender will not necessarily be accepted.

Clarence-street, Gloucester, 10th Feb. 1864.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—To WELL SINKERS.—The Local Board of Health for the district of Uxbridge are prepared to receive TENDERS from persons willing to CONTRACT for SINKING a WELL, 92 feet deep by 7 feet in diameter, and to perform other Works in connexion therewith, at their Pumping-yard, Waterloo road, Uxbridge. The plans and specification can be seen at the Office of Mr GEORGE EVES, High-street, Uxbridge, between the hours of NINE am and FOUR p.m. Sealed Tenders, endorsed "Tender for Well," are to be sent in addressed to the Local Board of Health, Uxbridge, on or before SIX o'clock of THURSDAY the 3rd day of MARCH, 1864. The Local Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

CHARLES WOODBRIDGE, Clerk.

February 18th, 1864.

ST. OLAVE'S UNION.—To BUILDERS. The Guardians will meet at the Workhouse, in Parish-street, Horsely-down, on THURSDAY, the 3rd day of MARCH next, at THREE o'clock in the afternoon, to receive TENDERS from Builders who may be willing to PERFORM certain ALTERATIONS at the said WORKHOUSE. The party Tendering must be in attendance at the above-named hour and must be prepared to enter into a bond with at least one responsible surety, in the sum of proper performance of the works. The drawings and specification of the works may be seen, and further particulars obtained at the Offices of Messrs. NEWMAN & BIDEN, Architects, 125, Tooley-street, between the hours of TEN and FOUR o'clock. The Guardians do not bind themselves to accept the lowest or any Tender.—By order of the Board,

CHAS. WELLBORNE, Clerk to the Guardians.

17, Duke-street, London Bridge, S.E. February 15, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of TWO PAIRS of SEMI-DETACHED VILLA RESIDENCES, at Honeysuckle, Kent. Particulars will be forwarded, on application to Mr. J. W. REED, Architect and Surveyor, Lombard-street, Hornsey rise, Middlesex.—Application to be made not later than the 24th inst. The lowest or any Tender not necessarily accepted.

TO MASONS, PAVIORS, and OTHERS. The Vestry of the Parish of St. George in the East will meet at the Vestry Hall, on THURSDAY, the 3rd day of FEBRUARY, at 12 o'clock, to receive TENDERS for the SUPPLY of PAVIORS' MATERIALS and the EXECUTION of the Jobbing and Measured Works required for the REPAIRING and RELAYING the CARRIAGE and FOOTWAYS of the said Parish, for the term of one year, or for three years from the 25th March next, as the Vestry may then determine. Specifications and forms of Tender may be obtained at the Vestry Hall on payment of 5s. which sum will be returned the day after the receipt of such Tender. Any Tender not upon the printed form of the Vestry will be rejected. The security of two responsible persons will be required, but the expense of the bond and contract will be borne by the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

W. L. HOWELL, Vestry Clerk.

Vestry Hall, Back-road, 11th February, 1864.

TO ENGINEERS and OTHERS.—The Visiting Justices of the Gaol of the Borough of Stamford are desirous of HEATING TWENTY CELLS in the Gaol with HOT WATER. Parties are invited to TENDER for the WORK, and to supply a plan and particulars of the apparatus, &c. with which they propose to carry out the desired object. Mr JAMES RICHARDSON, the Borough Surveyor, will, on application, show the gaol. The Magistrates will meet on SATURDAY, MARCH 5, 1864, at ELEVEN a.m. to receive Tenders and plans. They will not be pledged to accept the lowest or any Tender.—By order,

JOS PHILLIPS, Jun. Clerk to the Magistrates.

Town Hall, Stamford.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the ERECTION of the RECTORY HOUSE, at Staple, near Wickham Castle-down, Kent, can apply by letter only, for further particulars, to the Architect, Mr. HARRY R. NEWTON, 6, Angel-street, Regent-street, London, W.

TO BUILDERS, CONTRACTORS, and OTHERS.—TENDERS are required for BUILDING FOUR HOUSES, in Lawn terrace, Blackheath, the drawings and specifications for which can be seen at the Office of Mr. F. F. THORNE, Architect, No. 4, Corbet-court, Gracechurch street, London. The Tenders are to be delivered at the Architect's Office, at TWELVE o'clock on MONDAY, 7th MARCH next. The lowest or any other Tender will not be necessarily accepted. Quantities supplied.

February 18, 1864

CONTRACT for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the SUPPLY of TIMBER, DEALS, SLATES, LIME, IRON, BRICKS, LEAD, GLASS, IRONMONGERY, and CAST IRON, IRONMONGERY, GAS and WATER PIPES, WHITE LEAD, OILS &c. for Twelve months from the 1st of April next to the 31st of March, 1865, for the Pentonville, Millbank, Brixton, Portland, Portsmouth, Chatham, Parkhurst, Dartmoor, Woking, and the Refuge at Fulham, are requested to forward their Tenders, prepaid, addressed "The Directors of Convict Prisons, 45, Parliament-street, Westminster, S.W." on or before SATURDAY, MARCH 12th, 1864, at NOON. Forms of Tender will be supplied on application at the several Prisons before named, & at the Office of the Directors, 45, Parliament-street, on and after TUESDAY, the 1st of MARCH, 1864.

45, Parliament-street, 16th February, 1864.

TO CONTRACTORS and BUILDERS.—Borough of Kingston-upon-Thames.—DRAINAGE WORKS.—The corporation of the borough of Kingston upon Thames having adopted a plan for draining the whole of the borough, comprising about 18 MILES of BRICK SEWERS and PIPE DRAINS, are desirous of receiving TENDERS for carrying out the works. A full specification, together with plans and sections, may be inspected at the Town Clerk's Office, Church-street, Kingston upon-Thames, where all other particulars may also be obtained any day after THURSDAY, the 25th inst., between the hours of TEN a.m. and FOUR p.m.—All Tenders to be sent in sealed to the Town Clerk's Office, marked "Tender for Drainage Works," on or before the 16th day of MARCH next. The Works proposed to be executed are intended to be commenced forthwith.—The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

WALTER M. WILKINSON, Town Clerk.

Dated 20th February, 1864.

TO BUILDERS.—The time for sending in TENDERS for the ERECTION of four HOUSES in Fleet-street, TORQUAY, is extended till MARCH 7th. A copy of the Drawings and Specifications may be seen and quantities obtained at the office of Mr. F. CHADWICK, Surveyor, 5, Church-court, Clement's lane, London, E.C.

EDWARD APPLETON, F.I.B.A. Architect.

Torquay, February 16th, 1864.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS 17, Union-street, and 85½, Great Guildford-street, Borough, S.E. inventor of the Rotary Ship Pump, Patentee of the Tubular Railings, new Compensating Mirror Truss, &c. &c.)

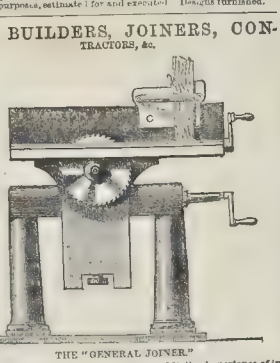
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No. 3.—Patent, for Private Houses, without Gearing, raised and lowered with Balance Weights, 3*s.* 6*d.* per foot.

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A matured experience, extending over twenty-five years, has convinced the Patentees that *no permanent dependence can be placed in any other*

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requires no comment, as it is in use in a large majority of the Banking Establishments, Goldsmiths' Shops, and Public Offices of the United Kingdom and the British Colonies; but the Patentees wish to make it known that they have recently completed extensive Additions to their

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THE GREAT FIRE IN THE CITY.—"A closer examination yesterday of the track of the recent fire in Wood-street, shows in a striking manner how much it was confined to a class of buildings the interior arrangements and means of communication of which appear to have been made in defiance or ignorance of the principles which now regulate such matters, under the operation of the Metropolitan Building Act. The warehouses and offices which have perished seem to have been separated from each other by thin lath and plaster partitions for the most part, and only in one instance was there an iron door between one part of the interior of the same building and another, such as is now commonly used and made imperative, indeed, in the construction of warehouses, as an invaluable means of shutting off communication in case of fire. That iron door, too, which remains uninjured, would have been completely effectual in arresting the flames in that direction, had they not penetrated by a vulnerable point into the part of the building which it protected.

THE USE OF IRON FOR SAFETY AGAINST FIRE was most conclusively proved by a very remarkable circumstance. The large and handsome warehouses of Messrs. J. & R. Morley, situate at the corner of Gresham and Wood Streets, overlooked by a large window on the ground floor at the back the little court in which the fire originated, and to which it was at first confined.

THIS LARGE WINDOW WAS PROTECTED ON THE OUTSIDE BY A REVOLVING IRON SHUTTER, AND THAT MORE AGAINST ROBBERY THAN FIRE.

On this occasion for some time the flames played fiercely, but harmlessly, about the outside of the window so guarded by the iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250,000*l.* to 300,000*l.*, would inevitably have been destroyed, if, indeed, the devastation would have ended in that one vast pile of buildings. Upon such a slender condition of safety did property almost fabulous in value, and belonging to a single firm, depend in this case."—*Times*, 22nd December, 1863.

THE REVOLVING IRON SHUTTER THAT ARRESTED THIS FIRE WAS MANUFACTURED IN 1849, BY

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EVERY DESCRIPTION OF BUILDERS' CASTINGS.



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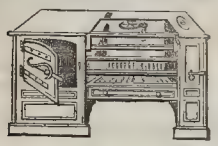
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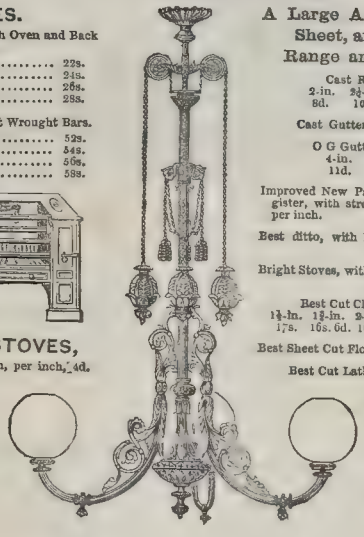
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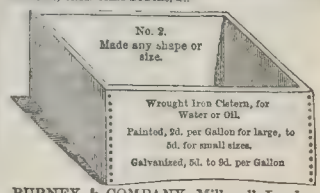
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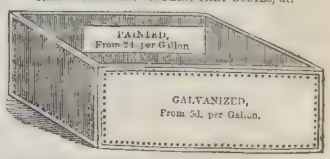
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SPRINGS, BUFFERS, AND CAST STEEL TYRES,
For Locomotive Engines, Railway Carriages, and Waggons.
SHEAR WORKS and SPRING WORKS, SHEFFIELD.
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Where the largest Stock of Steel Bars, Tools, &c. &c. in the World may be selected from.

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Rain Water Pipes	3-in. 10d.	3-in.	1s. per yard.	
Eaves Gutter	3½-in. 6½d.	4-in.	6½d.	,,
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Bash Weights, heavy	5s. per cwt.			
Ditto light	5. 6d. ,,			

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

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CRANSTON-HILL ENGINE WORKS, GLASGOW;

LONDON—OFFICE, 9, ADAM STREET, ADELPHI, W.C.; DEPOT AND WHARF, LOWER FORE STREET, NEAR STEAM-BOAT PIER, LAMBETH.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

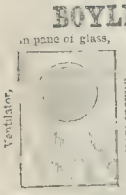
ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

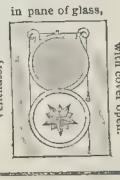
ST. PANCRAS IRON WORK COMPANY,

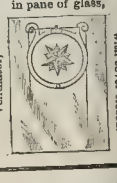
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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

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MUSGRAVE'S PATENT HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW STALLS and PIGGERIES.



Architects who have not seen these fittings are requested to write for engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition.

They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under direction of London architects, noted for employing only what is the best of its kind.



Musgrave's Patent Slow-combustion Stove

Is the nearest approach to Warming by Hot Water. It will burn in churches from Saturday till Sunday evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of 2d.; and deserving of special attention because of its safety, healthfulness, durability, and extreme simplicity.—For full particulars apply to

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THE PRIZE MEDALS



(LONDON, 1851. PARIS, 1855. LONDON, 1862)

Awarded to

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For progressive and general improvements in

STABLE FITTINGS AND HARNESS BRACKETS.



Awarded a prize at the Paris Exhibition,

Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.

In use at her Majesty's Stables, Aldershott and Balmoral.

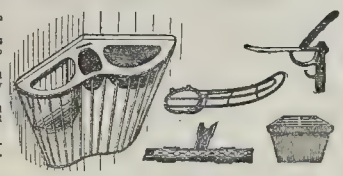


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Watertrough, and Wrought-iron Rack, united to an Iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Hitter Guard and Collar Rein attached, which is taken to pieces for filling in oats, and works with ease and freedom up or down the guide bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, prevents feed waste, and is economical in its results.

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COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

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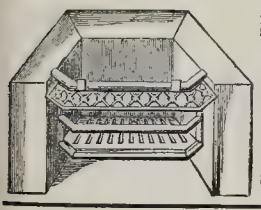
WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS-ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

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FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOLROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



With hanging trivet.

				s.	d.		s.	d.
18 inches wide,	10 inch bars	.....		7	6	.....	8	6
21	,, 12	,,	.....	10	6	.....	12	0
24	,, 15	,,	.....	13	0	.....	15	0
27	,, 18	,,	.....	16	0	.....	18	0
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36	,, 24	,,	.....	30	0	} Extra strong.		
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These Stoves give a considerable heat with a small consumption of coal.

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STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

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J. GURMAN,



Inventor and Patentee of a New SASH POCKET and Fittings,

For Weight and Balance Sashes, for Cleaning, Re-hanging, or Painting Windows.

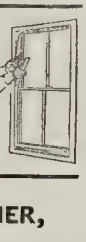
They can be taken out in a minute, and replaced in same time. Old Windows can be altered.

Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London, where Windows may be seen, and information obtained.

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Windows may also be seen at the Kensington Museum, London.



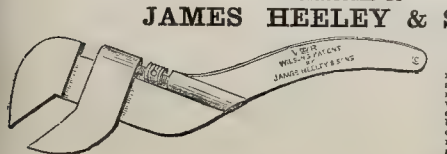
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MANUFACTURED BY

JAMES HEELEY & SONS,

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The superiority of this Spanner consists in its novel and rapid mode of adjustment by a double action screw, and its new and convenient arrangement of curved handle and oblique jaws, which, combined with its superior strength and excellent workmanship, render it by far the best and handiest tool of its class hitherto produced. It is being extensively used by Engineers, Manufacturers, Machinists, and Railway and Steamboat Companies, and can be had of all respectable Ironmongers.

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METAL WORKERS

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ALTAR, BOUNDARY, and TOMB RAILINGS;
GATES, HINGES, and DOOR FURNITURE;
GABLE TERMINALS and VANES;
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LECTERNS, BOOK DESKS;
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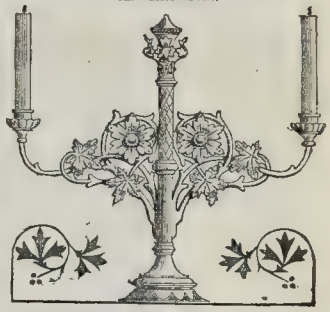
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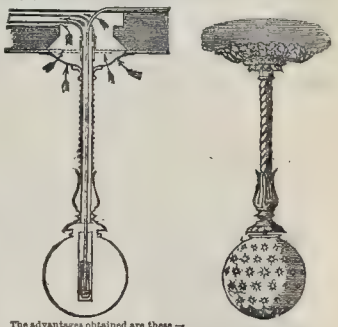


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combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these,—

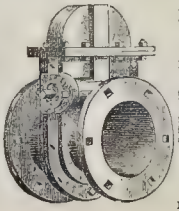
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A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

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IMPROVED GAS VALVES,

With Wrought-iron Pinions.

From 2 in. to 18 in. price 8s. 6d. to 13s. per in. diameter.

List of prices, with full dimensions of all sizes up to 30 in. to be had on application.

These Valves are all proved on both sides to 80lb. on the square inch before leaving the works, and are always kept in stock.

Valves made with outside racks to order.

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For Lighting and Ventilating Public and Private Buildings.

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SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements. Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

The usual trade discount allowed, as at their

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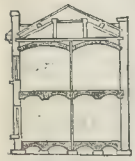
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THE DENNETT ARCH.



Allowed to be the cheapest fireproof construction known, and used with the greatest success for the last ten years in the Midland Counties, and has been adopted by G. G Scott, esq. for the New Foreign Offices, used in any form of arch, groin or dome, turned to any length, width, or height, forming a perfect floor and ceiling in one mass, from 24 inches in the crown to any required thickness.

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TESTIMONIAL. "I have made use of Messrs. Dennett & Co's material for Fireproof Arching, and though I have, happily, had no practical experience of its efficiency as against fire, I can bear witness to its strength, and its extreme convenience of application. I have made use of it in positions in which I should have found it difficult to introduce any other fireproof material, and it has this advantage, that the arches constructed of it are so entirely in one mass that they cover the space like a compact shell or inverted basin, and are, consequently, almost wholly free from lateral pressure.

"GEO. GILBERT SCOTT, 20, Spring Gardens, London."

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

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By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

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Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

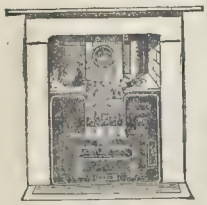
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

CUNDY'S

PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



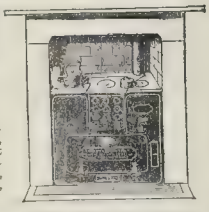
WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

CUNDY'S PATENT BRICK OVEN

Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-close Range, also CUNDY's Patent Original FIRE-BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the



WHEN CLOSED FOR BAKING.

SHOW-ROOMS of the

Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.

A Prospectus, with full description and price of the above, will be sent per Post on application.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN, ALWAYS ON STOCK.

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR & CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

THE PATENT UNIVERSAL CHIMNEY HEAD.



This Chimney Head has been designed for the Prevention of Smoky Chimneys and Down Draughts. The numerous side apertures are so placed as to guide the wind upwards, as it strikes the head from any quarter, thus creating a strong current, and assisting the exit of the smoke through the top. The same apertures give ready egress to the wind on all sides in case of its striking downwards from above, and thus greatly diminish the danger of its passing down the chimney.

Price in Zinc..... 24s.
Ditto, Kitchen size..... 32s.
Price in Galvanized Iron 20s.
Ditto, Kitchen size..... 30s.

A Liberal Allowance to the Trade.

Manufactured solely by

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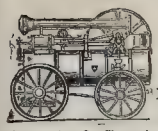
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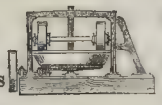


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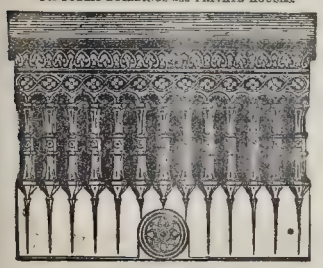
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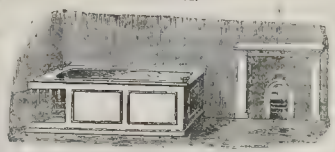
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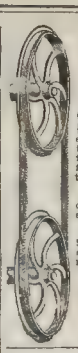
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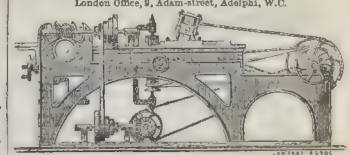
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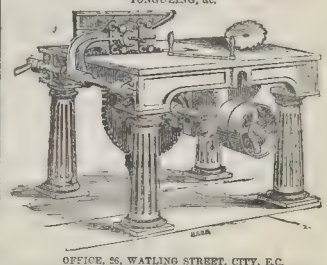
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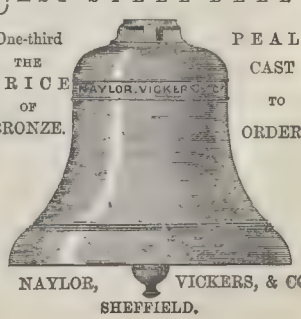
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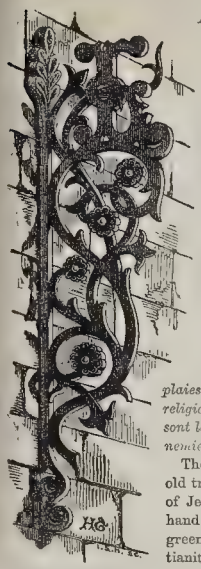
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VOL. XXII.—No. 1098.

*Water Supply and Sewerage for Jerusalem.**



A religion Juive, says Montesquieu, "*est un vieux tronc qui a produit deux branches qui ont couvert toute la terre, c'est-à-dire le Christianisme et le Mahométisme. Elle se sert de l'un et de l'autre pour embrasser le monde entier, tandis que d'un autre côté sa vieillesse vénerable embrasse tous les temps. C'est une mère qui a engendré deux filles qui l'ont accablée de mille plaies; car, en fait de la religion, les plus proches sont les plus grandes ennemies.*"

The sacred soil of this old tree is the Holy City of Jerusalem: its right-hand branch is the ever-green bough of Christianity; its dead branch the decaying creed of Mahomet. Christianity, Judaism, and Mahometanism thus meet face to face in what is a Holy City to all three creeds. It is a painful thing to witness the figure made in the Holy City by the adherents of the true faith. It will be remembered that, last Christmas Eve, the very scene of the Nativity was disgraced by a hand-to-hand contest between two parties of Greek and Latin monks. The combat was only ended by the armed interposition of the Mussulman police. This disgraceful contest at the anniversary time and very scene of the birth of the Prince of Peace is merely a somewhat exaggerated emblem of what happens all the year at Jerusalem. The Holy City is the scene of never-ending quarrels and intrigues between the French and Russians, who are both watched with dread by the Turkish authorities, —naturally fearing another war, with the Holy Place as a *casus belli*. In the midst of all this display of un-Christian activity the Holy City is itself neglected. The metropolis of Christianity, the metropolis of the Jews,—as a body the richest nation in the world, and one of them a *juif des rois*,—one of the sacred cities of the Mahometans themselves, is left by the three creeds in such a state of neglect, as to make it one of the filthiest and most unwholesome cities in the world. In the words of Professor Porter,—"The disease and suffering occasioned by bad food, crowded dwellings, and scarcity of water, are beyond description. . . ." Speaking of the poor Jews in Jerusalem, he says,—"There is more abject poverty and squalid misery existing among them than among any other class in the whole world. . . . . The Jewish quarter has no structure of note. It embraces the eastern declivity of Zion, and the deep valley below—the very spot where the proud palaces of their ancient monarchs once stood. Now clusters of tottering houses, and crooked filthy lanes, crowd the site of Solomon's gilded halls, and Herod's marble courts."

Leaving the Greek and Latin creeds to wrangle where they should pray and work, could not Protestantism step in, and, aided by modern science and engineering, purify the Holy City of the desecrating filth of ages, while charitably providing its poorer inhabitants with the means of health and cleanliness? Could not we English, who make honest work a part of our creed, and hold cleanliness next to godliness, expend a little of our superfluous wealth in this good work? Would a very large sum be required to purify and supply the Holy City with water? We excavate Nineveh, rummage Persepolis, and send expeditions to Boriboola Gha—could we not also examine the ruins of the religious metropolis of the world?

The work before us—a report to the London Central Committee of the British and Continental Syrian Improvement Association—is intended to fully answer these important questions. The title is almost a misnomer; as, in substance, the author contemplates the *restoration* of the ancient water-supply of Jerusalem.

From various sources, Dr. Whitty estimates the total area occupied by the ancient city of Jerusalem at 2,319,850 square yards, or 479¼ acres. Taking the most crowded parts of London as a standard, and thus allowing 423¼ persons to each acre,—a large estimate for a hot Eastern city,—the result is 202,882 as the total population. Josephus states that about 1,200,000 Jews were shut up in the city during its siege by Titus; but that this number was quickly diminished by war and pestilence. "Fifteen gallons of water per day for each individual" is the least amount required for health in an Eastern city. But leaving out comforts, and taking absolute necessities only into account, five gallons a day would make a total amount of 1,014,410 gallons. As the siege of Titus lasted 143 days, the probable minimum of water consumed during the seige amounted to 1,014,410 × 143 = 145,060,630 gallons. The population of the present city, according to the last and most probable estimate, amounts to only 20,330 souls. The Easter pilgrims are said to swell this number for a very short time, by 60,000,—at least according to Fuad Pacha's enumeration. The average annual depth of rain-fall in Jerusalem is 65 inches; which upon one acre would yield 235,950 feet. "This, multiplied by 213—the number of acres, omitting a few square yards—will give 50,316,337 cubic feet of rain-water which fall within the walls during one year; and allowing that, without any waste or loss by evaporation, the whole of this could be caught in cisterns, it would yield throughout the year a daily supply of 137,853 cubic feet, equal to 859,113 gallons per day, or more than 42¼ gallons for each individual; assuming, as before, the population at 20,330." These facts would show the common assertion, that there exists a lack of water at Jerusalem in consequence of a curse over the land, to be unfounded. But from the deficiency of cisterns, and the neglect of those in use, the poor in Jerusalem are estimated by Dr. Whitty to be in absolute want of upwards of 25,000 gallons per day during the summer drought.

Careful examinations and measurements have shown that the present summer quantity of water supplied to Jerusalem is only 66,910 gallons, or little more than 3¼ gallons per day for each individual. This is scarcely more than one-thirteenth of the quantity supplied per individual in London by pipe-water alone. The amount of misery denoted by these figures can only be properly reckoned up by reflecting that Jerusalem is a hot Eastern city, where five gallons of water per day for each individual is the absolutely least amount required for health. Dr. Whitty then gives a second chapter to an enumeration of all the sources and receptacles for water in the city and its vicinity, with their state of efficiency. The main sources of supply besides that due to rain-fall are the two wells in the valley of the Kidron, outside the city, the water of which is very unwholesome, being impregnated by infiltration from the common cesspools of the city. On account of the absence of any system of sewerage, all the water, from whatever source, is in a similar state, as "the cisterns are almost invariably vaulted chambers beneath the dwellings, and are in most cases only separated from the common cesspools by cemented walls, and neither cisterns nor cesspools are often cleansed." The water, for instance, from Ain Hamman-esk-Shefa thus yields no less than 185 grains of solid matter in 128 oz. by evaporation from ebullition.

Dr. Whitty next proceeds to specify the remedies for such a state of things in the metropolis of Christendom. He, 1st, points to an increase in the sources of water within the walls of the city by collecting the rain-fall which is now wasted. It appears from the careful observations of Mr. Beardmore, that the minimum average annual depth of rain-fall in Jerusalem is no less than 65 inches. "Within the city walls, exclusive of streets and unoccupied ground, there is an extent of 796,921 square yards of impervious catchment-surface, in roofs of buildings and yards, from which 38,872,762 cubic feet, or 212,259,719 gallons of pure water might be annually obtained," by simply constructing sufficiently capacious covered reservoirs. The geological structure of the district renders the sinking of artesian wells quite out of the question, and it appears that no true spring does now, or ever did, exist within the walls of the city.

2nd. An examination of the sources of water outside the city would show, that at least 837,965 gallons per day might be obtained from deep wells in the neighbourhood. The quantity also of water which might be procured by surface-drainage outside the walls, from the catchment basin feeding into Solomon's Pools, the Lower Pool of Gihon, the Upper Pool of Gihon, district N. and N.W. of the city, and Scopus (Mount of Olives) would give 849,420,000 cubic feet per annum. Thus, from the surface drainage without the city, the deep wells in the vicinity, and the rain-water from within the walls, we might get a total of more than 16,000,000 gallons daily. This amount would supply a larger population than that of London with five gallons of water per day. And all this would appear to be possible of accomplishment without the expensive work of forming any artificial impervious surface, by which means, indeed, this quantity could be even increased. Such a supply of water is, of course, unnecessary for the present small population of Jerusalem, and Dr. Whitty next proceeds to make an estimate more in accordance with the circumstances of the day, and the fact that the project is in the main one of charity,—but, nevertheless, intended to confer "no transient blessing upon the City of our Solemnities."

The question of water-supply is, of course, in intimate connexion with the sewerage of the city—"the cleansing it from the filth of ages," the accumulated strata of deposits from Israelites, Romans, Saracens, Crusaders, and Turks. The present so-called sewers appear to be merely undisturbed receptacles for filth, and to have been never intended to convey away the sewage matter. "Placed, as Jerusalem is, on an eminence,—with a considerable depression running from north to south through its centre, and a rapid fall then, downward through the valley of the Kidron, towards the Dead Sea, I know," says Dr. Whitty, "no city which might be more easily, or at less expense, provided with an efficient system of sewers;" and, as we have seen, there are plentiful means at hand for flushing them with water. Dr. Whitty proposes a large sewer along the line of the present street leading through the Mahommedan and

* Proposed Water Supply and Sewerage for Jerusalem. With Description of its present State and former Resources. By John Irwine Whitty, Civil Engineer, D.C.L., LL.D., M.A., Oxford and Dublin. And an Introduction by the Rev. Canon Stanley, D.D., Chaplain to H.R.H. the Prince of Wales. London: W. J. Johnson, 121, Fleet-street. 1863.

Jewish quarters. It might be taken out of the city, and lateral minor sewers be run out from each side, and one sub-main on the west side. In the sinking of the main sewer, "on the route of which cities lie on cities and ruins over ruins, 50 feet to 60 feet in depth," what inestimable relics might not be discovered? The Doctor proposes to utilize the sewage,—the great problem of the age, whether in England or in Palestine. Dr. Whitty does not estimate the expense of his sewer at more than 899*l.* "On account of the favourable position of the line of streets of Jerusalem" along which it would run, it is not necessary to sink it much below the surface. This would appear a sanguine estimate, especially as the navvies of the East have to be first taught their business. On the other hand, labour is generally cheap as to price, if not as regards quality. The already existing reservoir outside the Damascus Gate could be used exclusively for flushing these sewers; and its enlargement and repairs, with the formation of its tributary drains, would be the first works undertaken. It appears, according to Dr. Whitty, that an area of about 1¼ square mile, or 800 acres, could be made to feed its drainage into the Damascus Gate cistern. With an average to each acre of twenty-four lineal perches of drain-pipes, the total cost would be 10s. per acre, or 400*l.* in all for supplying this cistern with water, besides the Pool of Bethesda, Birket-el-Hejjeh, and others. The sewerage would thus far be provided for.

Nearly one hundred and fifty-three millions of cubic feet of water in the year could be drained into the upper Pool of Gihon to thus feed the Pool of Hezekiah. The surface which would contribute to this equals 2¼ square miles, or 1,440 acres; and the expense of preparing the surface of supply for the Pool of Hezekiah is estimated by Dr. Whitty at 720*l.* About seven miles in a direct line from the site of the Holy Temple are the three Pools of Solomon. These three pools, with the spaces between them, "occupy the valley for a length of 597⅓ yards," and their total capacity, according to the measurements of Dr. Robinson and others, is equal to 50,136,320 gallons. Under a complete drainage system, the catchment basin of these pools, according to the estimated rain-fall in Palestine, is capable of yielding more water than the pools would be able to contain. Dr. Whitty estimates that this work, viz., the sewer and its tributaries, the feeding of the Pool of Hezekiah, and the three Pools of Solomon, could be done with an expenditure of less than 3,000*l.* This outlay he considered sufficient for the more pressing wants of the city.

It would appear, however, that Dr. Whitty has made what may be termed an important discovery, the utilization of which would give Jerusalem a water supply much superior in convenience to even that under Solomon. According to Dr. Whitty's measurements, "the deepest part of the lowest Pool of Solomon is 81 feet above the bottom of the Pool of Hezekiah, in Jerusalem, which is 10 feet in depth; therefore it is 71 feet above the general level of the ground at that point, which is 6 feet higher than the street at the Jaffa gate, and about 16 feet above the base of David's Tower." The tower itself being about 60 feet in height, water might be sent with considerable force to the top, under a pressure of 27 feet, and a tank there is kept constantly filled. Dr. Whitty has "given the subject for years deep and anxious consideration," and has "ascertained, beyond all doubt," the feasibility of this crowning project, of "bringing the water by a tubular aqueduct from the Pools of Solomon, either to the top of David's Tower, or to the highest point within the walls." It seems to us not improbable that, though the ancients might have known as much, theoretically, about levels as we do; yet, being ignorant of the use of cast-iron, they could not, by means of masonry alone, build pipes to hold a great pressure of water. Dr. Whitty gives several alternative estimates, so as to meet different contingencies. The highest is 8,479*l.* 12s. 6d.; the lowest, 4,986*l.* 4s. 2d.

In the words of Dean Stanley, who has written the introduction to this book, its subject is invested with a "sacred halo"—which derives additional brightness from the religious and professional enthusiasm of Dr. Whitty. It is, indeed, impossible to read the book without catching some of the spirit of the writer. While, with the necessarily limited data at our command, we are fully willing to admit the feasibility of Dr. Whitty's plans, it would certainly appear to us that he has made his estimates too low. We would merely point to the experience gained in the construction of railways in the Levant, where, from various causes, the estimates, calculated from European data, have been generally considerably exceeded. We have not space to enter into the causes of this well-known fact; but we would point to the expense of importing skilled European labour, tools, and plant—to the lack of skilled labour in the East, and the inferiority and scarcity of all labour in those districts—to the difficulties of the climate and its peculiar fever, and to other causes well known to our railway engineers who have practised in the East. When we think of the object in view, however, and the smallness of the sum, even if the estimates were doubled, this consideration appears almost insignificant. We would further remark that Dr. Whitty seems to lay scarcely sufficient stress upon the necessity for converting the comparative barrenness of modern Palestine by replanting the forests. The extraordinary and lasting sterility caused, more especially in warm dry climates, by the denudation of the forests, is now being already felt in some parts of America. Dr. Unger, of Vienna, accounts for the present sterility of many parts of Greece also from the fact that the forests on the hills have been completely cleared away. The rain is re-evaporated before it can sink into the ground to form mountain streams, and the alluvium of the surface is washed down into the valleys, thus preventing the growth of fresh vegetation. The necessities, in the shape of fuel, of the remaining population, and the browsing of their cattle, annul the efforts of nature towards the restoration of the vegetation. The whole question as to the influence of vegetation—more especially that of hilly districts—on the climate and fertility of a country, would scarcely appear to have received the attention it deserves.

We trace all our religious life to Palestine—the land once flowing with milk and honey; and most of our modern intellectual life to Greece—the anciently fertile land of the olive-tree. How endlessly important it would be, humanly speaking, to know whether the denudation of the forest land of these countries is the immediate reason of their present sterility! Anything connected with Palestine and Jerusalem must have an engrossing interest for all of us. In our case, as Christians, archæologists, and professional men, we wish Dr. Whitty God speed and every success in his undertaking.

LEO VON KLENZE.

To speak of Leo von Klenze, whose death was briefly recorded in our last number, as one of the foremost professors of practical art-architecture in this century, would insufficiently testify to his merits. He was a great artist, but one who was favoured with opportunities for the display of an element of architecture which is an essential one, not so much as he was with commissions and patronage. A perception now accrued, if only with many of those who write, of what constitutes the true art, and the reports of travelled practitioners of architecture, have somewhat changed the character of our estimation of the buildings of Munich, with certain exceptions, from the opinions that were sometime current. British architects, or European, we now admit, though we may not fully act upon the conviction, that to stock a city with copies of structures, however fine the originals, or with styles selected because of their difference, is to exhibit as in a museum, the models, rather than to practise *architecture*—to exemplify the real and life-endowed art. Twenty years ago, however, or thereabouts, the fame of the little capital of King Ludwig had not fallen from the height to which Mrs. Jameson, in her "Visits and Sketches at Home and Abroad," Inglis, in his book on the Tyrol, writers in "the Foreign Quarterly Review," and others, had contributed to raise it; and it was common to express regret that a great empire like this of Queen Victoria, could not do, for its capital, as much as had been done for his metropolis by the monarch of a petty state. Such appreciation of the architecture of Munich, was heightened by the more exact knowledge which could be brought to England, of the fosterage and development side by side with architecture, of sculpture and painting in their higher walks, and of numerous branches of art subsidiary to decoration. In Bavaria, at least, it was thought that architecture, once more, was the *ars regina*.

For this office of architecture,—and it was a great one,—the enfolding in her own mantle, all the arts,—the men employed by King Lewis, were directed in a path which has conducted to permanent fruits.

Still, at the time of which we speak, an expression of the facts of the situation in nineteenth century art-architecture, of the Bavarian edifices, came to be expressed on the Continent. It reached the Institute of British Architects from one of its foreign corresponding members, who characterized the Munich buildings, much as we have spoken of them, or like unto specimens in a museum. Yet, Klenze, though he was one of those who ministered to the realization of what may have been his patron's limited idea of *architecture*,—an idea, but for the direct copyism enjoined, hardly conceivable of one whose appreciation of sculpture, painting, and decoration, seems to have been different, and so much more elevated,—had, even twenty years ago, as artist, produced probably more works, and true ones, than had his contemporaries Gärtner, Ziebland, and Ohlmüller. His Glyptothek, of very early date, was, and still is, in the main, an original and an admirable production: for, it utilizes in the *artist's* manner, the old models, Greco-Roman in this case, without copying them, and without sacrifice of a modern purpose to the antique idea. The interior at least of his Walhalla, has like merits; and the substitution (though partial, and not complete as should have been the case) of German mythology for the Greek and Roman, negatives the supposition apt to arise from the sight of the exterior, that the building is rather the work of an admirer of Grecian architecture, and a skilful reproducer, than of one who was endowed with the aspirations and qualities of the artist. His works during the last twenty years, include some, such as the St. Petersburg Museum, which, though they have found objectors, in our view fortify us as to the position in nineteenth century art, and in architecture of a larger range of time, which we are disposed to accord to the name of Klenze. The use that he and Schinkel made of Grecian architecture, indeed contrasts remarkably with that by the reproducers of the Grecian orders amongst ourselves; as his Italian Grecianized enters a field scarcely touched by our own architects, unless with the exception of Cockerell. Possibly to some influence from these later works of Klenze, is due a prevailing manner in some of the buildings in Paris, of the municipal class. Otherwise, the double or three-fold coincidence testifies to the existence of some matter of value in the field to which the pathway in each case led.

The biography of Klenze should be written in Munich in face of some of his works, and with opportunity of filling up from German sources, particulars of the latest portion of his career. For most of the particulars to 1856, which we are able to give, we have the authority of his own hand, in a corrected copy of a memoir addressed in the autumn of that year, to the present writer.

Leo von Klenze was born at Hildesheim, in Hanover, on the 29th of February, 1784. On the 26th of last month, on which day he died, he had very nearly completed his eightieth year. His father was Aulic Councillor, and lived on his own estate, which was at the foot of the Harz Mountains. Leo von Klenze is said to have shown taste for art in early youth, but to have been educated first for the civil service, and

afterwards for civil and military engineering. However, the account to which we have alluded, speaks of his scientific education as conducted in the neighbouring capital of Brunswick, in the Collegium Carolinum. Later, he studied in Berlin. In abilities, he was qualified for choice of one of several professions; but he preferred architecture, as our German authority says, "from an inward prompting." His father did not at first approve of the selection; but eventually assented, and to his visiting for purposes of study, France, England, and Italy. In Paris, he studied at the École Polytechnique, under Durand and others. A writer in a recent number of the *Athenæum* makes out that Klenze went to Italy from Paris, and that the sight of Pæstum, Herculaneum, and Pompeii, decided him as to his future profession; and further says that he was on his way to Vienna, to settle, when, in Mantua, he received a summons to Cassel, the capital of Westphalia, where King Jerome was then installed. The account which we prefer, is that he got to Cassel from Genoa, through acquaintance made with a lover of art, the proprietor of a palace, in the vestibule of which Klenze occupied himself, making drawings. The proprietor became General-Intendant at the Wesphalian court. In 1808, we find Klenze Court-architect in Cassel; where later he was Court-building Director (Hofbaudirektor).

When the fortune of Napoleon was on the wane, the kingdom of his brother was broken up; and in 1813, the appointments of Klenze in Cassel, passed away. Somewhere about this time, however, he appears to have been asked by Jerome to superintend for him the building of a town on the shore of the Adriatic, on the plan of the old town of Aquileia; but Klenze declined. He is thought to have been engaged at the time, in designing a Peace Memorial to be submitted to the Congress of Vienna. It is clear, however, that soon after his loss, in 1813, of the appointments, he went to Munich, and that there he became known to the Crown Prince, afterwards the king of Bavaria. It was from Munich that he went to Vienna, at the time of the Congress. From Vienna he went to Paris, where he again met the Crown Prince, on whose recommendation he was invited to the court of Maxmilian I., or Maximilian Joseph, then the king of Bavaria. The Crown Prince had already conceived the execution of some of the works which made his subsequent reign celebrated: some of them commenced prior to his accession; and an important mission opened before Klenze. This was about the year 1816. Ludwig's accession to the throne did not take place till 1825. In 1819, however, Klenze was appointed Royal Court-building Intendant, or Inspector, the first of a series of important offices which he held. They included the post of Oberbaurath, or Chief Councillor of Buildings, to which he was appointed in 1826, and that of President of the highest building assembly, or Board of Works, to which he was raised in 1830.

It may be useful here to set down, as we have found it convenient to do in other historic and biographical notices, some of the dates of contemporary buildings and events in Europe.

The year 1807 may be taken as the commencement in England, of the prevalence of the Grecian orders. Some modification of them, with art which was not always exhibited at the time when the original models became best known, had indeed been produced previously, as in England, by Holland, and in France by Antoine. In 1807, however, appeared the Antiquities of Magna Græcia by Wilkins; and Downing College, Cambridge, by the same architect was erected. In 1808, the Russell Institution was built. In 1809, were finished and opened Sir Robert Smirke's Covent Garden Theatre, having the Grecian Doric portico, and Harrison's Manchester Exchange, also Doric. In the following year Aikin's Essay on the Doric Order was published. Thus the abortive effort at copyism of Greek architecture set in; though with it, moved the practice of several other phases of what was not altogether the art. Sir Robert Smirke was engaged in the erection of Gothic buildings at the same time as he was on Grecian. In Paris, in this same first decade of the century, the Madeleine was commenced; and so were works of Percier and Fontaine,—including the Arc de Triomphe before the Tuileries, in 1806. In this latter year, the Arc de l'Etoile was commenced. In place of our Grecian attempts, the French preferred works founded upon Roman models, but into which they contrived to introduce an extraordinary amount of design in detail, along with exuberant richness.

Germany, at that time, can be scarcely said to have had art of its own. When the country had not been desolated by war, the imitation of French taste, was largely prevalent; and it was not till after the Peace of 1814, or rather that of the following year, that any distinctive modern German school arose. Then, Berlin and Munich became the chief homes of the new art, and Schinkel and Klenze its chief producers. One of the earliest works in Europe, reflecting Classical models, is indeed a German one. It is the Brandenburg Gate in Berlin, by Langhans. This gate was commenced in 1789. Before the Peace, however, many events were contributing in Germany, to the art which eventually grew up.

In 1805, Schinkel returned from Italy, and in 1810, his career may be said to have commenced. In 1806, the King of Bavaria conceived the idea of erecting a Walhalla.

The year 1809 is most important, as that of the revival of fresco-painting at Rome, where Cornelius, Overbeck, and Veit, were resident. These artists used the vehicle and process, in the decoration of a saloon for the Prussian Consul-General. The year 1814, when the German states threw off the French yoke, was otherwise a remarkable one. There were many projects for new buildings; and there was one for the restoration of Cologne Cathedral. Overbeck, Schadow, and Veit, became Roman Catholics, led by their particular aspirations and views, which Overbeck carried to asceticism. In the same year, the Crown Prince of Bavaria visited Rome, and was received with great honour by the artists, already looking to him for patronage. Gärtner at the same time visited Italy, where he remained four years. In 1814, the King of Bavaria issued the first programme for architects to prepare designs for a Walhalla.

In 1815-16, or thereabouts, there had been a competition of designs by architects, as well for the building last named, as for the Glyptothek; Klenze being in each case chosen, and commissioned to proceed. However, the preparation of materials for the Walhalla was commenced only in 1821; and we have a note of the date 1820, as that of the actual commencement of the Glyptothek, though 1816 is generally given as the date. In 1816 certainly, there was an idea of erecting a group of three buildings, whereof the Glyptothek was to be one; and which were to exhibit the three Greek orders. Of the group which is now complete, one of the buildings, besides the Glyptothek, is by Klenze. The Glyptothek exhibits the Ionic order: the second building by Klenze, the Propyläen, has Doric columns; and the third building, opposite the Glyptothek, the site of which originally was intended for a church, is the Neue Kunstaustellungs Gebaüde, or New Exhibition building, by Ziebland.

It is difficult to follow in exact sequence of dates, the works of Klenze, or to give a complete enumeration of them. The Glyptothek was the first commenced. The others followed rapidly after the accession of Louis in 1825; but some of them remained during many years in hand. Prior to the accession, that is in 1823, Klenze accompanied the prince to Italy. The commencement of the Glyptothek was followed by the Leuchtenberg Palace, which was afterwards that of Prince Luitpold, and is in the Roman or Venetian Italian style, and by several private buildings of similar character, as well as some works which are early Florentine. Then came the restoration of the monument in the cathedral of Speyer, of Adolph of Nassau; then, again in Munich, the Kriegaministerium, or War Office, which is old Florentine; the palace of Duke Maximilian, which is good Greco-Italian externally, and internally has much rich and beautiful ornamentation of the ceilings and walls; the "Bazar," that is, the range of buildings opposite the Odeum Platz and forming one side of the Hofgarten, which is of early Florentine Italian character, but called Venetian; the Pinakothek, Roman Italian; the southern side or portion of the Royal Palace or Residenz, called the Neue Königsbau, which is an attempted reproduction of the Pitti Palace; the northern side, or Festsaalbau, Palladian, (with a front of 900 Bavarian feet in length, or otherwise given as nearly 800 feet English,) and richly decorated internally; the Allerheiligenhofkapelle, or Court Chapel, dedicated to All Saints, a small version of St. Mark's, Venice, without external dome, and not long ago alluded to in these pages, with other of Klenze's buildings in Munich; the new wing of the Post Office; the Odeum; the Rumeshalle, a Grecian Doric Stoa, as a background to the colossal Bavaria; the Propyläen; works in and out of Bavaria already alluded to, and the designs for the completion of the interior of St. Isaac's Church, St. Petersburg, which have not been named; the Constitutions-Monument, near Geybach, a Grecian Doric pillar; the polychromed Ionic monopteral temple in the English garden, Munich; and the Befreiungshalle, near Kelheim, his last completed, and some say one of his best works. There are doubtless many other results of his labours, even in Munich. Architectural features of the statue of Maximilian Joseph, we know were by him. His works in St. Petersburg called him to that capital many times: he is also said to have been consulted by the present Emperor of the French on the completion of the Louvre; and if we recollect rightly, his evidence was sought in England on the subject of a National Gallery. The Glyphothek was completed only in 1830; the Pinakothek was in progress from 1826 to 1836; the Chapel of All Saints may have been commenced about 1826, a date which is ascribed to it, though it was dedicated in 1837; the Walhalla was commenced, the actual building, in 1830, and was completed in 1842; the new palace was completed in 1835, preceding the Festsaalbau; and the polychromed temple was completed not later than 1837. The Museum in St. Petersburg must have been completed in 1851; but Klenze had been commissioned to make designs, and had been invited to St. Petersburg in 1838, or 1839. Also about 1851, the Rumeshalle must have been in course of completion: the statue of Bavaria had been inaugurated in the previous year. The Propyläen, commenced in 1854, must have been completed before 1856; though the edition of Murray of 1858, omits all indication of it in the plan of Munich, and all mention in the text. The Befreiungshalle was long in hand; and its commencment, at least, has been often attributed to Gärtner. It appears to have been opened on the 18th of October last, to commemorate the fiftieth anniversary of the battle of Leipzig. It may easily surpass the Walhalla, which is sadly marred from many points of view by its terraced substructure, singularly deficient in art.

The Propyläen we are not inclined to class with the works which we have deemed amongst its author's best. It is very different from the St. Petersburg Museum. In plan, it has a centre on the arrangement of the Greek Propylæa, flanked by square towers, their faces battering. The upper portion of each tower is formed as a species of belvidere story, with small square shafts; and in the lower portion, is a square-headed doorway with mouldings of the base carried round to form an architrave, the whole being finished simply and elegantly, with other mouldings as a cornice carrying plain antefixæ at the angles and a more ornamental antefixa in the centre. Between the towers, the low centre of the composition in each face, the east and west, has a Grecian Doric portico, with pediment, and projecting one intercolumn. The order is Grecian Doric; though the shafts have bases, somewhat like those of the attached columns of the Temple of the Giants at Agrigentum. The portico is hexastyle; but the central intercolumn is wider than the others (but not wider than the ways through the flanking towers) to admit a carriage-way; and the intercolumns next the angles are the narrowest of all, as in old examples. The depth through, from front to front, counts six columns, and five intercolumns. Thus there is good effect of perspective. The internal columns, of which there are four in the depth (and there are sixteen of these columns altogether), are of less diameter than the front columns. All the columns stand upon a stylobate, with steps in each front; but in the centre, the platform is cut through, as we have said, for the carriage-way. The roof of the portico is stopped against a very low attic which connects the towers. However, the actual line of ridge, seen from some distance, would seem to run unbroken, as in the old examples, the *motive* being the same as that of one of the distinctive features of the Glyptothek. In that building, as we and others long since perceived and pointed out, the portico is not stuck on to a front: the roof is visibly continued back, as in the old examples; and roofs of the side buildings are stopped against a more lofty central building or portion of the composition. This may tend to greater height of the centre than is desirable; but the arrangement in each of these works of Klenze, deserves to be studied. The pediments of the Propyläen, are terminated by elegant

antefixæ; and the tympana are filled with sculpture by Schwanthaler, representing the song of the swan.

In this building, and the Walhalla, and in the Rumeshalle, of which we once gave a view, Klenze employed an order, Grecian Doric. In the Glyptothek, he had also used an order, an Ionic, but so treated as to present itself as new. In the St. Petersburg Museum, which we are able to admire, whilst assenting to some of the criticisms upon it, he dispensed with a great order, using only one to the middle story; and to the porches Persians; and he designed each front different from the rest,—an exercise of invention of which the idea seems seldom to occur to our own architects. The building generally is evidence that it is possible to derive matter of detail, and much of suggestion, from examples, and yet to avoid copyism, even where there might be such essential features of the old style as columns, which there are not in the case in question. Lately, neither has the value of the classical columnar works remained recognized by all; nor has the value of Greek examples, for new works which would omit the columns, been obvious.

Of the more important of Klenze's edifices, there is some record in the illustrated books which were published by him, or by others on his behalf. But books that come to us from the Continent in *livraisons* or "parts," however they set one example of publication and illustration to English architects, are the despair of bibliography. Klenze's publications which we have been able to lay hold of, include some that are well known; but, as they are before us, it is difficult to say whether each is complete. In 1823, Klenze commenced publication of a series of illustrations of the ornament of the Glyptothek. The title-page of the first "part" reads:—"Die Schoensten Ueberbleibsel Griechischer Ornamente der Glyptik, Plastik, und Malerei. Gesammelt, Gezeichnet und Herauzgegeben von L. von Klenze, des königl. baier. Civil-Verdienst-Ordens, und des Grossherz. S. Weimarischen Falkenordens Ritter, königl. baier. Hofbau-Intendanten und Oberbaurath des Innern, mehrerer Academien Mitgliede, etc." "Das Ganze wird aus 8 Heften bestchen, der Preis des Heftes auf schönem Baseler Vilinpapier ist." "Munchen, MDCCCXXXIII. Bei I. Unger und in Allen Guten Buchlandlungen Teuschlands." Three parts only (in folio) are before us. They contain no text, but in all 18 plates of ornament, as that of capitals, mouldings, and other members and details. Some of the plates are coloured to represent the polychromy. The book best known to English architects is the Collection of Architectural Designs partly executed:—"Sammlung Architectonischer Entwürfe für die Ausführung Bestimmt oder Wirklich Ausgeführt von L. von Klenze. Erstes Heft. Mit 6 kupfern und Steintafeln. München. Stuttgart und Tübingen, in der: J. G. Cotta'schen Buchhandlung. 1830." The date, we suppose, is that of commencement of the publication. The copy before us has thirty plates, large atlas folio, and eleven pages of letter-press in small square folio. It gives illustrations of the Glyptothek, the Pinakothek, the Constitutions-Monument; the buildings of the Odeonplatz, namely the Hotel Leuchtenberg, the Odeon, and the Bazar; the Palace of Maximilian, the War Office, and other works, including much rich interior decoration. With the "Sammlung," or as part of it, may be found what is generally considered the distinct work on the Walhalla. It is entitled "Walhalla in Artistischer und Technischer Beziehung. von Leo v. Klenze, Architekten. Mit xii. kupfertafeln. München; in der Literarisch-Artistichen Anstalt. 1842." This work is in atlas folio, with 8 pages of letter-press and 12 plates, including a good view of the interior of the Walhalla. The same date, 1842, is that of a small folio which was published in Vienna, and which gives illustrations of the decoration of the King's Palace: "Die Decoration der Inneren Raume des Kœnigsbaues zu Munchen." His last book referred to the St. Petersburg Museum:—"Das Kaiserliche Museum der Schönen Künste in St. Petersburg, entworfen und Ausgeführt von L. von Klenze. München, 1850. Literarisch-Artistische Ansalt der J. G. Cotta'schen Buchhandlung." It is in oblong folio, and has three pages of letter-press and twelve plates.

Klenze visited England two or three times in all. He was here about 1836-7; and he came in 1851. After the visit of 1836-7, he sent to the Institute of British Architects, of which he was one of the most honoured of the foreign corresponding members, a view of the monopteral temple above referred to, and a letter which contains some interesting passages. Having said that he considered the example to be the earlist one of "lithochromy" in our time, and explained that the site was on a hill, in the midst of lofty trees; and that the interior had a semicircular coffered vault painted in encaustic, he wrote thus, the emphasis to words being his own:—

"I cannot tell you how justly the execution of this little monument increases and strengthens my conviction, that *there is no classical architecture complete without the concurrence of colour*; and that such ornament forms an integral and adherent part. The non employment places a monument in the category of a landscape drawing, in indian ink, or in bistre, opposite to one of Claude Lorraine's. Thank Heaven! this construction is gaining ground considerably with us. I have already had occasion to construct a great polychrome edifice, a post-office. I am, at the present time, erecting a private mansion of the same kind; and thus this fine taste of antiquity is continually spreading.

Your pit-coal is, indeed, a terrible enemy to lithochromy, and you will perhaps *do right on that account alone*, to keep to the English manner of building of the Middle Ages, which I was highly pleased with, and which I prefer in every respect, on the score of beauty, to the Germanic manner of the present day.

I should fail were I to attempt to speak in general of the agreeable impression that I retain of your fine and great country, of what I saw there, and of the reception that I met with. Unfortunately it has crossed my imagination like a beautiful dream; but the remembrance will never be obliterated from my heart nor from my mind."

Little is left for us to say of the subject of our memoir, except that he was an accomplished architectural painter, and that he possessed a fine gallery of works of art.

It need not be stated that different governments and academies conferred upon Klenze, such honours as they had to bestow. He was lately one of the recipients of the Royal Gold Medal, which is given on the recommendation of the Institute. The Bavarian monarch, in 1831, after the completion of the Glyptothek, made him a privy-councillor. From a Chevalier, he at length became a Baron, and one of the Royal Chamberlains. The conductor of this journal was with him on his own ground a few months ago, at which time he seemed vigorous and well.

Viewing the capital of Bavaria, for architecture, chiefly as a museum, it has nevertheless exerted important influences, and even to the distance of England. These continue to be felt in the decorative arts. The biography of the man who most contributed to the realization of the efforts which were made in Munich, will deserve the careful treatment which it will be likely to receive from a German hand.

VANDYCK IN ENGLAND.*

ROYAL PORTRAITS.

It is in painting as in life: what is greatest is not always best. I should grieve to see *Reynolds* transfer to heroes and to goddesses, to empty splendour and to airy fiction that art which is now employed in diffusing friendship, in reviving tenderness, in quickening the affections of the absent, and continuing the presence of the dead.—*Samuel Johnson.*

SIR ANTHONY'S first work in England was a full-length of King Charles in his coronation robes,—one of the finest of his works, and well and widely known from the excellent engraving by Sir Robert Strange. "The anatomy of the head," says Strange, "is finely understood." For this portrait (so ill seen at Windsor) Vandyck seems to have made a more careful study than for any other of his many portraits; another, at least, equally careful is unknown.

The study from which Strange wrought (3 feet 9 inches high by 2 feet 3 inches wide) was carried abroad by King James II., given by him to Cardinal Philip Thomas Howard, from whom it passed to James Edgar, Esq., secretary to the grandson of Charles, of whose executors it was purchased during his stay in Rome by Strange himself. The whereabouts of this fine study has escaped my researches, and I have not been dilatory.

We have no clue or key to the order in which Vandyck painted his pictures; nor is this much to be regretted, since in the nine years he was to live among us (1632–1641) his style in no way altered. He seldom signed his pictures, or even dated them; but the Vandyck mint-mark is not to be mistaken.

Of *King Charles* he is said to have painted thirty-six portraits.

The *first* in importance, and, in some respects, in point of execution, is the large picture at Windsor of "*The King, the Queen, Prince Charles, and the Princess Mary.*" The king, in a black dress, laced with silver tissue, is seated in a very easy and elegant attitude; Prince Charles, in dark-green velvet, is leaning on his knee; the queen, in amber-coloured satin, holds the Princess Mary in her arms. Two of the queen's favourite dogs are introduced, and on a table near the king is the crown and sceptre. A dark crimson curtain forms part of the background, and beyond, on the left, is the Tower of London.

For this fine family picture Vandyck received 100*l*. It is in his best manner, and critics see, or affect to see, in its warm deep tone and mellow touches, the beneficial effects of his Venetian studies. When Pepys saw it in 1667, it was hanging in "the Matted Gallery" at Whitehall.

A *fourth* fine picture of King Charles forms one of the attractions of the Louvre. The king (a most graceful figure), in white satin and with his hat on, is standing by his horse, attended by an equerry and a page. Vandyck's account, sent in to the king, and still preserved in the State Paper Office, describes this picture as "Le Roi alla Crasse," and 200*l*. is placed against it; but this the King has scored through with his own hand, and put, instead, 100*l*.,—just half the price. This was done in 1637, when the martyr's troubles were beginning, his exchequer low, and his accounts in arrear.

At Euston, in Suffolk (the Duke of Grafton's), is a duplicate, as fine, it is said, as the Louvre original. This expressive portrait, all air and grace and ease and likeness withal, has been inimitably engraved by Sir Robert Strange, and just as inimitably described by him:—

"It is not an easy matter to convey in words a proper idea of the beauties of this picture, which in every essential of the art we must consider as the masterpiece of Vandyck.

"The king is here represented as just alighted from his horse, and in the act of walking.

"We may presume the scene to be laid in Greenwich Park; for here is evidently the Thames, and, on the opposite shore, the county of Essex. The figure of the king is majestic, and remarkable for truth and nature. His dress is finely imagined, and, concealing in no part the human form, it is light and picturesque. The accessory figures attendant upon the king are properly introduced. In the horse, particularly in the richness of his mane, there is everything that constitutes beauty in this noble animal. There is magic in the general effect of the picture, and the local colouring is finely understood. If we consider the landscape, it is magnificent. Here is no empty space, no naked void left open to fatigue the eye: the whole scene is clothed with richness and simplicity, affording a delightful specimen of the luxurious fancy of the painter, who has in this instance varied his pencil with innumerable beauties."

Still nobler in conception, and of exquisite skill in colour and all the essentials of true art, is his portrait of the King in Armour, on a grey horse, advancing from under a lofty archway, and attended by his equerry, M. St. Antoine. The original is in the Vandyck Room at Windsor, and copies (some call them duplicates) may be seen at Hampton Court, Warwick Castle, Middleton, Newstead, and Stapleford. The Windsor picture alone is wholly by Vandyck. Nor is its history uninteresting. At the sale, by appraisement, of the effects of Charles I. it was bought for 200*l*. by Remée Van Lemput, a Dutch painter living in Covent Garden. After the Restoration he demanded 1,500 guineas for his purchase; but the Crown recovered the picture by law, or threats of law, and the Windsor picture, as we now call it, was restored to Whitehall.

A third fine picture of the king is at the Duke of Marlborough's at Blenheim. The king is in full armour, on a fawn or cream-coloured horse, painted nearly in profile: at his side and on foot is Sir Thomas Morton, holding, as an equerry, the helmet of the king. This picture was sold at the king's sale, and acquired, many years afterwards, at Munich, through money and cajolery, by the great Duke of Marlborough. The horse (though its action is as delicate as if it were stepping to some soft Lydian measure or courtly strain) is Flemish in its make. What Marlborough thought of his acquisition may be gathered from a letter to his duchess:—

"I am so fond," he writes, "of some pictures I shall bring with me, that I could wish you had a place for them till the gallery at Woodstock be finished; for it is certain there are not in England so fine pictures as some of these, particularly King Charles on Horseback, done by Vandyke. It was the Elector of Bavaria's, and

* See pp. 40, 76, 90, *ante*.

given to the Emperor, and I hope it is by this time in Holland."*

Other portraits of the king remain to be noticed, without our seeking for the whole of the suspicious thirty-six. A very fine picture, "esteemed the best likeness of the king," was burnt in the fire at Whitehall in 1697. There is a copy of it by old Stone, at Lord Exeter's, at Burleigh.† At Blenheim, is a half-length very elegantly executed in a tender, silvery tone; at Wilton, a three-quarter in armour—a genuine, carefully executed picture, with a truncheon in his right hand, and his left on a helmet, which with the crown lies upon a table. At St. Petersburg is the Houghton whole-length in armour, bought by Sir Robert Walpole of the Wharton family, and described in Vandyck's account sent in to the king as "Le Roy en Armes donne au Baro Warto 50*l.*," reduced by the king himself to 40*l.*: by a mistake both the gauntlets are drawn for the right hand. At Lord Northwick's, in Worcestershire, was a full-length of the king, with Prince Charles, when a child. Lord Ashburton has a full-length—from the Malmaison Collection of the Empress Josephine,—but its parentage is at least suspicious.

I have yet to mention that incomparable picture of the king, the "Three Heads in Three Points of View," front, profile, and three-quarters, painted about 1637. for the purpose of being sent to Rome, to Bernini, the sculptor, who executed a marble bust from it, destroyed in the fire at Whitehall in 1697. The picture (now at Windsor Castle, and excellently engraved by William Sharp) remained in Bernini's possession, and was transmitted to his descendants, from whom, in 1803, it was purchased by Mr. Irving, and sent to England. In the year following it was bought by Mr. Champernowne, for 450 guineas, from whose possession it passed into the hands of Mr. Walsh Porter, and at his death into the hands of Mr. Wells, of Redleaf, in Kent, who, at the earnest intercession of George IV., was induced to cede it to the Crown for the price he had paid for it one thousand guineas.‡

Of the queen of Charles I. Vandyck is said to have painted five-and-twenty portraits, and in all he has made her the most ladylike and lovely of women. Some are well known, others may remain in obscurity, for it is utterly impossible that he could have painted twenty-five or twenty with his own hand. One of the finest was given to the Earl of Strafford, on the 12th October, 1633, and is now at Wentworth House, in Yorkshire, the seat of Earl Fitzwilliam. Vandyck received forty pounds for it. It is a whole-length, in blue, exquisitely ladylike, and most beautiful in point of colour. Her Majesty is attended by Jeffrey Hudson, the dwarf (in crimson), with an ape on his shoulder. A second full-length, and fine, is at Althorp; a third, in an orange silk dress, at Warwick Castle; a fourth, at Woburn; a fifth, in white satin, very fine, at Lord Clarendon's, at the Grove (engraved in *Lodge*); a sixth, at Lord Ashburton's, in Piccadilly; a seventh (the Wharton and Houghton picture), at St. Petersburg; and an eighth, in white satin, at Windsor Castle. Half-lengths are less common. There is one at Wilton, a companion to the King in Armour, but not so good;§ another at Blenheim, very elegantly executed; and a third, in white satin, at Windsor Castle. "Of the numerous portraits which Vandyck painted of her, this," the half-length, at Windsor, says Mrs. Jameson, "is the most attractive, and gives us a strong impression of the lively, elegant, wilful Frenchwoman, whose bright eyes and caprices so fascinated her husband." The royal crown and a red rose are on the table near her. The king thought so highly of the picture, that it was hung in his bedroom.

It would be easy to add to the list already mentioned of Henrietta's portraits by or after Vandyck;‖ but two alone seem worthy to be added—the two described in Vandyck's account sent in to the king, as:—

"La Reyne pour Mons. Barnino, 20*l.*"
"La Reyne pour Mr. Barnino, 20*l.*"

the full face and profile, now at Windsor, made for Bernini, the Italian sculptor, as studies for a bust. The full face is the least interesting, but there are still the eyes of Henrietta.* The king in his necessities reduced the two to 15*l.* a piece; now, under Christie's hammer, they would sell, at the very least, for 500*l.* a piece.

Three pictures of the Children of Charles I., by Vandyck, are in the Vandyck Room at Windsor Castle. The earliest and best represents three on one canvas,—Prince Charles, the Duke of York, and the Princess Mary, afterwards Princess of Orange. The figures are full-lengths. The youngest, the duke (afterwards James II.), is in the centre; a dog is by the side of the princess, and one still larger to the right of the prince. The whole composition is admirably balanced: a life-like air pervades every portion. Duplicates exist,—one at Wilton, dated 1635; another at Turin; and a third at Dresden; though I suspect that the last is only a copy by Sir Peter Lely. Of this fine picture there is a noble engraving by Sir Robert Strange.

The second picture, which Vandyck painted of King Charles's children contains five full-length figures,—Prince Charles, then seven years old, with his hand on a noble mastiff, painted as if "made to be pulled about by a parcel of royal infants from generation to generation; the Princess Mary; James Duke of York, then four years old; the Princess Elizabeth; and the Princess Anne, who died an infant. This well-balanced group, a masterpiece of arrangement, was painted in 1637 (the date is upon it), and is thus described in Vandyck's account of his claim upon the king:—

"Le Prince Carles avecq le duecq de Jarc, Princesse Maria, Pr^s. Elizabeth, Pr. Anna..... £200."

The amount (200*l.*) is scored through by the king, and 100*l.* (half price) written against it,—not, I suspect, as the king's pecuniary appreciation of the picture, but to keep for the time his "extraordinary" expenses within bounds. This capital picture was purchased from David Collyer, Earl of Portmore, by King George III., and is the solitary purchase by that sovereign of a picture by an old master. This Lord Portmore married a bastard (a Sedley), of King James II.

"And Sedley cursed the form that pleased a king."*

The "good old king" knew nothing, of course, of the history of the picture.†

The third (and last) royal family picture which Vandyck painted was a full-length, in armour, of Charles II., when a boy of eight or nine. The prince, leaning on a plumed helmet, holds a pistol in his right hand. This favourite picture was painted for the queen's collection at Somerset House, and is thus described in Vandyck's account sent in to the king:—

"Le Prince Carlos en Armes pour Somerset... £40."

The sum is unaltered in the account. The history of this picture is curious. The appraisers of the king's effects found it in the queen's closet at Somerset House, appraised it at 25*l.*, and sold it to Colonel Webb, 26th October, 1649, for that sum. This Webb was a

BRISTOL CATHEDRAL.



NORTH-EAST VIEW. *See p. 134.*

* Duke of Marlborough to the Duchess, Nov. 8, 1706 (Mrs. Thomson's "Private Correspondence of the Duchess of Marlborough," i. 78).

† Granger, ii. 350. Ed. 1775.

‡ I do not believe in the Vandyck parentage of Lord Yarborough's oval head of Charles I. At Warwick Castle is a half-length, dated 1637. (Manchester Art Treasures Catalogue, p. 52, No. 661.)

§ This is the picture referred to in the Lord Chamberlain's MS. Warrant-book:—"1633, May 24. A warrant to Sir Anthony Vandyck to deliver his lordship the picture of the Queen he lately made for the Lord Chamberlain" (*i.e.* Philip Herbert, Earl of Pembroke and Montgomery). An entry of a like date, to Mytens, directs the delivery by him of the King's picture to the Lord Deputy (*i.e.* Lord Strafford).

‖ Thus we read in Pepys:—"1665, Sept 13. I was only pleased [at Sir William Hickes's, at Ruckholts, Essex] at a very fine picture of the queen mother, when she was young, by Vandyck; a very good picture, and a lovely face."

* "Such eyes as yours on Jove himself have thrown
As bright and fierce a lightning as his own."
(*Waller*, to the queen, occasioned upon sight of her Majesty's picture.)

* Dr. Johnson.

† At Burleigh (the Marquis of Exeter's) is a contemporary copy by Henry Stone.

large purchaser of the king's effects, more especially the Vandycks.

My next communication will catalogue "a Clarendon Gallery" of men who stood or sat to Sir Anthony at his house in the Blackfriars of London. Peter Cunningham.

NOTES FROM STRATFORD-ON AVON.

In the pleasant town of Stratford-on-Avon there is a busy note of preparation. Each week the excitement of the good people of Shakspeare's town increases, and so large is the number of visitors who are expected to arrive here at the coming celebration, that people are puzzled how to meet the expected demand for lodging and other accommodation. Already bed-rooms have been let to speculative agents for about 5*l.* a week each; and we are told that one person has been offered 70*l.* for the use of a small house during the festival time. Nor will the matter of lodging be the only difficulty; for, in a town with a population of about 3,000, it will not be an easy matter, on a temporary occasion, to provide food for some 10,000 visitors who may be expected. Even in the matter of butchers' meat the arrangement is not easy; for there are not, in a small population, the same facilities for disposing of the coarser joints as there are in the metropolis and other large towns. Plans will, however, be devised by which proper supplies will be obtained from Birmingham and elsewhere. It is to be regretted that persons in Stratford are looking to make an extraordinary amount of profit during the festival week. Complaint cannot justly be urged of persons availing themselves of the opportunity to profit; but there can be no doubt that, if charges are raised to an amount which verges upon imposition, the endeavour will be defeated, and damage done to the celebration, which many are anxious to honour. If 5*l.* be charged for a single bed-room, without any other accommodation, it is probable that the expense of one person would be little short of 15*l.* This would deter, and is a matter well worthy of the attention of the Stratford Committee of Management. There are some very large inns here; and in many of a more humble kind, which do not present a very imposing appearance from the front, comfortable quarters are to be found. Besides, round about Stratford, at no great distance, there are snug farmhouses, the tenants of which would be glad to receive visitors on moderate terms; and quick trains might be run expressly to Birmingham and Warwick. Some suggest that quick trains might also with advantage be run to and from London. We fear, however, that a long railway journey twice a day would, if even the fare were made small, be so fatiguing to most persons, that it would prevent any enjoyment from the proceedings.

The present accommodation at the railway station here, which is close by Anne Hathaway's cottage at Shottery, is very bad for second and third class passengers. There is not a seat provided in this waiting-room; and, when last at the place, we saw a group, composed of a very aged woman, some younger women, and children, endeavouring to rest themselves upon their luggage. When it is considered that the second and third class passengers are the chief sources of profit to railway companies, it shows little sense to allow a want of this kind to exist.

The wooden shed for the meetings and performances is roofed in, and the glazing has been commenced. Externally it is an unsightly object, but the large proportions of the interior will be imposing, particularly if taste be shown in the decoration. Care must be taken, if drapery is used to a large extent for this purpose, that there shall be no chance of accident by fire. The entrances, too, should be numerous and well considered. It is best to err on the safe side.

One of the largest inns here, the George, has been for some time unoccupied, and is rapidly falling into decay. This is an extensive building, where, not long since, it was usual to make up between 100 and 200 beds for the night; and often, in the hunting season, sixty or seventy scarlet-coated sportsmen might be seen passing under the gateway. But something ails the place now: it is quiet and deserted. Parts of it, however, are to be fitted up for the reception of about 100 policemen, who will be gathered from different parts of the adjoining country.

A procession, somewhat similar to that which took place in Garrick's time, nearly one hundred years ago, is looked forward to by the townspeople and those dwelling near, as at Warwick; and we are told that this has been determined upon. If so it is to be hoped, that it will be well managed,—for a matter of this kind, if not properly done, becomes ridiculous. In right hands it might be a goodly show.

In Stratford-upon-Avon, the aspect of the streets has changed since Shakspeare trod them; but although much has disappeared in the course of about three hundred years through fires and the constant changes which pass on, still a careful observer will see here, as in London, under disguises, evidences of the past. Many will dive into back parts where the fronts, notwithstanding the attempts which have been made, indicate age, and they will be well rewarded for their trouble. But the chief places of interest at the approaching tercentenary meeting will be the birth-place in Henley-street, the excavations at New-place, the Chapel of the Guild, the Grammar School close by, and the interesting church wherein the immortal poet rests.

At the birth-place, the restoration has been judiciously carried out. The old portions have, for the most part, been preserved; and it is easy to distinguish what is actually original from that which it has been needful to replace. At present a charge of sixpence is made for a view of the chief part of the interior, and sixpence more for admission to that portion of the building which has been appointed for the reception of a Shakspeare Museum. The lady who is now custodian here seems a person of education, whose late husband had been for long honourably known in connexion with the corporation of this town. But as regards the museum, we decidedly object to a regulation which prevents any one from making sketches of the very remarkable and interesting objects which are here to be found. By an application to the secretary of the Shakspeare House Fund, leave may be obtained to sketch parts of the interior; but as regards the other portions, it is rendered comparatively useless by the present regulation to the general public, who might be informed of what is here, by the distribution of illustrations. We are told that the main part of this museum was the property of the well-known historian of Stratford-on Avon, and that it had been sent here by the sister of that gentleman; but many of the objects which are to be found in it have come from other quarters, as from Mr. Halliwell and others.

Amongst the matters of note here are,—a deed made in 1596, proving that John Shakspeare, father of the poet, resided in the house called the birthplace; a fine levied on the purchase of New Place by Shakspeare, in 1597; the letter from Mr. Richard Quyney, to Shakspeare, 1598, asking for a loan of 30*l.*,—the only letter addressed to Shakspeare which is known to exist; a grant of four yards of land in Stratford-fields; William and John Combe to Shakspeare, 1602; copy of Court-roll, 1602; surrender by Walter Getley to William Shakspeare of premises in Chapel-lane, which the poet specifically devised by his will; declaration in an action in the Borough Court — William Shakspeare *v.* Philip Rogers, to recover the price of malt sold by Shakspeare, 1604; assignment of lease of a moiety of the tithes of Stratford-upon-Avon—Ralph Huband to William Shakspeare, 1605; deed with the autograph of Gilbert Shakspeare, brother of the poet, 1609. There are other documents, the most important of which are the settlement of Shakspeare's estates, in 1639, by his daughter, Susan Hall—his granddaughter, Elizabeth Nash, and her husband, Thomas Nash; declaration of uses relating to New Place and other Shakspearian property, 1647, &c., &c.; probate of Lady Barnard's will, 1669; Shakspeare's gold signet ring (?) with the initials W. S. and a true lover's knot between; Charter of Foundation, 22nd Edward IV., 1482, of the Free Grammar School, at Stratford, at which the poet was educated; an ancient desk, said to have been removed from the Grammar School; and a cast from the bust in the chancel by G. Bullock (only two are said to have been taken); the old sign of the Falcon, at *Drunken Bidford*, where it is said that Shakspeare enjoyed too deep potations; a model of the poet under the crab-tree; Shakspeare's jug, from which Garrick sipped wine at the jubilee of 1769; a phial, hermetically sealed, containing juice from Shakspeare's mulberry-tree, which was cut down in 1758, by direction of a man of barbarous taste; specimen from an original copy of the "Merry Wives of Windsor"; portrait of Garrick, in the character of Kiteley, by, it is said, Sir Joshua Reynolds; portrait of Mrs. Garrick,—a beautiful face by Gainsborough. There are many other objects here which for want of space we must not mention.

On the site of the old market cross, which has been removed, a very ugly building has been placed. Some of the original houses remain close by. It has been suggested that a monument to Shakspeare should be erected on this spot. The situation is good. Then comes the Grammar School, where at times the head-master is not in smiling mood. Hundreds will apply here for admission. Let us hope, therefore, that in order to prevent disappointment, the boys during the festival week may have a holiday, and that the school-rooms may be easy of access. Near is the chapel of the guild, the present state of the interior of which will disappoint many; and then come the excavations at New Place. Next is the poet's grave, in the chancel of the splendid church, close by which passes the Avon. At the time of Shakspeare's birthday, the green buds will be bursting forth, the rooks will be busy, and birds of many kinds will be singing sweet notes. No poet's grave could be better placed.

THE NEW LIGHT.

Many can remember, in country cottages and in the houses of poorer people in towns, the general use of a small and dismal lamp, with sometimes a cotton wick, and at others a piece of dried rush, fed in certain cases by coarse and by no means sweet-smelling whale-oil, and in others by grease. These were the lights by which women worked at their stocking-knitting or twirled the spinning-wheel; while the men and youths would beguile their winter evenings in vacancy around the fire-place: books were then scarce, and reading not much cared for by persons of this class. Artificial lighting in such cases was not much better than that in use amongst the Esquimaux. Even street-lamps were at one time supplied with whale-oil, and most of the shops were lighted, at best, by dipped or moulded tallow candles, some of which were hung in a kind of chandelier form. Those tradesmen, however, who wished to outblaze their neighbours, introduced lamps of a superior kind, in which was used seal or sperm oil. Engravers, and those who were engaged in the execution of fine work, used lights of this description. The cost of wax candles in the houses of the gentry at that time was very great: the price of sperm, seal, and whale oils, in consequence of increased demand, and the scarcity of whales, rose to a high figure; but the price of tallow candles became more reasonable, and gas at length suddenly shed a splendour into the streets.

Of late, in provincial towns, and even in some villages, gas-lights have been introduced into the dwellings of the working classes,—a practice which adds to the cheerfulness of homes, and is not more expensive than candles. In Manchester, most new houses, of even the third class, have gas-pipes laid on at the time of building. In London this is not so generally done even in new houses of this class; and to lay the pipes to old ones, by re-opening the pavements, is a seldom recurring art.

Of late, however, lamps constructed for the use of paraffine or petroleum and Colza oils are coming much into use in the houses of the working classes; and it is stated that in the longest days of winter, when light is needed from between four and five o'clock p.m. till between ten and eleven, and also in the morning, the cost is only about eightpence a week: common candles would come to about a shilling; while the paraffine gives three or four times the volume of light that could be obtained from candles for that money. The advantage, however, is to a certain extent counterbalanced by the danger which attends the use of this material. We hear of constant accidents from its introduction; and we fear that without some carefully considered regulations respecting its sale, the number of fires will be permanently increased from this cause. That there are two kinds of so-called paraffine oil, however, in the market, one of which is by no means dangerous, some traders seem to know, while others are either ignorant or reckless; and it is certain that the very dangerous paraffine is often sold under a warranty that it is safe; by which means many poor women and children are burnt, houses destroyed, and other mischief is done. No doubt persons who are in this way guilty could be forced to pay damages; but something more than this is needed for the protection of the public.

MIDDLESEX LUNATIC ASYLUMS.

WE learn from a report of the Magistrates' Committee for Accounts, quite recently published, that, taking the two asylums together (Hanwell and Colney Hatch), and with them the item under the head "County Lunatics in other Asylums," it will be found that the cost together to the county has fallen short of that of last year to the extent of about 380*l.* :—

	£	s.	d.	£	s.	d.
Hanwell—Cost to the county	15,219	3	11			
,, To the parishes...	34,191	4	5			
				49,410	8	4
Colney Hatch—Cost to the county	36,612	6	2			
,, To the parishes...	43,094	11	10			
				79,706	18	0
Other Asylums				264	2	7
				£129,381	8	11

The number of patients in Hanwell Asylum on the 31st of December, 1863, was 1,601; being an increase on 1862 of 99.

The number of patients in Colney Hatch Asylum on the 31st of December, 1863, was 1,930; being an increase upon 1862 of 58.

The following paragraph of the report deserves the consideration of other counties:—

"Your Committee may again remind the Court that, while the maintenance in the asylums is under 10s. per head per week, the charge at the private licensed houses ranges from 13s. to 14s. per head per week; thus, estimating the saving at 3s. 6d. per head per week on the 3,531 patients now in the two asylums, it will be found to amount to nearly, if not quite equal to, the whole of the annual interest and redemption of capital of both buildings."

In other words, if we read it rightly, without incurring any increased present expense, in about thirty years from the time of borrowing to build, the asylums will be the unincumbered property of the county, and there will thenceforward be a saving of 3s. 6d. per head per week in the cost of lunatic patients.

The enormous extent of the malady (the numbers above given only representing those of the afflicted in Middlesex whom their relations cannot maintain), and its cost to the saner part of the community, must strike with awe every one who considers it.

ANTIQUITIES: THEIR STUDY AND IMPORTANCE.

OLD things are apt to be cast aside as worthless: they receive little consideration, and are counted by many as so much lumber, clogging up the rooms and ways; a slight respect, from some inexplicable reason or other, preventing their entire and immediate annihilation; whilst others have an idea, that a thing kept seven years is sure to turn up useful, and a hoard of oddments is the result, which remain septent after septent, to no purpose whatever, till at last, maybe the establishment is broken up, and the scraps are scattered abroad, like the constituents of a compound substance—not to destruction, but to form integers in other collections of a similar kind.

It takes a long time, however, for an old thing to become "antique." It has, as it were, to grow up, attain maturity, and then to enter what may be called a fossil existence, which with care is to be its condition for ages.

"Antique," too, bears rather the meaning of old and elegant, as now understood in the collection of ancient articles, in the course of accumulation,—something worth preserving, for its great age, its rarity, and, in many cases, for its beauty. And it is wonderful to find through what long periods and vicissitudes many trifling articles have been preserved,—not from care and being stored away for the purpose, but often from burial, from loss in rivers, from natural convulsions, from sepultural rites, from hoarding until better times, and the many accidents of flood and field with which humanity in her various phases has had to contend; handing down to us by these tokens glimpses of the daily life, manners, and customs of the peoples who have ceased to exist on the face of the earth, or whose characteristics have so merged into new branches and races, that they now hold no primary place in the economy of our globe, while they form illustrations to elucidate the old text which has reached us, and are therefore important links in the chain of evidence which these days are gathering up of the earliest periods of the world's history, so far as man is concerned. And this not only of art matters, but permeating through all the channels of taste and utility, to the most simple domestic application,—the luxuries and necessities, the ceremonies, sacrifices, worship, and penal enactments, each and all telling us palpably their exact and unerring story, by the fact of the instrument or object itself existing and being placed before us for our study and behoof.

And what really marvellous stores of information have been accumulated from a diligent search for, and preservation of, these relics of the past; and how important is the place they occupy, in the estimation of the thinking men of this period; and rightly too, for the reasons amongst others above enumerated.

They attract our serious attention in many ways, and are deeply interesting, as revealing the state of society and civilization at the time of their use, and also the condition of the various arts of refinement, upon the superiority of which in the present day we are apt to pride ourselves, but which an examination of many ancient items and records will show to have flourished in great splendour many long years since, and of which we are prone to avail ourselves as precedents upon which to act, and authorities from which to quote: we embody them into the doings of the present century, and refer to them with pleasure and profit.

In the first rank we may place buildings: structures for the habitation of man, fanes for his religious observances and ceremonies, tombs for his remains, or memorial monuments to his bravery, learning, or celebrity; and here a wide and important field of research and study is at once entered upon, as by them we are informed of the ideas that prevailed at various epochs in many countries as to architecture, building, and construction, and their glorious remains form examples to guide and encourage the designer in the present day. There are their methods of using their material; there are marvellous weights raised to important heights; there are great domes, extensive vaultings, elaborate detail, wondrous carvings, and evidence of peculiar and subtle processes of manufacture. Then we have enrichings of marbles, mosaics, and encaustic pavings, or stories carved in stone. Then symbolic writings on the walls, on the tombs—everywhere, the meaning of which has been now revealed to us by proper courses of arduous parallel study; and then, and not least, we have the great Biblical confirmations which have from time to time been afforded by the pursuance of these things, and which is surely a matter of the highest consequence, and of immeasurable importance.

Great results frequently flow from small beginnings, and it is therefore well that this subject should be diligently pursued, so that everything may be gathered up—that even the fragments be not lost.

How important may a trifle or fragment become in fixing the date of various events? As the occupation of a country by a certain people, or the reign of a particular monarch. Thus coins have been found of considerable use in numerous instances; and the finding of buried arms, as spear-heads, daggers, &c., may assist materially in fixing the place of some ancient battle-field. So of the burial-places—the cumuli—the sepultural urns—the stone coffins—the papyri — remaining to us as tell-tales of bygones, and which are now examined with the greatest interest, and preserved with proper and anxious care.

A study of these various matters naturally, perhaps, causes the mind to revert to the periods when they were every-day things; when the ancient peoples—as we do now—transacted their daily business, performed their rites and ceremonies, fought their battles, lived, wrought, and died. The great world has continued to roll round, but the races have disappeared—their place knowing them no more. All that is left of mighty nations, of vast cities, of enormous wealth, of vigorous enterprise or luxurious ease, is a few crumbling remains of buildings, of ornaments, of tombs, or some mounds of sand and earth. An oblivion, hanging like a mighty pall over many an immured town or temple, barely lifted some centuries afterwards when the place is delved, and some evidence of human pre-existence is brought to light; all this affords material for much thought, of the workings of time, and unflinching and unceasing powers of the destroyer, levelling the greatest with the dust of the earth.

But, on the other hand, had there been no vestige whatever left to us of the former condition of things, we should be very much more at fault than we are concerning them. Our notions of the earlier races of humanity would be not merely peculiar, but to a great extent untruthful: the inventive faculties would be freely exercised, and our theories formed upon the wildest possible traditions, or upon purely imaginary data. Thus all that has been revealed to us by modern research and discovery in the field of antiquities,—all we have gleaned of the *status* in civilization, of the cultivation of learning and the arts, that prevailed at various bygone periods, tends to set at rest for ever many moot points; and indeed rather leads to a feeling of humbleness, that with all our boasted (and undoubted) progress and superiority over any earlier period of human history, we find, from the various traces discovered, that refinement of a very high order prevailed many centuries since; that although we may and do excel in various new and important branches of the great social economy, we have yet in some things been forestalled by earlier races, of whom we are therefore, to some extent at least, but followers and imitators. We, however, gain information alike from flint axe-head and fibula; from papyrus and coin; from earthen vessel and mosaic pavements; from bull of Nineveh and Venus of Rome; from sphynx and caryatidæ; from the coat of mail and the most delicate ornament; from the gigantic monolith and the tiniest scrap which the tutored hand disengages from the *débris*. All are teachers; all a "tale unfold" of civilization or barbarism; of wealth or poverty; of warfare or peace; of luxury or necessity; of Christianity or heathenism;—all with their multifarious ramifications are deeply interesting and valuable, as pointing out the true direction of real progress and advancement.

This, however, is an age of revivals: there is a great tendency to copy the configurations of ancient things, great and small; and probably as the world grows older this feeling will be enlarged. In earlier times of course change must have produced originality. There were all the great fields of untried form and material to work upon—nay, to revel in; affording immense scope for new combinations and improvements upon those then existing. But in our day, especially as regards those matters which are used now as they were in earlier periods, we are very prone to fall back upon old forms, old figures, old material, as the basis upon which to work. Originality, being more shown in the adaptation and combination of the material, than in the idea of the composition,—and fine art and high art in the manufacture of articles of luxury and of more general use,—consists very much in the reproduction of the eminently beautiful, and therefore always acceptable forms, which the research of the antiquary and the archæologist has brought to our notice. So much is the antique prized and valued by the connoisseurs of the day, and therefore so important is it to preserve any relics and vestiges that may be found, which may serve as examples, and tend to stem the ebb-tide of decadence which may once and again threaten us, and assist to give vitality, and to revive the embers of taste which may show signs of weakness and poverty. As there have been periods of light and of darkness in art matters, there has been pushing vigorous energy at one time, and great lassitude and laxity at another. A surfeit of beauty seems to have found its antitype in a graduated heap of contorted ugliness. Alloy has crept in, and at last prevailed to so considerable an extent that the original purity has disappeared altogether. The sunlight has waned, and darkness prevailed, leading the minds to grope about and compose without rhyme or reason, until a new dawn has arisen, when the hideousness of the night has revealed itself, defects and incongruities are discovered, and, as with the freshness of a new pursuit, better things begin to prevail.

As the world grows older, we thus become rich in comparisons, precedents of good and bad; and discrimination must be vigilantly exercised, so as not to reproduce *everything* that is found. It should be remembered that what has been discovered had a special use: we may modify and adapt it to our present wants, copying rather the *spirit* of the design than the entire and slavish duplication of the object; and we should always bear in mind that whatever we now make, whatever is to any extent an imperishable production or manufacture, will possibly one day become an antiquity, stamping and marking by its presence and its form the style and the ideas of the age in which it was made. If it should be preserved by any of the wonderful, but perhaps involuntary, processes by which many things supposed to be lost for ever are handed down to future generations, it will serve as a record of the age that

gave it birth; and whether it be in buildings, in articles of *vertu*, in pictures, in arms, accoutrements, coins, or objects of domestic requirement, they will alike bear their testimony, in their several capacities, of the excellence or paucity of design, and the general condition of art at the period of their erection, execution, or manufacture. And doubtless many things will, in ages to come, create wonder as to what possible use they were applied. In this day of metals and mechanics, when the very great development of automatic appliances so multiplies the form and intricacies of various items—when hand labour is more directed to the making of machines to perform work than in the direct execution of it as heretofore,—much uncertainty will be likely to prevail, and greater assistance will be required from written description than is even now the case; and explanations will have to be sought, with great diligence, as to the uses and properties of (we may suppose) the then mysterious combinations.

The museums of the present day, with all their hoards of ancient curiosities, will sink into the shade, by the side of those yet to be called into existence, by perhaps new races of people, when our every-day objects, machines and appliances, become antique, and carefully stored away, for the use and wonderment of the students; when all the new principles which have been eliminated even within the present century, with all their various elaborations and ramifications, *in esse* or *in posse*, shall have become obsolete; when the "iron age" -as we are pleased to call it—shall have the interesting representatives of its earlier efforts and its first attempts stored away for the inspection of the curious. There will be such a heterogeneous collection as the world never saw before. But should such collections be left to the "accidents" of Providence? So rapid are the changes which take place, the improvements, inventions, and alterations superseding and outrunning each other day by day, that many things of importance are likely to be lost, and the true sequence remain unknown. Now museums of all kinds are standing histories, whether of natural wonders or the efforts of the human mind and hand. They should therefore be established and continuously increased, embracing as large a range of objects as possible, which must ever prove interesting as mere exhibitions, while, at the same time, they would act as guides to those contemplating new productions, leading them to abandon what they see has been already done, and encouraging them in any really new discovery they will then be more sure they have made. Museums, however, will not to any extent apply to buildings, which constitute an important phase of antiquities. These cannot be stored in boxes and glass-cases, but, for the most part, have to bear common wear and tear, as well as to be subject to the constant sources of decay, by which they are surrounded. Preservation of these is a matter of great delicacy. The rude hand would very soon obliterate some most interesting features, or would demolish the structure altogether in favour of a new one upon a modern pattern; but surely in the case of churches or monuments, sacred from other causes, this should not be allowed; and where it is possible, by judicious repair, to preserve it even at some little public inconvenience, it is highly desirable to do so, where any peculiarity or beauty in the building warrants such a mode of treatment.

Obstructions which have been superadded may be removed, and the original form laid open—restored, in fact, to its proper condition. Little else should be done; and it may then be left to tell its tale to future antiquaries. Hundreds of years has it been spared, the fanaticism even of illogical Puritans serving, by covering over, plastering up, and boarding in, to hand down to our own day many parts of great value and beauty. Surely, then, in this age, professedly so interested in such matters, we should expect to see every care taken of the sacred temples and ancient halls, those great landmarks of a nation's history, so that they may be preserved for the behoof of the future, to the credit of the discernment and critical acumen now displayed and exercised in so desirable a direction.

Not that old buildings, now in good order and little mutilated, are to be restored, in a sense frequently applied to them, which consists in giving new detail, new elaborations, and incongruous finishings, making material alterations and additions, so as to present a clean and highly-varnished appearance when perpetrated; but really so altered, amended, and defaced, that one so treated can never be itself again. This is by no means restoration, but a tampering and mutilation of a most debased kind, discovering a poverty of resource and an entire want of sympathy with the spirit of the old buildings and their devisers, much to be deprecated. Happily such cases of ruthless vandalism are becoming less frequent as a more extended knowledge and appreciation of these quaint monitors are spread abroad.

Generally, then, antiquities deserve our high consideration and respect, as matters of thought, as evidence of history, and the condition and customs of past times,—as sources of design, for their value, for their peculiarity, for their rarity and beauty. Each and all are reasons for pursuing their study and investigation, improving the mind of the student, and conducing to the intelligent pursuit of ancient lore.

Thomas Goodchild.

THE SHAKSPEARE MEMORIAL.

The meeting of the General Committee, held on Monday last, and presided over by the Duke of Manchester, passed off most satisfactorily, the greatest unanimity prevailing. The Site and Monument Committee in their report, which was read, advised, first, that the Shakspeare memorial be a work of monumental art; and secondly, that measures be taken to endeavour to secure a site for this memorial in the Green Park, on the high ground fronting Piccadilly. It was signed by the Right Hon. Wm. Cowper, M.P., Chairman; the Duke of Manchester; Sir Joseph Paxton, M.P.; William Tite, M.P.; T. L. Donaldson, President of the Institute of British Architects; F. Yates Hurlstone, President of the Society of British Artists; W. Hepworth Dixon, F.S.A.; Daniel Maclise, R.A.; Clarkson Stanfield, R.A.; David Roberts, R.A.; J. O. Halliwell, F.R.S.; George Godwin, F.R.S.; Henry Ottley.

On the motion of the Right Hon. W. Cowper, M.P., seconded by Mr. W. Tite, M.P., who both made effective speeches in support of the report, it was unanimously received by the meeting.

On the motion of Mr. Godwin, seconded by Captain Knollys, it was unanimously resolved,—

"That the recommendations of the Site and Monument Committee be printed for circulation among the subscribers, and that the following members of that Committee be solicited to act as an Executive to bring the matter fairly before the public, appeal for subscriptions, obtain designs, and hereafter report to this Committee the steps they have taken towards carrying into effect the wishes of the subscribers:—The Duke of Manchester, the Right Hon. William Cowper, M.P.; Sir Joseph Paxton, M.P.; William Tite, esq., M.P.; J. A. R. Beresford Hope, esq.; D. Maclise, esq., R.A.; and Professor Donaldson."

Mr. Stirling Coyne brought up a very satisfactory report from the Dramatic and Entertainment Committee; and Mr. Banks and Mr. Tomlins communicated their belief that the various trade societies of the metropolis would lend their aid in an efficient manner to the project in hand,—a statement that gave much gratification.

Mr. Benjamin Webster, Dr. Westland Marston, Mr. Hurlstone, and others, took part in what was altogether a most successful meeting. All who are willing to aid should now subscribe at once, so that the Committee may be quickly enabled to form some idea of the sum that will be available.

THE HEALTH OF PRINTERS.

We are glad to hear that, by an order from the Privy Council, Dr. Smith has been deputed to make inquiries respecting the health of this valuable body of workmen, who have for long suffered much beyond the average amount of ill health, and a far too large death-rate. We have at several times directed attention to this very important subject, and expressed a strong conviction that it is in a great measure owing to the overcrowded and badly ventilated apartments in which many of the compositors work, that the excessive death-rate from fever, cholera, consumption, and so on, arises. We could, even now, direct attention to printing-offices in which there are neglected and offensive closets, and such other unsanitary arrangements, that to work under their influence and enjoy good health is next to an impossibility. Besides this, in the consideration of this question, there are other matters to be thought of, such as the sedentary nature of the employment. When Benjamin Franklin worked as a journeyman in the printing-office now occupied by Messrs. Cox & Wyman, he found the labour at the case affected his health, and exchanged it for work at the press. We do not, however, think that there is so much evil in the peculiar position in which compositors have to stand as in the long continued hours of work; and in connexion with newspaper printing, the unnatural, but necessary plan of turning night into day. Careful inquiry would show that the number of deaths in the 1,000 amongst those who work at night is far greater than it is amongst those who labour by day. The very circumstance of being obliged to labour by night instead of day must, to a certain extent, affect health; but the mischief is added to by the closing of windows and doors at night, and thus, in the absence of other means of ventilation, allowing the premises to become filled with vitiated and unwholesome air. No correct idea of the poisonous atmosphere of these places can be formed without a visit at night, when the compositors are in full work and the numerous gaslights are burning. The exposure to night air after leaving these unwholesome and overheated quarters is also injurious; or if the windows be opened deadly draughts enter. During the last few years new printing-offices have been erected upon better plans than the old ones, and various improvements made; and we have heard of instances of the formation, by those who work in the large printing-offices, of clubs, for the practice of cricket and boating. By some of the men engaged in the Queen's printing-office the latter exercise is much and successfully practised, and the plan is well worthy of being more generally followed. As a rule, however, but few printers have time for out-door exercise. Even the Saturday half-holiday is denied them, with one or two creditable exceptions; and, accordingly, these hothouse plants are cut off prematurely by the least blight.

It is not, moreover, the printers alone who suffer, but, as we have before observed, editors, sub-editors, and readers, are often even worse circumstanced, being pent up for hours together, in close boxes, some of which are not very much larger than a full-sized coffin. We all know that the health of newspaper editors suffers as much by the exposure to bad air in the places in which they are for many hours engaged, as by the wear and tear caused to the constitution by the anxiety and worry of their pursuits In any inquiry which is made respecting the health of printers, the condition of their dwellings should not be overlooked; for, in order to be near to their work, they often live with their families in close and unwholesome neighbourhoods, where there is a cause of disease; nor should the inquiry be confined to the Metropolis; for, in the provincial towns there will be found printing-offices which are in a shocking condition, and where the dirt and unsanitary neglects are abominable.

PROPOSED REGENT-STREET AND BOND-STREET ARCADE.

At the usual meeting of the Metropolitan Board of Works on the 12th inst., a report was submitted from the streets committee, which stated that the committee had considered a communication from the Office of Woods and Forests, and several memorials, on the above subject, and had arrived at the following conclusion:—"That in the opinion of the committee the erection of the proposed arcade between Regent-street and Bond-street, as shown upon the plan produced to the committee, would be a public improvement."

Mr. Phillips, in moving the adoption of the report, said,—Taking the whole question into consideration from every point of view, and looking at the increased communication the arcade would give, he considered that it would prove to be a public improvement. There could be no doubt that the removal of a certain class of buildings, by increasing the communication, would be an improvement, and confer a benefit on the neighbourhood.

Mr. D'Iffanger seconded the motion. He was of opinion that the arcade would be a great public improvement. With respect to the objections which had been urged against it, he could understand the opposition of the tradesmen, as it would open other shops; and in reference to the objection that it would be frequented by persons of immoral character, they all knew what the streets of London were, and particularly Regent-street. He did not believe that any im-

proper characters would be admitted, as it would be the duty of the proprietors to keep them out. He had frequently been in the Burlington-arcade, and had never seen anything dreadful there, but he could not say the same of Ratcliff-highway.

Other members having supported the proposition, an amendment to the contrary was proposed; but ultimately the report of the committee, approving of the arcade, was carried, with two dissentients, and ordered to be forwarded to the Office of Woods and Forests.

For ourselves, we may say we do not see the force of any of the objections that have been raised to the proposition. To form a handsome thoroughfare connecting Bond-street and Regent-street, in the place of some property at present not of first-rate description, would surely be a considerable improvement. It would commence in Bond-street, as we understand, between Grafton-street and Barton-street, and open into Regent-street, a little to the south of Conduit-street. Above the shops and their apartments it is proposed to form two extensive galleries for the exhibition of works of fine art. The architect is Mr. C. B. Richards.

THE ARCHITECTURAL EXHIBITION.

WE wish to remind our readers that drawings and other works for exhibition must be sent to Conduit-street by Friday, the 4th of March next.

The committee's last report shows, we are sorry to see, an addition to last year's deficit in the cash account. "The receipts from admissions and other sources were above the average," the report says: "yet the expenses more than counterbalanced them: this arose in great measure from the heavy expense attending the cartoons from Belgium which were exhibited, from a falling off in the annual subscriptions, and also by a loss of rent in consequence of excluding all materials from the great gallery." It is to be hoped that this deficiency will be made up by the proceeds of the forthcoming exhibition.

According to the balance-sheet, the receipts, including dividends on ten shares in the Architectural Union Company, and annual subscriptions and donations, were 444*l.*, while the payments were 486*l.* 12s. 1d., leaving due to honorary secretaries 42*l.* 12s. 1d., besides some 20*l.* unpaid, for printing. We shall hope to see everything set straight by the coming exhibition.

THE LEEDS SCHOOL OF ART.

THE annual meeting of this school has been recently held, in conjunction with the Mechanics' Institution of the town. The report stated that, during the past year, the school had been prosperous in every department; and, in spite of difficulties through want of room for the accommodation of advanced students, the number of pupils in the higher branches were steadily increasing. In the three departments of the school's work, viz., parochial school teaching, the teaching of middle-class schools, and of evening classes for artisans in schools of art and mechanics' institutions, the number of pupils had increased considerably, until the aggregate number of pupils exceeded those of any other provincial school of art. In parochial schools, 5,001 children had been taught, either by the schoolmasters themselves, under Mr. Walter Smith, the head master's superintendence, or by the art teachers of the school of art: 587 pupils of middle-class schools and colleges were instructed, and 348 students had attended the evening classes, during the past year, 1863; making a total of 5,936 pupils taught through the agency of the school. The report also stated that forty-one medals had been awarded by the Government inspector to the Leeds school and two branches which were established immediately preceding the examination of the school; twenty-nine medals being awarded to the central school, and six to each branch class. 570 pupils had passed successfully at the examination of the Science and Art Department: ten students had qualified themselves for free studentships, and five had renewed their free studentships: fifteen had passed the Society of Arts' examination freehand drawing, and taken certificates. This statement, the committee believed, would show that the Leeds School of Art, in the extent and success of its operations, was second to no school in the kingdom. The committee contemplate the immediate commencement of the new School of Art and Mechanics' Institute, to which the Government had made the maximum grant of 500*l.*, subject to certain alterations in the plans, which would be made by the architect. The balance-sheet showed a deficiency of 78*l.*, consequent on the alteration of premises for the enlargement of the present school and the purchase of fittings, which would, however, form part of the furniture of the new school. Upwards of 30*l.* had been distributed in prizes to the students, and the annual subscriptions had increased from 35*l.* to beyond 70*l.* The school altogether was in a most prosperous condition.

ENGLISH AND FRENCH SCHOOLS OF ART.

A SHORT time ago it was announced that several of H.M. inspectors of art schools, and the head-masters of South Kensington, Birmingham, Manchester, Leeds, and Macclesfield schools of art, had been sent by the Science and Art Department to examine the drawings and models of pupils in French schools of design, exhibited in the Palais de l'Industrie, Paris. The gentlemen sent were required to furnish reports on the works, and to compare the French with the English methods of art instruction. It will be a matter of some interest, in these days of agitation on the application of a new code to art schools, to know the opinion of the reporters on the relative position of English and French art education; and we hope that the public will be allowed to read the verdict of experienced men on this point. This will probably be given in the shape of an appendix to the next annual report or blue-book of the Art Department, and must materially strengthen or weaken the case of the Department, in answer to the numerous attacks upon its operations which have been made in various quarters. We look for the appearance of the reports with much interest.

MONUMENTAL BRASSES.

A LECTURE on this subject, as illustrative of early English costume, was recently delivered in the national schoolroom, Moulsham, by the Rev. G. W. Phillips, curate of Writtle. The Rev. A. W. Mason took the chair, and there was a respectable audience.

The rev. lecturer commenced by observing that there was no branch of archæology more interesting to the student than the investigation of the sepulchral monuments of past ages, whether viewed as evidence of costume, or as affording a glance at the arts and customs of former times. He then proceeded to divide monumental effigies into three classes—1stly, those sculptured from stone, or wood, or metal; 2ndly, figures painted on glass or wooden tablets; and, 3rdly, those engraved on flat pieces of metal, and inlaid in stone slabs, termed monumental brasses. Passing over the two first, he confined himself to the last; and, after a few remarks on the character and value of these memorials, some of which for nearly six centuries had preserved their original accuracy of outline and shading, he said the figures represented comprised an almost uninterrupted series of figures of bodies, men in armour, and civilians from the reign of Edward II. to the Reformation. The brasses of ecclesiastics which still exist gave examples of every variety of the habits of the hierarchy down to the reign of Charles I. This was illustrated by a variety of rubbings of brasses from churches in Kent, Sussex, Cornwall, London, and Essex, showing, particularly in the first instance, the costume of ladies in the fourteenth century, as seen in the effigies of the ladies Cobham. The character of armour and its changes, and the habits of ecclesiastics and civilians, were traced and described from the same sources, and are reported at some length in the *Chelmsford Chronicle*. The lecturer then proceeded to trace downwards the various further changes in dress and the armour of the knights to the sixteenth century. In conclusion, he said—"Although the practical study of monumental art is the most luminous and unerring of the illustrations of costumes, we must not be unmindful of those more elevated and awe-inspiring associations which, in every rightly constituted mind, must, I think, be inseparably connected with thoughtful reflections upon the memorials of the dead. The roofs are hallowed which shelter those memorials, and the ground on which we tread when in search for them is holy ground. Let nothing tempt us for a moment to forget the reverence due to scenes and localities such as these." The lecture was listened to with much attention and interest.

THE WATER OF LEITH NUISANCE.

A BILL has been introduced into the House of Commons this Session for the purpose of purifying the Water of Leith, entitled "The Edinburgh and Leith Sewerage Bill." It will, of course, meet with opposition, personal breeches-pocket interests being involved. At a local meeting on the subject, Mr. C. Cowans, who was in the chair, without opposing the Bill, urged the necessity for delay. Mr. A. Fyfe moved,—

"That this meeting is of opinion that the necessity for the Bill for the purification of the Water of Leith should, before it is proceeded with, be investigated; and that the estimates of the expense should be carefully examined and explained to the parties for whose benefit it is said to be intended, and on whom the burden is to be placed."

Dr. Alexander Wood showed at some length the evils of the present state of the water, combated some of the unsound statements made by Professor Christison at the late meeting of the Social Science Association in Edinburgh, and moved an amendment. He said that the Water of Leith had for a long time been a monster nuisance in Edinburgh; that memorials had been sent to the town council by hundreds of residenters against the nuisance, and its evil effects on health; and that this had been testified to by the doctors appointed by the parochial board to attend on the poor in these districts.

Ultimately, however, Mr. Fyfe's motion was carried. One of his supporters, Mr. Henry Bowie, said it would be found, after this Water of Leith Assessment was imposed, that there would be an assessment for a free library, and another for a town hall. The only way for them to prevent this would be to protest against all at once.

Oh, wise Mr. Bowie! He is obviously the man for the ratepayers. Who wants health, increase of knowledge and innocent pleasure, or a decent building for the proper discharge of municipal duties? Not Mr. Henry Bowie, evidently. Don't do one good thing for fear you should then be led to attempt another. That's the way to elevate the people!

HANDBOOK TO THE CATHEDRALS OF ENGLAND.

A FOURTH volume of this work is now issued, and applies to the Western division. It describes five cathedrals, those of Bristol, Gloucester, Hereford, Worcester, and Lichfield,* all of which have undergone extensive restoration and repair during the last few years, under the direction of Mr. Pope, Mr. Waller, Mr. Perkins, and Mr. Scott. The volume contains 325 pages of letterpress, and 51 engravings. Of the latter we give some examples, being kindly enabled to transfer to our pages three, illustrating Bristol Cathedral and precincts,—namely, a general view of the building from College-green;† the Choir, looking east; and the south side of the Gateway. Up to 1542 the cathedral had been the church of an Augustinian monastery, founded by Robert Fitzhardinge in 1142. Additions were made in the Early English period, and sometime between 1306 and 1332 the Norman choir gave place to that which now exists. The central tower is called the work of Abbot Newland, between 1481 and 1515. Soon after the last date the nave was taken down, with a view to rebuilding, but this was never done: the cathedral terminates with the transept, shown in the view.

The great east window seen in the choir contains some fourteenth-century glass, of good character.

"The window represents a stem of Jesse. The lower lights contain figures of the Virgin and Infant Jesus, as well as prophets and kings; in several of which figures portions of the original glazing may be observed. Each figure is enclosed in an oval panel, formed by the ramifications of a vine-branch. Some of the foliated scrolls in the heads of the lower lights (which are principally original) are remarkably graceful in design. The ancient ruby ground of the scrolls is enriched by the unusual addition of a diaper pattern. . . . In the three upright lights above are the crucified Saviour, the blessed Virgin, and St. John the Evangelist. Original parts of all these figures remain.

In the upper tracery-lights is a display of heraldry, of singular excellence, by the aid of which we may perhaps venture to refer the date of the glass to the latter part of the reign of Edward II. The absence of Gaveston's arms from the window proves, I think, conclusively that the glass was put up after the murder of that favourite in 1312; and the presence of the

* Handbook to the Cathedrals of England. Western division. With illustrations. London: John Murray. Oxford: J. H. & J. Parker. 1864.

† See p. 129, *ante*.

BRISTOL CATHEDRAL.



CHOIR, LOOKING EAST.



SOUTH SIDE OF GATEWAY, COLLEGE GREEN.

Earl of Hereford's arms appears to afford some evidence that the glass was put up before 1322, in which year Humphry de Bohun, Earl of Hereford, was slain in open rebellion against his sovereign. . . . . The royal arms of England—the three lions on a red field—of course have allusion to the sovereign; and the *fleur-de-lis* border to some of the lights may be well supposed to have reference to the French ancestry of Queen Isabella."*

The four side windows of the chancel are filled with very rich and interesting ancient glass, of the same date and character as that in the east window. The glazing of these windows, until the late restorations, was in much confusion. It has accordingly been re-arranged, and missing portions are supplied. The subjects vary, and are not to be ascertained with certainty. The first window from the east, on the north side, contains merchants' marks, and was therefore in all probability the gift of a Bristol merchant. All the windows (including the eastern) were restored and rearranged under the superintendence of Messrs. Bell, of Bristol.

The reredos below the east window, which has been gilt and coloured, is partly of modern construction, and dates from 1839, when a frightful Corinthian structure of wood was removed. The two arched recesses at the sides are, however, ancient. Above these recesses (the backs of which have been covered with a rich diaper) are corbel-heads and shields of arms, probably those of the first and second Edward, Berkeley, and De Clare. The modern altar, a table of carved wood, stands entirely unvested, in front of the central recess.

The Chapter House is a well-known fine example of Transition Norman work, dating probably from the middle of the twelfth century. The gateway on the Green may be attributed to the same date; the upper part belonging to the Perpendicular period. The mouldings and enrichments of the lower portion are in a remarkably sound state; and this, coupled with some peculiarities in the design, has led to the supposition that the Norman work was rebuilt at the time the Perpendicular work was added. Such a proceeding would have been so contrary to the usual course at that time, that it is not easy to accept the idea.

The central tower of the cathedral, and other parts externally, are understood to be in a very bad state, and to require the expenditure of a large sum of money.

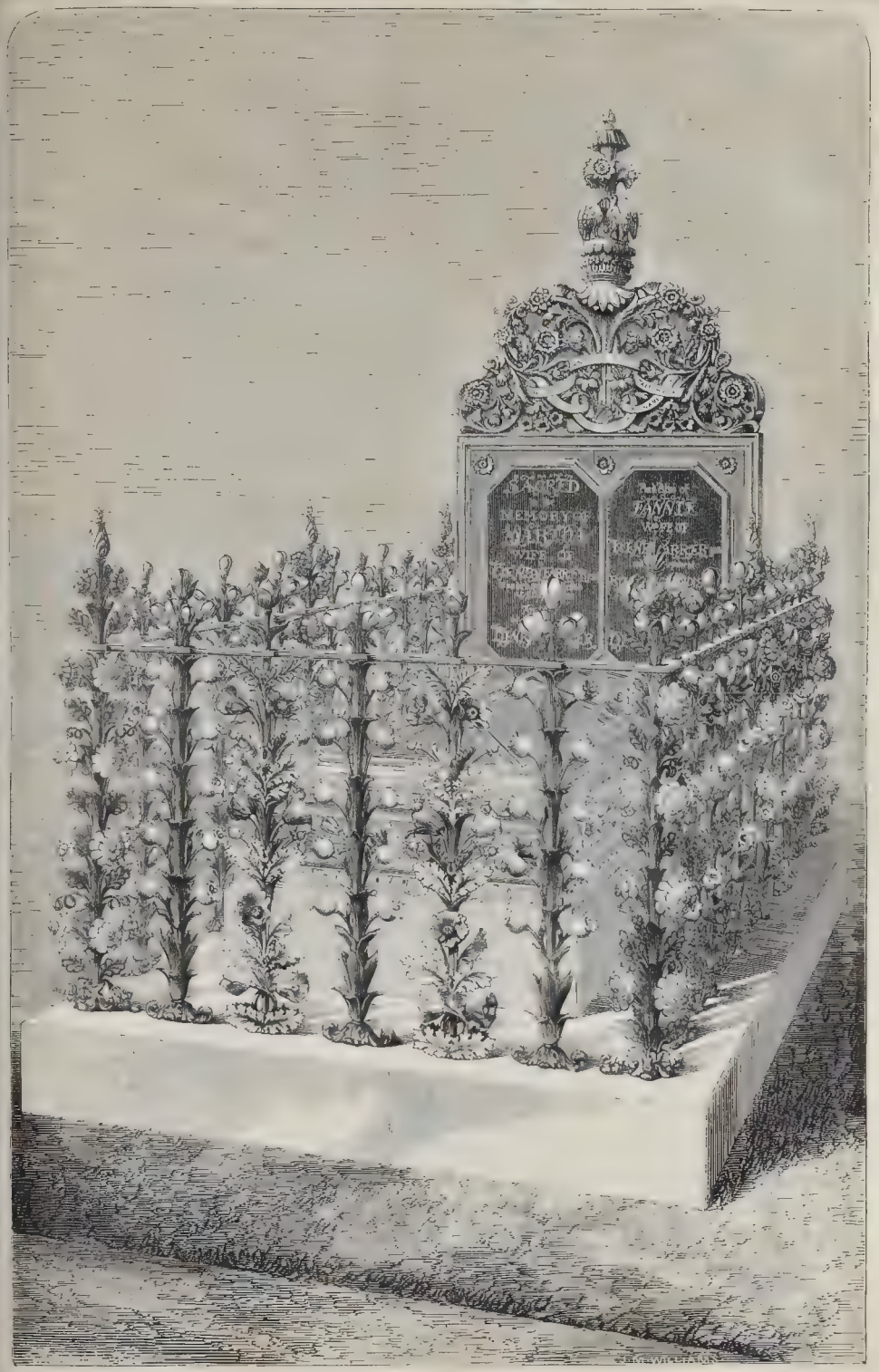
The author of the Handbook is Mr. Richard John King, who exhibits the merits of brevity and clearness. The illustrations are executed by Mr. O. Jewitt. We can cordially recommend the work to our readers.

TOMB OF THE LATE MRS. FARRER.

THE tomb of the late Mrs. Farrer, of which we give an illustration, is about to be placed in the cemetery at Finchley. It is amongst the most elaborate modern specimens of its class. Mr. Henry Shaw, by whom it was designed, has endeavoured to convey, in a conventional form, the tastes of the deceased lady, who was passionately fond of flowers; and he has, in the richly-wrought iron railing, brought to his aid the lily and the poppy,—emblems of innocence and sleep. The whole of the railing is brightly coloured with reference to nature, and gilt.

The tomb itself is of Portland stone, raised, and coped at the top, with mouldings in the form of a Latin cross, the four outer points of which are enriched with cabuchons of crimson china, while the intersection of the arms of the cross is marked by one in blue. The panels formed by the cross are filled with grey serpentine marble. The mouldings on the base of the tomb are carved: one is enriched with lilies interlaced with true lovers' knots, exceedingly well chiselled. The head-stone bears inscriptions in memory of Mrs. Farrer and her daughter-in-law, in oblong octagonal panels, surmounted by sculptured scroll-work, composed of flowers, and a label, on which is inscribed from the funeral service, "The Lord giveth, and the Lord taketh away, blessed be the name of the Lord." Within the label is a butterfly, the emblem of eternity. Above all rises a cluster of foliage, under which are three pairs of turtle-doves, emblems of love. The stonework has been well executed by Mr. J. Perrior, of New-road, Hammersmith, and the wrought-iron work by Messrs. Hart & Son, of Cockspur-street. At present the tomb may be seen at Mr. Perrior's.

* Winston.



TOMB OF THE LATE MRS. FARRER.—DESIGNED BY MR. HENRY SHAW, F.S.A.

THE METROPOLITAN RAILWAY ORGANIZATION.

THE House of Lords have agreed to meet the views of the House of Commons, with respect to a joint committee of five from each House, to consider as to the various schemes for intersecting the metropolis with railways. In the course of the discussion on the subject in the Lords, the Earl of Derby said he would take that opportunity of presenting two petitions on this subject, one from the Royal Institute of British Architects, the other from the Architectural Association, in which they represented the great inconvenience that would arise from a conflict of railway interests. They also observed, that no adequate street thoroughfares had been proposed, and expressed their opinion that the question of street communication should be first and forthwith considered and determined, and that lines of streets, more especially with reference to railway termini, should be laid out. They suggested that all railway projects should be postponed until the question of great leading thoroughfares should have been considered; and they prayed that a committee or a commission should be appointed on the subject. His lordship also remarked, that he thought that the Government ought to have taken a more active part in the matter, and to have laid out what appeared to them to be the best general scheme for railway traffic through the metropolis, without reference to this or that company; considering only the convenience of the public. He was of opinion that some such scheme should be provided; and that, imitating the French system, there should be a concession from the Government to carry on the scheme proposed. This, no doubt, would be a great innovation upon our present practice; and with respect to other parts of the country he would not have suggested it; but as to the metropolis, he thought it would be better that one governing mind should be applied to the question.

A supplementary report of the Board of Trade on the metropolitan railway schemes, more of an engineering character than the previous report, has been made by Colonel Yolland. It is much in harmony with the various previous reports already referred to. It states,—

"That the first impression created by an examination of the various plans is one almost of perplexity, having reference to the extreme difficulty of offering any opinion as to the manner in which such a number of Bills, involving so large an amount of capital (33,000,000*l.*, proposed to be raised by shares, in addition to upwards of 10,000,000*l.* by loan), and limited to so small an area as the Metropolitan Railway district, with lines interlaced in an extraordinary manner, can be best examined and dealt with. The most important schemes are for the proposed construction of outer and inner circles of railways, or portions of them; for the connexion of the northern and southern railways, both on the eastern and western sides of the metropolis; and for the construction of other lines penetrating into London either for the purpose of connecting existing railway termini or for establishing more appropriate terminal stations for some of the main lines. A glance at the map of the proposed schemes for the Metropolitan Railway district will suffice to make it apparent that the greater portion of these schemes are prepared for the carriage of traffic in an east and west direction,—in the line, in fact, of the greatest amount of traffic in the metropolis."

This purpose, the report points out, is already to a great extent effected.

Theoretically, the most perfect system of railway communication for the metropolis, continues the report, would consist in the establishment of radiating main lines directed to one focus or centre; but the impracticability and inexpediency of such a system of lines has long been apparent, and the great companies approaching London in various directions have for many reasons established their terminal stations outside the most closely-peopled parts of the metropolis, and there they should be forced to remain, or at least not be allowed to penetrate within the inner circle.

The report enters into a lengthened examination of the various schemes, and concludes with an elaborate description of their engineering features, the lengths, gradients, curves, and estimated cost; from which it appears that the aggregate length of the thirty-one railway schemes for accommodating the metropolis is about 170 miles.

A pamphlet titled "Reasons for the Immediate Completion of the East London Railway" (Thames Tunnel line) has been issued. This is one of the projects likely to be authorized: at least it proposes to form that junction of the north-eastern and south-eastern lines through the Thames Tunnel which is spoken favourably of in the different reports already made on the projected schemes. The estimated total cost of purchases and works is 1,750,000*l.* The company propose to pay into the Treasury 100,000*l.* in commutation of the Government loan on the Thames Tunnel. An instructive map is published with the pamphlet, which clearly shows the great importance of this link in the ring railway systems of the metropolis, equivalent at the East End to the West London railway at the West End, once called Punch's Railway, but now seen to occupy a highly important vantage-ground as the western link of that inner circle which comprises the Metropolitan Underground to Finsbury, where it would meet the East London, which also joins the Great Eastern, the North of London, the Blackwall, and other lines on the north side of the river; and on the south unites with the London and Brighton, the South London, the South-Eastern, and other lines. Thus, the proposed line from Charing-cross northwards, of which we have already spoken, would, in fact, be an intermediate thread in the network from east to west of the metropolis.

A report on the plans of the various schemes affecting the parish of Kensington, by Mr. James Broadbridge, surveyor, has been printed by order of the vestry of that parish. A formidable number of projected lines are shown to traverse even this one parish, which would seemingly be cut up entirely, were they all to be carried out.

A correspondent of the *Morning Star* proposes that, in those bridges or viaducts which may be allowed to be thrown across metropolitan streets, the piers or abutments, instead of being built so as to be in a line with the fronts of the shops, be set back a sufficient distance to allow of the shops on either side being continued under the bridges. This could be done at a comparatively small additional cost, which would be amply repaid by the value of the site (so reclaimed as it were) when let for business purposes. A communication might also be made between these shops and the adjoining arches of the viaducts at back, which would then afford accommodation amply sufficient for any ordinary purposes.

Whatever lines may be allowed to intersect our metropolitan streets, let us hope that more care than heretofore will be taken to make the viaducts and bridges sightly at least, if not even ornamental in design. There is no absolute necessity that they should in every case be a mere disfigurement, but, in many instances, quite the contrary. The opportunities for a little display are numerous. For instance, on the completed branch of the South-Eastern and Charing-cross Railway, although the line is not more than two miles in length, there are no less than fourteen iron bridges across streets, two iron viaducts on columns, and the immense bridge across the Thames at Hungerford, besides the bridge connected with this line which will take the traffic to Cannon-street, and which has but just been commenced.

At a recent meeting of owners and occupiers in the ward of Billingsgate, it was mentioned that the Thames Tunnel Railway and the Metropolitan District Railway, of which notices have been given to Parliament, would, if allowed to pass, annihilate nearly the whole property in the ward, and that the trade of the City would be greatly diminished in consequence.

There can be no doubt that the metropolitan railways will produce vast changes. Towns and districts have often been injured, but the benefit to the public has, in general, more than counterbalanced such injury; and so it will be in the metropolis, if due care be used: though some will suffer, the multitude will be benefited.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT a meeting on February 10th, Mr. Nathaniel Gould, V.P., who was in the Chair, called attention to the practice of navvies offering coins for sale as having just been found in excavations, and produced some examples lately obtained by him from a man at Dowgate-hill. Amongst them are two Greek coins, one of Antiochus XII., the other of Syracuse. The remainder were Roman,—a first brass of Aulus Vitellius (an Italian cast of the sixteenth century); a second brass of Caracalla, struck for Perinthus in Thrace, the reverse presenting Hercules and the Mœnalian stag; a first brass of Severus Alexander; and a small Byzantine coin of the tenth century.

Mr. Gunston exhibited several objects lately discovered on the site of the Steelyard, a small steel slider in the shape of a shield,—charged with a doe's head on a wreath, of the sixteenth century; a brass seal, with device as found on merchants' signets of the fifteenth century; and other objects.

Mr. Cuming and Mr. Gunston also produced some examples of Perpetual Almanacs, one of which was of lead, found in 1863 in the Fleet river, and was of the middle of the seventeenth century.

The Rev. Mr. Kell gave a description of the finding of the coffin and glass at Barton, near Bishopstoke station, Hants, detailed by Mr. Baigent at the previous meeting. He also produced a portion of the leaden coffin in a much oxidized state, and a portion of the glass. The subject gave rise to a long discussion, and Mr. T. Wright expressed his opinion that the glass found at Bishopstoke belonged to the Late Roman period, and was probably imported from the Continent. The great glass-works of the Late Roman period appear to have been on the banks of the Rhine and in the north of Gaul, and they seem to have been continued into the Frankish period. In answer to an inquiry made by Mr. Pettigrew as to the discovery of a leaden coffin in Saxon graves, Mr. Wright thought one had been found at Osengall, in the Isle of Thanet. It was regarded as an interment of a very late date, and as a proof of the continued existence in this island of a mixture of Saxon and Roman population. The Rev. Mr. Kell exhibited a light-coloured celt, lately found at Botley, Hants, not unlike in colour (probably derived from the gravelly soil) to specimens from the same county, preserved in the British Museum. Various other exhibitions were made and discussed.

THE NEW PATTERNS IN WALL PAPERS.

SIR,—No one can pass up Regent-street without observing the new paper and chintz patterns recently imported from France: they are founded on Japanese principles. In colour they are very inferior to Japanese work, being of the usual foggy grey French colouring. The old English chintzes reprinted by Clarkson are very superior in colour, as also the wall-papers by Arthur. But a great principle is gained. We were in danger of being wholly eaten up with geometrical design. Diapers are very good in their place. But geometrical flowers, plants, and leaves are to my mind abortions in art: a geometrical flower even in idea is monstrous.

These Japanese patterns are the most Gothic things we have had. The birds and the trees are quite Gothic in feeling; really natural and good. The reprints of the old English blocks are quite pictures, admirable in colour.

A. M. W. X.

DESTRUCTION OF "INSECTS."

REFERRING to an inquiry of a correspondent on this subject, I am happy to be able to say that I have considerably abated the nuisance arising from emmets in my house, and think that probably my experience may be useful to him.

I consulted a friend, a member of the Entomological Society, but he was unable to give me any assistance beyond the recommendation to pour boiling water upon them: this was impracticable, as they issued from minute cracks which no water could reach, without considering the inconvenience of such a thing.

I was unable to procure the powders which you named, but used a powder called "Dumont's Insect Destroyer," contained in hollow india-rubber balls, having a small wooden nozzle-piece, by which one can puff the powder about.*

In one place where I laid it,—the surbase moulding in a dining-room,—the insects were killed a hundred at a time. I pushed the powder into the crevices from which they issued, and after letting the powder lie about for nearly six weeks, I am now able to remove it, and for three weeks have seen no trace of an emmet in my dining-room.

They are not altogether removed from the kitchen; but even there, I understand, they are seldom seen.

In reference to their origin, I am told that they are in the soil, and my entomological friend told me they were introduced with the wood the house was built with; but I think both improbable.

My predecessor occupied the house twenty-

* Dumont's puff ball powder is just one of those pyrethral powders of which we recommended a trial. They are said to be safe to use for all but insects.—ED.

four years, and they only appeared about five years ago. My landlady herself occupied it several years previously, when, no doubt, if these had been the causes, they would have before appeared. My own idea is, that they have been introduced in flower-pots or in some other such way. Y.

DESTRUCTION OF LEAD.

In 1861, I had a 300-gallon lead cistern put up for house-supply. It was specified to be 5lb. lead for the sides, and 6lb. for the bottom.

It had been in use only two years when it began to leak. On examination the bottom was found to be eaten in circular depressions spotted irregularly over the surface, some parts being almost free from, others thick with, spots. There was a little white sediment dotted about, but not much. The sides were free from either sediment or spots. Some of these depressions must have permeated the lead and caused the leak.

Will some of your correspondents kindly tell me what the cause and remedy are?

1. The locality is high ground, on the Hastings sandstone. There are in the valleys mild chalybeate springs; but the water in question is perfectly pure to the taste. It does not "fur the kettles." Can the lead be in fault in point of quality or thickness? It seems a marvellously short time, even for the most active of waters, to eat through it.

2. What am I to do? Must I make up my mind to rebottom the cistern every two years? Is there nothing I can coat it with? Sulphur would, I am afraid, be decomposed if there be iron in the water. Or must I have recourse to an iron or slate cistern? S.

*** While a remedy is being considered, give up the use of the water from the cistern.

SUBURBAN NUISANCES.

We have succeeded, to a considerable extent, in lessening the nuisance connected with huge depositaries of dust and other refuse in the immediate neighbourhood of large populations. Still, the spots where the dust is sorted should be carefully watched by the parochial officers of health. In parts of the metropolitan suburbs the danger arising from the mismanagement of these places is considerable; and, from a case which has been recently brought before the public notice, some idea may be formed of the nature of these heaps, of which we have given several illustrations. At the Hammersmith police-office, Mr. Laws, the occupier of land at Acton, answered to a summons of the Acton Nuisances Removal Committee, by whom the proceedings had been very properly taken. From the evidence it appeared that the defendant had deposited a number of the carcasses of pigs (which had been brought from the Potteries a spot where these animals should not be allowed to be kept, except at the legal distance from any dwelling), together with shell-fish, and offal, in a heap on a field at a short distance from the public footway and houses. The stench from the place was insufferable, and caused nausea to persons passing, as well as low-fever to the inhabitants. Mr. Burge, the medical officer of health for the Fulham district, who had been called in by the committee to inspect the heap, gave evidence as to its being most injurious to health; and said he would recommend that it should be covered with a layer of earth and one of lime. A person living near the spot complained of the nuisance, and said that his wife was continually suffering from diarrhœa. Another inhabitant complained of the nuisance, and said his family had been suffering from low-fever. He also said that the bodies of four bloodhounds were lying in the path close to the heap, and the smell was so bad that he was obliged to remove.

The defendant said that it was a common manure-heap, and the reason it had not been deposited further into the field was that the road was bad. As soon as he had received notice that it was a nuisance, he had it covered over. The magistrate thought that the best course would be to allow the heap to remain, and cover it over with lime: there would, however, be danger in re-opening such a collection at some future time. The defendant said that he was ready to do what was required, for he was aware that it was a nuisance; but if it were not for such persons as he and others, who carried the dead pigs away from the Potteries, he did not know what the parties could do with them. The magistrate said that the bodies of diseased animals should be buried, although he was aware that they were of more use as manure; but the defendant could not be allowed to perpetuate a nuisance: he, therefore, ordered the payment of 40s. and costs.

There can be no doubt that these foul collections are often the cause of sudden outbreaks of fever and other pestilential complaints, which, in some instances, cannot readily be accounted for. It is to be hoped that, before the warm season approaches, the suburban officers of health will make vigilant inspection, and prevent such accumulations as this to which notice has been directed.

EGRESS FROM THEATRES ON ALARM OF FIRE.

The unparalleled calamity in Chili has excited renewed attention to the question of exits from theatres, churches, and other public buildings in cases, of panic, whether from fire or from any other cause. And considering that there is another source of danger added to those which have heretofore prevailed, as was proved at St. Iago, where the swelling skirts and crinolines of the women warped the whole mass into an inextricable network of mutual entanglement, the question is now a more urgent one than ever. The subject has just been brought under notice in the House of Commons, on a question by Sir W. Fraser put to the Home Secretary, whether licences would be granted by the Lord Chamberlain to theatres in which no adequate provision was made for escape in case of fire. There were metropolitan theatres, he said (rather exaggeratively, perhaps), in which there was not a chance of half-a-dozen people escaping, in case they took fire. In reply, Sir George Grey said he considered the subject one of great importance, and affecting all buildings in which great multitudes of people assembled. The practice of the Lord Chamberlain was to make the licences annual, so that he had power periodically to withhold the licence in case sufficient precautions to afford escape for the public in case of fire were not adopted. He believed that the means of egress were at present much greater in theatres than in any other public buildings to which people resorted in large numbers. The doors were all swinging doors, opening each way, and thus the great danger arising from doors opening inwards only was avoided. Some difficulty arose from the narrow frontage of many of the old theatres; but with regard to new theatres, the Lord Chamberlain required, before the licence was granted, that plans should be submitted to him for his approval, and he invariably refused a licence in any case in which he did not think the means of egress were sufficient. The attention of the Lord Chamberlain continued to be directed to that important subject, and he (Sir Geo. Grey) hoped that ultimately adequate means would be provided for the safety of the public in all buildings under the superintendence of the Lord Chamberlain.

The provinces are moving in this generally interesting question, as at Birmingham. The editor of *Aris's Gazette*, in reviewing the theatres and other places of public assembly there, points out various serious defects which ought to be remedied.

In respect to accidents from fire in theatres, Sir George Grey, in replying to a question on the subject by Mr. W. Ewart, said that the Lord Chamberlain considered it inexpedient to attempt to enforce any particular measures by Act of Parliament.

CHURCH-BUILDING NEWS.

Spalding (*Lincolnshire*).—The committee have published a list of subscribers to the Church Building and Restoration Fund. The amount already subscribed, from eighty-four subscribers, is 8,475*l.* 4*s.* The amount required is 10,000*l.*,—5,000*l.* for restoring and repairing the church, and 5,000*l.* for building a chapel of case.

Ketton (*Rutland*).—The chancel of Ketton church has been restored, and re-opened. The architect employed was Mr. Jackson, of London. The Rev. F. H. Sutton has presented an east window of triple form. There are three lights to the window, and they contain nine subjects, illustrating the Passion, Death, Resurrection, and Ascension, of our Saviour. Mr. Sutton designed the window, and executed the painting on the glass. There is also a vesica of stained glass, containing the figure of the Saviour in glory. There are other improvements, but the work of restoration is scarcely complete. New tiles are required for the floor, and an unsightly flaw over the chancel arch needs attention. A sacristy or vestry is also wanting. The stonework has been presented by Messrs. Swingler & Percival, and the masonry was executed by Messrs. Halliday & Cave, of Greetham.

Reading.—The first stone of the new church of St. Stephen has been laid. The style is Geometrical, and the edifice is to consist of a large chancel, arranged for a choir, with north chancel aisle and vestry, nave and north aisle, and north porch. A bell gable at the west end, to carry two bells, is designed for present use; but space is left at the north-west corner of the church for a future bell tower. There is likewise room left for the extension of the church itself on the south side. The building is to be of brick, with moulded arches and labels generally, the windows being filled with tracery of Bath stone. The roof will be of deal, open framed, and covered with tiles; and the interior will be furnished with open benches, the whole being open and free to all comers. The brickwork will be somewhat relieved by bands of grey and pattern of buff bricks, chiefly in the upper part of the walls. The shafts of the nave arcade will be of Devon polished marble. The floor will be laid with paving tiles, and the floors of the seats with wood block. The present accommodation is for 400. The contract was taken at 1,600*l.*; but some further works in the better finishing of the structure have been since proposed, and it is hoped that further funds will still be forthcoming for specific purposes, such as pulpit, font, reredos carving and painting, and other decorative works, before the building is completed. The architect is Mr. William White. The builders are Messrs. Wheeler, of Reading. The sub-contractor for carpenter and joiner's work is Mr. Jas. Matthews, of Reading.

Sutton (*Surrey*).—The consecration of the new parish church of St. Nicholas, at Sutton, in Surrey, by the Bishop of Winchester, was celebrated on the 16th instant. The new structure has been erected by subscription upon the site of the old, which was a small dilapidated half-modern building. The work commenced as an enlargement, but, by the liberality of the inhabitants and others, this soon grew into an entirely new church. It consists of a shingle-spired western tower, opening by an arch into a nave with a quadruple-arcade on each side, and gabled aisles; a chancel with gabled aisles, the south side being double-arcaded on coupled Cornish marble columns; and porch on the south side, chiefly of oak on stone walls. The roofs are open timbered, and tiled. The walls are faced outside with split flints and Bath stone dressings, and plastered inside. The style is Gothic, of the thirteenth century transition type; the window tracery being simple, the east window large, and of five lights. The font is of Caen stone, and is square, with shafts at angles. The pulpit is circular, and of stone, with Devonshire marble shafts and large foliated cap, carrying the drum, on which are carved the evangelistic emblems. A marble shafted arcading and carved cornice run round the top. All the columns in the building have capitals carved with Early English foliage, executed, with the other carving, by Mr. L. Jaquet. The design and direction of the works were by Mr. Edwin Nash, of London, architect, who has introduced a somewhat novel method of gas-lighting by metal screens on each side of the chancel, and by rings of light above the capitals of the nave columns. Messrs. Peard & Jackson executed the metal work. The contractor for the building was Mr. Alfred Deards. The seating is for nearly 700, and the cost has been about 6,000*l.*

Higham (*Kent*).—The church of St. Mary is being restored by the executors of the late Mr. George Lake, who restored the south chancel window, and have inserted stained glass. The subject of this memorial is, "The Agony in the Garden." The vicar, the Rev. Joseph Hindle, has restored the east window, and filled the same with stained glass, to the memory of some deceased members of his family. Nine life-size figures occupy the three lights. The work of restoration having been thus set on foot, the parish have taken it up. The walls are being recased and buttresses re-built, the masonry of the last century demolished and replaced by work harmonizing with the original building: a porch and vestry of Mediæval design have been

added; a new altar and altar-rail, and pavement of Minton's encaustic tiles in the chancel and sanctuary. The architect's wife has worked and presented to the church an altar-cloth. Much has been done, but more remains to be done: the new tower and spire, for which drawings have been prepared, are yet to be built. The architect is Mr. Robert Speechley, of London, who has superintended the works.

Blandford-Forum (Dorset).—Blandford St. Mary Church, enlarged by the addition of a new transept and aisle, has been re-opened for Divine service. The new part of the church has been erected by the widow of the late Sir John Wyldbore Smith, bart., of the Down House, as a memorial of her husband. The work originally planned has led to various improvements in the rest of the structure. The gallery has been removed, and an arch in the tower has been thus brought to view, which had been before buried in plaster. The interior of the tower itself has been fitted with seats for the school-children, who are also to occupy a portion of the new aisle. All the new seatings are of oak. The work is in the Perpendicular style, to correspond with the chancel, with the exception only of the tower, which is the only portion of the old building retaining any architectural character at all. The latter has been repaired, by ribbing the ceiling with wood, retiling the roof, and replacing the east window by one filled with stained glass. This was supplied by Messrs. Heaton & Butler. In the centre light is a figure of the Good Shepherd folding a lamb in his arms: on the left is a representation of the Nativity; and on the right, our Saviour blessing little Children. In the quatrefoil light above there is an angel bearing a scroll. A new vestry has been added on the north side of the chancel.

Manningford Abbots (Wilts).—The little church of this parish having been almost entirely rebuilt has been re-opened for Divine service. Two years ago the rector rebuilt the chancel, and since then exerted himself to raise the necessary funds for the restoration of the whole fabric. In place of the old dilapidated building, a new church has been built on the old foundations, and consists of nave and chancel, with south porch. The bell gable at the west end is hung with two bells. The parts of the old church which remain are an Early entrance doorway and the chancel arch. In the chancel the ancient piscina is retained in its former position. The restoration has been carried out in the Early English style, from the plans and under the superintendence of Mr. S. B. Gabriel, of Bristol, architect.

Stafford.—A meeting of gentlemen interested in the proposed new church for Castle Town was recently held, when the incumbent of St. Paul's explained that they had about 400*l.* available for the erection of a church, and it was proposed that they should build a permanent chancel, to which a wooden church could be fixed, capable of holding 400 persons, and which might afterwards be replaced by a permanent nave, which, with side aisles, would accommodate 700 persons. To build the proposed temporary nave and permanent chancel 200*l.* more would be necessary. The meeting was adjourned.

DISSENTING CHURCH-BUILDING NEWS.

Stafford.—The new Wesleyan chapel here has been opened for divine service. The structure occupies the site of the old chapel. The new edifice is Romanesque in style, and provides nearly double the accommodation of the former one. It is 55 feet long and 45 feet wide. The plan consists of a nave and side aisles. There are three distinct entrances from the street; the central approach consisting of a covered arcade, and communicating with the two side or gallery entrances. The principal facade has a central gable, pierced with a large wheel window of stone, the aisles being of lower elevation. That next the minister's house abuts on a square tower or campanile, which projects from the main building. The tower is about 80 feet high, rising above the main gable or clerestory, and is crowned with a pyramidal roof and metal vane. The tower incloses a stone staircase, which affords access to the gallery; and on the opposite side of the arcade is a corresponding staircase, but of semicircular plan, the roof of which is the same height as that of the aisles. The roof of the main building is of a comparatively flat pitch, and is slated: that of the tower is of red and green slates, in checkered bands. The side windows are circular-headed, the voussoirs being of blue and cream coloured brick, the arch slightly widening from the spring to the apex. The clerestory, which affords the main source of light, is pierced with windows disposed in triplets. This portion of the edifice rests on a continuous bressummer, superimposed on light cast-iron pillars, relieved with large arches, these features being exposed to view from the interior, the bressummer being wrought and ornamentally moulded, and the arches having moulded labels. The exterior of the building is faced with red pressed bricks, relieved with blue and straw coloured bricks, and stone in string-courses, variegated bands, &c. The interior of the chapel is simple in character, the roof and galleries open timbered, with ceilings of plaster beneath the subordinate spars. The pulpit takes the form of a rostrum. The whole of the woodwork is stained and varnished. The iron columns are painted chocolate, the caps being gilt and relieved with other colours. The gas standards were supplied by Messrs. Thomason, of Birmingham. The building is heated with hot air, on Redfern's system. There is accommodation for 730 persons, including about 200 free sittings. The whole cost of the building, including fittings and fence, will be about 2,400*l.*, exclusive of land and the value of the old materials. The building was designed by Messrs. Hayley & Son, of Manchester, architects. Mr. William Moss, of Stafford, has completed the works.

Bradford.—The foundation-stone of a new Independent chapel has been laid in the Wakefield-road. The building will contain a chapel, capable of seating 500 adults, and school and class rooms for 340 to 400 children, with vestries and other apartments. The school-rooms will, for the present, be included within the chapel walls, and sufficient ground will be left for the erection of a new school building hereafter behind the chapel. The chapel is to be 45 feet wide, clear, and have side and end galleries, and will be equally complete in its limited size as when enlarged to accommodate 800 persons. Owing to the nature of the ground, the front entrances are designed as wings to the main building, so as to economise space within the chapel. The style of the building is Italian freely treated. The interior will possess features in keeping with the exterior, the constructional timbers, &c., being made to appear as parts of the design. The whole building will be warmed with hot water, and ventilated by an extraction shaft in connexion with internal flues in the roof. For the erection of the chapel and schools 2,100*l.* have been obtained in contributions, the expected cost being 2,600*l.*

Scarborough.—At a meeting of gentlemen from several towns in Yorkshire and Lancashire, Mr. Lockwood, of Bradford, submitted plans of a Gothic church for the Independents of this place, capable of holding 1,000 persons, or, with the addition of galleries, 1,200, the estimated cost of which, with the ground, is 9,000*l.* The site is on the south side of the town, near the Esplanade. A committee has been formed, and subscriptions were announced at the meeting.

SCHOOL-BUILDING NEWS.

Malvern.—A new company, under the title of "The Malvern College Building Company," has lately been formed, the object of which is to assist in completing the buildings required for the efficient working of the new college, and foremost among which are the boarding-houses for pupils, two of which, with residences for assistant masters attached thereto, are about to be built contiguous to the college ground, at the north-east corner. The two houses will be similar in construction. Externally the houses are to be built of Staffordshire red bricks, with ornamental bands of blue bricks. The window heads, sills, mullions, doors, parapets, &c., will be of Bath stone. The roofs have projecting gables and ornamental barge boards. The chimneys are to be executed in brick with ornamental caps. The style is Gothic, carried out very simply. These houses are to be completed by September, so as to be ready for the reception of pupils at the time the college is opened. The tender of Messrs. Warburton, Brothers, of Manchester, has been accepted for the erection of the two houses, the amount being 7,385*l.* Messrs. Warburton are the contractors for the new college. Their tender has also been accepted for the erection of the head master's residence, at the north-west angle of the college ground, which will be of a more ornamental character, and built of stone to harmonise with the college buildings.

Usk.—The new School-room at the Usk Free Grammar-school has been opened. Mr. Stride, of Cardiff, was the builder. The school building is 40 feet long by 18 feet broad. It is of a Mixed Gothic style of architecture, and, together with alterations in the house of the schoolmaster, cost about 550*l.*

Rhyl.—The foundation stone of British Schools has been laid at Rhyl. The schools will accommodate about about 250 children, and will cost to erect about 750*l.* Mr. F. D. Johnson, of Birmingham, is the architect; and Mr. J. R. Jones, of Rhyl, the builder.

Heighington.—The trustees of Garratt's Charity being dissatisfied with the old school-house or chapel, whose incongruous fittings rendered it unfit for either purpose—a pair of school-globes, for instance, decorating the altar-table, with many other inconsistencies—and, having sufficient funds in hand, determined, with the consent and approval of the Charity Commissioners, to have a suitable building as an adjunct to the old fabric, which should be more convenient for school purposes, and leave the old chapel free for divine worship. The new school-house and class-room, which have just been opened, although only about the same size, will give double the accommodation of the old building. The new building, designed by Mr. M. Drury, architect, is in the Geometric style. It is built of local stone, with Ancaster dressings. The builder was Mr. Barker, of Lincoln. The cost of the work has been about 400*l.* The old building is to be restored under Mr. Drury's superintendence.

Netherbury (Dorset).—A new school has been opened in Netherbury parish. The school for girls and smaller boys was found inconvenient. The new building is in the Decorated style, and consists of a school-room 32 feet by 18 feet in the clear, having three four-light square-headed, cusped, transomed, and mullioned windows. Between the two windows in the front ascends a bell-turret, projecting externally from the wall, and surmounted by an ornamental iron finish, the principal features of which are gilded. The lower part of this turret has been pierced by a one-light window corresponding with those at the sides. In the centre of the back wall of the principal room is a moulded stone archway, about 8 feet or 9 feet wide, with sunk, chamfered, and stopped jambs, leading to the class-room, 10 feet square, lighted by a three-light window, similar in design to those in the school-room. The school is entered through a small lean-to porch at the back, running parallel with the large room, and extending from the gable end until it reaches the class-room wall. The timbers of the roof throughout are wrought for showing the principals. The external walling is executed in local stone worked in random courses, hammer-dressed. The whole of the dressings are from the Hambdon Hill stone quarries. The roof is covered with duchess slate, having stone gable coping, terminating with crosses at the apex. The windows are glazed with diamond quarries, and fitted with Moore's patent ventilators. The whole of the woodwork is stained and varnished. The whole of the works have been executed from the designs and under the direction of Mr. William Chick, architect and county surveyor, Hereford; Mr. J. Chick, of Beaminster, being the contractor. The following tradesmen executed various portions of the work, viz.:—Messrs. Toleman, the staining, glazing, and plumbing; Mr. J. Trask, the Hambdon Hill stone work; and Mr. Sprackland, the masonry. The cost will range between 500*l.* and 600*l.* At a future time it is contemplated to build a new residence for the mistress.

Wolverhampton.—National Schools, recently built, in connexion with St. Philip's Church, Penn-fields, near Wolverhampton, in memory of the late wife of the Rev. W. Dalton, the present vicar of the parish, have been opened. The building consists of a boys' and girls' school-room, each 38 feet by 19 feet. They will accommodate about 200 children. They are built with a view to further extension, and in their erection have cost about 1,000*l.* The site was the gift of the vicar.

Bungay.—The Stradbroke Schools have been opened. The buildings face the road to Hoxne, from which they are separated by the playground intended for the scholars belonging to the lower school. The material of which they are built is red brick, the plainness which would result from the sole use of these being relieved by the introduction of vitrified bricks at intervals. The two school-rooms stand at right angles to each other, forming two sides of a triangle, and the interior is filled by a class-room connected with the lower school, and by

necessary offices. The style which has been adopted may be said to be the Perpendicular English. The gables are ornamented with battlemented steps. The front consists of the side of the upper school, the porch for the use of the children of the lower school, and the gable of the lower school building. The roofs, which are of slate, are crowned with a ridge of small red brick earth Maltese crosses. At the back are the usual offices, and a stable for the accommodation of any boys belonging to the upper school whose parents may reside at a distance. The two schools are kept separate: there are distinct entrances and distinct play-grounds; that of the lower school being in front, whilst that intended for the upper school is in the rear. The roofs, which are of stained wood, are supported by numerous beams, and the extreme height from floor to roof is 20 feet 6 inches; to the collars, 16 feet 6 inches. The dimensions of the upper school, which is intended to accommodate fifty boys, is 47 feet 6 inches by 18 feet, and of the lower school, 60 feet by 18 feet; the class-room attached to the latter being 13 feet square. The architect is Mr. R. M. Phipson, and the builder Mr. Godbold, of Harleston; and Mr. Albon, of London, was clerk of the works. The total cost of the schools has been 838*l.* odd, viz.:—Contract, 645*l.*; cost of land, 90*l.*; fencing, &c., 53*l.* 11s. 5d.; and fittings, 50*l.*: towards this a grant has been made by Government of 157*l.*, and the remainder has been raised by means of voluntary contributions.

Thorne (*Yorkshire*).—The foundation stone of new schools belonging to Travis's Trust Charity has been laid. The architects are Messrs. Brundell & Arnold, of Doncaster; and the builder Mr. G. Armitage, of Thorne.

Bilsdale (*Yorkshire*).—During the past three months, extensive alterations have been made in St. Matthew's Church School, in this village. The roof has been raised, the old windows replaced by larger ones, and the interior made that of a convenient and well-proportioned room. The expense incurred has been about 100*l.*

STAINED GLASS.

Bilford Church (*Warwickshire*).—A stained-glass memorial window has just been erected in this church. The window is a single-light lancet, the lower part being occupied by a large figure of St. John, who appears in the attitude of attention, holding a scroll in one hand, and the ancient stylus in the other, and looking up to an angel in a medallion above. The angel bears a scroll, upon which are inscribed the words, "Write, Blessed are the dead which die in the Lord." The figure-work is set in a coloured grisaille pattern, and the whole is surrounded by a painted border. The artists employed were Messrs. Cox & Son, of London, who have also the corresponding window now in hand.

GAS.

THE Tunbridge Gas Company have just declared a dividend of 7½ per cent.; the Bromyard Gas Company one of the same amount; and the Crowle Gas and Coke Company one of 10 per cent. The price of gas at Llangollen is 7s., and is much complained of, especially as coal is so near and so easily transportable, either by railway or canal. A contemporary thinks that "if more gas were consumed, it is probable that the company would lower their price;" but he does not seem to see that, if the company would lower their price, it is more than probable, not only that more gas would be consumed, but that larger profits would be reaped than now, on what was consumed; neither do the directors themselves appear to see it: yet the uniform experience of years has sufficiently established the truth of this principle in the sale of gas.——The New Romney gas management seems to be alive to it, having again lowered the price of their gas; and, under this management, they have raised their company from a bankrupt state to a state of prosperity, paid off old debts, and yet declare 5 per cent. dividend, where, a few years since, there was no such thing as a dividend at all. ——The Bardfield gas-works in Essex are approaching completion. Messrs. Tice & Co., of London, gas engineers, are the contractors.—— The Malvern Link gas company have declared a dividend of 5 per cent. per annum, free of income tax, for the last half year, and laid aside a balance for their reserve fund. The company has only been two years in existence. The number of private gas consumers is still on the increase.——The Cleethorpes gas-works are nearly completed. The gas will be charged at the rate of 5s. 10d. per 1,000 cubic feet.——The Westerham gas company have reduced their price from 7s. 6d. to 6s. 8d., and declared a dividend of 1*l.* per share, free of income-tax.—— The Redhill gas company's directors have determined still further to reduce the price of their gas from 7s. to 6s., having earned a dividend of 6 per cent., free of income-tax, by their last reduction, besides carrying a considerable balance to their reserve fund.——The workmen employed in building the Burnham gas-works have been treated to a supper by the contractors, Messrs. Manders (engineer), Webb (bricklayer), Cutler (carpenter) and the company, whose employés were also present: there were nearly 70 at table.——The workmen of the chartered gas-works at Westminster have presented their late superintendent, Mr. Evans, with a silver flower-stand on his retirement from his office: there were nearly 497 workmen at the presentation.

Books Received.

The Ancient Mariner. By S. TAYLOR COLERIDGE. Illustrated by J. Noel Paton, R.S.A., expressly for the Art-Union of London, 444, West Strand. 1864.

EVERY subscriber in the Art-Union of London, when he pays his guinea and receives at once a copy of this noble book, must feel that he has already obtained more than full value for his money, and that if he should afterwards gain one of the nine or ten hundred prizes, such as the right to buy from any of the exhibitions a picture worth one or two hundred pounds, or one of the fine bronzes or works in Parian, distributed at the annual meeting in April, this would be clear gain, further added to by tickets for friends to the exhibition of prizes, the right to the society's almanac, a printed copy of the report, and other matters.

The book now issued consists of the complete poem, with twenty drawings of great power by Mr. Noel Paton, to illustrate it. Commencing with the first four lines of the poem,—

> "It is an ancient mariner,
> And he stoppeth one of three:
> 'By thy long grey beard and glittering eye,
> Now wherefore stopp'st thou me?'"

he leads up to the moral of the poem,—

> "Farewell, farewell! but this I tell
> To thee, thou Wedding Guest!
> He prayeth well who loveth well
> Both man, and bird, and beast.
>
> He prayeth best who loveth best
> All things both great and small,
> For the dear God who loveth us,
> He made and loveth all;'

taking hold intermediately of the many prominent pictures presented to the mind by the poet. The third illustration, where "the bride hath paced into the hall;" the sixth, where the mariner is at first thanked for having killed the bird; the eleventh, when prayer causes the Albatross to fall from his neck; the thirteenth, the sixteenth; the nineteenth, where in the

> "Bower, the bride
> And bridemaids singing are,"

and the twentieth, in which "all together pray," are some of the most striking designs in this striking series. This volume alone should command a large subscription for the year.

Miscellanea.

DEATH OF MR. WILLIAM DYCE, R.A. We regret to announce the death, at Streatham, on Sunday last, of this distinguished artist, in the 58th year of his age.

SCHOOL OF ART FOR DONCASTER.—A school of art for Doncaster, under the patronage of the vicar, the mayor, and other gentlemen, is about to open at the town-hall, with Mr. J. C. Swallow, of the York School of Art, as master.

MEMORIAL OF THE PRINCE CONSORT AT ETON.—A movement has been set on foot for the purpose of raising a subscription to defray the cost of an appropriately designed stained-glass window, which it is intended to place in the church of St. John, Eton, as a memorial of the late Prince Consort, who laid the foundation-stone of this building. The memorial will probably be placed in the east window of the church.

SOCIETY OF PAINTERS IN WATER-COLOURS.—From thirty-three candidates, Messrs. E. B. Jones, F. Walker, E. Lundgren, and G. P. Boyce, were elected associates.

THE JOINERS' STRIKE AT ST. HELENS.—Most of the joiners in the town of St. Helens are still on strike. One of the masters, it is stated, has consented to give the advance (2s. a week), but the majority still hold out and are seeking hands elsewhere.

THE LAW COURTS.—In reply to a question in the Commons, the First Commissioner of Works, the Hon. Mr. Cowper, said it was intended to introduce a Bill for the concentration of the courts of law and equity on a site to be purchased between Carey-street and the Strand, in accordance with the recommendation of the Royal commissioners.

THE PUBLIC BATHS AND READING-ROOM AT BILSTON.—The Bilston Baths Company is about to dispose of its plant and dissolve itself. The speculation has proved not alone barren, but a loss. In the November of 1862, the company decided to close the baths altogether, and to keep open only the reading-room, and now they have resolved to get quit of the whole building.

THE DUBLIN RAILWAY SCHEMES.—In reply to a question in the House of Commons by Mr. Vance, whether the President of the Board of Trade would consent to the appointment of a preliminary select committee, composed of members of both Houses of Parliament, to consider and report upon the various railway schemes affecting the city of Dublin, Mr. M. Gibson replied that the Government had no intention to do so.

FREE PUBLIC LIBRARY FOR EDINBURGH.—A meeting, convened by circular, has been held in the Council Chambers, "for the purpose of taking into consideration the requisite steps to be adopted for the formation of a free public library for Edinburgh, on the model of those now in operation in Manchester, Liverpool, Salford," &c. The Lord Provost occupied the chair. Resolutions favourable to the establishment of a free library were passed, and the Lord Provost mentioned that he had spoken to the Government Chief Commissioner of Works while in London as to the purchase of the old General Post-office in Waterloo-place for a free library.

METRIC TABLES.—Mr. C. Hutton Dowling is about to publish a series of metric tables, in which the British standard measures and weights are compared with the metric measures and weights at present in use on the Continent. By various treaties of commerce between our country and the Continental nations, our trade and commerce with them are rapidly increasing. A series of tables, therefore, for facilitating the ready conversion of their measures and weights into those of the British standard, and *vice versâ*, will render service to all engaged with those countries in manufacturing, mechanical, or commercial transactions.

COURT OF COMMON COUNCIL: CITY ARCHITECT, &c.—At another special court of Common Council, the Lord Mayor has stated that he has appointed Friday, the 26th inst., for the election of a successor to the late City architect. The court next proceeded to discuss the subject of the lunatic asylum. The corporation have nearly completed this building, which has been erected at Stone, near Dartford, at a cost of 38,464*l.*, the estimate of Mr. Bunning, the late City architect, being 43,500*l.* The contractors were Messrs. Piper & Wheeler, for the sum mentioned. A committee report recommended that the court should sanction the expenditure of a further sum of 7,000*l.* for laying out the grounds and the fittings. The court then proceeded to discuss some financial questions connected with the new asylum.

THE POLYTECHNIC INSTITUTION.—The ordinary annual general meeting of the shareholders in this institution has just been held. The report of the manager, Professor Pepper, congratulated the shareholders upon the success of the company, owing in a great measure to the attractions of the illusion patent. The receipts for the past year had been 13,000*l.* as against 10,000*l.* in the Exhibition year. The report concluded by expressing confidence in the future prosperity of the institution. The report of the directors paid a high compliment to the exertions of Professor Pepper on behalf of the institution. Since the last meeting the Prince of Wales had consented to become patron of the institution, and in future it is to be called by its original title of the Royal Polytechnic.

Timber.—The consumption of timber in Corn-all approaches 100,000 loads a year, and in-gives an expenditure for Norway timber alone nearly 200,000*l.* Large quantities of American ber are also used, in which it is estimated re is an annual expenditure of 40,000*l.*

Liverpool Architectural Society.—At the t meeting of this Society, Mr. Joseph Boult in chair, it was determined to petition Parlia-nt to refer the railway schemes sought to be ried out in London to the consideration of a yal commission. The papers read were on "Cathedral Church of St. Finbar," at Cork, Mr. Heffer; and also a sketch of the life of chelangelo, by the same gentleman. At the vious meeting Mr. Huggins read the comple-n of his paper on the "Stream of Art."

Public Parks and Gardens.—Windsor Park vers 3,800 acres; Richmond, 2,468 acres; Bois Boulogne (France), 2,095; Hampton Court, 00; Phœnix (Dublin), 1,752; Central (New rk), 850; Kew, 683; Regent's, 478; Kensing-n, 362; Tzarsko-Selo (Russia), 350; Hyde, 289; ctoria, 249; Thiergarten (Prussia), 210; eenwich, 185; Battersea, 175; Green and St. mes's, 60 each. In Southern Europe the st notable public resort is the Villa Reale, in ples. The Bois de Boulogne has a carriage-ive thirty-five miles in length, and the Central rk in New York has one nine miles long.

Telegraphic.—The Electric and International legraph Company's report for the half-year ding the 31st December, 1863, has been issued. e revenue for the half-year amounts to 7,150*l.*, exceeding that of the corresponding riod of 1862 by 20,076*l.* The total expenditure r working charges and interest on debentures nounts to 86,582*l.*, leaving a surplus of net ofit on the six months of 50,568*l.* The direc-rs recommend a dividend of 3*l.* 10*s.* per cent. r the half-year.

Princess's Theatre.—"Paul's Return," by r. Watts Phillips, is an interesting drama rest-g on the shoulders of Mr. George Vining, Mr. avid Fisher, Miss Kate Saville, and Mr. John elson; the last a young actor new to London, ho, if he fight against a tendency to monotony d *for* power of modulating the voice, may ake a position. On certain occasions he showed eling and force. There are several other actors gaged, in the shape of "the family," but these e separated by a gulf from those who really rry out the story, and are not joined on very tistically. Mr. Vining showed the skill of a ractised actor in the part of a "merchant prince," ho under pressure has robbed the orphan and on the verge of ruin, while the world think im a wealthy model of successful integrity. he scenery throughout is very appropriate and ood, but that of the second act, representing a rden with steps, vases, and so on, on the nks of the Thames, and built-up beds of owers, deserves much stronger terms, and laims for Mr. F. Lloyd great praise. Swans float y gracefully; and when the punt lands its occu-nts, the admiration of the audience is at its eight.

The Co-operative Societies of Rochdale.—he Rochdale "Equitable Pioneers' Society" began usiness in the year 1844, just nineteen years ago. consisted of twenty-eight members, with a apital of 28*l.* Six years later its members had ncreased to 600, and its capital to 2,299*l.* The mount of business transacted was 13,179*l.*, and he profit was 880*l.* In 1861 the members were ,900, the capital was 42,925*l.*, the transactions eached 176,206*l.*, and the profit was 18,020*l.* During the year 1862, when the distress in the otton districts became severe, there was a iminution of 400 in the number of members, of ,400*l.* in the amount of capital, of 32,000*l.* in he business transacted, and of 456*l.* in the rofits made. In 1863, however, its members ave risen to 4,013, its capital to 49,361*l.*, its usiness transactions to 158,632*l.*, and its profits o 19,671*l.* The Rochdale District Co-operative Corn-mill Society began business in 1851, with s capital of 2,163*l.*, and the first year resulted in a loss of 421*l.* In 1855 the capital was 4,626*l.*, its business transactions 28,085*l.*, and its profits ,876*l.* In 1861 its capital had reached 29,600*l.*, he amount of business was 166,800*l.*, and the rofits were 10,000*l.* The year 1862 shows ome diminution; but 1863 exhibits a capital f 41,714*l.*, transactions amounting to 152,492*l.*, nd a profit of 10,138*l.* There is also a "manu-facturing company," which has large premises nd a large invested capital.

Improvements in Furnaces.—As an improvement in constructing cupolas and blast furnaces, Mr. G. Bedson, of Glamorgan, proposes to construct a wrought-iron water-chamber round the lining and within the exterior masonry, the water in the said chamber being kept cool in the same manner as the water-chambers round tuyeres are usually kept cool.

The late M. Rondelet, Architect.—The last architect of the Paris Pantheon, Antoine Rondelet, died a few days ago. He was the son of Jean Rondelet, the author of "Traité Théorique et Pratique de l'Art de Batir," and had obtained the place of Inspector of the Pantheon at the time when his father, who was a pupil of Soufflot, its designer, saved it from impending destruction.

Iron Ore on the Estate of the Prince of Wales at Sandringham.—Mr. James Wright, of Lynn, merchant, claims to have made the discovery that, underlying a large tract of the Royal Estate (chiefly the uncultivated portions) is a very valuable and extensive vein of iron ore. It is computed that this stratum covers at least 500 acres, the discoverer believes 1,000 acres, commencing at Wolferton church, and extending inland, past the Lynn and Hunstanton-road. It is computed that the vein averages about 4 or 5 feet in depth, and will yield at least 2,000 tons per acre. Mr. Wright has informed the Prince of Wales, through General Knollys, of his discovery, and is in correspondence with him to work it at a Royalty.

Accidents.—Nineteen arches at Brixton, belonging to the South London Railway, in course of construction to connect the London, Chatham, and Dover Railway with the Crystal Palace and London-bridge stations, have fallen to the ground a heap of ruins. These arches had been finished only about ten days, and the shoring under them had been removed. The sudden change from frost to rain is blamed.——At the works of the new Government offices in course of erection in Downing-street, a tramway lately gave way, and the traveller on it fell and shockingly bruised several of the men.——The third floor of a malting-house at Stanground, near Peterborough, gave way lately, and the weight broke through the second floor, with all the grain on both floors. One man was killed and two injured.——The Turin journals state that the villa on the banks of the lake of Como, belonging to the Countess Blevio, has tumbled down, a great part falling into the lake.

Collegiate Church of the Carmelites, Dublin.—This church, which is built on the off side of the quadrangle, or playground, of the Carmelite College, 41, Lower Dominick-street, Dublin, has been built in alternate courses of granite and dark stones, forming a pleasing contrast. It is over sixty feet long, and about twenty-six feet wide; and the ceiling, which is groined, is twenty-six feet high in the centre. The church is divided into chancel and nave, and there is a gallery for a choir at the end. Opposite the chancel, a sacristy and cloister extend to the full length at one side of the church, and the other side is designed so that a narrow cloister may also be added. The arches have alternate voussoirs of granite and red bricks. The niches are of Caen stone, and the hoods of the lower niches project with a graceful curve from the wall. The string courses and hood mouldings are of granite. The parapet is relieved with red brickwork, and capped with granite. Mr. Oliver T. Healy was the architect.

Improvements in the Island of Lewis.—Since Sir James Matheson became proprietor of the Seaforth estates in Lewis, about twenty years ago, he has spent, it is said, upwards of 10,000*l.* on education alone. He has, besides, expended on roads, 20,000*l.*; bridges, 6,000*l.*; brickworks, 6,000*l.*; patent slip, 7,000*l.*; steamers' quay, 500*l.*; fish-curing stores, 1,000*l.*; draining, trenching, farm offices, &c., 50,000*l.*; meal during the destitution years, partly repaid by labour, 25,000*l.*; timber, 10,000*l.*; grain and seed to tenants, 6,000*l.*; steamers for opening up communication, 30,000*l.*; emigration, 11,000*l.*; Lews or Lewis Castle and grounds, 100,000*l.*; arrears due by tenants abated, 10,000*l.*; peat-works, for distilling oils, &c., from peat, 15,000*l.*,—making altogether an expenditure of 307,500*l.* on his estate (the purchase price of which was 190,000*l.*), all in the short space of twenty years. This isle of the Hebrides abounds in Druidical edifices and ruined fortresses. Stornoway is (or was) its only town.

New School for Alloa.—The late Mr. Alexander Paton, of Cowden Park, Alloa, amongst many bequests, bequeathed the sum of 5,500*l.* to build and endow an educational seminary in Alloa. The trustees under the deceased gentleman's will had a meeting a few days ago, and fixed on the site of the new building. The new structure will be a building in the Elizabethan style, with a tower.

Extension of Leith Docks.—A new wet dock is to be constructed on the east side of the harbour, of greater depth and much larger dimensions than any of the existing wet docks on the west side; in point of fact, nearly doubling the present wet-dock accommodation. From a paper descriptive of the scheme, read at the Royal Scottish Society of Arts, by Mr. Robertson, the resident engineer, we learn that about 36 acres of the east sands of Leith are to be inclosed. The dock, with entrance-basin and lock, will occupy about 13 acres, leaving about 23 acres for wharfage and other purposes. Contracts have been entered into for the construction of the dock, amounting altogether to about 224,500*l.*

Public Works (Manufacturing Districts), Feb. 15.—Out of 53 places which have obtained powers to execute works, at the end of January, 1864, the numbers of men employed are—skilled, 810; unskilled, 2,536; or, on the whole, 3,346. This number represents not less than 10,000 persons, as the men are for the most part married and have families. Some 1,000 or 1,500 persons indirectly find employment in getting stone flags and in making bricks, &c. This would, with the men's families, represent 3,000 persons, or, in the whole, some 13,000 persons may be said to receive aid through the Public Works Act. The Poor Law Board have ordered work for 1,036,876*l.* Mr. Rawlinson, the Government engineer, has reported on estimates amounting to 1,177,743*l.* Reports are being made each week as applications are sent in. The reports made and sanctioned provide for the working of 129 miles of main sewers and 145 miles of streets formed and paved. This work is now in course of progress. The earthwork sanctioned will amount in the whole to some 3,000,000 cubic yards.

Clifton Suspension Bridge.—A report states that the progress of the works has been as satisfactory as was anticipated, and the engineers confirm the anticipations of the directors, that at the August meeting the works will be approaching completion. Measures are in contemplation for erecting villa residences in the Leigh woods, which cannot fail to be of service to the undertaking. The capital of the company is 35,000*l.*, of which less than 1,000*l.* remains unprovided, and the directors feel confident that the deficiency will shortly be made good. The engineers (Messrs. Hawkshaw & Barlow) report that, notwithstanding the unusually stormy weather in the autumn of last year, two of the main chains on the eastern side of the bridge have been completed and the fixing of the third chain is being proceeded with. The anchorages on the western side of the bridge are all completed, the anchor plates fixed, and everything is ready for proceeding with the chains as soon as the temporary staging can be shifted over to that side. The accounts show a total receipt of 19,780*l.* to the 31st of December last, of which a balance of 3,426*l.* is unexpended.

Railway Matters.—The directors of the Great Eastern Railway Company have declared a dividend at the rate of 2½ per cent.——The proposed dividend of the London and North-Western Railway is 6 per cent. per annum, against 5½ per cent. in the same period of 1862.——The directors of the Victoria Station and Pimlico line recommended a dividend of 2 per cent. for the half-year, making 5 per cent. for the year, as compared with 4½ per cent. in 1862. The directors put forth the following estimate of prospective dividends,—viz., for 1864, 5½ per cent.; for 1865, 6½ per cent.; for 1866, 7½ per cent.; for 1867, and in perpetuity, 9 per cent., with the probability of a small bonus every eighteen months.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 30th of January, on 11,146 miles, to 563,916*l.*, and for the corresponding week of last year, on 10,734 miles, to 503,835*l.*, showing an increase of 412 miles, and of 60,081*l.* in the receipts.——A new station on the Manchester, Sheffield, and Lincolnshire line has been opened at Dukinfield. The building is of stone, and contains the necessary offices and waiting-rooms, &c. It will be of use to the west end of Ashton as well as to Dukinfield.

COMPENSATION CASE: METROPOLITAN RAILWAY.—At the Lord Mayor's Court a writ of inquiry was recently instituted to assess the compensation to be awarded to the claimant in respect of a free public-house, known as the Grapes, in Whitecross-street, such premises having been taken by the defendants in accordance with their Line of Deviation Act. The claim was for 4,500*l*. Mr. Daniel Cronin, public-house surveyor and valuer, said he thought the claimant was entitled to 4,500*l*., and 10 per cent. for compulsory removal. The jury found for the claimant, 3,850*l*. compensation.

PROTECTION OF THE METROPOLIS FROM FIRE.—In reply to Sir M. Farquhar, in the Commons, Sir G. Grey said he hoped to be able to introduce a bill during the present session for the better protection of the metropolis from fire. The Metropolitan Board of Works had signified their willingness to undertake that duty, subject to the condition that the whole of the expense should not fall upon the ratepayers of the metropolis. As to the details, some further arrangements would have to be made, and he could not say when the bill would be finally prepared.

INSTITUTION OF CIVIL ENGINEERS, DUBLIN.—At the last general meeting of the institution, at the new buildings, Trinity College, the chair was taken by Professor Downing. The Rev. Dr. Haughton, F.T.C., read a paper "On the best mode of Calculating the Resistance to Fracture of large Iron Beams when suddenly struck." He said his attention had been directed to this problem by the accident which happened to the Hartley Colliery engine-beam, in January, 1862. Professor Haughton gave, with some detail, the results at which he had arrived. A long discussion ensued. Mr. A. M'Donnell then read a paper entitled "An Account of the Rapid Destruction of the Boilers of Locomotives on the Danube and Black Sea Railway."

WATER SUPPLY FOR STOW-ON-THE-WOLD.—A committee, appointed by the inhabitants to make the necessary inquiries, came to the unanimous conclusion that the best means to obtain an unlimited and permanent water-supply for the town would be to adopt the Local Government Act of 1858, and raise money for that purpose upon the security of the rates. A requisition of twenty owners and ratepayers was accordingly signed and forwarded to the churchwardens, who convened a public meeting to consider a resolution for the adoption of the Act; but upon the resolution being put to the meeting, it was lost by a show of hands. A poll was then demanded, and it took place on the 5th inst., with the following result:—For the Local Government Act, 95; against it, 45; majority for the Act, 50. The promoters, therefore, have petitioned the Secretary of State to approve the same.

MONUMENTAL.—A monument has been placed near the centre of the Ladye Chapel, in York Cathedral, to the memory of the late Archbishop Musgrave, who held the see of York from 1847 to 1860. The monument is a tomb in shape, and is of the Gothic style. In length the tomb is 8 feet 10 inches, in breadth 3 feet 6 inches, and in height 3 feet 7 inches. Around the monument are sixteen circular columns of alabaster of a reddish tint surmounted with carved capitals illustrative of the vine-leaf and grapes, the oak-leaf and acorn, the thorn-leaf with blossom, &c. The tomb is of Caen stone, and on one side is the inscription. A figure of the Archbishop surmounts the tomb. It is about 7 feet in length, and represents the late Primate in a recumbent position, and attired in his episcopal robes. The figure is of white Carrara marble, and rests upon a mattress, the head being supported upon a cushion with tassels, and the whole is chiselled out of a block of marble which weighed nearly three tons. The sculptor was Mr. Noble, of London, and Mr. Brandon, architect, prepared the design for the tomb.——According to letters from Algiers, the Arabs of the different tribes who had applied for an authorization to open a subscription among themselves for the purpose of erecting a monument in commemoration of the Emperor's visit, have received permission to that effect. The subscription is fixed at 1fr. for each tent, in order that it may be more general. The monument is to be erected on the Place Napoleon, the finest in Algiers.—— The *Trieste Observer* states that a bust by the hand of Canova has just been discovered in the villa of Altichiero, near Padua. It is the bust of Paul Renier, the last but one of the Doges of Venice.

ACCIDENTS ARE COSTLY.—We are told that the friends of the late Mr. Robson, the gentleman killed in December last, at Darlington, by the flooring of the newly-covered market giving way, have made a claim on the local board of health for 2,500*l*.

TENDERS.

For two houses, out-offices, and stables on the Maindiff Court estate, Abergavenny. Messrs. Elmslie, Franey, & Haddon, architects:—

King (accepted)	£2,900 0 0

For the valuation of the whole of the parish of Newchurch, Isle of Wight. The parish is thirteen miles long, extending from the north to the south coasts of the island: it includes the towns of Ventnor and Ryde, has an area of 8,870 statute acres, and contains 2,677 houses:—

Dobson, London	£1,200 0 0
Smith, Northampton	1,080 0 0
Read, Southampton	1,000 0 0
Livesay, Portsmouth	700 0 0
Stratton, Newport, I. W.	700 0 0
Harris & Metcalf, Winchester	600 0 0
Stanley & Tuckett, London	535 0 0
Smith, Wicham	525 0 0
Hellyer, Ryde	507 0 0
Hemmings & Son, London	475 0 0
Gisborne, Derby	460 0 0
Cookes & Bateman, Leamington	452 0 0
Appleby & Newman, Fareham	420 0 0
Newman, Ryde (accepted)	409 0 0
Elliot, Southampton	400 0 0
Watney & Penfold, London	400 0 0
Payne, London	344 8 0
Cole, Clevedon	250 0 0
Lewersedge & Venn, Taunton	240 0 0
Norris, London	240 0 0
Thompson, Staffordshire	195 10 0

For first portion of warehouses, stables, &c., on Miss Kell's Estate, Curtain-road. Mr. William Reddall, architect:—

Ashby & Sons	£1,650 0 0
Scott	1,620 0 0
Pritchard	1,545 0 0
Conder	1,531 0 0
Smithers	1,447 0 0
Killby	1,443 0 0
Macers	1,395 0 0

For a pair of small residences on the Addiscombe Estate, Croydon, for Mr. G. Mathews. Mr. Henry Bance, architect:—

Chilton	£1,415 0 0
Priddle	1,390 0 0
George	1,170 0 0
Holmes	1,128 0 0
Seaby	1,072 10 0
Dover	1,049 0 0
Thomas & Jenkins	1,035 0 0
Blower (too late)	1,027 10 0
Wilson & Raynham	995 0 0
Lamble	969 0 0

For National Branch Bank at Camden Town. Mr. Thos. Chatfeild Clarke, architect:—

Axford & Co.	£4,095 0 0
Laurence & Sons	3,832 0 0
Palmer	3,751 0 0
Ashby & Sons	3,545 0 0
Patman & Co.	3,535 0 0
Anson	3,525 0 0
Scriviner & Co.	3,260 0 0
Browne & Co.	3,126 0 0

For the erection of the New Wesleyan Chapel and Schools, Marlborough-road, Banbury, Oxon:—

	Design No. 1, in Stone.	Design No. 2, in Brick.
Jones & Sons	£4,300 0 0	£4,200 0 0
Davis	3,900 0 0	3,650 0 0
Claridge	3,895 0 0	3,573 0 0
Kimberley	3,400 0 0	3,240 0 0

Accepted for villa residence, at Ventnor, for P. O'Brien, Esq. Mr. Francis Newman, architect. Quantities supplied:—

Mason, Plasterer, &c.

Beavis & Son	£448 15 0

Carpenter and Joiner.

Wickens	£274 15 0

Plumber, Glazier, and Painter.

Vincent	£63 0 0

For adding Committee-room, Board-room, Judge's-room, stone staircase, &c., to the Town-hall, Ryde. Mr. Francis Newman, town surveyor. Quantities supplied:—

W. H. Denham	£638 10 0
Colenutt	636 0 0
Sibley	608 0 0
Jackman	558 10 0
J. Denham	538 0 0
Saunders & Parsons (accepted)	493 0 0

For photographic printing, and sensitizing rooms, Ryde, for Mr. John Symonds. Mr. Francis Newman, architect. Quantities supplied:—

J. Denham	£260 0 0
Saunders & Parsons	260 0 0
Sibley (accepted)	229 0 0

For building Hospital, at Saffron Walden, Essex:—

Long	£5,704 0 0
Glasscock	5,200 0 0
Wright	5,175 0 0
Brown	5,116 0 0
Gimson	5,097 0 0
Runnade	5,026 0 0
Henshaw	4,868 0 0
Bell & Sons	4,897 0 0

For Station building, goods' warehouse, engine-shed &c., at Bognor, for the Bognor Railway Company. Mr. Jacomb Hood, architect. Quantities supplied by Mr. C. H. Driver:—

Simms & Marten	£4,974 0 0
Fabian	4,526 0 0
Bushby	4,328 0 0
Sawyer	4,287 0 0
Howick	4,200 0 0
Bull	4,029 0 0
Reynolds	4,000 0 0
Boothman & Broomhead	3,949 0 0
Wilson & Raynham (accepted)	3,760 0 0

For excavating and filling in trenches for water-pipes for local board of health, Croydon:—

	Per lineal yard.	12,000 yard.
Steer	6d.	£300 0 0
Gale (12,400 yards)	5½	...
Clark	...	250 0 0
Leeks	5	...
Hayward	4½	225 0 0
Bull (accepted)	4½	...
Priddy*	4½	225 0 0

* 10*l*. extra for keeping the drainage in repair for four months.

For a pair of semi-detached villas, Hornsey-lane, N. Mr. J. W. Reed, architect:—

Sale (accepted)	£2,200 0 0

For enlargement and repairs to Mount Pleasant House, Hornsey, for Mr. W. R. Perry. Mr. J. W. Reed, architect:—

Carter & Sons	£770 0 0
Sale	743 0 0
Tunewell (accepted)	680 0 0
Smith	687 0 0

For houses and shops, North-road, Forest-hill, for Mr. W. J. Thompson. Mr. R. P. Pullan, architect. Quantities by Mr. E. W. Crocker:—

Myers & Sons	£4,160 0 0
Jackson & Shaw	3,963 0 0
Macey	3,895 0 0
Colls	3,889 0 0
Foster	3,750 0 0
Turner & Sons	3,499 0 0

For new assembly-room, Gun Tavern, Croydon. Mr. Henry Bance, architect:—

Budd & Pearce	£640 0 0
Priddle	609 9 0
Harding & Cox	593 0 0
Shelton	588 0 0
Wilson & Raynham	493 0 0
Easford	490 0 0
George	489 0 0
Thomas & Jenkins	453 0 0

For building Wine Vaults, Argyle House, Argyle-street, for Messrs. Haig & Co. Messrs. W. & H. Moseley, architects. Quantities supplied by W. W. Gwyther, Esq.:—

Hill, Keddle, & Co.	£11,250 0 0
Trollop	11,065 0 0
Holland	10,855 0 0
Piper Wheeler	10,847 0 0
Nicholson	10,700 0 0
Hill & Sons	10,609 0 0
Myers	10,112 0 0

For house at Potter's Bar, for Mr. G. Whitehouse. Quantities supplied:—

Dimsdale	£1,395 0 0
Rudkin	1,320 0 0
Killby	1,268 0 0
Pocock	1,143 0 0

For warehouse and stabling, Curtain-road, Mr. W. Reddall, architect:—

Ashby & Son	£1,650 0 0
Scott	1,620 0 0
Pritchard	1,545 0 0
Conder	1,531 0 0
Smithers	1,447 0 0
Killby	1,443 0 0
Macers	1,396 0 0

For "Marquis of Lansdown," Stoke Newington. Mr. Chester Cheston, architect:—

Ennor	£1,666 0 0
Eaton & Chapman	1,650 0 0
Killby	1,589 0 0
Simms & Marten	1,545 0 0
Macers	1,541 0 0

TO CORRESPONDENTS.

Deodorising.—A correspondent is desirous of receiving information as to the best form and mode of using gypsum mixed with charcoal as a deodoriser of town sewage where there are very few closets; and whether the gypsum should be calcined or not. Any person having used gypsum for deodorising purposes would confer a favour by communicating the result.

Ina's Palace (Mr. Chapman has already replied in our pages to the correspondent whose comments he objected to, and we must decline to return to the subject).—A Yorkshire Mason (such a book was advertised in our last Number).—J. R. H. (a "cymagraph" is exactly what our correspondent terms it: an instrument for taking the sections of mouldings. It was obtainable some years ago from the instrument-makers named. Considerable practice is required for efficient use).—C. H. D.—H. H. (must look to precise words of Copyright Act).—T. M.—J. G. L.—W. C. (the committee has ceased to sit. Send the article).—Mr. C. (iitto)—J. W. H. (thanks).—Student (the per cent has long been the established charge for measuring and making out bills for artificers' work).—H. C. R.—Four Road Surveyors.—C. T. H.—A Subscriber (it is a question of degree to be judged on the spot. Frost may entirely destroy brick or stone-work, or may simply injure the face of it).—J. C.—T. K.—J. D.—Mr.—E. N. A. M.—G. F. T.—T. R.—Builder's Clerk.—W. H. P.—W. Queensland (thanks; and for good wishes and good opinion).

"Chancels."—We are forced to postpone Mr. Elliott's reply.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication

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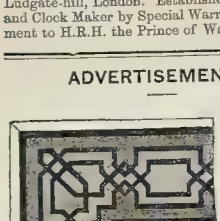
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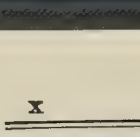
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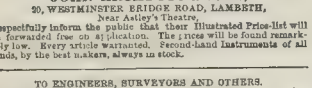
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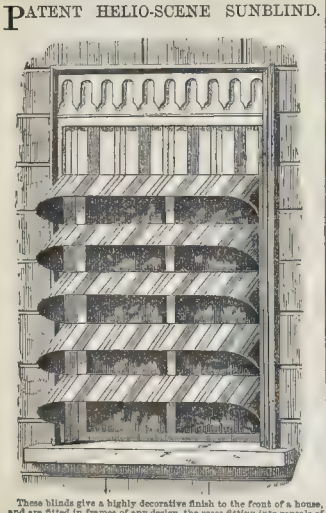
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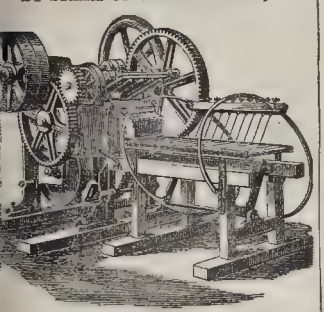
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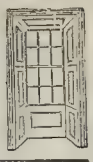
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Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

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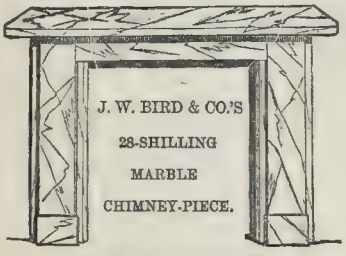
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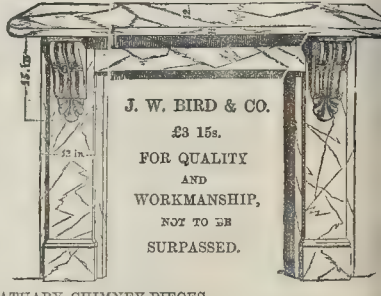
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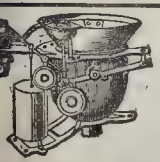
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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

TAYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flush is insured. Any number can be worked by one supply-pipe. No turn-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Paternoster-street, London.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS, FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 12, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

TO PAINTERS and BUILDERS.—

White Lead (warranted genuine), 22s. per cwt.
Linseed Oil, 3s. 6d. per gallon. Turpentine, 6s 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon.
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 139, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
58, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 22s. per cwt. Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 7d. per Gallon.
Turpentine, 6s. 0d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colehill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

PURE LINSEED OIL, from Genuine Baltic and Bombay Linseed, supplied by the LONDON OIL and COLOUR COMPANY (Limited), Nos. 65, 66, 67, Saint George's-street, London Docks.—Mr. THOMPSON, Manager.



WINDOW BLINDS.

E. ADKINS,
HIGH STREET, ST. JOHN'S WOOD, REGENT'S PARK, N.W.

OUTSIDE SUN-SHADE, AND SPRING ROLLER MAKER TO THE TRADE.

Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

PENCILS, BLACK LEAD, and COLOURED CHALKS.

A. W. FABER'S POLYGRADE LEAD PENCILS.
Sole Agents, HEINTZMANN & KOCHDÖRFER, 9, Friday-street, E.C.
SOLD BY ALL STATIONERS AND ARTISTS' COLOURMEN.

SALES BY AUCTION.

METROPOLITAN RAILWAY, FINSBURY EXTENSION.—Building Materials of several Houses and other Premises, in Charterhouse street, Charterhouse square, and Cow cross street

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, FEBRUARY 26th, at TWELVE o'clock, the valuable BUILDING MATERIALS of several houses, work shops, and other premises, situate in Charterhouse street and Charterhouse-square; also 16 COTTAGES and other Buildings, in Red Lion alley and Round-court, Cowcross-street, comprising excellent stock bricks, and Round-court, Cowcross-street, comprising excellent stock bricks, oak and fir timber, in roofs and floors; slates, plain and pantiles; glazed sashes, plate glass skylights, chimney pieces and interior fittings, doors, weather boarding, flooring boards, folding-gates, a quantity of York, pebble, cinder, and other paving; lead flats, gutters and pipes, cisterns, stoves, gas fittings, shop counters, and useful fixtures and fittings, &c. May be viewed the day previous. Catalogues had and fitting, &c. May be viewed the day previous. Catalogues had and fitting, &c. May be viewed the day previous. Catalogues had of Messrs. BURCHELL, Solicitors, Broad Sanctuary, and of Messrs. PULLEN, HORNE & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W

WAPPING—BUILDING MATERIALS of Four Large HOUSES.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, near the Tunnel Pier, on FRIDAY, MARCH 4, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of Four HOUSES and WAREHOUSES Nos. 274, 274, 275, and 276, Wapping High street, of the usual description.—May be viewed the day prior to sale, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

PIMLICO—To MARBLE MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. C. A. PELLAS & Co. to SELL by AUCTION at the Belgrave Marble Wharf, Upper Belgrave place, Pimlico, near the Victoria Station, on TUESDAY, MARCH 8th, at Five o'clock precisely, in consequence of the Premises being required for the New Metropolitan Meat Market.

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, Smithfield bars, on FRIDAY, MARCH 11th, at TWELVE, the valuable DISTILLERY PLANT, comprising a 12-horse power engine by Pontifex & Wood, with double top and circular gallery, open at top, 6 feet 6 in. diameter, and 6 feet deep; a copper bath, 10 feet 8 in. diameter, fitted with copper tubes; a rectangular copper bath, with copper head and tap, and 8 feet 6 in. deep, fitted with copper tubes; large copper and pewter condensing head fitted with copper tubes; large copper and pewter worms, with worm tubs; seven thousand feet of copper and pewter pipe, with large copper cocks; copper spirit safe; 3 8-horse power pipe, with large copper cocks; copper spirit safe; 3 8-horse power high pressure steam-engine and tubular boiler; 2 sets of double and high pressure steam-engine and tubular boiler; 2 sets of double and 3 throw pumps; large liquor back, lined with lead, 15 feet square; 23 oak steep vats, from 300 to 4,000 gallons; oak stillages, iron cranes and jibs, iron furnace work, 10,000 stock and 11 fire bricks, office desks, large iron safe, counters, shelves, bins, gas-fittings and other effects.—May be viewed the day previous; Catalogues had at the Architect's Office, Guildhall, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C and 40 Parliament street, S.W.

HUNTINGDON—To BUILDERS CARPENTERS, STONE MASONS, PLUMBERS, GLAZIERS, B. ACKSMITHS, and OTHERS—TO BE SOLD by AUCTION by

THOMAS GAUNT, on TUESDAY, WEDNESDAY, and FRIDAY, the 1st, 2nd, and 4th of MARCH, 1864, the whole of the extensive and valuable STOCK IN TRADE, LIVE STOCK, and other Effects, the property of Mr. John Bird, Builder, who, in consequence of ill health, is retiring from business: consisting of several fine oak and elm trees, a large quantity of well-seasoned English oak, elm, and deal planks and boards of large dimensions, several builders and deals, and a quantity of useful wood of all descriptions; patent mortising machine, superior timber jill, timber carriage, trucks, lead cutter, wheel barrows, ladders, and various other implements; also a large assortment of builders' and other ironmongery; quantity of Kottam, Ancaster, York, Mansfield, Casterton, and other stone; gravestones, portable chimney-pieces, sinks, troughs, glazed pipes, fire and other bricks, slate, &c. The Plumbers' and Glaziers' Stock consists of new pumps, barrels, lead pipe, piping of all descriptions, sheet lead, zinc, colours, tools, &c. The Blacksmiths' Stock comprises a quantity of new and old iron, bellows, anvils, and the usual tools used in the business, all of which are in capital order and nearly new. Also five excellent Scotch and other carts, one cart nearly new, light gig, small market cart, well built pony chaise, about 30 tons of well-got hay, wheat straw, a heap of well-got wheat straw, a heap of useful cart horses, mag mare three years old, excellent pony, about to ride and drive, 3 handsome Brittany cows down calving, 6 sows and barns, 3 largestack clothe, 8 new tubs, several pieces of canvass, valuable materials of buildings standing in close, 2 well and water carts, Samuelson's patent turnip-cutter, root pulper, 1 pig and sheep troughs, corn bins, water and well tubs, and a quantity of other useful effects. SALE to commence each day at ELEVEN o'clock punctually. Catalogues may be obtained at the principal Inns in the neighbourhood; and of the Auctioneer, Huntingdon, who will forward the same by post on application.

TEDDINGTON and HAMPTON WICK Middlesex.—Valuable FREEHOLD BUILDING LAND, tithe free, exonerated from the Landtax, and arranged in plots forming suitable sites for the erection of villa and other superior residences.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, MARCH 4th, at ONE o'clock precisely, 41 lots of valuable FREEHOLD BUILDING LAND, well situate between the picturesque village of Teddington and Hampton-wick, near the Town of Kingston, Bushy Park, the river Thames, Hampton Court, and other attractive features of this favourite residential district. The property is within forty minutes' ride of London, being close to the Hampton-wick station on the Kingston branch of the South-Western Railway, and only a short distance from the Teddington station.—Particulars, with plans, may be had at the principal Inns in the neighbourhood; at the Auction Mart, London; of Messrs. TERRELL & CHAMBERS, Solicitors, Kingston-upon-Thames; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, S.W.

The Estate of John Pryce, esq. deceased.—The MERTON ABBEY LODGE PROPERTY, an extensively valuable Freehold Estate, and all the buildings, surrounded by good roads, and in close proximity to several important railway works.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION at the MART, close to the Bank of England, on WEDNESDAY, FEBRUARY 24th, 1864, at TWELVE, in one or more lots as may be determined at the time of sale, the valuable FREEHOLD ESTATE distinguished as Merton Abbey Lodge, most agreeably situate on the high street, Merton, Surrey, about one mile from the Wimbledon Station on the South Western Railway, and half a mile from the Merton Station on the Wimbledon and Croydon line, comprising the spacious and substantial Lodge residence, containing Entrance Hall, dining and drawing rooms, capital kitchen and domestic offices, with usual requisites, and numerous bedrooms; coach-house and stabling, and well wooded grounds, approached by a carriage sweep, with lodge at entrance. It is surrounded by about 33 acres of land in pleasant meadows, arranged in convenient enclosures, and are let to tried tenants, at moderate rents, and necessary buildings, offices with suitable cottages upon. Also, adjoining the Kingston and Wimbledon line, in the occupation of Cottages, Forge, Workshops, &c. The whole is leased for a term expiring at Michaelmas next, when possession can be had. The estate possesses a commanding frontage, with a depth of about 400 feet, to the London Road on the East, and a frontage of 770 feet to an important leading road at right angles thereto, with great capabilities for opening up other roads between the two streets, and a very thousand additional feet of available building frontage. The facility of communication with the metropolis, the rapid growth of the neighbourhood, and the important railway works contemplated for the district, tend to create a great demand for houses, and to ensure success to a well-devised enterprise.—Particulars may be obtained of HENRY WANSEY, Esq. Solicitor, 26, Moorgate-street; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

TO SAW-MILL PROPRIETORS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Administratrix to SELL by AUCTION, on FRIDAY, MARCH 4th, at TWELVE o'clock, on the PREMISES, Mercia Wharf, High street Borough, the PLANT and MACHINERY of a STEAM SAW MILL, including two beam steam engines of 30 and 20 horse power, two elephant steam boilers and fittings, five circular saw benches, a circular saw bench, arrowing machine, deal and timber saw frames, a circular saw bench, arrowing machine, moulding and sash bar machines by Rose, shafting and pulleys, leather belting, and other useful saws, 12 ft motive wheel and pinion, 2 lathes, fire-engine, quantity of tools, steam road carriage, pinion, 2 lathes, fire-engine, quantity of tools, steam road carriage, chaff machine, two portable offices, two carts, a man horse, and other effects.—To be viewed the day previous and morning of sale, when catalogues may be obtained on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

TO GASOMETER MAKERS, BOILER MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, MARCH 7, at ELEVEN, on the PREMISES, No. 8 Wharf, Weaver's road, City-road, in lots with or reserve, the PLANT and IMPLEMENTS, including seven powerful punching and shearing machines, drilling machine, a 6-horse high pressure table steam engine, tubular boiler, a multi-tubular boiler with steel tubes, steel crab, set of plate bending rolls, slide lathe, mandrils for punching machine, shafting, pulleys, and leather bands, erection of plate and angle iron furnace, gas apparatus with retort, purifier and two holders, vices and benches, four smiths' hearths with fourteen portable forges, two portable weighing machines, thirteen pairs iron blocks, two tons chain and chain slings, two lifting-jacks. 12 10-feet gauge lowering screw jacks, thirty two sets bolts, nuts, and rivets, 50 feet gas pipe, with iron erect on of 40 scaffold poles and boards, rope falls, wrought iron erect on of workshop, with semi-circular roof, 66 feet long 27 feet span, two open sheds with 2 in. roofs, quantity of wood, thirty iron piles, 40 gunners' and smiths' hammers, ratchet braces, vices, office furniture and fittings, wrought-iron fire-proof safe, spring van, dog-cart, two sets of light spring carts, and other effects. To be viewed on Saturday previous to the sale; when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on WEDNESDAY, MARCH 16th, at TWELVE o'clock at the AUCTION MART, London, in One Lot, unless an acceptable offer be previously made by Private Contract, the valuable FREE-HOLD ESTATE and ESTATE of the Keynsham Blue Lias Lime and Cement WORKS and ESTATE of the Keynsham Blue Lias Lime and Cement Company (Limited), together with the modern PLANT and MACHINERY. The property is freehold, and includes a site of 7a. 2r. 36p. or thereabouts. The works were established for manufacturing blue lias lime from stone quarried on the estate, and for making cement. The ex sting kilns and engines are capable of producing 200 to 300 tons of lime and 120 tons of cement weekly; both products are well approved by large contractors at eminent architects, the cement being used in many of the Government fortifications in progress. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance. The buildings are very substantial, and the machinery of the best description; the motive power is given by two iron water-wheels, driven by the river Chew, a regular stream of water, of great power; and there is a fine engine pit, with both 12 and 7 inches. A letter supply of lias stone is secured from adjoining own estate, capable of producing 200 tons weekly. The site, and particulars and conditions of sale may be viewed, 14 days prior to the sale, and particulars had of F. MAYNARD, Esq. Liquidator, 10, Bread-street, Cheapside; at the Mart; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

SALE of the AUCTION MART, LONDON.

The Directors of the Company of Proprietors of the Auction Mart will be prepared, at ONE o'clock precisely, on MONDAY, the 29th day of FEBRUARY next, at the Board-room of the said Company, at the Mart, to open sealed TENDERS from persons desirous of PURCHASING the premises generally known as the AUCTION MART, opposite the Bank of England, London. Each Tender must be accompanied with a receipt annexed to it, signed by the proper officer of the Union Bank of London, acknowledging that the sum of 2,000l has been paid into their bank to the credit of the Company, on account there of "The Trustees of the Auction Mart"; and no consideration will be taken of the Tender of any person who shall not have delivered his Tender at the above-mentioned office, addressed to the hands of the Secretary of the said Company, either on SATURDAY, the 27th day of FEBRUARY next, between the hours of TEN and ONE precisely, or during the forenoon of MONDAY, the 29th day of FEBRUARY, between the hours of TEN and ONE p.m after which last named date and hour no Tender will be received. The highest Tender will be accepted, provided such Tender shall be for a sum equal amount to, or exceed, a reserved price determined upon by the Directors of the said Company, and placed under the seal of the Company in the custody of the Secretary; and upon opening the Tenders it shall be found that two or more Tenders are of the same amount, such amount being the highest amount then offered, the Directors of the said Company reserve the power of deciding which one of such two or more Tenders shall be accepted, and of rejecting the one or more not so accepted. A form of agreement has been prepared for the purchase to be subscribed by the party whose Tender shall be declared accepted, immediately upon any such declaration being made by the Directors of the said Company, and in default of so doing such person shall absolutely forfeit to the Company the sum he shall have previously deposited in the said Bank. Copies of the said agreement, together with copies of the abstract of title, and conditions of Sale, are deposited at the Auction Mart, or at the Offices of the Solicitors to the said Company, Messrs. UPTON, HOWARD, & UPTON, 20, Austinfriars, E.C. The moneys deposited by all parties whose Tenders may not be accepted will be returned to them on application at the Union Bank of London, on the 5th day of February, between the hours at which a final declaration may be made with respect to the Tenders received, and forthwith on the ensuing day between the hours of Ten a.m. and Four p.m. The premises may be viewed by all persons producing their Tenders, [illegible] aforesaid.—By order of the Board of Directors,

Auction Mart, January, 1864. G. H. JAQUES, Secretary

IMPORTANT SALE OF TIMBER FAGGOTS, &c—NEAR SOUTHEND, ESSEX.

MR. R. HORNER has received instructions from D. R. Scratton, esq. to SELL by PUBLIC AUCTION, early in the month of MARCH next, 1,500 fine ASH and ELM TIMBER TREES, with about 1,500 faggots and top wood, now felled, and lying on Barton Hall and Hampton Barns Farms, close to water carriage, and within a mile and a half of the Southend Railway Station. Further particulars in future advertisements; and of Mr. R. HORNER, Auctioneer, &c. No. 1, Cambridge terrace, Cliff Town, Southend, Essex.

UNRESERVED SALE — To GENTLEMEN, GARDENERS, BUILDERS, ARCHITECTS and OTHERS.

MESSRS. DEBENHAM & TEWSON have received instructions (in consequence of the property having been unfortunately for the Trustees purchased) to SELL by AUCTION, on the Premises, Wardour-street, Soho, Westminster, on THURSDAY, FEBRUARY 25th, at ELEVEN, the VALUABLE STOCK of ARTIFICIAL STONE, including architectural and ornamental dressings, pedestals, vases, chimney-pots, balustrades, and numerous memorials of various designs and patterns; [illegible] bottles, troughs, pillasters, landings, tazzas, vases, balustrades, fountains, and other effects. May be viewed two days preceding, mornings of Sale, and catalogues had on the Premises, and at the Auctioneers' Offices, 80, Cheapside.

FARNHAM, SURREY.—About 14 Acres of Freehold Land, adapted for building or a country mansion purposes, conferring votes for the county.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, MARCH 1, at TWELVE, TEN ACRES of valuable FREEHOLD LAND, in two lots. The property adjoins the Bear Inn, at the south-west end of the town and railway station of Farnham, and possessing a frontage of [illegible] to the road leading from the Bear to Denbies Hill, and that from Farnham to Frensham. Also 3a. 1r. 22p. of FREEHOLD LAND, very eligibly situate at Badshot, in the parish of Farnham aforesaid. Both possess frontages to the road, and is now in hand. The west of the town and railway station. Possession of each lot will be given on completion of the purchase.—Particulars of Messrs. LEA & SANDERS, Solicitors, Barge-yard chambers, Buckleisbury; Messrs. PEEK & DOWNING, Solicitors, 10, Basinghall-street; and of the Auctioneers, No. 80, Cheapside.

WESTMINSTER.—Valuable and extensive Plot of Freehold Building Land, in Victoria-street, for immediate Sale

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION at the MART, near the Bank of England, on WEDNESDAY, the 24th of FEBRUARY, at TWELVE o'clock, in one lot, a very valuable FREEHOLD ESTATE, consisting of a large PLOT of first-class BUILDING LAND, in a first-rate position, in Victoria-street, Westminster, close to the Abbey and the Houses of Parliament. It has a frontage of about 660 feet to Victoria-street, and of about 150 feet to Brewers green, with a considerable depth, and has an area of about two acres. The situation renders this land well adapted for the site of any public building or institution, or for the erection of professional offices, so much in demand in this neighbourhood; and a block of this size, in the heart of London, is becoming daily more difficult and costly to obtain. The land (except as to a very small portion) is held direct from the original freeholders, and is not affected by the liabilities of the Westminster Improvement Commissioners.—Particulars, with plans, may be had of Messrs. W. and W. A. WALKER, 37, King-street, Cheapside, E.C.; at the Mart; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, No. 10, Waterloo-place, Pall-mall, S.W.

CAMDEN TERRACE, CAMDEN TOWN, TO PIANOFORTE MAKERS, BUILDERS, CARPENTERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION on MONDAY, February 29th, at TWELVE, for ONE, 14,000 feet of dry Canada LUMBER BOARDS, an quantity of planks, deals, battens and boards flooring and mat boards, slating battens, mouldings, cary wide pine, quartering, dry oak, mahogany and birch, pine and Baltic boards, and full particulars, 1,000 Lambstone chimney pieces, plate glass doors, 40 new four panel doors, &c. Auctioneers' Offices, Cardington-street, N.W.

FREEHOLD BUILDING LAND, situate five minutes' walk of the Teddington Railway Station, S.W.R. arranged in small building plots, to suit the requirements of tradesmen and others, and offering unusual advantages for the erection of Residences for occupation or investment.

MR. J. MICHELS will SELL by AUCTION, at the Clarence Arms, Teddington, on WEDNESDAY, MARCH 2nd, 1864, at TWELVE for ONE o'clock precisely, 68 Lots of Valuable Freehold BUILDING LAND adjoining Teddington, Middlesex, and in close proximity to Bushy Park, Hampton Court, and other attractive localities, within twelve miles of Hyde Park and five minutes' walk of Teddington Railway Station. Particulars of Sale, with plans, can be had at the Clarence Arms, Teddington; the Railway Hotel, Twickenham; the Castle, Mousley; the King's Head, Richmond; the Sun, Kingston; the King's Arms, Hampton Court; Messrs. FARLEY & CHILD, Solicitors, 31, Sloane street, Belgravia, S.W.; Mr. PODCOCK, 35, Craven-street, Strand; at the Auctioneer's Offices, 1, William street, Albert gate, S.W.

SCOTCH VAN HORSES.—To VAN PROPRIETORS, RAILWAY CONTRACTORS, WHARFINGERS, and OTHERS.

MR. J. GOWER has received instructions to SELL by AUCTION, at his REPOSITORY, Barbican, FRIDAY, FEBRUARY 26th, at ONE o'clock, without reserve, about Twenty six all-legged Scotch VAN HORSES (direct from the breeders). Among them are some very handsome match pairs of greys, browns, and chesnuts, all known good workers.—On view two days prior.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on THURSDAY, the 25th FEBRUARY, 1864, at FOUR o'clock precisely (by order of the Importers, &c.):

1,000 Swedish Deals and Battens	
10,500 Norway ditto	
6 000 Petersburg ditto	
6 000 Quebec Pine and Spruce Deals	
200 Loads Pine and Colonial Timber	
8 Quebec Pine Spars	
12,000 Teak Staves	
1,000 Pipe Staves and Cutters	

And at SIX o'clock precisely, without reserve, at a minimum price:

MAHOGANY	249 Logs	Honduras Mahogany (northern specimens of superior quality and good dimensions, just landed ex "Sea Serpent" from Belize.
ROSEWOOD	344 Planks	Rio.
WALNUTWOOD ..	84 Ditto	Italian.

And other goods.

Catalogues may be had where the Goods lie, and of THOMAS ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

SALE OF TIMBER at 1-0, BERMONDSEY NEW ROAD, S.E.

THOMAS ROBERTS & CO. will SELL by AUCTION, on WEDNESDAY, MARCH 2nd, at ELEVEN o'clock, the fourth portion of the STOCK of Messrs. Robt. Ward & Sons, sold in consequence of their removal to Gravesend-road, Plumstead, by portion will include the justly celebrated Exhibition Log Honduras Mahogany, one of the finest and largest ever imported for many years; dry Honduras and Spanish mahogany, Rio and other wood planks, boards, battens, pipe stacks, dry and well seasoned matched and beaded boards, English oak, elm, pollard ash, spars, &c. and by order of Messrs. Ward & Sons, the valuable stock of Mr. G. T. HAYLE, of 1 metre boards, and other goods. May be viewed the day prior and morning of sale. Catalogues had upon the Premises; and of the Auctioneers, No. 9, Billiter-street, E.C.

FIRST-CLASS SECURITY.—THE STRAND MUSIC HALL COMPANY, Limited, is now issuing MORTGAGE BONDS of 50l. each, being a first charge upon the property of the Company, repayable in five years, and bearing interest at 10 per cent. per annum, payable half-yearly.

Applications for the above, which are rapidly getting taken up, and being rendered unobtainable by any other than the original subscribers, the money being redeemable by equal monthly instalments. Interest (in addition to a small premium), 5 per cent. on the balance each year.

Apply to HENRY J. PHILLIPS, Secretary.

Offices, 34, Moorgate-street, London, E.C.

NOTE.—More than a quarter of a million pounds sterling have been advanced upon this security alone

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION

(Incorporated by Act of Parliament, 1854), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 1st to 100,000l. on Freehold and Leasehold Property, for any term to ten years. Mortgages and Leases of Property for sale or to let. Greater advantages offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

ADVANCES are made by the SOVEREIGN LIFE OFFICE, 48, St. James's street, London, of sums exceeding 1,000l. to Officers and other persons resident in England, upon their securing and paying two-and-ten per cent. per annum upon the sum advanced, by way of repayment by instalments in three years, at five per cent. interest.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS—their cost, and mode of procedure to be adopted—issued gratis by the General Patent Agency (Limited), 71, Fleet-street, London.

ROBERT M. LATHAM, Secretary.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published in the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 2, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, February 20, 1864.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1099. FEBRUARY 27, 1864. PRICE FOURPENCE. By Post, 5d.

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ART-UNION of LONDON.—Subscription One Guinea.—Prizeholders select from the public exhibitions. Every Subscriber has a chance of a valuable Prize, and, in addition, receives a handsomely-bound folio copy of Coleridge's poem of "THE ANCIENT MARINER," illustrated by twenty Plates, designed expressly for this Society by J. Noel Paton, R.S.A. The work is now ready for delivery.
444, West Strand, February, 1864. GEORGE GODWIN, LEWIS POCOCK, } Hon. Secs.

ART-UNION of LONDON.—To SCULPTORS—The MODELS to be submitted in COMPETITION for the PREMIUM of 600l. offered by this Society, are to be delivered at the Museum, South Kensington, on TUESDAY, MARCH 1st, between the hours of TEN and FOUR.
444, West Strand, February 17th, 1864. GEORGE GODWIN, LEWIS POCOCK, } Hon. Secs.

ARCHITECTURAL ASSOCIATION, 9, CONDUIT-STREET.
A Paper will be read at the Ordinary Meeting of the Association, on FRIDAY evening, MARCH 4th, at EIGHT p.m. by GEORGE GILBERT SCOTT, Esq. R.A. F.R.I.B.A. Subject—"Thoughts and Suggestions on the Artistic Education of Architects."
Gentlemen engaged in the profession may obtain admission on presenting their card at the door.
J. DOUGLASS MATHEWS, LACY W. RIDGE, } Hon. Secs.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
LECTURE SESSION, 1864.
TUESDAY next, MARCH 1st, "The Influence of Local Scenery on Local Architecture," by the Rev. J. M. NEALE, M.A. The Chair will be taken at EIGHT o'clock precisely. Art workmen may apply for cards, by letter, to the Hon. Sec. at 13, Strafford-place, W.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.
The PRIZES for 1864 will shortly be announced.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit street, Regent-street, W.—A SPECIAL MEETING will be held on WEDNESDAY evening, MARCH 2nd, 1864. Members are particularly requested to attend. JOSEPH KAY, Cor. Sec.

NEW ZEALAND EXHIBITION, 1865.
The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts. Space will be reserved for Exhibitors from the United Kingdom and her Colonies, the Continents of Europe and America.—Copies of the decisions, forms of application for space, and further details may be obtained from the undersigned.—By order,
JOHN MORRISON, Agent for the New Zealand Government.
New Zealand Government Agency, 3, Adelaide-place, King William-street, London, February, 1864.

PROFESSOR TYNDALL, F.R.S., will commence a COURSE of Thirty-two LECTURES on MAGNETISM, ELECTRICITY, SOUND, LIGHT, and HEAT, on MONDAY next, the 29th FEBRUARY, at HALF-PAST TEN a.m., at the ROYAL SCHOOL of MINES, JERMYN-STREET; to be continued on every week day but Saturday at the same hour.—Fee for the course, 3l.
TRENHAM REEKS, Registrar.

EXAMINATIONS in DRAWING, conducted by the Science and Art Department, will be held in the Metropolitan Schools of Art during the months of MARCH, viz—Finsbury—William-street, Wilmington-square; Hampstead—Dispensary-building, New End; Lambeth—St. Oswald's-place, Upper Kennington-lane; Marylebone—Wells-street, Oxford-street; Rotherhithe—Deptford-road; St. George's-in-the-East—Cannon-street-road; St. Martin's—Castle-street, Longacre; St. Thomas's—Charterhouse, Goswell-street; South Kensington—Cromwell-road; Spitalfields—Crispen-street; Westminster—Vincent square. The Examination will be open to persons of both sexes, of any age. Candidates for examination must send their names and addresses to the Secretary of the Science and Art Department, South Kensington, W. on or before MARCH 7th, and at the same time state the subjects in which they desire to be examined, and at which of the above schools they desire to present themselves. They will then be informed of the exact date and hour at which they can be examined. Schoolmasters are required to furnish the number only of their students who will attend any of these examinations.
By order of the Committee of Council on Education.
23rd February, 1864.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 13, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
73–74, Bishopsgate-street Within, November, 1863.

TO ARCHITECTS.—Notice is hereby given, that the Trustees appointed by Sir John Soane will meet at the Museum, No. 13, Lincoln's-inn-fields, on THURSDAY, the 24th of MARCH, at THREE o'clock in the afternoon precisely, to DISTRIBUTE the DIVIDENDS which shall have accrued during the preceding year, from the sum of 5,000l. Reduced 3l. per cent. Bank Annuities, invested by the late Sir John Soane, among distressed architects, and the widow and children of deceased architects left in destitute and distressed circumstances. Forms of application may be had at the Museum, and must be filled up, and delivered there on or before TUESDAY, the 15th of MARCH, after which day no application can be received.

COMPETITIONS.

PROPOSED NEW CHURCH, Louth, Lincolnshire.—The Committee are desirous of receiving DESIGNS for a handsome but plain new CHURCH, to be built on the same as Trinity Church now stands, capable of holding not less than 650 persons. The outside walls to be of Ancaster stone, with slated roof, and open sittings of stained deal. The sum to be expended is 2,500l., together with all the materials of the present church, and the palisading in front of the same. The Architect's commission and expenses are to be included in this amount; and he must be prepared, if required, to find a builder willing to undertake it for such sum, including all the necessary fittings and apparatus for lighting and warming (with hot water), making the approaches to the church, and every other expense.—Plan and specifications to be sent, under cover, on or before the 21st of MARCH next, to Mr. C. E. LUCAS, Hon. Secretary.
Louth, February 24th, 1864.

TO ARCHITECTS and SURVEYORS.—PREMIUM for DESIGNS.—The Directors of the East London Bank (Limited) offer a Premium of 100 guineas for a DESIGN, PLANS, &c. of a Building suitable for the Head Office of the Bank. Particulars and conditions may be had at the Secretary's Office, 154, Fenchurch-street, E.C.—February, 1864.

CONTRACTS.

TO BUILDERS.—LEEDS MECHANICS' INSTITUTION and SCHOOLS of SCIENCE and ART.—CONTRACTS are required for the ERECTION and COMPLETION of the proposed NEW BUILDING for the above Institution. The plans, specifications, and bills of quantities will be at the Office of Mr CUTHBERT BRODRICK, Park-place, Leeds, on and after MONDAY, the 15th of FEBRUARY. Tenders are to be delivered to the Honorary Secretaries of the Leeds Mechanics' Institution, South Parade, not later than MONDAY, the 7th of MARCH. The lowest Tender will not necessarily be accepted.—By order,
H. WARDMAN, W. J. NEILD, } Hon. Secs.
February 9, 1864.

TO CONTRACTORS and BUILDERS.—TO BE LET by TENDER, the CONSTRUCTION of a BUILDING at Penzance, for the purposes of the Town Council, the County Court authorities, a Public Buildings Company, and the Royal Geological Society of Cornwall; containing a Guildhall and County Court, Council Rooms and Offices, Savings Bank Apartments, Lecture Halls Museums, Libraries, Committee-rooms, House-keeper's apartments, &c. Plans and specifications of the Works may be seen, and all information obtained, at the Architect's Office, Council Buildings Sealed Tenders, indorsed "Tender for Penzance Public Buildings," to be delivered at the Offices of R. H. RODD, Esq. Penzance, on or before SATURDAY, the 26th of MARCH next. The Building Committee do not bind themselves to accept the lowest or any Tender,
JOHN MATTHEWS, Architect.
Penzance, 1th February, 1864.

CONTRACTS.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK STREET.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office, in Springgardens, Charing-cross, on WEDNESDAY, the 2nd MARCH, now next, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties who may be willing to take on BUILDING LEASES all or any of certain PLOTS of GROUND, situate on the north and south sides of Southwark-street, from High-street, Borough, to Blackfriars-road, Particulars, conditions, and form of Tender, and every information may be obtained in the Superintending Architect's Office, at the Office of the Board, on and after the 1st of FEBRUARY next, between the hours of NINE a.m. and FOUR p.m. The Tenders must be on the printed form supplied at the Office of the Board, and be delivered under sealed covers, endorsed, "Tender for Ground in Southwark-street," and addressed to the Clerk of the Board, at the Office of the Metropolitan Board of Works, Spring-gardens, S.W. before TWELVE o'clock at noon, on the said 2nd MARCH next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, Charing-cross, 9th January, 1864.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION.—The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT at DURSLEY. Persons desirous of Contracting for the Works may see the drawings and specification, and obtain form of Tender and any further information after TUESDAY, 1st of MARCH, on application at the Offices of Mr. J. MEDLAND, County Surveyor, Clarence street, Gloucester. Tenders sealed and endorsed "Tender for Police Station, Dursley," to be sent under cover to the Clerk of the Peace, Shire Hall, Gloucester, on or before SATURDAY, the 12th of MARCH next. The lowest or any Tender will not necessarily be accepted.
Clarence-street, Gloucester, 16th Feb. 1864.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the ERECTION of the RECTORY HOUSE, at Staple, near Wingham, Canterbury, Kent, can apply by letter only, for further particulars, to the Architect, Mr. HARRY B. NEWTON, 5, Argyle street, Regent-street, London, W.

CONTRACT for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the SUPPLY of TIMBERS, DEALS, SLATES, LIME, SAND, BRICKS, LEAD, GLASS, WROUGHT and CAST IRON, IRONMONGERY, OAKS and WATER PIPES WHITE and OILS & &c. Twelve months from the 1st of April next to the 31st of March, 1865, for the Pentonville, Millbank, Brixton, Portland, Portsmouth, Chatham, Parkhurst, Dartmoor, Woking, and the Refuge at Feltham, are required to send their Tenders, prepaid, addressed "The Directors of Convict Prisons, 45, Parliament-street, Westminster, S.W." on or before SATURDAY, MARCH 19th, 1864, at NOON. Forms of Tender will be supplied on application at the several Prisons before named, or at the Office of the Directors, 45, Parliament-street, on and after TUESDAY, the 1st of MARCH, 1864.
45 Parliament-street, 16th February, 1864.

TO CONTRACTORS and BUILDERS.—Borough of Kingston-upon-Thames.—DRAINAGE WORKS.—The corporation of the borough of Kingston upon Thames having adopted a plan for draining the whole of the borough, comprising about 13 MILES of BRICK SEWERS and PIPE DRAINS, are desirous of receiving TENDERS for carrying out the works. A full specification, together with plans and sections, may be inspected at the Town Clerk's Office, Church street, Kingston-upon-Thames, where all other particulars may also be obtained any day after THURSDAY, the 25th inst., between the hours of TEN a.m. and FOUR p.m. All Tenders to be sent in sealed to the Town Clerk's Office, marked "Tender for Drainage Works," on or before the 16th day of MARCH next.—The Works proposed to be executed are intended to be commenced forthwith.—The Corporation do not bind themselves to accept th lowest or any Tender By order,
WALTER M. WILKINSON, Town Clerk.
Dated 20th February, 1864.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a NEW SCHOOL-ROOM, at the Henley Grammar Schools, may see the drawings and specification, and obtain copies of the quantities, on payment of 10s. at the Office of Messrs. COOPER, Solicitors, Henley-upon-Thames. The Tenders (on a form which will be supplied), are to be delivered at the Office of Messrs COOPER, on or before TUESDAY, the 1st MARCH next. The lowest or any Tender will not necessarily be accepted.—Any further information may be obtained of the Architect, B. FERREY, Esq. F.S.A. No. 1, Trinity-place, Charing cross, London, and at the Office of Messrs. COOPER.
Henley, February 18, 1864.

VESTRY of SAINT MARY, NEWINGTON, SURREY.—CONTRACTS for PAVING, CURBING, BROKEN GRANITE (GUERNSEY, ROMSAY, and PORT PHILIP), FLINTS, KENTISH RAG, GRAVEL, SMITH'S WORK, PUMP MAKER'S WORK, and SCAVENGERS' BROOMS.—The Paving Committee of the Vestry will meet at the Vestry Room of the Parish Church, on MONDAY, the 7th MARCH next, at SEVEN o'clock in the evening, to receive TENDERS from persons willing to contract with the Vestry for the SUPPLY and PAVING of such Broken Granite (Guernsey Boulder, and Port Phillip), Flints, Kentish Rag, Gravel, Smith's Work, Pump maker's Work, and Scavengers' Brooms, as the Vestry may require of the contractor, from the 26th March next until the 25th March, 1865. For further particulars and Forms of Tender and Contracts, apply to the undersigned.—All Tenders must be sent to the undersigned before SIX o'clock in the evening, on MONDAY, the 7th MARCH next, and the several persons willing to contract must attend the Committee at SEVEN o'clock on the same evening.—The Vestry does not bind itself to accept the lowest or any Tender.
H. & F. CHESTER, Joint Clerks to the Vestry.
1, Church row, Newington Butts.

[For remainder of Contracts see next Page.

CONTRACTS.

SAINT JOHN, HAMPSTEAD.—CONTRACT for ROAD WATERING. The Vestry of the Parish of St. John, Hampstead, hereby give notice, that they will hereby at the Vestry meeting, to be held at the Board room, at Hampstead Workhouse, on FRIDAY, the 11th day of MARCH next, at HALF-PAST SEVEN o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the SUPPLY of HORSES, WATER-CARTS, and DRIVERS for WATERING the several ROADS and PLACES comprised in the Adelaide road district, including, from, and after the 1st day of JULY next, the present turnpike-road, called the London road, commencing at the top of Rosslyn-street, near the old public house known as the Red Lion, and terminating at a boundary stone intended to be erected about midway between the Load of Hay and the Adelaide Tavern, and in the St. John's wood and Kilburn districts in this parish, at per lineal superficial yards, for one year, from the 25th day of MAY last, except as regards the London road, to the 29th day of SEPTEMBER next, and as regards the London road, from the 1st day of JULY next to the 29th day of SEPTEMBER next. Printed forms of Tender may be had, and a specification and form of contract may be seen, and further particulars obtained, at the Office of the surveyor of the Vestry, No. 10, New End, Hampstead, any day before the meeting, between the hours of TEN and FOUR. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a bond with two sufficient sureties in sum, for the due performance of the contract. None but the printed forms of Tender will be received, nor will any Tender be received after FOUR o'clock p.m. on FRIDAY, the 11th day of MARCH next—Tenders to be addressed to the Vestry Clerk of Hampstead, endorsed "Tender for Road-Watering."—By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, February 24, 1864.

SAINT JOHN, HAMPSTEAD.—CONTRACT for ROAD MATERIALS.—The Vestry of the Parish of St. John, Hampstead, hereby give notice, that they will be ready, at the Vestry meeting, to be held at the Board room, at Hampstead Workhouse, on FRIDAY, the 11th day of MARCH next, at half-past SEVEN o'clock in the evening precisely, to receive TENDERS for the SUPPLY of the following ROAD MATERIALS, to be delivered at such places within the said Parish, in such quantities, and at such times, with the period of twelve calendar months from the 25th day of March next, as may from time to time be directed; viz., Broken Middlesex Granite, Broken Surface Flints, Screened Ballast, Screened Gravel, Screened Hoggin, Screened Shingle, Screened Brick Rubbish and Packing, Dorking Lime, and Sharp Thames Ballast and Sand. All the matter, inclusive of the two pavior's Tenders, specifying the price per cubic yard, of all or any of the above mentioned materials in both or either of the Districts of contract will be required to execute a written contract, and to enter into a bond, with two sufficient sureties, in the sum of 500l. for the due performance of the Contract. The form of Contract may be seen at the Surveyor's Office, No. 10, New End, Hampstead, where further particulars may be obtained.—By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, February 24, 1864.

SAINT JOHN, HAMPSTEAD.—CONTRACT for PAVING and KERBING.—The Vestry of the Parish of Saint John, Hampstead, hereby give notice that they will be ready at the Vestry Meeting, to be held at the Board room, at Hampstead Workhouse, on FRIDAY, the 11th day of MARCH next, at HALF-PAST SEVEN o'clock in the evening precisely, to receive TENDERS for the supply of the undermentioned articles of PAVING and KERBING, severally in a specification and schedule, which may be seen daily, between the hours of TEN and FOUR, at the Surveyor's Office No 10, New end, Hampstead, to be delivered at such places within the said Parish, in such quantities and at such times, as may from time to time be required within the period of twelve calendar months, from the 25th day of March next, viz Yorkstone Paving, Aberdeen and Hexter Granite, Markfield and Hurdlow Paving, ditto to be of the best quality. Tenders, in a printed form, to be obtained at the surveyor's Office, stating the price at per lineal or superficial foot, or both, as specified in the said Schedule, of all or any of the above articles, and the period to be delivered or set under cover, endorsed "Tender for Paving and Kerbing," to be on or before FRIDAY, the 11th day of MARCH next, not later than FOUR o'clock, p.m. of that day. No other will be noticed or received, and no Tender will be received which is not filled up in the printed form of the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written Contract, and to enter into a bond with two approved sureties in the sum of 500l. for the due performance of the contract.—By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, 24th February, 1864

SAINT JOHN, HAMPSTEAD.—SLOPPING CONTRACT.—The Vestry of the Parish of St. John, Hampstead, hereby give notice that they will be ready at the VESTRY MEETING, to be held at the BOARD ROOM, Hampstead Workhouse, on FRIDAY, 11th day of MARCH next, at HALF PAST SEVEN o'clock in the Evening precisely to receive TENDERS from persons willing to CONTRACT for one year, from the 25th day of MARCH next, for the present Turnpike-road, lanes, courts, alleys, and places comprised in that part of the Parish which lies east and north of the Finchley and Adelaide roads called District No. 2; and from the several paved roads, gullies, lanes, courts, alleys, and places comprised in that part of the said parish which lies east and north of the Finchley and Adelaide roads, including the town of Hampstead, called District No. 1, including also, from and after the 1st day of JULY next to the 25th day of MARCH 1865, the present Turnpike-road, called the London road, commencing at the top of Rosslyn-street, near the old public house known as the "Red Lion," and terminating at a boundary-stone intended to be placed about midway between the "Load of Hay" and the "Adelaide" taverns, the Vestry finding all carts for carrying and sweeping the same roads, lanes, courts, and alleys, and for emptying the street gullies in the same roads. A specification and form of contract may be seen, and printed forms of Tender may be obtained, on application at the office of the Surveyor of the Vestry, No. 10 New End Hampstead, any day before the meeting, between the hours of TEN and FOUR. Tenders may be made for both or either of the Districts. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor will be required to execute a written Contract, and to enter into a Bond with two sufficient Sureties in 500l. for the due performance of contract, and no tender will be noticed unless attended personally on the day and at the time appointed for the hearing. None but the printed forms of Tender will be received, nor will any Tender be received after FOUR o'clock p.m. FRIDAY, the 11th day of MARCH next. Tenders to be addressed to the Vestry Clerk, endorsed "Slopping Contract, District Nos. 1 and 2," or "Slopping Contract, District No. 1," or "Slopping Contract, District No. 2." By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, 24th February, 1864.

BOARD of WORKS of the POPLAR DISTRICT.—The General Purposes Committee of this Board will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the execution of REPAIRS to SEWERS, GULLIES, &c., and GENERAL JOBBING WORKS, under a Schedule of Prices in connexion therewith, for one year, ending Lady-day, 1865. The contractor will be required to furnish sureties to the satisfaction of the Board, and to enter into bond with them for the due performance of the contract, and to pay down the sum of 40*l.* immediately on the acceptance of the Tender, for the expense of the contract and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered, sealed, at my Office, on or before TWELVE o'clock at noon, on the 8th day of MARCH. After which time no Tender will be received.—Further particulars and forms of Tender, can be had at the Surveyor's Office, any day from NINE in the morning until FOUR in the afternoon, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock-road, E. February 24, 1864.

BOARD of WORKS for the POPLAR DISTRICT.—The General Purposes Committee of this Board will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the EXECUTION of REPAIRS to SEWERS, GULLIES, &c., and GENERAL JOBBING WORKS, under a Schedule of Prices in connexion therewith, for one year, ending Lady-day, 1865. The contractor will be required to furnish securities to the satisfaction of the Board, and to enter into bond with them for the due performance of the contract, and to pay down the sum of 40*l.* immediately on the acceptance of the Tender, for the expense of the contract and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered, sealed, at my Office, on or before TWELVE o'clock at noon, on the 8th day of MARCH. After which time no Tender will be received.—Further particulars and forms of Tender, can be had at the Surveyor's Office, any day from NINE in the morning until FOUR in the afternoon, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock-road, E. February 24, 1864.

BOARD of WORKS for the POPLAR DISTRICT.—The GENERAL PURPOSES COMMITTEE of this BOARD will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the COLLECTION of DUST, ASHES, &c., for ONE YEAR, ending Lady-day, 1865. The Contractor will be required to furnish sureties to the satisfaction of the Board, and to enter into bond with them for the due performance of the contract, and to pay down the sum of six pounds immediately on the acceptance of the Tender, for the expense of the Tender and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered sealed, at my Office, on or before TWELVE o'clock at Noon, on the 8th day of MARCH. After which time no Tender will be received. Further particulars and Forms of Tender can be had at the Inspector's Office any day from NINE to ELEVEN in the Morning, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock-road, E. February 24, 1864.

BOARD of WORKS for the POPLAR DISTRICT.—The General Purposes Committee of this Board will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the SCAVENGING and WATERING, as per specification, for ONE YEAR, ending Lady Day 1865. The Contractor will be required to furnish securities to the satisfaction of the Board, and to enter into bond with them for the due performance of the Contract, and to pay down the sum of 6*l.* immediately on the acceptance of the Tender, for the expense of the contract and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to Contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered, sealed, at my Office, on or before TWELVE o'clock at noon on the 8th day of MARCH, after which time no Tender will be received. Further particulars and forms of Tender, can be had at the Surveyor's Office any day from NINE in the morning until FOUR in the afternoon, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock-road, E. February 24th, 1864.

BOARD of WORKS for the POPLAR DISTRICT.—The GENERAL PURPOSES COMMITTEE of this BOARD will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the SUPPLY of BROKEN GRANITE, PORTLAND STONE, GRAVEL, and FLINTS, for ONE YEAR, ending Lady Day, 1865. The Contractor will be required to furnish securities to the satisfaction of the Board, and to enter into bond with them for the due performance of the contract, and to pay down the sum of 4*l.* immediately on the acceptance of the Tender, for the expense of the contract and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered, sealed, at my Office, on or before TWELVE o'clock at noon, on the 8th day of MARCH. After which time no Tender will be received.—Further particulars as to form of Tender, can be had at the Surveyor's Office, any day from NINE in the morning until FOUR in the afternoon, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock-road, E. February 24th, 1864.

BOARD of WORKS for the POPLAR DISTRICT.—The GENERAL PURPOSES COMMITTEE of this BOARD will meet on TUESDAY, the 8th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the EXECUTION of REPAIRS to SEWERS, GULLIES, &c., and GENERAL JOBBING WORKS, under a Schedule of Prices in connexion therewith, for one year, ending Lady Day, 1865. The contractor will be required to furnish securities to the satisfaction of the Board, and to enter into bond with them for the due performance of the contract, and to pay down the sum of 40*l.* immediately on the acceptance of the Tender, for the expense of the contract and bond. The Board will not bind themselves to accept the lowest or any Tender, and persons offering to contract must be in attendance at the Board on the day, and at the hour above named. The Tenders are to be delivered, sealed, at my Office, on or before TWELVE o'clock at noon, on the 8th day of MARCH. After which time no Tender will be received.—Further particulars and forms of Tender can be had at the Surveyor's Office, any day, from NINE in the morning until FOUR in the afternoon, until the 7th day of MARCH.

CHARLES C. CEELY, Clerk to the Board.

East India Dock road, E. February 24, 1864.

GREAT WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are prepared to receive TENDERS for the purchase of about Four Hundred CAST IRON COLUMNS, taken out of the Windsor Viaduct during its reconstruction. They are from 9 to 12 feet in length, and from 1 foot to 15 inches in diameter, and will be delivered into trucks at Windsor station. Sketches may be seen, and all particulars obtained, at the Company's Office, Paddington, and at the District Engineer's Office at Reading. Tenders, indorsed "Tender for Window Columns," may be addressed to the Secretary, Paddington, and will be received up to MONDAY, the 14th of MARCH inclusive.

Paddington, February 23rd, 1864.

CONTRACTS, 1864.—PARISH of ST. MARYLEBONE.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will meet at the BOARD-ROOM of the said Parish, at the Parish Workhouse, on THURSDAY, the 10th day of MARCH, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the following WORKS and SUPPLIES, for one year, from the 25th day of MARCH, 1864, viz.:—HORSES and DRIVERS at per week; CARTS, for the SUPPLY of GRAVEL, THAMES BALLAST, SAND, CEMENT, BRICKS, PAVIORS, FLAGSTONES, and SCAVENGING WORK; CARPENTERS' WORK, PAINTERS' and GLAZIERS' WORK, PLUMBERS' WORK, SMITHS' WORK, IRONWORK for SEWERS, SUPPLY of TIMBER and DEALS, COALS and COKE, HANDLEY, and BASS and HEATH BROOMS, PRINTING and STATIONERY. All Tenders to be sealed, and delivered at the Vestry Clerk's Office, Marylebone Workhouse, on or before the forenoon of the said 10th day of MARCH. Tenders to be made upon, and strict compliance with, the printed Forms of Tender. Further particulars may be known, and Forms of Tender procured, on application to the Vestry's Surveyor, Mr. ROBERT SCOTT, at his daily attendance at the Court-house, from TWELVE to ONE o'clock. The Vestry will require the Contractors to enter into bonds, with sufficient sureties, for the due performance of the contracts, and the Contractor to pay all expenses of the bond and contract for the same. The Vestry will require the Contractors to pay all expenses of the carriage contract, and the Vestry do not bind themselves to accept the lowest or any Tender.—By order,

W. E. GREENWELL, Vestry Clerk.

Court-house, St. Marylebone.

ST. MARYLEBONE, 1864.—CONTRACT for QUEENSEY, GROBY, or WHITBY CHIPPINGS, or other hard materials to be used for the repair of roads and footways in the GRANITE CARRIAGEWAY PAVING STONE, for YORKSHIRE FOOTWAY PAVING, and for GRANITE KERBSTONE PAVING.—Notice is hereby given, that the Vestrymen of the Parish of St. Marylebone, in the county of Middlesex, will meet in the BOARD-ROOM of the Workhouse of the said Parish, on THURSDAY, the 10th day of MARCH, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT with the said Vestrymen for one year, from the 25th day of MARCH, 1864, for the SUPPLY of any of the above MATERIALS. The materials to be delivered at the Parish Stoneyard or on the streets, as may be required. Further particulars may be known, and Forms of Tender procured, from the Surveyor, Mr. ROBERT SCOTT, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. All Tenders to be upon the printed forms to be procured as aforesaid, and delivered by TWELVE o'clock in the forenoon of the said 10th day of MARCH, 1864, and no Tenders will be received after that time. A sample of the materials will be required with the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The contractor to provide two sureties of 200*l.* each, and to pay three guineas as the expense of the contract. The Vestry considers it desirable that the parties tendering, or some person on their behalf, should be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

Court-house, St. Marylebone.

ST. MARYLEBONE, 1864.—CONTRACT for GLAZED STONEWARE, SEWAGE PIPES.—Notice is hereby given that the Vestrymen of the Parish of St. Marylebone, in the County of Middlesex, will meet in the BOARD ROOM of the Court-house of the said Parish on THURSDAY, MARCH 10th, 1864, to receive TENDERS from persons willing to CONTRACT with the said Vestry of St. Marylebone for one year from March 25 1864, for the SUPPLY of STONEWARE SEWAGE PIPES, BENDS, JUNCTIONS, &c. The Tenders to be upon the printed forms at the net prices and to be sent in sealed on or before ELEVEN o'clock in the forenoon. A 9-inch, 6-inch, and a 12-inch pipe to be delivered, free of all charges, at the St. Marylebone Court house, on or before TUESDAY, the 8 h of MARCH, 1864, such pipes to become at once and remain the property of the Vestry. Any pecuniarity in the form of construction of any of the pipes to be specified, also the number and specific quality superficial of all the pipes, or to only a portion of the same, and to what extent. Further particulars may be known and Form of Tender procured from the Vestry's Surveyor, Mr. ROBERT SCOTT, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. The Vestry do not pledge themselves to accept the lowest or any of the Tenders The Vestry will require the parties tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

Court-house, St. Marylebone.

BERMONDSEY, ROTHERHITHE, and DEPTFORD ROADS.—BROKEN GUERNSEY GRANITE and OLD STONE.—The Trustees of the Above Roads will on the 1st day of May, No. 151, Bermondsey-street, Bermondsey, in the county of Surrey, on THURSDAY, the 24th day of MARCH, 1864, at TWELVE o'clock at noon, proceed to receive TENDERS for the SUPPLY of 1,200 yards of BLUE BROKEN GUERNSEY GRANITE CHIPPINGS of the best description, subject to the approval of the Surveyor of the Trust, delivered into the Granite Yard, in quantities of 500 yards at a time, as follows —200 yards at the Plough Wharf, in the Grand Surrey Canal, Rotherhithe; and a like quantity at Cherry-garden Wharf, Bermondsey, before the 1st day of JUNE; before the 1st day of JULY and a like quantity to be delivered in like manner before the 1st day of JULY next, and the remainder before the 1st day of NOVEMBER next, the Trustees having the option of taking 400 yards additional if required. The Contractor is to be bound by the Surveyor's approval of the material and measurements of the quantities of the Stone, and to receive payment to be made within three months after the certificate of the delivery and passing of the accounts by the Surveyor at the usual Quarterly Meetings of the Trustees. Specifications, Forms of Tender, Patterns and Samples of the supply of 800 cubic yards of Basalt or Limestone, either in lump or broken as 2½ inches chippings, or Boundary or Fort Phillip stone, delivered alternately in like manner, and subject to the same conditions, and for a greater or less quantity thereof at the option of the Trustees. The Tenders to state the quantities proposed to be delivered. The Contractor will be subject to the payment of a penalty of Ten Pounds in case of failure to deliver the above mentioned quantities at any of the respective periods above mentioned.

E. B. DREW, Clerk to the Trustees.

151, Bermondsey street, S.E. February 27, 1864.

BOROUGH of WOLVERHAMPTON.—To CONTRACTORS.—TENDERS are required for CLEANSING and SWEEPING the STREETS, and for the REMOVAL of the SURFACE FILTH in the Borough of Wolverhampton, for a term of three years, as detailed in a Contract, and other particulars, may be obtained at the Offices of the Borough Surveyor, to whom Tenders are to be delivered on or before MARCH 7th, addressed to the Chairman of the Street Committee, and endorsed "Tender for Cleansing Streets." The Committee do not bind themselves to accept the lowest or any Tender.

E. J. PURNELL, Borough Surveyor.

Surveyor's Offices, Town Hall, February 26, 1864

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will meet at the Town Hall, Church Street, Hackney, on THURSDAY, the 10th day of MARCH next, at ELEVEN o'clock in the forenoon, for the purpose of CONTRACTING for the SUPPLY and EXECUTION of the undermentioned WORKS and MATERIALS for the period of one year, from the 25th day of MARCH next, for the delivery and execution thereof:—

BALLAST .....For the Supply and Delivery of Ballast, Shingle, and Hoggin.

MASON'S WORK ..For the Supply and Laying Down of York Paving and Granite Curbing, also for Repairs to the existing Footways.

GAS FITTINGS ....For the Supply and Fixing of Lanterns, Lamp-heads, Stand-pipes, and Service-pipes, Removing, Altering, and Fixing Lamp-posts.

WATERING .....For the Supply of 32 Horses, Harness, and Men (more or less).

Forms of Tender and further particulars may be obtained at the Office of Mr. JAMES HARRIS, Surveyor to the Board, Town Hall, Hackney (on and after MONDAY, 29th of FEBRUARY), between the hours of NINE and ELEVEN o'clock a.m. The Tenders are required, under the Seal of the Contractor, and delivered at the Town Hall, Hackney, on or before the 9th day of MARCH, the parties tendering or their representatives, must attend at the Board on the forenoon of the 10th day of MARCH, at ELEVEN o'clock precisely. Persons Tendering will be required to enter into a Contract and Bond, at their own expense, in sufficient surety for the due performance of the Contract, and the Board do not bind themselves to accept the lowest or any Tender

February 25th, 1864. RICHARD ELLIS, Clerk.

TO BUILDERS. -PERSONS willing to TENDER for the Works to be done in RAISING the ROOF, the ERECTION of BATHS, LAVATORIES, &c. at the Worcester General Infirmary, may now inspect the Conditions, Drawings, and Specifications, at the Offices of Mr. H. DAY, Architect, No. 3, Foregate-street, Worcester. Sealed Tenders to be delivered to Mr. A. F. WATKINS, Secretary, No. 26, Foregate-street, addressed to the Building Committee, on MONDAY, the 21st MARCH next. By order of the special Committee of the Contract, this 26th day of February, 1864.

A. F. WATKINS, Secretary.

26, Foregate-street, Worcester, 26th February, 1864

HEXHAM LOCAL BOARD of HEALTH and WATERWORKS and SEWERAGE.—To IRON FOUNDERS, BRASS-FOUNDERS, EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Hexham, in the County of Northumberland, do hereby give Notice that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

Contract A, for supplying Cast-iron Water pipes and other Castings.

Contract B, for supplying Stone-valves, Hydrants, and other street fittings.

Contract C, for laying and jointing Cast-iron Water-pipes and fixing Stone-valves, Hydrants, and other street fittings.

Contract D, for constructing Sewerage Reservoir, Filter Beds, Service Reservoir, and other works.

SEWERAGE

Contract No 1, for providing Materials and Constructing Brick Sewers, Earthenware Pipe Sewers, Outlet Works, Manholes, Gullies, Overflows, and all Works

Plans, sections, and detailed specifications of the several works may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices may be obtained on and after MONDAY the 29th day of February, at the Office of ISAAC BATY, Solicitor, Hexham (Clerk to the Local Board), or at the Offices of JOHN LAWSON, Civil Engineer, Darlington, and THOMAS HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, London, S.W. Tenders, endorsed "Tender for Waterworks or Sewerage," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 30th day of MARCH next. The Local Board do not bind themselves to accept the lowest or any Tender.

ISAAC BATY, Clerk to the Local Board.

Hexham, 24th February, 1864.

TO BUILDERS.—TENDERS are required for EIGHT PAIRS of VILLAS at Surbiton. The drawings and specifications may be seen at the Office of the Architect, W. C. REED, 2, Adelaide-place, London Bridge

CONGREGATIONAL CHURCH, RINGWOOD, HANTS.—Parties desirous of TENDERING for the whole or certain portions of the WORKS required in the erection of the above Church, can obtain inspect the drawings and specifications at the Offices of Mr. HARRY HOLLOWAY, Ringwood. Sealed Tenders, addressed to Mr. RUMSEY, Honorary Secretary to the Building Committee, Ringwood, to be delivered on or before the 15th day of MARCH, 1864. The Committee do not pledge themselves to accept the lowest or any Tender.

T. C. SORBY, Architect,

23, Florence-street, Upper street, London, N.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. MARY, ISLINGTON.—CONTRACTS for PAVING and MATERIALS for the REPAIR of the ROADS, and the REMOVAL of the ROAD SCRAPINGS.—The Highway Committee of this Vestry will meet at the Vestry Offices, Upper street, Islington, on TUESDAY, the 8th day of MARCH next, at SEVEN o'clock in the evening precisely, to consider PROPOSALS for PAVING such parts of the Parish, and REPAIRING and KEEPING IN REPAIR the PAVED FOOTWAYS belonging thereto, as the Vestry shall from time to time direct. Also for supplying the Vestry with GRANITE, BALLAST, GRAVEL and CORE, and CLEAN FLINTS in such quantities and to be delivered at such places, as the said Vestry shall from time to time direct. Also for CARTING the BROKEN STONE, and for a supply of TRAMS and CARTS for the two divisions of the Parish. Also for the REMOVAL of the ROAD SCRAPINGS. The Tenders for the Removal of the Road Scrapings to be separate for each of the Eight Wards, and no Contractor to be permitted to contract for more than two of such Wards; the whole to be contracted for from the 25th day of March next, to the 25th day of March, 1865. Forms of Tender, which alone will be received, may be had, and the Draft Contract may be seen upon application at the Vestry Offices, between the hours of TEN and FOUR daily. All Tenders are to be sealed up and left at the Vestry Offices before the hour of meeting, and no Tender will be received unless it contains a 10*l* Bank of England Note, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the other case until the Contracts and Bonds are duly signed. Persons tendering should be in attendance at the meeting of the Committee. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street.

TO BUILDERS and OTHERS.—ST. MARY, ISLINGTON, in the County of Middlesex.—Notice is hereby given, that a Committee of the Vestry will meet at the VESTRY-OFFICES, Upper street, on WEDNESDAY, the 9th day of MARCH next, at HALF-PAST TEN o'clock in the morning precisely, to receive TENDERS for the DAY and JOBBING WORKS in connexion with the construction and repair of SEWERS and OIL LIKS. The Form of Tender and Contract, which alone will be received, may be had on application to the Surveyor of Sewers (Mr. HIGGINS), at the above Offices, on payment of 2s. 6d. Sealed Tenders must be sent in before HALF-PAST TEN o'clock on the day above mentioned, and no Tender will be received unless it contains a 10*l* Bank of England note, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the other case until the Contracts and Bonds are duly signed. Persons tendering should be in attendance at the Meeting of the Committee. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry offices, Upper-street Islington, 18th February, 1864.

TO CLOCK-MAKERS.—The HASTINGS LOCAL BOARD OF HEALTH are ready to receive SPECIFICATIONS and TENDERS for MAKING and FIXING a good TURRET CLOCK and BELLS in the Albert Memorial clock-tower, in the borough of Hastings. [For design of memorial see engraving in the "Builder," March 7th, 1863.] The following are some of the particulars required:—A Specification stating every particular; four octagon dials, 4 feet 3 inches diameter, of the best description, with plain figures, and to be illuminated; detail drawings for dial to be sent in with the Tender; elevation 37 feet to centre of dial. The movement can be placed on a level with the centre of dials. Floor of clock-chamber 8 feet 10½ inches below centre of dial. The clock to strike the hours on a good bell, also to strike the three quarters on bells, and the Contractor to state the tone and weight of each bell, also a price per lb. if more or less weight is required. Pallet-arms, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56, High Holborn.

about 25 feet for descent of weights and pendulum. All ironwork to be provided and fixed by the Contractor, and he will have to keep the clock in repair for two years after completion at his own expense. also to state in his Tender the date when it will be completed. The Local Board will find all woodwork and masonry, and the Contractor to give instructions for the same. By the Public Health Act, the Local Board are bound to require a surety. Sealed Tenders, endorsed "Tender for Clock," addressed to the Hastings Local Board of Health, to be sent in on or before TEN o'clock on MONDAY, the 21st MARCH, 1864. The Board do not bind themselves to accept the lowest or any Tender. ROBERT GROWSE, Town Clerk.

Hastings, February 23, 1864.

PADDINGTON.—TENDERS will be received by the Vestry of Paddington, on MONDAY, the 29th FEBRUARY, before FOUR o'clock p.m. from parties willing to CONTRACT for the execution of the DAY and JOBBING WORKS of every kind required to be performed in constructing, altering, rebuilding, or cleansing Sewers, Drains, Gullies, Watercloseta, Privies, &c. within the Parish of Paddington. Specification and Form of Tender may be had on payment of five shillings per copy, and other particulars obtained from Mr MERRY, Surveyor, at the Vestry-hall, Harrow-road, between the hours of TEN and TWELVE, till the 26th day of FEBRUARY. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two sureties in the sum of 50*l* jointly and severally, for the due performance of the works.—By order,

FREDERICK AVELING, Vestry Clerk.

Paddington, Feb. 24, 1864.

TO PAVIORS, STONE MASONS, and OTHERS.—The Vestry of the Hamlet of Mile-end Old Town will meet at the Vestry-hall, Bancroft-road, Mile-end-road, on WEDNESDAY, 2nd day of MARCH next, at SEVEN p.m. precisely, to receive TENDERS for the SUPPLY and LAYING DOWN of NEW PAVING and RELAYING OLD PAVING, in certain parts of the hamlet. The works are to be done pursuant to the terms of a specification, which may be seen at the Office of the Surveyor, at the Vestry-hall, between the hours of TEN and ONE o'clock. The contractor will be required to enter into a contract to be prepared by the Clerk to the Vestry, at the expense of the contractor, not to exceed 6*l* and find two approved sureties in half the amount of his contract for the due performance thereof. Tenders containing the names and addresses of proposed sureties, endorsed "Tender for Paving," are to be delivered at my Office, before THREE o'clock in the afternoon of the day of meeting.—The Vestry do not bind themselves to accept the lowest or any Tender. THOMAS PRICE, Clerk to the Vestry.

Vestry-hall, Bancroft-road, Mile-end road, February 18, 1864.

TO STAIRCASE HANDS. — TENDERS are required for the STAIRS and RAILS to FIVE HOUSES in Oakley-street, King's-road, Chelsea.—Apply to the FOREMAN. The lowest Tender not necessarily accepted.

TO ARCHITECTS and LANDSCAPE GARDENERS.—Notice. In consequence of the very numerous applications by intending competitors for the Prizes offered by the Directors of the ALEXANDRA PARK COMPANY (Limited) for the best DESIGNS for LAYING OUT the Company's BUILDING GROUND, for an EXTENSION of the TIME for sending in the Designs, notice is hereby given that such TIME IS EXTENDED until the 31st day of MARCH, 1864.—By order of the Board,

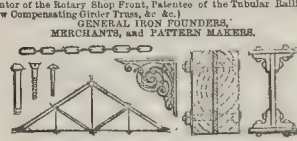
F. K. PARKINSON, Secretary.

No. 12, Tokenhouse-yard, E.C., February 17th, 1864.

MONTGOMERY COUNTY WORKS.—NEW WING, to 42 Cells, Pentonville System.—The Visiting Justices are prepared to receive TENDERS for the above. The plans, specifications, and conditions may be inspected at the County Surveyor's Office, Kerry, Montgomeryshire, and at the Gaol, on and after the 7th day of MARCH next. Tenders, sealed up, and addressed "To the Chairman of the Visiting Justices, County Gaol, Montgomery," to be delivered on or before the 31st day of MARCH next. The lowest or any Tender will not necessarily be accepted. Two Sureties for the due performance of the works will be required, whose names must be submitted with the Tender. Quantities supplied.

TO BUILDERS, &c.—Notice is hereby given, that plans and specifications for the ALTERATIONS and RESTORATION of the PARISH CHURCH of ST. PETER, Sidlington, one mile and a half from Cirencester, in the county of Gloucester, will be lying at the School-room, from MONDAY, the 7th day of MARCH next, until WEDNESDAY, the 16th, both inclusive; and all parties desirous of contracting for the works must send in sealed Tenders to the Hon. and Rev. JOHN GIFFORD, Sidlington Rectory, on or before SATURDAY, the 26th day of MARCH next ensuing. The lowest Tender will not necessarily be accepted. The contractor, if required, will enter into a bond, with two good and approved sureties, at his own expense, for the due fulfilment of his contract.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS 17, Union-street, and 95*l*, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.)
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

INDIA-RUBBER MILL BANDS, WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every one of which is strictly in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56, High Holborn.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:
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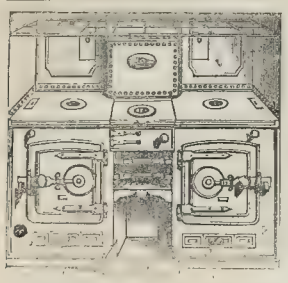
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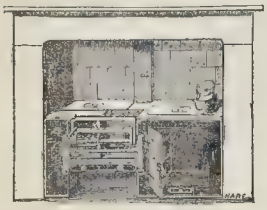
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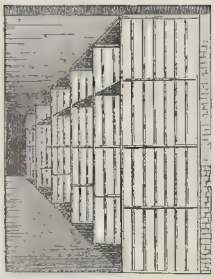
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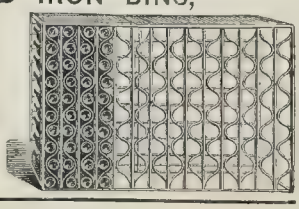
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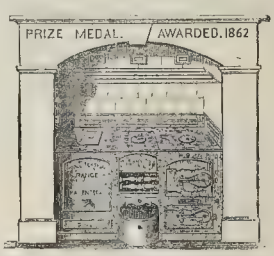
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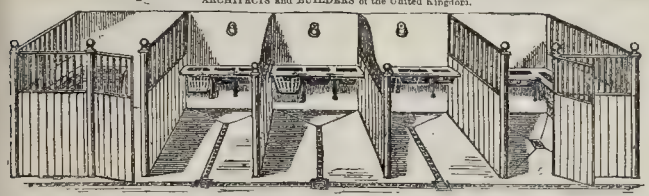
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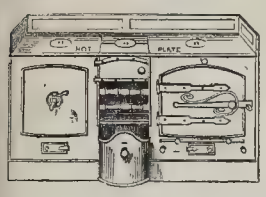
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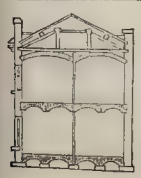
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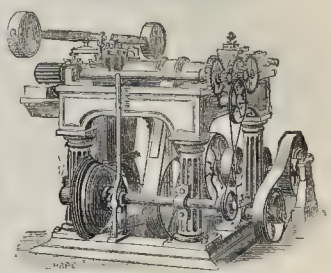
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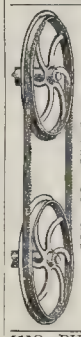
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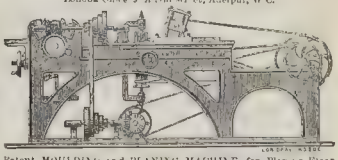
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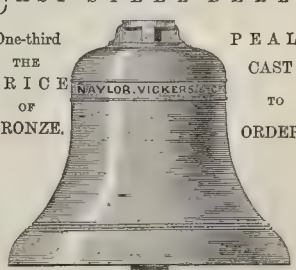
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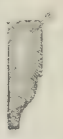
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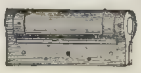


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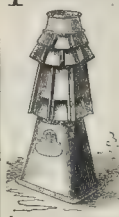
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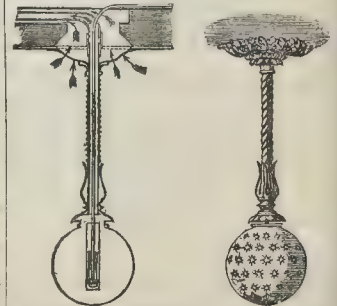


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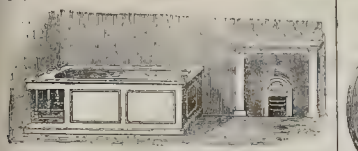
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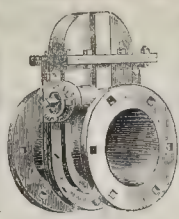
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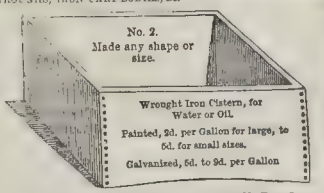
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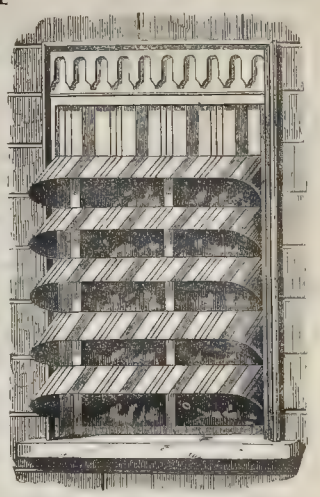
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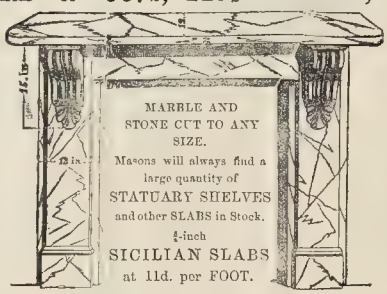
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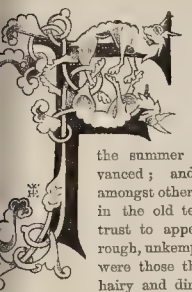
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THE GOLD ISIS MEDAL OF THE SOCIETY OF ARTS, 1850.
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The Builder.

VOL. XXII.—No. 1099.

"Going Along." Geneva and Home.



ROM tranquil Villeneuve we rail round the crescent-lake to Geneva, falling in again with hosts of tourists, the summer having now advanced; and strengthening, amongst other gains, our belief in the old teaching, "not to trust to appearances." How rough, unkempt, and ill-dressed were those three Englishmen, hairy and dirty, who lounged the carriage, seeming to have no eyes for at was around them: and yet how well y showed in botany, geology, and antiquities, en accident and a clever little woman waked m up and brought them out of their shells: n of the Muscular-Christianity school, and ve nothing. Still, why hide within such a ty crust?

The management of this line is not first-rate, d the porters are eminently inattentive. Aring at Geneva in a shower, passengers anxious, erefore, to obtain conveyances, not a man of se said porters would trouble himself to lift much as a bundle of cloaks!

In and around Geneva, the builder and imver, as we have had occasion to say more n once elsewhere, are at work. In the neighurhood of the *Jardin des Plantes*, and the blic Gardens, a pleasant part of the city, some e houses are in course of erection beyond the stion. Here, too, a bridge has been erected er a lower road, with flights of steps down m it. In another part, a Russian church has en commenced, which is to be full of cupolas, me say eight, as is the Russian's wont. It ll give a fresh feature to the town. The glish church here is a nearly new Gothic ifice, of fair character, especially outside: thin, a little more money might be usefully ent to deprive it of its white-washy aspect. n the Sunday it was filled with our countryen and country-women, a pleasant sight in a reign land, and the service was well perrmed.

In the *Jardin Anglais*, which is separated from e lake only by a light iron railing, a handsome onze fountain has been erected quite recently. ourlarge figures—one of Commerce, and another, n old man, possibly a personification of the hone,—are grouped around the pedestal which upports the central basin. The water from is flows through holes a little below the brim, nd falls into the lowest and largest basin; while oove, four chubby children holding hands, surund the support of the uppermost and smallest sin, an urn-shaped ornament surmounting the hole.

The gardens looked rather new, the walks tony and loose; but the flowers were most luxuiant, including parterres of perfumed heliotrope, eset with bees and butterflies; bright, sparkling, nany-coloured phlox; marvellously-scarlet verena; handsome balsams in profusion; and magificent roses.

The path by the lake is very pleasant, giving view into the singularly clear water, where myriads of small fish disport themselves, darting n and out of cracks and crannies in the huge ocks below; while a handsome swan sails majesically along, as if accustomed to be fed and petted by loungers in the garden. In among the vessels, a few yards to the right, two huge lumps of rock stand up dangerous and defiant, in strange proximity, one of which is known as the altar of Neptune, tradition speaking of sacrifices offered on it to the water god. The quays around have been greatly improved, and the houses have a good face on them. And yet it can scarcely be said that Geneva is in all things flourishing. The staple trade of the city, watchmaking, has been much disturbed of late years, and is still depressed. The number of watches made here has always been over-stated; many of the watches made in Neuchâtel and other parts of Switzerland, where are produced enormous numbers, being attributed to Geneva. In 1848 political events paralysed the trade. In 1851, Great Exhibition year, it revived, and it is calculated that about 65,000 watches were made in the twelve months,—a number which may be taken as the annual average of Geneva's best time. In 1860 the number turned out was about 40,000, and in 1861, 10,000 less. There is a law in Geneva which prevents the sale of a watch whereof the gold is not of a certain high degree of purity, and this of course gives an advantage to the less scrupulous makers in other parts of Switzerland, in markets where inferiority is not discovered; but in the end, the guarantee which the law in question thus affords the purchaser of a genuine Geneva watch, will bring back buyers and restore prosperity to the trade. The world, moreover, will always help to support Geneva: its lake, lovely position, charming suburbs, and past history attract visitors of all nations. Calvin, Cranmer, Lesage, Saussure, John Knox, Necker, Rousseau, Voltaire, Byron, and Sir Humphry Davy are some of the ghosts that haunt its streets and buildings. The cathedral, not half so well known as it deserves to be, and of which anon, takes back those who see with the mind eight hundred years,—to a time *before* Geneva fell under the sovereignty of the Emperors of Germany. And as to the hills around, of what time do they tell? On the Lago Maggiore we first got sight of the second of European mountains; on Lake Leman, its master comes into view:—

> "Mont Blanc is the monarch of mountains,
> They crown'd him long ago:"

and although his high mightiness does not condescend to be very often visible there,—about once in every six days is the average of the year,—when he does show it is a sight to remember. What is it Coleridge hymns on viewing "Sovran Blanc" before sunrise,—

> "O dread and silent Mount! I gazed upon thee
> Till thou, still present to the bodily sense,
> Didst vanish from my thought: entranced in prayer
> I worshipp'd the Invisible alone.
> Yet, like some sweet beguiling melody,
> So sweet, we know not we are listening to it,
> Thou, the meanwhile, wast blending with my thought,
> Yea, with my life and life's own secret joy;
> Till the dilating Soul, enrapt, transfused,
> Into the mighty vision passing,—there
> As in her natural form, swell'd vast to Heaven."

The water of the Rhone, which divides the town into two parts, and, in conjunction with the lake, has led to the construction of a whole *rendezvous* of bridges, with an island and a statue of Rosseau in the midst, is certainly wonderfully blue; and where it first issues out of the lake, rattling and tumbling over certain artificial arrangements, strikes the eye marvellously. It does not keep its brilliant colour long. From the grounds of a little country-house, about a mile and a half from the town, the brown muddy Arve may be seen creeping into the clear bright blue Rhone, at the point of a narrow tongue of land; and odd enough is the effect produced. The two rivers glide on side by side for a time without intermixture, obviously apart; but soon dirt triumphs, and the streams are no more distinguishable;—the Rhone retains its name, absorbing the Arve, but losing its purity and beauty. It seems too bad that, having washed itself and deposited its own dirt in the Lake of Geneva (thus gradually but appreciably lessening the lake's depth, by the way), it should so soon be again contaminated.

Sir Robert Peel has a pretty seat not far from this spot; and Baron Rothschild a château of larger pretensions, which forms a good object as seen from the lake.

Returning to the town, the steam-boat is starting, and we may as well get a general notion of "clear, placid Leman," at some distance from Geneva, and of the villages on its banks. We cannot agree with Voltaire, who said his lake, meaning this, was "the first,"—A 1. The extent, the smiling character of the surrounding country, the Alps on one side at a distance, and the Jura chain on the other, with Mont Blanc now and then, and the memories which haunt the lake always, make it attractive and delightful; but for picturesque and varied beauty, now smiling, now threatening, it certainly cannot compare with either the Lago Maggiore or that of Como.

Coppet, on the north bank, the retreat of Necker and of Madame de Staël, soon comes into view. It was to the large rambling château here that Madame de Staël retired when first banished from Paris by Napoleon. Talleyrand, her friend, was to communicate the edict to her, and he did it after this fashion: "I hear, Madame, that you are going into Switzerland." "Oh, no! you are wrong," said she, "I have no such intention." "Pardon me," was the rejoinder, "I am told, on the *very best authority*, that you will quit Paris in three days." And so she went to Coppet. As long as she could have friends around her there the place was endurable; but when those she loved best were exiled for visiting her, stay became impossible, and other countries were sought. Friendship was a passion with her; any diminution of it on the part of those she prized brought down reproaches. "Your friends," once said Madame de Saussure to her, "have to endure charges of coldness and neglect every morning." "What, odds," was the reply, "if I love them the better every evening? I would go to the scaffold to assure myself of the friendship of those who accompanied me." The life of this remarkable woman, whom Byron called "the incomparable Corinna," was a mixture of triumph and distress; of splendour and misery. An equal power of uniting around her distinguished men of all shades of opinion has perhaps never been possessed by one woman: and amongst them she found her happiness.

Nyon, which follows soon after Coppet, has Julius Cæsar for a founder, and still shows relics of the Roman domination. Near this place, where the lake opens out to its full width, a residence has been built for Prince Napoleon, half *quasi* Gothic and wholly ugly. It has a chimney shaft in the centre of the front, and a little tower that looks as if intended for a water-tank. France should have done better.

Rolle, having a monument to General La Harpe on a small planted island in the lake; and Morges, with its ancient square donjon, of brick, lofty and large, are seen; and then comes Ouchy, where we land, to walk once more through and about the noble and finely-placed Cathedral of Lausanne: in due time again taking to the boat to return to the *Hôtel de l'Ecu de Genève*.

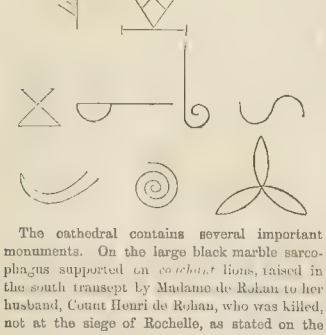
The lights on the several bridges and the quays, further reflected in the water, and a sky bright with a myriad stars, make a pleasant picture from the balcony, to which the balmy air soon draws us. If one really *could*

> ——"Hold a fire in his hand,
> By thinking on the frosty Caucasus;
> Or cloy the hungry edge of appetite,
> By bare imagination of a feast;"

the recollection of such an evening would make endurable even a shivery day in London fog.

Besides the division of the city by the Rhone, the main portion, lying on the south side of the

river, is again divided into the upper town and lower town: and toiling up to the former to reach the cathedral, the houses there are seen to be older and larger than those in the lower town: they accord much better with the stirring incidents, *escalades*, and such-like, that belong to the Mediæval history of Geneva. A huge Corinthian portico added on at the west end of the cathedral, promises little; but get round to the east end, and so into the building, and a noble structure opens to view. The plan is a Latin cross, with polygonal east end: the lower part of the building throughout has semicircular arches, on columns, with Romanesque capitals: the upper part is Pointed. At the extreme east end (using this term here as we have done throughout these notes as conveying a clear impression to English minds, and not as asserting that the churches we have had occasion to describe are all placed due east and west) we find arcading of earlier date than the rest of the church. The arches spring from pilasters which are fluted, and in other respects approach the Classical: some of the capitals exhibit more than usually beautiful Romanesque foliage, and others a figure under a canopy. Occasionally, the flat pilaster is covered by the later shaft, built up to carry the groining of the roof. The commencement of the building is popularly ascribed to Conrad I., who died in the year 918. The stones, both of the earliest and the later work, and as well in the triforium and clerestory as below (though not so obviously at the west end as elsewhere) show a large variety of Masons' Marks, some of them apparently "doctored" by the gossipping custodian, who has a theory of his own concerning them. To the practised eye, however, any alteration in them is at once evident. Amongst the Marks here are seen the pentacle, the V and reversed V, the N form and some other of those which have been found on buildings of all ages and many countries. We engrave a few of the less general forms, selecting those which we found also used in Lausanne Cathedral. The first of them, formed of parts of three circles, is on the earliest portion of Lausanne, and on the later semicircular work of Geneva.



The cathedral contains several important monuments. On the large black marble sarcophagus supported on *couchant* lions, raised in the south transept by Madame de Rohan to her husband, Count Henri de Rohan, who was killed, not at the siege of Rochelle, as stated on the spot, but at the battle of Rheinfelden, a hideous plaster figure, seated, with baton in the right hand, and resting on his knee, has taken the place of a white marble statue of the count, which was destroyed at the time of the French Revolution in '93. His armour, a fine suit, beautifully preserved, and also sent by the widow, lies on the sarcophagus. In the opposite transept, by the way, may be noticed on the door leading to what is now a vestry-room, some ornamental iron-work, gilt, which is nailed on, the door itself being painted red: it takes the shape of corn, with acorns and cardinals' hats intermixed. The canopy of the pulpit is dated 1402; and under it is shown the chair used by Calvin, almost triangular in shape, and with carved pateræ and arms upon it.

Calvin was long a name of power in Geneva. Passing through it a wanderer, accident detained him there, and in a brief period he became to all intents and purposes its master, ruling with an iron hand for nearly a quarter of a century. His power of work was astounding. Under one of his laws, made three hundred years ago, there was no theatre in Geneva until recently. At the present time, however, representations are given even on *Sunday*.

And now for Macon by rail, and so to Paris for home. About twenty miles from Geneva you get a very long tunnel, and then come Bellegarde and French custom-house officers. Here, in dark station, "cabin'd, cribbed, confined," we ran against "Ulster" (amongst other acquaintances), returning to his capital, and Carlisle: even the gracious Burke, however, in this place could nothing find Sublime or Beautiful.

On, through Seyssell and its asphalte to Oulos, whence the rail branches off that will run to Turin through Mont Cenis when the great bore is achieved. The works are going on well, and we shall be surprised if the Alps exist, so far as travelling into Italy be concerned, six years hence.

There is not much to see on the road; and if there were, it could not *be* seen for the trees which line the sides. *Nota Bene*: the planting of trees on railroads is a mistake. Use the slopes of cuttings for arboricultural and agricultural purposes if you will, but don't plant trees at the top edges of embankments!

At Macon, where we sleep, there is a bridge of nine arches over the Saône. The remains of the former cathedral, too, are curious, and worth hunting out. The interior portion remaining is Romanesque strangely altered. There is an opening with a large semicircular arch opposite the altar, having five ranges of figures in it and a vesica piscis. A new market has been built, near these remains, and is ugly enough. Again taking the road, Chalons-sur-Saône, amongst other places, is passed, and we find as the most noteworthy thing, many new residences building there and elsewhere on the route, and the extensive construction of quay walls going on, to make rivers navigable. And then, coming once more into the glittering capital of France, we abandon, so far as this series is concerned, the half-threat made in our first chapter, to say something more of modern doings there; rush over to—

> "That pale, that white-faced shore,
> Whose foot spurns back the ocean's roaring tides,
> And coops from other lands her islanders;"

and end at once our "Going Along."

These notes, all too short as they have been for the many subjects touched, have already run out to greater length than was intended. Let us hope they have not been found *too* long. Two days are wanting to complete the six weeks we took at starting, and we have looked into France, Bavaria, Southern Germany, Austria, Tyrol, Venetia, Northern Italy, and Switzerland; signalizing some of the buildings, works of art, and natural beauties that are prominent, and showing our younger readers, as was the chief aim at starting, what long distances may be travelled and how many things may be seen in a short time. Such journeys give the mind materials to work on; lead to fresh combinations, fresh ideas: recollections and bright pictures are garnered up that never wholly depart, but assert themselves, often unexpectedly, in later years, stimulating, perhaps, in moments of less energetic life, or illustrating and giving additional brightness to epochs of fresh enjoyment. The ruin comes back to us peopled: we again see with the eyes of youth, and at the same time profit by the teaching and warning such recollections bring. There are ever some notes of solemn music in the voice of past days, let the voice sing as gaily as it may.

MR. McCLEAN'S ADDRESS, AS PRESIDEN OF THE INSTITUTION OF CIVIL ENG NEERS.

In the course of his address, on taking t chair for the first time after his election, t President said,—

The progress of engineering science h been so fully recorded by my distinguish predecessors in office, that I propose on t present occasion, instead of describing any eng neering works, to point out the extraordina effects these works have exercised during t last thirty years, in promoting the material a intellectual progress of Great Britain, and i creasing the comforts and social enjoyments all classes of its inhabitants. I will endeavo to show that the wonderful prosperity attain during that period is to be attributed mainly our railway system, which has enabled us develop the mineral resources of the countr and at the same time to provide secure a reproductive investments for the profits realiz by the successful working of the system.

It is a prevalent opinion, that the increas prosperity of the country to which I refer h been the result of improvements in the cultiv tion of the land, better drainage and farmin and in consequence of the railway system havi provided better means of access to markets a places for disposing of the products of the so and obtaining suitable materials for renewi its fertility. In order to show the incorrectne of this opinion, it will be necessary to refer the reports of the Commissioners of Inla Revenue, which give returns of the property a income of Great Britain, at two different perio especially suitable for the comparison I wish make; one before the works of the civil engine had attained much importance, and the other aft the successful application of the steam-engine locomotive purposes had led to the constructi of our present magnificent system of railways.

The years selected for the purpose are 18 and 1856, the return of the property and incon of the country being fully given for those yea in the reports of the Commissioners. Beside the year 1815 was the last year of the incon tax in which accurate statistics can be obtain of the prosperity and income of Great Britain. was also the last of a long series of years of wa during the whole of which the property a income tax had been in operation; and, as t financial necessities of the Government we great, we may safely accept these returns accurate, and rely that no source of income property which could be brought within t operation of the Chancellor of the Exchequ has been omitted from the account, a allowed to escape taxation. It was, moreover, period in which most of the great discoveries of t engineer, except the locomotive engine, were full operation. The steam-engine, as improv by Watt, had been in operation forty yea before, pumping water from mines, raising min rals, and providing motive power; and Arkwrig and other great inventors had perfected t machines employed in textile manufactures, a had brought them into general use.

In the returns referred to we find each sour of income under a separate head; and, in ord to make the comparison as simple as possible, take in all cases the amount of the tax und that head as the measure of the value of t property or income assessed, as set forth in t following tables:—

Tables of the Net Amount of the Property and Inco of Great Britain, from all Sources, liable to Assessm for Taxation in the Years 1815 and 1856.

Table No. 1.—Year 1815.

Land,—Land, tithes, manors, fines	£11,521,492 0
Houses (exclusive of farmers' houses)	16,259,100 0
Profits on realized property,—Quarries, mines, ironworks, &c.	1,452,104 0
Farmers' profits	21,762,280 0
Funds	30,048,620 0
Profits of trade and professions	30,211,880 0
Government Departments	11,132,450 0
Total	£152,388,226 0

Incomes and profits exempt under 50*l.* per annum during this year.

Table No. 2.—Year 1856.

Land, — Land, tithes, manors, fines, fisheries	£38,153,935 0
Houses (exclusive of farmers' houses)	48,435,585 0
Profits on realized property, Quarries, mines, ironworks, canals, railways, gasworks, and other property	18,087,963 0
Farmers' profits	24,224,143 0
Funds	24,407,360 0
Profits of trade and professions	74,551,046 0
Government Departments	14,607,036 0
Total	£242,467,383 0

Incomes and profits exempt under 100*l.* per annum during this year.

In table No. 1 we find, that in the year 1815, or forty years after the steam-engine had been improved and used for saving labour and producing motive power in connexion with mining and manufactures, the whole annual income derived from quarries, mines, iron works, and other property, was only 1,452,104*l.*

In tables Nos. 1 and 2 we find the net income available for taxation, derived from land, and the profits of the farmers, taken together, in 1815 to be 63,283,772*l.*; whilst in 1856 it was only 62,378,378*l.*

The net income derived from houses during the same period, had increased from 16,259,400*l.* to 48,435,585*l.*, an augmentation of 32,176,185*l.*, or nearly 300 per cent.

The net profits derived from mines, quarries, ironworks, canals, railways, and other profits, had increased from 1,452,104*l.* in 1815, to no less a sum than 18,087,963*l.* in 1856, or upwards of 1,200 per cent.

From these figures we learn that, during the forty years over which the comparison extends, the profits and income of land together had not increased, notwithstanding the construction of roads, railways, canals, and other public works, and the relief from poor-rates afforded to it by the extension of the rate on other property, and by the absorption of the increased population in new occupations (as shown by the Population Returns), the number of labourers employed on the land at the Census of 1861 being less than in the year 1815. No doubt the condition of all classes connected with the land, including the landlord, farmer, and agricultural labourer, had improved during the period in question, and much capital had been expended in farm-buildings, drainage, and machinery. Yet the net annual income available for taxation in 1856, derived from land and farmers' profits, was not greater than in 1815, although the income derived from all other sources of property, during the same period, had largely increased, as we find in the tables,—the net amount of income derived from the profits of trades and professions available in 1815 being 30,211,880*l.*, and in 1856, 74,551,046*l.*, showing an increase in the latter year of nearly 150 per cent., the exemptions from income tax being under 50*l.* per annum in 1815, and under 100*l.* in 1856.

In these tables we also find the total net amount of income derived from all sources available for taxation in 1815, to be 152,388,226*l.*, and in 1856, 242,467,368*l.*, showing an increase of 60 per cent., or upwards of 90,000,000*l.* (which, on the basis of the taxation of 1815, would have yielded 9,000,000*l.* additional tax), from sources independent of the land.

I will now attempt to point out the causes of the enormous increase of the income of Great Britain, shown by the tables, representing the profits of many hundreds of millions sterling invested in railways, canals, mines, ships, and other works, in this country, in India, and in our colonies.

Fortunately the railway system, since the introduction of the locomotive engine, improved by Stephenson, gave it vitality, has been a complete success, in the reproduction of capital, in the enormous saving in the cost of transport, and in the facilities it affords for the development of mines, and of nearly all branches of national industry.

After the opening of the Manchester and Liverpool Railway, the accumulated wealth of Great Britain, which, previous to that time, had been but sparingly invested in public undertakings, and was for the most part hoarded or placed on doubtful securities, was thrown lavishly into the railway system; and, although for a time this led to the belief that the supply of capital for the construction of such undertakings was inexhaustible, and induced excess of speculation, temporary distress, and subsequent distrust in the system; yet the progress of railways ever since that period has been steady, and a reproductive profit has been assured on a capital of nearly 400,000,000*l.*

This vast capital has been created because railway securities, on the principle of limited liability, occupy the highest place in public estimation for investing the realized profits of the country, in consequence of the facility with which they can be purchased, and transferred in amounts suited to the requirements of every class of society; and this leads to a constant accumulation of capital by inducing people to save a portion of their income,—not merely for their own support in an after-period of life, but for the benefit of their descendants. Thus railway securities afford the means of transmitting wealth, as printing does knowledge, from one generation to another.

The beneficial effects of the railway system has not been confined to Great Britain. Before the introduction of railways, the land was nearly the only safe means in Europe for the investment of capital: and, in consequence of the competition for this security, the interest was reduced to a minimum rate, and was barely sufficient to induce people to save a portion of their income. The construction of railways, by inducing saving, has established a wealthy and educated middle class in most countries in Europe, who have not only developed the industrial resources and increased the capital of the country to which they belong, but have also, as in this country, promoted education, and humanized the conduct of all classes of the people.

I have only one more remark to make on railways as a cause of the increase of wealth. The land occupied by railways in Great Britain is under two hundred thousand acres, including stations and other conveniences; and to obtain possession of this land it has been necessary, during every session of Parliament for the last thirty years, to engage the services of the ablest counsel and the most eminent engineers in the committee-rooms of both Houses, at an incalculable expense. The land used for agricultural purposes is about forty million acres, and yet the railway system, occupying only about one half per cent. of the total area of the land, now pays nearly as great an amount of Income and Property Tax as is paid by the whole of the farmers of Great Britain.

Another source of wealth is the great deposit of coal and iron-stone, and other minerals, in nearly every part of the kingdom.

The most important of these is coal. The quantity of coal raised in Great Britain is now about one hundred millions of tons yearly, produced by the labour of about three hundred thousand men.

We are indebted to Professor Liebig, the celebrated German chemist, for data by which we can estimate the value of this enormous quantity of fuel, by comparing it with wood, or any other produce of the soil.

Liebig informs us that every acre of fertile land will produce yearly about two tons and a half of wood, or other crop, which contains about the same quantity of carbon (80 per cent.) as one ton of coal. The one hundred million tons of coal now raised annually from our mines contain about eighty million tons of carbon: and to produce the equivalent of this in wood would require one year's growth of, in round numbers, one hundred millions of acres of land,—an area about four times larger than the arable and pasture land of England (which does not exceed twenty-five million acres), and as nearly as possible equal in extent to the area of the kingdom of France. Yet this supply of fuel, even if it existed in the form of wood, would be practically useless as a substitute for coal: the labouring population of the kingdom would be unable to cut and convert it: the whole of our railways and canals would not suffice to transport it; while the cost of these operations, if no other obstacle intervened, would prevent them from being carried on beneficially.

The development of coal, then, is mainly the cause of the increase of wealth; but if railways had not proved reproductive investments, this mineral would have added little more to the wealth of Great Britain than it did in 1815, as shown by Table No. 1.

The serious question as to the permanence of this fuel, on which the wealth of the nation so much depends, has been prominently raised. Since the great discovery of Murchison that coal underlies, and may be found with reasonable certainty under, the lower new red sandstone and permian formations, which extend over millions of acres of Great Britain; and, if beneath them, at greater depths, under all the measures which overlie the permian, and which together comprise upwards of one-half of the area of Great Britain, we may consider our coal-mines to be practically inexhaustible, and that we have not to fear any deficiency in quantity arising from the exhaustion of the mineral, but rather the practical difficulty of obtaining it from a great depth below the surface, in consequence of the central heat of our globe; which it is alleged will ultimately, and within a defined and not distant period, reduce the production to a limited supply.

Much may be said in support of the theory of central heat, but I think undue importance has been given to it, as a difficulty in mining operations. A comparatively thin coating of clay, or fire-bricks, surrounding a blast furnace filled with molten iron, affords such protection that the hand may be placed without inconvenience on the outer surface of the brickwork; and it is difficult to understand how any internal heat can penetrate through the crust of the earth,—estimated to be thirty-four miles in thickness,—so as to interfere with the temperature at the comparatively small depth from the surface at which mining operations are carried on. I am of opinion that the heat, which undoubtedly exists in some mines, arises, not from central heat, but from superincumbent pressure, and defective ventilation. The gases in the coal are highly compressed, and, when liberated by mining operations, are at a high temperature; but we know that with large shafts air may be conveyed to any depth that has yet been reached in mining operations, without in the slightest degree altering its temperature; and that by a proper enlargement of the air passages, air descending the shaft may be distributed through the workings, so as to lessen the liability of accident from explosion, or serious inconvenience from heat, at any depth to which shafts can be sunk. The system of sending compressed air down the shaft by means of water is found to abate inconvenience in deep mines owing to an excess of temperature.

I therefore think that the time when we shall experience a want of coal, arising from exhaustion, or from difficulties occasioned by the depth of the mines, or an excess of temperature, need not at present in any way influence our conduct in the development and use of that important mineral; especially as the power (which is the substitute for labour) derived from coal is so cheap, that we are enabled to consume daily for our domestic comforts, for machinery in the conversion of minerals, and for other manufacturing processes, and for export, a power equal to twelve millions of horses, at a cost, at the mine, of not more than one penny per horse-power, working ten hours a day; and no saving in consumption of this enormous quantity of coal can be made, except by employing more expensive labour as a substitute.

With this power at our command the cost of sinking to, and of raising minerals from, the greatest depths, is inappreciable; while the intrinsic value of coal, when compared with any other fuel, is so great that it may be drawn profitably from almost any depth,—the only limit being the strength of the machinery and materials required to raise it. . . . . .

I will now make a few remarks on the extension of the railway system, and especially on the construction of the proposed new lines in the metropolitan districts. It is evident that Parliamentary sanction will not be given to all the lines which have been suggested; but the convenience of the public, and the necessity for relieving the streets of the heavy traffic passing to and from the present railway stations, require that some of these lines should be constructed without delay. The success of Mr. Fowler's Metropolitan line, due to the talent exhibited in its construction, as well as to the tenacity of its promoters in overcoming all difficulties,—those of finance not being the least,—has proved that railways in the metropolis can be made a source of profitable investment.

Much has been said as to the destruction of property which, it is assumed, will result from the execution of the proposed metropolitan extensions; and the question has been discussed as if the property taken were wasted or destroyed, forgetting that it is only a change of occupation, and that the houses pulled down will, in many cases, be much better restored, in accordance with modern sanitary improvements, or the sites will be applied to more profitable uses, tending to the general improvement of the metropolis, the convenience of the public, the relief from local taxation, and the better occupation of the working classes.

The construction of these railways, by means of private funds, is less objectionable than by funds derived from a tax on the coal and wine dues, or any other mode of local or public taxation. If public funds were to be resorted to, the works now so much needed would never be executed, as the enormous capital required would prevent either local boards or the Government itself from undertaking them. Besides, it is only right that those who use these railways should pay for them, and not people living remote from the metropolis, who may never enjoy them.

Occasionally unproductive works of national importance, such as the Thames Embankment

may be executed at the public expense; but the principle of Government construction is inadmissible in this country, in the case of railways or any other public work which can be rendered reproductive by private enterprise.

THE LADIES' SANITARY ASSOCIATION.

COLERIDGE, the philosophical religionist, in speaking of his theoretical ideas of religion, once remarked, that so long as these ideas remained in his understanding or his head merely, they had little influence on his conduct; but that now they had got into his heart and affections, they began to form the practical rule of his life. So is it with sanitary science, especially as regards the poorer classes. So long as it retains its merely theoretical or sciential form it may be said to get only into the heads of the people, if even thus far; but when put into a thoroughly practical and popular shape, and infused, as it were, into their hearts as well as their heads, then it is that sanitary science will triumph in the daily life of the nation. Now, great progress has already been made in sanitary science; but the laborious workers who are driving it into the heads of the people stand much in need of the help of a class of fellow-workers who, with slighter blows, perhaps, have yet a knack of engaging the affections, and of enticing sanitary ideas into the inner region of the people's hearts and habits. Just such fellow workers in sanitary science are the members of "The Ladies' Sanitary Association." This association, to use its own words, "aims at the diffusion of sanitary knowledge among all classes, by the publication of tracts, the delivery of lectures, the establishment of institutions for training nursery maids, and of loan libraries of popular sanitary books." Of the tracts alluded to, which form a sort of popularized compendium of sanitary science, and are being distributed among the people in hundreds of thousands, many are of a homely and entertaining description, while at the same time infusing sanitary ideas in simple and suitable language. Take, for example, one titled "Whose fault is it? How to make a happy home." A little story is here nicely told of a sensible servant girl, who has had the advantage of living in a family a little above her own rank, the heads of which were embued with wholesome sanitary ideas, and who hence enjoyed good health and cheerful spirits. The girl's sister, who has not had such advantages, is married to a workman, lives in a close court, in an uncleanly way, without the least idea of the importance and benefit of ventilation and fresh air, and with unwholesome smells abounding. Sickness hence and lowness of spirits prevail. The husband finds more comfort in drinking at public-houses than in spending his leisure with his family at home, and they sink into still greater misery in consequence. They are visited in this extremity by the unmarried sister, who of course sets all to rights; and on this simple thread a series of useful sanitary maxims is strung, while the interest and affections are engaged in the story. Another of the tracts, titled "The Mischief of Bad Air," is in the form of a simple dialogue. Some are in homely verse,—one of these called "The Sick Child's Cry, and other household Verses on Health and Happiness;" and another, "Household Troubles and Trials,—how to meet them." We may give a slight specimen of this style of tract from the first named:—

"CLEANSING.

Unclose the dark chamber,
Where fever and death
Have breathed out infection
With poisoning breath.

Let light and pure air in,
Through windows and door,
Cleanse the walls and the ceiling
As well as the floor.

Bring back to the dwelling
That choicest of wealth,
The purity, beauty,
And blessing of health."

This is the way to bring sanitary science home to the understanding and the affections—the heads and the hearts—of the humbler classes.

It is not to these classes alone, however, that the tracts address themselves, but to those above them, as well. Thus there is a useful one by Dr. R. Druitt, called "The Health of the Parish;" and another by Mr. H. Roberts, titled, "Healthy Dwellings and prevailing Sanitary Defects in the Homes of the Working Classes."

From "The Health of the Parish" we may here present an extract. The object of the tract is to show what the existing legal powers are; what the machinery is, and how it may be set agoing, and how cheap and efficacious the results usually are:—

Expediency of Making Complaints.

"No person need refrain from making reasonable complaints through fear of being made us or unneighbourly; for the local authority will satisfy itself of the reasonableness, before taking any steps in the case.

Neither need any one be deterred by fear of expense or personal trouble; for in the few cases in which legal proceedings before a magistrate are necessary, these proceedings are carried on by the local authority, at their own charge and by means of their own legal adviser and officers; cost, and by means of their own legal adviser and officers; who, moreover, being the chief witnesses, seldom require the testimony of other persons.

There is no reason, therefore, why any person should not appeal to the local authority when his own house is rendered unwholesome by nuisances created by his neighbours. For example,—A gentleman's house had been rendered offensive for years, because a neighbour had made use of a common, old, leaky rain-water pipe, inclosed in a groove of an old, thin wall, which formed part of the outside of the complainant's house, to carry away offensive water from a sink. Private remonstrances and lawyer's letters did no good: but at last the local authority was appealed to; the inspector certified as to the facts, the medical officer of health as to their injurious influence on health: the notice which was issued, and one or two private letters from the medical officer of health, were met by attempts to raise other issues; and so the local authority appealed to the magistrate, who, after hearing the case, ordered the pipe to be removed. Thus, as the magistrate observed, a case which under the old system would have been brought into one of the superior courts, where attorneys, counsel, and a host of witnesses would have occupied a day in swearing and counter-swearing, as their manner is, at an immense outlay of anxiety, trouble, and money, was settled quickly and satisfactorily to all parties, at the cost of 2s., paid by the defendant.

Still more should benevolent persons make use of these legal powers for the protection of the poor. Clergymen, who sit for half an hour, perhaps, reading or praying by the bedside, should for their own sakes be complainants; for they are much more likely to suffer than medical men, who, after they have once thoroughly investigated a case, seldom require more than a few minutes to ascertain how it goes on; and district visitors and others who desire to raise the moral character of the poor, should complain of anything which tends to keep them in a debased condition. Above all, the governors of hospitals, dispensaries, and other institutions for relieving sickness, should make complaint of any houses from which patients are sent to them with diarrhœa, fever, and other disorders possibly arising from putrid miasmata.

If Lord A., or if Mr. B., the rich tradesman, choose to occupy a dirty, unwholesome house, no one can or need hinder him; but if Lord A. send a servant to die in a hospital, of typhoid fever, caught in an unwholesome sleeping-place, or if the workmen in Mr. B.'s factory are made ill by close, stifling air, and foul drainage, and apply to the parish doctor or dispensary for relief, then it is quite just to interpose, and insist on the removal of the causes of ill health, which render these poor people chargeable to the rest of the community.

So, also, if a man choose to live in a poisonous house, let him. But he must not take in lodgers or inmates; and any person who has experienced any foul nuisance at a lodging or hotel, would do well to complain to the local authority on behalf of others who may come after.

Any person, then, who desires to benefit the poor, or to benefit himself by keeping down the poor-rate, will do a public service by informing the local authority of anything which may reasonably be believed capable of producing illness. Still more will he be doing so if he encourage the poor themselves to complain, and to put themselves into a condition to do so by thrift and temperance; for it is only people who pay their way that dare complain: they whose rent is behindhand are obliged to put up with dirt, damp, and nauseous smells; and if they grumble, their 'things' may be seized, and themselves turned into the streets.

Manner of Addressing Complaints.

Persons who wish to complain, if the thing complained of is unmistakeable and palpable, may address a letter by post, 'To the Inspector of Nuisances for the Parish [or District] of ——, Office of Board of Works, London [Postal initial].'

Or they may address it to the vestry clerk, or the clerk of the Board of Works; or may call and enter it in a book at the office. If the matter be one of a doubtful or suspicious nature, or one involving scientific inquiry, or one in which information may rightly be given, though the informant choose to conceal his name, a letter may be addressed,—'To the Medical Officer of Health for the Parish [or District] of ——, London [Postal initial].'"

In another of these tracts, titled "Remarks on Woman's Work in Sanitary Reform," it is well and truly said,—

"Woman's systematic co-operation is essential to the success of sanitary reform. Our legislators may frame wise Acts of Parliament, enforcing sanitary regulations, but some of the greatest causes of disease and death lie quite beyond legislative interference, and can only be removed by woman's agency. 'The Health of Towns Act' may insure good drainage and water supply, pure air, and other important external sanitary requisites; but till every woman frames a Health of *Home* Act, and becomes a domestic 'officer of health,' none can insure that the pure air shall ever be breathed, the good water ever be sufficiently used, or other sanitary conditions ever be fulfilled in-doors."

Others of the tracts, of a kindred stamp, are, "The Secrets of a Healthy Home," by Mrs. Fison; "Sanitary Defects;" "The Black Hole in our own Bed-rooms;" "The Inspector: How to get rid of bad Smells without, and bad Tempers within." There are many more, as on the health of mothers and infants, the every-day wonders of bodily life, how people hasten death, and so on. The managing committee seem still to contemplate the issue of more of these valuable tracts, but we hope they will excuse our suggestion whether there be not enough for the present, and whether the small means of the Association,—which, we would wish to let our readers understand, are much in need of increase,—would not be expended to better advantage in widening the distribution of those already in print throughout the provinces, as well as in town, by the aid, perhaps, of local committees.

The Ladies' Sanitary Association is affiliated with the National Association for the Promotion of Social Science, and is under highly influential guidance, headed by the Duchesses of Argyll and St. Alban's. The Hon. Mrs. William F. Cowper is the president. The office is 14A, Prince's-street, Cavendish-square, W.; and the secretary is Miss E. S. Griffiths, to whom, or to Mrs. Roth, one of the treasurers, our readers can send their contributions. The tracts, which they may purchase for distribution at from 8s. to 16s. per 100, are mostly sold in retail at 1d. and 2d. each. The Association has our heartiest good wishes.

EDINBURGH AND ITS NUISANCES.

"The Water of Leith! Would it were the Water of Lethe!" LORD PALMERSTON.

Two or three years ago some account of the sanitary condition of Edinburgh was given in our pages, and we dwelt more particularly on that which we conceived to be its most gigantic nuisance, viz., the Water of Leith.* Those remarks at the time excited attention and discussion, and we have been given to understand may have aided in leading to the Bill which has now been introduced into the House of Commons, under the name of the Edinburgh and Leith Sewerage Bill. The noble lord at the head of her Majesty's Government, while in Scotland last year, made the gentle pun we have quoted. We suspect, from the report we gave last week, that at this moment the joke expresses the state of feeling among the Edinburgh proprietors. We have not the smallest doubt, for example, but that most potent *à priori* reasoner, Mr. Henry Bowie, would rather see the Water of Leith run through—Hades, than through Edinburgh.

The ancient philosophers taught that no man should expect a reward during his life-time for speaking the truth. The process of disseminating knowledge is slow, and the obstructions are great. A generation or two must pass away before the most simple and elementary truth is recognised; and ages must elapse before we arrive at a full and true perception of the laws of the universe. One might imagine sometimes in these days, that our lot is better cast; that the progress of science is more irresistible; and that the relations of cause and effect are becoming closer and more evidently consequential. Alas! whenever we bring the breeches pocket into requisition, whenever we show a man that truth costs something which can be reckoned up in the current specie of the realm, we find a relapse all at once into the selfishness and stupidity of barbarism.

Here is a very good case in point. The Water of Leith, at this moment, is one of the common sewers of the city of Edinburgh. Once upon a time it was a picturesque mountain stream, growing out of the springs and rivulets of the Pentland Hills, meandering gently through the county of Midlothian, passing the northern outskirts of the romantic city, and finally reaching the estuary of the Forth through the Harbour of Leith. There is not a river in the country which turns the wheels of so many mills. Old inhabitants have caught trout in its limpid streams. Its richly-wooded banks have been the favourite haunts of poets and painters; and geologists have made its igneous rocks the basis of lofty speculations. But this picture of pastoral beauty no longer exists. The extension of the city, the increase of population, the growth of manufactures, the necessities, in short, of "modern civilization," have now reduced this pretty stream to the basest of uses. When we saw it last it was in a worse condition than the Thames; for it not only receives the sewage matter and refuse of probably 100,000 people, but it is also made the receptacle of all the horrible abominations which leak and ouse out of divers glue-works, paper-mills, chemical works, and gas-works; and, in particular, of the refuse from a gigantic distillery, which discharges enormous quantities of hot and acrid

* *Builder*, vol. xix. p. 421.

wash into its already polluted channel. The evils, of course, arising from all this are very conspicuous. In the first place, the indescribable combination of fumes and smells which proceeds from the water, in hot weather especially, is quite insufferable: secondly, the whole amenities of the river are destroyed: in the third place, the Harbour of Leith is converted, when the tide is out, into a huge, open, and seething cesspool; and, finally, the inhabitants along its banks suffer from an increased death-rate: in fact, the port of Leith, which suffers most, is never free from pestilence.

These things we pointed out as forcibly as we could at the time of our investigation. Our remarks, as we have said, excited some attention, and were on the whole received in the spirit in which they were made. But we added something more. The municipal councils of Edinburgh had for some years been perverted by certain members, whose darling ambition was to make the people of Scotland sober by Act of Parliament, and religious by restraining their liberty. To this end they turned Macaulay out of the representation of Edinburgh. To this end they got a Bill passed for shutting up the public-houses on Sunday. They did their best to excite the people of Edinburgh to revolt against the payment of their church-rates. They put a stop, among other improvements, to the restoration of the Mediæval cross which once adorned the High-street. But all this time the people continued as drunken and demoralized as before. It never seemed to occur to these fanatics that the question of public morals is inseparably connected with the question of public health; and that a Bill to purify the Water of Leith, for example, or the foul bourn, would have done more for the elevation of the people than a Bill to shut up all the public-houses in Scotland. Public opinion at length grew tired, and interposed; and, as it so happened, a few months after the publication of our article, in which we commented on their doings, these theologues were driven from power, and returned to the heap,

> ——"From whence they sprung,
> Unwept, unhonour'd, and unsung."

The town council of Edinburgh, as at present constituted, is, we believe, one of the most enlightened and liberal public bodies in the empire. Of course, it contains a sprinkling of the old leaven, but only a sprinkling. Mr. Charles Lawson, the lord provost, has already gained golden opinions from all sorts of people, for his mild and liberal administration; and he is ably supported by the provost of Leith, whose legislative qualities we are glad to recognise. One of the most important labours of the two councils, has been to concoct a measure for the purification of the Water of Leith. Without pledging ourselves to its details, we earnestly recommend the people of Edinburgh to examine it for themselves, and to see that the measure is not defeated through perversity and ignorance, supported by the interested opposition of the conterminous proprietors.

FRESCO PAINTING AND WATER-GLASS PAINTING FOR MURAL DECORATION.

IN the course of the discussion of Mr. Atkinson's paper, reported in our last number but one,—

Mr. R. N. Wornum remarked upon the statement of Mr. Atkinson with reference to the alleged durability of fresco painting, as illustrated by the Continental specimens to which he had referred. He believed that many of those pictures were not in reality pure frescos, for true fresco painting was of a comparatively modern date, and many of the old oil paintings were of a date anterior to the frescoes. The Egyptians never painted in fresco; their pictures were all in tempera. The Romans and Greeks likewise never painted in fresco, though they used it for colouring their walls. All those nations painted their pictures in tempera. The plaster was very solid and hard, and the pigments were worked up with various materials, such as eggs, gum, and glue. The Egyptians used hippopotamus glue, and the Romans varnished their pictures with wax, which was burnt into the wall, and produced great durability. In the tempera pictures which had failed, the fresco colouring of the walls, which was the foundation of the picture, had not given way, but the pictures had fallen off, because they were not so thoroughly attached to the wall as the original fresco colouring was. With regard to the Italian frescoes, he believed there were but few specimens of the pure fresco extant; they were for the most part secco and tempera, and he believed it was only at Pisa that genuine old frescoes could be met with, the earliest of which were the production of Pietro d'Orvietto, dating at the close of the fourteenth century. Mr. Atkinson had dwelt upon the greater durability of fresco as compared with oil painting. That was not proved as yet, and certainly was not corroborated by the specimens of the art that were to be met with in many parts of Germany, particularly in Munich, where he (Mr. Wornum) resided thirty years ago, just about the period of the revival of fresco-painting; and on revisiting lately some of the most magnificent works executed at that time, he found that large patches had become destroyed. If it answered better in Italy he could only attribute it to the dryness of the climate, that of Germany having proved, in his opinion, unsuitable for this process of painting. There were in our National Gallery oil paintings of earlier date than most existing frescoes, many of them being still in a perfect state. With regard to the climate of this country there was not only the severity of the weather, but, particularly in London and larger cities, there were the smoke and dirt to contend against. In this country the surface of a picture must either be smooth, so as to allow of wiping, or else it must be protected by glass. It would not do to have a rough surface, because of the amount of dirt and soot that got into the crevices. It was far easier to keep an oil painting clean in this country than a fresco, inasmuch as the latter held more dirt, from its being of an uneven surface.

Mr. Armitage said that he knew of no better means of cleaning fresco pictures than rubbing them with stale bread, which removed the dirt most effectually. His fresco pictures in the Roman Catholic Church at Islington had not suffered in any way. He should like to hear any opinions with respect to the kind of sand to be employed. The so-called silver-sand was used in the Palace of Westminster, and while he was at work upon one of the frescoes there, a German artist who was present objected to the use of this substance, and recommended that powdered granite should be used, as the only material that would render frescoes durable. If, however, the Munich frescoes had all failed, it did not argue much in favour of the superiority of granite sand. He had not gathered from Mr. Atkinson what he considered to be the chief cause of the decay of fresco pictures. The deterioration in the frescoes of the Houses of Parliament was very deplorable, but at the same time there were other frescoes in London where that decay had not taken place. No one, however, had yet explained why this had occurred in one place and not in another.

Mr. J. M. Blashfield said that during the early operations at the Houses of Parliament, some inquiries were instituted with respect to the lime to be used for the frescoes. He received specimens of some of the various kinds of lime, and he found one or two contained traces of peroxyde of iron; moveover, upon an examination of the existing frescoes at Westminster, he had come to the conclusion that the lime used in them must have contained a small quantity of iron. He knew also that silver-sand contained a considerable quantity of iron, as he had used it very largely, and in some cases the quantity was so large that if the sand was placed over a fire it turned a pink colour. There were other qualities of sand which, before washing, looked dull and brown, but when washed and dried were very pure, and from such glass of excellent quality could be made. It was that sort of sand which he thought should be used for frescoes. The calcination of lime was a matter to which he thought too little attention had generally been given, and the sources from which the lime was derived also produced variations of quality. Some chalks contained from one to two per cent. of peroxide of iron, whilst in others the proportion was very small. All chalks which contained iron formed lime more or less hydraulic; lime which was entirely free from iron had no hydraulic character, and would never set under water. It was, therefore, an important matter to those engaged in fresco painting, that they should thoroughly understand the qualities of the lime they employed so as to produce the most durable work. The lime obtained from marble was somewhat porous when set. On examining a piece of mosaic from Pompeii, he was struck with the similarity between the fine mortar in which the small pieces of mosaic were imbedded and the ground of the frescoes there discovered. Both were porous, but very white and hard. It appeared to him that something like pumice or lava, partaking of the properties of the pozzolana of Italy, had been mixed with the materials, which had given a certain amount of porosity while it aided in the hardening of the lime, and formed the groundwork of the fresco, making it more ready to imbibe the colours. He had calcined Italian marble, and slacked it with great care; but it did not make a hard mortar. In his opinion, in most cases lime was not slacked properly for architectural purposes. When it was properly slacked and well kept, after four or five years it became so hard that it required great labour to bring it again into powder; but when carefully treated and laid on well with a proper quantity of sand, it would gradually dry without cracks, while new lime was sure to crack and blister. It was also most important that the bricks forming the wall should be well burnt, otherwise the salts left in them would be sure to find their way to the surface, and ultimately destroy the plaster. An instance had come under his own knowledge in which 20,000 bricks were burnt with only four tons of coals; whilst, in another case, no less than sixteen tons were consumed in burning 4,000 bricks. If the bricks were properly burnt, and if fine sand properly washed were used in the mortar, he had no doubt fresco pictures would possess the same durability in this country as that claimed for them in Italy.

Professer Kerr would venture to submit one other theory with regard to sand, which he believed was supported by the experience of very remote antiquity, viz., that the sand used should be stone-dust. Vitruvius, in describing the materials used in fresco, stated that the sand used was made by pounding stone-rubbish. The effect of that might not be apparent at first sight, but on consideration it would be found to be an important point. The use of sand in plaster was this—it supplied the strength of the substance, the lime acting as the cementing medium, connecting the grains of sand together. But the lime which connected the grains of sand together, was of itself a weak material, and liable to decay. It was simply carbonate of lime, divested of its carbonic acid by burning. Pure lime contained no carbonic acid; but if they mixed mortar with stone-dust, as was customary with masons for some descriptions of work—stone-dust instead of sand—the result was, that the lime absorbed the carbonic acid in the stone-dust, when it became restored to its natural condition of carbonate of lime, and the process of hardening went on more rapidly. He thought these considerations were of importance, as bearing upon the preparation of the groundwork for frescoes, with a view to durability.

Mr. J. G. Crace said, although he was a great lover of fresco painting, yet, from all he had observed, he thought he must come to the conclusion that it would be a waste of valuable artistic time to continue to carry on the practice of that art in this country. In recent visits to Italy he had paid very particular attention to this subject, and had noticed that in many of the frescoes which were executed by early Italian masters some 400 years ago, the colours seemed to be perfectly fresh, and the ground well preserved; but directly he quitted Italy, and came into more uncongenial climates, he found that all works of this character that had been carried out for some great length of time, were more or less injured; and he thought it was only under the influence of the peculiarly genial climate of Italy that fresco-painting could be carried on with safety. Of the paintings on walls exposed to the effects of the weather, perhaps the most remarkable were those of the Palazzo Doria, at Genoa, executed nearly 400 years ago. The figures appeared perfectly fresh and beautiful, and in no way seemed to have lost the richness of the colouring, nor did the lime surface itself seem to be acted upon. In those at Florence, which had been preserved by having been placed in the interior of the buildings, the colours seemed to be quite pure, fresh, and bright. He knew of no more beautiful example than that of Fra Angelico, which was but imperfectly represented in one of the chromo-lithographs exhibited this evening. It was most beautiful in colour, and simple in design and execution. He did not, however, know, through the whole of the North of Germany, in Switzerland, or in Belgium, a single example of a well-preserved fresco existing. Of late years, he believed, that style of decoration had not been attempted. In Cologne Cathedral, the results of its use were most melancholy. He would now say a word as to the various influences that were likely to injuriously affect any frescoes that

might be executed in this country. First of all, he would ask them to consider the external effects of our climate upon stone buildings. Look at St. Paul's, or any other great building which had existed for any length of time in London, and see what were the effects of the climate upon them. If this were so on a plain undecorated surface, how entirely would any painting with a variety of colours be destroyed. Then, again, there are influences operating behind the picture as well as on the front. If the lime were not well mixed, it would throw out an efflorescence which would cover the picture with a sort of mildew, similar to the effects that were to be witnessed in the Houses of Parliament; and if the sand was not of the right description, the work was sure to be injuriously acted upon. The question then arose, why should we be bound to adopt fresco? He thought the step now taken by the artists employed upon the Houses of Parliament was the right one, viz., the covering their pictures with a substance which produced a sort of vitreous surface not likely to be acted on by our climate. The water-glass process no doubt possessed many valuable qualities, but the difficulty was to find a surface which the salt employed would combine with properly. He believed the only surface yet known which united intimately with water-glass, was simple whitening; a lump of whitening, which would crumble in the fingers, if dipped into a solution of silicate of potash, became as hard as stone. As regarded encaustic painting, he thought the alternations of heat and cold of our climate would have a very prejudicial effect upon pictures executed in that style; and there was the further objection that they could not cleanse wax paintings. Therefore, acknowledging, as he did, to the fullest extent, the beauty of the effects of mural painting, he felt that the great object to be attained was, to discover such a protective surface as would obviate the destructive influences which he thought at present precluded the employment of fresco in the arts of this country.

Mr. C. H. Smith said, the great objection to fresco, he thought, was its uncertainty—a small experiment might succeed whilst a large one might fail. Then there was the further objection—that real frescoes must always be copies from an original design. The artist could only prepare his materials for just as much work as he could accomplish in a day. Then, again, a pure fresco could not be retouched, and he would ask, was it possible for any artist to paint a large picture satisfactorily piece by piece? It would scarcely happen but that he would desire to retouch certain parts, and tone other parts differently: and besides, the effect of the colours when dry was very different from that produced when they were first laid on. He did not agree with Mr. Atkinson in the opinion that that valuable works of art should be attached to a building so as to be irremovable. We were fortunate in having in this country many pictures in oil of great value, which we could not have had if they had formed parts of mural decoration. He entirely concurred with the views expressed by Mr. Blashfield as to the effects produced by salts and alkalies in imperfectly burnt bricks, and also in many descriptions of building stone. When bricks of that description were used in the interior of buildings, the effects were apparent upon the plaster, and the salts left in the imperfectly burnt bricks would penetrate through walls of great thickness. He thought this was the cause of the destruction of fresco more than anything else. The water-glass process, he thought, had not as yet been sufficiently tried to warrant its general adoption.

Mr. Purdie, as one who had made a considerable number of experiments with the various systems of fresco as well as with water-glass, begged to offer one or two remarks. Works of art painted upon walls, were subjected to two deteriorating influences; first, there was the condensation of vapours upon their surface; and, secondly, there was the damp from the wall behind them; and the more impervious the surface of a picture was, the more liable it was to be affected by the damp from behind. With regard to the various methods of fresco painting, Mr. Atkinson had described them as *buono* and *secco*, though the name of the latter was contradictory to fresco; then there was a third process, which might be termed the Pompeian fresco. It had been contended by one speaker that the Pompeian paintings were not frescoes; but from experiments he had recently had to make, he (Mr. Purdie) believed a great many of them were frescoes. The surface on which the pictures were painted was polished, but the picture itself was not so. It was supposed by some that the painting had been executed in wax, whilst others supposed it to be tempera. He forwarded a piece of the composition to the Museum of Geology, in Jermyn-street, and the result of analysis was that no trace of wax or other binding substance was found in it; there was nothing whatever but the pigment and carbonate of lime. The conclusion arrived at was, that the picture was executed before the lime was dry. With respect to the issue raised by the paper, whether or not it was desirable to pursue the art of fresco painting further in this country, he would not, at that late hour, enter into that topic; but he would remark that, whatever merit was claimed for frescoes was possessed in an equal, and even greater degree, by the water-glass process. That system had now been substituted for fresco by all the artists engaged in the Houses of Parliament with, he believed, the single exception of Mr. Dyce. The difficulties under which fresco decoration was carried out had been very aptly described by the last speaker, especially with regard to the difficulties of painting a picture in small portions from day to day. It was, indeed, very rarely that any artist could execute a satisfactory work under such circumstances. With regard to the fresco works of the old masters, he believed they had all been afterwards touched up in tempera.

The Chairman (Lord Elcho) said that, before moving the vote of thanks to Mr. Atkinson, which he should do with the greatest pleasure, he wished to make a few observations. When he was asked to take the chair on this occasion, he thought the best thing he could do was to endeavour to elicit the views of artists conversant with the subject; for what was really wanted was practical and technical knowledge on the process of fresco painting; and he believed he had gone to the very best sources for obtaining the most valuable information. He went in the first place to Mr. Watts, who sent him to Mr. Leighton; and, subsequently to that, he saw Mr. Herbert and Mr. Maclise; and he had before him letters from most of those gentlemen which would greatly interest those who had given attention to this subject. What they wanted to ascertain was, what was the proper material to be employed in this process, and what was not. Mr. Atkinson had pointed to the chromo-lithographic prints exhibited. These had been brought out by the Arundel Society, which had a good object in view; but, if he had been in Mr. Atkinson's position,—arguing in favour of frescoes,—he would not have pointed to those prints, inasmuch as the object of the Arundel Society was to preserve to after ages some feeble record of those great masterpieces of early Italian art, the originals of which were mouldering and fading away. So far from appealing to these prints as evidence in favour of returning to a process which Mr. Atkinson stated had been abandoned by the artists employed by the Government, he (the chairman) would point to those chromo-lithographs as reasons for not rushing to the conclusion that we could not, in the year 1864, find some better and more durable means of mural decoration. The tendency of the discussion was decidedly that fresco painting was unsuited for decoration in this country; but while they admitted that *fresco puro* was imperfect in itself, let them not on that account give up mural decoration altogether,—he meant high art on their walls, till they were assured no good substitute had been discovered. He had before him a valuable little pamphlet by Mr. Gambier Parry, which showed that, while the most serious effects had been produced upon the frescoes at Mantua and other places where they existed in damp cloisters, yet in Egypt the colouring on the tombs of the Ptolemies was as fresh and bright as if only done yesterday. Whatever might be the merits of this process, however, it was clear, from the experiments made in the Houses of Parliament, that it was not suited to the climate of this country. But of this he was certain,—they must not on that account be discouraged from attempting mural decorations in the highest style of art; and there were artists in England now who acknowledged that a fitting substitute had been found in the water-glass process, which was well suited to our climate. He had had a most interesting conversation with Mr. Herbert on this subject. That gentleman told him he had nearly been driven mad by the trouble and annoyance which the old system of fresco caused him. He added that he never knew how his work would turn out, the colours being put on when the plaster was wet, in which state it remained for eight hours; and having finished a piece on one day, he had to wait till the next to see whether it was correct. But, in addition to this, there was another element of difficulty, that if the plasterer put a little more water into the plaster one day than the day before, although Mr. Herbert might use the same colouring, when it was dry the effect would be quite different. Thus, with respect to the small fresco of King Lear and Cordelia, which had stood the best (only one head having gone, owing to the uric acid from an adjoining room having trickled through and affected the colouring from the back), Mr. Herbert had cut out the head of Lear six times, and that of Cordelia five times, and there was no part of that picture which had not been cut out four times. From what he had said it was obvious that the plasterer must be as accurate in his work as the painter; and it sometimes happened that the painter and the plasterer were not on the best terms. It was a melancholy fact that Mr. Dyce's and Mr. Herbert's plasterers had each died mad; one raving mad and the other melancholy mad; and Mr. Herbert attributed this, in a great measure, to the effect of the constant worry these men were subjected to in their department of the process. He was gratified to find that Mr. Herbert expressed himself satisfied with the water-glass system. He had asked that gentleman to put upon paper his opinions generally on this subject, and he would now read the communication with which Mr. Herbert had favoured him:—

"I am quite convinced that, however true the theory of frescoes may be, the practice of it always has been, and will ever prove, next to an impossibility, if indeed any refinements or subtleties of art are attempted. I may be asked, have not the Italian painters left evidences to the contrary of this assertion? I reply, using the words of Vasari, that in his time there was but one 'true fresco in Italy,' and the melancholy condition of frescoes throughout the Continent shows further proof of Vasari's statement. Almost all the really great colourists of Italy abandoned it after a few trials, and the Michelangeloes held up to us as marvels of fresco have long since been in a hopeless state of decay. The smallest work in genuine fresco, carried to any point of excellence without employing the fugitive mode of completion, *i.e.* vinegar and white of egg (so freely used by Italian painters), would be an achievement only to be attained by successive obliterations and waste of life. Fresco may do admirably well where a slight bravura sort of art is required, but this should be the *passe-temps* for those whose aim is very moderate, and whose employers are easily satisfied. Fresco has had a fair trial here, and is to give way before something a thousand times better in every way."

Mr. Maclise had written to him as follows on the subject of the water-glass process:—

"I beg leave to send you a proof of a report I made to the Royal Commissioners of Fine Arts, the late Prince Consort having wished me to repair to Berlin to see the process and performance of the stereochromic method, as practised by Kaulbach and others. You may not have leisure to look over the report, and therefore I must only ask you to receive the very latest intelligence on the subject of my daily practice. This practice with me is one of the utmost simplicity,—I may say I have had a kind of pleasure in so simplifying it. On this fair tablet of 46 feet of pure plaster, spread at once, I paint in colours ground with pure water, my only vehicle being distilled water, and this simple proceeding (being, indeed, the process of fresco secco) becomes nearly indelible by the mere fact of the colours being absorbed. This true water-colour painting (and what is called water-colour is in fact gum colour) becomes permanently fixed by shedding over it a spray of water-glass through a syringe. The advantages of this method over that of fresco are obvious. The couch of plaster is spread at once over the whole surface, and not laid in piece by piece: each day's work to be painted on while fresh, to secure fixation. This old piece-meal process makes the work a kind of mosaic, and in a complicated design becomes a miracle of intricacy in its joinings, and, although a misery to the painter, is a perfect triumph to the plasterer. In the new process we can proceed, if we like, with as much freedom as we approach a canvas, no cautious and cowardly preparation of sketches, and the cartoon to be punctured or styled on the wall and slavishly copied, whereby the vigour of the cartoon is lost, with nothing to compensate for it. As regards my own practice just now, I may reply to your inquiry, which is in itself a flattery, that although I have made a careful design of the subject to be painted in this place, yet I need not have done so, and as it is, I paint direct on the wall constantly from models of all sorts, sailors, marines, guns, tackle, ropes, blocks, and my boarding is a kind of museum of marine stores, for which, indeed, I am originally indebted to your Lordship in having mediated for me, at my request, with the Secretary of the Admiralty, by whose favour I have secured attention at the War Office, and stirred up all kinds of sympathies at Woolwich and Greenwich. To get Nelson's coat from its glass-case in Greenwich Hall to my house in Chelsea, where I could do justice to the details of its buttons required, I do believe, the intervention of the whole Board of Admiralty with the Governor. Dr. Hofmann said that the water-glass spread over the picture ought to effloresce as a proof of its efficacy. I should prefer this not to take place; perhaps your Lordship may be able to learn something about it."

They had thus high testimonials in favour of the water-glass system, which it appeared had stood the test of a good many years. The examples of this process at Munich had stood while the frescoes had faded. The chairman then went on to state that he had received no written communication from Mr. Watts, than whom, however,

o man had more enlarged views of art, or more evotion to fresco-painting. In proof of that, e might mention that Mr. Watts, during the me General Anson was chairman of the London nd North-Western Railway Company, offered to ecorate in fresco the large hall at Euston Sta-ion, the company only bearing the expense of olours and the necessary scaffolding. That ffer was not taken advantage of; but the liberal pirit of Mr. Watts met with a more ready re-ponse in the case of the hall of Lincoln's nn; and, when the work was done, the enchers were so struck with the handsome onduct of Mr. Watts that they voted him sum of 500*l*. No man had done more for esco painting than Mr. Watts; and that gen-leman had sent him to Mr. Leighton for infor-nation with regard to the new process of mural ecoration discovered by Mr. Gambier Parry, ho, however, was not himself a painter, but ad employed Mr. Leighton to execute the deco-ations of a church at Lyndhurst, in Hampshire. Ir. Parry had published a communication in the *Ecclesiologist*, and the extract he would read rom it he believed would be interesting to the neeting:—

"To meet all the requirements of wall-painting (where he walls are dry) with little risk of injury from the action f our climate, avoiding the objections to other systems, nd retaining all that is good and effective in them, I re-ommend the following scheme. Take a medium com-osed in these proportions:—

Pure bleached wax	3 ounces	by weight.
Elemi resin	1 „	
Oil of spike lavender	6 „	liquid measure.
Finest preparation of artist's copal	18 „	

hich shall be used thoroughout from the first preparation f the wall to the last touch of colour laid upon it, that he whole mass may be perfectly homogeneous. All colours re to be ground up in it, and may be kept in tubes, as il colours are, or in any other way. The same composi-ion diluted in *twice its bulk* of rectified spirits of turpen-ine makes the liquid with which the pores of the wall are o be saturated by copious washes. The number of these vashes must depend on the absorbency of the wall sur-ace; and the more absorbent that be the better. The ast wash should be mixed up with:—

Best gilder's whiting well washed and baked dry	3 parts *in bulk*, not in weight.
Flake white ground (as usual) in water and perfectly dry	1 part, ditto.

o the consistency of thin cream; the surface should be well covered with it; indeed, in most cases, two coats of his are better than one. Common rough wall plaster will ake two doses of the transparent wash, and two with the paque white. Each wash should be allowed twenty-four ours to evaporate. The object of these washes is to key he prepared surface deeply into the pores of the wall with a material which dries in them as hard as stone, and leaves a surface white, solid, absorbent, and of a good texture for painting. When the cartoon is traced on the wall, let a part of a design be chosen enough for a day's work, and washed over thinly with oil of spike or highly rectified turpentine (the former is better, being a stronger solvent of the copal), the object being to open the surface which will then be painted into, and dry in one solid mass, by the evaporation of the volatile oils. The wash should be lightly applied before the palette and colours are prepared for the day's work; the time thus employed will allow the surface to dry just sufficiently to let the paint be applied without dragging up and mixing with it.

"The vehicles for painting in which the brush should be dipped must be either the same as the wall wash, only twice as much diluted, or oil of spike alone; or, when the cost of the spike oil is an objection, highly rectified turpentine. The surface dries gradually, not skinning over, as oil colours do, but equably throughout by evaporation."

On this subject Mr. Leighton had written to him as follows:—

"As I am, to the best of my belief, the only professional painter who has worked with Gambier Parry's spirit fresco, it may be convenient to you to refer to my un-finished works at Lyndhurst. I therefore send you two or three details which may interest your audience. The merits of the material are chiefly these:—Great similarity of result to buono fresco, which it approaches so nearly as to deceive any one not conversant with the practice of painting. Great scope of colour, as it embraces the whole oil palette, and is not subjected to any of the limitations which are peculiar to fresco. Great facility of manipula-tion, admitting of washes, impasto, and glazing within the space of a very few hours. Little or no change in the drying, not more than in water-colour drawing, on ab-sorbent sketching paper,—Harding's, for instance. Facility of re-touching, as the surface is always soluble in spirit, though proof against water. The only point in which it is inferior to real fresco, is in the absence of that pure crystalline quality of light so peculiar to the latter. On the other hand, it has, in a great degree, that other quality of fresco which is the alpha and omega of all grand monu-mental work—gravity—dignity."

The Chairman added that he had ventured to call the attention of the meeting to these letters because they showed there were other means of painting, which artists of great distinction be-lieved to be safe and satisfactory, and by means of which great works of art for decorative pur-poses might be executed without fear of decay. He thought the subject of such vast importance that he hoped this meeting would give attention to the excellent suggestion of Mr. Atkinson, that some committee should be appointed to inquire into the subject. The committee appointed by the Government had ceased their labours; but there still seemed to be so much doubt on this question, that it would be a pity that fresco painting should be abandoned without a full and fair inquiry. He would therefore enforce, as far as he was able, the suggestion that this society should appoint a good practical committee, in conjunction with the Institute of British Architects, the Royal Academy, and other bodies, who might go carefully into the subject.

THE SHAKSPEARE TERCENTENARY.

THE Crystal Palace Directors intend commemorating on the 23rd of April. For some months past Mr. E. T. Parris has been engaged at the Palace on an exact reproduction of the exterior of Shakspeare's house at Stratford-on-Avon, to be placed on a large stage in the centre transept of the Palace, and around and about which the entertainments on the 23rd of April will take place. This counterpart of Shakspeare's birth-place will be more than 60 feet wide. It is also intended to make within the house an exact full-sized reproduction of the room in which the poet was born, and of the room below, and to place there such interesting and authentic Shakspearian relics as have already been lent, or will hereafter be intrusted, to the Directors of the Palace.

The Stratford-on-Avon fund in aid of the local scholarships and monumental memorial is now accumulating. Parchment lists of names, addresses, and amounts will be bound up and deposited in the poet's birth-place, as a "census" of his admirers in the tercentenary of his birth. The subject of lodging visitors during the festival has received serious attention, and the following resolution has been adopted by the local committee:—"It having come to the knowledge of the committee that persons desirous of letting lodgings during the period of the Tercentenary Festival are expecting to demand prices of such a nature as to do infinite mischief in deterring strangers from visiting the town, the committee feel bound to express their strong disapprobation of such a course, and to adopt such measures for the registration and letting of lodgings as will conduce to their benefit on reasonable terms, and that further arrangements shall be made for running trains to neighbouring towns where accommodation may be obtained on reasonable terms." The Monumental Memorial committee now includes the Earl of Carlisle, K.G., and Messrs. Theodore Martin, Alfred Tennyson (poet laureate), Gambier Parry, John Ruskin, and Robert Bell.

The Birmingham commemoration is said to be receiving continual accession of support. The original Birmingham Book Club (now nearly two hundred years old), proposes to contribute some valuable Shakspearian volumes. Messrs. Day & Son, of London, the publishers of the photo-zincographic facsimile, the first collected edition of Shakspeare's plays, have promised a copy of their forthcoming excellent work. It is intended to provide a handsome volume, to be preserved in the library, in which the donors—the founders of the first Shakspeare library—shall be invited to sign their names. As the library—being associated with the free library—will be open to the public, the committee reasonably expect that small subscriptions will be forthcoming, as well as the higher sums hitherto received.

Manchester, without a definite programme, has raised 1,000*l*. towards a local commemoration.

At Liverpool the mayor will give a Shakspearian fancy dress ball, in the town-hall, on the 21st of April, and throw open the theatres on the evening of the day following. The general committee formed in Liverpool to manage the commemoration, have resolved that "A fund be established in Liverpool for the relief of authors, actors, and literary men."

At Bristol, there seems to be a desire to have a celebration of some kind. Following up this desire, Mr. Sholto Hare has addressed a letter to the public press, suggesting that a permanent memorial be erected in some public situation in Bristol, and that there be a public banquet and a fancy-dress ball, the adoption of Shakspearian characters to be observed at the latter. Mr. Hare also states that he has received a communication from Mr. A. C. Ponton, of the Bristol Society of Architects, recommending the erection of a theatre at the top of Park-street, or providing a marble bust for the Academy of Fine Arts, rather than send money to distant places. One of the local papers suggests that the "permanent memorial" mentioned by Mr. Hare take the form of a Shakspearian scholarship to be established for the pupils of the Clifton College and Bristol Grammar-school, and that the 23rd of April might be celebrated publicly by a Shakspearian performance at the Theatre, a concert of Shakspearian music at the Victoria Rooms, and a fancy ball.

The printers of Newcastle are bestirring themselves, in order to do honour to the memory of one to whom their craft is so much indebted. A committee has been formed, who intend to communicate with the trade in general, including bookbinders, engravers, lithographic printers, &c., as to their willingness to join in the demonstration.

Mr. W. Perry's Bust of Shakspeare, carved out of a portion of Herne's Oak, will be remembered by some of our readers. Her Majesty the Queen ordered a duplicate of it, and we are glad to hear that the Prince of Wales has just now directed the carver to produce one for him.

Shakspeare Memorials.—A correspondent suggests that Shakspeare's descendants should not be forgotten on the present occasion, but that endeavours should be made to place them in a good position.

THE NEW ZEALAND EXHIBITION, 1865.

THE commissioners have fixed upon the first Tuesday in January, 1865, for opening the Exhibition. The Exhibition building, with such annexes as may be necessary, will be erected in the city of Dunedin, province of Otago. It will be of brick and cement.

Subject to the necessary limitation of space, all persons, whether designers, inventors, manufacturers, producers, or possessors of articles of New Zealand origin, or of such others the produce of other countries as may in the estimation of the commissioners be eminently calculated to aid in the development of the colony, will be allowed to exhibit; but they must state in what character they exhibit.

The commissioners will communicate with New Zealand exhibitors only through the local committees of their respective provinces, and with those of neighbouring colonies, of Great Britain and Ireland, and of foreign countries, either through the agent in London or directly through the secretary in Dunedin.

Every article produced or obtained by human industry, whether of raw materials, machinery, manufactures, or Fine Arts, will be admitted to the Exhibition.

Juries will be appointed, and certificates awarded in all the classes but that of Fine Arts.

LEEDS NEW INFIRMARY.

WE now add to the illustrations we have already given of the large Infirmary about to be built in Leeds,* the East Elevation of the building; a longitudinal Section, looking west; the plan of part of the ground-floor, and details showing the system of ventilation, to some extent explained in the particulars we have already published.

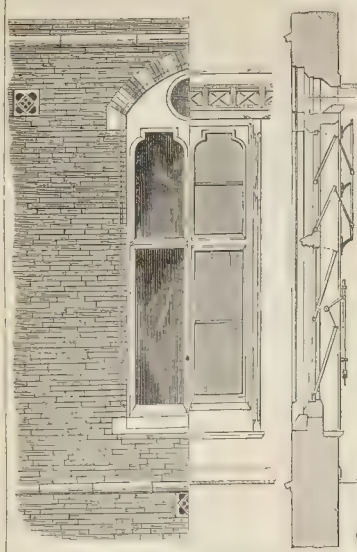
The following shows the appropriation of the various rooms:—

REFERENCES TO PART OF GROUND PLAN.

A. Entrance-hall.
B. Porter's room.
C. Sitting-room for assistants.
D. House surgeon's sitting-room.
E. House surgeon's bedroom.
F. Out patients' waiting-room.
G. Physician's room.
H. Surgeon's room.
I. Surgeon's private rooms.
J. Dressing-rooms.
K. Women's retiring-room.
L. Bath.
M. Mattress-room.
N. Dispensary.
O. Lavatory.
O*. Men's retiring-room.
P. Library.
Q. Students' waiting-room.
R. Nurse.
S. Accident-room.
T. Offices.
U. Bed-rooms for assistants.
V. Common dining-room.
W. Bed-room.
X. Sitting-room, matron.
Y. Stores.
Z. Open courts.
a. Pantry and larders.
b. Servants' hall.
c. Stores.
d. Scullery.
e. Kitchen.
f. Bread.
g. Bakehouse.
h. Flour.
i. Linen.
j. Lifts.
k. Coals.
l. Museum.
m. Dead-house.
n. Post-mortem room.
o. Engine-house.
p. Corridors.
q. Cellars.
r. Coals.
s. Beer and wine.
t. Wine.
u. Wood.
v. W.C.s.

ICE MANUFACTURE IN INDIA.—An ice machine has been erected in the Peninsular and Oriental Company's dockyard at Bombay, which can make three tons of ice daily.

* See p. 115, *ante*.



EXTERIOR & INTERIOR ELEVATION AND SECTION OF WINDOWS TO WARDS ON FIRST FLOOR

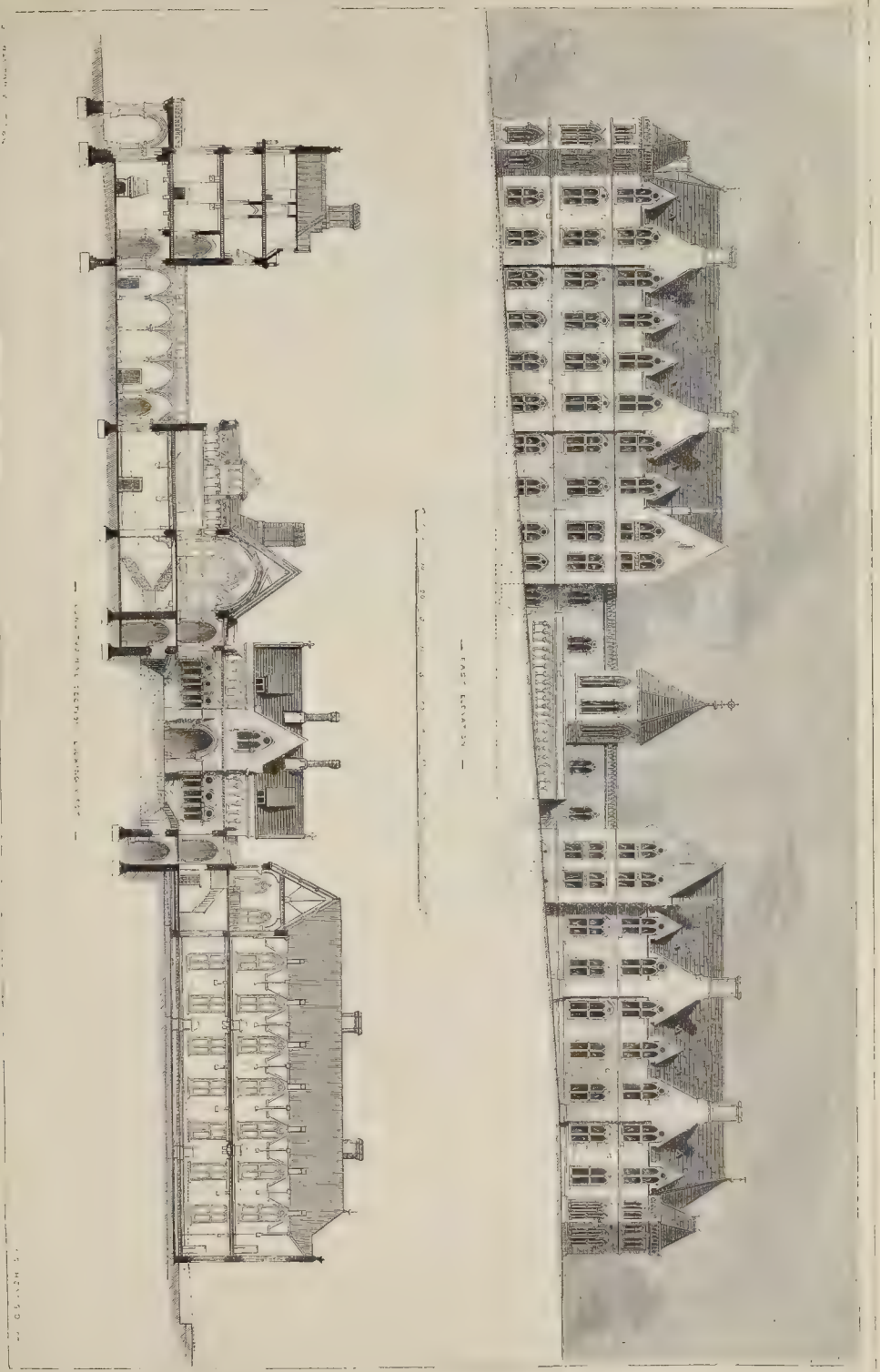


GENERAL ELEVATION AND SECTION THROUGH WARDS

A. VALVE — B.C. OPENINGS FOR VENTILATION



NEW INFIRMARY, LEEDS.



NEW INFIRMARY, LEEDS.—MR. G. GILBERT SCOTT, R.A., ARCHITECT.

"CHANCELS."

SIR,—The Rev. William Purton presents himself in your columns as one well versed in architectural lore: he will therefore have no right to shelter himself under the plea of ignorance, from the charge I am compelled to bring against him, of deliberately misrepresenting the author he quotes, and the examples he selects from Mr. Fergusson's work, as evidences against my statements.

He trumpets forth his authority, as "an architect a hundred times better known" than I am, and then proceeds to claim him as wholly on his side in the controversy; whereas, nearly all that Mr. Fergusson has written, and every plate he has given, at all bearing on the question, in his "Handbook of Architecture," confirm my views and present a chain of evidence that establishes beyond the shadow of a doubt the fact, that in all really ancient churches the chancel was simply a shallow recessed platform for the reception alone of the presbyters and their president.

When Mr. Fergusson's book appeared, I scanned its pages carefully, to see whether, among the numerous examples he had collected, any one exception could be found to what I had many years before proved to be the normal form and use of a Christian church; and I can now demonstrate that there is no single adverse instance in that work, and I believe that no one ever did exist throughout the whole domain of Christianity.

Although, in one or two instances, Mr. Fergusson has erred in mixing up in one description arrangements due to different periods of time, he gives the key to the causes of the changes, and his plates contain the solution of the difficulty.

I should like to transfer to your pages the whole chapter on "Basilicas," but the substance of the remarks is,—

"That the form of church government was long unsettled; the most respected individuals of each isolated congregation being selected to form a council to advise and direct their fellow-Christians; and the elected president of those thus chosen, gradually obtaining power at the cost of his fellows, and the whole order at the expense of their original equals,—the people; whose 'delegation,' however, was still admitted to be the title to office."

The ancient basilicas offering the most suitable model for the original constitution of the church, they were copied exactly in form and use.

"These arrangements were not long allowed to continue as we have described them; for the now dominant hierarchy of Rome soon began to repudiate the republicanism of the early days of the church, and to adopt from the East the convenient doctrine of the absolute separation of the congregation into clergy and laity. To accommodate the basilicas to this new state of things, first the apse was railed off and appropriated wholly to the use of the clergy; then the whole of the dais or raised part in front of the apse on which the altar stood was separated by pillars, called *cancelli*, and in like manner given up wholly to the clergy, and not allowed to be profaned by the unordained multitude."

Mr. Fergusson thus concurs with all ancient church history in assigning the cause of the changes he describes to the conceit and ambition of ministers seeking to be priests *to* their fellows, instead of priests *with* them.

Mr. Fergusson's plates demonstrate that the changes made in the old basilican churches were subsequent to the ninth century. The "style" of the additions proves this; and the present evidence of a stone tomb, called an "altar," with its pillars and canopy in front of the ancient seat of the president, affords a proof, I repeat, that no one but Mr. Purton can think of gainsaying. He says:—

"The bishop's throne was usually quite elevated enough (I know an instance where it was raised *ten* steps above the floor of the bema), and the altar and *cancelli* quite low enough to admit of his being both seen and heard, though sitting behind the altar."

Ten steps, Mr. Purton! Why, twenty would not have brought the "bishop," so seated, to the level of the top of the cupola over the "altar;" and to get a peep at his people in the nave he must have called in the aid of Mr. Home's spirits to lift him right up to the coved ceiling of the apse.

With inimitable coolness Mr. Purton adds:—

"In most of the churches mentioned in my last, the altar *does* stand, and therefore could have stood, and probably *did* stand at the first, in the centre of the bema, in front of the bishop's throne."

Mr. Purton knows, quite as well as I do, that wherever the "altar" now stands as he describes, the seats behind are never used, except in the instance of the installation of the Pope, and cannot be used as they were built to be employed.

Mr. Welby Pugin, describing the existing state of old St. Peter's, says,—

"The back of the altar is turned towards the nave, with a cross and candlestick upon it, and must have effectually concealed the celebrant from the people: behind all this is seen the great apse, with the *cathedra* for the Pope, mosaic ceiling, and other decorations."

As the "celebrant" even was thus hidden by the "altar," and the screen in front of it, the work of the fifteenth century, how could the occupier of the seat in the apse behind, either see or be seen?

Mr. Pugin, as a devoted Papist, knew right well that the doctrines of his Church required a screened sanctuary, such as the Mediæval "transubstantiators" afforded; and, anxious to prove this plan to be old, he quotes Mr. Purton's favourite example, San Clemente, and adduces its modern arrangements, as proofs of the intention to make the chancel a screened holy of holies.

"The marble enclosure of the choir is 4 feet 6 inches high: the floor of this choir is two steps above the nave. Between this choir and the sanctuary is a wall of marble, 6 feet high, with an opening in the centre, through which only the back of the altar can be discerned, as the basilica is turned to the *west*. It will be readily perceived by these arrangements, that although no ornamental screen-work existed; yet, practically, the sanctuary is far more shut out than in Pointed parochial churches, where the solid panelling rarely exceeds 3 feet 6 inches high."

When I pointed out, through your columns, the fact that the things which converted the old basilican churches into "screened sanctuaries," were of modern origin, Mr. Pugin was at once silenced: he dared not contest the point: that honour has been left to Mr. Purton, who seeks to gain his point by a perversion of facts, and sings an "Io pæan" of victory to cover his defeat and retreat.

Mr. Pugin, in common with other Papal writers, deplores the work of the Reformation, but admits its effectiveness; and says,—

"By these new arrangements the chancel was rendered useless, for the table was ordered *not to stand altarways*, but to be brought *down into the body of the church*. Thus the whole mystical arrangement of the ancient buildings (only existing from the tenth to the fourteenth century), "were violated and destroyed: and screen, altar-steps, reredos, sedilia, sacrarium, and sanctuary, were deprived at once of their original intention, and rendered useless."

Again, quoting the fifth reason assigned by the English Church;—

"Furthermore, an altar hath relation to sacrifice, so that of necessity, if we allow an altar, we need grant a sacrifice, &c., seeing the one was ordained for the other,"

Mr. Pugin remarks,—

"No language can be clearer on this point; and it is evident that even the use of the word altar is scarcely allowable according to true Anglical principles."

"A deep chancel, under the present system, is an absurdity: the very principles on which the Book of Common Prayer was framed are against it." "It may be urged that the chancels were ordered to remain as in times past: true, but in this same order will be found a clause which deprived them at once of the very spirit of their existence."

"Again, the usual plan of converting the conventual churches into parochial ones was to wall up the end of the nave, leave a few feet for the table, and either demolish the transepts and choir for materials, or leave them to decay."

The Church of England was reformed with the object of bringing her back to the scriptural ideal of a church; and the charge is quite true, therefore, that "she was not made to fit the old churches in her possession;" and if Christianity is to be lopped or stretched to fit them, the result must be unmitigated popery. Nothing, indeed, can be clearer, in spite of Mr. Purton's asseverations to the contrary, that the assumption of priestly power, and the invention of a material sacrifice to justify the pretension, was the sole cause of the vast change from the temple chancel-platforms that were universal for the first nine centuries, and the screened sanctuaries which came into use during the Middle Ages, in those countries *alone* where no ancient precedent existed to fetter the imagination of the priestly architects.

Mr. Purton says,—

"The decree of council in 567 simply permitted the laity to enter the chancel to communicate."

The previous decree of the Council of Laodicea, can. 19, says;—

"And it is fit that only the clergy should enter in unto the altar, and there to communicate."

The altar must, therefore, have been in some place other than that ordinarily occupied by the clergy; and Eusebius says most distinctly that this place was in the middle of the church. The Council of 567 reversed the latter decree, and admitted the laity to the *table* itself.

It will also tend to clear Mr. Purton's mind if he remembers in future that "apse" simply means a circular recess; and that apse and chancel are, in the old basilican churches, convertible terms simply because the "bema," or platform, stood generally in a recess of the apse kind, for the convenience of arranging the seats around it. When Mr. Fergusson, then, speaks of an old church as having a well "developed apse" coeval with the structure to which it is attached, he means the usual simple chancel which nearly all the basilicas, whether for civil use or ecclesiastical purposes, contained.

In a former letter Mr. Purton disputed my statement that the orientation of churches was of Mediæval origin. It was certainly not very honest in him to keep back the fact that the "architect who is a hundred times better known" than poor I, in the book with which Mr. Purton is so familiar, thus writes on that point:—

"The orientation of churches, by turning their altars towards the east, is wholly a peculiarity of the northern or Gothic races: the Italians never knew or practised it."

Mr. Purton says that the position of the bishops' seats was known to every architect and antiquary long before I was born, and that, therefore, I have no right to claim this as a discovery. He thus puts words into my mouth that never came out of it. All that I claimed was the having pointed out that the existence of these seats proved that the altars, with their pillared ciboriums now in front, could not possibly have been there when the seats were used; and that the style in which the additions have been made, as well as the constructive evidences, prove them to be all modern and clumsy attempts to imitate, in the Basilican churches, the arrangements developed in the Mediæval structures; the latter being the natural effects of the doctrines held at the time by their builders, the former simply the shop-fittings of the new tenants in another line of business.

I can only expect space in your columns to give a bare outline of the mass of evidence which establishes my views beyond the possibility of fair dispute; but I trust, shortly, to be able to publish a work on the subject, and then to petition the Legislature to enforce the decree of the Church of England, that the "chancels shall be as in times past."

JOHN ELLIOTT.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

AT the weekly meeting of this Society, at their Rooms, in Conduit-street, on Thursday, the 18th inst., Mr. Henry Ottley, the hon. secretary, delivered an address on the contemplated surrender of the premises of the National Gallery, in Trafalgar-square, to the Royal Academy, and removal of the former to Burlington House, or elsewhere, as the case might be. The speaker introduced his subject with some preliminary observations on the important results which had been obtained from the public exhibition of the national collection of pictorial art, not only in elevating the taste of the people, but in promoting the culture of native art. The beneficial influence of a feeling for beauty, as conveyed through the agency of art upon the human mind and character, was now no longer the theme of the poet and the visionary enthusiast; it had been emphatically recognised by an eminently practical man, Mr. Gladstone, the Chancellor of the Exchequer, in his eloquent address, delivered on the occasion of laying the foundation stone of the Wedgwood Institution, at Burslem, the other day, when he declared that this influence of beauty was "a liberalizing and civilizing power, and an instrument in its own sphere of moral and social improvement." Was it too much to insist, as a consequence, that it became the duty of the Government, having the moral and social improvement of the people in their charge, to see that the means of cultivating this liberalizing and civilizing power should be made generally available in the most ample manner, and on the most convenient site possible? He next proceeded to trace the history of the National Gallery, and the various decisions which had been come to, and pledges given by successive Governments, by the House of Commons, and by commissions, tending to confirm the right of the nation to retain possession of the premises on the eligible site now in part occupied by the National Gallery, and the desirableness of its assuming the occupation of the other portion, which had been temporarily conceded to the use of the Royal Academy. Lord Monteagle, Earl Russell, and the Earl of Derby had successively acknowledged this right, and the expediency of insisting upon it in the interests of public convenience. The Royal Commissioners of 1857 had reported in favour of retaining the National Gallery on its

resent site, chiefly on the ground of "its acces-ibility to the public;" and the President of the oyal Academy had recognised its advantages in iat respect, when he made it the ground of laiming it for the latter establishment, which as supported by the shillings of the public, hich he alleged could not be obtained in the ame numbers in any other less "accessible" ite. As a further illustration of the fact, he ight mention that on Whit-Monday in last ear, upwards of 10,000 persons visited the ational Gallery in Trafalgar-square, whereas n the three public days in the same Whitsun eek the South Kensington Museum, with all s varied attractions, artistic, industrial, and cientific, and open as it was, day and night, as visited by only 12,000 persons, being an verage of 4,000 a day. The long negotiations hich, during many years, had been had with he Academy, with the view of inducing them o surrender, with some show of grace, premises o which they had no "legal," if even a "moral," itle, was very nearly brought to a satisfactory ssue by Mr. Disraeli in 1859, and under condi-ions very liberal and satisfactory to that body; ut some stipulation put forward on the part of he latter as to the terms on which they would onsent to take a proposed grant of land on the Burlington House estate, interposed to delay he completion of the arrangement, until a hange of ministry occurred, which threw he whole matter into abeyance. He next howed how, from absolute want of room n its legitimate home, large portions of the ational collection, being those of the British chool, had been moved about from Marlborough louse to Brompton, and some of them (the Turner collection) to Trafalgar-square, at a reat expense. The protracted delay on the art of the Government in making proper pro-isions for the national collections, was not only dereliction of public duty, it implied a disre-pect for public opinion in a matter in which heir personal feelings were deeply concerned, which no minister in any other country in Europe would have dared to commit. And now, in spite of the repeated promises of successive Govern-nents, in spite of the oft and strongly declared pinions of Parliament, in spite of the decision of the Commission of 1857, the national collec-ion was again threatened with ejectment. Mr. Cowper, the Chief Commissioner of Public Works, ate in the last session of Parliament, announced hat Government had under its consideration a plan for the removal of the National Gallery to Burlington House. There was one circumstance, ne must observe, which made this case more uspicious, and the danger more hazardous than on any former occasion; namely, that the National Gallery, and the people's interest in it, were de-erted by some who had during many years been heir persistent champions. Lord Elcho and Mr. Danby Seymour, who as recently as 1858 had openly proposed, in the House of Commons, o give the Royal Academy "notice to quit," were now as warm in the support of the Royal Academy, with the provision of adding "a lay element" to it, which those gentlemen would probably help to supply,—and, with this new notion in their heads, were now for giving the National Gallery "notice to quit," a suggestion which her Majesty's Government, rescinding all that previous Governments had done and said, seemed disposed to carry out. He concluded, therefore, by calling upon his hearers, and upon the public at large, to be on the alert in this matter, and to be prepared to make such vigorous representations in regard to it to the Govern-ment and to the Parliament, as should prevent this scheme from being realized, and effectually, once and for all, establish the National Gallery in full possession of the premises purchased for it by the public moneys, with such extensions and modifications as might be found necessary for the worthy exhibition of the people's treasures of art.

A discussion followed, in which Mr. F. Y. Hurl-stone, Mr. J. Stewart, Mr. W. C. Dutton, and others took part.

THE LATE WILLIAM HENRY HUNT, ARTIST. — Some five or six years since, there was a party of artists at the house of Richard Ansdell, and the conversation turned for a time on some admirable drawings by Hunt. He was familiarly and affectionately spoken of as "Old Billy Hunt." Mulready was present, and remarked, "You call him 'Old Billy Hunt:' why I gave him his first lesson in drawing." This fact may be useful to a biographer.—Z.

THE STRATFORD GRAMMAR SCHOOL.

At the moment of going to press, we received a communication signed "T. B. Medwin, head master of the Grammar School, Stratford-on-Avon," combating the observation made in our pages as to occasional difficulty of access to the school. Mr. Medwin maintains that the number of interruptions has forced him to adopt the course he has pursued. The conclusion of his letter will be found satisfactory:—"I am very unwilling to admit a relaxation of the rule, unless I am assured, by the presentation of a card or a note, that the person applying for admission would, in case of refusal be put to inconvenience, or compelled to leave the town without seeing the architecturally, as well as archæologically, interesting interior of the edifice in which the world's poet '*sudavit et alsit*,' while employed in acquiring his 'small Latin and his less Greek.'

The suggestion which accompanies the statement to which I have adverted will not be lost upon us, and I vouch for it, that every facility for inspecting the Rooms of our Grammar School will be afforded during the whole time of the Tercentenary celebration."

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday, the 19th inst., at the House, in Conduit-street.

The chair was occupied by the President, Mr. T. Roger Smith.

Mr. J. Gerand, of 2, Osborne-place, Markland Park, and Mr. W. Patterson, 123, Camden-street, Camden Town, were, on ballot, elected members of the Association.

Mr. J. D. Mathews (hon. secretary) read a letter from the Vice-President, Mr. R. Phené Spiers, tendering the resignation of his office in consequence of his prolonged absence abroad.

The Chairman stated that the committee had received the intimation of Mr. Spiers's resignation with regret, and that they were prepared to recommend the election of Mr. Henry Christian as vice-president in his stead.

The following appointments were then made by ballot:—Mr. Mathews, treasurer; Mr. L. W. Ridge and Mr. John Webber, members of the committee.

The Chairman announced the names of the gentlemen who had passed successfully the late architectural examination, and observed that it was a subject of much satisfaction to the Association, that all the London candidates who passed were members of their body.

The Secretary announced that, in consequence of indisposition, the gentleman who was to have read a paper that evening "On Figure Drawing," was unable to do so. Mr. Ridge had, however, on very short notice, offered to read some notes "On Westminster Abbey," which would be accompanied by the series of drawings of the Abbey executed by Mr. Tarver for the Blomfield prize.

Mr. Ridge then proceeded to read some notes which he had made of the visit of the members of the Association to the Abbey, on the 28th of June, 1862, on which occasion they were accompanied by Mr. Gilbert Scott. He also read extracts from Mr. Scott's work, and explained, with the aid of diagrams, the principal features of the building. He expressed himself doubtful as to whether the architect ever intended that there should be a central tower, and observed that an isolated tower for bells formerly stood close to the main building. The cathedral itself was a short church for the period, and this he presumed was to be accounted for by the fact that the present structure stood upon the site of the original edifice, and that it could not have been enlarged on the western side without seriously interfering with the chapter buildings. He regretted to say that the chapter-house continued in a disgraceful state, although it was but fair to the Dean and Chapter to state that it was not strictly speaking, in their charge, being retained by Government as a place for the receptacle of records. The walls, upon which there were still paintings, were covered with old wooden presses, and the whole apartment was in a state of decay and desolation. The pavement (now concealed by a flooring of boards) contained some beautiful specimens of tiles, which had been copied and reproduced. With regard to the choir, he quite agreed that it was badly arranged, and yet he could not tell what better plan could have been adopted. It was formerly under the tower.

Mr. Blashill expressed his surprise that students of architecture did not oftener repair to the Abbey to study and sketch. He also called attention to the beautiful ironwork on the tomb of William De Vallance.

Mr. Mathews said that he believed members of the Association would be admitted to the Abbey to sketch, on producing an order signed by the president; but in any case he believed that the Dean would, on proper application being made, grant the necessary permission.

The Chairman agreed with Mr. Blashill in thinking that great benefit might be obtained from a careful study of the Abbey, and of the descriptions given of it by Mr. Scott and Mr. Burges. There would not, he believed, be any difficulty in obtaining permission from the Dean to sketch in peace without the nuisance of a verger constantly enjoining the necessity of "moving on," to make room for a new succession of visitors. In the summer months the Abbey was a delightful place to sketch in, and an hour or two a week might be very profitably employed in transferring its details to the note-book of the student. With regard to some photographs, of which Mr. McLeod had spoken, he said he was sure that the Association would be very glad to inspect them on their next night of meeting (March 4), when Mr. Gilbert Scott had promised to read a paper, entitled "Thoughts and Suggestions on the Artistic Education of Architects."

A vote of thanks having been passed to Mr. Ridge,

The Chairman announced that the next subject for the class of design would be, "The entrance doorway to a cathedral."*

THE IRISH NATIONAL GALLERY.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

AT the last meeting of the Institute of the Architects of Ireland, Mr. J. J. M'Carthy, R.H.A. in the Chair, a paper by Mr. W. G. Murray, R.H.A., on the New Irish National Gallery was read, containing some very severe strictures on the design.

Mr. Murray briefly sketched the history of the building as known to the public, and mentioned that designs for it had been made by Mr. Lanyon, the President of the Institute, but that subsequently the task of carrying out the undertaking was intrusted, in or about 1857, to Captain Fowke, R.E. He expressed considerable dissatisfaction with the position and accessories of the Dargan statue erected in front of the gallery:—"William Dargan standing on a monolith, rough hewn, as it were, from one of his own rock cuttings, would have satisfied the mind or the eye—would have been according to good taste and judgment. As executed, he stands on a block that is big but not massive, without proportion in itself or to the statue, and which looks as if it had been got second-hand." Mr. Murray next commented on the meanness of the entrance and vestibule of the building, and the evident attempts to produce a striking effect in the sculpture hall, the general effect of which, however, was unsatisfactory. He next alluded to the grand staircase as ugly and awkward. The picture galleries were nicely painted, but in other respects show the same want of experience in designing, the same striking out into new paths, which are bad paths, as the room below. The building, although opened, is not finished, and the cost has been about 29,000*l*. The writer proceeded: "Mr. Lanyon's design, I am informed, while preserving the general character of the Museum on the south side of the lawn, took advantage of the irregular shape of the site to lengthen the building by about 70 feet, so that at both ends it should range with the Museum; and introduced, as a central feature, a very handsome hall, with a grand staircase projecting into the ground at the rear, and with this increased size, and elaborate finishings of carved stone and artistic stucco work in the interior, it was contracted for, to be finished for 29,000*l*. or thereabouts, which was afterwards reduced, by several alterations and omissions, to about 17,000*l*. I have no documents to prove these facts, but I am assured of their general accuracy; and being thus assured, I ask again, How can the vast increase be accounted for? I do not say, or wish it to be supposed for one moment, that any of the parties concerned have actually pocketed any of the

* We are asked to state, with reference to our last notice, that the proposition that a petition should be presented to Parliament, touching railway communication in London, was proposed by the *Chairman*, at the request of the Committee, and as their organ.

funds; but I do say that a committee of gentlemen, presided over by the Lord Chancellor, have 'meddled and muddled' the affair so successfully as to procure for the citizens of Dublin a bad building—a National Gallery of the Fine Arts from which architecture is excluded,—and barely half finished, at a monstrous cost, and that now they ask our thanks, as men who have deserved well of their country. Here we have no public opinion on art, and specially on the architectural branch of it; and we are saddled with an unfinished monster that can never be removed, and will perpetually stand in the way of any future improvement, both by its being there existing in its ugliness, and also by its having exhausted the fountains of generosity by which it might be replaced."

A lengthened discussion took place on the subject of Mr. Murray's paper, which was referred to the council for publication.*

FISH CULTURE.

At the invitation of the Acclimatisation Society of Great Britain, whereof Mr. Frank Buckland and Mr. James Lowe are the secretaries, a number of gentlemen interested in pisciculture operations assembled on Saturday last at the Firs, Twickenham-common, the residence of Mr. Francis Francis, to inspect the arrangements lately made in his grounds for storing and hatching the ova of certain fish. The society has commenced its work on a very economical scale, the cost of the sheds, tanks, troughs, &c., having been kept within 120*l*. The apparatus is comparatively simple, consisting of a large cistern, which forms the water-shed of several tiny rivulets, flowing gently through a number of stoneware troughs, in which the eggs are placed during the process of maturation and hatching. These troughs are arranged on stages one above the other in such a way that the water runs out at the bottom of each into the top of the one below it. Each trough is about 3 feet long by 8 or 9 inches wide, having a depth of perhaps 5 inches, and is provided at the surface of the water with a gridiron formed of thin glass rods, placed so closely together that the eggs, which are the size of a small pea, cannot fall through. As soon as the eggs are hatched, the fish pass through the glass bars into the lower part of the trough, from which they are transferred to another series of troughs, containing small stones and pieces of slate, beneath which the young strangers hide themselves until the egg sac with which they are provided for the nourishment of their early days falls off, and they find themselves obliged to cater on their own account. They are then removed to the rivers which are to form their future home. The operation of placing the eggs in the trough was begun on Christmas-eve last, since which more than 130,000 have been tenderly cared for by Mr. Francis and his coadjutors, Messrs. Lowe and Buckland: over 40,000 eggs and fry have been already distributed, and fresh supplies are being daily received.

This is a subject of very great importance, and we look to see fish culture practised in this country on a large scale. Our readers will remember the illustrations we lately gave of the arrangements at Hunmanby.

Mr. Pender, of the Elms, Hampton, has undertaken the fish-hatching for the Thames Angling Preservation Society. Mr. Pender writes,—

"This is now the third year I have hatched a large number of fish in my apparatus, which I have erected at my own cost, and have already turned many thousand fish into the Thames, the result being that many young trout, salmon, and salmon-trout have been seen and even taken with the fly in the shallows of the river. The number of fish I have now hatching out in my greenhouse are:—Salmon, 15,500; salmon-trout, 900; great lake trout, 2,500; Mr. Buckland's hybrids between the salmon and the trout (doing remarkably well at present), 3,000; ombre chevalier, 4,000; English trout, 97,000; French trout, 4,800; the total number of fish we intend turning out into the Thames this year being, therefore, 127,700."

The young fish are now hatching out fast from their eggs; and in a few days it will be a sight to see swimming about in their nursery more than over 100,000 young salmon and trout.

* The following gentlemen were declared by the scrutineers duly elected:—As Vice-president (in consequence of the death of Mr. Byrne, R.H.A.), Mr. G. Wilkinson, (Fellow); as member of council, Mr. W. F. Caldbeck, (Fellow); as student, Mr. Patk. J. Byrne; as associates, Messrs. Peter J. Moran, Thomas Early, Fredk. S. Barff, and William Woods.

METROPOLITAN BOARD OF WORKS.

SUBWAYS.

At the usual meeting of the Metropolitan Board of Works, last week, a deputation from the different metropolitan gas companies attended, to present a memorial on the subject of laying gas mains in subways, &c.

The memorial stated that subways were not suitable for gas mains; for if gas were mixed with common air it became explosive, and in confined and limited places was exceedingly dangerous. It was impossible to prevent the escape of gas (?), by reason of the rapid decay of pipes; and as all works in subways would have to be performed by artificial light, escapes of gas would be subject to almost immediate explosion. The memorial went on to say that frequent connexions with mains had to be made, but in a dark and confined space that would be at all times difficult and dangerous, and in cases in which large mains are to be connected, quite impracticable; as such work could not be performed by artificial light, and without more fresh air than could be obtained in any confined space. While admitting the usefulness of subways, they hoped the Board would protect the public and the gas companies from danger to life and property by exempting gas mains from the Subways Bill.

The Chairman said, the Board had not rushed into this subject without the fullest inquiry, for they offered premiums for the best designs for a subway, and those designs were referred to a committee, among whom were the late Mr. Robert Stephenson, Mr. Hawksley, Mr. Wyatt, Mr. W. Cubitt, the late Mr. Alexander Wright, Mr. Bazalgette, and Mr. Marrable, and they gave the fullest consideration to the subject. They believed that they should be able to prevent the escape of gas. The Board would do their best to improve the subways, so as to avoid any of the evils which had been referred to.

The memorial was referred to the Streets Committee for consideration and report.

THE PROSECUTION OF DR. MOORE BY THE BETHNAL GREEN BOARD OF GUARDIANS.

With a degree of persistence in wrong which, to the great majority of people, seems remarkable, the Board of Guardians of Bethnal Green continue to pursue as far as they are able a course of persecution against those who anxiously do their duty to the helpless and distressed.

Dr. Moore, one of their most active medical officers, has been charged by them before the Poor-law authorities with endeavouring to increase the cost of medical relief, by attending in unnecessary cases for his own profit. The evidence, however, leads to the belief, that in this instance, as in others, the discredit will fall upon themselves. The evidence which has been brought forward shows, that in October, 1853, Dr. Milroy came down from Whitehall, and called the attention of the Board to the fact that the Privy Council had issued peremptory orders relative to the summary abatement of nuisances. Dr. Milroy suggested to the Board, that all the medical officers should be formally appointed medical sanitary officers for the inspection and abatement of nuisances. In consequence, the Board of Guardians appointed the medical officers inspectors of nuisances. In this way Dr. Moore came to fill this post, and not as the Board say, from his own seeking. As our readers know, in the discharge of this duty, Dr. Moore gave offence to the parish authorities, by bringing dangerous sanitary neglects under notice, and in consequence Dr. Moore was dismissed from this post; and, no doubt, if it had been in the power of the Board to do so, he would also have been discharged from his position of medical attendant on the parish poor.

One of the charges is, that Dr. Moore has brought the Board into contempt by the promulgation of exaggerated and false reports, though the parochial authorities of Bethnal-green must be well aware that it was impossible to give exaggerated accounts of the evil and disgraceful sanitary condition of these districts. Besides, Dr. Moore was charged with having made excessive demands for fees; but this the evidence fully rebutted.

Dr. Moore, in the course of the examination to which he was subjected, said the present was not the first time the Board of Guardians had preferred charges against him. About three years ago they did so: investigation was instituted, and he was honourably acquitted. Some idea of the description of persons upon whom the guardians have depended for evidence against their medical officer may be gathered from the following part of Dr. Moore's statement:—"Mrs. Mandrell was able to go out, but she did not call to get her prescriptions, because she said 'You' [the doctor] 'are well paid, and I expect you to call upon me.' He never said he was not paid to attend pauper patients—he had to order her to discontinue the drinking of spirits. He attended her children, who suffered from scarlet-fever and were very dirty." Dr. Moore described the dirty condition of the woman's house, &c. in Hollybush-place; a locality which, he said, since then had been repaired, gravelled, and drained, the windows glazed, &c. The other charges were of a most paltry description. It strikes us that if any substantial blame could have been thrown on Dr. Moore, the parish authorities would not have failed to bring it to light. Mr. Sleigh, the counsel who defended Dr. Moore, very rightly said that the prosecution was set on foot by some who were put forward for the gratification of an interested malignity. Dr. Moore was formally charged with neglecting his patients. He had attended 1,400 patients in the year, and no limitation of time was regarded; and yet the only patient they could even allege was neglected was the Mrs. Mandrell above referred to, of whose notions of sanitary requirements we happen to have had personal evidence.

It is a fortunate thing that Dr. Moore is not altogether in the care of the parish authorities of Bethnal Green, and that the Poor Law Board have the power to decide in such cases. The whole evidence is now before the Central Board, and there is no doubt that justice will be done.

LIABILITIES OF ARCHITECTS AND BUILDERS.

THE ISLINGTON ACCIDENT.

Pearce v. *Davis, Williams, and Chapman.*—This was an action brought by Maria Pearce (in the Court of Exchequer, February 20th), on behalf of herself and children, to recover compensation in damages for the loss of her husband, who was killed by the fall of the Three Wheatsheaves public-house, in Upper-street, Islington, on the 26th of November last.

Mr. D. Seymour, Q.C., and Mr. Henry James were counsel for the plaintiff; Mr. Hawkins, Q.C., and Mr. Hopwood appeared for the defendant Davis; and Mr. Serjeant Simon and Mr. Cole for the defendants Chapman and Williams.

The defendants were, Mr. Davis, the proprietor of the Wheatsheaves; Mr. Williams, the architect; and Mr. Chapman, the builder, who constantly visited the premises, and who, it was contended, were jointly liable for the accident. The husband of the plaintiff was a carpenter, employed on the house when it fell. The re-erection of the public-house commenced on the 22nd of October last, and the accident occurred on the 26th of November following. The case for the plaintiff was, that the house fell in consequence of the undue and improper haste with which the works were carried on, the object of Davis being to open it for business on the 7th of December, when he anticipated making large profits from the visitors to the Smithfield Cattle Show, which was to commence on that day, in the Agricultural Hall. Owing to this over-haste, the mortar had not time to set and dry, a circumstance of which it was submitted the defendants must all have been fully cognizant, on the morning of the catastrophe.

Evidence to this effect having been given,

Mr. Hawkins submitted that the plaintiff had made out no case, and ought to be nonsuited.

Mr. Baron Martin said that in no way could Davis be liable; and if the other two defendants were liable, they were so separately, as architect and builder, and not jointly. He would direct a nonsuit as regarded all the defendants; but if Mr. Seymour could satisfy the Court above that there was a cause of action, he would take care that the plaintiff had a new trial. This was, no doubt, a melancholy case, and every one would sympathise with a widow who was left with six children; but of late there had been a series of attempts to cast a liability on persons engaged in building which had no real existence, and they should be on their guard against them. This was one of those instances; and however much they must lament the occurrence and its conse

nces, they ought to take care not to create espect of it a new cause of action; for if they it was impossible to say where it would end. is opinion, there was no legal liability on the of the defendants at all.

nonsuit was then entered, leave being re- ed to move the Court above upon the subject iability.

MR. BRASSY'S CONTRACTS.

R. THOMAS BRASSY, the eminent railway con- tor, is said to have entered into contracts h the Russian Government, amounting to 00,000*l.* sterling, to construct railways from Petersburg to Odessa, and from Odessa on to astopol, in the Crimea. The transactions of Brassy, since 1834, in railway contracts, e amounted to not less than the vast sum of ,000,000*l.* sterling. In every work Mr. Brassy earned a reputation for strict honour. Some generations since the family name was "De cey." Should the Crown think fit to mark its se of such a career, Sir Thomas De Bracey, ., would be a sonorous title for the greatest ur railway contractors.

ELECTION OF CITY ARCHITECT.

HE election is fixed for, this, Friday. There twelve candidates namely, Mr. Thomas D. ry, surveyor to the city of Norwich; Mr. hard Bell, of 17, Gracechurch-street; Mr. derick Chancellor, of Pinners'-hall, Old Broad- eet; Mr. Henry Dawson, 16, Finsbury-place th; Mr. William Henry Heath, 4, Broad- rt-buildings; Mr. C. W. M. Horne, 20, Guild- l-street, Russell-square; Mr. Lewis Henry acs, 3, Verulam-buildings, Gray's-inn; Mr. race Jones, 16, Furnival's-inn; Mr. Fre- ick Peck, 15, Furnival's-inn; Mr. Richard ss, 27, Queen-street; Mr. John Scott ker, 17, Park-street, Grosvenor-square; l Mr. Frederick Wallen, 68, Old Broad- eet. The office is one of great antiquity. It pears to have existed previously to the year 79. The *Times* says,—"Originally the nomi- ion to the office seems to have been with the d Mayor for the time being, who disposed of n vacancies arising. In 1703, when the cor- ation was in the habit of disposing of the ces in its gift for considerations in money, t of the clerk of the works was valued at l. It was sold in 1723, on becoming vacant, Mr. George Smith, for 630*l.* In 1749, the mmon council passed an Act for preventing sale or alienation of certain places at its posal, of which this was one. Mr. Dance, o was the architect of the Mansion House, d the office for nearly half a century— nely, from 1768 to 1815, when he re- ned. He was succeeded by Mr. William ntague, who filled the office until his death, wards of twenty years ago. Mr. Bunning, last holder of it, was then elected, at a ary of 1,600*l.* a year, subject to the payment him of his clerks and of all the expenses of office. From Midsummer, 1846, the salary s increased to 2,500*l.*; and in July, 1852, ving regard to additional and important duties posed upon the architect, under the Clerken- ll Improvement Act, his stipend was fixed at 00*l.* a year, irrespective of the expenses of his ce, for which an additional sum of 1,000*l.* a ar was granted."

HE EDINBURGH OPERATIVE MASONS' ARCHITECTURAL UNION.

MR. GOWANS delivered a lecture in connexion th this union, in the Masons' Hall, a few enings ago, the subject being, "The Leading nes of Design." It was long, he said, since he came convinced that all true shape or true portion of parts rested not upon the intuitive ception or taste of individuals, but upon ed and unalterable rules. The combination of eory and practice, or the head and the hands ned together, was necessary to produce what s admirable in architecture. With regard to hitecture, the climate, the geographical po- ion, the geological formation, and, above all, e religious belief of a people, had to do, not ly with the plan, but the exterior features of ir structures. He proceeded to show how igious belief had the most to do with the ience of design. The Athenians worshipped God whom they did not know, and the geo- tric figure which they used to symbolise that unknown God was the circle, as representing Unity and Eternity. That figure, along with the square, they used in a primary way in determining the general proportions of their buildings, while the elliptical curve, which was the geometrical development of the circle, was used for the decorative feature. The Gothic or Christian style arose and was developed from the faith which we now hold in regard to the triune God, or three in one. That being so, it could easily be understood how the founders of our early English symbolised their belief by adopting the circle and equilateral triangle combined—the circle signifying the All-one God, and when divided into three, forming the equi- lateral triangle, which represented, as true as geometric figure could, the three equally per- taining to the one. He held that our churches should not only be designed upon true lines, but they should be constructed with the best ma- terial; and the internal arrangement should be so devised that all that was about the church would give the impress of the worship to which it was dedicated, keeping in view the hearing, seeing, and comfort of the congregation.

IMPORTANT RAILWAY COMPENSATION CASE.

Kilshaw v. The London and North Western Company.—A case of considerable interest to parties connected with railway matters has been investigated at St. George's Hall, Liverpool. A sheriff's jury had been empannelled to try a claim made against the London and North Western Railway Company by Mr. John Kilshaw, of Bootle, for the compulsory sale of a quantity of land at Bootle, required for the Bootle branch railway, now being constructed by the company. Mr. Kilshaw claimed 10,000*l.* for the purchase of the land, and 2,175*l.* compen- sation for being compelled to incur a breach of covenant towards three several parties to whom he had leased the land in question. The court was much crowded on both days by a considerable array of engineers, surveyors, and others interested.—Mr. Brett, Q.C., stated the case in detail on behalf of the claimant.—The claimant and other witnesses having been examined, several surveyors and valuers were called on his behalf. Mr. John Cunningham valued the whole of the three lots of land, including 10 per cent. for compulsory sale, at 6,823*l.* 18*s.*; Mr. Owen Williams, 6,474*l.* 5*s.* 9*d.*; Mr. Weightman, 7,864*l.*; Mr. J. B. Hughes, 7,193*l.* 14*s.* 9*d.*; Mr. Ellison, 6,788*l.*; Mr. John Young, 6,834*l.* 7*s.* 5*d.*; and Mr. J. Scourfield, 7,040*l.*—Mr. Picton was called for the company, and valued the land at 3,682*l.*; Mr. Culshaw, 3,297*l.*; Mr. W. H. Gee, 3,009*l.* 3*s.* 9*d.*; and Mr. Shelmerdine, 3,649*l.*—After the learned counsel had replied on the evidence, the jury returned a verdict for the claimant for 5,020*l.*, in- cluding 133*l.* to Mr. Tomkinson for damage.

CLERKS' SALARIES.

SIR,—The clerks to an extensive London building firm beg to call your attention to an advertisement in one of your recent numbers, viz.—

"*To Surveyors' and Builders' Clerks.*"

Wanted, in the Office of a first-class Builder, a respect- able and intelligent Young Man, *aged about* 25, one thoroughly competent to make surveys, assess dilapida- tions, take out quantities, prepare estimates, and to undertake all the necessary duties connected with the business of a surveyor and builder. *Salary at first* 25*s. per week.*"

Now it is almost needless to remark that, for a clerk to come up to the advertiser's standard of ability, years of experience are required, and he expects to find a young man, at the age of twenty-five, with this experience, who would, for the *magnificent* salary of as many shillings per week as he is years old, perform the varied and responsi- ble duties required.

Surely builders' clerks ere long will have to pay for their situations like waiters in a dining-room.

PENTAGON.

COMPETITIONS.

Huddersfield.—The design of Mr. William Hill, architect, of Leeds, has been selected, in a limited competition, for the proposed Methodist New-Connexion Chapel, High-street, Hudders- field. The old chapel will be immediately pulled down, and the ground cleared for the new build- ing, which will be a large Gothic edifice, capable of accommodating upwards of fifteen hundred persons. The estimated cost is upwards of 6,000*l.*

Wantage.—During the past week the com- mittee of the new corn exchange have been engaged in selecting a design from the twenty- five competition designs sent in. That furnished by Mr. Wheeler, of London, is the one selected. The exterior is composed of red brick, with white stone bands. The building will also include magistrates' and commissioners' rooms, savings bank, and company's rooms. Mr. Dodd, of Reading, and Mr. Brooks, of London, receive each the sum of 10*l.*, their designs being con- sidered as standing next.

Manchester Cemetery.—The unsuccessful can- didates very justly complain that only the selected designs are being exhibited; and they ask, rightly enough, why they, the unsuccessful, should be deprived of the only benefit, publicity, that can now accrue to them in return for their labours.

St. John's Church, Carlisle.—Competitors assert that the committee have totally set aside the instructions which they issued to architects for their guidance, and which were to design a church to seat 1,000 persons, and to cost 3,000*l.*, having awarded the first place to a design which, when erected, will only seat 800 persons, and was estimated by several practical men who saw the several designs, to cost at the least 5,000*l.*

METEOROLOGY.—RAIN-FLOODS.

A CLOSE study of meteorology is necessary to the civil engineer. The study of one life in one locality is not, however, sufficient to learn the possible excesses of nature. The engineer must also look beyond "averages," and prepare for the greatest possible excess. The following record of an extreme flood in Melbourne ought to teach a lesson to the engineers of that new and most interesting country:—

"The present year has been characterised by the severest storm and the greatest flood (in the Yarra) ever experienced. The flood attained its greatest height on the 17th instant. Sandridge became an island. Traffic was suspended for some days on the Hobson's Bay Com- pany's lines. At Heidelberg, the Yarra rose some 50 feet in perpendicular height; and at Dight's Mills—a three- story stone building—it encroached several feet upon the roof. No vessel could enter or leave the harbour for about a week. Fortunately, no serious casualty occurred in the bay. The water reached high up into King-street, and boats plied in Flinders-street and Flinders-lane. Several lives were lost, and a large number of wooden houses were carried away. Subscriptions for the sufferers are now being raised."

The lesson taught is, that what has occurred once may be repeated, and should be guarded against. Some rivers in South Africa rise as much as 70 feet vertical in flood. Rivers in Great Britain rise from 10 to 25 feet vertical in flood: the lakes of Killarney rise occasionally 9 feet; Derwentwater lake, 8 feet; and Basenthwaite lake, 12 feet vertical, in flood.

DESTRUCTION OF LEAD.

I BEG to inform your correspondent "S." that the water "perfectly pure to the taste" is only too certain to have caused the mischief he la- ments. As the *Builder* has often told the public, the water in such a case is not fit for drinking or cooking purposes. It is poisonous; and though the injury therefrom might be slow, it would be sure. I should recommend him to have a cistern of iron or slate; but if he continue to use lead, he will save his health and his pocket by painting the inside of the cistern with two or three coats of good oil paint. It is a great pity this practice is not general. "S." will find some valuable information on the subject in past volumes of the *Builder*.

I am glad the *Builder* continues to raise its voice on the subject of domestic poisoning. Impure air, bad water, and unwholesome food are strictly poisons, constantly and fatally at work; but because of their comparatively slow action, and people's ignorance, carelessness, and indifference, are allowed to annually carry off thousands.

"S." you may perceive, seems only to regard the *money* view of the matter. P. E. M.

As the original introducers of wrought-iron cisterns, we may be excused from the suspicion of self-interest in coming forward to give information upon a valuable subject. Iron cisterns possess many advantages: no frost injures them, and the effect on the water is decidedly tonic and wholesome; and in matter of cost, we think "S." 's cis- tern will sell for nearly as much, as old lead, as will provide him with a new iron one. In this case, as in many others of wants in the building trade, a reference to your adver- tising columns points out where to go for a remedy.

BURNEY & Co.

SCHOOLS OF ART.

The Hanley School.—The annual examination of this school has just taken place. Mr. Eyre Crowe, Government Inspector, attended. On Wednesday, about 160 presented themselves for examination in the elementary, or first grade, chiefly from the nine public schools taught through the agency of the School of Art. The same evening, about seventy were examined in the more advanced stages. On Thursday, the progress of the students was tested by reference to the works executed last year. Twenty-five local medals were awarded, six of them to three students; and a specimen of painting on porce-

lain, after Mulready, by Elijah Dunne (the recent successful competitor for the Society of Arts' premium for porcelain painting) was chosen for national competition. The prizes offered by Alderman Copeland, M.P., and Mr. Grenfell, M.P., were awarded. The school, under the management of Mr. Carter, the master, has progressed in a manner which gave satisfaction to the inspector.

The Stoke-upon-Trent School. — The annual examination at this institution was confined to exercises in the first and second grades. The drawings and models, instead of being examined at Stoke, as heretofore, for local medals, will this year be forwarded to London, in March, for that purpose, in consequence of the school having come under the new regulations for payments to be made by results. The prizes, amounting to 10*l.*, offered by Mr. Beresford Hope, and the committee's prizes, were awarded.

Petition to Parliament as to Schools of Art. Mr. Potter, M.P. for Carlisle, has presented a petition to Parliament on this subject. The preamble says :—

"That your petitioners, whilst admitting that the grant made by your honourable House for the purpose of forwarding art education in the United Kingdom is a large and liberal one, and has been of especial service during the last few years; yet, as appears to your petitioners, a large and increasing portion of such grant is expended at South Kensington, whilst the amounts allotted to the majority of the provincial schools have been year by year lessened; and further, that by a minute recently passed, the amount received by such schools will be totally inadequate to recompense the masters of schools, without large pecuniary aid from voluntary subscriptions."

The petitioners are the committee of the Carlisle school, and they pray for the appointment of a committee of inquiry, or to grant such other relief as may be deemed expedient.

CHURCH BUILDING NEWS.

Horsham (Sussex).—Attention is now being called to the deplorable state of the parish church here, with a view to its restoration.

Gloucester.—Among the works now in progress at the cathedral, arrangements are being made for warming the choir. The workmen, in excavating a sort of tunnel in the crypt, came upon a skeleton, which had originally been buried without a coffin, although with the bones were found remains of the boots of the deceased person, in a good state of preservation.

Cowleigh (Malvern).—The new church here has been completed. The style is based on the Early English. Mr. Street, of London, was the architect. The edifice comprises nave, chancel, aisles, clerestory, &c. The aisles are separated from the nave by five pointed arches on each side, supported by circular pillars, without capitals, the masonry at the spring of the arch overlapping the pillar and answering the purpose of a cap. The roof, which is boarded with plain deal beneath the rafters, is canted, almost semicircular, and steep pitched, having plain tie-beams and king-posts; and the clerestory has one large trefoil-headed light, beneath a semicircularly arch externally. The aisles have open-timber, plain, lean-to roofs. In the aisles two- and three-light trefoil-headed windows are under square heads. The great east window has three lights, with three trefoils in the head, and the west one four lights, with a sexfoil and two quatrefoils in the tracery. Three steps lead up to the chancel, and three similar ones to the communion-table. There are a credence-table, piscina, and sedilia. There is a panelled boarded ceiling over the chancel, and on its north side is a small vestry. Dividing the chancel from the nave there is a low stone screen, being ornamented with small sunk panels, having tracery-like windows. A stone pulpit, at a very moderate elevation, projects over the screen on the south side from the chancel into the nave, in a semicircular sweep. Its moulded top is supported by nine small shafts, of various coloured marbles, between which considerable space is left, so that the pulpit is open on all sides. A smaller circular base supports the whole. The reading-desk, or lectern, on the north side of the chancel screen, is a mere continuation of the choir seats. Open movable benches are supplied for the nave, being of plain deal varnished, and the floor is tiled throughout (no boarding) in black, buff, and red tiles, set lozengewise. Malvern Hill stone (rubble) and Bath stone facings and dressings are used externally, and Cradley stone inside the building, the sober grey colour of the latter harmonizing with the lighter complexion of the free stone. The pulpit is of Painswick stone. Skinner, of Bristol's warming apparatus is applied, the chamber for the furnace and water-pipes being constructed under the S.E. angle of the church. There are at present no stained-glass windows in the church. Funds, however, are wanting to complete the structure, and several hundred pounds will be required to pay the architect's charges, and to drain and level the churchyard.

Frome.—The new church of St. Mary the Virgin, at Frome, has been consecrated. The building will form a chapel-of-case to the parish church for the suburbs of Frome called Welshmill, Innox-hill, and Fromefield. The new chapel stands on the eastward or townward slope of Innox-hill, and its site was anciently called "The Ladye Mary Spring Fields." The chapel is in the Early English style. The building consists of nave, chancel, south porch, and a small organ-chapel, with a vestry adjoining the chapel. The only entrance is by this south porch, the capitals of the pillars of which are symbolically carved. The nave is lighted with stained glass windows, and over the pulpit is a dormer window of geometrical design. The chancel is of semi-octagonal form, each compartment being filled by a single-light window, executed by Messrs. Clayton & Bell. The reredos is of carved work. The three panels are filled with sculpture, the centre group representing the Saviour bearing His Cross, while on each side are the angelic host. The panels are divided by polished Devon marble columns; and the whole is surmounted by a cornice, ornamented with the ball-flowers, and terminating in a carved finial. The altar-space is inlaid with Minton's encaustic tiles, of the cross and *fleur-de-lis* pattern; while the altar-steps are of polished limestone. The roof of the chancel is decorated. The ground is blue, with golden stars; and over the altar is a golden glory. The main timber is picked out in various colours. A dwarf stone screen divides the chancel from the nave, the columns being of dressed red Mansfield stone, with carved capitals surmounted by trefoil arches. The organ is by Vowles, of Bristol, the pipes being illuminated by Horwood, of Mells. The aisle is floored with encaustic tiles, of red and black pattern, the space under the seats being boarded. The fittings are all of stained wood, in harmony with the timber roof. The walls are of local stone, hammer-dressed and pointed. Externally, over the chancel arch is a small bell-cote, surmounted by an iron gilded cross. At the west end is a bell-gable. Adjoining the chapel, on the northern side, are a school-room and class-room; and adjoining this again is the clergyman's residence. The architect was Mr. C. E. Giles; and Messrs. Brown were the builders, and Mr. Tookey clerk of the works. The carvings were done by Mr. Ezard, of Bath. Mr. J. W. Singer supplied the iron-work.

PROVINCIAL NEWS.

Yarmouth (Isle of Wight).—The construction of a large brick-kiln has been commenced in a field at Wilmingham, on the borders of the river Yar, and within a short distance of Yarmouth, by Mr. Bignell, of Carisbrooke. We hear Mr. Bignell has a contract for several millions of bricks for the extensive fortifications at Hurst and other places. Upwards of 100 hands, it is said, will shortly be employed in the manufacture.

Glastonbury.—The Town-hall having been deemed too small, Mr. James Austin, of the Abbey, has offered an eligible and central site for a new one, the entrance to which will be at the Abbey gates, High-street. It has been resolved by a numerous and influential public meeting, to accept the offer, and shares in the project have been taken.

Lymington.—The new Volunteers' Hall, now in course of erection by the Messrs. Hollis and Rashley, is approaching completion. It will give more than double the space of the present Assembly-rooms, being 76 feet in length, and 40 in width, and will afford ample room for the movements and evolutions of the corps. The hall is to be approached from a wide platform of steps, which are to be ornamented with cannon and other military decorations. Mr. Inman has built this hall for the free use of the volunteers. It will also offer facilities for any large public meeting or general festival, and will thus supply a want long felt in Lymington, of a public room large enough for any purpose that may be required.

Plymouth.—The number of new buildings which have been recently springing up in the neighbourhood of the Three Towns shows that trade and commerce are flourishing in this locality. Many who have been absent from Plymo for some length of time express astonishment the great changes which a few years have m in the architectural appearance of the stre and the increase there has been of late buildings of a good and substantial charact Mr. Derry, the ex-mayor, has just completed range of stables in Station-road, which a another to the town improvements. This bl of buildings has been designed by Messrs. Fos & Son, architects, and built by Messrs. Call Pethick. There is accommodation for 30 hors The large stable is divided into 25 stalls, c structed of timber stained and varnished. T partitions are bound with iron headings. T mangers are also of iron. There is a clear sp of 6 feet 3 inches between these partitions. T length of this building is between 70 and 80 fe and the ventilation has been attended to. T loft overhead is capable of containing fifty t of hay. On this floor a chaff-cutter is plac which, together with an oat-bruiser, is worked a small steam-engine, of about 3-horse pow The corn loft is from 50 to 60 feet long. T building also includes a harness-room, wh fifty sets of harness may be conveniently hu up. A large iron tank or cistern, constructed Messrs. Moir & Sons, of Plymouth, has be erected in a convenient spot. It is capable containing about 2,000 gallons of water. T walls of the building are composed of rou stone. The iron work, of which there is a go deal, has been supplied by the Plymouth Engi Works Company.

Books Received.

The Ninth Annual Report of the Wesleyan Cha Committee; 1863. London: printed by Ha man, Brothers, Gough-square, Fleet-street.

This report is illustrated by a variety of engrav views of chapels belonging to the Wesleyan bo throughout the country. Some of the desig are very good, and are as well set forth as cou be desired. The following summary of la year's transactions will show what the Wesleya are doing in the way of chapel and school buildi and enlargement;—

Summary of Erections allowed.

	Estimated Cost.	Temporary Debt Allowed.	Estimat Incom
	£.	£.	£. s.
90 Chapels	85,146	19,863	3,557 4
16 School-rooms	12,778	984	—
69 Alterations and enlargements	21,643	3,987	636 10
27 Modifications of cases previously reported	10,526	5,320	—
28 Organs	4,494	—	—
Total, 230 cases	134,987	30,223	4,193 14

Summary of Erections completed.

	Cost.	Temporary Debt.	Estimat Incom
	£.	£.	£. s.
12 New chapels	54,658	11,870	2,773 17
1 Minister's house	864	91	—
32 School-rooms	36,005	154	—
34 Alterations and enlargements	10,565	1,884	241 19
17 Organs	2,086	—	—
67 Conditions not yet complied with	63,634	19,264	2,311 13
29 Without leave	9,855	4,580	291 17
Total, 222 cases	167,516	37,843	5,619

Miscellanea.

South Wales Memorial of the late Prin Consort.—It is proposed (though not qui settled), to commission Mr. Durham to execu a reproduction of his statue of the Prin Consort, forming part of the Memorial of the 18 Exhibition, set up in the Gardens of the Roy Horticultural Society. The site talked of Tudor-square, Tenby.

The Hotel Movement.—The fourth ordina general meeting of the shareholders of t International Hotel Company has been held the hotel, London Bridge. The gross receip for the past half-year had been 13,655*l.* 0s. 11 and the expenditure 9,103*l.* 2s., giving a n profit of 4,551*l.* 18s. 8d. The directors recon mended a dividend at the rate of 6*l.* per cen per annum, which would enable them to car forward 1,402*l.* 18s. 9d. to the credit of the ne half-year's account. The report was adopte and the dividend as recommended agreed to.

The Literary Fund Society.—H.R.H. the Prince of Wales has signified his intention of presiding at the next annual dinner of the Literary Fund. This will be the first occasion on which the Prince has acted in such a capacity. The dinner will take place on the 18th of May, in St. James's Hall.

Means of Egress from Public Buildings.—The movement continues in the provinces in favour of increased means of egress from public buildings in case of alarm from fire or other cause. The Bristol *Journal* calls attention to the very defective state of most of the public buildings of Bristol in this respect, and alludes especially to the Broadmead-rooms with but one door through a long and narrow passage. The rooms are leased; but belong to the Corporation. The necessity of opening a second door to and from the Maidstone Corn Exchange has been under the consideration of the local council, and the subject has been referred to the Market Committee.

Co-operative Progress at Blackburn.—The new premises of the Blackburn Cotton Spinning and Weaving Company, Limited, have been opened. The company consists entirely of operatives resident in Blackburn, Withnell, Accrington, Church, Preston, and the neighbourhood. The proposed capital was fixed at 60,000*l.*, in shares of 5*l.* each. At the present time the amount subscribed is 14,000*l.*, of which the sum of 11,000*l.* is paid up. The weaving shed has been erected, and preparations are being made for the building of a complete mill, shares for which have not yet been issued. The cost of the building, so far as it has gone, is about 8,000*l.* The shed will accommodate 520 looms.

Liability of Metropolitan Board of Works for Compensation.—A case of public importance as involving the liability of the Metropolitan Board of Works to make compensation to such persons as have suffered by a loss of trade, and in other ways, in the course of the alterations and improvements effected by that body, has been decided by Mr. Cook, at Worship-street. The claimant was Mr. Richard Pyle, in extensive business as a soda-water, ginger-beer, and muffin and crumpet maker, in Willow-walk, Tabernacle-square, Finsbury. After evidence had been given and counsel heard, Mr. Cooke said, that subject to the objection that more than six months had expired since the alleged damage to the claimant's business took place, and which entitled the Board of Works to a verdict, he was of opinion that the complainant was entitled to recover for the full amount of his claim. It was not contended by the Board that he was not entitled to recover for the actual damage done to the building indeed, they had offered him compensation for the same, but they contended that the plaintiff was not entitled to recover for loss of profits of business. Now he thought the case of "Senior v. The Metropolitan Railway Company" was conclusive upon this point, and that the loss of the profits of trade was a proper subject of compensation. He was unable to distinguish this case from that in which a private company were the defendants.

The New Bridge at Walton-on-Thames.—Many of our readers will remember the old bridge across the Thames to this town, with its steep roadway and lofty arches, which fell down some years ago. It has lately been rebuilt. The new bridge is on the same site, and has the same number and spans of arches as the old one. It has also the same width, 21 feet in the clear; but instead of the steep incline and high summit which were so inconvenient, the approaches are commodious, and the highest point of the roadway in the centre is nearly 20 feet below the old road, though the height and space for navigation are much greater than formerly. This result has been obtained by the use of wrought iron. There are two segmental lattice girders at each side of the bridge, the roadway being supported by cross girders. There are two spans of 44 feet and two of 62 feet, the total length of bridge from shore to shore, including the piers, being 233 feet. In addition, a considerable length of the old flood viaduct was pulled down and lowered, making the total length of new roadway and approaches, included in the contract, about 480 feet. The total cost, including the land arches, river bridge, and all the works, was very little over 4,000*l.* Mr. E. F. Murray, of Westminster, was the engineer, and Messrs. Kennett, Spink, & Else, of Bridgwater, were the contractors. Mr. Murray has prepared a design for a new bridge at Hampton Court, which is just about to be commenced.

Iron.—At a meeting of the Ironfounders' Association, on the 7th of January, it was resolved:—That an advance of 1*l.* per ton be made from this date on the price of all castings.

Wilson's Endless Band Sawing Machinery. This machinery, constructed by Mr. Joseph Wilson, builder, Bradford, Yorkshire, consists in the use of a large endless band saw, 8 inches broad, and No. 15 gauge, extended over two large pulleys or drums, supported on massive iron standards, bolted to ashlar foundations; also of travelling tables, 45 feet long, having suitable bearers or runners. The machine is capable of being worked by an engine of 7-horse power. The tables are arranged to carry the log past the saw to any extent, without stopping for re-adjustment, by which the necessity for transomes is avoided. This machinery, comprising the particulars already named, with other means combined, is at once adapted, says the *Engineer*, to the purpose of cutting up all kinds of round or square timber, mahogany logs, &c., to the depth of 4 feet and upwards, if required. It is equally serviceable for reducing the same into scantlings or boards.

The Study of Fine Art in Cambridge University.—The Rev. W. Emery, the chairman, and Rev. W. J. Beamont, the secretary of the Cambridge School of Art, have been endeavouring to promote its more general study, by advocating the establishment of an art tripos in the University course. Their proposal, as we learn from a review of Mr. Beamont's pamphlets, in the *Cambridge Chronicle*, is this, viz., for undergraduates to pass the Little-go as usual, and then to follow the study of fine art as a speciality, and to take a degree in art, after an examination in sculpture or painting: it is said, with some degree of force, if the University confer a degree in music, or physic, or divinity, or surgery, or law, why not in art? It is argued, that the Disney Professor of Archæology and Art might combine the study of fine art in his curriculum, with the aid of the master of the school of art. From the manner in which the proposal was received at a recent meeting of the members of the senate in the Arts School, however, there is not much probability, our authority thinks, that it will be carried out.

The Royal Academy and the Exhibition Building.—On Lord Elcho, in the Commons, asking the First Commissioner of Works whether the Government had taken any, and, if so, what steps, to give effect to the recommendations of the Royal Commission on the Royal Academy; and when the removal of the whole of the late International Exhibition building would be completed, and what was intended to be done with the site; Mr. Cowper replied that the Royal Academy had been in deliberation on the subject first mentioned for some time, but hitherto they had made no report. The site of the Exhibition building was not yet cleared, and the Government had remonstrated with Messrs. Kelk & Lucas on the subject. At present, the removal was going on rapidly. Preliminary steps had been taken towards the decision as to the building hereafter to be erected on the site. He had invited a competition of architectural plans and designs of the buildings hereafter to be erected, and they would be with reference to the disposal of the whole site.

Sanitary State of Marylebone.—The monthly report on the health and climate of St. Marylebone, during January, 1864, by Robert Dundas Thomson, M.D., F.R.S., medical officer of health for the parish, has been issued. From this report it appears that the intensity of the cold in the early part of the month had a very distinct effect in augmenting the mortality list. The deaths have been 466 against a mean in eight years of 399. The deaths exceeded the births by seventy-four. The cold, if it exerted any effect on zymotic diseases, seems to have held them rather in check, since the number of deaths from these complaints was 50 in the four weeks of January, contrasted with 91 in the five weeks of December. Scarlatina, which has been so fatal in previous months, has fallen to 18 from 39 in the preceding five weeks; measles from 10 to 4; whooping-cough from 14 to 10. Bronchitis has proved fatal to 114 against 49 in the five weeks of December. The number of cases of sickness returned from eleven institutions has been large, 5,582 in four weeks, against 5,734 in the preceding five weeks of December. It is somewhat satisfactory to know that the deaths from smallpox have been 2 against 4 four in December, and that the cases reported are 12 against 28 in the preceding month.

Factitious Blocks.—Sir: Observing in the last number of the *Builder* that a patent has been obtained for manufacturing factitious blocks of wood as therein stated, by Gustave Colomb, I beg to say the invention is not new. The very same thing has been done in my father's shop for the last thirty years.—T. Waghorn, Jun.

Gas.—The Newport Gas Company have declared a dividend of 10 per cent. per annum on Class A shares, and 7½ on Class B shares.——The Stafford Gas Company have declared a dividend of 7½ per cent. per annum.——The Andover Gas Company have reduced their price 1s. per 1,000 feet, or 10 per cent. on previous prices.——The Liverpool United Gas Company have declared their usual dividend of 10 per cent. per annum for the last half-year.——The Winchester Gas Company have reduced their price from 6s. to 5s.——The Ipswich Gaslight Company have made a further reduction in price from 4s. 6d. to 4s. The demand for their gas is so much on the increase that they require new capital to carry out requisite works. The company have just declared a dividend of 10 per cent., free of income-tax, besides "arrears of dividends."

Funeral of Mr. W. Dyce, R.A.—On Saturday last, at noon, the mortal remains of this distinguished artist were interred in the churchyard of St. Leonard's, Streatham, with a solemn service, amid a hearty feeling of sympathy on the part of his brother artists and the parishioners of Streatham. The boys of the Chapel Royal, accompanied by the Rev. T. Helmore, priest in ordinary to the Queen, were present in surplices, and performed the church service with full choral solemnity. Among those present, besides the widow, with the two youthful sons and the brother-in-law (Mr. Brand) of the artist, were Mr. Maclise, R.A., Mr. E. M. Cope, R.A., Mr. J. P. Knight, R.A., Mr. J. R. Herbert, R.A., the Rev. Cyril Page, Mr. B. Ferrey, &c. Mr. Dyce had finally determined to give up his profession in consequence of ill health, and at the time of his death was in treaty for an estate in Kent—Orpington Priory, St. Mary Cray. His ill-health had also induced him to resign all attempt to complete his engagement to assist in the pictorial decoration of the House of Lords, and he had returned to the Treasury all advances made to him on that account.

Hillfield Hall, Warwick, destroyed by Fire.—One of those ancient manorial buildings which are the pride of the county of Warwick (says the *Birmingham Gazette*) "has been consumed by fire. Hillfield Hall is well known to the antiquaries of Warwickshire as a fine specimen of the good old homesteads of Old England. It was a building of the most pure Elizabethan style of architecture, and is said to have been built in the year 1576. There is a tradition, and by many believed to be true, that "Good Queen Bess," when on her journey to pay her memorable visit to Kenilworth Castle, passed a night in a room in the house. About four years ago the hall was completely restored, at an expense of about 3,000*l.*, and was held on a seven years' lease by the present tenant. The origin of the fire is, as usual, a mystery; but the probable reason was, that the piping from the stoves had become heated so much that it set fire to one of the beams. Neither the hall nor the furniture, it is believed, was insured."

Lectures for Working Men.—Metallurgy: Iron.—Dr. Percy has given a lecture on this subject at the Royal School of Mines, Jermyn-street. The lecturer showed a specimen of iron slag, brought from the vicinity of Mount Sinai, probably bearing a date anterior to the time of Moses. The purest iron here marked is procured by the battery process. This method is made use of in coating copper-plates with a film of iron, which preserves them when used in printing. Reference was made to the use of carbonic oxide as a reducing agent. If brought in contact with the heated oxide of iron it turns into carbonic acid, reducing the metal to the pure state. The compounds of carbon and iron are very important under the forms of wrought-iron, cast-iron, and steel. If we examine cast-iron we find fully 4½ per cent. in the form of graphite, which is not in combination with the iron. In pure iron the carbon is diffused through the mass, which accounts for its softness. The lecturer, after giving an interesting account of those compounds, remarked that the principal ores of iron were the magnetic oxide, the red and brown hematite, the spathic ore, and the clay-band ironstone.

THE ROYAL ARCADE PROJECT.—The Bill for the proposed Regent-street and Bond street Arcade has been thrown out in the Lords, at the instance of Lord Derby, because "the influential inhabitants of the parish were opposed to the project."

ROTTERDAM. — The Schieland Palace, the museum and picture gallery of Rotterdam, situate near the high-street, has been destroyed by fire. It was a stately building of great extent, occupying a large area of ground, and was the residence of Napoleon I. in 1812, when he invaded Holland.

THE JOINERS' STRIKE AT ST. HELEN'S.—This strike still continues, without probability of a settlement. There is much distress among the families of the turn-outs, whilst the masters are almost at a standstill with their work. Every new man that makes his appearance is hunted up by the turnouts and ultimately driven away.

MONUMENTAL.—The foundation stone of the Lucknow memorial was laid on the 2nd of January. It is to be erected, "To the memory of Sir Henry Lawrence and the brave men who fell in the Residency A.D. 1857." The design is a column 40 feet high, surmounted by an Ionic cross, and ornamented by scroll sculpture. ——A statue of the Empress Eugenie is to be erected in the market-place of Puebla. Several proposals have been made as to the costume. "The first plastic representation of the crinoline," however, seems to be the one most favourably accepted.

CAPTAIN MEAD'S METHOD OF CENTRE ARCH STRIKING.—In an account of the completion of the Morhur Bridge, in a letter addressed by Captain Mead, the engineer in charge of the works, to the superintending engineer of the division, and reported in the *Engineering Journal* of Calcutta, it is stated, that in place of blocks he substitutes sacks filled with sand, to which the weight of the centre and the portion of the arch resting on them is transferred after keying. The mouths of the sand-bags are opened simultaneously, and the sand running out lowers the centres uniformly and safely, without any violent or sudden shock. We have heard of such an arrangement before.

RAILWAY MATTERS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 6th of February, on 11,119 miles, to 552,977*l.*, and for the corresponding week of last year, on 10,734 miles, to 499,816*l.*, showing an increase of 412 miles, and of 53,161*l.* in the receipts.——Under the auspices of the General Credit Company, a prospectus has been issued of the Great Eastern Northern Junction Railway, with a capital of 1,500,000*l.* in shares of 20*l.* The object is to connect London *vid* the Great Eastern line, with the northern coalfields and the manufacturing districts of Yorkshire and Lancashire. The route will be from St. Ives to Askern, and the length 108¼ miles, exclusive of 21¼ miles for branches. The Great Eastern Company are to provide half the capital, and 750,000*l.* are now offered for subscription.— The bill for sanctioning a central station at the Stone Bridge, Bristol, with a through junction to the Exeter line, has passed the select committee on standing orders.

THE METROPOLITAN RAILWAY. The half yearly report of the directors says, "They have arranged all matters in differences with the Great Western Railway Company. The settlements of the accounts for the working of the line has been concluded on the basis of this company receiving 57½ per cent. of the gross receipts, allowing the Great Western Company 42½ per cent. for their working expenses. The net receipts from traffic during the half-year up to the 10th of August, payable by the Great Western Company under the above arrangement, amounted to 6,787*l.* 1s. 2d., and for the four months and twenty-one days during which the line has been worked by this company, to 20,653*l.* 14s. 7d. The directors recommend that a dividend be declared at the rate of 5 per cent. per annum. They have resolved on constructing the extension to Finsbury with four lines of rail throughout, and sufficient land is being purchased for that purpose. They have submitted for the consideration of Parliament two extensions, one from Paddington through Bayswater and Kensington to Brompton, the other from Finsbury towards the docks. Upwards of 1,631,000 passengers have been conveyed over the railway during the past six months, although from the opening of the line there has never been a sufficient plant to work it adequately.

CHESTER ARCHITECTURAL SOCIETY.—The fourth monthly meeting of the session was to be held at the society's rooms on the 23rd inst.; the Rev. Edward R. Johnson, minor canon, to read a paper "On the Roman Wall between the Tyne and Solway."

NEW THEATRE IN MARSEILLES.—The Marseillese journals announce that a large theatre has been built in that city by M. Pereire, in the passage bearing his name. The pit will accommodate 2,000 spectators, and the boxes and galleries as many more.

PROPOSED NEW HOSPITAL FOR THE NORTH-EAST OF LONDON.—A meeting of a number of influential gentlemen, principally of the vicinity of Shoreditch, has been held for the purpose of promoting this object. The Rev. T. S. Evans, vicar of Shoreditch, was in the chair. Appropriate resolutions were adopted, and a committee was formed to carry out the object in view.

ASCENT OF HOLY RHOOD SPIRE, SOUTHAMPTON. Workmen have been employed in repairing the tower and spire of this church. When the requisite scaffolding was erected, and ladders were got into position, a man climbed to the top, and the ship which forms the vane was taken down with the view of being regilt. It was taken down for a like purpose in 1824.

COPPER PAINT.—A new pigment has recently been introduced at Paris by M. L. Oudry, of the Auteuil Electro-Metallurgic Works. He first obtains an absolutely pure copper by throwing down the metal by a galvanic process. He then reduces the precipitate to an impalpable powder by stamping. This powder is then combined with a particular preparation of benzine, and used in the same way as ordinary paint. Bronzed effects are produced upon it by means of dressing with acidified solutions and pure copper powder. The articles painted with the new material have all the appearance of electro-bronze, whilst its cost is less than one-sixth. It will last from eight to ten years. M. Oudry also proposes to substitute benzine oil for linseed and other oils, over which it is alleged to possess great advantages.

SEPULCHRAL REMAINS NEAR INVERNESS. — A rude sarcophagus, of sandstone slabs and micaceous gneiss rock, covered by a slaty sandstone slab, with obvious glacial scratchings on the upper side, has been discovered upon the very edge of the great 90-feet gravel terrace, which overhangs the valley of the Ness, and associated in locality with the chief local antiquities, called the Fairy Hill of Tommahurich, and the vitrified Forts of Kessock and Craigphadrick. The sarcophagus is only 4 feet 10 inches long, by half as broad, yet it contained three skeletons, one of a child, but all small. They seem to have been doubled up, with the faces downwards. There was also an urn of baked clay, with fragments seemingly of another, along with the skeletons. The sarcophagus did not lie east and west, but north and south. The position of this tomb, on the edge of the geological "terrace," is curious, as are also the glacial scratchings on the upper side of the slab covering; but the relationship may be merely accidental.

NEW IRON BRIDGE AT RHYL. — Messrs. McKenzie, Clunes, & Holland have just completed a contract for the construction and erection of a wrought-iron lattice bridge, to carry the turnpike road and a tramway across the estuary of the river Clwyd, near Rhyl, North Wales. The ironwork consists of two spans of lattice girders, 81 feet long; one of 76 feet 6 inches, and a drawbridge opening of 47 feet 6 inches in the clear; the whole length of the bridge being 286 feet. The girders are 6 feet deep, and width from centre to centre 22 feet 6 inches. The piers are three in number, resting upon 18-inch square timber piles, cased with iron, and capped. The pier columns are composed of patent wrought pile iron, which, when riveted together, forms a complete column of 18 inches external diameter. The ends of the bridge rest upon stone abutments. The roadway or superstructure consists of cross timbers, suspended from the main girders by bolts; the cross timbers are covered by longitudinal planking and iron tramplates for the wheels of vehicles, making a double carriage-way, and leaving a pathway for foot passengers 4 feet 6 inches wide. The drawbridge opens in two halves, and can be opened and closed by two men on each side, in five minutes. The total weight of wrought iron in the bridge is 160 tons, cast iron 56 tons, and 9,718 cubic feet of creosoted timber.

TELEGRAPHIC PROGRESS.—In a few weeks, the first line of electric telegraph on Signor Bonelli's printing system will be opened between Manchester and Liverpool. Some interesting trials of the apparatus have recently been made. On a narrow table, a small model of a tramway ran from end to end, a bridge 6 inches high spanning the middle. A long solid waggon, travelling on four brass wheels, moved up and down the rails, having on its upper surface two rectilinear openings, each extending half the length of the carriage, and each coming under a comb-like series of five needles. A simplified alphabet of type, which requires no "justifying," is placed in the opening at the end of the waggon nearest the point whence it travels. The projecting type is divided in such a manner as that the points of one set of needles shall fall over the inequalities, and be lifted in the passage of the waggon. A strip of paper, in the same way, comes under the second comb, which obeys the motion of the first, and prints the message in a legible brown character, which is due, in fact, to manganese. Three hundred words in a minute are thus despatched. The promoters only propose to introduce the machine on lines where five wires already exist. The invention may be remembered by visitors to the International Exhibition; but it has undergone several improvements since it was there displayed and tested.

TENDERS.

For the erection of a house, No. 8, Mortimer-street, Cavendish-square, for Mr. William Ford. Mr. J. Tarring, architect:—

Patman & Fotheringham	£1,588 0 0
Higgs	1,577 0 0
Foster	1,486 0 0
Richards	1,443 0 0
Roper & Son	1,439 0 0
Scott	1,425 0 0
Scrivener & White	1,390 0 0
Saunders	1,350 0 0

For the erection of fifteen cottages and tavern, for Mr. J. Doggett, at Strood. Mr. Kelson, architect. Quantities supplied by Mr. Walker:—

Wilks	£2,750 0 0
Cobb	2,650 0 0
Shrubsole	2,500 0 0
Lilley	2,486 0 0
Naylar	2,473 0 0
West & Sollett	2,400 0 0
Bennett (accepted)	2,400 0 0

For building a pair of villa residences, Battersea-rise Mr. G. H. Page, architect:—

Blackmore	£1,662 0 0
Easton	1,480 0 0
Kendall	1,460 0 0
Thornton	1,440 0 0
Bass	1,425 0 0

For Congregational chapel at Wootton. Messrs. W. & J. Hay, architects:—

Tyson	£2,218 0 0
Barker	2,163 0 0
Nelson	2,084 0 0
Gore	2,045 0 0
Dutton & Son	2,045 0 0
Okell & Morrison	2,013 0 0
Wesley, Bed	2,010 0 0
Walker & Co. (accepted)	2,008 0 0

For Suffolk Walden Hospital. Mr. Beck, architect:—

Long	£5,748 0 0
Glascock	5,200 0 0
Wright	5,175 0 0
Brown	5,116 0 0
Gimson	5,097 0 0
Rannacles	5,026 0 0
Hayshaw	4,988 0 0
Bell	4,897 0 0

For the new City Club, George-yard, Lombard-street, City. Mr. J. H. Rowley, architect. Quantities supplied by Mr. William Ellison & Mr. F. Warburton Scott:—

Patman & Fotheringham	£22,932 0 0
Kirk	21,933 0 0
Axford & Co.	21,660 0 0
Simms & Marten	20,776 0 0
Ashby & Horner	20,775 0 0
Trollope & Sons	20,763 0 0
Hill, Keddle, & Robinson	20,608 0 0
Watts	20,487 0 0
Conder	20,450 0 0
Brown & Robinson	20,287 0 0
Rider	20,180 0 0
Piper & Wheeler	19,887 0 0
Brass	19,733 0 0
Myers & Son	18,807 0 0

For new schools, Highbury-vale, Islington. Mr. Arthur Evers, architect. Quantities supplied by Mr. Yeldham:—

Myers & Sons	£1,739 0 0
Downs	1,690 0 0
Piper & Wheeler	1,615 0 0
Ashby & Sons	1,595 0 0
Dove, Brothers	1,565 0 0
Conder	1,497 0 0
Carter & Sons (accepted)	1,449 0 0

For alterations at the Southwark Tavern, Borough, for Mr. James Cartwright. Mr. Rees, surveyor:—

Harman	£434 10 0
Smith	405 0 0
Duncanson & Moultrie	398 0 0
Brighton	394 0 0
Newman & Mann	376 0 0
Dennis	312 0 0

or ten houses at Wandsworth. Mr. Hall, architect.
ntities supplied:—

Wilton	£2,200	0	0
Rutter	2,185	0	0
Cumberledge	2,138	0	0
Champion (accepted)	2,050	0	0

or finishing three houses in the Wickham-road, Dept-
l, for Mr. Alfred Cross:—

Palmer & Gorringe	£1,739	0	0
Wood	1,700	0	0
Harding	1,515	0	0
George	1,513	0	0
Luxford	1,512	0	0
Wilson & Raynham	1,505	0	0
Rose	1,440	0	0
Moore	1,320	0	0
Humphreys	900	0	0
Blower (accepted)	875	0	0

or restoring and reseating Chinnor Church. Mr.
Banks, architect:—

	Church.	Chancel.	Total.
ter	£2,700 0	£849 0	£3,549 0
terton & Co.	2,630 0	857 0	3,487 0
er	1,604 0	596 0	2,260 0
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per (accepted)	1,391 10	475 0	1,866 10

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L.—R. A. M.—R. W.—E. T. T.—C. W.—T. R. S.—A. C. C.—H. F.
ype).—W. E.—J. D. (declined with thanks).—W. W. E. (ditto).
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n, R.A.; "The Bay of Baiæ," by R. Brandard, after J. M. W.
er, R.A.; "The Infant Moses," by J. H. Baker, from the group
S. E. Spence. The literary contributions include:—"William
ady," a short account of his Life and Works, illustrated with
ples of his paintings, by James Dafforne; "Almanac of the
th," from Designs by W. Harvey, illustrated; "History of Cari-
ure and of Grotesque in Art," by T. Wright, M.A., illustrated;
t-Work in March," by the Rev. J. G. Wood, M.A.; "A Day for
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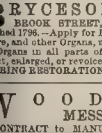


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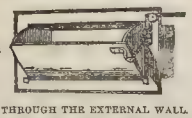
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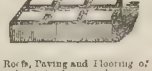
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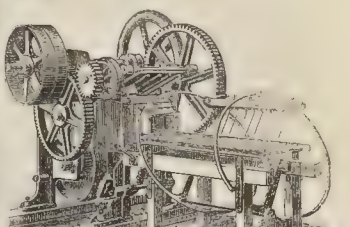
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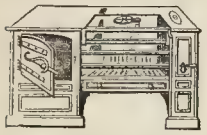
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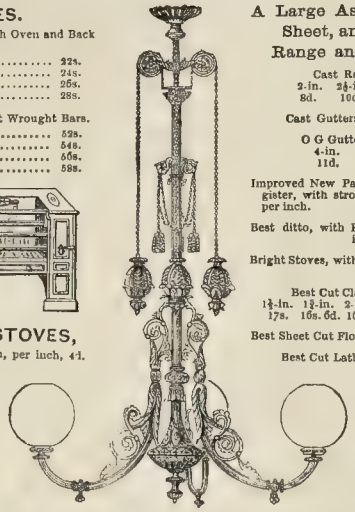
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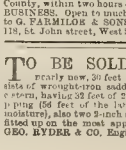
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Beg to announce to Builders, Contractors, and Others, that they are prepared to execute Orders for the BEST PORTLAND CEMENT, On the most reasonable terms
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Nearly opposite Entrance to Goods Station, Great Northern Railway.

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Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had Ornaments, Panels for Railway Carriages or ships' Cabins, to any size or design given.
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30,000 feet in Plank and Board, sawn three years.
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Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Arched Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
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YELLOW DEALS, £15 10s. per 120 of 12 feet.

Good 2¼ Mill-sawn White Battens . . .	from £8 10 per 120 of 12 feet	Good and well-prepared ¾ Flooring Boards,...	from 11s. 6d. per square
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Good 3 by 9 Mill-sawn Yellow Deals	13 0 ,,	,, 1 inch ,, ...	14s. 6d. ,,
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YELLOW FIR TIMBER (good length and size), 45s. per load.
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100,000 Dry prepared Flooring Boards	from 10s. 6d. per square
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YELLOW DEALS, £16 PER 120.
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 33s. per Load.

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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
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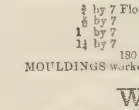
FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, well prepared ..... White	11s. 6d.	...Yellow	12s. 0d. per square.
¾-inch ,, ,, ... ,,	12s. 0d.	... ,,	13s. 0d. ,,
1-inch ,, ,, ... ,,	14s. 6d.	... ,,	16s. 0d. ,,
2½-inch Battens	Yellow, £10, White, £9 per 120 of 12 feet.		
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Matched Linings, ¾-inch.....	White, 12s., Yellow, 13s. per square.		

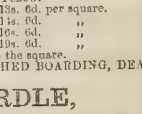
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased the Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,, ...	13s.	13s. 6d.	14s. 0d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
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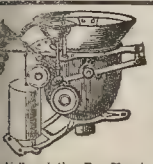
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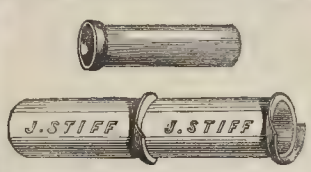
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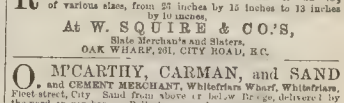
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PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, near the Tunnel Pier, on FRIDAY, MARCH 4, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of Four HOUSES and WAREHOUSES Nos. 273, 274, 275, and 276, Wapping High-street, of the usual description.—May be viewed the day previously, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

PIMLICO.—To MARBLE MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. C. A. PELLAS & Co. to SELL by AUCTION at the Belgrave Marble Wharf, Upper Belgrave place, Pimlico, near the Victoria Station, on TUESDAY, MARCH 8th, at ELEVEN for TWELVE, a quantity of MARBLE in slabs and slabs, consisting of statuary, vein and sicilian, of superior quality; also several blocks of coloured marble, and also at 2 000 feet of statuary vein, and sicilian slab. Bills at four and six months.—May be viewed on Saturday at Monday previous, and Catalogues had at the place of sale and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore street, City.

TO DISTILLERS, COPPERSMITHS, BACK MAKERS, AND OTHERS.—The valuable Plant and Utensils of Messrs. Browning & Co.'s and Messrs. Betts' late distilleries, Smithfield-bars, the premises being required for the New Metropolitan Meat Market.

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, Smithfield-bars, on FRIDAY, MARCH 11th, at TWELVE, the valuable DISTILLERY PLANT, comprising a 14 0 gallon copper still, by Pontifex & Wood, with dome top and circular cap; a 700 gallon copper still, by Pontifex & Wood, with dome top and circular cap; a 80 gallon copper still, with copper head and luck, and a 250 gallon ditto, with condensing head fitted with copper tubes; large copper and pewter worms, with worm tubs; 1 2 50 feet copper and pewter pipe, with gunmetal discharge cock; two copper spirit safe, a 3 horse power high pressure steam engine and tubular boiler; 2 sets of double and 3-throw sure steam engine and tubular boiler; 2 sets of double and 3-throw sure steam pumps, large 1 mash back, lined with lead, 20 feet square, 25 oak spirit vats, from 2 to 5 000 gallons; oak steel liquor and 25 oak spirit vats, from 2 to 5 000 gallons; oak steel liquor and grains and jibs, iron furnace work, 10 000 stock and fire bricks, office desks and counting house furniture, large iron safe, counters, shelves, bins, gas fittings and other effects. May be viewed the day previous; Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

METROPOLITAN RAILWAY, FINSBURY EXTENSION.—Building Materials of several Houses in Aldersgate-street and Barbican

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY MARCH 7th, at TWELVE o'clock, the valuable BUILDING MATERIALS of nine houses, shops, and other premises, situate in Aldersgate street and Barbican, comprising excellent stock bricks, oak and fir timber, in roofs and floors; slates, plain and pantiles; plate glass and other sheet; glazed sashes, doors, shutters, chimney pieces and interior fittings, doors, flooring boards, stone paving, rubble, and slabs, lead flats, gutters and pipes, casements, stoves, gas fittings, and other useful effects and fittings.—May be viewed on Saturday previous. Catalogues had of Messrs. HUR. CHELL, Solicitors, Broad Sanctuary; and of PULLEN, HORNE & EVERSFIELD 80, Fore street, E.C. and 40, Parliament-street, S.W.

HUNTINGDON.—To BUILDERS, CARPENTERS, STONE MASONS, PLUMBERS, GLAZIERS, BLACKSMITHS, and OTHERS.—TO BE SOLD by AUCTION by

THOMAS GAUNT, on TUESDAY, WEDNESDAY, and FRIDAY, the 1st, 2nd, and 4th of MARCH, 1864, the whole of the extensive and valuable STOCK IN TRADE, LIVE STOCK, and other Effects, the property of Mr. John Bird, Builder, who, in consequence of ill health, is retiring from business consisting of several thousand feet of ash and teak timber, a large quantity of seasoned English oak, elm, and lime-tree planking and boards of large dimensions, several bakers and deals, and a quantity of useful wood of all descriptions; patent planing machine, superior timber mill, handsome carriage, trucks, hand carts, two crabs, wheel-barrows, ladders, and various other implements, also a large assortment of builders' and other ironmongery; a quantity of Ketton, Ancaster, York, Aberdeen, Caterton, and other stone; gravestones, marble chimney pieces, sinks, troughs, glazed pipes, fire and other bricks, slate, &c. The Plumbers' and Glaziers' Stock consists of new panes, bar rolling, lead piping of all descriptions, sheet lead, glass, colours, tools, &c. The Blacksmiths' Stock comprises a quantity of new and old iron, bellows, anvils, and the usual tools used in the business, all of which are in capital order and nearly new. Also five excellent Scotch and other carts, dog-cart nearly new, light gig, small market-cart, well built pony chaise in full tone of well going harness, wheel straw, bran, and mangold wurtzel, 3 young and powerful cart-horses, one mare three years old, excellent pony, quiet to ride and drive, 3 handsome Brittany cows due to calving, 6 ewes and lambs, 3 large stack-cloths, 2 cow-cribs, several loads of manure, valuable materials of buildings standing in close, 2 well and water cart, Samuelson's patent lever cutter, rod pulley, pig and sheep troughs, corn-bins, water and swill tubs, and a great variety of other useful articles.—Sale to commence each day at ELEVEN o'clock punctually. Catalogues may be obtained at the principal Inns in the neighbourhood; and of the Auctioneer, Huntingdon, who will forward the same by post on application.

TO HOTHOUSE BUILDERS, ENGINEERS, AND OTHERS. CHELSEA

MR. GEORGE BERRY will SELL by AUCTION, on the PREMISES, 129, KING'S ROAD, MARCH 2nd, at TWELVE for ONE, the BENEFICIAL LEASE of the same, having an area of about 3,000 feet. The PLANT and GOODWILL of a Patent Hot and Greenhouse Builder. Also the STOCK-IN-TRADE, comprising Cucumbery, Greenhouses, Glass, Pipes, Iron, and Zinc; a Horse and Van. Also a Photographic Building fixed at the corner of Church-street, Islington-street.—May be viewed, and Catalogues had, at the Place of Sale, and of the Auctioneer, 8a, Motcomb-street, Belgrave square, S.W.

TO SHIP BUILDERS, TIMBER MERCHANTS, and the TRADE.—WARDOUR, WILTS, Two Miles from Tisbury Station, Salisbury and Exeter Railway

MR. JOHN WATERS (Canal, Salisbury) begs to give notice of SALE by AUCTION, at the ARUNDEL ARMS INN, Tisbury Station, on FRIDAY, 11th MARCH, at TWO o'clock precisely, a very large quantity of PRIME OLD OAK TIMBER, comprising, in all its sizes, upwards of 2,500 Oak Trees of considerable length and meetings, with the lop, lop, and bark; also ELM and ASH TREES, felled on the Estate of Sir Frederick Hoare, Bart. lettings, and of prime quality.—Catalogues may be obtained of Messrs RAWLENCE & SQUAREY, Land Agents, Salisbury; Mr. JEFFERY, Old Wardour Castle; or of the Auctioneer.

TO ARCHITECTS, BUILDERS, DECORATORS, SHIPPERS, and OTHERS.—The genuine STOCK-IN-TRADE of a Paperstainer (of high repute, for positive unreserved Sale.

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at his ROOMS, 19, Holborn-bars, and 1, Castle-street, H Born-hill, on TUESDAY next, MARCH 1, at 2 o'clock precisely, the whole of his large and genuine STOCK of French and English PAPERHANGINGS and DECORATIONS, including marbles, chintzes, damasks, satins, golds, flocks, and others of a costly and recherché description; followed by three casks of white lead, and a number of marble and enamelled slate chimneypieces.—The entire stock may be viewed, and catalogues had on Monday and morning of sale.

TO TIMBER MERCHANTS, BUILDERS, & OTHERS.—Important and Absolute SALE of the STOCK of a TIMBER MERCHANT.

MESSRS. J. J. CLEMMANS & SON are directed by the Assignee of Mr. John Thomas, to SELL by AUCTION at 152, OLD STREET, ST. LUKE'S, on TUESDAY, MARCH 8, and following days, at TEN for ELEVEN each day, the above, embracing 25,000 feet SPANISH & HONDURAS MAHOGANY, thick and rose wood, large quantity of ash, beech, teak, and other wood in the first veneers, varnish, fancy dry pine planks and yellow deals and battens; also a quantity of dry cut stuff, suitable for cabinetmakers; pit saws, screws, timber trunk, and the usual utensils in trade. On view day prior to and Mornings of Sale. Catalogues had upon the premises, and of the Auctioneers, 1, Spital-square, and 21, Bodywell-row, Finsbury

TO SAW-MILL PROPRIETORS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Administratrix to SELL by AUCTION, on FRIDAY, MARCH 4th, at TWELVE o'clock, on the PREMISES Mermaid-court, High-street, Borough, the PLANT and MACHINERY of a STEAM SAW MILL; including two beam steam engines of 30 and 20 Horse power, two elephant steam boilers and fittings for 50 pounds, two 4-feet saws frames, a circular saw bench, a sawing machine, deal and timber saw frames, a circular saw bench, a sawing machine, deal and timber saw frames, a circular saw bench, a sawing machine, deal and timber saw

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1100. MARCH 5, 1864. PRICE FOURPENCE. By Post, 5d.

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NOTICE.—The ANNUAL GENERAL MEETING of the Society will be held in the Rooms of the Royal Institute of British Architects, 9, Conduit-street, Regent-street, on WEDNESDAY, the 9th instant. The chair will be taken at THREE o'clock precisely.

JOHN TURNER, Hon. Sec.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 3, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 10th July, 1863.

ART-UNION of LONDON.—Subscription One Guinea.—Prizeholders select from the public exhibitions. Every Subscriber has a chance of a valuable Prize, and, in addition, receives a handsomely-bound folio copy of Coleridge's poem of "THE ANCIENT MARINER," illustrated by twenty Plates, designed expressly for this Society by J. Noel Paton, R.S.A. The work is now ready for delivery.

444, West Strand, GEORGE GODWIN. } Hon. Secs.
February, 1864. LEWIS POCOCK. }

SOUTH KENSINGTON MUSEUM.—MULREADY EXHIBITION, an Exhibition of the Works of the late William Mulready, R.A. will OPEN, at the South Kensington Museum, on SATURDAY, the 12th of MARCH, 1864. Admission on MONDAYS, TUESDAYS, and SATURDAYS, from TEN a.m. till FOUR p.m. free; on WEDNESDAYS, THURSDAYS, and FRIDAYS, Students' days, from TEN a.m. till SIX p.m. Sixpence.—By order of the Lords of the Committee of Council on Education.

ARCHITECTURAL ASSOCIATION.—VOLUNTARY EXAMINATION CLASS.—The OPENING MEETING of the Session of this Class will be held on TUESDAY Evening next, the 8th instant, at EIGHT o'clock, at No. 9, Conduit-street, W. The Officers of the Class for the ensuing Session will be elected, and other important business transacted. All Members of the Association, and others interested in the Examinations, are requested to attend.

LACY W. RIDGE, } Hon. Secs.
E. J. TARVER, }

ARCHITECTURAL EXHIBITION, 9, CONDUIT STREET, REGENT STREET.—All Drawings must be sent in THIS DAY, between NINE and SIX o'clock. Applications should at once be made for the limited space allotted to materials by those who wish to exhibit

JAMES FERGUSSON, F.R.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

SOCIETY of SCULPTORS.—All Works, in marble, bronze, terra cotta, wood carving, parian, and plaster, intended for the SECOND ANNUAL EXHIBITION, must be delivered at 9, Conduit-street, W. on the 18th and 19th of MARCH.

MORTON EDWARDS, Hon. Sec.

NEW ZEALAND EXHIBITION, 1865. The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts. Space will be reserved for Exhibitors from the United Kingdom and her Colonies, the Continents of Europe and America.—Copies of the decisions, forms of application for space, and further details may be obtained from the undersigned.—By order.

JOHN MORRISON, Agent for the New Zealand Government.
New Zealand Government Agency, 3, Adelaide-place,
King William-street, London, February, 1864.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Ampsden-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Price Meid Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The Committee for the ERECTION of a NEW CHURCH in High Park-street, Toxteth Park, Liverpool (land 38 yards deep from north to south, fronting the north), offer the sum of 50l. to the Architect who, in their judgment, furnishes to them the best PLAN and complete SPECIFICATION, and 25l. for the second-best, subject to the following conditions:—The Church to accommodate 600 on the ground floor, and 400 free sittings either in side, west end, or transept galleries. Organ at side of chancel. The Church is to be built externally with shafted and Stourton stone-dressings, and internally with bricks, and not to cost more than 4,500l. including hot-water warming apparatus, but excluding the boundary fences. The roof to be open. Scale, 8 feet to an inch, with figured dimensions throughout. Four elevations, foundations, ground, gallery, and roof plans, sections through to the ends, and also a longitudinal section, to be furnished. The Committee will retain the two selected designs, returning those not approved. The Designs and Specifications to be sent under cover to the Office of THOMAS DARNLEY ANDERSON, Esq. India Buildings, Water-street, Liverpool, on or before the 1st day of APRIL next. The Committee do not pledge themselves to accept any Design which, on being estimated, cannot be executed for the sum stipulated.

TOWN and BOROUGH of ROCHDALE. TOWN HALL, &c.—TO ARCHITECTS.—The Corporation of Rochdale are desirous of receiving DESIGNS for a TOWN HALL, wherein are to be provided fit and convenient public offices, for holding the meetings and transacting the business of the Council, and for holding such public meetings and transacting such public business as the Council may direct or allow to be held therein. The following premiums will be given for such three of the designs as in the opinion of the Council are the highest in merit, viz.:—

For the 1st set of such designs, 100l.
" 2nd ditto 60l.
" 3rd ditto 40l.

all of which premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope containing the name and address of the competitor, bearing a corresponding motto or device to that on the plans, &c. Lithographed plans of the site, with printed statements of the offices, rooms, and conveniences required, may be had on application to the Town Clerk on and after the 5th MARCH next; and the competing Designs, &c. must be delivered at my Office, in Yorkshire-street, Rochdale, on or before the 1st day of MAY next. By order,

ZACH. MELLOR, Town Clerk.

Rochdale, 27th February, 1864.

A MANUFACTURER will give a PREMIUM of from 100l. to 300l. for the best form of METER (patented or not) for the measurement of Water, combining accuracy of measurement with simplicity of construction.—Address, X. L. M. care of Davies & Co. Advertising Agents, Finch-lane, Cornhill.

CONTRACTS.

TO CONTRACTORS and BUILDERS.—TO BE LET by TENDER, the CONSTRUCTION of a BUILDING at Penzance, for the purposes of the Town Council, the County Court authorities, a Public Buildings Company, and the Royal Geological Society of Cornwall; containing a Guildhall and County Court, Council Rooms and Offices, Savings Bank Apartments, Lecture Halls, Museums, Libraries, Committee rooms, House Keeper's apartments, &c. Plans and specifications of the Works may be seen, and all information obtained, at the Architect's Office, Council Buildings. Sealed Tenders, indorsed "Tender for Penzance Public Buildings," to be delivered at the Offices of E. H. RODD, Esq. Penzance, on or before SATURDAY, the 26th of MARCH next. The Building Committee do not bind themselves to accept the lowest or any Tender.

JOHN MATTHEWS, Architect.

Penzance, 12th February, 1864.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION.—The Magistrates of the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT at DURSLEY. Person desirous of Contracting for the Works may see the drawings and specification, and obtain further particulars and information after TUESDAY, 1st of MARCH, on application at the Offices of Mr. E. MIDELAND, County Surveyor, Clarence-street, Gloucester. Tenders sealed and endorsed "Tender for Police Station, Dursley," to be sent under cover to the Clerk of the Peace, Shire Hall, Gloucester, on or before SATURDAY, the 19th of MARCH next. The lowest or any Tender will not necessarily be accepted

Clarence-street, Gloucester, 16th Feb 1864.

NOTICE to BUILDERS. The Commanding Royal Engineer, Gravesend, hereby gives notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-Office, Pall-mall, on or before THURSDAY, 24th MARCH, 1864, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of three years, commencing on the 1st day of APRIL, 1864, for the SUPPLY of MATERIALS, and for the performance of all Bricklayers', Masons', Carpenters', Slaters', Plasterers', Plumbers', Smiths', Paviors', Painters', Glaziers', Paperhangers', and Gasfitters' Work, as may be required by the Royal Engineer Department at Gravesend, Tilbury Fort, Coalhouse Fort, Shornemead Fort, Cliffe Fort, Rifle Range, &c.

Only one contractor will be accepted for the whole of the trades; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work, which rates or percentage may be different for each trade, should it be deemed expedient.

Printed schedules, and every particular relating thereto, may be obtained at the Office, between the hours of TEN and FOUR, till the 10th of MARCH, after which date none will be issued.

Tenders for the above works to be addressed to the "Director of Contracts, War-Office, Pall-mall, London, S.W." and endorsed "Tender for Builders' Work, Gravesend, &c." in the left hand corner of the envelope.

No Tender will be attended to which is not filled up strictly in conformity to the instructions, as stated in the printed schedules, nor will any offer be accepted but from such persons as may be considered competent to perform the work for which they may Tender.

N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Gravesend, February 25, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of a CORN EXCHANGE, MAGISTRATES' ROOMS, &c. at Wantage, Berkshire. The drawings, specifications, and conditions of contract may be inspected by the Board of Guardians, Wantage, from SATURDAY, the 12th, till THURSDAY, the 17th day of MARCH inclusive. Bills of quantities may be obtained on application to me by letter only, before WEDNESDAY, the 9th MARCH. Sealed Tenders, endorsed "Tender for Wantage Corn Exchange," to be delivered to me not later than FIVE o'clock in the afternoon of FRIDAY, the 18th MARCH. ROBERT WHEELER, Architect.

1a, Great George-street, Westminster

The Directors do not bind themselves to accept the lowest or any of the Tenders. Due security will be required for the performance of the Contract.

LANCASTER WAGON COMPANY, LIMITED.—To BUILDERS.—CONTRACT for WORKSHOPS at LANCASTER.—Persons desirous of TENDERING for the whole or any portion of the BUILDINGS required in erecting the new Works for the Lancaster Wagon Company, Limited (to cover about 12 acres) adjoining the Midland Railway, township of Bulk, near Lancaster, can see the plans and specifications, and obtain bills of quantities at my Office, Castle Hill, Lancaster, from TUESDAY, the 15th MARCH, to TUESDAY, the 22nd, inclusive. Tenders addressed to me to be sent in on or before SATURDAY, the 26th MARCH. The Directors do not bind themselves to accept the lowest or any Tender.

EDWARD C. G. PALEY, Architect.

Lancaster, March 1st, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a HOUSE and Premises, on ground to let/sale in Palmerston-road, Southsea, for Mr. T. C. HAYDON, can inspect the plans and specification on and after MONDAY, the 7th instant, at the Office of Mr. MONKHOUSE, Gordon-terrace, Southsea; or at the Office of the Architect, Mr. JOSEPH CLEVER, 7, Osborne-street, London, to whom all parties wishing to Tender are requested to forward their names, when they will be supplied with a copy of the quantities as soon as prepared. Tenders to be delivered to Mr. T. C. HAYDON, Queen-street, Portsea, endorsed, "Tender for House and Premises, Palmerston-road, Southsea," on or before THURSDAY, the 17th instant. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS, &c.—Persons desirous of CONTRACTING for the ERECTION of the RECTORY HOUSE at Staple, near Wingham, Canterbury, Kent, can apply by letter only, for further particulars, to the Architect, Mr. HARRY E. NEWTON, 6, Argyle-street, Regent street, London, W.

[For remainder of Contracts see next Page.

CONTRACTS.

SAINT JOHN, HAMPSTEAD. — CONTRACT for ROAD WATERING.—The Vestry of the Parish of St. John, Hampstead, invite fair tenders for the supply of the requisite WATER CARTS and HORSES for WATERING the Roads, Streets, and PLACES contained in the Abbey-road district, for one year, and after the letting of which year, the present Contract, called the London-road, commencing at the top of Rosslyn-street, and the old gate-house known as the Red Lion and terminating at a boundary-stone between the Counties of Middlesex and Herts, at the Finchley and Edgware Road or Hat and Feathers Tavern, both in the Edgware and Kilburn districts of this parish, at the expiration of which year, the Vestry of the said Parish intend to let the Contract for the London-road to the best bidder, and the present Contractor for the London-road, from the last day of MARCH next to the first day of SEPTEMBER next, Printed forms of Tender and Specifications, with further particulars of contract, may be seen, and further particulars obtained, at the Office of the Surveyor to the Vestry, No. 1, New End, Hampstead, any day before the meeting, between the hours of Ten and Four. The Vestry reserve to themselves power to except the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a bond with sufficient sureties in the sum of £500, for the due performance of the contract. Note—Intending tenderers are requested to attend at the Vestry Meeting, on Friday, the 11th day of March next, at half past SEVEN o'clock in the evening, precisely, when TENDERS for the SUPPLY of HORSES, WATER CARTS, and DRIVING of WATERING Horses, RIVETING and PLACING

CONTRACTS.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for PARTLY TAKING DOWN, REBUILDING, and ENLARGING the FARM-HOUSE, on the farm of Mr. John Teesdale, in Holbeach Marsh, can inspect the drawings and specification, on and after MONDAY, the 7th, until WEDNESDAY, the 16th of this instant, MARCH (Sunday excepted), at the Chequers Inn, Holbeach, at which place sealed Tenders are to be delivered on the latter day, not later than TWO o'clock p.m. addressed Mr. JOHN TEESDALE, Holbeach Marsh, endorsed "Tender for Works."—Mr. Teesdale does not bind himself to accept the lowest or any Tender.—Holbeach, March 1, 1864.

GAS WORKS. — CITY of BRISTOL WORKHOUSE, STAPLETON.—The Guardians of the Poor of the City of Bristol give notice, that all persons who may desire to CONTRACT for the ERECTION of GAS WORKS for the above WORKHOUSE, are requested to send to the said Guardians on or before WEDNESDAY, the 30th MARCH, 1864, Plans, Specifications, and Tenders for the same. Each Tender must be in the undermentioned printed form, and must be sent in a sealed paper, endorsed "Tender for Gas Works." The Tenders will be opened at the meeting of the Guardians, on the 1st of APRIL, 1864. The Guardians do not pledge themselves to accept the lowest or any Tender, but in the event of any Tender being accepted, the parties making the same will be required immediately to execute a Contract for its due fulfilment. The Conditions of the Contract may be seen, and printed forms of Tender may be obtained, and the Workhouse and premises viewed on application to the undersigned, who will also furnish any other information required. No premium or gratuity will be given for the plans or specifications, but those belonging to the unsuccessful candidates will be returned unused.—By order of the Board of Guardians,

W. B. WILMOT, Clerk

[Address, St. Peter's Hospital, Bristol.]

26th February, 1864.

TO ROAD CONTRACTORS. — Parish of ST. GILES, CAMBERWELL, SURREY.—The General Purposes Committee will meet on MONDAY, the 14th day of MARCH, 1864, at half-past SIX o'clock precisely, to receive TENDERS for the REPAIRS of Two ROADS in this parish, directed to be executed by this Vestry, the particulars of which can be seen, at the Office of the Surveyor, Mr. J. C. REYNOLDS, Office of Works, Wells-street, Camberwell, on and after TUESDAY next, the 8th instant, between the hours of ELEVEN and THREE o'clock.

GEO. WM. MARSDEN, Vestry Clerk.

Vestry-hall, Camberwell, 2nd March, 1864.

NEW FERRY PIER, opposite Liverpool. TENDERS are REQUIRED for ERECTING a PIER and FLOATING STAGE of wrought and cast Iron, &c. Drawings, specification, and quantities can be seen at the Office of Mr. BRUNLEES, C.E. 5, Victoria-street, Westminster; and at the Office of the Mersey River Steam-boat Company (Limited), Lancaster-buildings, 9, Tithebarn street, Liverpool, on and after the 2nd day of MARCH next.—Tenders are to be sent in, addressed to ROBERT LAMONT, Esq. at the Company's Offices, not later than the 12th day of MARCH. The Company do not bind themselves to accept the lowest Tender.—By order,

ROBERT LAMONT, Secretary and Manager.

Liverpool, Feb. 26, 1864.

NORWICH CORPORATION. TONNAGE DUES.—The Tonnage Committee of the Norwich Corporation, will meet at the Guildhall, on THURSDAY, the 17th of MARCH, 1864, to receive sealed TENDERS for the Hire for the term of Three Years from the 24th of March next, of the DUES or DUTIES, payable under an Act passed in the 12th year of the Reign of the First, called the Tonnage Act, together with the Tonnage Master's Dwelling-House and Office adjoining the River, and near to Carrow Bridge, in the said city. The hirer is to find sureties for the payment of the rent in advance, and for the performance and observance of covenants and regulations, to be entered into by the lessee. Tenders are to be received at my Office, Guildhall, up to ELEVEN o'clock, a.m. of the 17th of MARCH next. The Committee are not bound themselves to accept the highest or any Tender. By order,

W. L. MENDHAM, Town Clerk.

Guildhall, Norwich, 24th February, 1864.

TO BUILDERS.—WANTED, a TENDER for OAK FENCING round a Factory and Grounds.—Apply, by letter, to RALPHS, BROS. Steel Works, Hoyland

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Local Board of Health for the district of West Ham, in the county of Essex, are prepared to receive TENDERS for MAKING, LEVELLING, CHANNELLING, and CURBING Marcus street, Plaistow-grove, West Ham, and adjoining streets. Conditions of Contract, forms of Tender, and any other information, may be obtained at the Office of the Local Surveyor at Rokeby House, Stratford. Tenders are to be received at my Office, at Rokeby House, Stratford, not later than MONDAY, the 21st inst. and each of them must contain a 10l. Bank of England note, endorsed by the party tendering, to be returned in the event of either of the Tenders not being accepted, or on the completion of the contract or bond

CHARLES WILSON, Clerk to the Local Board.

Rokeby House, Stratford, March 3 1864

DUNMOW UNION. — To BUILDERS and OTHERS. CONTRACT for ADDITIONS to the UNION WORKHOUSE. Notice is hereby given, that the Guardians of the above Union are desirous of receiving TENDERS for the ERECTION of a BAKEHOUSE, FLOUR-STORE, and BREAD-ROOM, at the Union Workhouse, Great Dunmow, according to the plans and specification thereof, now lying at the Office of Mr. BRAY, Architect, Chelmsford, Essex, where they may be inspected. Sealed Tenders, addressed to the Guardians, to be sent to the Workhouse before TUESDAY, the 15th MARCH next, at which time the same will be opened. The person whose Tender is accepted will be required to enter into such a contract (with or without sureties) for the due execution of the works as the Guardians may determine. The Guardians do not bind themselves to accept the lowest or any other Tender.—By order of the Board,

WILLIAM JOHNSON, Clerk.

Dunmow, February 23, 1864.

TO BUILDERS.—Builders who are desirous of CONTRACTING for the ERECTION of a SCHOOL HOUSE, Pontypool, Monmouthshire, for the Rev. Elezar Torregiani, can see the drawing and specifications at the Residence of the Rev. Elezar Torregiani, Pontypool, Monmouthshire. Sealed Tenders are to be sent to the Architect, Mr. ARTHUR EVANS, 29, Henrietta-street, London, W.C. not later than the 23rd of MARCH next. The lowest or any Tender will not necessarily be accepted.

MORTAR GRINDING MILL WANTED to PURCHASE, a good New or Second-hand MORTAR GRINDING MILL, to work by steam power. Pan to be not less than five feet and under, and the rollers about three feet and a-half, and eleven inches wide.—State lowest cash price and full particulars, to J. & F. SANDERS, Leicester.

IRON BRIDGE for SALE. —At Plymouth, a WROUGHT-IRON BRIDGE, 125 feet long, rail 6 feet high, roadway 18 feet wide, constructed by C. D. PENNELL & CO. from designs by the late Mr. Brunel. In its first-rate condition, strong, capable of carrying 50 tons. TO BE SOLD, a bargain.—Apply to the DOCK MASTER, Plymouth, Great Western Docks, Plymouth.

IRON DOORS. — WANTED, SECOND-HAND WROUGHT-IRON DOORS and FRAMES, suitable for fixing in party-walls; size required, about 7 feet by 3 feet.—Particulars and price to be sent to C. D. at Mr. James Gilbert's, 19, Grace-church-street, E.C.

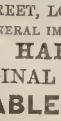
TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

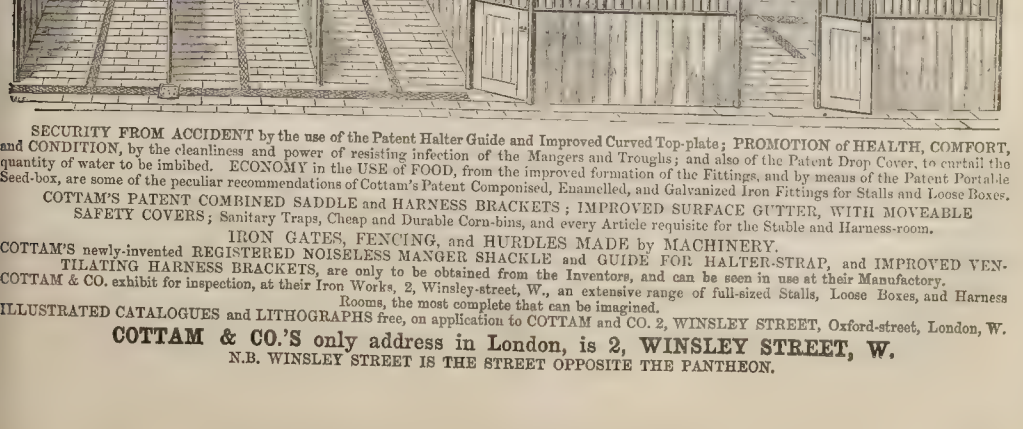


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

THE PRIZE MEDALS,
LONDON, 1851. PARIS, 1855. LONDON, 1862.
AWARDED TO
COTTAM & COMPANY,
No. 2, WINSLEY-STREET, LONDON, W.
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN
STABLE FITTINGS AND HARNESS BRACKETS.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Composited, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

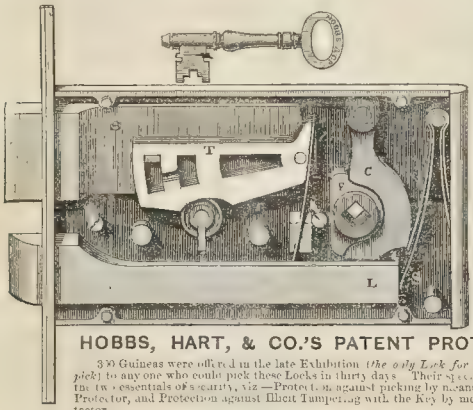
ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

HOBBS, HART, & CO.'S

MACHINE-MADE LOCKS AND STREET-DOOR LATCHES.

These Locks are recommended for all purposes requiring good security combined with economy of price and durability of wear, as by means of machinery a faultless accuracy is arrived at, which by hand labour would be impossible except at a greatly increased cost.



Architects and Engineers are requested to notice that the security of these Locks consists in a series of Levers, that have to be raised to unequal positions by the bits of the key before the bolt can pass. These will bear comparison with those at treble their cost.

These Locks are made with from Two to Five Levers, and can also be made in suits to differ with Master Keys to pass.

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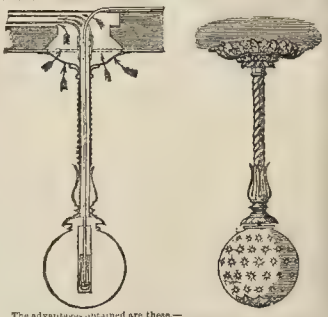
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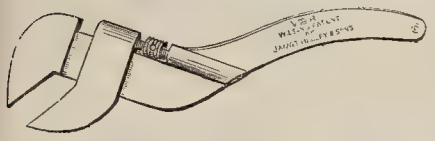
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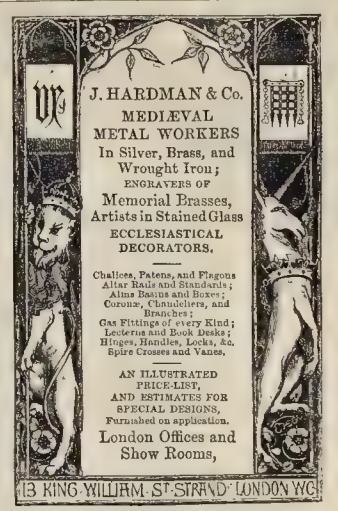
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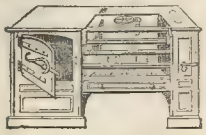
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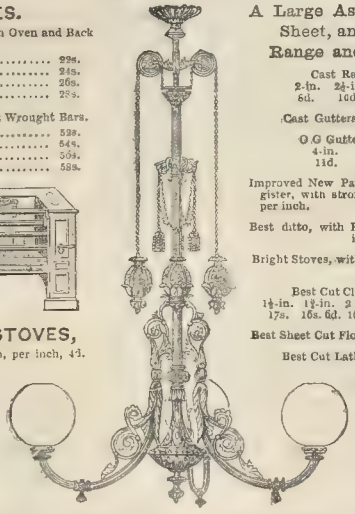
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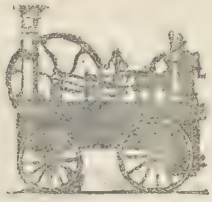
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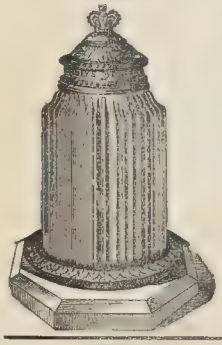
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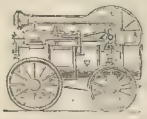
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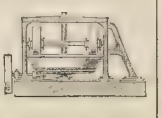
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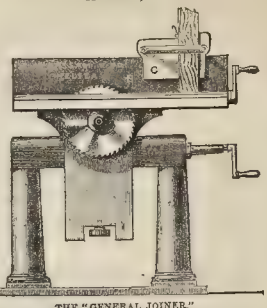


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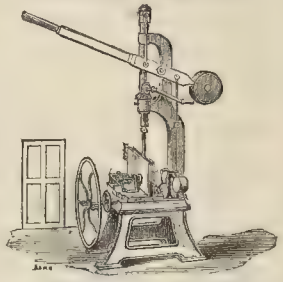
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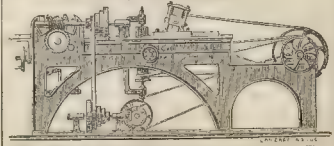
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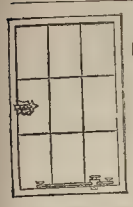
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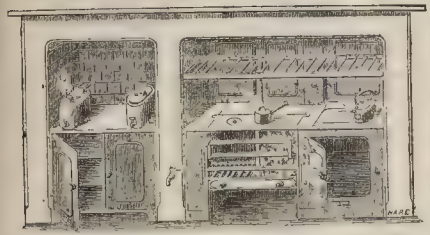
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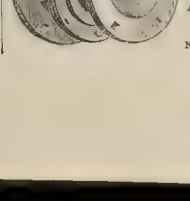
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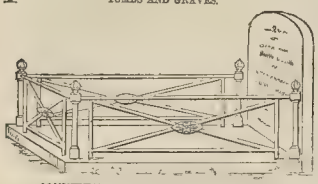
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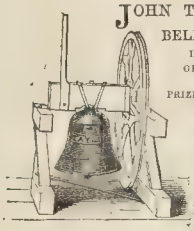


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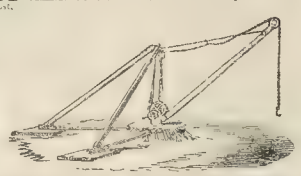
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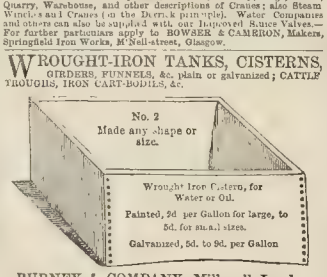
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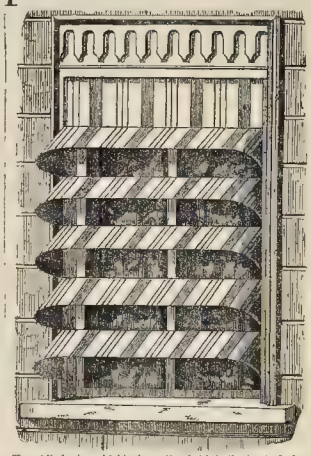
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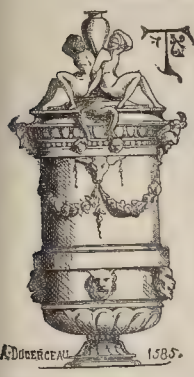
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VOL. XXII.—No. 1100.

The Railway Schemes; and Metropolitan Communications.



THE joint committee of the Lords and Commons appointed "to consider the best method of dealing with the railway schemes proposed to be sanctioned within the limits of the metropolis by Bills to be introduced in the present session, and to report their opinion whether any, and, if any, what schemes should not be proceeded with during the present session," have concluded their labours; and the result testifies to the pertinence of observations made in the House of Commons and out of it, at the time when the committee was moved for, that the terms of the reference were not comprehensive of the whole subject, and might be considered on that account "objectionable." Notwithstanding Mr. Milner Gibson's opinion, which he expressed in reply to Mr. Crawford, Mr. Massey, Sir J. Shelley, Lord Enfield, and Lord Fermoy, that the reference was sufficiently explicit, and would admit of the consideration of questions of new and widened streets, it is clear that the implication, in the terms of the reference, that railways were the sole or chief remedy for existing inconveniences, and a certain pressure felt by the committee, under the circumstance that numerous schemes on which money had been paid, were kept waiting, have contributed to the expression of a hasty judgment, and to a further staving-off of what will be necessary at last, namely, a comprehensive *plan* of the area occupied by London, with the largest estimated additions for the next century, designed and arranged for drainage and sewerage, water-supply, intercommunication, and whatever may be essentials in a city of immense population.

In the contrivance of the plan referred to, or even limiting the view to the existing area of the metropolis,—and without taking into account the suburbs,—means of communication more rapid than those of the present streets and carriages, are at once seen to be necessary. The Metropolitan Railway has proved that amongst the appliances which may be brought into use, is the system of road and motive power combining the rail and the locomotive engine. But, that is nearly all that experience of the circumstances of London has permitted to be established. The principles generally of planning the area of London; the spots which should be regarded as centres existing, and the directions that routes should take; the *degree* in which railways should trench upon open spaces, and upon those routes of the nature of streets which must always be required; and the several kinds of traffic to be provided for by the railways, as well as the species of engine and train best adapted to each kind, have never yet been considered, as they should and might be by an architect or engineer, or by a commission well constituted and advised. Even Wren and Gwynn, from whom much yet might be learned, considered in their plans, each, not the whole of the London of his time, and could hardly have foreseen the growth of a town-district which seems likely to extend to Staines or Windsor, or the necessity for, and invention of, the appliances which now exist, for connecting quarters so far apart as those of the east and the west of the actual or the future London. But to deliver over the metropolis of an empire, and home of at present nearly three millions of people, to the chances of its present agglomeration, on the assertion gravely made by some engineers, that it is impossible to foresee future requirements, as of railways,—but that circumstances must be met as they arise,—and allowing possibility for public good to be sacrificed to private ends, as those of speculators,—seems to us neither to be what should be regarded complacently, nor to be in the slightest degree necessary.

The difficulty of certain engineers is caused by their aiming at central stations, crowding at one spot railway and street-traffic, instead of adopting a principle of feeders to, and distributors from, the main line, with many though smaller termini,—the feeding and distributing lines, with their carriages and engines, being perhaps on a smaller scale than in the case of the main lines, as recommended several times by Mr. Sharpe, of Lancaster, and others. On this matter, it may be well to quote Mr. Hawkshaw, whose extension of the South-Eastern line to a station at Charing Cross, might seem to be not in accordant principle with the expression of his opinion, as given in the Minutes of Evidence attached to the Third Report from the Select Committee of the House of Lords on Metropolitan Railway Communication, dated 16th July, 1863. Mr. Hawkshaw then was asked whether he was "quite opposed to having a central station for a great many railways in the heart of the metropolis." He replied:—

"Yes; the fact is, that a central station is quite an impossibility. From my experience I know that railway stations in numerous instances have had in twenty years to be trebled, and even quadrupled, in size. Wherever stations are made, it is proper to assume that in the course of time they will increase; and if there were to be the stations of three or four large companies on one spot, they must either leave it ultimately, or absorb the whole of the district."

It is true that to the following question (1,090), namely, whether a scheme for collecting and distributing traffic might be devised, preserving the present termini rather out of the centre of the metropolis, he replied:—

"No doubt these omnibus railways will, to some extent, collect traffic for the larger railways; but I think that all the large railways will ultimately find it necessary to bring their stations nearer to the centre of London. In fact, they are doing so." . . . . .

He adds that he thinks it desirable the Great Northern and the Midland should come into the centre of London; and that no system of the collection of traffic for them, will do away with the necessity of maintaining stations for themselves. How are we to reconcile the first opinion with the last, and this last with the convenience of London, any more than the first opinion with the existence of the Charing-Cross station.

We differ from Lord Derby, to whom however credit for previous exertions is due, on the question of the time that would be occupied by a committee or commission in thoroughly inquiring into the whole subject of the communications, including streets, and respecting what he seems to consider the difficulty of the labour. The case of Paris is very different to that of London, both as to present size of the capital, and probable increase; yet it helps us to see that a good working-plan for a much larger capital might be made. Principles of the planning settled upon, and an arrangement designed and got into the form of plan, so far from time having been lost, it is gained. The extraordinarily rapid execution of the London Main-drainage works, and the excellence of the work, are due to the previous care in designing and showing everything by drawings; the time required for which, the public, by their organs the newspapers, complained of, only to be astonished on the discovery of the great progress made, and proximate completion. On a smaller scale, the blocks of combined residences where one staircase does the work of three staircases of houses of the ordinary system, are instances of the economy due to mere planning. Of the misfortune of not having plans to proceed upon, there seems to have been sufficient experience in Lancashire, in the application of the Public Works' Act, judging from one of Mr. Rawlinson's statements in January last, which ascribes to the omission the slow commencement of works, at the very moment when the labour and funds were available.

Now, on the question of railways across London, and of great central stations, or even of such stations as the Charing Cross, we could say much. Whether we might prove the stations and lines that have been allowed to seek the sanction of Parliament, with others of which the works are nearly completed, to be generally opposed to a good principle of planning for London, or not, we should hardly fail to show that the promotion of most of these schemes affords an argument for not delaying the plan of the metropolis until such time as the great change which they may effect shall have been accomplished.

The joint committee of Lords and Commons perceived the objection to great central stations, yet have permitted at least one of the lines with which it is proposed to intersect the heart of London, to appear before a committee upstairs. This line is the Hampstead, Midland, and North-Western and Charing Cross Junction. They distinctly say:—

"The scheme is in some degree open to an objection already referred to, that it tends to create a central station at Charing-cross."

But they add:—

"It, however, proposes an addition to the railway, which is to be constructed wholly in tunnel, to form three new streets, one of them of a very important character, in continuation of Tottenham-court-road from Oxford-street, in a direct line to St. Martin's-lane, near Aldridge's Repository, and from thence to the Thames Embankment, near the Charing-cross Railway Station. This new line of thoroughfare would be a substitute for the present objectionable road through Seven-dials and High-street, St Giles, and be a great public improvement. The construction of new streets in crowded parts of the metropolis, with the construction of new railways, was recommended in the report of the Lords' Committee last session. The committee are of opinion that, if the select committee to which the Bill for these schemes may be referred should see fit to sanction the scheme, they should do so only on condition that the new streets above referred to should be constructed contemporaneously with the railway, and that provision should be made in the Bill for insuring its completion."

It is to be regretted that they did not act upon a perception of the paramount importance to London, of a system of street-communications upon the best principles that could be settled. Possibly a general plan might require long years for its realization; but they should have taken steps towards obtaining such a plan, in order that railways might be subservient to a general object, and not antagonistic to objects other than those of the shareholders, whilst to those perhaps also.

What they have chiefly done is this. They have concurred in the opinion expressed in the report of the House of Lords' Committee above mentioned, that:—

". . . . . with a view to the distribution of passenger traffic arriving by the main lines of railway coming within the metropolis, and also the relieving the crowded streets by the absorption of a large portion of the omnibus and cab traffic, the completion of the inner circuit of railways is desirable."

They therefore allow the following schemes, which contribute towards the formation of such a circuit, to be proceeded with in select committee:—

"Metropolitan District Railways (the portion forming the inner circuit 32, 33, 34, and junctions 7, 8, and 9).
Metropolitan Railway (Trinity-square Extension).
Metropolitan Railway (Notting-hill and Brompton Extension).
Metropolitan Grand Union (portion North of the Thames)."

The Committee also are of opinion:—

" that the following schemes,—viz., the East London, Great Eastern (Metropolitan stations and railways), Great Eastern (junction No. 9), North London (Kings-

land and Tottenham line), Walthamstow, Clapton, and City may be properly proceeded with, and as these schemes more or less enter into communication with, or compete or conflict in levels with the schemes above referred to, as designed to form the inner circuit, and with each other, the committee are of opinion that all the above schemes may with advantage be grouped together, and be referred to the same select committee."

In the case of two schemes pursuing almost the same line from Kensington through Brompton to the City, amalgamation is recommended. Others allowed to proceed for bills, are the Great Northern and Victoria Station, London and Blackwall (Extension); London, Brighton, and South Coast (new lines in Battersea); Great Northern (No. 1, Barnet branch); London and North-Western (additional powers); London and South-Western (additional works); North London (additional powers); London, Chatham, and Dover (No. 1); London, Chatham, and Dover (No. 2); Great Eastern (junctions, except junction No. 8); Midland and St. Pancras branch; Metropolitan (additional powers); and the Metropolitan and St. John's Wood,—the last an exceptional case, and a well-planned single line.

The inner circuit would be formed partly by the existing Metropolitan Railway, and the prolongation of it to Finsbury Circus which is in progress. From the Paddington end of the Metropolitan Railway, the Metropolitan Extension Company propose an extension through Notting-hill, and Kensington, to Brompton; and from between the two latter places, Mr. Fowler proposes a short connecting line to the West London. Mr. Fowler's main line would continue from Brompton, past the Victoria Station, and along Victoria-street to Westminster Bridge, whence it would go along the embankment and the new street from Blackfriars to Cannon-street, and to Fenchurch-street, where a length promoted by the Metropolitan Extension Company connects with the Metropolitan Railway at Finsbury Circus. It is important to mention that Mr. Fowler's inner circle line is not intended to have any junctions, but only to have its stations conveniently placed for those of the country lines. It is found that the "omnibus traffic" is as much as, or more than, can be worked on the Metropolitan. From country and suburban traffic the small return is obtained at too great cost. The Great Northern, at present running trains along the portion of the Metropolitan from Farringdon-street to King's-cross, will shortly have a line of its own, at the side of the Metropolitan; though we suppose, it must always cross at the Farringdon Station.

It may be well, whilst the question of central stations, with that of the prolongation of country and suburban lines into the heart of London, is under consideration, to note and compare the experience of the returns of the Great Northern and the Metropolitan, per train-mile, over the same ground. There are twenty-one passengers per train, on an average, by the Great Northern; whilst there are 180 by the Metropolitan; and the money-return is but 2s. 6d. in the former case, against 10s. 6d. in the latter; and this without estimating all the superior convenience to the public. It is inferred from such facts, that the termini of at least the northern lines, had better be where originally designed; that extension into London would not pay, and that any saving of cab-fares would be realized by very few passengers; for, a railway does not take every one to his door.

Mr. Fowler's schemes under the general title of the Metropolitan District Railway, included an outer circle, coinciding with the inner circle between Brompton and Notting-hill, and thence passing through Kilburn, Kentish Town, Stamford-hill, Hackney, Bow, and Limehouse, where the Thames was to be crossed by a bridge of 750 feet span, formed on a combined truss and suspension principle—the truss or girder being about 107 feet deep. The southern portion of this circle was formed chiefly of lengths of lines existing, or in course of construction. At the west, the line turned north, and crossed the Thames at Chelsea. This outer circle line had numerous connexions with the existing lines. The committee however only report that an outer circle is desirable, whilst conceiving it to be provided after uniting the existing railways on the eastern side of the metropolis, by a connexion making use of the Thames Tunnel. The committee recommend that the schemes through Finsbury-circus should be for lines there underground.

Thus, the general conclusions may be summarized as the recommendation to the committees up-stairs, of divers schemes for the inner circle, completing the Metropolitan Railway, and of a line from Charing Cross northwards by St. Martin's-lane and Tottenham-court-road. The joint committee, however, have left a large number of the most important questions which called for their consideration unsettled, questions not merely of metropolitan communications generally, but such as those between viaduct-lines, lines in cutting, and lines underground.

THE MOLECULAR STRUCTURE OF WROUGHT-IRON.

AMONGST the most remarkable manifestations, in inorganic nature, of the mysterious power of cohesion, is the continual tendency of inorganic substances to assume certain definite and constantly regular forms. This tendency can, however, only show itself under the favouring circumstances of the passage of the body from a fluid state to a solid form—on the debateable ground between a liquid produced by the presence of heat or by the solubility of the substance, —on the one hand, and a form in which cohesion is in full force—as in the case of cold iron—on the other. As Regnault observes in his treatise on crystallography, "The greater number of substances which appear devoid of regular external form, present direct indications on their recently broken surfaces of a regular or crystalline texture; so that the entire mass of these bodies is apparently the aggregation of an infinity of small crystals enveloping each other. These rudimentary crystals are often so small, that they cannot be distinguished without examining the fractured surface with the aid of a magnifier or a microscope." It is seldom that very large crystals are to be noticed in wrought-iron; but under circumstances favourable to their formation, cubic crystals, with perfect faces as large as an inch on the side, have been discovered in the interior of large iron forgings. The interior of a mass of hot iron, under an ordinarily-sized steam-hammer, is comparatively undisturbed by the blows, and the process of crystallization can begin unimpeded and advance towards its ultimate development on the cooling of the mass. We have a familiar instance of something similar in the crystallization of sugar. In a concentrated solution of sugar, allowed to cool at rest, may be formed symmetrical large crystals of sugar-candy. A disturbance or hastening of the process results in the small and irregularly shaped crystals of loaf-sugar. Now this is the case with an ordinary bar rolled or forged under the hammer. The crystals cannot completely develop themselves, and the result is indeed, in many cases, a *saccharoid* structure, closely resembling that of white sugar.

The great influence of crystallization on the structural value of iron appears to have been first pointed out in an important work of Mr. Mallet, published some years ago. Mr. Mallet's book "On the Physical Conditions involved in the Construction of Artillery," is one of the most philosophical works ever written on iron. Although, doubtless, many of its practical conclusions with reference to artillery itself have been left behind in the great progress of late years in the metallurgy of steel, the book remains a monument to the scientific power and research of its author. It is, indeed, somewhat surprising that some of its conclusions on many branches of an obscure subject have not received greater attention. Mr. Mallet puts forward, as a general law of the molecular aggregation of crystalline solids, "that when their particles consolidate under the influence of heat in motion, their crystals arrange and group themselves with their *principal axes* in lines perpendicular to the cooling or heating surfaces of the solid; that is, in the lines of direction of the heat wave in motion, which is the direction of least pressure within the mass." By "principal axis," Mr. Mallet does not necessarily mean the optic axis, but "that symmetric axis of the integrant crystal whose position, after consolidation of the mass, is found coincident with the direction in which the heat wave has passed out from the mass, if cooling, or into the mass, if heating; and which direction is necessarily that of least pressure within the mass." Numerous phenomena of consolidation of different metals are brought by Mr. Mallet under this law; but he, of course, more particularly directs his attention to iron. As a consequence of his law, "the planes of crystallization in castings of iron group themselves perpendicularly to the surfaces of external contour," or in the directions in which the heat of the fluid cast-iron has passed outwards in cooling and solidifying.

The explanation of the well-known fact that the planes of fracture of any broken casting "follow the track, with almost unerring precision, of all re-entering angles, and of all sudden changes of scantling or dimensions," is found in this law. As an instance, Mr. Mallet adduces the lower or closed end of the first shape of the cylinder for the hydraulic press used to raise the tubes of the Britannia Bridge. The bottom was made at right angles to the sides. It burst under the severe water pressure, the bottom being driven out. The planes of junction, formed at the corner at the bottom, by the vertical sides, were *planes of weakness*, as the crystals of the iron were thereat confusedly interlaced,—the principal axes of the crystals having arranged themselves in lines perpendicular to the bounding planes of the mass, and at these sharp corners there was thus a kind of solution of continuity in their arrangement. Mr. Stephenson changed the form of the bottom of the press to one of a semi-ovoidal form, and the casting, thus shaped, was found to withstand the great strain. The fact has long been known to engineers, that a sharp corner in a casting is, *per se*, prejudicial to its strength, and this is another instance in which the beauty of easily flowing lines brings strength also in its train. The law of arrangement of the crystals of wrought-iron is stated by Mr. Mallet to be essentially the same as with cast-iron. In the usual elongated masses of wrought-iron, the tendency of the crystals is, "upon the whole, to place themselves *parallel* to the principal surfaces." This law of aggregation would appear, at first sight, to be directly opposite to that of cast-iron, in which the crystals place themselves perpendicular to the surfaces of the mass. But in the two very different modes in which cast-iron and wrought-iron are respectively manufactured, will be found an explanation of this apparent discrepancy. After all, what is the main chemical difference between wrought and cast iron, but that cast-iron contains a large portion of uncombined carbon?

It will thus be found, says Mr. Mallet, "that in wrought, as in cast iron, the principal axes of the crystals tend to assume the directions of least pressure throughout the mass, while exposed to pressure and heat, in progress of manufacture." When a bar of hot iron is passed through a set of rolls, or when a length of iron is drawn into wire, the direction of least pressure is evidently coincident with the length of the bar or of the wire, and in this direction the principal axes of the crystals are found to arrange themselves. There can be no doubt that this law, which some may prefer to call a hypothesis, explains several of the metallurgical phenomena of iron. Many of the effects on iron of rolling and forging it in large masses, and the remarkable increase of strength through the cold-drawing of wire and of gun-barrels, can be thus accounted for. What is popularly termed the "fibre" of wrought-iron is thus merely the longitudinal *crystalline arrangement* peculiar to well-worked iron, of good quality, and free from cinder.

The most valuable book that has been published within late years on wrought-iron is Mr. Kirkaldy's "Inquiry into the Tensile Strength and other Properties of various Kinds of Wrought Iron and Steel." In this work are embodied the most numerous, complete, and systematic series of experiments ever made on the tensile strength of wrought iron and steel. It has seldom fallen to the lot of a book to dispel so many of what Bacon calls the *idola fori* and the *idola theatri*,—the "spectres of the market-place and of the theatre," arising from mere words and names, and wrong theories. No notion has been more current within late years than that wrought-iron is subject to a progressive deterioration caused by its supposed "fibrous" structure assuming a "crystalline" form. A forcible picture of this supposed change would be afforded by imagining a bar composed of long glass filaments. The deteriorating agents might be supposed to gradually break up these long filaments into short pieces, and to thus gradually affect the sum total of the strengths of the different filaments. Now, general experience points in too great a number of instances to a progressive deterioration of iron, under certain as yet incompletely investigated circumstances, to enable us to utterly reject the assertion. But these circumstances have been generally stated in such a loose and vague way that no strict opinion, embracing the whole question, can be formed thereon. The observers of the phenomenon have paid no regard to

e range or extent of the vibration supposed to use this deterioration in the molecular structre of iron; but have, as is usual in such cases, ken refuge in what Newton calls mere *somnia*—ientific castles in the air. The causes have en variously stated to be "percussion," "conssion," "vibration," "jar," "jarring action," ension," "bending," "deflection," "sudden oling," "frost," "friction," "heat," "magtism," &c. Some thought, as Mr. Kirkaldy serves, that one of these was sufficient, whilst hers maintained that two or three combined re necessary. Many hundred experiments ade by Mr. Kirkaldy, with his usual care, simy showed that:—"1. Whenever wrought-iron eaks *suddenly*, a crystalline appearance is the ariable result; when *gradually*, invariably a *rous* appearance. 2. Whether, on the one nd, it is finely or coarsely crystalline, or, on e other, the fibre be fine or close, or coarse d open, depends upon the quality of the iron. When there is a combination in the same bar plate of two kinds—the one harder or less ctile than the other—the appearance will be rtly crystalline and partly fibrous; the latter oduced by the gradual drawing-asunder action evious to and at the time of rupture; whilst the former the iron breaks suddenly, without ongating at time of rupture. 4. When the oportion of the harder is considerably less an the softer, the former snaps suddenly, hilst the latter continues stretching; but when arly equal, or the less ductile predominates, oth portions break together, or almost at the me moment,—the one part, gradually arriving its limit of endurance, breaks with a fibrous ppearance, whilst a greatly increased strain nsequently coming on the remaining portion, suddenly gives way, producing a crystalline ppearance. 5. The relative qualities of various ons may be pretty accurately judged of by comring their fractures, provided they have all been eated in precisely the same way, and all broken nder the same sort of strains similarly applied. 6. By varying either the shape, the treatent, the kind of strain, or its application, eces cut off the same bar will be made to preent vastly different appearances in some kinds iron, whilst in others little or no difference ll result." Now these important conclusions Mr. Kirkaldy appear to us to be easily reconlable with Mr. Mallet's law. It being granted at a bar of wrought-iron is an aggregate of ystals arranged with their principal axes rallel to the longitudinal axis of the bar, a adual strain would pull out these filaments, hile one more sudden would snap the filaentary aggregate of crystals at their facets. he force of cohesion between the different ystals has not time to exert itself during a dden strain: having no time to slide one upon nother, they thereupon give way at the cleavges. According to Mr. Kirkaldy's second conusion, the tensile strength of a bar of iron epends, *cæteris paribus*, on the arrangement and ze of the crystals, both of these being affected, Mr. Mallet has shown, by the kind of workanship and other circumstances in the manucture of the bar.

In order to examine with more precision the ternal metallic structure on the fractures, r. Kirkaldy immersed his broken specimens in ilute hydrochloric acid which, "acting on the rrounding impurities," exposed to view the ctallic portion free from the cinder. He thus ound that repeated rolling gave an appearance to he bar "like that of very fine and straight long airs or threads lying close together:" in a less orked specimen, there was "the same threadke appearance, but indistinct and wavy, very regular in size, in some parts lying close, in thers far apart." Now here is another instance f Mr. Mallet's law, that "the principal axes of he crystals of wrought-iron tend to assume the irections of least pressure throughout the mass hile exposed to pressure and heat, in process f manufacture." As we have seen in the case f a rolled bar, the direction of least pressure is vidently coincident with the length of the bar. The puddled iron, rolled, showed a more woolly han thread-like texture: crank-shaft specimens gave an extremely varied appearance, some parts eing dense, others porous,—facts which can be net by Mr. Mallet's explanation when we reflect n the processes of puddling and of forging large nasses of scrap-iron.

Perhaps the origin of the formerly current notions with respect to the "fibre" of iron may e found in a common workshop test. When a vorking smith wishes to determine for his own atisfaction the quality of the iron bar he is going to work up, he cuts a nick, or notch, in one side of the bar, and bends the bar, by striking it obliquely on the edge of his anvil. He then examines the fresh bright fracture in a good light. Long, silky fibres adhering together like a bundle of hempen strands make him believe that his iron is of a tough soft quality, easy to forge and shape, but hard to break. A coarse granular fracture indicates a harsh, brittle iron, subject to "cold shortness," or to being easily broken when in use. A "red-short" iron is generally denoted by the appearance of numerous cracks on the edges of the bar. When the smith merely wishes to try the toughness of the iron, he is generally careful not to break it, but rather strives to try its tenacity by getting a longitudinal view of the inside of the iron. As Mr. Kirkaldy says:—"In the fibrous fractures the threads are drawn out, and are viewed externally; whilst in the crystalline fractures the threads are snapped across in clusters, and are viewed internally or sectionally. In the latter cases the fracture of the specimen is always at right angles to the length: in the former it is more or less irregular." When, however, the smith wishes to get a short piece of iron from a longer bar, he uses a rather blunt-edged chisel which he slightly drives into the substance; making up, however, for the slight depth of the incision through violent vibrations at the nick by means of his sledge. An extraordinary decrease in tenacity at the nicked place of the bar is thus effected. Most people must have been, at some time or other, surprised to see iron broken so easily in this way. The iron is found to be short and crystalline at the nick, and the crystals are arranged *transversely* to the bar's length. Mr. Mallet explains the phenomenon by the fact that the position of the crystals of the bar, formerly parallel to its axis, are now arranged transversely: "the principal axes are found in the directions of least pressure within the mass."

SOMETHING ABOUT BANBURY.

Perhaps, in all England, there is no town of the same smallness which is so generally heard of as Banbury,—a rival with the "Land o' Cakes," and famous for the nursery rhyme, known to every little boy and girl,—

"Ride a cock-horse to Banbury Cross,
To see a fine lady ride on a white horse;
With rings on her fingers and bells on her toes,
She shall have music wherever she goes."

As regards this lady, who is so well known to us all, we get more complete information in what follows:—

"'Twas in the second Edward's reign,
A knight of much renown,
Yclept Lord Herbert, chanced to live
Near famous Banbury town."

This knight had one son left to his lot: fearless and brave was he; and

"It raised the pride in the father's heart,
His gallant son to see."

And so this poetic legend goes on to tell that, near Lord Herbert's ancient hall, proud Banbury Castle stood, within the noble walls of which there dwelt a maiden, young and good;—

"As fair as the rosy morning,
As fresh as the sparkling dew,
And her face as bright as the star-lit night,
With its smiles and blooming hue."

Young Edward gazed on this lady, and dreamt of her in the night; and then heralds sound their trumpets, and proclaim a festive day. To Broughton's castle, and Wroxton's pile, and Herbert's stately tower, "that looks o'er hill and dale," all come.

The legend is long. There are minstrels, and mention made of Matilda, the lady's name, and the knight's sword glancing in the moonbeams. There is a rival in the way, and young Edward nearly loses his life. But the rival turns out to be her brother.

Days passed on, as they will. Young Edward was nursed with care, and Matilda never left his side; but the young man had the stamp of death upon his face. In the castle, at that time, there lived a holy monk, who had noticed the sinking of the young lady's cheeks, and offered to effect a cure. This was his prescription:—

"To-morrow, at the midnight hour,
Go to the Cross alone:
For Edward's rash and hasty deed
Perchance thou may'st atone."

The lady goes to the cross and walks round it. Edward is cured, and a goodly festival is ordered. And now,

"Upon a milk-white steed,
A lady doth appear:
By all she's welcomed lustily
In one tremendous cheer.
With rings of brilliant lustre,
Her fingers are bedeck'd,
And bells upon her palfry hung,
To give the whole effect."

And by the side of the noble lady there rode one of noble mien and air.

"And, even in the present time,
The custom's not forgot,
But few there are who know the tale
Connected with the spot;
Though to each baby in the land
The nursery rhymes are told,
About the lady robed in white,
And Banbury Cross of old."

Enough, however, on this head. Our intention is to inquire more especially into the sanitary and social condition of Banbury, a place in many respects pleasant to the eye, but in which, unfortunately, much neglect is visible.

Mr. Beesley, in his history (1841) of this town, situate in a deep valley of the table-land of the northern part of Oxfordshire, and on the western bank of the river Cherwell, says, "The town was long proverbial for its *trade and dirt*. Its trade arises almost entirely from its being the centre of a great agricultural district, but partly also from its being the chief seat of some manufactures which are carried on among what is said by some to be a too crowded population.

The condition of this town, in Shakspeare's and Queen Elizabeth's days, must, from accounts, have been very bad; when the new church was unfinished, people said,—

"Dirty Banbury's proud people
Built a church without a steeple."

The arrangement of it, however, appears to have improved since those days; but even until lately, although the town has a pleasant aspect, and the people have, taking them in the mass, more than the average ability, there remains much to be done in the way of needful improvement. A local Board of Health has been established, which spends at present about 2s. 8d. in the pound of the yearly rental. The poor-rates of Banbury have been until lately 4s. in the pound per year: altogether the rates are very excessive; but, for the most part, the people do not complain, except as regards management and the disposal of the rates.

We have in Banbury a "debatable land," quite as troublesome as some in the metropolis. Neidthorp and Banbury, although they should only form one town, are divided into places of opposing interests. Before, however, touching that question, it will be useful to state, that the chief trade of Banbury consists in the disposal of agricultural produce. Within a radius of ten miles there are more than 140 agricultural villages and hamlets. The market at this town is a very important institution. There are also manufactories, which are increasing in importance. There is one member returned from here to Parliament; and the town stands on ground of a varied geological character. The land in the neighbourhood is generally of a superior kind—better towards the Oxfordshire than the Northampton side.

Banbury has always supported the rights of the people against the aggression of rulers. In the struggle between the Commonwealth and the King, the people here took the side against Charles I.; they were on this point opposed to Oxford. We have a well-known rhyme in allusion to opinion in Banbury:—

"From Banbury came I—
Oh, profane one
Where I saw a Puritan man
A hanging of his cat on Monday
For killing of a mouse on Sunday."

Some of the evils of the debateable ground are curiously illustrated here. For instance, a leading surgeon states,—

"Banbury is very well scavenged, but in Neidthorp you meet nuisances at every step. This applies also to the lighting, which is very bad in Neidthorp; and this is the worse for Banbury, as you cannot enter it without coming through Neidthorp. Strangers see a town shining with light at a distance."

It has been difficult to give a proper water-supply and drainage to Banbury without passing through portions of Neidthorp. There is also separate police and sanitary inspection for Banbury and the last-named place,—a circumstance which causes neglect and confusion. The police of Banbury have no power to act in Neidthorp. On this point, Mr. Pain, who is a leading man in Banbury, says,—"My house and garden are within this borough, but my back door opens into a lane in Neidthorp, near to which is a beer-shop. Some time since there was a great dis-

turbance in this place,—men fighting and women calling murder;—and at the same time a borough policeman was walking in front of my house; but the disturbance was out of his jurisdiction. I could not demand his interference." Many other instances might be given which would show the inconvenience which arises from the division of what ought to be one town.

Before the application of the Local Health Act to Banbury, the average (taking seven years) death-rate for the borough, excluding Neidthorp, was 21·6 per 1,000 of the population, which in 1848 consisted of 3,746, and in 1861 was 4,059; whilst that of Neidthorp, exclusive of deaths which occurred in the union workhouse, had been 26 in each 1,000 of the population. In the joint parishes a sixth of the whole number of deaths arose from epidemic, endemic, and contagious diseases, and the number of deaths under one year of age was more than a sixth of the whole population.

A fever, which has been called by the lower classes the "Banbury fever," has prevailed not only in this town, but in the surrounding villages; but this, although so called, does not differ from the fever which is usually to be met with in undrained and dirty situations. With the improvements in drainage, and in other respects, the death-rate of Banbury has been lessened, and there is no reason, if the measures of the Local Health Act were thoroughly carried out, why the deaths should be over 17 or 18 in the 1,000. A local Act, which applied to Banbury, was passed as far back as 1825; and before then drainage had been provided to a small extent; but this, and all that was done in connexion with the Act of 1825, was found to be next to useless. Respecting the state of the drainage in 1850, it is stated that where there were drains existing in the streets, they were not all at a sufficient depth to drain the cellars of the houses. In many cellars water was collected, which required to be pumped through a hole periodically. Mr. Hayes, a tailor, in the Horse-fair, had to pump water out of his cellar; and when there was a strong flow of water through the drain, it was apt to soak into the house: and most of the houses in this part of the town were situate in nearly the same way. The condition of other parts of Banbury and Neidthorp was very bad: in Cherwell-street, in the last-named locality, Mr. Brasier, a whitesmith, reported, that at the end of the street was a culvert that came from the borough, about 2 feet 6 inches in diameter, and emptied into a ditch about fifty yards from his house, the whole way totally neglected. The soil from the culvert completely filled the ditch and the culvert with deposit. There was no drain from the street to the culvert, and he had been obliged to dig a cesspool in his garden, which was emptied by buckets. Some of the houses had drains, but they were frequently choked up. The usual consequences followed; and whenever there was an epidemic, it was generally fatal here. Fevers were very prevalent—the "Banbury fever" in particular. In the hope of lessening these dangerous conditions, another local Act was passed, and under its provisions an effectual system of main drainage, which passes to the river, has been carried out; but it is unfortunately the case here, as it is in many other places, that the owners of houses have neglected to make a proper communication with the main drains; and, in consequence, cesspools are left to pollute the soil and poison the inhabitants. It would be of great advantage if a careful account were taken of the number of cesspools which still remain in use here, and measures should be adopted to get rid of these as speedily as possible.

Notwithstanding that a water-supply has been provided, many wells, some of them in dangerous situations, are still in use. The water-supply seems to form a subject of contention here. For the purpose of bringing to the town a plentiful supply of this necessary of life, a company was formed, which expended between 15,000*l.* and 17,000*l.* in carrying out this object. So far the work has failed to pay a fair profit on the outlay, and the company has offered to dispose of their property to the borough, at the cost price. Many of the townspeople, however, consider that much unnecessary outlay has been made; that it is scarcely fair to saddle the town with the large cost of a losing establishment, and that it should be valued in a business-like way, and a sum paid by the Corporation which the waterworks, &c., are fairly worth. This matter has, we believe, been amicably settled, and it is to be hoped the water will come into general use. Care must, however, be taken, that the source may be kept free from certain pollutions which we have hinted at.

Several of the houses here, which are let as common lodging-houses, require careful inspection. They contrast very unfavourably with places of a similar description which are under the charge of the metropolitan sanitary police. Those in Banbury are generally in a dirty, neglected condition, and there can be no doubt that overcrowding — particularly at certain seasons—takes place to a very dangerous extent. The ventilation and cleanliness of those places should be at once attended to; and care should be taken that more beds are not allowed than the space will justify.

Generally, the paving has been very much improved; and in the main thoroughfares the scavenging is managed in a satisfactory manner. But in the back-slums, both in Banbury and in Neidthorp, where fevers are for the most part generated, more especial attention should be paid. The horse-fair in Banbury, in which the modern cross is placed, is a fine open space, kept beautifully clean, and is surrounded by substantially constructed houses—for the most part built of a grey-coloured stone, which is pleasant to the eye. The Corn-exchange and some of the other buildings here are worthy of note. Several of the inns are of great antiquity, and of quaint and picturesque appearance. The gateway and yard of the Reindeer Inn are especially to be noticed. There is a large dining-hall here, which seems to date as far back as the reign of Henry VII., and retains most of its original features.

In the road from Banbury to Stratford-on-Avon, by the way of Edge Hill, we found that, upon the whole, the cottages were of a better class than those in Buckinghamshire and Hertfordshire, being for the most part of a larger size, and built in a substantial manner with stone. Edge Hill, a spot of great interest in connexion with the Commonwealth wars, offers a scene that cannot be readily forgotten. From Banbury, hill after hill rises to a great height, and towards Stratford the land descends in a steep ridge. From the top there is a remarkable view, which, in a clear day, takes in Wales: towns, villages, streams, and a fine country are seen as in a map as far as the eye can reach; but we have seldom met with anything more wild, rugged, and solitary than is the far-famed battle-field we have named.

THE NARROW TEACHING OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

I AM fully aware that since the Institute of Architects, under bad advice, turned out reporters, prevented publication of its papers, made it a crime for a member or visitor to communicate to the outside world any little morsel of information he might pick up at one of its meetings,—gave up, in short, that publicity which had brought it popularity,—its proceedings have passed from the scope of the *Builder*. In the interest of art, however, and of the rising generation of architects, I request permission,—I am almost disposed to say I demand permission,—to ask of some of the senior members of the Institute a question of serious import.

At the house of a friend, who is an Honorary Member, I have just seen the last issue of "Sessional Papers" (Part II., No. 4), containing a memoir by one of the Hon. Secretaries, written, it is stated, to supply a blank caused by the postponement of two papers which had been promised. This paper deals with what the writer calls the "*Hair-stand-on-end-style*," and another variety of art, the "*Galvanized-glove-stretcher-mumia*," whatever that may be, and asserts that Paris has been reduced to the appearance of "a gigantic asylum for highly respectable lunatics." But I am not about to make any comment on this, which is a matter of taste: I am a grave man, old enough to have been intimate with Athenian Aberdeen, and my notions of what should be found in the "Transactions" of a chartered body may be antiquated. Moreover, I have no right to subject you to a correspondence in reply on such a point. What really concerns us all is this. In the course of the paper I find, after a sentence deploring the "*Classic malady*," and urging efforts to prevent "the spread of its cankering disease," the following note:—

"A very hopeful sign is, that out of the numerous designs sent this session in competition for the premiums offered by the Institute, not one is in the Classic style; but all, without exception, are treated Mediæwally."

This, we will take for granted, is a note by the author of the paper, but by many it will be read as a note by the editor representing the Council, papers *read* before learned societies not usually having notes. Now, sir, I wish to ask the present President of the Institute, also Professor of Architecture in London University, and Mr. Smirke, Professor of Architecture in the Royal Academy, if this be the teaching they desire should go forth in their name,—if this narrow sectarian view, the result of a fashion, the small doctrine of small men, be the view they desire should be taken by the rising generation of architects in their studies? If so, the sooner we know it the better. Are the glories of Greece and Rome to be no longer referred to? Are the immutable principles which guided the great men of old to be no more studied and made available?

Do the mediocrities of to-day who reproduce examples of French Gothic architecture and copy morsels from the "Ducal Palace," imagine they are doing more for true art than the mediocrities of a past time did who turned the end of a Roman temple into a house, or copied the Parthenon whenever the opportunity occurred? If they think so, the judicious do not. Let them be assured their time to be found out and ridiculed will come, as surely as the others have been found out and ridiculed.

The point, however, is, do the leading members of the Institute of Architects wish us to thank God that students no longer pay any attention to the teachings of Classic art?

M. A. *Cambridge.*

THE IMPROVEMENTS IN PARIS:

THE QUESTION OF THEIR IMPORTANCE IN THE VIEW OF THE INCREASING MORTALITY OF LONDON.

IN a recent article headed "The Financial Question of the Works in Paris,"* we gave statistics, and referred to some of the most important results of the improvements in the French capital. In our volume for 1861, in several articles, we had treated of the question between London and Paris improvements, when we inquired into the facts of the distribution and density of the population, referred to the imputations against the municipality, of having caused the dearness of residences, and noticed the migration or removal of many of the inhabitants, from the central districts to the annexed zone situate between the ancient *barrière* and the fortifications; and, at the end of our last volume,† we gave the figures, then just published, of the latest one of the statements of increase in the number of residences, which statements would tend to an exculpation of the management of the works. We noted in 1861, the assertion of a considerable amelioration in the health of the inhabitants of the French capital, since the works were commenced, and at the same time, having obtained the figures, we compared the number of deaths in Paris, with those of London, per thousand of living persons, and found that the sanitary condition of the latter capital, gauged by the standard of mortality, was very slightly, if at all, superior to that of the former. The comparison just referred to,—never before made, or at least published, that we are aware of,—and the facts which were unveiled by it, surprised many; but, notwithstanding that we have one correction to make, the general conclusion will be found substantiated by more recent information which we are now able to give, as we find it in reports, or as we deduce it by calculation.

In particular, there is a statement, published last January in the *Moniteur*, which is very remarkable. It is made by M. Devinck, in a report presented by him in the name of the committee of finance, to the municipal council of Paris. M. Devinck says that the mortality which was in 1858, 1 death to 38 inhabitants, was reduced in 1862 to 1 death for 41 inhabitants. In other words, it was 26·32 per thousand of the living; and it is now, 24·39 per thousand. This last would be less than the mortality of London taken at 2·452 per cent., which is actually the figure given in the Summary of the Registrar-General dated 18th of last month.

In our volume for 1861, we made the mortality of Paris in 1860, only a trifle over that of London; as indeed it was: but, by taking, in place of those of the Registrar-General's Summary, Dr. Letheby's figures,—all that we happened

* Page 874 in last volume.
† See page 911 ditto.

to have access to in Paris; but which may have been correct for some average, whilst not quite so for the year 1860,—we made the mortality of London for the year, rather greater than it is now stated to have been, and the excess of mortality for Paris less than it then was. The figures in the Registrar-General's Summary undergo correction each year, for several preceding years; and, shortly after the year of a census, the alteration may be greater for the concluding years of the previous decade, than for the years immediately following; but, in the case of France, where the census is every five years, the rough method suggested to us by the French statisticians, of estimating the increase of population for each year as one-fifth of the previous quinquennial increase, may involve less margin of error. We took the mortality of all London, from Dr. Letheby, as 24·5 per thousand; and we made that of Paris for 1860, 24·75: but, now, from the Summary we have mentioned, it is clear that the mortality of London for 1860, was only 2·249 per cent., or 22·49 per thousand, that is 2·01 less per thousand than we stated. The average of several years would make the figure higher, as indeed it has become, we have shown, for the year now lately expired.

Let us endeavour to check the statements by M. Devinck, and make a fresh comparison of the condition of Paris and London, noting the figures of the account of the time passed since our previous comparison, excluding, for the present moment, the year 1863, for which the figures, though applied for, have not yet reached us from the *Bureau de la Statistique* of the Hôtel de Ville, Paris.

The number of the "*Annuaire*" of the "*Bureau des Longitudes*" of the present year, gives the figures of the total population of Paris; and separately, of each of the 20 *arrondissements* and 80 *quartiers*. The total population in 1861, the year of the census, was exceedingly close to what we made it, estimating before the year had expired. The year of the previous census was 1856. Then the outer "zone" not included in the city, of course was counted distinctly; but we have before us a separate sheet with the figures as in 1856, both for city and suburbs, arranged as though the extensions and new divisions had been fixed in 1856. A comparison of the two lists thus enables us to give the following comparative statement of the population of the whole of Paris.

Population in 1856:—		
Exclusive of the garrison	1,500,129	
Garrison	25,813	
Total		1,525,942
Population in 1861:—		
Exclusive of the garrison	1,667,841	
Garrison	28,300	
Total		1,696,141
Increase in five years		170,199

To get approximately the population at the end of last year, we might calculate thus:—

Population in 1861, total	1,696,141
Increase in 1862 and 1863 together, say two-fifths of previous increase	68,080
Population 31st December, 1863, as estimated	1,764,221

It may be interesting to note that the population of London is now estimated as having been in the middle of the year 1863, 2,904,413 persons. Sir Wm. Petty, in 1687, speaks of the people of Paris as having been, before the Restoration, more than those of London and Dublin put together; although, at the time of his writing, he believed the people of London to be more than those of Paris and Rome, or of Paris and Rouen.*

We will now give what we believe to be a perfectly accurate view of the mortality of the two capitals for the years 1860, 1861, and 1862, so as to lead to the best idea that can be formed of what is the comparative position at this time, and what may have been the effect of the Paris improvements, an effect as we have seen, directly stated by M. Devinck as most important and beneficial. The figures for Paris are worked out by a simple calculation from those of the population, known or estimated, of each year, and of the mortality as given in the annual publication already named: those for London are copied from the Summary of last month, only shifting the decimal points and adding a cypher, so as to make the statement in each case per thousand of the living, instead of per cent.

In 1860:—	Per Thousand.
In Paris (including the garrison, which appears to be very healthy), the deaths were at the rate of	24·745
In London, they were	22·490
Thus, the rate of mortality of Paris exceeded the London rate	2·255

* Cunningham's Handbook of London.

In the following year, there was a considerable increase in the mortality of each capital. The increase was greater in Paris than in London. So that we find the comparative view as it is here:—

In 1861:—	Per Thousand.
In Paris (the garrison included), mortality	25·656
In London, do.	23·180
Thus, the excess for Paris had *risen* to	2·476

In the next following year, however, the mortality of Paris again took the descending course whilst that of London continued to ascend.

In 1862:—	Per Thousand.
In Paris (garrison as before, included), mortality	24·338
In London, do.	23·560
Thus the excess of the rate of mortality of Paris, over the London rate, had *been reduced* to	0·778

In 1863, as already stated, the London rate of mortality rose to 24·52 per thousand; or should M. Devinck's statement apply to the latest period, Paris would be now healthier than London. The mean or average of three years, excluding 1863, indeed, shows that London has been more healthy than Paris, though by no means to the extent supposed in some published statements which give the rate for the French capital as 28 in the thousand. Thus:—

In 1860, 1861, 1862:—		
In Paris:—	Per Thousand.	
1860 =	24·745	
1861 =	25·656	
1862 =	24·338	
	74·739 ÷ 3 = 24·913	mean of the three years.
In London:—	Per Thousand.	
1860 =	22·490	
1861 =	23·180	
1862 =	23·560	
	69·230 ÷ 3 = 23·077	do.
Excess of the rate of mortality of Paris, per thousand, over the London rate	1·836	do.

That is to say, the mortality of Paris is not 2 in a thousand of the living, greater than the mortality of that which is esteemed the healthiest capital in Europe; whilst it has appeared to us by no means clear, that the French capital is not now becoming healthier than the English.

In the absence of details of the mortality in the separate quarters of Paris, it would be useless to enter upon a statement of figures for the different districts of London. We only need to allude to the fact that for 100 deaths in Whitechapel, there are but 58 in Hampstead; and observe that we showed in 1861, that different quarters of Paris would also present startling contrasts. But we may repeat that the mortality of Paris is greatly below that of some of the chief towns in England, such as Bristol, Leeds, Hull, Manchester, and Liverpool. In the ten years ending 1850, the mortality of the last-named town was at the average annual rate of 36 deaths to 1,000 persons living.

The mortality of Berlin has been stated as 25 in the thousand; that of Turin as 26; Hamburg, 36; Moscow, 38; St. Petersburg, 41; and Vienna, 49. Dr. Letheby, we see, in his report of January last, gives the death-rate for the city of London for the last year, as 25·1, and the average annual death-rate during the last ten years as 24·3 per thousand, as compared with 24·4 the rate of the chief towns and town-districts of England, that of the whole of England being 22·2, and that of the country districts 19·8.

In the article in which our former comparison was made, we alluded to the fact of an apparently greater mortality of young children in London than in Paris, and a much greater in some English towns, as Glasgow. The question involved here is a very curious one; but it is complicated by circumstances which seem peculiar to Paris.

In the year 1860, the births in Paris exceeded the deaths by the number 9,795; in 1861, they exceeded them by 9,906; and in 1862 by 10,127. Thus, the increase of births from 1860 to the end of 1861 would be 2,514; but from 1861 to the end of 1862, there was a decrease of 1,258. The increase of deaths in 1861 was 2,403; but, in the deaths, as in the births, there was a decrease from 1861 to the end of 1862 of 1,479. In 1861 the increase of births exceeded the increase of deaths by the number 111 only. We have already alluded to this as an unhealthy year. In 1862, however, the deaths decreased more than the births decreased. There was an actual decrease of births, as stated, amounting to 1,258, but as the deaths decreased 1,479, we may call the result the same as if the births had continued in the ascendant by the number of difference 221. Certainly it might require to be seen whether children born in Paris were sent out to die. Still the figures which we have deduced by calculation, from the annual and quinquennial returns, may be considered to have a certain importance.

As to the general mortality of Paris, there was in 1860, one death to about 40¼ inhabitants (exactly 40·411): in 1861, truly, the mortality was increased so that there was one death to about 39 inhabitants (38·977); but in 1862, it again fell, and to a somewhat lower point than that at which it stood in 1860, there being in 1862, one death to a trifle more than 41 (41·088) inhabitants. We found in 1861, that there was ample reason to credit the statement that it had then been falling for several years, and we have now evidence that M. Devinck's last assertion is not without the best foundation. We shall look with interest for the facts and figures, from Paris, of the year 1863. But, if those given above be correct,—and we do not see how they can be invalidated,—the example of Paris ought to be followed in London, in the opening of ample and wide lines of communication and aëration, on a plan matured after consideration of principles; and of this we yet see little evidence of preparation.

"THE BOOK OF DAYS."

A STORE of anecdote, biography, and history, curiosities of literature, and oddities of human life and character, such as this, has probably never before been collected.* The editor is well known to have special qualifications for the getting up of an Old World's work such as this; and the result is a portly book, teeming with curious information, and illustrated by not far short, we should think, of 1,000 well-executed engravings, many of them copies of curious old cuts of rare interest.

In the preface, the editor tells us that,—

"The Book of Days was designed to consist of—1. Matters connected with the Church Kalendar, including the popular festivals, saints' days, and other holidays, with illustrations of Christian antiquities in general. 2. Phenomena connected with the seasonal changes. 3. Folk Lore of the United Kingdom—namely, popular notions and observances connected with times and seasons. 4. Notable events, biographies, and anecdotes connected with the days of the year. 5. Articles of popular archæology, of an entertaining character, tending to illustrate the progress of civilization, manners, literature, and ideas, in these kingdoms. 6. Curious, fugitive, and inedited pieces."

Well and faithfully has this programme been carried out. The Book of Days was a happy thought for one of the most miscellaneous of literary *mélanges*, wherewith even the briefest intervals of leisure may be saved up, as it were, in every haphazard dip into its pages, by the acquisition of something or other in the shape of knowledge of a useful or entertaining description.

It is impossible to give any idea of the diversified character of the work by varied quotations; and we shall, therefore, not make any attempt to do so; but it may not be out of place, at the present time, to present our readers with an account, somewhat condensed, of the Shakspeare Commemoration Festival of 1769, which the editor of the "Book of Days" has compiled from the newspapers and magazines of the time. Stratford-on-Avon was the scene, and Garrick the master of ceremonies.

On the morning of Wednesday, the 6th of September, at five o'clock, the proceedings were inaugurated by a serenade performed through the streets by a band of musicians and singers from Drury-lane Theatre. Several guns were then fired, and the magistrates assembled about eight o'clock in one of the principal streets. A public breakfast was prepared in the new town-hall at nine, presided over by Mr. Garrick as steward, who, previous to the reception of the general company, was formally waited on by the mayor and corporation of Stratford, and presented with a medallion of Shakspeare, carved on a piece of the famous mulberry-tree, and richly set in gold. At breakfast, favours in honour of the great dramatist were universally worn by ladies as well as gentlemen, and the assemblage numbered the most distinguished of the aristocracy amid its guests. This entertainment having been concluded, the company proceeded to the church, where the oratorio of "Judith"

* "The Book of Days: a Miscellany of Popular Antiquities in connexion with the Calendar." Edited by Robert Chambers. In two vols. 1863.

was performed under the superintendence of Dr. Arne. A procession, with music, led by Mr. Garrick, was then formed from the church to the amphitheatre, a wooden building erected for the occasion on the bank of the Avon, constructed after the manner of the Rotunda at Ranelagh, in the form of an octagon, with a roof supported by eight pillars, and elegantly painted and gilded. Here dinner was served up at three o'clock, and a suitable interval having elapsed a musical performance took place, at which several songs, chiefly written by Garrick, were received with the greatest applause by the audience.

A grand ball commenced in the amphitheatre in the evening, and was kept up till three o'clock next morning. In front of the building, an ambitious transparency was exhibited, representing Time leading Shakspeare to immortality, with Tragedy on one side and Comedy on the other. A general illumination took place in the town, along with a brilliant display of fireworks, under the management of Mr. Angelo. The next morning was ushered in, like the former, by firing of cannon, serenading, and ringing of bells. A public breakfast was again served in the town-hall; and at eleven o'clock the company repaired to the amphitheatre, to hear performed Garrick's "Shakspeare Ode," which he had composed for the dedication of the town-hall, and placing there a statue of the great bard presented by Garrick to the corporation.

An epilogue addressed to the ladies, and delivered by Garrick, closed this part of the ceremonial.

The remainder of Thursday was, like the previous day, spent in dining, listening to a concert, and witnessing illuminations and fire-works. At midnight commenced a grand masquerade, said to have been one of the finest entertainments of the kind ever witnessed in Britain. Three ladies, who personated Macbeth's witches, and another, who appeared as Dame Quickly, excited universal admiration. An Oxford gentleman assumed, with great effect, the character of Lord Ogleby; but a person dressed as the Devil gave inexpressible offence. One individual, whose costume attracted special attention, was James Boswell, whom an engraving here represents as he appeared at the Stratford jubilee masquerade, in the character of an armed chief of Corsica, an island of which he had happened to publish an account, and regarding which he had, as his countrymen in the north would say, "a bee in his bonnet." In this character he delivered a poetical address, sufficiently grandiose and Cambyscan, on the united subjects of Corsica and the Stratford jubilee. There can be no doubt, as Mr. Croker remarks, that poor Bozzy made a sad fool of himself, both on this and other occasions during the jubilee, and would have done well to have followed the advice of his blunt-spoken Mentor, "to clear his head of Corsica." During his stay at Stratford, he is said to have gone about with the words "Corsica Boswell" printed in large letters outside his hat, that no one might remain in ignorance of the presence of so illustrious a personage.

On the masquerade revellers awaking from their slumbers on the following day (Friday), they found a deluge of rain, which had continued unintermittedly from the previous night, descending on the town of Stratford. All prospect, therefore, of carrying out the proposed Shakspeare pageant, in which the principal characters in his plays were to have been represented in a triumphal procession, *al fresco*, with chariots, banners, and all proper adjuncts, was rendered hopeless. There was, however, a jubilee horse-race, which was well attended, though the animals were up to their knees in water. In the evening another grand ball took place in the town-hall, in which the graceful minuet-dancing of Mrs. Garrick, who in her youth had been a distinguished Terpsichorean performer on the London stage, won the highest encomiums. The assembly broke up at four o'clock on Saturday morning, and so ended the Stratford jubilee.

In October, the Shakspeare pageant devised by Garrick, but the representation of which had been prevented by the unfavourable weather, was brought out by him with great magnificence and success at Drury-lane Theatre, and had a run of nearly a hundred nights.

One other specimen of these many-featured volumes we may give,—namely, a paper on Bells, which we must also abbreviate.

In monkish Mediæval times, church-bells enjoyed peculiar esteem. They were treated in great measure as voices, and were inscribed with Latin ejaculations and prayers. Many bells are found to have identical inscriptions: there is, however, great variety, and further search would bring much more to light.

In those old times, pious queens and gentlewomen threw into the mass of metal that was to be cast into a bell their gold and silver ornaments; and a feeling of reverence for the interceding voices was common to gentle and simple. They were sometimes cast in monasteries, under the superintendence of ecclesiastics of rank. One of the ancient windows on the north side of the nave of York minster is filled with stained glass, which is divided into subjects representing the various processes of bell-casting, bell-cleaning, and bell-turning, and has for a border a series of bells, one below another; proving that the associations with which bells were regarded rendered them both ecclesiastical and pictorial in the eyes of the artists of old.

King Henry VIII. looked upon church-bells only as so much metal that could be melted down and sold. Hence, in the general destruction and distribution of church-property in his reign, countless bells disappeared, to be sold as mere metal. Many curious coincidences attended this wholesale appropriation. Ships attempting to carry bells across the seas foundered in several havens, as at Lynn, and at Yarmouth; and, fourteen of the Jersey bells being wrecked at the entrance of the harbour of St. Malo, a saying arose to the effect that when the wind blows the drowned bells are ringing. A certain bishop of Bangor, too, who sold the bells of his cathedral, was stricken with blindness when he went to see them shipped; and Sir Miles Partridge, who won the Jesus bells of St. Paul's, London, from King Henry, at dice, was not long afterwards hanged on Tower-hill. Notwithstanding the regal and archiepiscopal disregard of bells, they did not altogether pass from popular esteem. Within the last half-century, at Brenckburne, in Northumberland, old people pointed out a tree beneath which, they had been told when they were young, a treasure was buried. And when this treasure was sought and found, it turned out to be nothing more than fragments of the bell of the ruined priory church close by.

After the Reformation, the inscriptions on bells were addressed to man, not to Heaven; and were rendered in English. There is an exception to this rule, however, at Sherborne, where there is a fire-bell, 1652, addressed conjointly to Heaven and man: "Lord, quench this furious flame: Arise, run, help, put out the same."

The sanctus-bell used to be rung in the performance of mass, when the priest came to the words, "Sancte, Sancte, Sancte, Deus Sabaoth," so that those persons unable to attend might yet be able to bow down and worship at this particular moment. For this reason, the bell was always placed in a position where it might be heard as far as possible. In the gables of the chancel arches of ancient churches, are seen small square apertures, whose use few people can divine. It was through these that the ringers watched the services below, so as to be able to ring at the right time.

The great bell of Bow owes its reputation to the nursery legends of "Oranges and lemons, said the bells of St. Clement's;" not to any superior characteristics, for it is exceeded in size and weight by many others. English bells, generally, are smaller than those of foreign countries; perhaps for the reason that scientific ringing is not practised abroad; and all effect must be produced by the bells themselves, not by the mode in which they are handled. The more polite the nation, it is argued, the smaller their bells. The Italians have few bells, and those that they have are small. The Flemish and Germans, on the other hand, have great numbers of large bells. The Chinese once boasted of possessing the largest bells in the world; but Russia has since borne off the palm, or in other words, carried away the bell, by hanging one in Moscow Cathedral, measuring 19 feet in height, and 63 feet 11 inches round the rim. By the side of these proportions, our Big Bens and Big Toms are diminutive. The great bell of St. Paul's is but 9 feet in diameter, and weighs but 12,000 lb. The largest bell in Exeter Cathedral weighs 17,470 lb.; the famous Bow bell but 5,800 lb. York, Gloucester, Canterbury, Lincoln, and Oxford, can also eclipse our familiar friend.

Bells have their literature as well as legends. Their histories are written in many russet-coloured volumes, in Latin, in French, and in Italian. These have been published in different parts of Europe, in Paris, in Leipsic, in Geneva, in Rome, in Frankfort, in Pisa, in Dresden, in Naples, in the fifteenth, sixteenth, seventeenth, and eighteenth centuries. They take the form of dissertations, treatises, descriptions, and notes. Early English writers confined themselves more especially to elucidating the art of ringing, in essays bewilderingly technical. The names of the different permutations read like the reverie of a lunatic—single bob, plain bob, grandsire bob, single bob minor, grandsire treble, bob major, caters, bob royal, and bob maximus; and the names of the parts of a bell are quite as puzzling to the uninitiated. There are the canons, called also *ansa*, the haunch, otherwise *cerebrum vel caput*, the waist, *latus*, the soundbow, the mouth, or labium, the brim, and the clapper.

A very full and useful general index, of about forty-five of the large pages of the work, gives easy reference to the multitude of subjects contained in these highly entertaining volumes.

TRINITY COLLEGE CHURCH AND THE EDINBURGH COUNCIL.

THE House of Lords having now on appeal modified the decision of the Court of Session, in Scotland, by directing that out of the 17,171*l.* received by the Lord Provost, magistrates, and council of Edinburgh, as compensation for the Collegiate Church of the Holy Trinity, the site of which was acquired by the North British Railway Company some years ago, 7,000*l.* be applied to building a new church, and the rest for the benefit of the hospital or charity with which the collegiate church was connected; the lovers of historical monuments and ecclesiastical art will do well to see that the town council do not escape from their obligation to *reconstruct* this celebrated edifice, and to carry into effect a *fac-simile* rebuilding.

The circumstances connected with this church, and with the long-continued attempts of the town council to misapply the fund which they received for its restoration, are altogether unparalleled.

It will be in the remembrance of your readers that this building, which had for its founder Mary of Gueldres, widow of James II. of Scotland, was architecturally one of the most beautiful and interesting of the historical monuments of that realm, and was deemed unequalled in richness and beauty of design. It was used, since the municipality became owners, not only as the chapel of the hospital attached to it by the royal foundress, but as one of the city churches, down to 1848; the town council having been from the year 1567 in possession of the hospital estates charged with the support of "eleven aged and impotent persons, who in their old age had lost their means by the events of adverse fortune." But in 1848 the church was taken down, and the stones were numbered and preserved, in order that it might be built anew upon another site.

When the church was first threatened with demolition for the purposes of the North British Railway Company, several noblemen and magistrates of Scotland, aided by some English ecclesiologists, interfered for its preservation; and, although they could not save it, the result of their exertions was that the Select Committee on the Railway Company's Bill stipulated that before the building should be taken down, the company should either rebuild the church with the approbation of the magistrates and Council of Edinburgh, or should pay to that body the estimated cost of rebuilding "*a church of the same style and model*,"—a stipulation by which (as Mr. Beresford Hope, who was a member of that committee, has stated) the committee intended, and all parties understood, a *fac-simile* rebuilding.

Mr. Rhind, the architect, who seems to have been employed by the company, estimated the cost of building a new church accordingly; that is, a church of the same style and model, at the sum of 16,371*l.*; but nothing less would satisfy the town council at that time than the re-construction of the old building upon another site; and ultimately the company adopted the alternative given by the Act, and paid the above-mentioned sum to the town council. Plans of the building were thereupon made, and the stones composing it were numbered and removed to the slope of the Calton-hill, in order to its restoration elsewhere. The town council then invited estimates for rebuilding the edifice upon the plan and with the materials of the ancient church, and the cost appears to have been estimated at 10,400*l.* That estimate, however, contemplated the re-working of the whole of the stones.



ST. STEPHEN'S CHURCH, SOUTH KENSINGTON.—Mr. Peacock, Architect.

It will be seen that in these negotiations, and in subsequent acts of the town council of the time, that body acted as trustees for the restoration of the fabric out of the large sum of 16,371*l.* paid to them for that purpose. But time went on, and possession of the money seems to have altered the view of the majority of the town council, with regard to this obligation and its fulfilment; and in 1853 the council proposed to apply the money to another purpose, and to build a large edifice of a plain character in lieu of Trinity Church, and to fund the residue for "ministers' stipends" in the city,—a proposal which called forth the indignant remonstrance of several gentlemen of high character and position in Scotland as well as in England.

But the Dissenting interest in Edinburgh had set its heart upon securing this large sum of money for its own purposes; and, from a report which appeared in the *Times* towards the close of 1856, it appears that a majority of the town council of that year had been elected by the Free Church and Dissenting interest for the purpose of securing that misappropriation. So at length the council in effect resolved to disavow its obligation to rebuild the church according to the Act of Parliament, and resolved that so much of the money as should be necessary, should be applied to build what the council should deem "a suitable church," and that the rest should be held for other purposes.

And thus, instead of the picturesque capital of Scotland being adorned with a conspicuously placed and accurate restoration of the once beautiful church of the Holy Trinity, an auditorium was to be built, and the remainder of the money, which had been paid by the railway company as the estimated cost of restoring the church, was to be applied to such other purposes as this repudiating municipality should think fit!

The town council continued to resist the combined influence of the remonstrants, who included almost every representative of law and learning, arts, and antiquities in Edinburgh; and meantime two sets of claimants sprang up, the one contending that the money had been paid in respect of property of the hospital, and should be applied for charitable purposes, and the other, that it should be applied in the rebuilding of the church, in such a manner that the new structure should correspond stone for stone with the church pulled down. The court of session was applied to, and that court held the town council bound to rebuild the church, and decreed the fund received from the company to be charged with that liability. The council were, moreover, mulcted in the costs of the proceeding to which their chicanery had given rise.

The town council appear to have suggested that the sum of 7,000*l.* should be applied to build a new church, and that the rest of the money should go to the benefit of the charity, and to this suggestion the recent decree of the House of Lords appears to give effect. In so far as the "ministers' stipends" scheme is defeated, I have nothing to say against it, but how that decree is to be reconciled with the intention of the Railway Company's Act is not so clear, seeing that the lowest estimate for the restoration was upwards of 9,000*l.*, and that the building a new church and building the old church anew are very different things.

The question now is, What kind of church is to be built? Are the 7,000*l.* to be applied in rebuilding the ancient edifice as it stood, but upon another site, or to building a church of a different style and model? It is the duty of the Edinburgh people to take care that the obligation contracted by the council is fulfilled in a proper manner; and the City of Edinburgh will make the perfidy its own if it does not insist upon the restoration of the original church. The plans made in 1848, and the dressed and sculptured stones, numbered for replacement in their original position, remain; and the corporation architect, not long ago, reported the materials to be in good preservation. I have not before me the case presented to the House of Lords on the appeal; and it may be that the only question raised was whether the whole, or only part, of the sum in question, should be applied to charitable purposes; and that the obligation imposed by the Railway Company's Act was not brought to the notice of their lordships.

Wm. Sidney Gibson.

ST. STEPHEN'S CHURCH, SOUTH KENSINGTON.

It is proposed to erect a new church in the important district of South Kensington to meet the wants of its rapidly increasing inhabitants. Archdeacon Sinclair, to whose exertions it will be due, has obtained a site at the cost of about 3,000*l.*, directly opposite to Queen's Gate Gardens. It adjoins the Gloucester-road, and is open on all sides. A design by Mr. Peacock, which we publish, has been determined on, and the erection will be commenced as soon as funds can be raised. A strong appeal is made for subscriptions.

FINE ARTS APPLIED TO INDUSTRY.

Under this title a course of lectures is being delivered at the Society of Arts, by Mr. Burges.

The programme of the first (February 8th) ran thus:—"What is an Art-manufacture?—Advancing state of English Manufactures in an Art point of view—Much owing to Government Schools of Art—Impediments to further Progress: 1. Want of a distinctive Architecture in the nineteenth century fatal to Art generally; 2. Want of a good Costume fatal to Colour; 3. Want of sufficient Teaching of the Figure fatal to Art in detail—Hints for the advancement of Art applied to Industry."

The lecturer, after observing that the only way of exercising an influence on the progress of art was the application of it to objects made in great quantities for every-day use, and after adducing the example of the Greeks in this respect, proceeded to comment on the unwillingness in certain quarters to make a legitimate use of machinery, one great mission of which was defined as the reduction of pounds to shillings and of shillings to pence. This prejudice was referred to a misunderstanding of the teaching of Mr. Ruskin and of the late Mr. Pugin; whereas the real object of these gentlemen was the discouragement of mechanical appliances to objects where life and variety were particularly wanted. After bringing forward some instances where, by a proper use of such appliances, really artistic objects might have been produced at a price exceedingly below their present cost, the lecturer proceeded to congratulate the English manufacturers on the great improvements manifested of late years. In support of this he quoted the opinion of M. le Comte Clement de Ris, a gentleman sent over last year by the French Government to study the Soane Museum. M. de Ris advised "the French manufacturers, if they do not wish to find in ten years' time powerful rivals where hitherto they have only met humble tributaries, by no means to sleep upon their laurels." This progress was pronounced to be due to the general development of art, and, above all, to the schools of design and the admirable museum at South Kensington. The principal impediments to our future progress were then noticed, the most formidable of all being the want of a distinctive architecture. This affected all branches of design, inasmuch as the student had to learn half-a-dozen different styles and their various details, the consequence being that he mastered none of them thoroughly. Want of colour in our costume was then brought forward as another great impediment, the eye of the designer being naturally influenced by the colours he habitally saw around him. Lastly, the comparative great neglect of figure-drawing was noticed as a deficiency very much to be lamented. The remedies for the present state of things, in the lecturer's opinion, were then enumerated. These were the extension of the Government schools of art, both in London and the provinces; the establishment of local museums, the contents of which should be periodically changed; the incorporation of the Mediæval department of the British Museum with the Kensington collection, and the subsequent removal of the whole to some central situation, say Charing-cross; and, above all, the bringing up a race of designers and artisans, who should be, if possible, as well versed in the drawing of the human figure as those of the sixteenth century.

The second (February 15th), treated of glass. The lecturer, after explaining the uses of antiquarian study, proceeded to give a description of antique glass. So far from the old Greeks and Romans being ignorant of this material, they made vases in great quantities, which quite equal if not surpass what we produce in the present day. Thus, vases are found which are decorated with filagree ornaments, the crackle, gilding, stamping, &c., indeed, with every process which we are accustomed to consider the peculiar invention of the Venetians. The manufactures of these latter people were then described, beginning with the older examples, now so rare, and which sell at such marvellous prices. The date of these must be placed at the latter end of the fifteenth century; and they are, for the most part, blue and green, decorated with enamelled figures, and imitation jewels and gilding, applied in the most artistic manner. The other sorts of glass, more particularly the filagree and what is called the schmelz, were referred to and illustrated by specimens of the actual old work, for the most part lent by Mr. John Webb. Modern glass manufacture was represented by some examples from the manufactory of Messrs. Powell, Whitefriars. The next application of art to glass, touched upon by the lecturer, was its employment for stained-glass windows. He first of all defined the various methods in which the Mediæval workmen arranged their subjects, such as medallion, figure, and grisaille windows; and then, in order to show why it is so commonly asserted that the modern windows are not equal to the old, went into a history of the numerous improvements of the modern stained glass, principally brought about by the exertions of Mr. C. Winston. The third part of the lecture referred to glass mosaic and its modern revival. Attention was drawn more especially to the difficulty generally found in preparing the gold, which is placed between two thicknesses of glass, the lower one having three-quarters of an inch in thickness, while the upper one is as thin as a hair. Dr. Salviati, however, appeared to have succeeded; his specimens, more especially those stamped into ornaments, obtaining a great deal of admiration. Mr. Burges concluded with a few words on enamelling, also a branch of glass-making, but which, at present, appears to be but little employed except for watch-faces and jewelry, although anciently a large trade was carried on in it at Limoges, to say nothing of the immense quantities produced in China during the two last centuries. Attention was called to the modern productions of Mr. Legoste, in which, by means of casting the metal into the required cavities, instead of scooping them out, he is enabled to sell his works at a very reasonable rate. The table and walls of the room were covered with specimens of ancient Venetian and Mediæval glass, besides some beautiful mosaics of Dr. Salviati and Mr. Fisher, and some excellent cartoons of stained glass, by Messrs. E. B. Jones & Holliday.

The third lecture (Feb. 22nd) treated of *Pottery*. The lecturer began by remarking that the history of pottery had been so often written, and the art itself had attained to so great a degree of excellence, that there was very little to say about it that would be new; the great drawback being the high prices, which placed the better sorts of majolica and pottery beyond the reach of the public generally, while there was still a vast field for improvement in the pottery of every-day life. The lecturer then went into the subject of the Greek painted vases, distinguishing the different styles and epochs of their manufacture, and drawing attention to the lightness of the material and the beauty of the drawing, especially those of the best period. Mr. Battam's imitations were noticed, and a suggestion put forth that the ware might possibly be advantageously employed for dessert services and flower vases. The Roman Samian ware and the celebrated works of Wedgwood were the next subjects touched upon, attention being called to the more harmonious tints of the early specimens as compared with the more modern productions. Mr. Burges next proceeded to give a short history of the celebrated Italian majolica, more especially the productions of Pesaro, Urbino, and Castel Durante, with short notices of the works of Luca della Robbia, Bernard de Pallissy, and of the Henry II. ware. These were compared with the modern productions of Mr. Minton. This was followed by a short notice upon tiles, more especially those commonly know as encaustic, of which the Chertsey ones were pointed out as the best examples of Mediæval art applied to the manufacture. Godwin, of Lugwardine, near Newport, in Wales, was designated by the lecturer as the best modern maker of encaustic tiles resembling the ancient ones. The last subject treated on was porcelain, the name being supposed to have been derived from the resemblance of the china to a substance (believed to be mother-o'pearl) mentioned in Mediæval inventories. The new ware was introduced into Europe by the Portuguese, in the beginning of the sixteenth century; but it was not until the middle of the succeeding one that it was first made at Dresden: other manufactories were then established at Sèvres, in France, and at Bow and Chelsea, in England. The lecturer concluded by drawing attention to the beautiful colours of the Rose du Barri and blue turquoise, as produced by Minton and Daniell, and expressed a wish that means might be found, by the application of printing, to reduce the cost of all these beautiful manufactures. On the table was a collection of specimens illustrative of the various branches of manufacture referred to by the lecturer. Mr. Wareham lent some specimens of old china. Messrs. Battam lent some Etruscan vases, ancient and modern, and some porcelain, imitating the Limoges enamel. Messrs. Phillips contributed some modern majolica and porcelain; Messrs. Daniell some porcelain from their manufactory, known as that of Rose of Coalport; Messrs. Goode lent some specimens of modern majolica and porcelain, of various kinds, manufactured by the Messrs. Minton; also some ancient majolica from the private collection of Mr. W. J. Goode, and some drawings on porcelain by the latter gentleman, after Holbein and Bartolozzi.

The subject of the fourth lecture, delivered February 29th, was Metal Work,—antique bronzes, Mediæval bronzes, modern French bronzes (Barbédienne), Mediæval dinanderie, modern ditto (Hardman, Hart, &c.), Mediæval and Renaissance wrought iron, modern ditto, cast iron.

NEW WORKS IN WINDSOR CASTLE.

A correspondent sends us some particulars of recent works in Windsor Castle:—

It having been found necessary to enlarge the Library, it was determined to remodel the room known as King Henry VII.'s Library. With that view it was gutted and refitted with oak bookcases in every available part; and the adjoining room, known as Queen Anne's Closet, was also fitted in the same way, with a gallery running round each, and the book-cases continued up to the ceiling, by which means accommodation has been made for some thousands of books. The ceiling, which was a kind of cove, has been replaced by a flat one of the time of Henry VII., with deep moulded oak ribs and plastered panels, of which there are twenty-one; and these have been richly painted by Mr. Willement, from his designs, approved of by her Majesty. The ceiling is divided into seven compartments in its length, and three in its width. The centre compartment is filled with the arms, crown, supporters, and garter of King Henry VII. The eight panels around it have, respectively, the badges of the hawthorn tree and crown, the impaled red and white rose and crown, the red rose, the full title of the king, the portcullis, the *fleur de lis*, the motto, and the red and white rose. The six panels to the left of these have been devoted to Queen Victoria, with her arms, crown and garter, the initials V. R. and crowns, the impaled red and white rose, the rose, thistle, and shamrock entwined, with the crown and motto *Quis separabit*, and the harp. The other six panels relate to the late Prince Consort, and have his arms, crown, and garter, his crest and motto, the red buffalo's head, the escarbuncle, and the initials A. P. surmounted by crowns. The whole of the panels are surrounded by ornamental borders of various designs in gold and colours, all on a very light ground. Below the panels is a very wide frieze, and this has been painted blue and decorated with white and red roses, initials, and white and gold ornaments.

The ceiling of Queen Anne's Closet has also been painted with her arms, crown, garter, and initials, her badges of the impaled rose and thistle, the harp, the motto *Semper eadem*, the single coats of England, France, Scotland, and Ireland, and the inscription, "In this closet H.M. Gracious Majesty Queen Anne first received intelligence of the victory of Blenheim, August 13th, 1704;" and has ornamental panels, the whole with coloured borders ronnd them. The ceiling of the lobby adjoining has been enriched with the initials A. and V., tied with a cord, and crowns, and the border filled with the mottoes of the Queen and the Prince Consort, and a running scroll ornament of white and red roses. The fireplace in the Library has been enriched by a carving in stone of the royal arms and supporters, from a design by Mr. Willement.

The whole of the works have been carried out under the superintendence of Mr. Salvin, architect, and to the approval of the Hon. W. F. Cowper. Mr. Myers, of Lambeth, was the builder, and Mr. Turnbull, clerk of the works.

The *Waterloo Gallery* has been improved, by taking out all the windows, which were in small squares of ground glass, and replacing them by single squares of stout plate glass, embossed with the arms, crowns, mottoes, initials, and badges of the Queen and Prince Consort, the arms of St. George and the Peninsular cross, and the crowns, initials, and mottoes of the principal of the sovereigns connected with the battle of Waterloo,—France, Austria, Prince Regent, Russia, Prussia, Holland, Spain, Portugal, and Brunswick, all within ornamental frameworks. They were designed and executed by Mr. Willement. There are fifty windows in all.

REFORM IN OUR DIETARIES.

ON this important subject the *Penny Newsman* has an *apropos* article from the hand of one who knows:—"We have adverted," says the writer, "to the legal provisions of useful work instead of pauper doles, for the relief of the unemployed, which plain and direct duty would, under competent direction, have been provided for within a month after the demand for it became evident, having only been partially brought about after more than a year of precious time had been wasted, under the pretext of leaving it to local boards, who were evidently without the requisite powers. The last week presents another example of the same sort of parliamentary misgovernment. It was a plain duty to look to the sort of food which, in the famine period, might be distributed with the best effects from the amount of money available, whether from private subscriptions or from the moneys collected from the depressed ratepayers of the famine-stricken districts. One physician only, Dr. Edward Smith, was despatched on that special mission in December, 1862. His hurried report was consigned to a large blue-book, printed and presented last year, which no pains were taken to circulate, and it was only last week that the most material and popular portions of it were made public in an accessible shape, and that as a mere abstract scientific question before the Society of Arts." The best dietaries for sustaining the best conditions for working, not for short matches, but for the best continuous labour, is a subject of distinct investigation. There is little doubt that for that object high meat dietaries pay. English navvies declare that they find 11 pounds of meat weekly necessary for good work.

GOVERNMENT GRANTS FOR STATUARY.

FROM an account of the sums voted in supply, in the House of Commons, in the years 1835 to 1863, both inclusive, we take the following figures:—The Nelson column is charged, during the above time, with the sum of 26,800*l.* In one year the statue of Charles I., at Charing-cross, cost 1,000*l.** In the same year, 2,500*l.* were granted for royal monuments in Westminster Abbey. An equestrian statue of George IV. is entered for 6,301*l.*; and the pedestal of Baron Marochetti's Richard Cœur-de-Lion, cost 1,650*l.* In the three years 1843-45, a total of 4,500*l.* was paid for monuments to Lords Exmouth and De Saumarez, and Sir Sidney Smith. In 1858, 20,000*l.* were voted for a monument to the Duke of Wellington. The Havelock statue at Woolwich is charged at 2,152*l.*; and on the shore at Scutari, a monument has been placed at a cost of 17,500*l.* In honour of Sir John Franklin, a statue has been raised, for which, in 1855, there is an entry of 800*l.* There is another entry of a similar sum in 1863.

Last in the statuary outlay is the sum of 50,000*l.*, granted for the late lamented Prince Consort's memorial, an amount to be added to the sum raised by voluntary subscriptions. There are a few other items, but we cannot be charged with national extravagance on this head: it is fortunate that in this country we have a strong voluntary principle existing.

* On Trafalgar-square, without taking the statuary into account, 31,600*l.* were expended.

FROM NAPLES.

SEVERAL years ago, a company began to work coal mines in Sicily and Calabria, but failed commercially, as the coal was incrusted with sulphur; and dividing the anthracite coal from the sulphur, as was done at the cannon foundry at Naples, made the undertaking more costly than profitable. Lieutenant-colonel Novi, after many experiments, has laid a memorial before the Academy of Sciences in Naples, showing that if to this coal be added a twentieth part of an artificial bituminous combustible, composed of asphalte of Ragusi (Sicily), the residuum from the distillation of petroleum oil and other similar ingredients, the prejudicial effect of the sulphur will be completely overcome. This discovery sprang from Col. Novi's seeing at Letto Manopello (Abruzzi) that during the casting of the mineral, sulphur, combined with bitumen, had not the least effect on the cylinders, whether of wrought or cast iron. He observed also that 100 kilogrammes of Newcastle coal proved equal in caloric heat to 120 of local coal, and that a cannon of 16 was completed in three hours with Newcastle coal, whereas with Cardiff coal five hours and a half were necessary; nor was the casting nearly so satisfactory.

These discoveries are of much political value. Awaiting the chances of war, it is highly essential Italy should well know her own resources. Apropos of cannon, it is proved the method of casting brass ordnance by means of moulds formed of sand of Montesarchio and Gaeta is far better than the method employed in France. Hitherto the extraction of bronze by the sand has been a great drawback; but a means of re-extraction has been found, which obviates that difficulty. Signor Justiniano Nicolucci has published "Popolazione dell' Italia nei tempi Anti-Storica." He proves that the people occupying Italy in the Stone epoch were of a craniological development differing greatly from those of the epoch of Bronze, as may be seen by their descendants in parts of Italy and Europe generally. The objects in flint and diorite described by Nicolucci have been found at Frosinone, Castelluccio, Sora, Campoli, Alvito, Colle S. Magno, Pontecorbo, Balsoranno. Signor Mortillot is making an exploration of Italy, in connexion with the principal archæologists, for the purpose of writing "The History of Humanity as gathered from Monuments."

SOCIETY OF FEMALE ARTISTS.

THE eighth exhibition of Works by Female Artists, comprises 253 pictures, partly in water-colours, partly in oil. It includes several very good drawings and paintings,—some excellent views of buildings and streets, by Miss Louise Rayner; flower and fruit pieces, by the Misses Lane, Miss E. Walter, and Miss Fitzjames; two capital contributions, by Mrs. Roberton Blaine; and others by Mrs. Dundas Murray, Mrs. Backhouse, Miss A. Burgess, Miss S. S. Warren, Miss M. Gillies, Miss Bouvier, and the Misses Swift,—and yet as a whole we cannot venture to call it satisfactory. It is not an exposition of what our female artists can really do, the best of them preferring to send their works to the Royal Academy and elsewhere, knowing that if the picture be good they have just the same chance of having it hung as a man would have. Miss Kate Swift's larger picture, "A Schewening Widow buying her Mourning" (194), like her similar picture at the British Institution, is very characteristic, and has one capital figure in it (the woman leaning over the counter); but, as in the other picture, too, the colour is dull and cold. We make the observation in the hope of leading a very clever young lady to take a less gloomy view of life. Near this there is a very good little picture, "A Danish Peasant dressing her Child," by Miss Neumann, of Copenhagen, which deserved to be on the line.

COMPETITIONS.

East London Bank.—Modest!—The directors of this bank, "limited" (either in sense or honesty), offer 100*l.* for the best design for a bank in Cornhill with the following conditions:—

"All designs and plans are to be considered as the property of the directors, and to be used by them as they think proper.

The directors do not bind themselves to adopt the selected plans, nor to employ the successful competitor as the architect to superintend the erection of the building; but in the event of the successful competitor being so employed the premium will not be payable."

This certainly surpasses anything that has yet been attempted by Competition Committees. The directors of this East London Bank, *limited*, actually propose to walk off with the whole of the designs that architects may be absurd enough to trust them with on the chance of one of their number getting half paid for the work he will have to do. The designs are to include all the fittings, counters, &c. &c., and an estimate, and all the drawings are to be made to a scale of *half an inch to a foot!* If the company be "limited," the desire of the directors to get enough for their money certainly is not.

Since this was written, we have received more than a dozen indignant letters on the subject, so that we may hope the directors have overshot the mark, and will find their competition also, "limited."

St. Winifred's Well Improvement.—The committee have awarded the premiums for the above to the designs signed "Determination," by Messrs. R. Scrivener & Son, architects.

Holywell Market Hall.—The Local Board have awarded the premium to the design "Prince of Wales's Feather," by Messrs. R. Scrivener & Son.

Manchester.—Sir: The following printed instructions, among others, were given to the architects competing for the Manchester Cemetery:—"All the drawings must be finished in one uniform colour, either Indian ink, sepia, or neutral tint only," and we were informed that these instructions would be adhered to, The prize design is finished *entirely* in colours!—CIVIS.

Liverpool Greek Church.—The limited competition for the proposed Greek church has resulted in the selection of the design submitted by Messrs. Hay, who have been appointed to prepare the necessary working drawings. The design is in the Byzantine style of architecture, and is based on the old church of Theotocos, at Constantinople. It will be built of polished ashlar, on a corner plot of ground between Upper Parliament-street and Prince's Park-road. The plan consists of a narthex to the west, flanked by apartments and stair to the gallery, and surmounted by three domes. The body of the church will be entered by three doors from the narthex, and divided into nave, aisle, and transepts, on the plan of the Greek cross, with large central dome over the intersection. The eastern bays, or that portion which corresponds with our chancel and aisles, will be screened off by means of the iconostasis, and terminated by a central projecting apse, with small side ones formed in the thickness of the walls.

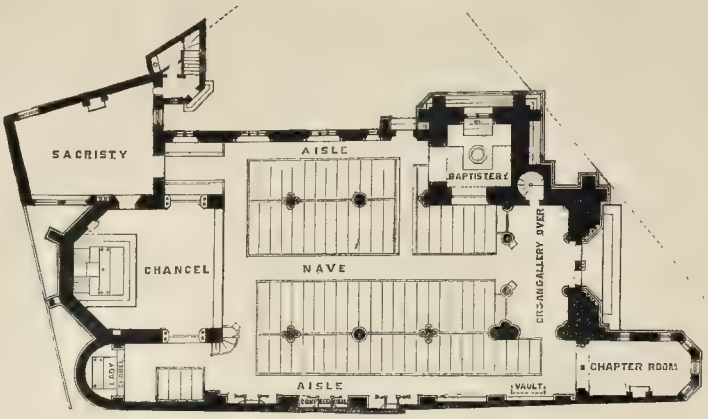
Leighton Buzzard.—The design of Messrs. Bellamy & Hardy, Lincoln, has been selected in a limited competition, for the proposed new Wesleyan Chapel, Leighton Buzzard, Bedfordshire.

DEATHS FROM FASHION.

THE injurious practice of tight-lacing has fortunately been somewhat abated, but during several years it sent thousands to an early grave: so has the style of female dress which exposed the wearers to dangerous attacks of cold; and more recently the fashion of wearing crinoline has been the cause of many deaths. On this point, Dr. Lankester has made a calculation, that in three years, in the metropolis alone, as many females have lost their lives by fire as were sacrificed at Santiago: this was an immense number, over 2,500; and a very large part of these deaths (like those at Santiago, in fact), are undoubtedly to be attributed to the practice of wearing expanded dresses, and the use of very inflammable materials. Many servants suffer in this way; and amongst the middle classes the small size of bedrooms often leads to mischief, for there is often not sufficient space between the furniture and the fireplace to allow the safe passage of a full-sized crinoline: in such cases fireguards are a necessity. Many lives might also be saved by the use of non-inflammable materials, which can be readily obtained. It is necessary again and again to urge the adoption of precautions against one of the most terrible deaths.

THE ANCIENT PORT OF ROME.

THE researches on the site of Rome's ancient sea-port (the modern and now inland Porto) have laid open several recognisable traces of that city's plan and its harbour; and, among art objects found there, one of the more valuable is the torso of a male figure, nude, which would in its completeness have stood between 10 and 11 palms high, wanting both arms, except a portion of one sufficient to show its upraised attitude. The anatomy and execution are so superior, that this statue has been deemed ascribable to a Greek chisel of some school when art was yet far from decline. The bas-relief, found on the same site, interpreted by Visconti as an *ex voto*, representing this sea-port, embellished by Trajan, and supposed to be seen in a kind of vision, has been criticised at the German Institute from another point of view,—Dr. Henzen assuming it to be designed simply for commemorating the return of a galley (one of the two manned vessels introduced among its complicated details) from a sacred voyage, *ex voto*, as undertaken in fulfilment of religious obligations; and the figure of a female near an altar prepared for sacrifice, he (the same German critic) supposes to be a portrait of Julia Domna, empress of Septimius Severus, to whose epoch, consequently, this marble must be ascribed, on the latter hypothesis. At a recent meeting were exhibited several antique objects and drawings from such;



ST. WILFRID'S (R.C.) CHURCH, YORK.—*Plan.*

some terra-cotta lamps, one bearing the names, in clear relief, "Hermes, Messalinæ," the latter probably that of the too notorious empress; drawings of three medals, bronze and silver, lately found near Crema and on the banks of the Volturno, their obverses and reverses exhibiting heads of deities, symbolic animals, and names of cities, the character of the heads being also conformable to the Oscan type.

THE WORKMEN'S CLUB MOVEMENT.

THIS movement spreads so fast as to indicate the fulfilment of a decided want of the time. Yet it seems to foreshadow a change of habits, as regards home influences, which requires careful consideration and guidance. Since we last recorded progress, several meetings have been held in the metropolis and elsewhere in furtherance of the movement, amongst which may be named one at Tooting, over which the Rev. C. Harris, the incumbent of Somers Town, presided, and at which the Rev. H. Solly, the secretary of the union, attended, and delivered an address, which was well received by a very good assembly.

At Poplar, also, in the Town-hall, a promising meeting has been held, in aid of the newly-established club at Bromley-by-Bow. Dr. Bowkett was in the chair, and the Rev. H. Solly addressed the audience. A conference has been held, at the offices of the union, of nearly all the secretaries of the London clubs; and, after tea, for several hours, the discussion of practical and important points was carried on with spirit.

A large and enthusiastic meeting has been held in the hall of the Holborn Union, for the purpose of endeavouring to form a working men's club and institute for that part of the borough of Finsbury within the Holborn District. The proceedings opened with the performance of a brass band, composed of working men. In course of the proceedings Mr. Solly, the Secretary to the Working Men's Club and Institute Union (of 150, Strand), spoke of the evils of public-house sociality, but said that these clubs were not intended for teetotal propaganda. No man would be called upon to give up his beer if he chose to keep to it, or his pipe, and the pipe would not be excluded from the club. Appropriate resolutions were passed in favour of the object in view.

A public meeting has been held at Redhill, for the purpose of promoting the Working Men's Club establishment there. Upwards of twenty names were given in for membership.

A meeting has been held at Birmingham Heath, for the purpose of confirming the preliminary arrangements for establishing a Workmen's Club for the district of Birmingham Heath and Smethwick. A report from the provisional committee stated that they had received an offer of land in Winson-street, containing about 1,500 square yards, to lease at a rental of 12*l.* per annum, with the power of purchasing at 8*s.* 6*d.* per square yard. Mr. Thomas C. Clarke, of London, architect, had offered his gratuitous service in preparing the plans and specifications of the proposed buildings, and Messrs. W. & J. Webb, builders, Birmingham, had furnished estimates for the proposed building, which they offer to erect for 588*l.* The committee recommended that a tender should be invited from some other respectable builder, and the lowest offer accepted. On receipt of this estimate it became evident that the proposed capital of 500*l.* was insufficient. The nominal capital of the company is increased accordingly to 1,000*l.*, of which only about 600*l.* will be issued at present.

At Rotherham, in the Mechanics' Institute, the provisional committee appointed at a public meeting, have met delegates from the various firms in the neighbourhood, to draw up rules for the Government of the Rotherham Working Men's Club and Institute. Nearly all the influential firms were present, and the various propositions submitted to the meeting were discussed. Mr. John Guest was voted to the chair, and a number of resolutions were carried.

The Lye Working Men's Institute, at Stourbridge—not a new club—have just held a *soirée*, in the lecture-hall of the Institute, under the presidency of Lord Lyttelton, who stated that the Institute had met with a fair amount of success compared with other similar institutions elsewhere. The annual report was read. According to it the year 1863 had been the busiest they had had. The subscriptions for working men had been reduced. This had led to an increase in numbers, but there had been slight pecuniary loss in the subscriptions. The literary and musical entertainments at the commencement of the year were successful, but circumstances had prevented more than one being given this session. The classes had not been continued, owing to want of teachers. The income had been 74*l.* 16*s.* 5½*d.*, and the expenditure 73*l.* 1*s.* 3½*d.* The average number of members had been 123. In 1862, the average was 94. The chess-room proved very attractive. The reading-room had been well attended. It was intended to try penny readings, cheap tea meetings, and cheap concerts.

In the Theatre Royal, Sunderland, a great public meeting, attended by upwards of 2,000 of the working-classes, has been held, to inaugurate the Working Men's Club and Institute of that town. The chair was occupied by Sir Hedworth Williamson; and one of the chief speakers was Mr. Lindsay, one of the borough members. The club, it was announced, was about to be opened to the public.

TENDERS.—The following remarkable tenders have been made for works advertised by the River Wear Commissioners, Sunderland. These surpass in wildness any others we remember of:—

Specification of Work.	Highest Tender.	Lowest Tender.
For the removal of the rock at the Narrows, to 12 feet below low-water mark	£18,062	£8,550
Do. do. to 10 feet	12,397	3,180
Do. do. to 8 feet	11,200	1,100

ST. WILFRID'S (R.C.) CHURCH, YORK.

WE present our readers with a view of this new church, one of the most important as to architectural character that has been erected by the Roman Catholic body for some years past. It stands in a commanding site, not many yards from the spot occupied in Middle-Age times by the ancient church of St. Wilfrid, and within a short distance of the minster, deriving all the advantage of the extensive opening formed around the latter structure. In itself, however, the site is of the most irregular form, and hedged in by buildings on two sides; but a church, 111 feet long by 57 feet broad internally, with various dependencies of vestries, side chapel, tower, and chapter-house, has been erected on it, affording great picturesqueness of outline. The tower rises to a height of 147 feet. The building materials are the flat-bedded Bradford wall stone, and Whitby dressings, with an extensive employment of Cumberland red sandstone in the shafts of windows, doors, &c. The whole is lined with brick.

The contract for the building is near upon 8,000*l.*, but the completion of the carving, the various fittings, stained glass, &c., will bring up the cost to 10,000*l.*

The architect is Mr. Goldie. Mr. Lewis is clerk of works; and Mr. Weatherley, of York, the builder. The stained glass, carving, decoration, and metal-work, are respectively in the hands of Messrs. Wailes, Earp, Castell, and Peard, all under the immediate supervision of the architect.

BRISBANE, QUEENSLAND.

A NEW Town-hall is about to be erected in this distant place. It will occupy a space of ground 138 feet by 95 feet, fronting on two streets, but closely built up to at the sides. In this colony they look at the profit aspect of every transaction, and the building is laid out with shops on the ground floor facing Queen-street (the principal front), and offices grouped round a central court, covered in the rear. A rental is expected of about 3,000*l.* a year, besides getting rooms for the corporation offices, and the large hall on the upper floor, 90 feet 6 inches by 42 feet 6 inches, and 30 feet in height. The staircase and the part of the building connected with it seem well arranged. The style of the exterior is Italian; the lower story and mezzanine rusticated, the upper story showing Ionic pilasters and seven Venetian windows between them. The elevation would be better without the portion of sham attic placed in the centre of the long front; the gable of the roof showing at each end. The cost is stated at about 20,000*l.* The amount of rental expected comes to us from one who must know, or we should suppose there might be an error. The architect is Mr. William Coote. The warm-hearted colonist who sends us the particulars says, in closing his letter, "May the *Builder* flourish as the best advocate of art we have ever seen here or are likely to see." A good wish that comes so far calls for recognition.



ST. WILFRID'S (R.C.) CHURCH, YORK.—Mr. Geo. Goldie, Architect.

THE SPIRIT OF GOTHIC ART.

"And there, how picturesquely tall above,
The moss-clad tow'r o'ertops the umbrageous grove;
While o'er its Gothic honours, hourly shed,
There, azure tints fantastic lichens spread."

MAN is the only animal that may be said to possess the power of aggregate existence: all other animals exist individually: the aggregate powers of any one of their classes remain without any material change. They may diminish or increase, according to the plan set forth by Darwin—by "natural selection in the struggle for existence," but their faculties remain ever the same. With man how different is the case? He not only makes observations and draws deductions from them, but he reasons upon the probable causes and finalities of those things which he observes, and communicates the knowledge so obtained to his descendants, and they carry the process still further—ever further, in what I may perhaps be allowed to call everlasting progression. Thus the experiences of ages furnish an accumulated and accumulating stock of knowledge, which man applies to his own use.

It therefore follows, that whatever tends to facilitate the communication of ideas, must have a direct tendency to exalt the human family. By these means, too, the famous dead ever live on our midst, and the great past in the living present! and so the immortality of man is distinctly shadowed forth in his works. Oh, what a power is that of the intellect of man; how vast the scope of his ken; how godlike in his majesty! He wends his way in the wind tracks of heaven, and walks in the depths of the vasty deep; he has described the mighty circles of science and the magic lines of art; subjected old earth to his power and girdled it with chains; he rides upon the sea-foam and makes the turbulent element to serve him. But where shall we stop? He measures the stars, their courses, periods, and revolutions, and has realized the fable of Prometheus, by extracting fire from the clouds. But all this progress has not been the result of hysterical starts, but rather of slow gradual growth.

Now, as the knowledge of the universe, so the knowledge of his own capabilities, in imitating what is around, above, beneath! Thus arose the arts, poetry, painting, sculpture, architecture, music.

As the cultivation of these, so their vast influence in aid of virtue upon the mind; and, as Horace truly says,—

——"Pictoribus atque poetis
Quidlibet audendi semper fuit æqua potestas."

The advance of art has not been produced by servile imitations and transcendental copyism, but by throwing off the trammels of what we moderns call "red-tapeism," and giving loose to the powers of the imagination; striving ever,—

——"To give to airy nothing
A local habitation and a name."

making ideal beauty the study, and selecting and arranging *all* those redundant beauties which are ever surrounding us.

Now, as of old, it is still important that the artist should ever be striking out new rules, according to the bent of his own genius, provided, of course, that his brain is not akin to that of Touchstone, "so crammed with observations, the which it vented in mangled forms." There is too great a tendency at the present time to pooh-pooh every new thing — new idea —new arrangement,—too great a tendency to consider that it is impossible to go beyond what was done some 500, 2,000, and 3,000 years ago respectively; as if a command had gone forth, "Thus far, and no farther, shalt thou go!"

It was not thus that present beauty was attained; for,—

"*Past* and *Future* are the wings,
On whose support, harmoniously conjoin'd,
Moves the great spirit of human knowledge."

The origin of the styles of art should, perhaps, be primarily attributed to climate and national habits, and not so much to religious differences as some imagine. Such differences may have guided, but not given birth to them. The religious feeling has in all time been the great prompter, which directed to their legitimate goal the finer aspirations after the loftier, the nobler, the more beautiful in art; therefore it is, that in the mundane dwelling of the Deity, we always find the completest development of artistic beauty. It is the same with the Jew, the Pagan, and the Christian, and rightly so too!

"There is nothing," says Baptista Alberti, "in which there ought to be employed more thought than in that of laying out and adorning a temple, not to mention that a temple well built and handsomely adorned is the greatest ornament a city can have, but is, moreover, the habitation of the gods; and if we adorn and beautify the house where a king is to dwell with all the art we are masters of, what ought we to do to those of the immortal gods, whom we expect, when we invoke them, to be present at our sacrifices and to give ear to our prayers! And, though the gods may despise these perishable things which we most highly value, yet men are moved by the purity of beautiful materials, and raised by them to reverence and devotion for the deity to whom they are sacred. It is certain temples may be of great use for stirring up men to adoration, by filling their minds with delight, and entertaining them with admiration of their beauty. Seeing that when the temples are most frequented religion is most honoured, I would have the temple made so beautiful that the imagination should not be able to form an idea of any place more splendid; and I would have every part so contrived and adorned as to fill the beholders with awe and amazement at the consideration of so many noble and excellent things, and almost force them to cry out with astonishment, 'This place is certainly worthy of a god!'"

Thus the Pagan thought, thus the Jew thought, and thus the Christian *has* thought, and probably is beginning to think so again. The Pagan idea was expressed in temples of no great elevation; generally without any windows, which in another style,

"Shoot down a stain'd and shadowy stream of light;"

and, moreover, usually without any roof, so that the light and air might play freely amid the long colonnades of the peristyle, the forms of which were pure and elegant, and the proportions exquisite.

The Jewish idea was expressed in a temple, likewise of no great elevation, and, for the most part, without roof, adorned with the most lavish and gorgeous sculpture and colours,—columns massive and strong, and with complicated arrangements, typical of the greatness of Jehovah, and the mystery of His nature,—shadowing forth the vastitude of His splendour and majesty, and the profuseness of His beneficent loving kindness. It was, in the words of its own laureate, "The perfection of Beauty,"—"Beautiful for situation and the joy of the whole earth." And though not a vestige remains,

—"There survives a tinge of glory yet,
Which, though the lustre of its day hath set,
Tells of the joy and splendour that hath been."

The Christian idea was expressed in those lofty temples whose turrets and pinnacles seem darting up towards God, as they stand out against the deep blue sky, like mystic open lace-work. The *Master* had ascended up on high, and so the grand art feeling of his servants could not but thither tend. It sought in the far-stretching vistas and "starry-pointing" spires to symbolise the ever-vanishing, ever approaching perspective of Eternity, and the communion between the Eternal and the human,—connecting heaven and earth by those "cloud-capped" spires whose fine-less points shadow forth the terminated course of man's supplication, and the source of his hope, and illustrating that bounteous mercy which ever flows downward, like "the precious ointment which ran down even unto the skirts of Aaron's clothing."

Thus, in the Gothic era, we have arrived at that interesting period when the new impulse of Christianity so greatly affected the world of art. The old mythologies, theologies, and idolatries had had their reign, and right glorious had it been. Beautiful exceedingly were the fictions of the early world: all the dark and mysterious events of life, and the marvellous phenomena of nature, were embodied and explained in their poetical and dreamy faith. And now they had passed away, those old-world dreamers. They have gone to the great hereafter, and the broken relics of their beautiful temples still survive, like wrecks upon the ancient sands of time: precious fragments which have escaped the sweeping dash of Time's ever-rolling sea. And as we wander upon the shores of that solemn soundless ocean, we hear ever and anon sorrowful sweet voices sighing up from the mysterious billows, and whispering, in tones of dull pulsating music, tales and legends of the olden time.

From the god-like *old* evolved the heaven-like *new*, which has literally entangled the imagination in the magical web of enchantment, recalling to memory the poet's description of the Grotto of Antiparos, with its countless glittering stalactites. Who is there who cannot exclaim with the poet—

"Oft enraptured have I loved to roam,
A long'ring votary, through the vaulted dome,
Where the tall shafts, that mount in massy pride,
Their mingling branches shoot from side to side;
Where Elfin sculptors, with fantastic clew,
O'er the long roof their wild embroidery drew;
Where superstition, with capricious hand,
In many a maze the wreathed windows plann'd!"

All art is symbolical, and none is more so than Gothic art. The proper display of purpose and the immediate expression of feeling are therein beautifully portrayed, the first and greatest of its objects being to express the elevation of holy thoughts—the loftiness of meditation set free from earth, and proceeding unfettered to the heavens. It is this finely-embodied Christian idea which at once stamps itself on the spirit of the beholder, however little he may himself be capable of analyzing his feelings when he gazes on these far-stretching columns and airy domes—

"Not for a prelate, nor a warrior's glory,
Nor pride of kingly throne;
For God—for God alone,
Were raised these sumptuous shrines, august
and hoary."

A complex inquiry into the origin of the Gothic art would, I fear, only serve to land us in complexity; therefore I shall but refer to some of the theories which have been put forward. It is generally admitted that Gothic art came to this country from France; but whether France or Germany have the priority in point of adoption or invention, I do not know. I think the first building erected in this country in the new style was that of St. Cross, at Winchester, about the year 1130. This was begun by Henry of Blois, after he became established in this country, he having previously been a monk at Clugny. It is the intersection of some circular arches in this church that Dr. Milner thinks gave rise to the Gothic art; but this is very improbable, when we consider that Henry must have been familiar with the Gothic erections of Clugny long before he left it.

A very singular theory has been advanced by some, I should fancy straight-laced Puritans, that for the first three centuries after Christ there was no such a thing as a church, as we understand the term, and that when it did arise it was the offspring of the Papacy; all forgetful of the fact that the surname of their own Bethels has a far more distinct connexion with the Papacy than the word church has. Now, Dr. Mead has most elaborately shown, from St. Austin, St. Basil, Jerome, Chrysostom, and a host of other well-known "early Fathers," that there were such places even in the first century. Moreover, Roman Pagan authors inform us of the same fact. It were, therefore, idle to go into the subject, the object being to prove that any barn is good enough for the worship of the living God.

One theory attributes the invention of Gothic art to the Ostro-Goths, the ancient inhabitants of Scandinavia, who, in the beginning of the fifth century, ravaged the fairest portions of Europe. Another theory makes the Saracens to be the inventors; a third, the Moors; a fourth, the Visi-Goths, the ancient inhabitants of Spain; a fifth, the Freemasons, artisans of all nations, who, during the Middle Ages, roamed from nation to nation, building castles, abbeys, monasteries, churches, and cathedrals. Probably, these men played no mean part in the perfection of the art, even if they were not the inventors.

Another fruitful source of inquiry has been,—What prototype suggested the art? Mr. Warburton suggests that natural groves supplied the primitive idea; the trunks, branches, and foliage of the trees being represented in pillars, arches, and tracery. Sir James Hall suggests that the whole style, in all its varieties, is but an imitation of wicker-work. Sir Christopher Wren considered that the Freemasons gathered the idea from the Saracens. Some German writers consider the idea to have been an imitation of the acute-angled ceiling of the Egyptian pyramids. Dr. Whittaker and many others tell us that the pointed arch was known and practised by the Romans, and was originated in cross vaults, as seen in the Palace of Diocletian, at Spalatro, in Dalmatia.

Such are a few of the "thousand and one" theories which have been advanced, and hotly contested, about the origin and invention of Gothic art. For Classic art there are numerous books of rules for our guidance; but, as for Gothic art, no such books have come down to us,—indeed, no such books appear to have been written. The art seems to have been the child

born of Christianity, in her desire to give expression to her wants and to embody herself in a material form.

The artists seem to have considered that greatness of extent and height, variety of forms, and fairy-like lightness, each and all suggested by the Christianity from whence the art sprang, and all combining to produce *majesty* and magical beauty, should be the chief end in view, and well did they succeed! The wondrous variety introduced into the art is truly magical; Genius alone could so invest it. Witness the matchless sculptures; slender columns, whose deep mouldings produce such beautiful shadows; niches filled with statues of prophets, apostles, saints, and benefactors to the church;—

"Figures that, with one broad glare, the gazer strike,—
Kings, bishops, saints, apostles, all alike.
Artist! 'tis thine, from the broad windows' height,
To add new lustre to religious light;
Not of its pomp to strip the ancient shrine,
But bid that pomp with purer radiance shine;
With arts unknown before to reconcile
The willing graces to the Gothic pile."

Nothing can be more beautifully suggestive than the ideas conveyed to the mind by the details of the Gothic art,—ideas calculated to soften the stubborn heart, to impress the wondrous loving-kindness of the All-Father, to cheer the melancholy, to raise and exalt the lowly, to teach the ignorant, and to keep before the minds of all the sublimest truths of the Christian religion. These seem also to have been the same, for the most part, in all the previous temple buildings, both Jewish and Pagan; yet it was only as the true light shone abroad on the earth that such allegorical teaching could have its legitimate import.

As Paganism grew old, it renewed its youth by allegory, until its mythological circumstances became philosophical emblems of life, death, the soul, and immortality. This was the utmost that the philosophy of Paganism could attain, and the wonder is that it ever attained to this. When Christianity had increased in the world sufficiently to form a body politic, and governed in every province by a regular system, then it appropriated many of the old pagan symbols; as, for instance, that well-known allegory in the catacombs, where Jesus Christ is represented as converting the world, under the figure of Orpheus playing on his lyre, and soothing the wild beasts, the trees, and the rocks. Indeed, nothing was more common in the early days of Christianity than to see rivers, cities, mountains, day, and night, represented as divinities. The god of the Jordan, for instance, resting on his urn, is present at the baptism of Christ. Immortality and the Resurrection, too, are shown, by Pegasus rising to heaven, attended by the goddess Victory; and sometimes even by Cupid and Psyche—Love and the Soul. Pegasus was the name of a poetical winged horse, generated from the blood of Medusa, who became transformed into a constellation.

On the tomb of St. Calistus, Christ is represented by Pluto sitting on the judgment-seat, with Mary, as Proserpine, attended by five veiled women, representing souls, one of whom has a tambourine, an instrument used in the Greek mysteries. Those five women are led by Mercury Psychopompus, conductor of souls, wearing his winged hat, with wand in hand, and tunic girt up. The origin of the worship or adoration of Mary is thus, I think, very significant.

If we pause for a moment to examine the human mind, we shall very soon perceive how strongly the love of the allegorical is implanted therein. It is a part of our very nature, and cannot by any means be dissevered from it. Language itself may be termed an allegory of the soul. The imaginative faculty, for which man is so pre-eminently distinguished above the other animals, is highly allegorical. The Great Teacher himself taught by its means,—nay, spoke of His own person and attributes by the most beautiful allegory. It is only allegorically that we know anything of the Eternal! The rhapsodies and pæans of Heaven, as far as we know anything of them, are significantly allegorical. The whole Jewish polity, from first to last, was one splendid allegory.

If, in imagination, we glance back afar, along the deep profound vistas of time, to the early dawn of the palæozoic age, and trace each geologic era as it evolved in the revolutions of eternity, down to the latest tertiary, and onwards to the human era, the senses reel, and become drunk with the profound grandeur of the allegory in each; pointing to, and centring in, Emmanuel,—and so onwards, to the culmination, when we shall reach to the divine,—the philosophic acme of our being! Is it to be wondered at, that in all time God has spoken to man, and by means of allegory made known His will? The last time such a communication took place, in Patmos, it gave the world a most sublime piece of allegorical writing.

There is, therefore, nothing remarkable, that symbolism is the very soul of Gothic art, seeing that, as man is constituted, all the results of his imaginative faculty must of necessity be symbolical or allegorical, for I use the terms synonymously.* FRANCIS DRAKE.

DRAWN STEEL TUBES.

MR. ALMOND, of Bermondsey, is reported to have patented a method of drawing steel tubes. We sincerely hope this invention will be perfected, pushed, and cheapened in every way possible, as "steel tubes" for house service water supply, in place of lead, will be in every way an advantage—in economy, in strength, in endurance, and in perfect cleanliness in use. Lead is costly, weak, and injurious with many waters. All soft waters dissolve lead, and the solution is poisonous. Wrought-iron welded tubes are used for water, and are cheaper, stronger, safer, and in every respect better than lead. But steel tubes, close in texture, smooth, and enduring, will form a perfect house-supply service. The use of lead should be abolished for water service for domestic purposes. Iron or steel cisterns and tanks may be made cheaper, lighter, and stronger. They are also more lasting.

THE SHAKSPEARIAN TERCENTENARY.

AT Bath, a public meeting has been held, the mayor in the chair, when it was resolved to celebrate the approaching Tercentenary by erecting a suitable memorial in the Victoria Park; by founding a permanent scholarship in Bath; or that failing, two scholarships of 30*l.* a year at the Universities for three years; and by dramatic readings at the Guildhall and other places. Mr. Chute, in a letter to the mayor, has announced his intention of producing one of Shakspeare's plays at the theatre. An amusing episode occurred at the meeting. George Davis, better known, it seems, as "Shaving George," announced himself as an admirer of Shakspeare, and suggested the establishment of an asylum for decayed washerwomen in Bath, as a memorial to Shakspeare. George has evidently some very confused ideas about an incident in the "Merry Wives of Windsor."

At Birkenhead, on Monday in last week, a deputation from the local Literary Society waited upon Mr. W. Hind, the chairman of the Birkenhead Commissioners, to request him to call a public meeting to arrange for the celebration of the Tercentenary. Mr. Hind said he could not officially call the meeting, but he would be very happy to take the chair at a public meeting in the town hall. The deputation thanked Mr. Hind, and intimated that they would call a public meeting.

The Liverpool programme, of which we have already spoken, has now been so far matured that the committee have issued advertisements intimating their desire to establish a Literary and Dramatic Fund in Liverpool for the benefit of authors, actors, and literary men; and that in aid of this fund a grand Shakspearian *soirée* will be held in St. George's Hall on the 22nd of April, with a promenade concert of Shakspearian music, exhibition of illustrated editions of Shakspeare's works, and allegorical Shakspearian tableau. Mr. Copeland, it is also announced, has placed his theatres at the disposal of the committee, for a morning performance at the Theatre Royal on the 23rd April, and at the Amphitheatre for an evening one, in aid of the Literary and Dramatic Fund. The mayor's costume ball and free theatrical entertainments are of course in addition to the committee's projects, but in complete harmony with them, and the mayor also gives the general committee his best support as chairman.

The Carlisle Council have received a circular from the Stratford Committee, asking their co-operation in the celebration of the tercentenary. The mayor announced the fact, and also that he had received a similar letter from the Carlisle Mechanics' Institution; but his worship intimated that such proceedings were not at all in accordance with his views of things, as he was not a Shakspeare man: on which Mr. Hardy remarked, interrogatively, "You would not like to have a Shakspearian part to represent?" to which the mayor responded in the negative. Mr. Perring, however, suggested that he might take the part of Justice Shallow. A motion appointing a committee to consider what steps, if any, should be taken, was agreed to by all but two dissentients.

The Bristol Workmen's Club, in College-place, propose to celebrate the tercentenary on the 23rd April, by a tea-party and a *soirée*, at which will be rendered selections, musical and elocutionary, from the Shakspeare tragedies and comedies.

Why does not the London Committee advertise for subscriptions? A strong local committee has been formed in Islington.

Shakspeare Celebration in Germany.—It has been resolved in the artistic circles of Dusseldorf to celebrate the 300th anniversary of the birth of Shakspeare by a great festival. Already it has been arranged that the proceedings shall last for two days, during which scenes will be performed from some of Shakspeare's works: there will be a concert, in which much of the "Shakspeare music" will be performed; and *tableaux vivants* will be arranged by German artists from Shakspeare's works. The Malkasten Society have undertaken to superintend the carrying out of the various propositions.

SANITARY PROGRESS.

PUBLIC PARKS.

Sunderland.—The Corporation pay 1,000*l.* per acre for 10 acres of land to add to the public park in the borough. The money will be raised on security of the local rates. One penny in the pound during thirty years will repay capital and pay interest.

Everton.—There is a movement to obtain a public park here. A meeting of the ratepayers of the township of Everton has been held, to take into consideration the propriety of the Corporation purchasing land known as the Mere House Estate for a public park. Mr. J. R. Banks, of Beacon-lane, who presided, said he had taken the responsibility of convening the meeting himself, although he was but an obscure resident of the township, because he thought the large and growing population of Everton required a place of public recreation, such as Wavertree and other townships had. Mr. Herdman said he had ventilated the subject of a public park for Everton in the papers on several occasions. Some conversation ensued, and it was suggested that while signatures were being obtained to the petition, Mr. Jeffery, Mr. Stitt, and Mr. T. D. Anderson should be invited to attend a future public meeting, and that a co-operation should take place with the committee formed with the same object at the Everton Church Schools. Eventually the Chairman and Mr. Herdman were appointed a deputation to confer with that committee as to future proceedings.

Oldham.—The Corporation have purchased 65 acres of land within one mile of the town-hall, and are now forming the same by the labour of distressed cotton operatives. Land, buildings, and labour will cost some 27,000*l.* The money has been obtained under the powers of the Public Works Act. A rate of one penny in the pound spread over thirty years will pay interest and repay the money borrowed.

Hulme, near Manchester.—Endeavours are being made to obtain a public park here, to be paid for by a local rate.

Bolton.—The public recreation-grounds are to be added to by a local rate.

Lancaster.—Part of the moor is being enclosed and laid out as ornamental grounds for public use.

Blackburn.—The Corporation here are also improving their beautiful park.

The park movement, we are pleased to learn, is on the increase.

Maryport.—By sure and stealthy footsteps the fever, which for some months past has been doing its work of death in Whitehaven, has effected a lodgment in Maryport. Diarrhœa had previously prevailed, and is still prevailing, to an alarming extent, in most families of the town, and it is now visited by a low intermittent fever. Small-pox has been rife in the neighbouring villages of Ellenborough, both among children and adults

* To be continued. We are not to be understood as necessarily agreeing in all the writer's views.

has not been, however, of a very malignant haracter. A correspondent of the *Carlisle ournal*, says it is not very long ago since the uthorities here were warned by the public press o take precautionary measures to meet and ard off, as far as human means were available, is fever's approach. A dozen pigsties were, in onsequence, emptied, a few middens removed, nd lime and the brush applied to some of the nlest of the courts. But this was all. No pro- sion has, as yet, been made to supply the nants of small houses with the most necessary nveniences. Water works have again been *oken of.*

Cambridge.—The purification of the Cam forms ne subject of a report by the town surveyor, r. R. R. Rowe, C.E. In this report he says :— he river has not been thoroughly dredged for any years : it contains a very large quantity f foul mud and organic matter, which ferment nd give off unwholesome vapours in hot eather. Although the Cam is called a river, s waters are held up by locks, so that it is more ke a canal than a river. The sewers which ischarge into the river have their mouths placed elow the navigation level; but the velocity of ne stream is not sufficient to produce any scour the river-bed : a large proportion, therefore, f the solid constituents of the sewage remains the river, and forms pestilential mud-banks ear the mouth of each sewer. If all the sewage f the town be discharged into the river at or elow Barnwell Pool, the river above Jesus-green nice would be purified; but the concentration f the nuisance at one point would make the ver too foul for boating as a healthy exercise, for recreation on its banks : therefore it would e desirable to deodorize the sewage before it nters the river. It would be necessary, for this urpose, to inclose a portion of Sturbridge ommon (say not less than two acres), and construct thereon the necessary works. he report states that the rate of mortality the town is at the present time upon the ncrease.

Tamworth.—The town council have passed the llowing resolution on considering the sanitary ondition of the town :—"That the council ex- ress its willingness to give the subject the llest and most attentive consideration, and to rry out such measures either by the adoption the Local Government Act, if required, or herwise, as may be deemed necessary or ad- sable." The town clerk was requested to btain information as to the working of the Act om other towns in which it had been adopted, nd the expenses connected with it.

Yarmouth.—At a recent meeting of the town ouncil, attention was drawn to the state of the ol, which is said to be in a shocking condition. one room, 13 feet square, which was occa- onally used as a school-room, eight persons ere crowded at night. Barrack accommoda- on for soldiers is 600 cubic feet to each man, orkhouse 300; but in Yarmouth gaol it is only 0. A medical man in the council (Mr. Aldred) xpressed it as his opinion, that, if an epidemic oke out in the town, the consequences in the ol would be of the most fearful character. He oved that the Gaol Committee take the neces- ry steps with a view to imprisonment in the unty gaol of all persons sentenced for three onths and upwards. After some remarks from e mayor, who said that the reports of her ajesty's inspector and of the gaol surgeon owed that the prison was in as healthy a state other gaols, the motion was carried.

Kimbolton.—A public meeting has been held ere, to consider the sanitary condition of the wn and adopt measures for its improvement. he Duke of Manchester was in the chair; and solutions were passed, almost unanimously, as the necessity of improvement, and that plans nd estimates should be prepared, to be laid efore a future meeting. A committee was ap- ointed, and the parish officer will procure lans, &c., for the next meeting.

Worcester.—Typhoid fever and scarlatina are id to be rife in this city. A correspondent of he local *Herald* suggests that want of proper entilation of the sewers, as by means of shafts, ay be to blame. The *Herald* starts the ques- on whether the drainage or soakage, or by hatever other name it is called, of every house, the major part thereof, has been directly or directly connected with the main sewers ? and not, why not ?

Preston.—From the usual report of the borough ngineer, Mr. John Newton, C.E., to the corpora- on, it appears that the deaths recorded in 1863 umbered 2,142, and the births 3,388; the for- mer being in the ratio of 25·25 per 1,000 of population living, and the latter 40.

The average death-rate for the period 1838 to 1861, per 1,000 of population, was	29·65
Ditto for the year 1862	28·43
Ditto ditto 1863	25·25

These figures show a saving of 269 lives in 1863, as compared with 1862; and 374 as compared with the average of the preceding twenty-four years. This result, continues the report, is the more remarkable, when it is considered that in each of the ten registration districts in which England is divided, the rate of mortality was higher in 1863 than in 1862, and higher also than the average of the ten years, 1851 to 1860. Whilst the principal towns in the kingdom show an increase during the first quarter of one death per thousand of population, Preston exhibits a decrease of nearly seven per thousand. In the second quarter, the principal town districts show an increase of nearly two per thousand, whereas Preston exhibits a saving of upwards of six per thousand. In the third quarter the difference is less; and in the fourth, a slight increase is observable in Preston and town districts generally, over the preceding averages. The saving of life in Preston during the past year was not confined to one age; but as respects infants, while, in good times, two out of every nine born in Preston die before they reach the end of the first year; in 1863, the rate has been only two out of eleven. It is more than probable, the reporter thinks, that the additional time and attention which many mothers have lately been enabled to devote to their infants have effected this satisfactory result. It is likewise probable that out-door exercise and employment have tended to improve the health of the adult working population, notwithstanding the privations which a scarcity of factory labour has entailed upon them. The quantity of food, too, requisite to health is not so great as many imagine; and probably excess both in eating and drinking, in "good times," has added not a few to the bills of mortality in such times.

Carlisle. — In consequence of the outbreak of fever in the locality of Thomson's-court, Fisher-street, and Nixon's-court, Annetwell-street, the surveyor and inspector of nuisances have reported on the sanitary condition of these places. On examination they were led to believe that the fever had been generated by the unwholesome condition of the interior of the dwellings, arising in some measure (particularly in one house, where the most cases occurred) from the lowness of the ceiling and the closely-confined situation of the houses, but more particularly from the uncleanliness of the people themselves. The inspectors concluded their report by suggesting the application of the 60th section of the Public Health Act, which provided for the cleaning, lime-washing, and purifying of such houses for the purpose of checking infectious and contagious diseases.

Brierley-hill.—The ratepayers are about to decide by vote whether the proposition to apply the Local Government Act to the township shall be carried. There is considerable opposition. That there is a necessity for improvement in the locality no one who has ever walked through the unpaved and undrained streets, and visited some of the wretched tenements, can deny. There is no adequate sanitary provision for the inhabitants, no water supply, no drainage, no local government; and it is not improbable that if the proposed application for the local Act be refused, the introduction of authority from a distance will be the result. The ratepayers should think well before deciding a matter so important to the health and interests of the township.

EVERY MAN HIS OWN LANDLORD.

IT is universally admitted that health, morality, and domestic comfort are greatly dependent on the kind of houses the people live in. The denizens of the confined courts and alleys of all our large towns are confessedly the least healthy, the most liable to nervous forms of disease, and the shortest-lived of our population. The overcrowding, the absence of pure air and light, and of requisite sanitary requirements, sufficiently account for this. It is also equally obvious that a high tone of moral feeling is incompatible with the physical deterioration thus induced. In the absence of sound bodily health and purity of life there can be no real domestic happiness. Whoever, therefore, would benefit his fellow-man by improving his condition and circumstances, must bear in mind that this can only be done effectually by teaching him to respect himself—that with himself it greatly rests whether he and his family shall be healthy and happy. The diffusion amongst the working classes of this country of a knowledge of the physical laws of health and moral well-being, is the first great step to their improvement. Next to this rank those institutions having for their object the founding of improved dwellings for working men; and in the carrying out of this object we should endeavour to show them that this may and ought to be their own work, and that it is part of our plan to make them, if not altogether independent of extraneous aid, as nearly so as possible. Every man values that most which is his own, and takes a just and wholesome pride in it. The upper and middle classes may lend them aid to establish workmen's clubs and co-operative stores; but these to be really efficient for good must secure the active endeavours of the people themselves. The movement may be begun for them; but they must work it out and make it their own. Acting on the principle of co-operation, stores have been established for the sale of furniture, household goods, and clothing, and in the same way ordinarily well-to-do artisans might become the proprietors of their own dwellings. In furtherance of this object, the Durham County Building Society, established in Sunderland, have a scheme for the purchase of workmen's houses by the payment of a rent. In accordance with this scheme, a range of cottages has already been built in that town, and arrangements are being made for its further development in other places in the neighbourhood. The scheme seems a feasible one, and therefore we bring it under the notice of our readers. The details are taken from an explanatory statement published by the society, and which formed one of the Social Science papers. It is described as,—

"A scheme to enable a man to purchase a house with its own rent; or, in other words, by paying the rent of a cottage for twelve years either in one sum or in instalments extending over the twelve years, or whatever period within that time he chooses, the occupier may become the veritable owner of the cottage. And for the payment of the sum of 25*l.* more, payable in the same way, he becomes the owner of the land, which is freehold. You will perceive that the advantage of this scheme is that the person wishing to purchase is put into immediate possession of the house. He is not paying rent for one and striving to save to buy another. The house is his—he lives in it, he is buying it—by instalments. The price is a mortgage, and it and the interest are paid back by weekly payments. I append a table showing this :—

Annual payment to Society		£9	15 0
Repairs, insurance		0	10 0
Ground rent		1	5 0
		£11	10 0
From which deduct amount which would otherwise have to be paid as rent for a similar house		£8	9 0
Excess of annual payment		£3	1 0
Which multiplied by 12 years and 9 months, will give		£38	17 0

as the cost price of a house valued at £85.

This 85*l.* included all expenses for the purchase, including deeds, road making, drains, &c.

The terms upon which these cottages were offered to working men being something extraordinary, we will explain how this was accomplished. By building the entire number together a saving just less than 25 per cent. was effected, of which the purchaser got the entire benefit. The principle is that of buying wholesale and selling retail at the wholesale price. The payments required of a purchaser are 7*s.* 6*d.* per fortnight, thus taking a term of 12 years and 9 months to discharge the property from the purchase money and interest. But purchasers are not limited to these payments, and therefore the more they pay the shorter will be the duration of the payment. Considering these cottages were worth 3*s.* 3*d.* a week rental, the additional payment required of the purchaser was only 1*d.* a week, including ground rent, showing an investment equal to 15 per cent. The time may seem long before the purchasers would be clear of their payments, but how many for twice that period would be paying the same amount as rent, and yet be no nearer adding a cottage to their possessions than when they first began housekeeping.

I will now endeavour briefly to describe these superior cottages, so as to give you some idea what they are like; remarking, however, that the scheme is equally applicable to the construction of houses on a larger scale, which can be built at a less proportionate expense than even these. The plot of ground on which each cottage stands has a front of 19 feet 6 inches, by a depth of 56 feet. The construction and internal dimensions are as follows :—The foundations are run in with asphalte, and have a layer of slates between the rubble and the bricks. The outer works are hollow, so as to prevent the possibility of being damp. They are pointed and tucked. There are stone heads and cills to the windows, and the door frontispiece is wood painted. The spouts project, and rest on neat ornamental brackets. The roof is slated with Welsh slates. Great care has been taken with the flues, so as to prevent smoking or down draught, and the fireplaces of two adjacent houses are placed back to back. The windows open both top and bottom, and are 6 feet 6 inches high, by 3 feet 6 inches wide.

Internally there are three apartments In some of them a passage has been taken from the front room, which to that extent abridges its size, and slightly the bed-room also. Generally, however, the front door opens into the room. Where there is a lobby, the room is 15 feet

2 inches by 13 feet 6 inches, the height being 9 feet 6 inches, which is the height of all the rooms. This room is fitted with a registered stove, ornamental composition mantel, a dwarf cupboard in each recess, and is cornieed. The kitchen, behind this room and communicating with it, where there is no passage, is 14 feet 6 inches by 12 feet 6 inches. It has stone jambs and mantel, with large oven, high cupboards, and other convenient fittings. Opening from the kitchen there is a smaller room, without fireplace, 10 feet 8 inches by 6 feet. This is always used as a bed-room,* and generally the front room also. There is a pantry in the yard, 5 feet 9 inches by 5 feet 6 inches, with a nice porch between it and the kitchen, giving access to a garden yard, containing coal-house, ashpit, sink, water-closet, and a recess for a water-butt. This yard, with flower-plot in the centre, is properly drained, and opens upon a well-paved back street.

The floors of all the rooms are raised 1 foot 6 inches from the ground, and laid with inch and a quarter flooring, square-jointed, laid on sleepers. There are architraves to all the doors, and each room is skirted. Every care was taken that the wood was dry and well seasoned, and that the plaster was well tempered. The doors are all grained, and the front-room mantel marbled. Such is a general description of our model cottages; and I may now ask,—If Sunderland can do this, why not any town in the kingdom?'

The question is a most pertinent one,—Why not?

RAILWAY MATTERS.

IN the House of Lords, on the 25th ult., the Earl of Derby presented a petition from the ward of Bishopsgate, praying their lordships to protect them against the inroad of nine new railways. The North London line had already taken four acres and a half, and had deprived more than 4,000 persons of their abodes. These nine schemes would require no less than twenty-three acres, or more than half the whole area of the ward.

At a meeting of the proprietors of the Thames Tunnel Company, resolutions have been passed confirming an agreement with the East London Railway Company, which provides that the tunnel should be sold to the railway company for 173,600*l.*; and that 100,000*l.*, being part of the purchase-money, should be paid to the Public Works Loan Commissioners in discharge of the debt of 250,000*l.* due to them from the Thames Tunnel Company. If the railway company should pass their bill through Parliament, they will require the tunnel in two years.

Mr. Dickson, a railway contractor, has obtained 207*l.* damages against the Vale of Neath Railway Company, in consequence of sparks from an engine of the company having destroyed a quantity of railway sleepers, near the line over which the engine ran.

A strike among the railway "navvies" at Pensford (Cardiff), for the short Saturday, has given rise to considerable excitement. A meeting is understood to have taken place between the parties, but without any terms having been arrived at.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 13th of February, on 11,161 miles, to 535,706*l.*; and for the corresponding week of last year, on 10,758 miles, to 499,416*l.*; showing an increase of 403 miles, and of 36,290*l.* in the receipts.

A new series of experiments has lately concluded those made on the steep inclines of the Crawford and High Peak Railway, which are considered to have proved the practicability of working locomotive engines and trains over the pass of Mont Cenis. These last trials have been made in the presence of the Chevalier Biglia, special commissioner of the Italian Government; M. Desbriere, delegate of the Victor Emmanuel Railway Company; and a considerable number of English and foreign engineers of distinction. The gradients were 1 in 12, and 1 in 13; and the curves of 2½ and 3½ chains radius. The adhesion required for ascending these steep gradients, and for controlling the descent of the train, and moving on sharp turns or curves, is obtained, as we have before said, by the pressure of horizontal wheels on a centre rail, these wheels being attached to the engine, and worked by an additional pair of cylinders. The experimental engine dragged up a load of 24 to 30 tons, consisting of four waggons, at a speed sufficient to secure the passage of the mountain, a distance of 48 miles, in four hours, by trains carrying 100 passengers each. It is proposed to lay the rails on a portion of the public road, protected, where needful, from avalanches and snow-drifts by a covered way. By this means, railway communication may, within two years, it is calculated, be established between Italy and France, as well as the north and west of Europe, and continue until the opening of the grand tunnel of the Alps. The time estimated by the Italian Minister of Public Works for the completion of the tunnel is 11½ years.

The Civil Tribunal of St. Etienne has condemned the Mediterranean Railway Company to pay the following indemnities to the widows and families of three persons who were killed by accident at Fouillouse; 50,000f. to the widow, and 20,000f. each to the two children, of M. Sablière, a partner in a trading firm; 50,000f. to the widow, and 10,000f. to the daughter, of M. Heurtier, a retired *avoué*; and 800f. a year for life to the widow, and a capital sum of 6,000f. to the daughter of M. Montagnon, an artisan.

* There is a great objection, however, to this small room *without a fireplace* being used "always" as a bedroom. It is surprising that such rooms should be planned or tolerated.—ED.

THE ARCHITECTURAL MUSEUM: SOUTH KENSINGTON.

IN our last volume (p. 526), we printed a report submitted to the Department of Science and Art, at their request, by the council of the Architectural Museum, on the formation of a National Museum of Architecture; appending to it a note reserving an opinion, as we felt compelled to do, on some portions of it. The council of the Architectural Museum have recently printed the correspondence that grew out of the report; and if we thought its further publication would advance the desired object, we should, of course, reprint it, having that object greatly at heart. It does not seem to us, however, that this would be the case. If the desire had been to give the authorities of South Kensington good grounds for disconnecting themselves from the endeavours of the council to obtain a National Museum, the report could not have been more happily framed.

On Tuesday evening last, the first lecture for the present session was delivered in the theatre of the South Kensington Museum, by the Rev. J. M. Neale, M.A. Subject—"The Influence of local Scenery on local Architecture." The chair was occupied by Mr. J. G. Hubbard, M.P.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ON the 24th of February, Mr. N. Gould, V.P., in the chair, Associates having been elected, Mr. Burnell exhibited fifteen brass pins, varying in their lengths, stated to have been found arranged on the paper as shown, in a cellar on the northern banks of the Thames, in excavating for the South-Eastern Railway bridge. They have solid globose heads. Mr. Cuming also exhibited two exhumed from the Thames some years since, the heads of which are spiralwise, and quantities have been at various times obtained along the banks of the river, some measuring upwards of 1 foot in length. They were used in securing the wide-spreading head-dresses of the Middle Ages. An interesting discussion onsued in relation to pin-money, and the statutes referring to these articles. Although Stow assigns their first manufacture in England to the year 1543, the mention of them occurs as early as 1483, in our statutes. Parliament made several enactments respecting them and the pinmakers. On London Bridge, according to Pennant, most of the houses were tenanted by pinmakers, and ladies were wont to drive thither from St. James's to make cheap purchases; hence, probably, the quantity of early pins obtained from the Thames in this locality.

Mr. Irvine made some remarks upon, and exhibited drawings of, a very singular font at Melbury Bubb, Dorset, presenting sculptured figures of various animals. In the discussion that ensued, an opinion seemed to be generally entertained of its originally having been a portion of a Roman column of debased character, and the site on which it was found was formerly occupied by the Romans.

Mr. Cuming read a notice of a "Seal of the Grammar School at Crewkerne," hitherto undescribed, and not in use. The Latin legend is defective, and the seal appears to present the elevation of some structure no longer existing, or it may be an arbitrary design, or the quaint idea of some fanciful engraver.

Mr. George Wentworth, of Woolley Park, sent a paper "On Heath Old Hall," near Wakefield, accompanied by a photograph of the building, the history of which he traced from authentic documents in the possession of Col. Smyth, M.P. It was erected by John Kaye, a son of the heiress of Dodsworth, from whom it was purchased by Dame Mary Bolles, who was created a *baroness* in her own right. In the civil wars it is known as the place where the night before the taking of Wakefield by Sir Thomas Fairfax, May 21, 1643, General Goring and other officers had been spending "a very jolly evening," playing bowls, &c., and getting so intoxicated as to be incapable of attending to the defence of the town upon the approach of the enemy.

Mr. Cecil Brent produced a curious and extensive assemblage of articles obtained from the site of the old Steel-yard, consisting of bone pins, styli, spatulæ, and other Roman antiquities in bronze, together with some curious iron keys. The bronze objects were of a brilliant golden hue, derived from the damp soil in which they had been buried for probably not less than eighteen centuries.

Several letters were read relating to the congress at Ipswich, to be held in August next, with the co-operation of the Lord-Lieutenant of Suffolk and the Bishop of the diocese.

NEWS FROM SCOTLAND.

Perth.—New works are in progress at the general station. These at present consist of excavations on two sides of the station—on its east and west sides. Those on the east side have for their objects, among others, the formation of a street running from the area in front of the station into Leonard-causeway; the formation of another street running at right angles into that street from Leonard-street; and thus laying open the ground to the west of the Leonard-street feus, known as M'Leish's gardens, for feuing purposes. The excavations to the west of the station, between it and the New Town feus, are completed, their object being to enable goods trains to pass and repass without going through the station.

Dundee.—A report to the Harbour trustees, by Mr. Abernethy, C.E., with plans, recommends the enlargement of Camperdown Dock, and the widening of its entrance lock to 70 feet, so as to admit a very large class of vessels; the completion of the Victoria Dock; a new graving dock; the erection of hydraulic machines for loading and unloading vessels; to remove the Beacon Rocks in the river, and straighten the sea wall, in order to prevent silting. The expense, exclusive of removing the rocks, is estimated at about 210,000*l.*——The Baxter School, opposite the north-east corner of the High School, has been completed. The building is in the Gothic style, and has been erected by the Misses Baxter of Idvies, as a school for the tuition of the children of Mr. Lang's congregation. It contains three class-rooms, a large and two smaller ones. The large room is capable of accommodating 150 pupils. The walls are lined with stained pine, and the roof, which is an open one, is supported by ornamental rafters of the same wood. The dimensions of the room are 44 feet by 28 feet. One of the smaller apartments, a room 13 feet wide by 14 feet 10 inches long, is intended for the girls' sewing class, and the remaining room is for an advanced class. The last apartment is 17 feet long by 12 feet 6 inches wide. The architect was Mr. Macgregor, of Edinburgh. The masonry was by Mr. Sheach, the woodwork by Mr. M'Conochie, the slating by Mr. Balbirnie, the plastering by Messrs. Geekie & Son, the smith's work by Mr. Wagner, the plumber's work by Mr. Thomson, and the painting by Mr. Fairweather.

Glasgow. — The foundation-stone of "the Church of the Christian Union" congregation has been laid in East Howard-street. The lower story, occupied chiefly by lobbies, staircases, halls, vestries, &c., presents externally a Roman front, of which the most conspicuous features are the doorway and two double windows, all with plain semicircular arches. Internally, the church will be arranged pretty much on the ordinary principle: the galleries will overhang a little, and the pulpit will occupy a raised platform. Space has also been reserved for an organ, if required. But the principal ornament will be the pulpit window—a triple arch, with canopy of pale blue glass, interspersed with white foliage, the whole to be flanked with decorated pilasters. Below the street level there will be extensive cellarage.— —The Glasgow Archæological Society had a meeting recently in the Religious Institution Rooms, when Mr. Smith read a paper on the geological bearings of the question as to the antiquity of the human race; and Mr. Joseph Irving, of Dumbarton, one on the origin and influence of burghs in Scotland.

Baillieston, near Glasgow.—A new church, for the United Presbyterians, has been erected at Baillieston. It is in the Gothic style, is 65 feet long by 45 feet broad, and contains between 400 and 500 sittings. The principal elevation fronts the Glasgow and Coatbridge-road, in which there is a large three-light window, with ornamental tracery on the top. The church is surmounted with a spire 70 feet in height. The whole of the woodwork is varnished. Messrs. R. Laidlaw & Son, of Glasgow, as a donation, agreed to do the gas-fitter work free of charge. The church is heated with hot-water, the apparatus for which was supplied by Messrs. Laidlaw. There is a large hall, adapted for lectures and other public meetings, at the back. The vestry and session-house are underneath the hall. The buildings were erected from designs by Mr. Spence, of Glasgow, architect. The inspector of works was Mr. James Crow.

Castle-Douglas.—Mr. Barbour, architect, Dumfries, has submitted a report to the Commissioners of Police, Castle-Douglas, relative to the drainage of that place. It says, "Nearly the whole of the ground on which the town is built has a considerable inclination towards the loch. The drains will therefore have to run in that direction. There are only two possible outlets—the loch, or the lane from the loch to the river Dee. The loch would be the least expensive, and the quantity of sewage from the town would, for a considerable time, be so small as not to affect the purity of the water: it would, however, I think, become objectionable. As the additional expense of conveying the sewage to the lane, at the point where the railway bridge crosses, will not be great (200*l.*) in proportion to the whole undertaking, and as it will thereby be discharged into running water at a greater distance from the town, I propose to convey it to that point. The fall of the main drain will not be great (about 1 foot in 120 yards), but it will be sufficient. The sewage will be discharged into the lane, 8 feet below the surface of the water, so that the whole will be carried to the Dee, and little if any of the *débris* will rise to the surface." Mr. Barbour estimates the cost of the drainage, as shown on the plan, at 1,427*l.*

Dunse.—The house accommodation of this town being too limited for increasing requirements, and Colonel Hay, of Dunse Castle, having agreed to grant feuing sites on moderate terms at each side of the road leading to Berwick, an impulse has been given to the building of houses, chiefly by the better-off portion of the working classes for their own occupation. Last year, a number of houses, principally of two stories, designed in a plain style, but of a convenient character, were built; and this year a number more, of a rather superior class, are in course of erection. A new manse for the parish minister is also approaching completion. Its site is close to that of the old one, the materials of which have been used in the new building. The gross cost of it will be somewhere about 1,100*l.* The mansion-house on the estate of Langton, in this neighbourhood, has for several years been in the course of being rebuilt and extended. It is now nearly completed.

Galashiels.—The state of sanitary matters in this town does not seem to be satisfactory. The *Border Advertiser*, in an article on the subject, says:—"The drainage and water schemes, the bridge at the level crossing, the shutting up of the 'abominations of cesspools,' the arrangement with the water company for fire-plugs in cases of fire—in short, almost every reform our municipal rulers have projected has been an abortion. The town is well lighted and provided with footpaths; its streets are, in general, kept well cleansed; and this is the sum total of the fruits of some twelve years' labours. The latest project in the way of reform was the erection of fever wards, and for a short time the scheme presented every prospect of terminating as the committee desired. Its history was that of every other scheme manufactured on the same premises. The resident magistracy have the power to decide whether any particular case of overcrowding brought before them is a nuisance, and have the power to order its removal. Why have not the Sanitary Committee operated in this direction? There is an abominable open drain running down the back of Overhaugh-street, and the committee might do worse than consider the expediency of rectifying it."

Archæological Discovery at Drumlanrig.—The Duke of Buccleuch recently gave orders for excavating the huge green mound known as Tibbers Castle, near Drumlanrig, with the view of ascertaining whether any remains of interest might be discovered. Accordingly a number of workmen, under direction of the clerk of works at Drumlanrig, have laid bare the foundations of a building of great extent, the hall being 90 feet by 26 feet. Underneath, a dungeon has been discovered, in which were found bones, several silver spoons, and other articles. The investigations are still being carried on.

Another Archæological Discovery at Drummond. We lately mentioned the discovery of a stone cist, with two skeletons and an urn, on the grounds of Mr. G. G. Mackay, C.E., at Drummond. Since then, two similar cists, with skeletons and an urn, have been discovered. The skulls are said to be of pre-Celtic shape.

ELECTION OF CITY ARCHITECT.

THE election took place at Guildhall on the 26th ult. We gave the names of candidates in our last. At the commencement of the proceedings, the town clerk read letters from Mr. Barry and Mr. Horne, announcing that they had withdrawn from the contest. Three other gentlemen—Messrs. Isaacs, Tucker, and Peck—were subsequently declared ineligible under the standing orders of the Court, so that the number of candidates who finally went to the poll was six only, namely, Messrs. Bell, Chancellor, Dawson, Heath, Horace Jones, and Wallen. It was arranged that the number should first be reduced to four, and the result of the poll was that Messrs. Bell, Dawson, Jones, and Wallen had obtained the greatest number of votes. Another poll was then taken to reduce this number to two, when Messrs. Bell and Jones were at the head of the poll. Upon the final poll, Mr. Horace Jones was at the head, and that gentleman was consequently declared to be duly elected. The first numbers declared were: Jones, 133; Bell, 130; Dawson, 110; Wallen, 109. Upon the second poll, the numbers were: Jones, 86; Bell, 78; Dawson, 38; Wallen, 35. Upon the final poll, the numbers were: Jones, 95; Bell, 82.

RAILWAY CLAIMS AT GUILDHALL.

MR. BURCHELL, the solicitor to the Metropolitan Railway Company, attended before Mr. Alderman Besley, in pursuance of notices served upon some of the occupiers of the houses in the route of the company's line of rail, to treat and agree for the surrender of the property in their possession.

The following six claims were settled by mutual agreement after they were brought into court:—Luke Lillyman, Moor-lane, amount of claim, 390*l.*, amount awarded, 210*l.*; George Ewers, Moor-lane, claim 330*l.*, award 110*l.*; William Gill, Bowling-square, Whitecross-street, claim 150*l.*, award 55*l.*; James Dyall, Moor-lane, claim 1,133*l.*, award 450*l.*; James Worsley, Red-cross-street, claim 1,191*l.*, award 300*l.*; Mrs. Cherry, Moor-lane, claim 310*l.*, award 190*l.* In the three following cases, all of which were contested, the difference in the claims and awards was even more conspicuous. In the case of James Bibbey, of Hartshorn-court, the amount of claim was 728*l.*, and the award was 165*l.*; Joseph Stokes, Barbican, claim 1,036*l.*, award 327*l.*; and Mr. H. M. Blew, Whitecross-street, claim 657*l.* 10*s.*, award 135*l.* The total of the arranged claims amounted to 3,504*l.*, and the amount accepted to 1,315*l.*, leaving a balance against what was asked by the claimants of 2,189*l.* The total of the contested claims was 2421*l.*, and that of the magisterial awards 627*l.*, leaving a sum of 1,794*l.* disallowed by the alderman.

WATERWORKS COMPANIES.

Portsmouth.—At the half-yearly meeting of the Portsmouth Waterworks Company the report was taken as read. It stated that the whole of the share capital of the company was now subscribed, making the total sum raised 120,000*l.* No part of the 5,000*l.* authorised by the shareholders to be raised at a previous meeting has yet been borrowed, but the greater part of it will be required for the completion of the land and springs at Havant. The directors have caused new mains to be laid into East Southsea, the cost of which is estimated at about 600*l.* The directors recommended a dividend at the rate of 6 per cent. per annum upon the paid-up share capital of the company, free of income-tax. The revenue of the company amounts now to something above 10,000*l.* a year, with a gradual but constant increase. During the period to which the accounts relate, 793 additional house services have been laid on, which will yield a future revenue of about 455*l.* a year. The principal proportion of the houses laid on have been houses of 10*l.* annual value. During the half-year there has been supplied to the borough 289,800,000 gallons of water. The report was adopted by the meeting.

Derby.—At the half-yearly meeting of the Derby Waterworks Company the report which was read recommended a dividend at the same rate as last half-year, viz. 1*l.* 2*s.* 6*d.* per share, or 9 per cent. per annum, free of income-tax, after carrying 150*l.* to the credit of the contingent fund. They regret, however, to be obliged to report the first serious accident to the works since their establishment. On the 7th of October a large portion of the wall of the service reservoir fell in, rendering it necessary to take down and rebuild the whole of the straight side. The company's engineer, Mr. Hawksley, considers that the earthquake was the immediate cause of the falling of the wall, but there was, no doubt, some abnormal condition of the work previously. The whole has been restored, and in a manner much more substantial than the original work. The report was adopted.

BUILDING LEASES.

SIR,—To write to you or to the editor of some other paper whose speciality includes the terms and arrangements upon which estates are often covered with buildings, is a possible course for me, and is perhaps the most likely one to produce a change in some provisions now too commonly introduced in building leases. If, however, my effort to produce this change should prove effectual, I shall, indeed, resemble the fabled mouse, at whose birth the mountain laboured,—so vast, compact, and self-sustaining is the body in the service of whose tenants and in whose own service also I plead.

The covenants that I desire to see modified are the painting covenants now commonly introduced into building leases, beside which, a papering covenant is, I find, also creeping in. These are covenants which in practice every reasonable and honourable landlord does modify; and I desire to see the covenants themselves conform to this reasonable practice. The covenants referred to are, I believe, wholly modern innovations: they run in some such words as follow:—"And also shall once in every third year of the said term sufficiently paint, with two coats of good oil-colour, the outside wood, ironwork, and other parts of the said premises usually painted; and once in every seven years of the said term in like manner paint the interior of the said premises." They are sometimes more stringently worded; and a clause added, requiring the walls of the premises to be papered once in every seven years. They are often made still more unreasonable by every seventh year being substituted for once in every seven years,—a most burdensome covenant indeed, in case of serious illness in the house, and in other similar cases.

Now, any one at all acquainted with buildings must know that the papering covenant cannot be reasonably insisted on in any lease: a varnished paper, a good paper in a room little used, expensive decorations of any kind, will often outlast double or treble the prescribed term, while a common paper, badly used, may want renewing two or three times in the seven years. To enforce the covenant would be to put a premium on bad papers,—a foolish thing, indeed, for a landlord to do, as good papers and good tenants generally go together; and the purchaser of a lease with this covenant in it, I need not remark, *legally* forfeits the lease if it is not observed. Similar observations may be made on the painting covenant as regards work varnished, especially if also grained (should this covenant be ruled to include the latter work). It is indeed admitted that internal painting as well as papering is merely decorative: what interest of the landlord's, therefore, is served by burdening a tenant for eighty or ninety years with a constant recurrence of decorative work, however desirable it may be for a landlord to do so in a lease for seven, fourteen, or twenty-one years? There is, doubtless, a shadow of excuse for insisting on the external painting, such painting upholding the structure; but even that were surely sufficiently provided for by the word "paint" in the general repairing covenant, where, also, the word "paper" could be inserted if desired. If the object of the introduc-

tion of these covenants in long leases be that the premises be given up at the end of the term in proper decorative condition, to bring them into operation during the last seven years of the term alone would be sufficient.

I am quite aware that we hear, on all sides, both from the lawyers who write them, and the builders who sign their names to them, that "no one ever regards these covenants;" but do these observations reach the landlord's ear? If so he would surely understand the folly of introducing, in any legal instrument, covenants to be mutually unobserved; for as regards the tenant, the effect of holding this whip over his shoulders, is to drive from the purchase of leasehold property all who will not undertake engagements that they cannot reasonably and conscientiously carry out, and thus to perpetuate the ownership of leaseholds among a morally inferior class: as regards the landlord, on the other hand, while the covenants in general are wholly disregarded, they do at times put an instrument of oppression in his hands, who for any purposes of his own, pleases to take advantage of the letter instead of following the spirit of the lease.

In the service, therefore, both of landlord and tenant, I desire to see this modern innovation abandoned, the covenants referred to omitted from all future building leases, and replaced by the words "paint and paper," inserted in the general repairing covenant.

Could I persuade landlords to believe with myself that their interest in a just, legal position of their tenants was only second to that of the tenants themselves, we should, I have no doubt, soon see some new legislation on this subject, at least, carrying further the principle acknowledged in the recent Act granting relief for one breach of the insurance covenant; and thus tenants might hope no longer to find as their great security the "elastic conscience of a jury who can never be brought to eject a tenant where no substantial injury has been inflicted." I quote a lawyer's remark. H. F.

IMPROVEMENT BILLS.

SIR,—You have mentioned that the Arcade Bill was thrown out on its second reading in the Lords, through the strong opposition of the influential inhabitants of the district, notwithstanding the Metropolitan Board of Works approved of the scheme. Now, I cannot help thinking that, even though a Bill be a private speculation, it is desirable that projects for beautifying the metropolis, and at the same time supplying a want, should receive the consideration of Parliament, irrespective of local opposition. Are all future Bills for making new streets, or adorning old ones, to be rejected simply because they are projected by private speculation? for this seems to be the chief reason why the Arcade Bill was thrown out. I trust, when future Bills are presented for consideration, we shall find more liberality of feeling in the inhabitants of the vicinity of the proposed improvement.

JUSTITIA.

CHURCH-BUILDING NEWS.

Wigginhall (*Norfolk*).—The well-known old church of St. Mary Magdalene, Wiggenhall, has just received an addition of oak chancel stalls and a new pulpit. The whole has been carried out by Mr. B. Broadbent, of Leicester. Other restorations are very much needed, and it is hoped ere long funds will be forthcoming to renew the nave roof, which is at present in a dangerous condition. The pulpit has been made out of some old screen work, and mounted upon a stone base. Mr. E. Dolby, of Wantage, was the architect employed.

Newcastle-under-Lyne.—A new school church has been opened at Madeley. The building is situate at the junction of the Betley and Great Madeley roads. The style of architecture may be termed Composite: the exterior walls are red and blue brick, with dressed stone quoins for the corners, windows, doors, and gables; and the interior walls are plastered. The roof is open, with stained red deal spars. The stalls for the church portion, which is separated from the infant school by sliding-doors, are of the same material, stained. Connected with the edifice is a bell and clock turret, and at the west end there is an entrance porch, which serves for a vestry. The builder was Mr. Stringer, of Sandbach.

Worcester.—A letter by Lord Lyttelton, on the restoration of Worcester Cathedral, has been extensively circulated in the county at the request of the Dean and Chapter. What has been done, says his lordship, may be generally described as follows:—Externally, the whole of the fabric east of the tower has been restored, the east end and two eastern transepts having been in a great measure rebuilt. All the windows have been altered, and new buttresses and pinnacles erected. The two west transepts have been thoroughly repaired, and a large new window inserted in the north-west transept. Internally, the whitewash and plaster have been removed from the walls both of the choir and the nave, the whole of the vaulting repaired, two large piers rebuilt, two unsightly walls removed, the marble shafts and carved work restored, the marble shafts and carved work restored, the bosses re-gilt, and part of the ancient painting renewed. Some ancient rooms have been converted into vestries, and the chapter-room restored within and without. The whole expense of these extensive works, amounting to near 31,000*l.*, has been defrayed from capitular funds. What remains to be done, as proposed by the Dean and Chapter, may be divided as before into two heads, the external and the internal work. Externally, the north, west, and south sides of the nave, including the north porch, are to be restored, a new large west window inserted, and the cloisters thoroughly repaired. The cost of the external work is estimated at 8,240*l.* Internally, the floor of the nave is to be repaired at the charge of 1,000*l.*; the cathedral is to be lighted, and furnished with a warming apparatus: the whole of the choir remodelled; a new organ-screen and reredos to be erected; the organ to be re-constructed; the floor repaired, and the stalls and fittings materially improved. The expense of the internal work is estimated at 13,700*l.* The plans for the choir have been prepared by Mr. G. G. Scott, in conjunction with Mr. A. E. Perkins, the cathedral architect, and it is proposed that they should be carried into effect under their joint superintendence. The remainder of the work will be entrusted to Mr. Perkins. The chapter have exhausted all the resources at their command for the prosecution of these great works. The inhabitants of the diocese are urged to make an unusual effort to complete the restoration. The sum needed is—for the exterior, 8,240*l.*; for the interior, 13,740*l.*; total, 21,980*l.* A public meeting is to be held on this subject at Worcester on Thursday, April 7th.

Pershore.—The Abbey Church Committee have decided upon opening the lantern tower, and erecting a stage for the ringers. The cost (according to Mr. Scott's estimate) is 360*l.* A special subscription-list for this object has been opened. Mr. Scott is said to have discovered that the tower and lantern are either the work of the same architect, or by a close imitator of the architect, who built the steeple of Salisbury Cathedral.

Books Received.

Pledge's Pic Nic Sketches of Ashridge. By CHARLES MAY. Oxford and London: J. H. & J. Parker.

MR. CHARLES MAY has here put together photographs, made by himself, of the House, neighbourhood, and persons connected with it, and has added some letterpress descriptive of the building. The House, which is on the confines of Hertford and Buckingham, was commenced from the designs of James Wyatt, and finished by his nephew. The volume makes a good memoir.

The Elements of Mechanical Physics. By J. C. BUCKMASTER. Chapman & Hall.

MR. BUCKMASTER is a certified teacher of science by the Department of Science and Art, and examiner in Chemistry and Physics in the Royal College of Preceptors; and any work on Mechanical Physics of which he is the author is entitled to favourable consideration. This little volume is intended more particularly for the use of intelligent workmen; such as attend evening classes in connexion with mechanics' institutions and similar bodies; and it appears to be well adapted for such a purpose. Instruction in elementary science might be conveniently and appropriately carried on in such classes; and the present work is popular in treatment, and, at the same time, demonstrative, and differs but little from other works on this subject, except in a large number of examples, most of which may be worked out by any person who understands proportion.

The Principles of Agriculture. By WILLIAM BLAND, M.R.A.S. Longman & Co.

MR. BLAND, though he farms his own paternal acres and is not merely an inexperienced amateur in agriculture, is the author of a work on the principles of construction in arches, piers, buttresses, &c., and is hence architectural as well as agricultural in his proclivities. The present work is a second edition of one published so long ago as 1827, and which has hence for many years been out of print. In the present edition he has of course taken into consideration the immense advance which has been made in agriculture by the aid of science; and has brought to bear upon it his own greater practical experience, combined with that of others, and especially of his father. The work is dedicated to the Sittingbourne and Milton Club, of which he is the honorary secretary and Sir J. M. Tylden the president.

VARIORUM.

"Report upon Metropolitan Railway and other Schemes of Session 1864. By J. W. Bazalgette, Engineer to the Metropolitan Board of Works." Although we have already more than once incidentally made use of this elaborate report in reference to the metropolitan railway schemes, still it merits a more formal and special notice. It consists of a thick pamphlet of 250 pages, and gives a particular account of the routes of all the projected metropolitan railways; how each affects every street or thoroughfare which it crosses or traverses, whether by viaduct or bridge; how the sewers are interfered with by the subway projects; and so on. In a summary of the public property interfered with, Mr. Bazalgette says,—

"The schemes proposed for the metropolis this session are more numerous, bolder, and more complicated than on any previous occasion. They involve the construction of 25½ new lines of railway and branches, of 47½ miles in length; with eleven bridges over the Thames, and two lines passing through the Thames Tunnel; and the total capital proposed to be raised is about seventy millions. Hyde Park, the Green Park, St. James's Park, Kensington Gardens, Newington Park, Hackney Downs, Leyton Grange Park, Trinity-square, Finsbury-circus, Camden-square, Oakley-square, Ampthill-square, Euston-square, and Sloane-square, would all be cut through, and some of them in two or three places, and the same would be the fate of the following commons:—Stoke Newington, Clapham, Tooting (invaded by seven different lines), Acton Back, Acton, Wimbledon, Fulham, and Deptford; and Turnham Green.

Bishopsgate-street would be crossed by railways 9 times; Whitechapel-road, 13 times; King William-street, City, 4 times; Strand, 4 times; Whitehall, twice; Palace-yard, Westminster, four times; Belgrave-road, 4 times; Uxbridge-road, Notting Hill, 5 times; Kensington-road, 3 times; Edgware-road, Kilburn, 4 times; Euston-road and Marylebone-road, 13 times; Deptford Lower-road, 3 times; Acre-lane, Brixton, 5 times; and St. Stephen's Churchyard and St. Pancras Burial Ground would also be invaded, the latter by three different lines of railway.

It is proposed to construct the following railways along the line of the Thames Embankment, and underneath a portion of the new street to the Mansion House:—London Union; Metropolitan District, Inner Circle; Metropolitan Grand Union; London Main Trunk Underground; Victoria Station and Thames Embankment; Hampstead Midland North Western and Charing Cross."

——"An Historical and Archæological Sketch of the Ancient Town, Harwich. By a Visitor at Dovercourt. Harwich: Smith." We have here a lively and amusing archæological gossip, by the Rev Richard Cutler, about Harwich, *et multis aliis*,—indeed more of the latter than the former; and something as to the "great, great, great, great grandfather" of the author's printer and publisher, Mr. Smith, to boot,—or at least to shoe; for his shield was "three [not four] horseshoes, and his crest a brawny arm wielding a sledge-hammer" in the Crusades.——"A Dictionary of Chemistry. By Henry Watts, F.C.S. Part XI. Longman & Co." This is a work founded on the late Dr. Ure's, but mostly rewritten with very competent aid, and which we have more than once favourably noticed. The present part runs from Fluorine to Gallotannic Acid, and comprises a good deal of matter as to the Formates, and as to Fuel and Fulminates. The editor has resolved,—wisely, we think,—to restrict the monthly issue to one-half of what it originally was. The work and its readers will no doubt reap additional advantages by this arrangement.——"The Foreign Enlistment Acts of England and America. By Vigilans. London: Saunders, Otley, & Co." The object of this pamphlet is to discuss the *Alexandra* and the "Rams" questions, which the author does, with ability, favourably to the freedom of our shipbuilders and the interests of the Confederates. ——"The Art Student" (Hall & Co., Paternoster-row), may be made a very useful publication, and should be helped. No. 2, just now published, is well worth the 6d. it costs.——The following issues we need only mention:—"Laxton's Price Book" for 1864; "Lockwood's Price Book" for 1864; "The Engineer's, Architect's, and Contractor's Pocket Book," for 1864 (Lockwood), containing a large amount of useful information; and "Tables for the use of Timber Merchants and Builders" (Manchester, Abel Heywood). The last includes the number of

Petersburg standards in any number of ning feet, of all sizes; and tables of equiva- t prices.——"The Present Aspect of the nvict Question. By Sir Walter Crofton, C.B. ndon: Emily Faithfull, publisher." The hor of this pamphlet strongly advises super- ion as a safeguard if the ticket-of-leave tem is to be continued; otherwise he hopes s system will be altogether abolished, and the n recommended by him, and tried with suc- s in Ireland, adopted. In that case the nulus of allowing convicts to work themselves m very strict early stages of discipline and vation into more modified stages of detention, intermediate prisons, at the same period en they would otherwise have been liberated ickets-of-leave, proved sufficient. Such a sys- n would certainly be better than the present; why the objection of settled colonies to a tinuance of the transportation system should e necessitated its entire abolition we cannot ; and assuredly transportation was better h for the criminal and for his country than other that has yet been either tried or gested. Some of the richest, and in every inary sense best-doing men in Australia, e convicts. Can as much be said for ticket- eave men in this country? The arrestment the emigrative process produced the present atisfactory state of the convict system: why remove all the difficulty by a renewal of that cess under new auspices?

Miscellanea.

HE HEREFORDSHIRE MEMORIAL OF THE LATE GEORGE CORNEWALL LEWIS, BART. — The lel of the statue intended to be placed in t of Hereford Shirehall, according to the l *Times*, has now been completed by Baron ochetti. The casting of the statue in bronze be proceeded with at once.

RT-UNION OF LONDON SCULPTURE. — The ues and groups sent by sculptors, in reply to offered premium of 600*l.*, have been received, are now being displayed in the north court ne South Kensington Museum, by permission ne committee of Privy Council. The collec- will be open to the public after Wednesday .

UST OF THE PRINCE OF WALES.—Mr. Morton vards has completed a bust of the Prince of es, which is to be executed in marble, for the of Toronto. His Royal Highness is repre- ed in the uniform of the 10th Hussars, and likeness seems to us good. The bust will ably be reproduced in Parian, of a smaller by the Art-Union of London, for distribu- as prizes, and to match with their bust of Princess, which is certainly the best yet e.

HE SITE OF NEW ST. THOMAS'S HOSPITAL.— he Governors of the Hospital making appli- on to Vice-Chancellor Wood for his sanction ne contract with the Metropolitan Board of ks for the purchase of the site at Stangate, ween Westminster Bridge and Lambeth Palace, corporation of the city of London intervened, ning certain rights over the property of the ital, and alleging that the site was an im- er one, and ought not to be sanctioned. The -Chancellor, however, decided against the oration's intervention, as he could not agree them that the site was unwholesome, or in respect an improper one.

ICESTER. — At a recent meeting of the ester Literary and Philosophical Society, a r was read by Dr. Barclay, on "Modern ester," to a numerous audience. Seven s since he had read a similar paper, and he stated that, while on the last occasion he little else to do than to grumble and com- , he had now a large portion of praise and obation to mete out; and the character of new buildings, whether ecclesiastical, public, antile, or private, had so much improved, with a few notable exceptions, he found ing to censure or to lament. The increase opulation, at the rate of 10,000 in each de- ial period; the increase of machinery, and gradual superseding of the framework knit- ; the striking out of new branches of trade commerce, are raising Leicester at a more d rate than almost any other manufacturing ; and the happy results are seen in the for- s made, the families founded, and the almost ersal prosperity.

ROCHESTER CITY CROSS.—During the demolition of old buildings on the north side of Rochester Cathedral, fronting High-street, the workmen came upon a portion of the old Corn-cross which formerly stood in High-street, until built over several centuries since. The portion of the cross discovered is of solid masonry, and stands about 12ft. in height.

DINING HALLS: BIRMINGHAM.—The report of the directors, presented at the first general meeting of the shareholders on the 29th of February, states that the first experiment of a public dining-hall in Birmingham has proved decidedly successful. A gross profit of 83*l.* 16s. 6d. has been made on seven months' trading in the Slaney-street establishment; and there was no doubt that the establishment would pay a dividend of 5*l.* per cent. on its capital. The directors have taken a lease, for ninety-nine years, of conveniently situate premises in Cambridge-street, where a hall of spacious dimensions is now rapidly approaching completion.

COTTAGE BUILDING.—A correspondent of the *Band of Hope Review*, a well illustrated and instructive paper, which, at the price of one halfpenny, is circulated in very large quantities amongst the young, says,—"The village of Witton, near Redcar, in Yorkshire, forms part of the estate of Sir John Lowther. He has put a stop to the public-house of the village; and, having rebuilt every house, has allowed that formerly devoted to the sale of beer and spirits to be opened by the tenants for the use of travellers, who may desire less exciting refreshments. The old sign has been sawn up, and part of it now conveys water from a spout to the tub in the back yard. The good woman who showed it to me, said,—'Ay, and the old times are gone, and so we just use the sign to draw the water to the barrel, as it cannot draw the folk to the beer.'" The editor remarks that several landed proprietors have followed the example of Sir J. Lowther, with the most pleasing results, and hopes that others will do so too.

THE DWELLINGS OF THE POOR IN LAMBETH AND SOUTHWARK.—On Tuesday in last week, a public meeting was held at the Lambeth Baths, to adopt measures to improve and cheapen the dwellings of the poor, and supply the great deficiency now existing in consequence of the pulling down of so much of this class of property by the railways. It was unanimously resolved, "That the overcrowded state of the dwellings of great numbers of the artisans and mechanics in the boroughs of Lambeth and Southwark, the want of proper drainage and ventilation to those dwellings, combined with the high rents exacted for them, are matters deserving of serious consideration; and further, this meeting is of opinion that measures should at once be adopted for the purpose of providing more fit and convenient dwelling-places for such artisans." It was also resolved to form an association to acquire land near the centre of manufactures, and generally to carry out the suggestions of the first resolution. The chairman, Mr. T. Webber, promised that in the event of the scheme being carried out he would give 100 guineas towards the object.

THE LONDON ASSOCIATION OF FOREMAN ENGINEERS.—The annual dinner of this association has taken place at Radley's Hotel, Blackfriars. Mr. H. Grissell was in the chair, and there were present about 150 members of the association and visitors. Among the latter were—Mr. Alfred Field (of Maudslay & Field), Mr. Hodges, the Hon. Mr. Duncan, Mr. Reed (chief constructor of the navy), Captain Blakeley, Captain M'Gregor, &c. The chairman alluded to the jealousy with which this association had been viewed by employers, and declared that so far as he was concerned that feeling was now dissipated. Mr. Newton, of the Royal Mint, president of the society and one of its founders, gave an exposition of the objects of the society, which were not to discuss "shop politics," but to afford to the members the opportunity of interchanging ideas upon engineering subjects; to enable them to be of mutual assistance to each other in procuring situations; to establish a scientific library for their use; and to provide annuities for decayed members. The secretary's report showed the funds in hand to amount to 347*l.* 17s. 9d., which is invested in Three per Cent. Consols. The number of members is seventy-five ordinary and twenty-six honorary. The chairman and Mr. A. Field announced their readiness to become honorary members, and to give the society each 50*l.* towards the formation of a benefit fund if eight other engineering firms would each give 50*l.*

A CHAPEL-BUILDING DISSENTER.—Mr. Samuel Morley proposes to give one-third of the cost of twelve dissenting places of worship, each to accommodate 500 persons; and to be at the expense of erecting six iron rooms in destitute localities, so as to prepare the way for permanent buildings. Good Mr. Morley.

LIVERPOOL LABOURERS' DWELLING-HOUSE COMPANY.—At the annual meeting of the shareholders of this company, the report congratulated them on the proceedings of the year, as the whole of the dwellings, with but one or two exceptions, had been let, and the result was that the receipts were 50*l.* in excess of any previous year. The report was adopted, and a motion passed fixing a dividend of 3½ per cent.

FALL OF A FLOOR.—At a temperance meeting held in the Wesleyan school-room, Altarnun, near Launceston, when the room was filled by about 500 persons, at the close of the lecture, which lasted nearly three hours, the flooring suddenly gave way, and fully 100 persons fell through into some stables below, a depth of about 10 feet. Singular to relate, not one of the persons who fell had any bone fractured; and though many were bruised, and all frightened, there was no serious injury to any one. The beams supporting the floor had rotted away where inserted into the walls.

THE SCHOOLS OF ART QUESTION. — A deputation from the Schools of Art in Great Britain and Ireland had an interview recently with Earl Granville and Mr. Lowe at the Privy Council Office. The deputation was introduced by Col. Wilson Patten, M.P., accompanied by Mr. Pease, M.P.; Gilbert Greenall, M.P.; Mr. Gregson, M.P.; Mr. Francis Powell, M.P.; Mr. Allen H. Bathurst, M.P.; &c. Mr. Beresford Hope stated the wishes of the deputation, in reference to the recent minutes of the Privy Council. Earl Granville gave his consent to the moving for a committee of the House of Commons to inquire into the whole question.

SCULPTURE AND THE ROYAL HORTICULTURAL SOCIETY.—The exhibition of sculpture of last year in the gardens at South Kensington showed how many beautiful effects could be produced by the combination of sculpture and foliage. The council continue the sculpture exhibition with increased confidence, and announce the arrangements for the years 1864 and 1865. In each year the council will make purchases to the value of 500*l.*, provided that new and original works of sufficient merit are exhibited under the conditions hereafter stated. As a general rule it is desirable that all works should be finished works in plaster. But works may be sent in in marble, bronze, terra-cotta, and other materials than plaster. The works sent for purchase must be figures, groups of figures, large ornamental vases with bas-reliefs, ornamental pedestals with bas-reliefs, but not simply bas-reliefs unapplied. Artists of all nations are invited to send works. All works for the competition of 1864 must be sent on or before the 1st of June, 1864, and must be left in the gardens until the 30th of September.

TEMPERANCE LAND AND BUILDING SOCIETY.—The report read at the tenth annual meeting of this society, Mr. H. J. Phillips, secretary, stated that the total receipts during the year were nearly 23,000*l.* in excess of the preceding year, having amounted to upwards of 124,000*l.* The shares issued numbered 5,719, being 2,143 in excess of the year previous, and making the total issued during ten years 26,321. The subscriptions received on shares amounted to 79,000*l.*, a sum largely in excess of any former years. The sums received in the deposit department amounted to 17,000*l.* The amount received for interest and premiums on the investment of the society exceeded 11,700*l.* The subscriptions and deposits returned to members and depositors on withdrawal of the whole or a part of their investments amounted to 32,000*l.* After payment of all sums the shareholders and depositors were desirous of withdrawing, there remained at the credit of investing shares 115,000*l.*, and at the credit of depositors 61,000*l.*, together 176,000. The sums advanced upon house property during the year amounted to 69,898*l.*, being upwards of 23,000*l.* in excess of any previous year; thus increasing the total sum advanced on house property to 283,000*l.* The total assets of the society have by the year's transactions been increased by 42,000*l.*, and now stand at 211,915*l.* The profits of the year have enabled the directors to carry an amount to the reserved or contingent fund account whereby it is increased to 21,663*l.*

GRAPHIC SOCIETY.—At the next conversazione, to be held on Wednesday, the 9th instant, an interesting contribution of the works of a late member, Mr. William Duffield, is expected. The meetings of the present session have been more than ordinarily attractive.

CHUBB'S TRADE LIST.—Messrs. Chubb & Son have published an illustrated list of locks and safes, which has the distinctive merit of putting together, on large sheets, views and prices of their variously-constructed safes, so as to admit of easy comparison. The list also gives engravings of their fire-proof doors and frames for strong-rooms.

WEST HAM BOARD OF HEALTH ASSISTANT SURVEYORSHIP.—The applications for the office of assistant surveyor were between seventy and eighty. The chairman, in intimating this at a recent meeting, said he wished to know what the board intended to do. A long and stormy discussion ensued; after which it was proposed that the question be adjourned for three months, which was carried by 12 to 2.

THE WILTS COUNTY SURVEYORSHIP.—A committee having reported its dissatisfaction with the manner in which the county surveyor, Mr. Penniston, performed his duties, on which a long discussion took place at the last sessions, the surveyor, while denying the allegations of the committee, and complaining, in a memorial explaining and defending his own conduct, that he should be expected, without adequate remuneration, to be always attending committee meetings, and otherwise occupying so much of his time, resigned his appointment, on the explicit understanding that there was no imputation on his character, and that he was not supposed to admit the allegations against him. The court accepted Mr. Penniston's resignation, reserving the question of remuneration, as to which he had memorialized them.

THE METROPOLITAN DEATH-RATE.—The deaths from typhus and other fevers still continue very high, and in other ways the Registrar General's report is unfavourable, and shows the necessity for more than usual sanitary care. During the past week the deaths were 1,586. The average of ten years, allowing for increase of population, is 1,409, being 177 deaths more than the average. The deaths from zymotic causes, figure to the large extent of 323. Fatal cases of small-pox rose from 8 in the previous week to 20 last week; measles declined from 32 to 18; scarlatina carried off 55 persons; diphtheria, 11; whooping-cough, 56; and typhus, 63.

SOUTH LONDON WORKING-CLASS INDUSTRIAL EXHIBITION.—The National Baths in the Westminster-road, Lambeth, have been opened as an Exhibition of the handicraft of the working men of Lambeth. There are 231 exhibitors, comprising men of various trades, such as masons, painters, carpenters, engineers, labourers, gardeners, and even chimney-sweeps. The articles exhibited are upwards of 500 in number, and are chiefly, of course, the production of over-hours. Among them are models of buildings and monuments, paintings, statuary designs in plaster, carvings, &c., many of them done by workmen not at all connected with such subjects in their daily labours. At the opening, Sir Morton Peto, M.P., Mr. John Bright, M.P., Mr. Warner, M.P., and the chairman, the Earl of Shaftesbury, addressed the meeting. The exhibition will remain open till Saturday, the 12th inst., inclusive, and the charge for admission is fixed at twopence. There seems to have been great want of good management as regards publicity.

VALUE OF PROPERTIES.—Last week, Messrs. Chinnock, Galsworthy, & Chinnock sold, at the Mart, the following properties:—Wandsworth-road: 2a. 1r. 24p. of freehold building land, with a frontage of 244 feet, sold for 1,660*l.*; 1a. 2r. 26p., adjoining, sold for 1,300*l.* Hampstead-road: Leasehold house, 6, Stanhope-place, let at 63*l.*, held for 76 years at 16s. ground-rent, sold for 800*l.* Leasehold house, 19, Rutland-street, and offices at side, let at 71*l.* 10s., held for 77 years, at 2*l.* 10s., sold for 900*l.* Leasehold house, 20, Rutland-street, let at 50*l.*, held for 73 years, at 2*l.* 10s., sold for 650*l.* Ditto, 21, Rutland-street, let at 48*l.*, sold for 580*l.* Freehold house, 73, Albert-street, Mornington-crescent, let at 52*l.* 10s., sold for 1,010*l.* Ditto, 74, Albert-street, a similar house, sold for 1,010*l.* Freehold house, 7, Mornington-street, let at 30*l.*, sold for 470*l.* Notting Hill: Leasehold house, 1, South-bank, let at 70*l.*, held for 50 years at 14*l.* ground-rent, sold for 760*l.*

THE HOUSES IN BRIDGE-STREET, WESTMINSTER. In reply to a question put in the House of Commons by Sir J. Shelley, as to the houses left standing on the south side of Bridge-street, Westminster, Mr. Cowper said, the freehold had been purchased, and he was now in negotiation for the purchase of the leasehold interest. The houses would shortly be taken down, and then would be the time to decide on the appropriation of the site.

EXTRA PAYMENTS TO SKILLED WORKMEN.—In a case (Podger *v.* Parkinson) recently tried at the Clerkenwell County Court, a gas apparatus manufacturer's skilled workman obtained a verdict for extra wages in the form of a bonus of 5*l.* per annum promised in an emergency by the then manager of the works, who afterwards left the defendant's employment in consequence of misunderstanding with him. The manager had acted for the widow of the previous manufacturer and her son, who was then eighteen years of age; and the son now resisted the demand of the plaintiff. The workmen had left the employment and the business was imperilled, which led the manager to offer bonuses to induce the workmen to return. The magistrate, in finding for the plaintiff with full costs, expressed his surprise and regret at the line of defence set up, which comprised a futile attempt to damage the character of the manager, as well as to resist payment of the promised bonus.

NEW FRENCH LOCOMOTIVES.—At the last sitting of the Academy of Sciences, M. Combes described a new system of locomotives now in use on the Northern Railway, so constructed as to surmount considerable declivities, and to work on curves of a small radius. These engines have four cylinders and six axletrees, divided into two groups of three each, moved by the pistons of one pair of cylinders. The wheels are so small, that the fireplace of the boiler extends beyond them. In order to facilitate the movement on small curves, a little play is left between the flanges of the wheels which keep the train within the rails, and the rails themselves; moreover, the axles have some play in their sockets. The new engines are said to have mounted gradients of 25 millimetres, and described curves of 80 metres' radius.

CHRISTIAN ART: MINIATURES.—Miniatures have a special interest to us as affording the only evidence of a remarkable era in the art-history of these islands, and of the influence of northern artistic culture generally; and therefore it is that we have in this paper dwelt at somewhat disproportionate length on the Anglo-Saxon and British schools. Of late years this subject has been investigated by many inquirers, but most deeply and patiently by Mr. Westwood, who is preparing for publication a history of Anglo-Saxon miniatures and illuminated manuscripts. Printing was discovered about the middle of the fifteenth century. It was long before the wealthy and the pious ceased to order the exquisitely written and illuminated books to which they had been accustomed. To meet the tastes of the richer purchasers, expensive books were at first printed to resemble as nearly as possible the written manuscripts, spaces being left for initials and miniatures to be filled in by hand. But this transition stage passed away. The superior advantages of printed books became generally recognised. The illuminator and miniaturist were more rarely employed, and no young scholars stepped in to fill the vacancies left by their seniors. One of the latest illuminated manuscripts executed in England was the Lectionary of Cardinal Wolsey, now preserved at Christ Church College, Oxford. The latest of an important kind produced on the Continent, is believed to be a large and splendid Graduale, preserved at Rouen, which was executed in the seventeenth century by a monk named D'Eaubonne, who is said to have spent the greater part of his life in its production.—*Churchman's Family Magazine.*

TENDERS.

For houses to be built at Clapton, for the Cannock Chase and Ogley Land Company. Mr. Charles Hambridge, architect:—

Hill & Keddle	£13,073 0 0
Myers & Sons	12,934 0 0
Bishop	8,329 0 0

For additions and alterations to house, Broad-green, Croydon. Quantities not supplied. Mr. T. C. Clarke, architect.

Patman & Fotheringham	£1,068 0 0
Hyde	968 0 0
Sharpington & Cole	927 0 0

For detached house at Staines, for Mr. A. Lambe. Mr. Herbert Ford, architect:—

G. Hewett	£1,476 0 0
Humphries	1,273 0 0
Lawrence	1,220 0 0
Reawell & Sons	1,099 10 0
G. Wheen	1,079 0 0
Rowe	1,025 0 0
Taylor	966 0 0
Rawlins	925 0 0

For altering and enlarging a warehouse at Hinckley, Leicestershire, for Mr Matthew Foxwell. Mr. Francis Drake, architect. Quantities supplied:—

Clifton	£404 0 0
Fox, Brothers	371 0 0
Tills	362 0 0
Middleton	359 0 0
Porter	345 0 0
Bloxham	339 0 0
Harrold	333 6 8
Gatteridge	329 6 0
Glover	322 10 0
Carr	315 0 0
Bassett (accepted)	298 11 6

For alterations and repairs to the Newbury Arms public-house, Maldon-road, Kentish Town. Messrs. Mayhew & Calder, architects. Quantities supplied:—

Mills	£717 0 0
Norris & Son	687 4 9
Hyde (accepted)	634 0 0

For alterations at Nos. 55 and 56, London-road, Southwark. Mr. James Harrison, architect:—

Myers	£1,339 0 0
Marsland	1,325 0 0
Coleman	1,290 0 0
Henson	978 0 0

For re-building St. Bartholomew's Church, Scammonden, Yorkshire. Mr. E. Wyndham Tarn, architect. As old materials to belong to contractor:—

	With Spire.	Without Spire.
Mason.		
Holroyd & Brier	£1,487 0 0	£1,322 0 0
Helliwell, Brothers	1,300 0 0	1,120 0 0
Stott	1,275 12 6	1,142 0 0
Eli Helliwell & Co.	—	1,118 15 8
Watson & Son	1,073 0 0	983 0 0
Whitehead	927 10 0	797 10 0
Carpenter, Joiner, and Painter		
T. Holroyd	£297 0 0	
Plumber.		
Garton	£123 0 0	
Brook & Co.	103 14 0	
Slater.		
Hoyle	£87 0 0	
Goodwin	65 10 0	
Plasterer.		
Hoyle	£76 0 0	
Sutcliffe	55 0 0	
Wilkinson	52 0 0	
North	27 0 0	
Crowther	24 10 0	
Smith.		
Wilson	£20 0 0	

For alterations, &c., to Argyle Lodge, Wimbledon Common, for Mr. James Bramley, civil engineer. Mr. J. Tarring, architect:—

Calls & Co.	£1,143 0 0
Roper & Son	1,079 0 0
Saunders	871 0 0

For alterations and additions to No. 222, Upper-street, Islington. Mr. W. Smith, architect:

Morter	£389 0 0
Wagstaff	345 0 0
King	303 0 0
Kilby	288 0 0
Devereux & Son	276 0 0
Wheen	253 0 0
Bradley & Egg	235 0 0

For rating and relief offices, Posterngate, Hull, for the governor and guardians of the Kingston-upon-Hull Incorporation for the Poor. Mr. W. Botterill, architect:

Simmson & Frow	£994 16 0
Morrell	905 13 6
Thompson	877 10 0
Southern	868 0 0
Sargeant	864 0 0
Barritt	818 15 0
Jackson	793 0 0
Musgrave	780 0 0
Gontes (accepted)	775 0 0

For new dwarf screen, repairs, and paving to chancel Erith Church, Kent. Mr. Herbert Ford, architect:—

For Screen and Repairs.	
Relph (accepted)	£76 0 0
For Paving.	
Simpson & Sons (accepted)	£32 0 0

For detached house and stables, for Mr F. W. Lloyd, at Shirley, Surrey. Mr. Herbert Ford, architect:—

Axscomb	£2,370 0 0
Humphries	1,987 0 0
Jarrett	1,982 0 0
Holbidge	1,909 0 0
George	1,793 0 0
Ring	1,790 0 0
Hubbard	1,738 14 0
Sawyer	1,687 0 0
Donnelly	1,667 0 0
Morgomb	1,648 0 0
Wilkey	1,500 0 0
Holden	1,460 0 0
Wilson & Raynham	1,400 0 0
Seden	1,380 0 0
Skeaton	1,350 0 0
Drake	1,340 0 0
Perry	1,313 0 0
Luxford	1,310 0 0

For show-room, &c., for Mr. W. Holt, Prospect-street, Hull. Mr. W. Botterill, architect:—

Barritt	£141 15 0
Musgrave	435 0 0
Foster	434 18 0
Southern	421 15 0
Thompson	413 10 0
L. Siminson	404 15 0
Jackson (accepted)	390 0 0

For alterations and additions at Beaumont House, Windsor, for G. Long, Esq. Mr. W. Simm, architect:—

Gosling	£795 3 0
Titcomb	793 10 0
Dunn	723 0 0
Revell & Son	699 0 0
Nollis	694 0 0
Fish	675 0 0
Sergeant	635 0 0

TO CORRESPONDENTS.

A Reader (might have seen several communications, quite lately, as to means of destroying "insects" in houses).—W. C.—E. D.—E.—J. A. B.—F. W. G.—E. B. L.—J. H. Diler in London (the possible site for the Shakspeare Memorial, the Green Park, failing on Piccadilly, has already been determined on).—Architec (we must leave "Architects" who offer to work at "half the usual charges" to their own devices).—F. S.—Mr. D.—T. M.—R. J. W.—F. Ledbury (consult an engineer who will look at the site).—A. D.—J. L. (paper did not reach us).—W. S.—T. R. S.—A. M. (what is the case?).—T. E. K.—A. D.—D. B.—G. H. B.—C. H. D.—E. & H.—De V.—C. G. (next week. Glad to hear from him).

We are compelled to decline pointing out books and giving prices.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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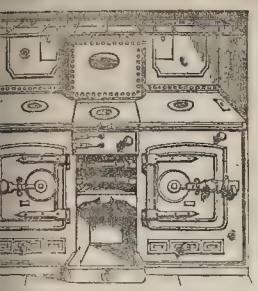
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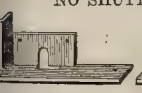
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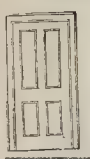
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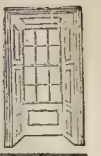
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FLOORING, DEALS, BATTENS, &c.

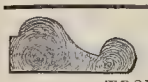
⅜-inch Flooring, well prepared ..... White	11s. 6d.	...Yellow 12s. 0d. per square.
½-inch „ „ ..... „	12s. 0d.	... „ 13s. 0d. „
1-inch „ „ ..... „	14s. 6d.	... „ 15s. 0d. „
2½-inch Battens	Yellow, £10, White, £9 per 120 of 12 feet.	
3 by 9 Deals	Yellow, £18, White, £16 10s. „	
Matched Linings, ½-inch.....	White, 12s., Yellow, 13s. per square.	

Deals and Battens, in the Docks, at a considerable reduction.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.



MOULDING WORKS.
SMITH & McGAW



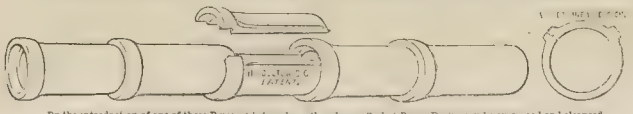
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

CREEKE'S PATENT CAPPED DRAIN PIPES.

The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstruction removed, and CAP JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES. TERRACOTTA CHIMNEY POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, NEAR POOLE, DORSET

Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

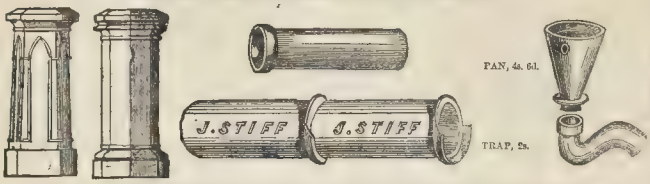
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

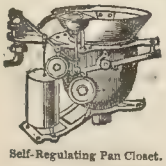
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



Self-Regulating Pan Closet.



Lambert's Ball Valve.





High Pressure Bib and Stop Valve.

THOMAS LAMBERT & SON,

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether so labelled under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil

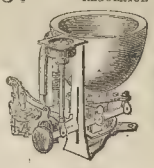
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

J. TYLOR & SONS' PATE

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of to each closet, so that, however small the fall of water, perfect ing is insured. Any number can be worked by one supply-pipe cistern valves, cranks, or wires required. The Closets can be se action at the Manufactory, and Illustrated Catalogues had on cation to the Manufacturers, J. TYLOR & SONS, Warwick Newgate-street, London.

INTERNATIONAL EXHIBITION, 18

CLASS 35, No. 6849.

3s. 9d.



The ONLY MEDAL STONEWARE has been awarded DOULTON & WA LAMBETH POTTE LONDON.

In expectation greatly increased tal & W. have determin introduce the non pattern of their I MELLED STONEW CLOSET PANS, at price of the comm description of cast ware.

Experience has sh that this shape is most simple and effic and that in streng durability, and clea ness it cannot be passed by the most pensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.





UNDERHAY'S PATEN

REGULATOR CLOSETS for stant or intermitting supply, dispens with Cisterns, Service Boxes, Valves, Le Cranks, &c. &c. Much time is saved fixing, and a better flush of water obtai in use.

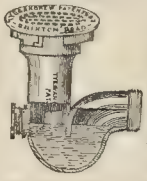
Pan, Valve, Self-acting, and Servan Closets on this principle, may be seen the Works. They are very cheap, th efficiency is guaranteed, 50,000 of th have been sold, and no instance of fail has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPT of the late firm of C. BOTTEN & SON,

F. C. UNDERHAY

now manufactures on HIS OWN ACCOU his Patent Regulator Water-Closets, Val Gas Meters, &c. on the same premises, CRAWFORD PASSAGE, CLERKEN WELL, LONDON, E.C.



TYE & ANDREW

NEW PATENT SIN TRAP is universally admitt to be the only perfect Trap Sinks in Domestic Dwelli as fixed at the principal In tutions. Among others, W ington Barracks, Royal Colle of Surgeons, &c. &c. Prospe tuses on application to Patentees, TYE & ANDREW Brixton-road.

SUPPLIED BY ALL LEAD MER CHANTS AND IRONMONGERS.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator

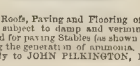


for the admission of Pure A

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity air may be admitted for the due ventilation of an apartment witho the slightest draught being felt by the occupants; and as they placed in the external wall, their action is not impeded when t house is closed for the evening, at which time a constant supply fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough London.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description especially in places subject to damp and vermin. This Asphalte now extensively used for paving Stables (as shown above), the absenc of joints preventing the generation of ammonia. For Estimates an Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hil London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PATENT PORCELAIN BATHS

DESIGNED BY HIS LATE R.H. PRINCE ALBERT.

PRIZE MEDALS, &c.

THE GOLD 1851 MEDAL OF THE SOCIETY OF ARTS, 1850.

THE INTERNATIONAL EXHIBITION MEDAL 1862.

"A great contribution to cleanliness."—See *Journal of the Society of Arts*, 1850. "Nothing can be more cleanly than porcelain, and this is certainly a beautiful specimen."—See *Jurors' Report* 1862 *Class* 10.

Bath Fittings complete, Glazed Bricks, Tiles, Sinks, Fog Boards, Water Closets, &c.

J. FINCH, Albion Chambers, 11, Adam-street, Adelphi W.C.

RUFFORD & FINCH, Patentees.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 15
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

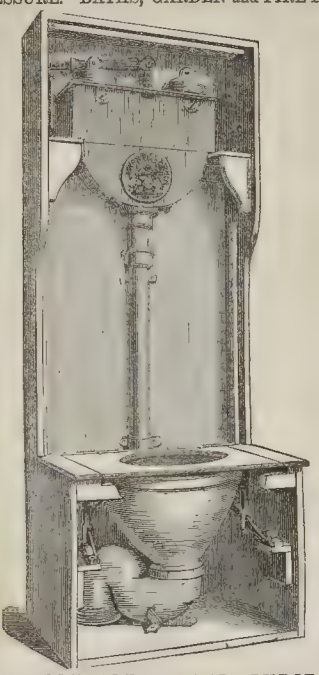
2½ inch	£4	4 0
3 „	5	5 0
3½ „	6	6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3	10 0
3 „	4	0 0

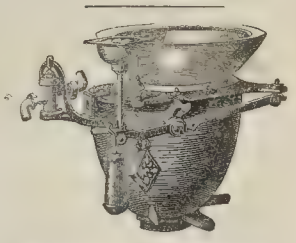


IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.

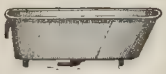


No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3/ 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

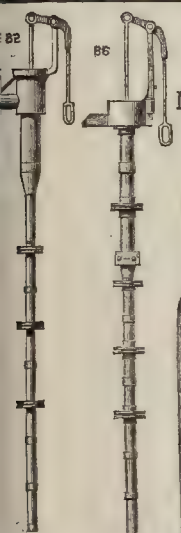
JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

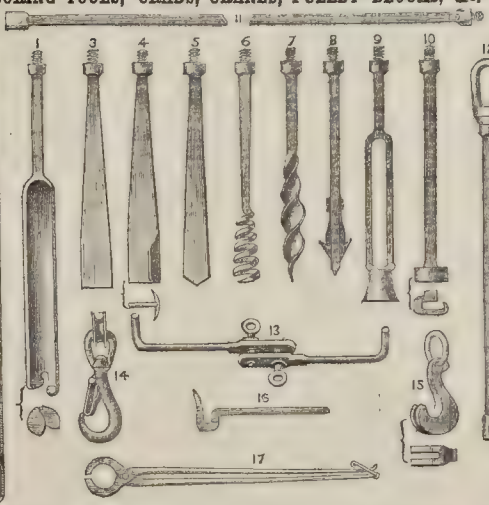
CLINTON & OWENS

(LATE FOWLER & CO.),

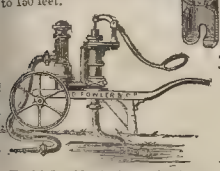
WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF PUMPS OF ALL DESCRIPTIONS, AND OF BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.

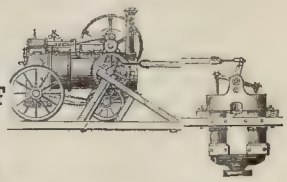




Nos. 82 and 86. CONTRACTORS' PORTABLE PUMPS, of all sizes and for any depth up to 150 feet.

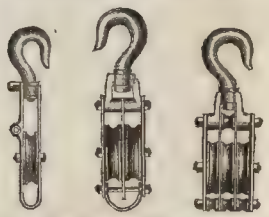


Useful Double Acting and other Portable Force Pumps.



ON HIRE OR TO ORDER.

PORTABLE STEAM ENGINES, With Double Pumps, from 8-inch to 24-inch Barrels. Also CENTRIFUGAL and other PUMPS.



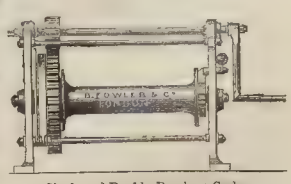
PULLEY BLOCKS and HOISTING TACKLE, of every description and for all purposes.

Boring Tools for Artesian Wells, Testing Ground for Railway Works, Bridges, &c. and for Miners' use,

Are manufactured of the best description and of all sizes by

CLINTON & OWENS.

Any of the Goods above represented may be had ON HIRE. A large Stock is kept ready or in a forward state.



Single and Double Purchase Crabs, Cranes, &c. to lift any ordinary weights.

Full information and Priced Lists, with Terms, may be had on application.

SALES BY AUCTION.

METROPOLITAN RAILWAY, FINSBURY EXTENSION.—Building Materials of several Houses in Aldersgate street and Barbican.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY MARCH 7th, at TWELVE o'clock, the valuable BUILDING MATERIALS of nine houses, shop, and other premises, situate in Aldersgate-street and Barbican, comprising excellent stock bricks, oak and fir timber, in roofs and floors; slates, plain and sanitas; plate glass and other shop-fronts; glazed sashes, skylights, chimney-pieces and interior fittings, doors, flooring boards, stone paving, coping, and cills; lead flats, gutters and pipes, cisterns, stoves, gas-fittings, and other ironmongery and fittings-up. May be viewed. Catalogues had of Messrs. BURCHELL, Solicitors, Bread Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO CHEMISTS, &c.—PLANT AND FITTINGS OF A LARGE STORY.

PULLEN, HORNE, & EVERSFIELD are directed to include in their SALE at Aldersgate street and Barbican, on MONDAY, MARCH 7, CHEMICAL PLANT and FITTINGS; comprising four copper jacketted steam pans, 3 feet and 2 feet 6 inches diameter, and 1 foot to 1 foot 10 inches deep; zinc cooler, and copper worm; steam boiler, 8 feet 6 inches long; steam pipes, cocks, and fittings; mahogany counter, desk, &c. May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FINSBURY.—To MARBLE MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. C. A. PELLAS & Co. to SELL by AUCTION at the Belgrave Marble Works, City-road, immediately adjoining Finsbury Pavement, the Victoria Station, on TUESDAY MARCH 8, at ELEVEN for TWELVE, a quantity of MARBLE, in block and slab, consisting of statuary, white Sicilian, of superior quality; also several blocks of coloured marble, and a lot of cast-iron of strength, and in good slab. Also four and six inch slate slabs to be viewed, and Catalogues had at the place of SALE; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

TO DISTILLERS, COPPERSMITHS, BACK MAKERS, AND OTHERS. The valuable Plant and Utensils of Messrs. Browning & Co's and Messrs. Beart's late Distilleries, Shepherd's Bush, the Premises being required for the New Metropolitan Meat Market.

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, Smithfield bars, on FRIDAY, MARCH 11th, at TWELVE, the valuable DISTILLERY PLANT, comprising a 1,500-gallon copper still, by Dutton & Wood, with four-pipe and cucurbit copper head, 12 feet high, fitted with copper worm, 1,100 gallon copper still, with copper head and neck, and a 200 gallon ditto, with condensing head fitted with copper tubes; large copper gauging-cock worms, with worm tubs, 1,500 feet copper and pewter pipe, with gunmetal descending cocks; pewter spirit safe; 3 horse power high pressure steam-engine and tubular boiler, 7 feet 6 diameter, 30 feet by gun-metal pumps, brass mortar box, fitted with leaf, 20 feet square 25 oak spirit vats, from 800 to 3,000 gallons; iron stillages, iron staves and joists, plate iron work, copper stock and fire bricks, office desks and counting house furniture, large iron safe, counters, shelves, brass gas-fittings, and other effects. May be viewed the day previous; Catalogues had at the Architects' Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

GREAT ST. HELEN'S.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, MARCH 11, at TWELVE, all the valuable BUILDING MATERIALS and FIXTURES of Two Houses and Premises, Nos. 29 and 30, Great St. Helen's, of the usual description.—May be viewed the day previous, and catalogues had of C. J. CORBETT, Solicitor, and THOMAS NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

AT GARRAWAY'S COFFEE HOUSE, Cornhill, WEDNESDAY, 16th MARCH, 1864, at TWO.—

Timber ..... 1,000 loads, foreign and colonial.
Deals and Battens, 100,000 pieces, do. do.
And other Wood Goods.

HENRY FREEMAN & CO. Brokers, 4, Crooked lane, Cannon street.

TO TIMBER MERCHANTS, BUILDERS, & OTHERS.—Important and Absolute SALE of the STOCK of a TIMBER MERCHANT.

MESSRS. J. J. CLEMMANS & SON are directed to the Assignee of Mr. John Thomas, to SELL by AUCTION, at No. 6, Old Street, St. Luke's, on TUESDAY, MARCH 8, and following days at TEN for ELEVEN each day, the above, on rising 2,000 feet SPANISH & HONDURAS MAHOGANY, birch, and other logs; quantity of teak, 3 inch, 4 inch, and other wood, boxwood veneer, various, 4,000 dry pine planks, deals and battens, also a quantity of dry cut stuff, suitable for case makers; 1 horse, screening timber, and the usual effects in trade. On view day prior to and Mornings of Sale. Catalogues had upon the premises, and of the Auctioneers, 1, Spital square, and 21, Hogsden close, Finsbury.

Important Sale of Timber, near Southend, Essex.—Two Days' Sale.

MR. R. HORNER has received instructions from D. R. SEARTON, Esq., to submit to public AUCTION, on TUESDAY and WEDNESDAY, MARCH 22 and 23, 1864, in convenient lots, by order of the Executors, the TIMBER, now felled and lying on Hampton-Barns and Barton-hall farms, in the parish of Great Stambridge, close to water carriage, and within a short distance of Southend Railway Station; consisting of about 1,000 Timber Trees, 500 Ash Timber Trees, 500 Faggots at Top Wood.—May be viewed fourteen days prior to the Sale and Catalogues may be obtained at the Principal Inns; of the Auctioneer, 1, Cambridge-terrace, Southend, Essex. Sale to commence each day at TWELVE o'clock punctually.

ASH BRICKFIELDS.—To BRICKMAKERS, BUILDERS, and OTHERS.—Clearance Sale.

MR. THOMPSON has been favoured with instructions from Messrs G. MYERS & SONS to SELL by PUBLIC AUCTION, on the PREMISES, on SATURDAY, MARCH 16th, 1864, at TWO o'clock precisely, Five Pug Mills, Four Chain Mills, Four Wash Mills and Harrows, Two Buckets and Windlasses, Fifty Barrows, Liberty off-bearing and twenty crowning, Fifty Brickmakers' Sieves (thirty large and twenty small), Twenty Iron Bowls, 1,000 feet run of Wrought-Iron Wheeling Plates, 250 Patent Coal Iron Pan Bars, a large quantity of Wood Shooting, Brick Moulds, Palette Boards, &c. &c.—May be viewed the morning of Sale, and Catalogues had on the Premises, and of the Auctioneer, Guildford, and Worplesdon, Surrey.

TO TIMBER MERCHANTS, BUILDERS, CABINET MAKERS, and OTHERS.

MR. J. L. STACEY is instructed to SELL by AUCTION (if not previously sold by private contract) on the PREMISES, No. 3, Bean lane, Church street, Shoreditch, on MONDAY, the 7th of MARCH next, at TWELVE o'clock, the whole of the remaining well seasoned STOCK of a TIMBER MERCHANT, in consequence of the premises being required for another business; consisting of about 2,000 feet of Spanish and Honduras mahogany, in fathers, planks, and boards, and a few pine planks and other timber, also a good useful Pony and Harness.—On view Saturday and morning of Sale. Catalogues had on the Premises, and at the Auctioneer's Offices, 24, Old street road.

TO SMITHS, ENGINEERS, IRON DEALERS, BUILDERS, AND OTHERS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Stockwell road, facing Stockwell green, on MONDAY, MARCH 7, at ONE o'clock, 150 Lots of Sound BUILDING MATERIALS, taken down for public improvements, and removed to the above premises for convenience of sale, including long sound timbers of all lengths, joists, and other fittings and fixtures, plate glass, fire-resisting iron and wood doors, several tons of long wrought-iron bars, two pairs of handsome wood columns and pilasters, and an infinity of other effects.—On view on the Premises, or forward on application to Mr. C. F. SMYRK, 19, Newington place, S.

TO GASOMETER MAKERS, BOILER MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, MARCH 7, at ELEVEN, on the PREMISES, No. 8 Wharf, Wenlock-road, City-road, in lots, without reserve, the PLANT and IMPLEMENTS, including seven powerful punching and shearing machines, drilling machine, a 6-horse high-pressure table steam-engine, Cornish boiler, a number of anvils, set with steel faces, steel cranes, set of plate bending rolls 8 inches long, double flue angle iron machine, shafting, gears, and leather bands, erection of plate and angle iron furnace, gas apparatus with retort, purifier and two holders, vices and benches, four smiths' forges and tools, fourteen portable forges, two portable washing machines, thirteen pairs iron blocks, two tons chain and hangings, two lifting jacks, 12 tons gas tube for lowering same by six, thirty stretching screws, crab, coke barrows, trollies; an assortment of steel tools, stocks, taps, and dies; one iron cat and wheel steel, six tons 8-lb. nuts, and twenty-five feet gas pipe, thirty dozen scaffold cords, 500 scaffold poles and boards, rope falls, wrought-iron creation of workshop, with semicircular roof, 66 feet long 27 feet span; two open sheds with zinc roofs, quantity new stores, thirty dozen files, anvil stocks, smiths' hammers, rakers, bricks, vices, oil cans, grease and fittings, weighing machine, capable of weighing 4 tons, and 8 strong carts, and other effects.—To be viewed 1st. Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION on WEDNESDAY, MARCH 16th, at TWELVE o'clock at the AUCTION MART, London, in One Lot, unless an acceptable offer be previously made by private contract, the Freehold and Leasehold FIRE-HOLD WORKS and ESTATE of the Keynsham Blue Lias Lime and Cement Company (limited), together with the modern PLANT and MACHINERY. The property is finely situate in the parish of Keynsham, and thereabouts. The works were established for manufacturing lime has lime from stone quarried on the estate, and for making cement, for the existing kilns and others are in hand for making 70 tons per week of lime and 100 tons of cement weekly; both products are well approved by large contractors at present at work in the west. The cement is prepared in many of the Government fortifications now in progress. Coals are supplied to the works at a very low price, and the Great Western Railway Station is well in a short distance. The buildings are very substantial, and the latest plant of the best description; the motive power is given by two iron water-wheels, driven by the river Chew, a regular stream of water, of great power; and there is a steam engine, with boilers, in addition. Kilnwood and apply of lime is secured from adjoining owners on favourable terms. May be viewed 14 days prior to sale, and particulars had of Messrs. N. LYNDE & SONS, Solicitors, 47a, Moorgate-street; of F. MAYNARD, Esq. Lionsdale, 19, Broad street, Cheapside; at the Mart; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO ENGINEERS, MILLWRIGHTS, IRON FOUNDERS, AND SAW MILL PROPRIETORS.

MESSRS. FULLER & HORSEY are instructed by Mr. Lee, who is removing to High Wycombe to DISPOSE of by PRIVATE CONTRACT, the FREEHOLD WORKS at OXFORD, known as the MILLBANK IRON WORKS, on the banks of the Thames, long established as a good repairing and jobbing work. The Premises are well arranged, and comprise a spacious Engineers' Factory, fitted with lathes, planing and drilling machines, steam power, &c. an iron foundry, &c. Also a Saw Mill, with frame saw, circular saw, pattern makers' shop, a newly erected saw-mill, with capital frame by Horn, circular saw bench, &c. yard, and compact dwelling house. The timber of the Saw Mill is mostly of Oak, and the large extent of building operations now in progress in the city and suburbs, will ensure to an active man a continuance of the business for years to come.—For further particulars apply to Mr. Lee. A portion of the purchase money may remain if desired. From 2,000l. to 3,000l. capital will be sufficient.—For further particulars, apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

ON FRIDAY, MARCH the 18th (instead of the 11th).—To SHIP-BUILDERS, TIMBER MERCHANTS, and OTHERS.—TISBURY—WARDOUR, WILTS, Two Miles from Tisbury Station, Salisbury and Exeter Railway.

MR. JOHN WATERS (Canal, Salisbury) begs to give notice of SALE by AUCTION, at the ARUNDEL ARMS INN, Tisbury Station, on FRIDAY, 18th MARCH, at TWO o'clock punctually, a very large cutting of PRIME NAVY OAK TIMBER, colour sized, in 1 lots, suitable for Oak Trees for Parks, Shipbuilding, and merchants, with the top, top, and bark; also ELM and ASH TREES, felled, some of which are from 80 to 120 feet merchantable, of prime quality of Oak; and may be obtained of Messrs. HAWLEY & SQUAREY, Land Agents, Salisbury; Mr. JEFFERY, Old Warden Castle; or of the Auctioneer.

LOWER CLAPTON.—Valuable FREEHOLD and COPYHOLD PROPERTY, including several leases of rent of important Building Land.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors under the will of the late Skinner Turner, esq. to offer FOR SALE by AUCTION, on WEDNESDAY, MARCH 23rd, at TWELVE in six lots, the following valuable PROPERTY:—No. 1, a capital and substantial detached Family Mansion, pleasantly situate at the lower end, fronting the High London-road (for many years in the occupation of the late owner), containing eight bed rooms, dressing room, day and night nurseries, principal and secondary staircases, entrance and lower halls, drawing room 21 feet 6 inches by 14 feet 6 inches, dining room 22 feet by 15 feet 1 inch, library, breakfast room, servants' bedrooms, three stall stable, two loose boxes, three coach houses, coach house, greenhouse, range of walled-in garden, and kitchen garden, the whole containing 1 acre 1 rood, with the only unexpired term of seventy-four years to Back-lane as well as to the high road, a compact house adjoining, containing nine fine bed rooms, water-closet, drawing and dining rooms, kitchen, convenient offices, lawn, and flower garden, in the occupation of R. Lucas, esq. yearly tenant, at a rent of 54l. 15s. per annum; a pair of excellent semi-detached Residences adjoining, each containing eight bed rooms, three bath rooms, two closets, entrance hall, elegant drawing room, 26 feet by 15 feet 6 inches, dining-room, 22 feet by 15 feet 6 inches, breakfast room, convenient domestic offices, stabling, coach house, greenhouse, lawn, flower and kitchen gardens, extending to Back-lane, in the occupation of the Rev. H. Davies and — Barlow, esq. and together or the value of about 80l. per annum. These houses are let for 17 years at ground rents amounting together to 10l. per annum, at the expiration of which term the Lessee will become entitled to the rack rentals. A detached Residence adjoining, containing four bed rooms, dressing and dining rooms, study, kitchen and offices, lawn, flower and kitchen gardens, outbuildings, fruit trees, &c. in the occupation of F. Bellinger, esq. yearly tenant, at 50l. per annum. The whole of the foregoing property is copyhold of the manor of Hackney, but nearly equal in value to freehold, and is subject to a small fine certain. Also the very important and valuable Building Land at the rear, known as the Clapton Cricket Fields, possessing extensive frontages to Park-road and Lea-bridge-road, and two roads in front, the greater portion freehold, admirably adapted for the erection of residences so much in request in this locality, and presenting a most unusual opportunity for a profitable building speculation.—May be viewed by cards only, and particulars and plans shortly had of Messrs. WOOD & DU CANE, Solicitors, 3, Great Tim square, W.C. at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 63, Old Broad-street, Royal Exchange.

CREWE.—FREEHOLD BUILDING LAND.—TO BE SOLD BY AUCTION, pursuant to a Decree of the High Court of Chancery made in cause Hilmore v. Elliot, by the Vice Chancellor Sir John Stuart, the judge to whom the same is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on TUESDAY, the 22nd day of MARCH, 1864, at the CREWE ARMS HOTEL, Crewe, at TWO o'clock in the afternoon, subject as later PREEMPTIVE BUILDING LAND, of desirable size varying from 214 to 930 square yards, abutting on a new road leading from the Nantwich road to the Shavington-road, on the Nantwich-road, on a new road leading from Nantwich-road into Mill-street, and north side of the Wistaston new road (late Sandy Lane), in Wistaston. All at Crewe in the immediate neighbourhood of the railway stations and railway works.—Particulars and conditions of sale, with plans may be had (gratis) on application to Messrs FISHER & HODGES, Newport, Salop; Messrs PINNOCK & WILKINSON, 28, Hurstreet, Bedford-row; Messrs. GREGORY & CO. Bedford-row, London; Messrs. BROUGHTON & HENSLEY, and RICHARD C. EDLESTON, Esq. Nantwich, Cheshire, Messrs. CHURTON, Auctioneers, Chester, and Whitchurch, Salop; and at the place of sale.—Dated this 22nd day of February, 1864.

ALFRED HALL, Chief Clerk.

SALE of TIMBER.—104, Bermondsey New Road.

THOMAS ROBERTS & CO. will SELL by AUCTION, on WEDNESDAY, MARCH 16th and following days, if required, in convenient lots, all the valuable BUILDING MATERIALS, which formed the Convent House School and numerous OUTBUILDINGS, and have been recently taken down (with the exception of the Chapel and "House of Mercy"), which will be sold standing, consisting of (amongst other things) tiles, slates, bricks, an immense quantity of stone plinths, jambs, door-heads, window sills, landings, &c. also a large parcel of beautiful oak, elm, and Bath stone, and other carved works of art; stone crocketed pinnacles, stone to the Yorkshire paving and other stone &c. &c.; also all the valuable OAK and other TIMBER in the roofs and floors in the entire buildings comprising spars, principals, side trees, wall plates, joists, joists, boards, doors and other descriptions of timber; also very large quantity of glass, sashes, and casements, of various sizes, plain and ornamental, as good as new; a very large quantity of very good paving and coping, an excellent 3-horse power steam engine and boiler, a capital 8-inch cistern, and a pair of 6-inche front doors, together with all the building materials forming the Boundary Wall, with its ornamental stone balustrades; also the boundary wall round the garden; large quantities of plain and ornamented iron rail bars, useful wrought iron work, cast-iron columns, and a quantity of good wrought and cast-iron, &c. &c. The whole of the brick and brick-work of the beautiful Chapel, with the Gothic windows; and also the stone and brickwork of the building called "The House of Mercy." The sale to commence each day at TEN for ELEVEN o'clock punctually. The scale of the lots can be had on the ground, and will be on view two days previous to and on the morning of sale.—For particulars of situation apply to the Auctioneer, Derby; Mr. SAMUEL SMITH, Iron Merchant, Derby; and S. T. BARBOULEAU, Esq. Solicitor, 1, Jeffery's-square, St. Mary Axe, London, E.C.

PECKHAM.—Mortgagee's Stables, High street.—Contractor's Stock, Horses, Brake, and Narrow Wheel Carts, Harness, &c.—TO BE SOLD by AUCTION, by

MR. J. GOWER, on the PREMISES, as above, THURSDAY, MARCH 10th, at TWELVE o'clock, about 35 Useful Upstanding CART HORSES, mostly young; 20 Broad and Narrow Wheel CARTS; 40 Sets Trill and Chain Harness; the property of Mr. W. Constable, Railway Contractor. Have been employed on the South Eastern District of the High and Low Level Sewer, and 8 with London Brick Company, nearly completed. On view two days prior. Catalogues had on the Premises, and of the Auctioneer at the Repository, Barnsbury.

UPPER GROUND STREET, BLACKFRIARS.—ROWLER'S TIMBER YARD, OLD JAMES'S WHARF, &c.—BUILDERS, YARD KEEPERS, BARGE BUILDERS, CLEEVE BRIGHTS, and Others.

MR. PEAKE is directed by the Executor of the late Mr. Wm. Bowler, to SELL by AUCTION, upon the PREMISES, as above, on TUESDAY, MARCH 8th, 1864, at TWELVE o'clock, the STOCK IN TRADE, a large quantity of well seasoned yard and unsawn, yellow and white, comprising about 200 planks, deals, and battens; 200 square of boards; 1,000 superficial feet of flooring; squares of 1 inch deals; open bench counters, 7, 200 sheets of felloes and wood hoops; 50,000 fine spokes, 500 waggon felloes, 75 squares of prepared match lining, 70 horse power steam engine, with Cornish boiler, timber truck, &c. On the same day will be sold, the unexpired term of the Lease, with the Goodwill attached thereto.—May be viewed the day previous and morning of sale, and catalogues obtained of Mr. RIDGWAY, at Messrs. Browning & Castle's, Timber Merchants, Broad-street, Lambeth, and at Mr. PEAKE'S Offices, 81, Tooley-street, Southwark.

Capital Manufacturing Premises, Dwelling-house, and Yard, a short distance from the City.

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at the MART, on THURSDAY, MARCH 10th, at TWELVE, by order of legatee, under will of late Mr. Jos. Keen, deceased, a TEN-ROOMED DWELLING-HOUSE, slightly situate, No. 61, Gloucester street, Commercial road, near Covent Garden, and Yard, with stable, chaise house, and three well-built two-floor workshops, let to Mr. Thomas Hodgkinson, carpenter, percussion rifling, and fusiliers' shops, stock and store sheds, a light counting house, and other requirements for trade purposes. Annual value 70l. Term two-thirds unexpired. Rent, 30l. and Taxes.—May be viewed of Mr. H. WRIGHT, Mile-end road: Messrs. SURR & GRIBBLE, 12, Ashbrook lane, E.C.; at the Mart; and at the Auctioneers' Offices, Mile-end-road, E.

STOCK of BUILDERS' IRONMONGERY, GAS FITTINGS, 200 dozen Files, Nut-screws, Hinges, Locks, Bolts, Locks, Bells, Brass Work Cast iron, Goods, Farmers' Nails, Couch Rakes, Japanned tea-trays, Brass Taps, Iron and Steel, Variety of STABLE and HARNESS ROOM FITTINGS, PATENT ENAMEL MANGERS and WATER TROUGHS, Cow Bells, Wheelbarrows, Wrought-iron Hay racks, Tool Boxes, Stoves, Ranges, Ovens, and effects.

MESSRS. VIGER, BROS. will SELL the above by AUCTION, at their large AUCTION MART, in Knightsbridge road, near the Gate, on TUESDAY next, MARCH 8th, at ONE o'clock.—On view day prior and morning of Sale, and catalogues ready.

TO PLUMBERS PAINTERS, and DECORATORS.—EIGHT MILES from TOWN.—TO BE SOLD, an old-established BUSINESS in the above line, in consequence of the death of the Proprietor. Comprising about 1,400l. stock in trade. Mr. FARMILOW, 18, St. John-street, West Smithfield; King's Head, Kingsland-road, and Post-office, Winchmore hill, Edmonton.

A BUILDER'S BUSINESS TO BE DISPOSED OF, which has been very successfully carried on by present proprietor for the last 11 fifty years, and has a very excellent general trading connection. The premises are situate about two miles on the north side of London, and are 20 feet deep, 29 feet wide, and on the side of the main turnpike road, with good front shop carpenter's shop, stall, timber yard, and large detached dwelling with every domestic comfort, and held on lease at a low rent. Stock in trade, lease, fixtures, goodwill, &c. about 500l.—For further particulars apply by letter to H. Y. care of Mr. Nodes, Furnishing Undertaker, No. 6, Chapel street, Tottenham Court road, W.

TO PLUMBERS, GLAZIERS, and DECORATORS.—For SALE, at a market-town in an Eastern County, within two hours of London, an Established and well-paying BUSINESS. Open to much increase. Valuation, 200l. to 300l.—Apply to G. FARMILOE & SONS, Lead, Glass, Oil, and Colour Merchants, 118, St. John-street, West Smithfield, E.C.

BARROW LIME.—JOHN ELLIS & SONS are now prepared to DELIVER the best FRESH-BURNT BARROW LIME, at the St. Pancras Station of the Midland Railway, direct from the kilns, at 20s. per ton.—The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias stone, Leicester.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields; and published by the said Charles Wyman, at the Office of "The Builder," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 5, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1101. MARCH 12, 1864. PRICE FOURPENCE. By Post, 5d.

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OYAL ACADEMY of ARTS.—NOTICE

to ARTISTS.—All Works of Painting, Sculpture, Architecture or Engraving, intended for the ensuing EXHIBITION at the L ACADEMY, must be sent in on MONDAY, the 4th or DAY, the 5th, of APRIL next, after which time no Work can ly be received; nor can any Works be received which have been publicly exhibited.

AMES.—All Pictures and Drawings must be in gilt frames. Oil ngs under glass, and Drawings with wide margins, are inadmissible. Excessive breadth in frames, as well as projecting mouldings, may prevent pictures obtaining the situation they otherwise

The other regulations necessary to be observed may be obat the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A. Sec.

y possible care will be taken of Works sent for exhibition, but yal Academy will not hold itself accountable in any case of or loss, nor can it undertake to pay the carriage of any ge.

parties of Works to be disposed of may be communicated to cretary.

HE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.

LECTURE SESSION, 1864.

ESDAY next, MARCH 15th.—Distribution of Prizes to Artizans: with an Address on the Position of the Art-Workman. J.B. Beresford Hope, Esq. M.A. D.C.L. President. The Chair be taken at EIGHT o'clock precisely.

GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

The PRIZES for 1864 will shortly be announced.

RCHITECTURAL ASSOCIATION,

9, CONDUIT STREET.—A Paper will be read at the ordinary ng of the Association, on FRIDAY Evening, MARCH 18th, at 7.30, by G. J. WIGLEY, Esq. subject, "Romanesque Architecture." Gentlemen engaged in the profession may obtain admission ducating their cards at the door.

J. DOUGLASS MATHEWS, } Hon Secs.
LACY W. RIDGE, }

UTH KENSINGTON MUSEUM.—

ALGREADY EXHIBITION.—An Exhibition of the Works of the illiam Mulready, Esq. R.A is now OPEN, at the South Kensington Museum. Admission on MONDAYS, TUESDAYS, and SATURDAYS, from TEN a.m. till TEN p.m. free; on WEDNESDAYS, THURSDAYS, and FRIDAYS, students' days, from TEN a.m. till SIX p.m. by Order of the Lords of the Committee of Council on Education.

EW ZEALAND EXHIBITION, 1865.

The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts which will be reserved for Exhibitors from the United Kingdom and its Colonies, the Continents of Europe and America.—Copies of the Regulations, forms of application for space, and further details may be had from the undersigned.—By order,

JOHN MORRISON, Agent for the New Zealand Government.
New Zealand Government Agency, 3, Adelaide-place, London-bridge, William-street, London, February, 1864.

ARCHITECTS.—WANTED, PLANS

and SPECIFICATIONS for a CHURCH and SCHOOLS, to be built at Maryland Point, Stratford, E.—To be sent to Mr. H. BAYLEY, Maryland Point, Stratford, not later than the 22nd instant.

PLATE, SHEET, and CROWN GLASS.

T. MILLINGTON'S

New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES.

T. MILLINGTON'S

New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The Committee for the

ERECTION of a NEW CHURCH in High Park-street, Toxteth Park, Liverpool (land 38 yards deep from north to south, fronting the north), offer the sum of 50*l.* to the Architect who, in their judgment, furnishes to them the best PLAN and complete SPECIFICATION, and 25*l.* for the second-best, subject to the following conditions:—

The Church is to accommodate 600 on the ground-floor, and 400 free sittings either in side, west end, or transept galleries. Organ stalls of chancel. The Church is to be built externally with snoddies and Stourton stone-dressings, and internally with bricks, and is not to cost more than 4,000*l.* including hot-water warming apparatus, but excluding the boundary fences. The roof to be open. Scale, 8 feet to an inch, with figured dimensions throughout. Four elevations, foundations, ground, gallery, and roof plans, sections through to the ends, and also a longitudinal section, to be furnished. The Committee will retain the two selected designs, returning those not approved The Designs and Specifications to be sent under cover to the Office of THOMAS DARNLEY ANDERSON, Esq India-buildings, Water street, Liverpool, on or before the 1st day of APRIL next The Committee do not pledge themselves to accept any Design which, on being estimated, cannot be executed for the sum stipulated.

TOWN and BOROUGH of ROCHDALE.

TOWN HALL, &c.—TO ARCHITECTS.—The Corporation of Rochdale are desirous of receiving DESIGNS for a TOWN HALL, wherein are to be provided fit and convenient public offices, for holding the meetings and transacting the business of the Council, and for holding such public meetings and transacting such public business as the Council may direct or allow to be held therein. The following premiums will be given for such three of the designs as in the opinion of the Council are the highest in merit, viz:—

For the 1st set of such designs, 100*l.*
" 2nd ditto 60*l.*
" 3rd ditto 40*l.*

all of which premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope containing the name and address of the competitor, bearing a corresponding motto or device to that on the plans, &c Lithographed plans of the site, with particulars of the offices, rooms, and conveniences required, may be had on application to the Town Clerk on and after the 5th MARCH next; and the competing Designs, &c. must be delivered at my Office, in Yorkshire street, Rochdale, on or before the 1st day of MAY next By order.

ZACH. MELLOR, Town Clerk.

Rochdale, 27th February, 1864.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—

Persons desirous of TENDERING for the execution of the various Works required in the ERECTION of the proposed new WESLEYAN CHAPEL at Leighton Buzzard, Bedfordshire, are requested to forward their names to us at once, before WEDNESDAY, the 23rd inst. Drawings and specifications may be seen previously to the delivery of Tenders, of which due notice will be given to the applicants.

BELLAMY & HARDY, Architects and Surveyors

Lincoln, March 4th, 1864.

TO BUILDERS.—TENDERS are required

for the ERECTION of a CORN EXCHANGE, MAGISTRATES' ROOMS, &c. at Wantage, Berkshire. The drawings, specifications, and conditions of contract may be inspected at the Bear Hotel, Wantage, from SATURDAY, the 12th, till THURSDAY, the 17th day of MARCH inclusive Bills of quantities may be obtained on application to me by letter only, before WEDNESDAY, the 9th MARCH. Sealed Tenders, endorsed "Tender for Wantage Corn Exchange," to be delivered to me not later than FIVE o'clock in the afternoon of FRIDAY, the 18th MARCH. ROBERT WHEELER, Architect.

13a, Great George-street, Westminster

The Directors do not bind themselves to accept the lowest or any of the Tenders. Due security will be required for the performance of the Contract.

THE RUNCORN PUBLIC HALL COM-

PANY, Limited.—To Builders, Contractors, and Others.—TENDERS are required for the ERECTION of PUBLIC HALL in Church street, in Runcorn, in the County of Chester. The plans and specifications may be seen on application at my Office, near the Public Offices in Runcorn, aforesaid Sealed and endorsed Tenders must be delivered at my said Office on or before THURSDAY, the 31st day of MARCH instant. The Tenders to be as follow:—

1st. With the Front Portion, as shown on the Plan.

2nd. With that Portion omitted, as coloured on the Plan, and scored through in the Specifications with red ink

The Directors will not bind themselves to accept the lowest or any other Tenders.—By order,

JOHN H. CHORLTON,
Law Clerk to the said Company.

CONTRACTS.

WHITECHAPEL UNION.—The Guar-

dians of this Union will meet in their Board Room, at the Workhouse, Charles-street, Mile End New Town, N.E. on TUESDAY, the 22nd day of MARCH instant, at SIX o'clock in the afternoon, to receive TENDERS for the ERECTION of ADDITIONAL WARDS to the Lodge, and other Works connected therewith, at the Industrial Schools, Forest-lane, West Ham, Essex, and, if considered desirable, contract for the same. The plans and specification may be inspected at the Office of J. HUDSON, Esq. Surveyor, No. 40, Leman-street, Whitechapel. The Guardians will not be bound to accept the lowest or any Tender. Dated this 2nd day of March, 1864.—By order,

G. ADAMS FARR, Clerk to the Board of Guardians

Clerk's Office, Whitechapel Workhouse, N.E.

TO BUILDERS and OTHERS.—Notice

is hereby given, that Plans and Specifications for RE-BUILDING the PARISH CHURCH of NEWTOWN, two miles from Newbury, Berks, may be seen at the Parish's House (THOMAS DOWNES) Newtown Farm, from MONDAY the 21st MARCH, to WEDNESDAY the 23rd, inclusive, and all persons wishing to Contract for the above named work, must send in sealed Tenders, directed to EDMUND ARBUTHNOT, Esq. Newtown House, Newbury, on or before WEDNESDAY, the 6th day of APRIL next ensuing. Neither the lowest tender, nor any, will necessarily be received. The Builder must be prepared, if required, to enter into the usual legal bond for the due fulfilment of the Contract, with two good and approved sureties, at his own expense.

Newtown, March 9.

KESWICK LOCAL BOARD of HEALTH.

SEWERAGE WORKS.—To EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS. — The Local Board of Health for the District of Keswick, in the County of Cumberland, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following Contract.—Contract No. 1.—For PROVIDING MATERIALS and CONSTRUCTING EARTHENWARE-PIPE SEWERS, Manholes, Gullies, Overflows, and other Works. Plans, sections, detail drawings, and specifications of the required works, may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on, and after THURSDAY, the 10th day of MARCH next, on payment of 10*s* on application at the Office of ROBERT BROATCH, Solicitor, Keswick (Clerk to the Local Board), or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed, "Tender for Sewerage Works," must be forwarded to the Clerk to the Local Board on or before THURSDAY, the 31st day of MARCH next. The Local Board do not bind themselves to accept the lowest or any Tender.

R. BROATCH, Clerk to the Local Board.

Keswick, 29th February, 1864.

HEXHAM LOCAL BOARD of HEALTH

WATERWORKS and SEWERAGE.—To IRON-FOUNDERS, BRASS-FOUNDERS, EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Hexham in the County of Northumberland, do hereby give Notice that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

WATERWORKS.

Contract A, for supplying Cast iron Water pipes and other Castings.
Contract B, for supplying Stake Valves, Hydrants, and other street fittings.
Contract C, for laying and jointing Cast iron Water-pipes and fixing Sluice-valves, Hydrants, and other street fittings
Contract D, for constructing a Storage Reservoir, Filter Beds, Service Reservoir, and other works.

SEWERAGE.

Contract No. 1, for providing materials and constructing Brick Sewers, Earthenware Pipe Sewers, Outlet Works, Man-holes, Gullies, Overflows, and other works.

Plans, sections, detail drawings, and specifications of the several works may be seen, and duplicate forms of tender, bills of quantities, and schedules for prices may be obtained on, and after MONDAY, the 14th day of MARCH next, on payment of Two Shillings for each Contract, on application at the Office of ISAAC BATY, Solicitor, Hexham (Clerk to the Local Board), or at the Offices of JOHN LAWSON, Civil Engineer, 34, Parliament Street, Westminster. Sealed Tenders, endorsed "Tender for Waterworks or Sewerage," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 30th day of MARCH next The Local Board do not bind themselves to accept the lowest or any Tender

ISAAC BATY, Clerk to the Local Board.

Hexham, 24th February, 1864.

BOROUGH of KINGSTON-UPON-HULL.

To Clockmakers and Bell Founders.—WANTED, by the Town-Hall Committee of the Borough of Kingston upon Hull, TENDERS and SPECIFICATIONS for a large ILLUMINATED CLOCK, including a suitable Bell for the same, to be placed in the tower of the Town Hall, now in course of erection Plans, particulars, &c. may be had by Cuthbert Brodrick, esq., the Architect, may be had on application to Mr PULLMAN, the Clerk of the Works, at the New Town Hall, in Lowgate; and TENDERS to be sent in not later than MONDAY, the 5th day of APRIL next, addressed "To the Chairman of the Town Hall Committee, Town Clerk's Office, Hull: Tender for Clock, Tender for Bell." The committee do not bind themselves to accept the lowest or any Tender. No allowance will be made for Tenders.

By order, ROBERT WELLS, Town Clerk

Corporation Offices, Hull, March, 1864.

TO CONTRACTORS and BUILDERS.—

TO BE LET by TENDER, the CONSTRUCTION of a BUILDING at Penzance, for the purposes of the Town Council, the County Court authorities, a Public Building Company, and the Royal Geological Society of Cornwall; containing a Guildhall and County Court, Council Rooms and Offices, Sitting Bail Apartments, Lecture Halls Museum, Libraries, Committee rooms, House-keeper's apartments, &c. Plans and specifications of the Works may be seen, and all information obtained, at the Architect's Office, Council Buildings sealed Tenders, indorsed "Tender for Penzance Public Buildings," to be delivered at the Office of R. H. ROPER, Esq. Penzance, on or before SATURDAY, the 26th of MARCH next. The Building Committee do not bind themselves to accept the lowest or any Tender.

JOHN MATTHEWS, Architect.

Penzance, 1th February, 1864

[For remainder of Contracts see next Page.

CONTRACTS.

COUNTY of DOWN, IRELAND.—NOTICE to BUILDERS.—Builders are invited to TENDER for the ERECTION of a LUNATIC ASYLUM, near Downpatrick, in the county of Down, according to the plans, specifications, and conditions which can be seen at the Office of the Architect HENRY SMYTH, Court house, Downpatrick, until the 30th inst. Builders will attend to Tender Days personally, until the 30th inst. Builders will attend to Tender Days personally, until the 30th inst. Builders will attend to Tender Days personally

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CONTRACTS.

TO BUILDERS.—The Board of Management of the North Surrey District School will meet at the District School, Penge, near the Anerley station of the Epsom Railway, on MONDAY, the 21st day of MARCH instant, at TWO o'clock in the afternoon, to receive and consider TENDERS for ALTERATIONS and ADDITIONS to the DISTRICT SCHOOL. Tenders to be sealed and indorsed "Tender for Alterations and Additions to District School." No Tender will be received after TWO o'clock, nor considered, unless it be made in the form prescribed, and the party or parties Tendering be in attendance. Satisfactory security will be required for the due performance of the works; and the Board do not pledge themselves to accept the lowest or any Tender. Plans, specifications, and forms of Tender and contract may be seen, and further particulars obtained, at the Office of the Architects, Messrs. CHURCH & RICKWOOD, William-street, Woolwich, S.E. or on application to the Superintendent at the District School, between the hours of NINE and SIX (Sundays excepted).

GEORGE FREDK. MERRIMAN, Clerk.

Upham-common, March 7th, 1864.

TO DEALERS in OLD MATERIALS.—The Directors of the Improved Industrial Dwellings Company are prepared to SELL, by TENDER, the MATERIALS of TWO HOUSES and of some Workshops, on property known as The Orchard, Wapping.—For time and other particulars of Tender, apply, without delay, at the Office of the Architects, Messrs. BECK & LEE, 7, Finsbury-circus

TO CONTRACTORS AND BUILDERS.

PRACTICAL MASON, of considerable experience, is desirous of taking a SUB-CONTRACT for MASONRY, to any extent; or he would undertake the Superintendence of Works generally. First-class references.—Address, R. A. Office of "The Builder."

TO BUILDERS. — NEW COVENTRY and WARWICKSHIRE HOSPITAL. Plans and Specifications of the Works for the above proposed new Hospital may be seen, and information relative thereto obtained, at the Office of Messrs. NEVILL & SON, High street, Coventry, on and after MONDAY, the 14th of MARCH instant. Sealed TENDERS, endorsed "Tenders for New Coventry and Warwickshire Hospital," to be delivered at the Office of the Secretary, Mr. A. SEYMOUR, No. 1, Bird-street, Coventry, on or before TUESDAY, the 12th day of APRIL next. The Building Committee do not bind themselves to accept the lowest or any Tender. Quantities supplied.

ARTHUR SEYMOUR, Secretary.

Coventry, 1st March, 1864.

ST. PETER'S WHARF, WESTMINSTER, TO LET on LEASE.—A Committee of the Governors of the Middlesex Hospital will meet at the Hospital in Tothill Fields, Westminster, on MONDAY, the 4th day of APRIL next, at TWELVE o'clock at noon, to receive TENDERS from parties willing to TAKE a LEASE for twenty-one years from Midsummer next, all that WHARF and PREMISES, known as SAINT PETER'S WHARF, situate in MILLBANK STREET, Westminster, at the corner of Abingdon-street, and in the occupation of Mr. Helmore.—A plan of the premises, and the terms for letting, and the drafts of the proposed Lease, may be seen at the Office of Messrs. KEMPSON & WOLLOPE, Solicitors, 31, Abingdon-street; and the plan and terms of letting, at the Office of Mr. W. E. GRITTEN, Surveyor, No. 8, Parliament-street, Westminster. The Governors do not bind themselves to accept the highest or any of the Tenders.

UNMOW UNION. — To BUILDERS and OTHERS.—CONTRACT for ADDITIONS to the UNION WORKHOUSE.—Notice is hereby given that the Guardians of the Unmow Union are desirous to receive TENDERS for the ERECTION of a BAKEHOUSE, FLOUR-STORE, and BREAD-ROOM, at the Union Workhouse, Great Dunmow, according to the plans and specification thereof, now lying at the Office of Mr. ERAY, Architect, Chelmsford, Essex, where they may be inspected. Sealed Tenders, addressed to the Guardians to be sent to the Union Workhouse on or before TUESDAY, the 15th MARCH next, on which day the same will be opened. The person whose Tender is accepted will be required to enter into such a contract (with or without sureties) for the due execution of the works as the Guardians may determine. The Guardians do not bind themselves to accept the lowest or any other Tender.—By order of the Board,

WILLIAM JOHNSON, Clerk.

Dunmow, February 23 1864.

THE AYLESBURY MARKET COMPANY.—The Directors are desirous of receiving TENDERS from parties willing to CONTRACT for the ERECTION of the intended CORN EXCHANGE and COVERED MARKETS, on the site of the White Hart Hotel and grounds, in the town of Aylesbury, according to plans and specifications, which may be seen at Aylesbury, and after the 18th of APRIL next. Persons willing to submit Tenders for the same are requested to send their names to D. JENDON, Esq., the Architect of the Company, No. 24, Berkeley-square, London, on or before the 21st instant. The day for receiving Tenders will hereafter be fixed. The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors,

E. R. BAYNES,
JOSEPH PARROTT, } Secretaries to the Company.

Aylesbury, March 9, 1864.

EDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road E.C. near the Canal Bridge.

BENJAMIN SLATER
(Late E. GOLLOP), SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Spring and Not-rising Door Back-springs, &c.

Price List and Drawings on application as above.

TO BRICKMAKERS and PAPER MANUFACTURERS.—FOR SALE, an excellent CAST IRON WATER TANK, with Four Iron Girders, 21 feet by 17 feet, 4 feet 6 inches in depth; holds about 10,000 gallons. One good Cornish Boiler, 16 feet long, and 3 feet 6 inches diameter. One Set of Three Pumps, 4-inch bore, 18-inch stroke, with Rods and Crank complete. Fowlers, &c. Two Brick-field Wash-mills.—Apply to A. WOODHALL & Co., Barns Cray, near Dartford, Kent.

WANTED, a Second-hand MORTISING MACHINE, by a good maker, to work by hand or power.—Apply, stating price, to Mr. D. A. MILWARD, Gowran, Ireland.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

No. 159, SHOREDITCH.

RANGES.

Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Self-acting, with Bright Wrought Bars.

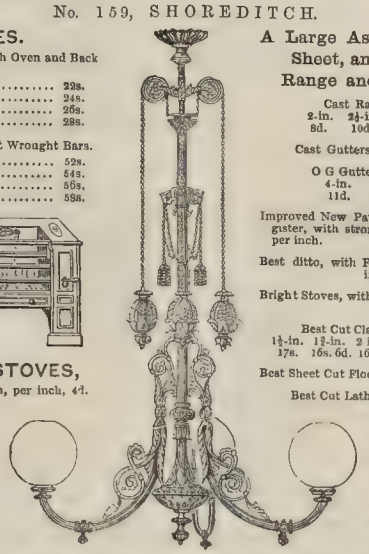
34 inches	52s.
36 ,,	54s.
38 ,,	56s.
42 ,,	58s.



REGISTER STOVES,
with Strong Bars, from, per inch, 4d.

GAS PIPES and FITTINGS.

CHANDELIERS and BRACKETS.



A Large Assortment of Bar, Sheet, and Hoop Iron, Range and Stove Metal.

Cast Rain-Water Pipe,

2-in.	2½-in.	3-in.
8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on.

4-in.	4½-in.
11d.	1s. per yard.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from, per inch, 5d.

Bright Stoves, with Two Fires, 45s. to 100s each.

Best Cut Clasp and Rose Nails.

1½-in.	1¾-in.	2 in.	2½in.	3-in.
17s.	16s. 6d.	16s.	15s.	14s. 6d. per cwt.

Best Sheet Cut Floor Brads, 14s. 6d. per cwt.

Best Cut Lath Nails, 17s. per cwt.

BRICK MOULDS
KEPT IN STOCK.
Any Size made to order.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

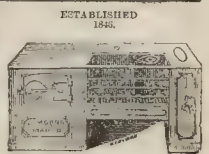
GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN, ALWAYS ON STOCK.
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR & CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

COUNTRY ORDERS PROMPTLY EXECUTED.



J. MOORE,
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.

ESTABLISHED 1845.



All kinds of Smiths' Work. Ornamental Railings, and Balconies.

NOTICE TO ARCHITECTS AND THE TRADE.

WEST-END BRANCH, EGYPTIAN HALL, PICCADILLY.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

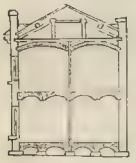
For Lighting and Ventilating Public and Private Buildings.

J. D. & SONS beg most respectfully to inform Architects and the Trade, that having been solicited to open a West-end Branch, they have taken the DUDLEY GALLERY, EGYPTIAN HALL, PICCADILLY, and at an enormous outlay they have made it replete with every description of lighting machines, including REGISTERED DESIGNS of MEDIEVAL GAS-FITTINGS, CRYSTAL, BRONZED, ORMOLU, and ELECTRO PLATED Chandeliers, Brackets, Vestibule Lights, Bronzed and Gilt Statuettes.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements. Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

The usual trade discount allowed, as at their

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH, CITY.



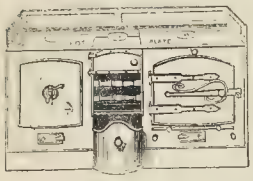
THE DENNETT ARCH.

Allowed to be the cheapest fireproof construction known, and used with the greatest success for the last ten years in the Midland Counties, and has been adopted by G. G. Scott, esq., for the New Foreign Offices, used in any form of arch, groin or dome; turned to any length, width, or height, forming a perfect floor and ceiling in one mass, from 2½ inches in the crown to any required thickness.

Address to the Patentees,—A. & R. DENNETT & CO. NOTTINGHAM.

TESTIMONIAL.—"I have made use of Messrs. Dennett & Co.'s material for Fireproof Arching, and though I have, happily, had no practical experience of its efficiency as against fire, I can bear witness to its strength; and its extreme convenience of application. I have made use of it in situations that the arches constructed of it did not to introduce any other fireproof material, and it has this advantage, that the arches constructed of it are entirely in one piece, and they cover the space like a compact shell or inverted basin, and are, consequently, almost wholly free from lateral pressure.

"GEO. GILBERT Spring Gardens London."



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within Five Miles.

BURT & POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS

38 and 65, York-street, Westminster

BROWN & GREEN'S

PATENT KITCHEN RANGES.

PRIZE MEDAL, 1862.

These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

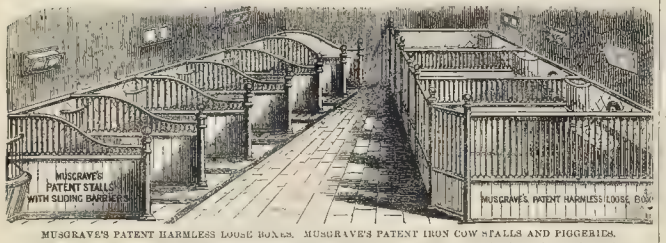
these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c they form the most complete appointment for good establishments. Designs, &c may be had on application at THE LONDON WAREHOUSE,

72—74, BISHOPSGATE STREET WITHIN.

"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept. 6, 1862.

EXHIBITION PRIZE MEDAL, 1862, AND MEDAL OF ROYAL AGRICULTURAL SOCIETIES OF ENGLAND AND IRELAND.

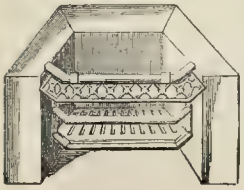
MUSGRAVE'S PATENT STABLE AND HARNESS FITTINGS.



MUSGRAVE'S PATENT HARMLESS LOOSE BOXES, MUSGRAVE'S PATENT IRON COW STALLS AND PIGGERIES.

Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first class stables in almost every county in England and MUSGRAVE, BROTHERS, are now fitting several very large establishments on for direct use of London Architects, noted for economy; only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to

MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.



FIRE-LUMP STOVES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOLROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.

With hanging trivet.

			s.	d.		s.	d.
18 inches wide,	10 inch bars	.....	7	6	.....	8	6
21 "	12 "	.....	10	6	.....	12	0
24 "	15 "	.....	13	0	.....	15	0
27 "	18 "	.....	16	0	.....	18	0
30 "	21 "	.....	20	0	.....	—	
36 "	24 "	.....	30	0			
39 "	27 "	.....	36	0	} Extra strong.		
42 "	30 "	.....	42	0			

These Stoves give a considerable heat with a small consumption of coal.

EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

No. 73, LIME STREET (late of Lawton Street), LIVERPOOL.

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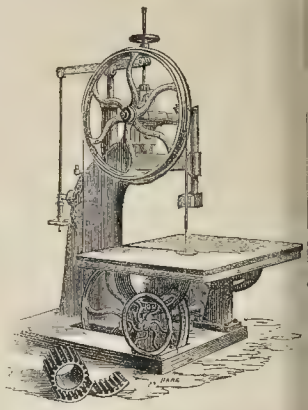
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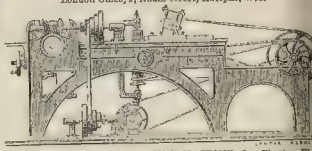
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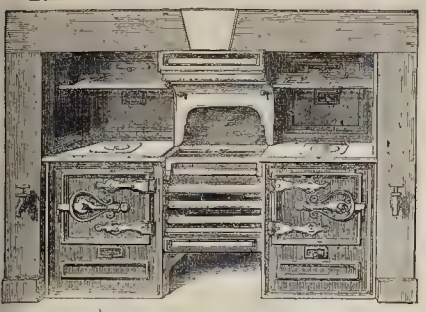
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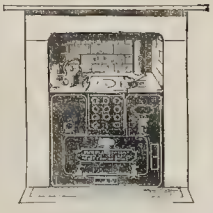
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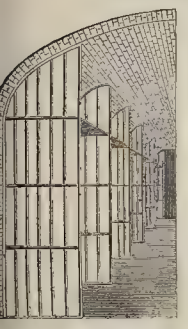


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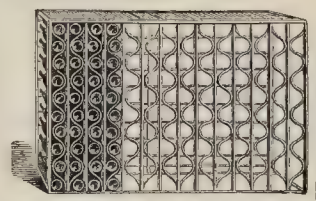
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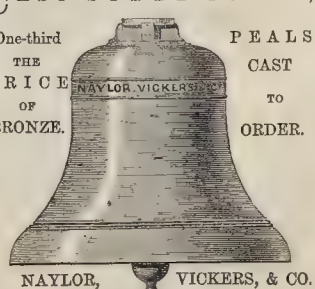


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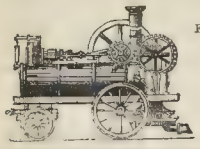
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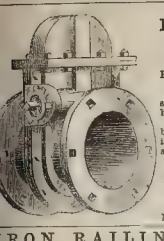
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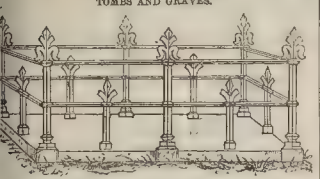
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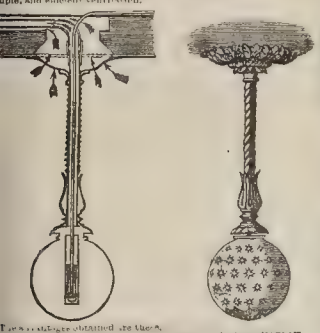
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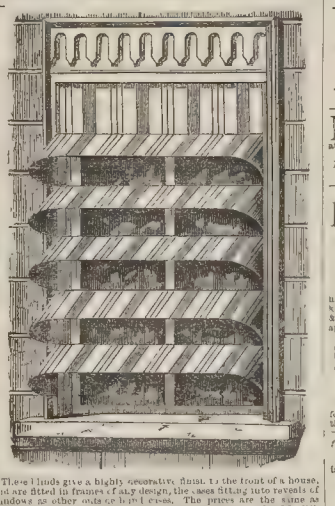
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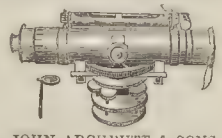
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Extract from the Directors' Report for 1863.

IN THE FIRE DEPARTMENT.

9,266 New Policies were issued	
The Premiums on which amount to	£24,895 16 8
The Fire Income for the year was	20,124 13 0
The Losses amount to	12,540 0 6
The excess of Premiums over losses being	10,584 12 6

IN THE LIFE DEPARTMENT

There were received	
841 Proposals for the Assurance of	£232,134 0 0
661 Policies were issued, assuring	174,884 0 0
The annual Premiums on which amount to	6,463 14 11
The Life Premiums for the year amount to	25,496 11 8
Claims were paid upon	
25 Policies, amounting to	6,905 8 0

"The year 1863 has been the most successful year in the history of the Company."

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ANTHONY LEON Secretary to the Company.

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Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractability and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Tablotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.

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NOTE.—More than a quarter of a million pounds sterling have been advanced upon house property alone.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the

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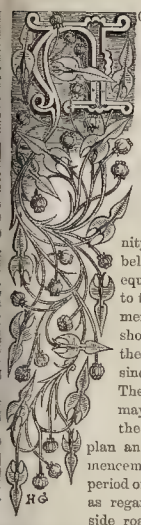
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EDWARD HARPER, Secretary.

The Builder.

VOL. XXII.—No. 1101.

The Thames Embankment, in reference to the general Embellishment of London.



HOWEVER much may have been already written on this subject, its national importance and the great results which may be obtained from successfully carrying it out in all its bearings and consequences cannot be too often reiterated, nor too strongly impressed upon the public mind, especially that of our artistic public. No opportunity for the substantial embellishment of the metropolis, equal in extent and importance to that afforded by the embankment of the Thames, unless we should except that afforded by the fire of 1666, has occurred since London was first founded. The high antiquity of its origin may, in fact, be reckoned among the causes of the utter neglect of plan and foresight in its rude commencement and during the whole period of its early growth; especially as regards the formation of river-side roadways. The huts of the first inhabitants were doubtless huddled down close to the water's edge, or built on piles in the far-spreading shallows, as a protection from wild beasts or still more savage human foes. Those early British homes were aquatic fortresses, such as those lake-dwellings of the early races who first peopled Switzerland, the remains of which have been recently investigated with valuable and instructive results respecting the earliest domestic architecture of man, and the probable antiquity of our race.

Such a village as the first London was, must, from its commanding position, have become, gradually, even in Celtic times, a great town, in so far as an aggregation of the dwellings of semi-barbarians can be so called. The Roman period of its existence came next, lasting nearly four centuries, during which the British huts were transformed into dwellings of a more substantial character. But the disposition of the site was not radically changed; nor was the custom abandoned of constructing the buildings at the very brink of the stream. The Roman fortress, "Cæsar's tower," had its chief and possibly sole entrance from the water; still represented by the approach now known as the "Traitor's Gate." Rome itself was, in fact, so built; and the Tiber, even in the great days of Imperial Rome, had no stately quays like those of modern cities. On the contrary, like all very ancient capitals founded on the banks of rivers, its buildings, in the dense part of the city, those surroundings of the original nucleus, on the Acropolis or Capitoline Hill, were crowded down to the very brink of the stream, and the chambers of the houses actually overhung the water, just as we still see in modern Rome, where the present houses occupy pretty nearly the sites of their ancient predecessors, and at the different stories of which contrivances of various kinds are established at the windows for drawing up water directly from the river itself by means of buckets and pulleys. Though Roman London possessed no quays, it had yet its public buildings, more or less important as architectural works, but all on a comparatively small scale, such as we still see in the ancient remains of many of the inferior provincial towns of Italy.

During the most settled periods of the Saxon era, no improvement in the general plan of the great British city was likely to take place. Even when, in the reign of Alfred, London was burnt by the Danes, and almost entirely rebuilt by the Anglo-Saxon king, no attempt was made to change the original plan of the partially-destroyed city. There was but slight security against a renewed attack by the Danes, and the means of a speedy escape by water was rather an inducement than otherwise to keep the dwellings as close to the river as possible, in order to facilitate escape by water in case of sudden necessity, and the new buildings therefore, as may well be conceived, were made to hug the shore still closer than before. Even when land was afterwards gained from the far-spreading shallows of the unconfined stream, by irregular embankments, which gradually confined the river to its more legitimate bed, the acquisition was only regarded as new space for houses, which quickly covered it to the furthest edge of the new water-line.

In the Anglo-Norman times, from the invasion, in the eleventh century, to the close of the Plantagenet dynasty, in the fifteenth,—and even through the reign of the Tudors, in the sixteenth, and to the close of that of the Stuarts in the seventeenth,—no attempt was made to embellish or utilize the banks of the Thames, by the formation of a good continuous roadway. There were, however, open spaces; and we hear of irregularly established bank-side theatres, &c., but no attempt at anything like a systematic line of quay or roadway. The "Strand" meant literally the roadway on the river shore; but then, its houses did not face the river, with a roadway in their front, but, on the contrary, the original dwellings of the ancient *Strand* roadway had their backs to the river, with, probably, direct access to the water at high-tide; the building-ground at their rear having been subsequently acquired by gradually raising its level above the low shore, which was only dry when the tide was out.

Even during our "Georgian" era, and far into the commencement of the nineteenth century, looking at the matter from a "public" point of view, civilization seems only to have been developing its merely material forces,—which would always seem to have predominated during the entire growth of London, to the exclusion of its more spiritual aspects,—which may be classed as those sentiments in public progress which delight in the production of the beautiful, not only as a more attractive form of the useful, but strictly for beauty's sake. Such a sentiment seems never, as yet, to have made itself felt in guiding the far-spreading growth of our vast metropolis. Every inch of land, or mud, on the banks of the river, either naturally existing or artificially created, was successively seized upon (wherever not preoccupied by the private gardens and houses of the wealthy) for purely commercial purposes, the prosaic instincts of trade (parent of our material greatness) piling up its stacks of wharfs or warehouses in a very mob of squalid or unsightly forms over every foot of water-frontage, in spite of fast-multiplying streams of filth, conducted straight to the river, as the shortest, cheapest, and therefore best way of disposing of them.

It was not till within the last thirty or forty years that a few men of genius, one after another, began to seek a remedy for this state of things, and to make our noble river, as it ought to be, the chief feature of our great capital,—its shores embellished by all the resources of art. It is needless to repeat that such projects were deemed, both by our public and our Government, the mere visionary utopias of fanciful dreamers;—and the creation of spacious quays along the London shores of the Thames, serving as terraces for noble lines of public and private edifices of grand architectural character, was treated as a wild scheme, to be looked upon with supercilious disdain by all really sensible men: while the projectors themselves, well meaning though they might be, were only to be tolerated on account of their impotency to carry into effect their amiable follies, the growth of ill-regulated and unbusinesslike minds.

A better spirit has at length arisen, and increasing intelligence, strongly stimulated by fearful visitations of cholera, and the dangerously crowded state of the main existing thoroughfares of London, has forced upon the Legislature the conviction that the time has at last come for undertaking the purification of the Thames and the formation of a spacious embankment and roadway along its shores. It is now some time since a Bill has been actually passed for carrying those great desiderata into immediate effect; and it therefore becomes necessary that the public should watch with the most earnest vigilance every phase of this great opportunity, and follow with the closest attention every step that is taken, lest it should be one in the wrong direction, the effects of which might be irretrievable. We have now, it is true, a Metropolitan Board of Works, popularly elected, and the powers of which are considerable. But those powers are hampered and limited by the narrow scope of the present Act to such an extent that without an accession of fresh power, by a new Bill, a satisfactory solution of this great question is impossible.

Among the chief of the fetters by which their actions are manacled is the amount of the outlay they are limited to for the completion of the entire line of embankment, the whole of which amount is absorbed by contracts that will not carry it over much above half the distance required; while Parliament, in the over-closeness of its economy, considered it enough for the whole.

Then, again, their powers are strictly confined to the creation of such a quay or roadway as can be taken from the river; and they are stringently denied the power of purchasing land to widen the roadway where sufficient breadth cannot be obtained in the manner dictated by the Act. So that the actually projected roadway, as it seems to us, in many places will not exceed 80 feet in breadth,—barely sufficient for the expected traffic, without making any provision for the erection of a suitable series of buildings on the land side.

It is said that if power had been granted by the Bill, enabling the Board to compel proprietors of adjoining land to sell their estates, or portions of their estates, for the purposes in view, the Bill itself would not have been carried,—as the property of several influential peers was concerned. From what we have all seen of the "pressure from without" which was necessary to overcome the Montague House impediment, this appears possible; but, as much of the property in question is of an inferior class, for which ample remuneration would have been secured, it seems hardly probable, when it is considered that by such vexatious opposition a great public benefit might have been fatally jeopardized. Whatever may have been the cause which induced the framers of the Bill to exclude from it the power of purchasing adjoining land, it is clear a further difficulty has been raised in the way of the more complete carrying out of this great national project, by the now increased value of adjoining lands. It will be regarded as a wilful squandering of the public means on the part of the Parliamentary managers of the scheme first to make a vast outlay, enormously increasing the value of the lands they will almost immediately require, and then to pay with the public money the increased price created by themselves. But, doubtless, as the imperative necessity of vastly extending the prevailing views concerning this

great work makes itself felt, the present apparent difficulties will disappear, or be met with liberal views on all sides.

Nevertheless, timely measures should be taken, and on the above and other grounds, a much more comprehensive general scheme than the absolute embankment, should be carefully formed and adopted. All the improvements likely to follow upon the realization of such a work should be considered and prepared for; otherwise, arrangements, appearing plausible enough to such as do not look beyond the present extent of the actual undertaking, may render impossible the carrying out of many closely connected improvements in the adjacent parts of the metropolis,—improvements which must necessarily follow upon this first really grand scheme of metropolitan embellishment. Or, if such improvements be not rendered absolutely impossible, they may be made so costly from the necessity of undoing recent and expensive works, as to render the carrying out even of the most highly desirable changes prudentially unadvisable for long years to come. In order to show the necessity of at once taking into consideration such a general view of those portions of the metropolis near the Thames as has just been suggested, with a view to a radical amelioration of their existing plan, now that we have evidently arrived at an epoch of great impending innovations and improvements, it may be well to point out one or two recently-created instances in which want of foresight, of precisely the kind feared, and also the non-existence of a largely-conceived general plan, have already led to the existence of almost insurmountable obstacles to the unfettered progress of the embankment in its legitimate direction. The first of the cases in point is the erection of the Houses of Parliament, in which regard was only had to themselves, by themselves, and not in connexion with succeeding improvements, in which they ought to have been fitted to play their part; especially in forming a splendid portion of a magnificent series of buildings, having a river aspect with a broad roadway in their front. But they were not so fitted; and the consequence of this disregard of future eventualities, caused by the absence of any generally-accepted plan, as forming the basis of all neighbouring improvements, was, that the Houses were placed on so low a level that it will be difficult, if not impossible, to make the level of the new roadway agree with it. For instance, it *may* become advisable to make the embankment of such a height as to admit of a wide and deep subway for railway traffic, or other purposes: not a mere tunnel, but a gallery, which, though having the permanent roadway above, would be open to the river,—the common traffic roadway being supported on a series of columns or arches, with wide and massive piers at certain distances; the subway being lighted, ventilated, and having a view of the river, through the open archways. This plan, or any other similar one for making use of the depth of the embankment, is rendered all but impossible beyond Westminster Bridge, as just stated, by the low level of the terrace in front of the Houses of Parliament. Again, just at the narrowest part of the river, so much has been robbed from its width for the platform of the Houses of Parliament, that further encroachment for a public roadway is rendered difficult; while, furthermore, the "Houses" have been pushed so far forward that they will never range as they should do with the great line of public or private buildings that is destined at no very distant period to front the inner side of the great embankment.

Another difficulty to notice, among many others, has been allowed to be created in the shape of the station and approaches to the Charing-cross Railway, and which will fatally impede the view along the continuous roadway. Between Somerset House and the Houses of Parliament nothing ought to have been allowed to interfere with the grandeur of a long open expanse of quay; and with timely foresight there was no reason why such impediments should not have been prevented.

Seeing, therefore, the importance of a general and very comprehensive plan regarding the alterations which will necessarily arise out of the vast and important metropolitan improvement now impending in the shape of the great embankment, the most advisable course seems to be, that the Metropolitan Board of Works or a special commission appointed by Government should draw up a grand and comprehensive plan, towards the realization of which all the improvements which will certainly arise out of the vastly increased importance of the river frontage, from Somerset House to Vauxhall-bridge, should tend. The plan should extend as far back as the line of the Strand and Parliament-street, and to a considerable depth to the north of the river between the houses of Parliament-street and Vauxhall-bridge. Much of the land in question is still covered with buildings of a very inferior description, though destined, in a very short time, to become most valuable and important building ground. The whole of Scotland-yard, for instance, and much adjacent space, every inch of which might be made as precious as the frontage line of Cheapside, or wharfage room at London Bridge, still lies comparatively idle. In a very few years it will appear like a miracle that such a space, in such a situation, should have remained for centuries unoccupied by some of the noblest buildings of the whole metropolis. If the Government, or even a great national company, obtaining an Act, and taking in hand the whole of the land lying between the Strand, Parliament-street, and the river, should gradually replace the whole of the present buildings by structures worthy of the Court end of London, erected upon a grand general plan, in harmony with the best features of the Thames Embankment, the profit returns would be enormous, and we might eventually possess a metropolis which, architecturally considered, could not be matched by any in Europe; for the southern shore, where the ground is still less occupied, would soon follow the example of the north (a wide bridge being thrown over, as we long ago suggested), and the effect of such a *quartier*, as the French would call it, on each side of the river, would be, indeed, magnificent. But without some pre-arranged general plan, exhibiting prospectively a grand outline of the features of a south-western London as it should be, the successive improvements or innovations, as they occur, will necessarily be of a fragmentary, spasmodic, and dislocated character, in no wise tending to the realization of such a result as the one suggested.

Keeping these deductions in view, might it not be very desirable that the Metropolitan Board of Works, or even a Government Commission, should call upon the artistic genius of the country at large to furnish ideal plans of a south-western London such as architects and men of art in general might be justly proud of? What matter if some of the plans sent in might be somewhat dreamy: if splendid dreams, so much the better: they would then be sufficiently in advance of the plodding realities of the present, not to become quite obsolete before the time for carrying them out might arrive. We have hitherto been too impatient of the projects of splendid dreamers, forgetting that the dreams of one age are the realities of the next. It is therefore to be hoped that the initiative will be taken in time, either by the Metropolitan Board of Works or some higher power, in obtaining a series of artistic ideas regarding a general plan of such London improvements as are likely to grow out of the embankment scheme. And it is to be hoped that every journal in the country devoted to any branch of art will vigilantly watch every step of progress in the projected London quays, energetically protesting against any disfigurements, or even short-comings; against any attempt to drive a railway along the roadway of the embankment; against the disfigurement of adjacent approaches by such hideous railway viaducts as those recently perpetrated in the neighbourhood of London-bridge; against the passage of innumerable railway bridges across the river; and, by suggestion, or criticism, or encouragement, when due, aid in every possible way in carrying out to its legitimate ends this truly grand and national work. The *Builder* will not be found wanting in supporting with all its influence a grand and comprehensive series of improvements, the commencement of which is about to be made by the formation of the Thames Embankment.

THOUGHTS AND SUGGESTIONS ON THE ARTISTIC EDUCATION OF ARCHITECTS.*

HAVING been kindly asked to read a paper at one of your meetings, I at first selected a subject with which I felt myself to be tolerably conversant,—the transition from the Romanesque to the Pointed style in England, as compared with that in France. Finding, however, that this trenched somewhat upon a subject chosen by my friend Mr. Hayter Lewis, I was obliged to look out for another, and have chosen one with which, though it has long occupied much of my thoughts, I am sorry to say that I am very far indeed from being practically conversant.

While, however, I have to apologise to the meeting for presuming to address them on a subject with which I have no very intimate acquaintance, and on which I have no claim to offer any very decided opinion, I think that I may make my very deficiencies the groundwork of my apology; for my motive in coming before you is my strong conviction that it is a subject on which we are all grievously at fault, and my very object in addressing you is to urge this deficiency upon your most serious attention; while, in giving my paper the title of "Thoughts and Suggestions," I must beg to be understood to mean thoughts of *sorrow* for undoubted shortcomings, and suggestions of *inquiry* as to the means of amendment.

The questions which I wish to lay seriously before you (and I am well aware that you have earnestly considered them for yourselves, and are fully alive to their importance) are these:—Are we English architects as thoroughly trained as we ought to be *as artists?* Is our professional education sufficiently directed to architecture as viewed in its high character as a *Fine Art?* Is there any ready and recognised mode in which the student of architecture can obtain this high-art education? and,—if all these questions must be answered in the negative,—by what means can such deficiencies be most effectually remedied?

Now, there are many ways in which an architect or other artist may be educated. He may be trained in an *academy*, and learn his art wholly from professors and by means of a fixed routine of teaching in regular and recognised schools: that is one way. Or he may learn it on the French *atelier* system, in which an artist keeps a kind of school, unconnected with his own professional avocations; which he visits from time to time; gives advice and instruction to his pupils and corrects their works, such works being without reference to his own practical undertakings; and this system may be linked on, as in France, to the academic system. Or he may be educated by working in the office of an architect, assisting in his practical works, and learning his profession by actually seeing and personally aiding its operations.

Now, we have heard recently a great deal said (with reference to the sister art of painting) in favour of the old system of pupils working in the studios of their master, and learning their art by helping him in his works. It was often stated before the recent Royal Academy Commission—as it had been in 1836 before the Committee on Arts and Manufactures—that the substitution of the Academy system for this older course of training has been the bane of modern art; and the best argument in defence was, that academies were founded, *not* to supplant the older

* By Mr. G. G. Scott, R.A. Read at the meeting of the Architectural Association, as elsewhere mentioned.

system, but to supply its place after it had died a natural death.

I think, then, that—as in our own art this old system is still in operation in this country—we shall act wisely in accepting it as the legitimate *form* of our professional education, our true *point de départ*; and, ignoring all idea of disturbing it, to inquire whether it is doing its work fully, and whether it does not require some external aid to compensate for certain inherent deficiencies.

Now, there is a very wide distinction between architecture and the two other fine arts, particularly painting. *Painting* is purely a fine art, while architecture is also a practical art, a science, and almost a business.

If a young student were, as in old times, apprenticed to a great painter, what he would learn from him, and by assisting him, would, almost of necessity, be, in a greater or less degree, *fine art*. It is true that he would have, as in all arts and employments, a certain amount of drudgery and even of mechanical work; but the object, even of this, would be *fine art*. The profession he is learning has that for its sole and ultimate object; and if he take reasonable advantage of his opportunities, and have the right stuff in him, it must be fine art in some form that he learns.

With a student of architecture such is by no means necessarily the case. He may learn in an office the art of making working drawings, and of making, perhaps, good show drawings calculated to place a design favourably before an employer: he may learn the business of his profession, the science of building and construction, and a certain knowledge of architecture in the abstract, but may in a greater or less degree miss the fine-art element; nay, I would go further, and say that this higher element cannot be fully or more than incidentally learned in an office even if the master be in every sense an artist, much less if he have himself, as is too often the case in our day, only an imperfect appreciation of, and much more imperfect skill in, his art when viewed in its highest sense as a pure art. It is, therefore, clear that the student ought to have some means, readily accessible to him, of supplying this want which, even if our art were in its palmiest condition, must exist, but which is more palpable and more injurious in proportion as the feelings of the day tend to render architecture more of a mere profession and less of an art.

Do not let me be supposed to be depreciating my profession, or finding fault with its individual members: I believe there has never, in modern times, been such an awakening as now. It is this awakening which makes us feel our deficiencies, and daily groan under the consciousness of them. I am only telling you of what you all feel, and of what is to myself a constant source of self-accusation and of sorrow; and that such is the case is our best consolation, as consciousness of shortcoming is the best source of hope for amendment.

Let us, then, at once face the truth, and admit the fact, that unless a student takes some special means on his own account, he does not become educated as an artist at all, but only as a professional man; nor does there exist, that I am aware of, any recognised means by which he can avoid this monstrous evil.

For my own part, I am wholly unable to point out to my pupils, or to my own sons, any means of obtaining true artistic training, but the most accidental and irregular.

Now, when such is the case,—and it is so far more palpably than I should care to proclaim,—how can we wonder if our architecture do not take a position proportioned to our general civilization and our advance in other things? A great deal is said in these days of ours about architecture having merits wholly independent of ornamental art; about proportion, outline, light and shade, composition, the nice balancing of parts, the delicate and well-considered contour of mouldings, and a hundred other elements of beauty which a building may possess even if devoid of artistic ornamentation, and the absence of which may render the most ornate structure,—clothed with the finest art,—unpleasing.

All this is quite true, and I hold its truth as of most vital importance, but I feel convinced that none of these beauties can be attained in any perfection unless the architect has impressed his mind thoroughly with high artistic sentiment, and that their perfection will be the greatest when he is personally skilled in high artistic work.

All these merits are the result of a highly cultivated sense of beauty, a delicately-trained eye, and a judgment matured to a kind of instinct for the elements of beauty, and to an instinctive power of at once rejecting what is contrary to it, and of detecting the minutest faults in that which in the main may be beautiful. *And this is to be attained by true* artistic training, and is, *cæteris paribus*, proportioned to the degree to which this has been carried.

Let me not, however, be misunderstood. It does not follow that a painter or a sculptor, however talented, will design good architecture. We have every day before us the most lamentable evidence to the contrary. Artistic training must of necessity take the direction of the particular art to which it is to be applied. I do, however, assert the converse,—that if an architect would make himself so far a painter and a sculptor as to be able to conceive, and still better to design, artistic decorations of a high class, bordering on these sister arts, his mind and his eye would thereby become the better fitted for that delicate process of tentative designing and of refining of proportions, composition, and detail, which would render his works beautiful even in the absence of such artistic decoration; and I am quite sure of this,—that in full proportion to our neglect in these days of the high art of our profession, is the glaring prevalence of the want of correctness of eye, and of—I will not say a nice perception—but often of any correct perception at all, of proportion, and of those other elements by which beauty may be given to the simplest design.

Now, let us consider for a moment in what the fine art of architecture mainly consists.

In the first place, I would say that, as with the other fine arts, it does not lie in the means, but in the results; or if in any sense in the means, it is only in the sense of their necessity to or tendency towards results. The fine art of architecture lies in the artistic character and perfection of the architecture itself when carried into execution; and—though drawing and other means are necessary to this—it is clear that it must be just such drawing, &c., as is most conducive to producing the noblest architecture; and that the most exquisite drawing is wasted if it do not tend to this practical conclusion.

I do not, however, wish to be understood to depreciate other kinds of drawing or other artistic accomplishments in an architect,—far from it;—what I wish to urge is that the primary object in the artistic training of an architectural student is to make him a good architect, or, rather, to enable him to make his practical architectural works noble and artistic; that all else in the absence of this is futile; while, if this be attained, in a high degree, other accomplishments in art obtain a value and impart a charm of which they would otherwise be incapable.

Now, it is clear from this view that the making of good pictures of our designs or buildings is no part of the fine art of architecture.

It is, in fact, an art almost peculiar to our own day; but, though highly conducive to the success of the individual architect, and, when well directed, a great aid to the study of architecture, it is hardly to be viewed as a very direct means of producing good architecture. To make good pictures of bad designs is obviously injurious, as it misleads employers and often even the architect himself, and renders disappointment the more certain and the more bitter; while to make good pictures of good designs may have the beneficial effect of promoting their adoption, but still cannot be in any degree considered as of much importance to the actual result; for a well-studied design in artistic hands will be just as good, when executed, if no picture at all had ever been made of it; and an all-studied design no better for the finest drawing having been made to recommend it. This, then, it is clear is but a secondary art,—an elegant accomplishment which becomes both useful and elevating when added to practically artistic powers,—but worse than useless in their absence. Here I am happy to find Professor Cockerell's view to be as one with my own. After urging perspective drawing as essential to facility of designing, and also the necessity of cultivating the powers of the imagination, he adds:—

"Having thus put before you an outline of those advantages which are to be derived from our association with the sister arts, let us be guarded against their dangerous deductions. I look upon it that all their advantages are purely linear, and not aërial or polychromatic. * * * This great error of the English school of architecture may be said to have arisen from the juxta-position of architectural drawings in our exhibitions, to the works of the painter. * * * Colour, chiaro-scuro, and aërial perspective are of no sort of importance [*i. e.* in architectural representations]; and how entirely my opinion is supported by the best authorities and the best practice has often been laid before you. In one year in particular, I was enabled by the kindness of friends to lay before you some architectural drawings of Raffaello, Michelangelo, Sansovino, and Inigo Jones, in all of which proportion, composition, profile, and orthographic delineation were the sole end and object of their drawings, and no tricky effects of light, or shade, or colour were for a moment thought of or permitted. Philibert de l'Orme has humourously said, speaking of pretty drawings,—'They are bits to catch a customer, but are insufficient evidence of the substantial knowledge of the art. Be quite sure,' says he, 'that those who amuse themselves in making pretty drawings only, are those who least understand the real art and science of architecture. I do not deny,' continues he, 'that it is a graceful accomplishment in the architect to portray and paint, but his true business is with the model, and with lines only expressive of his design, its proportions and measures.'"

The power of ready and skilful *sketching* from actual architectural objects comes much nearer to the fine art of architecture. It is not that fine art itself, but it is one of the most direct means of attaining it. I, therefore, class this very much higher. It must not be mistaken for the practical result aimed at; but, as a general rule, I should say that it is so necessary to it as to be its closest ally and precursor, and, therefore, to be cultivated with all possible diligence; but I would urge the keeping of the ultimate object always in view,—viz., that sketching should be mainly followed up with the direct intention of self-culture; that the architect or student should aim in a less degree at storing his sketch-books with pleasing representations, and laying in a stock of precedents for future reference, than at the direct training of his mind and eye and hand to the conception and designing for himself of works similar in kind to those he is studying; and the kind of drawing which he should mainly aim at cultivating is that which will be the fittest means of conveying his artistic conceptions more clearly to the artworkman who will have to carry them into execution; the result being everything, the means comparatively nothing in importance.

Essential, however, as is sketching from existing works, I am of opinion that, both for the attainment of skill in this and in addition to it, the architect requires artistic training of a more direct kind, and this is my main object in coming before you.

The two wants, then, which I would desire to urge upon the attention of the profession are, first, a greatly increased appreciation of the necessity of such an artistic training as bears in the most direct manner upon practical results in our actual architecture; and, secondly, the want of some direct and special means of getting such training.

It may appear far-fetched, but I am convinced that one great object to be attended to is to give our students a good knowledge of the human figure, and of its introduction in architecture and in combination with architectural ornamentation.

This is important in the first place as a mere subject for training. The human figure is the most delicate and subtle, in an artistic point of view, of all natural objects; and its study is, consequently, the best training for the eye to a delicate appreciation of beauty. It is the highest of the works of creation, and its introduction in artistic works, of whatever kind, must necessarily give them a tone which no other objects can impart. We all know, and we most of us daily feel, how utter has been, for the most part, the neglect of this highest class of training, the very key and keystone to all the rest; and I am quite convinced that the general training of our architectural students to figure-drawing would alone work an absolute reformation in our architecture.

Since writing the above, I have found in one of Professor Cockerell's lectures the following passage:—

"And, to point out the advantages and disadvantages of our connexion with the graphic sisters, we are first to remember that from the painter and the sculptor we are to derive that knowledge of forms and profile, of contour, and that science of proportion, of which the human form divine has ever been considered to supply the model. It is quite certain that the Greeks derived from this association that exquisite sense of form and outline which so eminently distinguishes their works. * * * Their association of sculpture at all times with architecture, their system of proportions, derived, as Vitruvius expressly tells us, from the three proportions of the human creature, all display their practice and observation of all human, animal, and vegetable forms as appropriated to this art; and, when we consider the coarser practice of the Romans, * * * there can be no doubt of the favourable results derived by the Greeks from the association of architecture with the historical painter and sculptor. But the discipline of the sister art is, besides, advantageous in the highest degree to that dexterity of pencil and that facility of expressing and embodying his ideas, which, like elocution and language to the orator, become the essential instrument of his art."

I urge, then, that means be set on foot by

which our young architects may be able to get this training, and that not merely in an abstract form, but in a manner having a direct bearing upon architecture, whether in its sculpture, its decorative painting, or in any and all of the multitudinous branches in which the human figure can be introduced. I do not desire that the same person should be a sculptor and a painter as well as an architect, but I *do* assert that the severance of the three arts has been *and is* carried in these days to a degree, which is destructive to the highest qualities in our works, and that the only hope for the future is in their re-union, to such an extent, at least, as to enable the architect to assume his true position as the the *chief artist*,—the director of all the artists employed in carrying out that one great art which comprises and unites all the others.

Next to the human figure, I would mention the study of animal drawing, and of the introduction of animal life into architecture and architectural ornamentation. After the human figure, nothing gives such spirit and zest to decoration as the introduction of animal life; yet, in all our attempts to revive architectural carving and sculpture, we have hitherto utterly failed in this. We really, for the most part, dare not let our carvers introduce such objects for fear of making our whole works ridiculous,—and even a grotesque animal, as a gurgoyle, in which the Mediæval sculptors were so wonderfully successful, becomes in the hands of our own simply contemptible.

The architect of the future must be himself the leader and director of the artist she employs; and, if he desire to remedy such defects as this, he must take the lead by making himself master of the subject.

I urge, then, that animal drawing should be a very leading point in architectural training; and that not merely in a bare abstract form, but that the habits and positions of animals under all circumstances and conditions shall be studied, so as to enable him to introduce them with natural feeling and spirit into any part of his works and decorations.

Thirdly, I would mention designs from natural foliage and botanical productions. There is, as we all well know, great difference of opinion among those who are most in earnest amongst us on the question whether we should make use of foliage, &c., in its natural forms in our architectural decorations. I believe this question is gradually working out its own solution. I only allude to it for the sake of clearing my subject of it, and of saying that I view it as wholly independent of what I am urging; inasmuch as the study of Nature is equally necessary whether we follow her productions directly or in a conventionalized form. In either case the productions of vegetable nature are, and over must of necessity be, the primary sources of artistic foliated decoration. Closely as we ought to study the finest works of the best periods of our art, and all-important as are the lessons to be derived from them (and I may say indispensable as is the necessity of our linking our own art on to that of the past), I nevertheless assert that if we do this without reverting—and that in all earnestness and determination—to the works of nature as the great guides and suggestors of art, our efforts will produce mere lifeless results. I urge, then, a careful training of our architects to the study of the productions of vegetable nature, with a direct practical reference to their uses in architectural work. I would press this to a very great extent,—far greater than has been the case at any previous period of art,—inasmuch as our age offers greater facilities in that direction, and the knowledge of plants is carried to a far greater extent. The very habits of plants,—the forms they assume under different circumstances and conditions, and in different positions,—should be thoroughly studied and rendered familiar to the mind, and that quite independently of the question whether we make use of the lessons thus learned in a direct or conventionalized form; for, if the conventional be not founded on or quickened by an appreciation of the natural, it will, depend upon it, be a mere dead reproduction.

After these three great branches of natural study, and in fact intermingled with them at all points, comes the study of the finest existing works of art in each of these departments. The study of the human figure must be aided by that of the finest sculpture and painting, and the same applies to the study of animal life; but I wish here more particularly to dwell upon what is more distinctly architectural sculpture and decoration. Strongly as I have insisted upon the earnest study of natural types, I wish again to assert, in the strongest terms, my undiminished loyalty to the study of the works of our predecessors of the noblest periods of art. I do desire that nature should be studied instead of, but in addition to, and alongside of, these glorious works. I would not even separate the one from the other: they should be always going on *pari passu* as one and the same work. The one is the body, the other the soul: by one we learn architectural decoration in the abstract,—by the other we quicken it into a living art. I urge, then, that more attention than ever be given to training our students to draw from the actual productions of our art, but that it should be accompanied at every step by an equally earnest study from natural types.

It is not, however, by drawing alone that these studies should be carried on. The architect of the future must be able to model his sculptural designs, and even, perhaps, to carve them himself; but, as I am anxious not to render my advice impracticable by pressing too much, I will content myself on this point with urging that the student should receive regular lessons in modelling as well as drawing.

Hitherto I have dwelt wholly on form: there lies, however, before us the entire subject of colour; and if the study of form in its higher artistic bearings has been insufficiently followed up in our artistic education, how much more does this apply to colour! The very awakening in our day to a consciousness of this fact, hopeful as it is for the future, tends to aggravate the unhappiness of the present; for it has led to a multitude of attempts frequently so offensive to the eye as to make one long to be restored to the blissful ignorance of the past, forgetful that the folly of incipient wisdom is a necessary stepping-stone to maturer knowledge. I would, then, urge that our architectural students should have a systematic training, firstly in the true principles of colour, and secondly in its application to architectural decoration in all its forms.

I will not repeat what I have already said about the human figure and the study of animal and vegetable life, and of purely architectural precedent. All this applies equally to *coloured* as to *sculptured* decoration, with the addition of their study with direct reference to colour. This is, in fact, the highest form which our artistic training can reach: it is at the same time that most entirely neglected, and is that which demands the most earnest and determined efforts for its revival.

I have not dwelt at all on the ordinary study of architecture in its more normal form. It is not the subject I have had in view in offering my thoughts for your consideration; and I must rather be understood to assume this as a preliminary datum, taken for granted in all else that I suggest. I will, however, offer a very few observations on the study of that branch of architecture on which I feel myself most competent to speak; and what I have to say will appear, perhaps, inconsistent, and is, no doubt, somewhat humiliating.

In all really strong and healthful periods of art, the course of progress has, like the erection of our buildings themselves, gone on, as it were, course by course, each resting upon and founded on the form of its immediate precursor. The architecture of one generation was the result of the study of that which immediately preceded it. The architecture of the pupil was founded directly on that of his master. I will not go so far as to say that such is not, or in some degree ought not to be, the case now. To any one who can give an unprejudiced consideration to what goes on around us, such a regular progression will be found in some degree to hold good; but, while urging as stoutly as any man that an architect should be guided by the exigencies and peculiar circumstances of his own day, I am bound to say that one of its most marked conditions has been, till recently, that it possessed no distinctive architecture of its own, and another that it *does* possess, in a greater degree than any previous age, a knowledge of the architecture of the past. I urge, then, at all risks and in all earnestness, upon those who intend to follow the revived Mediæval styles, that they must learn their architecture, in its normal and abstract form, by the study of ancient examples; and though our own architecture, like our structure, may be built up course by course, that of the best periods of the style must be viewed as the rock whence those succeeding courses are hewn. I urge, then, the most ardent loyalty of the time-honoured custom of diligently and earnestly visiting, sketching from, and measuring ancient works of art (whether of architecture proper or the allied arts), as the one great means of getting a real knowledge of architecture.

I press this the more strongly as I am quite convinced by the productions of a large number of our "Gothic" architects that they too much neglect this. Their works often evince a great want of actual knowledge of the style they are working in, while the constant confessions of young men seeking office employment afford but too convincing proof that the study of old examples is rather the exception than the rule, and that young men are allowed to suppose that architecture is learned in the office, or from modern works, instead of from the study of ancient examples.

I lay the greater stress upon this as I fear it is an increasing evil. At one time no one was supposed, by any one capable of thinking of the subject, to know anything of Gothic architecture who was not *known* to be one of the small band of ardent students of ancient work: now, however, the greatness of the demand has created a supply of men who have not been impelled by real love of the art, but by its necessity as a matter of business, and these men naturally fail to impress upon their pupils feelings and modes of study of which they are themselves innocent. I often meet with young men who have gone through their period of pupilage, and profess a strong predilection for Gothic architecture, who have rarely, if ever, sketched from an ancient building; and they usually say that their masters never would give them any time to do so!

I wish to say, once for all, that such neglect is simply destructive, and that no one has a right to attempt the practice of Gothic architecture till he has prepared himself by a long course of diligent study of the old examples. I am not advocating copyism, but knowledge as the foundation of practice. Let an architect be as original and as inventive as he pleases, but let his originality and invention be founded on a basis of knowledge, and not, as much so called originality most obviously is, on a foundation of ignorance.

One more word on architecture proper.

One of the most glaring defects in the works of English architects of the present day (I do not, of course, refer to those of the better class) is the evidence they afford of the want of eye. This defect is destructive to numbers of works which would otherwise possess some merit. You continually see a window or other feature not badly conceived, but rendered utterly offensive by some glaring discord in the proportion of its parts. This clearly results from simple inability to perceive—I will not say the niceties, but—the very first principles of proportion,—a want of culture of the eye. I have often feared that it might be a natural obtuseness of perception on the part of our race, it prevails amongst us to so serious an extent. I am, however, convinced of the contrary by its entire absence in the works of the Middle Ages, and for the most part in those of the intermedial period. In all or the majority of these, we find evidences of an almost instinctive perception of the niceties of proportion, while the merits of our own day seem to point in the very contrary direction. I will take the liberty, while on this subject, at the risk of repetition and of some irrelevance, of transcribing a passage from a paper which I read two years since at the Architectural Museum, in which I addressed the following advice to architectural students:—

"It is ridiculous to suppose that such an art as architecture is to be learned without the most careful study of its existing productions, or that originality is likely to be developed upon a basis of ignorance; and it is equally unlikely that excellence will be attained solely through the medium of knowledge, without the most jealous and careful training of the *eye* to the most delicate and scrupulous perception of the *right and the wrong* in form and proportion. The want of this is the most crying sin in modern architecture; especially, I fear, in this country. Continually is the more cultivated eye offended by discords which in music would set the very teeth on edge. I know not how to advise you on this point. This delicacy of perception is in some degree intuitive; but that it is not wholly so is proved by the fact that the works of some periods are nearly all harmonious, while at other periods this harmony seems only occasionally to have been attained. The only rule I can suggest is the jealous cultivation of the eye. As the greatest of moralists has said, 'Keep thy *heart* with all diligence, for out of it are the issues of

life;'—so one may say to the architect, 'Keep thine *eye* with all diligence, for out of it are the issues of *art*.' Never allow your eye to get accustomed to or condone errors of proportion, even in works which in other respects you venerate for the noble art which clothes them; and much less allow of any deliberate error in your own designs. To avoid these blemishes sketch your designs over and over again,—no matter how slightly and roughly,—rejecting rigorously everything against which the eye rebels, and never permitting a proportion which it has once condemned to remain, even for a minute, before you: for ocular perception is most delicate, and its instinct may be blunted by dwelling even for a few seconds upon what its first impression saw to be wrong. Never clothe a form with detail or with pleasant drawing till its proportions have been thoroughly sifted and rigorously corrected; and if you fear that you have, by dwelling too long or too indulgently upon what you have sketched, prejudiced your eye in its favour, put it away, and attend to something else, or take the opinion of some unprejudiced person in whose correctness of eye you have confidence; for the first impressions of another will often correct your own.

"As to obtaining a knowledge of actual architecture, I cannot too often nor too strongly urge careful sketching from first-rate examples. The student of Classic architecture is under a disadvantage, as its original and best examples are in other lands; but with those who pursue the other great branch of architectural art, the case is very different; for, though in most parts of Europe he will find constant and ever varying objects of study, he can never go far from home without finding among the monuments of our own country productions equally deserving and equally instructive. To the student, then, of Gothic architecture, I would concentrate my advice on this point in one word—'SKETCH;' and if any one advises the neglect of this, I assure you that he stands, *ipso facto*, self-condemned as a false teacher. I want you, however, to add to this a great deal more: I want you to obtain distinct and precise instruction in art in all its bearings upon architecture: I want to urge upon you to study figure drawing; animal drawing; the drawing of foliage, whether natural or architectural; the combination of figures and animals with foliage; the designing of coloured decoration in all its branches; and of every other art which bears upon architecture. I want to urge upon you the necessity for the systematic learning of all these kinds of drawing, and the obtaining of a perfect mastery of them; and not only this, but that you should learn, in some degree at least, the actual practice of these arts. Human life is not long enough to do the latter thoroughly; but now, in the days of your youth, you can do it to a certain extent, even at the sacrifice of a few frivolous amusements. You have embarked on a noble art: make its cultivation take the precedence of all inferior pursuits. To effect this, I am disposed to think that combination is necessary. A society of students might be formed, and aided by others, for obtaining the best instructors in all these branches of art, which each student singly would find impossible. I earnestly commend this to your united consideration. And, above all, do it at once, or your own individual share in the coming reformation will be lost."

It is, however, more than time that I should come to the practical gist of my paper. It is quite clear to me that every architectural student should, during the entire period of his pupilage, in addition to the practical teaching he obtains in his master's office and to his studies of the practice, the science, and the literature of his art,—be going through a constant course of direct artistic training of the kinds laid down in the foregoing suggestions, and that the same training in a still higher form should be continued as much longer as circumstances will permit.

The practical question to be considered is how this is to be provided for, as at present it is impossible. It may be said, perhaps, that the *Institute* ought to provide for this. It may be that it *ought*; and judging from the evidence given by the late Mr. Papworth before the Commission of Science and Art, in 1836, I believe the founders of the Institute had some such intentions; but I doubt very much whether it will ever be done, and "while the grass grows the steed starves." It may further be said that the Royal Academy ought to do it. I strongly hold, that so far as relates to its own students in architecture, it is its bounden duty to do so, and I am happy to say that this duty is acknowledged, and there is a prospect of its being acted up to as soon as practicable. I would mention, however, that instruction given by the Academy can never supply the wants of the profession, and must always be the more advanced, and not the elementary teaching; indeed, the same is now the case with the students of painting and sculpture, who are expected to have gone through their elementary training, and made considerable progress previously to their admission as students at the Academy.

Again, it may, perhaps, be said, that the required facilities are already offered at the schools at South Kensington. Those schools, I would reply, are admirable in their intent, but were founded for a wholly different object:—to supply artistic instruction to the manufacturing artisan. It is true that they go much beyond this in practice, and that their organization is far more perfect than anything which we can hope for. I go even further than this,—and I take this opportunity of saying it as publicly as I am able,—I think the collections of objects of art (added to their library and to our Architectural Museum) offer such wonderful advantages for study that I would urge upon every student of architecture, if he has nothing else to guide him in the choice of his place of residence, to seat himself down as near South Kensington as he is able, that he may enjoy the extraordinary facilities for art-study which this great establishment offers, and which probably exceed what is to be met with in any city in Europe. Still, however, I cannot imagine that members of such a profession as ours would desire to be dependent on the schools of manufacturing art for their own artistic training, if they can obtain it by any means more distinctly their own.

I will now offer for your consideration the result of my own long and anxious consideration of the subject.

I am convinced that we shall never obtain for our architectural students that artistic training which we know to be necessary unless we put our own shoulders to the wheel and provide it ourselves. I would, therefore, propose that a central School of Architectural Art shall be founded in London (probably in these very rooms), in which all those branches of high art which I have enumerated as bearing upon architecture shall be taught by men of the highest ability in their several branches, these several teachers being paid so liberally as to secure both the best men and their best exertions; that this school shall be mainly self-supporting, though aided by annual subscriptions from individual architects, and, perhaps, by grants from the Institute of British Architects, your own Association, and any other societies which may be willing to afford aid, the self-supporting element being a regulated payment by the students; for it is quite certain that the students of such an art as ours do not desire to have instruction on any terms short of its proper value, though they will be too glad to obtain, by means of a combined effort, teaching of so high a grade as would have been impossible to procure by private means; that this school of architectural art shall be under the management of a board of visitors, to be jointly appointed by the council of the Institute and the council of this Association (and which shall, if possible, include one eminent painter and one eminent sculptor) a certain proportion of its members retiring every year, and not being re-eligible for two years. That the teachers be elected for terms of one or two years, open to re-election, and shall be as numerous as the board of visitors deem necessary; as, for example, a teacher of drawing from the human figure, and a teacher of modelling the same (these two duties being open to be performed by the same man); a teacher of animal drawing, if the last named cannot undertake it; a teacher of drawing and modelling architectural ornamentation; a teacher of coloured decoration, &c.; the number being always dependent on circumstances and on the judgment of the visitors. There may also be occasional teachers of special subjects, such as the designing of stained glass, of mosaic, and many other branches of art; the great principle aimed at being the power and the command of funds to be attained by combination,—in fact, the self-supporting element of the institution.

Every architect who joins it should consider himself as bound in honour to use all his influence with his pupils to become students, and every student should be under the same obligation to give as constant attendance as possible. The instruction may be enlivened, from time to time, by lectures,—not the casual papers customary at meetings of societies, but *paid* and *practical* lectures, by men of known eminence in their several departments of art. Each year there should be a competitive examination of the students with prizes in their several departments, followed by exhibitions of the performances of the students. In fact, everything should be done to offer incentives to the most strenuous exertion, and to inspire the students with an ardent enthusiasm for self-culture, and for using every possible endeavour to attain eminence in the noble art which they profess. The students at this school, when they become students at the Royal Academy, would enjoy, as I hope, still further facilities, when the intended regulations may come into operation; but we want immediate action, and this we must take for ourselves: our art is literally starving for want of artistic instruction: the want of it has clipped its very wings, and renders it impossible for it to attempt any lofty flight. Two things only are needed to correct the evil,—a full and heartfelt appreciation of the intensity of the need, and an earnest and determined combination to meet it. I have done my best to suggest the mode of action, and I now solemnly and in all earnestness commend it to your immediate and energetic consideration. It is a strictly practical question which I take the liberty of submitting to you, and one on which the very life of our art depends. Do not, I beg of you, weaken it by hooking other questions on to it, or by raising difficulties,—by looking out for "lions in the way." Face it, I pray you, in its simple form, and with a determination to meet it, and you will cover yourselves with honour, and merit the lasting gratitude of all lovers of our glorious art. I appeal to you in the first instance because you have already been the first to show your appreciation of this great need, and to give substantial proof of that appreciation by taking many practical measures to meet it. I now beg of you to do this on a larger scale, and in a manner both worthy of the greatness of the object and commensurate to the magnitude of the necessity. "I speak to wise men," and beg of you to "judge what I say," and I do so in all confidence that my appeal will not be in vain, and that you will come forward and rescue our noble profession from the disabilities under which it is absolutely groaning, and place it on a level worthy both of its glorious mission and of the great period of civilization under which Providence has cast our lot.

If you do this we may once again see our England the glory of all lands in her architecture, as she is in so many other of her practical undertakings.

THE PUGIN MEMORIAL.

ON Monday last, the duties of the committee were brought to a close by the execution of the deed of trust by the president and council of the Institute of British Architects. The proceeds of the fund, after deducting working expenses, have been invested in the purchase, in the name of the Institute, of 840*l.* perpetual 5 per cent. preference stock of the London and North-Western Railway Company, which will afford the Pugin travelling student the sum of forty guineas annually in aid of his expenses. The administration of the fund for 1865, the first year, will be by a joint committee of members of the Institute, and of the late Pugin memorial committee, but in subsequent years it will be in the hands of the Institute. The name of each Pugin travelling student is to be engraved on a plate, and affixed in some conspicuous part of the Institute rooms; and it is understood that a Pugin Medal will be struck at the cost of that body, and presented to each student at discretion.

Thanks are due to Mr. Joseph Clarke, especially, for this successful result; and to Mr. T. Bury, who acted with him as joint hon. secretary.

THE ARCHITECTURAL MUSEUM.

SOUTH KENSINGTON MUSEUM.

IT will be remembered that the committee of the Ecclesiological Society offered 5*l.* 5*s.* as a prize for coloured decoration, to which Mr. Beresford Hope added 3*l.* 3*s.* for one or more extra prizes. Instead of selecting an ancient subject, as on former occasions, the committee

chose one of the prize *miserere*s of the wood-carving competition of the present year ("Gleaners") as the subject for the competitive colouration. Fifteen casts were sent in competition, and the Ecclesiological Society have awarded the colour prizes as follows:—Prize 1, 5*l*. 5s., to Mr. Alfred Hassam, in the employ of Messrs. Heaton, Butler, & Bayne, glass-painters. Prize 2, to Mr. Joseph Peploe Wood, of No. 35, Brown-street, Bryanston-square, the first prize-man in the last competition. An extra prize of 1*l*. 1s. to Mr. Edward Sherwood, of the above address. He was found to be a nephew and pupil of Mr. Wood. The distribution of these and the wood-carving prizes will take place on the 15th instant.

The award of the colour-prizes has our full concurrence.

ART-UNION OF LONDON SCULPTURE COMPETITION.

FIFTEEN statues and groups have been submitted in reply to the offer of a premium of 600*l*. for the best one when executed in marble, and are now open to the public in the north court of the South Kensington Museum, by permission of the Department of Art. The council have been informed of three other statues despatched from foreign parts, which have been detained by accident or damaged in transmission.

The subjects exhibited are the following, keeping the order in which they stand:—Lady Macbeth (a caricature); Rebecca; Sampson breaking his Bonds (finely modelled in parts; but in repose, not action); the Lady of the Lake,—

> "With head upraised and look intent
> And eye and ear attentive bent;"

(head and hands charming, body and foot less so); the Queen of the May; the Spirit of Storm (picturesque and clever, but only a sketch; not a "finished model," as required by the instructions); a Wood Nymph (a very fine group; the head of the nymph less satisfactory than other parts); Innocence entreating Protection of Justice (the principal figure admirable); Beauty spell-bound by Love: Imogen entering the Cave (lower limbs beautifully modelled; position of the right arm doubtful); Euphrosyne and Cupid (has surely been exhibited before); a Pièta; Summer (good, but smaller than the required size); Lurline (head not without beauty); and Diana sleeping (wherein sleep is cleverly expressed).

If we were called on to name the four from which the successful statue would probably be selected, we should give, without placing them in order of preference, the Wood Nymph; Innocence and Justice; Imogen; and the Lady of the Lake.

The council will meet on Tuesday to proceed with their award.

THE INFLUENCE OF LOCAL SCENERY ON LOCAL ARCHITECTURE.*

AFTER a few introductory remarks, Mr. Neale proceeded to say, It has been my happiness during the last fifteen or sixteen years to see as much of the out-of-the-way ecclesiology of Western Europe, from the Vistula to the Atlantic, as has fallen to the lot of most; and therefore I thought that, on an occasion such as this, when one who has no professional or technical knowledge of a science has to speak of that science, it would be in every way more seemly, more modest, and more interesting to others, to dwell on that which it requires no professional eye to appreciate;—the marvellous beauty with which the architects of the Middle Ages adapted *the* particular cathedral or church to *the* particular locality,—sea shore, river side, mountain top, hill slope, wooded dell, and where not else?

And as there is nothing like an example to illustrate a general law, I will tell you what first brought home to my mind the wonderful power which Mediæval architects possessed in adapting *the* building to *the* spot;—the town where I live (East Grinstead). It crowns the summit of a rather steep hill; a hill, one of the links between the southern downs of the vale of Holmsdale and the northern backbone of Sussex. Some eighty years ago, its church was a late Third Pointed affair,—the general outline pretty well; the details, I have not the slightest doubt—all Sussex Pointed is very miserable; but from sketches that I have seen of it,—great hulking thing as it was, flattish roofed, with two enormous aisles to its chancel,—it must have harmonized admirably with the slope of the hill on which it stood. It fell down in '86; and, for a wonder, a Gothic erection took its place: the tower, for the time, admirable; but the nave! not one view—north, south, east, or west—can you get of it where—so far as the eye is concerned—it does not destroy the landscape; a hideous, lean, straight-backed thing, not only ugly in itself, but spoiling the contour of a very lovely green hill. That is not the way in which the old men built. I am not about to enter into the philosophy of the matter,—only into some of its details. Now, first, let us look at some instances of ecclesiastical buildings perched on the very summit of an abrupt precipice, or, anyhow, scarped hill. Of all the cathedrals that I have ever seen, that of Bragança has, to my mind, the most glorious position. It is perched on the northern side of the infant Douro, just escaped, under that Portuguese name, from being the Duero of Spain. The cliffs, splintery, shattered, here and there needlelike, are tossed about, both on the one side and on the other, in a sort of chaotic grandeur. The cathedral stands on a plot of ground of which part is absolutely corbelled out from the precipice. It was built in 1510. Christian architecture in Portugal, instead of dying the long death of Elizabethan and Jacobean in England, or the half Flamboyant, half so-called Classical style of Francis I. and Henry II. in France, went at one leap from such buildings as the royal chapel at Batalha, and the church at Belem, whose capitals, bosses, pendants, corbels, are wonderful mixtures of contorted foliage, lizards, devils, angels, legends, crests, and all that an almost frenzied imagination could produce, cut with a chisel, the effect of which, no word-painting, not even Ruskin's, could describe, fell down at once into the simplest of all, so-called, classical work. No one can, in itself, admire Bragança; but there it stands, a part, as it were, of those jagged, splintered mountains, actually leaning over the tremendous abyss, solid, stern, simple; and by its very contrast, to a certain extent, harmonizing with the gorge of the Douro.

One of the most remarkable churches, pitched, as it were, on the very apex of a needle-like hill, is that of St. Michael, at Le Puy, in Auvergne. The ascent, steep, and in some places not over-safe,—taking advantage of a projecting bit of rock here, nestling itself into some little coign of vantage there,—lands you suddenly—in mid-air, so it feels to you—at the loveliest of Romanesque doors; and from that needle-rock, as if it had caught the very spirit of inanimate nature, towers up, contrary to the genius of Romanesque, this gem of a chapel. The most interesting example of a church pitched on the very summit of a hill, is that of S. Odille, in Alsace. The chapel itself is a very lovely specimen of Rhenish Romanesque: but it is its position, tossed up, if we may so say, on its own appropriated mountain,—one of the many truncated cones of which the chain of the Vosges consists, that gives it its especial interest. Within thirty miles of London there are three having a certain relationship with each other, all in the same diocese, which two of them at least — are curious examps of the way in which a gentle eminence, —that is, gentle for any country but England, — may be capped with a chapel, so exactly suiting, if we judge from their remains, the contour of the hill, and the general character of the surrounding scenery. These are the chapels of St. Anne, St. Martha, and St. Katherine, all in Surrey. St. Martha, the only one which is perfect and in use, is that which crowns the hill of its own name to the right of the Reigate and Reading line. St. Katherine, a very singular ruin of the fourteenth century, is in the outskirts of Guildford, and gives name to the tunnel, as the same line drives through the hill on which it stands. St. Anne's—a name so well known, from its hill having been Fox's country seat—has disappeared. The once cathedral-church of St. Bertrand is a noble example of the same position. It crowns a solitary conical mountain, one of the detached vanguard of the Pyrenees. Height is its distinguishing feature: a western tower of very noble Romanesque; a nave without aisles, begun in 1304, and finished in 1352; and a choir with eleven chapels, partly Pointed, partly Renaissance, finished on Christmas-eve, 1535. The want of aisles, sadly felt in the interior, gives an imposing appearance of greater height. It has a most magnificent situation. There it stands, isolated in the foreground, the whole central line of the Pyrenees behind it.

The very steepest hill crowned by a church and town duly round it, is that of Durem, in Portugal, so excessively steep, that Portuguese ponies, excellent climbers as they are, can hardly scramble up here, and within the walls of the town a wheeled carriage has never been. The opportunity, however, is quite thrown away: the church is a classical building, and nowise even as such remarkable. The chapel of St. Odile, in Auvergne, occupies a noble position. The mountain at first swells feebly up from the plain, but at the south-west there is a rock which, projecting from the mass, overhangs, in the most romantic manner, the depth below; and on this, and projecting over the abyss, is the Chapel of the Angels.

Referring only to the cathedrals of Durham and Laon, I will but mention one church more, which occupies the summit of a hill, and that a long remarkable one—the Abbey church of Thomas, in Portugal. It is said to be the largest monastery in Europe. There were nine great quadrangles, besides outbuildings of different kinds, and several detached chapels. The longest façade was something over half a mile in length. It is a very curious and a most touching thing to see now, amidst fields of maize or wheat, or barley, a high tomb of some knight or some ecclesiastic, the cold, dark, motionless stone, so curiously contrasting with the young, green, waving life of the field itself. The whole place,—monastery, church, chapels,—is now desecrated. We can form some conception of what must have been the glory of our St. Alban's, or Glastonbury, or Sion House. But Glastonbury could not have occupied the sixth part of St. Thomas so far as it bears on our subject. Thus it is: from the valley of the Gezere, a huge, in itself ugly, half hill, half mound,—something like Plinlimmon in shape, lifts itself up. The summit, to the extent of which I have already spoken, nearly half a mile on every side, is enclosed for, cut down to, made use of by, these nine quadrangles. But the hill still rises within till it terminates in a kind of backbone,—hog's-back, as we should say in England: and on that hog's-back, which itself slopes up from end to end, the church is built. The thing itself is Late Flamboyant. The choir is unique in Europe. The choir itself is sixteen-sided, and of Late Flamboyant. It is united to the nave by a kind of passage, for which no ritual that I am acquainted with has a name. The altar stands in the centre. Around it is an octagonal erection, the eight arches leading on into a Late Flamboyant dome. In fact, here you have a gigantic tabernacle. But this dome terminates in a pier, which pier, rising to the height of some 35 feet, branches out into the sixteen ribs on which the vaulting of the stonework of the external chancel rests. This choir stands, exactly and precisely, on the summit contained by the nine quadrangles of the hill on which those nine quadrangles stand.

Now let us proceed to another situation. I mean where a broad river, or a lake, exercises an important influence; if it did not on the original erection, anyhow on the present beauty of the church.

The cathedral of Vienne, among French cathedrals, occupies a place in the third class: among Late Flamboyant buildings it stands very high. A broad flight of some thirty or forty steps leads up to the western façade from the Rhone. To my mind there is exquisite contrast between the broad, silvery, lazy, overlapping waves of the idle river, as it floats past—for it is floating rather than flowing—and the sharply-chiselled cusps and foliations and pinnacles and ogees, and delicately carved doubled towers of the late cathedral that hangs almost over its side.

On that I might dwell at much greater length; but I would rather speak of a cathedral church which may be, even by name, unknown to most of you. I mean that of Maribœ, in the island of Falster, in Denmark. Of the general character of Danish churches, I shall hope to say something presently: of this I wish especially to speak as regards its situation. The western façade *gives* (as the French would say) on a little inland lake;—speaking from memory as to the lake (though not as to the church), I say a piece of water of about four acres. Of the colour of the church more directly. But imagine such a cathedral as St. Asaph set down on a sandy plain, surrounded on all sides but the east by the pines and beeches and oaks which make Denmark so beautiful; while, on the east, the little ripples of the lake are continually lapping (and never more than that) against the

* By the Rev. J. M. Neale. Read at the Architectural Museum, as mentioned in our last.

basement mouldings of the chancel. The church itself is not especially remarkable among Danish churches; but its situation, jutting out as it does into a quiet inland lake, stretching away infinitely to the east, but on the north and south skirted, when I saw it in spring, with the lovely contrast of young beech and aged fir: the whole taken together made me think it one of the most marvellous ecclesiological landscapes that I had ever beheld.

Let me now say something as to the localised influence of colour. We are all, I suppose, agreed that a thorough understanding of the power of brick is one of the chief necessities of a modern architect; and, therefore, I often wondered that our architects, who have so often been, and will be more and more, compelled to build in brick, should not have made a study of Danish ecclesiology. In Alsen I made my first acquaintance with Danish brickwork. In the islands, in Acroe, in Falster, in Moen, above all in Lealand and in Zealand itself, we learn what local necessities can do in originating a local style. It is clear that, from whatever reason, stone was utterly unobtainable by the Mediæval architects of Denmark, except for some such great effort as the cathedral church of Roeskild, the virtually, though not nominally, metropolitan church of Denmark; and the truthfulness and honesty with which they carry out their material are admirable. Only in one instance, so far as I have seen, are their bricks cast in any other form but that in ordinary use. This one exception, and it is not very frequent, is the curved brick necessary for the formation of a flat-headed ogee. Otherwise, the external ornamentation—and most richly ornamented are the churches,—consists of bricks alternately projecting square, and therefore depressed square,—lengthwise or breadthwise,—narrow side, horizontal, or perpendicular, or projecting, in angular fashion. The east end is almost always flat: there is generally in the twelfth and thirteenth century a very strongly-marked decorated moulding under the gable: very frequently, by the simple process of omitting four bricks, a cross is formed—the centre of that gable. In Romanesque examples, which almost always have three equal windows in the east end, the arch is formed of a brown, gritty, ugly sandstone. I never saw a church which so perfectly astonished me as that at Middlefart. Throughout the whole building there is not a single effect produced which could not, in its way, be worked out with those little wooden bricks which are children's playthings, provided glue might be used.

Having alluded in detail to several of the Danish churches, the lecturer proceeded: I was walking one evening, towards the end of May, from Odensee to Middlefart. As the sun was setting, I reached the brow of Denmark,—a very steep and high hill. I should even think it did not fall very far short of Holborn-hill. And then, looking to the southward, and catching the churches which cluster there as thickly as even in Leicestershire, that rich deep tint which six or seven centuries impart to brick, drawn out to its full in the red rays of the setting sun, I thought that I had never seen a more lovely ecclesiastical landscape. And a curious proof from the opposite side of the question was this. A few days after, I was at Cologne. I know no view which I admire more in its way than that of the city as seen from the other side of the river. I arrived there late at night. The first thing on waking in the morning, I went to the window to feast with it once again. I could not imagine what made the whole scene so tame and insipid; but then I remembered, that for a month before, I had been in churches that possessed the richest and deepest of external colour.

Having alluded to the castle-churches of Europe, the lecturer concluded by urging upon architects to do their duty by those materials which God had been pleased to put in their power, and not look for materials which were beyond their reach. Anybody, could he have his wish, would desire stone to build with, money to build with, and a good situation to build in; but the true architect, the brave Christian artist, would build a real Christian temple according to the oldest architectural rule, that of King David—iron for things of iron—brass for things of brass: he would build thankfully and well, with brick if he could not get stone,—and he might build most beautifully with brick: he could even build of mud a Christian building worthy, so far as anything made with hands could be worthy, of the glory of Him for whose service it was erected.

A vote of thanks to the lecturer terminated the proceedings.

THE TEACHING OF THE INSTITUTE OF ARCHITECTS.

THE remarks of "M. A., Cambridge," in the *Builder* of last week, are sound and wholesome. We are so much accustomed to hear and see "the small doctrine of small men" propounded by "mediocrities of to-day," that it is consoling to find men like "M. A." publicly denouncing that doctrine. But why should he suppose that the President of the Institute and the Professor of Architecture in the Royal Academy are implicated in any such foolish "teaching?" and why should they be called upon to repudiate what they have never adopted? What has either of them ever said, done, or written, that could lead to the presumption that they disregard the teachings of Classic art, or countenance the trash so effectively shown up by "M. A.?"

If the senior members of the Institute are to be held responsible for the escapades of these unfledged little ones, their position in the Institute would indeed soon become untenable.

S. S.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this society was held at the House, in Conduit-street, on Wednesday last. Great pressure of matter forces us to postpone a report of the proceedings till our next.

ENGINEERS' FEES.

THE Ashbury Carriage Company engaged Mr. Fothergill, mechanical engineer, to take stock of the materials at their establishment at Openshaw. Mr. Fothergill charged ten guineas for each day of six hours, and his bill amounted to 1,470*l.*, payment of which was refused. An action was brought to recover it, and the Lord Chief Justice, in his summing up, admitted that a London engineer of repute might properly expect ten guineas for each day he was engaged. *The Engineer*, commenting on the subject, says,—"A ruling of this kind is useful, as a precedent, and as fixing, in the minds of those to whom the knowledge is new, the *minimum* rate at which engineering services may be pecuniarily estimated."

AYLESBURY CORN EXCHANGE AND PUBLIC MARKET COMPANY.

A COMPANY having been formed at Aylesbury, in the county of Bucks, and incorporated by Act of Parliament, for the purpose of building a corn exchange and general market, the directors have purchased the site of the White Hart Hotel, and are about to erect upon it buildings from the designs of Mr. David Brandon, comprising a corn exchange 90 feet long by 45 feet wide, and adjoining rooms to be used as offices, reading-rooms, &c., and covered market for 100 stalls, with capability for extension. The capital of the company is 18,000*l.*, with limited powers in addition, and the share list having nearly been filled up, the works will be begun as soon as possible.

COMPETITIONS.

Louth.—The committee for erecting the proposed new church on the site now occupied by Trinity Church, have so far succeeded in raising the necessary funds as to enable them to request architects to send in designs for the edifice. It is to be handsome, but plain; to be capable of holding not less than 650 persons. The walls are to be of Ancaster stone, and the sittings open, and of stained deal. The sum to be expended is 2,500*l.*

Museum and Albert Memorial for Exeter.—Twenty-four designs have been sent in for competition, and a sub-committee has been appointed to select the designs entitled to the first and second premiums. After the award the plans will be exhibited to the public.

Hackney Town Hall Competition.—The Vestry having invited twelve architects to compete for the proposed new town-hall, seven designs were sent in, and the Committee appointed to examine and report on the same have approved and selected the design marked "Nota bene," the author of which is Mr. Sancton Wood, architect, Craig's-court.

The New Town Hall of Drogheda.—The committee for the purpose of selecting a design for the above building having invited a select number of architects to compete, several designs were submitted by the following gentlemen:—Messrs. Lanyon & Lynn, Mr. W. F. Caldbeck, Sir Thomas Deane & Son, Mr. G. Barre, and Mr. J. M'Curdy. After a close examination, two designs were selected as being most suitable—one bearing the motto, "Veritas," the other "Utility and Economy." On the first voting, both had an equal number of supporters, but on a division, the casting vote of the mayor turned in favour of the former, which proved to be from Mr. Barre, of Belfast. The other was from Mr. Caldbeck, of Dublin, to whom was awarded a premium of thirty guineas.

THE EAST LONDON BANK COMPETITION.

THE "Architectural Alliance," in a communication signed by the president, vice-president, and honorary secretary of that association, have addressed the directors of the East London Bank, and pointed out the objectionable nature of the instructions issued, to which we drew attention last week. If the directors do not change their terms, architects who submit drawings will discredit themselves. It is time that competitions for private works were refused altogether.

THE DECORATION OF THE STRATFORD-ON-AVON FESTIVAL PAVILION.

WE have received complaints from one of the competitors for decorating the pavilion, to the effect that the artist selected had sent in full-size specimens of his work, and that these placed the other competitors at a disadvantage. We are bound to say that, so far as the circumstances are before us, we see no ground for throwing blame on the committee. In such a competition it would seem to be quite an allowable act to receive from competitors evidence of ability to carry out their designs. Of other circumstances connected with the selection we are not in a position to speak.

The competitors who responded to the advertisement in our pages were nine in all. No. 1, Messrs. Allsop & Son, Stourbridge; No. 2, Mr. Robardt, Duke-street, London; No. 3, Mr. S. L. Coulton, Robert-street, London; No. 4, Mr. G. Arden, Broad-street, Worcester; No. 5, Mr. A. R. Snelling, Alexander-street, Old Kent-road, London; No. 6, Mr. Holland, Warwick; No. 7, Mr. J. Walker, Stratford-on-Avon; No. 8, Mr. Brothers, Leamington (accepted); No. 9, Mr. Callaway, Stratford-on-Avon. The committee, in their report, recommended that "one of the designs numbered respectively 1, 3, and 8, be selected. In No. 1, completeness of detail and excellence of appointments will claim your attention. Nos. 3 and 8 possess very great merit: in purity of style and harmony of colour they are all that could be desired. No. 8 also shows excellent workmanship in the specimen submitted with the design."

The building is dodecagon: nearly all sent in elevation of one or two bays of the inner circle: about two were in perspective.

THE SHAKSPEARE TERCENTENARY.

The Working Men of England.—Thanks to Mr. Tomlins and Mr. Banks a movement has been organised to enable the working men of England to assist in the celebration.

The City.—A committee is being formed in the City under the presidency of the Lord Mayor. The Lord Mayor has been too timid in the matter.

Clerkenwell.—At the vestry meeting last week Mr. M'Donnell called attention to the Tercentenary, in celebration of which a local committee had been formed, but they were at a loss for a place of meeting. His request, in conjunction with other members of the vestry, was that the committee be permitted to meet in Mr. Paget's room once a week, when it was not required for the purposes of the Board; as such permission would confer a great favour upon the committee. The request was unanimously granted.

Stratford-on-Avon.—Mr. C. H. Bracebridge, in a letter, recommends that the monument to be



NUN APPLETON, YORKSHIRE.——*Plan of Ground Floor.*

erected at Stratford to the memory of Shakspeare, should consist of a loggia, erected on the site of New-place, to inclose a bust of the poet on a pedestal. The loggia, he observes, would admit of elaborate decorations in time to come in the way of statues, relievos, fresco paintings, and inscriptions.

Birkenhead.—The inhabitants of Birkenhead have held a crowded meeting in the town hall, Mr. W. Hind, chairman of the Birkenhead Commissioners, presiding, to consider what action should be taken in the approaching tercentenary celebration. A resolution was unanimously passed, "That it is desirable to celebrate in the borough of Birkenhead the tercentenary of the birth of Shakspeare;" and a committee, consisting of about sixty of the principal inhabitants of the neighbourhood, was appointed to carry out the necessary arrangements. A subscription list was opened in the room, and about 80*l.* at once subscribed.

Newcastle-upon-Tyne.—At a meeting of the Newcastle Shakspearian Tercentenary Committee, it has been agreed to hold the celebration on Monday, April 25th. The new Town-hall and the Music-hall were to be taken, and in the former a musical and dramatic entertainment is proposed to be held, and in the latter a *soirée*. A sub-committee has been appointed, with authority to arrange the necessary details. A deputation attended from the Printers' Society, explaining on behalf of the printers of Newcastle, that they had agreed to have a public dinner in celebration of the event, on Saturday evening, the 23rd April, and that they were prepared to take part in any out-door demonstrations that might be arranged for on the Monday.

America, and the Tercentenary.—The Earl of Carlisle (Lord Lieutenant of Ireland) has written to Hackett, the American actor, intimating that it would probably strengthen the kindly feeling which ought to exist between the two nations speaking the English language, if America would join with England in the celebration of the birthday of Shakspeare.

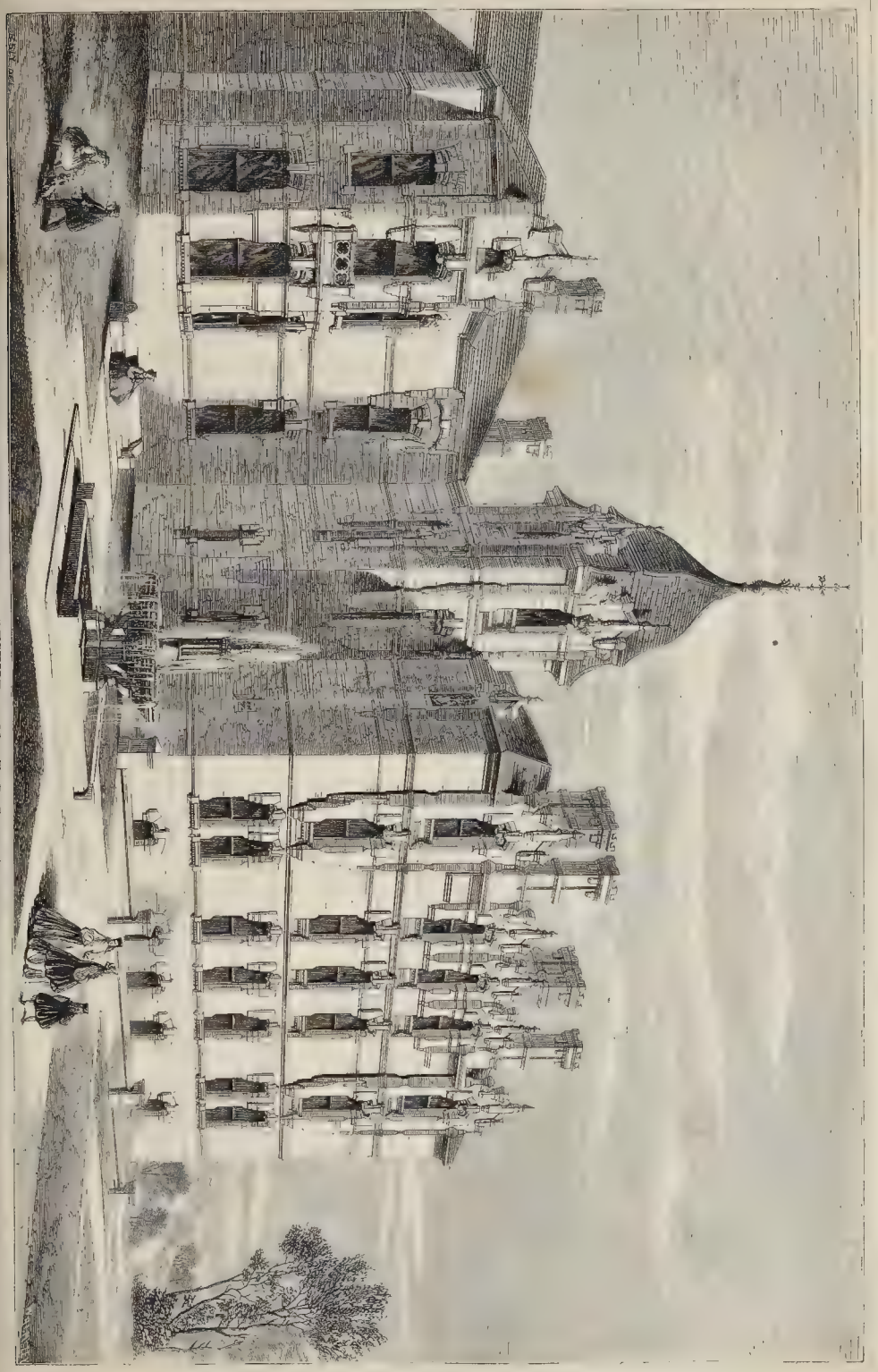
NUN APPLETON, YORKSHIRE.

THE SEAT OF SIR WILLIAM MILNER, BART.

"THE nunnery of Nun Appleton," says Dugdale, "was founded by Adeliz or Alice de St. Quintin in the latter part of the reign of King Stephen, and was commended to the patronage of the Virgin Mary and St. John the Evangelist." Of this first building of Nun Appleton nothing now remains except some early fragments, adorning at the present time the margin of the ornamental waters on the south side of the building. Of these fragments, some of the most interesting show the general character of the architecture of that early period, and that the building must have been exceedingly ornate for what we might now consider a small foundation; for Tanner says, "herein was a prioress and thirteen or fourteen nuns;" but in the 31st of Henry VIII. "eighteen beside the prioress were here." It is curious how the persevering antiquary might speculate upon the fragments of the past he would come across here, for not only do the remains of art of Stephen's time adorn the sloping banks of the lake, but these are intermixed with equally rich specimens of the art in later times,—the flowing tracery of the Edwardian period as well as the crisp picturesque forms of the Tudors, frequently miscalled debased; and, as if to show the mutability of things in general, fragments of all the various periods of architecture seem to have congregated at the water's edge, without a vestige of evidence as to how they came there, except in the records of the foundation of Alice de St. Quintin, briefly described by Dugdale and Tanner.

The nunnery shared the fate of most foundations of a similar kind at the Reformation, for among the abstracts of the rolls, called *Originaliana*, the homages of Guido and Thomas Fayrfax are recorded for the house and site, in the reign of Henry VIII.: there is another grant of the same in 7th Edward VI. to Sir William Fayrfax, Knt. and Humphrey Shelley.

It appears that Thomas Lord Fairfax pulled down the nunnery, and built, upon or near the site, "a stately fabric," says Thoresby, in his Diary, "which has been a noble palace." "The gallery, about 50 yards long, has thirty escutcheons in wood, and painted with the several matches of the family. There are a great number of chimney-pieces of delicate marble of



NUN APPLETON, YORKSHIRE.—Mr. E. B. Lamb, Architect.

various colours, and such a number of rooms, as I heard of none that had numbered them." This building was purchased by "Cousin Milner, in 1711," and was then in a ruinous condition, and the "cupola let in the rain." There is a sketch extant which shows the house to have been very similar to many others of that period, the present south front being the only part remaining. From the two extremities of this projected northward two wings, and probably a connecting corridor or wall completed a square, or nearly square, inclosure or open court. In the centre of the roof of the south front stood the dilapidated cupola. At the time of Lord Fairfax the house consisted of a ground and chamber floor, and the long gallery before mentioned, this being, no doubt, in the high-pitched roof. Thoresby records in his Diary, 1712, that he "was in company with old Robert Tate, who has seen the chapel and some remains of the nunnery; saw the old house pulled down, and a stately new fabric erected by Thomas Lord Fairfax, the General; and now the most of that pulled down, and a much more convenient one (though not quite so large) erected by Mr. Milner." The house must have been very large, as it is spoken of as "abundantly too large."

The alterations by Mr. Milner comprised the demolition of the wings: at the same time, the south side, which was previously a *single* house, was *doubled* by the addition af a large dining-room, library, and ante-room, more lofty than the original rooms on the ground-floor, and over these spacious bed-rooms and attics. These rooms still exist, and are shown in the plan, the dining-room, in the recent alterations, being now the saloon. In the most remorseless manner Mr. Milner denuded the old windows of their mullions and transoms; took off the high-pitched roof, and at once obliterated the long gallery, by raising the walls to a suitable height for a number of flat-ceilinged bed-rooms; and at the same time carried up the new addition on the north side, and covered the whole with flat roofs, and so converted the Gothic "noble palace" into a very indifferent—or as would be said at the present time, a very ugly—*Classic* building. The building was originally of red bricks, with mullions and other dressings of stone. Two three-quarter columns, in brickwork, upon stilted pedestals, were *added* to the centre of the south front, with the entablature *only* over them. Upon the extreme edge of the top member of this entablature was placed a thin balustrade; thus was the Gothic fabric metamorphosed into the fashionable style of architecture of the time. The north front carried out the same character, only the windows, being entirely new, were made much wider, and were adorned with Italian architraves. The whole of the fronts were *tatooed*, in order to form a key for the mastic covering intended to represent stone. This covering was in itself hard, and really very good, but it never adhered well to the stone or brick; bulged out in many places like a sail; and, having been jointed, it fell off in the square slabs represented by the jointed outline. Of course, when once this disaster commenced, it was followed up rapidly to a dangerous extent, so that it had to be entirely removed, a labour of the easiest kind.

In the alteration of the house, 1711-12, by Mr. Milner, it must not be forgotten that even at that time, when architecture was at a very low ebb, many comforts were introduced, among which must be named the common window-sash, which all architects of the present day find it difficult to apply consistently to the mullioned window. It is a difficulty which some endeavour to get over by doing as Mr. Milner did—cutting the mullion out altogether; but this can scarcely be viewed as a right solution of the problem.

As to when the domestic offices were altered at Nun Appleton—evidently at various times, and by different, or indifferent, hands,—there appears no clue; but they had become so dangerous, and were so inconvenient, that nothing short of rebuilding and remodelling could effect a cure of the several evils.

With the recent alterations made under the able direction of Mr. E. B. Lamb, many improvements and additions were introduced: the new wing became an important part of the building; and after the convenient arrangement of the place was determined upon, with the additions of new dining-room, morning-room, &c., an entire alteration of the approach was also made by the entrance on the north side, instead of, as hitherto, on the south side: this alteration left the south side for terraces and gardens without encroachment on their privacy by the general entrance to the house. A new porch has lately been added on the north.

A matter of some difficulty arose now in consequence of the prominence the new wing presented. How was the new work to unite with the old? What was to be the character of the architecture? For, although the building was to be plain and durable, still its size would necessarily impart a certain amount of *effect*; and to render that somewhat satisfactory much consideration was required. The materials to be used—bricks—were of a homely description, though the most excellent that could be, yet not of the same character and description as those used in the old building. Then as to style of architecture nothing remained of the Lord Fairfax's building but the damaged jambs of the windows—and the Italian character the most sanguine lover of precedent would hardly have dared to reproduce. Gothic casements and mullioned windows were thought to be inconvenient: it was therefore determined that with the splendid bricks made on the estate—square, and moulded in various forms—an attempt should be made to apply these materials in such a manner as would be consistent with their nature and convenience of construction, and such pictorial effects as with mere outline and light and shade could be produced. Gothic character—or rather the picturesque effect of the harmonious arrangement of numerous parts both in form and material—with also the harmony of construction, would in some degree produce that charm which renders Gothic architecture so generally popular; but how to benefit by that charm, and at the same time apply modern improvements, has been one of the difficulties in modern architecture. The mere reproduction of ancient art, without amalgamating the modern improvements which science and social comforts have presented to us, only places us in greater difficulty in the nineteenth century than the artists of bygone times ever had to contend with. We of to-day are forced to fit our improvements in social customs to the antiquated moulds, and thus produce those abortions characteristic of no period, though partaking of several, which are not uncommon. The wound the art received by the jump from rational to irrational architecture at the time of the Reformation has not yet been healed; and so long as we "design" without thinking, the art must remain in a torpid state.

In the new wing of Nun Appleton—to use the architect's own words—the endeavour has been to produce an agreeable and pictorial effect out of the materials available for the construction, and to act on a rational system.

It is in contemplation at some future time to alter the exterior of the old building, so as to improve, by some additions, and to recase the present work in the same character as that of the new wing. The porch, as before stated, has already been built.

MARYLEBONE ROAD.

THIS great Boulevard, which intersects and embraces more than half the metropolis, has of late years been subjected to many invasions; so that its pristine character is now totally changed. The railroad subtends its whole extent to King's-cross, and an enormous traffic occupies its surface throughout. It was, twenty years back, fringed with gardens and trees: now it is little distinguished from Mile-end or Commercial-road. Shops, stores, and work-yards line its borders for nearly all its length. The houses stand back from the pavement on an average of 40 feet throughout; but these spaces have been consecutively covered with shops, until there remain only three intervals of open space,—one extending from Park-crescent to near Lissongrove, a short one at Pentonville-hill, and a not unimportant one at its termination in Edgware-road.

Whilst the Metropolitan Railway was under construction, a great obtrusion upon the width of the thoroughfare and its general aspect was suffered to be perpetrated by the erection of an advanced wing to a public-house at the corner of Tottenham-court-road. The westward termination of the line is now threatened with an intrusion which would complete the spoliations so far accomplished. At the least wide portion, nearly opposite Lisson-grove, a line of about thirty-five houses stands back from the road about 50 feet, with fore-court gardens. This was formerly called Winchester-terrace, and runs in direction with the noble ranges of Oxford and Cambridge terraces,—the widest causeway in London. The effect of the view at this part is imposing, and the range, of about half a mile, is terminated on the west, near Victoria Gate, by the fine Church of St. James, and at the east near the Yorkshire Stingo, by a Roman Catholic chapel and school, of lofty, heavy, and plain appearance, the roof being of the barn fashion, and the end advancing before the line of frontage *ten feet*. In front of this there is, however, a fore-court, extending 60 feet to the pavement; in fact, the whole structure is of a singular character. It is about 70 feet deep, fronting Homer-row, by 40 feet in width; and consists of a residential basement, a school for 500 pupils on the first and second stories, and a chapel for public worship on the entrance-floor. The height is colossal, and the huge red fabric effectually blocks and terminates the view as seen from the terraces and the church at the nether end.

At this point it is that a further invasion is meditated upon the open space, by the erection of a school-house, to cover the whole front court 60 feet by 40 feet!

It is admitted that the owners of extensive ranges of house-property have the privilege of covering their fore-courts, where damage to neighbouring property may not be pleaded as a bar to such innovations. The value of this particular row as residential property consists in its open space and planted gardens; but in this case some occupiers and proprietors object to the proposal. The reverend fathers, who are of the Jesuit order, assure them that the proposed erection will screen them (these on the west) from the east wind! What can they say to those on the east?

These questions of spoliation are, however, as much of public as private importance. We find it impossible to get rid of the abominable blemishes in the old City,—Middle-row, Holborn, the straits (7 feet wide) of Chancery-lane, the block in the gullet of Tottenham-court-road, or the equally vile chronic constriction of Wych-street! Is there no remedy for evils such as these? or are railway boards the only authorities who can sweep away masses of habitations, and ordain the reconstruction of whole quarters, with or without reference to the tastes or convenience of the population? Yes, there is a Board of Works, and they have nearly effectuated *one new street of* 300 *feet long*, near Covent-garden! Possibly a commentary in the *Builder*, may draw attention to evils not yet infixed on the metropolis, and begin a new era, wherein there may be greater security against *the this e*, even although the old blemishes and disgraces of structural London remain unredressed.

M. M.

SANITARY MATTERS.

Liverpool.—At a recent meeting of the local health committee, the borough engineer presented the following report on the sewage question:—"That he has bestowed much consideration on this subject, but finds it impossible to deal properly with it in its present form. It constitutes an important part of the larger question of the utilisation of the refuse of the town. The engineer begs to suggest that in order that the whole question may be brought under the notice of the health committee and the council, the town-clerk, the medical officer, and himself should be authorised to investigate and ascertain the result of all the experiments which have been made in other places, and to report fully in such a form as to enable the council to set the question at rest in Liverpool, and permit the sanitary act to be carried out without let or hinderance." After some discussion, it was resolved "That the report be confirmed; and that the officers be instructed to obtain the necessary information, visiting the neighbouring towns to collect that information, and to report."

Tunbridge Wells.—A special meeting of the town commissioners has been held, to consider the question of procuring an improved supply of water to the town. There was a numerous attendance, and it was resolved unanimously that the committee to whom the matter had already been referred should be re-appointed, to ascertain from the two existing water companies whether they were willing to negotiate with the town for the lease or sale of their works, and upon what terms; also to learn what amount of compensation would be required for the plans proposed to improve the supply by Messrs. Nixon & Dennis; to collect further general information, and report upon the whole subject. The cost of carrying

ut the work was estimated by Messrs. Nixon & Dennis at 30,000*l.*

Swindon.—Fifteen inhabitants of the parish of Swindon met at the Town-hall, in compliance with a notice by one of the churchwardens, and a proposition, adopting the Local Government Act for the parish of Swindon, exclusive of the chapelry district of Swindon New Town, was carried by the votes of eleven of the ratepayers present.

BRISTOL SOCIETY OF ARCHITECTS.

FRESCO DECORATION.

The attention of the meeting of this society, held on the 3rd of March, was called to the result of the recent London architectural examination, and one of the pupils present, Mr. William Venn Gough, of Redland, received the congratulations of the society for having passed his examination with credit.

Mr. J. Beavington Atkinson delivered an interesting lecture on "Fresco, and other Modes of Mural Decoration;" but, having recently devoted considerable space to the statement of this gentleman's views on the subject, and the opinions that have been given by artists, it will be unnecessary now to return to them.

At the conclusion of the lecture a discussion ensued, when Mr. W. P. King expressed his opinion that the failure of the frescoes of the Houses of Parliament was owing to the formation of sulphate of soda by the Durdham Down lime that was used. Mr. Atkinson, however, did not consider this possible, as the lime had been proved in chemical analysis to be remarkably pure.

The Rev. Edward Young, Mr. Tucker, Mr. Gabriel, and several other gentlemen entered into the discussion; and Mr. C. Thomas explained the chemical nature of the water-glass, a bottle of which was on the table, that had been imported from Germany. He said that the firm of which he was a member were the largest producers of this water-glass in England, and that they had so perfected the process of its manufacture as greatly to reduce the alkaline portion of the compound.

NEW THEATRE AND OPERA HOUSE FOR BRADFORD.

This new building will soon, it appears, be erected, as plans have been prepared by Messrs. Andrews & Delaunay, architects, and contracts for carrying it out have been entered into by Messrs. J. Burnley, mason; W. Crabtree, joiner; J. Schofield, plumber; B. Dixon, plasterer; J. Thompson, slater; and Edward Harland, painter. The works will be commenced immediately; and it is expected that the building will be ready for opening early in November next. It is estimated that the cost, when completed, including the site, will be about 5,000*l.* The situation will be in Manningham-lane, nearly opposite the end of Drewton-street; and the site comprises an area of upwards of 1,600 square yards. The actual site for the building is 50 yards long by 20 yards wide. The total accommodation will be as follows:—Pit, 600; boxes, 274; upper boxes, 206; gallery, 812: total, 1,892. The width of the proscenium will be 30 feet, and the height 28 feet; and the depth from the front to the back of the stage will be such as to allow of the most effective scenic displays. The corridors, staircases, approaches, and space allotted for each person, will, it is said, be of ample dimensions. The gallery will be approached by a wide and commodious stone staircase, so that in case of fire it could be emptied in a short space of time. Internally, the decorations will be in white and gold, in the Italian style. Externally, the building will be constructed of stone, and the principal front will present a characteristic appearance, which a portico will render still more effective.

THE WORKMEN'S CLUB MOVEMENT.

We have said little hitherto as to the sort of entertainments occasionally given to the workmen in their new and rapidly extending halls. The following, condensed from the *Windsor Express*, may serve to give an idea not only of the nature of such entertainments but of the way in which the working class auditory appreciate them:—

"*The Brentford Workmen's Club.*—The interest taken by certain gentlemen of this neighbourhood in the welfare of the working classes continues unabated, and the men themselves prove their appreciation of what has been done for them by attending regularly at their clubroom, and mustering in large numbers, with their wives and families, when an entertainment is provided for them at the old British School-rooms. On Monday last Mr. Longhurst gave a second musical entertainment in these rooms. The programme commenced with Mozart's overture to 'Le Nozze di Figaro,' for the pianoforte, for four hands and violin, sparklingly rendered by Miss Longhurst (pupil of Mr. Sangster), Mr. Sangster, and Mr. Anderson. Then followed Wallace's charming ballad, 'A Father's Love,' sung with much taste by Mr. Hayes. The duet for four hands from 'The Puritan's Daughter,' by a young lady and Miss Longhurst, was loudly redemanded. A member of the Ealing Choral Union delighted the audience by singing 'Let me like a soldier fall;' they were clamorous for a repetition. Mr. Sangster's clever rendering of Oesten's selection from 'Guillaume Tell' also pleased the audience amazingly; but the gem of the evening appeared to be the overture to 'Fra Diavolo,' brilliantly executed by Miss Longhurst, Mr. Sangster, and Mr. Anderson—pianoforte four hands and violin. A young lady also performed Wolfe's 'Life let us cherish' in so charming a manner as to cause it to be redemanded most enthusiastically. Mr. Anderson performed De Beriott's fantasia from 'Masaniello' for violin, accompanied on the pianoforte by Mr. Sangster, this charming little piece was redemanded. Mr. Hayes created some little amusement by singing a comic song, and was followed by Mr. Sangster, who favoured the audience with the ghost-like adventures of 'Alonzo the brave, and the fair Imogene;' and the concert concluded with the National Anthem."

Portsmouth.—A large meeting, convened by the mayor, has been held here to consider the advisability of erecting a workmen's hall. The mayor presided, attired in his robes and chain of office, and supported by various aldermen and town councillors, and other influential personages. Resolutions were unanimously carried approving of the proposal to erect a hall, and a committee was appointed.

York.—The Workmen's Club here has been opened under such auspices as to give confidence in its success. "Henceforth," remarks the *York Herald*, "the working men of the city will possess a place where they can read, or chat, or smoke, or amuse themselves with different games; in short, an institution which will have all the attractions of the public-house without its dangers and its cost. We hope, then, to witness the club gradually growing in public estimation, so that it may take a permanent place amongst the institutions of our city."

Bolton.—The first Working Men's Club here has been opened. It is on a comprehensive yet economical scale, and in commodious premises, known as Bank House, situate at the junction of Kay-street and Fold's-road, Little Bolton. The mansion and grounds have been purchased for 2,000*l.* The alterations and furnishing will cost some hundreds more. About 700*l.* in donations have been subscribed by gentry and tradesmen, and many working men have taken shares.

Bewdley.—At a special meeting of the council for this borough, held at the Guildhall, it has been finally arranged that application should be made by memorial to the Treasury, for permission to apply a sum of money, not exceeding 1,500*l.*, to be realised by the sale of a sufficient portion of the sum of 4,000*l.* stock in the Three per Cent. Consolidated Bank Annuities belonging to the council, in the purchase of a site and erection thereon of public buildings for the use of the inhabitants for a Working Men's Institute, library, concert-room, &c. The Bewdley councillors must be liberal men.

Tisbury.—A new Library and Working Men's Hall has been opened in this place, under the patronage of the Marquis of Westminster. The proceedings included a public tea, at which 300 were present, after which there were glees and speeches.

CITY CROSSINGS.—LONDON BRIDGE.

Whoever has had occasion to cross King William-street, City, south of the statue, or to cross the roadway on London Bridge, can testify to the delay, danger, and difficulty of the attempt. It was only a few days ago that an unfortunate man was killed in endeavouring to pass between the continuous stream of vehicles of all descriptions which encumber the road. This danger might readily be obviated by the construction of a tunnel under the roadway at either end of the bridge, where it would not interfere with any drains, gas or water pipes.

The example of security to pedestrians given by the railway tunnels at South Norwood, Clapham junction, and elsewhere, are ready proofs. At either end of London Bridge there is ample space to construct the descent into such a tunnel without encroaching upon the direct footway, or intruding upon the habitations on either side.

IDLER IN LONDON.

*** Drawings for such a tunnel at the end of London Bridge were prepared a year or two ago.

M. PIEROTTI'S "JERUSALEM EXPLORED."

This book, for which so much was promised, contains what would seem to be so many plagiarisms, weaknesses, and inaccuracies, that faith in it will be altogether destroyed unless these can be explained away. Some of the views, though claiming to be new, are barefaced copies of known prints and photographs, by Roberton, Tipping, Fergusson, and others. Mr. George Grove pointed out some of these in detail, in a communication which reached us last week too late for publication. We may find an opportunity to return to the subject.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday, the 4th inst., at the House in Conduit-street.

The chair was occupied by the president, Mr. T. Roger Smith.

Mr. Henry Christian was, on ballot, elected vice-president of the Association in the room of Mr. R. P. Spiers, resigned. Mr. Webber was also elected a member of the committee.*

The Chairman, in announcing a meeting for the organization of the voluntary examination class, expressed his hope that as many of the members of the Association as could spare the necessary time would attend and avail themselves of its advantages.

Mr. Gilbert Scott, R.A., then read a paper entitled "Thoughts and Suggestions on the Artistic Education of Architects." This we have given *in extenso*.

At the conclusion,—

The Chairman observed that the paper was a most interesting and valuable one, and contained many practical suggestions which it was to be hoped would be carried out. He was especially impressed with what Mr. Scott had said as to the aim and object of architectural study. The aim of study was to produce buildings, and the requisites for good buildings were good working drawings and thoughtful designs, without which the works when finished could not be good architecture. He recommended the members of the Association to study the human figure and the works of nature, so as to obtain a knowledge of the most beautiful and graceful forms. Such a school of architecture as that which Mr. Scott had suggested would probably do much towards supplying the three great wants of the architectural student—namely, a just eye, a skilful hand, and a correct taste. Such an institution would also do much towards individual improvement in the study of collateral subjects,—such, for instance, as figure-drawing, which was calculated to improve essentially the general capacity to draw. There were in the room at that moment about 100 young men who might become available as the nucleus of a central school of architecture. If the matter could be put into a practical shape, he was persuaded that many present would enrol themselves as students or officers of the proposed association: and for himself he could say that he would be one of the first to come and work at it, whenever time permitted.

Professor Kerr in moving a vote of thanks to Mr. Scott for his paper, observed that the reason they had to deplore a deficiency of artistic skill in proportion to artistic lore was, that young men not being forced to educate themselves were too often of opinion that education in its strict and stern sense was not necessary. It would not perhaps do to say that there was no such thing as genius; but nevertheless, he feared it was a fact. The intellect might be likened to a mill, and whatever came out of it depended very much upon what was put into it. If you put wind in, wind only could come out; but if solid instruction were put in, adequate results would follow. Mr. Scott had already told them what ought to be put into the mill as regarded architecture. The first thing to put in was construction. The student must next get into his mind all he could gather of the architecture of the past; and, having imbibed that, he should turn his attention to modern works, such as were to be found in France and Germany, but especially in the latter. There was, he regretted to say, too much disposition among the flippant critics of the day to pooh-pooh current works, and regard them as unworthy of consideration because they were modern. This was a great mistake, as many of them were beautifully conceived, and were the result of infinite labour and much taste. Having expressed his regret at the absence of æsthetic criticism in the art literature of the day, Mr Kerr proceeded to state that he quite agreed with Mr Scott as to the advantages to be derived from free-hand drawing. They might depend upon it, that architectural drawing would come of itself, but free-hand drawing would not come of itself, though where acquired by study it would be found a most valuable auxiliary to architectural drawing. Free-hand drawing would make the student a thorough draughtsman as opposed to a mere mechanical draughtsman. A knowledge of sculpture and modelling would soon follow. With regard to the proposition of Mr. Scott for the formation of a central school of architecture, he was sure the suggestion would be well received by the Royal Institute of Architects, but he thought such an association ought not to be founded as an independent body. He would be glad to see the two architectural associations more closely connected, because he regarded the one as the parent or senior, and the other as the child or junior, and it occurred to him

* The following gentlemen were elected members of the Association:—Mr. G. H. Pollard, 4, Great St. James-street, Bedford-row; Mr. Robt. Morris, 26, Portman-square; Mr. Alfred Taylor, 13, Furnival's-inn; Mr. W. Faith, jun., 3, Streatham-hill; Mr. A. P. Goodman, 9, Linden-villas, Camden Town; Mr. C. A. Davis, 12, Lowndes-square; Mr. W. W. Bosworth, Prince of Wales-road, Kentish-town; and Mr. G. J. Parry, 5, Kilburn-terrace, Peckham.

that it might be possible for the Institute, by means of classes, or by an extension in some way or other of the principle as adopted in the voluntary examinations lately introduced, to aid in carrying out the suggestion of Mr. Scott. With regard to the long, elaborate, and carefully-digested paper read that evening, all he could say was, that it was an eloquent illustration of how possible it was for a man who had already a great deal to do, to do a little more.

A member inquired of Mr. Scott whether he proposed to carry out in the new public offices at Westminster the three points which he had so justly commented upon in his paper, as essential to the adequate ornamentation of architectural works,—namely, delineations of the human figure, animal life, and the vegetable world.

Mr. Scott replied, that he hoped to be able to do so to some extent, and that the introduction of sculpture formed a portion of his plan; but that of course a good deal would depend upon the parliamentary grants made for the works. With regard to the observations of Professor Kerr, in reference to the Institute, he was sure it would do all in its power to encourage a central school of architecture: at the same time, he differed with Mr. Kerr as to the position which such a school should occupy. In his opinion, it ought to be independent of the Institute and of the Association: and his idea was, that the best art instruction should be given, and that the students should pay for it.

After some discussion, in the course of which it was stated, by Mr. C. J. Adams and others, that the South Kensington Museum of Architecture, however good, was, by reason of its distance, altogether inaccessible to the great body of students who might be expected to join the central school,

Mr. Blashill moved a resolution to the effect, that the suggestion of Mr. Scott for the establishment of a central school of architecture was cordially approved by the meeting, which pledged itself to do all in its power to give it effect.

The resolution was carried unanimously, Mr Scott suggesting that the central school, if founded, might meet for the present in the house in which they were then assembled, and that possibly an arrangement might be made with the authorities at South Kensington for loans, from time to time, of some of the objects exhibited in their museum.

The chairman announced that the next subject for the class of design would be "Semi-detached Villas," and that on the 18th instant Mr. G. J. Wigley would read a paper on Romanesque architecture.

FROM IRELAND.

Royal Bank, Dublin.—The new branch offices of this bank, situate at Arran Quay, are now open, and will afford increased facilities for the extension of banking business in this locality. The façade is of Italian Gothic character, divided into three equal bays of massive piers, surmounted by short shafted columns with carved caps and bases, the frieze being crowned by a richly floriated string-course terminating in raised bosses. The quoins are raised and channelled, and the parapet finished with projecting cornice on moulded corbels; the ground-plan, consisting of back and front offices, fire-proof chamber, porter's-room, lavatory, &c., providing ample accommodation for the officials and the public; the upper stories being reserved for a residence for the manager. The works were executed by Messrs. Daniel Crow & Son, under the directions of Mr. Charles Geoghegan, architect to the bank.

Mining Company of Ireland.—A new residence for the local managers at the smelting and shot works of Ballycorus, county Dublin, has just been completed, the ground-floor containing three reception-rooms, with kitchen, pantries, stable, and out-offices, the chamber-floor having six apartments. The walls are of granite, with projecting cantilever roof, and the dressings are of Belfast red bricks. Messrs. Crow & Son were the builders, and the architect was Mr. Charles Geoghegan.

The Sanitary State of Dublin.—A paper by Dr. Mapother has been read to the Statistical Society on this subject, and of which the *Medical Press* says:—"Had we been told by any less careful and impartial observer than that gentleman, that we lived in the centre of such miasmatic horrors as he discloses, we should have discredited the statement. We have always and we fancy the opinion was shared by most of our town readers—imagined that Dublin enjoyed hygienic advantages superior to most other cities; and though we were aware that great squalor and dire distress existed here and there, we never anticipated such disclosures as Dr. Mapother's paper sets forth. Such is the state of the poor among whom we live; and we dare not look calmly on, regarding such a state of things as a necessary evil. By proper legal machinery judiciously administered, all this might be greatly mitigated. Mortality as great and miseries as hopeless have been combated elsewhere with the reward of thousands of lives. Be it remembered that we are not called upon to legislate so much for the *status in quo* to-day as for the time which has come already more than once, and which will come again,—the time of the typhus, cholera, or small-pox epidemic. Dublin has suffered oftener and more severely from such visitations than other cities, and experience has too well proved that temporary sanitary measures adopted when the plague was at its height were utterly insufficient to stay its progress." Dr. Mapother suggests that "in proportion to the size and population of Dublin, seven officers of health would be sufficient, as a greater multiplication of authorities and reports would be disadvantageous. The combination of the offices of medical attendant of the poor, registrar of deaths, and officer of health, would enable him to direct his attention to any locality where disease, especially of a preventible nature, arose, or where deaths, above the average from any particular cause, occurred, and would lead to a well-directed sanitary improvement." The *Medical Press* on this remarks that "it is evident that no officer of health could be as efficient as the medical man, who is obliged by the stern mandate of the red ticket to constitute himself an unwilling inspector of nuisances for the time: the duties of registrar, dispensary officer, and officer of health would add to the efficiency of others; and time and labour would be economized with advantage to the public service."

Dublin and Antrim Railway.—The works of this line have been commenced near Lissue, the Very Rev. the Dean of Ross and Mr. John Bower cutting the first sods. The contractors for the works are Messrs. Greene & King.

Ballyclander (Downpatrick).—The Orange Hall recently erected in Ballyclander, on a site given by Mr. William Johnston, at Ballykilbeg House, has been inaugurated by a *soirée*. The hall is about 45 feet long by 30 feet broad, and proportionately lofty. Besides the special purpose to which it is dedicated, it will be used as a place for holding a Sabbath school, prayer meetings, and other assemblies of a religious character.

Ballymoney.—Few towns in the North of Ireland have undergone such marked improvements within the last ten years as Ballymoney. Amongst these improvements is the new bank in High-street. The Belfast Banking Company purchased, about twelve months ago, the Ball Room, or the Assembly Room, as it was lately called, for the erection of a new bank building, which is finished. The exterior of front and gables is in coursed ashlar and Portland cement. The roof is partly hid from view by a parapet, surmounted by balustrading. The upper and basement stories are divided by a heavy moulding, which corresponds to the moulding of the entablature, while a smaller moulding runs round the upper windows. The architect was Mr. James M'Nea, of Belfast; and Mr. Samuel Crawford was the contractor. The works were executed under the superintendence of Mr. James Alcorn.

THE BUILDING ACT AND THE VESTRIES.

AT a recent meeting of the Islington vestry, Mr. Bolton moved,—

"That this vestry is of opinion that, for the protection of the public, and in order that proper and efficient control may be exercised over buildings in course of erection, it is necessary that the supervision of such buildings should be transferred from the Metropolitan Board and the District Surveyors to the chief vestries and local Boards of the metropolis. That a special committee of sixteen members be appointed to give practical effect to the preceding resolution, by communicating with the other local authorities of the metropolis, with the view of bringing the proposed alteration to the attention of the Legislature, and, if necessary, obtaining further powers of supervision."

Mr. Edmeston, Mr. Reddish, and Mr. Timewell spoke against the motion; and it was ultimately negatived by 38 against 5.

RAILWAY MATTERS.

THE traffic receipts of the railways in the United Kingdom for the week ending the 4th of March, 1864, upon a mileage of 11,222¼, amount to 533,373*l.*, being equal to 47*l.* 16*s.* per mile. For the corresponding week of last year the receipts were 504,866*l.*; the number of miles open, 10,738¼, or 47*l.* per mile. A comparison of the two weeks shows an increase in the aggregate receipts of 28,507*l.*, and of miles open 484¼, being at the rate of 58*l.* 18*s.* per mile. On the lines having termini in the metropolis, according to the *Railway News*, the increase has been on the Great Eastern, 480*l.*; Great Northern, 2,784*l.*; Great Western, 2,217*l.*; London, Chatham, and Dover, 696*l.*; London and North-Western, 6,990*l.*; Metropolitan Extension (London, Chatham, and Dover), 490*l.*; Midland, ½,114*l.*; North London, 89*l.* On the metropolitan lines there is a decrease upon London and Blackwall, 87*l.*; London and Brighton, 1,715*l.*; London and South-Western, 942*l.* South-Eastern, 1,354*l.*; the Metropolitan, 227*l.* On fifty lines of railway, with 9,902¾ miles open, the aggregate receipts for goods and minerals were 305,709*l.*, and for the corresponding week of 1863, on the same number of lines, with 9,629 miles open, 273,160*l.*, showing an increase of 32,549*l.* The receipts from passenger traffic on the same lines were 180,794*l.*, and for the corresponding week of last year, 187,108*l.*, showing a decrease of 6,314*l.*——The North-Western has a capital of nearly forty millions: it has upwards of 1,200 miles of line open; and it takes 90,000*l.* a week over the counter.——The alarm caused by a recent accident on the Gothland incline, has induced the directors of the North-Eastern to order a new and more powerful rope of copper wire, to replace the one which broke. The new rope is stated to be 1¼ inch diameter. Passengers continue to walk up and down the incline, a distance of nearly a mile.——The New Zealand papers record the opening of the first railway in that colony, between Christ Church and Heathcote, in the settlement of Canterbury.——A Paris letter in the *Indépendance* of Brussels says;—"It is asserted that MM. de Rothschild & Co., have arranged with the Italian Government for the purchase of its railways. The contract of sale has been signed by M. Minghetti on the one hand, and by MM. de Rothschild & Talabot on the other. The purchasers will take possession of the whole network of the Italian railways with the fixed and rolling plant on the 1st October next: they also engage to make a considerable advance of funds to the Government immediately, and have further promised to respect the rights of the railway officials to a certain extent."

BOROUGH SURVEYORSHIP OF DERBY.

THERE were forty candidates for this appointment. On examination of their respective claims by the committee, the three following gentlemen were recommended to the town council as equally eligible, viz.;—Mr. Alfred Fowler, of Leeds; Mr. James Lemon, of London; and Mr. George Thompson, of Derby. Ultimately Mr. Thompson was elected to fill the office.

The following resolution was passed unanimously:—

"The Local Board of Health and Corporation of the Borough of Derby have pleasure in stating, on behalf of Mr. Fowler, of Leeds, and Mr. Lemon, of London, who were candidates for the office of borough surveyor, that although the choice of the Board has fallen upon Mr. Thompson, of Derby, all three gentlemen were considered to be fully competent to fulfil the duties of the office of borough surveyor, they having been selected by the joint committees, out of a list of forty applicants, as fully qualified for such office."

A vote of thanks to the retiring engineer, Mr. T. C. Thorburn, was also passed unanimously.

There is a nice feeling in all this.

GAS.

LORD DERBY has presented a petition in the House of Lords, from Vauxhall, against a bill promoted by the Phœnix Gas Company. As the object of the bill was to extend an existing company he said he could not hold out any hope to the petitioners of having it rejected on the second reading; but when it was read a second time he would move that it be referred to a select committee.

AT Richmond, the supply of gas is in the hands of a lessee, who has given much dissatisfaction, both as to price and quality, and the directors of the company have resolved to refuse a renewal of the lease, which expires in December next, after which, they propose to reduce the price as well as, no doubt, improve the quality of the gas supplied. The directors report the continued prosperity of the company, and propose to increase their works. They have just recommended a dividend of 8 per cent. which has been adopted at the company's annual meeting.

The Croydon Gas Company have declared a dividend for the half-year, at the rate of 7½ per cent. (per annum, we presume) with a bonus on the old shares.

The Cuckfield Gas Company have just held their annual meeting. The directors report an improving state of affairs. They some time since reduced the price of gas to 8*s.* 4*d.* per 1,000 feet, and were pleased, and no doubt surprised, to find that the number of consumers increased, and the prospects of the com-

any improved under the circumstances. The ompany have declared a dividend of 5 per cent. er annum.

The Tenterden Gas Company have declared a ividend of 5 per cent. per annum, and a reserve f 276*l.* for additions and improvements to the orks.

The Longton Gas Company's directors have resented a congratulatory report to their share-olders, recommending the payment of a dividend f 7 per cent. In addition a considerable sum as been placed to the credit of the guarantee nd.

Some of the inhabitants of Lyndhurst are nxious to have gas, and several hundred shares ave been promised to be subscribed for. It is nought that with a capital of about 3,000*l.* or ,000*l.*, in 2*l.* shares (limited liability), the works ould pay from 5 to 7 per cent.

The Wolverhampton Gas Company have an-ounced another reduction in the price of gas—amely, from 3s. 4d. per thousand cubic feet, the resent maximum price, to 3s. per thousand hirteen candles). The chairman states that his is the sixth reduction made in seven years, nd that the total diminution made in the price, nce the commencement of 1857, is 2s. per housand cubic feet, or 40 per cent. upon he amount then charged—namely, 5s. per housand. We doubt not, remarks the local *Chronicle*, that the directors, in anticipating a rge accession of customers as the result of the owering of the rate, will in due time find their xpectations fully realised.

The Malmesbury Gas Company have reduced he price of their gas 10d. a thousand. There has een for some time a contention between the com-any and the consumers on this point, the latter ating that the reduction would be followed by ncreased consumption; but the company have itherto refused, mainly on the ground that the ividends have not yet averaged 5 per cent. hould the present reduction be met by a pro-ortionate increase of consumption, they will on nat event make a still further reduction. The resent price is 6s. 8d. per thousand, and the ontract price of coal 17s. 6d. per ton.

The inhabitants of the outlying villages round Warwick are exerting themselves to obtain gas. everal meetings have been held, at which peeches highly favourable to the movement ave been made.

The Dudley Gas Company have resolved to ake a further reduction in the price of their as.

The Chard Gas and Coke Company have een compelled by threat of a new company to educe the price of gas from 7s. 6d. to 6s. 6d., nd improve it, both in quality and quantity.

The West Bromwich Commissioners have etitioned Parliament, praying that, in the Act ought for by the Birmingham and Staffordshire as Companies, the price of gas to persons con-uming less than 25,000 feet per quarter be estricted to 2s. 11d.; to those consuming over nat and less than 100,000 feet, 2s. 7d.; and to hose consuming more than 100,000 feet, 2s. 3d.; lso that incoming tenants be not liable to pay rrears for gas due by previous occupants, or ave their supply stopped on refusal.

At a meeting of the Stockport Town Council, eld on Monday last, the accounts for the year 863, presented by the gas committee, were dopted. It appeared that, after paying 5 per ent. to the council on the capital invested in he works (notwithstanding the large and exces-ive amount of rates and taxes paid, as com-ared with former years) there was a balance eft of 3,666*l.* 18s. 3d. This balance, with the nterest paid, would be equal to a dividend of bout 11·25 per cent. on the invested capital. The quantity of gas produced in the year was 4,086,000 cubic feet, being an increase of ¼ millions of feet over the year 1862, though onsiderably under the ordinary quantity of gas roduced at the works when all the cotton-mills re working full time. The "leakage," compared ith the two or three preceding years, had been educed to an extent of 7 per cent., which fact, f itself, accounted for a considerable portion of he large balance left in the hands of the gas ommittee. The wise policy of a reduction in he price of the gas (of about 24-candles illu-inating power) from 5s. outside, and 4s. 6d. nside, the borough, to one uniform rate of 4s. er 1,000 feet to ordinary, and 3s. 6d. per 1,000 et to the largest consumers, took effect on the st January last.

The annual report of the Cockermouth Gas-ight Company's directors states that, in accord-nce with a resolution passed at the last annual meeting, the price of gas had been reduced to consumers from 5s. to 4s. 6d. per 1,000 feet. The sum of 105*l.* had been expended during the year in laying new mains, &c.; but, after paying all expenses, a balance sufficiently large remained to enable the committee to declare a dividend at the rate of 8 per cent. per annum. The report was unanimously adopted by the meeting.

The South Shields Gas Company have declared a dividend for the past half-year at the rate of 9 per cent. per annum on paid-up capital. They have also authorized an extension of their works on account of increased consumption of gas.

At Cardigan St. David's day was a greater day than usual, from the opening of the newly-erected gasworks to supply the town for the first time with gas. Mr. T. Andrews, of Swansea, is the engineer; and Mr. J. Vicary, of Exeter, was the contractor.

NEWS FROM SYDNEY.

The erection of the new Post Office is still in abeyance, it being understood that the Government are negotiating for the purchase of the land through to Pitt-street, and intend to carry a row of shops along the frontage of both streets, and to place the Post Office in the centre of the block. The only large Government building now in hand is the new wing of the Australian Museum: the greater portion of the framework for the roof is up, and several of the capitals are fixed. The additions to the Government Printing Office are nearly finished.

The finest structure in progress in the city, according to the local *Herald*, is the new building for the Australian Mutual Provident Society. The ornamental elevation in New Pitt-street is now finished, with the exception of the group of statuary which is to be placed over the centre of the balustrade. The subject of this piece of sculpture, which has been executed in Melbourne by Mr. C. Summers, is "Australia receiving the gifts of Peace and Unity," life-size and draped in the Greek type. The right hand holds a cornucopia, and the left bears a bunch of palm. The supporting figures—a youth and woman with a child—symbolise the vigorous adolescence of Australia. The group was formed in plaster: it is now being cast in iron.

The foundation stone has been laid of an addition of thirty feet to St. Barnabas Church, which will provide sittings for 300 persons. The new elevation, which will face Parramatta-street, will be in the Gothic style. The foundation-stone has also been laid of a Gothic parsonage contiguous to St. Paul's Church, Redfern. The work has been contracted for by Mr. Lavers.

The Wesleyan school-house in Bourke-street, Surrey Hills, is now completed.

In George-street a block of new buildings for an extensive ironmongery business has been opened. The elevation is in the Italian style. The ground-floor of the shop is 60 feet wide, 14 feet high, and extends back 102 feet. The store exclusive of the ground-floor under the lantern light, contains 173,000 cubic feet, which is equal to 4,300 tons measurement. One of the noticeable features in this store is a travelling hoist, by which packages can be taken from any part of the floors, and at once lowered into the drays. This contrivance is the manufacture of Messrs. P. N. Russell & Co., is worked from the ground-floor by means of endless ropes, and is travelled north, south, east, or west as required.

The York-street elevation is of brick pointed with stone. The upper story of the George-street elevation is carried on a wrought-iron tubular girder 61 feet in length, and weighing 6 tons 1 cwt. 21 lb., the largest girders yet made in the colonies. The floors in the interior of the George-street warehouse are all supported by single web wrought iron girders, altogether weighing upwards of twenty-three tons. The girders were the manufacture of Mr. Penny, of the Glebe.

The masonry has been performed by Mr. Sutherland, the brickwork by Mr. Edgley, the plumbing by Mr. Moorehouse, and the painting and decoration by Messrs. Watson & Fraser. The whole of the work was undertaken and carried out—under the direction of Mr. E. T. Blacket, architect—by Mr. Alexander, builder and contractor.

Various other business premises have been erected of late in different parts of the town.

In an interesting article on the mortality of males and females in the colony, the *Sydney Morning Herald* says:—"To a thousand females who die, there die 1570 males in the whole colony, 1871 in the provinces, 1231 in the city, 1152 in the suburbs. To every thousand males living in the colony the proportional number of males who die in a year is 18·41; while to every thousand females living the proportional number of females who die is only 15·76. Therefore, assuming the population of the colony to consist of males and females in *equal numbers* (100,000 males and 100,000 females), the mortality of males is so decidedly higher than that of the other sex that to every thousand deaths of females the number of males' deaths is 1168 in the colony, 1226 in the provinces, 1290 in the city, and 1152 in the suburbs. Why the proportional number of deaths should be so much in excess on the side of the males, and why the excess should be higher in the city than in the suburbs and the provinces, are problems we do not pretend to solve. Again, as to the difference between the mortality of the sexes in the colony and in England, the comparative results are the following:

	England.		N. S. Wales.
Deaths of males to 100,000 males living	2321	...	1841
Deaths of females to 100,000 females living	2173	...	1576
Mortality of females below that of males	148	...	265

The superior vitality of the female over the male sex is here represented by 148 in England against 265 in New South Wales."

CHURCH-BUILDING NEWS.

Truro.—The church of St. Ladock, near Truro, Cornwall, has been reopened, after restoration by Mr. Street, architect. The whole cost, 2,000*l.*, has been borne by the rector, the Rev. R. F. Wise. The new work is Early Decorated. The east window is a three-light, with stained glass. The subject in the second light is Mary the sister of Lazarus wiping the feet of our Saviour with her hair, as he sits at the table of Simon the leper. The window was by Messrs. Morris & Falkner, and intended as an imitation of ancient glass. The roof-screen is of oak, carved. The church is fitted with open sittings, all of which are covered with scarlet pile carpet.

Llandwrog. The parish church of Llandwrog, which is about seven miles on the Lleyn side of Carnarvon, has been rebuilt at the cost of Lord Newborough. The new church, which is in the Decorated period of Gothic architecture, consists of a nave, 63 feet 9 inches by 17 feet 6 inches; chancel, 27 feet by 19 feet; north and south transepts, 20 feet by 19 feet 6 inches; the Glynllyfon chapel (which is designed in a later style than the church) on the south side of the chancel; a robing-room on the north, or opposite side; and a tower or spire, about 110 feet high. The lower chamber of the tower serves as a south porch. The churchyard is approached from the south side through a lytch gate, in the same style as the church, and made in the neighbourhood. The material used in the construction of the walls is Anglesey limestone, white being used for the dressings, or ornamental parts, and black for the rubble work, or general outside faces of the walls. The walls, internally, are lined with Bath stone. The spire is of white limestone. The roofs (covered with Carnarvonshire slates) are of pitch pine, stained and varnished, springing from carved stone corbels. The whole is lighted by traceried windows, of various designs. There is a stone screen, supporting the minstrel gallery, at the west end; a carved screen of oak within the arch, at the intersection of the chancel and Glynllyfon chapel; and a light wrought-iron screen in the chancel arch. The seats are arranged in the manner of stalls in college chapels, and are of carved oak. The east window, which is a memorial to the late Lady Newborough, and several of the other windows, are filled with stained glass. A warming apparatus, furnished by Mr. W. Bennett, of Liverpool, is placed in the vaulting below the church. The designs for the church and lytch gate were furnished by Messrs. Kennedy & Rogers, of Bangor and London, architects; but the external fittings have been carried out under Lord Newborough's own superintendence, and the whole of the works have been completed at his lordship's expense, which is stated at from 6,000*l.* to 7,000*l.* That portion of the work carried out under the architect's direction was contracted for and executed by Mr. W. T. Rogers, builder, Beaumaris.

Rhodes.—A Lancashire paper records the consecration of All Saints' Church, Rhodes. About ten years ago, it states, a small edifice, to serve

as a church and a school-room, was reared at Rhodes, to meet the wants of the Church-people of that village. Since then the congregation has so far increased as to warrant the attempt at enlargement, and to make it a church with a district, apart from and independent of the one to which it has hitherto been attached. The enlargement consists of a chancel added to the east end, and a further addition to the west end. The church now consists of a chancel, nave, and south porch, with open timbered roof. The pew system is abandoned, the sitting accommodation being open benches, which are all free and unappropriated, and capable of seating about 400 persons. In the chancel is a large circular window, with five divisions, all of stained glass, the principal representations being "The Nativity," "The Crucifixion," and "The Resurrection." The body of the church is lighted with six windows (all new) of cathedral glass, and bordered with amber. Gas is also introduced. The church is flagged in the usual way, with the exception of the chancel, which is laid with red, white, and blue tiles.

Preston.—A subscription has been commenced for raising funds for building a new church in Parr, in lieu of the church lately burned down there. A new site has been selected, and it is intended to erect a church capable of holding 800 persons, at a cost of about 3,000*l.*

PROVINCIAL NEWS.

Ynysmeth. An order has been received from the Home Secretary for the erection of a new gaol here. It is said, however, that in order to avoid the great expense incident upon the erection of a new gaol, representations will be made to Sir George Grey as to the advisability of transferring all prisoners, male and female, sentenced to terms of imprisonment exceeding three months, to the county gaols of Wymondham and Norwich. It is estimated that a new gaol will cost somewhere about 7,000*l.* A portion of the 11,000*l.* to be received by the Corporation from the Admiralty, for the purchase of the land in the locality of the Royal Naval Hospital, Southdenes, will probably be devoted, should the consent of the Treasury be obtained, to the erection of the new buildings, in the event of the Home Secretary insisting upon the construction.

Biddestone (*Somerset*). The contract for building a clock tower in the Market-place has been taken by Mr. A. Pettit, builder, of this place, for 120*l.*

Wandsor. The new alms-houses building under the will of the late Mr. Chariot, and connected with William-street Chapel, are approaching completion.

Basingstoke. It has been resolved to erect a new corn exhange here. The committee appointed to carry it out have had a conference with the members of the corporation, and resolutions favourable to the object in view were passed at the meeting, a new committee appointed, and a subscription list opened, with 1,200*l.* in shares. The sum required is about 3,000*l.*

Sherborne.—The Yeatman hospital plans were recently laid before the local Board of Health for approval. The hospital is to be erected near Back-lane. The materials are to be Ham-hill stone, and Sherborne stone, lined with brick. The internal walls are also to be of brick, and the roofs to be covered with stone tiling. The bye-laws of the Board of Health provide that every habitable room should have an average height of 8 feet. This was found to be not the case with the centre room immediately under the roof. The attention of the architect was called to this bye-law, and he replied that the room was not intended to be habitable. As, however, he had provided for a floor and ceiling, and it appeared to be just the place to be used on an emergency, the Board felt compelled to return the plan unapproved.

Cardiff.—The Cardiff Hotel Company is about to be formed for the purpose of building and establishing a first-class family and commercial hotel in Cardiff. The capital will be 15,000*l.*, in 600 shares of 25*l.* each.——A portion of the premises belonging to Messrs. Price & Sons, at the corner of Caroline-street, Cardiff, is about to be taken down, for the purpose of making way for a larger and more commodious building. The new building is designed by Messrs. Hartland & Son. The contract has been taken by Mr. L. B. Moore.

Bideford (*Devon*).—The foundation stone of the Northam Burrows Hotel has been laid. The hotel will be built by a company formed for the purpose of erecting a family hotel in the immediate neighbourhood of the Pebble Ridge, Northam, and for the management of an estate on which it is intended to build villas and lodging-houses. A contract for the erection of the hotel has been entered into with Mr. Estcourt, of Gloucester, for 4,365*l.* In addition to this, it has been determined to lay out 300*l.* in the construction of roads and walks. The design of the building has been planned by Messrs. Medland, Maberly, & Medland, of Gloucester and London. It will be built in the Domestic Gothic style of architecture, and will contain 33 bed-rooms. The coffee-room will be 34 feet by 18 feet, and the entire area 105 feet by 45 feet. The spot selected for the erection of the hotel is about 2¼ miles from Bideford, and close to the village of Northam, or "Northam Town." In honour to Charles Kingsley, whose work has done so much to excite public attention to the beauties of the scenery of the north of Devon, the hotel has been christened "The Westward-Ho Hotel." The foundation stone was laid by the Countess of Portsmouth, in presence of a large concourse of people.

THE STAGE.

Royal Italian Opera. — Mr. Fred. Gye has issued a famous programme for the coming season, commencing on the 29th inst. To Mdlle. Patti, Madlle. Battu, and others known, have been added, Madlle. Pauline Lucca, Madlle. Emilia Lagrua, and other ladies fresh to England; while, on the male side, Mario, Tamberlik, Faure, Ronconi, and Graziani will take their places as of old. The list of operas promised, including two new ones and the revival of "L'Etoile du Nord," which was played only a few nights in the season of 1855, is long and good.

Haymarket. — The monopologue "Bunkum Muller" enables Mr. Sothern to show his possession of other qualities as an actor than those evident in the part that has already made him justly famous. "Bunkum Muller" is full of absurdity; but the completeness of the assumption and the continuous rattle and force of the actor carry it through triumphantly, and will do so for some time to come.

Princess's.—It is not merely the remarkable similarity one to another of the Messrs. Webb which distinguishes their assumption of the two *Dromios* in the "Comedy of Errors," but their peculiar and telling humour. The play, uninterrupted by the fall of the curtain from beginning to end, runs on most glibly, aided of course very materially by the acting of Mr. George Vining, and the audience are kept in a continued state of excitement from the *end* of the first scene to the close of the piece. New scenes have been provided by Mr. F. Lloyd and Mr. Fenton, characteristic and bright, though apparently hasty.

ACCIDENTS TO PERSONS AND PROPERTY.

A WORKMAN employed at the railway works of the London, Chatham, and Dover Company at Blackfriars lost his footing while at work and fell into the river, where he was drowned.——At Nottingham, while workmen were employed on the roof of Franconi's Circus, in course of erection there, the sides gave way and the building fell in, precipitating several of the workmen to the ground, and severely injuring two of them. The accident is attributed to the swelling of the timber by the late rains.——An inquest at Brighton has just returned a verdict of accidental death in the case of a poor fellow employed at the new hotel works in October last, when he laid hold of a wrong rope in attempting to descend to the ground floor by the shortest way instead of going down by the staircase. He was drawn up and got his hands so lacerated by a wheel through which the rope passed that he quitted hold and fell a depth of 82 feet, injuring his spine so severely that he has since died.——At Walsall about 250 feet in length of a railway buttress wall 20 feet high fell suddenly across the line carrying with it various buildings. The line was also flooded by the breaking of a large water-pipe.——A large portion of the embankment on the new line between Llandovery and Llanwrtyd, Wales, recently gave way, and buried two of the workmen. After fifty men had been labouring twenty-four hours, the bodies of the two unfortunate men were dug out frightfully mutilated.——Whilst a joiner was at his work at the new goods station, Monk-bridge, belonging to the London and North-Western and Lancashire and Yorkshire Railway Companies, a prop which supported a pair of "principals" gave way, and one of them—a piece of timber of the weight of 25 cwt.—fell, striking him on the head and killing him. A verdict of accidental death was given under the circumstances.

Books Received.

Shakspeare. The First Folio Edition of 1623. Reproduced under the Supervision of HOWARD STAUNTON. From the Originals in the Libraries of Bridgewater House and the British Museum, by Photo-Lithography. Part I. London: Day & Son, Gate-street.

IT was a good thought on the part of Mr. Staunton to apply the process by which a photograph can be transferred from the collodion negative to zinc or stone, to the reproduction of the earliest authentic texts of Shakspeare's works; and thanks to Messrs. Day, the thought is becoming a fact. The most important of the early editions is the famous First Folio of 1623,—"Mr. William Shakespeare's Comedies, Histories, and Tragedies. Published according to the True Originall Copies. London: printed by Isaac Iaggard and Ed. Blount. 1623;"—and with this the publication commences. Part I., now issued, contains "The Tempest," "The Two Gentlemen of Verona," and part of "The Merry Wives of Windsor," with the "Figure" that "was for gentle Shakespeare cut," and the dedicatory letters and poems. Fifteen similar parts will complete the book, and place within the reach of many what is now unattainable by any. In the reprints, errors have been unavoidable: by the process adopted for the present reproduction, accuracy is certain. The work will be warmly welcomed by all Shakspearian scholars.

Miscellanea.

THE LATE WILLIAM BEHNES.—The intimate friends of this sculptor have formed a committee, to collect subscriptions, with the view to present a bust of the deceased artist to some art institution, and to raise a monument over his grave in Kensal-green Cemetery. Mr. George Cruikshank will act as hon. treasurer, and Mr. Morton Edwards as hon. secretary.

ST. PAUL'S, STRATFORD NEW TOWN.—We hear that a portion of the above newly-erected church will be taken down, as the building is not according to the original plan and contract. The building committee, it is reported, intend compelling the builder to comply with the terms of the contract.

THE PROPOSED NEW WELL AT CROYDON.—Inquiries having been ordered by the local Board of Health into the abilities of Messrs. Lavers and Hall, it was reported that the latter had only sunk two wells, and the former was unacquainted with the sinking of wells with iron cylinders. Mr. Docwra being a party, it was said, well acquainted with such work, his tender has been finally accepted.

MONUMENTAL.—The dean and chapter of York cathedral have given their sanction to the erection of a memorial of Mr. Justice Wightman in the cathedral; the memorial to assume the form of a stained glass window. A subscription list is about to be opened.——A monument has been erected in St. Andrew's Church, Newcastle-on-Tyne, to the late Dr. William Carr, who died from malignant fever caught in the exercise of his professional duties in the fever hospital of the town. The monument has been erected in the south transept: it is in the Gothic style, and of Caen stone, backed with marble. The design was furnished by Mr. Thomas Oliver, architect. The memorial is in the form of a Gothic canopy, after the early French style, supported on a moulded sub-base, and ornamented plinth, with trefoil sinkings, inlaid with Emperor's red marble. Messrs. Craggs & Son, of Newcastle, were the sculptors employed.——It is proposed to erect a statue of Sir Rowland Hill at Birmingham. A committee has been appointed, and a subscription list opened. The erection of statues of living men is not usual. Prince Albert discouraged the erection of such a monument to himself, and thereby showed an excellent example. Moreover, Birmingham may propose such a statue, but will it succeed in erecting it?

Holborn Valley Improvement Bill.—The Parliamentary Committee, after hearing evidence, have declared the preamble of the Bill proved. The total estimate of the proposed improvement is about 500,000*l.*

The Metropolitan Death Rate.—The health of London still continues unsatisfactory. In the last week the deaths rose to 1,677, of which number 741 occurred under twenty years of age, 558 in the period of life from twenty to sixty years of age, and 427 at sixty years of age and upwards.

Milford Haven.—A company has been formed to raise 220,000*l.* to make locks, floating basin, graving dock, wharfage, jetty piers, &c., at Milford Haven. The vast colliery fields, and the chief towns of Wales, are all connected with Milford by a network of railways, as are also London and the north; and very shortly Manchester, too, will be joined by a direct through route. Vessels can sail inwards or outwards whatever the state of the tide may be, and in almost any weather, and the Haven has no bar.

Improvement of Liverpool.—At the last meeting of the Liverpool Town Council, the new bill which authorises the construction of several new streets and other improvements for the borough was under discussion. The principal portion of the scheme is the construction of a high-level bridge extending from the Free Public Library in the direction of the docks to Dale-street. The construction of this bridge was warmly opposed by several members. The cost, it was said, would be 100,000*l.*; and Mr. Gladstone said the claims for compensation would probably equal that sum.

Suffocation in a Bedroom.—An inquest has been held at Gloucester on the body of Mrs. Gough, who lost her life under the following circumstance:—Mr. and Mrs. Gough went to bed about nine o'clock, the latter carrying upstairs about half a bucketful of glowing cinders, just stirred from the grate, which she placed in the bedroom to warm it. The room was small, and possessed scarcely any means of ventilation. Every breath of fresh air had been jealously excluded—the chimney aperture was closed with a board, the windows fitted tightly, and the door was locked. On the following morning, Mr. and Mrs. Gough were found in a state of insensibility, and the latter died about four o'clock in the afternoon. The jury returned a verdict of "Accidental death."

Timber Auctions at Birkenhead.—On the 25th ultimo, at Mr. Edward Challoner's sale, at the timber slip at the Great Float, the timber trade were enabled to judge of the capability of that locality for conducting a branch of this extensive trade of the Mersey. The sale was well attended; and though the smaller cargo of Quebec woods, per *Rienzi* (save the small oak sold at 2s. 9d. per foot, staring and billets at 3s. 6d. per foot, calliper measure) was withdrawn, the very large cargo of the *Pensacola*, from Quebec (little exception), met ready sale at the following prices:—48,471 feet yellow pine timber, 47 feet average, at from 12½d. to 17d. per foot; 12,707 feet red pine timber, 47 feet average, at from 16d. to 20½d. per foot; 1,804 feet white wood, at 2s. 3d. per foot; 1,509 feet elm timber, at 1s. 6d. per foot; 2,109 feet oak, at 3s. 1½d. per foot; 2,325 pieces bright pine deals, second quality, at from 10*l.* 10s. to 10*l.* 15s. per standard.

Mallet's Construction of Piers and Walls.—In putting in the foundations to walls, piers, and similar structures, it is preferred to make the iron caissons of much greater length than has heretofore been usual. The peculiar coffer-dams which form part of the subject of this invention are built on the top edges of these caissons as high as may be desired, and are bolted thereto. They are constructed in large sections similar and interchangeable, made of a strong frame of iron covered with metal plates, preferably as those known as Mallet's buckled plates. A continuous double line of water-tight coffer-dam is formed capable of being taken from at one end and added to at the other as the work proceeds. Another part of the invention consists in attaching or mooring floating landing-stages to the shore solely by means of a system of diagonal bracing, forming a framework which is to be hinged to the shore and dummy respectively, thus preventing any horizontal movement of the dummy, while it is allowed free play in a vertical direction for the rise and fall of the water surface. This system of mooring forms also the support for the approaches.

Locke Park, Barnsley.—The local Board of Health have received the conveyance of the Locke Park from the solicitors of Mrs. Locke, who also intimated that she would invest 1,000*l.* for keeping the park in an efficient state.

Landslip on the Edgware and Highgate Railway.—Owing to the recent heavy rains, a large quantity of earth fell into the cutting in the Highgate Archway-road, and completely blocked up one of the entrances to the tunnel now in course of erection there.

Waste of Powder and Property.—It is estimated that 900,000 lb. of powder will be required to blow up the Ionian fortresses. This represents about 23,000*l.*; to which may be added an odd 5,000*l.* for other expenses of labour and material, freight, &c.; so that 30,000*l.* will barely defray the charges of destroying something like a million sterling of property;—equivalent to the doings of an ordinary earthquake.

Inquiry as to Schools of Art.—On the motion of Sir S. Northcote, a select committee has been appointed to inquire into the constitution and working, and into the success, of the Schools of Art wholly or partially supported by Government grants, or otherwise assisted by the Government, and into the system upon which the sums granted by Parliament for the promotion of national education in art are distributed and administered.

Subways.—Mr. Tite has laid before the House of Commons a Bill respecting the use of subways constructed by the Metropolitan Board of Works. It is proposed to give power to the Board to require that all pipes already laid or to be laid under the surface be laid in the subway; but in regard to the removal of a pipe laid under the surface before the construction of the subway there is a power of appeal to the Board of Trade on the question whether the pipe can be removed consistently with a due regard to the purposes for which it is used. All companies and persons are to have equal right, without favour or preference, so far as space will admit, to lay gas, water, or other pipes in the subways. The Board may demand rent for the use of the subways, the amount to be determined by arbitration in case of difference.

New Hospital for Chorlton-on-Medlock.—This hospital will be erected in the rear of the workhouse at Withington. The building will be erected on the pavilion principle, and lighted on both sides. Each pavilion will contain three wards, with 32 beds in each. The internal measurement will be 124 feet by 24 feet, and 14 feet 6 inches in height, allowing 1,300 cubic feet of air for each patient. Each ward will be provided with suitable accommodation for the nurses. The windows will be opposite each other, and due care will be taken to provide efficient ventilation. Between each block of buildings will be a wide open space for the recreation of patients; and over the corridor which will connect the pavilions will be a promenade of about 220 yards in length.

Chester School of Art.—The medals, prizes, and certificates gained by the students at this school, in the recent Government examination, have been distributed by the mayor, at the Mechanics' Institution. At the meeting, the honorary secretary to the school, in the course of his remarks, said, that from January, 1853, when the school was established by Mr. Davidson and himself, until the present time, the amount of pecuniary assistance received from the citizens of Chester, over and above the absolute payments required for the pupils, was below 40*l.*; that was to say, the city of Chester, during the twelve years, had not contributed 40*l.* towards the undertaking. During the last six years, however, they had received from Government upwards of 800*l.* to promote that which the inhabitants of the town ought to support. The school was a self-creation, and they were exclusively indebted to Mr. Davidson for the creation of it. In addition to its existence there, a branch school had been established at Wrexham, and another at Crewe, at which latter place especially he had heard but one uniform testimony of the value of the teaching. During the last six years no less than 16,000 scholars had been taught in Chester, Crewe, and Wrexham by Mr. Davidson, giving an average of 2,700 in drawing alone. On the day following the meeting, Mr. Davidson gave a lecture on "Animated Nature," the portion of the subject selected being birds. The hall was densely crowded in every part.

A National Gallery in Berlin.—It has been decided to erect a National Gallery in Berlin. The site chosen is in the neighbourhood of the new museum, and the plans have received the approval of the king.

New Colour with Iodine.—From the specification of a patent by Professor Hofmann, we learn that a new colouring matter, which dies silk and wool of a beautiful violet, blue violet, or red violet tint, has been produced with iodine. It has long been thought that if iodine, which yields a vapour in heat of an intense and magnificent violet colour, could be used as a colouring substance, it would be one of the most powerful known. The patented process consists of mixing rosaniline, in certain proportions, with the iodides of ethyl, methyl, or amyl.

Death of Sir William Brown.—Liverpool has lost a great benefactor. Sir William Brown, who erected the free public library and Derby Museum,—opened in 1860, at a cost to himself of upwards of 32,000*l.*,—had reached the goodly age of eighty when he died. The baronetcy was conferred upon him only last year. His grandson succeeds to his title. The deceased was one of the principal merchants of Liverpool. He was born in Ballymena, educated in Yorkshire, and commenced business in Baltimore, U.S. In 1809, he founded the firm, in Liverpool, afterwards well known as Brown, Shipley, & Co., the leading house in the American and Liverpool trade. We should have expected that half Liverpool followed him to the grave. We are told that no one went but those who were invited. Strange!

Telegraphic Progress.—The *Great Eastern*, it is said, has been chartered to carry the Atlantic cable for its submersion next summer. ——The Submarine Telegraph Company's half-yearly report states that the receipts for the past half-year, derived from 185,380 messages, amounted to 25,184*l.* 1s. 2½d.; for the half-year ending 30th June, 1863, from 160,404 messages, to 22,144*l.* 2s. 8½d.; and for the half-year ending 31st December, 1862, from 172,881 messages, to 23,427*l.* 5s. 6½d. A dividend at the rate of 4 per cent. per annum was declared, although the capital has been largely increased by the issue of new stock. The sum of 2,518*l.* 8s. 2d., being 10 per cent. on the receipts, was also added to the reserve fund (which now amounts to 6,441*l.* 7s.). The salaries of the directors were increased from 500*l.* to 1,000*l.*——The numerous submarine telegraph cables now at work in Europe are in the aggregate upwards of 5,600 miles long. These cables range from four miles to 1,500 miles each in length, and they are sunk in water varying from 90 to 9,400 feet in depth. ——At the Royal United Service Institution recently, a lecture was delivered by Lieutenant A. H. Gilmore, R.N., on "The Application of Electric Telegraphy to the Steering and General Management of a Man-of-war." Lieutenant Gilmore's naval telegraph has, it is said, been fitted successfully on her Majesty's yacht the *Victoria and Albert*, on the *Orlando*, and on four other ships.

The Proposed New Police-station, Bath.—At a recent meeting of the Bath town council, the report of the watch committee on this subject was read, which stated that, in accordance with the resolution of the council, passed on the 8th of December last, they advertised for tenders for re-building the central police-station, and received fifty; viz., six for the whole of the works, five for the masons' work, nine for the carpenters' and joiners' work, eight for the slaters' and plasterers' work, four for the smiths' work, eight for the plumbers' work, nine for the painting and glazing work, and one for all the work except the masons' work. The highest of the tenders for the whole of the works was 1,900*l.*, and the lowest 1,468*l.* The committee, after careful consideration, thought it would be best that the whole of the works should be executed by one contractor, and decided to recommend that the tender of Mr. G. C. Mann, for the whole of the works, at the sum of 1,476*l.*, be accepted. The committee also recommended that 50*l.* be granted them for excavating the works between the police-station and the Guildhall, and other minor matters, which it was thought should not be included in the specification. On the motion that the report be adopted, a good deal of discussion took place, and at length it was resolved to re-open the whole question. The site was much objected to as too limited, and rendering the plans unsatisfactory.

METROPOLITAN BOARD OF WORKS: SUPERINTENDING ARCHITECT'S SALARY.—At the ordinary meeting last week, the streets committee recommended that, in consideration of the increased duties of Mr. Vulliamy, the superintending architect, and the apportionment of a proportion of the establishment charges of the Board to the Thames Embankment and Mansion-house street fund, his salary should be increased from 800*l.* to 1,000*l.* per annum. The motion was carried on a division, by a majority of 29 to 4.

THE OFFICE OF BOROUGH ENGINEER AND PROPERTY SURVEYOR AT NEWCASTLE-UPON-TYNE.—From a list of fifty-three applicants for this office, the following seven gentlemen have been selected for further consideration and decision at a special meeting of the town council to be held on the 16th inst., for the purpose of filling the vacant office:—Messrs. T. D. Barry, T. A. Britton, J. Fulton, J. Lamb, E. N. Macdougall, E. L. Stephens, and G. Ridley.

METROPOLITAN RAILWAY SCHEMES.—The Earl of Granville called attention in the House of Lords, on Monday, to the report of the select committee on railway schemes, and moved that the following bills be not proceeded with in the present session:—Victoria Station and Thames Embankment Railway, Oxford-street and City Railway, London Main Trunk Underground Railway, Charing-cross (Northern) Railway, Charing-cross (Western) Railway, Tottenham and Hampstead Junction Railway (extension to Charing-cross), London Union Railways, and Tottenham and Farringdon-street Railway. The motion was agreed to.

LENGTH OF WORKING DAY IN LIVERPOOL BUILDING TRADES.—A question of importance to the local building trades came lately before Mr. J. K. Blair, as judge, at Liverpool. The plaintiff was a joiner, and the defendant, his employer, was a builder. The rule of his workshop, as to the length of the winter day's work, differed from that of the Joiners' Association to which plaintiff, who had infringed his employer's rule, belonged. The suit was instituted to recover a week's wages for summary dismissal. The judge gave a verdict for the defendant, on the ground that the workmen employed by Mr. Hughes, the defendant, were bound by the rules adopted at his particular place of business. This decision disposed of three other similar cases.

CASE OF INJURY AT THE PICCADILLY MAIN DRAINAGE WORKS: NEWTON *v.* THE LONDON GENERAL OMNIBUS COMPANY.—This was an action in the Lord Mayor's Court, before the recorder and a common jury, to recover compensation for an accident occurring through the alleged negligence of one of the defendants' servants. It appeared that in October, last year, the open cutting in Piccadilly, for the Main Drainage works, was protected in some measure by the paving-stones, which were built up in a kind of wall about 2 feet from the cutting. Plaintiff was employed down the hole, and it was deposed in his behalf that a 'bus belonging to the defendants carelessly drove, in passing, against the pile of stones, knocking a quantity down the hole upon the plaintiff, who was much injured about the head. For the defence it was endeavoured to be shown, that the omnibus was driven against the stones by a cart that drew across it, and that it was the duty of the plaintiff's employers (the contractors) to have fastened the stones more securely, or placed a fence round them. The jury awarded plaintiff 50*l.* damages.

THE THAMES EMBANKMENT IN CHANCERY: MACEY *v.* THE METROPOLITAN BOARD OF WORKS.—This was a motion before Vice-Chancellor Wood to restrain the defendants from continuing their works in front of Milford Wharf, on the banks of the Thames, until compensation was awarded to the plaintiff. The defendants had recently drawn up barges in front of the plaintiff's wharf, and commenced discharging chalk, stones, and rubbish into the river, in order to commence the formation of the embankment. The plaintiff insisted that they had no right to take this course until provisions for compensation were made, inasmuch as it amounted to a direct interference with his property. The Vice-Chancellor said that there appeared here to be no trespass whatever on the plaintiff's land, nor any act done which prevented his going again and using it. And in such case alone should an injunction go. There would be damage, no doubt, but that was a question to be considered hereafter. He must refuse the motion. Costs to be costs in the cause.

FRENCH IRON TRADE.—The contract for delivering at Alicante a large consignment of rails has been adjudged in favour of the tenders supplied in Paris, which ranged in price from 11*f.* to 17*f.* per ton lower than British proposals.

THE JOINERS' STRIKE AT ST. HELEN'S.—This strike has lasted for six weeks, and from what has transpired within the past few days there does not seem to be the slightest probability of an amicable settlement. It is now, like many other strikes of a similar character, likely to die away, after having entailed a great loss on the employers and the employed, and caused distress and suffering to the workmen and their families.

THE PROPOSED PARK FOR HULME AND CHORLTON-UPON-MEDLOCK, MANCHESTER.—The Manchester council have resolved that application be made to the Poor-law Board to advance, under the terms of the Public Works Act, the sum of 30,000*l.*, for the purpose of purchasing and forming a public park, in the case of a convenient site upon satisfactory terms being obtained. They have referred the matter to their committee for general purposes, to inquire and report as to the project.

VALUE OF PROPERTY.—The freehold estate of the late Lord Lyndhurst, Nos. 25 and 26, George-street, Hanover-square, was disposed of in two lots. The first included the spacious freehold mansion No. 25, George-street, situate on the east side, close to Hanover-square, for many years the residence of the noble lord; all the fixtures included in the purchase. This lot was adjudged to Mr. Duddell, at the price of 13,000*l.* The second lot, the family residence No. 26, George-street, Hanover-square, adjoining the mansion of his lordship, let by the year to Dr. Hawkesley, was knocked down to the same gentleman, at the price of 5,000*l.*

BEAMS OF WROUGHT-IRON AND BRICK.—At the ordinary general meeting of the Institution of Civil Engineers of Ireland, on December 2nd, 1863, a paper "On Beams of Brick and Wrought Iron" was read by Mr. J. Price, and is reported at some length in the *Engineer* of the 4th inst. The author stated that about two years ago he was led to make use of a peculiar and novel mode of construction for crossing openings, which, under certain circumstances, possesses advantages over the various forms of girders and bressummers commonly used. Being aware of the use of brick arches with tie-bars to take the thrust, it occurred to him that in some cases where an arch was not admissible, stability might still be obtained by a flat beam of bricks, resting on, and connected with, a wrought-iron tie-bar, which forms, in fact, the bottom chord of a beam, bearing the tension, the compressive strains (whose resultants pass from the centre of the top to the abutments at the bottom) being carried by the bricks. Shortly afterwards, an opportunity presented itself of trying, on a small scale, the correctness of these views. Details were then given, and in conclusion the author remarked that a little experience, and a few trials, would soon get rid of all difficulties; and, by gradation, larger spans might be attempted.

THE SYMBOLISM OF COLOUR.—The colour of mourning at the death of near relations is yellow in some Asiatic regions, and among the Quiches, in Guatemala; brown, among the Persians; blue, among the Turks; white, among the Chinese, Anamese, and Siamese; the colour is dark blue in Elmina and dark blue and black among the Quichaus. The Australian, when in mourning, paints his body white, or draws merely a white line across his forehead, nose, or cheeks. The Omahas also use white paint when in mourning; whilst among the natives of North America, black is generally the colour of mourning, and red the colour of war. Among the Mandengoes, in the region of Sierra Leone, white is the symbol of peace. Among the Ashantees and other negro peoples, white is the colour of joy, and they paint themselves white on their birthdays. Priests, ambassadors, and warriors are dressed in white among the Yebus. Persons who have gained a suit, or been acquitted of some crime, dress in white in some parts of Africa. The natives of Elmina, in opposition to the belief of other negro tribes, imagine the good god to be of white, and the bad god to be of a black colour. Among the inhabitants of Tierra del Fuego white is the colour of war, red that of peace and friendship. Yellow, the favourite colour of the Malays and the lowest Hindoo castes, is at the same time the colour of priestly clothing among the Burmese.—*Waitz's Introduction to Anthropology.*

TENDERS.

For new schools, Turnham-green, for Miss Taske. Mr. E. Welby Pugin, architect. Mr. S. Marples, surveyor:—

Kelly	£3,500 0 0
Smith	3,500 0 0
Jackson	3,291 0 0
Cowland	3,290 0 0
Nye	3,269 0 0
Mathews	3,149 0 0
Gascoyne	3,106 0 0
Bird	3,046 0 0

For Burlegh Homestead, Cheshunt, for Mr. Levisk. Mr. Bailey Denton, architect:—

Sainsby	£1,519 18 7
Barnes	1,403 5 0
Cushaw	1,355 5 0
Cushing	1,352 0 0
Surdees	1,332 15 0
Field & Sons	1,300 5 8
Rolling	1,190 10 0

For a residence for Mr. W. Mitchell, Enfield. Mr. F. G. Widdows, architect:—

Bond	£1,352 0 0
Fairhead	1,195 0 0
Cushing	1,180 0 0
Patman	1,119 0 0

For alterations and repair to the Royal George, Lower-road, Islington, for Messrs. Sinclair. Messrs. Hill & Parnire, architects. Quantities supplied

Selluck	£1,317 0 0
Scott	1,283 0 0
Jeffs, Brothers	1,274 0 0
Williams	1,259 0 0
Langmed	1,175 0 0
Harvey	1,075 0 0

For the erection of boarding-school residence, Burdett-road, Mile-end. Mr. Joseph Harris, architect:—

Hearle	£2,143 0 0
Forrest	1,985 0 0
Heiser	1,700 0 0
Masters	1,380 0 0
Wood (accepted)	1,353 0 0

For buildings, West Green-road, Tottenham, for Mr. James Thomason. Mr. F. G. Widdows, architect:—

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Humphreys & Son	2,800 0 0
Wood, Brothers	2,790 0 0
Clarke	2,740 0 0
James & Ashton	2,536 0 0

For Westminster Chapel. Mr. W. F. Poulton, architect:—

Gammon	£14,600 0 0
Fish	14,300 0 0
Higgs	13,950 0 0
Stimpson	13,650 0 0
Jackson & Shaw	13,133 0 0
Myers (accepted)	12,758 0 0

For building a vicarage-house, for the parish of St. Stephen's, Norwich. Mr. R. M. Phipson, architect:—

Worman	£1,055 12 0
Lacey	1,050 0 0
Murray & Son	976 0 0
Plummer & Bloom	969 0 0
Downing	945 15 0
Wright	928 0 0
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For restoring Wherstead Church, Suffolk. Mr. R. M. Phipson, architect:—

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Gaisford (accepted)	£210 0 0

For alterations and additions, for Mr. Bridges, Broadway, Camberwell. Mr. John Thomas, architect:—

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Blandford	389 0 0
Stevens	370 0 0
Humphries	332 0 0
Prescott	319 0 0
Love	318 0 0

For house, Idol-lane, for Mr. Albert E. Farley. Mr. H. R. Fricker, architect. Quantities supplied by architect:—

Parker	£1,286 16 0
Knight	1,245 0 0
Hayward	1,235 0 0
Rivett	1,173 0 0
Downes	1,159 0 0
Kelly	1,149 0 0
Conder	1,060 0 0
Larke	1,068 0 0
Auley	1,050 0 0
King	1,030 0 0
Wood	993 0 0
Peake	980 0 0

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J. L.—A. C. P.—E. A. D.—A. M. F.—D. B.—C. G. (we cannot assist).—F. L.—T. C. C.—A Competitor.—*Fidex.*—F. P.—B., St. Paul's (next week).—Old Masters (we have not time to assist in identifying pictures).—W. C.—J. H.—J. A.—H. T. H.—H. H.—F. C.—G. T.—H. J.—A. M. F.—*Ex Stege*

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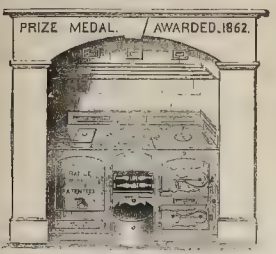


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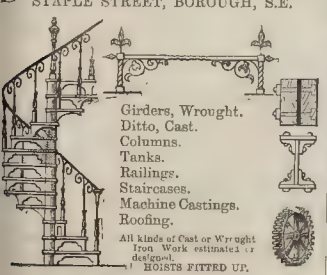
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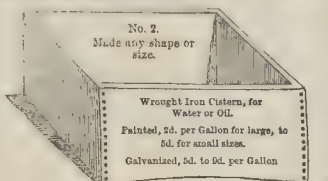
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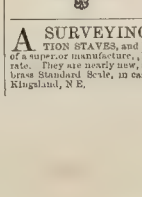
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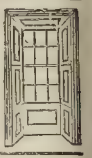
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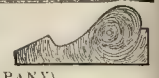
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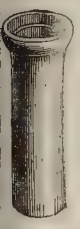
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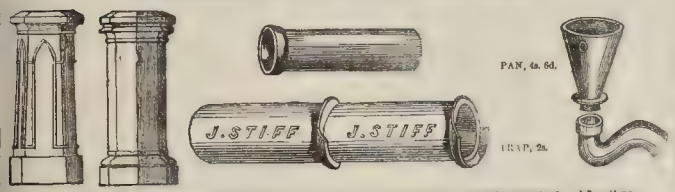
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Manufactures as above.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and

pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor. 2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It affects a saving of half the timber usually required with. It can be easily applied by any ordinary person. 5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT PLITED BREATHING, for Covering Ships' Bottoms, &c and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS. Some Paint-Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. White Lead under the name of "Improved Zinc Paint," [illegible] Two or Three quantities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT"

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

PLASTER ENRICHMENTS,

CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb.

INDIA-RUBBER MILL BANDS,

WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS,
GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

PENCILS, BLACK LEAD, and

COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS.
Sole Agents, HEINTZMANN & ROCHUSSEN, 3, Friday-street, E.C.
SOLD BY ALL STATIONERS AND ARTISTS' COLOURMEN.

PRIZE WAGGONS and CARTS.—

HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders,
Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,
SCOTGATE WORKS STAMFORD.

CARTS, LADDERS, BARROWS, &c.—

GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trollers, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.
Price Lists on application.

GEORGE ELL & CO.
ON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above) the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TERRA COTTA and Fine STONEWARE

POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, Strings, and Panels for Inlaying. Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

TO BUILDERS, BRICKLAYERS, and

OTHERS.—The following goods are at all times ready for delivery at SCALES & CO.'S Pottery and Tile Kilns, near the four mile stone, Green Lane, Stoke Newington, Middlesex, at the lowest cash prices.

Paving Tiles.	Oven Tiles.
Foot Tiles.	Ridge Tiles.
Roofing Tiles.	Paving Tiles.
Pantiles.	Cubular Bricks
Plain Tiles.	Kiln Stock Bricks.
Edging Tiles.	Drain Pipes and Tiles.

Also Chimneys from 2 feet to 6 feet and Garden pots of every description.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. In this Ware the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Sully, in the "Reports of the Jurors," Page 561, of the Great Exhibition, 1851, notes the grant of a First-class Medal and rank the Manufactories known so long as "The Pineries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE

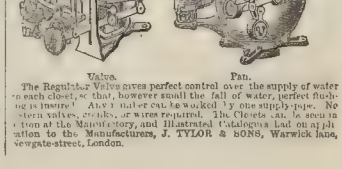
obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851. Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard tables, Table-tops, Baths, Wall-linings, &c. A new Illustrated Catalogue of which can be had at the Pimlico Slate Works, 59 and 60, Upper Belgrave-place, Pimlico, S.W.

J. TYLOR & SONS' PATENT

REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No stem valves, cocks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

SALES BY AUCTION.

GREAT ST. HELEN'S.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, MARCH 18, at TWELVE, in Lots, all the valuable BUILDING MATERIALS and FIXTURES of Two Houses and Premises, Nos 25 and 26, Great St. Helen's, of the usual description.—May be viewed the day previous, and catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq., Architects, 17, Gresham-street, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 9, Parliament-street, S.W.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.

MESSRS. FULLER & HORSEY are instructed by the Official Liquidator to SELL by AUCTION, on WEDNESDAY, MARCH 16th, at TWELVE o'clock at the AUCTION MART, London, in One Lot, unless an acceptable offer be previously made by private contract, the newly-formed FREEHOLD WORKS and ESTATE of the Keynsham Blue Lias Lime and Cement Company (Limited), together with the modern PLANT and MACHINERY. The property is freehold, and occupies a site of 7a. 3r. 26p. or thereabouts. The works were established for manufacturing blue Lias lime from stone quarried on the estate, and for making cement. The existing kilns will cover an output of from 200 to 300 tons of lime and 120 tons of cement weekly; both products are well approved by large contractors and eminent architects. The cement being used in many of the Government fortifications now in progress. Coals are supplied to the works at a very low price, and the Great Western Railway Station is within a short distance. The buildings are very substantial, and the machinery of the best description; the motive power is given by two iron water-wheels, driven by the river Chew, a regular stream of water of great power and there is a steam engine, with boilers, if required. A additional supply of lias stone is secured from adjoining ewn quarries on favourable terms.—May be viewed till the Sale, particulars had at the Mart; and of MESSRS. SLADE & SONS, Solicitors, 47a, Moorgate-street; of F. MAYNARD, Esq. Liquidator, 10, Bread-street, Cheapside; at the Mart, and of Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Proprietor (removing) to SELL by AUCTION on MONDAY MARCH 21st, at TWELVE, Particulars, in the WORKS, Britannia-school lane, Chiswick, the whole thing PLANT & MACHINERY comprising a useful 12 horse power locomotive high pressure steam-engine, an 8-horse power oscillating steam-engine, a nearly new 10 horse power Cornish boiler, a vulcanizer by Dunlop, glazing calender, with cotton and paper rolls; straining machine, a pair of 6-inch double-acting air-pumps, a lathe, colour-mill, twenty tons of dies, quantity of shafting, and numerous other effects.—To be viewed the day previous and Morning of Sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter street, E.C.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS—SWINDON

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MARCH 29th, at TWELVE (or ONE o'clock precisely), in Lots, on the PREMISES, Swindon Foundry, Vastern-rd., Swindon Old Town, the PLANT, TOOLS, and STOCK, including 6 tons 8-inks and boxes, 1 crane on cast-iron standing 2 stories, pot furnace and 4 grinding machines, 2 pulley and shafting machine by Goodwin, fly press, drilling machine, 13-inch centre slide lathe, three 6-inch and 4-inch bore 3-foot stroke, 2 small table steam-engine iron tanks, blocks and tackle, steel tools, stocks, taps and dies, unequal bevels, 12 new grindstones and frames, two portable weighing machines (capable of 2 cwt. and 3½ tons), clod crushing machine, 2 tons of sash-weights, 1 gross plough shares, 3 galvanized iron sheep troughs, 3 chaff-cutting machines, 8 kitchen ranges, 12 iron pig-troughs, 3 ornamental garden seats, quantity of cast iron, wood and leaden pipes, 2 new 2-inch portable trucks, 2 six barrows, an assortment of wood and iron patterns, gas fittings, and other effects.—To be viewed on May 29 prior to the Sale, when Catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO ENGINEERS, MILLWRIGHTS, IRON FOUNDERS, AND SAW MILL PROPRIETORS.

MESSRS. FULLER & HORSEY are instructed by Mr. Lee, who is removing to High Wycombe, to DISPOSE of by PRIVATE CONTRACT, the FREEHOLD WORKS at OAKFORD, known as the MILLBANK IRON WORKS, on the banks of the Thames, long and well-established, in good repute, and in full work. The Premises are well arranged, and comprise a spacious Engineers' Factory, fitted with lathes, planing and drilling machines, steam power, & an iron foundry with two cupolas, fan blast, crane, &c. on the 3rd, pattern makers' shop, a newly-erected saw mill, with capital frame by Hare, circular-saw bench, &c. yard and compact dwelling house. The number of hands in the vicinity of Oxford, and the large extent of flooding operations now in progress in the city and district of Oxford, offer an extensive field for a first-class and lucrative business so well established by Mr. Lee. A portion of the purchase-money may remain if desired. From 2,000l. to 3,000l. capital will be sufficient.—For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

To Builders, Plumbers, Glaziers, Church Decorators, Gas fitters, Ironmongers, Bankers, and Others.—Extensive and Important Sale, Nottingham road, Derby.—TO BE SOLD by AUCTION, by

MESSRS. NEWBOLD & OLIVER, on the Premises called "The Convent," on TUESDAY and WEDNESDAY, the 22nd and 23rd days of MARCH, 1864, the following day if required, in convenient lots, all the valuable BUILDING MATERIALS, with some fine Convent House Stuff, as the Convent is now pulling down, and have been recently used therein, with the exception of the Chapel and "House of Mercy," which will be sold standing), consisting of (amongst other things) tiles, slates, bricks, an extensive quantity of stone pitching, paving, kerbs, window sills, building rails, walling, ironstone, carved work and Bath stone, and other carved works of art; stone crocketed bell turrets, stone fronts, Yorkshire paving and other stone, &c. Also all the wood work contained in the various rooms and floors in the entire Convent, consisting of sash frames, doors, wood plates, beams, joists, boards, doors, and other descriptions of timber; also a very large quantity of glass in the windows, of various sizes, plain and ornamental, good as new; a very large quantity of very good cast and wrought spouting; several thousand feet of 4 and 5 inch excellent school or church stoves; a large pair of entrance gates; also a pair of Gothic front doors, together with all the boundary wall fronting Nottingham-road, with ornamental stone balustrades; also the boundary wall round the garden; large quantities of plain and ornamental iron railings; useful wrought iron work, casting for cisterns and a quantity of good wrought and best cast iron, &c. &c. The whole of the stone and brick-work of the beautiful Chapel, with the Gothic windows and also the main brickwork of the building called "The House of Mercy." The sale to commence each day at TEN for ELEVEN to a minute. The whole of the lots are in good condition, and may be viewed two days prior to and on the morning of sale.—For further information apply to the Auctioneers, Derby; Mr. SAMUEL SMITH, Iron Merchant, Derby, and S. R. BADDELEY, Esq. Solicitor, 1, Jeffrey's-place, St Mary Axe, London, E.C.

CREWE.—FREEHOLD BUILDING LAND—TO BE SOLD BY AUCTION, pursuant to a Decree of the High Court of Chan. by order in a Cause Platt versus Edleston, by the Vice-Chancellor Sir John Stuart, V.C., and to whose report the said cause is referred, by

MESSRS. CHURTON the PERSONS appointed for that purpose, on TUESDAY, the 22nd day of MARCH, 1864, at the CREWE ARMS HOTEL, Crewe, at TWO o'clock in the afternoon, in Lots of FREEHOLD BUILDING LAND, of different sizes varying from 2rd 12rd square yards, abutting on a new road leading from the Nantwich road to the Swinton-road, on a new road leading from the Nantwich-road into Mill street, and north side of the Wistaston new road leading from Oak street to Wistaston. All at Crewe, in the same state in which they are now laid out for building.—Plans of works—particulars and conditions of sale, with plans, may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HENNE, Esq. 12, Regent-street, London, and Newport, Salop; Messrs. PINNIGER & WILKINSON, 23, John-street, Bedford-row; Messrs. GREGORY & CO. Bedford-row, London; Messrs. BROUGHTON & HENSLEY, and RICHARD C. EDLESTON, Esq. Nantwich Cheshire; Messrs. CHURTON, Auctioneers, Chester, and Whitchurch, Salop; and at the Place of Sale.—Dated this 22nd day of February, 1864.

ALFRED HALL, Chief Clerk.

LOWER CLAPTON.—Valuable FREEHOLD and COPYHOLD PROPERTY, including about 11 acres of freehold important Building Land, all free from Land Tax, and Tithe Rent-charge.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Trustees under the will of the late Skinner Turner, esq. to offer FOR SALE, at the MART, on WEDNESDAY, MARCH 23rd, at TWELVE, in six lots, the following valuable PROPERTY, viz.:—A capital and substantial detached Family Mansion, pleasantly situate at Lower Clapton, fronting the High London-road (for many years in the occupation of the late owner), containing eight bed-chambers, three dressing room, day and night nurseries, lofty and secondary staircases, entrance and inner halls, drawing-room 21 feet 6 inches by 14 feet 6 inches, dining-room 22 feet by 15 feet 6 inches, breakfast-room, convenient domestic offices, three stall stable, two loose boxes, three coach-houses, outbuildings, greenhouse, lawn, flower and kitchen gardens, the whole containing 1 acre 1 rood, with the advantage of an extensive frontage to Back-lane as well as to the high road; a compact Residence adjoining, containing five bed rooms, water closet, parlour and dining, containing five bed rooms, water closet, parlour and dining-rooms, kitchen, convenient offices, lawn, and flower garden, in the occupation of R. Lucas, esq. yearly tenant, at a rent of 35l. 17s. per annum; a Pair of excellent semi-detached Residences adjoining, each containing eight bed chambers, dressing room, water closet, entrance-hall, elegant drawing-room, 32 feet by 15 feet 6 inches, dining-room, 23 feet by 15 feet 6 inches, breakfast-room, convenient domestic offices, stabling, coach house, greenhouse, lawn, flower and kitchen gardens, extending to Back-lane, in the occupation of the Rev. J. Davies and Mr. Bailey, esq. and together of the value of about 300l. per annum. These houses are let for 17 years at ground rents amounting together to 90l. per annum, at the expiration of which term the premises will be entitled to further rentals. A detached Residence adjoining, containing four bed-rooms, drawing and dining room, study, kitchen, and offices, lawn, flower and kitchen gardens, containing 1 rood 7 perches, in the occupation of F. Bellinger, esq. yearly tenant, at 56l. per annum. The whole of the foregoing property is copyhold of the manor of Hackney, but nearly equal in value to freehold, being subject only to a small fine certain. Also the very important and valuable Building Land in the rear, known as the Clapton Orchard Fields, possessing extensive frontages to the two roads, and containing 12 acres 2 roods 18 perches, the greater portion of first-rate, admirably adapted for the erection of residences so much in request in this locality, and presenting a most unusual opportunity for profitable building.—May be viewed by cards only, and particulars and plans shortly had of Messrs. WING & DU CANE, Solicitors, 1, Grays-inn square, W.C.; at the Mart; and of Messrs NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

HIGHGATE. VALUABLE FREEHOLD BUILDING LAND, containing Nearly Five Acres

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on TUESDAY, APRIL 5, at TWELVE, VALUABLE FREEHOLD BUILDING LAND, situate in the parish of Hornsey, close to Highgate, in the county of Middlesex, having a frontage to the high road leading from Highgate to Muswell Hill, of about 300 feet, and 300 feet deep, now in cultivation as a garden ground, but beautifully situate for building.—May be viewed and particulars had at the Gate-house, Highgate Railway Inn, Hornsey; of Messrs. CRAWLEY, ARNOLD, & GREEN, Solicitors, Whitehall-place; at the Mart; and of Messrs NORTON, HOGGART, & TRIST, No. 62, Old Broad-street, Royal Exchange.

SYDENHAM, KENT.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, APRIL 1, at TWELVE, in Lots, about 2½ acres of very VALUABLE FREEHOLD BUILDING LAND, beautifully situate at Lower Sydenham, within half a mile of two railway stations, having a frontage of 385 feet to an excellent road, and presenting eligible sites for the erection of villa residences.—May be viewed, and particulars had on the Premises; of Messrs. PATERSON & LONGMAN, 3, Winchester-buildings, Great Winchester-street; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

STRAND HOTEL.—Second Clearance Sale, to clear the Site for the New Hotel.—By order of the Directors.

MR. JOHN R. FOWLER is instructed to SELL by AUCTION, on the PREMISES, on THURSDAY next, the 17th inst. at TWELVE for ONE precisely, His BUILDING MATERIALS of the Premises forming part of Holywell-street. May be viewed, and catalogues had on the Premises; of Messrs. VALLANCE & VALLANCE, Solicitors, 99, Lesser-street, Strand; and of the Auctioneer, at his Offices, 24, St. Swithin's-lane, City, E.C.

AT GARRAWAY'S COFFEE HOUSE, Cornhill, WEDNESDAY, 16th MARCH, 1864, at TWO:—

Timber ..... 1,000 loads, foreign and colonial.
Deals and Battens, 100,000 pieces, do. do.
And other Wood Goods.

HENRY FREEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street

Important Sale of Timber, near Southend, Essex.—Two Days' Sale.

MR. R. HORNER has received instructions from D. B. SCRATTON, Esq. Solicitor to public auction, on TUESDAY and WEDNESDAY, MARCH 22 and 23, 1864, in convenient lots, the whole of the valuable TIMBER, now felled and lying on Hampton-Barns and Barton-hall farms, in the parish of Great Stambridge, close to water carriage, and within a short distance of Southend Railway station, comprising about 1,200 Elm Timber Trees, 500 Ash Timber, 150 Poplar Timber, and Wood Pollards. May be viewed four days prior to the Sale, and Catalogues may be obtained at the principal Inns, and of the Auctioneer, 1, Cambridge-terrace, Southend, Essex. Sale to commence each day at TEN o'clock punctually.

REPOSITORY, BARBICAN.—RAILWAY HORSES, &c.

MR. J. GOWER is instructed by Mr. Jos. Fairbank to SELL by AUCTION, on TUESDAY next, MARCH 15th, ELEVEN powerful HORSES, that have been carting flasks and working on the South London Railway. Also a bay chaise mare, been used by the General Manager, and a portion of the contract being complete.—On view two days prior.

SALE of TIMBER.—14, Bermondsey New Road

THOMAS ROBERTS & CO, will SELL by AUCTION, on WEDNESDAY, MARCH 16th, and following WEDNESDAY, at ELEVEN o'clock each day the FIFTH and LAST portions of the STOCK of Messrs. ROBERT WARD & SON, sold in consequence of their removal to Greaves's road, Pimlico, and will consist of dry Honduras and Spanish mahogany, dry wainscot, English oak planks, elm, ash, dry teak, black and planters, prime dry limetree boards, chestnut, lime, and ash scantlings, dry poplar planks, ash fellies, oak spokes, oak and teak stocks, and all unsawed logs from Honduras and Spain. To be sold in the Timber Reserve. May be viewed on day prior and morning of sale. Catalogues had upon the Premises, and of the Auctioneers, No. 9, Billiter-street, E.C.

PIMLICO.—To BUILDERS, CARPENTERS, SMITHS, and OTHERS. Clearance Sale of BUILDER'S STOCK, in Pretence being left

MR. GEO. GOULDSMITH will SELL by AUCTION, on the PREMISES, Gillingham-street, near Eccleston-place, on TUESDAY MARCH 15th, at ONE o'clock precisely, a quantity of well-seasoned MAHOGANY, Yellow Deals, and prepared floor Boards, cabinets of Smith's shop, powerful punching machine, lathe, anvils, &c. hydraulic press, eight handsome fluted columns and caps, 12-foot high; a open-fronted counter, powerful horse gear and saw bench, very handsome clear mahogany counter, five other carthorses and a bay mare, four-wheel Clarence cab, wheels, fire-wood, and a quantity of useful materials of Builder's trade. Also a few lots of Household Furniture.—On view the day preceding and morning of sale. Catalogues on the Premises, and at the Auctioneer's Offices, No 6, Pont street, Belgrave-gate, and 74, Belgrave road, Pimlico, S.W.

TO PIANOFORTE AND CABINET-MAKERS, BUILDERS, CARPENTERS, TIMBER DEALERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the Premises, Camden-terrace, Camden Town, near the Old Eagle, at 1 o'clock precisely, MONDAY, MARCH 21st, at TWELVE for ONE, 10,000 feet of dry lime-tree boards, 2,000 feet of American white wood, 3,000 feet of mahogany, cedar, &c. all in lumber, 500 feet of white pine panels, 1,500 planks, deals and battens, prepared flooring, scantling, cut stuff, 50 new doors, and a quantity of useful old materials.—Auction Offices, Caryl-street, Hampstead-road, near the Euston Station.

BERKS, three miles from Wokingham and thirty miles from London, opposite the Wellington College, and close to the Railway Station, about 280 Acres of Freehold Building Land. Land Tax redeemed.

MR. ROBINS is instructed to SELL by AUCTION, at the MART, on THURSDAY, MAY 5, at TWELVE for ONE, in one or three lots, unless previously disposed of by private contract, FREEHOLD BUILDING LAND, comprising 280 Acres, lying unusually compact, the situation extremely healthy, and offering important advantages to public institutions; the land lying high, gently rising, having the advantage of wood and a plantation for the three sides, presenting to builders excellent sites for the erection of villas. It is screened at the north by a plantation. A small farm house, useful agricultural buildings and a cottage, and brick earth are on the estate. Also 9a. 0r. 28p. of FREEHOLD LAND, in two lots, adjoining the Nine-mile Ride, three miles from Wokingham Particulars, with plans, 28 days prior to the sale, of Messrs. BOOTY & BOLT, Solicitors, No 1, Raymond-buildings, Gray's-inn; at the Auction Mart; and at Mr. ROBINS'S Auction and Estate Offices, 5, Waterloo-place, Pall Mall, S.W.; who, in the meantime, is authorised to treat privately for any portion of the land.

ROYAL MILITARY HOSPITAL, NETLEY, near Southampton.—To Brickmakers, Builders, Carpenters and Others.—CLEARANCE SALE.

E. & W. TRIGGS are favoured with instructions from the eminent contractors (Messrs. G. Myers & Son) to SELL by AUCTION, upon the GROUND adjacent to the ROYAL MILITARY HOSPITAL, Netley, on MONDAY, MARCH 14, 1864 at TEN for ELEVEN o'clock precisely, the whole of the BRICKMAKING PLANT, including three capital presses, two pugmills, thirty-six of bearing barrows, brick moulds, iron cuckings, and pallet boards, about 1,000 feet wrought iron barrow slates, quantity of wrought and cast scrap iron, foreign and English jacks, builders' ladders, hoisting chains, various gin centres, capital stout carpenters' benches, a large quantity of useful timber, firewood, and miscellaneous effects. On view three days previous, upon application to Mr. ADAMS, at the Hospital, of whom may be obtained at the inns in the neighbourhood, or of the Auctioneers, at their temporary offices, No 3, High street (during alterations at the Hampshire Bank), Southampton.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, of E. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 23rd day of MARCH, 1864, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

25,000 8, inch Deal Battens, and Ends
6,000 Quebec Pine Deals
2,500 St. Petersburg Red and Whitewood Deals
4,000 Quebec Pine Deals, and Ends
3,000 Archangel Redwood Deals and Battens
600 4 by 11-inch Fresh Redwood Memel Deals
2,000 4 by 9-inch Sundanze Red Deals
1,200 Wyborg Redwood Deals
500 Swedish Redwood Deals, Battens, and Ends
500 Loads Quebec Board Yellow Pine
200 Loads Quebec Red Pine
400 Loads Quebec Pine
200 Loads Fresh St. John Board Pine Timber
100 Loads Fresh Birch
100 Loads Fresh Quebec Elm
80 Loads Dantzic Timber
100 Loads Fresh Memel Timber
100 Loads Dantz Redwood Timber
500 Lengths Scantling
400 Norway 4 to 6-inch Spars
2,250 Feet Teak Plank
30,000 Merchantable Quebec Pipe Staves
1,000 West India Puncheon Staves
1,000 Quebec Spruce Deals
Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

E. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, March 8th, 1864

Contractor's Plant, Five Brick-carts, New Stock and Face Bricks, Timber, Iron-work, and Effects

MR. GAIRDNER will SELL by AUCTION, on the PREMISES, WHARF ROAD, CITY ROAD, on MONDAY, MARCH 14th, at TWELVE, Basement Dr. Timber, useful Iron-work, Stock Bricks, Paving Setts, Kerbs, Chimney Pots, Face Bricks, several Tons of Iron, Two Forges, Iron Pug mill and Crushing Machine, Five brick-carts, and various useful Effects. On View.—Catalogues at Mr. GAIRDNER'S Office, No. 129, Tottenham Court road.

FREEHOLD PUBLIC HOUSE, Brewhouse, Stabling, and Card-room, in Market Harborough.—Freehold Grazing Land, Brickyard, Steam Engine, Machinery, Working Plant, &c., in Great Bowden, and Market Harborough Corn Exchange Shares.—TO BE SOLD by AUCTION by

FOSTER & SON (by order of the Assignees of the Estate of William Harris), at the ANGEL HOTEL, MARKET HARBOROUGH, on TUESDAY, the 22nd of MARCH 1864, at FIVE o'clock in the evening, (unless disposed of in other Lots as may be determined upon at the time of Sale):—Lot 1. All that well-established and well-accustomed Freehold, Brick-built, and Slated MESSUAGE or PUBLIC-HOUSE, called or known by the Sign of "The Sun" with the Brewhouse, Stabling for five horses, Garden, and Skittle-alley adjoining, situate in Church square, Market Harborough, in the occupation of Mr. John Hodson, Lot 2. Three Closes of FREEHOLD GRAZING LAND and BRICKYARD, containing together 3a. 2or. 20p. or thereabouts, situate in the Lordship of Great Bowden, with the high-pressure Steam Engine, Brick-carts, Sheds and other Buildings, Working Plant, &c. lately in the occupation of the said Wm. Harris. This Lot is bounded on the west by the road leading to and a little within a few yards of the Harborough Railway Station; and a first-rate and profitable business has been carried on for several years past. The clay is of excellent quality and great depth, and there is a good supply of water on the premises.—Lot 3. Fifty SHARES in the Market Harborough Corn Exchange Company (Limited), numbered respectively 201 to 250 inclusive, and 100l. paid on each share.—Apply to Messrs. DAVIS & OWSTON, Solicitors, Leicester; or to the Auctioneers; or at the Office of Mr. DOUGLASS, Solicitor, Market Harborough.

Market Harborough, 27th Feb 1864.

TO ARCHITECTS AND SURVEYORS.

BILLS of QUANTITIES, SPECIFICATIONS, DRAWINGS, &c. neatly and expeditiously Lithographed and Copied. A numerous staff of hands always engaged. Prompt attention to Country Orders. Specimens and Prospectus post free.

JOHN WEALE,

LITHOGRAPHERS, STATIONERS, and PRINTERS, 4 & 5, AGAR-STREET, STRAND, W.C.

WANTED to PURCHASE, an OLD OAK STAIRCASE, in good preservation.—Apply, stating particulars, to Messrs. DAIN & SMITH, St. Martin's, Leicester.

BALLAST FOR SALE, clear and good, 2s. 6d. per yard.—Apply at Harbthorn-court, Golden-lane, Barbican, E.C.

TO FIRST-CLASS BUILDERS. — FOR SALE, about a TON of stout BROWN PAPER WRAPPERS, suitable for putting between floorings, to deaden sound and prevent dust.—Apply to Messrs. FULLER & CO. Wholesale Stationers, 26, St. Martin's-court, Leicester-square, W.C.

FOR CONTRACTORS and RAILWAY COMPANIES. 200 BARROWS FOR SALE.—Barrows, Keys, Trenails, Bricks, Sleepers, &c. and all other Contractors' Plant.—Apply to W. P. PRANCE, 50, Bridge Wharf, Pellington.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 12, 1864.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1102. MARCH 19, 1864. PRICE FOURPENCE. By Post, 5d.

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BRITISH-UNION OF LONDON.—Subscription One Guinea.—Prize-holders select from the public exhibitions. Every Subscriber has a chance of a valuable Prize, and, in addition, receives a handsomely bound folio copy of Coleridge's poem of “THE ANCIENT MARINER,” illustrated by twenty Plates, designed expressly for this Society by J. Noel Paton, R.S.A. The work is now ready for delivery. Subscription closes 31st inst.
9, West-strand, GEORGE GODWIN, } Hon. Secs.
March, 1864. LEWIS POCOCK, }

NEW ZEALAND EXHIBITION, 1865.

The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts for which will be reserved for Exhibitors from the United Kingdom and the Colonies, the Continents of Europe and America.—Copies of the regulations, forms of application for space, and further details may be obtained from the undersigned. By order,
JOHN MORRISON, Agent for the New Zealand Government.
New Zealand Government Agency, 3, Adelaide-place, King William-street, London, February, 1864.

NOTICE.

THE BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the Old Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Stoves, and Cooking Utensils, to meet the great public demand; and for the convenient more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72–74, Bishopsgate-street Within, November, 1863.

SLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

MILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow Milling an interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions will be introduced more generally in all new buildings.—For prices, &c., apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years connected with the late Mr. MILLING, in the practical curing of Smoky Chimneys.

NOTICE.

MR. LUDWIG DENICKE, of Leipsig, has been appointed AGENT to receive Advertisements, and to supply “The BUILDER” in GERMANY AND EASTERN EUROPE.

JUNIOR ATHENÆUM CLUB.

Noblemen, Gentlemen, Members of the Universities, Associates of the Learned Societies, Artists, and Patrons of Art, and others desirous of becoming MEMBERS of the Junior Athenæum, are requested to communicate with GEORGE R. WRIGHT, Esq. F.S.A. Secretary, from whom a list of the Committee and other particulars may be obtained.
Committee-room, St. James's Hall, Regent-street, W.

COMPETITIONS.

TOWN and BOROUGH of ROCHDALE.

TOWN HALL &c.—*To* ARCHITECTS.—The Corporation of Rochdale are desirous of receiving DESIGNS for a TOWN HALL, wherein are to be provided fit and convenient public offices, for holding the meetings and transacting the business of the Council, and for holding such public meetings and transacting such public business as the Council may direct or allow to be held therein. The following premiums will be given for such three of the designs as in the opinion of the Council are the highest in merit, viz:—

For the 1st set of such designs, 100*l.*
,, 2nd ditto 60*l.*
,, 3rd ditto 40*l.*

all of which premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope containing the name and address of the competitor, bearing a corresponding motto or device to that on the plans, &c. Lithographed plans of the site, with printed statements of the offices, rooms, and conveniences required, may be had on application to the Town Clerk on and after the 5th MARCH next, and the competing Designs, &c. must be delivered at my Office, in Yorkshire-street, Rochdale, on or before the 1st day of MAY next.—By order,
ZACH. MELLOR, Town Clerk.
Rochdale, 27th February, 1864.

TO ARCHITECTS and BUILDERS.

A Premium of 50*l.* will be given for the best and most eligible Plan for LAYING OUT a Flat of 12 of acres BUILDING LAND, situate at Leyton, in Essex, and furnishing Plans and Specifications for the houses.—For particulars, apply to Mr. G. KEATES, 14, Strand, W.C.

CONTRACTS.

WAR DEPARTMENT CONTRACT.

NOTICE to BUILDERS.—TENDERS are required for the supply, at the Verne Fortifications, Portland, and the Nothe Fortifications, Weymouth, of TOOLS, TIMBER, IRON, STEEL, RAILS, CASTINGS, and other PLANT, which may from time to time be required for the War Department Works, in the Portland District, from 1st APRIL, 1864, to 31st MARCH, 1865. Parties desiring to Tender for the above must leave their names at this office on or before the 25th day of MARCH, 1864, and pay the sum of 10*s.* 6*d.* for the printed schedule of prices. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders; and does not bind himself to accept one Tender for both places.

C. H. NUGENT, Captain and Major,
Commanding Royal Engineers.
Royal Engineer Office, Weymouth, March 14, 1864.

TO BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the execution of the various Works required in the ERECTION of the proposed new WESLEYAN CHAPEL, at Leighton Buzzard, Bedfordshire, are requested forward their names to us on or before WEDNESDAY, the 23rd inst. Drawings and specification may be seen previously to the delivery of Tenders, of which due notice will be given to the applicants.

BELLAMY & HARDY, Architects and surveyors.
Lincoln, March 4th, 1864.

THE RUNCORN PUBLIC HALL COMPANY, Limited.

To Builders, Contractors, and Others.—TENDERS are required for the ERECTION of a PUBLIC HALL in Church-street, in Runcorn, in the County of Chester. The plans and specifications may be seen on application at my Office, near the Public Offices in Runcorn, aforesaid. Sealed and addressed Tenders must be delivered at my said Office on or before THURSDAY, the 31st day of MARCH instant. The Tenders to be as follow:—

1st. With the front Portion, as shown on the Plan.
2nd. With that Portion omitted, as coloured on the Plan, and scored through in the Specifications with red ink.

The Directors will not bind themselves to accept the lowest or any other Tenders.—By order,
JOHN H. CHORLTON,
1st March, 1864. Law Clerk to the said Company.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW PREMISES for the London and County Bank, Ashover, Houses, can inspect the plans and specifications at the London and County Bank, Ashover, or at the Offices of the Architect, Mr. FRED CHANCELLOR, Painters' Hall, Old Broad-street, London, after the 14th of MARCH. Tenders to be delivered to the Architect before TWELVE o'clock a.m. on the 28th of MARCH. The lowest or any Tender will not necessarily be accepted.

SOUTHPORT HOTEL COMPANY (Limited).

—Parties desirous of CONTRACTING for the WORKS necessary for the ERECTION of the HOTEL, may obtain the quantities at the Office of Mr. A. D. CUPPLEY, Architect, 34, Princes-street, Manchester, upon the payment of Two Guineas, which sum will be returned to the competitors not engaged upon the opening of the Tenders. The drawings will be ready for inspection on and after the 21st of MARCH. Sealed Tenders to be addressed to the Directors, care of W. SALE, Jun. Esq. Secretary, Messrs. SALE, WORTHINGTON, SHIPMAN, & SEDDON, Solicitors, Booth-street, Manchester, on or before APRIL the 21st.—The lowest or any Tender will not necessarily be accepted.

CONTRACTS.

KESWICK LOCAL BOARD of HEALTH.

SEWERAGE WORKS.—To EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Keswick, in the County of Cumberland, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following Contract:—Contract No. 1.—For PROVIDING MATERIALS and CONSTRUCTING EARTHENWARE PIPE SEWERS, Manholes, Gullies, Overflows, and other Works. Plans, sections, detail drawings, and specifications of the required works, may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on and after THURSDAY, the 10th day of MARCH next, on payment of 10*s.* on application at the Office of ROBERT BROATCH, Solicitor, Keswick (Clerk to the Local Board), or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed, “Tender for Sewerage Works,” must be forwarded to the Clerk to the Local Board, on or before THURSDAY, the 31st day of MARCH next. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT BROATCH, Clerk to the Local Board.
Keswick, 29th February, 1864.

HEXHAM LOCAL BOARD of HEALTH

WATERWORKS and SEWERAGE.—To IRON FOUNDERS, BRASS-FOUNDERS, EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Hexham, in the County of Northumberland, do hereby give Notice that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

WATERWORKS.

Contract A, for supplying Cast Iron Water-pipes and other Castings.
Contract B, for supplying Sluice Valves, Hydrants, and other street fittings.
Contract C, for laying and jointing Cast iron Water-pipes and fixing Sluice Valves, Hydrants, and other street fittings.
Contract D, for constructing a Storage Reservoir, Filter Beds, Service Reservoir, and other works.

SEWERAGE.

Contract No 1, for providing materials and constructing Brick Sewers, Earthenware Pipe Sewers, Outlet Works, Man-holes, Gullies, Overflows, and other works.

Plans, sections, detail drawings, and specifications of the several works may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices may be obtained on and after MONDAY the 14th day of MARCH next, on payment of Ten Shillings for each Contract, on application at the Office of the LOCAL BATY, Solicitor, Hexham (Clerk to the Local Board), or at the Offices of JOHN LAWSON, Civil Engineer, 34, Parliament Street, Westminster. Sealed Tenders, endorsed “Tender for Waterworks or Sewerage,” must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 30th day of MARCH next. The Local Board do not bind themselves to accept the lowest or any Tender.

ISAAC BATY, Clerk to the Local Board.
Hexham, 24th February, 1864.

THE AYLESBURY MARKET COMPANY.

—The Directors are desirous of receiving TENDERS from Builders willing to CONTRACT for the ERECTION of the intended NEW CORN EXCHANGE and COVERED MARKETS, on the site of the WHITE HART Hotel and grounds, in the town of Aylesbury, according to plans and specifications, which may be seen at Aylesbury, on and after the 18th of APRIL next. Persons willing to submit Tenders for the same are requested to send their names to D. BRANDON, Esq. the Architect of the Company, No. 21, Bedford-square, London, on or before the 21st instant. The day for receiving tenders will hereafter be fixed. The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors,

E. R. BAYNES,
JOSEPH PARROTT, } Secretaries to the Company.
Aylesbury, March 9, 1864.

COUNTY of DOWN, IRELAND.

NOTICE to BUILDERS.—Builders are invited to TENDER for the ERECTION of a LUNATIC ASYLUM, near Downpatrick, in the county of Down, according to the plans and specifications which can be seen at the Office of the Architect, HENRY SMYTH, Court-house, Downpatrick, until the 26th inst. Builders who intend to Tender are requested to signify their intention by letter, addressed to the Architect, and to attend at Downpatrick, at TWELVE o'clock, on the 26th inst. to elect a Surveyor on their part to take out the quantities. Builders who cannot attend may enclose their votes, endorsed “Vote for Surveyor,” which will be opened at TWELVE o'clock. The Tenders to be lodged with R. M. ARDAGH, Esq. Office of Control, Lunatic Asylums, Dublin Castle, endorsed “Tender for County Down Asylum,” on or before ONE o'clock, on the 23rd of APRIL next. The work to be commenced immediately after the acceptance of the Tender. Security will be required for the due performance of the contract. The lowest or any Tender will not necessarily be accepted.

Office of Control, Dublin Castle, March 4, 1864.

TO SEWERAGE CONTRACTORS and others.—TOWNSHIP OF TRANMERE, CHESHIRE.—The Local Board for the District of Tranmere are prepared to receive TENDERS for the CONSTRUCTION of about 2,200 yards of MAIN BRICK SEWERS, and about 700 yards of PIPE SEWERS, with the necessary Junctions, Branches, Manholes, Gullies, and Ventilating Shafts. Plans, sections, and specifications, &c. may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, on and after TUESDAY next, the 22nd instant, and copies of the Specifications and Form of Tender may be obtained on payment of 5*s.* Sealed Tenders, in the form to be supplied, to be addressed to me, and left at my office not later than THURSDAY, the 31st APRIL next. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,

GEORGE LLOYD Law Clerk to the Local Board.
Public Offices, Holt Hill, Tranmere, March 14, 1864.

TO BUILDING MATERIAL DEALERS.

TO BE SOLD by PRIVATE TENDER, the MATERIALS of FIVE HOUSES in Great Winchester-street.—For conditions, &c. apply to Mr. GEO. NEWMAN, Auctioneer, 26, Great Winchester-street, Broad-street, E.C.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS and CONTRACTORS.—Persons wishing to TENDER for the ERECTION of THREE SHOPS, as ON Dwellings and Premises, to be built at Cheltenham-hill, Hampstead, can view the Plans and Specifications at the Office of the Architect, Mr. B. A. PUPE, on and after the 21st inst., and Tenders must be sent, addressed to the Architect on or before the 28th MARCH. The lowest or any Tender will not necessarily be accepted.

STAUNTON COMMON DRAINAGE.—To CONTRACTORS.—The Drainage Commissioners for the Parish of Staunton Common are prepared to receive TENDERS for SEWER FITTING, WIDENING, and DEEPENING of LATTON BROOK and LAKE. Plans, sections, and specifications may be seen at the Office of Mr. T. CUBLEY, C.E., Hereford, between the hours of 10 and 4 o'clock, or at the Inclosure Office, Hereford. Sealed Tenders to be sent to the undersigned on or before TEN o'clock on SATURDAY, the 26th of APRIL next. Printed quantities and Forms of Tender will be supplied by Mr. CUBLEY.

15, Bridge-street, Hereford. J. P. SAUNDERS, Clerk to the Commissioners.

TOWN of TUNBRIDGE WELLS.—CONTRACT for ROAD MATERIALS.—The Paving Committee appointed by the Tunbridge Wells Improvement Commissioners hereby give notice, that they will be ready at their next meeting, to be held at the Town Hall, Tunbridge Wells, on SATURDAY, the 2nd day of APRIL next, at TEN o'clock in the forenoon precisely to receive TENDERS for the SUPPLY of the full wagon ROAD MATERIALS, to be delivered at such places within the said district, in such quantities, and at such times, within the period of twelve months from the date of contract, as may be required from time to time by the Surveyor, Gravelly Ground, Broken Or Flints, Screened Gravel, Screened Shingle, Screened Ragstone, Sea-coal, Boundary Stone, Unbroken Sussex-rock Stone, Kibt Bullers, or any other Stone, Unbroken Sussex-rock Stone, Kibt Bullers, or any other kind or description not enumerated in the three preceding. Tenders (with hard or sawn) are not admitted if the prices for each of the above materials respectively be the same per ton for delivery at the Railway Wharf in the district as the price for delivery at any of the Stone Tunbridge Wells and the price for delivery at any of the Stone Depôts in the district, are to be sent, under cover (free of expense), addressed to the Surveyor at his residence, to enter not later than FRIDAY, endorsed "Tender for Road Materials," to one of the Clerks to the Commissioners, for the due performance of the contract. The sufficient sureties, for the due performance of the contract. The form of contract may be seen at the office of Mr. WILLIAM HENRY WRIGHT, Land Surveyor, Town Hall, and where further particulars may be obtained by order.

JOHN ELLIOTT, Clerk to the Town Commissioners.
Town Hall, Tunbridge Wells, 14th March, 1864.

TO GASHOLDER MAKERS and OTHERS.—The Directors of the Kidderminster Gas Company are prepared to receive PLANS and SPECIFICATIONS, and TENDERS, for the ERECTION of a GASHOLDER, 60 feet in diameter by 20 feet in depth, of wrought-iron plates, the inner Column Girders, 10 inch Joist and 12-inch Outer Lights, Master Bar and Support Outer Balance and Guide Bars, with pressure Columns, and all necessary large to encourage hereafter. Tenders to be delivered under cover to Mr. HENRY EVERETT, Manager, on or before the 2nd day of APRIL next. The Directors do not pledge themselves to accept the lowest Tender.

TO BUILDERS and CONTRACTORS.—The Directors of the Kidderminster Gas Company are desirous of receiving TENDERS for the several WORKS required to be done in the BUILDINGS of a TANK, 4 inches deep, to contain 1,000,000 gallons, depending on the nature of the soil. Plans may be obtained, at the Office of Mr. JOHN GEORGE BLAND, Architect, Unity buildings, few Inserest, from 10 till 4 o'clock. Tenders are to be delivered in the same office before TEN o'clock on the 2nd day of APRIL next. The Directors do not pledge themselves to accept the lowest Tender.

SEAFORD, near NEWHAVEN, SUSSEX. TO BRICKMAKERS.—Persons desirous of TENDERING for OPENING A BRICKFIELD, immediately, in the above place, to which Railroad from Newhaven is Uncommonly Near, can learn the particulars by applying to Messrs. WM. and HABERSHON & PITE, Architects, 5, Bedford-square, London, W.C.

TO BUILDERS.—The Committee for carrying out the Church Enlargement of St. Cuthbert's Church, Bedford, invite TENDERS for the EXECUTION of the WORKS according to the plans and specifications prepared by Mr. JOSEPH MANSON, Parish Clerk, No. 96, The Grove, St. Cuthbert's, from MARCH 21st, to APRIL 2nd, inclusive. Any further information may be obtained on application to Mr. PENROSE, Chapter House, St. Paul's Churchyard, London. Tenders, sealed and endorsed "Tender for the Enlargement of St. Cuthbert's Church," to be sent to the Parish CLERK'S HOUSE, Bedford, St. Cuthbert's, Bedford, by TWELVE o'clock at noon on MONDAY, APRIL 4. The Committee will not necessarily accept the lowest or any Tender. The materials will be required to find a part of the due execution of the works.

Bedford, March 10, 1864.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, to the extent of 2,420 feet of Circular, viz. about 2,420 feet of 3 ft. 3 in by 2 ft. 3 in., and 500 feet of 3 ft. by 2 ft.—one brick; and also for the LAYING of about 3,000 feet of STONEWARE PIPE SEWERS of various sizes. The specifications, plans, and forms may be seen, and all further information obtained, at the Office of Mr. C. W. JOHNSON, Surveyor, Mr. Office, Lockhaven Chapel, in between the hours of 10 and 4 o'clock. Tenders are to be sealed, and delivered at the Board as below, on or after TUESDAY, the 29th of APRIL next, and are to be endorsed "Tender for Circular Sewer," "Tender for Inverted Sewer," or "Tender for Pipe Sewers," as the case may be. Tenders must be sent in before the Board on WEDNESDAY the 6th of APRIL next, at Four o'clock p.m. when they are to be opened publicly and declared for the due performance of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District.

ARTHUR ALEX CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. 12th March, 1864.

SAINT PANCRAS, MIDDLESEX.—To MASONS, PAVIORS, and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the parish of St. Pancras, intend at the public office of the Department of Works, on MONDAY, the 21st day of MARCH, at SIX o'clock in the evening precisely, to receive TENDERS from persons for the EXECUTION of MASONS' and PAVIORS' WORKS to the Footways, Carriageways, and Roadways of the said parish, during the term of twelve months from the said date, at the option of the Department of Works. Conditions will be required for the performance of the works, and Forms of Tender may be obtained at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, as under:—The Vestry do not pledge themselves to accept the lowest or any Tender. No Tender will be received unless made out on one of the printed forms. Tenders must be delivered by SIX o'clock precisely on the said MONDAY, the 21st MARCH.—By order, CHARLES WORRELL, Chief Clerk of the Department of Works.

19, Edward-street, Hampstead-road, March, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of Shops fronting the DALLING HOUSES with OFFICES, in Engineer-road and Millward-street, Woolwich Common, which may be seen at the Offices of Messrs. CHURCH & RICKWOOD, Architects and Surveyors, Wilham-street, Woolwich, where also forms of Tender may be obtained. Tenders are to be delivered at the Offices on MONDAY, the 21st March, 1864 addressed to Messrs. CHURCH & RICKWOOD—the lowest or any Tender will be necessarily be accepted.

TO BUILDERS and CONTRACTORS.—Persons desirous of CONTRACTING for the ERECTION and COMPLETION of THREE PAIRS of Semi-detached VILLAS, at Strand Green, Chiswick, are desired to apply at the Office, No. 1, Coleman street, City, E.C. for specifications, and obtain bills of quantities, on application to JOSEPH HALL, Esq. Solicitor, 1, Coleman street, City, E.C.

BRISTOL and PORTISHEAD PIER AND RAILWAY COMPANY.—TO BUILDERS.—The Directors of the Bristol and Portishead Pier and Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the Pier and RAILWAY, at the Office of the Company's Engineers, Messrs. MACLEAN & STILLMAN, 5, Great George-street, Westminster, S.W. and Mr. THOMAS ST. LEGER MOORE, Clare-street, Bristol. Contractors are to apply to the Secretary's Office, 6, Clare-street, Bristol, on or after the 1st day of APRIL next, at which time and place they will be required to attend, and state the sum for which they will undertake the Works, and enter into Contract. The Directors do not bind themselves to accept the lowest or any Tender.

JAMES FORD, Chairman
Bristol, March, 1864. J. P. R. DANIEL, Secretary.

NOTICE to BUILDERS.—TENDERS are required for the ENLARGEMENT of YORKTOWN CHURCH, Surrey, in accordance with plans and specification to be seen at York-town Parsonage. Sealed Tenders to be sent to the Chairm an of the Local Board of Health, Farnborough Union, Farnborough Station, Hants, on or before the 30th APRIL. The Committee do not pledge themselves to accept the lowest or any other Tender.

TO BUILDERS and CONTRACTORS.—The Gas Committee of the Bridgwater & Taunton Commissioners are having erected a GASHOLDER, 70 feet diameter, and 21 feet 7 inches deep. Also, BRICK TANK 85 feet diameter, and 21 feet 7 inches deep. Also, a TAR TANK 30 feet diameter, and 12½ feet deep; and RIVER and MONTHERY WALLS, about 320 feet in length. The Plans and Specifications may be seen, and further particulars obtained, on and after MONDAY, the 21st instant, by applying to the Engineer and Manager of the Gas Works. Sealed Tenders, endorsed "Tender for Gasholder Tank," to be sent to me not later than SATURDAY, the 26th instant. The Committee do not necessarily accept.

WILLIAM COXON, Clerk to the said Commissioners
Burton-on-Trent, 15th March, 1864.

TOTTENHAM LOCAL BOARD of HEALTH.—The Board are prepared to receive TENDERS for making and forming the FOOTPATHS on both sides of the High Road, Tottenham, as already shown thereupon YORK STONE paving, before 12 o'clock at noon on the 28th instant. Sealed Tenders, endorsed "Tender for Paving," to be left at the Office of the Board, before 12 o'clock at noon on THURSDAY, the 24th instant.—By order of the Board,

WM. HEATH, Clerk

CONTRACTS for SLOPPING.—New Cross Turnpike Roads.—The Trustees of these Roads are ready to receive TENDERS for SLOPPING certain parts of the said Roads, for One Year from the 1st of April, 1864. Particulars and forms of Tender may be had at the Office of the Clerk, Cross Hill Green-road, Deptford, and at the Office of the Surveyor, Mr. JAMES RICHARD HEWARD, New Cross; and Tenders, on such forms only, addressed to the Clerk to the Trustees, are to be delivered at the Green Man Inn, Blackheath, before SIX o'clock on SATURDAY, the 26th day of MARCH instant, not later than ELEVEN o'clock in the Forenoon.—By order,

CHARLES AUGUSTIN SMITH, Clerk to the Trustees.
Crooms Hill, Greenwich, March, 1864.

NEW CROSS TURNPIKE ROADS.—CONTRACTS for ROAD MATERIALS.—Parties desirous of CONTRACTING with the Trustees of the above Roads, for BROKEN GUERNSEY GRANITE, for One Year from 1st of June next, and further, until determined by two months' notice on either side as aforesaid, are invited to send in TENDERS to the GREEN MAN INN, on Blackheath, on SATURDAY Morning, the 26th of MAY next but later than ELEVEN o'clock. Particulars and Forms of Tender may be had at the Office of the Clerk, Croom's Hill, Greenwich, or of the Surveyor, Mr. JAMES RICHARD HEWARD, New Cross; and no Tenders will be received or taken into consideration by either.

CHARLES AUGUSTIN SMITH, Clerk to the Trustees.
Croom's Hill, Greenwich, March, 1864.

BRICKS.—To BRICKMAKERS and OTHERS.—WANTED, about 700,000 BRICKS—Stocks, Grisse's, on Pavement—delivered at the Crabtree Dock, Fulham, or Kensington Station, at the rate of about 70,000 per month.—Address, stating lowest terms, WIGMORE & WHITTICK, Builders, Smith-street, Chelsea.

RUSTHALL CHURCH.—To BUILDERS. All Persons desirous of TENDERING for the proposed ENLARGEMENT of the CHURCH of ST. PAUL, Rusthall, Tonbridge Wells, are requested to make applications to us by letter, on or before the 24th instant. Tenders are to be delivered on or before APRIL 2nd, to G. WOLLASTON, Esq. Rusthall. The Committee do not pledge themselves to accept the lowest Tender.

STEVENS & ROBINSON, Architects.
45 Friargate, Derby.

ST. MARY, ISLINGTON.—Notice is hereby given, that the Sewers, &c. Committee will meet at the Vestry Office, Upper-street, Islington, on WEDNESDAY, 6th of APRIL next, at HALF-PAST TEN o'clock in the morning precisely, to receive TENDERS for the CONSTRUCTION of about 1,230 feet of BRICK SEWER 4 feet 9 in. by 2 feet 8 inches, and 1,460 feet of Brick sewer 3 feet 9 inches by 2 feet 8 inches, in Hornsey road; and about 900 feet of Brick Sewer, 3 feet by 2 feet, in Highgate-hill, and 900 feet of Main Brick Sewer, 3 feet by 2 feet, in Highgate-hill, and the necessary Walls, &c. in connection therewith. Separate Tenders must be sent in for the Works at Hornsey road and Highgate-hill. The specifications and drawings may be seen, and the forms of Tender and Bond obtained, at the Vestry Office, between the hours of TEN and FOUR o'clock. Persons desirous of tendering must attend at the time and place stated, with sealed Tenders endorsed "Tender for Sewer Works." No Tender will be received after HALF-PAST TEN o'clock, nor will any Tender be received unless it contains a 10l. Bank of England note, which will be immediately returned to each person whose Tender is not accepted, at which the retained note (or other sum) for the contracts and bonds is duly signed by the parties. The Vestry do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

JOHN LAYTON, Vestry Clerk.
Vestry Office, Upper street, Islington, March 17, 1864.

TO CONTRACTORS.
WANTED, TENDERS for the Removal of about Nine Hundred Cubic Yards DRY RUBBISH from the Portland road, W.—The particulars to be seen at Mr. GAIRDNER'S Offices, 15A, Tottenham court-road, W.

BOROUGH of BRIGHTON.—To DECORATORS and OTHERS.—Notice is hereby given, that the Town Council shall receive TENDERS from such person or persons as may be willing to enter into a CONTRACT for CLEANING, REPAIRING, and RE-DECORATING the VESTIBULE, ENTRANCE HALL, CORRIDOR, STAIRCASE, and LOWER SUITE of ROOMS of the ROYAL PAVILION at Brighton, as ready to be certain entered upon and completed. Which may be inspected on application to Mr. DE VAL, Custodian, at the Committee-room of the Pavilion, Brighton. Including contractors, desiring to inspect certain designs, drawings, and specifications in the works, must do so on MONDAY, the 28th MARCH, 1864, between TEN and FOUR o'clock, at the Pavilion, Brighton.—Sealed Tenders, addressed to the "Pavilion Committee," and endorsed "Tender for works at Pavilion," must be left at my Office, at the Town Hall, in the said Borough, before TEN A.M. o'clock on the 30th day of APRIL, 1864. The Town Council do not bind themselves to accept the lowest or any Tender.

DAVID BLACK, Town Clerk.
Town Hall, March 15th, 1864.

TO LIGHTERMEN, CONTRACTORS, and OTHERS.—The Directors of the Phœnix Gas Company are prepared to receive TENDERS for the LIGHTERAGE of their COALS for a period of Seven Years, in accordance with a specification and Contract to be seen at their Offices, 6, Bankside, S.E. Proposals to be sent before TWELVE o'clock noon, MARCH 29, and read "Tenders for Lighterage," to the Company's Secretary, at their Offices, No. Bankside, Southwark, S.E.

March, 15th, 1864.

EASTBOURNE LOCAL BOARD.—To DRAINAGE CONTRACTORS and OTHERS.—The above Board is to give notice that they are prepared to receive TENDERS from parties who may be willing to CONTRACT for the CONSTRUCTION of about 2½ Miles in length, or thereabouts, of 4 feet, and 2 feet 9 inches by 2 feet 6 inches, and 2 feet by 2 feet BRICK SEWERS, and other works in connexion therewith, including about 400 feet of 3-feet CAST IRON SOCKET-PIPE for Outfall, in the parish of Eastbourne and Willingdon, in the county of Sussex.—Plans, sections, general conditions, and specifications, together with the form of Tender, may be inspected, and other particulars obtained on application to Mr. GEORGE A. WALLIS, Surveyor of the Board, at his Office, Seaside-road, Eastbourne, between the hours of TEN a.m. and FOUR p.m. from 21st MARCH until APRIL. The Tenders, endorsed "Tenders for Drainage Works," are to be addressed to the Surveyor of the Board, and must be delivered at his Office before FOUR o'clock on the said 2nd day of APRIL, and as no Tender will be received after that hour. The Local Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties to the amount of half the contract for the due and satisfactory performance of the works, and the contractor to pay the cost of such bond.

GEORGE A. WALLIS, Surveyor of the Board.
Dated Seaside-road, March 15, 1864.

WORKHOUSE ACCOMMODATION WANTED. The GUARDIANS of the WEST LONDON UNION are desirous of RECEIVING PROPOSALS from Parochial or Union Authorities for the MAINTENANCE, Care and Clothing, for a limited period, of the WORKHOUSE INMATES, the present number of whom is 414, and are of both sexes. The Guardians are open to receive proposals for the hire of the same for the whole of the inmates. The Guardians are also open to receive from the owners of any building, which may be without difficulty be converted into a temporary workhouse, proposals for the hire of the same for a limited period. It is desired that the accommodation required should be within a few miles of Hyde-park Corner.—Terms and particulars to be sent without delay to Mr. JOHN PONTIFEX, Clerk to the Guardians, 5, St. Andrew's-court, Holborn, London.

TO BUILDERS.—Persons desirous of CONTRACTING for the REPAIR and ENLARGEMENT of BEADWELL RECTORY, near Yarmouth, Norfolk, may see the plans and specification by application to the Rev. JOHN WALKER, Beadwell, on and after MONDAY, MARCH 22nd. Tenders to be delivered at the Office of the Architect, EWAN CHRISTIAN, 8a, Whitehall-place, London, on or before APRIL 5th. Mr. WALKER does not bind himself to accept the lowest Tender, and good and sufficient security will be required for the due performance of the work.

FURNESS and MIDLAND RAILWAY.—CONTRACT for WORKS.—The Directors of The Furness and Midland Railway Company are prepared to receive TENDERS for the CONSTRUCTION of a DOUBLE LINE of RAILWAY, with Approaches, Stations, and Conveniences from the Furness Railway, at Carnforth, to the North-Western (Midland) Railway, at Wennington, being a length of 9¼ miles, or thereabouts. The drawings of the proposed works may be seen on and after the 21st day of MARCH, at the Office of the Company's Engineers, Messrs. MACLEAN & STILLMAN, 24, Great George-street, Westminster, S.W. and Mr. J. S. CROSSLEY, Midland Railway, Derby; and at the Secretary's Office, Furness Railway, Barrow, in Furness. Contractors who wish to Tender may obtain lithographed copies of the drawings, bills of quantities, specification, and forms of Tender, on application to the Engineers, or at the Secretary's Office, on pay ment of 5l 5s. Tenders must be addressed to the Secretary, 9, Old Burlington street, London, W. on or before the 1st day of APRIL next. The Directors do not bind themselves to accept the lowest or any Tender.

JAMES RAMSDEN, Secretary.
Barrow, in Furness, February, 1864.

BARNSLEY LOCAL BOARD of HEALTH.—WATER WORKS DEPARTMENT.—CONTRACT No. 3.—To CONTRACTORS for RESERVOIRS, &c.—The Barnsley Local Board of Health are prepared to receive TENDERS for the formation of a large STORAGE RESERVOIR (of about 65 acres area) to be situated near Ingbirchworth, about two miles from the Penistone Station on the Manchester, Sheffield, and Lincolnshire Railway, in the West Riding of the county of York, together with Waste Weir, Tower, Heads, Filter Beds, and other constructions. Drawings and specifications may be inspected at the Office of Mr. RICHARDSON, Surveyor of the Local Board, St. Mary's-place, in Barnsley; and at the Office of Mr. HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, on and after the 21st day of MARCH instant, where also bills of quantities and other particulars may be obtained, on payment of two guineas for the same. Tenders must be delivered at my Office on or before TUESDAY, the 5th day of APRIL next, but the Local Board do not pledge themselves to accept the lowest or any Tender.

By order, GEORGE PEACOCK, Clerk to the Local Board.
Barnsley, 4th March 1864.

CHELTENHAM CEMETERY.—To ROADMAKERS and OTHERS.—Notice is hereby given, that the Cheltenham Burial Board intend to enter into a CONTRACT for MAKING the ROADS, FOOTPATHS, and FORMING the GROUND at the CHELTENHAM CEMETERY, according to the specification and drawings, forms of Tender, &c. which may be seen at the Office of the Architect and Surveyor, Mr. W. H. KNIGHT, the Old Farm, St. George's place, Cheltenham. The work to be completed on or before the 1st day of JULY next.—Proposals or Tenders to be delivered to Mr. C. E. WILLIAMS, Clerk to the Burial Board, on or before SATURDAY, the 26th day of MARCH instant, at the Office of the Burial Board, Cheltenham, known as the Public Offices, between the hours of TEN a.m. and FOUR p.m. endorsed "Tender for making Roads, &c. at the Cheltenham Cemetery," and such Tenders to contain the names, residences, and description of two sureties for the due execution of the Contract. The Board will not be considered pledged to accept the lowest or any Tender.

GEORGE EDMUND B WILLIAMS,
Clerk to the Cheltenham Burial Board.
Dated this 8th day of March, 1864.

MONTGOMERY COUNTY WORKS.—NEW WING, &c. at Celle, Pentonville System.—The Visiting Justices are prepared to receive TENDERS for the above. The plans, specifications, and conditions may be inspected at the County Surveyor's Office, Kerry, Montgomeryshire, and at the Gaol, on and after the 7th day of MARCH next. Tenders, sealed and endorsed "Tender for Erection of the Visiting Justices, County Gaol, Montgomery," to be delivered in or before the 31st day of MARCH next. The lowest or any Tender will not necessarily be accepted. Two Sureties for the due performance of the works will be required, whose names must be submitted with the Tender. Quantities supplied.

ST. PETER'S WHARF, WESTMINSTER.—TO LET on LEASE. A Committee of the Governors of the Westminster Hospital, in Tothill Fields, Westminster, on MONDAY, the 4th day of APRIL next, at TWELVE o'clock at noon, to receive TENDERS from parties willing to TAKE on LEASE for twenty-one years from Midsummer next, all that WHARF and PREMISES, known as SAINT PETER'S WHARF, situate in MILLBANK STREET, Westminster, at the corner of the Abbey-road, and now in the occupation of Mr. Helmore.—A plan of the Premises, and the terms for letting, and the duties of the agreement and Lease, may be seen at the Office of Messrs. KEMPSON & ROLLOPP, Architects, 3, Abingdon-street, and the plan and terms for letting, at the Office of Mr. W. R. GELDER, Surveyor, to the Hospital, Parliament-street, Westminster, of either of whom Parties desirous of becoming Tenders may obtain further information.

BLACKFRIARS BRIDGE.—Notice is hereby given, that the Bridge House Estate Committee will meet at Guildhall, London, on WEDNESDAY, the 23rd APRIL next, to receive TENDERS for TAKING DOWN and REMOVING the present BRIDGE at Blackfriars, and ERECTING a NEW BRIDGE in its stead. Plans, sections, and specifications of the new bridge and separations of the works to be executed, may be seen, and further particulars obtained, upon application at the Office of the Engineer, JOSEPH CUBITT, Esq. No. 57, Great George-street, Westminster, on and after MONDAY, the 21st MARCH instant. The Tenders must be sealed up, addressed to the Bridge House Estate Committee, endorsed "Tender for New Bridge at Blackfriars," and left at the Comptroller's Office, Guildhall, London, before TWELVE o'clock, on FRIDAY the 22nd APRIL next, and the parties tendering will be required to be in attendance at Guildhall on that day, at ONE o'clock precisely. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.

Guildhall, March 8, 1864. FERDINAND BRANDT, Comptroller.

CONTRACTS.

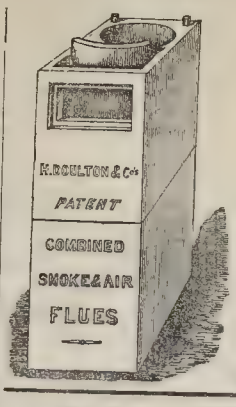
TO QUARRY PROPRIETORS, CONTRACTORS, GRANITE MERCHANTS, and OTHERS.—TO BE SOLD, in one lot, by PRIVATE TENDER, to be sent in on or before TWELVE o'clock on the 6th of APRIL, 1864, under "The Company's Act, 1852," with the approbation of his Honour the Master of the Rolls (with a view to its immediate winding up), the valuable and important QUARRY GRANTS over the Commons and Waste Lands in Walkhampton, Dartmoor, near Prince Town, in the County of Devon; and also over the several Woods called Dewerstone Wood, Common Wood, and Caddaford and Cadworthy Woods, and a portion of Wigford Down, near Buckley, on the Plymouth and Tavistock Railway; held on lease respectively by the Haytor Granite Company, and in the working of which from 200 to 300 men have been hitherto employed; together with the Manager's House and Seventy Cottages, occupied by the workmen, at Foggintor, at the Dartmoor Quarries; the Company's Wharf, called the North Devon Wharf, in Buckland Monachorum, in the county of Devon; the Smithy, Stables, and Sheds at Dewerstone, and the large Yard at Lairs, near the Iron Bridge over the Catwater, Plymouth, with the Company's Workshops, Smithy, Offices, and other buildings; as also the right of shipping at the harbour of Catwater and at the river Lairs, near Plymouth, in the county of Devon. And also the superior and costly Plant of DERRICKS, GUY CHAINS, RAILWAY WAGGONS, ROLLING STOCK, MACHINERY, UTENSILS, together with the GOODWILL, CONTRACTS, STOCK of GRANITE, and ASSETS, of that important undertaking, the HAYTOR GRANITE COMPANY, which is now in the case of liquidation by the official liquidator appointed by the Court of Chancery, pursuant to an order to wind up the said Company, dated the 7th day of NOVEMBER, 1863, and the business of which Company is now being carried on solely with a view to a sale. Sealed Tenders to be sent in, addressed to R. P. HARDING, Esq., the Official Liquidator, at his Office, 5, Bank buildings, London, EC, on or before TWELVE o'clock on the 4th day of APRIL, 1864. A deposit of 2,000*l.* will be required on the Tender being certified by the Chief Clerk of the Judge to whose Court the winding-up order is attached; and, subject to the approval of the said Judge, a portion of the purchase money will be accepted in approved bills at approved dates, or in shares of any approved Company.—Forms of Tender, Particulars, and conditions of sale, and orders to view, may be obtained of the Official Liquidator, who will give orders to view the property. Particulars and Conditions of Sale may likewise be obtained at the Offices of Messrs. HARRISON, BEAL, & HARRISON, Solicitors, 19, Bedford row, London, W.C.; and at the Offices of Messrs. PALMER & CO. 34, Bedford-row, aforesaid; or at the Company's Works, Lairs, near Plymouth, Devon; and at the Royal Hotel, and the Union Hotel, Plymouth; and at the principal Hotels in Exeter; and at Messrs. GRANT & INNES, Writers to the Court, Princes-street, Edinburgh.

GEORGE WHITING, Chief Clerk.

TO BUILDERS.—The Directors of the BUXTON HOTEL COMPANY (Limited) are prepared to receive TENDERS for the ERECTION of their HOTEL, on a plot of ground adjoining the Railway-stations at Buxton, Derbyshire. The Plans, Specification, and Condition of Contract may be inspected at the Office of the Architect, No. 4, Lancaster-place, Strand, London; or at his Office in Buxton, on and after MONDAY, the 7th instant, between the hours of TEN and FOUR o'clock. The bills of quantities have been prepared by Messrs. WELCH & ATKINSON, of No. 10, Lancaster-place, Strand, and are now ready for delivery, on payment of 3*l.* which sum will be returned to the respective parties after their Tenders have been received. The Tenders are to be in the form provided, and are to be delivered at the Office of the Company, No. 4, Lancaster-place, Strand, London, on WEDNESDAY, the 30th day of MARCH instant, at TWELVE o'clock, sealed and endorsed "Tender for Hotel, Buxton," and addressed to the Secretary. The Directors do not bind themselves to accept the lowest or any Tender; and the party whose Tender may be accepted must, if required so to do, provide two approved sureties for the due performance of the Contract.

HENRY CURREY, Architect.

Lancaster-place, Strand, W.C. March, 1864.



HENRY DOULTON & CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

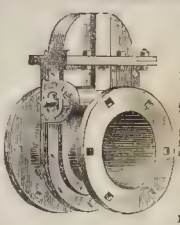
Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in Terra Cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth.



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IMPROVED GAS VALVES,

With Wrought-iron Pinions.

From 9 in. to 18 in. price 9*s.* 6*d.* to 12*s.* per in. diameter.

List of prices, with full dimensions of all sizes up to 30 in. to be had on application.

These Valves are all proved on both sides to 5*lb.* on the square inch before leaving the works, and are always kept in stock.

Valves made with outside rack to order.

Also Screw Water Valves, with gun-metal faces.

BRYAN DONKIN & CO. ENGINEERS

Near Grange-road, Bermondsey.

CHUBB'S LOCKS, with all the recent Improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

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28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

IRON BRIDGE for SALE.—At Plymouth, a WROUGHT IRON BRIDGE, 125 feet long, rail 6 feet high, roadway 12 feet wide, constructed by HUNNET & CO. from designs by the late Mr. Brunel. In tolerable condition, strong, capable of carrying 50 tons. TO BE SOLD, a bargain.—Apply to the DOCK MASTER, Plymouth Great Western Docks, Plymouth.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT

This improved system of fire-proof construction has been most extensively applied, and its applicability has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private. The material thus ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

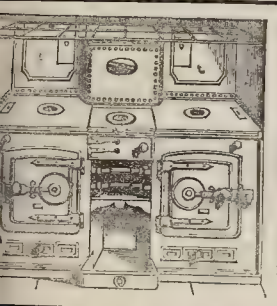
The floors and roofs are formed by a combination of casts of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation for boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are desirous to build, both as superseding the necessity for cast iron girders at 1*l.* per hundred, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

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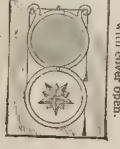
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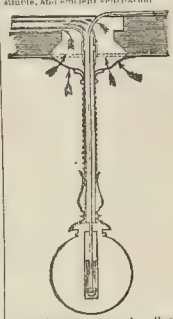
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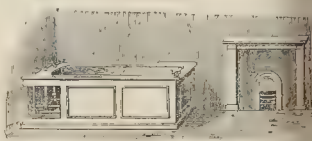
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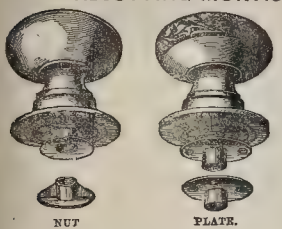
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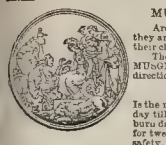
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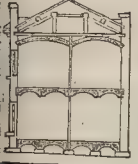
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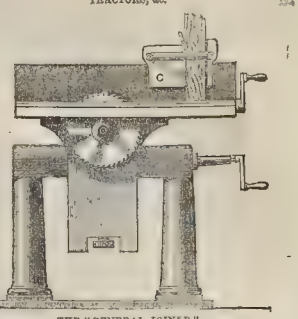
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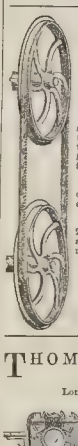
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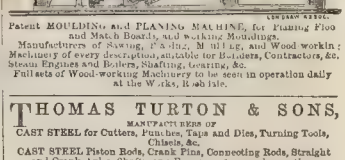
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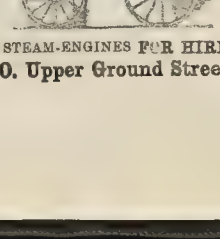
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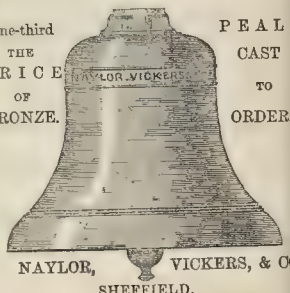
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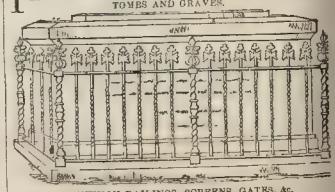
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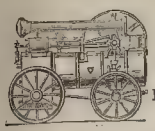
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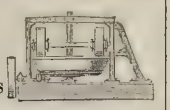


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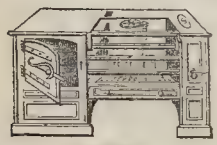
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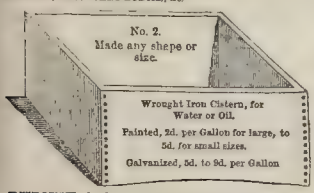
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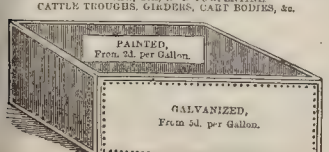
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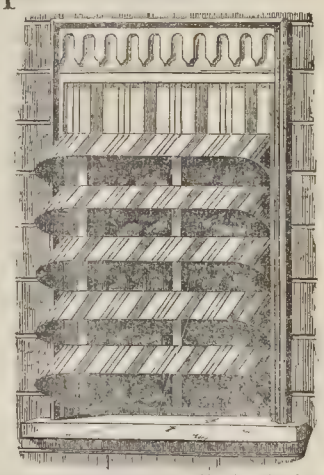


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The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
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GREAT EXHIBITION,
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GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c., for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

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HONOURABLE MENTION
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ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

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Of well-seasoned Mahogany and superior Workmanship.
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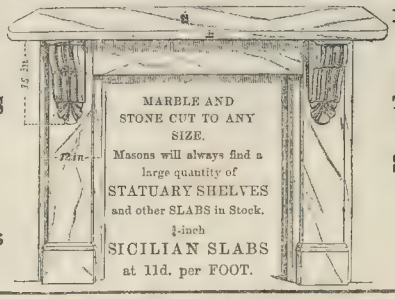
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Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

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N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

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(Limited)

Capital, £[illegible]

Deposit, £[illegible]

His Grace the Duke of Marlborough, President.

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The Company will make advances, repayable with interest, at fixed terms, or by instalments, or by terminable annuities, upon the security of—

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2nd. Of rates, dues, assessments, and taxes of all descriptions, assessed or imposed by or under the authority of any Act of Parliament, public or private Royal Charter, Commissions of Sewers, Drainage, or other similar local authority.

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Temporary advances will be made on landed estates, and on houses in course of erection, with or without the deposit of title deeds.

For further information, and forms of application, apply to the Hon. WILLIAM NAPIER, Managing Director, the Land Securities Company (Limited), 32, Charing cross, London, S.W.

THE PROVINCIAL INSURANCE COMPANY

FIRE LIFE ANNUITIES [ESTABLISHED 1825.]

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Chairman of the Board of Directors

THOMAS BARNES, Esq. M.P. Famworth, near Manchester, and The Queen's Bays.

Extract from the Directors' Report for 1863.

IN THE FIRE DEPARTMENT.

9,261 New Policies were issued	
The Premium on which amount to	£34,865 16 8
The Fire Income for the year was	50,194 12 0
The Losses amount to	19,540 0 6
The excess of Premiums over losses being	30,654 12 6

IN THE LIFE DEPARTMENT

There were received

841 Proposals for the Assurance of	£222,141 0 0
661 Policies were issued, assuring	174,884 0 0
The annual Premiums on which amount to	6,963 14 11
The Life Premiums for the year amount to	25,396 11 8
Claims were paid upon	
25 Policies, amounting to	6,035 8 0

The year 1863 has been the most successful year in the history of the Company."

Applications for Agencies are invited

ANTHONY DILLON, Secretary to the Company.

THE LIVERPOOL and LONDON FIRE AND LIFE INSURANCE COMPANY, 1, Dale-street, Liverpool, and 126, Pultney, London

At the Annual Meeting of the Proprietors, held on the 29th February, 1864

JAMES ASPINALL TOBIN, Esq. in the Chair.

The Report of the Directors for the year 1863 was read, it showed—

"That the FIRE Premiums of the Year were	£522,107 1 9
"Being an increase over 1862 of	85,034 11 10
"That the LIFE Business of the Year consisted of the issue of 768 Policies, insuring 443,200*l.*, on which the Premium was	£14,224 6 1
"And of 74 ANNUITY BONDS for the payment of	£3,8 2 19 7
"That the CAPITAL had been increased 2,030*l.* and amounted to	£191,252 0 0
"That the RESERVED SURPLUS FUND had been increased 7,87*l.*, and was	224,996 11 11
"That the LIFE RESERVE had been increased 98,912*l.* 3*s.* 7*d.*, and amounted to	959,532 19 8
"That after providing for a DIVIDEND of 40 per cent. on the capital, which would require 76,800*l.* 16*s.* the balance of UNDIVIDED PROFITS would be increased by 40,884*l.* 12*s.* 4*d.*, and amounted to	210,633 1 8
"That the INVESTED FUNDS would thus become	£1,708,434 4 3

For particulars of the Company, and copies of the report, may be had on application at the Offices, or to any Agent of the Company.

SWINTON BOULT, Secretary to the Company.
JOHN ATKINS, Resident Secretary, London

March 1, 1864.

The Builder.

VOL. XXII.—No. 1102.

Some Thoughts on Things Social and Sanitary.

PASSING along the Great Western Railway, large tracts of land, as between Maidenhead and Didcot, for example, are seen to be under water. In North Lancashire, hundreds of fields contiguous to the route of the railway between Preston and the Carnforth Junction are partially covered with water; in some parts acres together are inundated. Much of the coast land between the junction named and Lancaster is flooded very seriously: and a good deal of property between Lancaster and Preston is also submerged. The river Ribble has overflowed its banks in many places. The floods on the Trent have not subsided, the height of the water being only about a foot and a quarter below the water-mark of the great flood of 1857. The fields on both sides of the river are completely inundated, and in some instances the water is 4 feet and 5 feet deep. Several of the farmers around the town have already sustained serious losses by having to keep their cows at home, the water covering all the grazing land on the Trent side. The fields in the neighbourhood of Lenton and Beeston are all under water, and it is only on higher parts that land can be seen: in fact, as far as the naked eye can reach, it looks more like a small sea than earth. The waters of the Clyde have overflowed its banks and lives have been lost.

We have on several occasions directed attention to the defective state of many of our river valleys and adjoining lands, where, on the occurrence of any excess of rain, large areas of the adjoining country are laid under water, to the injury of farming operations and to the deterioration of the health of live stock, sheep, and cattle, and, in the vicinity of cities such as Oxford, to the injury of public health. We have pointed out the fact that main drainage is required, with river embanking, and such continent works as can only be done on a great scale, irrespective of local boundaries and private ownership. There must be permissive Parliamentary powers, which may be locally adopted and put in force after an inquiry and report, as under the powers of the Local Government Act, 1858, and some other analogous public Acts. The pecuniary loss inflicted on landowners is far larger than the amount of rate necessary to pay interest on borrowed money, and to repay the capital in, say, thirty years. The existing condition of many of our rivers is a national disgrace. The question of their improvement, however, is one for Parliament, and not for individuals.

We have heretofore been abused right soundly because we intimated that sanitary arrangements at Liverpool had not been carried to perfection. We are glad, however, to find that members of the Health Committee are making inspections for themselves of the foul places and seats of disease in the crowded courts of that borough. At a recent meeting of the Health Committee, the deaths during the week showing an increase of sixty-one on the corrected average of the last ten years, it was agreed that the time had come for action, and the arrangements in parts of the town were pointed to as "atrocious and dreadful." Mr. Alpass said he had had no idea that there were such places as those in question until he visited them; and his visit had convinced him that it was perfectly impossible for human nature to exist in them in a healthy condition. He urged that the committee would be accessory to murder if they allowed the present state of things to continue, for science showed that death was as certain to be caused by the present condition of the premises mentioned, as if poison were taken. Mr. Whitty expressed his satisfaction with the attitude of the committee upon this question, and trusted the result would be greater support in the council, arising from the advocacy and influence of the members, who had now become sensible of the need for action.

In these pages we have over and over again recorded similar conclusions as the results of personal inspection of the foul places in our cities and towns. It is the duty of every member of a health committee to make such inspections himself on consenting to take office. If this were done under proper guidance, and with the mind properly prepared to draw right inferences from what was seen, we might expect more rapid progress in a right direction than now takes place.

The report of the "Manchester and Salford Baths and Laundries' Company" shows that

"During the past year there had been an increase in the number of bathers of 27,893; in washers, 2,180; in receipts, 252*l.*; and the number of visits paid to the various establishments of the company had been 230,231. This was a proof of the usefulness of the establishments. The total receipts for the year had been 3,910*l.*, against 3,657*l.* in 1862, and the total expenditure had been 3,240*l.*, against 3,257*l.* in 1862. The excess of income over expenditure was 701*l.*, and the amount of the reserve fund was 617*l.* It was recommended that 97*l.* should be taken from the reserve fund and added to the profits of the year, so that a dividend of 2 per cent. might be paid to the shareholders."

Baths and washhouses may, with advantage, be provided for the uses of the poor in all our towns, and even in most villages. These, however, must not be laid out on a grand and expensive scale. Such places ought to be plain, simple, and, above all, economical. They should be situate in the midst of the most dense populations, so that the poor shall not have to carry clothes to wash long distances. The conveniences offered should, in fact, amount in convenience and comfort to something like adding an extra room to each cottage and tenement. Such washhouses are in use in Plymouth, in Wolverhampton, and in some other places. An old room, warehouse, shed, or yard, may be taken (as in the towns named) at a low rent, because the site is not now favourable for trade purposes. In such places fit up rooms and erect boilers, wash-tubs, and drying-closets, and afford means to the poorest to wash, dry, and mangle their clothes at a cost so low that it would be an economy to come from home to do this work. One penny per hour, to include the use of all the conveniences named, will readily be given by the honest poor, and the income will pay under proper superintendence. The committee of management—clergymen and gentlemen in the district—must, of course, if they take part, be unpaid. We fear that the Manchester and Salford Baths & Laundries Company have set up on far two large a scale to be of the greatest benefit to the poor.

Something even more pressing than establishments of this kind is wanted for thousands of the population. Every week shows that the statements we have given of the dreadful condition of many in the lower stratum of London life, so far from being exaggerated, is below the truth. Within the last month society has been startled with accounts of fellow creatures who have actually perished for want of the necessaries of life. Who can tell how many have quietly passed away in the metropolis under the same circumstances, of whom no note has been made. In one case, that of Naomi Norman, aged 63, it appeared from the evidence of one Sarah Russell, that the deceased was a single woman, and occupied part of witness's room, for which she paid 9d. a week rent. Deceased was allowed 1s. a week, and a loaf, and her sister allowed her 8d. a week, so that when the rent was paid there was the sum of 11d. and the parish loaf to keep her during the week. Witness had to work all day long at needlework, and one Sunday, when she came home, she found her fellow-lodger dying. Medical advice was called for, but when the doctor arrived he pronounced her dead. She had never seen Norman in other clothes than those in which she stood. She had to cover herself with these garments as well as she could at night, for there were no blankets or sheets to keep her warm. There were in the room only three old chairs, an old box, a bit of flock-bed, and a dirty ragged quilt. The surgeon said that the immediate cause of death was rupture of the heart, accelerated by privations, want of nourishment, want of clothing and warmth. Again; Charlotte Hampton had seen better days: fell from poor to worse: tried to keep her entire destitution from the knowledge of others, and died starved. Sarah Dove died "from the effects of exhaustion, consequent on continued want of food, clothing, and warmth;" because, under present poor-law arrangements, the Bethnal-green authorities refused to take her into the workhouse without her husband and children.

Scarcely has this been heard of, than lo! another case becomes known. Anne Palmer, 26, is found dying in the street in Spitalfields from exposure and want, and, being taken to the union-house, expires. Dr. E. Richardson, medical officer to the union, says that deceased was extremely emaciated, and the skin was of a peculiar dark colour. There was hardly any blood in the body, and what little there was presented a pale and thin appearance. The cause of death was dropsy and effusion of serum into the pericardium from privation and exposure. There was hardly a trace of fat in the system. We say, as we have before now said, that the extent of the distress verging on starvation which exists in the metropolis is not known to the Government, to Parliament, or to the influential part of the public as a body: much of it the poor-laws as at present administered fail to touch. Attention to this most important subject is loudly called for, and, if not given, the day will come when the inroad of pestilence, or some increase in the price of food will lead to revelations that will startle the community, and bring greater disgrace on this immense and wealthy city.

A searching inquiry is needed, and this inquiry should extend to the condition and culture of the neglected children of London, the main source of supply for the criminal classes.

In a recent admirable article on crime and the existence of a body of criminals amongst us, the *Times* asks for knowledge of the origin of the criminal character, and the natural history of the class.

"How come these persons," says the writer, "to be so base, so abandoned, and so incorrigible? It is taken for granted that the younger convicts are more amenable to a reformatory discipline than the elder. If so, there was a time when they might perhaps have been wholly converted. The dark biography begins with the first conviction. Why not earlier? But these men were not really born into crime. There were years in which nature had some little sway, and good and evil were not always presented in a guise so fatal to the claims of the good. Cannot the chaplains, could not here and there a parish priest of the almost obsolete pastoral type, throw some light on the nursery education of crime? This is the one thing wanting in these endless debates, and perhaps a

little more information on that point might spare much fruitless discussion on the hard and incorrigible maturity of crime."

Undoubtedly it would do so, and if the natural inference from that information were drawn and rightly acted on, the matured criminal class would dwindle to manageable limits. The origin and supply of this class (and few have any correct idea of its extent and separate nature, few can imagine the enormousness of the noisome stratum underlying the visible population of the metropolis),—the origin and supply, we say, are to be looked for in the neglect of unprotected children. There is danger to the country in the increase and agglomeration of a criminal class; and this class, we re-assert, is supplied continuously and systematically from the heaps of neglected children who survive the dangers they are exposed to. It is scarcely too much to say, as a general rule, that children are what we make them; and thousands roam this wealthy and civilized capital who, untaught except in evil, and uncared for, are being fitted for all crimes, and unfitted for aught else.

THE SHEFFIELD RESERVOIR FAILURE.

THE frightful calamity that has fallen on Sheffield is already known to all our readers. The large embankment which has failed held up the Bradfield Reservoir,—a work of considerable magnitude, recently completed to afford an additional supply of water to Sheffield, which has long needed the additional quantity this reservoir was intended to afford. The position of the reservoir is about eight miles to the north-west of Sheffield, and its elevated situation, and large and excellent gathering ground, are admirably adapted for the supply of an important town; it is almost at the head of the Loxley river. The river at this point is shut in between high banks on each side, affording facilities for throwing an embankment across, and thus forming a good natural reservoir in the bed of the river. Another reservoir is being formed on the Agdon Brook, to the north-west of Lower Bradfield, and scarcely a mile from the Bradfield Reservoir. The embankment for this reservoir is, it seems, being formed of like materials and in a similar manner to the Bradfield Reservoir. This county (Yorkshire) appears to enjoy an unenviable notoriety with regard to the failure of such works. It will be in the remembrance of our readers, that the embankment of the Bilberry Reservoir, Holmfirth, failed in a similar manner, in February, 1852,* by which means 100 souls were launched suddenly into eternity "with all their imperfections on their heads." In the present instance, to the latest date, 258 are missing, and 244 are reported found by the police; so probably the deficiency will soon be made up: one body was found down as low as Doncaster.

We need not dwell long on the vast amount of property this untoward accident has destroyed, as that is being fully detailed in the daily press: suffice it to say, that the mighty torrent of pent-up water let loose has cleared away everything that impeded its course,—bridges, mills, cottages, and mill-dams: some of the former were substantially built, particularly Hillsborough Bridge, one arch of which is now standing, but the parapet walls are swept away. With regard to the latter, the sweeping away of dams, in the headlong torrent of the flood, added to the accumulation of the water as it proceeded; which swelling and augmenting in volume, committed such serious depredations between Malin's and Hillsborough Bridges, and lower down on the banks of the Don, and in the streets of Sheffield. Many of the cottages that are carried away were built of the grit stone of the district, and in a manner peculiar to the masons of the locality, with wrought stones at the face and back of the wall, the middle being filled up with rubble, with scarcely any bond stone through the walls, and probably with many of the stones placed on their edges, instead of on their beds. The brick-built cottages appear to have stood very well, and to have resisted the terrible battery of the troubled waters. In one instance we saw the remains of a cottage that had been built of stone, at the west end of the row: the front and part of the end walls were swept away, while the chimney-breast and chimney built of brick remained nearly perfect. We have reason to hope that the extent of the damage done is somewhat exaggerated, both by the local and London press. In a calamity of this extent it is difficult at first view to fairly estimate the amount, or for the human mind to grasp results by the *débris* scattered around them. Suffice it to know, it is probable we shall soon be made aware of the extent of it, as we find that the company is responsible, by their last Act, for all damage occasioned by the failure of embankments, the clause being properly put in soon after the failure of the Holmfirth reservoir. A meeting has been already held by the owners of the property destroyed, and they are stirring themselves with the view of making a combined application to the company for redress and compensation.

The Sheffield Waterworks Company has hitherto been considered as a good security for investment. Their capital is said to be a little over 400,000*l.*, and their 100*l.* shares are worth 145*l.* in the market, but the damages by the flood have been estimated at 500,000*l.* This sad affair will prove very disastrous and ruinous to the company. From Hillsborough down the vale of the Don considerable damage has been done; several bridges are swept away—particularly some of iron, which readily yielded to the pressure and buoyancy of the water, while Lady-bridge and other bridges built of stone maintained their ground, and proved their superiority to withstand sudden irruptions of water arising from heavy rainfall or floods from large gathering grounds in hilly regions. In the Wicker we observed the occupiers of the houses and shops busily engaged in pumping out and emptying their cellars of the water and *débris* brought down by the flood. In this locality it is said the water was some 5 or 6 feet deep, the water being diverted in its course from the Don at Lady-bridge, the arches of which were obstructed by timber, &c., brought down. If the cellars had been connected with the sewers, the water would have quickly passed away as the flood subsided.

Walking over the scene of the calamity, and up the course of the Loxley brook or river to the reservoir, every striking object was observable. The course of the river was originally narrow, winding, and tortuous, studded here and there with mills, and with rows of cottages near its banks at the lower end, and as you arrived near the reservoir houses were less numerous.

At the lower end it now appears like the bed of a capacious river suddenly run dry, and the upper parts are shut in between high and precipitous banks; the whole course of the river is beautiful and picturesque, but the charms of the natural scenery of this romantic valley are now marred by the refuse and wreck of the mills of the indefatigable manufacturers, and the humble homes of their stalwart and industrious artisans.

Arriving within about 3 miles of the dam-head, may be seen, looming in the distance, a dark-looking object, like a small mountain, with a chasm in its midst, stretching across the valley, and reminding one of the disruption of the fair face of the mother earth, in tropical regions, by mighty earthquakes, or the rugged gorges of mountain torrents, whose courses are frequently changed, to afford vent for heavy rain-falls or melting of snow. After a careful inspection of the chasm in the bank, we went up the by-wash to the waste-weir. This is 12 feet wide, with side walls 3 feet high. The bottom is curvilinear, the centre being about 6 inches lower than the sides. It is connected with the reservoir at the south end of the embankment and the south-east corner of the reservoir. It is about 1 foot below top water of the reservoir. The by-wash just below its junction has several steps of about 3 feet each, and toward the mouth there is a circular curb some 4 feet high: this was the part they tried to blow up with gunpowder when they found the bank failing, so as to lower the head of the water and necessarily the hydraulic pressure. There are two drill-holes now visible in this curb. This by-wash is well constructed of solid grit masonry; but the end next the river is many feet above the bed of the stream, the bed, I suppose, having been cut deeper by the scour of the water that escaped from the reservoir. Below the waste-weir, the bank and pitching together had sunk considerably, showing a defect and settlement there. It occurs to us that at this point something was wanting. Sluices would have been useful that could have been easily drawn, so as to have lowered the level of the water in the reservoir, if it had accumulated too rapidly after heavy rain-fall over so large a gathering-ground, or from the sudden melting of deep snow.

The reservoir is about 78 acres in extent, and is said to contain 114,000,000 cubic feet of water. The embankment across the valley at the east end of the reservoir is about 400 yards long, and its altitude in the deepest part about 90 feet. The embankment is said to contain 400,000 cube yards of earth. The width of the embankment at top is 12 feet, with inner slope apparently of 25°, presumably intended to be 2 to 1, and outer slope 30°, presumed to be intended for 1¾ to 1. The face of the slope of the embankment from the surface of the water that remains in the reservoir appears to be solid earth for about 40 feet, rough rubble-stone loosely placed on about 56 feet, and the top part about 76 feet, pitched by hand, and from about 1 foot to 1 foot 6 inches thick. These dimensions are taken of the inner side of the embankment from the base to the apex. There does not appear to be any puddle-lining underneath the pitching, on the face of the inner side of the embankment.

As to the embankment itself, the chasm is not quite in the centre, and is about 300 feet long at the top, gradually narrowing and tapering down. The bank has also sunk from its long sectional level on each side of the chasm some 150 feet or more, probably from the effects of the bursting away of the middle part of the embankment, or from the settlement (sinking) of the loose material of which the upper part of the embankment seems to be composed. There is a puddle-wall in the centre of the embankment, said to be 17 feet at base, and tapering gradually up to 5 or 6 feet thick at top. The material of which it is composed appears to be a darkish or bluish-coloured clay, but its exact quality could not be fully scrutinized, and it appeared mixed up and discoloured by the falling earth.

The appearance of the puddle is not very satisfactory. Near the centre and at the base of the embankment, are fixed two 18-inch iron discharge or supply pipes, surrounded on three sides by walls of masonry; but we did not observe any apparatus for opening or closing the valves,—indeed, nothing but the masonry: perhaps the apparatus was washed away by the overwhelming and irresistible torrent. Looking at this embankment in section, the lower part or base of the embankment for about 20 or 30 feet appeared to be composed of good solid earth, as far as could be seen; but above that, the material of which it is composed looks loose and friable, with large quantities of loose stones in it: in fact, if you look at the course of the river some distance below the dam-head, it is covered with loose stones of a similar character to those that appear now in the embankment. Indeed, they appear to be forming the Ogden embankment in a similar way. It seems to us almost impossible to form a solid embankment with such materials, particularly a dam head to a reservoir. If such material were used to form a railway embankment of that depth (90 feet), it would take some four or five years or more to become consolidated, the bank would continue to sink after heavy rains and from the weight of the passing traffic, and would require constant care to raise it, and reinstate it to its original level. Indeed, we are disposed to attribute the accident to the water filtering into the loose and porous embankment, which caused the disrupture of the puddle-wall, as the first crack was seen in the centre of the embankment, and about 12 feet down its outward side, occasioned, probably, by the settlement and consolidation of loose earth when the water got in contact with it. The bank dropping in the centre would soon afford a passage for the accumulated water at the top, which gradually washing and breaking it away, would ultimately occasion this frightful chasm, and release the angry water, scattering death and destruction down the ill-fated valley.

Again, the embankment was formed by means of tram-roads and waggons, instead of the old-fashioned and more effective three-wheeled carts; it was not raised in regular lifts or layers, say 2 or 3 feet in thickness, so that the earth might become thoroughly consolidated as the bank rose, and this consolidation would have been hastened and perfected by passing over it the weight of the material of which it was composed. As the race of our old and practical coal-engineers are dying off, we may hear more of these lamentable accidents; the modern school of engineers devote themselves more to railway and other similar works, and large hydraulic works are now few.

* See *Builder*, vol. x., pp. 107, 119, 151.

We have now two of Telford's plans for reservoirs lying before us, the one (Rotten Park) a 50-feet bank, top bank 20 feet, puddle 15 feet at base and 6 feet at top, inner slope 3 to 1, outer 2 to 1; another (Hurleston), height of embankment 40 feet, top of bank 10 feet, puddle at base 10 feet, top 4 feet, inner slope 3 to 1, outer 2 to 1; and could instance many others; but these are successful works, and have been in operation many years. "Look on this picture and on this." The great defect of the work that has failed seems to be the loose and porous embankment, the top is too narrow for an altitude of 90 feet, the puddle-wall too thin; but that perhaps would not have been of so much consequence if the bank had been of good solid materials. There is no puddle-lining to the inner sides of the embankment; no proper sluices with wastes to lower the water below the waste weir if rendered necessary, or to assist the weir; and no discharge-pipe to empty the reservoir at any period if required. The slopes are too steep, they should not have been less than 3 to 1 inside, and 2 to 1 out.

These observations are necessarily hastily made: we may look into the questions involved more carefully on another occasion.

The subscriptions for the sufferers already amount to 17,000*l.*

THE ARCHITECTURE OF PARIS UNDER NAPOLEON III.*

THAT vast subject, the formation and architecture of cities, must be separated into its divisions, and what is now progressing in the French capital under each of these, must be seen, that an adequately comprehensive idea may be obtained of the work of improvement and decoration that is there undertaken, and is already in great part accomplished. The perambulation of Paris; and the study of the entire subject,—comprising the planning of routes of communication; the disposition of space for aëration; the realization of street-architecture proper, in the perspective of streets and grouping of buildings; the provision, and the laying out and management, of suburban parks; the great engineering and sanitary works, as of sewerage and water-supply; and the architecture of the several kinds of structures, and the individual examples,—however, demand much more time than is given to them usually. Accustomed to the slow progress of London, not in the decorative part of architecture merely, but towards objects, as of time-saving, and sanitation, of which Englishmen consider themselves particularly appreciative, even architects are not prepared to look for all the progress that is being made elsewhere, in each of the several branches of the improvement of a capital. An English architect must be astonished with what he sees in the shortest possible glimpse of Paris; but we apprehend that he seldom comes away with real apprehension of the quantity of the work there in progress, or of the nature of it in some of the most important particulars. Influenced as we have said; having always heard that sewerage and water-supply, out of England, are not much cared for; not knowing where to look for new buildings, excepting in the *boulevards* of which he has heard the names; and often but little acquainted with French publications, he is inevitably to some extent narrow-minded, or more than an architect should be, and than we ourselves like to say that an English architect can be. He would be so, even were there not the unfortunate separation of architecture from engineering, in the study or educational course, and were we not in this country still disputing about styles, and so allowing art to escape attention,—a mistake which, at least for the moment, is not made by the French. But there is one excuse for the coming away from Paris with chiefly a vague sense of astonishment at the evidence of costly expenditure that is noticed,—with which feeling is sometimes mingled one depreciatory of the architecture in certain characteristics or details. The maps that ordinary travellers can provide themselves with, are worthless: Bradshaw was publishing so lately as last year, a plan that did not show the Boulevard de Sebastopol; and the French plans which include this line, and some of the more recent *boulevards*, are very incomplete.

Thus, the visitor who has not made a preparatory study of the subject, has nothing to prevent his having the common notion that the Rue de Rivoli, the last additions to the Louvre, the *boulevard* just now named, the improvements about the Champs Elysées, and the Bois de Boulogne, comprise nearly all that he had occasion to see. Therein he would make such a mistake as, were we in London, in addition to our sewerage works, effecting street-improvements, and those extending to Paddington, Islington, Hackney, Camberwell, Vauxhall, and other suburbs, and were we producing much good architecture in each of them and the more distant environs,—and, in our central quarters, in transverse and side streets, as well as in the main routes,—a Frenchman would make who looked only at Cornhill and Cheapside, Pall Mall, and Regent-street.

There are defects, as we ourselves consider, in the architecture of many of the recent buildings of Paris, faults which might be obvious to an architect trained in such a school of Italian architecture as that of Barry, or of Greco-Italian as that of Cockerell, or to one acquainted with the best of the recent works in Manchester and Liverpool,—defects that we have occasionally adverted to, and that we intend to further particularize. But faulty though the architecture may be to a certain extent,—and, apt, as much French work is, to be *crotchety*,—there is real art-work in it. In details, it is full of the evidence of, at least, design,—as it is of loving labour of art-workman, ornamentist, decorator, and sculptor; whilst the subjects upon which the hand of the architect-designer is brought to exercise its power, offer advantages which there are not in the small divisions of frontage, and the varying heights of the buildings in the London streets. Moreover, in France, the architect is usually, and not exceptionally, called in; the *art* is appreciated, and deemed essential; and the artist, architect, and professional man, has his judgment deferred to.

To describe, and treat of, the general improvements of Paris as we could wish to notice them, is beyond the limits of the *Builder:* we can but take up from time to time, branches of the subject, trusting, as now, that, whilst having alluded to the existence of a very large quantity of embellishment in building, to be added to that seen in the new *boulevards*, we have been able to controvert the notion that the work of improvement is confined to that which is costly, or at most decorative, and that we have explained or shown, that it is aimed, as much as at any other object, at that of ministration to the first wants, or the healthful existence, of the population of a great city. But this latter influence we believe to be exercised even by the beautiful in art.

We have so recently compared the mortality of one capital with that of the other,* found the truth of statements of the progressing amelioration in health of the population of Paris, and shown the absence of foundation for the supposition of a great superiority of London, that we need not here repeat information as to the results of so much of the ministration alluded to, as belongs to the formation of new and wide thoroughfares and spaces, and to that portion of the sewerage which is completed. We are about to speak of other architectural features of Paris, than the street-planning and landscape-gardening, or than the works of engineering. In the sufficiently extensive subject that is left, or what is sometimes called *architecture proper*, we shall confine ourselves too, chiefly to the private buildings, which are illustrated by Mons. César Daly in the valuable publication of which our readers have been more than once informed, but which claims here a detailed notice. Of the architecture of the public buildings of Paris, numerous illustrations are to be found in the "*Revue Générale de l'Architecture et des Travaux Publics*," the periodical which Mons. Daly has edited for a quarter of a century with untiring devotion in the propagation of right principles, and in the dissemination of facts, and with an ability in the illustration-department of that work, the results of which are very remarkable. In the same periodical, have lately appeared several valuable articles on the improvements generally.

Though the public buildings have an art-character of their own which should be included in the matter of a complete study of the architecture, and though they contribute in their positions to a general effect, it is of course by the private buildings, as the majority of the structures, that much of the physiognomy of the French capital is given. Many of these, although very clean and new in appearance, were erected in the time of Louis Philippe. In most of these latter, a revival of the Renaissance, with exuberant ornamentation, sometimes very naturalistic in treatment, may be observed. The quantity of work was sufficient to influence greatly the art which has followed in the present reign, and to have helped to train the able hands that were employed under Mons. Duban, after the revolution of 1848, on the completion of the river front of the Louvre, in which the parts now as ornament were previously *en bloc*,—having so remained since the period of the erection. The portion of the front in question, now presents details which are equal in design and execution to those of any building of the period of the original Renaissance. These works of restoration, or rather completion, again trained the hands for the production of the ornament of the additions to the Louvre.

But it was in 1852, that the particular movement that it was Mons. Daly's object to illustrate, may be said to have commenced,—"an exceptional movement," as in his original prospectus he very fairly designated it, "in the undertaking of private buildings."

Side by side with this particular activity, the commerce and industry of the country have taken great strides; wealth has helped to create luxury and the desire of comfort; and in answering to the demand, many modifications have been made in the domestic architecture. Greater choice of materials, suites of rooms (*appartements*), better arranged in plan, the charms of painting and sculpture more frequently invoked, and the direction of skilful architects, are instanced by Mons. Daly, as characterizing the time. With these he includes, as a feature in plans, larger rooms; though we have ourselves noticed in central quarters of Paris, where ground has become of enormous value, a diminution in the size of rooms; and writers in French journals are constantly speaking of that tendency. Disadvantageous as the tendency may be, it helps to produce that very skill in one respect, which characterizes the productions of French architects. It is well exhibited through the medium of the work before us; in which, plans, many of them arranged together on a single sheet for comparison, form one of the especial and valuable features.

In the scheme of his undertaking, Mons. Daly adopts a classification of the subjects, which adds to the value of the work for purposes of reference, as well as educationally, when trouble is taken to understand it. The plates illustrate the recent domestic architecture of Paris, and the environs; but the original distinction between town and country houses, is perceived to be no longer exact. Under the old *régime* of the *grands seigneurs*, as remarked by Mons. Daly, there were in the city, small shops and large *hôtels:* in the country, there were paltry houses, farms, and majestic *châteaux*. Under the industrial and commercial *régime* of modern society, there are, in the city, elegant houses built for letting, with sparkling magazines of goods, and *hôtels* rather comfortable than vast; and there are in the country, modest farm-houses, but often pretty, and very rare *châteaux*. Moreover, there has sprung up, in the suburbs of great cities, and along the lines of railway, a new class of domestic architecture, which, he says, may be designated "suburban."

We may ourselves observe, to those who may not have read the articles on Paris, in our volume of the year 1861,—wherein we referred to the particular matter,—that the recognition of this growth of the class of building, and division of domestic architecture, here called "suburban," is particularly important in the case of Paris. The suburbs which, beyond the fortifications, are becoming occupied by houses of the first-class, are several of them, like the district between Neuilly, Champerret, and Sablonville (Louis Philippe's estate), of most recent formation; and the English architect, who desires to know what is being done, architectually speaking, in and about Paris, should not omit to visit them. The

* "L'Architecture Privée au dix-neuvième siècle, sous Napoléon III.: Nouvelles Maisons de Paris et des Environs. Plans, Elévations, Coupes, Détails de Construction, de Décoration et d'Aménagement, par M. César Daly, Architecte du Gouvernement, Directeur-fondateur et propriétaire de la *Revue Générale de l'Architecture et des Travaux Publics;* Membre Honoraire et Correspondant de l'Académie Royale des Beaux-Arts de Stockholm, de l'Institut Royal des Architectes Britanniques, de la Société des Beaux-Arts d'Athènes, de l'Académie Impériale de Saint-Petérsbourg, de la Commission des Savants du Muséum Germanique, etc., etc. 2 volumes in folio, composés de Gravures sur acier, et d'un texte illustré pas des Gravures sur bois. Paris. A. Morel et Cie." [In progress.]

* See p. 164, *ante:*—"The Improvements in Paris: The Question of their Importance in the view of the increasing Mortality of London."

district named is to the north-west; but there are some charming country-houses at the very opposite point of the compass, or south-east, one of them at St. Maur, by Mons. P. Manguin, given by Mons. Daly. An example which we gave in our volume for 1862, was that of a house by Mons. Sedille, in the village of Boulogne, which is south-west of Paris. The architecture of all these suburbs, and that of numerous places like Enghien and St. Gratien, St. Cloud and Bellevue, accessible by railway, as well as of small towns farther distant, but similarly connected with Paris, may be generalized as of most recent creation. With it has been developed a freshened taste for gardening. English skill in the latter art has long had a certain credit ascribed to it by the French; but till railways enabled people to live out of town, arboriculture and floriculture were confined to the small patches of gardens, such as there lately were, and as indeed still sometimes charmingly terminate the vista through an open *porte-cochère*. But now very commonly, even space in the rear of the old houses *entre cour et jardin*, -as well as that between the court and the street, originally occupied by one-storied dependencies of the main building,—is being appropriated for lofty structures, to produce the largest possible rental; though conservatories, and trellis-covered walls, are great features in buildings of every class. Of course, there are houses yet with patches of ground and shrubs; and there are some few persons wealthy enough to build new houses detached and "*entre cour et jardin*." Several of these, though in Paris, have nearly as much of the suburban villa, as of the town-house character.

Still, as we said in one of the articles we have alluded to, you may leave Paris by any of the roads, and can walk any number of *mètres* or *kilomètres*, passing by in the way, little as compared with that which the London suburbs afford, of the combination of building, art, and landscape gardening, which constitutes realization of the idea of suburban architecture; although you may very likely, meet with evidence of taste which you could not meet with in the other case, and will at least be spared some offences against taste. The class of architecture, however, has, as we have said, sprung up; and is growing, now that direct routes lead to the newly-formed quarters within or without the fortifications, and to the railway-stations whence the more distant localities are reached.

Mons. Daly explains the origin of a change which, though it be unappreciated by an ordinary visitor to a city, has become important in our art, somewhat in these terms. He says;—

"It is no longer the nobility only which has town-house and country-house; it is not, even more, the banking and upper *bourgeois* class; it is the entire *bourgeoisie* that wishes to divide its existence between town and country, noise and calm, activity and restorative repose."

He might have said, as in "*Les Embarras de Paris*,"—

"Est-ce donc pour veiller qu'on se couche à Paris?"

For, the Satire in which Boileau begins with hearing:—

". . . . les chats de toutes les gouttières,"

the mice and rats that,

"Semblent, pour m'éveiller, s'entendre avec les chats,"

the crowing of cocks, the hammering of the "laborious Vulcan," the masons' working, and the opening shops; and ends saying that the bells,

"Pour honorer les morts font mourir les vivants,"

is accurate description, to this day.

Mons. Daly, however, ascribes the "immense development" of *suburban domestic architecture*, and its particular character, to the accrued importance of the *bourgeoisie*, and the easy circumstances, and enlightenment of the class. He regards the architecture referred to, as prevailing over that of the country, the true *châteaux* being exceptional in the series of rural habitations, and "no more in fact, than great suburban habitations transported into the fields."

He classes domestic architecture into *urban*, *suburban*, and *rural*, and dedicates his work to the two first of these.

The division which may be called *urban domestic architecture* again divides itself into two groups,—1, "*Hôtels Privés*," which may be interpreted, houses planned for the occupancy of the proprietor, and not for letting; and 2, "*Maisons à loyer*," or houses planned for occupation by many different tenants, and sometimes with shops or *cafés* in the ground-story. This latter group, as might be supposed, contributes the largest number of examples to Mons. Daly's work; and, numerically, from dimensions of many of the buildings, and from localization more especially in the central quarters, it contributes perhaps most to the physiognomy of Paris. In the first group appear to be included, some *hôtels* built for the occupation of two or more families, or perhaps branches of the same family.

Each one of these groups, as also the group of suburban villas, is divided into three classes, according to the size and character of the building. The sets of plates of examples, each class, are accompanied each by a sheet of plans of additional examples (and in one case by two sheets) as already referred to, drawn to the same scale, and having a common reference. Thus, the work affords a large body of matter of suggestion in planning, over and above what is given by the fully-illustrated examples. Each set of plates, besides the title at the foot of each plate, has a separate distinguishing letter for the example, and a figure for the number of the class. Cottages, *châlets*, and conservatories, find place in the work, besides ample details of the town-houses.

To say that the work gives a *large proportion* of the good examples of architecture in Paris, might not be true, the number of such examples being so very great: there are some admirable works omitted. No one would be less inclined than Mons. Daly, to put forward his plates as a *substitute* for a detailed examination of buildings generally in the capital. But, it would be scarcely possible to use the number of his plates, about 250, to greater advantage. Everything is shown, described, and figured completely; and the engraving is exceedingly well done. There is no other publication devoted to the architecture of Paris, that is to be at all compared, or mentioned, with this for accuracy and clearness of explanation; and sorry are we to say, that there is no English publication of a like character.

Passing now to the decorative aspect of the architecture itself, let us point out before concluding this first notice of the publication, certain variations of an important feature, that are curious, whilst serviceable to the classification.

There is one feature that nearly all the buildings of Mons. Daly's three groups have in common. We mean the Mansard roof. It has generally dormers, or lucarnes, or skylights; or sometimes, it has dormers with also lucarnes higher up on the roof. But, difference in treatment of the Mansard is one means of distinguishing the "*hôtel privé*" from the "*maison à loyer*."

In the latter class of buildings, the roof bears, comparatively speaking, a small proportion to the height of the front; though its height is always such as is deemed sufficient for rooms of some kind, in it. In the building No. 1, Boulevard de Sebastopol (Rive Gauche, we think), by Mons. Lecomte, the roof, which is convex-curved, not of the Mansard form, is indeed about 20 feet rise, and contains two stories; but such an arrangement is not usual in the "*maison à loyer*" of nineteenth century date. Though it is one characteristic of the "*maison à loyer*" to appropriate space in the roof, for the rooms of all the servants of the *locataires* or tenants of the *appartements* below, the sleeping-space is seldom what it should be. Frequent comments are made by the French press, on the defects of these Mansard rooms. The arrangement, along with that of the top story, or portion of the roof, set back so as to get space for a terrace, is the result of the building regulations, conflicting with the effort to have as many rooms as possible. A certain number of stories, of the ordinary kind, are allowed; anything above this limit must not be in advance of a line, varying with the case, but, generally, one raking at an angle of 45°. The continuous balcony and iron railing crowning the main cornice of the building, is well nigh universal in buildings of this class.

Whilst in the "*maisons à loyer*," the roof has the character described, in the "*hôtels privés*" it is designed to play an important part in the composition. The "*villas suburbaines*" and the "*hôtels privés*" resemble one another very much in this respect, namely that the roof instead of appearing to be a sixth or a seventh of the total height, is nearer to a third, or sometimes almost a half. Spacious bed-rooms, or perhaps the best of the house, are obtained there, solely it would often seem, out of regard for the effect of the dormer-windows; which in buildings of this class would be elaborately enriched, whilst a range of lucarnes above would be rather general than exceptional. It will have been understood that the "*hôtel privé*" is often of no great height, whilst the "*maison à loyer*" will be of as many stories as the law allows. In one of Mons. Daly's best examples of the "*hôtel privé*," that at the angle formed by the Rue de Courcelles and the Rue de Monceaux, by Mons. Delarue, only three bays are carried up to form a regular second story: the remainder of the same floor is lighted by dormers. In this example, however, the chief bed-rooms are on the ground-floor, which is raised on a basement of about five feet in height. In some few *villas* where the roof is not of the Mansard form, it is still prominent by its height. The distinction between the two groups of town-buildings, and the similarity of the roofs of two out of the whole number, three, of the groups, destroys much of the distinction between the "*hôtels*," or town-houses, and the "*villas*" called suburban.

But, some of the chief features of the architecture of Paris start from plan; which last, the particular plan, is governed in an important degree by the arrangement of streets. Some reference to general features of the street-planning, therefore, may fittingly be made as commencement of our next article.

VANDYCK IN ENGLAND.

"This is King Charles his day. Speak it, thou Tower,
Unto the ships, and they from tier to tier"
Ben Jonson, 19th Nov. 1632.

KING CHARLES evinced his appreciation of the genius and services of Vandyck by more than mere approbation. On the 5th of July, 1632, he knighted his favourite painter at St. James's; on the 20th of April, 1633, he presented him with a chain and medal of 110*l.* value;* and on the 17th of October of the same year, conferred upon him an annuity of 200*l.* Another and a rarer honour awaited him an honour without parallel in the history of art.

"With singular delight," says Walpole, following in the wake of Vertue, "Charles went by water to the Blackfriars to view Vandyck's performances, frequently sitting to him himself, and bespeaking pictures of the queen, his children, and his courtiers." Of the truth of this pleasant tradition I am enabled to produce (and for the *first* time) the amplest testimony.

In the Works accounts of the Crown for the year 1635, a payment occurs of 20*l.* (200*l.* of our present currency) for works and reparations done and performed at the Blackfriars, in the months of June and July, 1635, in making a new Cawsey Way and a new Pair of Stairs for the king's majesty "to land to goe to Sir Anthony Vandyck's house to see his paintings." Of so marked an instance of the king's appreciation of Sir Anthony, the very words of the entry, from which I derive my information, deserve transcription:—

"Allowed the said Accomptante for Money by him yssued and paid for Workes and Repairacons donne and performed within the tyme of this Accompte at the Blackfryers in making a new Cawsey Way and a new paire of Staires for the King's Majesty to land to goe to Sr Anthoney Vandike's house there to see his Paintings in the monethes of June and July 1635.....xx^li.^"†

The causeway, as I gather from the same account, was 10 feet in breadth; that piles were driven for the purpose into the Thames, and that stores were taken from the Crown stores in Scotland-yard for this graceful act of kingly courtesy and good sense.

Among the earliest who went by water from Whitehall to the Crown Stairs at the Blackfriars, were the two sons of the Queen of Bohemia, King Charles's nephews,—the fiery Prince Rupert and the less dashing Prince Maurice of the Civil Wars. Go to Combe Abbey, in Warwickshire, and see the daring Rupert and the dashing Maurice, thanks to Vandyck, as if they never could grow old. With what an air of unaffected ease both look from the canvas, and command attention! In Rupert's face and figure there is a touch of Marston Moor, and the surrender of Bristol. Both portraits are marvellously fine.

* This important entry escaped both Malone and Mr. Carpenter, and is now first published. 1633, April 20. A Warrant for a Chain and a Medal of One Hundred and Ten Pounds value to be presented unto Sir Anthony Vandyck (Lord Chamberlain's MS. Warrant Book, I. 328). Let me add (from the same source), that Le Sœur, the sculptor of the Charing Cross statue of King Charles, received in the January of the same year, a chain and medal of 80*l.*

† "Audit Office Records," now in the Public Record Office, London.

The first Lord Craven was a pet with the Queen of Bohemia, the mother of the two princes, and through that queen the portraits of her two sons passed to Lord Craven. Long may they remain at Combe Abbey.

Neither the Church nor the Law made any great demand on the pencil of the illustrious Fleming. I can trace with certainty an archbishop (Laud), and with some uncertainty a lord-keeper (Littleton), and no more.

The Laud, a three-quarters, full face in canonicals, with black square hat on his head, went with the Houghton collection to St. Petersburgh. Though far from a good picture, the University of Oxford offered the Wharton family 100*l.* for it.* A fair duplicate is at Welbeck, and another nearly as good at Lambeth Palace. Pennant saw what he calls an admirable Vandyck of the archbishop at Ampthill Park, in Bedfordshire. This I have not seen, and I am unwilling to rely on Pennant. A fourth portrait of Laud (assigned to Vandyck) was bought, a few days ago, at Lord Lyndhurst's sale, for the National Portrait Gallery; but the price, 72 guineas, was not a veritable Vandyck quotation in the Market of Vandyck.

Of James Stuart, fourth Duke of Richmond, and Lenox, who attended King Charles I. to the scaffold and the grave, and whose two brothers, John and Bernard, fell in the king's cause, there are many full-lengths by Vandyck, and all unusually good. The finest I have seen is at the Duke of Buccleuch's; the next,—but I pronounce with diffidence,—the picture at The Grove. At Horsham, Lord Methuen's, there is a fine example, with variations,—the duke has his right hand on the head of a noble greyhound. The dress is black, and the light, almost flaxen hair, falls in cavalier-shaped ringlets upon his shoulders. Another (with dog) at Lord Ashburnham's, in Sussex; another (with dog) at Apethorpe, Lord Westmorland's; and another at Cobham, Lord Darnley's.

This true Stuart to the backbone was only forty-three years of age at his death, in 1655. Royal portraits excepted, no picture by Vandyck seems to have been so much in request as a full-length of the Duke of Richmond.

Of James Duke of Hamilton, beheaded 1648, there is a noble full-length by Vandyck at the Duke of Buccleuch's, in London. His brother, the second duke, who fell at Worcester, does not appear to have sat. Duplicates at Hamilton Palace and Gorhambury. In this picture we see what Clarendon calls "that cloudiness which is not unnatural" to this vacillating and always undetermined man.

At Lord Clarendon's, The Grove, in Hertfordshire, is a whole-length of William Seymour, Marquis of Hertford and Duke of Somerset (1660), another of King Charles's faithful followers to the last. This is Lady Arabella Stuart's William Seymour. It is not a good picture.

To the rendering and transmitting to posterity of a very fine head of his early patron, Thomas Howard, Earl of Arundel, Vandyck seems to have given his greatest care and his happiest touches. That fine three-quarter and full face so admirably engraved by William Sharp) is, though somewhat injured, still a masterpiece in every way. It was an Orleans picture, and is now the purchase one of the treasures of Stafford House. Look at this picture well,—Garter, Clarencieux—heralds all. You see before you as he lived "the Most Noble and Excellent Thomas Howard, Earl of Arundel and Surrey, Earl Marshal and Premier Earl of England, Lord Howard, Fitzalan, Howbray, Segrave, Brews of Gower, Fitzalan, Maltravers, Oswaldestree, Maltravers and Greystocke, Knight of the Most Noble Order of the Garter and of his Majesty's Most Honourable Privy Council in the kingdoms of England, Scotland, and Ireland." You see before you a man superbious and proud, who lived always within himself and to himself.

At Luton (the Marquis of Bute's) was a portrait (3 feet 4 inches high by 2 feet 10 inches wide) of William Howard, Viscount Stafford, beheaded in the reign of Charles II. on the injured evidence of Titus Oates and others. Wagen describes it as spirited in conception and carefully finished, but less clear in colouring than usual. This viscount, the second son of *Marble* Earl of Arundel, married the sole heir in blood of the great and eminent family of Stafford, Dukes of Buckingham.

Another knee-piece, and one of his latest works (1639—1641), represents Thomas Howard, Earl of Arundel (died 1646) and his wife (died 1654) Lady Alathea Talbot by birth. The proud earl and munificent patron of art points with his marshal's baton to a globe marked "Madagascar." The globe is placed between them. When this picture was painted, Lord Arundel was planning a settlement at Madagascar. The original, at Arundel Castle, is by no means in Vandyck's best manner. A duplicate at Knowle, has Junius, the earl's librarian, in place of the countess. Sir Edward Walker, who was "Secretary at War" to the earl when in command of the king's first expedition against the Scots, calls this "an excellent piece done by that famous artist Vandyck."*

Laud's friend and fellow sufferer, the great Earl of Strafford, sat frequently to Vandyck. I have already described that miracle of portrait painting, "Strafford and his Secretary." There are, however, other likenesses of Wentworth that are very fine, and in Vandyck's best manner. At Wentworth House (in Yorkshire) is a noble full-length of him in armour; another, not inferior, is at Wentworth Castle, in the same county; a third, with truncheon in left hand, his right extended, is at Welbeck. At Petworth there is a first-rate half-length of the same earl, also in armour, standing; a rock, and skirmish, in the background.

One of his noblest portraits is at Knowle, in Kent,—a full-length of Edward Sackville, fourth Earl of Dorset (d. 1652) the Sackville who fought the bloody duel with Lord Edward Bruce. Duplicate at Gorhambury. The finest of Ben Jonson's epistles in verse, is addressed to this nobleman, in acknowledgment of timely and unsought assistance:—

> "Gifts stink from some,
> They are so long a coming, and so hard:
> Where any deed is forced, the grace is marred."
> *Ben Jonson.*

Lord Dorset's wife (a Curzon by birth) sat to Vandyck. We shall see her soon.

The features and bearing of another early encourager of his pencil (observe the Arlington black patch) are preserved to us by his ever ready and accurate hand. This was Henry Danvers, Earl of Danby (died 1644). An original, a full-length, in his garter robe, went with the Houghton Collection to St. Petersburg, and in the Houghton valuation is appraised at 200*l.* This picture was given to Sir Robert Walpole by Sir John Danvers. A duplicate, if not an original, is at Dunham-Massey, in Cheshire, the seat of Lord Stamford and Warrington. Danvers began life as page to Sir Philip Sidney, and dying in 1644, was buried at Dantsey, in Wilts.

At Cassiobury (Lord Essex's) is one of the finest Vandycks in the world, the portrait, at full length, of Algernon Percy, Earl of Northumberland, his hand resting on an anchor. This uncertain man was Lord High Admiral of England when Vandyck gave him to posterity. "He was in all his deportment," says Clarendon, "a very great man, and that which looked like formality, was a punctuality in preserving his dignity from the invasion and intrusion of bold men, which no man of that age so well preserved himself from."†

A knee-piece (and master-piece) at Petworth, represents the same great earl in black, with his wife, Anne Cecil, who died in 1637, and their daughter Catherine, who died young. Duplicates are to be seen at Hatfield, Kimbolton, and Gorhambury. The earl is in black, standing; his countess in blue, sitting; and the daughter in white, standing. The lady is the centre figure. The lines of Waller will recur to the student of English poetry while standing before this picture:—

> "You on the barren seas, my Lord, have spent
> Whole springs and summers to the public lent;
> Suspended all the pleasures of your life,
> And shorten'd the short joy of such a wife."

The face and form of Philip Herbert, fifth Earl of Pembroke, and first Earl of Montgomery, have been preserved to us by Vandyck, in more than one full-length, and more than one half-length. There is a full-length at Wilton, and another—not so good—at The Grove. The best half-length is at Dulwich. There is another half-length (seated) at Welbeck; but I question its parentage, though a picture, and a good one, of Vandyck's time.

Of Philip, his son and successor in the earldom (died 1669), there is a faded half-length, in pink, at Wilton. It has been engraved by Lombart.

There is at Knowsley, in Lancashire (Lord Derby's), a so-called Vandyck (head-size, holding a helmet), of James Stanley, Earl of Derby, taken prisoner at the battle of Worcester, beheaded at Bolton, 1651, and buried at Ormskirk, in Lancashire. At the same seat is the companion portrait of his countess, the defender of Latham House; but I do not believe in the Vandyck parentage of either.

"The best portrait I have," says the Duke of Leeds, writing to Sir William Musgrave, the portrait collector, in 1796, "is a head of the Earl of Derby (beheaded at Ormskirk), by Vandyck."

At Combe Abbey, in Warwickshire (Lord Craven's), is a noble full-length of William, first Earl Craven—the Queen of Bohemia's Earl. The name of this fine fellow, known by his pesthouses and his drums, is preserved in Craven-yard, Drury-lane, and Craven-hill, Bayswater.

The features and figure of Edward Somerset, Marquis of Worcester, may be seen on canvas, from Vandyck's hand, at Badminton, the Duke of Beaufort's, in Gloucestershire.

At Longleat, in Wiltshire (the Marquis of Bath's), is the double portrait of Robert Dormer, Earl of Caernarvon, and his countess, Anne Sophia, daughter of Philip Herbert, Earl of Pembroke and Montgomery. Lord Caernarvon fell at the battle of Newbury, in 1643. There is another portrait of him at Wilton. To this nobleman Massinger dedicates his "A New Way to Pay Old Debts." Massinger was a retainer of the Pembroke family.

Another nobleman of note who sat more than once to Vandyck, was Richard Weston, Earl of Portland, and Lord High Treasurer, who gave the commission to Le Sœur for the statue of Charles I., at Charing-cross. The best portrait of him is at Gorhambury (Lord Verulam's); a duplicate is at Kingston Lacy, Dorsetshire; and a third at the Grove, all three full-lengths. Lord Portland was fond of the muses and of art, and often relieved Ben Jonson's necessities. "The head of the Kingston Lacy picture," says Waagen, "is very delicate, and also the right hand, but the accessories are scenically treated." Waagen adds, "to all appearance painted about 1638." How infallible we are. Why, Weston was dead in 1634.

> "If to my mind, great Lord, I had a *state*,
> I would present you now with curious plate
> Of Nuremberg or Turkey; hang your rooms
> Not with the Arras but the Persian looms:
> I would, if price or prayer could them get,
> Send in what or Romano, Tintoret,
> Titian or Raphael, Michael Angelo,
> Have left in fame to equal, or out-go
> The old Greek hands in picture, or in stone
> . . . This I would do could I think Weston one
> Catched with these arts."—*Ben Jonson.*

This great lord has a monument to his memory in Winchester Cathedral.

William Cavendish, Earl, Marquis, and Duke of Newcastle, and the liberal patron of two generations of poets, stood to Vandyck for the fine full-length still at Welbeck.* There are repetitions at Althorp, the Grove, and Burleigh. The Earl, for that was his highest rank in Vandyck's lifetime, was careful of his Vandycks, as his wife assures us in that delightful reading, the Life of her husband.

"My lord," writes Margaret Lucas (Duchess and authoress), "sent to his other son, Henry, now Earl of Ogle, to endeavour for so much credit, that the hangings and pictures (which my lord esteemed very much, the pictures being drawn by Van Dyke) might be saved, which he also did."†

Of the earl's brother, Sir Charles Cavendish, there is a full-length at Welbeck.

Two great noblemen who are said to have sat to Sir Anthony were both dead before his arrival in England. We may, therefore, safely attribute the picture at Blenheim, of Villiers, first Duke of Buckingham, and the picture at Wilton, of William Herbert, Earl of Pembroke, to a different hand, or perhaps to two different hands.

At Chatsworth, in the dining-room, is a full-length, when young, of William Cavendish, third Earl of Devonshire (and father of the first, the *Revolution* Duke), in a black silk dress, with a broad falling collar. In his left hand, which rests on his hip, he holds his hat; and in his right, which hangs down, his handkerchief. This picture is very fine, and stands its ground well with the other Vandycks in the room.

* Walpole's Works, ii, 247.

* Sir Edward Walker's "Historical Discourses," p. 217.
† I do not believe in the Vandyck parentage of the Petworth seated full-length of the father of Algernon, who died in 1632.

* The Welbeck portrait, head only, is engraved in Houbraken.

† Duchess of Newcastle's Life of the Duke. Folio, 1667, p. 91.

At Grimsthorpe Castle, in Lincolnshire (Lord Willoughby d'Eresby's), are full lengths of Robert Bertie, Earl of Lindsey, who fell (1642) at Edge Hill, and of Montagu, Earl of Lindsey, his son. It is impossible for the student of English history, and of Edge Hill Fight in particular, to look on these fine pictures without emotion.

At Hamilton Palace, in Scotland, may be seen one of the best Vandycks north of the Tweed,—William Feilding, first Earl of Denbigh. He is drawn in an Eastern hunting costume, with a gun in his right hand; next him a boy in a Persian dress, aiming at a parrot on a tree,—the background landscape carefully executed in a warm tone. Denbigh served as a volunteer on the side of the king, at the battle of Edge Hill,—his son and successor fighting on the other side. Lord Denbigh's sister Mary was the wife of the first Duke of Hamilton.

Two fine whole-lengths exist of William Villiers Viscount Grandison,—one at Euston (the Duke of Grafton's), the other at The Grove (Lord Clarendon's). If there is any choice between the two, it must be a matter of association; and, in that way, I prefer the duke's. The duke is descended in a direct line from the daughter of Lord Grandison, the famous Barbara Villiers, Countess of Castlemaine and Duchess of Cleveland—the lady who sat for the first figure of Britannia ever placed on an English coin. Lord Grandison married Mary, third daughter of Paul Viscount Bayning, and dying at Oxford in 1643 of the wounds he received at the siege of Bristol, was buried in Christ Church, Oxford, where his too celebrated daughter erected a monument to his memory.

At Hagley (Lord Lyttelton's) is a fine whole-length, in black, of James Hay Earl of Carlisle (died 1636), the most expensive Scot who came into England with King James I., and the one (says Clarendon) who was liked the most and held in the most esteem by Englishmen. His second wife was Lucy Percy, daughter of the Earl of Northumberland.

At Buchanan House, in Scotland, is the head, supposed to be by Vandyck, of the great Marquis of Montrose, hanged and beheaded at Edinburgh in 1650. This portrait I have not seen, and I am assured by competent judges that it is not by Vandyck.

The Duke of Buccleuch possesses the full-length in buff, red, and breast-plate of a true cavalier, George Gordon, second Marquis of Huntly. Another, equally thought an original, is at Drummond Castle. The marquis, who succeeded his father in 1636, was beheaded by the Covenanters at the Market Cross of Edinburgh in 1649.

The same rich nobleman, who has more addresses in Blue Books and Court Guides than any other nobleman or gentleman in the *three* kingdoms, has a full-length in buff, red, and breast-plate, of Henry Rich, first Earl of Holland, beheaded 1649. Duplicate at The Grove. "This Lord Holland was a man," says Clarendon, "of a pleasant and companionable wit and conversation; of a universal jollity, and such a licence in his words and in his actions, that a man of less virtue could not be found out." He was very handsome, and much—too much, it was whispered—in the favour of Queen Henrietta Maria.

At Taymouth, in Scotland (the Marquis of Breadalbane's), is a much-admired whole-length of Lord Holland's elder brother, Robert Rich, second Earl of Warwick (died 1658); the hands, unfortunately, gloved:

> "Warwick's bold Earl! than whom no title bears
> A greater sound among our British Peers."
> *Waller.*

A second of the same nobleman (engraved in Houbraken and in Lodge) is at Wimpole (Lord Hardwicke's), in Cambridgeshire. The picture at Warwick Castle is a copy from Lord Hardwicke's.

In the *hall* of Lord Chancellor Clarendon's collection now at The Grove, is the full-length, in armour, of George Hay, second Earl of Kinnoul, who succeeded his father in 1634, and, dying in 1644, was buried at Waltham Abbey, in Essex. This lord, before his father's death, was captain of the Yeomen of the Guard to King Charles I.

Another knee-piece (a seventh) represents Mountjoy Blount, Earl of Newport (died 1665), and George Lord Goring, son of the first Earl of Norwich, who died in 1662, with Charles, his son and successor (died 1670) in the centre of the composition, tying on his scarf. The original is at Petworth, and a repetition at Kimbolton, both fine. Whoever remembers this charming and characteristic composition will like what follows:—

"There was at that time [1650 at Madrid] the Lord Goring, son to the Earl of Norwich: he had a command under Philip the Fourth of Spain, against the Portuguese; he was generally esteemed a good and great commander, and had been brought up in Holland in his youth, of vast natural parts; for I have heard your father [Sir Richard Fanshawe] say, he hath dictated to several persons at once that were upon despatches, and all so admirably well, that none of them could be mended. He was exceedingly facetious and pleasant company, and in conversation where good manners are due, the civilest person imaginable, so that he would blush like a girl. He was very tall and very handsome; he had been married to a daughter of the Earl of Cork, but never had a child by her. His expenses were what he could get, and his debauchery beyond all precedents, which at last lost him that love the Spaniards had for him, and that country not admitting his constant drinking, he fell sick of a hectic fever, in which he turned his religion, and with that artifice could scarce get to keep him whilst he lived in that sickness, or to bury him when he was dead."*

Of this Lord Goring, who died abroad in the character of a Dominican friar, the great Lord Clarendon tells us that he had wit and courage and understanding and ambition, uncontrolled by any fear of God or man; adding that "dissimulation was his master-piece."

An eighth double knee-piece portrait represents the celebrated Lucy Percy, Countess of Carlisle, and her sister Dorothy, Countess of Leicester. Where the original is I know not. Walpole bought the Penshurst copy, in 1764, for twenty-nine guineas.† Lady Leicester is in red. This picture, which Walpole calls "very fine," was sold at the Strawberry Hill sale for 231*l.*, and is now at Basildon Park, in Berkshire, the seat of the late James Morrison, Esq.‡

I have but one more to chronicle of the twin and knee-piece character, and that one is very little known,—the subject, Arthur, Lord Hopton, of Stratton (died 1652), and his son. He is seated, the son is standing; both are in black. This once fine picture, for it is sadly injured, is still to be seen at Rushbrooke, near Bury St. Edmund's, in Suffolk, the moated seat of the Jermyn family.

At Bothwell Castle, in Scotland, is a believed-in Vandyck, of Paul, second and last Viscount Bayning (died 1638). He is in black, with his left hand on his hip, his right holding a black hat. Of this picture, which I have not seen, Waagen writes, "Easy in motive, and carefully painted in his brownish tones;—the heavy colouring of the landscape and the many details show another hand." §

Another man of note in his day sat to Sir Anthony more than once. This was Sir Kenelm Digby, of Stoake Dry, in the county of Rutland, "a gentleman"—I adopt Ben Jonson's words—"absolute in all numbers."

I have already catalogued the Welbeck double portrait of Sir Kenelm and Lady Venetia, and have now to name the fine half-length of him at Windsor, where he is drawn seated, with a celestial sphere on his right, in allusion to his astrological studies. Duplicates at Knowle and in the Oxford Picture Gallery. In his Will, Sir Kenelm desires to be buried with his wife, and without—an epitaph.

Another double picture represents Sir Kenelm and Lady Venetia, his wife (died 1635) and their two children, Kenelm and John. Of this, one copy may be seen at Sherborne (Lord Digby's), in Dorsetshire; and another (the Harleian picture) at the Duke of Portland's, at Welbeck. "At Goathurst, in Bucks," says Aubrey, "is a rare original picture of Sir Kenelm Digby and his Lady Venetia, in one piece, by the hand of Sir Anthony Vandyck." ‖ Where is this picture concealed?

I shall group together the names of four male sitters, all four gentlemen of the chamber to King Charles I.:—

1. Endymion Porter, a name already mentioned, and well known to every student of the reign of Charles I. A portrait of Porter, by Vandyck, was exhibited by Lord Hardwicke at the British Institution in 1829.

2. John Ashburnham (died 1671), the person so deeply implicated in the blundering escape of Charles I. from Hampton Court. I have not seen this picture; it is, I am told, at Lord Ashburnham's, in Sussex; another, at Hinton St. George, in Somersetshire. Ashburnham's second wife (a Kerr by birth), was the widow of Lord Poulet, of Hinton St. George.

3. Henry Jermyn (afterwards Earl of St. Alban). Full-length of at Rushbrooke, in Suffolk, the ancient seat of the Jermyn family. He is standing, dressed in black slashed with white, his right hand gloved, his left concealed behind his dress. This is a fine, neglected, and little-known picture.

4. Thomas Killigrew. "Mr. Thomas Killigrew, with a Mastiff Dog," by Vandyck, was sold at Sir Peter Lely's sale, to Lord Newport, for 83*l.* It is now Lord Bradford's.

At Audley End, in Essex (Lord Braybrooke's), is a portrait of Sir Dudley Carleton Viscount Dorchester (died 1628), long the English ambassador at Venice and the Hague, and whose name I have already had occasion to introduce to the reader. I saw this picture many years ago at Audley End, and my impression was then *against* its Vandyck parentage.

Evelyn speaks most encomiastically of a Vandyck portrait of Sir Thomas Hanmer (the second baronet, died 1678); he calls it "one of the best he ever painted." It was then in the possession of Lord Newport. This I have never seen.

A very fine knee-piece of Sir William Killigrew (died 1693) was bought of Mr. Farrer by the present Duke of Newcastle, and is now at Clumber, inscribed "A Vandyck, pinxit 1638." Sir William was a gentleman usher of the Privy Chamber of Charles I. and Vice Chamberlain to the Queen of Charles II. Throughout the whole of the civil war he had command of the troops which guarded the king's person.

Sir Robert Walpole, like Lord Clarendon before him, collected Vandycks.

The Houghton portrait (three-quarters) of Sir Thomas Chaloner, the regicide, went to St. Petersburg.

Walpole says (Works, ii. 243) that the Sir Thomas Chaloner of Vandyck was governor to Henry Prince of Wales. This is an error. The picture represents his son, governor to the prince, who died in 1615, and is buried at Chiswick, in Middlesex. This picture, in the Houghton valuation, was appraised at 200*l.* Chaloner died abroad before the Restoration.

The Houghton full-length of Sir Thomas Wharton, brother of Philip fourth Lord Wharton, bought by Sir Robert Walpole of the Wharton family, hangs in the dining-room at Chatsworth.

The portrait—seated—of Sir Christopher Wandesford, Lord Deputy of Ireland in 1640, was a Wharton and Houghton picture, and is now at St. Petersburg.

Another Wharton and Houghton picture is at Chatsworth, a full-length of Arthur Goodwin, the friend and colleague of Hampden, and father of Jane, second wife of Philip Lord Wharton. Walpole calls it "one of the best" of the Wharton purchases made by his father. Sir Robert gave this fine portrait to Chatsworth.

The noble head of Inigo Jones (of which Lord Hatherton has a copy by Hogarth) went with the Houghton collection to St. Petersburg. Could not some change be effected? The head of Inigo, by Vandyck, should be in England. Let my Lord Stanhope try to obtain this treasure for his National Portrait Gallery.

Lord De Tabley has a knee-piece (a so-called) of Sir John Byron, K.B., first Baron Byron (died 1652). He is drawn as Constable of Chester, with a black page holding his horse. This picture must be put in an Apocrypha of Vandyck's works.

That sprightly poet, Sir John Suckling, stood to Vandyck (so some assert), and, doubtless, chose his own posture. He is at full length, holding a copy of the folio edition of Shakspeare. A rock, on which his left arm leans, is inscribed "Ne te quæ sciveris extra." Sir John, who died in 1641, was a professed admirer of Shakspeare.

"My Lady Southcot," says Aubrey, "whose husband hanged himself, was Sir John Suckling's sister . . . At her house in Bishop's Gate Street, London, is an originall of her brother, Sir John, of Sir Anth. Van Dyke, all at length, leaning against a rock, with a play-book, contemplating. It is a piece of great value." *

The original, more, as Sir Joshua thought, in Jansen's manner than Vandyck's,† is at Dr. Lee's, at Hartwell House, in Buckinghamshire. Dr. Lee is descended from the Sucklings.

I will mention *finally* that Evelyn records his having seen at Bennet, Lord Arlington's, "two of Vandyck's, one of which was his [Lord Arlington's] own picture at length, when young, in a leaning posture; the other, an "Ennuch singing." Of the boy Bennet I know nothing more. The

* Lady Fanshawe's "Memoirs," p. 104.
† Letter to Montagu, 10th May, 1764.
‡ Waagen's Supplement. 8vo. 1857, p. 310.
§ Waagen's Supplement. 8vo. 1857, p. 463. At Haigh, in Lancashire, was a double portrait of this Paul Viscount Bayning and Lady; a Cupid presenting her a basket of flowers (Sir William Musgrave's MSS. in British Museum).
‖ Aubrey's "Lives," ii. 333.

* Aubrey's "Lives," ii. 550.
† Lysons's "Mag. Brit.," under "Hartwell."

"Eunuch singing" is, I presume, the picture thus described at fol. 499 of the appraised catalogue of King Charles I.'s collection:—

"St. James'
Ye Singing Man, by Sr Anthony Vandyke. £20.
Sold Mr Jasper ye 22d March, 1649, for £23."

My next communication will "catalogue" the King Charles I. "Beauties," who sat to Sir Anthony in the Blackfriars of London.

PETER CUNNINGHAM.

WROUGHT-IRON GIRDERS UNDER A MOVING LOAD.

THERE are probably few of the structural applications of a wrought-iron girder in which it is not subject to a moving load. In the form of a bridge-girder, or perhaps built into one of the new massive warehouses, or as a cross-beam of a heavy travelling crane, a wrought-iron girder has to undergo stresses varying in amount, but necessarily accompanied with the vibrations due to moving loads, and generally with the absolute application of intensity always caused by a suddenly-applied strain. Confining ourselves, at any rate for the present, to an experimental and practical consideration of the behaviour of a wrought-iron girder under a moving load, we find that the best engineering practice appears to generally make the proof strength of wrought-iron from twice to three times its usual working strain; while the ultimate strength is often made as much as from four to six times the working strain.

In an interesting paper read last month before the Royal Society, Mr. Fairbairn objects to the Board of Trade limit, for wrought-iron railway bridges, of five tons per square inch of actional area. It is well known that a compressive strain of 4 tons to 4½ tons is generally held to correspond to a tensile strain for wrought iron of 5 tons. The Board of Trade applies this limit to both the top and bottom chords of a wrought-iron girder; and, Mr. Fairbairn says, "It is even possible to disproportion the top and bottom areas of a wrought-iron girder calculated to support six times the rolling load, as to cause it to yield with little more than half the ultimate strain, or 7 tons on the square inch. For example, in wrought-iron girders with solid tops, it requires the sectional area in the top to be nearly double that of the bottom, to equalise the two forces of tension and compression; and, unless these proportions are strictly adhered to in the construction, the five-ton strain per square inch is a fallacy which may lead to dangerous errors." It will be remembered that, many years ago, Mr. Fairbairn showed that actually more than 20 per cent. of the strength of the iron is destroyed by the mere process of punching the rivet-holes,—an injury to the tenacity of the iron quite independent of and additional to the loss of the metal punched out. This is the reason that Mr. Hawkshaw had all the rivet-holes of the plates for the new Charing-cross Bridge filled out by a multiple drilling-machine, first brought forward some years ago by Mr. Cochrane, lately deceased, a partner in the eminent firm who contracted for the bridge. The very trying quality of merchant wrought-iron is another element of uncertainty, as many plates made and sold which have not more than 20 tons per square inch ultimate strength. "Again," says Mr. Fairbairn, "it was ascertained from direct experiment that double the quantity of material in the top of a wrought-iron girder was not the most effective form for resisting compression. On the contrary, it was found that little more than half the sectional area of the top, when converted into rectangular cells, was equivalent in its powers of resistance to double the area when formed into a solid top plate." The weight of the structure itself—increasing with the cubes, while the strength increases only as the squares—is also disregarded by the Board of Trade rule; and, consequently Mr. Fairbairn, "we are not informed whether the breaking weight is to be so many times the applied weight *plus* the multiple of the load; or, in other words, whether it includes or is exclusive of the weight of the bridge itself." It is, besides, the case that this requirement of 5 tons per square inch also applies to the chains of a suspension bridge, which, as their strength is diminished by being bent into an elliptical form, often have the full average strength of good wrought iron of some 25 tons per square inch. It may be remarked with regard to chain cables, or chains formed with a cross stay in the centre to prevent collapse, that the Admiralty proof for these is 11·46 tons per square inch, although a large per-centage of the ultimate strength—sometimes estimated at about one-fourth—is lost in forming the cable bar into links.

Taking into consideration much of what we do know of iron at present, and also of what we do not know, we feel inclined to disagree with Mr. Fairbairn, in his unqualified condemnation of the Board of Trade rule. Of course it is an arbitrary rule. But such rules must always be arbitrary. Besides, so much of our knowledge of irons is yet in a provisional state, that the present rule is probably the best for the present time. Quality of iron and quality of workmanship are evidently such varying quantities, that it would scarcely be safe to take them into general consideration. So many things, indeed, are yet undetermined about wrought iron, besides its varying quality—no two bars, or two parts of a bar being ever alike—that the Board of Trade rule may be considered as being, on the whole, very just. Take, for instance, the effect of vibration on iron. Mr. John A. Roebling, the engineer of the Niagara Suspension-bridge, is stated by Mr. Zerah Colburn to have made some experiments, that very markedly showed the influence of vibration in determining a permanent set. Bars reduced by the hammer to ¾-inch square at the centre, showed a breaking weight of 33 tons to the square inch. They "bore a strain of 20½ tons per square inch without visibly stretching; and when no jar was given to the bars, they would support this strain for a week. Upon any vibration, however, the bars immediately took a permanent set." At the same time, it must be remembered that these bars were reduced by the hammer only at the centre of their length, and that the elongation would take place at merely a portion of the whole length. The exact effect of a low temperature on the elastic limit and the breaking strength of iron, is another point upon which we are unprovided with sufficient data. There exists a vague but very general impression amongst practical men that iron becomes more brittle in cold weather, and the general observation that the elasticity of most substances decreases with the temperature would seem to strengthen this view. We do not know of any systematic published experiments on this interesting question as to the influence of frost on the ultimate strength of iron, beyond one made upon a ¾-inch bar by Mr. Kirkaldy in the month of December, 1860. The bar, "Glasgow B Best," was cut up into ten bolts, "six of which were exposed all night to intense frost, and tested in the morning with the thermometer at 23 deg. Fahr. The other four were kept in a warm place, and carefully protected during testing. Three were tested with gradual, and seven with sudden strains." It is interesting to observe, from the figures given by Mr. Kirkaldy, that "when the strain was gradually applied there was very little difference between the specimen tested in the ordinary condition and the two that were frozen: the former bore 55,717 lb., the latter 54,385 lb.; difference, 1,332 lb., or 2·3 per cent. less." The difference under *sudden* strains was somewhat greater, being 3·6 per cent. less than when frozen. It is a pity that Mr. Kirkaldy was prevented following this particular train of investigations; the more so, as all the ten pieces were taken from the same bar, while, at the same time, the bar itself was of a superior quality, and it is natural to expect that a coarser kind would have shown a still greater difference. It is not improbable to suppose, as a deduction from Mr. Kirkaldy's experiments and from general experience, that the ultimate breaking strength of iron may not be affected by frost, but rather its elasticity—the iron becomes more brittle. The usual perennial increase of railway accidents, whenever there is a frost of long continuance, is at any rate, noticeable. Experiment has shown that the ultimate tenacity of wrought-iron is greater at 32° Fahr. than at 212°; while at 390°, according to Mr. Fairbairn, its tenacity is greater than at 32° Fahr.

The experiments described in the paper read last month before the Royal Society, and upon which Mr. Fairbairn appears to have founded his objections to the Board of Trade rule, are continuations of a similar investigation conducted some years ago. In 1861, Mr. Fairbairn read an important paper to the British Association, in which he gave some of the results of a series of experiments made to ascertain the effect of a moving load on a plate-iron girder. The large model he employed withstood one million applications of a load equal to one-fourth of its breaking weight, but the same model broke down after 5,175 applications of a load equal to one-half of the breaking weight. After repairing it, the model withstood 25,000 applications of two-fifths of its breaking weight, and afterwards three million applications of one-third of its breaking weight without again breaking down. The tables shown by Mr. Fairbairn did not, however, give any account of the deflection or of the permanent set. These omissions are supplied in the paper read before the Royal Society. The author stated that "he has endeavoured to ascertain the extent to which a bridge or girder of wrought iron may be strained without injury to its ultimate powers of resistance, or the exact amount of load to which a bridge may be subjected without endangering its safety." The apparatus intended to carry out the experiments was made so as to first lower the load quickly down upon the beam, and then to produce a large amount of vibration. This plate girder had a (calculated) breaking weight of 12 tons, and weighed 7 cwt. 3 qrs. Its area at top was 4·30 square inches, at bottom 2·40 inches: the area of the vertical web was 1·90 inches, its depth 16 inches, its total sectional area being 8·60 inches. The beam was first loaded with 6,643 lb.—one-fourth of its calculated ultimate breaking weight, under a steady load—but this load was worked up and down on the beam about half a million of times, extending over a period of two months, night and day, and at the rate of about eight changes per minute. The deflection produced was at first 0·17 inch, and this afterwards seems to have diminished to 0·16 inch, but no permanent set was produced. The load was then increased from one-fourth to two-sevenths of the statical breaking weight, nearly 3½ tons, and the number of changes also increased to a million. The deflection was 0·22 inch, after nearly 90,000 changes of load, an amount that afterwards fell to 0·21 inch, and then rose to 0·23 inch, after the beam had undergone 1,000,000 changes of load. The load was then increased "to 10,486 lb., or two-fifths of the breaking weight, and the machinery was again set in motion. With this additional weight the deflections were increased, with a permanent set of 0·5 inch, from 0·23 inch to 0·35 inch, and after sustaining 5,175 changes, the beam broke by tension at a short distance from the middle." It is interesting to notice that none of the rivets were either loosened or broken. The beam was repaired by replacing the angle-irons on each side, and by riveting a patch over the broken plate equal in area to the plate itself. The experiments were then continued with a weight of 3 tons (or one-fourth of the statical breaking weight), and were carried on as before. After the repairs, the beam sustained no less than upwards of 3,000,000 changes of load, with a deflection varying from 0·22 to 0·17 inch, and with an ultimate permanent set of only 0·01 inch. Assuming that the beam could bear to an indefinite time alternate changes of this kind with the 3 tons as above, the load was increased to 4 tons — one-third of the breaking weight. The deflection was thereby increased to 0·20 inch: no permanent set was produced, but, after about 300,000 alternate changes of one-third of the breaking weight (4 tons), the beam "broke by tension across the bottom," a short distance from the centre of the beam, and close to the plate riveted over the previous fracture.

From these experiments Mr. Fairbairn deduces that "wrought-iron girders of ordinary construction are not safe when submitted to violent disturbances equivalent to one-third the weight that would break them,"—with a steady load. It will, however, have been seen that, according to Mr. Fairbairn's experiments, a plate girder shows a wonderful tenacity when undergoing the same treatment with *one-fourth* of this load; "and assuming, therefore, that an iron girder bridge will bear with this load 12,000,000 changes without injury, it is clear that it would require 328 years, at the rate of 100 changes per day, before its security was affected." To risk a load of one-third of the breaking weight upon plate bridges would, Mr. Fairbairn considers, be dangerous, as, according to the last experiment, the beam broke with 313,000 changes, equivalent to a period of eight years, at the rate of 100 changes per day. He appears to ascribe the rapid breaking down of the girder in the last experiment to a previous gradual deterioration of the beam through the three millions of changes to which it

was subjected under the moving load of one-fourth of the breaking weight. It will thus be seen that Mr. Fairbairn considers one-fourth of the statical breaking weight as a safe moving load for a wrought-iron plate girder, or that the factor of safety giving the ratio in which the ultimate strength should exceed the working strain, should be four—a ratio which in practice he would probably be inclined to increase by one-half.

THE POSITION OF THE ART WORKMAN.

ARCHITECTURAL MUSEUM PRIZES.

THE annual meeting of the members of the Architectural Museum, for the distribution of prizes, was held on Tuesday evening last, in the theatre of the South Kensington Museum, on which occasion an address was delivered on the position of art-workmen, by

Mr. A. J. B. Beresford Hope, President. He said that last year he had addressed them on the subject of architectural art as such, apart from architecture in general as an art. He would on the present occasion deal with a topic which it might, perhaps, be said they ought to have handled much earlier. It was a subject that, so to speak, underlaid our whole existence. It treated of the material with which they had to deal in all the work they had to do; and it was, in one word, the position of the art-workman. The reason he had selected that topic was this. Last year, a Commission sat to inquire into the situation of the Royal Academy; before which Commission he had the honour of appearing as a witness specially in connexion with this institution, as one of the art institutions of the country. In the course of his evidence, he made reference to topics of art study which had to do with the pursuits of the Architectural Museum; and, when the report of the Commission was published, he saw with pleasure a paragraph in the following terms:—"We recognise great value in the suggestion first made to us in the evidence of Mr. A. J. B. Beresford Hope, that there should be a class of art-workmen connected with the Royal Academy. Looking to the more intimate connexion with the fine arts of those of a more mechanical character, and the great importance of extending the influence of the former over the latter, we think that workmen of great excellence in metal, stone, wood, and other materials, might properly be distinguished by some medal or certificate of honour, conferred by the Royal Academy; and, in certain special cases, become members of the Academy, at least as associates. Each of these art workmen might properly receive a bronze medal, with the appellation of Royal Academy Medalist." Finding that his opinion had been so well received, he thought it was due to himself and to the cause which he had taken up, to follow it out to its results. The Museum existed for the art-workmen, and he felt there was, therefore, no such proper place to break ground in as there, and no such proper time to speak out as at their annual meeting. He did not hesitate to say that the position of art-workmen was at first sight somewhat anomalous. He spoke to those around him as their friend, with a view to raise their profession from the difficulties and anomalies in which he saw it placed. What had they come to by reason of the prizes offered by the Museum, by the Society of Arts, and by the Wood-carvers' Society, to their very great credit, and by the endorsement of the work so accomplished by the Commission? Why, that there was a class of working artists now in existence who were subject to no obligatory recognised training, and had no absolute position in the art-world; who depended for their remuneration upon weekly payments, and yet from whom were demanded the refinement and the work of artists. That was clearly an anomalous state of things. They had either gone too far, or had not gone far enough. The question, then, was, how without a socialistic revolution were they to put working artists in their proper position, and yet to keep up the commercial balance of matters? How was the present state of things brought about? A sudden demand for art-workmen had been created by the art movement,—the Gothic movement of which Pugin and Barry were the pioneers,—and which had gone on every day outrunning the supply. The sculpturesque art in and out caused a demand which had to be met somehow; and so had grown up a system of taking art on commission, to be carried out by middlemen, under the direction of the architect. He did not seek to cast reproach or blame upon that system; but, like all other systems, it must stand criticism. He should divide the art-workmen into two classes—one the art-workmen to whom no designing at all was committed, such as glass-stainers, potters, and metal-workers; the other, stone-carvers and wood-carvers, men on whom it had more and more become the custom to heap a great deal of designing. There had grown up, and it had been advocated by the pen of an able writer, whose magnificent word-painting carried forward the movement, a taste for Gothic art throughout the country. He alluded to their friend Mr. Ruskin. But he thought that he (Mr. Ruskin), and those who thought with him, went a little too far. They seemed to think that you had only to set an object before the art-workman, and to tell him to carve it, and that it should necessarily come out beautifully and gracefully. That he did not admit. He believed that the perception of the beautiful, on the one hand, and the means of carrying it out on the other, must be given by education. Without education you got clever botches, but only in the case of a few geniuses did you get anything like real satisfaction. The demand for free art had to be met. We were at once to come out with something which was to be a great deal better than anything which had gone before it. This had led to a state of things out of which they might get a great deal of good; but it had landed them in a system of conventional originality made easy. Goths and Greeks alike, it is true, were mere copyists fifteen years ago; but they would now go into a system of easy originality, of gentle invention; and were they to be satisfied to stop there? Had not easy invention fallen into as much imitation as the old thing which it succeeded consisted of before? only it was not the imitation of Mr. Beverley, but of, say, Mr. A. B.'s clever reproduction of the Early French. If they got too natural, they fell back into old paganism: if they got too conventional, they fell into the celery-and-cabbage school. The way to avoid these shoals and quicksands was to educate a class of working artists, and not to leave them merely as art-workmen. Carving had got into the hands of contractors. He did not regret that. There was a great deal of work that should be carried out quickly, and under circumstances which only the capitalist system of the day could meet; but alongside of that there must be the working artist, or they would see no carving in the villages—no carving in the small towns—no carving in farmhouses, or those other places into which they desired that the spirit of art should penetrate. It must come to be understood that there were firms in London that employed artists, and the names of those artists must be given to the world. No doubt the present state of things was a safer and an easier one for the art-workman. Now the capitalists stood the risk; the payment to the workman was secure. If the latter were put forward more prominently, he should be paid by the piece, and much more responsibility would attach to him. Work was not now minutely criticised when it was known that the consequences of the criticism might be visited upon, perhaps, some of the most insignificant of those in the employment of the contractor. The present, therefore, was a safe system: it secured uniform wages for the workmen and a certain amount of uniform criticism for the work performed: it secured peace for the employer and the employed by a high level of smooth mediocre art for the world in general. To make the working artist what he should be, he must, so to speak, work with his name round his neck: he must stand in such a position with the public that his credit would be attached to the work he turned out, and that he would suffer in pocket and in reputation if that work were under par: he must be pressed to stand the good and the bad of the experiment. It was necessary, then, that the working artist should be an educated man. He should undergo a certain training and education: he should obtain certain diplomas before he acquired the right to put his card in his window, and to advertise himself to the world as "John Smith, working artist in wood," or in stone. The haphazard education which was fashionable now-a-days, would not do for such a person. He could not afford to blow hot and cold. If they went in for educated art they must have educated artists. What training then was it necessary to go through in order to become such? There was a great ramification of schools of art through the country, of which the head quarters were at the building in which they were then assembled. They were, however, only schools of design, in which they might also pick up a little modelling. There was no execution in them, and tuition was purely optional. If, however, they could affiliate to the Royal Academy a body of art-prizemen, out of the two elements, something of a solid and satisfactory character might be built up. They had not only the schools, and—as they hoped,—the academy element, but there was also the growth of an artistic feeling among art-workmen tending towards this step; and why should there not be something like the guilds of former days, not created by or dependent upon the State, but dependent upon voluntary association and affiliation to an institution such as the Royal Academy? The schools should not be extinguished, but left to be carried on by a free organization of art-lovers, and not be allowed to remain a mere State department. If art-workmen were prepared to enter into the matter in the way he had suggested, he saw no reason why there should not be a profession of stone-carvers and wood-carvers, as there was a profession of photographers or of dentists, to be followed to the exclusion of any other means of gaining bread. Another step which would be necessary in this movement was this: they should fall back upon the old idea of apprenticeship. A duly qualified carver in wood or stone who had obtained his diploma and his certificate in the art contest, should be allowed to take apprentices. For himself, he saw no reason why they should not have the new profession of working-artist. The artist in marble goes through a regular training and becomes an Academician: why the artist in wood and stone should not be trained and educated, why those who decorated our houses, made our shops cheerful and our churches beautiful, should not be recognised by such an institution as the Royal Academy, he regarded as a mere prejudice of the day. No man could be an artist, except for the barest imitation, without being a scholar. The Architectural Museum formerly offered prizes for historical subjects which required considerable reading, and the system was found not to work as well as could be desired. Now they had started with modern subjects, and they found that the men understood and answered and competed with great credit to themselves. He said, then: let the working artist be a man who gets the bronze medal of the Royal Academy, and who devotes himself to his particular branch of art, as the painter or the sculptor devoted himself to his: let the masters of the schools be paid partly by the Academy and partly by the State,—then the educated man would take his prize if he could—would contend for his diploma and become an artist. He might then either settle in London, engage himself at one of the large establishments, devoting himself to a particular branch of art; or settle in some provincial town, and carve the tombstones or adorn the residences of the neighbourhood; or he might travel circuit, from place to place; but for all this he must first be educated: he must be trained in drawing as well as in handling his tools: he must have lessons from the human model: he must have won his certificate to show that he really is what he professes to be. When all that was done, they would have set up a newer and a higher profession than that of the ordinary artisan, to which any man with a little capital and a love of the beautiful could aspire—a profession not of handicraftsmen merely, but of working artists. In carrying out this plan no detriment would be done to the employer. It was the evil and the bane of those who earned weekly wages that they were apt to set up associations to keep up the price of labour: these led to strikes, and were absolutely antagonistic to any art-feeling at all. The present plan would not work against employers: they would of course look out for the best men; and very likely they would run up the prices; so that the person who would suffer in the end would be the unlucky patron of art; but it would lead to a system of education which would be a reality, and to a development of superiority which they never could hope for now, as, after a little time, the art-prizeman became absorbed in the mass and was forgotten. These were, no doubt, bold views; but he felt that the time had come for speaking out on this important subject; for stating fairly the outside of their demands, and telling the art-workman how far they would have him go; and that the time was coming when no demand of his would be recognised if he did not produce his credentials of industry, education, and competency.

As he had said, the present system was a safer one for the art-workman: he was subject to less competition, to less criticism, to less responsibility: the present system did less to try his learning or to test his originality; but if he came forward as an artist, he must be prepared to stand his trial with his brethren of the same profession, and to abide by the verdict which, without favour, but with justice, would be delivered by the art-lovers of the world. If he passed successfully through that ordeal, he would achieve position—perhaps wealth,—and become an employer of labour himself on the system by which he had himself acquired distinction. If they could make the Architectural Museum the foundation of such a system, he believed they would have done much to create, to spread, and to perpetuate a sympathy and a zeal for true art throughout the country.

The President then proceeded to deliver the prizes which had been awarded.

Wood Carving. (9 Misereres received.)

Prize 1. 20*l.*—Mr. John Seymour, of Tower-lane, Taunton.

Prize 2. 5*l.*—Mr. J. M. Leach, of 1, Newmarket-road, Cambridge.

Prize 3. An extra prize, 1*l.* 1*s.* Mr. Alexander Kenmure, in the employ of Mr. Forsyth, 8, Edward-street, Hampstead-road.

Coloured Decoration.—(15 Casts received.)

Prize 1. 5*l.* 5*s.*—Given by the Ecclesiological Society. Mr. Alfred Hassam, in the employ of Messrs. Heaton, Butler, & Bayne, of New King-street, Covent Garden.

Prize 2. 3*l.* 3*s.*—Given by Mr. Beresford Hope. Mr. Joseph Peploe Wood, of 25, Brown-street, Bryanstone-square

Prize 3. An extra prize of 1*l.* 1*s.* given by the Architectural Museum. Mr. Edward Sherwood, of 25, Brown-street, Bryanstone-square, a nephew and in the employ of Mr. Wood, the second prizeman.

Mr. Ash made some observations from the body of the hall, and the proceedings terminated with a warm vote of thanks to the President, on the motion of Lord John Manners, M.P.

IONA: ITS MONUMENTS AND SACRED REMAINS.

DURING a recent visit to the west of Scotland, I was daily in view of the distant island and cathedral of Icolmkill, or Iona, a place so celebrated during the Middle Ages for its sanctuary, as the burial-place of royal, noble, and holy personages, and so unworthily deserted and neglected by all classes of the eighteenth and nineteenth centuries. Long before the traveller is in sight of Iona, which may be seen far distant across the water, he is compelled to put up with many inconveniences, compared with our modern habits in other parts of the British Isles. The roads are few, narrow, anything but straight or level, rarely repaired, and scarcely a house is to be found where travellers can be accommodated for money; but this deficiency is amply compensated by the hospitality of the inhabitants. A large portion of the Ross of Mull consists of regions mountainous and wild, thinly inhabited, and scantily cultivated. The hills present but little variety, being almost wholly covered with heath or fern, diversified here and there by a clear stream rushing down the steep. These hills are generally composed of large shattered crags of granite. Where the country is not hilly, swamps of peat-bog are abundant, interspersed with small masses of granite rock, sticking up in points or sharp edges, altogether rendering the journey difficult, from the labour of climbing, or cautiously considering where every step may be trodden. Silence and solitude command attention in a district where trees are of rare occurrence: the oak and the elm are strangers, almost unknown in the western isles. Dr. Johnson says, a timber-tree might be exhibited as a show in [that part of] Scotland, with the same novelty as a horse in Venice.

The Ross of Mull granite quarries are all situate at present close to the sea, for the convenience of shipment. To get from one to another by land is at all times difficult, even during the dryest seasons, owing to the want of roads and the vast amount of wet: hence, if weather will permit, the best way is, to navigate in a small boat, coastwise, between a multiplicity of little rocks, at times, with less than a fathom of water. These great stones, or little rocks, unworthy even the name of islets, are so numerous near the shore, and visible or not, according to the tide, as to render it difficult to steer clear of them. The greatest distance between Iona and the larger island of Mull is about a mile, to be ferried across in a small boat, with a couple of rowers; and here, as at all other places in this district, I had some difficulty in getting in and out of the boat, arising from the rugged protuberances of large masses of granite rock, which are generally covered with seaweed, rendered thereby rather slippery, and a false step might have been very mischievous.

Various passages in the early writings of church history seem to infer that Iona, the oldest name of which signified the "Isle of the Druids," was a spot celebrated for its religion from a very remote period, notwithstanding it was situate far from the busy world's increasing sound. In one of the churches established by St. Patrick in Ireland, some time during the latter part of the fourth century, there arose, nearly two centuries afterward, a pious man named Columba, in whose veins flowed royal blood: he resolved to preach the word of God in Scotland; therefore embarked with some of his companions about A.D. 565, and the little missionary band landed safely in Iona, where it found Druids preaching in a temple of rude stones. Conal, the Scotch king, granted the little island to Columba, and from that time it became "the Missionary Isle,"—the light of the western world. From the extreme western points of Mull the east side of Iona may be distinctly seen; and very near the margin of the sea a few of the humblest human dwellings appear, perhaps twenty in number: these constitute the town of Sodor, which, together with the Isle of Man, is a bishop's see. Some tottering walls, handsome crosses, and a host of elaborately-carved gravestones, are all that remain of the cathedral and monastic buildings of that long celebrated isle, which only history and a few ruined edifices show to have once flourished with great renown.

There is good reason to believe, that this far-famed little isle was a sacred spot amongst the Druids and ancient Britons, long befors it received the light of Christianity: it was probably the wide-spread fame of its sanctity which induced Columba and his companions to visit it, according to Venerable Bede, in A.D. 565; when he first came from Ireland, to convert the natives, and ultimately established himself amongst them. Columba must have been a man far in advance of the dark age in which he lived, and may be considered to have introduced letters or literature, as well as Christianity, into that part of Britain: his writings, which are in Latin, were published at Louvain in 1667. This holy man is said to have died in 597. Whatever may have been the precise practice of the institution founded by Columba in Iona, it is not likely to have been on any principle of monastic discipline, because such forms of worship were not established in that part of our country until long after his time. It was probably somewhat of a seminary for the education of the priesthood; a great school of ecclesiastics,—or, what we should now call, a "theological college." Iona was certainly the retreat of learning, and the seminary whence issued those pious monks and laymen, who again revived literature, and propagated Christianity through many kingdoms, during the Gothic ignorance which pervaded Europe after the overthrow of the Roman empire. The introduction of papal rule eventually substituted some order of regular monks everywhere in Europe; and, during many centuries, their noted learning and sanctity procured for them an undisturbed tranquillity. The successors of Columba were afterwards interrupted by the Danes and other ferocious tribes: after this, the place remained deserted for many years, till it was again occupied by a detachment of monks, of the order of St. Benedict, who held it till the general Reformation.

The most interesting architectural remains at Iona are the ruins of the cathedral, a nunnery, some chapels, and a building probably the residence of a bishop or principal. The earliest portion of these buildings is certainly much later than the time of Columba: the chapel of St. Oran is apparently the oldest; and it may, perhaps, be referred to the Saxon or Norman age. The nunnery may be reckoned next as regards antiquity: the arches of both these edifices are semicircular, and probably belong to the twelfth century. The most extensive ruin is that of the church, which is in the form of a cross, surmounted at the intersection of the nave and transept by a square tower. The oldest part of this building is that towards the east, and may probably be assigned to the thirteenth century. The arches are pointed, although the massive shafts of the columns are cylindrical and plain, as is not uncommon in edifices of the later Norman era. There is nothing in the style of architecture of the old buildings at Iona peculiarly worthy of notice more than may be seen in hundreds of instances of monastic ruins throughout the British Isles: in fact, they are of smaller dimensions than the greater number of ruined abbeys and cathedrals in Great Britain. All that remains at Iona affords us another example of the sad waste and demolition of elegant architecture, directly or indirectly resulting from the Reformation; after which immense numbers of sacred edifices were disgracefully suffered to dilapidate, by frigid indifference, or powerful and deliberate robbery, when the public or any individual was at full liberty to carry away the stones for any purpose or pretence whatever.

The numerous elaborately carved gravestones with which this royal cemetery is still crowded, and many vestiges of others, no doubt removed from Iona, which may be seen in the neighbouring isles, are, perhaps, more interesting to a learned antiquary than the roofless walls which abound in the midst of them. These gravestones are much defaced, in consequence of being constantly walked upon by visitors. The mortal remains of not fewer than forty sovereigns of Scotland, from Fergus II. to Macbeth, in 1040; four of Ireland, eight of Norway, and one of France; besides lords of the isles, chieftains of clans, aristocracy, and clergy, are said to have been buried in this blessed isle, in separate enclosures, each of which had, formerly, a Latin or Celtic inscription, denoting to which class of the illustrious dead it was appropriated. These inscriptions are now almost obliterated: many of the tombs are inscribed with a few words, either in the Latin or Celtic languages: some few have dates in Roman character, varying from the twelfth to the sixteenth centuries. The last two Scottish kings, who were buried in Iona, were Duncan I., in 1034, and his murderer, Macbeth, in 1040. These gravestones are arranged in no less than nine distinct rows: they are all more or less ornamented, in a style somewhat peculiar to this part of the country; and the variety of design in the carved work, which is very cleverly composed, is remarkably abundant. No two stones are alike, and in nearly all cases, if the two sides of an individual stone are decorated, there will be a general resemblance between them, notwithstanding the ornament on one side may be totally different in design from that on the other side. The same may be said of the architectural ornaments about the old buildings: there is as much variety in the designs as can reasonably be imagined. All are designed and executed with great freedom, in a bold and effective manner, especially considering the hard and refractory nature of the sandstone in which these works are executed. The quoins, tracery of the doors and windows, carved capitals, and most of the mouldings about these sacred edifices, are wrought in sandstone said to be brought from Carsaig, near the mouth of Loch Buy, on the south side of Mull, where the quarries are still occasionally worked. Many of these ornaments are yet sharp, little weathered, and in excellent condition, although in many instances evidently mutilated by remorseless relic-hunters. Some few of these sandstone decorations are sadly disintegrated, mouldered away and entirely effaced, owing to ignorance or inattention in working and fixing the stones with their planes of lamination vertical, instead of horizontal, as they naturally lay in the quarry, which is indispensably important for the duration of all sandstones, because they are all invariably more or less laminated: and although in some cases it may be rather difficult to determine the bed-way of a sandstone, if it chance to be exposed to weather in a contrary direction, sooner or later nature will certainly show the error, when it is too late for a remedy. These sandstones being very porous, are all more or less covered either with lichens, or green vegetable matter, which, however, contribute to heighten the venerable aspect of the naturally gray stone.

On approaching the cathedral and monastic ruins, the first thing that attracted my notice was the remarkable diversity of materials used in their construction. The walls, or such parts of them as might usually be called "plain ashlar work," in these edifices, are erected with the reddest granite I have ever seen, mixed with streaky dark and light-green jade, or jasper; a small portion of gneiss; a black slaty rock, with here and there, apparently, a little hornblende or basaltic stone. There appears to have been very little labour bestowed on these very hard stones, merely sufficient to knock off the largest protuberances. These different-coloured stones have certainly not been placed in the walls



A REMNANT OF SMITHFIELD.

without thought, judgment, and even good taste, as regards contrasts, or harmony of each tint with its surrounding hues. In no instance did I find two or more blocks of the same material together, so as to present large patches of black, red, or green; but altogether the colours are judiciously arranged, and the whole effect is exceedingly rich and pleasing; especially as the frequent rains, or "Scotch mists," keep the stones almost constantly wet: hence they appear as if polished, and thereby give the colours a deeper hue.

Another unusual feature in these buildings is, that no labour whatever has been bestowed on jointing the coloured stones: they are not even "hammer dressed," and at present, externally, not a trace of mortar can be found in the joints: the walls are all built dry, that is, the stones are piled up without any mortar or other cement in the joints. In building, if the stones tottered one upon another, small fragments were tucked under to steady them, but no working has been attempted. Limestone, and fuel to calcine it, are both scarce in the western isles, especially at Iona; consequently mortar must always have been expensive in such a neighbourhood: this may probably account for their edifices being almost destitute of such material.

On leaving these illustrious relics, it was not without a melancholy emotion that I contemplated the neglected fragments of what had been, during perhaps a thousand years, the most holy and religious structures in the north-west of Europe. It was a sanctified spot of ground, where the good, the great, the powerful, and the regal were alike anxious that their mortal remains should be mingled with this dust. Of this fact, the almost innumerable richly carved and inscribed gravestones tell a mournful tale; something like an inventory narrative of what Westminster Abbey might present if it were deserted and given up to all kinds of destruction for three or four centuries. This is by no means an exaggerated or overdrawn contrast: these two religious establishments were founded about the same date, that in Scotland rather the earlier: they were both used for equally dignified purposes: in one were interred or deposited the royal, noble, and religious personages of South Britain, in the other, unquestionably as many sovereigns, lords, and ecclesiastics of the North: yet, with all this interesting evidence before us, it is extraordinary to observe with what coolness and indifference the greater number of even educated visitors view these venerable relics of a former age of religious enthusiasts.

It may now be useful to say something about the present condition of these interesting remains. This place of sepulture, including well-executed architectural specimens, monuments of the illustrious departed, and all belonging thereto, has been so thoroughly neglected, that even the comparatively few fragments, which now attract so much of the archæologist's notice, cannot long remain in their present positions, unless some careful supervision and reparation be very shortly made to preserve them from further dilapidation, not only from the severe weather, peculiar to this district, but also from injuries unintentionally inflicted by thoughtless visitors. Legally, these ecclesiastical and monumental remains belong to the Lord of the Isles, the present Duke of Argyll, whose ancestors came into possession of the island about the year 1693. But all who have carefully examined and are well acquainted with the particulars and history of these old walls and tombs, must surely entertain the patriotic feeling that they are not merely private property, but decidedly national mementoes, which every true Briton should endeavour to preserve from decay, annihilation, and oblivion. For this purpose, all that is required is a donation from the noble proprietor, a grant from our Government, or an open subscription of about 200*l.* or 300*l.*, to secure these antiquities for at least two or three hundred years.

C. H. SMITH.

A LAST GLANCE AT NORTH SMITHFIELD.

"GOING, going," and soon, before the advance of improvement, the domestic edifices of Old London will be altogether "gone." To preserve a record of some of them is desirable; and here we have a picturesque group of houses and shops which are vanishing before the railway invasion. The block fronts towards Smithfield-bars,—a place of very old date. Along this road have often passed the Knights of St. John of Jerusalem, when they, and their stately buildings near here, were in all their strength and magnificence. Now, however, the once handsome buildings which clustered round St. John's-square have, with the exception of the venerable gateway, almost entirely disappeared.

Although altered, the group of houses engraved indicates considerable antiquity. The framework which remained until lately in some of the windows spoke of the reign of Henry VII. or Henry VIII. When these dwellings are removed, few will be left here older than the Great Fire of 1666.

Many changes have taken place in Smithfield, but none of them of more consequence than will be the advent of the "*iron horse*" on to the site of the once world-famed metropolitan cattle-market, and the completion of the spacious new markets.

In days far remote it was a dismal swamp, along one margin of which passed the city wall, branching from Newgate towards Cripplegate. Next came the gathering together of the multitude on the waste to assist Rahere in laying the foundation of his Norman church. Then was seen the gradual growth of the monastic buildings. Afterwards Henry II. allowed the Black Canons of Bartholomew's to establish a fair, to which, from all parts of England, crowded merchants and handicraftsmen. At about this time the vacant ground became in parts covered with smiths' shops. Plantagenet and Tudor kings and queens have come here with jousting and pageantry. Edward I. and the Black Prince were in Smithfield in great state, after the battle of Cressy; and some years later, when the great King Edward had, as the chroniclers relate, fallen into his second childhood, being infatuated with the charms of Alice Pierce, he brought her to Smithfield in a splendid open car. Sitting by her side, and calling her the "Lady of the Sun," he conducted her to the lists, followed by a train of knights, each leading by the bridle a beautiful palfry, mounted by a gaily-dressed damsel.

Barely to enumerate the chivalric displays



THE NORTH BRITISH AND MERCANTILE INSURANCE OFFICES, THREADNEEDLE-STREET, LONDON.

MR. THOMAS PIPER AND MR. J. E. GOODCHILD, ARCHITECTS.

which have been made here, the duels and trials by ordeal, and other events of the olden time, would occupy much space; for, up to the reigns of Queen Elizabeth and James I., this renowned site was the resort of the royalty and nobility of the land. Drake, Raleigh, and others have knelt here on the cloth of gold before the maiden sovereign; nor has Old Smithfield been wanting in the display of scenes of more tragic import. Amongst these will be remembered the death of Wat Tyler, and the burning and the execution by other means of many who suffered for conscience' sake. Bartholomew Leggate was, in 1611, condemned and executed in Smithfield as a dangerous heretic, and was the last person who perished at the stake in England for his religious opinions; but there were various terrible executions in Smithfield later, for charges of witchcraft, and other supposed offences.

The precincts of St. Bartholomew's must have been a pleasant retreat, with its mulberry-garden and elm and fruit trees. Under the shade of these the scholars of the chief London schools were at seasons wont to assemble for the purpose of discussion and rivalry in the display of knowledge. Then the sale of sheep and oxen was but trifling, compared with the present demand, and the extent of the pens was proportionably small; but the ancient fair had not in Stow's days ceased to be of almost national importance; and most picturesque groups must the London historian have seen in his wanderings here at fair-time. As years passed on, the improvement of the roads, the altered character of manufactures, and other causes, led to the alteration of Bartholomew's Fair from a great trade gathering to an assembly of Londoners for festive purposes and amusement. At length the sports and wonders of the fair, which were witnessed and illustrated by Hogarth, declined, and that which had for many centuries been a valued institution became a scene of confusion and riotous and drunken disorder. Few, therefore, were sorry to hear the last proclamation of the ancient fair made by the City authorities; when the small group of fruit and cake sellers who had assembled according to old custom, were made to move on by the police. Bartholomew's Fair had done its work; and, like the English cross-bows, coats of armour, pack-horses, and a hundred other things, gave way before changed arrangements.

A few years afterwards we heard the last knell of the bell which closed for ever the old Smithfield Cattle-market: like the fair, a time-honoured institution, but which, like the other, had become a nuisance, and unsuited for its purpose; and none regret the change who remember the scenes of confusion which reigned here on market-days,—the loud lowing of oxen, the bleating of ill-used sheep, the barking of dogs, the hoarse voices of drovers, the want of water, and the other miseries of Old Smithfield.

For some years past this place has been in a disgraceful state of neglect; but we may hope now for improvement. Let us urge that in the course of it some thought be given to pent-up City lads, who, during the last three centuries, have been gradually robbed of their play-grounds.

LONDON STREET ARCHITECTURE.

THE NORTH BRITISH AND MERCANTILE INSURANCE OFFICES.

THE Mercantile Insurance Company was formed in consequence of the large additional rates required by the Associated Fire Insurance Companies, after the great fire in Tooley-street, June 22nd, 1861; and, when fairly established, the directors purchased of Messrs. Prescott the site of No. 61, Threadneedle-street, and commenced there the erection of new offices. It having, however, occurred to the parties interested on both sides, that an amalgamation with the North British Fire and Life Insurance Company would be advantageous, that amalgamation was effected, and the associated companies, under the title of the North British and Mercantile, then added to their land by the purchase of the well-known Cock Tavern, and upon the site thus enlarged, the present building, of which we give a view, has been erected by the surveyor to the company, Mr. Thomas Piper, assisted by Mr. J. E. Goodchild. The builders were Messrs. W. Cubitt & Co. The material is Portland stone, varied with blue grey granite, in the ground story, and in the upper stories red granite columns. The building is made fire-proof throughout, with iron and concrete.

The style of architecture is Italian, not following the exact arrangement of any particular building, but adapting the several features of the style to the exigencies of street architecture in our northern climate, thus abandoning the advantage obtained, architecturally, by the solid basements of Italy, for the sake of the improved light required on the ground-story for mercantile purposes. The windows are well recessed, and the front, as a whole, is effective and handsome.

The North British Insurance Company was established in 1809, commenced life business in 1825, and was incorporated by royal charter. It has the co-operation of some of the highest Scottish families. The joint company has obtained the confidence of the public to such an extent, that its total income last year was above 498,000*l.* The paid-up capital of the company is 250,000*l.*, and its realised and invested funds are 2,233,927*l.* The company expect to occupy their new offices in the month of June.*

THE MULREADY COLLECTION IN THE KENSINGTON MUSEUM.

THIS most interesting exhibition, the result of Mulready's art-life, including the portrait of a gentleman when he was about nine years old, architectural sketches, dated 1803, and his last picture still unfinished, has been commented on already at such length by the daily press, that we shall content ourselves with mentioning that it is open, and should be visited by every student and lover of art. 113 paintings, and many hundreds of drawings, show his industry, and tell the whole story of his progress. We are not amongst those who rave of his genius. He was a great draughtsman, and a great colourist; but not a great thinker. His pictures amuse and please: they serve to interest men and women in other men and women (and that is something), but his teaching, with some few exceptions, is but small. Within his own limits, however, he holds one of the highest places.

PRIZES FOR ART WORKMEN.

THE Council of the Society of Arts have published a long list of subjects, for which they offer handsome prizes of money in competition. All specimens must be sent in by the 26th of November. The subjects comprise carvings in marble, stone, and wood; repoussé work, in any metal; hammered work, in iron, brass, or copper; carving in ivory; chasing in bronze; etching and engraving on metal—Niello work; enamel painting on copper or gold; painting on porcelain; decorative painting; inlays in wood (marquetry or buhl), ivory, or metal; cameo-cutting; engraving on glass; wall-mosaics; gem-engraving; die-sinking; glass-blowing; bookbinding and leather work; and embroidery. The list in detail, with the amounts and conditions, may be obtained at the society's house.

AWARD OF PREMIUM BY THE ART-UNION OF LONDON.

THE council of the Art-Union met on Tuesday at the South Kensington Museum, Professor Donaldson in the chair; and proceeded to award their offered premium of 600*l.* for the best statue or group submitted in competition. After successive votings the number of models for choice was reduced to three,—the Wood Nymph, the Lady of the Lake, and Imogen; and ultimately the Wood Nymph was selected. The successful sculptor was found to be Mr. C. B. Birch, of 38, Keppel-street, Russell-square.

The council invite competitors to affix their names to their several works.

The sculptor of Imogen writes:—

"Seeing in your notice of the Art-Union sculpture in the Kensington Museum, the remark that the right arm of Imogen is doubtful, I would submit that I selected this heroine of Shakspeare not only as affording, I thought, a popular subject to meet the desires of the Art Union, but as also taking a point which I am not aware of having seen treated, either in painting or sculpture, *i. e.* a woman's fearful and unaccustomed (and therefore, perhaps, bordering on the awkward) way of drawing a sword (as she throws a stone!). In the rest of the figure I have tried to be graceful, but in this respect I dare say I have somewhat sacrificed grace to expression, and your remark touches this point."

* Part of the building will be occupied by the International Financial Society, established, with a strong direction, to make advances on land with promptitude and small expense.

"FINE ARTS APPLIED TO INDUSTRY."

CANTOR LECTURES.

IN his fourth lecture, devoted to "Iron and Brass," the first point noticed by Mr. Burges was the great employment of bronze in the classical era, it being used for most of the articles that we commonly manufacture in iron. Bronze statues were also numerous, although very liable to be melted down if the persons to whom they were erected became unpopular. Mention was made of the celebrated bronze colossi at Rhodes and Athens, as well as of several other *chefs-d'œuvre* of ancient art. Attention was drawn to the various methods employed in the decoration of bronze statues in the classic times, such as damascening, gilding, and the substitution of silver, ivory, and other substances in the eyes. As regards Mediæval bronzes great stress was laid upon our own series at Westminster Abbey, so much being known of the artists and of their rate of payment; and after noticing the great antiquity of bronze castings in the East, and the great skill of the Japanese in this art, the lecturer referred to the present state of these manufactures in France and England, very little being done in our own country. In France, M. Barbédienne deservedly holds the first rank, for the extreme care displayed in the casting, although some doubt was expressed as to the expediency of copying works in marble by reducing them as bronzes. After describing the Damascened dinanderie produced at Mossul, in the twelfth and thirteenth centuries, and Hart's and Harding's imitations of that of the Middle Ages, the lecturer referred to the prevalent use now made of iron, both wrought and cast; observing that at present we had no very good means of judging whether structures built of this metal were likely to be permanent; and adding that there was very great room for a much more extended application of art to engineering works than had hitherto been made. The ironwork of the twelfth and thirteenth centuries was pointed out as models to be followed in the designs for elaborate works for doors, screens, and other small objects, the ornament being obtained by means of iron stamps, while the practice of the fourteenth and fifteenth centuries, of getting the effect by placing thin perforated plates one behind another, was by no means to be so much approved. A screen, however, executed by Hardman in this manner, and placed in the late exhibition, was mentioned with great praise for its delicate workmanship. Mr. Burges concluded by strongly advocating the application of art to works in cast-iron, and by suggesting several methods whereby this might be decorated. The table presented an interesting show of works.

The fifth lecture (March 7th) treated of "Gold and Silver." Though considerable documentary evidence existed as to the excellence of the antique works in gold and silver, the value of the material has caused an almost complete destruction of the objects themselves, and we have, consequently, but little to learn from this quarter: on the contrary, a comparatively large quantity of Mediæval plate and jewelry has come down to our own day, to say nothing of the numerous and curious inventories so frequently met with; the most instructive of these latter being that of Louis, Count of Anjou, taken somewhere about the year 1360, and which has been published in the work of M. de Laborde, on "The Enamels in the Louvre." The various processes applied to the working of the precious metals in the Middle Ages were then described, and a short list given of the principal vases and ornaments demanded for the decoration of the Church and for secular uses. Much regret was expressed at the want of art education, not only among the workmen, but among the tradesmen themselves; the old silver and gold smiths, such as Cellini, being both tradesmen and artists. The next part of the subject touched upon was jewelry. Great praise was given to the ornaments of the ancient Etruscans, which were literally "jewels of silver and jewels of gold." The higher sort of Mediæval jewelry appears, on the contrary, to have consisted almost entirely of precious stones, only such an amount of metal being used as was necessary to bind them together. The jewelry of the Renaissance formed a third variety, being distinguished by the little figures and ornaments covered with enamel. The lecturer drew attention to the modern revivals of Etruscan work by Signor Castellani, of the Mediæval by Messrs. Hardman & Co., and of the Renaissance by Mr. Hancock and Messrs. Widdowson & Veale. Mr. Green's jewelry was also noted for the good taste

generally displayed. Finally, a few words were added on the coinage and the necessity of a great improvement with regard to that in present use, the example of the Greeks being adduced, whose coins were objects of the highest art, and the dies for which are supposed to have been made by the same artists who engraved gems. The Italian money of Louis XII. was also brought forward as a most excellent example, exhibiting, in its way, nearly as good art as the Greek coins, while it possessed the great advantage of being easily piled—the want which, in the present day, would be considered a great defect in the antique examples. The lecture was illustrated by examples of plate and jewelry.

APPARATUS FOR FIREMEN.

A SIMPLE and apparently effective apparatus has been lately constructed by a Mr. H. Kuhfuss, of Carlsruhe, for the purpose of discovering the whereabouts of the flames in cases where the smoke would prevent a fireman from entering a house in the ordinary manner. Mr. Kuhfuss does away with the mouthpiece and fresh-air pipe hitherto used in these cases. The apparatus consists of a cap made of light material, and covered with a coating of gutta percha: this cap is drawn over the head, a collar of india-rubber fitting it sufficiently tight round the neck to prevent the smoke from entering. Two holes, filled in with glass, admit light, as in a diving apparatus; and in the region of the mouth and nose two cross incisions are made, which are buttoned up, after a sponge, saturated with strong vinegar, has been admitted, entirely covering mouth and nostrils. Experience teaches that the organs of respiration are not affected by the smoke so long as the sponge is kept wet; and a small bottle of vinegar which the fireman takes with him, enables him to moisten the sponge when required. A whistle, attached to the inside of the cap, completes this very simple contrivance.

MIDDLE ROW, HOLBORN, STILL STOPS THE WAY.

THERE are certain metropolitan improvements which are so absolutely necessary that the reason why they have been long delayed is not easily to be understood. Amongst them there are few which present themselves so glaringly, or in such a clear and tangible block, as that in Holborn, which spoils and renders inconvenient one of the most important thoroughfares of the metropolis. To this subject we have often called attention in the *Builder*; and some time since gave a view of the place.

At a meeting of the Metropolitan Board of Works recently, Mr. Hall moved "That the necessary steps be taken for obtaining, if possible, the insertion of a clause in the Holborn Valley Improvement Bill, now before Parliament, for the removal of the houses on the north side of Middle-row, out of the funds proposed to be raised; or, failing that, then to obtain a recommendation from the committee to whom the Bill is referred, for such removal; and that the solicitor be so instructed."

After some discussion, and the substitution of an amendment, the motion was eventually negatived by a majority of twelve to seven. So ridiculous seems the determination to preserve this nuisance, that we cannot but hope that the Board of Works have some special plan in view for its removal. Since then the Board have, we believe, determined on moving in it.

With the exception of London Bridge, this part of Holborn is now the most thronged of the metropolitan thoroughfares, as the following enumeration, taken some time ago by the police, will show:—

Entering the City by	Vehicles.	Passengers in Vehicles.	Foot Passengers.	Total Passengers.
London Bridge	10,129	30,799	54,128	84,927
Holborn Bars	9,000	36,094	41,610	77,708
Aldgate	4,978	12,548	42,547	55,095
Blackfriars Bridge	4,108	7,293	31,642	38,935
Bishopsgate-st	3,461	19,388	34,161	53,549
Finsbury-place	3,451	11,060	27,024	38,084
Minories	2,456	3,571	18,208	21,779
Smithfield-bars	2,439	4,012	24,830	28,842
Whitecross-street	2,305	4,026	24,890	28,916
Temple Bar*	2,159	13,724	36,950	50,674
Aldersgate-street	2,052	4,952	21,060	26,012

* At the time of this enumeration, a portion of Fleet-street was partially stopped; but this would not be sufficient to vary by more than a little over 1,000 the relative extent of traffic of Temple-bar and Holborn-bars.

At London Bridge the traffic has increased of late years to a most enormous extent; and the same is the case as regards Holborn.

Middle-row is certainly neither picturesque nor ornamental. The amount of business carried on on the north side is but trifling, and even that on the other side is not much, and merits no consideration whatever in comparison with the advantages which would result from the removal of this obstruction.

At present Middle-row makes Holborn something like two bottles with one neck. It acts as a stoppage, not only to vehicles going to the City, but also to those coming from it. If this block were removed, and the Holborn-valley levelled, we should, at any rate from Newgate, along Oxford-street to Paddington, have one of the most spacious, convenient, and noble thoroughfares in the metropolis.

VOLUNTARY ARCHITECTURAL EXAMINATION CLASS.

A MEETING of the friends and members of the Architectural Examination Class was held on Tuesday, the 8th inst., at the rooms of the Architectural Association, Conduit-street, to elect new officers and consider the report of the past session.

Mr. T. Roger Smith was voted to the chair.

Mr. Ridge, the late secretary, then handed in the accounts for the past session, and gave some explanation of the method in which the class had been conducted, and hints for the remodelling of the rules. After discussion on these points, the following officers were elected: Mr. T. Blashill, president; Messrs. R. R. Bayne and J. Lemon, vice-presidents; Messrs. F. B. Brooks and R. B. Mather, hon. secretaries.

The opening meeting will be held on the 22nd March; the subject, geometric drawing, to be introduced by Mr. T. M. Rickman.

THE SHAKSPEARE TERCENTENARY.

Commemorative Performances.—A numerous gathering of the managers of the various London theatres took place at the rooms of the National Shakspeare Committee, 120, Pall-mall, on Saturday last, to arrange the time for the performances handsomely promised to be given in aid of the Monument Fund. Mr. Benjamin Webster (Adelphi and St. James's), presided, and the following gentlemen, amongst others, were present:—Mr. J. B. Buckstone (Haymarket), Mr. G. J. Vining (Princess's), Messrs. Shepherd & Anderson (Surrey), Mr. Robert Edgar (Sadler's Wells and National Standard), Messrs. Swanborough (Strand), Messrs. Frampton & Fenton (Victoria), and Mr. S. Lane (Britannia). It was reported that Messrs. E. Falconer & F. B. Chatterton (Drury-lane), and Mr. C. Fechter (Lyceum), would gladly concur in any decision arrived at. After some considerable discussion it was definitively settled that the best time for such performances to take place would be during the weeks commencing Monday, April 18th, and ending Saturday, April 30th, and that they should take place accordingly. It was understood that the performances would, as far as practicable, be Shakspearian performances; and in one or two cases, where they will be given on or very near the night of the 23rd, special and interesting features will be imported into them.

Poetry and Music for the Occasion. In connexion with the tercentenary, the Society for the Encouragement of the Fine Arts offers two gold medals, one for a lyric ode for four voices, and the other for the musical accompaniment thereto.

Ventnor (Isle of Wight).—A committee is now actively engaged in organizing an efficient staff of readers for the tercentenary. Several gentlemen of dramatic talent will take part in the demonstration. The plan of operations extends over three days, namely, the actual birthday of the great bard, the 23rd of April, and the following Monday and Tuesday. On each day there will be Shakspearian readings, interspersed with vocal and instrumental music. A public breakfast on the 23rd, on the successful plan adopted at the marriage of the Prince of Wales, is suggested.

Birkenhead.—At the first meeting of the committee, the question as to the form in which the tercentenary should be celebrated was discussed, and the following suggestions were made by various gentlemen present;—that the opening of the Free Library take place on the day; that a statue of Shakspeare be erected; that there be a procession to the Park, and an oak planted in commemoration of the event; that an entertainment be given to the working classes in the drill-shed; that at an annual dinner a prize be given for the best essay on some Shakspearian subject; that a fund be formed for providing Shakspearian lecturers and readings free to the people; that a sum of money be given for the relief of poor authors and actors; and that there be a public dinner and Shakspearian *soirée* in the Music-hall. Finally the whole subject was referred to the executive committee.

Leeds.—A committee is in course of formation, consisting of a considerable number of the most influential gentlemen of the town and neighbourhood, with a view to arrange for the suitable celebration of the tercentenary in Leeds, and some arrangements of a highly interesting character, according to the local *Intellengencer*, have already been made.

Middlesbro'.—The event is to be celebrated in this town at the Athenæum by a public dinner; and, after meeting in the Odd-fellows' Hall, over which the Mayor will preside, the Burns's Club are to have a supper. A number of working men and others are also to have a supper at the Wellington Hotel.

Glasgow.—The literary societies of the city (of which there are a large number), are about to organise themselves by means of a central union, who, according to the *Athenæum*, intend to seize the occasion of the Shakspeare celebration to hold their first public meeting, and thus inaugurate their labours in the name of Shakspeare. The Shakspeare Committee, which was appointed about a month ago, after a visit from the Mayor of Stratford, is defunct. Glasgow, like all our great towns, will keep its Shakspearian bounties for local objects, though many of its eminent citizens will subscribe to the National Monument in the Green Park.

THE BOARD OF WORKS AND WINDSOR TRADESMEN.

A DEPUTATION from Windsor, headed by the Mayor, have had an interview with the Right Hon. William Cowper, at the Office of Works and Public Buildings, Whitehall-place, in reference to a contemplated change in the mode of conducting the business of the Office of Works at Windsor; the contracts, it has been reported, being intended to be handed over to Messrs. Kelk & Lucas, without competition.

Mr. Cowper having listened to all the observations addressed to him by the deputation on this subject, informed them that they were mistaken in supposing that any determination had been come to in the matter at present, and certainly nothing would be done in it before the close of the present session of Parliament. In the meantime the arguments which he had heard should receive every consideration. The deputation assured him that, if the suggested alteration were carried out, they would feel it their duty to bring the matter before the House of Commons; and that, in the meantime, a question would be asked in the House, so as to prevent that being done in the recess which could not be justified during the sitting of Parliament. The *Windsor Express* states that a similar course is proposed to be adopted with regard to the Royal Palaces in London, as well as those of Claremont, Hampton Court, and Bushey, and that it will meet with a like resistance.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT a meeting held on the 9th, Dr. Copland in the chair, a large number of objects were shown and described: amongst them Mr. Irvine and Mr. Syer Cuming exhibited claw hammers of iron, of the Elizabethan period, annulated in a very ornamental manner, and inscribed with names. They are presumed to have been in the service of the tapestry hangers or upholders who, from the time of Henry VII., formed part of the royal household. The duty was performed by six yeomen of the guard, who were denominated yeoman hangers.

Mr. Cuming read a paper on Archers' Badges, illustrated by reference to old English writers on archery and by specimens derived from his own collection of arrows, targets, bugles, ornamented buttons, &c. The paper will be printed.

The evening concluded by the reading of a paper, by Mr. Planché, of considerable interest.

t related to an effigy seen by the Association at he late congress upon occasion of their visit to ipon Cathedral. It is that of a knight in complete steel armour, exhibiting the military equipment of the early part of the fifteenth century. he sacred monogram, I. H. S., is sculptured on ie front of the bascinet, like to that of Lord ardolf and others. The head of the knight eposes on a tilting helmet, surmounted by a rest, which has unfortunately suffered injury. Ir. Planché, availing himself of the MSS. collections of Brooke Somerset Herald, has traced ie family of Markenfield, and seems disposed o regard the figure as that of Sir John, son of ir Thomas de Markenfield, who flourished in ie reign of Henry V., to which period the details of the costume in which the effigy is represented decidedly point. It has a collar of unique haracter, giving the representation of a stag, dentical with the seal of the Baileys, of Derby. he stag was, however, a badge of Henry Earl f Lancaster, Hereford, and Derby, afterwards Henry IV., into many particulars regarding hich Mr. Planché entered at length, and they ill appear in the paper, which is to be printed *extenso*.

COMPETITIONS.

Belgium.—The Guild of St. Thomas and St. uke offer 12*l.* (300 francs) for the best design r a village church, Early English in style, and cost not more than 2,600*l.* The conditions ay be had at our office. Our countryman, Mr. ames Weale, Bruges, acts as secretary to the uild.

Macclesfield Town Hall.—Thirty-two sets of esigns were sent in. A certain number were elected, and then Mr. Waterhouse, of Manchester, was called in to assist in the ultimate choice. he plans thus specially considered were a set, alladian, by Mr. Stevens of Manchester; a set, othic, by Mr. Edgar; a set by Mr. Hughes; a alladian design by Mr. Nicholas, of West romwich; a set, Gothic, by Mr. E. Godwin; couple of alternative designs, in the Lombardo-Gothic and Renaissance styles, by Mr. arbyshire, of Manchester; a design by Mr. ravis, somewhat after the fashion of the elgian *hôtels de ville;* a series of drawings y Mr. Burrell, of Longton, the elevation eing in the Italian style; a set of alternative designs, the one in Gothic and the other in Composite style, by Mr. Douglas, of Chester; nd, finally, a design by a young townsman, Mr. Barlow. The architects estimated their buildings at 5,000*l.*, or "thereabouts." The choice at st rested between Mr. Burrell's and Mr. E. odwin's, and was decided in favour of the design by the latter gentleman.

Proposed Ragged Schools, Newport, Monmouth.—a late competition, limited to local architects, e design submitted by Mr. Huncorn, architect, as selected by the sub-committee, by a majority four out of five members.

Hull Protestant Institute.—A limited competion amongst local architects took place, when e design by Mr. William Kerby was accepted. uilding operations are to be commenced forthith.

Driffield Cemetery.—In reply to the advertisement which appeared a short time since, about enty designs were sent in; and the design of essrs. Pritchett & Son, of Darlington, was lected, and is being carried out by them.

Congregational Church, Knaresborough.—Seven signs were sent in for this work; and the sign of Messrs. Pritchett & Son has been lected, and is to be carried into execution by em.

THE GOVERNMENT ANNUITIES BILL.

This measure will be a decided boon to the orking classes; but we regret to observe that terested parties are stirring these classes ainst it. So far as regards sick funds it does t interfere; and neither indeed does it do so rectly with friendly societies in any shape; t the working classes themselves have lost nfidence, to a certain extent, in these societies, d no wonder.

The bill is making progress. Last week, in ening the adjourned debate on the subject, the ancellor of the Exchequer said that the last port of the registrar of friendly societies owed so unsatisfactory a state of these institions, that public attention was directed to the atter, and it appeared to him that it was the ty of the Government to interfere and to amend the law on the subject, by making it operate on a point on which it was now inoperative. He did not lay down that, in the matter of savings' banks, or annuities, or assurances for the people, it was abstractedly the duty of the Government to interpose, but that principle had been admitted in the case of the Post Office Savings' Bank Act which Parliament had passed. It was not proposed to undertake assurance by the Government on any other terms than those on which ordinary insurance offices acted. The proposed bill had grown out of the necessity of dealing with friendly societies, founded as those societies were on error, fraud, and swindling on the most helpless class of the community. By exempting friendly societies from several items of taxation, the Government practically made itself responsible for them; and the form of intervention or remedy now chosen was a simple one, and it was founded on the same principle as that of the Post-office Savings' Banks, that of giving a poor man a certain security for his investments. If the plan was safe and just it ought to be adopted. Taking up friendly societies, he stated that since the Act under which they were enrolled passed, 9,000 of them had failed, inflicting loss on their contributors, while about 100 of them failed every year. He argued against the arrangement in this class of assurances that a single lapse of premium at the exact period voided the policy; whereas in the higher classes of societies such rigid terms did not prevail. In one instance of these societies 18,000 policies had lapsed, and in another 70,000. While deprecating the notion that he was opposed to friendly societies, he pointed out the defects, mismanagement, and insecurity of the great bulk of the existing societies; and concluded by stating that it was to meet this condition of things that the present mild and tentative measure was proposed.

The Government Annuities Bill has our best wishes.

PROPOSED DECORATIONS IN ST. PAUL'S CATHEDRAL.

Sir,—Some remarks have been made on the decorations of St. Paul's, which, by appealing to national and religious feeling, seem likely to check the contributions of the public, and by the prejudice which they may excite against the works about to be executed, seem to be unjust both towards the foreign artists and the committee who have selected them.

A knowledge of the gentlemen comprising the committee might of itself be sufficient to acquit them of any undue partiality to foreigners. But it may be as well to ask what would be the probability of the completion of these works within the present century, if the committee were not at liberty to supplement the efforts of English artists by means of foreign aid?

With regard to the painted windows, it has very properly been admitted that our glass-painters have hitherto distinguished themselves chiefly in works of a Gothic and Mediæval character, which would not harmonize with the architectural style of the cathedral; and the misgiving of their capacity, which this admission implies, cannot fail to be strengthened by an examination of the specimens of native art which have actually been placed in the western windows of the aisles of St. Paul's, as well as by a survey of all the other churches and cathedrals in England. Nor could the objection to English glass-painters be obviated, as has been suggested, by the employment of our best artists to design the cartoons. Where is the evidence that a good artist exists who has sufficiently studied the technicalities of glass-painting to enable him to make a design capable of being executed on glass; or of an English glass-painter who could satisfactorily transfer it to glass?

To assume that improvement may hereafter take place in this art, is obviously beside the question. They must necessarily be preceded by an indefinite number of failures; and it cannot for a moment be thought that St. Paul's is a *corpus vile*, fit to make experiments upon.

No scruple on account of nationality hinders our merchants from going to France for silks, and to Prussia for steel; and there is no reason why a different rule should prevail with regard to articles of *vertu*. Application is made to Germany for a commodity which there is little prospect of procuring at home for painted windows, high in art, excellent in execution, and conceived in a style which, however different from our new fashion in ecclesiastical decoration, will be in accordance with the majestic architecture of St. Paul's,—works which are the ordinary productions of a school perfected by degrees and by the dear-bought experience of more than half a century. The choice of the Munich school of glass-painters makes the selection of a German artist convenient, if not imperative, in order to secure a proper and rapid understanding between the author of the design and the painter on glass.

No doubt there are some strange delusions current in reference to glass-painters. The objection to Professor Schnoor's design as being too pictorial for the proper function of stained glass must excite surprise in those who are familiar with the great glass-paintings of the sixteenth century, such as those at Lichfield and Brussels, at Pont au Demer, Gisors, Argenton, Conches, and numerous other places; and probably connoisseurs will question an assertion that has been made, that most of his designs are tame or trite.

With reference to the mosaics for the apse, surely it is no proof of hostility to British art that a preference has been given to a foreign design, since even in a quarter where such an hostility has been insinuated, there appears to be at least some good ground for the choice; and should any scruples be felt at the decorations of an English Protestant cathedral being executed by foreigners, and presumably Roman Catholic ones, they will doubtless disappear when it is known that Professor Schnoor and M. de Triqueti are Protestants, and that the latter is allied by marriage with England, and reckons among his connexions a nephew who is a rising English artist.

The habit of painters formed by an almost exclusive devotion to easel pictures renders the choice of artists capable of designing works in combination with architectural masses extremely limited. It may be asked of many of the artists whose names have been mentioned as fit to be employed, what have they done, even when working under the most favourable conditions? Would a general competition of artists have led to any other than the result which, experience shows, always attends on such competitions,—that of deep disappointment?

That the committee have undertaken a laborious, and perhaps thankless task, no one will deny; but for that very reason it would seem only fair that they should be permitted to carry out their work in their own way and unmolested, until the public shall have an opportunity of estimating their capacity in the choice of artists by the promised exhibition of the model of the choir. It is this feeling, and a conviction that works of art ought to be judged of by their own merits, and not with reference to the creed or country of the artists, that have prompted me, a humble bystander, to trouble you with the foregoing remarks.

B.

THE GROUND FOR FRESCO PAINTING.

I have read a report in the *Builder* of Mr. Atkinson's paper "On Fresco Painting," and subsequent remarks by several other speakers, on the durability, &c., of fresco painting for mural decoration; also on the qualities of the lime and sand used, with the probable cause of failure in the Houses of Parliament. As I feel much interested in fresco painting, from a conviction that it has not had a fair trial, and am somewhat concerned in the statements of some of the speakers, I venture to offer a few general remarks, especially on the ground-work, as an allusion has been made to the great difficulties and perplexities of the art, and a reference to the melancholy end of the plasterers employed by Messrs. Dyce & Herbert. I don't believe the difficulties are so great as represented, and I speak from experience, for I laid the ground for the *first* picture in the House of Lords, painted by Mr. Dyce, and also for the one at Osborne, by the same artist; and have laid several others since. That there is a great responsibility on the plasterer must be admitted: he ought, therefore, to thoroughly understand the nature of the work, and feel an interest in the proper execution of it; otherwise I don't see how the painter can succeed, and especially if he knows nothing of the ground-work himself; and it can hardly be expected that he should have a practical knowledge of it. It is not sufficient that the plasterer be able to lay his ground on even, and make good joinings: there are many other things to be thought of and known. For instance, the floating or undercoat, may not be adapted for a picture: it may be hard in some

places and absorbent in others. In such cases it would be difficult to get the colours to dry alike: one would dry lighter than the other.

It was said by one gentleman that if lime was used new, it would crack and blister: that is a mistake: it is not being new that causes it to blister and crack, for old lime will crack as well as new. The blisters are caused by the lime not being properly run and passed through a fine sieve; but old lime is much better for all purposes than new.

As regards sand, granite, stone dust, &c., I don't think silver sand is good or proper for fresco painting: it will not make a hard substance, consequently is not durable, and it will not admit of enough being laid on for the painter's purpose without liability to crack.

I would recommend that good well-washed river sand be used of an equal grain, being much better for the purpose, and very much more durable, and I believe it would resist all the injurious effects attributable to the atmosphere. It is my opinion that the difficulties of fresco painting are very much overrated for want of a better acquaintance with the materials used.

JOHN PORTER.

THE "CIBORIUM."

SIR,—As I have already declined continuing my discussion with Mr. Elliott, I will not occupy your valuable space with any remarks upon the way in which that gentleman accuses me of having "misrepresented the author" I quoted, "and the examples selected" from his work, although he knows that I never made the slightest allusion to Mr. Fergusson's *opinion* (except on the question of the *date* of the buildings mentioned), or attempted to "claim" him as on one "side" or the other.* The facts and examples quoted by me may be found exactly as I stated them by any of your readers who will turn to the plans in Mr. Fergusson's book. Neither will I comment upon the fact that in his last letter he entirely shifts his ground, and takes his stand no longer upon the *altar* itself, but on the "*pillared ciborium*" or canopy over it, which has not before been alluded to.

Certainly such an appendage, together with a "fifteenth century screen," must effectually have shut out from the sight of the congregation the bishop on his throne on the bema; but no one, I suppose, imagines that either the "fifteenth century screen," or the "ciborium," with its "pillars" and "cupola," existed when the primitive "apse" or "bema," or "circular recess" (call it what you will), was first erected with its stone seats ranged around it, and the altar in the middle

The *cancelli*, behind which Eusebius proves to us that the altar stood, were probably, as I have said, "low railing;" and the *ciborium* I believe to have been the invention of a later date: but upon this point I shall be glad if you or some of your readers will kindly give me some information. When was the use of the *ciborium* or *baldachin* first introduced? Is there any record of such a thing having ever existed in any cathedral or church in this country? Is there any example of one, except of quite modern date, in France or Germany? Or is it purely a *Romish* appendage to the altar? I can find little or nothing about it in the ordinary text-books.

Apropos of the "Chancel" question, some of your readers may be interested to know that, by the constitutional law of this country, no royal order or injunction is to be considered binding upon the Church unless approved and ratified by convocation. The order, therefore, of 1550, for the destruction of stone altars and stripping of chancels is not the "rule of the Church of England," and cannot invalidate the decree that "chancels shall be as they have been in times past," *i.e.* from time immemorial down to the reign of Edward VI. But all this, of course, will soon be altered; for *Mr. Elliott* is going to "*petition the Legislature*" *on the subject!*

WILLIAM PUTTON.

* It was in search of *architectural data* that I referred to Mr. Fergusson's work, not for *theories* on the *case of the heavens*, or the *government of the early Church*, on which he is of more an "authority" than Mr. Elliott. I did not think it necessary, therefore, to allude to what he says about "the republicanism of the Early Church," the "delegation" of the people being the only "title" to the "office" of presbyter, &c., which is not only so much mere assertion, but is utterly contradicted by the plain statements of the earliest Christian writers. Their extraordinary ignorance and error on such subjects only makes the "facts," *as stated by Mr. Fergusson*, tell the more strongly against Mr. Elliott's theories.—W. P.

SCHOOLS OF ART.

St. Martin's School, Long Acre.—The examiner, Mr. Hart, R.A., has given prizes to twenty-one of the students, and selected eight of the drawings for the National Competition. The following letter speaks for itself:—

"On the 9th was held, in the school-rooms, Castle-street, the annual exhibition of the drawings of the students, amongst which there were several showing great industry and skill; but only two of the students have exhibited drawings of an architectural character,—that of a church, by T. J. Bailey, who has sent four drawings; the other, drawings for a mansion in the Classic style, by Thomas Abbott. It would be well if, before the next exhibition, some person could be found to offer a prize for drawings of a set of apartments suitable for a working man, or for a house that might be built in London suitable for four families, so as to turn the current from labourers' cottages alone. People forget in this day that the London mechanic is one of the most hard-worked of the time.—J. A."

The Lincoln School.—This school, established in February, 1863, was examined for the first time by Mr. Hart, R.A., one of her Majesty's inspectors for art, in February last, and obtained seventeen medals and nine honourable mentions, six being selected for National Competition. The inspector expressed his surprise at the amount of hard work done in the first year, two of the medals being obtained for designs, two for painting from the cast in oil and water-colour, two from drawings and designs of engines, three for shading from the cast, two for foliage from nature, &c. The school numbers more than 120 students, chiefly artisans. A public exhibition and meeting were held on the 3rd and 4th instant, which were well attended, this being the first time the institution had been brought publicly before the town. The great difficulty found is insufficient room.

DESTRUCTION OF AN ANCIENT MONUMENT AT GUERNSEY.

WE hear with great regret, that on the 3rd inst., one of the most ancient monuments of Guernsey, called Druidical, was destroyed. The *Pierre-au-Feés*, or *Roque Magie*, was situate close to the barracks of the Grandes Roques. This stone was not in any one's way, and its intrinsic worth must have been very little. Was there no one to raise a voice in its behalf?

MONUMENTS AND MEMORIALS.

The Welsh Memorial of the late Prince Consort.—It has finally been determined that Mr. John Evan Thomas, sculptor, shall execute this memorial; and that it shall be a statue in Sicilian marble, 7 feet high, exclusive of the plinth, the Prince to be in Royal costume. The design is to be subject to the approval of the Prince of Wales. The statue will be erected on a pedestal of polished mountain limestone, the total height of the structure to be about 20 feet. In order to make the monument one of a national character, so far as regards Wales, it is proposed that a penny subscription be made throughout the principality, and that the statue be erected in Tudor-place, Tenby.

Statue of Her Majesty, at Aberdeen.—The town council of Aberdeen have voted one hundred guineas in aid of the funds for erecting a statue of the Queen in Aberdeen. About 500*l.* have already been subscribed. The work is to be entrusted to a native sculptor, Mr. A. Brodie.

Monument to the late Duke of Athole.—Arrangements are in progress for erecting a monument to the late Duke of Athole by the industrial classes on the Athole estates. It is intended that the memorial should take the form of a cairn of great height on the summit of Craigie-y-Barans.

Monument to the late Mr. Farquharson of Invercauld.—The erection of a monument to the late Mr. Farquharson, of Invercauld, is to be immediately proceeded with. The site on which it is to be erected is a wooded knoll, opposite Mar Lodge; and, as the building is to be about 50 feet in height, it will be distinctly visible all along the valley of the Upper Dee.

Oliver Cromwell.—A marble bust of Oliver Cromwell has just been executed by Mr. Noble, the sculptor, at the desire of Mr. T. B. Potter, of Manchester, for presentation to the Reform Club. The work is founded upon the well-known mask, the miniature in possession of Earl de Grey and Ripon, painted from life by Cooper, and the daguerreotype taken from another miniature by the same artist.

Statue of Schiller.—A bronze statue of Schiller, to be erected at Hamburg, has just been successfully cast at the works of M. Schultz, of that city. The smaller figures and relievos are being executed in marble, by Mr. Julius Lippelt, sculptor.

The Wills Memorial.—The committee of the Wills memorial, at Totnes, have decided the memorial,—consisting of an obelisk, with drinking fountain,—is to be carried out by Messrs. John Easton & Sons, and have accepted their tender for it. It is to be erected at the Plains, Totnes.

FROM SCOTLAND.

Edinburgh.—On the subject of Town Improvement the *Scotsman* has a leading article, in which the opening up of communications and the ventilation of close and crowded parts of the city are urged. The opening of the much-canvassed new street between George IV.'s Bridge and the South Bridge, in front of the Industrial Museum, is specially referred to. The writer also draws renewed attention to the desirability of extending the central avenue of the Meadows, and opening a wide street there. Various other improvements are suggested.

Society of Antiquaries of Scotland.—At the last meeting of this body, a paper by the Rev. James M. Joass, Edderton, entitled, "Two Days' Diggings in Sutherland," was read by Professor J. Y. Simpson. This paper, which was accompanied by pen-and-ink illustrations, gave an account of excavations at Kintradwell, beyond Brora, a district which seems to abound in remains of the early inhabitants. Mr. Joass first investigated an ancient fort surrounded by earthworks, situate on a terrace overhanging the sea. Here he discovered small chambers with domed roofs, formed on the principle of the horizontal arch, and communicating by very narrow passages. Quite in the neighbourhood, a cist, containing bones, was found; and close to it a standing stone, having cut on it one of the symbols peculiar to the pillars on the east coast of Scotland. On a hill not far off, a remarkable example of an underground "eirde-house" was examined, containing two chambers, each about 10 feet long and 4 feet broad. On a lintel in this place some characters resembling runes were noticed. Mr. Joass, in conclusion, described another underground chamber, which he had explored, on the Helmsdale water, and which agreed in character with the one at Kintradwell; also a rath in its neighbourhood, under which an underground chamber was found, which followed the curvation of the upper circle for about 33 feet. Mr. Joseph Robertson said, that from the description of the fort and the remains found in its *débris*, it seemed to be of the same character as some in Orkney, at whose excavations he had assisted. He suggested that search should be made for early ecclesiastical vestiges, as, from the name Kintradwell, there was no doubt that the site had been one dedicated to St. Tridunna, as had been the case at Dumfallandy and Restalrig. Mr. Stuart adverted to the fact that Mr. Rhind had been induced to leave a sum to the society for the purpose of carrying out systematic excavations in this and the neighbouring county of Caithness, where such remains also abounded.

Dundee.—Dr. James Grant, medical superintendent of the Dundee Infirmary, has died from typhus fever. He is the third medical superintendent of that institution who has died from fever within a period of less than seven months. There must evidently be something wrong in the building, fatal to the patients, no doubt, as well as to the medical attendants.

Aberdeen.—For the construction of new Waterworks, there were four estimates, exclusive of another which was held as being not in conformity with the stipulations advertised. The committee decided in favour of Messrs. John Gibb & Co., Aberdeen, the estimate of which firm for the whole works amounted to 103,999*l.* The next lowest to that of Messrs. Gibb was Messrs. Baird & Co., Muchalls, who offered to do the work for 110,000*l.*

A TESTIMONIAL.—On Friday evening, the 4th inst., Mr. C. J. Adams was presented with a testimonial in the form of an inkstand, upon which was inscribed;—"Presented to Charles J. Adams, by a few members of the Architectural Association, on his resignation of the offices of Honorary Treasurer and Secretary, as a small token of their esteem and friendship."

CHURCH-BUILDING NEWS.

...wich.—The church of St. Mary Stoke, ...rich, has been restored and enlarged, and lately re-opened for public worship, after ...ng been in the hands of the builder for ... months. The old plaster has been knocked ...he walls and replaced by a facing of flint, ...the stone work of all the windows has been ...ored. In addition to this, the old brick porch ... been pulled down and re-built in flint and ...; and the entrance of black flint, relieved ... white stone, which meets the eye as the ...churyard is entered, is different from the for... porch. The exterior is now uniform with ...tower, which has not been altered. Formerly ...church consisted merely of a nave and chan... filled with high pews, and covered with a per...licular oak roof, which suffered much mutila... in the time of the Puritans. The pews have ... replaced with benches of stained pine, and ... roof has been restored: the carved angels ...h formed the hammer-beams in the nave, ... which were knocked from their places by ... Parliamentarians, have been replaced. A ...iderable addition to the sitting accommoda... has been made by building a north transept, ...h is in the same style as the older portions ...e church, and the roof of which is a *fac ...le* of that of the nave. About sixty new ...gs are thus provided. The vestry has been ...ilt. A low carved screen divides the chan...rom the nave. The chancel and the space ... the communion rails have been laid with ...con's encaustic tiles, as has also the new ...h. The stone work of the windows is re... ...d. The east window, as well as the three ...r windows in the chancel, is filled with ...ed glass, by Messrs. Ward & Hughes, of ...don. The windows of the nave and transept ...illed with glass of a simpler pattern, every ... containing a text from Scripture running ...onally across. These were executed by Mr. ...Day. A small organ stands in the tower, ...rated from the body of the church by an oak ...en, the west gallery having been taken down ... the tower arch opened up. The plaster ... which the walls were formerly covered in ...interior has been removed, and the church ... been finished with parian cement. The ...ch is warmed by gas stoves. Mr. R. M. ...son, of Ipswich and Norwich, was the archi... for the restoration, and the general builder's ... carpenter's work has been executed by Mr. ...Cuff, of Ipswich. The carving of the roof, ...it, &c., is the work of Mr. Ringham; and ...srs. Stearn & Son, have executed the plum... ...s work. The total cost of the restoration ... been between 1,600*l.* and 1,700*l.* a very ... portion having been contributed by Mr. ...Burrell, of Stoke Park, and the remainder ...d by subscription.

...rborough (*Warwickshire*).—Miss Ryland, of ...ford Hall, has had the old village church ...ed down; and, at her sole expense, is having ...ew building erected. The architect is Mr. ...: Mr. W. Huddleston, of Lincoln, is the ...der: the clerk of the works is Mr. Roome; ...eral foreman, Mr. Taylor. The original con... ...t was for 10,000*l.*, but it is estimated that ... total cost will be at least 15,000*l.* There ... be accommodation for 200 persons. The ... church stands due east and west, upon a ...t eminence overlooking the valley of the ...n, and surrounded by woodland scenery, ...n the midst of which rises the spire of the ...rch, about 150 feet high. The church com...es nave and north and south aisles. The ...th of the nave is 61 feet 6 inches, its width ...eet 6 inches, and the rise to the ridge of the ... 40 feet. Plain open wainscot benches, with ...s, are provided along the nave, and also in ...aisles. The roof is open and of deal, stained ... varnished. Four moulded principals spring ...n eight corbel angels inserted between the ...es, dividing on either side the two aisles ...n the nave: each of these represents some ... of the old Hebrew worship. Two with ...ped hands appear engaged in devotion: two ... in their hands scrolls of music; and the ...r four appear to be playing respectively the ..., violin, guitar, and trumpet. Supported by ...e are eight polished centre shafts of Ipplepen ...ble. Each of the capitals is carved with ...ral foliage. Between these are eight clere... ...y windows, piercing the side-walls over the ...-to roofs of the aisles. On either side of ...n window are polished shafts of Ipplepen, ... in the centre a large one of Verd-antique ...ble. The capitals of the latter are carved ...n floral subjects, amongst which are the vine, rose, Ethiopian lily, and ground-ivy. Those of the side shafts are, primrose, wild rose, columbine, hawthorn, water-lily, shamrock, bramble, and geranium. The arches dividing the aisles from the nave are moulded, the termination labels being carved with natural flowers, including the Chinese primrose, passion-flower, wheat and poppy, lily, rose, and dahlia. The arches are supported by cluster-fluted pillars, marble shafts of Ipplepen and Verd-antique fitting in the flutings. At the eastern end of the nave is the chancel, abounding in carvings, mouldings, and tracery. On either side the chancel-arch is supported by three polished shafts, four out of the six being of Ipplepen, and two of Verd-antique. The capitals are carved with natural foliage and flowers, the two shafts of Verd-antique resting upon corbels carved to represent the currant and maple, resting upon the branches of which are several birds. The shamrock, geranium, thorn, and ivy form the subjects of the capitals. An arch, resting upon triple marble shafts, with carved capitals and mouldings, divides the chancel into two equal parts. The roof of the chancel is circular, divided into panels with moulded ribs, the panels being filled in with tracery. The back wall is pierced with a window, at present temporarily filled in with transparent glass, but it is intended to supply this and two smaller windows in the side-walls with stained glass. On the north side of the chancel is the chapel, in which stands the memorial-stone of the Ryland family. The top is surmounted by a slab of Derbyshire marble, inlaid with ornamental brass. The passage from the chancel into the chapel is through two pointed, moulded, and carved arches, supported by a cluster of polished marble pillars, with carved capitals, to harmonize with the other parts of the buildings. The responds have clusters of pillars of Ipplepen, carved out of one mass of material. A wreath of columbian leaves runs up the arches from the capitals to the point. When the work is finished, the chapel will be lighted by three stained glass windows, with polished columns, and the stone-work carved with natural foliage. The roof of the chapel is pointed—the material of stone, with moulded stone ribs, carved capitals, treble shafts of marble, and corbels representing the trefoil, shamrock, wheat and vine, thorn and thistle. The whole of the carving is the work of Mr. Farmer, of London. Mr. Field, of London, has supplied the marble. Mr. Mears, of Whitechapel, has received an order to supply six bells for the tower, the tenor to weigh 11 cwt.; and Mr. Simmonds, of Warwick, will furnish the clock.

PROVINCIAL NEWS.

Gainsborough (*Lincolnshire*).—The want of good dwelling-houses, from 10*l.* to 20*l.* per year rent, is said to be greatly felt in Gainsborough just now. An attempt to meet this want is about to be made by Goddard, of Lincoln, who purposes building a street, to be called Melville-street, behind Beaumont-street.

Lymington (*Hants*).—A new harbour and dock scheme has been considered at an influential meeting held in the Town-hall. The chair was taken by the Mayor, and a petition to the House of Lords in its favour was numerously signed.

Worthing (*Sussex*).—Prospectuses have been issued for the Sea House Hotel Company. The capital is 30,000*l.*, in shares of 5*l.* each. An arrangement has been made to purchase the freehold and adjoining land, and a great portion of the payment will be taken in shares.——A document, signed by about 170 of the principal tradesmen of the town of Worthing, was read at the recent meeting of the local board of health. The gas was described as being very impure, and possessing very little illuminating power. The chairman said that a medical gentleman had not used gas in his house for some months, in consequence of its injurious effects upon the inmates.

Brighton.—At the recent council meeting, the pavilion committee brought up a series of resolutions to the effect that that portion of the pavilion estate lying between the dome, the parochial offices, and the north gate-house should be appropriated for an assembly-room, and that portion known as the site of Mrs. Fitzherbert's stables was a fit spot for the erection of public baths. The committee's proceedings were confirmed.

Sherborne (*Dorset*).—The Yeatman testimonial committee, at a recent meeting, accepted the tender of Mr. Down, of 1,720*l.*, for the centre and one wing of the projected hospital. Possession of the site is to be obtained and vested in the names of the trustees of the hospital.

Pershore (*Worcestershire*).—The new town-hall, on land adjoining the Co-operative Stores, High-street, will shortly be commenced by the contractors, Messrs. C. Coombe and E. Smith & Sons, of this town, who have engaged to do the work according to the plan, &c., for 435*l.* The basement of the building consists of a large room for stowing goods, &c., over which will be a hall, 61 feet long and 27 feet wide, suitable for public meetings, lectures, concerts, &c.

Bristol.—A London contractor has taken from Sir Greville Smyth 150 acres of the Leigh woods, Clifton, for building sites, at a rate of 15*l.* per annum the acre. The site will be opened by the chain bridge, which will be finished in November: all the chains are already fixed.

Cann House, Tamerton (*near Plymouth*).—This mansion (the property of Mr. M. S. Grigg, the old house having been entirely destroyed by fire some eighteen months ago) is rapidly proceeding towards completion, from the designs of Mr. W. H. Reid, of Plymouth, architect. The style is Gothic. The material of the walls is blue limestone, with granite and Portland stone dressings. The roofs are covered with Staffordshire red and black tiles, which give the building a warm appearance. This sort of covering is quite new in this neighbourhood. The stairs are of oak, with a hammer-beam open oak roof over. The entrance-hall and other principal rooms are also to be finished well. Messrs. Call & Pethick are the contractors, and Mr. Dale the clerk of works.

Birkenhead.—Mr. William Cole, of Birkenhead, architect, has written to the local Dock Board, reminding them, that some eight or ten years since, a scheme, patented by Messrs. Cole & Holt, for preventing and removing deposits in tidal basins, by means of artificial springs on the floors of the basins, was laid before the then Dock Board. Mr. Cole proposes a modification of the principle of this patent at the tidal basin, in conjunction with the present sluices.

Chorlton.—The Chorlton Board of Guardians have decided to apply to the Poor-law Board for powers to erect a new hospital, at an estimated expense of 17,000*l.*

Bradford.—A new Eye and Ear Hospital is about to be erected in Bradford, on a site fronting into Hallfield-road, Manningham-lane. In the new building, accommodation will be provided for eighteen in-door patients, with suitable day-rooms, bath-rooms, and dormitories, the latter giving a cubical space of 1,500 feet to each patient, and with requisite convenience for regulating the admission of light into the apartments. An out-door department is also arranged, distinct from the in-door, and with waiting-rooms, consultation-room, ophthalmoscopic-room, and dispensary, and with separate ingress and egress complete. A large room is also provided for the meetings of the Board. Externally, the building is Gothic in design. Tenders for the works have been obtained, amounting to 3,600*l.*; and the total cost, including land, boundary-walls, and professional charges, is 5,200*l.* The architects engaged are Messrs. Lockwood & Mawson, of London and Bradford.

York.—The corporation are taking preliminary steps towards erecting a covered market in this city. The sites considered most eligible are in King's-square; the Pavement, including the White Swan Hotel, the *York Herald* office, and adjoining premises; Davygate; and Parliament-street to Christ Church. The Colliergate site is the most expensive, the rental amounting to above 700*l.* per annum; the rents from property situate on the remaining three schemes averaging about 500*l.* each site.

Leeds.—Some alterations are to be made at the Town-hall. Galleries are being erected in the Civil Court, and immediately after the next borough sessions that court will be permanently fitted up for *nisi prius* business. At the same time the Crown Court will undergo some slight changes. The suite of rooms on the basement at the south-east corner of the Town-hall at present used by the inspector of weights and measures, &c., are to be converted into police-offices; and the present police-offices, on the west side of the building, will be converted into cells for assize purposes. At present, on each side of the front steps of the hall, there is a large pedestal. Operations are now going on for the purpose of having two of these pedestals, instead of one, on each side of the principal front. On the top of each there will be a pillar

and a cluster of lamps. Iron rails and a gate will extend from the end of one pedestal to the other, forming a yard, through which the entrance to the police-offices will be gained.

Sheffield.—A project is on foot for the widening of Lady's Bridge. A committee has decided to widen the bridge to the extent of 60 feet on the Nursery-street side. The causeway on the Blonk-street side is to be made 10 feet wide, the carriage-road 35 feet wide, and the causeway on the Nursery-street side 15 feet wide. Convenient turns will be made at each end of the bridge, one into Bridge-street, and the other into Nursery-street, the buildings at these two corners being taken down for the purpose. Mr. Gainsford, architect, has been employed to prepare plans. The sum of 1,250*l.* has already been raised towards the project.

Beamish (*Durham*). — Mr. John Eden, of Beamish Park, has built and endowed eleven almhouses, at a cost of 12,000*l.*, which are now all occupied by old workpeople, who have been for a long number of years employed on the Beamish estate. The almhouses, says the *Gateshead Observer*, are built in the Elizabethan style, and are constructed of stone of the finest ashlar work, the timber being oak of the best quality, no expense having been spared in their erection. Each dwelling is self-contained, and consists of sitting-room, bed-room, kitchen, pantry, and every convenience for the comfort of the inmates. The building stands upon a lawn fronting the Pelton-road, near the east entrance to the park, and about two miles from the hall. It is called the Methold Almshouses.

RECENT PATENTS CONNECTED WITH BUILDING.*

CONNECTING AND SECURING DOOR AND OTHER KNOBS OR HANDLES TO THEIR SPINDLES.—*T. Parker.* Dated 14th May, 1863.—The patentee takes a spindle screwed from end to end with a suitable screw, the sides being squared down. When fixing the knob on to the spindle, the plate is slid sideways till the spindle revolves in the circular part of the slot, and the knob is screwed as far on as may be required. The plate is then pressed down on the stud until it comes to be concentric to the plate on the knob, when the slot then fits the square on the spindle, and causes the spindle to turn round on moving the knob or handle. The plate may be secured to or prevented from sliding upon the knob by means of a cover plate screwed on the door, or by set screws, or other suitable means.

APPARATUS FOR SAVING FROM DESTRUCTION BY FIRE PERSONS AND PROPERTY IN HOUSES, BUILDINGS, AND SHIPS, &c.—*A. Parker.* A communication. Dated 19th May, 1863.—The patentee fixes in a suitable position tubing or piping, varying in size as may be requisite, according to the size of the building, such tubing or piping bending through the wall where necessary, and being carried up to the roof and along the tie-beam to the king-post, from one end of the roof to the other, such tubing being plain, and stopped at the ends with screw stop ends. From this tubing or piping perforated branches of plain pipe are to proceed, playing water in any direction. The pipes for quenching the fire in the staircases should be connected by branches with the pipe above. A small ring of perforated tubing, fixed on the ceiling with the water brought from above, is sufficient to thoroughly saturate a room in a few seconds. Stop cocks are to be placed in the different parts of this apparatus, so as to prevent a waste of water where it is not required; but these cocks should always be left open in case of emergency. Force-pumps should be fixed in a suitable position, and connected with the main ascending pipe or tubing, to force the water through it. Domestic water-tanks placed high in the building, worked by valves, and connected with the plain pipe in the roof, may be made available for the supply of water to the perforated pipes or tubing in the lower parts of the building; or the supply may be had from the public water main.

WROUGHT-IRON CYLINDERS FOR PIERS OR PILES TO BRIDGES, VIADUCTS, &c. — *H. J. Kennard.* Dated 27th May, 1863.—This invention consists in constructing wrought-iron cylinders for piers or piles to bridges, viaducts, or for other foundations or structures where the sinking of cylinders is required, and they consist of segments having internal flanges fixed or formed upon them for bolting them together, the meeting edges of such segments being planed or turned, so as to form, more or less perfectly, air and water-tight joints.

AN IMPROVED SPRING FASTENING.—*C. Gammon.* Dated 27th May, 1863.—This invention consists in constructing an improved spring fastening, applicable to a variety of purposes, in manner following: that is to say,—on the front end of a spring bolt, such as is used in window sash fastenings, the patentee fixes a spindle, and fits on this spindle a barrel, the outer surface of which is formed with a catch or projection; this barrel carries a spring, and terminates at top in a button or knob, whereby the barrel, and with it the catch, can be partially turned or moved. The remaining part of the fastening consists of a fixed locking plate, the fore end of which is curved, and which, at the end of the curve, has a notch or nick formed in it. When the spring bolt is drawn to make the fastening, the end of the curved plate comes in contact with the projection on the barrel, and causes it to make a partial turn until the projection reaches the notch, when the barrel is forced back, and, at the same time, the catch is engaged into the notch. To open the fastening the catch is turned out of the notch by means of the button, and the bolt pushed clear of the locking plate.

* Selected from the *Engineer's* lists.

Books Received.

Examples for First Practice in Free-hand Outline Drawing. Designed and adapted by WALTER SMITH, Head Master of the Leeds School of Art. Third Thousand. Leeds: J. W. Bean.

ONE of the best recommendations of this drawing-book for schools and self-instruction is the fact that, although it has not yet been published in London, a new edition of three thousand has already been struck off. It contains no fewer than fifty-six different designs (many of them new), though the price is only two shillings. This is a book well adapted to the wants of those who are anxious to practise drawing by themselves. The first examples are easy enough for a child to begin with, and the last difficult enough to tax the experience gained in the first.

The Year Book of Facts in Science and Art of the Past Year. By JOHN TIMBS, F.S.A. London: Lockwood & Co. 1864.

THIS has long been regarded as a sort of standard work of the kind: indeed, in this country it has no rival. The present issue is quite as valuable a record of progress as any of the previous ones. The frontispiece on the present occasion is a bust of Sir William Armstrong, and there is an accompanying memoir.

VARIORUM.

"PROGRESS of the Art of Building; and A sure Remedy for Smoky Chimneys. Edinburgh: W. P. Nimmo. London: Simpkin, Marshall, & Co., 1864." Of the slight sketch of building progress in this little volume, we need not say much, except that it incidentally shows how sanitary science is now exciting attention in the northern metropolis. With regard to the sure cure of smoky chimneys, it merely consists of the introduction of a tube, *ab extra*, to conduct air from outside, beneath the floor, into the fire, in order to promote the draught of the chimney. There is nothing new in this, however; and it is well known that want of proper ventilation in any room will cause a chimney to smoke, so that doors must be thrown open to afford a sufficiency of air to enable it to "draw;" and the opening of a means of access for fresh air, even though not conducted to the fireplace, will often cure a smoky chimney, although the sole purpose may have been to ventilate the apartment.——"Report upon the Railway Schemes affecting the Borough of Leeds. By E. T. Filliter, C.E., Borough Surveyor." This report has been printed by order of the local council. It contains an account of five new schemes in Parliament, comprising chiefly a through scheme affecting the centre of Leeds, and a suburban scheme affecting its outskirts, with suggested alternatives. The report is accompanied by a good map of the town, with the new projects marked upon it.——"The Battle of the Standards. By John Taylor. London: Longman & Co. 1864." Our readers may recollect a notice in the *Builder* of an ingenious but somewhat crotchety book called "The Great Pyramid: why was it built?" The pr sent volume is based upon the same ideas, an professes to show that our inch measure is ancient Egyptian origin, and was known to th builders of the Great Pyramid as an integr fraction of the earth's circumference,—so exac was their knowlenge of that circumference; although Mr. Taylor blows cold as well as h upon their geometrical knowledge; for h says, "We can hardly imagine that th founders of the Great Pyramid were able t determine the angle of the face of such pyramid with quite as much accuracy as i might be done at the present time." Neverthe less, the dimensions of the pyramid itself are al supposed to have exact relationships to the pre cise dimensions of the earth; and so muc ingenuity and skill are displayed in working ou his crotchets, that Mr. Taylor seems to hav gained the ear and goodwill of Sir John Herschel who, though adverting, in the *Athenæum*, to the er rors and confusion which they involve, still speak both respectfully and favourably of the author' views, which certainly are curious and entertainin to such as take an interest in such subjects.—— "Our Colonies. By John Plummer. London Tweedie, Strand, 1864." Mr. Plummer, late a factory operative at Kettering, but now a writer for the newspaper press, is very well known t our readers as the able author of various essays and other literary works. He has been for many years both crippled and deaf; but probably t these very defects he owes the unusual cultiva tion of the reflective faculties in one of his posi tion in life. He is a clear and sensible writer and his essays have earned the first prizes fo which some of them have been written. Such is the case in the present instance. In opposition to writers, such as Professor Goldwin Smith, who throw doubts on the utility of our colonies to the mother country, Mr. Plummer stoutly upholds their immense importance, especially to the work ing classes; and he is certainly right. The political independence of the colonies, however, appears to be a separate question. Even the United States have till now been of great importance to the working classes of this country, and these States will in all probability continue to be so. Canada and Australia would not cease to constitute useful and important fields for emigration to our surplus population, even though the mother country were to cast them off as colonies or dependencies. And why should they remain for ever in leading strings? They resemble children growing or grown; and, if mature enough to do for themselves, why should not they do so? It is possession, however, which Mr. Plummer most highly values for behoof of his brethren at home; and, although one or two of our colonies may be now "of age," and able to do for themselves, we have others still in non-age, the continued possession of which may be most to our advantage, selfish as the principle would be were not the advantage, in such circumstances, mutual.

Miscellanea.

COPPER.—On the 9th inst. the smelters announced another reduction of 5*l.* per ton, making present rates 103*l.* for tough cake, tile, and ingot; 106*l.* for best selected; and 110*l.* for manufactured.

DECORATIONS FOR THE SULTAN'S NEW PALACE. A Paris letter in the *Independance* of Brussels says:—"The Sultan is now having executed in Paris, by the most eminent sculptors, twenty-four animals,—lions, tigers, elks, horses, and bulls,—destined to ornament the gardens of the splendid palace which is being built at the Sweet Waters. All the animals will be of natural size. Fourteen of them will be cast in bronze, and afterwards undergo a bath of gilding; and ten will be in Carrara marble.

STAFFORDSHIRE POTTERIES STREET-RAILWAY.—At the annual meeting of the shareholders in the company, held at Hanley, the report stated that, during 1863, the company had carried 16,000 passengers in excess of 1862, and that the receipts had increased in the same period by 190*l.*; but the profits, which reached 6 per cent., were not available for the purposes of a dividend, having been absorbed by the partial relaying of the line. One of the directors has since leased the line for five years, with a guarantee of 5 per cent. to the shareholders, and 8 per cent. in case of an extension of the line taking place. He also holds the company free from liability in case of accidents.

Mr. Henry Dangerfield, late surveyor of the borough of Cheltenham, recently died in a lunatic asylum. During the time he was surveyor the system of sewerage by which that town is now served was projected and carried out, and many other useful works were completed.

The Southampton Athenæum. — A correspondent writes,—Have any of your readers ever entered the reading-room of the Southampton Institution? If so, they must have discovered that it is without sufficient ventilation, and is too small for the number of young men who frequent it. My purpose is not to find fault, but to remind the committee that, while the mind is being fed with mental food, the body should not be impaired by poisonous air. More room is undoubtedly required; not only for the purposes of the reading-room, but also for the library, coffee-room, &c., which are all too small, in a sanitary point of view.

Shakspearian Actors.—Miss Glyn has taken the good opinion of the Edinburgh critics by storm. The local press agree that her late performances there have afforded a great and an exceptional treat to those who look upon the drama not simply as a means of amusement, but as a æsthetic study. Her *Duchess of Malfi*, her *Cleopatra*, her *Lady Macbeth*, have all, and perhaps equally, delighted the most discriminating part of her audiences by their fine intelligence, their forcible delineative power, their truth to nature, and their truth to art. One writer says, "Perhaps no series of performances, so strongly marked by all the finest qualities of histrionic talent, has been witnessed on the Edinburgh stage since the days of Mrs. Siddons."

The Birkenhead Docks.—Another extraordinary accident in connexion with the Great Docks works at Birkenhead has just occurred. At high water, the 170 feet of old north wall in the Morpeth Basin, which for some time past had been in a tottering condition, and was preserved from falling by a heavy backing of puddled clay and piling in front, gave way. About 120 feet of the wall fell either forward into the basin or backward into the excavations; whilst, strange to relate, 50 feet of the heavy structure was lifted bodily from the foundations, carried 20 feet across the excavations, and deposited in one upright mass against the granite masonry of the new Morpeth Lock. The gates of this lock were closed, and very fortunately withstood the shock.

London Mortality.—A table has been compiled and laid before Parliament showing the mortality in the several districts of England in each of ten years 1851-61. For all England and Wales the average mortality during that time was 2,217 per 100,000 living, or, as it is more commonly expressed, 22·17 per 1,000. In the Scarborough district in the South, and in Belsham and Rothbury in the North (Northumberland), the annual mortality averaged less than 14 in the 1,000. The metropolitan returns give the following results, beginning with the city proper, then taking the surrounding districts, and lastly the more suburban parts. The returns are now corrected by distributing proportionally the deaths in hospitals, and corrected also for deaths in workhouses situate out of the districts to which they belong. In London city (within the walls) the average annual mortality in the ten years was at the rate of 2,222 to every 100,000 persons living; East London (which, like the next district, is part of the city without the walls), 2,762; West London, 2,705; St. Luke's, Old-street, 2,736; Holborn, 2,411; Strand, 2,456; St. Giles's, 2,846; St. Martin's-in-the-Fields, 2,345; Westminster, 2,231; St. James's, Westminster, 2,290; St. George's, Hanover-square, 1,891; Marylebone, 2,094; St. Pancras, 2,232; Islington, 2,095; Hackenwell, 2,309; Shoreditch, 2,421; Bethnal-green, 2,352; Whitechapel, 2,841; St. George's-in-the-East, 2,879; Stepney, Limehouse, and Mile-end, 2,553; St. Saviour's and St. Olave's, Southwark, 2,863; Bermondsey, 2,638; Rotherhithe, 2,527; St. George's, Southwark, 2,744; Lambeth (including Kennington, Brixton, &c.), 2,353. In the suburbs the mortality in Kensington (with Paddington, Chelsea, and Fulham), was 1,985; Chelsea, 2,615; Hampstead, 1,760; Hackney, Stamford-hill, and Stoke Newington, 1,880; Poplar, Stepney, and Bromley, 2,359; Greenwich, Deptford, Woolwich, 2,449; Lewisham, Plumstead, 1,787; Camberwell and Peckham, 2,319; Wandsworth, Battersea, Streatham, and Clapham, 2,194. For the metropolis generally, suburban and all, the ratio was 2,363.

South Kensington Museum. — During the week ending 12th of March, the visitors numbered 12,323.

Schools of Art.—The following have been appointed the select committee on schools of art:—Sir S. Northcote, Mr. Lowe, Mr. Adderley, Mr. E. Egerton, Mr. Tite, Mr. W. Ewart, Mr. Bazley, Mr. Trefusis, Mr. Cave, Mr. Maguire, Mr. Gregson, Mr. A. Mills, Mr. C. Ewing, and Mr. Potter.

Corn Exchanges.—The project of a new corn market at Hexham has had a successful issue. Mr. Beaumont, the lord of the manor, has granted a site for the building, opening a road to the west through the grounds of the old abbey. The shares subscribed for now amount to 5,025*l.*, and a board of directors has been elected.——There is a prospect of a corn exchange being built at St. Ives. A site has been chosen, and the buildings purchased. The position is central, and close to the spot where the corn market is now held. A few more shares remain to be taken.

Liverpool Architectural and Archæological Society.—At the twelfth meeting of the session, held on the 9th instant, the president, Mr. Weightman, paid a tribute of respect to the memory of the late Sir William Brown. There was afterwards a discussion on the town council's action as to the high-level bridge scheme, which scheme was approved by Mr. Kilpin, and condemned by Mr. Boult and Mr. Picton, both of whom said that it was a mistake to suppose that the Society now advocated that measure because a report of the Society ten years old did so.

Dwellings of the Labouring Classes.—The council of the Society of Arts have passed the following resolutions:—

"That a conference of the Society be summoned to consider the causes of the present unsatisfactory condition of the dwellings of the labouring classes, and whether there are any remedies which can be advantageously adopted.

That, besides inviting the attendance of any members of the Society taking an interest in the subject, the co-operation of such as are members of the Legislature, as well as of the presidents of the Institutions in union, be especially requested."

A committee has been appointed to arrange the conference.

Dwellings in "Bonnie Dundee."—In a discussion on overcrowding in lodging-houses which recently took place at a meeting of the Dundee police commission, a dwelling was thus described by Mr. O'Farrell, who we learn has been long known as working laboriously among the poor of the burgh:—"In that room of 5 feet in height, not much larger than an ordinary boiler, four individuals were lodged; and it was from these places that disease and contagion took its flight. He recollected that at the time cholera was raging here, they had an order from her Majesty's Private Secretary to the effect that the commissioners had power to close up any house that was not 6½ feet in height. He thought, therefore, that they surely had power to close up this place, which was a mere lumber garret, hardly large enough to hold a chest. It was a disgraceful, a degrading, a horrible thing to see four human beings lodged in such a place. This garret was sub-let by the person who had taken the other part of the house, so that it really was a lodging-house." The provost said it was, no doubt, a deplorable state of things, but their powers under the present Police Act were very limited.

Gas.—For the proposed new gasworks, at Thatcham, the parties selected to tender were the six undermentioned firms:—The British and Foreign Gas Generating Company, London; Mr. Balfour, of London; Mr. Bower, of St. Neots, Newbury; Messrs. Plenty & Pain, and Mr. Hague, Newbury; and Mr. G. Stevenson, of Wantage. The several tenders were opened, and the two lowest were those of Mr. Bower and Mr. Balfour. Mr. Bower's tender was most in favour with the directors; but, inasmuch as his and some of the other tenders did not include the whole of the works, it was thought necessary to adjourn the meeting, in order to allow the entire works to be tendered for in one sum.——At the fifth annual meeting of the Howden Gas Company the report of the directors was unanimously adopted, and a dividend declared of 8s. 6d. per share, being at the rate of 6 per cent. ——The general half-yearly meeting of the Croydon Gas Company has been held. A dividend was declared of 7½ per cent. for the half-year ending Christmas, 1863, together with a bonus of 2s. on each of the old shares. Mr. Lambert was elected a director.

A Party-wall Question: Bringing down a House by removing Earth.—A special jury case, Murchin *v.* Black, came on recently at the Cumberland Spring Assizes (Nisi Prius Court), held at Carlisle. Plaintiff and defendant had become purchasers of adjoining houses, which were to be rebuilt in a certain style of elevation, the wall between the lots to be a party-wall, to be erected at the cost of both parties using it. The plaintiff, however, built upon the old wall, with the approval of the vendor, on an express agreement to rebuild within six years should the vendor require him to do so. The defendant afterwards set about rebuilding on his lot, and dug the earth out up to the old wall, which gave way, and brought down plaintiff's house, after defendant, however, had at length been induced to make some attempt to prevent the fall. Counsel for defendant said the case was "bristling with points of law, many of them exceedingly nice and difficult, and it must some day or other assume the form of a special case;" and at his suggestion, acceded to by the opposite counsel, a verdict was taken *pro formâ* for the plaintiff, subject to a special case, to be submitted to the Court of Common Pleas.

Dwellings of the Poor in Shoreditch.—An inquest was lately held by Mr. Humphreys, at Shoreditch, touching the death of Ellen Keneale, aged one year and three months. The evidence in this case brought under notice the painful state of things which exists with regard to the habitations of the poorer classes in a part of Shoreditch. Deceased lived at No. 26, Harris's-buildings, Union-gardens, Shoreditch. The medical man who was called in after death could not account for the fatality, but he said the state of the place was such that the want of oxygen would cause asphyxia, and so death, if the child had been debilitated. Mr. F. G. Gant, F.R.C.S., pathological anatomist to the Royal Free Hospital, said he had made a post-mortem examination of the body. The congested state of the lungs and veins proved that the child died from asphyxia, resulting from the failure of the supply of arterial blood from the heart. He inspected the premises. He found the place undrained and unpaved. There were green stuff and water lying about the yard. One water-closet had to serve for several houses. The smell that would arise from the yard would be most prejudicial to health. The supply of water was deficient. The jury returned a verdict, "That deceased died from asphyxia from natural causes," and they requested that the coroner would call the attention of the landlord of Harris's-buildings to the danger to the public health arising from the state of the premises, the want of a proper supply of water and of a requisite number of privies, and the unpaved state of the yard.

Improvements at Guildhall.—A committee of the court of common council, to whom the subject had been referred for consideration, have reported in favour of a series of extensive improvements in and about the neighbourhood of Guildhall, involving the entire reconstruction on a new plan of most, if not all, of the offices of the corporation, so as to adapt them the better to the general business purposes of the civic authorities, and to obviate the necessity of a large expenditure on every public occasion for special entertainments or otherwise. They find that the area of Guildhall might with great advantage be extended, and the hall itself spared, by taking in the space occupied by the bankruptcy court, and some other adjacent buildings. The report has been adopted by the court of common council, and referred back to them for execution. In the meantime, the existing roof of Guildhall is being replaced by an open one, in accordance with the architecture of the building, and after plans designed by the late Mr. Bunning. The stone front of the hall, being in a crippled and defective state, owing to its imperfect foundation, is also undergoing repair. The new roof will be of oak, filled in with Gothic tracery and partially glazed, and Gothic windows will be substituted in lieu of the sixteen Roman windows on the north and south sides of the hall. The new roof and windows are estimated to cost 18,000*l.*; the rebuilding the front of the hall, 1,500*l.*; the adapting rooms for the purposes of the library, 2,300*l.*; the repairing and decorating the various law courts, 2,000*l.*; and the painting other parts of the buildings connected with Guildhall, 400*l.*; making in all 24,200*l.* The contract for the principal works is being executed by Messrs. Myers.

IMPROVEMENT OF COCKERMOUTH.—The Local Board of Cockermouth have instructed Mr. John Lawson, C.E., of London, to examine and report upon proposed works of water-supply and sewerage for their district.

THE IMPROVED DWELLINGS MOVEMENT.—A society for the erection of improved dwelling-houses, with a capital of 10,000*l.*, in shares of 1*l.* each, has been formed at Hawick, in Roxburghshire, Scotland.

THE MALTA EXHIBITION.—The directors are anxious to obtain for this exhibition, on loan, some articles likely to be adopted by Maltese artisans, and which could improve and facilitate their works; amongst others, tools for carpenters, blacksmiths, &c.; materials used for staining and varnishing wood, planing instruments for smoothing the surface of soft stone, and trowels for plastering walls. The Society of Arts are seeking to obtain a collection of such appliances to send out.

TELEGRAPHIC.—A despatch by telegraph has been received from Sir Charles Bright in the Persian Gulf, dated the 9th of February, which was transmitted through the first section of the new Indian cable. The contents of the first two cable-vessels had been successfully paid out—about 450 miles. The cable was in perfect order, working well. Two other vessels had arrived at Bombay, and the expedition would continue paying out the line towards Europe in a fortnight.

THE ARTESIAN WELL, AT THE HOLMES, DONCASTER.—The town council recently met in committee, to receive a communication from Mr. Dale relative to the boring in the Holmes for an artesian well. The pipes which had been put down the bore, it appeared, had been broken up so that to continue the work, new ones were required. The committee, after taking Mr. Dale's opinion, agreed that an additional sum should be voted to Mr. Clark, the contractor, to enable him to put in pipes of greater strength under his present contract; and that Mr. Dale should be empowered to treat with the contractor as to the sum to be paid for replacing with new pipes those already put in under former contracts.

LONDON GENERAL OMNIBUS COMPANY.—The report of the directors of this company states that the net profit of the half-year, after allowing for the reduction in valuation of horse stock, amounted to 24,107*l.* against 48,214*l.* in the same half of 1862, and 13,004*l.* in the same half of 1861. The number of passengers carried during the half-year was 20,592,544: the number of miles run was 6,004,782: the average number of omnibuses working daily was 583; and the average number of horses working daily 6,189. The average receipts were 1s. per mile: the average fare per passenger was 3½*d.*; and the gross earnings per omnibus per day were 2*l.* 16s. 6d. The available balance left, after adding 6,905*l.* to the reserve fund, was 15,351*l.*, out of which the directors recommended a dividend at the rate of 5 per cent. per annum, free of income-tax, payable on the 22nd instant.

TENDERS.

For erecting the new West London Union, Upper Holloway. Messrs. Searle, Son, & Yelf, architects. Quantities supplied by Messrs. Arding & Bond, and Mr. James Barnett:—

	Extra for Malm Facings to Fronts.					
Anley	£32,312	0	0	... £785	0	0
Nixon	28,963	0	0	... 379	0	0
Foster	28,878	0	0	... 372	0	0
Clemente	28,552	0	0	... 387	0	0
Myers	27,991	0	0	... 376	0	0
Howard	27,987	0	0	... 185	0	0
Burton	27,740	0	0	... 255	0	0
Brass	27,294	0	0	... 250	0	0
Ashby & Co.	27,173	0	0	... 280	0	0
Hill & Co.	27,045	0	0	... 200	0	0
Higgs	26,880	0	0	... 350	0	0
Browne & Robinson	26,272	0	0	... 257	0	0
Axford & Co.	26,208	0	0	... 186	0	0
Colls & Co.	25,842	0	0	... 229	0	0
Perry & Judson	25,379	0	0	... 143	0	0
Dove, Brothers	25,235	0	0	... 290	0	0
Robinson	25,157	0	0	... 279	0	0
Sharpington & Cole	25,048	0	0	... 178	0	0
Hart	23,492	0	0	... 220	0	0

For New Roman Catholic Schools in Newcastle-under-Lyne. Mr. Thomas Lewis, architect. Quantities not supplied:—

Jefferies	£350	0	0
Trevor & Co.	810	14	0
Lowe	810	0	0
Baker	800	0	0
Espley	800	0	0

For the London and County Bank, Newbury. Mr. F Chancellor, architect. Quantities by Mr. Cecil G. Saunders:—

Sawyer (accepted)	£3,653	0	0

For rebuilding the Rose public-house, and tenemen adjoining, in Frog-lane, Islington. Mr. James Harrison, architect. Quantities supplied by Mr. Arthur W. Q. Nicoll:—

Marsland	£2,140	0	0
Ennor	1,934	0	0
Langmead	1,900	0	0
Macers	1,890	0	0
Terrey	1,800	0	0
Chapman (accepted)	1,545	0	0

For the Free Methodist Chapel, Silver-street, Lincoln, exclusive of the old chapel, &c. Messrs. Bellamy & Hardy, architects:—

Harrison	£2,351	0	0
Hobson & Taylor	2,216	0	0
Barker & Brown	2,066	18	0
Barnes & Birch (accepted)	1,960	0	0

For new warehouses, Queen street, Cheapside, corner of Pancras-lane. Messrs. Richard Tress & Chambers, architects:—

Sewell & Son	£7,812	0	0
Messrs. Lawrence	7,584	0	0
Macey	7,548	0	0
Hawtrey	7,390	0	0
King & Son	7,380	0	0
Coleman & Son	7,329	0	0
Brass	7,314	0	0
Saunders	7,276	0	0
Browne & Robinson	7,174	0	0

For additions in Whitecross-street. Mr. T. Chatfield Clarke, architect:—

Sewell & Son	£1,189	0	0
Foster	1,123	0	0
Anley	1,096	0	0
Sharpington & Cole	1,077	0	0

For new lecture-hall and vestries to Kentish Town Congregational Church. Mr. W. A. Dixon, architect. Quantities supplied:—

Patman & Fotheringham	£1,133	0	0
Cowland	997	0	0
Abbott	953	0	0
Mault	893	0	0
Scrivener & White	838	0	0
Manley & Rogers (accepted)	819	10	0
Roberts	790	0	0
Procter	759	10	0

For new Roman Catholic Church and Presbytery, Blackburn. Mr. J. Cundall, architect. Quantities supplied:—

	Church.			Presbytery.		
Gabbutt & Son	£3,336	0	0	£695	0	0
Martin	3,239	6	10	463	13	0
Mault	3,100	0	0	700	0	0
Burrows	3,025	0	0	700	0	0
Ashworth (accepted)	3,030	14	0	625	10	0

For new Congregational Chapel, Ewell, Surrey. Mr. W. F. Poulton, architect.—

Spicer	£1,447	15	9
Simpson	1,369	14	0
Morris	1,326	0	0
Chaiter	1,292	0	0
Hooker (accepted)	1,268	0	0

For rebuilding Coombe Lodge, Peckham. Mr. S. K. Bland, architect. Quantities supplied:—

Dearsly	£3,490	0	0
Willes	3,270	0	0
Thompson	2,775	0	0

For a pair of semi-detached residences at Lower Sydenham, for Mr. Batchelor:—

Bamford	2,300	0	0
Downes	2,168	0	0
Cleeman	2,075	0	0
Little	1,990	0	0
Tarrant	1,930	0	0
Wills	1,893	0	0
Hart	1,885	0	0
Wells	1,839	0	0
Say & Son	1,750	0	0
Heath	1,594	0	0

For enlargement of St. James's Church, Weybridge. Mr. J. L. Pearson, architect:—

Wardell & Baker	£1,880	0	0
Myers & Sons	1,740	0	0
Nicholson & Sons	1,585	0	0
Hemmings	1,550	0	0
Colls & Co.	1,487	0	0
Rattee & Kett	1,430	0	0
Longmire & Burge	1,387	0	0
Carruthers	1,390	0	0

TO CORRESPONDENTS.

Mr. S.—W. B. G.—K. & R.—J. S. G.—J. H.—R. B. M.—R.—Architect (gentlemen who object that the materials or inventions they exhibit at the Institute of Architects are never heard of beyond the walls, must forward their complaints to the council by whose arrangements this is brought about).—An Admirer of the Fine Arts.—J. M.—Mr. H.—Mr. K.—An Observer (must search our columns for himself).—F.—An Old Subscriber.—C. W. O.—A. J. H.—R. H. G.—T. H. W. (we really cannot undertake to teach correspondents arithmetic).—Mr. W.—A. C. C. (shall hear from us).—C. G. S.—S. R. S.—J. L.—Inquirer (such questions have been treated on previous occasions).—J. W. T.—A. W. T. (in type).—W. B.

Ink-stains on Ivory.—A young architect wishes some one to inform him what is the best mode to take ink-stains out of ivory.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

GOOD FRIDAY.—*"The Builder" for the week ending MARCH 26th will be published at TWO o'clock,* P.M., *on THURSDAY next, the 24th inst.*

ADVERTISEMENTS intended for insertion in that issue must therefore reach the Office BEFORE FIVE O'CLOCK, P.M., on WEDNESDAY, the 23rd INSTANT.

In Cloth Boards, 5s.

ANOTHER BLOW for LIFE.
By GEORGE GODWIN, F.R.S.
Assisted by Mr J. BROWN.
With 41 Illustrations.

"Let it be remembered that these are no fancy sketches: read in a work of fiction they might be rejected as exaggerations if not inventions. There is no pet place pictured or described which Mr Godwin has not previously inspected. The names and dates are continually given. He does not ask his readers to accompany him and share the perils he has braved and often encountered; but he does ask them to ponder over these frightful details, and aid him to accomplish the diminution of evils, the very thought of which is appalling to an enlightened and Christian people. Notwithstanding the awful nature of his theme, he has made his book interesting. It is full of illustrative anecdote. While there is no pretence in the style, no semblance of fine writing, it is the production of a scholar and a gentleman, deeply anxious to have his views known and adopted, but bearing in mind that a degree of refinement may strengthen and not weaken forcible language and energetic thought."—*Art Journal.*

"The author deserves honour for the persevering and indomitable energy with which he has surveyed the field he has chosen, and in which he has faithfully chronicled all those material details and facts which are the inevitable concomitants of moral decadence; and we hope his book will fall into the thankful hands of every thinking man, and secure the too frequent fate of books chronicling daring adventure within walls some unpleasantly between the wind and our nobility."—*The Reader.*

"If Mr. Godwin's readers contemplate his dark pictures with pain, the feeling ought to enliven a sense of gratitude to him who, with a Howard like courage, has encountered contact with so much misery and infection; and those who are pleased with the means ought to experience pleasure in seeing such a sphere opened for their humane exertion. While he instigates them to activity, and indicates the direction in which the Legislature may act with advantage, he points out the cheap rate at which the habits of the poor may be improved, by encouraging in them a taste for cultivating flowers, and how the decoration even of their windows and roofs with the loveliest gifts of nature may wean them from degrading pursuits, imbue them with love for domestic industry, and make them sensible that there is a comfort in cleanliness, prosperity, and order."—*Morning Post.*

"Those who wish to become informed upon one of the most important social problems of the day, should possess this startling and attractive volume."—*Standard Morning.*

"Vivid descriptions and practical good sense characterise the present, as they have done Mr. Godwin's earlier works."—*Public Opinion.*

"For many years Mr Godwin has laboured earnestly in the cause of cleanliness and fresh air, and though hitherto he has been unable to bring about any marked improvement, he still perseveres in his apparently hopeless task, trusting that, as 'evil is wrought by want of thought, as well as by want of a rt,' he may at length be rewarded by seeing some of his readers 'brought to thought, and so led to action, by the statements in his little book.' He only asks with 'solemn earnestness for a little attention to the miserable state of things set forth, and for as much aid as can be obtained to effect an improvement.'"—*Athenæum.*

"The present volume is a monument of Mr. Godwin's philanthropy, practical diligence, and skill."—*Morning Advertiser.*

"There are few men out of the profession of medicine to whom our vast manufacturing towns and large provincial cities are more indebted for their more recent sanitary improvements in respect of dwellings, and better supply of fresh light, and water, than to the influential pen of the editor of the *Builder*. We do him no more than justice when we say that to his exertions the public is very largely indebted."—*Lancet.*

"This is a capital book, in spite of its odd title, and the occasional vehemence into which the writer is betrayed. Mr. Godwin's knowledge and experience in matters of sanitary detail, added to a literary ability as rare as it is of the very best 'special' newspapers extant, qualify him to speak authoritative y on the subjects with which he deals."—*Medical Times and Gazette.*

"'Another Blow for Life,' graphically and truthfully—too truthfully, alas—shows how life is shortened, health deprecated, happiness prevented, and crime increased, by the neglect of those sanitary measures which receive so little attention, but are yet of such vital importance. Mr. Godwin is no theorist; he wants scenes of dirt and disease for himself, and places them in all their hideous nakedness before his readers."—*City Press.*

"Un ouvrage très sérieux vient de paraître à Londres sous ce titre: *Un nouvel Effort pour la Vie* (Another Blow for Life). Ses auteurs sont M. George Godwin, rédacteur en chef d'une revue spéciale, le *Builder*, et M. Brown. Cette publication contient des détails déplorables sur les bouges infects dans lesquels les enfants s'étiolent et meurent. Certaines paroisses (*parts of it*) exercent une influence meurtrière sur la population de Londres. Un seul chiffre suffira pour faire apprécier ce fait. Sur 20,000 décès annuellement constatés, on compte 21,000 enfants morts avant l'âge de cinq ans."—*La Paya.*

"This book is evidently inspired by the truest and most rational benevolence." ... "The way in which life is shortened, health deprecated, happiness prevented; how the manners are degraded, and crime and sorrow increased, it has been Mr. Godwin's object in this work to demonstrate; and very truthfully and very effectively has he performed his self appointed task."—*The Sun.*

"This is a blow figuratively struck by a philanthropic gentleman, already well known as the champion of the poor and miserable, for the lives of these unhappy beings, who manage to draw their wretched, but painfully, in the fetid dwellings of Whitechapel, Bethnal Green, and Spitalfields, and even in the working dens of brilliant Regent-street, and other gaudy thoroughfares. Let those who only want to know where wretchedness lurks to help it, and let those who shut their eyes and harden their hearts to misery which they know of but will not acknowledge, read his revelations and listen to his appeals ..... Mr. Godwin only wants people to read and to think, and we would add our earnest entreaties to his."—*Illustrated News.*

"He author has described the scenes he has witnessed with singular skill; he book is pleasantly written and profusely illustrated."—*Social Science Review.*

"See for an enumeration of frightful evils, some of which society might do much to cure, a striking little book, called 'Another Blow for Life,' by G. Godwin, F.R.S."—*The Quarterly Review.*

"The author has cast his information and advice into such a form as will be ready to interest all readers of this small book. Though it describes many painful and repulsive things, the volume itself will attract the eye and the mind; first, by the neatness of its outside shape, its binding and printing, as well as by its numerous woodcuts; and, secondly, by the clearness of its argument, and by the vigour of its style. But not even the most forcible writing can hit the imagination like a picture; and forty-one pictures, dispersed through this volume, show the visible abominations of that state of low London, against which Mr. Godwin aims his 'Blow.'"—*The London Review.*

London: W. H. ALLEN & CO. Waterloo-place.

SCHOOLS OF DESIGN.—"The collection of watches shown by Mr. Benson is a large, and at the same time an interesting one, and considerable attention has been paid by the exhibitor to the decoration of the cases. Many of them are extremely elegant in the design, and were the results of prizes offered by Mr. Benson to the pupils of the South Kensington Schools of Design."—*Morning Post*, September, 29, 1862. Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watch-making, with prices from 3 to 200 guinea each. It acts as a guide in the purchase of a watch, and enables those who live in any part of the world to select a watch, and have it sent safe by post. Prize Medal and Honourable Mention, Classes 33 and 15.—J. W. Benson, 33 & 34, Ludgate-hill, London. Established 1749. Watch and Clock Maker by Special Warrant of Appointment to H.R.H. the Prince of Wales.—[ADVT.]

THE GENERAL CREDIT & FINANCE COMPANY OF LONDON, LIMITED,

AND

THE LONDON FINANCIAL ASSOCIATION, LIMITED,

INVITE SUBSCRIPTIONS FOR THE CAPITAL OF

The Central Argentine Railway Company, Limited.

FROM ROSARIO TO CORDOVA.

Under Special Concession from the Argentine Government. Incorporated under "The Companies Act, 1862."

CONCESSION IN PERPETUITY.

GOVERNMENT GUARANTEE OF SEVEN PER CENT. PER ANNUM FOR FORTY YEARS. GRANT OF LAND ADJOINING THE RAILWAY.
INTEREST AT SEVEN PER CENT. ON DEPOSIT AND CALLS FROM DATE OF PAYMENT.

CAPITAL fixed by the Concession, £1,600,000,

Of which it is now proposed to raise £1,000,000, in 50,000 Shares of £20 each, and £600,000 hereafter, as may be found necessary.

DEPOSIT, £1 PER SHARE ON APPLICATION, AND £1. 10s. ON ALLOTMENT.

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(With power to add to their number.)

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{ THE LONDON FINANCIAL ASSOCIATION, Threadneedle Street, E.C.

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SECRETARY.
Mr. GEORGE WOOLCOTT.

TEMPORARY OFFICES: No. 61, GRESHAM HOUSE, OLD BROAD STREET, E.C.

THE projected Central Argentine Railway, about 247 miles in length, will connect Rosario and Cordova, two of the most important cities in the Argentine Republic. Commencing at the city and port of Rosario, it will pass through the fertile provinces of Santa Fé and Cordova, and about midway will form a junction with the high roads penetrating the Southern and Western Provinces, thus opening up a vast country now sadly deficient in means of transit.

ROSARIO stands on the western shore of the great river Paraná, along which, with its tributaries, there is an uninterrupted navigation of more than 2,000 miles. The river is capacious, and accessible at all states of the tide for vessels of even 1,000 tons burden, and forms the centre of the extended system of traffic to the Atlantic coast at Buenos Ayres, and the Central and Northern Provinces.

The city of CORDOVA is the centre and capital of the province of the same name, the most populous and wealthy of all the Upper Argentine Provinces, and is the point of junction for the traffic of all the Northern Provinces. Copper ore abounds in the vicinity, and some of the mines recently opened are yielding favourable returns. Amongst the most important items of export are hides, tallow, and wool, the latter well known in foreign markets for its excellent quality. The Central Argentine Railway will connect Cordova and the productive districts, of which it is the centre, with the Paraná river, and the great system of inland navigation of the magnificent valley of La Plata, whose resources are sufficient (when an efficient outlet is provided) to supply the European markets with every variety of intertropical products

The recent discovery of extensive Silver deposits in the province of San Juan must greatly contribute to the wealth of the Republic, and add materially to the traffic of the Railway. "The yield of silver," says the *Times*, December 16th, 1863, "so far as experiments have yet been made, is likely to prove as rich, if not more rich, than that of any field heretofore worked. Experienced miners from the adjoining Republic of Chili appear to be settling in the neighbourhood, and a Company formed at Buenos Ayres are now establishing smelting-works, with the best English machinery, on the spot."

The Argentine Government, attributing special importance to the early construction of this line, has granted a Concession of a very favourable character. The following are among its most important conditions:—

1. Grant of the Railway in perpetuity, without any right of pre-emption by Government.
2. The property of the Railway and its dependencies to be free from all contribution or impost for a period of forty years.
3. A guaranteed interest of 7 per cent. per annum for forty years on an expenditure not exceeding 6,400*l.* per mile, taking the working expenses at 45 per cent.
4. Line to be completed in sections, the Government guarantee taking effect from the opening of each section.
5. Government to be repaid out of subsequent surplus profits in case any advances are made under their guarantee.
6. Ten miles of Railway to be completed within eighteen months from the 26th May, 1863, the entire line in five years from that date.
7. Lands, whether national, provincial, or private, required for the line, stations, piers, &c. granted free to the Company, with free use of timber from the national forests for Railway and traffic purposes.
8. All articles which may be necessary for the construction and use of the Railway to be exempt from all import duty during forty years.
9. Government-guaranteed interest to be made up and paid at the end of each year.
10. Grant of one league (a little over three English miles) of land on each side of the line from points four leagues from the Rosario and Cordova stations respectively, and one league from each of the towns of San Geronimo (Frayle Muerto) and Villa Nueva, except buildings and lands under cultivation

The aggregate quantity, in round numbers, of lands ceded to the Company is 900,000 English acres. Government engages to obtain and make over to the Company four leagues in the province of Santa Fé, and four in the province of Cordova. These distant grants of land are only subject to the condition of being hereafter peopled, after which no period is limited.

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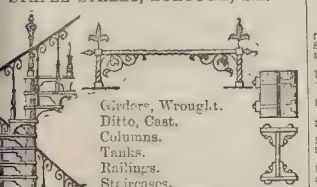
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Three-eighths-inch diameter ..... 1s. 0d. per foot.
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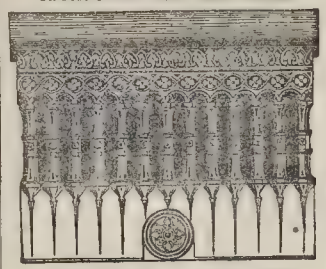
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Rain Water Pipes....	2½-in.	3-in.	1s. 1d. per yard.
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The price is 2s. 6d. to those who have no account open with W. D. & Co.; but persons desirous of opening an account, on giving satisfactory references, can have a copy post free.
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Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
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A complete List of which will be forwarded upon application to
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BUNNETT & CO. invite the attention of Architects and Builders to their recent Improvements in LIGHT REVOLVING IRON SHUTTERS for the WINDOWS of PRIVATE HOUSES, raised and lowered with graduated balance weights, without any gearing.

A matured experience, extending over twenty-five years, has convinced the Patentees that *no permanent dependence can be placed in any other*

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Widely-known and well-appreciated
BANK SHUTTER
requires no comment, as it is in use in a large majority of the Banking Establishments, Goldsmiths' Shops, and Public Offices of the United Kingdom and the British Colonies; but the Patentees wish to make it known that they have recently completed extensive Additions to their
WORKS AT DEPTFORD,
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REVOLVING IRON SHUTTER,
With all necessary Despatch.

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THE GREAT FIRE IN THE CITY.—"A closer examination yesterday of the track of the recent fire in Wood-street, shows in a striking manner how much it was confined to a class of buildings the interior arrangements and means of communication of which appear to have been made in defiance or ignorance of the principles which now regulate such matters, under the operation of the Metropolitan Building Act. The warehouses and offices which have perished were to have been separated from each other by thin lath and plaster partitions for the most part, and only in one instance was there an iron door between one part of the interior of the same building and another, such as is now commonly used and made imperative, indeed, in the construction of warehouses, as an invaluable means of shutting off communication in case of fire. That iron door, too, which remains uninjured, would have been complete effectual in arresting the flames in that direction, had they not penetrated by a vulnerable point into the part of the building which it protected.

THE USE OF IRON FOR SAFETY AGAINST FIRE was most conclusively proved by a very remarkable circumstance. The large and handsome warehouses of Messrs. J. & R. Morley, situate at the corner of Gresham and Wood Streets, overlooked by a large window on the ground floor at the back the little court in which the fire originated, and to which it was at first confined. THIS LARGE WINDOW WAS PROTECTED ON THE OUTSIDE BY A REVOLVING IRON SHUTTER, AND THAT MORE AGAINST ROBBERY THAN FIRE.

On this occasion for some time the flames played fiercely, but harmlessly, about the outside of the window so guarded by the Iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250 000*l.* to 300 000*l.*, would inevitably have been destroyed, it is feared, the devastation would have ended in that one vast pile of buildings. Upon such a slender condition of safety and property almost fabulous in value, and belonging to a single firm, depend in this case."—*Times*, 22nd December, 1864.

THE REVOLVING IRON SHUTTER THAT ARRESTED THIS FIRE WAS MANUFACTURED IN 1849, BY
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100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square
10,000 Dry Pine Plank ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass show Cases, &c.
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Good 2½ Mill sawn White Battens ..... from £9 10 per 120 of 12 feet
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Good and well-prepared ¾ Flooring Boards....from 11s. 6d. per square
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¾-inch Flooring, well prepared ..... White 11s. 6d. ...Yellow 12s. 0d. per square.
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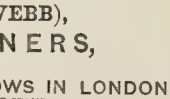
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Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had. Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.
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Dry Hand rail Planks, Prepared Flooring, and Builders' Goods in General.
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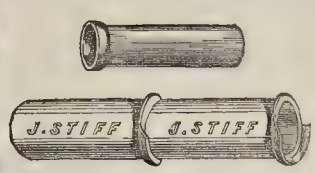
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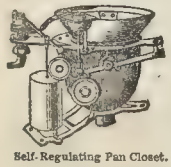
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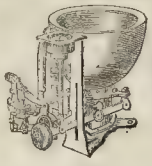
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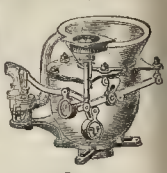
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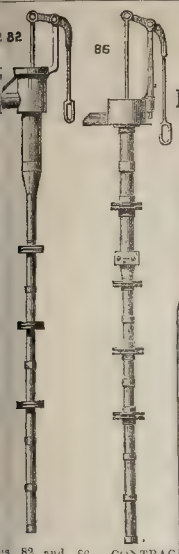
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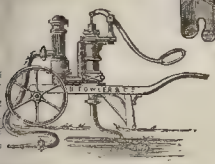
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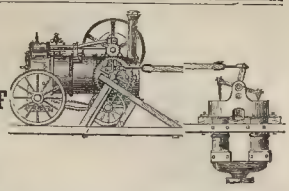
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Boring Tools for Artesian Wells, Testing Ground for Railway Works, Bridges, &c. and for Miners' use,

Are manufactured of the best description and of all sizes by

CLINTON & OWENS.

Any of the Goods above represented may be had ON HIRE. A large Stock is kept ready or in a forward state.

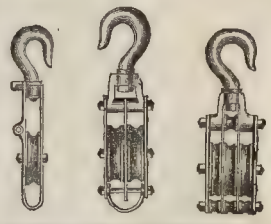


ON HIRE OR TO ORDER.

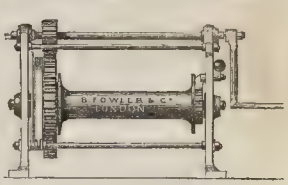
PORTABLE STEAM ENGINES,

With Double Pumps, from 8-inch to 24-inch Barrels. Also

CENTRIFUGAL and other PUMPS.



PULLEY BLOCKS and HOISTING TACKLE, of every description and for all purposes.



Single and Double Purchase Crabs, Cranes, &c. to lift any ordinary weights.

Full information and Priced Lists, with Terms, may be had on application.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will raise water to a height of FIFTY FEET in a continuous stream.

2½ inches	.....	£2 10
3 "	.....	2 15
4 "	.....	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

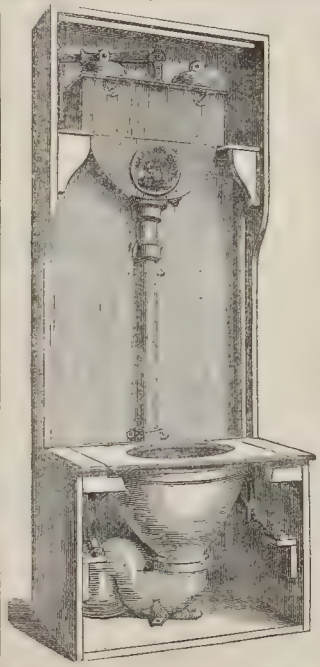
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive fixings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	.....	£3 10 0
3 "	.....	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	.....	£4 10
Ditto Work without Wood Case	.....	2 0
Basin and Trap, W.	.....	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £2 0 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 37 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

GREAT ST. HELEN'S.—Building Materials of Four Houses.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 29 (instead of Friday, March 18), at TWELVE, in Lots, all the valuable BUILDING MATERIALS and FIXTURES of Four Houses and Premises, Nos. 25, 26, 27, and 28, Great St. Helen's, of the usual description.—May be viewed the day previous, and catalogues had of C. J. CORBETT, Esq., and THOMAS NEWSON, Esq., Architects, 7, Gracechurch street; and of PULLEN, HORNE, & EVERSFIELD, 81, Fore street, E.C. and 40, Parliament-street, S.W.

BUILDING MATERIALS.—BOTOLPH LANE, CITY.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 22 at ONE, in Lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of THREE HOUSES and WAREHOUSES, Nos. 18, 19, and 20, Botolph Lane.—The timber and prime convenient brickwork useful timber in roofs and floors, iron and plain tiles, sashes, doors, partitions, lining and flooring boards, warehouse fronts, lead gutters and pipes, casements, shores, and useful fixtures and fittings-up.—May be viewed the day previous. Catalogues had of J. BELCHER, Esq. Architect, 2, Adelaide place, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

UPPER THAMES STREET.—Building Materials of several Warehouses and other Premises.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 23, at TWELVE, the MATERIALS and Effects-up of THREE SEVERAL WAREHOUSES, TWELVING HOISTS and SHEDS, situate on Bull Wharf, adjoining Queenhithe, Upper Thames-street, consisting of about 250,000 stock bricks, sound timber in roofs and floors, sashes, partition, &c. a large quantity of pan and pain tiles and slates, granite paving setts, excellent crane, and other effects.—May be viewed the day previous, and catalogues had of EDWARD PANSON, Esq. Architect, 74, Laurence Pountney hill; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

TO CONTRACTORS, BUILDERS, AND OTHERS.—New Timber from the Charing-Cross Railway Station.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. COCKRAN & CO. to SELL by AUCTION at their Works, near the Southwark Waterworks, Battersea Fields, on MONDAY, APRIL 4th, at TWELVE, about 60 loads of sound MIXED TIMBER, which has been used in the staging for the erection of the roof of the Charing Cross Railway Station, and which which will be put into lots to suit builders.—May be viewed on Saturday previous, and Catalogues had at the Place of Sale and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

The New Metropolitan Meat and Poultry Market.—Third Clearance Sale.—Building Materials of various Houses and Premises in and near Smithfield.

PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London, to SELL by AUCTION, on the PREMISES, on TUESDAY, APRIL 5th and full wing day, at TWELVE, in Lots, all the Valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of several Dwelling-houses, Shops, Warehouses, and Premises, situate in Snaith field and Smithfield-bars; comprising excellent stock bricks, oak and fir timber in roofs and floors, plain and pan tiles and slates, glazed sashes, doors, chimney pieces and interior fittings, flooring, hard wood folding gates, shop-fronts, large iron doors, iron columns, lead flats, gutters and pipes, stone paving, stairs, stoves, vests of drawers, counters, shelves, partitions, settles and benches, and fittings of a coffee-shop, and other useful house and trade fixtures and fittings up. May be viewed the day previous; catalogues had at the Architects' Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

TO PIANOFORTE AND CABINET MAKERS, BUILDERS, CARPENTERS, TIMBER DEALERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, near the Old Eagle and Camden-road Railway Station, on MONDAY, MARCH 21st, at TWELVE for ONE, 10,000 feet of dry lime-tree board, 3,000 feet of mahogany, cedar, oak, and birch, 2,000 feet of walnut pine boards, 1,200 planks, deals, and battens prepared flooring, scantling, die square, cut stuff, for new doors, two large slate cisterns, and a quantity of useful old materials.—Auction Office, Carlington-street, Hampstead-road, near the Euston Station

Well manufactured Furniture and Stock of seasoned Mahogany, &c.—By order of the Executors of the late Mr. J. S. Jefferys, Cabinet maker and Upholsterer.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, 115, Grays-inn-road, on TUESDAY, MARCH 22nd, at TWELVE for ONE, the genuine STOCK IN TRADE, comprising about 4,000 feet of well-seasoned Spanish and Honduras and sawn mahogany, 70 feet of English oak and walnut, 600 feet birch, rosewood, and mahogany veneers, pencil cedar, looking glass and picture plates, cheffoniers, sets of chairs, seven benches, press, two wings, iron screws, ironmongery, &c.; also the capital new and second hand furniture and a few household effects.—Auction Offices, Carlington street, Hampstead-road, N.W.

UPPER SYDENHAM, opposite the Longton Hotel, in the Parish of Lewisham, near the Crystal Palace.—Valuable Freehold Building Land, with possession, standing valuable Brick Earth.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed to SELL, at Garraway's, on WEDNESDAY, MARCH 23rd, at TWELVE, in One or Ten Lots, a very valuable PLOT of FREEHOLD BUILDING LAND, situate in Upper Sydenham, immediately opposite the Longton Hotel, about midway between the Sydenham Station on the London, Brighton, and Croydon Railway, and the Crystal Palace with extensive frontages to the West hill-road and the Crystal Palace-road.—The Lodge Park Estate is a very high, overlooking the grounds of the Crystal Palace and the lovely scenery in the district, and contains most valuable brick earth. Immediate possession can be had.—Particulars will shortly be had at the Longton Hotel, and the Greyhound, Sydenham; of Messrs. CAPRON, BRABANT, CAPRON, & DALTON, Solicitors, 7, Bayinplace, W.; at Garraway's, and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, Lancaster place, Strand, W.C.

IN BANKRUPTCY.—KING'S LYNN, NORFOLK.—To Timber Merchants, Contractors, Saw mill Proprietors, and Others.

MESSRS. CRUSO & SON are favoured with instructions from the Assignees of Messrs Bellway, Hart, & Co. late Timber Merchants, King's Lynn, to SELL by AUCTION, on THURSDAY, the 31st day of MARCH, 1864 commencing at TWELVE o'clock precisely, on the PREMISES, South Lynn, the entire STOCK of 750 pieces Memel TIMBER (average 28 feet), 7 cwt redwood and wainscot deal and battens, 16 pieces Memel cross oak, 115 pieces Kregero timber, 4 logs of wainscot, 120 grindstones, 2,000 bundles of hoops and single laths, 5 fathoms of inch wood, 3,000 pan and ridge tiles, a large quantity of sawn deals and battens, deal ends, &c. an 18-horse power high-pressure horizontal steam-engine, with boiler and fixings complete; deal saw-frame and cross-cut saw-bench with all complete, and fitted up with the latest improvements. Also, the brick-built and slated BUILDING, used as the saw mill, with engine house, 2 sheds, &c. Catalogues may be obtained of Messrs CHILTON, BURTON, YEATES, & HART, Solicitors, 22, Chancery lane, London; and of Messrs. COULTON & BELOE, Solicitors; and of the Auctioneers, King's Lynn.

REPOSITORY, BARBICAN.—GOVERNMENT CONTRACT CART HORSES.—THURSDAY next, off the Portsdown-hill Fortification.

TO BE SOLD by AUCTION, by

MR J. GOWER, at his REPOSITORY, Barbican, on THURSDAY, MARCH 24, in consequence of Dead Freight, at TWELVE o'clock, by direction of Mr W. Ireland, TWENTY young strong serviceable CART-HORSES. Have been employed on the excavations at the top work in forming the Portsdown hill fortification, Portsmouth, nearly completed.—On view two days prior.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Proprietor (removing) to SELL by AUCTION on MONDAY, MARCH 28th, at TWELVE o'clock, at the WORKS, Bruton-School-lane Chiswick, the remaining PLANT & MACHINERY, comprising a nearly new 12 horse power horizontal high pressure steam engine, an 8 horse power oscillating steam-engine, a nearly new 10-horse power Cornish boiler, a vulcaniser by Dunlop, glazing calender, with paper rolls, straining meshine, a pair of 6 inch double-acting air-pumps, a lathe, colour-mill, twenty tons of discount of shafting, and numerous other effects. To be viewed Saturday previous and Morning of Sale, when catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS.—SWINDON.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MARCH 22nd, 1864, at TWELVE for ONE o'clock precisely, to suit on the PREMISES, Swindon Foundry, Victoria-street, Swindon Old Town, the PLANT, TOOLS, and STOCK, including 6 tons flasks and boxes, crane and shank bolts, cranes, pot furnace, charcoal grinding mill, shear, punching and shearing machine by Goodworth, fly press, drilling machine, 20-power capstan, set of lathe three foot lathes, 4 horse power steam engine, small table steam engine (nominal 4 horse power), steel tools, straps and pulleys, vices and benches, 12 new and fully sized tools, straps and pulleys, vices and benches, 12 new and fully sized tools, straps and pulleys, vices and benches, 12 new and fully sized

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1103. MARCH 26, 1864. PRICE FOURPENCE. By Post, 5d.

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ROYAL ACADEMY of ARTS.—NOTICE to ARTISTS.—All Works of Painting, Sculpture, Architecture, or Engraving, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 4th, or TUESDAY, the 5th, of APRIL next, after which time no Work can possibly be received; nor can any Works be received which have already been publicly exhibited.

FRAMES.—All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and Drawings with wide margins, are inadmissible. Excessive breadth in frames, as well as projecting mouldings, may prevent pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A. Sec.

Every possible care will be taken of Works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package.

No pieces of Works to be disposed of may be communicated to the Secretary.

THE ARCHITECTURAL MUSEUM
SOUTH KENSINGTON MUSEUM, W.
LECTURE SESSION, 1864.

TUESDAY next, MARCH 29th.—"Early Brickwork in England." By the Rev. E. L. CUTTS, M.A. The Chair will be taken at EIGHT o'clock precisely.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

The PRIZES for 1864 will shortly be announced.

ARCHITECTURAL ASSOCIATION, No. 9, CONDUIT-STREET, W.—On FRIDAY evening, APRIL 1, a Paper will be read by T. HAYTER LEWIS, Esq. F.R.I.B.A. subject "French Architecture down to the Renaissance." The chair to be taken at EIGHT o'clock. Gentlemen not being members may be admitted by presenting their cards.

Mr. BURGESS'S Paper, announced for the 15th inst. will be postponed until JUNE 10th.

The Paper to be read on the 15th inst. will be by Mr. E. J. TARVER, on "Figure Drawing." J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

EVENING LECTURES to WORKING MEN.—ROYAL SCHOOL of MINES, JERMYN-STREET.—THIRD COURSE, consisting of SIX LECTURES on ELECTRICITY, by Professor TYNDALL, F.R.S. will be commenced on MONDAY, APRIL 4th, at Eight o'clock. Tickets may be obtained, by Working Men only, on WEDNESDAY, MARCH 30th, from TEN to FIVE o'clock, upon payment of a fee of 6d. for the whole Course. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the Ticket will be exchanged.

TRENHAM REEKS, Registrar.

PLATE, SHEET, and CROWN GLASS.
T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES.
T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

PRACTICAL GEOLOGY.—KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will commence a COURSE of LECTURES, on WEDNESDAY, APRIL 6th, at NINE a.m. having especial reference to the application of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE.—The Lectures will be continued on each succeeding FRIDAY and WEDNESDAY, at the same hour. Fee, 1l. 11s 6d.

R. W. JELF, D.D. Principal.

NEW ZEALAND EXHIBITION, 1865.
The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts. Space will be reserved for Exhibitors from the United Kingdom and her Colonies, the Continents of Europe and America.—Copies of the decisions, forms of application for space, and further details may be obtained from the undersigned.—By order.

JOHN MORRISON, Agent for the New Zealand Government.
New Zealand Government Agency, 4, Adelaide-place,
King William-street, London, February, 1864.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

TOWN and BOROUGH of ROCHDALE.
TOWN HALL &c. TO ARCHITECTS.—The Corporation of Rochdale are desirous of receiving DESIGNS for a TOWN HALL, wherein are to be provided fit and convenient public offices, for holding the meetings and transacting the business of the Council, and for holding such public meetings and transacting such public business as the Council may direct or allow to be held therein. The following premiums will be given for such three of the designs as in the opinion of the Council are the highest in merit, viz.:—

For the 1st set of such designs, 100l.
" 2nd ditto 60l.
" 3rd ditto 40l.

all of which premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope containing the name and address of the competitor, bearing a corresponding motto or device to that on the plans, &c. Lithographed plans of the site, with printed statements of the offices, rooms, and conveniences required, may be had on application to the Town Clerk on and after the 5th MARCH next; and the competing Designs, &c. must be delivered at my Office, in Yorkshire-street, Rochdale, on or before the 1st day of MAY next.—By order.

ZACH. MELLOR, Town Clerk.

Rochdale, 27th February, 1864.

CONTRACTS.

HEXHAM LOCAL BOARD of HEALTH
WATERWORKS and SEWERAGE. TO IRON FOUNDERS, BRASS-FOUNDERS, EARTHENWARE PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Hexham, in the County of Northumberland, do hereby give Notice that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

WATERWORKS.

Contract A, for supplying Cast-iron Water-pipes and other Castings.
Contract B, for supplying Sluice-valves, Hydrants, and other street fittings.
Contract C, for laying and jointing Cast-iron Water-pipes and fixing Sluice-valves, Hydrants, and other street fittings
Contract D, for constructing a Storage Reservoir, Filter Beds, Service Reservoir, and other works.

SEWERAGE.

Contract No. 1, for providing materials and constructing Brick Sewers, Earthenware Pipe Sewers, Outlet Works, Man-holes, Gullies, Overflows, and other works.

Plans, sections, detail drawings, and specifications of the several works may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices may be obtained on and after MONDAY, the 14th day of MARCH next, on payment of Ten Shillings for each Contract, on application at the Office of ISAAC BATY, Solicitor, Hexham (Clerk to the Local Board), or at the Offices of JOHN LAWSON, Civil Engineer, 34, Parliament Street, Westminster. Sealed Tenders, endorsed "Tender for Waterworks or Sewerage," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 30th day of MARCH next. The Local Board do not bind themselves to accept the lowest or any Tender.

ISAAC BATY, Clerk to the Local Board.

Hexham, 24th February, 1864.

TO SEWERAGE CONTRACTORS and Others.—TOWNSHIP of TRANMERE, CHESHIRE.—The Local Board for the District of Tranmere are prepared to receive TENDERS for the CONSTRUCTION of about 2,300 Yards of MAIN BRICK SEWERS, and about 7,100 Yards of PIPE SEWERS, with the necessary Junctions, Branches, Man holes, Gullies, and Ventilating Shafts. Plans, Sections, and Specifications, &c. may be seen on application to Mr. W. A. RICHARDSON, C.E. Surveyor to the Local Board, on and after TUESDAY next, the 22nd instant, and copies of the Specifications and Form of Tender may be obtained on payment of 10s. Sealed Tenders, made on the printed forms only, to be addressed to me, and left at my office not later than THURSDAY, the 31st APRIL next. The Local Board do not bind themselves to accept the lowest or any Tender.—By order.

GEORGE LLOYD, Law Clerk to the Local Board.

Public Offices, Holt-hill, Tranmere, March 14, 1864.

CONTRACTS.

SOUTHPORT HOTEL COMPANY (Limited).—Parties desirous of CONTRACTING for the WORKS necessary for the ERECTION of the HOTEL, may obtain the quantities at the Office of Mr. A. D. CUFFLEY, Architect, 44, Princes-street, Manchester, upon the payment of Two Guineas, which sum will be returned to the competitors not engaged upon the opening of the Tenders. The drawings will be ready for inspection on and after the 31st of MARCH. Sealed Tenders to be addressed to the Directors, care of W. SALE, Jun. Esq. Secretary, Messrs. SALE, WORTHINGTON, SHIPMAN, & SEDDON, Solicitors, Booth-street, Manchester, on or before APRIL the 21st.—The lowest or any Tender will not necessarily be accepted.

STAUNTON COMMON DRAINAGE.—To CONTRACTORS. The Drainage Commissioners for the Arterial Drainage of Staunton Common are prepared to receive TENDERS for STRAIGHTENING, WIDENING, and DEEPENING of LETTON BROOK or LAKE.—Plans, sections, and specifications may be inspected at the Office of Mr. T. CURLEY, C.E. Broomy-hill, Hereford.—Sealed Tenders to be sent to the undersigned on or before TEN o'clock on SATURDAY, the 9th of APRIL next. Printed quantities and forms of Tender will be supplied by Mr. CURLEY,

J. F. SYMONDS, Clerk to the Commissioners.

15, Bridge-street, Hereford.

SEAFORD, near NEWHAVEN, SUSSEX.
TO BRICKMAKERS.—Persons desirous of TENDERING for OPENING a BRICKFIELD, immediately, in this rising sea-place, to which the rail from Newhaven will be opened in May, may learn the particulars by applying to Messrs. WM. G. HABBESHON & PITE, Architects, 38, Bloomsbury-square, London, W.C.

TO BUILDERS.—The Committee for carrying out the proposed Enlargement of St. Cuthbert's Church, Bedford, invite TENDERS for the EXECUTION of the WORKS, according to the plans and specifications prepared by Mr. PENROSE, Architect, which will be deposited at the House of JOSEPH MANTON, Parish Clerk, No. 26, The Grove, St Cuthbert's, from MARCH 14th to APRIL 2nd, inclusive. Any further information may be obtained on application to Mr. PENROSE, Chester House, St. Paul's Churchyard, London. Tenders, sealed and endorsed "Tender for the Enlargement of St. Cuthbert's Church," to be sent to the Rev. CHARLES ROLLOPE, Rector, St. Cuthbert's, Bedford, by TWELVE o'clock at noon on MONDAY, APRIL 4. The Committee will not necessarily accept the lowest or any Tender. The contractor will be required to find security for the due execution of the works.

Bedford, March 10, 1864.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, in the parish of Clapham, viz. about 2,420 feet of 3 ft. 3 in. by 2 ft. 3 in. and 500 feet of 3 ft. by 2 ft.—one brick; and also for the LAYING of about 4,800 feet of STONEWARE-PIPE SEWERS of various sizes. The specification, plans, and sections may be seen, and all further information obtained, at the Office of Mr. C. W. JOHNSON, Surveyor, Manor Cottage, Lavender-lane, Clapham, between the hours of TEN and FOUR. Tenders are to be sent in, under seal, to the Board as below, on or before TUESDAY, the 5th of APRIL next, and are to be endorsed "Tender for Clapham Sewers." Persons tendering must be in attendance at the Offices of the Board on WEDNESDAY, the 6th of APRIL next, at FOUR o'clock p.m. when the Tenders will be opened. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District.

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. 19th March, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of Eleven fourth-rate DWELLING HOUSES with OFFICES, in Engineer road and Millward-street, Woolwich Common.—Plans and specifications may be seen at the Offices of Messrs. CHURCH & RICKWOOD, Architects and Surveyors, William-street, Woolwich, where all necessary information may be obtained. Tenders to be sent in on WEDNESDAY, the 30th MARCH, 1864, addressed to Messrs. CHURCH & RICKWOOD.—The lowest or any Tender will not necessarily be accepted.

WORKHOUSE ACCOMMODATION WANTED.—The GUARDIANS of the WEST LONDON UNION are desirous of RECEIVING PROPOSALS from Parochial or Union Authorities for the MAINTENANCE, Care, and Clothing, for a limited period, of the WORKHOUSE INMATES, the present number of whom is 414, and are of both sexes. The Guardians are open to receive proposals for the reception of either a part or the whole of the Inmates. The Guardians are also open to receive from the owners of any building, which might without difficulty be converted into a temporary workhouse, proposals for the hire of the same for a limited period. It is desired that the accommodation required should be within a few miles of the city of London.—Terms and particulars to be sent without delay to Mr. JOHN PONTIFEX, Clerk to the Guardians, 5, St. Andrew's-court, Holborn, London.

TO BUILDERS.—Noble Street, City.—TENDERS are required for sundry ALTERATIONS, ADDITIONS, and REPAIRS to No. 24, Noble-street, City. The drawings, specification, and conditions may be seen on the Premises, on and after WEDNESDAY next, the 30th instant. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS AND IRONFOUNDERS.
PERSONS desirous of TENDERING for the ERECTION of an ENTRANCE COURT (chiefly iron and glass) and other works, (for the Agricultural Hall Company, Limited, may see drawings and specifications, and obtain particulars, at the Offices of the Clerk of Works, Barford-street, Islington. Tenders to be sent in before TWELVE o'clock on TUESDAY, 5th day of APRIL, 1864. The Directors do not bind themselves to accept the lowest or any other Tender.

[For remainder of Contracts see next Page.

CONTRACTS.

BRISTOL and PORTISHEAD PIER AND RAILWAY.—CONTRACT for WORKS.—The Directors of the Bristol and Portishead Pier and Railway Company are prepared to receive TENDERS for the CONSTRUCTION of about 10 miles of their RAILWAY, with Approaches, Works, and Conveniences. The crossings of the various works may be seen on, and after the 11th day of APRIL next, at the Office of the Company's Engineers, Messrs. McCLEAN & STILEMAN, 23, Great George-street, Westminster, S.W., or at the Secretary's Office, 5, Clare street, Bristol. Contractors who wish to tender may obtain lithographed copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers or at the Secretary's Office, on payment of £5. Tenders must be addressed to the Secretary, 6, Clare street, Bristol, on or before the 8th day of APRIL next. The Directors do not bind themselves to accept the lowest or any Tender.

JAMES FORD, Chairman.
J. P. R. DANIEL, Secretary.

Bristol, March, 1864

NOTICE to BUILDERS.—TENDERS are required for the ENLARGEMENT of YORKTOWN CHURCH, Surrey, in accordance with plans and specification to be seen at Yorktown Parsonage. Sealed Tenders to be sent to the Chairman of the Building Committee, at Yorktown, Farnborough Station, on or before the 12th APRIL. The Committee do not pledge themselves to accept the lowest or any other Tender.

TO PAVIORS.—The Board of Works for the Holborn District will meet at the Board Room in Little Gray's-inn-lane, on MONDAY, the 4th APRIL, 1864, at SEVEN o'clock in the evening precisely, to receive TENDERS for REMOVING the present ASPHALTE PAVING in Lamb's Conduit-street and RE-LAYING the same with NEW ABERDEEN GRANITE SETTS. A specimen of the work and the form of Tender may be seen on application at the Offices of the Board, in Little Gray's-inn-lane, between the hours of TEN and FOUR daily. The Board do not bind themselves to accept the lowest or any Tender.

S. W. HOPWOOD, Clerk.

Clerk's Office, 47, Chancery-lane, March, 1864.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of a NEW CHURCH, at Far Headingley, near Leeds, Yorkshire, are invited to apply at the Office of the Architect, where the plans and specification may be seen, all bills of quantities obtained, and sites shown on and after APRIL next. Tenders to be delivered at the above office, not later than the 18th of APRIL next. The lowest or any Tender will not necessarily be accepted

W. H CROSSLAND, Architect.

New Oxford Exchange, Leeds

TO IRON FOUNDERS, SMITHS, and OTHERS.—The Directors of the Rochester, Chatham, and Strood Gas Light Company are prepared to receive TENDERS, which must be delivered at their Office, 56, High-street, Rochester, before TEN o'clock in the forenoon of WEDNESDAY, the 6th APRIL, 1864, for the SUPPLY of about 70 Tons of WROUGHT-IRON TIES, WROUGHT-IRON STRAPS, and SCREWED BOLTS, and about 4 tons CAST IRON PLATES, to be delivered free at their Works, Rochester.—The specification and form of Tender may be had on application at the Offices of the Company where also the drawings may be seen. The Directors do not bind themselves to accept the lowest or any Tender. By order,

W. SYMS, Secretary.

TO TIMBER MERCHANTS and OTHERS.—The Directors of the Rochester, Chatham, and Strood Gas Light Company are prepared to receive TENDERS, which must be delivered at their Office, 56, High street, Rochester, before TEN o'clock in the forenoon of WEDNESDAY, the 6th APRIL, 1864, for the SUPPLY of about 150 Loads of DANTZIC or MEMEL TIMBER, in balks, varying from 12 inches square to 14 inches square, in lengths of 23 feet 6 inches, 20 feet 6 inches, 35 feet, 43 feet, and 45 feet; to be of sound carol free at the Works, Rochester. The specification and form of Tender may be had on application at the Offices of the Company. The directors do not bind themselves to accept the lowest or any Tender.—By order,

W. SYMS, secretary.

SOUTH NORWOOD.—To BUILDERS.—TENDERS are required for FINISHING the Two newly erected VILLA RESIDENCES, Selhurst-road.—Plans and specifications may be seen at Mr. GRIGGS'S, 12, City-road, on and after the 24th inst. to the 7th APRIL between the hours of TEN and FOUR. Further part. ulars may be known on application to Mr H CARD, Surveyor, Lower Addiscombe-road. Tenders are to be sent in on or before the 8th of APRIL. The proprietor does not bind himself to accept the lowest or any Tender.

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity at Rochester are desirous of receiving TENDERS for the CONSTRUCTION of certain ROADS and OTHER WORKS, on land near the New Infant Schools in Ordnance-road, in the parish of Chatham, Kent. Plans, sections, and specification of the proposed works will be deposited at the New Almshouses, Maidstone-road, Rochester, and will be open to inspection on and after THURSDAY, the 31st instant, and up to the day of Tender, between the hours of TEN and FOUR o'clock. Tenders are to be sent in to the Office of Messrs. LEWIS & MARSH, High-street, Rochester, on or before SATURDAY, the 9th day of APRIL next (after which day no Tender will be received), sealed up, and addressed "To the Trustees of Watts's Charity at Rochester," and marked "Tender for Roads." The Trustees will not hold themselves bound to accept the lowest or any other Tender. And the Contractor will have to enter into sufficient contract (either with or without sureties as the Trustees shall require, for the due execution of the works. Such contract to be prepared by the Trustees' Solicitor at the expense of the Contractor.—By order of the Trustees

ROCHESTER, 18th March, 1864.

J. LEWIS, Clerk.

TO BUILDERS, IRONFOUNDERS, and ROAD MAKERS.—The Burial Board for the Parish of Great Driffield, in the county of York, are prepared to receive TENDERS for the various Works required in the ERECTION of two CHAPELS with Soires, an Entrance-lodge, Entrance-gates, a Wall, and Iron Railing, for the purposed NEW BURIAL GROUND, situate near to Great Driffield aforesaid; and also for forming the Roads, Walks, and Drives, and Planting and Laying out the Grounds. The drawings, specifications, and forms of tender may be seen and obtained at my Office, from MONDAY, the 21st day of MARCH inst. to THURSDAY, the 31st day of the same month, both inclusive. Printed bills of quantities may be had on the same being applied for as aforesaid. Tenders, on application personally or by letter, either to me, or to Messrs. PRIDDLE & SON, Architects, Darlington, from whom any further information may be obtained, respecting the same, are to be required to enter into a bond, with one sufficient surety, for the due performance of the Contract. Tenders properly sealed and endorsed, and addressed to the undersigned, are to be delivered on or before the 1st day of APRIL next. The Board do not bind themselves to accept the lowest or any Tender.—By order,)

JAS. M. JENNINGS, Clerk to the Board.

Driffield, 15th March, 1864

MONTGOMERY COUNTY WORKS.—NEW WING, &c. 42 Cells, Pentonville System.—The Visiting Justices are prepared to receive TENDERS for the above. The plans, specifications, and conditions may be inspected at the County Surveyor's Office, Kerry, Montgomeryshire, on and after the 22nd day of MARCH next. Tenders, sealed up, and addressed "To the Chairman of the Visiting Justices, County Gaol, Montgomery," to be delivered on or before the 1st day of APRIL next. The lowest or any Tender will not necessarily be accepted. Two sureties for the performance of the works will be required, whose names must be given with the Tender. Quantities supplied

TO SEWER PIPE MANUFACTURERS, &c. The Local Board of Health for the District of Castle-Moors, in the County of Lancaster, desire to receive TENDERS for the SUPPLY of about TEN THOUSAND YARDS of SEWER PIPES, together with Junctions, Bends, Grids, &c. Specification and conditions may be seen, and forms of Tender obtained, on applicat. n to Mr. LIMBERLEY, Local Engineer, Blackburn. Sealed Tenders, endorsed "Tender for Sewer-pipes," may be sent to Mr. CLOUGH, of Blackburn, Clerk to the said Board, not later than MONDAY, the 18th day of APRIL next

Blackburn, March 22nd, 1864

TO BUILDERS.—TENDERS are required for the ERECTION of SCHOOL BUILDINGS at Oulane, in the District of Longwood, Yorkshire.

E. WYNDHAM TARN, Architect.

10, Guilford-street, Russell square, W.C.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the ERECTION of a CHAPEL of EASE, in Surrey street, Lambeth, Portsmouth. The drawings and specification can be inspected at Messrs KING & KING'S, Queen street, Portsea, on and after MONDAY next, the 28th instant. Tenders to be delivered at No. 11, Lion terrace, Portsea, not later than ELEVEN a.m. on THURSDAY, the 7th of APRIL. The lowest or any Tender will not necessarily be accepted. The Trustees must be prepared to find approved security for the due performance of the contract

TO ROAD MAKERS, EXCAVATORS, and BUILDERS.—TENDERS are required for CONSTRUCTING ROADS between Caw and at Treguddle, in the Counties of Cornwall and Devon. Parties desiring to tender for these Works, must leave their names at this office, on or before the 28th instant, and pay the sum of Ten Shillings and Sixpence for the hire of quantities and specification of the works, which will be delivered to each party immediately. The Secretary of state does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Devonport, 18th March, 1864

TO BRICKLAYERS. — Notice is hereby given, that the Gravesend Improvement Commissioners will receive TENDERS for the SUPPLY of about 800 feet of 18-inch DRAIN-PIPES, and Thrown LAYING HOW and COMPLETING a good and efficient SEWER, in West-street, in Gravesend, together with Brick Gullies Traps, and Iron Street gratings, according to a plan and specification thereof, which may be seen at the Office of Mr. JOHN GOLDING, surveyor to the Commissioners, in Parrock street, in Gravesend. Tenders, sealed, marked "Tender for Sewers," must be delivered at my Office on or before the 4th day of APRIL next, and the Commissioners will consider the same on the following day, at TEN o'clock at the Town-hall, in Gravesend. The Commissioners do not bind themselves to accept the lowest or any Tender.

FRAS. SOUTHGATE, Clerk to the Commissioners.

Gravesend, 24th March, 1864

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at Guildhall, London, on FRIDAY, the 22nd APRIL next, to receive TENDERS for TAKING DOWN and REMOVING the present BRIDGE at Blackfriars, and ERECTING a NEW BRIDGE in lieu thereof. The plans of the intended new bridge and specifications of the works to be executed, may be seen, and further particulars obtained, upon application at the Office of the Engineer, JOSEPH CUBITT, Esq. No. 37, Great George-street, Westminster, on and after MONDAY, the 21st MARCH instant.—The Tenders must be sealed up, addressed to the Bridge House Estate Committee, endorsed "Tender for New Bridge at Blackfriars," and left at the Comptroller's Office, Guildhall, London, before TWELVE o'clock, on FRIDAY, the 22nd APRIL next, and the parties tendering will be expected to be in attendance at Guildhall on that day, at ONE o'clock precisely. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.

Guildhall, March 5, 1864. FERDINAND BRAND, Comptroller.

NEW BLACKFRIARS BRIDGE.—Founders and Smiths wishing to TENDER for the above Structure can obtain information concerning bills of quantities, on application to Mr. JOSEPH SIMMONS, Devonshire Villa, Chipperfield, Herts, not later than WEDNESDAY next, 30th instant. It is to be distinctly understood that Mr Simmons is not connected in this matter with the Bridge House Estates Committee.

Chipperfield, Herts, March 22, 1864.

FURNESS and MIDLAND RAILWAY. CONTRACT for WORKS.—The Directors of The Furness and Midland Railway Company are prepared to receive TENDERS for the CONSTRUCTION of a DOUBLE LINE of RAILWAY, with Approaches, Works, and Conveniences from the Furness Railway, at Carnforth, to the North-Western (Midland) Railway, at Wennington, being a length of 9¾ miles, or thereabouts. The drawings of the proposed works may be seen on and after the 21st day of MARCH, at the Office of the Company's Engineers, Messrs. McCLEAN & STILEMAN, 22, Great George-street, Westminster, S.W. and Mr. J. S. CROSSLEY, Midland Railway, Derby; or at the Secretary's Office, Furness Railway, Barrow, in Furness. Contractors who wish to tender may obtain lithographed copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers, or at the Secretary's Office on and after the 5th of APRIL. Tenders must be addressed to the Secretary, 9, Old Burlington street, London, W. on or before the 4th day of APRIL next. The Directors do not bind themselves to accept the lowest or any Tender.

JAMES RAMSDEN, Secretary.

Barrow, in Furness, February, 1864.

ST. PETER'S WHARF, WESTMINSTER, TO LET on LEASE.—A Committee of the Governors of the Grey Coat Hospital will meet at the Hospital in Tothill Fields, Westminster, on MONDAY, the 4th day of APRIL next, at TWELVE o'clock at noon, to receive TENDERS from parties willing to TAKE on LEASE for twenty-one years from Midsummer next, all that WHARF and PREMISES, known as SAINT PETER'S WHARF, situate in MILLBANK STREET, Westminster, at the corner of Abingdon-street, and in the occupation of Mr. Helmore.—A plan of the Premises, and the terms for letting, and the drafts of the agreement and Lease, may be seen at the Office of Messrs. CREMPON & TROLLOPE, Solicitors, 31, Abingdon-street; and the plan and terms for letting, at the Office of Mr. W. R. GRITTEN, Surveyor, No. 8, Parliament street, Westminster. The Governors do not find themselves to accept the highest or any of the Tenders.

TO QUARRY PROPRIETORS, CONTRACTORS, GRANITE MERCHANTS, and OTHERS.—TO BE SOLD, in one lot, by PRIVATE TENDER, to be sent in on or before TWELVE o'clock on the 4th of APRIL, 1864, under "The Company's Act, 1862," with the approbation of the Judge of the Mayor of the Rolls (with a view to its immediate winding up), the valuable and important QUARRY GRANTS over the Commons and Waste Lands in Walkhampton, Dartmoor, near Prince Town, in the county of Devon; and also over the several Woods called Dewerstone Wood, Common Wood, and Cuddaford and Cuthworthy Woods, and a portion of Wigford Down, near Bickleigh, on the Plymouth and Tavistock Railway; held on lease respectively by the Haytor Granite Company, and in the working of which from 200 to 300 men have been hitherto employed; together with the Manager's House and Twenty Cottages, occupied by the workmen, at Foggintor, at the Dartmoor Quarries; the Company's Wharf, called the North Devon Wharf, in Saint Budeaux, in the county of Devon; the Factory, Workshops, Stables, and Sheds at Dewerstone, and the large Yard at Lairn, near the Iron Bridge over the Cutwater, Plymouth, with the Company's Workshops, Smithy, Offices, and other Buildings; and the right of shipping at the harbour of Catwater and at the river Lairn, near Plymouth, in the county of Devon And also the superior and costly Plant of DERRICKS, GUY CHAINS, RAILWAY WAGONS, ROLLING STOCK, MACHINERY, UTENSILS, together with the GOODWILL, CONTRACTS, STOCK of GRANITE, and ASSETS, of that important undertaking, the HAYTOR GRANITE COMPANY, which is now in course of liquidation by the official Liquidator appointed by the Court of Chancery, pursuant to an order to wind up the said Company, dated the 7th day of NOVEMBER, 1863, and the business of which Company is now being carried on solely with a view to a sale. Sealed Tenders to be sent in, addressed to R. P. HARDING, Esq. (the Official Liquidator), at his Office, 5, Bank Buildings, London, E.C. on or before TWELVE o'clock on the 4th day of APRIL, 1864. A deposit of 2,000l. will be required on the Tender being certified by the Chief Clerk of the Judge before whom the winding up order is attached; and, subject to the approval of the said Judge, a portion of the purchase money will be accepted in approved bills at approved dates, or in shares of any approved Company. Forms of Tender, parts, warrants, and locations of sales, and orders to view, may be obtained gratis, at the Office of the said Official Liquidator, who will give orders to view the property. Particulars and Conditions of Sale may likewise be obtained at the Offices of Messrs HARRISON, BEAL, & HARRISON, Solicitors, 19, Bedford-row, London, W.C.; and at the Office of Messrs. PALMER & CO. 34, Bedford-row, aforesaid; or at the Company's Works, Lairn, near Plymouth, Devon; and at the Royal Hotel, and the Union Hotel, Plymouth; and at the principal Hotels in Exeter; and at Messrs. GRANT & INNES, Writers to the Signet, Princes street, Edinburgh

GEORGE WHITING, Chief Clerk.

TO BUILDERS.—The Directors of the BUXTON HOTEL COMPANY (limited) are prepared to receive TENDERS for the ERECTION of their HOTEL, on a plot of ground adjoining the Railway stations at Buxton, Derbyshire. The Plans, Specification, and Condition of Contract may be inspected at the Office of the Architect, No. 4, Lancaster-place, Strand, London; or at his Office at Buxton, on and after MONDAY, the 7th instant, between the hours of TEN and FOUR o'clock. The bills of quantities have been prepared by Messrs. KELCH & ATKINSON, of No 10, Lancaster-place, Strand, and are now ready for delivery, on payment of 3l, which sum will be returned to the respective parties after their Tenders have been received. The Tenders are to be in the form provided, and are to be delivered at the Office of the Company, No. 4, Lancaster-place, Strand, London, on WEDNESDAY, the 30th day of MARCH instant, at TWELVE o'clock, sealed and endorsed "Tender for Hotel, Buxton," and addressed to the Secretary. The Directors do not bind themselves to accept the lowest or any Tender; and the party whose Tender may be accepted must, if required so to do, provide two approved sureties for the due performance of the Contract.

HENRY CURREY, Architect.

4, Lancaster-place, Strand, W.C. March, 1864.

BARNSLEY LOCAL BOARD of HEALTH. WATER-WORKS DEPARTMENT.—CONTRACT No 3.—To CONTRACTORS for RESERVOIRS, &c.—The Barnsley Local Board of Health are desirous to receive TENDERS for the formation of a large STORE-LAKE RESERVOIR (or Reservoirs) to contain about 70 acres of water, near Ingbirchworth, about two miles from the Penistone Station on the Manchester, Sheffield, and Lincolnshire Railway, in the West Riding of the county of York. Together with Waste Weir, Tunnel, Roads, Filter Beds, and other constructions. Drawings and specifications may be inspected at the Office of Mr. RICHARDSON, Surveyor of the Local Board, St. Mary's-place, in Barnsley; and at the Office of Mr HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, on and after the 21st day of MARCH instant, where also bills of quantities and other particulars may be obtained, on payment of two guineas for the same. Tenders must be delivered at my Office on or before TUESDAY, the 5th day of APRIL next, but the Local Board do not pledge themselves to accept the lowest or other Tender.

By order,
WM. H. PEACOCK, Clerk to the Local Board.

Barnsley, 4th March 1864

THE PROVINCIAL INSURANCE COMPANY.
FIRE—LIFE—ANNUITIES. [ESTABLISHED 1852.]
Chief Offices.
High-street, Wrexham; 49, Moorgate-street, London, E.C.; 77, Buchanan-street, Glasgow.

Trustees.

The Right Hon Lord Baston	Thomas Barnes, Esq. M.P.
The Right Hon Lord Tredegar	Colonel Watkins, M.P.
Sir Watkin W. Wynn, Bart. M.P.	The Very Rev. The Dean of St. Asaph
Col. el Mydleton Biddulph, M.P.	Thomas Brassey, Esq.
Townshend Mainwaring, Esq. M.P.	Hugh Owen, Esq.

Chairman of the Board of Directors.
THOMAS BARNES, Esq. M.P. Farnworth, near Manchester, and The Quinta, Salop

Extract from the Directors' Report for 1863.

IN THE FIRE DEPARTMENT.

9,266 New Policies were issued for	£24,695 16 8
The Premiums on which amount to	80,134 13 0
The Fire Income for the year was	80,134 13 0
The Losses amount to	49,240 0 6
The excess of Premiums over losses being	30,894 12 6

IN THE LIFE DEPARTMENT

There were received	
844 Proposals for the Assurance of	£222,134 0 0
681 Policies were issued, assuring	174,884 0 0
The annual Premiums on which amount to ..	6,963 14 11
The Life Premium for the year amount to ..	25,396 11 8
Claims were paid upon	
25 Policies, amounting to	6,625 8 0

The year 1863 has been the most successful year in the history of the Company."

Applications for Agencies are invited.
ANTHONY DILLON, Secretary to the Company.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY,
No. 11, Lombard-street, London, E.C.
Established 1821.
Subscribed Capital, Two Millions.

DIRECTORS.

Sir Minto Farquhar, bart. M.P. Chairman.
Charles William Curtis, Esq. Deputy Chairman.

Henry Hulse Berens, esq.	G. J. Shaw Lefevre, esq. M.P.
H. Bonham-Carter, esq.	John Martin, esq.
Chas. F. Devas, esq.	Rowland Mitchell, esq.
Ireneus Hurry Dyke, esq.	James Morris, esq.
Sir Walter R. Farquhar, bart.	Henry Norman, esq.
James Goodson, esq.	Henry R. Reynolds, esq.
Thomas Hankey, esq. M.P.	Abraham J. Roberts, esq.
John G Hubbard, esq. M.P.	William Steven, esq.
Frederick H. Janson, esq.	Henry Vigne, esq

AUDITORS.

Lewis Loyd, esq.	Henry Sykes Thornton, esq.
Cornelius Paine, jun. esq.	Noel Whiting, esq.

Thomas Tallerman, Esq. *Secretary* Samuel Brown, esq. *Actuary.*

LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, the Company now offers to new Insurers EIGHTY PER CENT. OF THE PROFITS, either at QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.

Since the establishment of the Company in 1821, the sum net of Profits allotted to Assurers has realized in Cash value 800,000l. which represents equivalent Reversionary Bonuses of 1,058,900l

After the Division of Profits at Christmas 1859, the Life Assurances in force with existing Bonuses thereon, amounted to upwards of 4,713,0l of the Income from the Life Branch 207,000l per annum, and the Life Assurance Fund, independent of the Capital, exceeded 1,018,000l.

FIRE DEPARTMENT.—Insurances are effected upon every description of property, at home and abroad, at moderate rates.

No expense is incurred in effecting a New Insurance beyond the payment of the Annual Premium and Duty, when the Premium amounts to 5s

Claims liberally and promptly settled

Notice is hereby given, That Fire Policies which expire at Ladyday must be received within fifteen days at this Office, or with Mr. SAMS, No. 1, St. Ann's-street, corner of Bridge-row, or with the Company's Agents throughout the kingdom; otherwise they become void

Applications for Prospectuses and Agencies to be made to the Secretary.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
Octavius Edward Coope, esq.	John B. Byron Maguire, esq.
William Cotton, esq.	John Timothy Oxley, esq.
John Davis, esq.	Benjamin Shaw, esq.
George Arthur Fuller, esq.	Wm. James Thompson, esq.
Charles Emanuel Goodhart, esq.	By Heyn du Toulmin, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.

John Hodgson, esq.	Peter Martineau, esq.
Joseph Samuel Lescher, esq.	

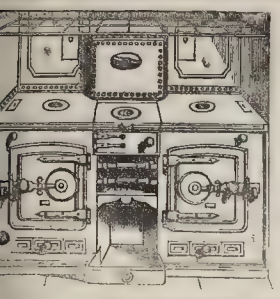
SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions sterling in discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Ladyday must be renewed within fifteen days thereafter, or they will become void.

Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 160*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER,

BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES,

Sends a Catalogue, gratis, and post-paid. It contains upwards of 500 illustrations of his illimited stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
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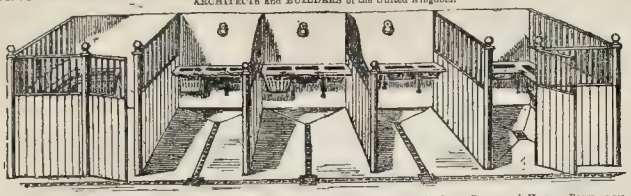
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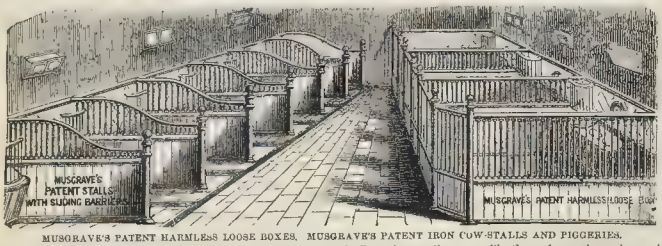


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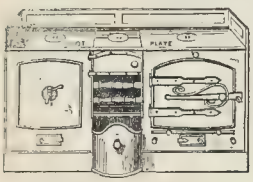
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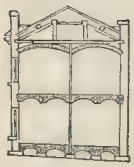
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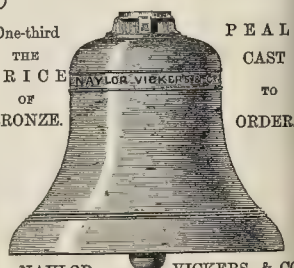
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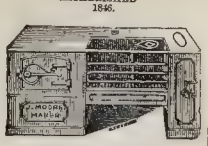


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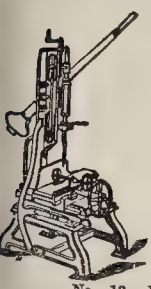
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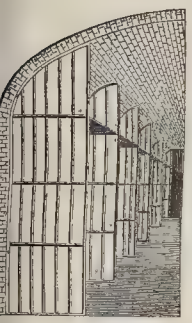
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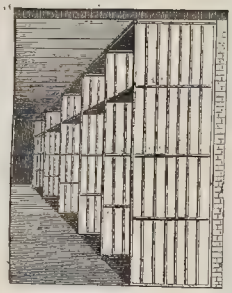
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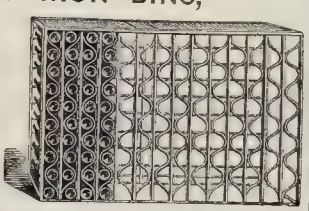
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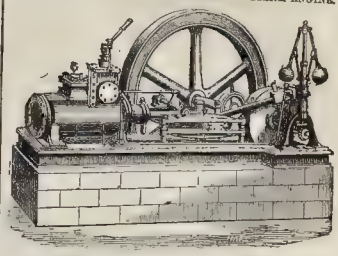
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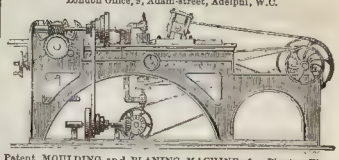
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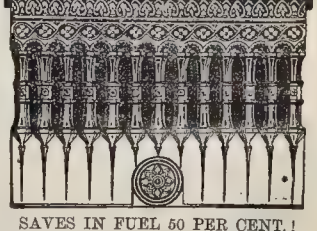
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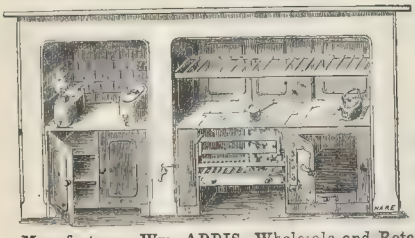
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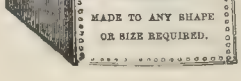
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A matured experience, extending over twenty-five years, has convinced the Patentees that *no permanent dependence can be placed in any other*

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Widely-known and well-appreciated

BANK SHUTTER

requires no comment, as it is in use in a large majority of the Banking Establishments, Goldsmiths' Shops, and Public Offices of the United Kingdom and the British Colonies; but the Patentees wish to make it known that they have recently completed extensive Additions to their

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With all necessary Despatch.

LONDON OFFICE,
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THE GREAT FIRE IN THE CITY.—"A closer examination yesterday of the track of the recent fire in Wood-street, shows in a striking manner how much it was confined to a class of buildings the interior arrangements and means of communication of which appear to have been made in defiance of ignorance of the principles which now regulate such matters, under the operation of the Metropolitan Building Act. The warehouses and offices which have perished seem to have been separated from each other by thin lath and plaster partitions for the most part, and only in one instance was there an iron door between one part of the interior of the same building and another, such as is now commonly used and made imperative, indeed, in the construction of warehouses, as an invaluable means of shutting off communication in case of fire. That iron door, too, which retained unopened, would have been completely effectual in arresting the flames in that direction, had they not penetrated by a vulnerable point into the part of the building which it protected.

THE USE OF IRON FOR SAFETY AGAINST FIRE was most conclusively proved by a very remarkable circumstance. The large and handsome warehouses of Messrs. J. & R. Morley, situate at the corner of Gresham and Wood Streets, overlooked by a large window on the ground floor at the back the little court in which the fire originated, and to which it was at first confined.

THIS LARGE WINDOW WAS PROTECTED ON THE OUTSIDE BY A REVOLVING IRON SHUTTER, AND THAT MORE AGAINST ROBBERY THAN FIRE.

On this occasion for some time the flames played fiercely, but harmlessly, about the outside of the window so guarded by the iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250,000*l.* to 300,000*l.*, would inevitably have been destroyed, if, indeed, the devastation would have ended in that the vast pile of buildings. Upon such a slender condition of safety did property almost fabulous in value, and belonging to a single firm, depend in this case."—*Times*, 22nd December, 1864.

THE REVOLVING IRON SHUTTER THAT ARRESTED THIS FIRE WAS MANUFACTURED IN 1849, BY

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ALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN, ALWAYS ON STOCK.
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The Works at Tividale, near Dudley, are situate in the heart of the Iron and Coal District of South Staffordshire, thus conveniently placed for delivery to the several shipping ports—London, Liverpool, Hull, Gloucester, and Bristol.

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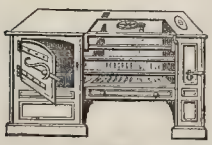
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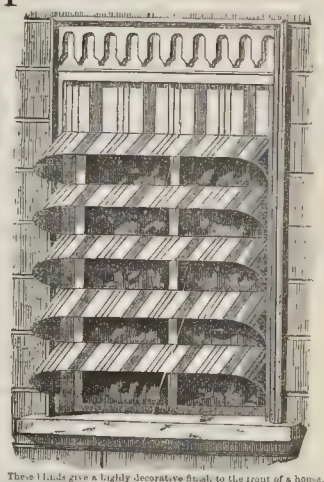
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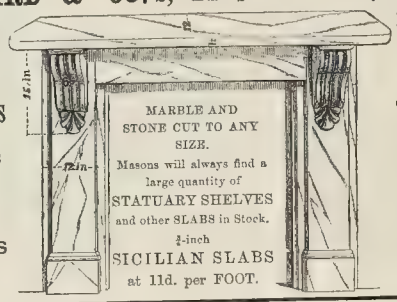
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VOL. XXII.—No. 1103.

Water.

THE saying of the great Charles V. of Spain, "that a man gains another soul for each additional language he acquires," has a strong competitive examination smack. With perhaps more truth it may be said, that each soundly understood branch of ysical science confers an additional sense to investigator of nature. Hundreds of phe-nena, misunderstood or even unnoticed by utored eyes, are to such as have the know-ge a source of pleasant observation, and even metimes of useful adaptation. But some ning and thought are required before a man somewhat understand even apparently very ple phenomena. Take, for instance, such a ningly simple and commonplace thing as er. If the history of science may be said epresent on a large scale the history of its dual acquirement by each average student, a lesson to recollect with what difficulty the , to us, very simple properties of this liquid e been reduced to known laws. When we emember that mankind have been for several usand years in the laboratory of nature, it is ewhat humiliating to human intellect to see slowly our present knowledge has been ac-ed, and how much yet remains to be attained. scarcely eighty years ago that Watt demon-ted the chemical composition of water. It nly within historical times that another t engineer proved that a body plunged water lost a portion of its weight equal amount to that of the displaced water. little more than two hundred years that have understood why the 15 pounds on the re inch pressure of the atmosphere should nce some 32 feet of water. It is just 200 s ago that Blaise Pascal showed that liquids s equally in all directions, and that the per-dicular pressure of water on any vertical, que, or horizontal surface, is equal to the ght of a column of the liquid whose base is l to the surface pressed, and the height of ch is equal to the depth of the centre of ity of the surface below the upper horizontal ace of the liquid. It is less than seventy s ago that Bramah patented his application he principle discovered by Pascal, in the of the hydraulic press, the first of which is preserved in the Museum of Patents at sington. It would really appear that this rostatic law has scarcely found a popular ptance with us. Now a cubic foot of water hs 62½ lb., and it therefore presses with weight upon the square foot of water below nd if anything could conduce to the spread of owledge of this hydrostatic law, it should be ate horrible disaster at Sheffield. As we stated week, the height of the water in the reser-was about 90 feet, so that there was a pres-of nearly 2¼ tons on every square foot of nd at the bottom of the reservoir. And yet of the daily papers asserted that the base of the embankment was only 40 feet wide. Such an embankment could not have stood this enormous pressure for five minutes. Our very able contemporary, the *Saturday Review*, appears to have fallen into an opposite mistake, and writes that—"a hundred million gallons of water were poised in mid air," and "we shall soon know what barrier the engineers interposed between this *dead weight* and the hollow valley below." An embankment would, of course, *cæteris paribus*, have to undergo just as much pressure from a foot in width of water as from a lake a mile in width, as the pressure depends merely upon the height of the head. Perhaps it is somewhat difficult to form a definite image before the mind's eye of a liquid thus pressing in all directions and in proportion to its depth; we may see it physically demonstrated, but the internal action and reaction of the invisible particles are hidden to the sight. It might, perhaps, be made clearer by supposing water to consist of an infinite number of small perfectly-shaped spheres of a hard and incompressible substance, like that of the diamond, and, at the same time, with a similarly polished surface. We could imagine that the contents of a vessel full of an assemblage of such polished spheres would, if emptied on the ground, disperse themselves in all directions, instead of forming a solid heap. A single sphere in the vessel would press in all directions, but its weight would tend to solicit it more especially in a downward direction—and *seriatim*. The pressure of the whole assemblage of spheres on the sides of the vessel would thus increase towards the bottom. Given that a volume of such minute incompressible balls has the faculty of at once transmitting a pressure in all directions, then the pressures thus transmitted to the sides of a vessel are in proportion to the areas of the surfaces. This law thus answers to the principle of virtual velocities; for, supposing two cylinders of unequal sizes and joined together, in each of which is a piston, if the smaller piston be set in motion in order to propel the larger one, the small piston will have to move through a proportionately greater distance. If the small piston be 1½ inch in diameter and the larger 10 inches, while the small piston is propelled with a force of (say) 36 lb., the 10-inch piston, by the motion of the smaller one, will have transmitted to it a pressure of 1,600 lb. But while the small piston is being moved 6 inches, the larger one will move very little more than one-tenth of an inch. This is the whole principle of the hydraulic press. We have assumed the minute spheres of which water may be made up to be incompressible. Water was believed incompressible, until Oersted, the Danish philosopher, first *accurately* proved that its volume could be diminished by pressure. The amount is, however, so small, that it is never practically taken into account, as a column of water of a sectional area of one square inch is only compressed to an amount corresponding to 50 millionths of its volume, by a pressure of 15 lb., or of one atmosphere. Heat might be assumed to act as a lubricant between our supposed spheres, and when the temperature is lowered they cohere together and assume the form of crystals. The water expands during this act. It has been found that 10 cubic feet of water weigh about the same as 11 cubic feet of ice. When only a cubic inch of water crystalises into the form of ice, the increase of bulk it undergoes appears to exert a force of about 13½ tons within its range of expansion. This silent, but almost irresistible action, would not be without its influence on an ill-made embankment. The most insidious agent, however, in the weakening of hydraulic structures, is that somewhat mysterious and, at any rate as yet, incompletely investigated power known under the name of capillary attraction. It is a matter of daily observation that, for instance, a heap of sand or ashes, or a common wall, when placed in communication with a plentiful supply of water, is found to draw up the moisture, often to a great height. When dry sand is thrown upon damp ground, the moisture is also thus drawn up; and some gardeners use this principle for preserving plants during wet seasons, by throwing sand or the waste of heckled flax round the stems. By dipping a strip of blotting paper in a tumbler of water, the liquid can be thereby conducted from thence into an empty vessel. Numberless other phenomena, such as the elevation of oil or grease by the wick of a lamp or a candle; the similar action of a piece of sugar or a sponge on water, of blotting-paper on ink; of the piece of wick used to conduct the oil from the oil-cup to an axle bearing; the action of a dry towel or handkerchief, are all referable to the same principle. The mechanical power of capillary attraction is astonishingly great; and a piece of wood, when swelling up from this cause, can tear its iron bands asunder. As the fibres of ropes are twisted spirally, when they are soaked with water they swell up and get shorter, in the same way as new linen is liable to shrink when washed for the first time. The great power exerted by the contraction of ropes when wetted rendered, as will be remembered, great service in the raising of the large obelisk in front of St. Peter's, at Rome. When the outside interstices of the bodies we have named are closed up, capillary attraction is no longer present, and it is upon this principle that ropes are tarred, paper is sized, wood is painted, leather is greased, and that nature has provided the hair and wool of animals, and particularly the feathers of aquatic birds, with a film of grease to keep out the moisture. The fat clays used for the puddle-walls of water-embankments simply carry out the same function; and being, when properly puddled, impermeable to water, act as a protection against the disintegrating influence that the water would otherwise have on the main earthenwork structure behind. Earthwork, even when dry, if not well consolidated, exerts a side pressure,—like that of, for instance, grain,—the laws of which were first investigated by Coulomb. Already a semi-fluid, earth, when damp, and then soaked with water, gradually approaches the state of physical cohesion of water itself, and at last unites in the same current. If, indeed, any inert agent with which we deal can be called treacherous, it is certain that water can be so termed. It is not inconceivable that an entire hill, much less an artificial embankment, could be blown up by means of the pressure of water. If we imagine an internal reservoir, at a couple of hundred feet depth, and in communication with a head of water, by means of a crevice, the five tons or more on the square foot corresponding to such a weight of water must exert a powerful action on the cohesion of a mass, however large. When to this are added the searching influences of capillary attraction, it is scarcely possible to conceive any substance with sufficient cohesion to resist such a power. A mere hole of a water-rat could thus lead to a water-dam being blown up.

When we look back and see for what a comparatively short time merely the law governing the hydrostatic pressure has been understood, it is obvious that many more hidden questions yet wait for a solution.

It is scarcely to be doubted, for instance, that very many of the relations of water to heat, and when water assumes the form of steam, still offer fields for discovery. There is every reason to believe that the usual explanation of the phenomena attending the boiling of water is completely false. Mr. Grove, the distinguished physicist, in a lecture delivered last year before the Chemical Society, and in another read before the Royal Institution in January last, goes so far as to state that water never has been what is termed "boiled;" that its particles never have

been expanded by heat in the way generally explained in lectures on natural philosophy, and in works on the same subject. It appears that it has been impossible up to the present time to completely separate water from atmospheric air, or from nitrogen gas. In proportion, however, as water is deprived of air, the ebullition assumes quite a fresh shape, and it boils intermittently, with *sombresauts*, while the water reaches a temperature much higher than its usual boiling point. Mr. Grove found it impossible, by all the means in his power, to separate water from more or less nitrogen. He is inclined to think that the boiling of water cannot take place at all in the absence of some gas or other, and that even "if water, for instance, could be absolutely deprived of nitrogen, it would not boil until some portion of it were decomposed: that the physical severance of the molecules by heat is also a chemical severance." He found that after depriving water of air to the utmost practicable extent, that it "becomes avid for air." Thus, after "boiling" off many thousand tons of water in order to get mechanical power, we are met by a mystery in striving at an explanation merely of the physical aspect of the phenomenon.

There are thus undoubtedly many yet hidden agencies at work around us, but science has at least taught us to allow a margin for our ignorance. We do not understand why the particles of a piece of iron cohere together, but we wisely make a girder four, six, perhaps eight times the strength that it will ever be called upon to bear.

We leave our readers to apply these statements.

THE ARCHITECTURE OF PARIS UNDER NAPOLEON III.*

IF the reader of this and the preceding article, suggested in part by Mons. César Daly's work, were able to have before him a plan of Paris distinguishing the new routes, he would observe as one characteristic of the improvements, that those routes have been designed and formed radiating in direct lines from centres, and so that they intersect the older streets for the most part obliquely. The arrangement may be inconvenient to those who are accustomed to a rectangular disposition of streets, like that of many capitals,—as it is to those coming from London, whose walks may have familiarized them chiefly with such a district as Marylebone; but supposing the chosen centres to have been, or to be likely to be, established by position of public buildings, or otherwise by resort for pleasure or affairs, and that some little attention be given preliminarily, by the inhabitant or traveller, to study of a plan, the arrangement is in every respect the best that could be adopted. The Bank, the Post-office, Charing Cross, Covent Garden Market, and each railway station, might at once be fixed upon as amongst the centres in London: but routes do not now radiate from those points in direct lines; much time is therefore lost, as in getting from a place of business to the place of residence, and from and to the stations. Sir Christopher Wren's plan recognised the principle of lines radiating from centres; and the disposition of new Paris is an application of that principle to an entire metropolis.

Looking also at the plan of Paris, it would be seen, that the entire area is dotted with open spaces, chiefly circular, these being at centres of junction such as have been referred to. The Place de l'Etoile, the Rond Point des Champs Elysées, the Place du Trône, the Place des Victoires, and the Place de l'Europe are some of them. In those of most recent date, there is sameness from decorative features of surrounding houses; for, everything has been hurried on so fast, that the powers of even French architects, in design, have not been able to keep pace: but these circusses, or *ronds points*, are, no less than the oblique and radiating lines, established on correct principle. Any one who watches the traffic that crosses the circusses of Regent-street, will hardly fail to come to the conclusion, that their only error of plan is in being now too small. It has been the practice to abuse Nash for that which certainly he was not very skilful in: it has been equally the practice to neglect every lesson of street-planning, as also of architectural effect in massing of buildings, that his works abound in.

When lines intersect obliquely, and as must often be the case, at every variety of angle, a circular space is a means of mitigating what might be an eyesore. There will be at the north end of Blackfriars Bridge, such an intersection of oblique lines as we have referred to, formed by Bridge-street, the line of the embankment, and the new street to the Mansion House. The last-named line is intersected at its starting-point, again obliquely, by the London, Chatham, and Dover Railway. Yet we hear that Mr. Haywood,—who has well studied the subject, in Paris, and generally,—has great difficulty in getting his argument of the desirableness of a circus, accepted. We believe he is disposed to suggest a similar circus at the point where his new level of the Holborn Valley crossing would end westward, or where several streets including Hatton Garden will fall in obliquely, and where the great width of Holborn would suddenly commence. He has been heard to say that a monument or resting-place in the centre of such an area, is worth the services of two or three policemen in guiding and distributing traffic. The effect which may be observed, of the statue at Charing Cross, and of that at the end of King William-street, shows that such is the case.

We have no intention, however, to be led away by the present interest, and indeed importance to London, of the general subject of the planning of lines of route, from the particular subject of the architecture of Paris decoratively considered, and from the examples of structures of the domestic class. Be it only observed, that however it might be possible in a new town, to arrange concentrically the streets which are transverse, or to plan them with an obliquity to the radiating lines that would be inappreciable, and scarcely operative disadvantageously on architectural effect,—as in the case of the town of Fleetwood-on-Wyre laid out by Mr. Decimus Burton,—the matter is very different in an old city having the original lines mostly rectangular.

Thus, from all causes, there are in Paris, a multitude of new buildings on plots of ground of which the lines of two of the sides would meet in an acute or an obtuse angle. In many cases the plot has not any right angle. Wherever radiating lines are cut by a circus, the angles will be acute, or obtuse, as the circle may be small with radiating lines, many or broad in proportion to the circumference, or may be large with few in proportion; and in one of the two corner plots where one street enters another obliquely, the angles are necessarily obtuse. Of course, this characteristic of plan leads to every device of canting and rounding off corners, and of boldly meeting the difficulty of architectural effect, by placing prominent features, as balconies, in addition to the entrance, at the angle. But there is, after all, in the architecture of Paris, sameness in the treatment of balconies; whilst occasionally at the circusses, contrast between frontages, or cants, narrow in some of the cases, and broad in others, where the circus might seem to dictate symmetry, lessens the general effect.

At first, it would seem that an obliquity to the street, of the lines separating properties, must extend from end to end of the new line; but so much ground has been taken, and the whole has been so much remodelled, and the new buildings are most of them so large, that any obliquity of this extent, scarcely deserves consideration: there are however numerous buildings with two frontages, not only in cases of the houses next but one to a circus, but in those where a new street of great width has been placed between two previous streets, as the Boulevard de Sebastopol has between the Rue St. Denis and the Rue St. Martin; which streets, with the *boulevard*, run north and south. Thus where there are frontages both ways, the plot has often a twist or angle in it, midway.

From each of such peculiarities of figure, and from the necessity of economising ground, whilst getting some central area for light, there results, especially in these angle plots or blocks of building, an amount of contrivance in internal planning, for which, excepting as to one matter of detail, the French architects deserve the highest praise. The exception in our opinion to be made, is that of staircases. These most important parts of a building are planned certainly not worse than the staircases of our theatres and other public buildings, and with great show of contrivance, in the drawing; but they possess an equal or a greater number of errors of principle,—as we have once partly shown; and as we may perhaps at some convenient time, show more particularly. Still, as to the planning generally, however awkward it may be to find the way about a *suite* of rooms and passages which meet at all angles,—and though it be the fact that the original space of one room is being halved and quartered, as in the hotels for travellers, with slight regard for ventilation and health, the planning of the French architects is most skilful in its economising of space, and admirable in its conversion, without loss of space, of the effect which oblique lines of partitions would have, into the effect of art.

The numerous plans in Mons. Daly's book, clearly show the better results of the professional skill which we have adverted to. The great majority of the plans of the "*maisons à loyer*" arranged by him for comparison, as well as many of the plans of the fully-illustrated examples, are those of buildings abutting on circusses, and bounded on the two other sides by streets in the manner described. There are also in the work, plans of some of the buildings on triangular plots, or *islots*, of ground, which are very common. The late Professor Cockerell, in his earlier lectures, used to exhibit, as a specimen of clever arrangement, a plan of the triangular block of buildings, by Sir Robert Taylor, that formerly stood between the Bank and the Mansion House, where the Wellington Statue is now. The present professor in the Academy of course directs the attention of students to the study of planning; and, there is particular need of this, we apprehend; for, English architects do not show all the skill that is required. We would suggest to the professor, as subjects for illustration, these Parisian angle-blocks, and French plans generally. The French architect, indeed, would seem rather to delight in, and to court the difficulty of, a plot of ground not rectangular. For example, in one of the "*villas suburbaines*," a work by Mons. Hermant, in the Avenue de l'Impératrice, the house, triangular on plan, is placed in the angle of a large piece of ground which is also triangular, or trapezoidal,—the external walls, on two sides, exactly coinciding with the lines of the public footways, and the largest available space being obtained for the garden on the third side. An English architect would scarcely have prevailed upon himself to so completely eschew rectangularity. Ground, however, in a central quarter is too valuable for an inch of it to be spared, in the planning of the "*maisons à loyer*," which are the class of buildings chiefly to be found there.

The street-area to the cellars of London houses, and of the Pall Mall clubs, has no counterpart in Paris. This "ditch" (*fosse*), as they call it, immediately strikes the attention of French architects visiting our metropolis. A basement story is used for purposes of business in the case of the houses in the *boulevards*; but in that of buildings in the narrow streets, the French word *cave*, would convey to the English mind a tolerable idea of what the cellar is. Ample space is required in French establishments, for the stores of wood and wine. In the *caves* also are the "*fosses d'aisance*," receptacles now being connected with the sewers, but not intended to be wholly disused, at least until further progress in the principles of sewerage has been made. It must be recollected that the Seine at Asnières, where the outfall is for Paris, is a very different stream in width to the Thames at Barking; although, at the spot, it has the advantage of being above the tidal flow. Near the ground-line of the front of the buildings we have alluded to as in narrow streets, will often be seen a row of very small square apertures to light or ventilate the *caves*. The windows above, of the ground-floor, which may be appropriated to kitchens and to servants' rooms, are often themselves small, and fenced with iron railing. So that, altogether, there is frequently a character somewhat like that of the Florentine palaces, either arising from imitation, or from the traditional idea, or a supposition of necessity, of defence.

Of course on the *boulevard*, the giving up a large quantity of ground to the street having caused compression in planning the houses, much might be said on the question whether the effort for aëration externally, has or has not made the light and ventilation for rooms not looking to the street worse than it was. Our impression after much study of the question, is that it is chiefly where, in the central quarters, houses

* See p. 199, *ante*.

ave exceptionally not been rebuilt, and where ne subdivision of rooms has gone on, and in the otels for travellers, that rooms are worse than ney were before the alterations commenced. here are, however, *appartements* in many houses Paris, which have no *through*-current of air; nd this might seem to be the necessary result f the plan of buildings surrounding a court, at east as to the rooms running at right angles to ne street-front. The architect visiting Paris, nd looking at the structures in progress, how-ver, will not fail to observe, where a gap to be lled up, allows the party-wall of a completed uilding to be seen, a small recess breaking the ength of the wall, and running up the entire eight. Too often this recess is glazed over the top; but generally, it is to be con-dered as a ventilating shaft and additional rovision to that of the space of the court. uch a recess, moreover, will have opposite to it the next house, a similar recess. The large ourts of two adjoining houses in a similar man-er, may be each unenclosed on one of the sides, nd placed together.

The ground story of the "*maison à loyer*" is nually made up of two, four, or more, shops or ommercial establishments,—one of which is ery frequently a *café*,—and of a central door-ay. Where the building is of the first class, owever, there may be no shops; and a *porte-chère*, or carriage entrance, will then be sub-ituted for the smaller doorway. An *entresol* ay be said to be universal; and that window this story, which coincides with the entrance, almost always combined with the latter, either y the architrave of a square-headed door-case eing carried up and round, or by piers sup-orting a balcony over the entresol-window; or, here there is an arch, by forming a tympanum wood, decoratively treated as the doors, with small window in it. The window referred to, enerally is that of the bed-room of the *loge* of ne porter or *concierge*, whose quarters altogether re much too confined, as repeatedly observed of te by writers in the French journals. Of ourse, in the case of a narrow frontage, the ísection of the ground by the central position of ne *porte-cochère*, or doorway, would be incon-enient; the position however was persevered , till lately, in cases where the effect alluded , might have seemed inevitable. Some of the st examples of architecture now, are those of uses of narrow frontage, having the *porte-chère* at one side.

In the Boulevard de Sebastopol, the doorway sually, where there are shops, central, as we have id), is not generally an entrance for carriages; ough whether narrow, or wide and arched, it always itself effective, and most important in e whole composition of the front. The square-eaded doorways, in the *boulevard*, to Nos. 2 and by Mons. Davioud, with beautifully carved *illoche* in the architrave; tablet for the number, ith scroll-ornament, on the lower, and console the upper, lintel; the door-way, also enclosing entresol-widow, or fan-light, to No. 87, by essrs. Gault de St. Germain, and Letrosne,—ith segmental head, console and festoon, and cised ornament, and tablet again on the lower ntel, with simple, beautiful, and original wooden ors, and with an architrave formed by a chamfer ving an ornament of the "water-leaf" character erein; the arch-headed doorway to No. 11 (ive Gauche) with richly ornamented mould-gs on the splay, and foliage in the spandril aces; these may be mentioned as amongst e examples, all well illustrated by Mons. aly; but out of the boulevard, and also nstrated in the work, is the elegant door-ay of No. 39, Rue Neuve des Mathurins, by ons. Lesoufacher, a simple arch, with an archi-lt and architrave, and no imposts or console, d having pateras separated by panels. For ch compositions as the square-headed door-ays, no precedents have been *copied*; and it may questioned whether there were precedents cept of doorways much less in height to the rnice, in proportion to the width of opening. ven where the ground-story, with the excep-on of the central feature, is devoted to shops, the esence of the feature, whether square-headed oorway, or arch-headed *porte-cochère*, saves the ilding from much of that weakness of appear-ce which the front would otherwise present, d which is usually so fatal in London to any fect from architectural treatment of stories ove. In some of the "*maisons à loyer*" of e Champs Elysées, and in many other parts Paris, *porte-cochères*, or entrances wide enough r carriages, will be found square-headed. In ch of the cases, wherever they are, and whatever the form and proportion of the open-ing, the whole entrance is the most successful part, and often the making of the general design. The mouldings, the console, the wooden doors, the sides of the passage, or carriage-way, and the staircase; the *fontaine*, or the trellis-covered walling that terminates the vista,—and as already noticed, the very space for the enamelled tablet bearing the always conspicuous number of the house,—are all and each of them treated with originality, study, and beauty of result. Con-stantly is one tempted to enter the *porte-cochère*, and linger over the original details of its sides, and those of the doorways and staircases lead-ing from it, or to pass on to the court-yard, to find an elevation as carefully, and sometimes as richly, treated, as that of the principal front. No situation, or object, seems too mean for the display of taste; and the *fontaine* alone, itself, and by the choice of its position, has generally more beauty and art about it, than could be found during the longest search at the unsightly backs of our London houses. The grouping with foliage, or only with the trellis covering of walls, seen from the entrance, is, as we have said, charm-ing. Of the wooden doors, it may be affirmed that they display universally, result of an amount of design which is never given to such parts of a building with us. The joiner's work of English houses, may be as well framed and put together as supposed; though we have some doubts whether in this respect even, a superiority to French workmanship has not been too hastily assumed, and greatly over-stated. But not only our doors, but all our items of joiner's work, are just what can be described in a specification, and will not require the trouble of a single fresh drawing; the greatest flight of taste generally ends with "*bolection* mouldings," that is the requisite number of words about them. The mere panelling of French doors, and the casements of the windows, are matters of taste and design. Some of the external doors are marvellously rich in carving. Amongst the number may be named, the doors of the *hôtel* of Mons. E. Péreire in the Rue Faubourg St. Ho-noré. In many doors, iron-work is effectively introduced; and in many, there are panels of coloured marbles. One of the richest doors of the last-named class, that we have seen, is that of an ordinary house in the Rue de Rennes, the street that leads to the station of the Versailles railway on the Boulevart Mont Parnasse. The singularity of Paris to an Englishman, taking the trouble to visit the outskirts of the capital, would be the fact of the universal prevalence of decoration. How far it would be correct to assume, following a writer of one of the articles in the magazines of two or three years back, that Paris, the work of the period of the present reign, has "a show face" only, may be supposed from such facts as we have instanced. Some of the best architecture may be found in new streets running from the Rue de Rennes, and the Rue de Vaugirard. The limits of any pub-lication would not admit of representing a tithe of it.

It must however be admitted, that, throwing out the general evidence of *design*, the taste in ornament, the successful treatment of the *porte-cochère*, and some other attributes that we have spoken of, the French architecture is greatly at variance with our preconceived notions. We are reminded by the approaching opening of the Architectural Exhibition, that we have in nu-merous articles attempted to show the impor-tance of a certain grouping,—especially where the case was that of a many-storied building,—and of a division of the front by its decora-tive features into unequal divisions, as essential to the realization of proportion. We have also repeatedly spoken of an emphasized treatment of the basements of buildings. Much of our theory would have to be set aside, were we to assume the French system as correct. The ordinary street-architecture of Paris, above the *entresol*, is remarkable for the equality of its stories; and little attention is given to grouping stories to-gether. Of course, it may be said, the result is that the work appears what it is, a building of many stories; which last, moreover, in the build-ings of Paris, are more nearly equal to one another in importance, than the stories in the correspond-ing case of London houses. Still we do not see that the grouping of two stories of windows in some manner together, need at all contradict the ap-pearance which would have been given by the mere windows; the windows could hardly give anything else but the appearance of two stories.

In the basements there is not always soli-dity of effect. Where the ground-story is not devoted to purposes of trade, so much ground will have been given to make the ample width of a new street, or the street being an old one, will be so narrow, that there is hardly an inch of projection in lieu of base-moulding. Great cleverness, however, is sometimes shown in pro-jections, horizontal and vertical, which are not more than the quarter of an inch. In the Rue de l'Université, and the Rue de Belle Chasse, or about the Church of Ste. Clotilde, there are numerous excellent examples of architecture of the class which is different to that of the Boule-vard de Sebastopol. And the door-way or *porte-cochère*, is always most valuable as contributing to the solidity, and to the symmetry of the whole composition. The absence of much projection, or recession, in each front, except-ing that effect which is given by the *porte cochère*; universal balconies; terraces in front of the attic or mansard; constant iron rail-ings to balconies, and surmounting the cornice; and cantilevers and trusses which are inelegant in profile, are matters in which we certainly think our French brethren have something to learn, and something perhaps from us. On the other hand, it is so delightful to meet with evidence of an appreciation on the part of a whole people, of what is tasteful, as well as in the lower sense decorative and ornamental; to see that the archi-tect-artist has thought and worked, and the artisan has seconded him; and to have so much unquestionably that is good, that the architec-ture of Paris can never be wanting of charm in our eyes, without considering that it is seen in all the effect and beauty of architecture,—untar-nished, and with light, and a clear atmosphere; of which the want in London has been so often instanced as alone sufficient to account for de-ficiency of good architecture, and for lack of popular appreciation of the art.

THE BRADFIELD RESERVOIR FAILURE.

AT the conclusion of our last article we pro-mised our readers that we would return to the serious and lamentable accident to the Bradfield reservoir. We find that our remarks have re-ceived general approval, and been extensively circulated by the provincial and local press.

We remarked on the unsatisfactory appear-ance of the puddle, and this may be readily ac-counted for from the fact of there being no suitable clay for puddle in the neighbourhood, or, at least, in sufficient quantity, as appears by the observations of a local geologist (Mr. Sorby). "With reference to the nature of the material of which the embankment was constructed, I must say that, in my opinion, if it had been made of stiff clay, like that found in some parts of Eng-land, it would not have given way. So far as my knowledge of the neighbouring country en-ables me to determine, no such material could be procured there in any sufficient quantity." If such be the fact, and we have it here on the indis-putable testimony of a geological authority well acquainted with the district, we would ask, Why attempt to form an *earthen* embankment to sup-port such a large depth of water, when the principal material of which such embankments should be composed, the *sine qua non*, was not to be found in the district? Again, Mr. Sorby says, "The bursting of the reservoir was not occasioned by anything connected with the arrangement of the subjacent strata." On the other hand a *local* engineer, said to be an autho-rity, asserts,—

"In digging for the foundations of the puddle-banks, the contractor had to contend with great volumes of water issuing through the fissures of the watery strata underlying the lower part of the valley. Special engine-power had to be used to keep down the water, and a labour of somewhere like twelve months was required to cut off the streams and get a tolerably dry bed for the puddle-bank at the depth of 60 *feet*. Having made a good pud-dle wall, the company built their embankment with the *soil* from the sides and bottom of the valley above, thus *laying the strata of the open shelving rock*. The puddle wall appears to have been sufficiently thick and strong.

Possibly a somewhat broader foundation might have been better; but I do not in the least believe that the mere pressure on the embankment of any amount of water the dam would hold could have damaged it in the least. *The complaints made of the friable nature of the soil over, a the puddle bank, and forming the outer portion of the embankment, are childish.* The real cause of the bursting of the reservoir I take to be this. The rocky bottom and sides of the valley having been bared, the water, in pro-portion to its quantity and weight, found its way through the fissure of the rock into the courses of the springs, which proved such a serious obstacle to the laying the foundations of the puddle-bank. As the pressure became great, the water forced its way on and on, until it under-mined the foundations of the puddle bank, probably at last splitting it in two, and causing the crack at the top of the embankment. A remarkable circumstance to be taken into account in ascertaining the cause is, that about nine

o'clock in the evening, the water in the dam lowered 2 feet. This appears to be inexplicable, except on the supposition that the water found an inlet into the rocks. The rending away of the outer half of the puddle bank would naturally let down the top of the embankment *outwardly, as it was, in fact, let down*; and the water then rushing over the hollow thus made, would carry away the lower part."

So it appears this company were absolutely attempting to form a large reservoir to hold 114 millions of cubic feet of water, in a district where no water-retaining material could be found, and the substrata of the sides and bottom were rock, with, it is asserted, numerous open fissures and springs in it, which fissures would probably afford a passage for the water as fast almost as it would flow off the gathering ground. Is it not known, if not, it should be, that the proper site and substrata generally selected by our engineers for reservoirs, canals, &c., are compact, close, and impervious, such that will not permit water to percolate through or escape, even in infinitesimal quantities; and that if a spring is found within its area, it is generally carefully stopped or diverted (as was the case at Holmfirth, by Mr. Leather). Our canals are lined with puddle, &c., throughout, bottom and sides, in porous strata, so that they hold water like a dish; and why should not reservoirs be so also. We hear it also announced that the works of this reservoir had been examined and passed by a Government inspector, and that, as a consequence, it is stated the company are not liable for the damage occasioned by the failure. If such is the fact, that official and the Government have incurred a heavy amount of responsibility, one we are sure that will produce a very bad impression throughout the country, and shake public confidence in the professional judgment of the official, and the foresight and sagacity of the Government. In the support of our theory that the bank gave way from weakness, and the infiltration of water and consequent settlement, we may quote from a very sensible letter of Mr. J. Ibbotson, a corn-miller, and sufferer by the calamity. He says,—"The information was brought by S. Hammerton to G. Swinden, the company's foreman, about seven o'clock. We could trace with our light a crack running in a horizontal direction a distance of 40 or 50 yards along the embankment on the outer side, at a distance of 14 or 15 feet from the top. I said, What is the cause of this crack? G. Swinden and others were of opinion that 'it was caused *by the inner part of the embankment between the puddle-wall and the water subsiding a little owing to the water penetrating in,' and in consequence the top of the embankment inclined over towards the water.* At that time the opening would only allow of the fingers being inserted in the widest part. The double set of pipes which were in working order for drawing off the water were closed, and the water was a few inches below the level of the wash-weir. I said: Let us draw off the water as fast as the pipes will allow. It was a work of great labour for four or five men to raise the sluice by means of the screw, as well as some danger from the tremendous pressure of water, and the noise and tremour of the pipes when the sluice was being lifted were terrific. I went from the pipes to examine the crack, but perceived no change; and I observed that the level of the water was considerably lower on the inner side of the embankment than the crack on the outer side. I could not perceive any sign of leakage of water, but, owing to the darkness, we could form no idea as to whether the embankment was either sinking in any part or changing its contour." A few minutes before 12, they heard a shout and the roaring of the flood. It should be understood, that the reservoir was only filled on the 11th of March, and failed as described the same night. We think the evidence of this circumstantial observer and eye witness as to the early stages of the failure is conclusive against the theory of the leakage through the strata of the sides and bed of the reservoir, and the passage of the water under the puddle (60 feet deep) and seat of the embankment. It appears such leakage takes place at Rivington Reservoir, and passes under the embankments without doing any injury, or any attempt being made to stop it. But what would incline the top of the bank inwards, and necessarily open a crack on the outer side, but the pressure of the water inside the reservoir, filtering into and consolidating the inner part of the bank, carrying away the insufficient puddle (if that could be called puddle that existed) with it. We have also the evidence of another competent and practical person in support of our assertions, and line of reasoning, Mr. J. Drinkwater, a manager of water-works. He says,—"The sustaining bank of the dam, which is about 90 feet high, ought to have been 570 feet broad at its base, or in other words, have had an internal and external batter of 3 to 1 instead of 2 to 1 as at present, which would have left 30 feet for a footpath; also the waste weir should have been 180 feet long (120 feet longer than at present), besides increasing the diameter of the discharge pipes from 18 inches to 36 inches each. Instead of the earthwork being put together in consecutive layers of 3 feet at a time, and each layer being completed before another was laid on, it appears to have been rapidly executed, without the least attention to workmanship or consolidation. On examining the puddle wall in the centre of the bank, I found it both too slender in dimensions and too slight in workmanship. In order to resist the pressure resulting from such a depth of water, the puddle trench should have been 30 *feet* at bottom, and gradually diminishing to 15 *feet* at top, under the sod of the foot-path, being about 10 feet stronger than the present one at the surface. Instead of the puddle being joined to retentive earth at the foundation, and extremities of the bank, I found that an attempt had been made to attach the same to the soil, after the grass sod had been removed for about 3 inches in thickness. If this sample, which I observed near the waste weir, is a specimen of the whole, I am not surprised at Bradfield Reservoir, for unless the puddle which forms the water-tight part of the reservoir be united to good resisting earth, the water will undermine the foundations and ultimately cause the bank to give way. In addition to this, the clay appears to have been thrown into the trench regardless of any rule whatever, in lieu of being converted into puddle by being put together in 12-inch layers, and working each separate layer down to 9 inches, until it is finished. This plan was adopted in the foundation of Todd's Brook Reservoir, which I inspected in conjunction with the late Mr. Wood. This reservoir belongs to the Peak Forest Canal Company, and covers an area of 60 acres, with a cubical content of 47,412,270 feet. I adhered to this method when our two double three-banked reservoirs were made in 1839 and 1848." We quite agree with the principal part of these observations, and are glad to find that in the main they support what we have advanced, viz., that the bank was considerably too weak to support the hydrostatical pressure of the water, and composed of improper material; the puddle too weak, non-resistant, and badly made; and the provision for discharge of superfluous waters quite inadequate for the accumulations of so large a gathering ground after heavy rains and melting snows. If the theory suggested that the water of the reservoir escaped by fissures in the strata of rock at the bottom and sides be well founded, it does not set aside the ugly fact of the embankment being totally incompetent for the purpose for which it was intended; and arriving at this fact both by comparison, practical observation, and experience, and by the usual scientific formula adopted for ascertaining hydrostatical pressure, viz., by multiplying the area of the surface immersed in water in square feet by the depth in feet of its centre of pressure below the surface of the water, and by 62½ pounds, the weight of a cubic foot of water, and in comparison ascertaining the cubical contents and weight of the earth composing the embankment above that point, it would satisfy any unprejudiced person that the embankment was too weak to sustain the pressure, and as a necessary consequence failure was the result. This theory of the escape of the water by the crevices in the rocky strata is something like R. Stephenson & Co.'s theory of the "*side blow*." When the iron compound girder bridge, on the river Dee, Chester, failed under a passing train and many lives were lost, that theory was strenuously advocated and supported by many scientific men; but, nevertheless, it was miserably confuted and brought to grief by a few searchers after truth and subsequent experiments, published in our journal.

But the cream of the affair was, that although the principles contested were asserted to the last to be good, the remaining part of the Dee Bridge was propped up, and all other bridges of similar construction on other railways were also propped, showing that in that instance *theory* was lamentably at fault.

In our search for truth, in that case, we have reason to believe we "did the State some service;" and in the present case also we have endeavoured, by bringing judgment and experience to bear, to enlighten, to the best of our ability, the minds of the public, and to show the cause of this accident, so lamentable in its consequences.

We omitted to mention in our last, that the Bradfield Reservoir was commenced on the 1st of January, 1859, and that it was filled on the 11th of March, and failed about midnight of that day. In addition to the supply of the inhabitants of Sheffield, it had to allow the mill-owners on the Loxley 10 cubic feet per minute, as compensation for the loss of water.

We are collecting information on the subject of large reservoirs that have been constructed in various parts of the country, and may have something to say on it.*

FRENCH AND ENGLISH ENGINEERS.

A PAPER on the organization of the *Corps Impérial des Ponts et Chaussées* in France was read at the Society of Arts on the 16th. In the course of it the reader said, one great cause of the efficiency of the service of the engineers is, however, to be found in the body of conducteurs, or clerks of the works, whom they employ, and who are engaged upon the field operations, the superintendence of the workmen, the measurement of the works done, and the preparation of the drawings that are sent out from the engineer's office. The nomination of these men is rather singular, and takes place somewhat after this fashion:—The engineer receives a young man into his office, without salary at first, and he brings him up to the details of his business: at a certain time the men present themselves for examination as conducteurs, and they become embrigadés if they can pass that ordeal, which is made to embrace the whole range of sciences that are concerned with the practice of civil engineering, such as geometry, the theory of numbers, logarithms, the drawing of plans, levelling, taking out quantities, measuring work, the superintendence of it, and generally all that would be required for carrying works into effect. They become then conducteurs embrigadés de 4me classe, and they pass through the ranks of the third, second, and first classes, in the order of their seniority generally; but they may mount in grade more rapidly, in proportion to their merit or their patronage. By the law of the 30th October, 1850, it was provided that the sixth of the places of the engineers should be reserved to the conducteurs that had been in the service for the space of ten years, and who could then pass the examination that the engineers were subjected to; but this provision has hitherto been perfectly nugatory, for since its promulgation there has not been a single promotion from the body of conducteurs. The utmost they can aspire to is to be allowed to perform the functions of a civil engineer, whilst they retain their old rank. They would be regarded as intruders if they forced themselves into the society of engineers, as the equals of the latter, by taking advantage of the letter of the law. The consequence of this state of affairs is, that the pupils of the Ecole Polytechnique have practically the monopoly of the Government employment in the place of the Ponts-et-Chaussés, for the conducteurs do not aspire to that title, let them be ever so learned or ever so capable; and thus the French revolution has perpetuated the inequality of conditions, by giving the monopoly of the profession to those that can afford to pay for the education that is given in the schools—a strange commentary upon the doctrines of equality that the revolution was intended to inaugurate.

There is a very great inconvenience arising from the strictly theoretical style of education that the young engineers are called upon to go through, that consists in the desire the bulk of them possess to distinguish themselves by the construction of works of a monumental character, without any regard to the conditions of economy that would be applicable in the majority of cases. The principle of the French law is, that the architect is responsible for the solidity of the building that he may put up, against any defects of construction or erection, for the period of thirty years; and though the Ingénieurs des Ponts-et-Chaussées do not come under the strict application of the law, owing to their not working for a commission, yet the tendency of the law is to produce a great degree of strength, and a solidity of execution, that may be traced in all the works they execute. The administration

* Errata, in last, for "Ogden" Brook, read "Agden;" and for "coal" engineer, read "canal" engineer.

equires, in addition, that no work should fail: he engineer that risks much is looked upon as dangerous and troublesome man. There is very inducement, therefore, for the engineer to rect "monuments," and the character of the vorks of the Ponts-et-Chaussées is marked with he grandeur and the magnificence that was ormerly the distinguishing mark of the Roman ngineers; but the cheap and expeditious sys-ems that prevail in England and America are egarded with dislike and contempt. One other bjection may be made to the French system, in he total absence of original thought that it evelopes. The best subjects, as they call them, re obliged every year to travel in foreign ountries, and the works that are done in rance are generally the productions of civil ngineers and the somewhat despised race of rchitects. The Ingénieurs des Ponts-et-Chaus-ées do not attempt to produce any new style—ney only seek to construct "monuments" that hall last for ever, regardless of cost. The ten-ency of the body of the Ponts-et-Chaussées to his style of work is also, to a great extent, ssisted by the publication of a journal of the ody, that appears about six times a year, under e name of the *Annales des Ponts-et-Chaussées*, nd is characterised by the excessive love of eory, and the abuse (if I may say so much) of athematical and other scientific knowledge, at may be reproached to the whole of the esent school of French engineers. The mem-rs of that profession who communicate the formation that is inserted in this journal, are, fact, obliged to treat every subject which they ndertake in the most abstract manner, as ough they constructed or designed works for e sake of resolving problems of science, in-ead of endeavouring to answer the questions at might arise with the purpose of construct-g the works economically: they cultivate ence as the end of their labours: they do t look upon it as the means to the end. The me observation may be extended to the bulk French scientific works, whether they be ought out by the Ingénieurs des Pont-et-aussées or by the ingénieurs civils, for the ter are obliged to follow the example set by ir rivals, and to employ a great amount of ence on the simplest operations of their pur-t. Yet there is a great advantage in thus ostituting the indications of theory for the e-of-thumb processes that are still too preva-t here; and the contrast that is presented ween the French engineering journals and English productions of the same kind, is but le to the credit of our scientific and prac-al men.

The ultimate consequence of the strict system promotion that prevails in France is, that all t relates to the general direction of the public rks of that country is obliged to be transacted ough the body of the Ponts-et-Chaussées. . . . e distinction between the Ingénieurs des nts-et-Chaussées and the conducteurs is a manent and ineffaceable one, that will always a standing reproach to the system that would vent a man from rising by his own merits to foremost ranks of his profession.

Yet, although I am myself fully aware of the onveniences of the French system of orga-ing the public works of that country; though now the great expense that the nation is put on account of the want of practical knowledge, from the deficient technical education of the ineers that the Government is obliged to ploy, from the fact that no man can there rise n the ranks, let his merits be ever so great, from the mania that the system fosters for structing monuments that should last for ever; I have seen such confusion and such waste asioned by the system that prevails in England, ecially in the appointment of Government ials in similar matters, that I should be ost inclined to prefer the French system of Ponts-et-Chaussées to the ignorance and in-petence that prevail here in Government es. The engineers of the Ponts-et-Chaussées thoroughly acquainted with the subjects y have to pronounce upon, and they all feel though the reputation of their body were rusted to their safe keeping; whilst in England nomination of the engineers of the Govern-at is entirely regulated by favour and caprice.

n the discussion that followed, Mr. Haywood gineer of the City Sewer Commission) said he not gather from the paper that Mr. Burnell any conclusive opinion as to whether the em in France was better than that in land, or the reverse. With a great deal Mr. nell had said he fully concurred, but the root of the whole question of the organization in this country of a corps corresponding to that of the Ponts-et-Chaussées lay in the political condition and habits of the people. Whether it would be desirable or not, there was little probability of its being done in our time. He must confess that being tolerably well acquainted with France and her institutions, he never went there without regretting that some system could not be established in this country by which more unity of action in engineering matters could be obtained, especially with regard to the metropolis; but he could not see any intermediate condition between the present local-government system and the institution of a corps somewhat similar to that of the Ponts-et-Chaussées. If that corps was tested by the grandeur of its works, it was far in advance of the English: on the other hand, if the results were tested by the activity of commercial enterprise, then the French system was far behind ours. They had then to choose between the two. With regard to the works of the engineers in France, his conclusion was that their aqueducts, docks, high roads, and canals, were laid out better than our own, and also that the workmanship in them was superior to ours. With regard to the originality of their works he did not feel he could give an opinion. As to their scientific investigations he was inclined to place a higher value upon them than Mr. Burnell had done. Undoubtedly the first series of engineering publications he was acquainted with was the *Annales des Ponts-et-Chaussées*. He knew nothing in this country approaching them; and they formed a scientific literature of which any nation might be proud. There was one thing he could fully endorse,—that was the very high tone of honour amongst the engineers themselves. Their official pay was exceedingly small; but he believed a body of men with a higher professional tone did not exist. They did not aim at acquiring large fortunes, inasmuch as scientific men generally got in France that which they could only obtain here by becoming wealthy—they got high honour and social position. He happened to be at the New Year's levée of the Emperor, and he then inquired what was the precedence of the Corps des Ponts-et-Chaussées on such an occasion. He was told that the engineers took rank before colonels in the army, which was an evidence that their standing was fully acknowledged. But that was not the case in this country. There were brilliant exceptions, such as Faraday, and some others, who, although they never sought for wealth, were still so distinguished that they could not be overlooked; but the great mass of professional men in this country were generally measured by the depth of their pockets. That was why they struggled to make money as quickly as possible, because money was the passport into society. The engineers of the Ponts-et-Chaussées had an entirely different tone of feeling. He knew many of them personally, and could speak of them in the highest terms. There was one remark in the paper about the architects which struck him. He understood Mr. Burnell to state that they were responsible for what was called the well-designing of their work for a period of thirty years. The period was a long one, but he thought it would be a wholesome thing if some such rule were acknowledged in this country. It was true, a man was responsible for what he did, because, if he did not perform his duty, remedy might be had against him at law; but most persons would rather bear the loss than have recourse to the remedy. Then, again, the French system had its disadvantages. All those who practised as engineers in that country must have gone through the Ecole Polytechnique, and thus have been in some measure educated by the State, and so become naturally subject to State control. After all he felt that he could not say with certainty which system he preferred, there were so many elements involved in the question; but he would say he never went to France without coming back bitterly regretting that our present system did not, with our huge wealth and great commercial enterprise, produce results more worthy of the nation. If a few remarks on a subject, now becoming one of great interest in this country, were not out of place, he would say a few words as to the system of subways formed in Paris, which would serve as an illustration of the great care with which such works were carried out in France. His remarks would apply to Paris, Lyons, and other large towns. In the whole of the internal arrangements of those towns the French were beating us hollow: they were building better houses, forming better thoroughfares, putting up better lamp-posts, giving more light, and in all arrangements which affected the health of the community they were considerably in advance of this country. With regard to the main sewers of Paris, they were built in a style of magnificence which might be expected from a body who were not limited as to expense. He was one of those who thought the public works of large cities ought to be monumental, and not merely for the present generation. Surely it was an unworthy feeling that it was sufficient to carry out works which would last our own time, leaving posterity to take care of itself. That was part of the money-greed of the age; and in that respect our public works contrasted unfavourably with those of Paris. The large intercepting sewers of the French capital were made with footways on each side. Those along the Rue Rivoli and the Boulevart-Sebastopol were so large that a full-sized man could walk on the footway on either side with his hat on, so ample were the dimensions of these sewers. They were kept in a state of cleanliness that was surprising. The entrances were made highly ornamental, which he thought superfluous. The steps which led down to them were wide enough for two persons to descend side by side. A railway ran along the edge of each of the footways of the large sewers, and below that was the invert forming the sewer proper. An exceedingly well-devised apparatus travelled up and down this railway; and mechanical scrapers were used by which the bottom of the sewer was constantly cleansed. The whole of the gas and water pipes were covered with a black varnish or bituminous compound: it was true there were leakages, but very few. The smaller branch sewers were most of them 6 feet in height, and on each side of them might be seen porcelain figures marking the house-drains, with a small piece of white enamel about an inch square, which indicated that the proprietor of a particular house paid three francs annually for keeping his private drain clear. Everything was carried out on the same scale. When they contrasted this with the way things were done in London, without entering into the political question, with which he had nothing to do, but looking simply at the material results as they were presented in the capital and large towns of France, it made us ashamed on looking at our own metropolis; and when one knew as much about the expenditure in London as he did, as compared with the wealth, he must come to the conclusion that there was no town in France in which the inhabitants relatively to their means spent so little in keeping their city in decent and proper order as they did in London.

Mr. E. C. Tufnell remarked that the direction of the observations just made was altogether to depreciate English engineers below the French. He did not agree with that position, because there were many facts which went in contradiction of it. When the French desired to introduce any new engineering practice they almost invariably came to this country for the assistance of engineers. When railways were first commenced in France they sent for Locke and other English engineers to carry them out. We were the first country to introduce suspension-bridges. The French sent a deputation to this country from the Ecole Polytechnique to inspect what we had done. They returned to France, issued an elaborate report, stating that our suspension-bridges were erected upon wrong principles, and devising (as they thought) better ones. They erected a suspension-bridge in Paris, on their principles, but immediately upon its completion it tumbled down. Then, again, with regard to the Suez Canal, notwithstanding the predominance of French influence in Egypt, the Pacha sent to this country for engineering advice with regard to that project, and Mr. Hawkshaw went out to that country to make a professional report upon that great undertaking. Looking at these facts, he could not at all reconcile them with the views expressed by Mr. Haywood.

Mr. Frederic Lawrence said he did not feel the same difficulty that Mr. Haywood felt, as to which system he preferred. As an Englishman, he approved of a system which allowed talent to develop itself—by itself,—rather than a centralised system which tended to cramp the energies and fetter the originality of those employed; and he thought, if they compared the engineering works of this country with those of France, looking at the works themselves, they would see at once that our system was by far the best. Could the French engineers point to a Britannia Bridge? or, if they had anything resembling it, did they not copy it from us? Was not every

large engineering work in France a copy or modification of something previously done in England? He was surprised to hear Mr. Haywood speak so approvingly of the sewers of Paris. It might be that the sewer along the Rue Rivoli was better than anything we have in London; but why was it better? Because the French engineers came over here and saw what we had done: they adopted what we had done well, and improved where they felt they could improve. It was, however, only recently that sewers had been introduced into Paris; and, if that system were carried out all over the capital,—as was stated, regardless of expense—Paris might eventually be a better drained city than we could boast of. With regard to some of the details, he did not think Mr. Haywood, with whatever staff he could command, would care to have put upon him the task of fixing up the tablets he had spoken of, in the city sewers, indicating the numbers of the drains, and the sum paid by each private individual to have his drain kept clean. He had no hesitation in saying that, in his opinion, however admirable an institution the corps of Ponts-et-Chaussées of France was, it bore no comparison with the engineers of England; because, when he looked round, he saw the names of engineers who had carried out works which the corps of Ponts-et-Chaussées dared not have attempted. He, therefore, differed from Mr. Haywood; and had no hesitation in pronouncing the English engineers the first in the world; for, when any country was in difficulty, England was applied to for that valuable engineering counsel which could be obtained from no other country.

Mr. Haywood explained that his remarks had been misunderstood. He had dealt only with the broad features of the paper, and he had made no comparison between English and French engineers, as regarded their professional skill.

Mr. Lawrence understood Mr. Haywood to refer to the question of the two systems, and they must judge from the results whether one was better than the other.

Mr. Burnell said he had carefully guarded himself in what he had said against drawing comparisons between English and French engineers. Upon the question of the relative merits of the two classes, it was a singular fact that the French engineers had almost invariably consulted the English, and all the inventions that had altered the face of engineering science had arisen either in England or America. With regard to railways, it was well known they originated in England, and the same thing occurred with reference to suspension bridges. The merit of that form of bridge they knew belonged to Telford. Steamboats, the electric telegraph, and many other inventions, which had tended to advance civilization, were the results of the free-trade principles which prevailed in England, and of which he was a cordial supporter. The object of the paper was to call attention to the organisation of the corps of the Ponts-et-Chaussées, which he thought, for carrying out works necessarily in the hands of the Government, was superior to our system of appointing Government officers.

The Chairman (Mr. G. F. Wilson), in proposing a vote of thanks to Mr. Burnell, said he thought they must all, to a great extent, participate in the feeling expressed by Mr. Haywood, on comparing the style of the public works in Paris with those of London; and with regard to the sewers, if anything was calculated to mitigate that feeling, it was, as far as he was personally concerned, in the visit he paid to the great brick tank at Barking, covering an extent of eleven acres, which, for strength and excellence of execution, could hardly be surpassed, and which showed what could be done in England in the way of first-rate brickwork. He was afraid they could hardly expect to settle the question this evening as to the comparative merits of the two plans, and he thought they must be content with supposing that each nation had settled down instinctively into the particular system which best suited its own peculiar constitution.

PUBLIC WORKS AT HYDE AND DENTON.—The Local Board of Health at Hyde have made arrangements with the Public Works Loan Commissioners to borrow 14,000*l.*, which it is intended to lay out on an extensive system of sewerage. In Denton the authorities are expending 4,500*l.* in a similar manner, and are giving work to a large number of unemployed operatives.

THE LATE MR. RICHARD ROBERTS.

THE majority of those who are our readers, in or out of Lancashire, will at one time or another have taken some interest in the machinery of the cotton-manufacture. At the two International Exhibitions, there were few persons amongst the crowd, more interested in the working of the self-acting mule, than the members of our own profession. Mechanical engineering is separated by no defined line from civil engineering, more than the latter from what may have been considered the province of the architect. Naval architecture has usually been considered quite separate from what has been distinguished as civil architecture, which includes engineering; but civil engineers are now the naval architects.

The name of Mr. Richard Roberts, who was the author of that beautiful contrivance the self-acting mule, who touched and adorned each of the departments of modern engineering, and who invented machines that are of much importance in the construction of buildings in which iron is used, should not be left without a record in the pages of this journal. As the inventor of the Jacquard punching machine, for perforating rivet-holes, Mr. Roberts aided essentially the accomplishment of that great triumph of the combined efforts of many minds and hands, the Britannia Bridge; as he also aided it in other ways. The machine had its part in the realization of the more extended work, the Victoria Bridge, over the St. Lawrence, Montreal. This invention was followed by one of a duplex machine for punching holes for rivets, in angle-iron. The whole course of his life however was devoted to the invention of labour-saving tools and machinery, contrivances such as the authorship of them should procure the inventor similar credit for benefit conferred, to that which has been said to be due to him who causes two blades of corn to grow in the space where there had been but one. Mr. Roberts however only realized the return of too many inventors. Having made the fortune of some of his associates, and contributed,—if political-economists are to be respected, and facts taken,—to the welfare of a large increment of the population of England, he had gained at the time of his death, little but his reputation as an inventor, and a recognition of his merits in the shape of an all but realized provision for him by his friends. Before a sum that had been raised, could be applied to the object, and on the 11th inst., he died, being in his 75th year.

The biography of Mr. Roberts is full of interest, like the lives of most inventors with him, who have worked their way from humble origin. He was born in the parish of Llanymynech, near Oswestry, in Wales, on the 22nd of April, 1789. In this locality there are still mementoes of his inventive tendency and ability. He left his native place however, early, and in order to escape service in the militia. He got to London, where he worked in Maudslay's manufactory. He must have been young, perhaps not much more than twenty-one, when he was in Manchester, where, according to an account given to us by one who there assisted him afterwards in his avocations, he first procured employment in turning a wheel and thus furnishing what was the motive power of the machinery of a small engineering shop. The proprietor of this concern recognized Roberts's ability, but soon died. After that, it is said, Roberts married the widow, and became proprietor of the place. The Sharps, who were at the time dealers in iron, or in iron-manufactures, rather than machinists, appreciated Roberts's ability; and eventually, a partnership was formed, which became the firm of Sharp, Roberts, & Co., of the Atlas Works, celebrated throughout the world.

From about the year 1817, Roberts produced the planing-machine (now in the Museum of Patents, South Kensington), the slide-rest, slotting-machine, machine for cutting teeth of wheels, lathes, and self-acting tools of many kinds. These inventions and improvements, as it has been remarked, have contributed to the production since, of every species of mechanism, from the marine-engine to the railway-ticket press and the sewing-machine. The self-acting mule was an invention consequent upon an application to him, by master spinners, after the Staleybridge riots. On the introduction of railways, the firm became large makers of locomotive engines. Of these, 1,500 have been produced at the Atlas Works. Their manufacture was greatly aided by the use of standard templates and gauges, which had been applied by Roberts in 1825, in the manufacture of the mules. The system is the same as that now used for the Enfield rifle. A factory at Mulhouse, gas-meters, silk-looms, electro-magnetic apparatus, a balance (with moveable fulcrum) for weighing the proportions of metal to compound an alloy, and an improved form of windlass, were amongst his other works of various kinds. He also made turret-clocks. He gained a medal for one in 1851.

After some years' duration, the partnership of Sharp & Roberts was dissolved; and Mr. Roberts commenced a new concern in connexion with Mr. Fothergill and another person. This, however, does not seem to have answered; and Mr. Roberts, of recent years, was resident in London, where he practised as a consulting engineer. Here, he devoted much attention to the question of steam-navigation, and propulsion by the screw; and we believe it is recognized that independent credit is due to him for the suggestion, exhibited in model, of the two screws each worked by a separate engine, as well as of the two keels, the whole together being calculated to serve the efficient manœuvring of steam-vessels of war. In some of these and other inventions applied to ships, Mr. Roberts was concerned with Captain Symonds. The advantages of the twin-screw and double-keel system; and of the substitution, for outrigger < brackets of attachment of the screw, of screw-shafts led through trunks which are under the quarters and firmly secured to the bottom by vertical webs, were very clearly explained by Captain Symonds, at the session last year, of the Institution of Naval Architects.* As Mr. George Rennie has an independent claim to merit in connexion with the twin-screws, it may be well to quote from the Transactions of the Institution, what was said by Mr. Fairbairn at the last session. After alluding to defects of Captain Coles's system, from the liability of the cupolas to get jammed or crippled, he said:—

"These are considerations which appear to require careful attention on the part of Capt. Coles and the Government, before the plan is tried and confirmed, as the application of twin screw-propellers by Mr Richard Roberts and Capt. Symonds, appears to introduce an effective remedy for these evils. On this principle, the ship can manœuvre in any direction, and to any extent; by reversing the motion of one engine, the vessel can be turned round, with the whole of her broadside, in about the same time as the cupola with one or two guns. This power of motion in any required direction appears to me to be a desideratum in manœuvring ships of war, and is well entitled to the consideration of the Admiralty, at a time when science and its practical application may place the navy of England on a principle in advance of every other nation."

Mr. Roberts's name also, in connexion with a form of "non-fouling" screw, and an improved method of stepping and securing iron masts, was referred to by Captain Symonds at the same meeting.

Roberts's machinery was so remarkable for its perfect accuracy of fitting, that that which was really a merit, has been often spoken of in Lancashire, as though a fault. Proper attention being given in oiling and cleaning, such machinery would last all the longer; but then it was said, if machinery lasted eight or ten years, that was enough, since improvements were made in such periods, and it would be better to have new machinery with the improvements, than retain the old. It was thought therefore that more margin might have been left; and that, so, any carelessness, or dirt, would not have frequently entailed stoppage of the machinery. Mr. Roberts is mentioned in Smiles's "Lives of the Engineers," but with some errors as to facts,—those who knew him, tell us. We have therefore trusted to recollection, and to the information of friends, for such particulars as we have given.

THE BASILICA OF ST. CLEMENT, ROME.

THE researches in the ancient church, now subterranean to the more modern one of *San Clemente*, still continue, and supply proof that the whole interior, walls and pilasters, must have been originally covered with polychrome decoration. Among the many paintings of Scriptural and legendary subjects hitherto brought to light, the last-discovered are about the most interesting,—indeed, beyond comparison, the most valuable records of the school that flourished in Rome between the period of the Church's perilous retreat in catacombs, and that of the revival of art and intellect in the fourteenth

* "Transactions of the Institution of Naval Architects. Vol. IV. 1863. Office, 7, Adelphi-terrace, London." 4to. Pp. xxii, & 302, and table. Ten plates, & cuts.

century;—in painting, at least, almost the only important relics from the art of that interval, though in the department of Christian mosaics the treasures left by Mediæval schools are numerous in this city.

It is to be remembered, that the present conditions to which has been reduced the primitive church of St. Clement are ascribable to that fatal conflagration caused by the Normans, under Guiscard, in 1084, which swept over and totally devastated the entire region between the Capitol and the Lateran, where the antique basilica, with its convent (now of Irish Dominicans) is situate; and the more modern church is supposed to have been built very soon after that catastrophe, over the ruins which were thus concealed,—left buried, in fact, and forgotten for ages, under its structure. The last-discovered series of paintings are on a wall-surface above the actual façade, and seem to have belonged to the decoration of the narthex; these being indeed the most valuable, and of such merit in style and composition, that it may be inferred their discovery will be remembered as an event to lead to some modification of theories respecting the conditions of art before the Renaissance, or the precise period of its last and deepest decline in the so-called "dark ages." We here see illustrated the poetic legend of the martyrdom of Pope St. Clement, on the coast of Cherson, or the Crimea. After working as a slave with other Christian victims, in the stone-quarries, he was drowned in the Euxine Sea; but his body was miraculously preserved in a splendid temple built under the waters by angelic hands! And every year, on the anniversary of his death, the waves retreated, leaving a passage along dry ground for the faithful to visit and worship at that mysterious shrine! Once (according to the fable) it happened that a mother brought her young child with her on this solemn occasion; and, returning, left the boy in the temple, imagining he had followed with other children brought by parents to join in the same devotion. To her agony she found that the sea had flowed back, submerging, before she could retrace her steps to, that martyr's shrine. On the next anniversary, she returned, entered with other worshippers, and there, to her unspeakable joy and astonishment, lay her lost son asleep before the tomb, unscathed, and unconscious, till he awoke in her arms! This story is represented in three distinct scenes. On one side is an external view of the city, with the name *Cersona* over a gateway. From it is emerging a procession of worshippers, headed by the bishop, in sacred vestments, with the crozier, but no mitre on his head. In the central compartment is the temple, like a fantastic pavilion, supported by slender pillars in the midst of the sea, here indicated by an ample wavey surface bestrewn with large fishes. Within appears an altar, having two lighted tapers on its *mensa*, and three lamps suspended above. Here we see the figure of the mother twice, in different actions, first bringing in her child, and again discovering him asleep before the altar, where she kneels, as the boy awakens, to leap into her arms,—an affecting scene expressively rendered. Above the mother's figure are the words written in form of a cross, *mulier videca*. Below this picture is the inscription explaining its subject: "*Integer ecce iacet repetit qve previa mater*," —wanting only the first four letters here supplied; and, in a lower compartment, another group evidently intended for the family who ordered this picture as a pious offering—a father and mother, a little boy and a girl, led by another female, each carrying a peculiarly-formed taper, no doubt to offer at the altar,—the names of all being written beside the several figures:—*Beno, Domna Maria, Puerulus Clemens, Attilia, Ge*, the last incomplete. In the midst of this group, within a circlet, is the half-length figure of St. Clement, holding the sacred volume, and raising one hand to bless; a large nimbus round his head, his countenance remarkably noble, and full of apostolic benignity,—the features finely regular. Below, the epigraph, in Leonine verse, "ME PRECE QVERENTES ESTOTE NOCIVA CAVENTES;" and laterally to the group, another inscription, which may be read (filled up in its sundry abbreviations) as follows: "*In nomine Domini ego Beno de Rupiza pro amore beati Clementis et redemptione animæ meæ pingere fecit*" (*sic*). That this family, here represented by Beno de Rupiza, its head, was noble and belonged to a period in the eleventh century, and that the pictures executed by their order in this church may be referred to the latter years of the same century, is the conclusion to which Signor De Rossi arrives in his interesting report on the last discoveries at S. Clemente (*vide* the "Bulletin of Christian Archæology" for January). Higher on the same wall surface must have been painted another composition belonging to the series, lost by the demolition of this part to give place to the modern building above; and that its subject was the miraculous preservation of St. Clement's body in the temple, is evident from the extant inscription, much injured, but easily restored as follows:—"*In mare submersum tumulum parat Angelus istum.*"

In another part of the same subterranean church has been recently found the hitherto-covered half of a picture whose other moiety had been brought to light some time previously, and whose subject is clearly explained by the words legible below, as the transfer of the body of St. Cyril from St. Peter's to this church, where his tomb has been reached in the course of the works now progressing. This saint was a celebrated Greek missionary of the ninth century, who was sent from Constantinople to preach the Gospel to the Slavonians, ultimately settled at Rome, where he died, and was interred with great honours. In the funeral procession here represented, his body is carried on a bier, in pontifical vestments, the head still crowned by the nimbus: a pope, walking between two bishops, and several other ecclesiastics follow, one of the prelates, as well as the pope beside him, also distinguished by the nimbus; and among sacred symbols appear two croziers, a large jewelled cross, and three standards, consisting of banners pendant from small crosses, in form like the *labarum* (the only instance of the introduction of this last in any known paintings of very early date): beside the bier, are two thurifers swinging large censers of globular form; and, near its head, walks a female, whose dishevelled hair and vehement action seem to express the most passionate grief. At the picture's right side, appears another subject, distinct in itself, though not divided from the former,—the celebration of Mass by the same pope at a low altar, on which lies an open book with certain words from the Roman liturgy still in use; but no ornament or symbol, neither cross nor tapers are seen. Pendant lamps alone illuminate the rite, hanging from a species of ædicula, perhaps meant for a perspective view of this church's interior, the three narrow arches here introduced to represent its division into nave and aisles. The inscription below may be read (with some restoration).

The figure distinguished by the nimbus, walking beside the pope, may be the brother of St. Cyril, Methodius, also revered as a saint; and the pontiff himself, Nicholas I., elected 858, and canonized, who was the first to encircle the papal mitre with a regal diadem, as in fact here represented, wearing a tiara of a *single* crown, which he is said to have assumed in sign of *temporal* sovereignty. In this picture, therefore, we have the earliest extant representation (as De Rossi has shown on sufficient grounds) of the original pontific tiara, long before that prouder symbol, the *triregno* (or triple crown) had been invented. As to costumes, we are reminded by these groups generally of the Classic, rather than the Mediæval, excepting, indeed, the ecclesiastical personages, whose vestments are almost identical with those worn at the altar still. The rest are clad according to fashions that may be considered early modifications of those proper to Classic antiquity. The *paterfamilias*, named Beno, wears a tunic reaching to the knees, a mantle clasped over the right shoulder, like the antique lacœna, and short beard with moustachios: the females are in vestments of ample folds, flowing down to the feet, with hair low on the head, parted over the brows, and in some instances (as the Maria, Beno's wife), a short veil added to the other details of a dress remarkable for graceful simplicity. The modest style of sacred ornaments, where any sanctuary is represented, and the absence of images, even of the crucifix, convey tacit reproach against the tawdry and theatrical decorations now fashionable in the Italian church. Copies of all the more noticeable paintings among this series have been taken by order of the worthy prior of the Irish Dominicans, Father Mullooly, who has sustained the costs and risks of the excavations here in a manner entitling him to general gratitude; these copies, to be presented to the Pope, executed by an artist named Ewing, of English descent, though Roman by birth, with skill and fidelity are deserving of praise. As to the colouring of the originals, one is struck by its surprising freshness, and by a certain degree of harmony. The drawing does not, indeed, indicate much knowledge of anatomy; but the draperies are, for the most part, well designed, many of the countenances full of earnest character, some beautiful; perspective, in the architectural details, about as defective as is generally the case in the art of the fourteenth century. The above-mentioned, and most of the other compositions, those more complicated at least, hitherto uncovered in the researches on the spot,—as the mass of St. Clement, the story of St. Alexius, the group of the first successors of St. Peter,—are obviously of the same period, and may be inferred to be by the same hand.

Rome.

THE MOSAIC WORK IN WOLSEY'S TOMB HOUSE, WINDSOR CASTLE.

SIGNOR SALVIATI is proceeding rapidly with the enamel mosaic work in the vaulted roof of Cardinal Wolsey's tomb-house, Windsor Castle, under the directions of Mr. Gilbert Scott, R. A., for Her Majesty the Queen. The surface of the panels to be covered by the mosaic work is upwards of 2,000 square feet, and more than a half of the whole is already fixed.

The cartoons have been designed and drawn by Messrs. Clayton & Bell. All the mosaic work was executed in Venice, and is fixed by Venetian artists, who came hither for the purpose. The roof, as most of our readers know, is groined, and the spaces between the groins are filled with enamel-mosaic pictures, on gold-enamel ground. Each long panel has a half-length figure of an angel whose head is surrounded by a gold nimbus, and, as well beneath as above every figure, there are ornaments representing foliage, clouds, &c.: the other panels along the centre of the ceiling contain the Prince Consort's crests, with the motto *Treu und fest*, his initial, medallions, devices, and other ornaments.

The roof is divided into two parts: the first we may call the *secular* or *heraldic* part, and the second (east end of the chapel) the *sacred*. In the whole there are 92 angels, each holding a shield. The 64 angels of the first portion are holding shields bearing the arms of the Prince Consort and his family, and the other 28 angels of the second part hold shields with the various emblems of Our Lord's Passion.

The large number of tints, and the improved quality as well of the coloured as of the gold enamels, are very noticeable, particularly the different tints which the gold enamel is capable of receiving, and the successful use of it (ruby-orange and variously-shaded colours) in the wings of the angels, in the *gloria* round the heads, in the shields, crests, and many other important places. The execution of the whole work will occupy, it is stated, no more than *ten* months, dating from the date of receiving the first part of the cartoons (July 1863), till the complete fixing on the roof.

Considering the extent of the work, upwards of 2,000 square feet, as we have already said, this speed is very remarkable, and speaks strongly for the organisation of Signor Salviati's establishment. We shall make a personal inspection before long, and speak more decisively as to the effect of the work.

THE DUCHESS OF KENT'S MAUSOLEUM.

ON the 16th, being the anniversary of the death of the Duchess of Kent, the Queen and Royal family repaired to the mausoleum of the Duchess at Frogmore, where the statue of her Royal Highness (a cast, shortly to be replaced in marble) was uncovered. The statue, which is by Mr. Theed, and was modelled under the superintendence of the Prince Consort, represents the Duchess standing. It is on a pedestal of imperial red Portuguese marble, and is placed in a temple over the chamber containing the sarcophagus.

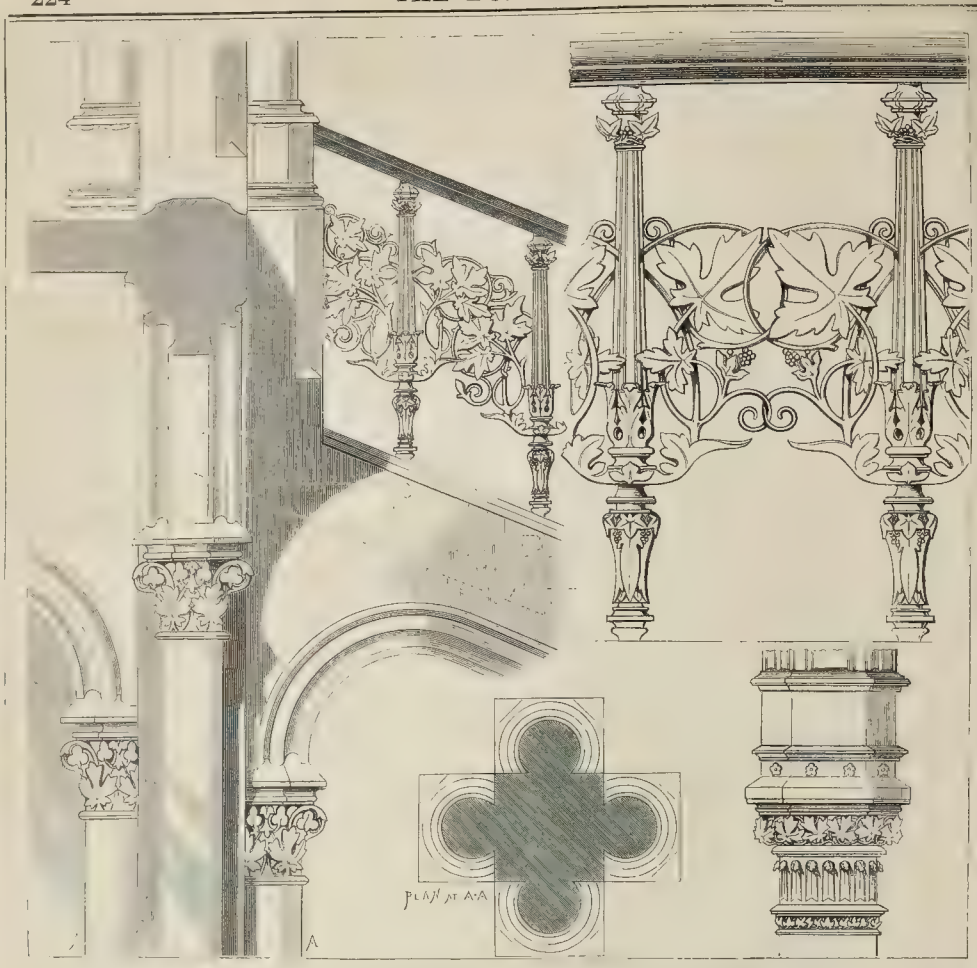
Over the statue is the following inscription:—

"Her children arise up and call her blessed."

The following lines, by Mr. Tennyson, are also inscribed:—

"Long as the heart beats life within her breast,
Thy child will bless thee, guardian, mother mild;
And far away thy memory will be blest
By children of the children of thy child."

A view and descriptive particulars of the mausoleum will be found in our nineteenth volume (1861), p. 531.



THE BANK AND EXCHANGE, VIENNA.—*Details of Staircase.*

SHAKSPEARE MEMORIALS.

THE London Committee have at length advertised their first list of subscriptions (about 1,700*l.*), with intimation where donations may be paid. They have lost five good weeks, as it seems to us. Let us hope, however, that all interested in the movement or for the adornment of the metropolis will at once send their names,—those who are willing only to give shillings as well as those who will give pounds. ——A meeting has been held in Holborn to receive a deputation from the London Committee and appoint a local committee in the joint parishes of St. Andrew and St. George the Martyr. The deputation consisted of the following gentlemen: Messrs. W. K. Sawyer, G. Linnæus Banks, C. H. Elt, and J. C. Jeafferson. Appropriate addresses were delivered by the chairman and the members of the deputation, after which a number of names were read as forming the nucleus of a local committee. —— At Stratford, the site of the present market house has been determined on as the best for the statue.——The Manchester subscription now amounts to 1,600*l.*——Extensive preparations are being made at Bury, in Lancashire, by amateur dramatic performances in the Athenæum, on the 22nd and 23rd April, under the patronage of Lord Stanley and the local gentry. The pieces to be performed on both evenings are "As you like it," and "Taming the Shrew." The whole of the scenery has been painted by local artists, and the costumes are to be supplied by a London costumier. The proceeds are intended to be devoted to the erection of some simple memorial of the event. Several architects are actively engaged in forwarding the necessary arrangements; one of whom, Mr. Lawrence Booth, is the honorary secretary.——At Frankfort-on-the-Maine considerable interest is being manifested. It is understood there are to be a banquet, some orations in English and German, and a play in the evening at the theatre—Shakspeare's "Winter's Tale"—which will probably be in English.

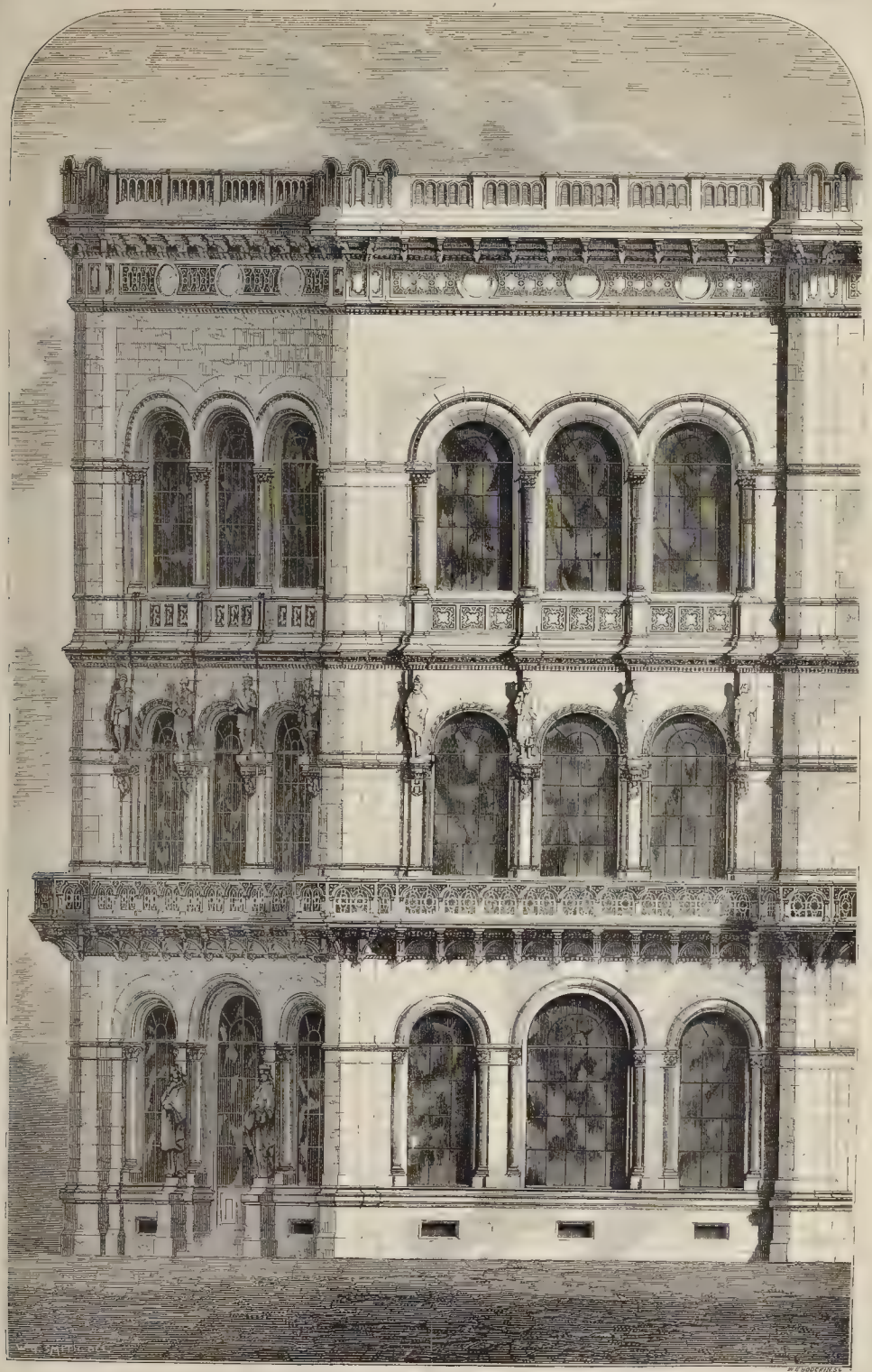
THE BANK AND EXCHANGE, VIENNA.

PROMINENT amongst the modern buildings of Vienna, some of which were described in our recent series of papers titled "Going Along," is the large building erected for the purposes of the Bank and the Exchange. In a former volume will be found a view of one frontage of the building, with descriptive particulars.* We now add a view of part of the flank, and some details of the staircase, stone and metal. The building was commenced in 1856, from the designs of Herr Ferstel (also the architect, it will be remembered, of the Votive Church in the same city), and was finished, with the exception of the interior coloured decorations, in 1859. The fronts are wholly of stone. With a general agreement between the two fronts, considerable variety will be found on comparison in the details.

* Vol. xviii. p. 464.

THE RAG COLLECTING BRIGADE.

THE waste which is made in a population of nearly three millions of people would, if properly attended to, prove an enormous source of profit. Look, for one instance, to the great loss which at the present time results from the waste of materials used for making paper, a matter of much consequence, for we are now obliged to buy enormous quantities of rags for paper making from abroad. For the purpose of preventing this, the Rag-collecting Brigade, in connexion with the London Ragged Schools, has been formed at Albion-place, London-wall, where at the present time there are more than thirty boys and youths, who, with the trucks to which we have before referred, collect a considerable quantity of rags. The advantage is great to poor boys, and produces also a national saving. For instance, although this Rag-collecting Brigade has been established but a very short time, there have been paid up to last Christmas 12*l.* in wages to boys who, but for this institution, would have been dangerous vagabonds upon the London streets. Besides, they have collected, by four trucks only, in nine months, 49,818 bottles; of paper, 38 tons 19 cwt. 1 qr. 15 lb.; rags, mixed, 9 tons 18 cwt. 2 qr. 22 lb. There are also various rags and bones, carpet, cloth, fat, &c., metals, and rope, altogether making a weight of goods collected by these lads of 82 tons 3 qrs. 27 lb. Besides this, there have been about 70*l.* worth of stuff purchased which was not bought by weight; and the committee have good reason for believing that more than one-half of



THE VIENNA BANK AND EXCHANGE.—Herr Heinrich Ferstel, Architect.

this material would never have found its way into the market but for the facilities which the brigade affords. The materials collected are of the most varied description; — cocked hats, hearse-trappings, old aquariums; in one bag a million of postage-stamps; and in a lot of rubbish was found a Bank of England cheque-book, which was at once forwarded to the Bank: in another were found half-a-dozen pairs of new stockings, which were duly returned to the owner.

The committee express a belief that much of the present waste is caused by the objection which many persons have to deal with the marine-store keepers. Even some servants do not like to go into these persons' shops, which, for the chief part, are places for the encouragement of dishonesty; but in connexion with this brigade there can be no objection. A fair tariff is made, and the collection of waste paper, grease, bones, broken glass, rope, carpets, &c., is, besides the money value, the means of saving lads from destitution, and putting them in the way of earning a proper livelihood.

The boys who form the brigade have been selected from the Shoeblack Brigades and Ragged Schools. At first, a great difficulty was felt in finding a suitable and central depôt; but this was at length obtained in Albion-place, London-wall, at a rent of 77*l.* per annum. It has been fitted up at considerable cost, and an excellent manager has been appointed, who well understands the business, and was himself reared in a ragged school. There are other expenses which now press; but such is the promise, that before long it is believed this institution will be carried on at a considerable profit.

The plan of operation is, that to each truck is assigned a district, the bounds of which are not to be passed except in especial cases. Before commencing perambulation, bills announcing the aims and objects of the brigade are distributed from house to house. The boys assemble at seven in the morning, family prayers are conducted by the superintendent, and breakfast is provided. Then the trucks, each attended by a collector and two assistants, start on their rounds. To be a collector, a boy must be a fair reader and writer, his wages varying from 7*s.* 6*d.* to 10*s.* 6*d.* a week; but he cannot be appointed to this post till he has 20*s.* in the Shoe Brigade Bank, as a guarantee for his honesty. The assistants who act under his control get from 6*s.* to 7*s.* a week. If the rounds lie near the depôt, they make two or even three loads in the day; but in some instances it is four or five o'clock before they reach home with the first load. The collector is furnished with a tariff of prices: he leaves a receipt for all goods purchased, and obtains a signature on the counterpart for cash paid to the vendor, so that nothing may be surreptitiously bought or sold. At first the boys met with many repulses; but as the system becomes better known the difficulty decreases. The districts most worked have been Islington, Barnsbury, Canonbury, Highbury, Kingsland, Brompton, Camberwell, and Walworth.

The great majority of the boys employed are of a class who would find much difficulty in obtaining employment elsewhere. The first boy engaged was the youngest of three brothers, two of whom had been transported, and he seemed in a fair way of following in their footsteps; but here he was received when every other kind of employment seemed closed to him, and he conducted himself so well, that he attracted the notice of a gentleman, who took him into his warehouse, where he bids fair to do well.

The number of boys employed up to last Christmas was twenty-two; but there can be no doubt that more than ten times this number might be usefully engaged. The wages paid during nine months were 424*l.* The average expended daily by each truck was 13*s.* 9*d.*, and the number of separate transactions was 9,000.

At the present time there are seven trucks and thirty-four boys at work; and experience shows that each truck requires a floating capital of 50*l.* The weekly purchases per truck now average 5*l.*; and it is some eight or ten weeks before the stuff is sorted, sold, and paid for. Notwithstanding, the trade balance-sheet shows a profit of 240*l.*, which is more than swallowed up in the sums paid in rent, manager's salary, and wages of experienced sorters to instruct the boys, &c., none of which would have to be increased if there were ten or fifteen trucks instead of the present number; and between 200*l.* and 300*l.* are required to place this depôt on a permanent and self-sustaining footing. We trust that this aid will be forthcoming, and that thrifty housewives will keep their rags for the brigade.

ARCHITECTS' BENEVOLENT SOCIETY.

THIS society is quietly doing good work so far as its means permit. We would advocate its claims on the profession, and we cannot do this better than by printing, *in extenso*, the report, the adoption of which at the general meeting on the 9th inst. was moved by the president, Professor Smirke, R.A., and seconded by Mr. Chas. Fowler:—

"The period has again arrived when it becomes the duty of the council to report progress to the general body of members, and to submit a statement of the financial condition of the society.

The council apply themselves to the annual task with mingled feelings of pleasure and pain.

It will be seen by the statement about to be laid before the meeting, that the amount of subscriptions received during the past year exceeds that of the preceding year, and the arrears due are very considerably less. The demands, however, on the charity, have been heavy. Fourteen cases have been relieved, and the sum of 358*l.* has been distributed;—a much larger sum than the council has ever yet found it necessary to so appropriate during any one year.

On the other hand, it must be stated that the number of members has diminished by four. Considering the rapid increase in the number of those who pursue our profession, it seems a sad reproach that such should be the case, and that this society, founded on the purest motives, and whose funds are administered with the most scrupulous and unremitting care, should be left with such restricted means. During the past year we have sustained the loss of three distinguished members.

It is with deepest regret that we have to record the death of one of our earliest, warmest, and most liberal supporters, Mr. Cockerell. In his death the profession has lost one of its greatest ornaments, and this society one of its most valued friends.

It is with grateful feelings that the early members recal to mind the earnest and hearty personal interest he took in the foundation and establishment of the society, and the constant friendliness that he felt and repeatedly expressed towards it during its whole course.

In the deaths of Mr. Bunning and of Mr. Scoles, the society has also lost two among its much-honoured members.

It is with societies as with individuals: we can feel the loss of our earliest friends with the keenest regrets, for they leave a void behind them which cannot be fully replaced.

Among the cases relieved during the past year, several have occurred of great interest. One who was a Gold Medal student of the Royal Academy, and has since lived an active life under favourable auspices, yet now, when upwards of eighty years of age, is wholly without means of subsistence. Another most deserving case is that of a gentleman more than seventy years old, who, without stain on his character, is penniless. Widows equally destitute, yet with large families, are also on our list of recipients.

The perpetual recurrence of new cases such as these, and, indeed, their apparent increase in number, invite our most serious consideration.

It may be assumed, probably, that the profession never held so important a position in the country as it holds at the present time. Owing to the general prosperity of the people, new buildings are rising in every corner of the kingdom, and few are now erected without the aid of the architect. This was not formerly the case. Æsthetic considerations used rarely to enter into men's minds, unless when some great public work was about to be undertaken; and the result of this general consideration for art is very apparent in the poor and insipid character of architecture at the close of the last century in this country.

Those times are passed away. The general public have learnt what sort of a client the man usually has who is his own architect, and hence the horizon of our art brightens.

But let us not be too jubilant. Let us not, in the midst of comparative prosperity, forget the duties prosperity brings with it, nor shut our eyes to the sad sights of distress that lie ill-concealed beneath the surface of professional life. How many of our brethren are pining in want and sickness whilst we are in ease and comfort!

We should, indeed, regard it not as a mere duty, but as a privilege, to help to soothe the sorrows of these unfortunate persons.

Remember that we have it from the most unerring source that, 'without charity we are nothing worth.' Were this truth more practically felt by our profession, especially by those who are practising in the great provincial centres of the country, we should no longer have, from year to year, to urge on them so earnestly as we do the claims of this most excellent institution."

We cordially endorse this appeal, and hope to hear soon of a large influx of new subscribers.

FEMALE ART STUDENTS AND THE ROYAL ACADEMY.

TWENTY-THREE female students at the South Kensington and other art schools, all proposing to become professional artists, have addressed a memorial to the Royal Academy, complaining of the Resolution that was come to last year, that no more female students should be admitted into the schools of the Academy, and praying that liberty may be restored to female students to compete for admission into the schools of the Royal Academy, upon the same terms and conditions, in all respects, as are granted to, or imposed upon, male students.

The memorialists urge, —

"That the limited accommodation need not be made a ground for adhering to the excluding resolution (if it be otherwise an undesirable one). First, because the number of female students likely to become competitors will (at least for many years to come) be very small indeed in comparison with the number of male students, while the proportion of successful female competitors is, your memorialists fear, likely to be still smaller.

And secondly, because that inasmuch as your memorialists neither ask nor desire that any preference or favour be extended towards the female competitors at the entrance examination, the result will be that the entire number of students will not be increased."

They appeal to the fact that in many exceptional instances female sculptors and painters have attained to a high degree of excellence; and submit that it is sufficient for the present application to show that such success is possible, however rare; because by how much it is unusual, by so much greater need is there that female students should be deprived of none of the advantages which the more favoured sex possesses.

HOW BENEVOLENCE OPERATES AT MELBOURNE.

THE way in which charitable persons are sought out, and give aid to worthy objects, in Australia, is peculiarly characteristic. "The funds of the Albury Hospital being almost expended," says an advertisement in the *Border Post*, "and the closing of the hospital being imminent, it has been decided to hold a sale by auction, in aid of the funds; and it is earnestly requested that the burden of supporting this valuable institution may be shared by the residents in the district, as well as by the townspeople, on whom hitherto the hospital has mainly depended. Contributions of horses, horned cattle, sheep, pigs, poultry, or any live stock, furniture, ornaments, plants, books, farming or gardening implements,—in short, of everything new or old, are earnestly requested, and will be thankfully received:" Mrs. Walker Jones and other earnest workers, undertaking that task.

Then follows a "fifth list of contributions," among which are —Mr. Metcalfe, an opera-glass; Mrs. Richardson, two pairs of gold ear-rings and pincushion, pleasant sacrifice on the altar of charity; Mrs. Peard, gold ring and fancy work; Mr. Peard, brace of silver-mounted pistols; Mr. S. A. Meyer, a bench-screw; Mrs. Kelly, three pairs of fowls; Mrs. Burleton, 1*l.* 5*s.*; Mr. T. Keighran, a fat bullock; a Friend (by Mr. Day), a foot-bath, child's frock, three books, and 5*s.*; Mrs. J. Darby, eight geese, two turkeys, and a magic-lantern; Mr. J. Darby, 1*l.*; a Friend (by Mrs. Blackmore), a pillow, paper-knife, and Moore's Poetical Works; Mr. Bligh, a bag of oats; Mrs. Ogle, children's frocks, plants, and fowls; Mr. J. Nichols, handsome meerschaum pipe; Mrs. French, a fancy mat (2nd con.); Sebastian Schuback, a bag of wheat; a Friend, two pairs of satin boots, three pairs of coloured mittens, twelve yards of lace, knitting cotton, embroidery, cotton, and two pieces of stamped muslin (2nd con.); Mrs. Morgan, a spirit lamp and bread-plate; and so the list goes on. The contributions are, of course, afterwards sold.

THE HOTEL MOVEMENT.

A "LIVERPOOL Adelphi Hotel Company (Limited)" is being formed, with a capital of 100,000*l.*, in 10,000 shares of 10*l.* each. The object of this company is to purchase the Adelphi Hotel, at Liverpool, which is offered for sale in consequence of the death of Mr. Radley, the late proprietor. Its size, however, says the prospectus, is quite inadequate to the constantly increasing requirements of the public resorting to Liverpool, and it is an object of the present company to make such alterations and additions as will supply what is thus needed.——Another Liverpool hotel company is projected, under the title of "The London and Liverpool Hotel Company (Limited)." 120,000*l.* is the amount of its capital, in 6,000 shares of 20*l.* each. The company are said to have arranged to purchase the lease of the Washington Hotel, but they do not propose to enter into any building operations.—As we have before said, it is (or rather was) to be hoped that new and more reasonable charges were contemplated by these new companies than the rapacious tariffs already in force; but now we have ceased to hope for anything of the kind, as not even promises of any such reform are held out in course of this movement. We regret to find that it has assumed so unhealthy a shape; and it requires little foresight to perceive that the only pockets which are likely to be filled by it are those of the old hotel-keepers, who are getting rid of their exhibitant and hence poorly-paying concerns to new companies, in getting up which they are themselves probably chief hands.

MODES OF SEPULTURE FROM EARLY TIMES.

A LECTURE on "Sepulture and Monuments from the Earliest Times" was recently delivered by the Rev. A. Dalton at the Chelmsford and Essex Museum. The lecturer, after alluding apologetically to the largeness of his subject, proceeded to state that there had been four chief or different modes of disposing of the dead:—1st, by burial; 2nd, by burning; 3rd, by exposure to the atmosphere and the ravages of the birds of the air; and, 4th, by launching the bodies on the water to be the food of fishes, as by the Hindoos; but he proposed to confine himself to the two first. The oldest records on this subject came from the Egyptians and the Jews; and, taking the Jew first, he proceeded to show that there was a sort of embalming with spices and gums, which were spread on a linen cloth; and the corpse, being dressed in a best suit, was swathed in this, something after the manner of the Egyptian,—the Jews not being buried in coffins, or if they were, they were open ones. In some cases the bodies were burnt, as in the cases of Saul and his son. The tombs were mostly hewn out of the rock. Generally, the Jews did very little in the nature of monuments to their friends, though they raised small pillars, as over Rachel's tomb; but very seldom were any inscriptions found on their tombs for many ages. He then came to the Egyptians, and described the process of embalming or mummifying. Common mummies were merely soaked in a solution of salt: others were embalmed in a more or less costly and artistic manner: the linen in which they were rolled sometimes amounted to 1,000 yards; and it was curious that upon these mummies had been found every form of bandage known to modern surgery. He then proceeded to explain and illustrate the funeral ceremonies of the Egyptians, and gave descriptions of the Pyramid of Cheops, and the tombs of the kings at Thebes. Passing on to the Greeks and Romans, he said, the former, when a person died, washed and perfumed the body, dressed it in a white robe, with a chaplet of flowers and evergreens, and then laid it on a couch outside the door,—the type of our modern lying in state; and it was then conveyed to the tomb, accompanied, as among the Jews, by hired howlers.

The Greeks buried, as well as burnt their dead; in the latter case preserving the ashes in cinerary urns. The poor were more often buried, as burning was an expensive process,—not in the earth, but on it, the body being laid down at full length, and the earth or tomb raised over it. With the early Romans the preparation of the body was similar to that of the Greeks; but the lying in state was not exactly the same. He then passed to the burials of the early Christians in the catacombs of Rome, in which the implement of martyrdom was often found sculptured on the tomb; and, coming to our own country, a description was given of the British funeral modes and monuments. He called attention to Bartlow Hills as specimens of the tumuli raised by the Romans over their dead. In the neighbourhood of them, as well as in other places in Essex, there had been discovered the graves of Roman children. Anglo-Saxon usages were next explained, followed by those of the Normans, and the gradual development of the altar tombs of the succeeding period, the lecturer concluding with descriptions of those of Queen Eleanor and the Black Prince.

STRIKES.

THE navvies at Sunderland, employed in the construction of the tunnel on the new line, from Pallion to the Lambton Drops, have left work, because the contractor would not accede to their demand for shorter hours. Since an accident took place at the tunnel, the men have only worked eight hours a-day, for which they received 4s.; but now that the tunnel has been rendered safe by timber-work, the contractor wished the men to work (as they had previously done) from six o'clock in the morning until half-past five in the evening for the same wage. To this the men demurred, and they were therefore paid what wages were due to them, and left the place.——The engine-builders employed by Messrs. Marshall Brothers, of South Shields, are on strike till their employers follow the example of Mr. Rennoldson, who acceded to his men's application for an advance of wages. There are nearly one hundred men on strike. At North Shields none of the engine-builders are on strike at present.——The joiners at Cockermouth have given notice of their intention to cease working unless their masters advance their wages from 20s., the present rate of payment, to 22s. per week; and also allow them to leave off work at four o'clock on the Saturday afternoon.——A Birmingham paper says, that various and serious differences have arisen between the builders of that town and the workmen in their employ; that propositions and counter propositions have been made concerning the matters in dispute; and that as neither of the parties seem inclined to give way, it is greatly to be feared that this disagreement will terminate in a general strike, commencing on the 1st day of May. Let us hope not.

NEW CARLISLE-BRIDGE COMPETITION, DUBLIN.

AFTER a discreditable delay, the Selection Committee have given the first three places to the undermentioned designs, and in the order given, viz.:—1. Messrs. Page & Turner; 2. Lanyon, Lynn, & Lanyon; 3. May & Pole.

They add in their report,—

"We deem it right, at the same time, to draw attention to design No. 11 (in stone), motto, 'In Memoriam,' and to observe that, while it occupies a high place in our estimation as a work of great beauty and artistic merit, we have felt it incumbent on us to exclude it from competition in consequence of the greater part of the conditions set forth in the instructions to competitors not having been complied with."

The report is signed, Richard Griffith, J. G. M'Kerlie, and Samuel Downing.

VALUE OF LAND IN THE CITY OF LONDON.

A PROSPECTUS recently published gives the following statement of prices realised by properties in London sold within the last seven weeks:—

The auction mart (freehold), containing an area of about 5,800 square feet, sold for 115,250*l.*; which gives an average of 20*l.* per foot.

The leasehold premises No. 80, Lombard-street, occupied by the Colonial Insurance Company, containing only 1,080 feet, sold to a well-known banker for 30,000*l.*, subject to a ground-rent of 500*l.* per annum for sixty-one years; which, allowing for purchase of freehold, and deducting value of new building thereon, gives 37*l.* per square foot.

The leasehold premises in Finch-lane, lately occupied by the London and Middlesex Bank, containing only 680 feet, realised 10,100*l.*, and this subject to a ground-rent of 500*l.* per annum; which, allowing for purchase of freehold, and deducting value of new building, gives about 30*l.* per square foot.

LONDON VEHICLES.

THE changes in the manner and appearance of the carriage traffic of the metropolis, during the last quarter of a century, is very marked; and amongst these changes the most important, perhaps, were the introduction of the Hansom cab; the swift-running Pickford's vans; the heavy covered waggons which convey merchandise, &c., from the docks to the City warehouses; the Parcels Delivery Company's carts; and more recently the improved and enlarged style of omnibuses drawn by three horses. Mr. Shillibeer, who started the first omnibus in the metropolis, has a painting of this public carriage: it has three horses, and is large, and very much of the same appearance as those which have been only recently introduced, except that there is no accommodation for passengers in front. At present there seems to be a retrogression to close boxes of the very narrowest calibre. The other day we saw several of the steam fire-engines turning out, and rattling along the streets; a striking picture, with their steam and smoke, brightly polished steel work, firemen, and horses. The last and most important of these changes is being accomplished by the advance of railways into the heart of the population and the busiest neighbourhoods. Now the locomotive has made its way to Pimlico and Charing-cross, and soon its noise and whistle will be mingled with the notes of the bells of St. Paul's.

AN AMATEUR ON MODERN BUILDINGS.

SIR,—The true principles of architecture should be the same everywhere. The fundamental principles, at which not even the little-minded critics of the present day can cavil, are truth, appropriateness, and beauty. Truth leads the way; appropriateness is certain to follow; and together they will form true beauty,—the beauty which the Greeks conferred on their buildings and which the Edwardian architects conferred equally on theirs.

If we wish truth to show itself in the piles of buildings we are now everywhere erecting, we must at once abandon stucco. Stucco, rusticated in imitation of stone, is a trick fit, if fit at all, only for gin palaces. May I ask your readers if any of them have seen the *improvements* (ill-treated word!) in Bloomsbury, about Russell-square. I have the misfortune of residing in that locality, and have seen them progress. I have seen pieces of wood stuck in the bricks, and projecting, covered with plaster, and made into a cornice. Then there are massive keystones in square-headed windows, the keystones being constructed on the same principle, or rather on the same unprincipled plan as the cornice. Then the whole is surmounted by a balustrade, which sets off the dirty chimney-pots, of all shapes and sizes, which appear in the background. But I am happy to say that, in the city of London, I see buildings which restore my peace of mind. Take, for example, the warehouses erected for Messrs. Moses & Davis, in Cheapside. This, with the exception of the ground-floor and cornice, is of brick; not a brick building *à la* Baker-street, but one of the most richly ornamented buildings in the city. Take another example, a much plainer building this time,—Messrs. Prew's establishment in Holborn: this immediately strikes the eye as being a satisfactory building, though its ornament is very slight.

A great element of truth in architecture is, in my opinion, the distinct division of the different stories, giving to each its proper adornment, and not carrying columns or pilasters up the whole front of the building. I consider the various façades of St. Paul's Cathedral far more beautiful than those of St. Peter's, at Rome; and for this reason, that in the former each of the two stories has its own separate order, while in the latter one gigantic order is placed over the two stories.

If we consider various buildings in London, we shall see which are the most pleasing to the eye. Take the Goldsmiths' Hall, for instance, a ponderous building; its ornament, so freely bestowed, being inadequate to the task of giving it an appearance of lightness. This ponderousness is produced entirely by the columns round it, which extend up the entire building. Similar to this is the Gresham College, at the corner of Basinghall-street, which is treated in precisely the same way. The Mansion House is another building of the same class; and the Royal Exchange would have been much more handsome if the order had been omitted in its flanks, and confined entirely to the principal front. I do not see any objection to a portico *in antis* covering more than one story. The portico is something more than a mere ornament: it is too large, and too prominent a feature for that: its ostensible purpose is for protection from the weather, and has therefore nothing to do with the stories and windows of the building to which it is attached. It is not my object here to discuss its use, abuse, or disuse; but if its use be not very great, I may venture to suggest that the sooner it is done away with in London the better; for not one portico in twenty is made as beautiful as the importance and size of the feature demands.

The London and Westminster Bank is a happy example of a regular entablature, with architrave, frieze, and cornice placed over two stories of windows, without the other parts of the order to support it. The space between the windows is occupied by rusticated piers. Now, if these piers extended from the basement to the entablature uninterrupted in any way, they would become equivalent to pilasters, and the whole façade would be as faulty, in this respect as any of those mentioned above; and if they were to be divided into two stories, the lower one would cease to be a part of the whole, supporting the entablature, which would entirely depend upon the upper story, and become in consequence disproportionately large. But both these extremes are avoided by taking a middle course. The taste and skill of the talented architect caused him to introduce a string-course,

without ornament, which runs along the whole façade between the two stories, and which passes through the piers,—dividing them, it is true, but not sufficiently so to disconnect the upper and lower portions. They are divided into two stories, but still remain one whole, and that forms a beautiful façade.

One of the latest new erections in the City is that in Threadneedle-street, for various companies, of which you gave a view in your last number. It contrasts favourably with its neighbour the Telegraph Office, which, besides being daubed over with stucco, has no bold horizontal lines to mark the different stories. Opposite these buildings, in Cornhill, is one of great beauty, belonging to the Universal Marine Insurance Company, which serves to illustrate the principle I am advocating. Many others might be instanced; some almost entirely without ornament, yet beautiful, simply because this great element of truth (which is beauty in itself) is observed.

It may be noted that Sir Christopher Wren usually preferred to put two rows of windows in his churches—the lower and smaller to light the space under the galleries—to having one row, which would be cut in two by a hideous gallery.

In conclusion I must draw attention to a warehouse in Newgate-street, nearly opposite the hall of Christ's Hospital, in which the horizontal and perpendicular lines are both very bold, giving the building a very peculiar appearance, by cutting it into oblongs and squares of various dimensions. This should certainly be avoided; for, though checks do very well for tablecloths and trowsers, they do not suit the fronts of buildings, even though the buildings themselves are for the sale of such goods.

Ex stirpe.

MURMURS FROM THE SEA-SIDE.

In last Saturday's *Builder*, in the article headed "Variorum," is a notice of a little book on Smoky Chimneys. *A propos* of them, will you allow me to describe to you some chimney-pots which I saw at St. Leonard's, and which were designed to prevent the smoke returning down the chimney in windy weather? Around the pot at equal distances, four conical tubes are placed wide mouth downwards, with openings at the top into the large central tube, so that the smoke, if beaten back by the wind into the pot, may escape by these tubes instead of returning into the room. I am unable to speak from experience of the efficacy or otherwise of this arrangement, but the superintendent of the works where they are made (in Hastings) assured me that he had never known one to fail, and that they are especially effective when placed upon the short chimney-shafts of attic chambers.

In addition to their alleged merit of curing smoky chimneys, they possess the great recommendation of being pleasing to the eye. Generally speaking, a red clay chimney-pot is a most unsightly feature to a house, but these are really picturesque, especially when seen against the deep blue sky that usually smiles above a seaside or country town. For stone or stuccoed houses the pots are baked white; but the form is not so appropriate for that as for the Elizabethan red. Great variety of outline can also be obtained by arranging the chimneys in stacks of 3, 4, and 6; and again, by placing the pots diagonally on alternate stacks, and square on the intermediate ones.

The manner in which house building is progressing in and around Hastings and St. Leonard's is something marvellous. Rows of good houses are springing up in all directions, with plenty of small ones too; and for miles out the downs and fields are studded with buildings in all stages of construction. The inhabitants attribute part of this bustle and excitement to the Princess's recent visit; and one line of houses, facing the sea, and very near to "Bo-peep" station, whither St. Leonard's now extends, attests the fact by bearing for its name "Sandringham Place."

While writing about St. Leonard's, the *Builder* being a general reformer, I will touch upon a subject wherein there is scope for amendment, there as elsewhere—the enormously long morning service to which, in some churches, congregations are condemned to listen.

Last Sunday I went to St. Mary Magdalen's, having learned that the Bishop of Carlisle was to preach in behalf of the "House for Invalid Gentlewomen." Not because I run after Bishops as such, but the church named chanced to stand conveniently, and, better inducement still, I much approve of the worthy charity for which he was to plead. Bearing in mind the unusual length of the preceding portion of the service—second lesson having been seventy-five, and the Gospel fifty-four verses long—one would have thought the Bishop would have endeavoured to make his sermon particularly short and pithy. Instead of this he rambled on (I must say it), in a feeble voice and uncertain manner, until all one's charitable enthusiasm was entirely extinguished; and not until one o'clock, when we ought all to have been on our way home again, did he touch upon the charity for which he stood there to bespeak our aid. After the sermon was ended, the collection was made from pew to pew; a lengthy process, that necessitated the slow and measured reading of the whole of the offertory sentences, and then we had to listen to—*praying* it was out of the question, fatigued as we were by that time—the prayer for the church militant. Not until a quarter past one o'clock were we allowed to escape again into the fresh air.

People really do not go down to the sea-side to be shut up in a narrow pew of a small and crowded church to listen for two hours and a quarter to "vain repetitions." Oh! that we could have, somehow or other, a little more of the soul and a little less of the body of religion bestowed upon us by our clergy!

A Seaside Lounger, but not an Idle One.

ZINC ROOFS.

A correspondent some time since asked for information as to the right way to lay zinc. I shall be happy to give him the information, for there is more importance in the mode of laying and the arrangement of woodwork than is yet generally known. Many roofs are spoiled for want of care in these points.

After getting good falls and drips, I lay every sheet of zinc perfectly free for contraction and expansion, and in such a manner, that in the event of alteration or cuttings in roofs, the sheets, 8 feet by 3 feet, can be taken up and relaid without injury to the metal.

I lay none but Devaux's pure Vieille Montagne zinc, and refuse the work unless the proper thickness is allowed, viz., No. 13 as the minimum, and 14, 15, and 16 as the best gauges I prefer to employ. Good zinc thus laid is quite as lasting as lead, if the woodwork is arranged according to directions given.

I covered the Victoria Station, Pimlico, for Messrs. Devaux, and every sheet now lies perfectly free and unconfined: no wet has got in through the zinc since the roof has been covered. The skylights and iron gutters have let wet in on several occasions, but on examination it was found that the zinc was perfectly sound and watertight.

James W. Tyler.

ECLECTICISM IN ARCHITECTURE.

Sir,—Here is the question of the moment that some of the lecturers of the season, either at South Kensington or the Architectural Exhibition, should grapple with,—"*l'éclecticisme est la plaie de l'art*,"—that memorable motto of Lassus at the competition of Lille. Would that it had struck deeply into the minds of our architects. It is the "sore" we have suffered from for the last ten years, and we are still in full state of disease. Our architects rush to France and Italy, are struck with the grandeur of French and Italian Gothic, and come home and build churches and domestic buildings with as much French character as they can introduce. They entirely forget that Gothic grew up in every land, province, and even county, in accordance with the materials at hand, the wants of the people, continuing the traditions as heretofore practised, expressing the national mind and poetry fully, and being every way in harmony with the surrounding scenery. It seems to me to be monstrous to design a village church with pretension in many details of a French cathedral, and to set that down on the banks of the Thames in Berkshire. The whole thing is out of place. The true little Berkshire church is just the very thing required for the spot. On the score of reason, it appears so unreasonable to introduce foreign effects into England. I want to know who would go and build a Berkshire church in Pisa or Carcassonne. To build a Belgian town-hall in England is absurd, since the very municipal constitution is wholly different; and, moreover, they are used for different purposes, to say nothing of the inappropriateness of style. Moreover, I see in this eclecticism a total want of all love for national tradition and poetry. No man can be thinking of his own poetry and traditions when he is thinking of the grandeur, massive magnificence, and superabundant richness of detail of French Gothic. Our architects say French Gothic is so grand. Yes, I know it; but it is the very quality all out of place in English scenery, and a quality having no tradition in this country. Here our scenery is small, confined; our architecture is homely, without any pretence. There can be no prospect for good architecture so long as our architects are not Englishmen!

It is common in modern work to see all the pretentious grandeur of a cathedral, the superfluity of ornament and detail, given to a parish church. Our modern architects cannot do village work: they do not seem to be able to build a Sussex or Berkshire village church. The love of French grandeur and massiveness has entirely ruined their taste for simplicity. Cardinal Wiseman is to lecture on the future of English architecture; will he grapple with these points?

A. W. T.

SANITARY MATTERS.

Wellingborough.—Any one who has watched the march of improvement in Wellingborough during the last ten or twelve years, remarks a local paper, cannot fail to be struck with the progress the town has made. Perhaps the sanitary improvements are the most numerous, and the best carried out, of any. A glance at these may not be uninteresting, as no one knows how long the drainage of the town was a disgrace and a nuisance. The rising generation know little or nothing of the filthy cesspools, the surface drains, and the manure-heaps which were allowed to exist under the eyes and noses of the inhabitants of Wellingborough of bygone years. The principal parts of the town were very bad in this respect, and the yards, byways, &c., were abominable in many instances. It grew to such an extent, that a reformation was imperative, and the establishment of the local Board of Health, and the laying down of the new sewerage, were the result. There was a good deal of bungling in the undertaking, which elicited (and not unnaturally) a considerable amount of grumbling among the ratepayers, in consequence of the unworkmanlike manner in which the work was done. Penurious landlords growled at the expense, and tenants grumbled at an increase of rent. But the thing has worked well in spite of all obstacles: the town is well drained; and few, we imagine, of either landlords or tenants now regret the alteration, or would like to go back to the undrained past.

Guisbro'.—A meeting of the ratepayers of Guisbro' has been held in the Toll-Booth, for the purpose of considering the desirability of adopting a general system of drainage throughout the town, either upon the plan submitted to the inhabitants by the late Mr. Richard Mason, C.E., or upon some other approved plan. The hall was crowded to suffocation, popular interest in the question having doubtless been much intensified by the awfully rapid rate of mortality which has characterised Guisbro' for some time past, and more especially during the last twelve months. The following resolution was carried by a large majority;—"That it is the opinion of this meeting that the town absolutely requires a system of town drainage; and that steps be taken at once to carry out that most necessary and desirable object." Afterwards the following resolution was carried *nem. con.*;—"That a committee of the following gentlemen (viz. 37 of the representatives of all kinds of property in the town) be formed, and requested to consult some practical engineer, with a view of carrying into effect the plans of the late Mr. Mason, C.E., or some other plan equally effective; and also to obtain estimates and discuss the most advantageous mode of carrying out the drainage of the town, reporting the results of their labours to a future general meeting of the ratepayers."

Llanelly.—Fever and smallpox are prevalent in this place, several persons having recently died from these epidemics.

Sanitary Reform.—The registrar-general has recently brought under the notice of the authorities of the great cities of Europe a plan for securing returns of diseases and of the weather, simultaneous with those of London. Vienna, which is the seat of one of the greatest medical schools of Europe, has already responded to his application: he expects to receive from that city a regular series of returns, which cannot fail to afford interesting comparisons with those of London. Vienna is about to adopt (not before they were needed) many of the sanitary improvements which have proved efficacious in England; and Dr. Glatter, a zealous officer in the city council, will be able to measure their effects on the reigning disease and the rate of mortality.

AYLESBURY.

IN consequence of the proposed erection of a new Corn Exchange on the site of the White Hart Hotel, in the Market-place, as we mentioned recently, the central block of buildings now called the Market-house is to be removed, and the space left open, which must improve the surrounding property, as well as also the health of the inhabitants. A correspondent writes,—"This old building is a copy of the Temple of the Winds, at Athens, but this fact will not save the doomed structure, which is neither useful nor ornamental. The White Hart is one of the oldest inns in the county. In Cromwell's time it was kept by one Gilby, a Parliamentarian, zealous for the cause of the Protector. One night a way-worn traveller sought rest and refreshment; but mine host soon found out the rank of his guest, who proved to be the Earl of Rochester, flying for his life. Gilby informed the earl it was his duty to arrest him, but the earl's promises overcame the innkeeper's scruples: he assisted him to escape, and after the Restoration was substantially rewarded. The casual visitor to Aylesbury fond of old paintings will find some old portraits in the smoking-room of the George Hotel. Among them is one of the celebrated Countess of Pembroke, sister to the Duchess of Cleveland. These portraits, if not original, are very excellent copies, and worthy the attention of the connoisseur."

CHURCH-BUILDING NEWS.

Lowestoft.—The foundation of the new Bethel, which is situate in Commercial-road, was laid on the 26th of October last by Mr. Edward Leathes, and the building was opened for divine worship on the 4th instant. The building was neatly decorated by Miss J. W. Gowing. The cost of the erection, including the land, was about 530*l*. The building is designed in the Early English style of architecture, and consists of a nave and chancel. The nave is lighted by a five-light window in the gable, and double lights in every bay: the chancel window is in three lights. The glass used is the rough cathedral plate cut in quarries, with a tinted margin. The roofs are open, with stained and varnished timbers. A system of ventilation has been adopted by match boarding on the under side of the rafters. Open benches are used, with oak-stained seats and backs, and cast-iron stands of a Gothic pattern. As soon as the walls are thoroughly dry, it is proposed to embellish them with suitable passages of Scripture. An appropriate external feature has been added to the nave gable, in the form of an anchor, with cable complete, carved in relief upon a stone shield, with the words "Sailors' Bethel" thereon. Mr. James Balls, mason, executed the carving. The committee purpose, immediately funds permit, to build a class-room in the rear of the building, for which a space has been left. The edifice was designed by Mr. W. O. Chambers, of Lowestoft, architect, under whose superintendence the church has been erected. The contractors were Messrs. J. Newson, jun., T. Tuck, and C. Scarlett, the fittings being supplied by Mr. J. W. Ling.

Bovinger.—The parish church of Bovinger, near Ongar, has been re-opened after considerable alterations in the chancel, which were carried out under the direction of Mr. Chancellor, of Chelmsford. The work, carried out by Mr. Brown, of Bocking, consists of a new arch of Bath stone, carved oak stall seats, encaustic tiles, and a timber roof, the cost of which has been defrayed by the rector, the Rev. W. M. Oliver.

Buckingham.—The ceiling of the church, with its ornamentation, is found to be in such a decayed state that immediate repair has been found necessary, and the church is now filled with a scaffolding and repairs are going forward.

Birchington.—At a meeting of the church restoration committee, Mr. C. N. Beazley, the architect, attended to submit to the meeting the result of an interview with Messrs. Gascoigne & Godden, of Canterbury, the builders. It was determined that the works should be commenced immediately after Easter, and the contracts were to be signed in a few days. The chancel will be restored, new roofed, and seated, at the expense of the Dean and Chapter of Canterbury. The tower and spire will be repaired, and the bells re-hung, towards which the Trinity Board have contributed a grant of 100*l*. In the nave and aisles the roofs are to be thrown open, repaired, and re-tiled. The floor will be levelled. New open sittings of uniform character will be placed, affording accommodation for 542 (double the number of the present sittings). The cost of this part of the work will be about 1,200*l*., of which about 700*l*. or 800*l*. have been already got together.

Shipton-on-Stour (Worcestershire).—For the erection of buildings at the Cemetery, in accordance with the design of Mr. W. H. Knight, of Cheltenham, the contract tendered by Mr. H. Parker, of Shipston, builder, has been accepted, at the sum of 1,500*l*., the work to be completed by November next. The buildings, with the exception of the lodge, will be of stone, and consist of two chapels, one for the Church of England, the other for Nonconformists, with a tower and spire, central dome 70 feet in height, and a porter's lodge at the entrance gate. The land purchased for the cemetery is on an eminence, and commands a view of the surrounding district.

Hadlip (Worcestershire).—The church here has been restored. Mr. W. J. Hopkins, consulting architect to the Diocesan Church Building Society, furnished the plans and superintended the work; and Mr. Warner, of Malvern Link, was the builder. The chancel has been rebuilt, and lengthened eastward. The east window is a triple-light Early Decorated. Windows of single and double lights are in the south and north walls. The roof is open timber work, with arched principals, and of the same height as the nave roof. A vestry on the north of the chancel opens thereto by a segmental pointed arch, and a similar arch separates the nave from a new transeptal chapel on its south side. A two-light Decorated window has been opened in this chapel, and the windows of the nave are of the same style, single and double lights, the former being old remains and the latter new work. A portion of the walls of the nave is old, and so is the tower. The latter stands at the west end, is of nearly the same width as the nave, and through its base is the principal entrance to the church. The church is warmed with a hot-water apparatus supplied by Messrs. Badger, of Worcester. Externally the roofs and main portion of the walls are new, tiling parti-coloured.

Gloucester.—"It is understood," says the local *Chronicle*, "that an attempt is being made in earnest to carry out a thorough renovation of our beautiful cathedral. We hear that the Lord-Lieutenant had a conference with the dean and resident canon on Tuesday last. As this first meeting was strictly private, we have no means of ascertaining what occurred. It is, however, believed, that an immediate appeal to the county was determined upon, and that the Lord-Lieutenant, the Lord Bishop, the Chancellor of the diocese, and Mr. Holt, the registrar, gave promises of liberal contributions."

Cheltenham.—The friends of the Rev. George Roberts are about to build a new church. It is estimated that 10,000*l*. will be required, and 3,000*l*. have been subscribed towards that sum.

Hyde.—Exertions are now being made for the erection of a church in the parish of St. Thomas, wherein divine service may be performed in a more seemly manner than is possible under existing circumstances. The architect for the new church is Mr. J. Medland Taylor, of Manchester, who has prepared designs for a church to seat about 800 persons. The material is stone, to be obtained from local quarries, for the most part with dressings of Hollington stone.

Gateshead.—The committee of the proposed Church of St. James have resolved to call in the aid of Messrs. Austin & Johnstone, of Newcastle, architects, to prepare plans (in accordance with the instructions of the Incorporated Church Building Society) for a church to accommodate at least 530 persons, and at a cost which should not exceed in all 2,500*l*.

STAINED GLASS.

St. Michael's, London.—Ten cartoons have been ordered for one of the great windows in the new church of St. Michael's, London, from Moritz von Schwind, an artist who prepared some of the glass paintings in Glasgow Cathedral.

Springfield Church (Essex).—A painted glass window, representing Faith and Hope, has lately been inserted in this church by Mr. R. W. Peacock, to the memory of his brother, Mr. Mark Beauchamp Peacock, late solicitor to her Majesty's post-office. It was designed by Mr. Holland, of St. John's, Warwick.

St. Matthew's Church, Hastings.—A stained-glass window has just been presented to the church of St. Matthew, Tivoli, by members of the congregation and other friends, in testimony of their esteem for the Rev. John Cumberlege, B.A., who built this church in 1861. The subject is the "Ascension." Messrs. Clayton & Bell, of London, were the artists.

Rodmell Church, Sussex.—Six stained glass windows, executed by Mr. Wailes, of Newcastle, have recently been placed in the little village church of St. Peter's, Rodmill. Five of these have been presented by Mr. B. G. Windus, of Tottenham, Middlesex, the sixth being the gift of the rector, the Rev. P. de Putron. The subjects of two windows, on the south side, are from the parables of "The Good Shepherd" and "The Sower:" the third, near the baptistery, is "The Presentation of our Lord in the Temple." The three larger windows are placed on the north side, each containing two medallions, the subjects of which are taken from the Old and New Testaments, type and anti-type, "The Crucifixion" with "The Sacrifice of Isaac," "The Resurrection" with "Joseph being taken out of the Pit," and "the Ascension of our Lord" with "The Translation of Elijah."

Little Ellingham Church, Norfolk.—A three-light memorial east window has been put up in this church by Mr. F. Preedy. The principal subjects are "The Agony in the Garden," and "The Ascension," with four other Scriptural subjects in the side-lights. The work of restoration at this church has been done under the direction of Messrs. Mallinson & Healey, of Bradford, architects.

Christ Church, North Shields.—The family of the late Mrs. Coppin are placing a window in this church, in remembrance of their mother. Mr. Wailes, of Newcastle, is the artist. The centre piece is illustrative of obedience to parents, and the two other groups are "Feeding the Hungry" and "Clothing the Naked."

PROVINCIAL NEWS.

Brighton.—The widening of the King's-road and Junction-road, from Ship-street to the western entrance to the Chain-pier, is under consideration. The computed cost of this work is nearly 10,000*l*. The King's-road, opposite Market-street, must be widened 40 feet, and farther on in proportion (remarks the local *Herald*, while speaking of it), so as to make one wide sweep of promenade and roadway from one end of the town to the other.

Ipswich.—At a special meeting of the town council, the Town-hall committee report was read, the conclusion of which is as follows:—"Your committee therefore recommend that a new town-hall, museum, and library should be erected upon the site above referred to, namely, that of the present town-hall and adjoining property; that the council should authorise the expenditure of a sum of money, not exceeding 10,000*l*., for the erection of such town-hall, museum, and library; that a committee be appointed by the council to settle the details of the accommodation required in the proposed new buildings; that advertisements be issued inviting plans for the proposed buildings; and that the committee be authorised to expend a sum not exceeding 200 guineas, in one or more premiums, for securing such plans." After some discussion the report was approved of, and the sub-committee of the Estate and Paving and Lighting Committee were appointed to carry out the report.

Norwich.—The report of the St. Andrew's Hall restoration committee presented to the corporation states, that the subscription fund realised the sum of 1,437*l*. 11s. The total outlay connected with the restoration and improvements amounted to 4,489*l*. 6s. 6d., and the payments made on account of such expenditure to 2,323*l*. 18s. 8d., leaving a balance unpaid of 2,165*l*. 7s. 10d., of which in the opinion of the committee 1,741*l*. 6s. 5d. might be fairly charged upon the tonnage revenues, the balance, 424*l*. 1s. 5d., to be provided by the city committee from corporate funds. After some discussion the report was received, and the committee, consisting of the parliamentary, and bye-laws and finance committees, was appointed to consider the best mode of paying the debt, with the power of taking the opinion of counsel, and to report to the council thereon.

Doncaster.—The race committee, by a majority of seven to four, have recommended to the town council certain alterations at the stand and enclosure, which will ultimately involve a sum of at least 1,500*l*.

Books Received.

"How 'Nicely' we are (locally) Governed," with especial reference to Shoreditch, St. Luke's, and Bethnal-green. By One Who Knows. (147, Fleet-street.)

This pamphlet is coarsely written, and doubtless exaggerates greatly; but it reads, nevertheless, as if there were quite enough truth at the bottom to call for the interference of a more independent class of ratepayers than those who now usually take office. The writer asserts that the head-money, 5s. a day, allowed to members of committees when making "surveys," is an inducement to an improper class. One quotation will serve to show the straightforward character of the writer's charges:—

"The monster evil connected with our present representative system will be found amongst those who take office ostensibly for the public good, but actually to 'work the oracle' for certain contractors. The ramifications of this kind of duty pervade the whole mass to an extent that the uninitiated would hardly dream to be possible. We frequently see the sums tendered by able contractors passed over by some of the highest Boards, simply because they are not (query, confidentially?) known. This, when interpreted, must be taken to mean that the extent of their 'bleeding' capability is untried. Your 'sure' contractor is a great card with the needy scheming people who can talk, are dabsters at 'jobs,' and have abjured all squeamishness. When all other sources of refreshing gain are dried up, or become devastated, it is blandly hinted to the contractor that discount for the patriot's little acceptances would be esteemed, and forthflows the yellow clinking rill, never, probably, to return to its parent source, for somehow it never is 'quite convenient' to the patriot to regard the date on the stamped paper thus adorned with his signature."

VARIORUM.

"Fast in the Ice," "Fighting the Whales," and "Away in the Wilderness," are the titles of three little books forming part of "Ballantyne's Miscellany," published by Nisbet & Co. The object of the Miscellany, according to the preface, is to place within the reach of the working classes, information now only to be found in expensive books, and this object is carried out very well. A little tale is worked up in each volume so as to convey the information in an attractive form. The books will please boys of all classes.——"Curiosities of Savage Life." By Jas. Greenwood (S. O. Beeton, Strand). In two smart volumes (first and second series), Mr. Greenwood has brought together from various sources a large amount of interesting matter concerning savages of all countries. Treated of under the head of subjects, as "Warfare," "Incidents of personal Peril," "Religious Rites," and so on, the various countries are not kept very clear; but be that as it may, it certainly makes amusing reading. Each volume has nine illustrations, printed in colour, besides a considerable number of wood-cuts. ——The illustration-producing-power of the Messrs. Dalziel is immense. Their "Illustrated Series of Standard Works" is but one example, though a great one. This includes "The Vicar of Wakefield," now in progress; and "The Arabian Nights' Entertainments" (Ward & Lock, Fleet-street), both very fully illustrated and very cheap. Touching the first of them, the engraving is certainly better than the designs. The Vicar and his family are old friends of ours, and we do not find their likenesses in any of the illustrations of Part No. 1. The group at the head of Chapter I., in fact, is enough to deter any man, with an instructed eye, from turning over another leaf. It is simply abominable. In the "Arabian Nights'," too, we are forced to confess that very few of the illustrations give us any pleasure, notwithstanding the excellent names on the title-page. The sooner the Messrs. Dalziel have a little serious talk with their artists the better.

Miscellanea.

Artificial Rainbow.—M. J. Duboscq, it appears, has contrived for the French theatre a method of imitating the rainbow, of which *Cosmos* speaks highly. M. Duboscq employs an electric light, obtained with the aid of 100 Bunsen elements. The first lenses of his optical apparatus render the rays from this source parallel, and transmit them through a rainbow-shaped hole in a screen to a double convex lens of very short focus, from which they pass to a prism, and emerge with sufficient divergence to make an effective rainbow on a screen about 6 yards off. This rainbow is said to be brilliant even when the whole scene is lit up.

Accident.—A building in the course of erection, in George-street, Pontypool, and intended for a warehouse, has tumbled down. A workman received considerable injury.

Church Building Acts. In the Commons last week, in reply to Mr. F. Powell, the Attorney-General stated that it was intended to introduce a Bill for consolidating and amending the Church Building Acts and New Parishes Acts shortly after Easter.

New Pier for St. Ives.—The works of the new pier will be commenced forthwith. Mr. Robertson has contracted to construct it for 15,500*l*. It will be 600 feet in length, commencing from the Castle Rocks, and is to be completed in August, 1865.

Public Parks and the Value of Surrounding Property. In connexion with the recent debate on the Hulme and Chorlton Public Park, in the Manchester City Council, and also with the suggested public park at Warrington, and that forming at Oldham, the following statement is worth notice:—The central park in New York has cost that city nearly 1,500,000*l*., and it has increased the taxable valuation of the surrounding property nearly 5,500,000*l*.

Railway to Cape Clear.—We are told that Mr. Forsyth, engineer to the Board of Works, has been inspecting Cape Clear, where it is the intention of the Board to erect a pier and breakwaters in the south harbour. The work is estimated at 6,000*l*., of which sum Sir Henry W. Becher has contributed 500*l*. We are informed, on good authority, says the *West Carbery Eagle*, that Mr. Forsyth inspected the adjacent islands with a view to the extension of the West Cork Railway to Cape, *viâ* Baltimore.

Victoria Tower.—In reply to a question in the Commons last week, Mr. Cowper said that the Thames Embankment Commissioners had made a valuable recommendation for the enlargement of the space near the Victoria Tower, and for the extension of Old Palace-yard to the river bank south of the Tower, by which the wharves and buildings in the neighbourhood would be cleared away, and all elements of danger removed. This recommendation, however, involved the expenditure of a large sum of money, and therefore he was unable to say when he should be able to submit a proposal to the House.

Electric Telegraph Companies.—It may be useful to our readers to know that an Act of Parliament (26 and 27 Vic., c. 112) was passed last session for regulating the construction of electric telegraphs. Under the 22nd section of this Act, where telegraph posts are placed within ten yards of a dwelling-house, or the wires across an approach to a dwelling-house, without the consent in writing of the owner or occupier, it is competent for either owner or occupier to give notice to such company to remove the posts and wires, and unless the posts or wires are removed, or the differences arranged, to send a copy of the notice so given to the Board of Trade, who will make "inquiry and examination," and "hear and determine the matter of objection." The decision of the inspector from the board is to be final, and costs are to be awarded against the company, or not, as he may direct.

Bolton Fish Market.—A new fish-market is about to be erected in the immediate vicinity of Bolton market. The basement and sub-basement of the new edifice will be divided into ice cellars, cellars for cleaning and storing fish, and all the requisite conveniences, and will also have two shops on the side which faces Bridge-street. The ground-floor will be devoted entirely to the purposes of the fish-market: it will measure 113 feet by 34 feet inside, and be divided with light ornamental iron screens into the requisite number of stalls, having a side entrance in Rushton-street, and the principal one in Corporation-street. The sides of the building will be arcaded both internally and externally, the piers and dressings being of stone, and the intermediate spaces of red brick, with the exception of the basement, which will be built entirely of rock-faced stone. The market will be lighted principally from, and ventilated by, the lantern, which extends from end to end of the roof. The roof itself will be framed with wrought-iron elliptical principals, springing from carved and moulded stone consoles, connected with longitudinal beams: over these boarding will be fixed to carry the slates. Mr. J. W. Best, of Bolton, is the architect. The outlay will be between 4,000*l*. and 5,000*l*.

A Liverpool Chapel Builder.—Mr. George Pennell, of Liverpool, has given to the Primitive Methodist Connexion four chapels and five houses, all of which are situate in Liverpool, and are worth about 5,000*l*.

Map of Seat of War in Jutland. Mr. Wyld, of Charing Cross, has published a map of the Environs of Fredericia, and the country around the Little Belt, on a good large scale, although the map is small in itself. The references are clear, and the positions of the Austrians are marked.

Brussels.—The Bishop of Oxford is to lay the first stone of the new English church here on Tuesday, the 5th of April. It has been long contemplated, but a site has only lately been obtained after great difficulty and very large expenditure. The church is to be built of the Antwerp bricks, is to accommodate about 700 people, and is to have a lofty tower and spire. The site is in the Rue des Drapiers, leading out of the Avenue de la Toison d'Or. Mr. R. J. Withers is the architect.

The Shrine of St. Manchan.—At the last meeting of the Royal Irish Academy, Sir William Wilde read a paper "On the Shrine of St. Manchan." He exhibited the ancient shrine, which was at the Dublin, London, and Kensington Exhibitions. It exhibited much interest in point of its artistic excellence. He had thought a great deal on the subject of restoring it, and summoned a jury, consisting of Dr. Petrie, Dr. Todd, the president, Mr. West, and Mr. M'Carthy, and he had, to the best of his skill and ability, with their assistance, effected a restoration, which he exhibited amidst applause.

The "Victoria Park," Belfast.—The *Newsletter*, commenting on our paragraph as to the proposed park for Hulme and Chorlton-upon-Medlock, Manchester, at a cost of 30,000*l*. says: "From the foregoing, the people of Belfast can form some idea of the large amount of money required to *purchase* a site for a public park in other places; yet here, in this good town of ours, although sixty acres are lying waste, under the ridiculous title of 'The Victoria Park,' nothing is being done to form them into what they were intended to be."

Lecture at the Handbridge Workmen's Reading-room.—We have given a specimen of the sort of musical entertainments given at the workmen's clubs, and may now show what sort of lectures are occasionally given. On this occasion Mr. Davidson, the lecturer, who had previously given several lectures on animated nature, devoted his discourse to man himself. First he sketched and explained the skeleton. Then he showed the position and action of the lungs in respiration. Then followed a rapidly sketched view of the front of the chest and arms, showing the action of the muscular system; also, by means of tapes, he showed how the tendons act on the various joints. Next he proceeded to add, within the previous sketch, the brain and spinal cord, showing the origin and action of the nervous system. The skull came under consideration, and was compared with that of the monkey tribe. This necessarily led to "faces," in connexion with which theme Mr. Davidson sketched the sensible face, the inquisitive face, the peaceful face, the combative face, &c., showing the alteration made in the expression by the modification of any one feature. The lecturer went into the subject of the influence of alcohol on the stomach, liver, blood, and brain. You have seen, he continued, how the excessive use of spirits and strong drinks destroys the coating of the alimentary canal, and injures the digestive powers—mixes with the blood, which, poisoned and infected, rushes on like a stream of fire to the brain,—the brain! the source of thought and action. The man is maddened, is driven to acts of violence, and becomes degraded to the level of the brute. But this is not all! Worse still,—the malady thus brought on ends not with ourselves, but is carried on to your children—those sacred charges, those lovely flowers in the garden of life given to cheer and bless us. Yes, in them does the physical and mental weakness engendered by our own neglect of the laws of health re-appear, and they become stunted either intellectually or bodily. Our wives, whose lives have become a portion of our own, whose every thought and feeling is devoted to us,—do men think of them and of home when they drown their hearts and their brains, and outrage the laws of health? The lecturer at the close was greeted with three hearty cheers, which showed well how his instructive lecture was appreciated.

OXFORD CORN EXCHANGE.—The new exchange has proved so great a success that the directors recommend a dividend of 20 per cent. on the first year; and that for the future the charge for stands, with desks, be reduced from three guineas to two guineas per annum, including admission.

THE BRISTOL ACADEMY OF FINE ARTS.—The new exhibition of the Bristol Fine Arts Academy is one of the largest known for years, and the paintings are said to be of a high order. The number exhibited is 150 in excess of last year; the oil-paintings being 334 and water-colour 147. There are many local works exhibited; and many metropolitan artists are also exhibitors. At the Graphic *Conversazione*, which is considered the formal inauguration of the exhibition, a large and fashionable company attended. The principal object of attraction in the corridor on the "Graphic" floor was a large painting by Turner, lent by Mr. E. Fripp.

THE BRADFORD RESERVOIRS.—Sir George Grey has stated in the House of Commons, that the mayor of Bradford has informed him that the fears expressed by Mr. Ferrand, in the Commons, as to the Doe Park reservoir, are much exaggerated; that some repairs are going on at the reservoir; and that with the concurrence of the engineer instructions have been given to draw off the water, so as to prevent the possibility of accident while the repairs are going on. He further informs Sir George, that the engineer of the Bradford Corporation is Mr. Leather, of Leeds, and that he had nothing whatever to do with the construction of the Sheffield reservoir. Sir George had no information as to any other reservoirs belonging to the Bradford Waterworks. Mr. Ferrand, however, still insists that the Bradford reservoirs are in an alarming condition.

A PEOPLE'S HALL, CLUB, AND INSTITUTE FOR BATH.—A public meeting, convened by the mayor in consequence of a numerously-signed requisition, has been held in the Guildhall, to consider and adopt measures for the erection of a people's hall in Bath. There was a good attendance, including the mayor, who presided, the recorder, and several members of the People's Hall Committee and the Penny Reading Association. The following resolutions were passed by acclamation:—That it is desirable to promote the erection of a people's hall and club, with the following objects;—1, A large room for lectures, concerts, readings, and other means of improvement; 2, Smaller rooms for meetings of clubs, friendly societies, classes, and committees; 3, Facilities to the people to obtain tea, coffee, and, if possible, more substantial meals; 4, A reading-room and free library; 5, An office for a trade and service register; that a company of limited liability be formed, called the Bath People's Hall and Club Company, Limited, to consist of a capital of 6,000*l.*, of which 5,000*l.* shall be raised in shares of 1*l.* each, and 1,000*l.*, if possible, in donations; that the site which appears most eligible is the whole or part of the White Hart premises, and that a strong representation be made from this meeting to the town council, stating the desirability of erecting a people's hall and club, and requesting them to deal liberally with the promoters; and that the management of the affairs of the company be invested in twenty-one directors, two-thirds of whom shall be tradesmen and operatives, the directors to be appointed by the shareholders as soon as one-half the capital has been subscribed.

UTILIZATION OF GAS IN COKE BURNING.—At the Selly Oak Nail Works, Birmingham, a new system of coke burning has been adopted, whereby the offensive and pernicious gases which usually escape to taint the atmosphere and injure vegetation, are turned to good account, according to the *Midland Herald*, by being conveyed to a neighbouring furnace or fire, either for blast-heating, generation of steam, or other purposes where they can be usefully consumed. The new process consists in connecting a series of coke heaps with flues leading into one main flue communicating with the steam-boiler, the draught of which produces a beneficial effect; for as the coal heaps are lighted for burning into coke, the gas and sulphur thereby produced are drawn to the main flue, and from thence to the boiler, where they ignite and pass in streams of flame among the fines of the boiler, generating steam with very slight use of slack. There is a complete removal from the coal of all sulphurous properties, and thousands of tons of coal now considered of no use, may thus be converted into strong and good coke. The invention is patented by Messrs. J. & C. Hawkins, of Walsall.

BLACKFRIARS BRIDGE.—The construction of the temporary wooden bridge across the Thames, at Blackfriars, is so far advanced towards completion, that it is confidently expected to be opened in the first week of April.

EXTENSION OF SUNDERLAND PARK.—At a meeting of the Sunderland town council it has been resolved to complete the purchase of ground belonging to the North-Eastern Railway Company, for the extension of the park, the sum of 10,000*l.* being voted for that purpose.

THE NEWCASTLE-UPON-TYNE SURVEYORSHIP.—For this office, as we have before stated, there were 53 applicants, from the list of which seven were selected for further reduction. The council last week proceeded to the election, and the voting was as follows:—Mr. Parsons, 14 votes; Mr. Fulton, 12; Mr. Lamb, 11; Mr. Britton, 8; and Mr. Stephens, 3. A vote was then taken for the three highest, which gave—Parsons, 17; Lamb, 16; Fulton, 15. The final voting was—Lamb, 26; and Parsons, 22. Mr. Lamb was consequently elected.

NEW ENGRAVING PROCESSES, SUNK AND IN RELIEF.—Some curious experiments, executed before the Emperor and Empress of the French by M. Dulos, are thus described in *Galignani's Messenger*:—A sheet of copper, drawn on with lithographic ink, is subjected to the voltaic pile, by which it receives a deposit of iron on those parts not covered by the ink. The ink is then removed by means of benzine, and the sheet is then in the state of an engraved copper-plate—that is, the design is sunk into the plate, and the deposit of iron constitutes the lights. The plate is now dipped into a bath of cyanide of silver: under the action of the galvanic current, silver is deposited on the copper, and not on the iron. The plate is then taken out, and mercury poured upon it. Now, since mercury exercises no action on iron, it can only attack the silver which has filled up the lines originally made with lithographic ink. Hence, where those lines are, we now see mercury standing up in relief. Plaster of Paris is now poured over the plate in this condition, and thereby an impression is obtained in which the reliefs made by the mercury are reproduced hollow. [Why the ink was removed, or silver deposited, in this case, is not clearly stated.] By the aid of the pile copper may be deposited on this impression, and the hollows will then come out again in relief. One thus obtains not only a plate which may be printed from, but a matrix which will give an indefinite number of plates. For typographic engraving, the sheet of copper, after being drawn upon, receives a coating of silver, which only goes upon the metal, leaving the lithographic ink untouched. The ink is removed, as before, by benzine. The surfaces which are thus laid bare are oxydised, and mercury is again poured on the plate. This metal recoils from the oxydised lines, and collects on the silver, making reliefs where the lights ought to be. An impression in plaster is obtained as before, and the electro-chemical plate which is to be used for the printing has the lines of the drawing in relief as required.

THE ADYTIC LOCK.—In this lock, says the *Worcester Herald*, security against picking is sought and obtained, not by complication of the interior, but by absolutely closing the works of the lock from all observation and from all manipulation with any picking instrument. In the first model the key or check is conveyed into the lock by means of a kind of slotted piston, which moves through a collar or bearing, which, being somewhat longer than the slot, as a matter of course cuts off all communication by means of any instrument used in an attempt to touch the works from the outside. In the second model this object is still more effectually achieved by means of a secondary bolt, which, having in its centre a key-hole or receptacle for the check, enables the same to be introduced to this inner key-hole, provided the latter be brought into coincidence with the outer key-hole of the front plate and door. In order that the check so introduced may pass into the lock itself, it is necessary to move the secondary bolt, which, at the same time that it conveys the check into the lock, also bolts up the outer key-hole, thus closing all access from without, even to the inner key-hole. This same secondary bolt can never be brought into such a position as to allow even an air passage to the lock, thus rendering gunpowder of no more avail than picks to effect an entrance. But perhaps the most novel and valuable feature in this new system of lock-making is the certain retention of a false key or check on its first introduction.

DR. ESSELBACH, superintendent of the Persian Gulf telegraph, had been ill with fever for several days, and the triumphant success of the laying of the telegraph so affected his mind as to produce temporary insanity. In one of his paroxysms of madness he jumped overboard and was drowned.

NEW PATENT-OFFICES.—In reply to a question put by Lord A. Churchill to the First Commissioner of Works, Mr. Cowper said he had been in communication with the Commissioners of Patents with the view of finding more extended accommodation both for their offices and their museum. There was, however, great difficulty in making a suitable arrangement. At present no site had been found. That between Fife House and the proposed embankment of the Thames was not at present available, and could not be disposed of until the river works had made greater progress, and streets had been laid out on each side in connexion with the embankment.

UTILIZATION OF THE METROPOLITAN SEWAGE.—A meeting of the Ward of Portsoken was held, on Wednesday in last week, Alderman Sir Francis Graham Moon in the chair; when resolutions supporting the scheme of Mr. Thomas Ellis and his tender for the sewage were unanimously agreed to, copies being ordered to be forwarded to the chairman of the Metropolitan Board of Works, and the town clerk, for presentation to the Corporation of London, and to each member of the House of Commons, Corporation of London, Metropolitan Board of Works, Metropolitan vestries, and district boards of works.

IMPROVED DWELLINGS FOR THE INDUSTRIAL CLASSES.—The first ordinary meeting of this association was held on Saturday, at the Mansion House. The Right Hon. Lord Stanley, M.P., took the chair, supported by several influential men and members of the corporation. Lord Stanley said that most of the circumstances relating to the society were told in the report. The sum of 100*l.* had been paid in part payment of the purchase-money, 840*l.*, for eight small freehold houses, known as Hamilton-row and Hamilton-place, Bagnigge-wells-road. An agreement for a lease of ninety-nine years for a piece of land close to the Tunnel Pier, Wapping, had been come to with the governors of the Bridewell Hospital. The Board was also negotiating for a lease of eighty years from the Metropolitan Board of Works for a plot of ground in Redcross-street, closely abutting on New Southwark-street, Borough. Further negotiations had been entered upon to obtain sites at King's-cross, Victoria-street, and in Shoreditch. The subscribed capital of the society was 27,200*l.*, and upwards of 3,000*l.* had been received in advance of calls, on which they were receiving 5 per cent. Some delay in building had been occasioned, but without any loss of money. There had been some difficulty in finding sites, but this had been partially surmounted. The estate in the Bagnigge Wells-road had been obtained upon the most favourable terms. This plot was about 4,000 square feet, and the estate at Wapping, upon which buildings would be erected to cost 7,075*l.*, was 19,000 square feet. These were very conveniently situate for the purposes for which they would be used. The Southwark estate had a 56 feet frontage, and was in extent 28,000 square feet. Those at Wapping were paying up to the present time, upon an average, about 8 per cent. They proposed to put up there three blocks of houses, and the remainder in obedience to the demand of the neighbourhood. The buildings proposed to be erected would accommodate sixty families. The contract had been entered into for the buildings at Southwark, which would involve an expenditure of 3,000*l.*

TENDERS.

For alterations at the Union Tavern, 191, Oxford-street, for Mr. Smith. Mr. Barrett, architect:—

Sharpington & Cole	£360	0	0
Hyde	340	0	0
Duncanson & Moultrie	332	0	0
Langmead	695	0	0
Langtree	630	0	0

For the erection of gymnasium in the St. Pancras-road. Mr. Edward A. Gruning, architect. Quantities supplied by Mr. W. R. Gritten:

Humphery & Morris	£6,521	0	0
Timewell	6,342	0	0
Nixon	6,247	0	0
Mansfield & Son	6,000	0	0
J. & C. D'Anson	5,740	0	0
Piper & Wheeler (accepted)	5,437	0	0

For building new rectory house at Elmswell, Suffolk. Mr. R J. Withers, architect :—

Bullock & Son	£2,595	0	0
J. Y. Rednall	2,385	0	0
W. Rednall	2,350	0	0
Smith	2,293	0	0
Farrow	2,196	0	0
Cornish	2,153	0	0
Andrews	2,098	0	0
Sharpington & Cole	2,050	0	0
Haxell (accepted)	1,769	0	0
Geddes	1,700	0	0
Grayston	1,479	0	0

For rebuilding Blaenporth Church, Cardiganshire. Mr. E. J. Withers, architect :—

Thomas & James	£1,338	0	0!
James & Morries	1,280	0	0
Joseph & Thomas	1,124	6	0
Jenkins	1,120	0	0
Jones	812	5	0
James & Thomas	775	10	0
Davies	696	16	5
Jenkins & Davies	680	0	0
Thomas, Rees, & Jones*	670	0	0!

* Accepted.

TO CORRESPONDENTS.

Signor S.—A. C. C.—W. H. D. (too late).—H. H., Dublin (shall be glad to hear).—F. P. E. P. (yes).—W. A. W.—W. F. P. (thanks. Not desired).—L. B.—W. A.—T. J. C.—T. D. R.—An Art-Lover.—W. C.—W. & W.—Frascati.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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Stockton, February 25, 1864.

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JOSEPH DAW, Principal Clerk.

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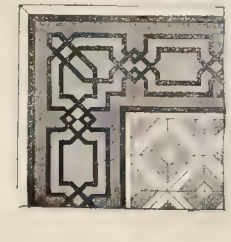
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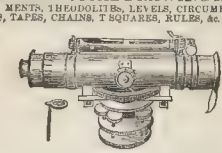
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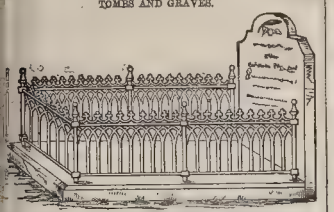
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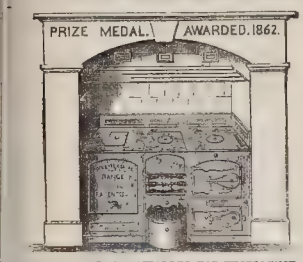
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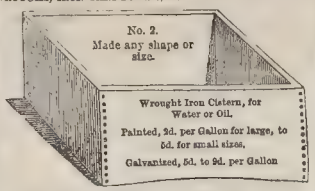
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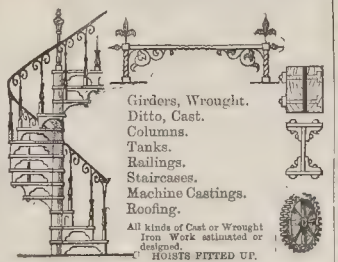
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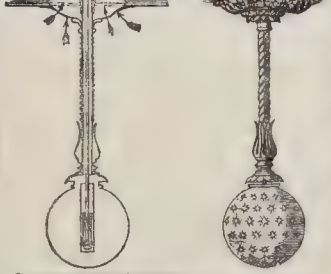
Omnibuses from Limehouse Station, Blackwall Railway

DOVER FOUNDRY and IRON WORKS,
STAPLE STREET, BOROUGH, S.E.



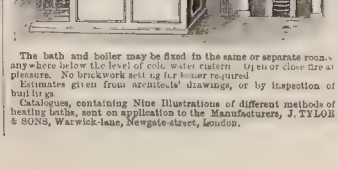
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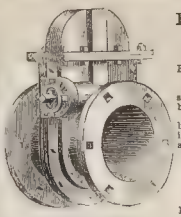


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A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR,
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
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The bath and boiler may be fixed in the same or separate rooms anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for heater required.
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With Wrought-iron Pinions.
From 2 in. to 18 in. price 9s. 6d. to 12s. per in. diameter.
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These Valves are all proved on both sides to 30lb. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun-metal faces.
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ENGINEERS
Near Grange-road, Bermondsey.

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of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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THE MOST APPROVED INTERNAL STUCCO.
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THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

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Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IN KEPT.
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The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
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T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' Graniers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
56, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 28s. per cwt.
Linseed Oil, 3s. 2d. per Gallon; Boiled Oil, 3s. 7d. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

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White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 3d. per gallon. Turpentine, 6s. 6d. per gallon
Fine Pale Oak Varnish, 7s. per gallon.
For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 138, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

GOULD & PORTER (late CARY) are now manufacturing their improved 10-inch DUMPY LEVEL best quality, complete for 9l. 10s. 0d.; with silver ring compass, 10l. 10s. 0d.; 12 inch ditto, ditto, 11l. 0s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, 22l. 0s. 0d. All other MATHEMATICAL INSTRUMENTS at Revised Prices.—Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century.—181, Strand, London.

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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Dry Pine Plank ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 6½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sash and Frame, Deal Shutters, Door Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

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TIMBER! DEALS!! FLOORING!!!

YELLOW DEALS, £15 10s. per 120 of 12 feet.

Good 2¼ Mill-sawn White Battens ..... from £8 10 per 120 of 12 feet
Good 2¼ Mill-sawn Yellow ditto ..... 9 10 „
Good 3 by 9 Mill-sawn Yellow Deals ..... 18 0 „
Good 3 by 9 White Deals ..... 15 0 „

Good and well-prepared ⅞ Flooring Boards ..... from 11s. 6d. per square
⅞ „ ..... 12s. 6d. „
1 inch „ ..... 14s. 6d. „
Matched Lining ..... 12s. 0d. „

YELLOW FIR TIMBER (good length and size), 45s. per load.

THOS. W. ELLSTON, No. 109, SNOW'S FIELDS, KING STREET, BOROUGH.

Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Lathe, 33s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	
Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.	
Spruce Deals ..... 15 0 0 „ 2¼ „	
2½-inch Battens ..... 9 0 0 „ 1¢ „	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, well prepared ..... White	11s. 6d.	...Yellow 12s. 0d. per square.
⅞-inch „ „ ..... „	12s. 0d.	13s. 0d. „
1-inch „ „ „ „	14s. 6d.	15s. 0d. „
2½-inch Battens	Yellow, £10, White, £9 per 120 of 12 feet.	
3 by 9 Deals	Yellow, £18, White, £16 10s. „	
Matched Linings, ⅝-inch	White, 12s., Yellow, 13s. per square.	

Deals and Battens, in the Docks, at a considerable reduction.

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JOHN EMERY,

MANUFACTURING JOINER,

No. 28, GRAY'S INN ROAD, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

J. MILLS,

JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

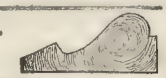
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SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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MANUFACTURING JOINERS,

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

190 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

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Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had. Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.

THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY SEVEN SHILLINGS per square, including the wood.

This can be obtained either direct at the Works, or at Messrs. ESDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.

They also draw special attention to their Door-plates and Door Furniture, not only on account of their price, but also for their great durability, and not being liable to fracture or breakage. Price-lists forwarded on application, at either Tredegar Works, Bow; or City Office, 52, Gracechurch-street.

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SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
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At 6d. 7d. and 8d. per foot, at
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C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.
COUNTRY ORDERS PROMPTLY EXECUTED.

VICTORIA MARBLE WORKS,
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Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices
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Apply, for prices, &c. to
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This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to plane it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

*** The above WEATHER STONE is 1s. 9d. per cubic foot, delivered in London.

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large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
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Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parks, Purbeck, Hareh, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries.
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The WARDOUR (CHILMARK) and TISBURY STONE COMPANY, Limited,
Are prepared to execute orders to any extent for their TISBURY STONE.—This is a close, fine-grained Stone, of a beautiful colour, possessing all the qualities of the best Portland, in which range it is placed geologically.
It will supply the long-wanted desideratum of the Architect, Builder, and Sculptor, as the Stone is a first-class Weather Stone, easily worked, and carries a fine arris; and is eminently adapted for carved mouldings, high-class architecture, and works of art, requiring only to be known to become the
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RED MANSFIELD STONE,
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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
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GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
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SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.
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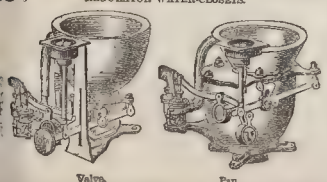
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ROOFING SLATES, of various sizes, from 26 inches by 13 inches to 13 inches by 10 inches,
At W. SQUIRE & CO.'S,
Slate Merchants and Slaters,
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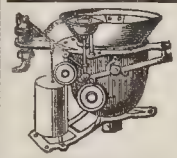
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First Quality, 1 by 6½, at 10s. 6d. per square.
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Yellow Deals, £16 per 120.
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TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.
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PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
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By Her Majesty's  Royal Letters Patent.
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Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
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And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have exclusively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

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SALES BY AUCTION.

GREAT ST. HELEN'S.—Building Materials of Four Houses.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 29, at TWELVE, in Lots, all the valuable BUILDING MATERIALS and FIXTURES of Four Houses and Premises, Nos. 25, 26, 27, and 28, Great St. Helen's, of the usual description. May be viewed the day previous, and catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BUILDING MATERIALS.—BOTOLPH LANE, CITY.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 29, at ONE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of THREE HOUSES and WAREHOUSES, Nos. 18, 19, and 20, Botolph lane, Thames-street, comprising excellent brickwork, useful timber in roofs and floors, lath and plain tiles, sashes, doors, partitions, lining and flooring boards, warehouse fronts, loop hole doors, lead gutters and pipes, casters, stoves, iron crane and pin, and useful fixtures and fittings up.—May be viewed the day previous. Catalogues had of J. BELCHER, Esq. Architect, No. 5, Adelaide-place, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

UPPER THAMES-STREET.—Building Materials of several Warehouses and other Premises

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 30, at TWELVE, the MATERIALS and fittings up of THREE STACKS of WAREHOUSES, DWELLING-HOUSE, and SHEDS, situate on Bull Wharf, adjoining Queen-street, Upper Thames-street: consisting of about 250,000 stocks bricks, sound timber in roofs and floors, floor boards, weather boarding and guttering, loop-hole and other doors, sashes, partitioning, &c. a large quantity of pan and plain tiles and slates, granite paving, several cranes, and other effects.—May be viewed one day previous, and catalogues had of EDWARD JANSON, Esq. Architect, 74, Lawrence Poultney hill; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BISHOPSGATE STREET.—Building Materials of the Vine Inn, Dwelling Houses, Stabling, Coach-houses, &c.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 1, at TWELVE, in lots, all the valuable BUILDING MATERIALS of the extensive premises known as the Vine Inn, Bishopsgate street Within: Dwelling Houses, Shops, Range of Stabling and Coach houses, &c: comprising excellent stock bricks, oak and fir timber in roofs and floors, slates, plain and pan tiles, glazed sashes, plate-glass shop-front, skylights, chimney-pieces and interior fittings, doors, weather-boarding, flooring-boards, folding gates, a large quantity of pebble, clinker, and other paving; racks, mangers, and stable fittings, and other useful fixtures and fittings.—May be viewed the day previous. Catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

TO BUILDERS, CONTRACTORS, and OTHERS.—Memel Timber and Surplus Plant, from the Works of the Charing cross Railway Station.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Cochrane & Co. in consequence of the completion of their contract, to SELL by AUCTION, at their WORKS, adjoining the Southwark Waterworks, Batt Iron-bois (about half a mile from the Nine Elms Pier), on MONDAY, APRIL 4, at TWELVE for THREE THOUSAND LOADS of capital MEMEL TIMBER, used for the staging in the erection of the large roof of the Charing-cross Station, and comprising whole timbers, from 10 feet to 42 feet in length, half timbers and quarting; also, about One Thousand short boards, suitable for fencing, erection of sheds; two trussed iron girders, 27 feet 6 inches long; cast-iron guttering, pile-engine, and other surplus plant, which will be put into suitable lots for builders, and lying convenient for water carriage.—May be viewed on Saturday previous, and Catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

The New Metropolitan Meat and Poultry Market.—Third Clearance Sale.—Building Materials of various Houses and Premises in and near Smithfield.

PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Commissioners, the Corporation of the City of London, to SELL by AUCTION, on the PREMISES, on TUESDAY, APRIL 5th, and following day, at TWELVE, in Lots, all the valuable BUILDING MATERIALS, FIXTURES, and SHEW-FRONTS of several Dwelling houses, Shops, Warehouses, and Premises, situate in Smithfield and Smithfield-bars; comprising excellent stock bricks, oak and fir timber in roofs and floors, plain and pan tiles and slates, glazed sashes, doors, chimney pieces, and interior fittings, flooring-boards, folding gates, shop-fronts, large iron doors, iron columns, lead flats, gutters and pipes, stone paving, cisterns, stoves, nests of drawers, counters, shelves, grafittings, settles and benches, and fittings of a coffee-shop, and other useful house and trade fixtures and fittings-up. May be viewed the day previous; catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

IN BANKRUPTCY.—KING'S LYNN, NORFOLK.—To Timber Merchants, Contractors, Saw-mill Proprietors, and Others.

MESSRS. CRUSO & SON are favoured with instructions from the Assignees of Messrs. Holloway, Hart, & Co. Timber Merchants, King's Lynn, to SELL by AUCTION, on THURSDAY, the 31st day of MARCH, 1864, commencing at TWELVE o'clock precisely, on the PREMISES, South Lynn, the entire STOCK of 2628 pieces Memel TIMBER (average 36 feet), 7,000 redwood and whitewood deals and battens, 16 pieces Wemel crown oak, 315 pieces Kragero timber, 4 logs of walnscot, 120 grindstones, 2,000 bundles of double and single laths, 2 fathoms of lath wood, 2,500 pan and ridge tiles, a large quantity of sawn deals and battens, deal ends, &c. an 8 horse power high pressure horizontal steam-engine, with boiler and fittings complete, deal saw-frame and circular saw bench, with gear complete, and fitted up with the latest improvements. Also, the brick-built and slated BUILDING, used as the saw-mill, with engine-house, flooring, staging, &c. &c.—Chief quantities may be obtained of Messrs CHILTON, BURTON, YEATES, & HART, Solicitors, 35, Chancery-lane, London; and of Messrs. COULTON & BELOE, Solicitors; and of the Auctioneers, King's Lynn.

TO BUILDERS, CARPENTERS, CABINET-MAKERS, and OTHERS. First portion of the valuable MATERIALS and FITTINGS of the MANSION known as ARGYLL HOUSE, Argyl street, Regent-street.

MR. J. A. SMITH has been instructed, by the Contractor, to SELL by AUCTION, on the PREMISES, as above, on TUESDAY and WEDNESDAY, MARCH 29 and 30, 1864, at ELEVEN for TWELVE o'clock precise each day, upwards of 120 squares of well seasoned walnscot oak flooring, from 7 to 13 inches wide, 100 squares yellow flooring battens, 150 excellent drawing-room and other doors, with carved and gilt mouldings and brass locks, 70 pairs of mahogany sashes and casements, with inside shutters, six pairs of French casements, two large skylights, glazed with rough plate-glass, 12 feet square, several handsome carved mantuary marble chimney-pieces with register stoves, kitchen ranges, with ovens and boilers, Elizabethan stove and tweuty others, fittings up of kitchen, with expensive range, smoke jack, ovens, hot plate and stewpans, large copper steam-boiler, and brewing-copper, two brass barrel force-pumps brass gas burners and pipe, massive ornamental cast iron balcony, about 80 feet long with perforated iron plate to form pan of wrought iron staircase and other railing, mahogany water-closet fittings and apparatus, 50 squares fancy boards, dressers and shelves, ranges of linen presses and cupboards, fitted with drawers, 40 squares of ditchess and counter slating, two pairs of wrought iron carriage entrance gates thirty wrought iron truss girders, 15 feet long each, a large handsome copper vase, Spanish mahogany wardrobe, 8 feet high, enclosed by panel doors, several pairs of nearly new coach house gates, fittings of stable and harness room, and a great variety of useful materials and fittings. The whole to be sold and cleared positively in three days. May be viewed one day previous. Catalogues on the Premises; and of the Auctioneer, King-street, Hammersmith.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Appley House, an important Freehold Property on the Coast, at Ryde, Isle of Wight. With immediate possession.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock, in one lot, APPLEY HOUSE and ESTATE, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing singular natural advantages as a residential estate, with numerous sites for the erection of villas, so greatly in demand in this much-admired watering place, Appley being now the only land available for such a purpose with a sea view, in close proximity to the seashore, near the town of Ryde. The estate is literally within a ring fence, the northern boundary being girt by the sea, and secured by a strong substantial esplanade in a line with the principal esplanade of Ryde, leading to the pier. The land here, which rises precipitously, is covered with a thickly-wooded plantation, the removal of which would (if desired) enable the owner to build a terrace of houses on the esplanade, without at all interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the north side, sloping towards the south, and then rising again to a considerable elevation, commanding very extensive and uninterrupted views from far beyond Southend, on the east, extending to Southampton water on the west. The residence, which was enlarged and improved by the late owner, is approached by a carriage-drive through parklike grounds, with two lodge entrances from the Appley road, and from the St. Helen's turnpike-road, near St. John's church.

The internal arrangements comprise a suite of three reception rooms, well proportioned dining room and gentleman's room, numerous principal and secondary bed chambers and dressing rooms, bath room, work room, nursery very complete domestic offices, and capital arched cellaring, an ample supply of spring water from a deep well, and large underground tanks for soft water. In the front and rear of the house are the north and south lawns, noted for the luxuriance of the grass, and other choice shrubs and trees; the whole encircled by rich park-like land, studded with stately timber, including many very fine oaks, chestnuts, limes, and elms; the latter towering high and forming with the rookery established on their branches, a conspicuous object from Ryde Pier. At a short distance from the house are modern stables and farm buildings, including a dwelling house for the gardener, stalling for four horses, double coach house, cow-house, cart-house, laundries, pitting and fruit rooms, a range of forcing and succession houses, large walled kitchen garden, with choice wall fruit trees, and espaliers, and a well stocked orchard. The Appley road forms the southern and western boundary of the estate, and affords a large available frontage, while the land itself contains valuable stone for building and brick earth, and the remarkable air that at present complete seclusion of Appley House need be but little if at all deteriorated with, by judicious building operations under the control of the proprietor. The increasing value of building land at Ryde, abundantly confirmed by the fact that all marketable land has within the last few years been let at high rents for building purposes; the singular natural advantages possessed by this property, its sea frontage, and proximity to the pier, combine to render this estate deserving attention, either as a building speculation alone or combined with the possession of one of the most charming marine residential properties in the Isle of Wight. Printed particulars, with plans, are in course of preparation, and may be had of Messrs WALLIS, House Agents, and at the Pier Hotel, Ryde; at the Portland Hotel, Southsea; the George Hotel, Portsmouth; of Messrs. THOMAS & HOLLAMS, Solicitors, Commercial Sale Rooms, Mincing-lane, London, E.C.; and of Messrs. FULLER & HORSEY, Bullter street, London, E.C. to whom all applications to view the property must be addressed.

On the KNUSTON ESTATE, Irchester, Northamptonshire, the property of A. J. Gulston, esq.—To TIMBER MERCHANTS, BUILDERS, and OTHERS.

MESSRS. PENDERED & SON are favoured with instructions to SELL by AUCTION, on THURSDAY, the 7th of APRIL, 1864, upwards of 600 TREES, of first-class quality, viz. 200 elms, many of dimensions of more than 100 feet each, 100 ash, many from 40 feet to 50 feet each; 250 beech, long, straight, and clear, from 80 to 100 sycamore, alder, and other timber—particulars in next week's paper.

Important Sale of Extensive Freehold Estates in Oswaldtwisle, near Blackburn.—Preliminary Notice of SALE by AUCTION.

MR. GRUNDY begs to announce that he will very shortly offer for SALE by PUBLIC AUCTION, in Lots, the several FARMS and PROPERTIES forming the Stanhill Estate, together with other Properties adjoining, all situate within the Township of Oswaldtwisle, in the Parish of Whalley, and County Palatine of Lancaster, and containing together upwards of 300 acres of good new and productive land. Full particulars and plans will shortly be published, and further information may be obtained on application to Messrs. WETALL, BROTHERS, Whiteash Mills, Oswaldtwisle; also on application to the Auctioneer, No. 83, King-street, Manchester; or on application at the Offices of Messrs. ROBINSON & SON, Solicitors, Blackburn.

21st March, 1864.

To Builders and Others.—70,000 best Purple Slates.

MR. BUCKLAND will SELL by AUCTION, at MERTON'S WHARF (Barry, Brothers), Millstreet, Rockhead, Bermondsey, on WEDNESDAY, MARCH 30th, at ONE o'clock, in suitable and convenient LOTS, a CARGO of about 70,000 best PURPLE SLATES, direct from the Quarries, in North Wales, of various sizes.—Catalogues may be had on the Premises, and at the Auctioneer's Offices, 89, Cannon-street West, City; or will be sent by post on application.

MARBLE CHIMNEY-PIECES, &c. for SALE by AUCTION.

MR. R. E. GUDGEON will SELL by AUCTION, at the CORN EXCHANGE, Winchester, on WEDNESDAY, MARCH 30th, 1864, upwards of TWENTY MARBLE CHIMNEY-PIECES, in statuary, veined, black, rouge royal, and other marbles; about 200 of white and yellow deals, some prime old oak suitable for church furniture and carving purposes; about 300 scaffold poles, and 50 dozen of ropes; a force pump; about 30 feet of wrought-iron palisading, with standards and gate; and sundry useful articles. Sale to commence at ONE o'clock. Catalogues may be had at the Auctioneer's, Piazza, Winchester.

BROOKS & SCHALLER'S AUCTION SALES of ESTATES, HOUSES, GROUND RENTS, REVERSIONS, ANNUITIES, ADVOWSONS, &c. will take place at GARRAWAY'S, on the FIRST and LAST TUESDAY of each month. A nominal charge of £2 per cent. on the purchase money.

The INDEX, published Monthly, of Estates, Country and Town Houses, Shootings, &c. to be Let or Sold, is issued free on application.—AUCTION and ESTATE OFFICES, 25, Charles-street, St. James's, London.

IMPORTANT to COAL PROPRIETORS, CAPITALISTS, and OTHERS.—The owners of valuable MINES of COAL, lying within and under a compact freehold estate of upwards of 1,200 acres, situate within three miles from the important manufacturing town of Blackburn, Lancashire, are prepared to treat for the absolute SALE of the COAL, or to enter into favourable arrangements for leasing the same for a term of years. Good turnpike roads intersect the estate, and the same is within very easy distance of railway and canal.—For further particulars apply to Messrs. ROBINSON & SON, Solicitors, Blackburn.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; excellent domestic offices and four cottages; suitable servants' offices, extensive ornamental grounds, with green houses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

SANDOWN, ISLE of WIGHT. Opening of the Railway. BUILDING LAND, opposite the proposed Pier, and in full view of the magnificent Bay, on leases for 1,000 years.—Apply to Mr. WITHERS, Timber Merchant, Sandown.

FINE CLAY PROPERTY.—TO BE LET, on Royalty, sixty miles from town, with every convenience, and siding laid down into North Western Railway.—Apply to C. W. ORFORD, 58, New-street, Birmingham.

BUILDING LAND TO BE LET, on advantageous terms, for 99 years, situate at Merton, Surrey within 10 minutes' walk of the Wimbledon Station, or 45 minutes of the City.—The plan of Estate can be seen, and particulars obtained, upon application to Mr. EDWIN SHAES, Surveyor's Office, Christ's Hospital, Newgate-street, from TEN till FIVE o'clock.

WESTMINSTER CHAMBERS, opposite the India Offices in Victoria-street, and close to the Houses of Parliament.—OFFICES and CHAMBERS TO BE LET.—Apply to Messrs. BANKS & BARRY, 27, Sackville street, or G. S. SIDNEY, Esq. Secretary to the Mutual Tontine (Westminster-chambers) Association, Limited, No. 39, King-street, Cheapside, E.C.

UPPER NORWOOD.—TO BE LET, close to the Palace, ELIGIBLE SITES for Small Villas, a class of building in great demand. Advances if required.—Apply to Mr. GREEN, 25, College-hill, Cannon-street, E.C.

LORDSHIP ROAD, Stoke Newington.—TO BE LET, on Building Leases of 99 years (at low ground rents), several PLOTS, eligible for semi-detached villas and terraces.—Apply to Mr. RODDA, Bouverie-road, Church-street, Stoke Newington.—N.B. Bricks delivered on the estate at low prices.

BRICK EARTH.—TO BE LET, on Lease, LAND, containing good Brick Earth, situate three miles south of London.—Apply to Mr. W. H. DEAN, Surveyor, 33, Fenchurch-street, London, E.C.

TO MANUFACTURERS and OTHERS.—Very eligible PREMISES at Rotherhithe, TO BE LET, or a long LEASE TO BE SOLD, at a ground rent, comprising a range of buildings, with folding gates, and numerous dwelling rooms, including a house and shop, and will be divided to suit a purchaser or tenant.—Apply, by letter only, to Y. Z. Mr. Fisher's, 4, Dover-road, Borough, S.E.

THAMES BANK, PIMLICO.—Extensive PREMISES, with the partial use of a Private Dock entering from the Thames, suitable for a Builder's Establishment or a Factory, TO BE LET on LEASE for a long term at a moderate rental.—Apply to Messrs. SCURRY & WRIGHT, Surveyors, 6, Salisbury-street, Strand, W.C.

ABBEY WOOD, near Lessness Heath.—Eligible FREEHOLD LAND TO BE LET, in large Plots, for the Erection of Villa Residences. Term 99 years. Advances if required. For plans and particulars apply to W. WILLIAMSON, 9, Essendon-terrace, Morden-road, Plomstead, S.E.; or to Mr. ROBERTS, Architect, 55, Laurence Poultney lane, City.

BUILDING LAND in the best part of St. John's Wood.—A choice PLOT, with Road and Sewer along the whole frontage, surrounded by finished property of an excellent description, occupied by first-class tenants, TO BE LET at a moderate rent.—Apply to IFOLD & HUGHES, 33, Manchester-street, W.

TO BUILDERS and OTHERS.—WATFORD, Messrs. STUCKAY & PHIPPS have TO LET, on a building lease, a most desirable PLOT of LAND, near the Station, with a frontage of 230 feet to the main road. For full particulars as to class of buildings, rent, &c. apply at 48, Cornhill, E.C.

SEAFORD, near NEWHAVEN, SUSSEX. To Builders and Others.—Eligible PLOTS for BUILDING, with full sea view, and comprising every advantage, TO BE LET on Building Leases for 99 years. The railroad is to open in less than a month, and it runs directly into the centre of this beautiful and sheltered watering place. For plans and particulars apply to Messrs. WM. G. HABERSHON & PITE, Architects, 30, Bloomsbury-square, London, W.C.—Mr. OCKENDEN, Bailiff of Seaford, will show the ground.

MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, REVERSIONS and ANNUITIES, WINE, SPIRIT, and TIMBER WARRANTS, DEBENTURES, SHARES, &c.
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NOTE.—More than a quarter of a million pounds sterling have been advanced upon house property alone.

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The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No 1104. APRIL 2, 1864. PRICE FOURPENCE. By Post, 5d.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1864, be open to PUBLIC COMPETITION.

The Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W

India Office, 10th July, 1863.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION.—The Examinations of Science Schools and Classes, by the Science and Art Department, commence on the 2nd MAY, and, with the intermission of Whitsun week, last till 4th JUNE. Applications for the examination of a School or Class must be made not later than the 16th APRIL. The form to be filled in (Science Form No. 119), will be furnished on application to the Secretary, Science and Art Department, South Kensington, London, W. But candidates in London or the neighbourhood who may not be near any place where a local Examination Committee has been formed, may be examined at the South Kensington Museum, by sending in their names and stating the subjects in which they wish to be examined, before the 15th APRIL.—By order of the Committee of Council on Education.

THE PAINTERS' COMPANY'S EXHIBITION of DECORATIVE and IMITATIVE WORK will take place in JUNE, 1864, with Two extra Prizes of Five Pounds each for Decoration.—Terms to be had (from Eleven till Two) at the Hall, 9, Little Trinity-lane, City. Applications to be made for space before the 21st APRIL.

NEW ZEALAND EXHIBITION, 1865. The Commissioners appointed by the New Zealand Government hereby give Notice, that an EXHIBITION of RAW MATERIALS, Machinery, Manufactures, and Fine Arts, will be held in the City of Dunedin, Province of Otago, New Zealand, in JANUARY, 1865, when rewards for merit, in the form of honorary certificates, will be given in the several sections, with the exception of Fine Arts Space will be reserved for Exhibitors from the United Kingdom and her Colonies, the Continents of Europe and America.—Copies of the decisions, forms of application for space, and further details may be obtained from the undersigned.—By order,

JOHN MORRISON, Agent for the New Zealand Government.

New Zealand Government Agency, 3, Adelaide-place, King William-street, London, February, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S

New List on Application.

87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S

New List on Applicat on.

87, BISHOPSGATE STREET WITHOUT, E.C.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

BOROUGH of IPSWICH.—To ARCHITECTS.—The Corporation of Ipswich are desirous of receiving DESIGNS for a TOWN HALL, including a Municipal Library, A premium of 100 guineas will be given for the design which in the opinion of the Council is the best; and a premium of 50 guineas for that which in their opinion is the second best. Both the premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope, containing the name and address of the competitor, bearing a corresponding motto or device to that on the plans, &c.—Plans of the site, with printed statements of the rooms and conveniences required, and of the conditions to be observed by competitors, may be had on application to the Town Clerk. The competing designs, &c. must be delivered at the Town Clerk's Office, Museum-street, Ipswich, on or before the 23rd day of MAY next.

S. A. NOTCUTT, Town Clerk.

Ipswich, March 24, 1864.

ARMY CONTRACTS.—TENDERS will be received at this Office until TWELVE o'clock, Noon, on TUESDAY, the 26th APRIL, 1864, from persons who may be willing to enter into CONTRACTS for SUPPLY FLOUR (RATION and HOSPITAL) and MEAT, in such quantities as may be required from the 1st JUNE to 30th NOVEMBER, 1864, for the use of Her Majesty's Forces stationed at Aldershott Camp and within the command.

The above being three distinct Contracts, separate Tenders are required for each description of Flour, and for Meat.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter addressed to the Senior Commissariat Officer, or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up, signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Army Supplies"), and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed

Commissariat Office, Aldershott, 30th March, 1864.

TO SEWERAGE CONTRACTORS and Others.—TOWNSHIP of TRANMERE, CHESHIRE.—The Local Board for the District of Tranmere are prepared to receive TENDERS for the CONSTRUCTION of about 2,500 Yards of MAIN BRICK SEWERS, and about 7,100 Yards of PIPE SEWERS, with the necessary Junctions, Branches, Man-holes, Gullies, and Ventilating Shafts. Plans, Sections, and Specifications, &c. may be seen on application to Mr W. A. RICHARDSON, C.E. Surveyor to the Local Board, on and after TUESDAY next, the 22nd instant and copies of the Specifications and a Form of Tender may be obtained on payment of 5s. Sealed Tenders, made on the printed forms only, to be addressed to me, and left at my office not later than THURSDAY, the 28th APRIL next. The Local Board do not hold themselves to accept the lowest or any Tender.—By order,

GEORGE LLOYD, Law Clerk to the Local Board.

Public Offices, Holt hill, Tranmere, March 4, 1864

SOUTHPORT HOTEL COMPANY (Limited).—Parties desirous of CONTRACTING for the WORKS necessary for the ERECTION of the HOTEL, may obtain the plans and Bills at the Office of Mr. A. D. COFFEY, Architect, 44, Princess-street, Manchester, upon the payment of Two Guineas, which sum will be returned to the competitors not engaged upon the finishing of the Tenders. The drawings will be ready for inspection on and after the 21st of MARCH. Sealed Tenders to be addressed to the Directors, care of W. SALE, Jun. Esq. Secretary, Messrs. SALE, WORTHINGTON, SHIPMAN, & SEDDON, Solicitors, Booth-street, Manchester, on or before APRIL the 21st.—The lowest or any Tender will not necessarily be accepted.

SOUTH NORWOOD.—To BUILDERS.—TENDERS are required for FINISHING the Two newly-erected VILLA RESIDENCES, Shurst-road.—Plans and specifications may be seen at Mr. ORWOOD'S, 12, City-road, on and after the 25th inst. to the 7th APRIL, between the hours of TEN and FOUR.—Further particulars may be known on application to Mr. H CARD, Surveyor, Lewes, where the Tenders are to be sent in on or before the 8th of APRIL. The proprietor does not bind himself to accept the lowest or any Tender,

CONTRACTS.

STAUNTON COMMON DRAINAGE.—To CONTRACTORS.—The Drainage Commissioners for the Arterial Drainage of Staunton Common are prepared to receive TENDERS for STRAIGHTENING, WIDENING, and DEEPENING the LETTON BROOK or LAKE.—Plans, sections, and specifications may be inspected at the Office of Mr. T. CURLEY, C.E. Broomy-hill, Hereford.—Sealed Tenders to be sent to the undersigned on or before TEN o'clock on SATURDAY, the 9th of APRIL next.—Printed quantities and forms of Tender will be supplied by Mr CURLEY.

J. F. SYMONDS, Clerk to the Commissioners.

15, Bridge-street, Hereford.

TO BUILDERS.—The Committee for carrying out the proposed Enlargement of St. Cuthbert's Church, Bedford, invite TENDERS for the EXECUTION of the WORKS, according to the plans and specifications prepared by Mr. PENROSE, Architect, which will be deposited at the House of JOSEPH MANTON, Parish Clerk, No. 86, The Grove, St. Cuthbert's, from MARCH 14th to APRIL 2nd, inclusive.—Any further information may be obtained on application to Mr PENROSE, Chapter House, St. Paul's Churchyard, London. Tenders, sealed and endorsed "Tender for the Enlargement of St. Cuthbert's Church," to be sent to the Rev. CHARLES TROLLOPE, Rectory, St. Cuthbert's, Bedford, by TWELVE o'clock at noon on MONDAY, APRIL 4. The Committee do not necessarily accept the lowest or any Tender. The contractor will be required to find security for the due execution of the works.

Bedford, March 10, 1864

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of the following SEWERS, in the parish of Clapham, viz. about 2,420 feet of 3 ft. 3 in. by 2 ft. 3 in. and 300 feet of 3 ft. by 2 ft.—one brick; and also for the LAYING of about 4,380 feet of STONEWARE PIPE SEWERS of various sizes. The specifications, plans, and forms may be seen, and all further information obtained, at the Office of Mr. C. W. JOHNSON, Surveyor, Manor Cottage, Larkhall-lane, Clapham, between the hours of TEN and FOUR. Tenders are to be sent in, under seal, to the Board as below, on or before TUESDAY, the 5th of APRIL next, and are to be endorsed "Tender for Clapham Sewers." Persons tendering must be in attendance at the Office of the Board on WEDNESDAY, the 6th of APRIL next, at FOUR o'clock p.m. when the Tenders will be opened. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District.

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. 12th March, 1864

BRISTOL and PORTISHEAD PIER AND RAILWAY.—CONTRACT for WORKS.—The Directors of the Bristol and Portishead Pier and Railway Company are prepared to receive TENDERS for the CONSTRUCTION of about 16 miles of their RAILWAY, with Approaches, Works, and Conveniences. Drawings of the proposed works may be seen and after the 12th day of APRIL next, at the Office of the Company's Engineers, Messrs. McCLEAN & SHEEHAN, 2, Great George street, Westminster, S.W. or at the Secretary's Office, 6, Clare street, Bristol. Contractors who wish to Tender, may obtain lithographic copies of the drawings, bills of quantities, specification, and form of Tender, on application to the Engineers, or at the Secretary's Office, on payment of 5s. 5s. Tenders must be addressed to the Secretary, 6, Clare street, Bristol, on or before the 21st day of APRIL next. The Directors do not bind themselves to accept the lowest or any Tender

JAMES FORD, Chairman.

Bristol, March, 1864. J. F. R. DANIEL, Secretary.

TO IRON FOUNDERS, SMITHS, and OTHERS.—The Directors of the Rochester, Chatham, and Strood Gas Light Company are prepared to receive TENDERS, which must be delivered at their Office, 36, High street, Rochester before TEN o'clock in the forenoon of WEDNESDAY, 6th APRIL, 1864, for the SUPPLY of about 15 Tons of WROUGHT IRON TUBES, WROUGHT-IRON STRAPS, and SCREWED BOLTS and about 4 TEN CHESTER GATES. To be delivered free on their Works, Rochester.—The specification and form of Tender may be had on application at the Office of the Company, where also the drawings may be seen. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

W. SYMS, Secretary.

TO TIMBER MERCHANTS and OTHERS.—The Directors of the Rochester, Chatham, and Strood Gas Light Company are prepared to receive TENDERS, which must be delivered at their Office, 36, High street, Rochester, before TEN o'clock in the forenoon of WEDNESDAY the 6th APRIL, 1864, for the SUPPLY of about 60 Loads of DANTZIC or MEMEL FIR TIMBER, in balks, varying from 12 inches square by 7 inches square, in lengths of 23 feet 6 inches, 29 feet 6 inches, 35 feet, 43 feet, and 45 feet, to be delivered free on their Works, Rochester. The specification and form of Tender may be had on application at the Office of the Company. The directors do not bind themselves to accept the lowest or any Tender.—By order,

W. SYMS, Secretary.

BARNSLEY LOCAL BOARD of HEALTH.—WATER WORKS DEPARTMENT.—CONTRACT No. 3.—To CONTRACTORS for RESERVOIRS, &c.—The Barnsley Local Board of Health are desirous to receive TENDERS for the formation of a large STORAGE RESERVOIR of about 17 acres in extent, to be situated immediately north-west, about two miles from the Town of Barnsley, on the West Riding and Lincolnshire Railway, in the West Riding of the county of York, together with West Moor Tunnel, Rising, Filter Beds, and other Contrivances, Pipes, and Appendages, may be inspected at the Office of Mr. RICHARDSON, Surveyor of the Local Board, St. Mary's-place, in Barnsley; and at the Office of Mr HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, on and after the 21st day of MARCH next, when the bills of quantities and other particulars may be obtained, on payment of two guineas for the same. Tenders are to be delivered at my Office on or before MONDAY, the 11th day of APRIL next, but the Local Board do not pledge themselves to accept the lowest or other Tender.

By order,

WM. H. PEACOCK, Clerk to the Local Board.

Barnsley, 4th March, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity at Rochester are desirous of receiving TENDERS for the CONSTRUCTION of certain ROADS and OTHER WORKS, in lieu of those on the New Line of Road, in the Ordnance Survey, in the parish of Chatham, Kent. Plans, sections, and specification of the proposed new Roads and Alterations, may be seen at the Office of Mr. Lemon, Solicitor, Rochester, on application on and after THURSDAY, the 7th instant, between the hours of TEN in the FORENOON and FOUR in the AFTERNOON. Tenders are to be sent in to the Office of Messrs. LEWIS & MARSH, High-street, Rochester, on or before SATURDAY, the 16th day of APRIL next, after which day no Tender will be received, sealed up, and addressed "To the Trustees of Watts's Charity at Rochester," and marked "Tender for Roads." The Trustees will not hold themselves bound to accept the lowest or any Tender. Any Contractor whose Tender will have to enter into and sign a contract, with two sufficient sureties as the Trustees may require, for the proper execution of the works. Such Contract is expected to be signed by the Trustees after the expiration of twenty days. By order of the Trustees.

Rochester, 18th March, 1864. J. LEWIS, Clerk.

TO SEWER PIPE MANUFACTURERS, &c.—The Local Board of Health for the District of Clayton-le-Moors, in the County Palatine of Lancaster, desire to receive TENDERS for the SUPPLY of SEWER PIPE, and SEWER TRAPS, together with the Bends, Junctions, and Special Pieces required for the Sewers and Drains for the Township of Clayton-le-Moors. Tenders may be sent, and Forms of Tender obtained, on application to Mr. RIDER'S Land Surveyor, Blackburn. Each Tender is required to be delivered "Tender for Sewer Pipes," addressed to MR. CLERK of the Local Board, Blackburn, Clerk to the said Board, not later than MONDAY, the 4th day of APRIL next.

Blackburn, March 22, 1864.

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at the Guildhall, London, on FRIDAY, the 1st of APRIL next, to receive TENDERS for TAKING DOWN and REMOVING the present BRIDGE at Blackfriars, and ERECTING a NEW BRIDGE in lieu thereof. Tenders and the accompanying Plans, Sections, and Specifications, together with the Conditions on which the Works are to be executed, may be seen, and any information obtained, at the Office of the Engineer, JOSEPH CUBITT, Esq., No. 5, Great Winchester-street Buildings, London, until after MONDAY, the 21st MARCH instant. No Tenders will be received unless addressed to the Solicitor of the Bridge House Estate Committee, and sealed "Tender for New Bridge," and left at the Committee-room, Guildhall, London, before TWELVE o'clock, on FRIDAY, the 8th APRIL next, when the gentlemen whose Tenders may be selected to be in attendance at Guildhall on that day, at ONE o'clock precisely. The Committee do not hold themselves to accept the lowest or any Tender for the execution of the Works.

Guildhall, March 5, 1864. FERDINAND BRAND, Comptroller.

ST. PETER'S WHARF, WESTMINSTER, TO LET on LEASE—A Committee of the Governors of the Free Coal Trade will meet at the Hall of the Tallow Chandlers' Company, Westminster, on MONDAY, the 11th day of APRIL next, at TWELVE o'clock at noon, to receive TENDERS for the Letting or Taking on LEASE for the unexpired term of 21 years, from Michaelmas next, that WHARF and PREMISES, known as SAINT PETER'S WHARF, situate in MILLBANK-STREET, Westminster, at the corner of Abingdon-street, and in the occupation of Mr. Hebbs, and a Range of the Premises, in the tenure of Jennings, on the south of the said Wharf. Plans and Particulars of letting, and Particulars of the Agreement and Lease may be seen at the Office of Messrs. KEMPSON & TROLLOPE, solicitors, 19, Abingdon-street, and the Wharf and Premises to be viewed for letting, at the Office of Mr. W. B. GRIFFIN, Surveyor, No. 8, Parliament-street, Westminster. The Governors do not hold themselves to accept the highest or any Tender.

TO BRICKLAYERS.—Builders willing to CONTRACT for the ERECTION of a considerable extent of PARK WALLING, of Kent or Essex land Bricks, to be delivered, may hear particulars, on application to Messrs. LOCKWOOD & MAWSON, Architects, Bradford. Tenders for the Bricklayers are to be delivered, on or before MONDAY, APRIL 4, 1864.

CROYDON LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the EXECUTION of a Length of MAIN SEWER, 3 feet by 2 feet, and the Works connected therewith, from the Borough of Croydon to Waddon, in the County of Surrey; and another length of such Sewer and Culvert, sewers, and the Construction of Filters and Engines for the Filtration of sewage; and also the Erection of a Filter-house and the laying down of land for the purposes of irrigation, at Penge, in the county of Kent, in accordance with the plans and specifications prepared by Mr. BALDWIN LATHAM, C.E., the Engineer to the said Croydon Local Board of Health, can inspect the plans, &c., at the Board Room of the said Local Board, at the Borough of Croydon, and obtain the last Printed Tender Form thereof. Tenders, duly signed by the Surveyor, are to be delivered at the Board Office, at the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 19th of APRIL next, when the Local Board of Health hereof will not hold themselves bound to accept the lowest or any Tender. By order of the Board.

April 2nd, 1864. HENRY RICHARDS, Clerk.

SECOND DURHAM MILITIA STORES, AT DURHAM.—The Magistrates for the County of Durham are desirous of receiving TENDERS for the completion of the requisite BUILDINGS and WORKS for the proposed STORE ROOMS and QUARTERS for a Second Durham Militia Regiment intended to be erected adjoining the present Militia Barracks at the village of Durham. The plans, sections, and specification of the proposed works may be inspected and perused at the Office of WILLIAM CROZIER, Esq., C.E., the County Architect, County Courts, Durham, on and after MONDAY next, the 28th instant. Tenders (properly filled up in every particular, and accompanied by a proposal for security), under seal and endorsed, "Tender for Second Durham Militia Stores," to be sent to deliver to the County Architect, not later than THURSDAY, the 7th APRIL next. The Magistrates do not pledge themselves to accept the lowest or any Tender. By order,

JOHN TIPLADY, Deputy Clerk of the Peace.

Durham, 23rd March, 1864.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London, will meet in the Guildhall of the said city, on TUESDAY, the 12th APRIL next, at Half past TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGE WAY PAVEMENT of the Minories, agreeably to a specification, which may be seen at this Office. Persons tendering are required to attend at the time and place aforesaid, when and where such Tenders will be publicly opened, and shall enter into and sign with the Contractor for the due performance of the Contract. The Commissioners do not hold themselves bound to accept the lowest Tender or any, to be received after TWELVE o'clock on the day of Meeting.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, 28th March, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the EXECUTION of the various Works required in the ERECTION of a Second-quarter Battalion Drill Shed for Messrs. Tribe's Corps, at Lewes, can obtain plans and specifications at the Office of Mr. MONCKTON, Lewes, on MONDAY, the 4th APRIL, to SATURDAY, the 16th APRIL inclusive, between the hours of Ten and Two o'clock, at which latter time all Tenders must be delivered. The lowest Tender will not necessarily be accepted.

GEORGE COSSINS, Architect.

5, South Parade, Lewes.

CROGGON and COMPANY,

Manufacturers of

PATENT ASPHALTE ROOFING,

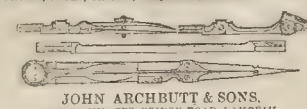
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,

For Damp Walls, and Lining Iron Houses,

DOWGATE HILL, London; and 2, GOREE PIAZZAS, Liverpool.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS to be obtained, and indeed, which are to be supplied, issued gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

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Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-list will be forwarded free on application. The press will also find some remarkable Reductions. Second-hand Instruments of all kinds, of the best makers, may be had.

DRY RIGA WAINSCOT, in Plank and Board, at GEORGE ANGOLD'S, 27, Tottenham-street, Tottenham Court-road.

TO PLASTERERS.—Plastering of a House TO LET.—Apply by letter, stating name, address, and reference, to S. N. Co., at "The Builder."

PATENT PORCELAIN BATH, in ONE PIECE.

Designed by His Late Royal Highness PRINCE ALBERT.

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Bath Fittings, consisting of Porcelain Wash-tubs, Housemaid's Kitchen and Chemical Sinks, Pipe Basins and Water-closets,

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Estimates furnished for Fitting up Baths and Heating Apparatus.

BALLAST FOR SALE.—Close to the City. Inquire at No. 82, Wood-street, Cheapside.

TO BUILDERS AND CONTRACTORS.

SAND and BALLAST, of the finest quality, and in any quantity may be obtained at Argyll House Argyll street, Regent-street.

Price 2s per yard, unscreened.

4s. per yard screened.

Apply on the premises to Mr OWEN LEWIS, Clerk of the Works. Cart entrance in Marlboro'-mews.

GRANTHAM.—BLUE LIAS GROUND LIME.—Mr. WILSON, the Builder, has, by the invitation of the Architects, ERECTED a MILL to grind to powder the Blue Lias Lime in use from the original strata of Blue Stone. Mr. Wilson is now prepared to supply any quantity, and to any parts of England, on sale of pavement nine for the practical removal of their contracts. Further particulars may be obtained at Mr. WILSON'S Office, Grantham.

Grantham, March 24, 1864.

BRICKS for SALE.—Upwards of 2,000,000 prime STOCK and PLACE BRICKS for SALE. Laying well-drained, water, and railway delivery. To be viewed at the Park Estate Brickfields, Princetown, Kent, adjoining the South Eastern Railway-station, Plumstead.—Apply at the Office in the Field.

BRICKS.—Messrs. JOHN & WILLIAM EASTWOOD have a few freights of COWLEY and KENT STOCK BRICKS FOR SALE, for delivery during APRIL and MAY. Also ROUGH STOCK and PLACE for immediate loading.

They have also HALF a MILLION of MALM SHIPPERS, and PAVIORS, at their BRICKFIELDS, at PECKHAM, besides, also, a MILLION of MALM BRICKS, of the various kinds, now being sorted at the SHOOTERS FIELDS.

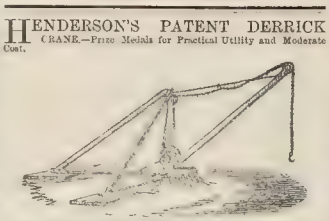
Bellenden-road, Lambeth. 31st March, 1864.

KAMPTULICON FLOOR CLOTH. DURABLE, COMFORTABLE, ECONOMICAL, and ORNAMENTAL, for CHURCHES, PUBLIC BUILDINGS, BILLIARD-ROOMS, and PRIVATE HOUSES

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HENDERSON'S PATENT DERRICK CRANE.—Prize Medals for Practical Utility and Moderate Cost.



HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Exhibition, London, can always be had from the Makers, Messrs. Rowan & Calder, Foundry, Forge, Wharf, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Cranes (on the Duncan principle) Water Companies and others can also be supplied with our Improved Sluice Valves.—For further particulars apply to BOWSER & CAMERON, Makers, Springfield Iron Works, M'Neil street, Glasgow.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56, High Holborn.

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D. HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and

SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 99, Princes street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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RAIN WATER PIPES AND GUTTERS,

RANGES — CLOSE AND OPEN FIRE,

REGISTER AND ELLIPTIC STOVES,

RAILING BARS, GATES, AND PANELS,

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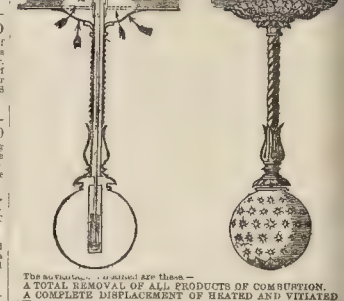
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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

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THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

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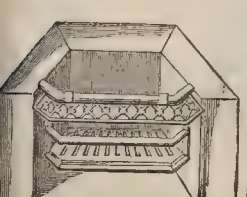
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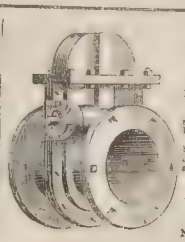
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				With hanging trivet.	
				s. d.	s. d.
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21	,, 12	,,	.....	10 6	..... 13 0
24	,, 15	,,	.....	13 0	..... 15 0
27	,, 18	,,	.....	16 0	..... 18 0
30	,, 21	,,	.....	20 0	..... —
36	,, 24	,,	.....	30 0	..... —
38	,, 27	,,	.....	36 0	Extra strong.
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These Stoves give a considerable heat with a small consumption of coal.

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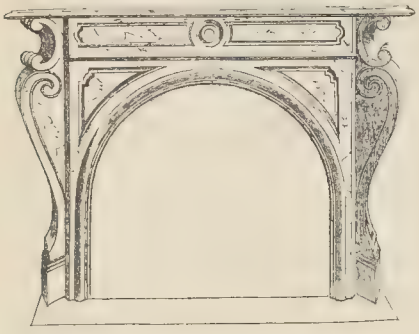
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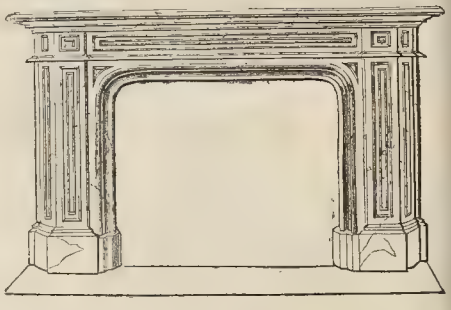
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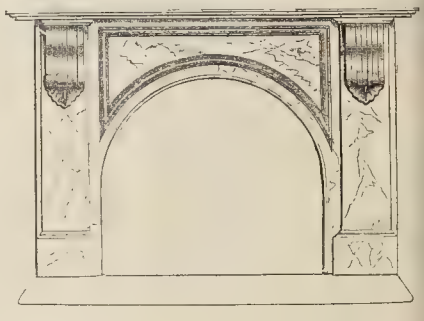












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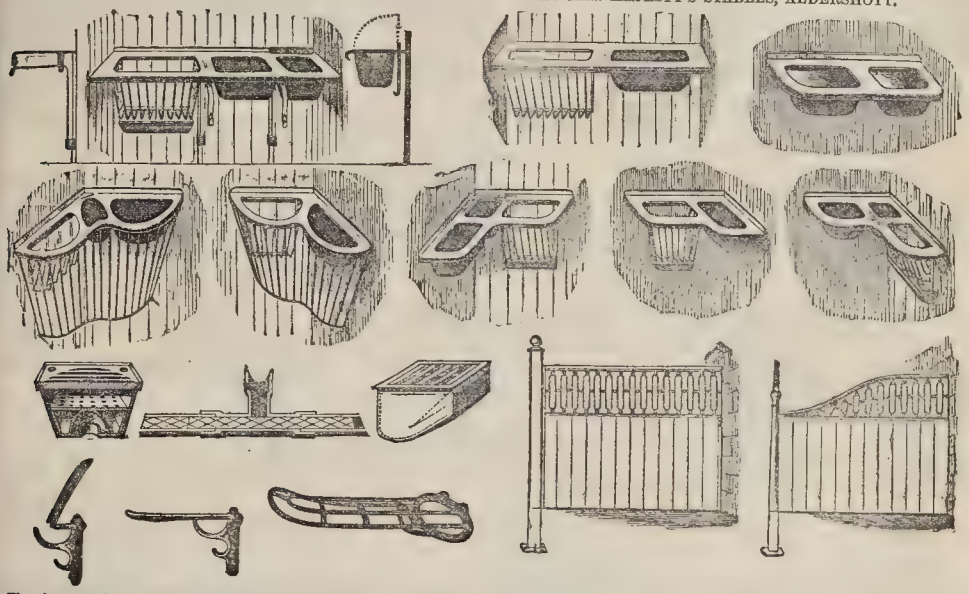
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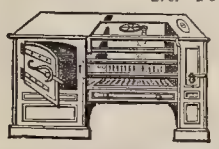
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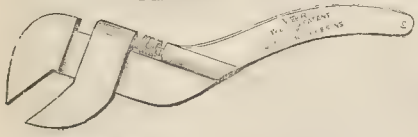
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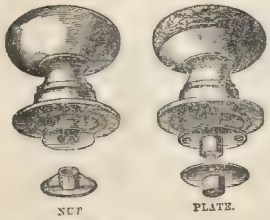
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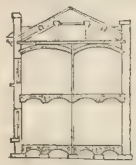
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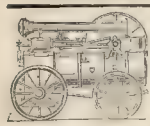
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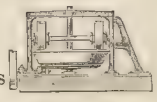


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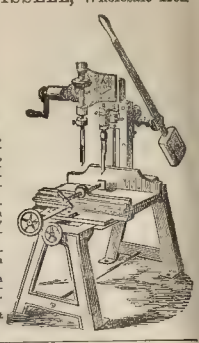
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The most POWERFUL, SIMPLE, EASY, and DURABLE in the market, combining the best mechanical principles of ECCENTRIC and LEVER MOTIONS.

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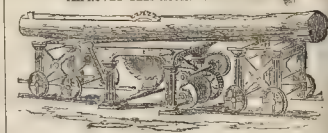
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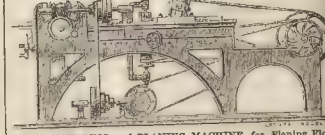
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Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

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Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

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Most effective for the Cure of Smoky Chimneys.

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PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



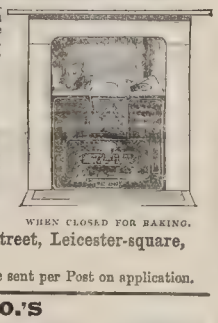
WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Ovens 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

CUNDY'S PATENT BRICK OVEN

Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-close Range, also CUNDY'S Patent Original FIRE-BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the SHOW-ROOMS of the Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.



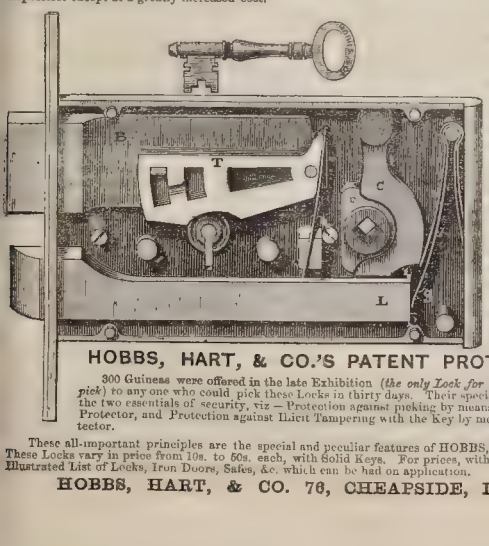
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These Locks are recommended for all purposes requiring good security combined with economy of price and durability of wear, as by means of machinery a faultless accuracy is arrived at, which by hand labour would be impossible except at a greatly increased cost.



Architects and Engineers are requested to notice that the security of these Locks consists in a series of Levers, that have to be raised to unequal positions by the bits of the key before the bolt can pass. These will bear comparison with those at treble their cost.

These Locks are made with from Two to Five Levers, and can also be made in suits to differ with Master Keys to pass.

The retail prices of Locks for Cabinet purposes are from 2s. to 4s. each; for Room Doors, 4s. to 9s. 6d. each; Street Door Latches, 7s. 6d. to 18s. each.

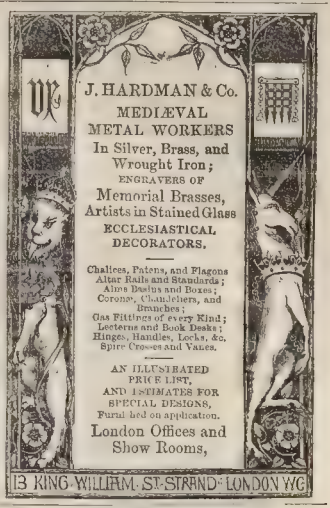
This Illustration represents the Two-bolt Four-lever Mortise, with Hobbs & Co.'s Patent Follower, price 8s.

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300 Guineas were offered in the late Exhibition (*the only Lock for which a Premium was offered to pick*) to any one who could pick these Locks in thirty days. Their speciality consists in their combining the two essentials of security, viz.—Protection against picking by means of their Patent Moveable Lever Protector, and Protection against Illicit Tampering with the Key by means of their Patent Nozzle Protector.

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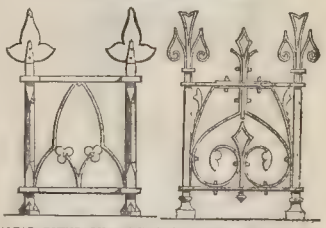
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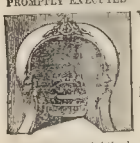
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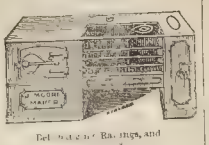
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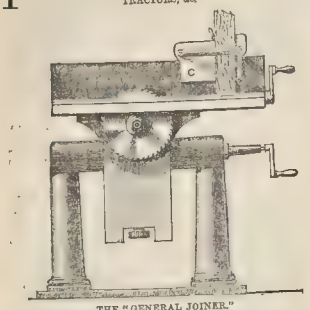
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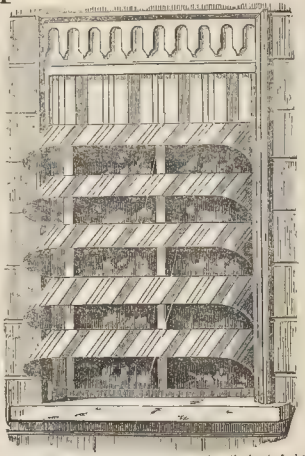
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The advantages attending this Cap are—it can be thoroughly cleaned by the machine when the chimney is swept, the brush being able to pass through the Cap without the liability of misplacing it, an increased up current, and the impossibility of a down one.
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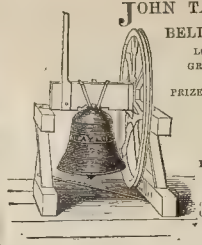
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With Boring Machine	30s. extra.

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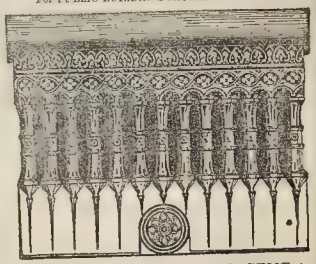


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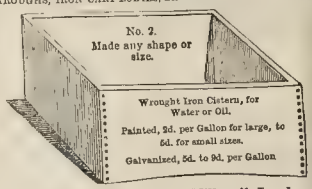
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FOR WATER, OIL, AND TURPENTINE.
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SYLVESTER'S PATENT GILL STOVES, and RADIATING HEARTH GRATES
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A matured experience, extending over twenty-five years, has convinced the Patentees that *no permanent dependence can be placed in any other*

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SELF-COILING SHUTTERS.

BUNNETT & CO.'s
Widely-known and well-appreciated
BANK SHUTTER

requires no comment, as it is in use in a large majority of the Banking Establishments, Goldsmiths' Shops, and Public Offices of the United Kingdom and the British Colonies; but the Patentees wish to make it known that they have recently completed extensive Additions to their

WORKS AT DEPTFORD,

and have erected new and most powerful Machinery with the view of meeting the largely-increasing demand for the

REVOLVING IRON SHUTTER,
With all necessary Despatch.

LONDON OFFICE,
17, QUEEN STREET, CITY;
GLASGOW OFFICE,
199, BUCHANAN STREET.

THE GREAT FIRE IN THE CITY.—"A closer examination yesterday of the track of the recent fire in Wood-street, shows in a striking manner how much it was confined to a class of buildings the interior arrangements and means of communication of which appear to have been made in defiance or ignorance of the principles which now regulate such matters, under the operation of the Metropolitan Building Act. The warehouses and offices which have perished seem to have been separated from each other by thin lath and plaster partitions for the most part, and only in one instance was there an iron door between one part of the interior of the same building and another, such as is now commonly used and made unpretty, indeed, in the construction of warehouses, as an invaluable means of shutting off communication in case of fire. That iron door, too, which remains uninjured, would have been completely effectual in arresting the flames in that direction, had they not penetrated by a vulnerable point into the part of the building which it protected.

THE USE OF IRON FOR SAFETY AGAINST FIRE was most conclusively proved by a very remarkable circumstance. The large and handsome warehouses of Messrs. J. & R. Morley, situate at the corner of Gresham and Wood Streets, overlooked by a large window on the ground floor at the back the little court in which the fire originated, and to which it was at first confined.

THIS LARGE WINDOW WAS PROTECTED ON THE OUTSIDE BY A REVOLVING IRON SHUTTER, AND THAT MORE AGAINST ROBBERY THAN FIRE.

On this occasion for some time the flames played fiercely, but harmlessly, about the outside of the window so guarded by the iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250,000*l.* to 300,000*l.*, would inevitably have been destroyed, if, indeed, the devastation would have ended in that one vast pile of building. Upon such a slender condition of safety did property almost fabulous in value, and belonging to a single firm, depend in this case."—*Times*, 2nd December, 1862.

THE REVOLVING IRON SHUTTER THAT ARRESTED THIS FIRE WAS MANUFACTURED IN 1849, BY
BUNNETT & CO., Patentees,
London & Glasgow.



WINDOW BLINDS.
E. ADKINS,
HIGH STREET, ST. JOHN'S WOOD,
REGENT'S PARK, N.W.
OUTSIDE SUN-SHADE,
AND
SPRING ROLLER MAKER
TO THE TRADE.
Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords.
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PATENT SASH-LINES.
H. & J. DOVE, 31, Ludgate-hill, London, E.C. beg to call the attention of Builders and the Trade generally to their low Price List for every quality of SASH-LINES, which will be sent on application, or a Sample Order will receive immediate attention. In all cases where the parties are not known, a reference in London is indispensable.—Established A.D. 1737.

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Liverpool, are now preparing their Builders' Price List Book for 1864, price 2*s.* 6*d.* containing the prices of all Building Materials, timber, slates, ironware, tiles, stone, glass, &c. made up and corrected to the present date. The book contains sundry designs and useful calculations for builders generally.
The price is 2*s.* 6*d.* to those who have no account open with W. D. & Co.; but persons desirous of opening an account, on giving satisfactory references, can have a copy posted free.
Prices current of Timber and Deals are issued monthly, and may be had on application.

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One-third THE PRICE OF BRONZE.


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IN STEEL, IRON, & WOOD,
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SELF-COILING SHUTTERS,
Which do not require Balance Weights or Machinery of any description,
Thousands of which are in daily use, being worked by Hand with the greatest facility. The WOOD SHUTTERS are lined with Steel Bands, affording every security. The STEEL SHUTTERS are in

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Messrs. CLARK & COMPY. are erecting Shutters of immense size at the

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Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. B. CHICHESTER, of Chittlehampton, near South Molton:—

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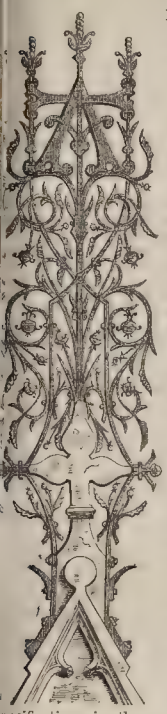
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& SONS, 26 and 27, Berners-street, are prepared to supply Machine-made Patented SOLID PARQUET FLOORS 25 per cent. cheaper than they have been yet offered. Illustrated Catalogues and estimates free.

The Builder.

VOL. XXII.—No. 1104.

The Evidence on the Sheffield Reservoir Failure.



AFTER a very hurried investigation, the Jury has returned a verdict to exonerate from a criminal charge all parties concerned in the Bradfield Reservoir business, but accompanied by the following censure:—"In our opinion there has not been that engineering skill and that attention to the construction of the works which their magnitude and importance demanded." There was also the following recommendation, which we most cordially endorse:—"That in our opinion the Legislature ought to take such action as will result in Governmental inspection of all works of this character, and that such inspection should be *frequent, regular,* and *sufficient.*"

From the evidence it appears that Mr. John T. Leather, Leven-thorpe, Leeds, was the consulting engineer to the company: he prepared the plans and pecifications in the year 1858, and made a eneral examination of the country to see if he ould obtain water. The length of the embank-ent of the reservoir was 418 yards; thickness t base, 500 feet; width at top, 12 feet;* inner id outer slope, 2½ to 1; greatest height, 95 feet. 'uddle wall, 4 feet thick at top, getting wider y 1½ inch at every foot in depth, making 16 feet t base: there are 60 feet of puddle below the rface of the land, making the total depth of uddle 155 feet.

The area was 78 acres, contents of reservoir 14 millions of cubic feet, and the area of the athering ground 4,200 acres. There are two 8-inch pipes under the embankment; 55 or 6 lengths of pipe, 9 feet each, laid obliquely rough the bank, with sockets, and made with ead in the usual way: *they are laid 9 feet elow the surface of the ground,* in clay puddle 8 inches thick, and puddled round. The sluice-alves are at the lower end of the pipes, out-de the embankment. He says the original lan was not carried out, the strata being ound to be disturbed: "I examined the resent site before the embankment was com-enced." Is it meant that borings were taken f the present site? We should have thought hat even in the absence of borings, the nking of the puddle-trench, 60 feet deep and 5 feet wide, would have afforded an insight nto the sub-strata under the seat of the bank; nd as no defect was discovered, we may fairly onclude, with that *thorough* examination, the heory of the landslip suggested, now, is un-enable. Besides, if a landslip had taken place, it would show itself on the surface and in the embankment now. He saw the puddle-trench twice during its execution in 1861 and 1863. Of course, it is well known that puddling requires constant examination: each course, as laid on, should be properly inspected, but that is not the duty of a consulting engineer.

To form the bank, he said he used "rock, clay, shale, and soil." Clay and shale carefully laid on, in shallow lifts, and the large lumps broken, would form a sound and durable embankment; but stone and soil are most objectionable: stone would render the bank open and porous, and soil is easily compressed, and would be more usefully applied to the outer slope. The pipes, it appeared, were placed in the solid ground 9 feet below the seat of the embankment, and puddled round. It might be thought, if this were well done, no settlement could take place, as it is well known that, if puddle be allowed time to harden and consolidate, it will bear an enormous pressure: at many of our retaining walls of reservoirs, harbours, &c., puddle is laid underneath their bases, and we hear nothing of failures. It is well known to canal engineers, that a cubic yard of clay, cut from the solid, will not make a cubic yard of puddle, properly wrought, and this may be further hardened and consolidated by using a little fine gravel mixed with it. "The valves are at the lower end of the pipes, outside the embankment." That was a great mistake, as, in the event of failure or defect in the valves or pipes, there would be no means of shutting off the water. In works of this character, every precaution that the skill of the engineer can devise should be used, and the public safety placed beyond doubt.

"If the pipes burst they would have to be reached by excavation,"—a clumsy arrangement, and unworthy of the science of the age: surely strong culverts or subways, with manholes at intervals, could be used, the pipes being carried—not through the heaviest part of the embankment, but—round the ends in the solid ground. "The pipes are made double the usual strength:" they are said to weigh 18 cwt. each. Their thickness must therefore be about 1⅛ inch, and a well-made pipe of that strength would withstand an hydraulic pressure of a head of water equal to at least 700 feet: the pressure in this case was only 90 feet; indeed, less than 90 feet when the accident happened. We are very much disposed to look to some other cause for the accident than the failure of the pipes, from either internal pressure or external compression.

"I should think there could not be any unequal pressure on the pipes from the embankment: being laid in the solid ground the weight above could do no harm, the pipes could not be raised with pressure at the joints." The chief risk the pipes would run would be in crossing the puddle; and, if that was solidly and compactly made, as we before stated, we do not think that danger could be apprehended from that cause. Pipes and even culverts have been, and can be, run under heavy embankments of masonry, brickwork, and concrete with success, and we do not see the great engineering difficulty in this case.

"The Company have other dams (Rivelin, &c.) similar to this." We are glad to see that the Company are alive to their risks and responsibilities, as they have called Messrs. Bateman & Hawksley to report on them, and those gentlemen have expressed approval of their strength and efficiency: of these we may have something to say hereafter.

"The pipes were severely tested before they were put down, and it was almost impossible for them to be defective or yield at the joints. He never saw them do so in the streets," although under 500 feet head of pressure. We presume they were subject to the usual hydrostatic test, as no water-pipe ought to be used until it has undergone that process, and under competent inspection. We know carelessness is often shown, and the result is calamity.

"The pipes would discharge 10,000 cubic feet per minute, and it would take eight days to empty the reservoir." We should like to know the effect that a heavy fall of rain would produce over this large drainage area. With 1 inch fall of rain per hour (no uncommon thing on this range of high lands), when the stratum of earth was thoroughly saturated and surcharged with water, the produce would be 15,609,000 cubic feet. The 18-inch pipe would discharge 600,000 cubic feet per hour when the reservoir was full, and the weir (60 feet long), with a 4-feet depth of water over it, would discharge 6,149,280 cubic feet, making a total of about 7,049, 280 cubic feet; so the probability might be that almost double the quantity of water the pipes and weir could take away might be brought in a short period upon them, with no other provision made to let it off.

There ought to have been a by-wash constructed that could be used for the purpose of diverting and taking away any storm water, which is generally surcharged with extraneous matter,—in fact, one that could regulate effectually the supply of water to the reservoir. Mr. Leather says, he does "not think more means of outlet were required, as he devised a scheme which he thought sufficient." We should suppose the above calculations are conclusive to the contrary, as every provision should be made for such contingencies. "The strength of the bank is generally considered to be ten times the pressure against it." If the weight of the 90-feet head of water at the centre of pressure on the embankment is calculated for 300 feet in length, the extent of the chasm, and the resisting weight of the bank above that point, they bear a proportion of a little more than one and a half times: the weight of water being about 90,610 tons, the embankment 138,214 tons.

"I have had no instance of pipes giving way in my embankments." With that we express no surprise, because, if ordinary care and precaution are taken, and pipes of proper strength used, there is no fear of such failures. Telford and other engineers have adopted the practice, and extensive works of half a century old testify to their efficiency. "The embankment is merely to support the puddle-wall, which is the matter to keep out the water." To this opinion we are diametrically opposed: the embankment is not intended to support the puddle-wall only, but also the weight and hydrostatic pressure of the water. As well might it be argued that only rails and sleepers are intended to support the traffic of railways, and that embankments could be dispensed with. It appears to us that this unhappy fallacy has been at the root of all the mischief. *They were making a bank to support the puddle, not the water,* -therefore loose, porous, non-cohesive material, carelessly tipped into an embankment, would do; forgetting that the bank had to withstand an immense pressure of water. As well might we hope to make ropes of sand, or build castles on a quicksand.

"I can form no opinion as to the cause of the failure. There is a possibility of a landslip under the base of the embankment; but I do not think the pipes are broken." We should have thought, as we before stated, that after excavating so deep for the puddle, any fault or defect in the strata would have been discovered.

"The geological formation is just at the outcrop of the coal measure, and the commencement of the millstone grit," and the rocky strata inside the reservoir was bared to form the embankment. We suppose the witness to be the same Mr. John T. Leather who reported on the failure of the Victoria reservoir, Halifax, in a letter, June 15, 1850, a copy of which is now lying before us, addressed to the Town Clerk, Halifax. "The defects in the reservoir appear

* Holmfirth reservoir has a 16 feet top; inner slope to 1, outer 2 to 1.

to me to arise principally from two causes, viz. first, the loose and careless manner in which the irregularities in the bed of the reservoir have been filled in and levelled for the reception of the puddle; and second, the insufficiency of the puddle both in quantity and quality. These are sufficient of themselves to account for the incapability of the reservoir to hold water. To obviate these defects, I would recommend the whole of the bottom lining to be turned over, taking care the first course is well rammed, and adding as much new puddle as will effect a thickness of 2 feet, taking care that it is well worked by men who are experienced."

If this system and these recommendations had been carried out at Bradfield, the embankment would have been much stronger than it was left.

We have now gone through Mr. Leather's evidence, and we are forced to think that it is not so full and complete as it ought to have been. It is very desirable that failures like this should be thoroughly investigated, and the causes clearly shown for the benefit of the future.

We now proceed to look at the salient points of the evidence of Mr. Gunson, the resident engineer. He says, "We made the puddle-trench deeper than was intended, as there was a great flow of water from the sides, and we had to fit up engines of 20-horse power to pump the water, to enable the work to proceed, and this was continued for two years." This difficulty with the water ought to have made them doubly careful in the execution of the works. "The puddle-trench was very satisfactory in the bed of the river." No defects, it appears, in the strata—no probability of landslips. "The pipe-trench we dug out 9 to 10 feet deep, and perhaps as many wide." Why it was made so wide is not obvious, because it could only be required the width of the pipes and puddle, as it is very undesirable to have the strata underneath the seat of the embankment disturbed; the more compact and incompressible it is the better. "We put the earth into the bank with *barrows*, carts, and *waggons*, and we put 24,000 cubic yards of rubble stone at the outer slope, forming an embankment in itself of 50 feet high." We have no hesitation in saying that an embankment composed of such unsuitable, heterogeneous, and non-cohesive materials was wholly unfitted for a reservoir. This system adopted at the Agden reservoir should be immediately changed, unless we are to have another terrible catastrophe to shock humanity.* We have before us a specification for a reservoir embankment prepared at the instance of the late Mr. Telford. It is as follows: — "The inner slope of the embankment, for 4 feet in thickness of clay or marl, to be cut into pieces not exceeding 3 inches in diameter, and to be laid on in courses not exceeding 12 inches in thickness, and to be well rammed. When clay or marl is used for the other part of the embankment, to be carefully chopped into pieces, not exceeding 3 inches. The embankment is to be formed in regular lifts or layers of not more than 3 feet in thickness, each lift to extend the full width and length of the bank, before another is commenced." This was in good clay; no large lumps of clay, rough stones, or soil were used, except soil to cover the outer slope. And to prevent the possibility of slips, slopes of sufficient inclination were made, at least double that of the angle of repose.

Mr. Gunson feared the puddle wall would sink across the trench, and the weight of the embankment break the pipe; but if the puddle had been well made, and allowed to become of sufficient hardness, as before stated, we do not think such a circumstance could arise; and to lessen the risk, as he thought, he extended the puddle to 100 feet on each side of the puddle wall. "We made an arrangement to prevent water creeping along the pipes." He thought it effectual, as the sockets formed collars, and we think in a length of 500 feet of pipe, if they were laid on the solid, well puddled, and the puddle well punned underneath the collars, no water could percolate through. If the same pains had been taken to prevent water penetrating the inner slope of the embankment, and the bank had been of sufficient strength, we should probably never have heard of this serious accident.

"The pressure on the pipes in the town was five times what it was at the reservoir, and I have known the lead forced out of the joints." To remedy this, he had the ends that fitted in sockets cast a little larger, so as to dovetail in, and prevent the pipe and head from drawing at the joint. This is a good arrangement, and adopted generally for pipes placed under high-pressure. "The rain-fall in 1859 was 46 inches; 1860, 44 inches; 1861, 39 inches nearly; 1862, 40 inches. There is half a cubic foot gathered from each 1,000 acres in ordinary seasons, and the greatest flow over the gauge (18 feet wide) was 60 inches; the greatest in August, 1856, when 8·75 inches fell,* giving a maximum flow of 150 cubic feet per second per 1,000 acres," or 39,000 cubic feet per minute, or 2,340,000 cubic feet per hour from over the whole area, less than $\frac{1}{4}$ of an inch; the usual calculations are $\frac{1}{4}$ and even $\frac{3}{8}$ of the rain-fall, the ordinary flow off gathering grounds, particularly off those on this range of mountainous country.

"On the south side the dam we had an artificial cutting to divert the stream during the construction of the reservoir." That channel we could not see a vestige of; and we presumed that the water that had accumulated during the execution of the works had been passed through an opening left in the embankment. If such had been the case, it would have endangered it; many sea embankments have failed from too hastily closing in such openings. But if a bywash had been made to facilitate the execution of the works, why was it not left, as a safety-valve, for the permanent work? But, we presume, they thought the works so perfect, that they did not need it. "I don't consider it a hazardous proceeding to bare 10 acres of rock inside the reservoir." Mr. Leather, as we have elsewhere stated, thought differently at Halifax. "I don't believe that a single drop of water came through the bank; the water that came through was quite clear, while that in the reservoir was turbid." So it is evident the bank could not have been undermined, from fissures occasioned by landslips, or breakages of pipes in the base of the embankment, as it was so porous, full of large stones; but the presumption is the toppling over of the crest of the bank, as described so graphically by the press, was the first intimation of the failure.

"To guard against fractures in the pipes, they were made double the usual strength," and every precaution was taken in laying them; therefore the inference is, that the cause of failure does not lie there.

"I was on the spot on the 11th of March, which was a stormy day, to see the effect of a storm on the newly-filled reservoir and works. The water was only from 3 inches to 6 inches below the weir;" therefore the full pressure, or nearly so, was on the embankment,—suddenly placed on, and the result was immediate failure; and the deduction to be drawn therefrom is the one that we have advanced, just as a breaking weight suddenly placed on would fracture a girder. Landslips, pipe fractures, leakages, &c., would have been more gradual in their operations, and would have shown themselves in some way or other, and not occur so suddenly as in this case.

"I thought that the winds and waves playing on the embankment *had loosened the material of the inner slope; and, if so, the puddle wall would lean forwards into the reservoir, and thus cause the fissure below.* This was the theory set up by Thornton and others, as well as myself;" and this, we have no doubt, was one of the main causes of this lamentable affair. In answer to a question, "What time would it take to bare the pipes?" he said from six to eight months, and it would cost from 2,000*l.* to 3,000*l.* If we had such an occurrence in our neighbourhood, we should send for a good sewer contractor, to bring suitable plant, and a gang of expert navvies; and, in as many days as he named months, we venture to say we should have the pipes laid bare. "Where there is a will there is a way;" and such statements as these are not very creditable to the age in which we live.

"We tried to blast away the weir, but failed (the neck of the weir is 24 feet, and the length round the mouth, 60 feet), and while we were doing so the water rapidly subsided; it came over the top of the embankment." The pipes were then open, as he went to look how they were running below the valve-house. If there had been a fracture, there would probably have been a stoppage, and the water would have found vent some other way. The top gave way with the pressure, and it broke away with the scour and current of the water, crash following crash in quick succession, until the whole chasm in the bank gave free vent to the overwhelming and surging waters.

On the 10th of March the water in the reservoir was 2 feet 3 inches below the weir, and on the 11th it was 1 foot 3 inches, showing that it had risen a foot in one day; and it had, therefore, accumulated in that period 3,397,680 cubic feet, flowing off 4,300 acres, nearly 800 cubic feet per acre, rather more than $\frac{1}{4}$ of a foot ($4\frac{32}{75}$ inches), instead of 1-6th, as stated by Mr. Gunston, as the maximum rain-fall. The rain-fall that week was not very heavy; March 10th, 0·08 inches; March 11th, 0·06 inches; the former day fine, the latter showery, sunshine, and wind.

"The sluice-valves were raised about half-past 7 p.m.," so that before the accident occurred, five hours had elapsed, and if the pipes would discharge 10,000 cubic feet per minute (we believe they would do rather more), three million cubic feet had been discharged by means of the pipes, or nearly the accumulations of the past day. So if other means for discharge had been devised, such pipes, for instance, as we believe are in operation in the Manchester reservoirs,* the head of water might have been rapidly lowered, and probably this sweeping devastation prevented.

In cross examination he said, "that after this accident I should prepare means to let off larger quantities of water." After the steed is stolen, the stable is to be locked; but we should hope that in any future works of the kind carried out in this country, such precautions will be taken, and such skill exercised, as will place failure beyond the possibility of occurrence, so far as human means will avail. We are quite aware that engineering science has arrived at a point of excellence that this country has not hitherto possessed; and that for solitary failures, we must not condemn the whole profession. But it so happens in this country, as with our brethren across the Atlantic, "round men sometimes get into square holes, and square men into round holes." Unhappily for the country, we buy our experience at a very dear rate: such failures as this are very fatal, and very costly experiments in hydraulics.

We shall return to this subject, and analyze the evidence of Mr. Jackson and Mr. Robert Rawlinson, sent by Government to assist in the investigation. Some extraordinary revelations were made as to serious departures from the specification; and we hear it rumoured that attempts are being made to have the question opened again before a court of inquiry, as it is said some strong and important evidence as to the nature and cause of the accident was considered inadmissible on the late occasion.

* The work has been stopped, on a report from Mr. Rawlinson, as mentioned on another page.

* Greatest fall in one day near Sheffield, August 8th, 1859, 2·61 inches; ditto ditto, August 8th, 1856, 3·12.—Observation by D. Doncaster, jun., Broomhall.

* Two 4 feet in diameter, areas seven times more.

GREAT CALAMITIES.

THE INUNDATION AT SHEFFIELD.

When a small calamity occurs, we generally regard it as an event in the natural procedure of the world,—something which foresight and intelligence might possibly have averted, or may prevent from recurring. If a building fall through slovenly or faulty construction, we usually look to the bad construction as the cause; and agree that such incidents may be made less frequent if we use more care and resort to a better mode of building. Or if the inhabitants of a certain district are attacked by disease from the malaria of stagnant waters, we, of course, regard the malaria as the cause, and seek to avoid the evil in future, by an efficient system of drainage. But when a calamity on an extensive scale unhappily takes place, such as that which occurred so lately at Sheffield, by the failure of the Bradfield reservoir, and which, independently of the destruction to property, swept nearly 300 souls into the ocean of eternity, the general inclination seems to be to regard it with the wonderment which any grand event would excite. The falling of the calamity upon innocent classes leads to a searching inquiry, yet the cause of the failure remains undiscovered, the wonderment ceases, society is content to dream; and so calamities are suffered to pass without a true reading, and also without a true improvement.

The calamity referred to might certainly have been averted by means within the scope of human power. The Bradfield reservoir failed; and we have suffered simply from defective knowledge—that endless cause of inconvenience and trouble to man—in consequence of our arrangements being imperfect, or through a want of precaution and providence. Nature exacts a dreadful penalty for the neglect or transgression of her laws, and the penal cha-

racter of calamities is, perhaps, their most striking aspect. The attentive man watches it as a pupil watches for the meaning of a teacher, with the design of profiting by it. As a chastisement for error, he yields to it as no more than just, and turns contritely to the work which is before him for the advantage of the future.

It is particularly interesting to observe how nature punishes the *moral errors* on the part of great societies. Pestilence is usually bred among the masses of the wretched. From the hovels of the poor it spreads to the affluent, and even attacks royalty in the palace: many perish who have not failed to any signal extent in observing the rules of health; but while this has been attended to, social mischiefs have been left unremedied; hence evil has arisen. It is a nice and difficult question, but we must all admit that something is wanting in our social arrangements with regard to the less fortunate of the community. The system of individual interests is so far well when unaccompanied by jealous, selfish, and illiberal feelings: no doubt, independence is a noble word, and gives its possessor the means of displaying one of the brightest features of human character; and those who possess it are bound to use it to alleviate the misery of their less fortunate brethren. The laws of true society demand great mutual care and helpfulness, supplementary to self-helpfulness, yet not to supersede it.

If this be true, all great concentrations of misery are evils for which society is chargeable, and for which pestilence, crime, and every other resultant evil is only nature's appointed punishment. Let us so contemplate the public calamities of our time, and so resign ourselves to the penalties they impose; yet, not for one moment forget the duties which they place before us. May the lesson we have just received at Sheffield teach each of us that ignorance, selfishness, or perverseness will be certain to bring down on us a just chastisement; that defective knowledge, want of precaution and providence, will assuredly, if continued, exact a heavy penalty. It is true no one is infallible, but he will be nearest safety who, as science teaches, allows a right margin to balance against casualties.

VANDYCK IN ENGLAND.

"Rare artisan, whose pencil moves,
Not our delights alone, but loves!
From thy shop of Beauty we
Slaves return that enter'd free."
Waller to Vandyck, circ. 1638.

"Painters of history make the dead live, but do not live themselves till they are dead: I paint the living and they make me live."—*Sir Godfrey Kneller, circ.* 1712.

We now quit men in armour and garter robes, squerries, and pages, for white, blue, and yellow satins, pearl necklaces, vases of flowers, and fountains of water. We are now in the land of ringlets, fair faces, delicate hands, and delicious eyes. We have seen King Charles and his court as Vandyck saw them in the Blackfriars; we have now to take the court of Henrietta Maria to the easel of the king's favourite painter,—to that "shop of Beauty," as Waller calls it, where immortality of face was to be obtained as long as colours and canvas will endure.

It has been well observed by one of our earliest writers upon art,* that Vandyck was the first painter who put ladies' dresses into careless romances:—

"Hair loosely flowing, robes as free."

He certainly took the buckram and starch out of female costume; scorning to paint embroidery like Vansomer and Mytens, he gave up matted floors and thick variegated carpets, introduced silks and satins, and laid the foundation of a new school of female portrait painting.

Critics seem to agree that his female portraits are inferior to his male. This is not altogether true. In some cases he is fully up to every excellence he has caught in his male portraits. Two at least of his Henrietta Marias are perfection of beauty most perfectly rendered.

One duchess certainly sat to him, for dukes and duchesses were rare in England when Vandyck was with us. Vandyck's sitter was Mary Villiers, Duchess of Richmond and Lenox, wife of James Stuart, Duke of Richmond and Lenox. The duke was her second husband; her first was Charles Lord Herbert (died 1635), of the Pembroke and Montgomery blood. In the Vandyck room at Windsor is an exquisite full-length of her in white satin, with the attributes of St. Agnes, for she was gentler than Queen Christina, and did not want a canvas lion by her side. There is another portrait of her from the same inimitable hand at Hamilton Palace, in Scotland,—a full-length in white, attended by a Cupid, with an arrow in his hand. There is a third at Blenheim,—a female page presenting her gloves; and (marvellous workman was Sir Anthony), a fourth with Mrs. Gibson, the dwarf, by her side, at Lord Pembroke's, at Wilton. The picture at Burleigh (the Marquis of Exeter's), is "a good copy," by Ashfield.* The Windsor and Hamilton Palace pictures are in Sir Anthony's best manner, of great elegance, and carefully executed in a clear tone. Of this handsome woman read the pleasant prattling account which her mother —a Manners-Rutland — gives of her when a child:—

"She is very well, I thank God; and when she is set to her feet, and held by her sleeves, she will go sortly, but stamp and set one foot afore another very fast, but I think she will run before she can go. She loves dancing extremely; and when the saraband is playèd she will get her thumb and her finger together, offering to snap; and then, when 'Tom Duff' is sung, then she will shake her apron; and when she hears the tune of the clapping dance my Lady Frances Herbert taught the Prince, she will clap both her hands together and on her breast; and she can tell the tunes as well as any of us can, and as they change the tunes she will change her dancing. I would you were here but to see her, for you would take much delight in her. Now she is so full of pretty play and tricks; and she has gotten a trick that, when they dance her, she will cry 'Hah! hah!' and Nicholas will dance with his legs, and she will imitate him as well as she can. She will be excellent at a heat, for if one lay her down she will kick her legs over her head; but when she is older I hope she will be more modest. Everybody says she grows every day more like you."†

This pleasant girl lived to wed a third husband, the Hon. Thomas Howard (died 1678), brother of the first Earl of Carlisle, of the Howard family. Vandyck's Duchess, as St. Agnes, survived three husbands and an only son, and died in 1685.

Horace Walpole had at Strawberry Hill a full length of Frances Brydges, second wife of Thomas Cecil, first Earl of Exeter. Our great letter-writer bought it at Richardson the painter's sale. This lady was a daughter of Brydges, Baron Chandos of Sudeley, and was first married to Sir Thomas Smith, Master of the Requests, and Latin Secretary to James I. At the Strawberry Hill sale, in 1842, this full-length brought a sum that marked it for an indifferent example of Vandyck. In the British Museum is a clever and animated sketch of this lady in black chalk on green paper, seated. The countess died in 1663, aged 83, and is buried with the *Exeter* Cecils in Westminster Abbey.

Earl de Grey and Ripon has in London (as Lord Hardwicke has at Wimpole) a very fine full-length of Rachel de Rouvigny, Countess of Southampton, wife of the Lord Treasurer Southampton, the son of Shakspeare's patron. Walpole and Granger call Lord Hardwicke's the original. The picture has been well engraved in mezzotinto by M'Ardell.

At Apethorpe (Lord Westmorland's, in Northamptonshire) is a full-length in white of Rachel Fane, Countess of Bath, daughter of Francis, first Earl of Westmoreland. She was twice married, —first to Henry Bourchier, Earl of Bath, and secondly to Lionel Cranfield, Earl of Middlesex. Waagen, calls it "an elegant picture in his latest silvery tones." Mr. Fane De Salis, of Dawley Court, near Uxbridge, has a duplicate of the same lady, painted in 1636; and a full-length in black (still finer) of her first husband, the Earl of Bath.

At Lord Radnor's (Longford Castle, in Wiltshire), is a fine full-length in white satin of Catherine Wotton, Lady Stanhope and Countess of Chesterfield, mother of the handsome Earl of Chesterfield of De Grammont's Memoirs. Another at Blenheim. There was one in white among the Wharton-Walpole pictures.

"Such killing looks, so thick the arrows fly,
That 'tis unsafe to be a stander by."
Waller ("The Triple Combat").

This lady was a wit; had three husbands, and was Countess of Chesterfield in her own right. Vandyck looked at her with more than pictorial eyes. Read what follows:—

"It was thought that the Lord Cottington should have married my Lady Stanhope. I believe there were intentions in him, but the lady is, they say, in love with Carey Raleigh. You were so often with Sir Anthony Vandyck, that you could not but know his gallantries for the love of that lady; but he is [has] come off with a *coglioneria*, for he disputed with her about the price of her picture, and sent her word that if she would not give the price he demanded, he could sell it to another that would give more."

This was Carew Raleigh, Sir Walter's son, born during his father's imprisonment in the Tower. The king appears to have obtained it for a time; for in his last letter from Hampton Court he thus writes:—"There are three pictures here which are not mine, that I desire you to restore; to wit, my wife's picture in blue, sitting in a chair, you must send to Mistress Kirke; my eldest daughter's picture, copied by Belcamp, to the Countess of Anglesey; and my Lady Stanhope's picture to Cary Rawley."

Anne Villiers, Countess of Morton (d. 1654), daughter of Sir Edward Villiers (half-brother of Villiers, first Duke of Buckingham) and wife of Robert Douglas, eighth earl of Morton (d. 1649), may be seen, not to Vandyck's advantage, at Althorp and Petworth. Waller's New Year's Day verses to her at Paris are as fresh as ever. Lord Grandison, of whom we have a fine full-length by Vandyck, was her brother. The far-famed Duchess of Cleveland was her niece.

The Longford collection includes a full-length in yellow satin, with roses in one hand, of the Countess of Monmouth, wife of Robert Cary, Baron Carey of Leppington and Earl of Monmouth,—the Carey who carried so quickly to Scotland the news that Queen Elizabeth was dead, and King James VI. of Scotland had become King James I. of England.

The Countess of Worcester, in blue, was among the Wharton and Walpole pictures. This was Anne, only child of John Lord Russell, who died in the lifetime of his father Francis, Earl of Bedford.

At Knowle, in Kent, is a full-length, in white satin, of Mary Curzon (died 1645) wife of Edward Sackville, fourth Earl of Dorset, whose portrait by Vandyck I have already catalogued,—a rocky landscape in the background.

At Dunham-Massey is a good portrait to the waist, in black, holding a rose, of Lady Diana Cecil, Countess of Oxford and Elgin.

In the dining-room at Chatsworth is a full-length of Elizabeth Cecil, Countess of Devonshire, daughter of William Cecil, Earl of Salisbury, and wife of William Cavendish, third Earl of Devonshire; and at Petworth, a three-quarter, in white, standing, of the same countess, holding a red rose, with pearl necklace and ringlets. This lady was the mother of the first Duke of Devonshire, King William's duke, Lord Macaulay's duke.

At Petworth is a three-quarter portrait of Dorothy Percy, Countess of Leicester, in white, with blue cloak, grey scarf, pearl necklace, and ringlets. This celebrated lady, with true Percy and Devereux blood in her veins, was the mother of Algernon Sydney, the patriot,—of Waller's "Sacharissa," Dorothy, Countess of Sunderland, and of Henry, Earl of Romney, the "handsome Sydney" of De Grammont's Memoirs. This suggestive portrait is engraved in Lodge.

The same rich collection contains a companion portrait of her younger sister Lucy Percy, Countess of Carlisle, in crimson and orange, standing, and dipping her right hand in a fountain; pearl necklace and ringlets. A repetition, equally good, is at Windsor. What Granger calls "the original,"—the Wharton picture,—passed into the hands of James West, esq., of the Treasury, a great and not forgotten dealer among men who know in what way and at what prices property has changed hands in England.

A very fine three-quarter portrait of Anne Carr, Countess of Bedford, is another Petworth treasure. This lady,—the daughter of the infamous Earl of Rochester and Countess of Essex, and, stranger still, mother of William Lord Russell, the patriot,—is in blue silk (standing), glove in right hand, grey scarf over left shoulder, pearl necklace and ringlets. Repetitions may be seen at Woburn (in white), and at Althorp. Copies exist at Hagley and at Dunham-Massey.

Still another Petworth prize, a three-quarter in black, standing, of Dorothy Sidney, Countess of Sunderland. (Waller's "Sacharissa"), red scarf, left hand resting on a large vase, his right pointing to a rose-bush with red roses upon it, pearl necklace, and ringlets. A repetition at Althorp. Montague Lord Halifax has a copy of verses on this picture. At Hall-Barn, near Beaconsfield, there was when Granger wrote (1775)*, a portrait of the Countess, which Sacharissa herself, it is said, presented to Waller.

At Althorp is a full-length of Penelope Wriothesley, Baroness Spencer, in a blue silk dress and pearl necklace. The action of walking, and the gambols of a little dog, those easily

* Sanderson, "Graphiæ," fol. 1659, p. 39.

* Granger, ed. 1775, vol. ii., p. 372.

† The Duchess of Buckingham to the Duke, York House, the 16th of July.

* Granger, ii., 383, ed. 1775.

found conditions of all portraiture, give life to the work of a doubtful Vandyck.

At Windsor (part of King James II.'s collection) is one of his finest and most ambitious works—a full-length, seated, of Lady Venetia Digby, treading on Envy and Malice, while her arm remains unhurt by a serpent that twines around it. This lovely woman, with the true Stanley and Percy blood in her veins, was the mistress of Richard, third Earl of Dorset (died 1624), and afterwards the wife of Sir Kenelm Digby. Ben Jonson calls her his "Muse," and had her leave, he tells us, "to call her so."

> "She had a mind as calm as she was fair,
> Not toss'd or troubled with the light lady-air,
> But kept an even gait, as some straight tree
> Moved by the wind, so comely moved she.
> And by the awful manage of her eye,
> She sway'd all business in the family.
> To one she said, 'Do this'—he did it; so
> To another 'Move,' he went; to a third, 'Go,'
> He ran; and all did strive with diligence
> To obey, and serve her sweet commandements."
>
> *Ben Jonson.*

There was scandal about her to the last; but of the particular nature of the gossip and whisper nothing certain is known. Jonson sings her "fair fame" in some of the last runnings of his pen, and his verses on her sudden death suggested (I see reason to think) this very picture to the fanciful head of Sir Kenelm and the fertile pencil of Vandyck. Lord Clarendon, in his autobiography, alludes to the "extraordinary beauty, and as extraordinary fame," of Lady Venetia. By Sir Kenelm she had three sons,—Kenelm, John, and George.

Walpole mentions a fine little picture or model, exquisitely finished, of this noble work.* It passed from the hands of Mr. Walker and Mr. Skinner, and thence to Sir Eliab Harvey; but who has it now I know not.†

At Bothwell Castle, in Scotland, is a full-length portrait, in white satin, standing, of Lady Paulet, part of the Clarendon Collection; a rose in her right hand, the left holding her dress; "on the right a curtain of very powerful red; on the left a ground of one colour."‡ Waagen, whose words I have copied, calls it "a charming picture, carefully executed in a clear silvery tone."

In the Marquis of Breadalbane's apartments, at Holyrood, I saw in 1859, a very fine full-length (in white satin and blue scarf, holding a lute; the landscape bold and glowing) of Lady Isabella Rich, daughter of Henry Earl of Holland, married to Sir James Thynn, of Longleat. This is the lady made immortal in verse by the Muse of Waller. The neatly-turned poem "Of my Lady Isabella playing on the Lute" is addressed to her:—

> "What moving sounds from such a careless touch!
> So unconcerned herself, and we so much!
> What art is this, that with so little pains
> Transports us thus, and o'er our spirits reigns?"

To this I will add, what Waller's commentators do not tell us, that the poem "Of a Tree cut in Paper," and the poem that follows in all editions of Waller's works "To a Lady from whom he received the copy of a poem, entitled 'Of a Tree cut in Paper,' which for many years had been lost," are both addressed to Vandyck's lovely sitter.§

In the dining-room at Chatsworth, is the Wharton and Houghton full-length, in white, of Philadelphia Cary, daughter of Robert Cary, Earl of Monmouth, Queen Elizabeth's "Robin," and in Broxbourne Church (Herts.) is the following epitaph:—"Here lieth the Body of the Right Honourable Lady Philadelphia Cary, one of the Daughters of Henry Cary [Earl] of Dover, who departed this Life the 30th day of March, Anno Domini, 1689." ‖ I suspect that I have in this epitaph clearly *identified* the Chatsworth lady.

At the same place and in the same room is a full-length, in black, of Anne Cavendish Lady Rich. This lady died, 1638, at Lees, in Essex, at the early age of twenty-seven, leaving an only son, married to the youngest daughter of Oliver Cromwell. Waller has a fine poem on his death, and his tomb at Felsted, in Essex, is inscribed with verses by Godolphin and prose by King Charles's Bishop Gauden. The Wharton full-length is at Wimpole, Lord Hardwicke's.

A very charming three-quarter piece of Mrs. Olivia Porter, wife of Endymion Porter, of the bedchamber of Charles I., hangs at Petworth; in brown and blue, roses in right hand on table, and a profusion of fair ringlets.

At Earl de Grey's, in London, is a full-length of Mrs. Kirk, of the bedchamber of Queen Henrietta Maria. Duplicate at the Grove. A repetition (I presume) was exhibited at the British Institution in 1815.*

At Hampton Court, is a fine three-quarter portrait of Mrs. Margaret Lemon, the mistress, it is said, of Sir Anthony. Another portrait of the same lady as "Judith with a Sword," was sold at the Strawberry Hill sale for 75 guineas; Earl Spencer has a repetition of it at Althorp.

A picture, called in the catalogue "Vandyck's Mistress, by himself," was sold in the six days' sale (March 1741-2) of some of the effects of Edward Harley, Earl of Oxford; the price 57*l.* 15*s.*; the purchaser, Mr. Hanbury Williams.

At Warwick Castle is Lady Brooke, seated in an arm-chair, in a black silk dress richly adorned with jewels: at her side her young son, in a red silk flowered dress; at her feet a greyhound. This is the wife of Robert Lord Brooke, "fanatic Brooke," who lost his life at Lichfield.

In the drawing-room at Houghton hung the three-quarter portrait of Jane, daughter of Lord Wenman. "The hands," says Walpole, "in which Vandyck excelled, are remarkably fine in this picture." Lady Wenman's portrait is now at St. Petersburg. This Jane Wenman was the wife, I see reason to believe, of Arthur Goodwin.

The Walpole full-length (in blue) of Margaret Smith, wife of Thomas Cary, of the Bedchamber, brought, at the Strawberry Hill sale, 78*l.* 15*s.* Bought for Colonel Tynte. Walpole calls it "a fine picture of a lovely woman." In the marriage register of St. Andrew's, Holborn, I found this entry: "Thomas Cary and Margaret Smith weare maryed the 18 day July 1626 licens facult."

The last I have to name is Lord Lyttelton's so-called portrait of Lady Vandyck herself, a poor picture of spurious parentage and name.

When and where Vandyck was married no diligence, and it has not been idle or without pecuniary temptation,† has discovered. The lady was of noble birth, Mary Ruthven, daughter of Patrick Ruthven, fifth and last surviving son of John, first Earl of Gowrie, younger brother of the Ruthvens of the Gowrie conspiracy, by his wife Elizabeth Woodford, widow (1617) of Thomas, first Lord Gerrard, of Abbots Bromley, in Staffordshire. Her mother died in 1627, and her father, after nineteen years' confinement in the Tower, died in 1652, in the King's Bench Prison.‡

By his wife Vandyck had one child, Justina, born on the 1st day of December, 1641, and baptised on the very day her father died. She married a Stepney, and the blood of the great painter may still flow in the veins of some one of that name.

Four days after his daughter's birth Vandyck made his will, being, as he says, "weak of body, yet enjoying my senses and understanding." On Thursday, the 9th, his daughter was christened in the church of St. Anne, Blackfriars, the church of the parish in which he lived, and on Saturday, the 11th, Vandyck himself was buried (according to his own directions in his will) "in the cathedral church of St. Paul, in London." The spot selected was "near the tomb of John of Gaunt," as Nicasius Roussel, jeweller to the king, who lived in the Blackfriars, and was present at the painter's burial, recorded in his pocket-book.

No inscribed stone covered his grave, but his burial in the metropolitan cathedral of Great Britain has made St. Paul's a kind of Painters' Corner. His rivals in reputation, Sir Joshua Reynolds and Sir Thomas Lawrence, lie where Sir Anthony Vandyck lies.

> "Vandyck is dead; but what bold Muse shall dare
> (Though poets in that word with painters share)
> T'express her sadness? Poesie must become
> An art like Painting here, an art that's dumb."
>
> *Cowley, on the Death of Sir Anthony Vandyck, the famous Painter.*

The face of Sir Anthony is perpetuated by the masterly etching he has left of it. Of his manner of life nothing is known. An Alien List informs us that he kept six servants, while we learn from the register of St. Anne, in the Blackfriars of London, that Jasper Lanfranck, "a Dutchman," and Martin Ashent, "Sir Anthony Vandyck's man," were buried from his house in the year 1638.* His country-house at Eltham, in Kent, is a tradition, and a tradition only. Sir Peter Lely had a country-house at Kew Sir Godfrey Kneller at Whitton—and Sir Joshua Reynolds at Richmond—Sir Anthony *may* have had his country-house at Eltham.

Vandyck died before King Charles raised his standard at Nottingham; before Cromwell, and Ireton, and Blake were distinguished characters. There were men of eminence, however, who might have sat to him whose features awaken a lively interest imperfectly preserved by the inferior pencils of Dobson and Walker. It would be difficult to contemplate a full-length of Hampden by Vandyck, without extraordinary delight. Hampden, Eliot, and Pym were men of great celebrity in London during Vandyck's residence in Blackfriars, and yet there is no reason to believe that they ever sat to him. Another name of eminence deserves to be mentioned: Ben Jonson might have sat to Vandyck, and on Vandyck's canvas would have looked a noble companion and rival to the head of his old assistant and antagonist, Inigo Jones. A little reflection will suggest many like regrets,—Shakspeare might have sat to Vansomer, Milton to Lely, Burns to Raeburn, and Byron to Sir Thomas Lawrence.

Of the prices he obtained, some account will be expected. He had 40*l.* for a half-length, and 60*l.* for a whole-length.

Of his system of mixing and using his colours, some very interesting notices have been lately brought to light by Mr. Hendrie, the learned editor of "Theophilus." Mr. Hendrie discovered them in a MS. book of Sir Theodore de Mayerne's, a famous physician in the reigns of James I. and Charles I. The first entry records a conversation with the painter about the nature and qualities of oils:—

"Sr Antony Van Deik, chevalier, peintre très excellent Londres, 30 Xbris 1632. N.B. Oil is the principal thing which painters should be choice in, endeavouring to have it good colourless fluid; for otherwise, if it be too thick, it alters all the finest colours, espec ally the blues, and whatever is made with them, as the greens.

Linseed oil is the best of all the oils; it even surpasses nut-oil, which is more fat, and that of the poppy-seed, which becomes so, and easily thickens.

Having suggested to him that those colours, blue and green, when applied with gum-water or isinglass in distemper, and then varnished, are as good as colours applied with oil, he told me he very often had it in the colours in his pictures with gum-water, and when they were dry, passed his varnish over them; but that the secret consists in making colours in distemper take and adhere to a priming in oil. This is accomplished certainly and permanently, if the juice of onion or garlic be passed over the priming; the juice, when dry, receives and retains colours mixed with water.

This conversation arose in consequence of his telling me that Signor Gentileschi, a Florentine painter of merit, has a very excellent green prepared from an herb, which he makes use of in his oil pictures, possibly in the mode above described."

The second is without date:—

"Treatment of yellow. He [Van Dyck] makes use of orpiment, which is the finest yellow that is to be found; but it dries very slowly, and, when mixed with other colours, it destroys them. In order to make it dry a little ground glass should be added to it. In making use of it, it should be applied by itself, the drapery (for which alone it is fit) having been prepared with other yellows. Upon these, when dry, the lights should be painted with orpiment: your work will then be in the highest degree beautiful.

He spoke to me of an exquisite white, compared with which the finest white lead appears grey, which, he says, is known to M. Rubens. Also of a man who dissolved amber without carbonising it, so that the solution was pale yellow, transparent."

The third is dated 20th May, 1633:—

20th May, 1633, à Londres. The ground or priming for pictures is of great consequence. Sir Antonio Van Deik has made the experiment of priming with isinglass; but he told me that what is painted upon it cracks, and that this glue causes the colours to fade in a very few days. Thus it is good for nothing.

Having given him some of my good [amber] varnish to work with the colours, by mixing it with them on the palette in the same mode as the varnish of Gentileschi is used, he told me that it thickened too much, and that the colours in consequence became less flowing. Having replied that the addition of a little spirit of turpentine, or other fluid which evaporates, would remedy this, he answered, that it would not; but that remains to be tried.

He has tried the white of bismuth with oil, and says that the white prepared from lead, the material commonly used, provided it be well washed, is much whiter than

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* Walpole, ii., 202.

† Mrs. Jameson's "Handbook to the Public Galleries," p. 229.

‡ Waagen Supplement. 8vo, 1857, p. 463.

§ Oldys's "Life of Raleigh." Fol., 1736, p. liv. Oldys has preserved four additional lines from memory, which the next editor of Waller will do well to turn to. Among Charles Cotton's poems, p. 436 (Walton's associate), is a poem to Lely, "On his Picture of Lady Isabella Thynn."

‖ Clutterbuck's "Herts," ii., 66.

* At Burleigh (Lord Exeter's) is a fine miniature of Mrs. Anne Kirk (the same person, I believe) by Hoskins.

† See several advertisements in "Notes and Queries" for the years 1862 and 1863.

‡ Mr. John Bruce in "The Archæologia," vol. xxxiv., p. 293.

* I owe my knowledge of these entries in the registers of St. Anne's, Blackfriars, to the courtesy of an accomplished friend and old fellow labourer among biographical records, Mr. John Payne Collier:—

"Jasper Lanfranck, a Dutchman, from Sir Anthony Vandikes, buried 14th February, 1638."

"Martin Ashent, Sir Anthony Vandike's man, buried 12th March, 1638."

Lanfranck was Vandyck's assistant and friend; Martin Ashent was his valet or man-servant.

nat of bismuth. The latter has not body enough, and is nly good for the miniature-painter."

The varnish which he used has been preserved y Norgate,* the limner, with whom he lodged in his second visit to England.

"Sir Nathaniel Bacon's varnish for oyl pictures. Alloo was the vernish of Sr Anthony Vandike, which he used hen he did work over a face again the second time all rver, otherwise it will hardly dry. Take two parts of oyl f turpentine, and one part of Venice turpentine; put it n a pipkin and set it over the coles on a still fire, untill begin to buble up; or let them boyl very easily, and op it close with a wett woollen cloth untill it be cold. hen keep it for your use; and when you will use it, lay by warm, and it will dry."

Vandyck is said to have used a peculiar kind f drying oil, which he prepared in his own ouse, and never kept by him more than a nonth, for after that time he found it lost many f its virtues. It is further related of him that e was curious in keeping all his colours dry, xcept white, which he ground with nut-oil, and ept under water. This, too, was the practice of f Sir Peter Lely, who wrought in the same chool, and arrived in England in the year in hich Vandyck died.

f The task I undertook I have now concluded, nd I quit a favourite subject in a lively hope hat my labours will be of use in exciting others o enlarge our knowledge of Vandyck "in" and ut of England.

PETER CUNNINGHAM.

* Norgate MS. (Eastlake, p. 743).

THE WISE AND UNWISE USE OF BUILDING MATERIALS.

f THERE is a very general impression, which ppears to me not without foundation, that our nodern system of building causes a great deal of noney to be wasted which might be better employed. We have adopted the outward resemblance of the buildings of our ancestors in the Middle Ages with great advantage, but we have ot yet revived their wise, and skilful, and economical modes of construction: we still follow h this respect the traditions of the last century nd of the Italian school. This wasteful expenditure as shown in various ways. The builders aturally encourage it, as making good for trade, nd the architects too frequently act upon the ame principle, and make it their business to ead their employers on to spend as much money s they can, without seeming to do so, rather han try to save their pockets, as it is abstractedly heir duty to do, but against their own interest. am afraid that in the weakness of human ature, when abstract duty is put in one scale nd the pocket in the other, the pocket is very pt to weigh the heaviest. One way in which his waste is shown is in the carriage of building naterials from a distance without making sufficient inquiry beforehand how far the materials ound on the spot can be made available. I remember an instance when, by the architect's dvice, Scotch granite was brought to build a lain parapet and steps, which could have been uilt of the stone of the country for a fourth art of the cost, and the architect had his commission on the price of the granite. Of course is only motive was the benefit of posterity: he stone of the country would not last so long s the Scotch granite. To judge by that which replaced it would have lasted about 300 years, ut that was not long enough for a conscientious rchitect, who looked to the interest of posterity nly. Our ancestors would have used the stone f the country, and trusted to their posterity to enew it when it became necessary.

In some districts the only material of the ountry is chalk, and in chalk flints are generlly abundant. In such districts our ancestors uilt their churches of chalk, and faced them ith flint on the outside to keep out the wet. We have hundreds of such churches built in the welfth and thirteenth centuries now remaining n use; and if they have not been wantonly inured by digging graves under the foundations, hey are generally quite sound. But no modern uilder or architect would condescend to build n such a vile, detestable manner: it is quite ut of the question, it would be a disgrace to hem. Wherever a crack has been caused in he old chalk walls by the undermining of them, t is quite impossible to repair them in the same manner as they were built, and strengthen the oundations with concrete, filling up the graves, nd forming a surface drain. Oh, no! that is uite out of the question: it would be a disgrace o all the parties concerned. If a poor ignorant ountry parson venture to plead the fact that his old church has stood for six or seven hundred years, and that he and his people are attached to it, Mr. Conceit,* the architect, and Mr. Pocket, the builder, are astonished that an educated gentleman and a clergyman can be so ignorant and so stupid. Can he not see what absolute rubbish the walls are,—that directly you begin to pull them about they tumble down? It is quite impossible to let them alone. Of course the whole church must be pulled down and a new one built in the newest fashion, of party-coloured bricks brought down from London by train. We must have something Venetian or Lombardic, and a dapper caricature of an old open timber roof, made of timber a few inches thick—of oak of course, because it will last twice as long as deal, and cost twice as much money —all for the good of trade. As for that old chalk vault, with which your chancel has been covered for six hundred years, and which you in your ignorance would have liked to have seen copied over your nave also, that is absolute rubbish too: only get a ladder and examine the top of it, and see how roughly it is built: no modern builder could build such rubbish as that, and no modern architect would certify to his work, if he did.

In other districts the material of the country is a hard, rough, coarse stone, very difficult to cut, but everlasting in its rough state. Our ancestors were content to build their walls of this rough stone, and plaster and paint the interior; or, if they brought any freestone at all from a distance, it was only just sufficient for the corners and for the frames of the doors and windows. A modern builder and architect consider it absolutely necessary to have the whole faced with ashlar, brought from Bath or from Caen, at an enormous expense for carriage; and neither of them ever thinks of going to the quarries and examining the quality of the stone before he orders it, as our ancestors did. He does not know or care for the fact that there are two sets of quarries near Caen, on different sides of the town, and that the stone from these two quarries is of very different quality. The stone from *La Maladerie* quarries is sold to the inhabitants at a much lower price than that from the *Haute Allemagne* quarries, but large quantities of the cheap and inferior stone have been sent to England during the last twenty years, and it is generally believed at Caen to have been charged at the same price as the best stone. A stone merchant who had large dealings with England, recently tried to play off this trick on the French Government, was detected, and is now in prison for it. This is another instance of the manner in which money is wasted in building materials, and the well-established reputation of Caen stone has been seriously injured at the same time.

In other districts the material is gravel or shingle. No modern builder dreams of using such materials, but our ancestors bound these loose materials together with lime used quite fresh, and made an artificial concrete as hard and as durable as any natural rock. I have seen long stones like beams made of such artificial concrete used over the openings of doors and windows in preference to soft stone, as being stronger. The pier of Dover is built of this sort of artificial concrete, made from the shingle on the sea-shore—exactly the same practice as our ancestors used in the twelfth century. But they were not acquainted with the principle of the expansion and crystallization of lime which binds this mass together, and therefore did not always use their lime quite fresh; consequently in such cases the lime had no strength in it and did not bind. From this cause it occasionally happens that when a hole is made in an old wall the loose materials in the interior begin pouring out, as if the whole wall was coming down together. Probably the loose portion does not extend more than a few feet, but that does not matter. Mr. Conceit at once condemns the whole wall, and wonders how such rubbish could ever have stood so long, although perhaps a few feet farther on in the same wall the workmen find it break all their tools, and are obliged to employ gunpowder to get rid of it. Walls built in this "rubbishing" manner have often been allowed to stand for centuries after every bit of ashlar has been stripped off, merely because it costs more to destroy them than the materials are worth, as in the ruins of Reading Abbey.

In other districts the material of the country is clay, which can generally be burnt, either on the spot or near at hand, into brick, one of the best and most durable of building materials, but one which is very commonly rejected by Mr. Conceit and Mr. Pocket as not being sufficiently genteel; and they accordingly persuade their employer to buy stone a hundred miles off, solely because it will look so much more handsome. Of course, neither of them ever once thinks of the insignificant fact that one gets his profit in trade, and the other his commission on the value of the stone, including the cost of carriage. Our ancestors, also, did not always make their bricks in the same mould: on the contrary, they had a variety of moulds for different parts of the buildings and different purposes. The jambs of their doors and windows, and their arches, were made of moulded brick. Some of the finest churches in Europe are built entirely of brick, with all the details of moulded brick; and this practice was not confined to any one district or country. Such brick buildings remain in Flanders, in the south of France, in Italy, in the north of Germany, and in Denmark, as well as in the eastern counties of England, as at Colchester, and in Norfolk commonly. Let any one compare the moulded brick chimneys of the Tudor period, of which hundreds remain in many parts of England, with any modern chimneys, and then say whether the interested motives or the ignorant prejudices of Mr. Conceit and Mr. Pocket ought to be listened to. The moulded brick chimneys of our ancestors are an important ornamental feature in the houses, and often in the landscape also. Modern chimneys, of whatever material they may be built, are in general nothing but an abomination, and a disgrace to the age. Our builders and architects really seem to have tried hard which could produce the ugliest set of chimneys. Let any one walk down one side of Regent-street and look at the chimneys on the opposite side, and then compare them with the chimneys of the old manor-houses or farm-houses, and say whether such modern rubbish ought to be tolerated. Of course, the excuse here will be the cost; but it is a false excuse. Moulded brick is not an expensive material in a clay country. Clay may also be moulded by hand to any form that may be required, and then baked, and the form so given will be as lasting as stone.

Some districts are even worse off for building materials than any I have mentioned, and still even there our ancestors contrived to erect buildings of the most wretched materials, that have stood for centuries, and look better, after all, than the modern Cockney gimcracks which are stuck up in their place, and which look exactly as if some house out of a street in London had by accident been transported into the country, and cries out loudly for its companions to support it on either side. I am thinking now of those districts where there is neither stone nor clay, and where the old walls are made literally of mud, or of earth beaten hard, with a little hay or straw, or a few rushes to bind them together, and the roof covered with thatch. This is the case in a large part of Devonshire, where these mud-walls are called cob-walls, and in some parts of Wales, and other districts. These cob-walls are not without their advantages: they must be built thick, and one consequence of this is, that the house is warmer in winter and cooler in summer than its modern rival, with its brick walls 9 inches thick, and thin blue slate covering to the roof. But cob-walls also cost only half the money, and that is a fatal objection to Mr. Pocket and Mr. Conceit.

Our fathers had substituted flat plaster ceilings for the chalk vaults or the ornamental wooden ceilings of the Middle Ages; therefore, as Mr. Conceit must always go from one extreme to another, we must now have the most ludicrous caricatures of open timber roofs executed in thin deal. This foolish mania is carried so far, that I have seen within the last year a very handsome panelled and well-moulded flat ceiling of oak, of the fifteenth century, removed, to make room for one of these modern caricatures, which have the additional evil of making our churches very cold in winter and hot in summer. A good deal more might be said on the subject of building materials, but I fear I have already trespassed too much on your space.

A TRAVELLER.

* "Mr. Conceit is the successor in business to Mr. Compo, who was so well known to the profession and to the public some twenty or thirty years since, and was so admirably described by the able author of 'St. Antholin's.' Of course, both of them were the black sheep of the fold only, and were entirely discountenanced and disclaimed by the great bulk of the architectural profession, which contains as many honourable gentlemen as any other; but no profession or trade can be kept entirely free from black sheep."

SANITARY.

Tunbridge Wells. — The report of a committee appointed by the town commissioners to consider the question of water-supply, together with a report by Messrs. Nixon & Dennis, engineers, employed by the committee, to ascertain the means available for that purpose, has been printed. Three plans are suggested. "Plan No. 1 embraces a complete and total supply from the springs at Pembury, and entirely independent of the existing works. Total cost, 30,500*l.*; annual expenses of working, &c., inclusive of interest on outlay, 2,635*l.* Plan No. 2 contemplates a supply partly from the springs at Pembury, and partly from existing works. Total cost, 22,820*l.*; add cost of purchasing existing works; annual expenses of working new and old works, and inclusive of interest of new works, 2,740*l.* Plan No. 3,—supply derived partly from Ashdown Forest by gravitation, and partly for highest service from existing works. Total cost, 38,500*l.*; add cost of purchasing existing works; annual expenses of working new and old works, inclusive of interest on outlay of new works, 2,775*l.*" The adoption of plan No. 1 is recommended. "The committee," say Messrs. Nixon & Dennis, "would thus secure a complete and harmonious scheme in lieu of one of patchwork, made up of old and new systems, very difficult to adjust, and expensive to maintain."

Tranmere (Cheshire.)—A report to the health committee of the Tranmere local board on the sewerage of the township and disposal of the sewage, has been made by Mr. W. A. Richardson, the resident engineer and surveyor to the local board. In this report the surveyor submits a scheme of sewerage with reference to the physical characteristics of the township. The total cost of this scheme is estimated at 8,213*l.* The reporter says, with regard to the utilization of the sewage, that he cannot advise the construction of works for this purpose at present. "In conclusion," continues the report, "allow me to say, that considerable benefit has resulted from the construction of the sewers and roads, drainage of houses, and flagging of footwalks and passages, in Tranmere Park, Mill-street, &c., and south Tranmere; the death rate in the township having been reduced from 22·00 in the thousand, which it was for the year ending 31st March, 1860, when the Local Government Act was adopted, to 19·50 for the year ending 31st March, 1863." Higher Tranmere, however, is described in the report as being still in the most wretched state for want of sewerage, and Lower Tranmere is, apparently, not much better in that respect.

Portsmouth.—Smallpox is just now very rife in Portsmouth and its suburbs, as it is in many other parts; and orders have been given from the Admiralty to defer the embarkation of troops and naval supernumeraries for China on board the screw troop-ship *Adventure*, and to send the ship out to the Quarantine anchorage at the Motherbank, to await further orders, as a case of smallpox has occurred on board.

Kidderminster. — Smallpox, which has also been for about six months very fatal in this neighbourhood, particularly in the North Ward, is still continuing its ravages. For a long time the Horse-fair has been the centre of infection, but it has now extended to the country district, Broadwaters, &c. There is no doubt that defective sanitary arrangements here are the support, if not the cause, of this loathsome malady. The inspector of nuisances reports, on the buildings where the smallpox has raged; that in one yard pigs were kept in a brewhouse adjoining the house where children were ill of the disease, and the whole gutter-drainage emptied into a grate under the pump-trough, polluting the well; the tenants, too, had dunghills within two yards of their doors. In another small and confined yard there was a pigstye, dung collected from the roads, a privy with the floor a foot below the yard, and ankle-deep with the drainage from the dunghill and pigstye, and a range of stabling, privies, and slaughter-houses, all adjoining. The slaughter-houses in and around the Horse-fair neutralize all the advantages of a high and dry situation, and make its neighbourhood a regular nest for fever and contagious disorders; while Lark-hill, one of the most beautiful places in the town, has had no sewerage provided; and, having become densely populated, the consequences may be conceived.

Beaufort.—A few weeks ago an official from London paid a visit to this neighbourhood, for the purpose of ascertaining what the sanitary condition of the place was; and he closely inspected the whole village, accompanied by one or two gentlemen interested in the cleanliness and well-being of the people. Soon after his return to the metropolis, a copy of his report was sent to the board of guardians for the parish of Llangynider, which includes the principal portion of Beaufort; and owing to the bad account of its sanitary condition given in that report, the board at once ordered a public meeting of householders and others to be called at Beaufort, to consider the best means to adopt for the general cleansing of the place. The meeting was addressed by about twenty speakers; and from the general tone and feeling, all seemed to admit that the sanitary condition of Beaufort is excessively bad, and all were anxious for its improvement, but wished to have this effected without the introduction of a Board of Health, or even the assistance of the Brynmawr Board. A committee was appointed to inspect the neighbourhood, and give evidence at a forthcoming meeting of officials.

Workington (West Cumberland).—The trustees of the town of Workington have instructed Mr. John Lawson, C.E., of London, to report to them as to the best mode and probable expense of sewering that town.

SOANE.

IN his most interesting and also instructive autobiography, Charles Knight has recorded the action brought against him by Soane for the article in his (Knight's) *Quarterly*, entitled "Bœotian Architecture." The article itself was of such an innocently slipslop character, and in its stolidity said so much more against the lovely temple at Tivoli, with its "cabbage-leaved capitalled" columns, than against Soane himself, that, without any great exertion of philosophy, the latter might have overlooked, if he did not forgive, the insult, instead of showing himself so thin-skinned as to seek redress for the injury inflicted by the playful cat's-paw of criticism by calling to his aid the awful talons of law, and thereby keeping alive what else had long ere this been at the very bottom of Lethe. Unfortunately, however, for him, Soane was no philosopher: both as a man and an architect, he was a strange compound of contradictions. In the latter capacity he occasionally exhibited brilliant corruscations of true artistic feeling and genius, but far more frequently nothing better than utter tasteless insipidity. In more than one of his designs, and executed buildings also, there was a strangely discordant mixture of antipathetical elements of composition, which, however shaken up, united pretty much after the fashion of oil and water when forcibly married together. The prodigally embellished and the parsimoniously plain might often be seen in juxtaposition, with far more of startling contradiction than well-calculated contrast. What is not least of all surprising is, that one who had so carefully studied the charming Tivoli example, with its bossy frieze, should have adopted the directly opposite mode of decoration with mere sunken lines, thereby substituting baldness for boldness. Yet, if in Soane's works there is much to offend, much is there also to charm,—moreover, to instruct; and criticism should be a Janus, looking in two opposite directions, not a hireling advocate, who, besides shutting his own eyes to what it does not suit his purpose to notice, throws dust in those of other people.

In a fair estimate of Soane, a good deal would have to be placed on the debtor side of the account; but when it was cast up a very large balance would be found in his favour. In *planning* he was unsurpassed: in *contrivance* he was unapproached. Manifold are the inventive ideas that were first thrown out by him, and which are not the less valuable because susceptible of improvement: they ought also to be incentive to it. In fact, the study of contrivance ought to be regarded as almost indispensable to an architect; nevertheless, it is to be apprehended that at present no pains are taken to put pupils and beginners in the way of even so much as thinking about it. Style, it seems, is now all-sufficient—the very all-in-all, and a sufficient receipt in full for all deficiencies,—humdrum, or even positively inconvenient, plan included. But these somewhat "aside" remarks must not detain us.

If nowhere else, Soane certainly showed great *forte* in contrivance in his own house, which, though considerably too small for its present purpose, as a museum open to the public—though certainly under such stringent limitations as to be little more than nominally so—gives us plainly enough to see what may be made out of a very commonplace and ordinary-sized London house. One happy idea was that of not only extending the plan in the rear on the ground-floor, but also getting out a *crypt* with additional rooms below on the basement level. Now that it has once been done—the ice broken, the route pioneered—it strikes as strange that the same idea should not have presented itself to any one before; even stranger still that it has not since been adopted and acted upon. If it was not always well regulated, Soane undoubtedly possessed an affluent imagination, which, as matters go, is no inconsiderable merit.

Whether a lesson has ever been taken from it by any one or not, the *crypt*, or rather the general idea of it, is particularly worthy of the attention and consideration of an architectural visitor to the Museum, more especially as it may be varied almost endlessly. The foremost and most obvious variation from the present plan is that of forming a handsome flight of steps leading directly down to what, in the present house, is called the "Monk's Parlour," which, with respect to that or some room similarly situate, would be an improvement, by giving greater architectural character and importance to the approach to it. The general idea once adopted, others which would else never occur to him would almost of sheer necessity force themselves upon any architect not wholly destitute of imaginative faculty; all of them variously modified according to circumstances. Much, for instance, might be made of a *grotto-room*—no inappropriate one in a souterrain—and that when lit up by gas might, with a stalactite vault, be made to show a blazing galaxy of iridescent gleams. Again,—but enough; let me doff buskin fancies, and come to something more generally intelligible, referring also to Soane. Not a little less than unaccountable is it that in his "Public and Private Buildings" he should have given no illustrations of his own house and museum, and that he should have suffered the above-named work to go forth to the public so vilely—even disgracefully—executed; whereas, for the *bagatelle* of some ten thousand pounds or so,—and to him it would have been no more than a *bagatelle*,—he allowed what, at least, as regards the execution of the plates and its general getting up, ought to have been a *pracht-werk* to show itself *in formâ pauperis*, as if made only to sell. Poor Soane! he certainly proved himself to be an adept in the art of cheating one's own self.

AN ART LOVER.

MILITARY IDEA OF THE STATUS OF AN ARCHITECT.

ON the hoarding of the new buildings of the Foreign Office is a huge placard, evidently issued by some of the officials of the War Office. It is no quiz or hidden joke, but a genuine official red-tape document. It commences by stating, that "a few young men of good character are wanted to serve in Her Majesty's Royal Engineers." Then follows a list of trades, such as carpenters, bricklayers, blacksmiths, wheelers, coopers, &c.; and the inquiring public are informed, that these young men, wanted to serve her Majesty, "*should* be able to read and write."

Then follows this further announcement:—"Men of other *trades* are required, only in limited numbers, *such as* clerks, draughtsman, photographers, ARCHITECTS, printers, collar and harness makers, shoemakers, and tailors;" and, for the further encouragement of those of the respective *trades* of an architect, collar-maker, &c., there will be "a bounty of 2*l.* and a free kit." We, the architects, collar-makers, &c., are then directed to apply to Sergeant R. Griffith, R.E., Blue Boar's Head, King-street, Westminster; and the whole performance winds up, like the last bounce of an exhibition of fireworks, with "God save the Queen!"

Here is encouragement to the rising young men of the architectural profession. Only a limited number is required, so "be in time!" Having passed the examination in mathematics, physics, languages, &c., would no doubt be accepted as a proof that they are "able to read and write;" and then, think of the advantages of the fellowship with the collar-maker and the tailor, and, above all, the "bounty of 2*l.* and a free kit." What the architects' "kit" is to consist of we are not informed. We hope, however, there will be no mistake as to allotting their "kits" among the

trades," or the tailor may get a T square and drawing-pen, while the architect may receive a pair of shears and a goose. No bad premium, by the way, this last would be for men who go in for those swindles facetiously called "competitions."

There is no reason why Government should not advertise by placard: in fact, I expect we shall soon see other professions also invited to apply to the gallant sergeant at the Blue Boar's instead. The "kit," however, would differ according to the peculiar vocation of each. Thus, the young surgeon would be tempted by a lancet-case and a gallon of half-and-half; the young barrister by a crimson bag and order for the pit at the Princess's; the young physician by a gross of blue pills and a quart of black draught; the young curate by a dozen cambric handkerchiefs and a bottle of eau-de-cologne; the aspirant clerk of the Circumlocution Office, by a *Bell's Life* and a dozen real Manillas; the diplomatist by a stone or two of lead paper-weights and a gross of hanks of red tape; the debater by the last edition of Joe Miller; and so on.

There is one thing I *should* like to know, and that is, who can have penned this placard, where he was caught, and what strange chance threw him into the military service. He must be a curiosity. An *employé* of the Poor Law Board, inspector of spirit duties, mines, nuisances, &c., might plead that his peculiar avocations so took him from the world that he was sometimes at fault as to its courtesies and usages; but we generally find military men are gentlemen. Can any of your readers point out who it is, and satisfy the curiosity of,

Q.

The Corner.

*** The announcement is so outrageous that, but for the known character of our correspondent, we might be led to doubt the possibility of such a publication. It must have been dictated by either Impertinence or Ignorance, and we invite the authorities at the War Office forthwith to inquire which, and to give some explanation of the affair for their own sakes. Coming on the heels of some recent events, concerning which the public in general and the architectural profession in particular are not very well pleased, the Royal Engineers may find this joke of theirs, if joke it be, a more serious affair than they anticipate.—Ed.

SHAKSPEARE TERCENTENARY CELEBRATION.

The following further arrangements have been reported in connexion with the National Shakspeare Committee. The English residents in Paris, who have formed themselves into a committee in aid of the London Monument Fund, with Mr. Blanchard Jerrold as honorary secretary, have arranged for a banquet on the 23rd, at which Lord Grey, Lord Cowley, and other distinguished persons will be present. The working men of London propose, on the same day, to plant a sapling oak from Windsor forest, in one of the parks, to be henceforth known as the Shakspeare oak, and afterwards to have a monster gathering and musical festival at the Agricultural Hall, for which a specially interesting programme is being prepared. It is also announced that Cardinal Wiseman has undertaken to deliver a lecture on Shakspeare in aid of the national object, at St. James's, or some other large hall in London, in the month of June or July next.

The Lord Mayor has convened a meeting of influential persons connected with the city, to be held at the Mansion House, on Monday, April 11, at 2 o'clock.

Stratford-on-Avon.—The contractors for the erection of the Great Pavilion (Messrs. Branson & Murray, of Birmingham), having completed their work in the interior, the artisans who had been employed upon the building were entertained therein at dinner, and about 120 workmen partook of the hospitality of the committee. The building has now passed into the hands of the decorator (Mr. Brothers, of Leamington), under whom the pavilion will, it is expected, be finally completed by the middle of April. The local committee, having determined to place the responsibility of selecting a site for the monumental memorial to Shakspeare in the hands of men of recognised artistic taste and judgment, recently transferred their powers to a committee, consisting of the following gentlemen:—The Earl of Carlisle, K.G.; the Earl Somers, F.R.G.S., Sir Robert Charles Buxton, M.P., Mr. Robert Bell, F.R.S.L., Mr. Austen Henry Layard, M.P., Mr. William Stirling, M.P., Mr. J. Beresford Hope, Mr. Theodore Martin, Mr. C. L. Gruneisen, Mr. Gambier Parry, Mr. Tom Taylor; Mr. John Ruskin; and Mr. Alfred Tennyson, D.C.L. (Poet Laureate). A subcommittee of the above, having recently visited Stratford and inspected the various sites proposed, have unanimously chosen the Bridge-street site as uniting all the conditions required. "On the space thus cleared (they remark in their report), might be erected an elegant and effective loggia (in the Elizabethan style, with terra-cotta ornamentation) of from 50 feet to 60 feet long, by 25 feet to 30 feet wide. In its rear there would be room for a new market house, which might be made to harmonise in design with the memorial." Into the details of the design the sub-committee do not consider it within their present province to enter. The prices named for admission to the dramatic entertainments seem to us too high. Londoners, at any rate, will not be anxious to pay a guinea a piece to see the Haymarket company or the Lyceum company do what they may see the said company do on their own boards for a third of the money without the cost of going to Stratford.

Coventry.—It is intended, says the local *Herald*, that the entertainment here shall be not only in keeping with the dignity of the event, but entirely Shakspearian in its distinctive character. Tributary odes, composed by poets who are natives of or residents in Warwickshire or elsewhere, and to whom two handsome and appropriately-designed Coventry watches will be awarded for their pains, will be recited by a competent professional reader. One or two of the most eminent vocalists of the day have been engaged to sing Shakspearian ballads, and the music of Mendelssohn, Locke, and other composers, will be rendered by one of our best and most popular military bands. A few selections from the plays of Shakspeare will also be introduced. The music-hall will be appropriately adorned on the occasion with busts of Shakspeare and other great poets, while the pillars will bear illuminated scrolls, containing the titles of the whole of Shakspeare's plays, and combining with banners and evergreens to form an effective display. The mayor will preside on the occasion, and the entertainment will be given under the patronage of the nobility and gentry of the city and district.

Shakspeare's Will.—The will, which consists of three sheets of brief paper, has, by the direction of the judge of the Court of Probate, been carefully cleaned, and each sheet placed in a polished oak frame, between sheets of plate glass. The frames are made air-tight, and on the top of each is a brass plate engraved, "Shakspere's Will, 25th March, 1616:" each frame is fastened with one of Chubb's patent locks. The will thus will not be handled when shown to the public, which will very much add to its preservation. The three frames fit into an oaken box. The judge has sanctioned the taking of photographs of it, in the presence of one of the record keepers of the court. This permission was refused by the late Sir Cresswell Cresswell.

"FINE ARTS APPLIED TO INDUSTRY."

CANTOR LECTURES: SOCIETY OF ARTS.

In the sixth lecture, relating to furniture, Mr. Burges said, that under this very comprehensive title he would not confine himself to what is generally understood by furniture, but would enlarge upon the general decorations of the interior of our domestic buildings. He first of all called attention to the way in which this matter was arranged in the thirteenth and fourteenth centuries, showing from the extracts of the public records, published in "Parker's Domestic Architecture," how the ceilings were boarded and painted, and how the walls afforded endless subjects for the invention of the artist, while the better sort of furniture was also historiated with colour and gold. Some extracts, from Guillabert de Metz, and Vasari, were brought forward to show what were the domestic arrangements of the fifteenth century in France and Italy, the first extract being the description of a citizen's home in Paris in 1409, and the latter containing a long account of the works of Dello Delli, who was especially famous for his paintings on furniture. The next portion of the subject treated of the various modes in which articles of furniture could be ornamented. Thus, if the wood be made to show, it can be inlaid with marquetry, buhl, mother-of-pearl, ivory, or be partially covered with more valuable wood, or have ornaments in the metals, in marbles, and enamels. Again, when the wood is intended to be entirely covered, it can be decorated with various sorts of gilding, as in the coronation-chair at Westminster; or have paintings in certain parts, as in the presses at Noyen and Bayeux; or it can be painted and covered with varnish, like the Japanese work. The lecturer then observed that, although it was impossible for any one man to give the age a distinctive architecture or a new and picturesque costume, yet in his own house he could do completely as he liked, and if his rooms were furnished in bad taste the fault must rest with himself. A series of suggestions then followed for the decoration and furnishing of rooms, great stress being laid upon the desirability of giving some sort of decoration to our flat white ceilings, and of substituting wall paintings for paperhangings. The practice of filling the windows with one immense piece of plate-glass, thereby depriving the house of all scale on the outside, and giving the room a cold appearance from the inside, was also reprobated; and several suggestions put forward respecting the treatment of the floors, and of the furniture generally, moveable divans being recommended instead of the multiplicity of sofas and chairs. A few words on ecclesiastical decoration concluded the lecture, attention being especially called to the beautiful stalls at Amiens, and more particularly to the treatment of the moulding and carving. There were some specimens of furniture exhibited by prominent decorators and upholsterers.

The last lecture (delivered on the 21st ult.), treated of the Weaver's Art.

Mr. Burges began by stating how different costumes required different treatment in the designs of the fabrics which composed them; and after giving a short account of the principal features of the costume in the Middle Ages, he showed how, in spite of the perishable nature of all fabrics, we had sufficient materials for the history and for the illustration of those of the Middle Ages, thanks to the mass of documentary evidence and to the custom of burying distinguished persons in their official robes, and of wrapping up reliques in precious stuffs. It appeared that in the first instance the production was monopolised by Byzantine and the Eastern nations. It then extended to Sicily and Venice, to Italy and the rest of Europe, thus accounting for the prevalence of entire inscriptions on earlier specimens, and for the imitation of them much later. The gradual increase of the diaper or pattern was another curious peculiarity, the stuff composing the robe of the Emperor Henry VI., preserved in the duomo at Palermo, exactly resembling the Indian kincob. Allusion was made to the very excellent series of specimens of ancient stuffs at South Kensington, where the increase of the patterns was distinctly shown from the somewhat large diapers of the fourteenth century down to the great pine patterns of the latter end of the fifteenth century, resplendent with gold thread and crimson velvet. The lecturer next touched upon the Indian productions, of which some choice specimens had been lent by Dr. Forbes Watson, from the Indian museum. Attention was particularly directed to the beautiful kincobs, the Delhi embroidery, and the exquisite combinations of colour in the Cashmere shawls, as well as to the work about to be produced by Dr. Watson at the Government expense, which would contain specimens of a great quantity of Indian fabrics, each copy consisting of no less than twenty volumes. The Persian and Turkish carpets formed the next part of the subject, and were commended for their colours as well as for the excellence of the materials; and a reproduction of a Mediæval carpet by Mr. Fisher, from a pattern of Van Eyk's, was favourably noticed, as giving us a great addition to the floor coverings of our apartments. With regard to our modern productions, regret was expressed that from the nature of our present costume there should be no better scope for the colours in the fabrics made for our dresses, but at the same time it was remarked that there were stuffs devoted to other uses, which offered an almost unlimited field, such as damasks, chintzes, brocades, stuff for the table, as napkins; and for the beds, as counterpanes; coverings for chairs and other furniture, to say nothing of carpets and rugs. Mr. Crace was fortunate enough to secure the services of the late Mr. W. Pugin, and some of the fabrics made from his designs, more especially what was called the tapestry, left very little to be desired; the only

fault that could be noticed being the animal on the chintzes, which had been conventionalized after the fashion of the fifteenth century, instead of that of a purer period of art. The lecturer concluded his task with a few remarks concerning our future progress in art. According to him, the development will probably arise from our domestic architecture, political circumstances rendering it doubtful whether either public or ecclesiastical architecture will again exercise so much influence as they have done in other periods of the world's history. The great helps to improvement were then enumerated. 1. The better education of the designer by a more extended teaching of the figure. 2. Of the public at large, by bringing art collections, if not to their doors, at all events within their daily walks. 3. A wiser system of expenditure with regard to our public monuments. 4. A greater encouragement of the fine arts of painting and sculpture in our ecclesiastical buildings; and, 5. The abolition of the law of leasehold.

THE BRADFIELD, BRADFORD, AND OTHER RESERVOIRS.

Bradfield.—As to the liability of the Water Company, the *Sheffield Independent* says:—"The committee of sufferers by the late flood have obtained the opinion of Sir Hugh Cairns, Q.C., and of Mr. Brown, of the common law bar. Their opinion is to the effect that the company are liable to make compensation to every person, without distinction of class, who has sustained any legal damage or injury by the flood. The learned counsel also think it is clear that sec. 68 of the Act of 1853 imposes this liability on the company without proof of negligence on their part, and though there should have been no negligence. They are also of opinion that the sufferers can only take the property of the company in satisfaction so far as it will go." It is but justice to the company to state, in this connexion, that the directors are said to have had seven tenders, two of which were below the engineer's estimate, and that, instead of taking one of these they made the contract with a firm who asked 900*l.* more than Mr. Leather's estimate. The original contract was 27,469*l.*; and when it was found that an ancient landslip rendered it needful to change the site originally proposed for the embankment, that added 1,000*l.* more to the contract. More than 6,000*l.* has already been paid for extras, and they are going on still. They seem, therefore, to have been anxious to secure a thoroughly good and durable piece of work; and so far as regards loss of property, the disaster falls with its most serious weight upon them.——In a letter to the local *Independent*, signed "G. W. Hawksley," syphon pipes are recommended for drawing the water away from such reservoirs as that under notice, the water to be thus tapped over the embankment, instead of piercing the banks and drawing the water by outlet pipes laid through the bottom of the embankment, to the settlement of which from this cause Mr. Hawksley thinks the catastrophe may probably be ascribed.——The relief fund last week had reached to upwards of 30,000*l.* A waggon-load of bales of clothing and other necessaries has also been sent to Sheffield. The police list of killed and missing amounts to 276.——A letter has been received by the Water Company from Sir George Grey, enclosing a copy of a report from Mr. Rawlinson on the late inundation, and reminding the company of their serious responsibility in reference to the Agden reservoir, which is in course of construction, and which Mr. Rawlinson strongly condemns. The chairman of the company has since written to Sir George Grey, to say that the Agden works have been stopped.

Bradford.—The condition of the Doe Park and Silsden reservoirs, to which Mr. Ferrand lately called attention in the House of Commons, has been debated in the Bradford town council. Silsden reservoir was said to be in a perfect state of repair. As to the Doe Park embankments, there were, admittedly, some defects in them, but steps had been taken to make them secure. A member said Mr. Ferrand had an interest in preventing the corporation getting a certificate for the safety of the Doe Park reservoir. Letters in the local *Observer*, however, state that Mr. Ferrand only gave expression to the feeling of the inhabitants of the valley, and that "the embankment has been leaky ever since it was made, and has been patched up in five or six different places; and, to add to the danger, there is no by-wash," so that "if the reservoir at Doe Park were to burst or require to be suddenly emptied, the water must flow into Hewenden reservoir (which has only a small by-wash, scarcely sufficient for its own overflow), and would undoubtedly burst that also, and in half an hour hundreds of people would be drowned."

Rivington.—At a special meeting of the Liverpool Water Committee, to consider the condition of the reservoirs at Rivington and in the town, Mr. Duncan, the engineer of the waterworks, submitted to the meeting a long report, showing that all the local reservoirs are substantial well-tried structures, and that, with the exercise of ordinary precautions, the inhabitants will be preserved from an inundation like that caused by the yielding of the Bradfield embankment.

Dublin.—The Sheffield catastrophe has excited some alarm in Dublin. Sir John Gray, however, has assured the corporation that there was no danger of anything of the kind, for even should the embankment of the great reservoir at Roundwood give way, the water would flow down the Devil's Glen, and could not reach Dublin. They would be able, at any time they pleased, to let off 56,000,000 gallons by opening the sluices at the bottom of their works. Mr. Rawlinson, as consulting engineer of the corporation, had written a letter from Sheffield to Sir John Gray, stating that the embankments of the Dublin works have nothing in common with the Sheffield failure; that they are "sound in stratification, in material, in design, and in execution."

ROCHDALE PARISH CHURCH.

THE further enlargement and restoration of this church, dedicated to St. Chad, after having remained dormant for a long period, is now about to be resumed; and the completion of this, one of the few old churches remaining in the manufacturing districts of Lancashire, it is to be hoped, will be carried out and finished in a manner worthy of this rich and populous district. The church has already been partially restored, and a new aisle added on the north side of the chancel. The nave roof is new. The present unsightly and incongruous effect of the church, which has been only partially reseated, will speedily disappear; and, instead of ascending to the original level of the church, to that part which has been partially done by a step 12 inches high. The whole floor will now be uniform. A new aisle will also be added, affording a large increase of accommodation. The entire seating of the area of the church will be completed; the tower opened out, cleaned, and made to form the principal entrance; and the stonework is to be cleaned, restored, and made good. The new font, given some years ago, will be restored to its "canonical" place, and the interior entirely fitted and finished; and those who know the present distressing appearance of the church must rejoice over the prospect of its entire restoration. The works will be continued under the direction of the architect, Mr. Joseph Clarke, F.S.A.; and, should the funds permit, the other aisle, with the porch, will be rebuilt.

The restoration of the chancel, undertaken at the sole expense of the vicar, Dr. Molesworth, under Mr. Clarke's directions, will comprise a new roof; raising the floor to the proper level, with the retiling; a complete restoration of the interesting old stalls which remain; the restoration of the old screen and parcloses; with the entire repair of the fabric.

The position of the church renders it a conspicuous object from the valley of the Ribble, flowing below, on the banks of which the older part of the town is built; and when the church is finished it will crown the hill in an imposing manner.

RAILWAY PROGRESS IN INDIA.

FROM the *Engineers' Journal* of Calcutta for 1st February, we glean the following particulars on this subject:—

On the 1st of January, the East Indian railway was opened to the public as far as Mirzapore, an extension of 39½ miles. The extension commences at Mogul Serai, which is the junction of the Benares Branch with the main line, and six miles from the bank of the Ganges at Rajghât. Messrs. Hunt & Emsley were the contractors who constructed the earthwork and bridges on the Mirzapore part of the line from Mogul Serai: the stations and gate-houses are being put up by the company's engineers.

The chief engineer's report of progress on the main line of the East Indian railway, N. W. Provinces, states, that during the last half-year a further length of 56¼ miles from the Kurrumnassa River to Benares was opened for public traffic on the 22nd December, thus completing a continuous line of railway communication of 539 miles between Howrah on the Hooghly, opposite to Calcutta, and Rajghât on the Ganges, opposite to the city of Benares. A total length of 336 miles was thus open for traffic on the North-Western Provinces Section at the end of this half-year—viz., from the Kurrumnassa to Benares, 56¼ miles, and from Allahabad to Agra, 280 miles.

On the subject of average cost of lines in India and England, it is stated by the *Engineers' Journal* that on the Bombay and Baroda line the average cost was 11,000*l.* per mile, while the average cost of all railways in the United Kingdom according to the Board of Trade returns for 1860, was 33,368*l.* per mile. The land in India, however, has been supplied by the Government, and Parliamentary costs are *nil*. The number of passengers per mile of railway in 1857-8 was larger in Bombay than in Great Britain and Ireland: in the former it was 192,974. and in the latter 189,611. The total number of passengers by railways in India in 1859 was 2,822,382, of whom 93 per cent. were third-class passengers. In Great Britain and Ireland the receipts amounted to 1,112*l.* per mile for passengers, and 1,458*l.* per mile for goods. On the Great India Peninsula Railway they were only 453*l.* per mile for passengers, and 464*l.* for goods. Considering that the ordinary rate of travelling in India previous to the opening of railways was only about 10 miles a day, the change must be very great, even although the rate of speed by railway in India is as yet considerably slower than in this country. An average mixed passenger and goods train however, on the Baroda Railway, has 72 carriages and trucks, and will convey, at the rate of 20 miles an hour, a gross load of 720 tons.

An engraving of the new two-storied third-class carriage in use upon the Bombay, Baroda, and Central Indian Railway, appears in the *Illustrated News*. It was first tried in the early part of the year 1862, and has been found to be most popular with the natives, as well as economical for the company. These carriages are constructed each to carry 120 passengers,—viz., 70 in the lower story, and 50 in the upper; whilst the ordinary carriages only carry 70 persons each. More than 95 per cent. of the travellers are third-class. Two-storied railway carriages with us are impracticable; unless, indeed, on lines of railway without either bridges or tunnels.

GREAT CENTRAL ARGENTINE RAILROAD, BETWEEN ROSARIO AND CORDOVA.

THE vast valley of Buenos Ayres, or Laplata, situate between the Brazils and the Andes, embraces a breadth of several hundred leagues, and penetrates westward to Upper Peru, or Bolivia, while its numerous streams water the plains or become vehicles of commerce, developing the riches of the soil, while its healthful climate invites the population of Europe, which is rolling in and spreading itself over these prairie lands.

The railroad named above has received the protection of the Argentine Government, and of the legislatures of the provinces through which it will pass, and a concession has been granted to Mr. Wheelwright, of a most liberal character. The road commences 250 miles above Buenos Ayres, at the flourishing town of Rosario, on the right bank of the Laplata, a navigable river for ships of large burthen. The road pursues its way over a plain for 250 miles until it reaches the city of Cordova, the most central and commercial city of the Pampas. Mines of gold, silver, and copper are said to abound throughout this region.

The present undertaking, however, appears to be but the nucleus of a scheme to connect the two oceans by means of railroads, either by crossing the Andes, and descending to the Pacific through the valley of Copiapo to the port of Caldera, in Chili, which has been surveyed and found practicable, or by availing of any other mountain pass that affords still greater facilities. The next object contemplated is to extend the railroad from Cordova through the northern provinces of the Argentine Confederation to Upper Peru, and thus restore to Buenos Ayres

that commercial market which she supplied formerly by means of carts,—a journey of three or four months, but which a railway will reduce to three or four days, and probably less.

Another branch of this line will be from a station called Villa Nueva, 160 miles from Rosario, south-west through the provinces of San Luis, Mendoza, and San Juan, and uniting at Mendoza with the high road to Santiago.

The population of the provinces which will depend upon the Central Argentine Railroad for the conveyance of their foreign supplies and their products to a market, is about 800,000; and with all the obstacles with which they have to contend at present, there is a very considerable traffic between Cordova and Rosario, at which latter place may frequently be seen 1,000 or 1,200 carts, drawn by six oxen, and each carrying from two and a half to three tons of merchandise, performing the distance in a month or forty days. The facilities of a railroad will reduce it to about twelve hours; and as to passengers, it is estimated that the greater part of the inhabitants of Buenos Ayres and all the Riverini population, will avail themselves of this road, while the same thing will take place with the long isolated populations of the interior.

It seems to us an enterprise of great promise, first, from its low cost of 6,400*l.* per mile, and a guarantee of seven per cent. from the date of deposits and payments; and next, from the bonuses to be derived from the sale of lands.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At the meeting on March 23rd, Mr. T. J. Pettigrew, V.P., in the chair, Mr. Baigent forwarded an account of the discovery of human remains in excavations near the railway at Winchester. They consisted of various skeletons, the bodies of which appear to have been buried without coffins. A drawing of one of the skulls was sent, and pronounced by the chairman and Mr. Cuming to be a good example of the Saxon type. The chairman laid before the meeting the greater portions of the radius and ulna of the left forearm of a Roman lady, which some years since had been obtained from the same locality. At the wrist was a bronze armilla, which, as the flesh decomposed, fell on to the bones, to which it had imparted a deep green colour, from the oxydation of the copper belonging to the bronze. Mr. T. Wright stated that he had met with a silver ring on the finger of a Saxon lady when engaged on the interments at Osengall, in Kent. Lord Boston exhibited an alto-relievo of gypseous alabaster, a portion of the predella of an altar-piece. It presents an allegory of Life and Death, has been gilt and coloured, and is of French execution. Mr. Cuming produced a figure of similar material and execution, representing Asia, and which had belonged to a set illustrative of the four quarters of the globe. Mr. Cuming read a paper on grotesque representations of animals, and produced a great variety of illustrations obtained from abbeys, churches, and public buildings; and Mr. Clarence Hopper read a paper on two passages in the life of Bago de Clare, whose "Itinerary" had been published by the Rev. C. H. Hartshorne in the *Journal*.

REMOVAL OF HOUSES IN LONDON.

Holborn-valley Improvement.—The number of houses proposed to be taken and pulled down for the purposes of this improvement amounts to 154, containing from four to twelve and two to ten rooms each, situate in Shoe-lane, Plum-tree-court, and other courts adjacent in the parish of St. Andrew, Holborn, on the one side, and in Great Saffron-hill, Field-lane, Cock-court, Green Dragon-court, Fox and Knot-court, Hosier-lane, Turn-again-lane, and other localities in the parish of St. Sepulchre. The total number of persons to be displaced by the demolition of these localities, as far as can be estimated, is 2,216, but provision is proposed to be made by the Corporation of London to remedy the inconvenience likely to arise from such displacement by building in some suitable spot in the neighbourhood model lodging-houses.

Metropolitan Railway.—By the returns made in pursuance of an order by the House of Lords, it appears that the Metropolitan Railway Company will require 103 houses in the neighbourhood for their proposed extension to Trinity-square, Tower-hill, displacing, as far as can be estimated, 202 persons, the houses containing from three to ten rooms each; and 76 houses in Kensington for their Notting-hill and Brompton Extension, displacing 500 persons; but the promoters state that no inconvenience is apprehended to arise, as most of the houses taken will be rebuilt when the works are completed. The Great Eastern for their metropolitan station and railways, propose to purchase and pull down 111 houses in St. Botolph, Bishopsgate; 60 in Christ Church, Spa-fields; and 186 in Bethnal-green; thereby displacing 1,071 persons; and a further number of 80 houses in Bethnal-green, displacing 240 persons, under their Junctions Bill; but although compulsory power is sought to take all these houses, the company state that probably not more than a fourth will be taken in the first case, and not more than 14 in the second.

The Strand.—A number of houses in Holywell-street, Strand, the sites of which are required by the Strand Hotel Company, have been levelled with the ground, and preparations are commenced for the erection of the south front of the building, which extends northward to Wych-street, and westward to the old entrance of Lyon's-inn, Newcastle-street. The removal of the buildings on the south side of Holywell-street is in contemplation.

London Bridge Station.—The works in connexion with the enlargement of the Brighton Company's station at London Bridge are rapidly progressing. A great space of ground has been cleared for this purpose, and a further large block of houses in St. Thomas-street East and the Broadway, are now being lotted out for sale and demolition.

The East London Railway (Thames Tunnel Line).—The total number of houses proposed to be purchased and pulled down for this proposed line amounts to 970, displacing, as far as can be estimated, 6,713 persons. The property consists principally of small dwelling-houses, dilapidated larger ones, and let-off tenements in obscure courts and confined localities out east. It is stated that although power is sought from Parliament to take the whole of these houses as being within the limits of deviation, yet it is not probable that more than a comparatively small number will actually be taken, and that no provision is made for the displacement as no inconvenience is anticipated.

LONDON STREET ARCHITECTURE.

66, BISHOPSGATE-STREET WITHIN.

The building of which we here give an illustration has been recently erected on the western side of Bishopsgate-street Within, and partly on the site of an old and interesting groined undercroft, which was first brought into notice by the Rev. Thomas Hugo, and was considered by him to date from the fourteenth century. It was found in good preservation, and the foundations around, mostly of chalk, presented the greatest obstacles to removal.

The premises destroyed were very old and quaint in character, with their projecting floors, their low stories, wainscoted within, lath and plaster without, and were intermixed with other properties, and tortuous in plan and staircases. The business now carried on is known to have existed in 1783, and probably before that time; but it was found necessary to re-erect the premises with a special reference to increased accommodation required by Messrs. Fitch & Son, and sacrifice had to be made to meet this point. The frontage in Bishopsgate-street is 28 feet in width, the extreme depth of the premises 70 feet, and the height, to the ridge of the new building from the pavement, about 60 feet.

The ground and basement floors are arranged throughout for the purposes of business, with counting-houses, vaults, lavatories, and every convenience, the shop being lined from floor to ceiling with Minton's tiling, with pilasters in the flat in subdued colour, and a frieze and cornice in more positive colours, the latter being raised. Marble and beech counters and show-boards, encaustic tiling, with a Prince of Wales's feather worked in (supplied by Messrs. Maw & Co.) in the entrance, with polished granite step, and enamelled bronze shop-front, complete the finishings here.

The plan above consists of a front and back range, the former containing three rooms and the latter two rooms *en suite*, intended to be let as offices, and with a distinct private entrance. The front portion only is carried up to a fourth, or attic story, with projecting dormer windows, in stone-work; banded and cut slating, with ornamental ridging, finishing the exterior.

The front generally is executed in white Suffolk bricks and Portland stone dressings, with slabs of polished marbles of differing and contrasted colours let into the friezes of the different cornices, the pilasters being deeply moulded. The carving was executed by Mr. Nettle. The spandrels over third-floor windows have bas-reliefs, and the keystones to arches raised foliage in terra-cotta. The ground-floor front has stone pilasters at each end, with Aberdeen polished granite slabs incised and let into them, the trusses and carvings at the end being emblematical of the appointment held by the firm as purveyors to the Prince of Wales. The whole of the sashes and frames above the ground-floor are mullioned in mahogany, and glazed with plate-glass.

The interior is lit by star pendants of gas throughout, provision being made for ventilation in the sky-lights and ornamental spandrels of the shop-front.

The works have been carried out by Messrs. Browne & Robinson, of Finsbury, under the direction of Mr. Thomas Chatfield Clarke, architect; the original contract for them being 3,086*l.*, exclusive of the various fittings and some decorative features.

MEMORIAL WINDOW OF THE LATE PRINCE CONSORT.

NEWARK CHURCH, NOTTS.

A stained glass east window has just been placed in the above church, to the memory of the late Prince Consort, at a cost of about 1,000*l.* It is not intended to open it to view until Easter Sunday. The stone-work is of the fifteenth century, and consists of fourteen transome lights with tracery. The subjects chosen have been, for the upper tier of lights, the Ascension of our Lord into Heaven. In the centre light is seen the figure of the Saviour robed in white garments, surrounded by an immediate circle of flaming seraphim; beyond which extends through the side lights, a rejoicing choir of angels, who are represented on a ruby ground, each angel playing some musical instrument, and singing the glories of God. This portion of the subject is inclosed by a semi-circular band of clouds, which marks the distinction between heaven, into which Our Lord is ascending, and earth, from which the Apostles anxiously watch their Master's ascent. In the centre light is St. Peter with his keys, and next to him St. John, the other Apostles ranging through the side lights. In the lower tier of lights, the subjects are chosen from the principal events in Our Lord's life. In the centre lights is represented Our Saviour on the Cross, with adoring angels on either side. At the foot of the cross kneels Mary Magdalene, and the city of Jerusalem is seen in the distance. On the one side of the cross stand the devout women, the Virgin Mary, Mary Salome, and Mary Cleophas; and on the other side St. John the Apostle, and the Centurion. In the outer dexter lights are, in the upper part, the Adoration of the Magi; and in the lower, the Annunciation. In the outer sinister lights are, in the lower part, the visit of the holy women to the sepulchre, where they find only an angel in a white garment; and in the upper part is the incident "Noli me tangere," the appearance of Our Lord after his resurrection to Mary Magdalene. The whole of the window is executed in the style of the fifteenth century, with profusion of diaper, and elaborate framework of the medallions. The work has been executed by Messrs. Hardman & Co., of London and Birmingham.

MONUMENT TO THE MEMORY OF H.R.H. THE LATE PRINCE CONSORT, WHIPPINGHAM CHURCH, ISLE OF WIGHT.

The monument of which our present number affords an illustration has been erected in the parish church of Whippingham, in the Isle of Wight, to the memory of the Prince Consort, by Her Most Gracious Majesty the Queen.

As many of our readers will remember, this church* was recently rebuilt from designs suggested by the Prince Consort, who was frequently upon the spot, himself superintending the progress of the works, and determining upon the details of the building.

The monument is placed in an arched recess or framework of Caen stone, in the western wall

* See our vol. xix., pp. 825, 827.



MONUMENT TO H.R.H. THE LATE PRINCE CONSORT,
ERECTED, IN WHIPPINGHAM CHURCH, ISLE OF WIGHT, BY HER MAJESTY THE QUEEN.

MR. HUMBERT, ARCHITECT; MR. THEED, SCULPTOR.

of the south chancel aisle. It is the joint production of Mr. Theed and Mr. Humbert, the latter of whom had been previously engaged in the rebuilding of the church.

The upper portion of the design, executed in Carrara marble, consists of a medallion of the Prince, encircled by a wreath of laurel. Two kneeling figures, with extended arms, support a cluster of stars over the medallion, illustrative of the quotation from Revelations in the inscription below, viz.,—"Be thou faithful unto death, and I will give thee a crown of life." The spandrels of the arch are filled with foliage, carved in alabaster, on a gold ground.

The lower portion is divided into three panels, separated by small shafts of red Portuguese marble, with capitals and arches of alabaster, surmounted by a cornice, similar in character to the spandrels before mentioned. Two of the larger shafts or columns are of Greek green and two of Irish green marble. In the panels (of Carrara marble) are the arms of the Queen and Prince, and in the centre the following inscription:—

"To the beloved Memory
of
FRANCIS ALBERT CHARLES AUGUSTUS EMMANUEL,
PRINCE CONSORT,
who departed this life December 14, 1861,
in his 43rd year.
'Be thou faithful unto death,
And I will give thee a crown of life.'
Rev. ii. 10.

This Monument is placed
in the Church erected under his direction,
by
His broken-hearted and devoted Widow,
Queen Victoria.
1864."



LONDON STREET ARCHITECTURE: 66, BISHOPSGATE STREET WITHIN.
MR. THOMAS CHATFIELD CLARKE, ARCHITECT.

THE SPIRIT OF GOTHIC ART.*

All art is symbolic, and symbolism is the life of all art. In true art, symbolism never detracts from the reality, nor sets aside the end in view. Thus a Christian church is reared for the worship of God, and no symbolism can set aside that end; the great truths of Christianity are conveyed to us in symbols, its praises are sung in symbolic language by the lisping infant, as well as the hoary saint; much of its prayer is uttered in symbolic phraseology; the most beautiful and soul-stirring portion of modern preaching is indebted to allegory for much of its charm and fire. Turn we to the Bible, and we find it full of symbolic language.

What allegory is there in the world of letters equal to the Song of Songs? That learned German, Schlegel, says, that "the prevailing spirit of types and symbols so conspicuous in the Scriptures,—not alone in the poetical, but even in the didactic portions, has deeply implanted and widely extended its influence over the whole thoughts and imagination of the Christian peoples, and not alone these, but also over their imitative arts." What Homer did for the ancients and pagans the Bible has done for us, that is, is become a fountain from whence we draw the model of our images and figures. "It is true, that in cases where the deeper sense of symbolical mysteries was mistaken, or where the purpose which the figure had been intended to serve was of a nature less serious and sacred, this spirit has not seldom displayed itself in the corrupted form of idle and fantastical allegory; for loaded ornament is at all times of easier attainment than native grace; and the most brilliant display of art is a thing more common place than the deep gravity of truth."

Now it must be distinctly understood that Christianity is a thing which can never of itself be allegory, philosophy, or poetry, or art of any kind, but rather the groundwork of all these. Apart from Christianity, these would represent the forms and shadows of that antiquity whose spirit and life are gone, for the deep philosophy of paganism, as well as of Jewism, had ceased to pulsate ere the founder of Christianity appeared.

True art was becoming effete, and required some new direction for its impulses: this it found in Christianity, and its influence upon art has been the surest and most successful; therefore it is, that in Christian or Gothic art symbolism attained a luxuriance and pliability never before acquired. Symbolism was not an after-thought of the artists, but it appears to have arisen synchronously with the art itself in the minds of the artists, as will appear from the "Apostolical Constitutions:"—

"When thou callest an assembly of the church, as one that is the commander of a great ship, appoint the assemblies to be made with all possible skill; charging the deacons as mariners, to prepare places for the brethren as for passengers, with all care and decency. And first, let the church be long, like a ship, looking towards the east, with its vestries on either side, at the east end. In the centre, let the bishop be placed and let the presbyters be seated on each side of him, and let the deacons stand near at hand, in close and small garments, for they are like the mariners and managers of a ship." I am afraid these "Apostolical Constitutions" smell rather fusty, nevertheless there is a very beautiful figure employed, for the reference is to Noah's Ark, in which a remnant of the old world was saved.

We may find symbolical allusions in many other patristic writings. St. Ambrose tells us why baptisteries should be octagonal, and Clement of Alexandria gives rules by which the selection of sacred emblems should be guided. Eusebius informs us that Constantine surrounded the apses of the church of St. Cross with twelve pillars symbolical of the twelve founders of the Christian religion; and Hermas, in his visions, represents the building of the spiritual temple under figures wholly taken from the material fabric. Thus the symbolism of art is not, as some have termed it, a new-fangled idea, borrowed from the papacy. Now, suppose it were so, is that a good reason for rejecting any good idea because, forsooth, it comes from the papacy? If a thing be of itself *good*, it certainly can be none the worse for emanating from that sanctum.

Mr. Poole says "that ecclesiastical art is a language; that it has always, so long as it has deserved the name, aimed at expression, and not at mere accommodation without splendour, or even at splendour without a spirit and a meaning; that from the first it was rational; that it had a soul and a sense which it laboured to embody and convey to the beholder; that its language was not only expressive, but appropriate; that it aimed not only at accommodating a congregation, but at elevating their devotions and informing their minds."

It is a fact beyond dispute, that the greater mysteries of our religion are not only capable of, but are in very deed symbolised in the fundamental design of the structure; and not only these, but other Christian verities are set forth in the minor arrangements and in the ornamental details. Thus, we may safely conclude that from the first there has been a sufficient degree of uniformity in Christian temples to indicate a unity of design which could not be accidental. A Gothic temple, in its perfection, is an exposition of the distinctive doctrines of Christianity clothed upon in a material form. It is, as Coleridge happily expresses it,—

"A petrifaction of our religion."

We have already shown that allegory is an instinctive portion of our being, and that symbolism was not invented by the Gothic artists, but that it has in the matter of religious art existed in all time among men; and that it is also found strongly exhibited in the history of creation.

In the old world men were very fond of expressing not only great ideas, but also lesser ideas, by means of symbols, and these symbols had a universal meaning, known and read by all men: it would then have been strange indeed if these had been ignored in proportion as the Hebraic ideas of the Infinite shone forth. How often are truths or ideas spoken of in holy writ under the forms of the lion, the bull, the eagle, and man. Yet these figures are very common on the Assyrian marbles, and were used by the Assyrians as symbols, and signified the same ideas,—omnipotence, creative power, omniscience, and wisdom. In Gothic art we find the same symbols employed, not only with the same signification, but with a wide scope: thus St. Mark is typified by the lion, because his Gospel begins with the roaring of a lion in the desert; St. Matthew, by the angel or winged man, because he begins his Gospel with the genealogy of Christ; St. Luke, by the ox or bull, because such was one of the victims in the Jewish sacrifices, and he begins his Gospel with an account of the priest Zecharias; St. John, by the eagle, because he took a bolder flight than the other Evangelists.

In the catacombs of Rome there are, as we all know, numerous symbolic representations, which the poor prisoners in the early days of Christianity carved upon the walls, before Gothic art, or what we denominate the Papacy, had any existence,—in the halcyon days of the early and pure Christianity.

We have already referred to some of these, as gotten from Pagan mysteries; but great numbers of them are gotten from the Bible. How natural is it, then, that the same symbols should be found in Gothic art, obtained from the same source, and certainly not from the catacombs?

Christ is often represented by the first two letters of the word in Greek, ΧΡ, or by the first and last letters of the Greek alphabet,—alpha and omega, Α. Ω. The palm is very common, being significant of the martyr's victory. The dove carrying the olive-branch—the emblem of salvation. The palm and the dove and olive-branch were common amongst the Pagans, and signified almost the same,—Victory and Peace. The fish, too, is very common, being emblematic of the Christian, from Christ's words to Peter and Andrew,—"I will make you fishers of men," and for other reasons.

The anchor, too, is often used, and is a very significant symbol, being emblematic of Hope and of Christ. The vine is also a very common symbol, for what reason, and of what emblematic, must be evident to all. Very singularly the Pagans took no offence at this emblem, because it was common among themselves, and fancied they saw in it the worship of Bacchus. The lamb became also the symbol of Christ, taken from the words, "He was led like a lamb to the slaughter."

The earliest human figure employed in Christian art is very appropriate, being that of a shepherd, typical also of Christ. Sometimes in Gothic art, he is represented as carrying a lamb on his shoulders.

It was not until the eighth century that the greater mysteries,—The Passion and Death of Christ,—began to be represented. One of the earliest of these is very beautiful in idea: it shows a cross, at the foot of which are seated two Roman soldiers; one asleep, leaning on his shield; the other watching, with eyes raised towards the cross, in devout emotion. The monogram ΧΡ, the symbol of Christ, is placed above the cross, surmounted with a crown of laurel-leaves, at which a dove is pecking. Anything more beautiful than this, as a Christian allegory, it would, I think, be impossible to imagine.

It does not appear that any attempt was made to depict the Deity in a work of art, under a human form, for the first eight or nine centuries; the honour of that wretched idea belongs to more modern times than the carvings in the catacombs. The earliest symbol of the Deity dates about the sixth or seventh century, and then the symbol was nothing more than a hand issuing from a cloud.

Passing from the catacombs to the temple sacred to Christian art—

"Where through the long-drawn aisle and fretted vault,
The pealing anthem swells the note of praise,"—

we may observe that in the plan, Christ was figured in various ways; the choir was inclined to the south, to signify that He bowed His head and gave up the ghost. The nave represents the body and the sides which one of the soldiers pierced, considered to be the south, and is constantly the pulpit from which the faithful were reminded to look on Him whom they have pierced.

For the same reason the south was considered the most holy. The Old Testament was represented on that side, while the New Testament and the local or national Hagiology were placed on the north.

The same opinions still give value to the south side of the churchyard for burial.

At the head of the cross was the chapel of the Virgin, at the fountain of intercession with her Son. At the foot the west end—was the parvis, supposed to be a corruption of Paradise,—that happy station from which the devout might contemplate the glory of the fabric, which was chiefly illustrated in this front, and whence they might scan the great sculptured picture, the calendar of the history of the church, illustrative, too, of Christian doctrine. Three large porticos leading into the church were adorned with statues of the Apostles and holy men who marshal us the way we should go. In front is seen the genealogy of Christ, the history of the patriarchal fathers, and the final judgment.

We are all pretty well acquainted with the aureola or nimbus, so commonly shown around the heads of saints. It denotes rest under the shield of God. This symbol was used by Pagans around the heads of their gods and heroes. The Trinity has its special nimbus. For God the Father it is triangular, or sometimes square, denoting the four elements, earth, air, fire, water. Sometimes the triangle is united to the hexagon, this hexagon denoting among the ancients the four elements. The nimbus for God the Son and the Lamb has three rays, and there are also three rays for the Dove of the Holy Spirit.

The upward aspiring tendency of Christianity is beautifully signified in the tower and steeple shooting up into the clouds. The progressive life of the Christian is shown as the eye ascends from pinnacle to pinnacle, on to the spire which conducts it heavenward. This steeple or spire is one of the most characteristic features of Gothic art. Towers as addenda to temples for worship may date back to Babel. The propylea of Solomon's temple was nearly 200 feet in height. They were common to most Eastern nations, but they were for the most part unseemly affairs, calculated to awe, rather than inspire with hope, as does the aspiring spire that forms the crown of Gothic art.

What can be more appropriate than the cock of Peter surmounting the vane, reminding the beholder with every breath of heaven the necessity of truthfulness? The zephyrs waft down to us every morning the weakness of humanity, and gently whisper in our ears, Be true! There is also something peculiarly charming in the voices that usually issue from these spires. Who would be without the bell, which ever says,—

"To call the folks to church in time,—
I chime;
When mirth and joy are on the wing,—
I ring;
When from the body parts the soul,—
I toll!"

It is thus we must read our Gothic art, and

* See p. 173, *ante*.

such or similar thoughts must arise at the bidding of those who really care to awaken them; and so

> —"Shall memory often in dreams sublime
> Catch a glimpse of the days that are over,
> And, gliding, look through the waves of Time
> For the long faded glories they cover."

I have been induced to enter somewhat largely into the question of symbolism, not only because it is the life and soul of Gothic art, but because many erroneous ideas are very prevalent respecting it; many well-meaning people, for instance, cannot detach it from what they call "Popery;" whereas, though *in* it, it is not *of* it; all history declares that it did *not* give birth to it, but that it found it in being, and naturally adopted it; for the very nature of all religion will compel men, in some shape or other, if not in stone, in words, to use symbolism in their worship: and where is the difference? It must solve itself into a distinction without a difference.

It is philosophically and æsthetically right that the temple should be a Bible in stone—a lasting witness of the Christian religion; that the walls should eloquently express to the mind, through the eye, the living ideas of the resplendent beauty and perfections of Him whom we worship; for the eye is as sacred a channel to the soul as the ear, and ought to be accustomed to the same exalted usage. The ancients, both Jews and Pagans, felt that the gods should neither be hymned in the common language of life, nor worshipped in a hut: could Jove thunder from a hovel, or would the Shekinah illuminate a barn? No! Should we not rather—

> "Make the house where gods may dwell
> Beautiful, entire, and clean?"

Should not the walls blush with lessons deep and profound for the beholder, without the stigma of idolatry being gratuitously attached? There is a great distinction between that which *withdraws* the mind from devotion, and that which turns thought inwards and upwards, and "Excelsior for ever!" and that art can have such an influence on the mind cannot be denied,

Let it not for a moment be supposed that we wish to make an apology for the unblushing paganism and naked prostitution of art so often seen in continental and peninsular temples,—paintings which must fill every rightly-constituted mind with disgust and horror! and when not these, often with the most deep-felt pity. It is not true, as is often asserted that "art is admirable, however it is represented," for whenever art becomes a vehicle of torture, either to the feelings or the mind, then it is art no longer, but an abortion; and any body politic which makes use of such to impress the minds of the unlearned and ignorant ought to be denounced as degenerators of the human race. It is on this ground, chiefly, and not so much on religious grounds, that we consider the fusty Catholicism of Rome to have been a ban, not only upon true art, but upon the progress of the peoples; for prostituted art can only act as a blight upon any people. The greatest of painters, such as Giotto, Paul Veronese, and others, have been employed in puerilities and the grossest absurdities. Let us notice a few of them. At Milan, we have a sibyl teaching the Emperor Augustus the mystery of the Incarnation; in a church in Venice, the host, attracted by the fervent faith of St. Theresa, is shown as flying of its own accord into the open mouth of the saint; in the Louvre, is a painting representing St. Francis of Assisi preaching to birds; at Rome, St. Anthony is shown preaching to fishes; at Padua, the patron saint of the town is shown convincing an atheist of his error by a little bit of legerdemain, such as throwing a glass from the roof top, and instead of breaking it splits the marble pavement. Such are some of the puerilities. In the Romish Vatican is a painting by Poussin, representing the martyrdom of St. Erasmus, with his body cut open, and the executioner pulling out the intestines and winding them on a windlass; moreover, the clergy have had this exquisite piece of torture done in mosaic, to display it to public view in St. Peter's! Another painting represents St. Lucy as offering to God, upon a trencher, her own eyes torn from their sockets; and St. Agatha as offering unto Him her severed breasts. In the Church of San Stefano Rotondo, one of the most interesting in the Christian world, as it is supposed to have been erected so early as 467 A.D., the compartments formed by the intercolumniations are filled with representations of martyrdoms, the most hideous imaginable. Indeed, to recount them is too sickly. The most recondite study of horrors must have been necessary, in order to cover the walls of the church with such ghastly spectacles,—an outrage against humanity, a stinging disgrace to art!

The French poet Lemierre has nobly denounced this prostitution of art, where he says,—

> "In these temples of peace
> What do I see upon the walls? The most fearful objects;
> The rage of tyrants, the ingenuity of crime,
> The rack, the pile, the blood of victims,
> And everywhere twenty executioners for one Christian hero!
> Oh! had Heaven this day
> Joined the palette to the lyre in my hands!
> I would go this moment, I would go into the sacred places,
> And wipe out from their walls the blood with which they are stained,
> Those arenas of horror, those barbarous scenes
> Made for the eyes of Neros, yet displayed in our churches.
> Blind painter! while you offer me those savage pictures,
> What virtue can your pencil inspire?"

Very often every kind of positive indecency is seen, such as the martyrdom of St. Agatha, paintings of the Last Judgment, disclosing scenes of the most disgusting character, calculated to debase rather than raise. Michelangelo did very much of this kind of thing. An anecdote is related of him, to the effect that in order to punish some dignitary who had remonstrated with him, and to the Pope, he represented him naked in hell, furnished with those peculiar long ears known as Midas's, and encircled with a serpent. Of course this irritated the dignitary still more, who again complained bitterly to the Pope; but Angelo remarked, "His Holiness cannot interfere; for his right to rescue sinners from purgatory does not extend to hell!" Now it is evident such art as this withdraws the mind from devotion. Gothic art does not call for such unseemly exhibitions: they are only evidences of a very debased and Paganistic Christianity. True art clothes herself in suitable drapery, and makes her symbolic representations such that they shall educate and refine, and therefore attract. But it is said,—"Is there not danger of running into the extreme? And if there is such danger, would it not be better to leave it alone?" To which it might be answered,—Is there not danger in eating and drinking, seeing that so many run into extremes? No; depend upon it, the instincts of art are implanted in man to be used, —used as all other good gifts are, not for unlawful, unhallowed purposes, but for the highest good and pleasure of the recipients,—used in such manner that the Giver of all Good shall alone be glorified.

It is also said that the Christian system is of a purely spiritual nature, and does not require such aids. True: religion, *per se*, does not require any human aid at all; but the recipients of it are none the worse for such aid. Although forms were enjoined under the old dispensation, these forms were not religion, but only the aids to it; whilst the religion itself had to do with the same Being as now, and was no less spiritual in its nature than that religion which we profess. Only one temple in the history of the world can claim divine instruction for its construction and decoration, and this latter was of the most gorgeous and costly description, in which the art-spirit, as far as then known, may be said to have exhausted itself. The plan, the elevation, and the details were all symbolical of some truth: in fact, the whole seems to have been the most perfect symbolic poem in a material form ever reared.

Surely if there is anything at all in the force of example, here is enough to silence the most stolid anti-symbolists for ever. If the introduction of the art-spirit into the temple was pleasing to the Deity then, surely it cannot be otherwise now, seeing that God knoweth no change.

Now, there can be no question that the application of these symbolic principles is as possible with the Classic as with the Gothic art; but the effect produced is different. In the latter the scope is greater and more elastic, and the spirit of the art is in rich union with the new religious principles from whence it sprang; therefore it is but natural that Christian symbolism should find a more congenial home in the Christian art,—in the Christian temple,—

> "There! within the holy walls,
> —Look up and unto thee
> The stones shall soothly speak,
> In voices low and meek,
> As murmurs of the sea;
> Everlastingly and deep,
> To thy inmost soul they creep,
> Beguiling thee in tears to weep
> For thy sin and for thy sorrow,
> Making holier the morrow,
> And teaching thee in stillness to find
> Purity and peace of mind."

Thus we are obliged to admit the fact that, in Christian art, symbolism attained a luxuriance never before acquired. Planned upon the cross, and reared towards heaven, emblematic of the hopes and aspirations of the human race; its triangular details typical of the mysterious Trinity; its vertical lines reminding us of the resurrection; the windows symbolical of the Light that has come into the world; the various sculptures all pregnant with symbolic truth, have all a deep and solemn meaning. We see the mathematics of art giving way to the poetry of nature; we look upward where before the eye glided earthward. The spirit of beauty, which had before given life to the recumbent, now soars in the erect. Instead of the spreading dome of the Pantheon, making

> "The base earth proud"

with bearing it, we have the "cloud-capp'd towers" and soaring pinnacles seeking communion with the skies. Indeed, I

> —"Love the high embowed roof,
> With antique pillars massy proof,
> And storied windows, richly dight,
> Casting a dim religious light,"

for the rich associations they call up. Yet I do not love a dim religious light. Oh, no; for the pleasant sunlight is all revivifying in its tendencies, and lightens up the soul as well as the body. Let us, then, have light! beautiful light!

> "Holy Light! offspring of heaven first-born!
> Light
> Ethereal—first of things—quintessence pure."

Gloom is not fit for man, or beast, or vegetable. Why, then, should we have in our temples the murky, reeky, steamy atmosphere of the carboniferous age, when there was deep gloom in the recesses of the thick woods, and thick fog winded its way up and athwart the valleys of the period? Let us remember that in proportion as the full blaze of the sun's rays penetrated the darker recesses of the dense woods, and danced upon the sparkling wave, so came progress in all life. *Out* upon the mawkish sentimentality that would raise melancholy feelings of repose by the sombre gloom, and "dim religious light" forcing us to dream instead of think! Let us have light, to lighten the gloom, for God saw in the beginning that it was good. Gothic art does not call for "dim religious light," nor for devils in stone and paint, nor mythical monsters,

> "Gorgons, and hydras, and chimeras dire,"

but rather for pure majestic beauty, chastity of design,—a sacred elegance, a holy grandeur; and these are emphatically characteristic of Gothic art. How excellent the feeling that was concerned in bestowing life on the otherwise barren and gloomy walls! There is an ethereal chord—a golden link between the human heart and the beauty of the art-spirit; there is a magical power to enchain the mind in the web of enchantment, in beautiful forms and colours, the more especially when these are expressive of some great truths, for Beauty dwells on earth, the heaven-sent mistress of Truth and Good, and under its influence we are attracted towards the Deity, as the loftiest symbol of unchanging and imperishable Beauty; and art is only great and excellent when it glorifies the Almighty Architect of the universe—of the innumerable systems of the infinite deep of heaven.

A very unsavoury impression is prevalent in certain quarters,—that Gothic art is something akin to Popery! I do not think it is possible for anything to be more absurd, seeing that it is contrary to authenticated history. The papacy has always nourished with great preference pagan art, which perpetuated human feelings rather than the divine, which last is the chief peculiarity of Gothic art. Although it may be perfectly right to say that there is a difference between the sky mirrored in the Cephissus and darkened in the Thames, and therefore to assert the greater appropriateness of Gothic art in northern climates, especially for ecclesiastical purposes, yet it is *not* right æsthetically to call Christian art superior to the Classic, or the Classic to the Christian, for in many respects each is superior to the other. Both are embodiments of chaste intellectual majesty, of beauty, sublimity, and grandeur! The one is a grand epic poem, the other equally grand in its poetic imagery, rythmical consonance, and a good deal besides. Expression is one of the grandest features in art; for ecclesiastic purposes, nothing is so apt and expressive as the Gothic. For festive purposes, what so expressive as Roman Classic? What can be more

expressive for legal or municipal purposes than the chaste Grecian Classic? For military or punitory purposes, what so apt and expressive as the Tudor?

Strictly speaking, there are but two classes of art,—Classic and Pagan, or Gothic and Christian. This brings to mind a circumstance which occurred in Scotland, as related by Dr. Payne. A church being about to be built in the Gothic style, occasioned one of the congregation to say to the minister, "Sir, I am sorry our new church is to be built in the Papist style of art," drawing at the same time a tremendously long face. "Why," replied the minister, "what are we to do? We *must* either have the Papist or the Pagan style, for really there is no other in the realms of art." The objector was thereupon readily reconciled.

It is of no service using the art of rhetoric to destroy the singular and beautiful appropriateness of Gothic art, for every word will become a weapon that must slay the wielder; for the spirit of truth which breathed itself over the divine creations of pure Gothic art is of a nature calculated to kindle the loftiest emotions and to instil itself into every generous mind. It requires no vague tradition or dreamy hypothesis to give it enchantment. Sufficient it is, that its tiara of proud towers, its lofty pinnacles soaring spires, and gilded vanes, looking only grander and bolder amid the surrounding vapour of our climate, seeming to wave simultaneously like fire-flags in the breeze, and flashing over the mist in the first tide of the upper sunlight, and, as it were, lighting its way adown the dark perspective, produce a fairy and magical effect; and under the influences of the varied and matchless splendour of Gothic art we cannot but be attracted towards Him who is the perfection of all beauty, and the source whence flows in uninterrupted succession all those varied gifts which enlighten and sanctify the soul.

"For Him, ye pillars, rear your brows on high!
Lift up your heads, great portals of the sky!
What fairer dome, save that which heaven expands,
What worthier seat of temples made with hands,
Have builders sage here pillar'd for His throne!
For nature's God, a work like nature's own?
Or where unlike the forms her hands produce,
Still like the grace, magnificence, and use?
In new designs her fair proportions shown,
Her likeness traced in structures not her own;
Her measures follow'd, harmonies bestowed,
On strange materials in an unknown mode.
And half her influence o'er the mind impress,
By different means, and thence with livelier zest.
To raise up columns from the marble mines,
Embower the boughs, and interlace with vines;
Rise higher still, and arch a vault on high,
To shield the storms, and emulate the sky;
Cross aisles to vistas of her sylvan bower;
Rear for the sun on earth a lantern tower:
Adapt each limb with various height and length,
And build the whole in unity and strength;
Copying abstracted, in a different plan,
The grace and order of the world and man.
And scarce with rapture less, and awe confound,
And lift to God the wight who gazes round,
Than who beneath a cliff sees capes and bays,
Far tinged with sunset's red and yellow rays,
Or nightly wandering hears the hills accord,
And heavens declare the glory of the Lord."

Francis Drake.

CAUSE AND EFFECT.

The sanitary statistics which come to hand not only from the metropolis, but from many parts of the provinces, are very satisfactory, and show that the salvation of human life is as certain to follow sanitary improvements as the daylight is to follow the darkness. Valuable as are these wholesale figures of life and death, it is no less useful to watch isolated cases; so in addition to those which we have at different times laid before our readers, we will give another instance of the advantage of good air and right management of food.

About three years ago a respectable high-class artisan lost his life by the upsetting of a boat upon the Thames, leaving a widow and three little girls: afterwards a boy was born: the children were delicate, and there can be little doubt that they inherited a consumptive taint. After the death of the father circumstances rendered it necessary to remove to part of a small house situate in the north of London, one of the old-fashioned dwellings planted on the soil. The rooms were unventilated, about 7 feet by 8½ feet in breadth and length, and very low: the drainage was deficient: three families occupied four rooms: in fact, there were in this house all the means of destroying health that are but too common. The consequence was, that disease began to develop itself amongst the children: the eldest girl seemed hopelessly ill, when a successful attempt was made to get her elected a scholar of the Royal Caledonian School.

It was with great difficulty that a surgeon could be found who would give such a certificate of health as would enable the child to obtain admission into this excellent institution: one medical man, taking into account the possible effect of change of air and diet, gave the needful document.

From the time of her admission into this school, the alteration, for the better, in this little girl, was remarkable. Week after week she increased in health and strength; and by the end of six months no one who had known the child at the time of her admission would have recognised her. Nor is this to be wondered at when we consider the spacious dormitories, the large well-ventilated school and dining-rooms which are provided in this institution. There is also care taken of both in-door and out-door exercise; warm and comfortable clothing is provided; and an ample supply of plain but wholesome food, which is served at regular intervals.

We glance from the school to the home of the other children, and find the contrast most painful. The state of health is shocking; swollen glands, and other symptoms of a painful kind, with which the physicians of the Ormond-street Child's Hospital find it difficult to deal. Medicine is of little account: what is wanted is pure air.

COMPETITIONS.

Hull Exchange Buildings. — Twelve designs were submitted in competition for the above, and the directors have awarded the first premium of 50*l.* to that marked "*Bonâ Fide*," by Mr. Wm. Botterill, architect, of Hull; and the second prize, of 25*l.*, to that marked "*Per ardua*," by Mr. H. Fuller, architect, of Manchester and London.

The proposed New Church at Ashford, Kent. Forty-eight sets of designs have been sent in for competition for this new church, and they will be exhibited at the public rooms, Ashford, on Thursday, Friday, and Saturday in this week.

Hackney Town-hall. — Mr. Sancton Wood writes,—As you have announced the fact of my having been awarded the premium in the above competition, may I beg you will have the goodness, for the benefit of your readers, and as a warning to those who may be again invited to send in designs, to allow the following letter to appear, which was addressed by me to the committee on my being requested to compete a second time for the same work:—

"Gentlemen,—I was much surprised to receive from your vestry clerk a second invitation to compete for your town-hall, for such a proceeding is, I believe, wholly unprecedented.

Architects do not compete for the trifling premium which may be offered, but for the execution of the works contemplated.

My design was the one selected as the most approved; and if a greater expenditure were to be agreed upon, or any alterations or amendments of the design required, I consider that I have established a right to be employed to make them; and I will challenge the opinion of the profession and the public as to whether I was not fully qualified by position and experience to become your architect. Any other decision is a reflection on my professional character.

I cannot consent to compete again; and if the others do accept your invitation, I do not consider they know what is due to themselves or their profession.

If I competed again and were successful, what guarantee have I that the same thing would not occur again? for it must be that some one else is wanted to be employed, and not myself, or otherwise, in justice, I should now be employed."

Hereford.—In a limited competition for a new church at Tupsley, near Hereford, to seat 500 persons, there were four competitors, viz.—Mr. W. White, of London; Messrs. Elmslie, Franey, & Haddon, London, Malvern, and Hereford; Mr. T. Nicholson and Mr. F. R. Kempson, of Hereford. The committee resolved upon referring them to the Oxford Architectural Society to report thereon, whose preference being in favour of the No. 1 design, submitted by Messrs. Elmslie, Franey, & Haddon, the committee accepted it, and appointed them to carry out the works.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday (the 18th ultimo), at the House, in Conduit-street.

The chair was occupied by the president, Mr. T. Roger Smith.

Mr. F. Atkinson, of No. 25, Montague-street, Russell-square, was on ballot elected a member of the Association.

The honorary secretary (Mr. J. D. Mathews) read a letter which had been received from the directors of the East London Banking Company (Fenchurch-street), in reply to a communication on the subject of the competition for designs for the new banking premises proposed to be erected by the company, in which the directors stated that, however much they might have been disposed to acquiesce in some of the suggestions offered, time would not now admit of their so doing!

Mr. G. R. Wigley then proceeded to call attention to the subject of Romanesque architecture. He observed that he was much indebted to his friend Mr. Doan (formerly a member of the Association) for the use of a very valuable collection of water-colour and pencil drawings, engravings, photographs, and plans of many of the most interesting examples of the Romanesque school. Adverting to these, he remarked that the starting-point of Romanesque was, of course, classical. The erection of Constantinople, and the concentration of Greeks in that part of the world, led to the development of ancient Grecian types; but these soon grew into all sorts of whimsical designs, so that, soon after the period of Justinian, what might be termed a complete innovation was established. The pointed arch, for instance, came in at that time, and had remained, ever since, the distinctive feature of the Gothic school. The Eastern school of Romanesque was not confined to buildings to be found exclusively in Europe, but included buildings which had been constructed under European influence. The basilica of Bethlehem was, for instance, a fine specimen of this period, as was the Church of St. Peter in Chains, at Rome. The next earliest specimen of the basilica was that of St. Mary, at Jerusalem, which was now a mosque, and which, although subjected to the repairs of many ages, was still a very interesting type of the early Christian church. It was, no doubt, built by Justinian, and in his opinion was originally furnished with an apse. Mr. Fergusson had some time since expressed a very positive contrary opinion at the Institute of British Architects, but it had been subsequently proved not only that there was an apse, but that records of it still remained. It was destroyed by fire in the eighth century. Regarding the apse as the main feature of the basilica, it might be well to consider what was the real definition of the word basilica. He believed that it was not the development, but the prototype, of the Christian Church. In the original acceptation of the term it was the hall of a Roman mansion, and was termed the Noble Hall, meaning thereby the best apartment in the house. It was generally distinguished from all other halls by having the oriel or semicircular recess. In baronial halls in England the oriel was generally at the side, but with the Romans it was at the end. Originally the Christian worship in the mansion of a noble was conducted in the chief hall. The apse at the end contained the sanctuary, and there the priests performed the divine office, while the remainder or body of the hall was set apart for the worship of the crowd. Another feature of Romanesque architecture was that the arch was not placed directly on a column, but rested on a block of stone which surmounted the capital. Another feature was the introduction of several orders of columns one upon the other. A small specimen of this combination was to be found in the Church of St. Lorenzo, outside the walls at Rome. This grouping of shafts was also observable in the cloisters of the Church of St. John Lateran, and of St. Paul, outside the walls at Rome. Having referred at some length to the baptisteries and cloisters of Romanesque churches, and pointed out with the aid of drawings and plans the peculiar features of each, Mr. Wigley concluded his essay by expressing the gratification he felt at revisiting the Association after a lapse of fifteen years, and finding it maintaining a healthy and useful existence.

The Chairman observed that it would be desirable if those engaged in designing Protestant churches would take the basilica for their model. It would also be found a great improvement upon the square room which generally constituted a Dissenting chapel. There was much in the basilica that was grand, simple, and dignified, and it might be built without much elaborate work or rich materials. The apsidal termination was, in his opinion, an excellent arrangement for the east end of any church. That its value was recognised many years ago was proved by reference to the lately-restored

church in the White Tower in the Tower of London, which had an apse instead of a chancel. The discontinuance of the apse in subsequent centuries was perhaps to be traced to some ritual observance inconsistent with its maintenance.

In reply to questions,

Mr. Wigley observed, that the remains of but few basilicas were to be found at Pompeii, owing no doubt to the circumstance, that the city was a pleasure town to which the Cockney Romans repaired in their summer, just as we did to Ramsgate and Brighton. The most interesting remains of early Christian architecture in the East were, however, to be found in the mountainous parts of Syria, where the wreck of upwards of 150 cities, extending over an area of 40 leagues, might be observed. They had been deserted by their inhabitants at the period of the Mahomedan invasion; and it would seem that the population, having found safety in the plains, never returned to repeople their abandoned towns. Here might be found traces of opulent artistic life. Wine-presses, cellars, kitchens, stables, baths, and churches with columns, flanked with towers, and surrounded by tombs, crosses, and inscriptions on the monuments yet remained. The monograms of our Saviour were repeatedly met with, and there could be no doubt but that the people were in the enjoyment, not only of the Christian religion, but of advanced social civilization. These cities were all abandoned on the same day; and, were it not that the buildings had suffered from the ravages of earthquakes, nothing would be required to restore them but the wood-work and the roofs.

A member inquired whether Mr. Wigley had discovered, in any of the basilicas which he had visited, any instance in which the apse was lighted from above in such a manner as to throw a strong light upon the sanctuary.

Mr. Wigley replied, that he had not been able to trace any such case. The system seemed to be quite modern. He also stated that, with the exception of pontifical chairs, he had not found any instance in which stone stalls were placed in the apse.

After a short discussion, in which Mr. Bain, Mr. Harris, Mr. Ridge, and others took part, a vote of thanks was passed to Mr. Wigley, and also to Mr. Dean for the use of his drawings, sketches, &c.

THE PROPOSED DECORATIONS IN ST. PAUL'S CATHEDRAL.

ENGLISH OR FOREIGN?

A LETTER in the *Builder* of March 19th, signed "B.," was so obviously directed against a recent article of mine in a weekly journal, that I am constrained to appeal to your sense of fair play to allow me to reply to it. Sentence after sentence, clause after clause, were plucked from their qualifying context in my article (but without the usual signs of quotation), their meanings were perverted, and then the changeling arguments were refuted.*

I beg to assure you, sir, that I have not "appealed to national and religious feeling in such a way that it may check the contributions of the public" towards the proposed decorations for St. Paul's. On the contrary, I have expressed a fear lest the course pursued in the employment of foreign artists might lead to the very consequence I am charged as "likely" to produce. I submitted that the public must be credited with certain patriotic sentiments—"prejudices," your correspondent calls them—which might be wounded on learning that foreign artists were called in to decorate our English metropolitan cathedral, "the last resting-place of our British artists, past and to come." I might have added, as another reason for the inexpediency of the choice, that the majority of the public are unfamiliar with the merits of the foreign artists selected. Again—and always with a view to the subscription-list—though your correspondent says that M. de Triqueti and Professor Schnorr† are Protestants, it may fairly be assumed that to the mass these artists will, as foreigners, be "presumably Roman Catholics." To avoid the least appearance of injustice, I announced some weeks back in the journal in which the article in dispute appeared, that the modeller of the bas-reliefs for the doors of La Madeleine, in Paris, is a Protestant.

The first premiss being essentially untenable, the second charge, in so much as it is founded on it, namely, my "injustice towards the foreign artists and the committee who selected them," at once falls to the ground. The grand "injustice" I wish to see avoided is towards the artists of our own country, and the future of British art. As regards the committee, a "knowledge," says your correspondent, "of the gentlemen composing it might of itself be sufficient to acquit them of any undue partiality to foreigners." But no one charged them with undue partiality. It is the inconsiderate and precipitate employment of foreigners before our own artists have had a chance or trial of any kind that is to be deprecated. Who are these infallible authorities, and why should this mixed committee necessarily redeem the character which has unhappily attached to almost every other? Why should it be preferable to the committee of Royal Academicians which I myself proposed? I know that some illustrious church dignitaries are on this committee, but is it not highly probable that their opinions and those of other members will be guided by the cathedral surveyor, who is understood to have long favoured a particular scheme of decoration? A well-known and able architect this gentleman, of course, is; and it is not to be supposed that he would recommend anything without having the best intentions; but why was he not from the first openly and avowedly assisted, and the public also taken into the confidence of the committee, as in the case of Sir Charles Barry and the mural decorations of the Westminster palace? Your correspondent says, that it "would seem only fair that the committee should be permitted to carry out their work in their own way and unmolested, until the public shall have an opportunity of estimating their capacity in the choice of artists by the promised exhibition of the model of the choir." But it seems to me only too probable, that to invite public opinion then will be a mere mockery. Unless I am entirely misinformed, M. de Triqueti's design for the apse mosaic has been accepted for execution in the model, and he has been commissioned to prepare designs for the mosaic below the east windows also. And no conditional acceptance is pretended in reference to the commission given to Professor Schnorr, for the designs for all the painted windows at present contemplated for execution. Does not all past experience tend to the conclusion that these designs will not be set aside? Yet how many public monuments might have been a pride instead of a reproach if public opinion had been called in in time. Is it not the duty, then, of every writer charged with the interests of art and the public, to endeavour to procure the earliest publicity for designs proposed for every national work? And such this is admitted to be by the proposed national subscription.

The next false inference is drawn from my remark, that "our glass painters have hitherto distinguished themselves chiefly in works of a Gothic and Mediæval character, which would not harmonize with the style of the cathedral." This is made to "imply" my "misgiving of their capacity." But I intended to imply no such thing. I meant, and it is evident from the context, that because their capacity was known in one direction, it might be expected to prove equal in the other, when the demand for it arose, or occasion offered. My very candour is again apparently turned as a weapon against me in the following obscure passage:—"With reference to the mosaics for the apse, surely it is no proof of hostility to British art that a preference has been given to a foreign design, since even *in a quarter where such a hostility has been insinuated*, there seems some good ground for the choice" (*sic*). I must observe that the "ground for the choice" could not possibly have been found in remarks published after the choice had been made. Merely denying also, the assertion I have italicised, I will remind your correspondent that the one and only reason I gave as conceivable for choosing M. de Triqueti's first design, was that it filled the space in "stiffest symmetry." But this hardly afforded such vantage ground, that what I said of its "forcible feebleness," and the foreshortening and expression of the face of our Saviour, the principal figure might be passed over as wholly immaterial. In like manner very adroitly he evades questioning that we have a host of artists who would be at least as well qualified as the one chosen (whatever his merits as a sculptor), to execute the designs for the mosaics, whether in tesseræ or marble inlays.

Your correspondent's great argument is for the employment of a Dresden glass designer and the Munich school of glass-painters: our artists do not practise the required style; we have a great deal of bad glass; our best designers have not sufficiently studied the technicalities of glass-painting; and no English glass-painter could transfer their cartoons to glass; St. Paul's is not a *corpus vile* to try experiments upon; we must apply to Germany for "commodities" or "articles of *vertu*" as we send to France for silks and Prussin for steel. I imagine, sir, that some of these propositions will be as new to your readers as it is new to me that painted windows for cathedrals are either "commodities" or "articles of *vertu*." Because, then, we have bad weavers and forgers, we must be equally supine under the conviction that we have bad artists. But this gentleman is evidently behind the time. Thanks to Schools of Design, the first authorities abroad are now admitting that of late we have equalled, if not surpassed, foreign competitors in almost every kind of art manufacture. Would this result, however, have been attained had we gone on, as your correspondent would, it seems, have us for ever importing, and made no effort to develop native talent?

A courteous allusion is then made to "strange delusions current in reference to glass-painters," or *painting* I presume he means. I must, however, remind him that assertions are not arguments, and that the *opinions* to which I suppose he alludes are entertained by some of the principal writers on glass-painting, and are not likely to be shaken by the information that there were fine pictorial glass-paintings in the sixteenth century.

My critical opinion that "most of Professor Schnorr's designs are tame or trite" may be questioned by those English "connoisseurs" to whom they are a comparative novelty. But others more familiar with them may be permitted to think that the majority of them must almost of necessity be so. Tame they must be, because often now merely suggested by an artist of seventy, and carried out by pupils. And trite they must be, because executed in the same uniform style of German academicism, whether the subjects be from Gospel history or the "*Niebelungen Lied*," the "*Bibel in Bildern*," or the "Wars of Barbarossa." "Our choice of artists capable of designing works in combination with architectural masses is," it is asserted, "extremely limited." Yet I thought we had, when these foreign artists were called in, such men as Herbert, Dyce, Maclise, Ward, Cope, Watts, Armitage, Redgrave, Horsley, Leighton, Noel Paton, Tenniel, Cave Thomas, and many others almost equally capable. Really it is too bad to ask, "What have those done, even when working under the most favourable conditions?" Yet, if your correspondent is really so ignorant, I am happy to enlighten him. To name only a few,—Messrs. Herbert, Dyce, Maclise, and Cope, at Westminster, and Messrs. Watts, Armitage, and Leighton, elsewhere, have produced works "in combination with architecture" which will bear comparison with any in Europe.

I would not, however, for a moment, be understood to be unwilling to admit that the works of these foreign artists will probably have a general accordance with the cathedral so far as a grandiose style can make them; or even that there are many difficulties in the way of procuring suitable English painted windows for St. Paul's; nor could I desire that any but works of art of adequate excellence should be finally accepted; but I confess to so much patriotic "prejudice" that sincerely would I have wished to see a most strenuous effort made to obtain national work for the embellishment, before all other places, of our national cathedral. Let your correspondent think of the state of British art during the centuries before Hogarth, when hardly any one dreamt that an Englishman could be converted into an artist.

Do we not still laud the patriotism of Halifax in getting the painting of the dome of St. Paul's entrusted to Sir James Thornhill, instead of to Sebastian Ricci, though the result was not very satisfactory and the effort was not followed up? Is it far short of monstrous to find that we have waited 170 years, and must now call in foreign aid to finish our cathedral? Sooner than confess to such an alternative, we believe many Englishmen would see the decorations deferred another century.

Lest I be accused of making objections without offering practicable suggestions, and, at the same time, to prevent any further misconceptions of the course I would see adopted,

* The letter in question was understood to be in reply to statements made in more quarters than one.

† Misprinted "Schnoor" in the letter.

I will remind your correspondent of a case in many respects parallel with the present, or, rather, with what it might have been. Some twenty years ago, the new Houses of Parliament had to be decorated. It was then believed, and with apparently the best reason, that—as your correspondent imagines is the case at present—there was scarcely an artist in England capable of executing a painting suitable for mural decoration. Well, what was done? Did we send at once to France and Germany for fresco painters? No: we invited our artists to a general competition. Though myself an enemy to needless competition, it was here a necessity. We could not commission the works from artists of proved ability, sure that we should get something better than we could hope for from competitions in which many of them would not join. On the contrary, we had to allow the artists time to master the new style of art; and then to ascertain if any excelled therein. What the result was and is, those will best know who remember the Westminster Hall Cartoon Exhibitions, and who have seen the Appeal Court of the Lords, and the Queen's Robing Room, the Royal Gallery, the House of Lords' corridors, &c., at Westminster. It is beside the question to say that the early process of fresco has partially failed: glass paintings and mosiacs are not liable to decay. Nor can it be maintained that the technicalities of glass-painting are more difficult to master than the principles of monumental painting. Why was there not, then, a general competition for the works at St. Paul's, instead of a hole-and-corner competition for the execution of one design, and which was wholly abortive through mismanagement? Though the decoration fund might not have admitted the offering of large prizes, I am confident the importance of the occasion would not have been overlooked by our artists and artistic firms. At all events, if something of the kind had been attempted, the promoters of the foregone scheme might have been spared the odium of appearing to offer a great slight to British artists.

I cannot refrain, in conclusion, from saying that for an uninterested, "humble bystander," your correspondent exhibits a remarkable capacity for special pleading. T. J. G.

In the remarks of "B" on the proposed decoration of St. Paul's, there is such a succession of specious propositions laid down, that it would require a long letter to urge all to their proper conclusions, bringing all evidence to bear on each question as it came; thus we can only cursorily run through them *seriatim*.

In the first place, every one has the right to reason well what the result will be, before he contributes; and it is the duty of all interested in any national work to see that the thing is not carried through *ad captandum* to a failure.

The Committee seem first to have behaved discourteously to all English artists and glass painters in this matter, and then when they find some people think so and delay their subscriptions, "B", begins to defend them. He is either premature or too late in this course. If the windows are to be such successes as he anticipates, contributions will not fail to pay off the debt; if he is doubtful about their success, the present defence of "B" when they are gone so far, is too late.

On the 2nd paragraph—"What would the probability of the present works being completed in this century, if entrusted to English artists, be?"—one may observe that in the old days men were not in such a hurry to get up an effect, and if they thought that holding forth such work continually as the reward of success would improve and render efficient the art of their country or even town, thirty-six years would be nothing to them. Thus you see, without entering into the argument of our present ability to cope with Schnorr (which I hold we have), there is the stronger argument of using all our powers to produce a great school of art, and not giving our prizes away prematurely.

On the third paragraph. Although we have beaten the world in the production of early glass, having studied best how to use the best material in a proper way, and *as* glass, which even the Renaissance people did, look at the Wine Press, or the Annunciation at Conches; look then at Glasgow, and is there in the latter any approach to the comprehension of the use of glass that we have in the former, leave alone the fact that the Conches style, though far from Italian, is much nearer to it than the modern German, which is fearfully heavy and Teutonic? To speak of the western windows as the work of Mr. Clayton, and to argue from them his inefficiency, is ridiculous. For my part, knowing the power of this artist, I am surprised that he allows them to remain.

Again. In the cartoons of M. Schnorr, what knowledge of glass is there shown,—more than in Mr. Maclise's "Battle of Waterloo,"—not intended for this purpose? That the Munich people may torture it into a diaphanie picture, I believe. This is not glass, even Renaissance glass! To talk about the knowledge of the technicalities of glass in these German designs is absurd, and we do not want to see them transferred to bad glass.

6th paragraph. If we do go to Paris for silks, and Prussia for steel, we do not do so until we have at any rate used every endeavour to obtain them at home. We do not go merely to one shop and get their worst specimen, and say in the face of all "national ability!" "You are behind the day!" Regarding the architecture and glass suitable to it, these works will not be in accordance with St. Paul's, if they are at all like the usual Teutonic art, which is only fit for tonic architecture.

7th paragraph. Are the works of Lichfield, Brussels, &c., picturesque? I maintain, in the modern sense of the word, and even in the Munich way of rendering it, they are not. There may be modelling to a certain extent in the figures, and a subduing of parts, but that modern picturesque notion—never. There is always on the whole a certain flatness left. Look at Raffaelle's (or that said to be his), at S. Etienne, Beauvais, or that in Lucca cathedral, by Ugolino de Pisa, far more fit models than those quoted. They have one and all, whether Flemish, French, or Italian, a certain glassy character, a tradition of the past totally distinct from the modern Munich revival. Go from the S. Sacrament chapel at Brussels to Cologne, and see.

With regard to the mosaics of the apse, if they must be had at once, I did not know it was imperatively necessary! probably we are not equal to the foreigners, and Triqueti is perhaps tolerable. There is, however, a mosaic school rising here, and I have seen some creditable specimens, but you cannot wait. St. Paul's, after standing so many years, is at once in a spasm. With regard to the disappointment that would inevitably result from a competition, it is by no means so certain as "B." says; at any rate, we hope no disappointment will result from this entire ignorance of the existence of good English artists.

To conclude. A more open and public mode of proceeding with regard to this business, a greater courtesy to Englishmen generally, and a less hole-and-corner look, would have pleased me more, whatever conclusions other individuals may come to. Only let us in future have deliberation in so important a matter. "B." is of course aware of the proceedings of the committee, and I am not. H. J.

*** We have received five other protesting letters on the same subject, but cannot find space for them.

THE ART OF COMPETITION.

Among the many branches of art, of all kinds, which have been at different times brought before the readers of the *Builder*, there is one which I think has scarcely received the amount of attention it deserves, even with regard to its past achievements, still less with reference to its future possibilities,—I allude to the noble art of competition. The origin of this art (at present unfortunately practised only in connexion with architecture, but the real capabilities of which are unlimited) is obscure; but one of the earliest known examples was with reference to a large building in Edinburgh, for which the limited number of four architects competed, the three unsuccessful men each receiving an adequate sum in compensation for labour expended. Though so bungling an attempt as this may move the laughter of the present generation, still it is interesting as illustrating the infancy of the art. Competition, however, soon emancipated itself from such trammels as these, and expatiated in ample regions; for many years affording to hundreds of the architectural profession the opportunity of working their hardest with hand and brain with little chance of remuneration—surely an ennobling and purifying discipline. It is, however, only lately that the art has shown what it is really capable of, in that, not merely encouraging architects to offer designs with the chance of carrying out their work afterwards, it has incited them to offer full working drawings and specifications for the generous purpose of providing ideas for the corporation surveyor or other privileged person who may be afterwards selected to carry out the work, and with the chance only of a small present to themselves. A competition for a church near Liverpool may be referred to as a fine bold sketch in the latest style of the art, though scarcely sufficiently finished in details,—a deficiency which has been happily supplied by a London banking company, whose production (which I was glad to see done justice to in your pages) may truly be esteemed a *chef-d'œuvre*, which the most sanguine can hardly hope to see surpassed.

But why should so noble an art be illustrated only in one profession? Why not extend its usefulness? For instance—

"*To Artists.*—The corporation of Mud-borough invite artists to compete for the honour of placing an historical painting in their Town-hall, subject, &c. (here state subject of picture), size of the painting to be 15 feet by 12 feet. A premium of 100*l.* will be given to the painter whose work shall be adjudged to be the best; the premiated picture to be hung, but all the works sent in to remain the absolute property of the corporation."

Here, you see, is opened a wide field for future triumphs; and were this suggestion but acted upon, it could not be considered chimerical to imagine a time when this great art might be applied to the commonest purposes of life—when no one would even think of ordering a pair of shoes without asking a score or so of shoemakers to compete for the job, reserving all the shoes sent in as his own property, but giving a present of 10*s.* or 15*s.* for the pair that fitted him best.

We might even hope to see a company formed for assisting in this great object, bearing the title of "The National Competition Company (perfectly unlimited)," and having for its crest, perhaps, such a design as that which was invented by the Lutherans, who were wont to relieve their feelings by representations of a wolf in monkish garb, preaching to a flock of sheep, with the motto "God is my witness, how I long for you all in my bowels." Snug the Joiner.

ON MODERN ARCHITECTURE, BY AN AMATEUR.

Continuing to treat of the important principles of truth in architecture, more especially of the arrangement of the various stones, let me here draw attention to a serious and almost inevitable impediment to having an order from the ground to the roof. It is this,—the large superficial space occupied by the entablature. The wooden temples of the Greeks, whence Classical architecture sprang, had no windows in the intercolumniation: we are obliged to have them, and we can often do so with beauty, but we can never produce beauty by departing so far from the classical models as *to put windows in the architrave and frieze*, as must be done, and is done, if space is not to be wasted in the top of the building. Take, for example, a line of buildings, used as warehouses, in Gresham-street: the windows there are *actually cut through the entire entablature from architrave to cornice*. Again, Moorgate-street, which might be one of the finest streets in London, is formed of compo-daubed houses, whose fronts are *embellished* by Corinthian columns and pilasters supporting an entablature, the frieze of which is perforated by windows as broad as they are high.

I think, sir, that before we can have really good street architecture, the order, as a prominent feature, must be abolished. It is perfectly useless. A column or pilaster, by itself, would act as a buttress; but if it is used it must be overhung by an entablature which projects the more as it rises, and tends to draw the whole building into the street. It is an absurd thing to put our buildings into the shell of a Grecian or Roman temple; and I may remark here, that it would be just as absurd to raise copies of mediæval buildings for commercial purposes. Our church architecture is marked out for us: we can never hope to improve on the glorious Christian temples of our forefathers; but our commercial architecture, the architecture of our offices, banks, &c., must be new, unfettered by prejudices of any kind. But yet, as I said in my first letter on the subject, the two principles, the fundamental laws, of the art should be the same. Truth is the first of these—the most important.

Why should we lie in brick and stone? Why should we pretend that there is no roof to our building; that it is only one story high; that it is built of marble; that it has no chimneys? Why should we disfigure our building by cornices threatening to fall into the middle of the street; by useless excrescences, such as balustrades and parapets? I will not allude again to materials, save in Mr. Neale's words—"Let architects do their duty with those materials that it has pleased God to put into their hands."

EN SUITE.

ENGINEER AND PROPERTY SURVEYOR, NEWCASTLE-ON-TYNE.

"FAIR PLAY IS A JEWEL."

SIR,—The election of a gentleman to fill the above important post took place on Wednesday, the 16th March, when the successful candidate was Mr. Lamb, for some years surveyor to the town of Gateshead. The proceedings of the council are strongly reprobated by the unsuccessful candidates. The facts are these:—The corporation having determined to appoint an officer as above named, advertised for candidates, to which there were fifty-three responses. The examination of the testimonials and selection of the most eligible were delegated to a sub-committee, chosen from the Finance and Town Improvement Committees. These gentlemen, after several days' labour in ascertaining the merits of the several candidates, selected the following six gentlemen as being best suited to the office, viz., Mr. Barry, Norwich; Mr. Britton, London; Mr. Fulton, Dundee; Mr. Lamb, Gateshead; Mr. MacDougal, Rochdale; and Mr. Stephens, Leicester; and they reported the same to the town council on the 2nd March; but at that meeting *another name* was added to the list by the council, viz., Mr. Ridley, of London, and the election was adjourned to the 16th March (as stated in the resolution), "to afford *the selected* candidates an opportunity of personally calling upon the individual members of the council." Several of those gentlemen, at considerable expense and loss of time, made the required visit, and saw the members of the council. So far so good; but in the interim *another gentleman*, one of the original candidates, but not one of those selected, who had been clerk of works to several architects, and latterly held the post of architectural steward to a noble lord, so far overcame the propriety of the council as to get proposed and seconded above the heads of the selected few; and the further consistency of that body may be estimated by the fact that *both the chairmen* of the joint committee of selection, together with *eleven* other members of those committees, *ignored their own report* by voting for a man whose name was not included in their selected list! So much for the far-famed business town of Newcastle-on-Tyne.

LOOKER-ON.

CIBORIUM.

THE custom of placing a canopy over the "table," and veiling it from sight until the celebration of the Communion, arose in the third century, and its origin is easily traceable to the practice of admitting learners and others, not members of the Church, to certain parts of its service. When none but the "faithful" remained, the veils were withdrawn. Chrysostom thus alludes to the custom:—"When the sacrifice is brought forth, when Christ the Lamb of God is offered, let us all join in common prayer: when you see the veils withdrawn, then think you see heaven opened, and the angels descending from above."

Standing in the centre of the church, if veiled at all, the table needed screening on all sides, and the "ciborium" was thus always formed by four pillars supporting a canopy or small cupola. The antiquity of the ciborium is beyond question, and it thus becomes a witness of irresistible force to the fact that the canopied altars now standing on the platforms or chancels of the Constantine churches could not possibly have been there when the ministers' seats in the apse were occupied.

Mr. Purton says he did "not quote Mr. Fergusson's opinions, but his facts:" I again assert that he not only misrepresented his facts, but misquoted his opinions. The inherent rights of a Christian people are most important elements in the consideration of the question—"How should churches be arranged?" There is no point in Church history more capable of complete demonstration than the fact, that the people not only possessed the right of electing their ministers, but exercised it for centuries.

The present "Father" Manning, in one of the last charges given by him, as an archdeacon of our Church, stated, in my hearing, that he admitted the fact that the people originally elected their ministers, but that they did this on *invitation* from the Apostles, and that the power to invite implied the right to retract. I took the first public opportunity of reminding the rev. gentleman that the laity also received an "*invitation*" to *pay* their ministers, and that if one invitation could be "retracted," it was quite clear the other need not be accepted.

The discussion with Mr. Purton arose out of Mr. Beresford Hope's query, "How shall we build our churches?" I have proved that two distinct models exist, as different as a horse from an eagle; and I can as easily prove that the Protestant and Papal systems can only do justice to their respective creeds, by adopting for the first the universal plan of arrangement which prevailed for the first nine centuries, and for the latter that developed in the Mediæval ages.

Ecclesiological writers dwell on what they call the "sacramentality" of the Mediæval churches, which, in plain English, means that a structure should be adapted to its purpose. The principle is a sound one, and shuts out from Protestant use the model that Papists invented.

Father Newman, in his "Theory of Development," thus writes:—"The use of temples and those dedicated to particular saints, and ornamented on occasions with branches of trees, incense, lamps, and candles; votive offerings on recovery from illness; holy water; asylums; holy days and seasons; use of calendars, procession, blessing on the fields, sacerdotal vestments, the tonsure, the ring in marriage, turning to the east, images at a later date, perhaps the ecclesiastical chant, and the Kyrie eleison, are all of Pagan origin, and sanctified by their adoption into the Church" (pp. 359, 360). "Confiding in the power of Christianity to resist the infection of evil, and to transmute the very instruments and appendages of demon-worship to an evangelical use, the rulers of the Church adopted, or imitated, or sanctioned the existing rites" (p. 388).

This admission by a popish writer of such eminence saves the necessity for further demonstrating that Virgin Mary niches, saint chapels, altars, and imitated temples in lieu of churches, are all of comparatively modern origin. As part of her process of "development"—that from Jesus to Jesuit—Rome admits, with charming frankness, that she borrowed them from Paganism and incorporated them into her system.

The logical sequence of Father Newman's premises is, that the original church model must be developed as well as the creed; and that if the Mediæval model be "sacramental" in relation to the views held by its designers, the original system of arrangement cannot possibly be so; and it thus follows that those who dislike the "development" must abjure its model churches.

JOHN ELLIOTT.

INDIAN AND ENGLISH RESERVOIRS.

SIR,—The letter from "An Indian Officer," which was published in the *Times* of March 22nd, appears to call for a few words in answer.

He affirms, that "the largest dams in the world are those constructed in India, and that they are chiefly the work of the Hindoos, who, although they did not understand the science of the lateral pressure of water, were able to make safe dams and provide for the escape of surplus waters."

Now, according to the cross section described in the letter, the flat slope of 3 to 1 is on the outside, and the steep slope of 1¼ to 1 is on the inside, next the water, thereby losing all the important advantage that is obtained by giving the water a good bearing downward on the bank.

The dams for the Bann reservoirs are 110 feet high, width at top 22 feet, and both inside and outside slopes of 3 to 1. Telford's dam at the Birmingham Canal is 55 feet high, 20 feet width at top, outside slope 2 to 1, and inside slope 3 to 1. Both of these examples appear to contradict the practice of the Hindoos.

In comparing an Indian dam with the one at Bradfield, it is stated that the banks have a maximum height of 72 feet, and the reservoir an area of 1,760 acres. Now, the pressure of water on a dam is proportional to the depth, and is independent of the area: the force by which the tendency of the water pressure to thrust the dam from its place is resisted is proportional to the *square* of the depth. The maximum height of the Bradfield dam is 90 feet, and therefore it supports a greater pressure than the one he cited.

As a finish, it is gravely proposed, since although English engineers may be very clever, they are not practical, that a jury of Madras executive engineers (who, it is admitted, have learnt all they know of dams from the works of the ancient Hindoos, and not from any practical experience of their own) should be summoned to report upon the reservoir before it is touched. Would it not be better to send to India for some of the Hindoo "bund" makers of whom he has spoken? As a junior, I have answered this letter because English engineers will most likely pass it by, as it deserves from them, in silence.

AN ENGINEERING PUPIL.

FORMATION OF EMBANKMENTS.

HAVING carefully examined the Bradfield reservoir, I quite agree with your very able article on the subject of the embankment, especially as regards the absence of puddle lining towards the top of the inside slope, and its want of solidity. I think that if a small traction-engine, weighing about 4 or 5 tons, were used to draw the dobbin-carts, it would be preferable to horse-traction, as the embankment would be solidified by the weight of the engine, as well as of the materials and carts. The engines made by Messrs. Burrell are peculiarly adapted for such work, as the driving-wheels revolve on flat wooden shoes, about 18 inches wide. Such an engine would turn in its own length, and would be quite as manageable as a horse, and could further be used for pumping, grinding mortar, and many other useful purposes.

M. E.

FIRES AND WATER.

THE almost continuous occurrence of destructive fires arouses one's thought and stirs up suggestions as to some mode of improving ordinary facilities for extinguishing them.

Suppose arrangements were made for co-operation between fire-brigades and the staff of water companies, by first laying down special water-pipes (or, if better, call them *fire-pipes*) for quenching purposes only, throughout the streets; and by the sides of these pipes to place electric telegraph wires, to embrace all *fire-brigade stations* and the *water-companies' stations*; and to have revolving or other reflectors introduced on towers of brigade-stations and on the towers of water-companies' stations to indicate *a fire*, and reflect to offices below to those on duty, and the place or point of conflagration could soon be ascertained from *the observatory* in the towers; so that both parties would simultaneously commence their operations.

Reserve of *water could be ready in tanks*, placed in the towers of water-companies' stations, having connexion with said fire-pipes and to keep up supply. The force of pumps being set to work, the proper supply of water could be secured to the highest edifice from the elevated position of the tanks, and the fire-pipes being brought to tanks within the towers, sheltered from frost, would be secured likewise, and the supply would be ready the moment the brigade reached the spot, and by attaching a hose to these fire-pipes they would act very efficiently.

Brigade-cars always stored with coils of hose; also travellers to accompany the car; or, if you please, in other cases to form part of the car, so constructed that, like a brick-hoist, it could suit any elevation or altitude on which a man could stand and govern the neck of the hose quite independently of any building.

A. B.

ZINC ROOFS.

SIR,—In your last number we observe a communication, signed "J. W. Tyler," on the subject of zinc covering to roofs. Now, we have nothing to say either against Mr. Tyler or his mode of laying zinc; but we do object to the impression conveyed by his letter, namely, that "*Devaux's* pure Vieille Montagne" is a material superior to *our* Vieille Montagne zinc. This is not the case: the Vieille Montagne Company (whose agents we have been for many years) manufacture zinc for us of a quality expressly intended for roofing purposes. This they stamp "Vieille Montagne Roofing Zinc. F. Braby & Co."

We may add, that the Vieille Montagne Company, in accordance with our agreement with them, allow us a special discount on all zinc which has been certified by their architect (Mr. E. G. Fisher) as being properly laid.

FRED. BRABY & CO.

*** We must decline admitting any similar letters.

DECAY AND MIS-USE OF STONE.

In your number for January 30th, the decay of stone is attributed by a lecturer to smoke of large towns. I think that smoke has little to do with the decay of stone. I have seen Portland stone with half an inch thick of soot on it, and this has been on for years: when the soot was removed, the stone was quite perfect. A large building was erected some sixteen years ago in the west end of London. A quantity of Portland stone was decayed before the roof was on: this stone was not exposed to the soot or smoke of London. I have seen scores of blocks of Portland stone decayed at Portland: this stone has not been under the influence of smoke or soot. The old portion of Somerset House, next the river, is of an inferior quality: it would perish if there were no soot near it. A new chapel in Kensington was opened a few weeks ago, where the flight of steps leading to the entrance door is of Bath stone. It is a great blunder to allow Bath stone to be used for steps. In one day five thousand people went over them: in a few months they will want replacing: then the blame will rest upon the defective stone, which ought to rest elsewhere. W. Cross.

STAINED GLASS.

Algarkirk Church (*Boston, Lincolnshire*).—This church is now furnished with another stained glass window, recently placed in the south transept by the rector, the Rev. Basil Beridge. The window is of the style of the latter half of the fourteenth century, to correspond with the stonework. It consists of seven lights, with tracery above. This tracery is filled by representations of a choir of the angelic hosts, each compartment containing an angel playing on a musical instrument. The subjects chosen for the lights are some of the principal events in the life of our Lord, from its commencement to His Passion, the latter being represented in another window. Each light is divided into two parts, and the subjects read from east to west. The upper dexter group commences with the annunciation of the archangel Gabriel to the Virgin Mary, "Hail, thou that art highly favoured," &c. Following this is represented the Visitation of the Virgin Mary to Elizabeth, which is shown in the traditional way, Joseph and Zacharias being introduced. The next group contains the Nativity of our Lord, with the angel above holding the text, "Gloria in excelsis Deo." This is followed by the Adoration of the Magi. After this is shown the "Presentation" in the Temple, by Mary offering the Divine infant to the high priest. The flight into Egypt is next depicted. This tier ends with the finding of the child Jesus in the temple. Thus the infancy of our Saviour is completed. In the lower tier of lights the Saviour is represented as being baptized by John the Baptist in the wilderness, an angel holding the garments of Jesus. The next group represents the Sermon of our Lord on the Mount, and is succeeded by Jesus and the Samaritan Woman at the Well. The Transfiguration of our Lord, accompanied by Moses and Elias, in the presence of Peter, James, and John, is next depicted; and this is followed by the reception of Jesus by Martha and Mary at their house. The next group represents the triumphant Entry of our Lord into Jerusalem. In the last group Jesus is shown driving the money-changers out of the temple. The groups, both in the upper and lower tiers, are surmounted with canopies, which inclose each subject. The window has been executed by Messrs. Hardman & Co., of Birmingham and London.

Ely Cathedral.—The north aisle of the nave has been enriched by a stained-glass window, given in memory of the late Mr. Thomas Archer, by the members of his family. The window was supplied by Mr. Wailes, of Newcastle. The subjects are from "The Life of King Hezekiah." Of the windows in the nave, one only now remains vacant of stained glass. It is to be hoped this vacancy will soon be supplied.

CHURCH-BUILDING NEWS.

Carlisle.—The foundation stone of the new church of St. Stephen was recently laid by Miss Coutts, at whose cost it is to be erected. The site is at the corner of James-street and Hewson-street. The style is Geometric; and the materials used will be the red sandstone of the district, relieved by white dressings. The red stone will be laid in thin courses rockfaced; and all the coigns and tracery be of chiselled white Prudham stone. The roof will be covered with slates of varied colour. The entire length of the building, including the apse at the eastern end, facing James-street, will be 110 feet, and the breadth, including the two wings, 62 feet. The height from the ground to the ornamental tile ridge of the main building will be 48 feet, the height to the top of the roof of the wings being 24 feet, above which runs a clerestory. There will be a square tower at the James-street end, surmounted by a spire, the apex of which will be 120 feet from the ground. In one side of the tower is the entrance to the vestry; and in the upper part, on each side of the square, are placed two lancet-windows, faced with label mouldings and filled with tracery which will light the belfry in which the peal of bells will hang, which Miss Coutts will also supply at a cost of some 350*l*. From the top of the square tower the octagonal spire tapers gradually to the summit. Its long lines will be broken by two transverse bands of white. The chancel, which adjoins the tower at the James-street end of the building, is polygonal in form and is lighted by three two-light windows ornamented with quatrefoil Gothic tracery. The chief entrance to the edifice will be through a porch at the north side, in Hewson-street. This porch has a pitched roof. This side of the building will be lighted by three two-light windows, while on the other side there will be four. Passing into the interior, we find that the nave, which is 27 feet wide, has two rows of pews of stained wood, arranged on each side of the main passage; and in each of the aisles, which are 15 feet wide, another row of pews is placed, separated from the nave by another passage. All the pews will be open. The arches between the aisles and the nave, of which there are four on each side, are pointed and built of alternate red and white stones, supported upon polished pillars of red granite, with carved white cap and base. At the east end of the nave a Gothic arch, of red and white stone, and with ornamental columns serving as brackets, spans the entrance to the apse, which will form a recess 30 feet deep, in which the communion-table will be placed. At the east end of the south aisle seats will be provided for 70 children. The timbers of the roof are to be all exposed to view, the wood being stained and varnished. The church so arranged will accommodate 600; provision being made for the erection of a gallery at the west end should the step be deemed advisable at some future time. The chancel and porch will be laid with red and black tiles, and the building will be heated with hot water. The probable cost of the building may be stated in round figures at 5,000*l*. Mr. names Nelson, jun., of Carlisle, is the architect; and Mr. Scott, of Newcastle-on-Tyne, who has Just finished the new portico to the Central Station there, is the contractor; who has sublet the joiner's work to Messrs. Lowry, of that town. The clerk of the works is Mr. Beckett, from Liverpool. At the laying of the stone, addresses were presented to Miss Coutts, who delivered a sensible speech on the occasion.

Miscellanea.

Institution of Civil Engineers.—At the meetings held March 8th and 15th, Mr. John Fowler, V.P., in the chair, the paper read was "On the Resistances to Bodies passing through Water," by Mr. G. H. Phipps. On the 22nd the paper was discussed.

The Royal Academy Lecture-Rooms.—A correspondent draws attention to the shabby state of these lecture-rooms, and complains that this want of self-respect on the part of the Academy appears to produce a bad effect on the conduct of the students.

Polygraphic Hall.—Mr. Woodin has resumed possession here with two very successful entertainments, called, "Elopement Extraordinary," and "The Bachelor's Box," the first by Mr. Oxenford, who has displayed considerable ingenuity in the construction of it; the second by Mr. T. W. Robertson. In these Mr. Woodin plays twenty parts, English, Irish, Scotch, and French, with remarkable completeness, the dress being changed each time from top to toe; singing a large number of songs, and dancing a Highland fling. Instead of popping up and down behind a table, he goes in for dramatic action, and wins. The stage is fitted with appropriate scenery: the drop-scene, by the way, is very badly painted, and should be improved.

Roman Aqueduct.—The remains of a Roman aqueduct, eight metres in length, have just been discovered at Vichy, on the Boulevard de l'Impératrice.

Railway Returns.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 19th of March, on 11,184 miles, to 551,185*l*.; and for the corresponding week of 1863, on 10,805 miles, to 502,868*l*., showing an increase of 379 miles, and of the sum of 48,317*l*. in the receipts.

Patent Office Returns.—The Patent Office vote shows that there were in the past year 3,400 provisional and complete specifications brought in (but only 50 of the latter description), and the fees of the law officers of the Crown in England were 10,363*l*. The fees on patents for the current year are estimated at 105,000*l*., and the expenses at 51,000*l*.; so that there will be a surplus of about 54,000*l*.

The Faversham Waterworks.—At a meeting of the directors of the Waterworks Company, held at the Guildhall, the following tenders for the erection of the buildings and the working stock were received. For the construction of the well, reservoir, and buildings, three tenders, viz. Messrs. Naylar & Son, Rochester, 2,693*l*.; Messrs. Hall, Queenborough, 2,600*l*.; and Mr. L. Shrubsole, Faversham, 2,496*l*. The last was accepted. The works are to be completed by the 1st of October. The following tenders were also accepted: for a steam-engine of 14-horse power, Messrs. Watt & Co., Birmingham, 925*l*.; iron service-pipes, the Anderston Foundry Company, Glasgow, 1,050*l*.

Proposed Free Library, Museum, &c., for Gloucester.—The town council have been summoned, to consider as to the establishment of a free library, &c. The desirability of establishing a museum, school of art, free library, and large public room, was recently discussed at length in the local *Chronicle*, and a private meeting of gentlemen interested in the question was lately held, when Mr. A. Price explained his views, and a resolution was unanimously adopted, to the effect that an effort should be made to supply the want which has so long been felt in this city of some building in which to domicile the various public institutions of a social, literary, and educational character, which already exist, or may hereafter be established. A committee was appointed to confer with the mayor as to the particular form in which the subject should be brought before the council.

Position of Gas Companies.—In his evidence, given before the committee sitting on the Birmingham Gas Companies' Bills, Mr. Wright quoted the following statistics with regard to the present position of gas companies. The metropolis has thirteen companies, with a gross capital of 5,272,279*l*., and a gross revenue of 1,836,946*l*. The meter rental of the thirteen companies is 17,330*l*.; the gas expenditure 1,333,305*l*.; the annual reserve, 32,506*l*.; the cost of coals, 707,783*l*.; and the residual product, 310,173*l*. The price at which the gas is sold varies from 4s. 6d. to 6s. per thousand feet, and the average dividend paid by the companies is 10 per cent. The Liverpool United Gas Company has a shareholders' capital of 529,900*l*., a gross revenue of 204,393*l*., a meter rental of 10,279*l*., and a gas expenditure of 137,562*l*. The price charged for gas varies from 3s. 5d. to 3s. 9d., and the dividend paid is 10 per cent. The Manchester Corporation Gas Works has a shareholders' capital of 397,430*l*., a gross revenue of 161,416*l*., a meter rental of 244*l*., and a gas expenditure of 106,570*l*., exclusive of depreciation. The price charged for gas is 3s. 9d., and the amount of the annual reserve, 12,179*l*. The Bristol Gas Light Company has a shareholders' capital of 24,000*l*., a gross revenue of 68,046*l*., a meter rental of 1,466*l*., and a gas expenditure of 51,406*l*. The price charged for gas is 3s. 9d., and the amount of the annual reserve, 2,000*l*. The Wolverhampton Gas Company has a shareholders' capital of 81,168*l*., a gross revenue of 25,902*l*., and a gas expenditure of 1,741*l*. The dividend paid is 10 per cent., and the amount of the annual reserve, 750*l*. The Birmingham Gas Light and Coke Company has a shareholders' capital of 211,700*l*., a gross revenue of 87,330*l*., and a gas expenditure of 70,985*l*. The price charged for gas is 3s. 4d. and 2s. 8d. The Birmingham and Staffordshire Gas Light Company has a shareholders' capital of 357,900*l*., a gross revenue of 147,228*l*., and a gas expenditure of 107,447*l*. The price charged for gas is 3s. 4d. and 2s. 9d.

FRIENDLY SOCIETIES.—A return just issued from the National Debt-office shows that in November last, when the accounts were made up, friendly societies had upwards of 2,000,000*l.* deposited directly with the National Debt Commissioners, or due for interest on such deposits, and upwards of 2,000,000*l.* more deposited by friendly societies with savings banks, and by the savings banks placed in the custody of the National Debt Commissioners.

PROPOSED NEW PIERS.—The Board of Trade report to Parliament that the following applications for provisional orders giving powers to make new piers on the English coast are unopposed, and that it is proposed to proceed with them:—1. At Brighton, a pier opposite Regency-square, running out a distance of 1,150 feet seaward; 2. Clevedon, a pier near Rock-house Point; 3. Eastbourne, a pier opposite Devonshire-place, to extend seaward 1,000 feet; 4. Filey, a harbour for fishing-vessels; 5. Lytham, a pier opposite Dicconson-terrace, to run seaward 900 feet; 6. Rhyl, pier to extend seaward 1,056 yards, with a covered entrance available as a public room; 7. Sandown, Isle of Wight, a pier to run out to about 1,500 feet from high-water mark; 8. Torquay, pier near Land's End, extending seaward 700 feet, and an extension of the present breakwater at Beacon-hill to the outer Millstone rock, thus forming a new harbour; 9. Walton-on-the-Naze, pier running out 350 yards from high-water mark; 10. Walton, Suffolk, pier extending from high-water mark to about 55 yards below low-water mark. A proposed pier at the Bight of the Exe is to be constructed only as and where the Board of Trade shall approve, there being apprehension that it might injure the navigation of the Exe.

ANCIENT REMAINS AT REDDITCH.—In the "Abbey Meadow," a field about half a mile from the town, large and irregular mounds, all covered with old turf, point out the site of the once famous Abbey of Bordesley. Recently, Mr. R. S. Bartleet, wishing to collect materials for the history of the abbey, obtained the consent of the Baroness Windsor to make excavations in the mounds. The work has been put under the superintendence of Mr. J. M. Woodward, and the foundations of the chancel and the north transept have been laid open, with part of the walls of the south transept, the base of the pier supporting the north-east angle of the tower, and a small chapel with an encaustic pavement in the south transept, having a raised pavement for the altar at the east end. Lines of basement wall, with buttresses, fragments of Norman pillars, mullions, pieces of lead, sills and jambs of windows, shaft caps, mouldings, some of them coloured, loose tiles of a great variety of patterns, stars, fleurs-de-lys, shields charged with various devices, fishes, griffins, &c., bits of sculpture, a stone coffin, a glass bottle, earthenware, cup, smoking pipe, and vitrified substances like glass, have also been found, and many more interesting discoveries are expected.

PUBLIC HEALTH.—It appears from a careful analysis, extending over a lengthened term of years, that the annual death-rate at all ages and from all causes was as follows in various parts of England and Wales:—London, 2·363 per cent.; the south-eastern counties, 1·955 per cent.; the south midland counties, 2·044 per cent.; the eastern counties, 2·058 per cent.; the south-western counties, 2·001 per cent.; the west midland counties, 2·237 per cent.; the north midland counties, 2·111 per cent.; the north-western counties, 2·550 per cent.; Yorkshire, 2·309 per cent.; the northern counties, 2·199 per cent.; and Monmouthshire and Wales, 2·126 per cent. The south-eastern counties would thus appear to be the healthiest, and the north-western counties the unhealthiest, in England. The expression "London" includes, of course, the whole metropolitan district, in which a population of 2,803,989 was congregated in 1861, and which extends over part of Middlesex, Surrey, and Kent. "It will be observed," says the *Times*, remarking upon this, "that the rate of mortality in Lancashire and Cheshire is relatively very high, and the sanitary reforms likely to be secured by the Public Works Act, 1863, are evidently urgently needed. Thus, the death-rate from all causes and at all ages in Lancashire and Cheshire has averaged 2·550 per cent. per annum. Assuming that it could be reduced one-half per cent., 14,678 lives would be saved annually, or 146,780 in ten years, without allowing for the increase of population naturally arising, and taking the census numbers of 1861 as the basis of the calculation."

LIVERPOOL ARCHITECTURAL SOCIETY.—At the meeting held on Wednesday evening, the 23rd, Mr. W. H. Whiteman in the chair, Mr. Boult read a paper "On the Registration of Land Titles," at the conclusion of which a short discussion occurred.

HOW TO DETECT LEAD IN WATER.—In a wine-glass full of water drop one drop of sulphide of ammonium, and stir it with a glass rod or a goose-quill. If there be lead in the water it will be immediately discoloured—black. The sulphide of ammonium should be kept in a little (sixpenny) bottle with a glass stopper.

TUNNEL CUTTING.—A machine, manufactured by Messrs. Hawks, Crawshay, & Sons, of Gateshead, is now being used at Spezzia, on the eastern section of the Ligurian line of railway, in cutting one of the tunnels through the Maritime Alps, between that port and Genoa. It cuts a hole of 7½ feet in diameter, at the rate of 14 feet advance in the twenty-four hours, through very hard rock, consisting chiefly of limestone, with veins of a tougher character running through it. It appears that an average progress of 15 feet per day may be relied on. At this rate, the tunnel through Mont Cenis might be finished in about three years, instead of the eleven which it is computed it will take. Three men and a boy are sufficient to work the machine, which can be driven either by steam or compressed air.

A GREAT COMET PREDICTED.—The following is an extract of a letter just received from Melbourne:—"Professor Newmager, on a three years' scientific visit from Bavaria, tells us that in 1865 a comet shall come so close as to endanger this our earth; and, should it not attach itself to us (as one globule of quicksilver to another), nor annihilate us, the sight will be most beautiful to behold. During three nights we shall have no darkness, but be bathed in the brilliant light of the blazing train!" The professor was leaving Australia for Bavaria, so that we may hear more of this on his reaching Europe. If it be not a hoax altogether, this is at least a prediction not much to be respected, far less dreaded. The great comet predicted by Mr. Hind and others two or three years back, either never made its appearance at all; or, long ere it reached our planet's neighbourhood, became "small by degrees and beautifully fine," so as not to be recognisable even by its predictors.

TELEGRAPHIC PROGRESS.—A line of Bonelli's printing telegraph has already been established between Liverpool and Manchester. Messages are to be reduced to a uniform rate of sixpence for twenty words by this line.——Messrs. Glass, Elliot, & Co., who were recommended by the Scientific Committee to lay the new Atlantic line, are said to have contracted to lay it at their own risk, in 1865, and to keep it in perfect working order for twelve months. The firm are said to be backed by the London Financial Association. The new cable is described as being 35¾ cwt. to the nautical mile, instead of 20 cwt., as the old one was. The conductor consists of a copper strand of seven wires, six laid round one, and imbedded in Chatterton's compound. Gutta-percha, alternating four times with this compound, forms the insulator; and the core is surrounded by jute yarn, iron wires, and hemp, saturated with a preservative substance.——The Malta and Alexandria telegraph is again open.

RECLAMATION OF LAND.—Works are now in active progress in the district of Bradwell, Dengie hundred, Essex, for carrying out at least a part of the plan of the Estuary Company for shutting out the water from the waste of what are called the siltings, converting a tract of them into solid land, and thus adding two or three good farms to the hundred and the county. The works, which are under the direction of Messrs. Beadel, as surveyors, consist of the carrying out of the sea-wall for the protection of the portions of the siltings sought to be reclaimed, and running in a direction up to St. Peters-on-the-Walls, where, it is said, stood the city of Ithancester, in which Christian churches were first established, but which was destroyed and buried by the force of the sea. The land recovered by this first operation will be from 1,000 to 1,500 acres, adding to this extent to the mainland of Essex; but the works will probably be afterwards carried much further; and the cost of reclamation and bringing into cultivation, we understand, will be about 15*l.* an acre. The land, it is estimated, will be worth double that sum.

TENDERS.

For new assembly-rooms, at the Gun Tavern, Croydon. Mr. Henry Bance, architect. Quantities not supplied:—

Lamble	£427 0 0
Thomas & Jenkins	425 0 0

For residence at Woodside, near Croydon, for Mr. Frederic Chambers. Mr. W. Lambert, architect. Quantities not supplied:—

Downs	£1,495 0 0
King, Burton, & Co.	1,325 0 0
Lathey, Brothers	1,324 0 0
Warne	1,225 0 0
Hollidge	1,210 0 0

For new chancel and organ-chamber to St. Mark's Church, Lakenham, Norwich. Mr. J. H. Brown, architect. Quantities supplied:—

Lacey	£985 0 0
Ling & Balls	907 0 0
Wordingham	850 0 0
Rust	842 0 0
Worman (accepted)	798 0 0

For additions to Messrs. Nettlefold & Chamberlain's Screw Works, Smethwick, Birmingham. Mr. T. Chatfield Clarke, architect:—

Cresswell	£2,927 0 0
Branson & Murray	2,850 0 0
Hardwick & Son	2,792 0 0
Briggs & Son	2,788 0 0
W. & J. Webb	2,597 10 0

For a new warehouse, at the corner of Wentworth-street, Commercial-street, Whitechapel, for Mr. Moses Levy:—

Macey	£2,850 0 0
Ashby & Horner	2,769 0 0
Piper & Wheeler	2,726 0 0
King	2,595 0 0
Hill & Keddell	2,525 0 0
Newman & Mann	2,476 0 0

For first portion of warehouses, at Lower Pickle Herring Wharf, for Messrs. Nash, Hicks, & Nash. Mr. S. Brooks, architect. Quantities not supplied:—

Wills	£1,853 0 0
Wells	1,695 0 0
Coleman	1,685 0 0
Cowland	1,643 0 0

For building a new lecture or assembly room, with reading-rooms, at Glastonbury. Quantities supplied by Mr. Day —

Day	£754 0 0
Dives	627 0 0
Merrick (accepted)	552 10 0
Hawkins	544 15 0

For alterations and additions, at Nos. 25 and 26, Hounsditch, for Messrs. Leaver & Breeze. Mr. Wm. Reddall, architect:—

Masers	£573 0 0
Ashby & Sons	547 0 0
Pritchard	527 0 0

For house, to be built near the Victoria Dock, for Mrs. Rees. Mr. G. S. Temple, architect:—

Colls & Co.	£1,250 0 0
Jackson & Shaw	1,143 0 0
Hill & Son	1,030 0 0
Walton	999 0 0
Sharpington & Cole (accepted)	987 0 0

For erecting corn exchange, magistrates'-rooms, &c., at Wantage, Berkshire. Mr. Wheeler, architect. Quantities supplied by the architect:—

Simms	£3,444 0 0
Cordrey	3,197 0 0
Nash	2,955 0 0
Wheeler	2,909 0 0
Fotcher	2,870 0 0
Gardener	2,800 0 0
Stevens	2,780 0 0
Barrett	2,700 0 0
Bartlett	2,600 0 0
Jones	2,540 0 0
Thomas	2,532 0 0
Dover	2,300 0 0

For additions to Rectory-house, East Barkwith, Lincolnshire. Mr. R. J Withers, architect:

Binns & Gant	£534 0 0
Clark	510 0 0
Bellamy (accepted)	480 0 0

For restoration of Pencarreg Church, Carmarthenshire. Mr. R. J Withers, architect —

Jones	£449 10 4
Davies (accepted)	449 6 0

For additional wards to lodge, and works connected therewith, at the Whitechapel Industrial Schools, Forest-lane, Essex Mr. John Hudson, surveyor —

Palmer	£365 0 0
Dudley	360 0 0
Hedges	347 0 0
Paulington	339 0 0
Saunders & Field	338 0 0
Reny	334 0 0
Hill & Keddell	320 0 0
Kilby	298 0 0
Langmead (accepted)	273 0 0
Folley (withdrawn)	217 0 0

For the erection of dwelling-house, in Colchester-street, and additional buildings in rear, for Mr. Joseph Edwards. Mr. John Hudson, surveyor. -

Thorpe	£1,076 0 0
Palmer	778 0 0
Dudley	750 0 0
Jacobs	685 0 0
Hedges	650 0 0

For the erection of a house and premises, in Palmerston-road, Southsea, for Mr. T. C. Haydon. Mr. Joseph Clever, architect. Quantities supplied by Mr. Nichols :—

Simms & Martin	£2,450	0	0
Maeers	2,380	0	0
Ellis	2,217	0	0
Kilby	1,937	0	0
Burbridge	1,876	0	0
King	1,863	0	0
Larcomb	1,788	0	0
West	1,750	0	0
Duffell	1,690	0	0
Bundy	1,609	10	0

For the erection and completion of premises, No. 2, Great St. Thomas Apostle, Cannon-street West, for Mr. Edward Henry Moses. Mr. N. J. Joseph, architect :—

Lawrence & Sons	£2,753	0	0
Axford & Co.	2,720	0	0
Ashby & Horner	2,755	0	0
Condor	2,743	0	0
Hill & Keddell	2,740	0	0
King & Son	2,620	0	0
Newman & Mann (accepted)	2,495	0	0

For the erection of four shops, in Fleet-street, Torquay, for Mrs. Starke. Mr. Edward Appleton, architect. Quantities supplied by Mr. Fred. Chadwick :—

Pollard	£6,700	0	0
Tims & Martin	6,445	0	0
Drake	6,400	0	0
Tanyer	6,353	0	0
Tuxford	6,250	0	0
Smith	6,200	0	0
Goss	6,000	0	0
Jones	5,820	0	0
Matcham*	5,559	0	0
Harvey*	4,990	0	0

* Exclusive of Jennings's flue and drain pipes.

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TO BUILDERS.—TO BE DISPOSED OF, the STOCK, PLANT, and GOODWILL of an old-established BUSINESS. About 300*l*. Premises 95 feet by 28 feet. Sawing pit and Sheds. Cellars, 40 feet by 12 feet. Workshop over, 41 feet by 28 feet. Good Dwelling-house. Present occupants retiring.—Apply on the Premises, 2, Bedford-street, Bedford-row.

THE PROVINCIAL INSURANCE COMPANY.

FIRE—LIFE—ANNUITIES [ESTABLISHED 1852.]

Chief Offices.

High-street, Wrexham; 49, Moorgate-street, London, E.C.; 77, Buchanan-street, Glasgow.

Trustees.

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The Right Hon. Lord Tredegar	Colonel Watkins, M.P.
Sir Watkin W. Wynn, Bart. M.P.	The Very Rev. The Dean of St. Asaph
Colonel Myddelton Biddulph, M.P.	
Townshend Mainwaring, Esq. M.P.	Thomas Brassey, Esq.
	Hugh Owen, Esq.

Chairman of the Board of Directors.

THOMAS BARNES, Esq. M.P. Farnworth, near Manchester, and The Quinta, Salop.

Extract from the Directors' Report for 1863.

IN THE FIRE DEPARTMENT.

9,268 New Policies were issued	
The Premiums on which amount to	£24,865 16 8
The Fire Income for the year was	20,124 13 0
The Losses amount to	13,540 0 6
The excess of Premiums over losses being	30,584 12 6

IN THE LIFE DEPARTMENT

There were received	
844 Proposals for the Assurance of	£222,134 0 0
661 Policies were issued, assuring	174,864 0 0
The annual Premiums on which amount to	6,063 14 11
The Life Premiums for the year amount to	25,356 11 8
Claims were paid upon 25 Policies, amounting to	6,035 8 0

The year 1863 has been the most successful year in the history of the Company."

Applications for Agencies are invited

ANTHONY DILLON, Secretary to the Company.

NORWICH UNION FIRE INSURANCE SOCIETY

NOTICE.—LADYDAY RENEWALS.

Mercantile and Dock Insurances at the reduced rates.

The business of the Company exceeds 70,000,000*l*.

The duty paid to Government for the year 1862 was 85,062*l*. and the amount insured on farming stock 10,286,432*l*.

A bonus of three-fifths of the profits periodically made to parties insuring, who have been from time to time received sums amounting in the aggregate to 440,000*l*.; and the Society now holds a LARGE RESERVE applicable to a future Bonus.

The rates of premium are in no case higher than those charged by the other principal Offices making no returns to their insurers.

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich; and 29, Fleet-street, E.C.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coach-house for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 18 acres; gravelly soil; near Sunningdale Station South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

BUILDING LAND TO BE LET, on advantageous terms, for 99 years, situate at Merton, Surrey, within 10 minutes' walk of the Wimbledon Station or 45 minutes of the City.—The plan of Estate can be seen, and particulars obtained, upon application to Mr. EDWIN SAULLES, Surveyor's Office, Christ's Hospital, Newgate-street, from TEN till FIVE o'clock.

LORDSHIP ROAD, Stoke Newington.—TO BE LET, on Building Leases of 99 years (at low ground rental), several PLOTS, eligible for semi-detached villas and terraces.—Apply to Mr. ROBINA, Boxwell road, Church-street, Stoke Newington.—N.B. Bricks delivered on the estate at low prices.

ABBEY WOOD, near Lessness Heath.—Eligible FREEHOLD LAND TO BE LET, in large Plots, for the Erection of Villa Residences. Term 99 years. Advances if required.—For plans and particulars apply to W. WILLIAMSON, 9, Essendon-terrace, Morden-road, Plumstead, S.E.; or to Mr. ROBERTS, Architect, 25, Laurence Pountney lane, City.

BUILDING LAND in the best part of St. John's Wood.—A choice PLOT, with Road and Sewer along the whole frontage, surrounded by finished property of an excellent description, occupied by first-class tenants, TO BE LET at a moderate rent.—Apply to IFOLD & HUGHES, 33, Manchester-street, W.

FREEHOLD LAND TO BE SOLD or LET, on Building Leases.

2 Acres, near the Station, at Forest-hill.
1 Acre, adjoining Norwood Junction Station.
2 Acres, Gengall-road, Old Kent-road.
A large WHARF TO BE LET, near the Old Kent-road.

Apply to Mr. MAY, Acorn Timber Wharf, Old Kent road.

TO BUILDERS and OTHERS.—TO BE LET, on lease, a large PIECE of LAND, in Foot's Cray Parish, Kent, near a proposed station on the new line from London to Dartford. Excellently adapted for brickmaking purposes. There is no other field within several miles, and most of the land in the vicinity is let, or to be let for building.—Apply to Mr. F. W. WOLFF, Land and Estate Agent, Plumstead, Kent

TO BUILDERS and OTHERS.—TO BE LET on LEASE, for 126 years, several PLOTS of BUILDING GROUND for Private Houses, at 8*s.* per foot frontage, close to the Crystal Palace Railway Station. Also THREE PLOTS for Shops, at ten guineas each, adjoining the Paxton Arms. Maps obtained if required.—For further particulars and plans apply to Mr. HERBERT FORD, Architect, 1, Charlotte-row, Mansion House, E.C.

TO BE LET, with immediate possession, very compact PREMISES, situated in Baker-lane, King's Lynn, about 120 yards from the Railway. There is a 7-horse Steam Engine, in good repair, with shafting; a large workshop, office, store-room, and most convenient shedding and yard room. Apply to Mr. WILLETT, King's Lynn.

VALUABLE PREMISES.—Large, open SPACE, with an area of 1,230 square yards, TO BE LET, immediately, with or without water communication. There is a frontage of 60 feet to the road, situate in a main thoroughfare, one mile north of the Bank. The extension of railways and city improvements, causing such a consequent scarcity of premises, render these extremely valuable.—Apply to E. & W. STURGE, Bridge-wharf, City-road, E.C.

BUILDING LAND between Upper Tooting and Wandsworth Common, on the high road. Frontage 540 feet, near a church and railway-station. Soil gravel. Situation high. TO BE LET, with or without advances.—Apply to Mr. DONALDSON (Paterson & Longman), 3, Winchester-buildings, Great Winchester-street, E.C.

DEPTFORD, Kent.—To BUILDERS, ENGINEERS, SHIPWRIGHTS, SMITHS, MANUFACTURERS, and others requiring or desiring commodious Tenements or Residences for their workmen, or to societies or individuals wishing to provide improved Dwellings for the Working Classes.—The Corporation of Trinity House, having otherwise provided for the inmates of their establishment known as the Lower Ground Almshouses, at the Blowage, Deptford, comprising Twenty-six distinct Dwellings, hereby give notice, that they are willing to receive TENDERS for LETTING the said HOUSES on a repairing lease for 21 years, or more, as may be agreed. Each house consists of a basement, ground, and chamber story; five living rooms and additional offices; and the others can readily be made to have every necessary accommodation added to them. The whole is approached from the street by a centre gateway, and is inclosed within itself as a distinct precinct. These houses are situated in the centre of the large manufacturing districts on the South side of the Thames. They are also, from the cheapness of the crossing at the ferry, very conveniently situated in relation to the large district of the manufactories on the opposite side of the river, from Mill-wall and the Isle of Dogs to the localities adjoining. For permission to view, apply to Mr. NORTHWOOD, No. 1, on the Premises. The whole are to be Let by Tender, in One Lot, and MONDAY, the 25th of MAY next, is the day fixed by the Corporation for receiving the Tenders. For further particulars apply at the Offices of Mr. RICHARD SUTER, Architect and surveyor, 23, Gracechurch-street, E.C. and where a plan of the property may be seen.

P. H. BEETHON, secretary,

Trinity House, March 23, 1864.

WANTED, MANUFACTURING PREMISES, with or without steam-power; or LAND for BUILDING, containing at least 40,000 square feet; in the immediate neighbourhood of London.—Address, the LONDON GAS-METER COMPANY, Limited, 30, Cornhill, London, E.C.

ELIGIBLE FREEHOLD PREMISES TO BE SOLD, situate in a leading thoroughfare, within five minutes of the City, comprising FOUR HOUSES, with back yard and workshop, and back entrance; frontage about 100 feet, depth 70 feet. Suitable for any business purposes, or for the erection of a manufactory or warehouses.—For particulars, apply to Messrs PHILLIP & SON, Auctioneers, No. 2, City road, Finsbury-square.

BUILDING GROUND, in a highly respectable and healthy locality, five minutes from Bow or rail to City or West-end, gravel soil, good roads, and sewers free of cost. Lease from freeholder, at low ground rent.—Address, J. H. B. Mr. Costin, Baker, Sussex-street, Pimlico, S.W.

BUILDING LAND at CHITT'S HILL, WOOD GREEN, overlooking three different counties, and fronting the high road, eight minutes walk from the station and Alexandra Park. TO BE LET for the erection of superior Villa Residences, which are in great demand in this beautiful locality. Term, 99 years. Money advanced if required.—A plan may be seen, and particulars obtained, on application to S. HEWITT, Architect and Surveyor, 101, Great Russell-street, Bloomsbury, W.C.

GROUND TO LET, on Building Lease, fronting on the main road from London to Maidstone, and within a few minutes' walk of the Lamb Abbey Station, near Eltham. For particulars, apply to Mr. F. W. WOLFF, Land and Estate Agent, Plumstead, Kent.

BUILDING LAND at KENNINGTON-LANE, about five minutes' walk from the Elephant and Castle, for 20*l*. for houses which are in great demand. Ground-rent, 4*l*. Also HOUSES and SHOPS FOR SALE, in carcase or finished.—Apply to Mr. J. SEXBY, 25, Lower Kennington-lane, S.

FREEHOLD BUILDING GROUND TO BE LET, direct from the freeholder; also, an ELIGIBLE SITE for a Public House. Advances if required.—For plans and further particulars apply personally to Mr. W. MUMFORD, Architect, &c. 10, Lincoln's-inn-fields.

HARROW, ROXBOROUGH PARK.—FREEHOLD LAND (about 100 acres) TO BE LET, on 99 year Leases, for Building Villa Residences. It is situate near the School, on the slope of the hill, towards the railway, from which it is distant about three quarters of a mile. The occupant of each house would be entitled to the privileges of the School for his children, and would have a free pass by railway to London for eleven years. Bricks made on the estate, and money advanced by the Lessor, if required.—For particulars, apply at Mr HESKETH'S Office, London Assurance, No. 7, Royal Exchange, E.C.

FOR CONTRACTORS and RAILWAY COMPANIES.—2,000 BARROWS FOR SALE—Barrows, Keys, Trenails, Bushes, Sleepers, &c. and all other Contractors' Plant.—Apply to W. P. FRANCE, 20, Bridge Wharf, Paddington.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestrops, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent constability and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Cutta-percha, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country

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WAGGONS FOR SALE.—TO BE DISPOSED OF, upwards of 100 CONTRACTOR'S EARTH WAGGONS, now lying at Newcastleton, Canonbie, Roxburghshire.—For particulars, apply to Mr DANIEL ROBINSON, on the spot, or to Mr. JOHN RIDLEY, C.E. Hexham.

Hexham, March 15th, 1864.

PRIZE WAGGONS and CARTS.—HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavator, Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

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LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.

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TARPAULINS, MARQUEES, &c. for SALE or HIRE.

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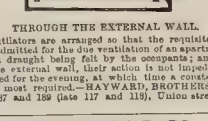
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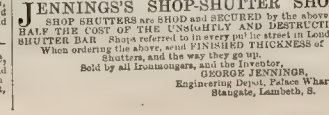


Sheringham's Day and Night Ventilator for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 137 and 139 (late 117 and 119), Union street, Borough, London.

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JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Engineering Depot, Palace Wharf, Blaugate, Lambeth, S.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

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GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,

Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon headed ceilings (all bracketing being avoided), cornices, enrichments, fluted and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made. It has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

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DESIGNS MADE FOR ANY WORKS.
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ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

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FOR THE
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Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the

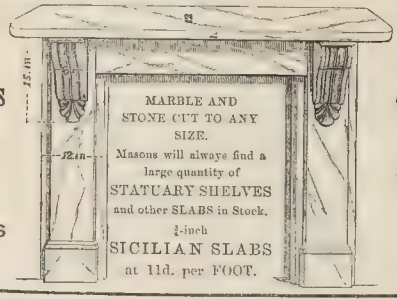
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Truss ditto ditto, 11s. 9d.

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in great variety, equally low in price.

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First-class Bed-room ditto, £1 10s.

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TRUSS MARBLE CHIMNEY PIECES
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A WELL-CARVED
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with 13½-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
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Net Prompt Cash.
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LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City-road, E.C. Extra strong Lead for Gaslights, &c. Estimates forwarded on receipt of particulars.

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Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIFF'S CITY GLASS WAREHOUSE,
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LAVERS & BARRAUD,
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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Flatted, Rough Plate, Photographic, and every description of Glass.
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WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

RAILWAY CONTRACTORS AND ALL LARGE CONSUMERS OF GREY STONE LIME OF THE BEST QUALITY,
As used for the Construction of the New Chatham and Dover, London Bridge and Charing Cross, and the Brighton Extension Railways, Government and Sewer Works, &c. &c. supplied direct from the Kilns per barge load, delivered alongside Wharfs on the Thames and Canals.
WILLIAM PETERS,
GREY STONE LIME BURNER, WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:—12, UPPER GROUND STREET, BLACKFRIARS, S.; 7, NORTH WHARF ROAD, PADDINGTON, W.
Large Grey Stone free on Board at Works, at 1s. 9d. per ton.
Small ditto, the best Material for the Manufacture of the well-known Medway Portland Cement, 8d. per ton.
Barges of 100 tons loaded in a few minutes.

SOUTH EASTERN RAILWAY.
HALL'S MERSTHAM GREY STONE LIME WORKS.
WILLIAM PETERS
has taken possession of the above Works from the 25th March inst. and solicits a continuance of that support which has been so liberally given to his predecessors. Orders addressed to
WILLIAM PETERS,
MERSTHAM GREY STONE LIME WORKS, near REDHILL, SURREY, and
No. 199, OLD KENT-ROAD, S. (Bricklayers' Arms Station), will receive immediate attention.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the lias cements, so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality.
STONE LIME
LIME—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete.
BRICKS from our fields in Kent, by the barge alongside, in the river canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain pipes, Yorkshire Flags, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, railways, and bridges throughout the country, being so long celebrated for its strong cementitious and consolidating powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (fresh), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South Johnstreet, Liverpool.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brick work, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
OLD JAMAICA WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dull and RED WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PACIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRA METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS. also DITCH CLINKERS.
RED, tile, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Lavatories, Dairies, Shops, Bar and Range, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Architecturing.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Flues, Quarries, &c., Stoneware Drain-pipes, &c.
No 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour
PAVING TILES in various colours and designs
Blue Vitrified Grooved and Chequered Partings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cement of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the Foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at the St. Pancras Station of the Midland Railway, direct from the kilns, at 20s. per ton.—The Barrow Lime is well-known as a very superior Hydraulic Lime from the Blue Lias Stone.—March, 1864.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD
Office, 23, New City Chambers, 121, Bishopsgate Street Within, E.C.

PORTLAND CEMENT WORKS.
FREEN & COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
LIME BURNERS, AND LATH RENDERS.
MANUFACTORIES AND WHARFS:—
17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, S.W.
3, CANAL ROAD, KINGSLAND ROAD, N.; and
FRINDSBURY, near STROOD, KENT.
FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had fresh ground daily by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland-road; or to 17, Abingdon-street, Millbank-street, Westminster, will receive prompt attention

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

ESTABLISHED 1852.
PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside

W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

MINTON & CO.
Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON TRENT.

GREAVES'S BLUE LIAS LIME.
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
JARVIS'S WHARF,
FOOT OF BATTERSEA BRIDGE CHELSEA

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

ABERTHAW BLUE LIAS LIME COMPANY.
WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.
The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities. All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 1, NORTHUMBERLAND PLACE, Westbourne Grove, Paddington, W.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well seasoned stock on sale daily on Bankside, from the facility afforded by rivers being premises communicating with inland yards, they are enabled to sell at the very lowest prices.

PYROGRAPHIC FACTORY.
THOMAS PONSONBY & CO.
TREDEGAR WORKS, BOW,
And 32, GRACECHURCH STREET,
Are now prepared to supply the Trade with ORNAMENTAL MOULDINGS, either in Veneers or on the solid, for Stringings, Prints Picture, or Glass Frames.
Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had. Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.
THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY SEVEN SHILLINGS per Lineal Yard, including the wood.
This can be obtained either direct at the Works, or at Messrs. ESDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.
They also draw special attention to their Door-plates and Door Furniture, not only on account of their price, but also for their great durability, and not being liable to fracture or breakage. Price-lists forwarded on application, at either Tredegar Works, Bow; or City Office, 32, Gracechurch-street.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9/ 10s. per 12 feet; Yellow ditto, 10/ ditto ditto. ¾ Match Boarding, 14s. per square; 1¼ ditto, 18s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

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C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
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Dry Hand-rail Planks, Prepared Flooring, and Batteners' Goods in General.
COUNTRY ORDERS PROMPTLY EXECUTED.

TO SCULPTORS, MASONS, BUILDERS, &c.
FABBRICOTTI, BROTHERS, Carrara Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE a well-selected Stock of Statuary, Vein, Paonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Grotte, Breccia, Sienna, St. Ann's, Languedoc, Vert des Alpes, Black, &c. &c.; and Alabaster, in Blocks, with slabs of several of those qualities. Also Slabs Marble Baths and Mortars, and Vases and Figures, in statuary and Sicilian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

LONDON and WESTMINSTER MARBLE WORKS. The attention of Builders and the Public is invited to JOSEPH HADFIELD'S CHOICE SELECTION of CHIMNEY-PIECES, in all the VARIOUS FOREIGN and BRITISH MARBLES, which he offers at MOST REASONABLE PRICES.—LONDON and WESTMINSTER MARBLE WORKS, No. 10, Earl-street, Westminster, S.W. and at Sheffield.

LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn street, W.
This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth saw, and is wrought at a cheaper rate than any stone in the kingdom.
*** The above WEATHER STONE is 1s. 9d. per cubic foot, delivered in London.

WILLINGTON STONE WHARF,
REGENT'S PARK BASIN, N.W.
HY. GEORGE & CO.
MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, sinks, &c.; Bath, Caen, Portland, Ashlary, and Granite. Cargoes direct from the quarries. Wrought work executed at moderate prices.
Agent, JOSEPH CHADWICK.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
Office, 24, St. James's-street, London, S.W., Works, Carleon Cove, Lizard, Cornwall.
as for Manchester and Liverpool, T. OAKDEN, 94, King-street.

FLOORING! DEALS! MAHOGANY!
100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Dry Pine Plank ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s per square
FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 5½d. per foot
YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.


TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Roving Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings by any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.
Green houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.

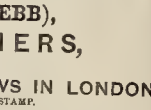

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YELLOW DEALS, £15 10s. per 120 of 12 feet.
Good 2½ Mill-sawn White Battens .... from £8 10 per 120 of 12 feet
Good 1¾ Mill-sawn Yellow ditto ..... 9 10 "
Good 3 by 9 Mill-sawn Yellow Deals ..... 13 0 "
Good 3 by 9 White Deals ..... 15 0 "
Good and well-prepared ¾ Flooring Boards....from 11s 6d. per square
" ¾ " " ..... 12s. 6d. "
" 1 inch " ..... 14s. 6d. "
Matched Lining ..... 12s 0d. "
YELLOW FIR TIMBER (good length and size), 45s. per load.
THOS. W. ELLSTON, No. 109, SNOW'S FIELDS, KING STREET, BOROUGH.
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 33s. per Lond.
Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.
Spruce Deals ..... 15 0 0 " 2¼ "
2½-inch Battens ..... 9 0 0 " 1¾ "
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, BATTENS, &c.
⅝-inch Flooring, well prepared ..... White 11s. 6d. ...Yellow 12s. 0d. per square.
½ inch " " ..... " 12s. 0d. ... " 13s. 0d. "
1-inch " " ..... " 14s. 6d. ... " 15s. 0d. "
2½-inch Battens ..... Yellow, £10, White, £9 per 120 of 12 feet.
3 by 9 Deals ..... Yellow, £18, White, £16 10s. "
Matched Linings, ⅝-inch ..... White, 12s., Yellow, 13s. per square.
Deals and Battens, in the Docks, at a considerable reduction.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.


MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

YELLOW FLOORING, WELL PREPARED,

First Quality, ⅞ by 6½, at 10s. 6d. per square.
⅞ by 6½ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
Spruce £15 per 120.

TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

CHARLES WINN, TIMBER MERCHANT,

NEW CRANE WHF., SHADWELL, E.; and VICTORIA WHF. and SAW MILLS, DEPTFORD, S.E.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS, CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

MARCUS BOURNE NEWTON, LONDON AGENT.

DEPOT, No. 4, GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

WILCOCK & CO.

FIRE-BRICK AND SANITARY TUBE WORKS, LEEDS.

ILLUSTRATED LISTS ON APPLICATION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

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Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.
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The advantages of this plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
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Red Pantiles, at 47s. 6d. per 1,000.
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PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, 1862.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches square, hexagonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs; plinths, friezes, string courses, pilasters, &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their NEW MANUFACTURE OF METALLINE TILES,
6 inches by 1 inch thick, in truck-loads of 4,000, from 63s. per 1,000, cash, delivered to Nine Elms. Also, malt-kiln, ridge, gutter, and hip tiles, buff, glazed, and red bricks. Specimens may be seen, and every information obtained, at the Offices, No. 26, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.

TO BUILDERS, BRICKLAYERS, and OTHERS.—The following goods are at all times ready for delivery at SCALES & CO.'S Pottery and Tile Kilns, near the four milestone, Green Lanes, Stoke Newington, Middlesex, at the lowest cash prices

Paving Tiles.	Oven Tiles.
Foot Tiles.	Ridge Tiles.
Roofing Tiles.	Paving Tiles.
Pantiles	Circular Bricks
Plain Tiles.	Kiln Stock Bricks.
Edging Tiles.	Drain Pipes and Tiles.

Also Chimneys from 2 feet to 6 feet and Garden pots of every description.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

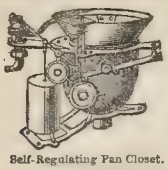
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MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
Trade imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

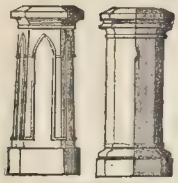
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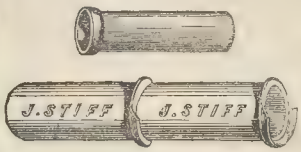
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of forming future connections.

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STORES—70, SOHO STREET, LIVERPOOL,

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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

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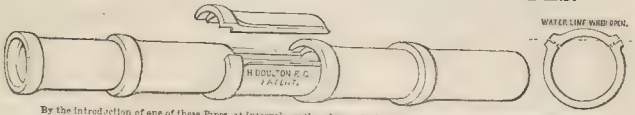
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Supplied on the lowest terms, direct from

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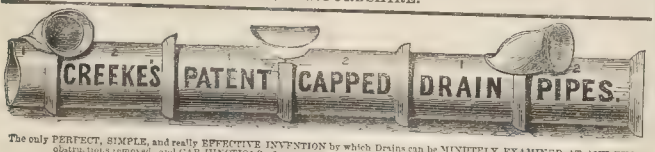
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By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

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The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP JUNCTIONS of any size inserted in the centre of the line of the drain, without breaking a pipe or disturbing the flooring.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

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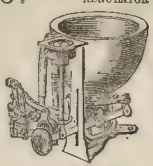
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REGULATOR WATER-CLOSETS.



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now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6849.

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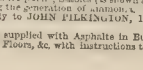
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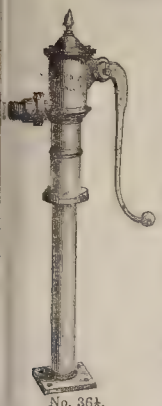
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From 13s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cottages, &c., is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the working is carried on without the usual levers and gearing, thereby considerably reducing the price compared with Pumps made on the old plan.

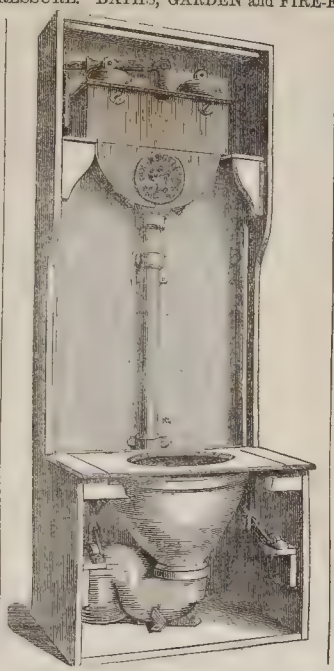
2½ inch	£4 4 0
3 "	5 5 0
3½ "	6 6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0

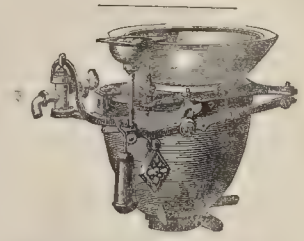


IMPORTANT TO WATER COMPANIES.

No. 206, B.C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case . . .	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



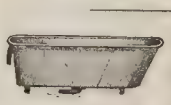
No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £3 0 0

Sunk Handle, extra 0 2 6

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price from 3/ 1s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS

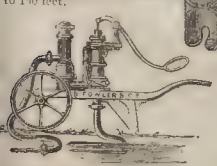
(LATE FOWLER & CO.),

WHITEFRIARS STREET, FLEET STREET, LONDON,

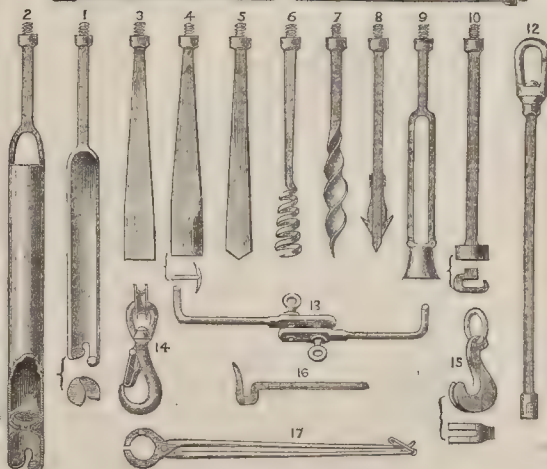
MANUFACTURERS OF PUMPS OF ALL DESCRIPTIONS, AND OF BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



Nos. 82 and 86. CONTRACTORS' PORTABLE PUMPS of all sizes and for any depth up to 150 feet.



Useful Double Acting and other Portable Force Pumps.



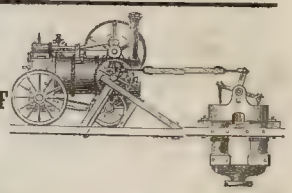
Boring Tools for Artesian Wells, Testing Ground for Railway Works, Bridges, &c. and for Miners' use,

Are manufactured of the best description and of all sizes by

CLINTON & OWENS.

Any of the Goods above represented may be had ON HIRE. A large Stock is kept ready or in a forward state.

Full information and Priced Lists, with Terms, may be had on application.

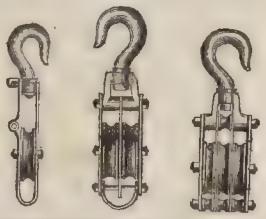


ON HIRE OR TO ORDER.

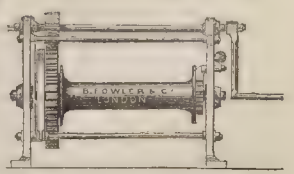
PORTABLE STEAM ENGINES,

With Double Pumps, from 8-inch to 24-inch Barrels. Also

CENTRIFUGAL and other PUMPS.



PULLEY BLOCKS and HOISTING TACKLE, of every description and for all purposes.



Single and Double Purchase Crabs, Cranes, &c. to lift any ordinary weights.

SALES BY AUCTION.

The New Metropolitan Meat and Poultry Market. Third Clearance Sale—Buildioe Materials of various Houses and Premises in and near Smithfield.

PULLEN, HORNE, & EVERSFIELD are respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London, to SELL by AUCTION, at the PREMISES, on TUESDAY, APRIL 5th, and following day, at TWELVE, in Lots, all the Valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of several Dwelling-houses, Shops, Warehouses, and Premises, situate in Smithfield and Smithfield-bars, comprising excellent stock bricks, oak and fir timber in roofs and floors, plain and pan tiles and slates, glazed sashes, doors, chimney pieces, and interior fittings, flooring boards, folding gates, shop fronts, large iron doors, iron columns, lead flats, gutters and pipes, stone paving, caloric stoves, nests of drawers, counters, shelves, gasfittings, settles and benches, and fittings of a coffee shop, and other useful house and trade effects. Catalogues had and the Premises may be viewed the day previous: catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

TO BUILDERS, CONTRACTORS, and OTHERS.—Memel Timber and Surplus Plant, from the Works of the Charing-cross Railway Station.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Cochrane, Grove, & Co. in consequence of the completion of their contract, to SELL by AUCTION, at their WORKS, adjoining the Southwark Waterworks, Battersea-fields (about half a mile from the Nine Elms Pier), on MONDAY, APRIL 11 (instead of Monday, April 4), at TWELVE for ONE, about 300 LOADS of yellow MEMEL TIMBER, used for the staging in the erection of the large roof of the Charing-cross Station, and comprising wide timbers, from 10 feet to 42 feet in length, half timbers and quarterings, also, several thousand short lengths, suitable for fencing, erection of sheds; two trussed iron girders, 27 feet 6 inches long; cast-iron guttering, pile-engine, and other useful plant, which will be put into suitable lots for builders, and surplus plant, which will be put into suitable lots for builders, and lying convenient for water carriage.—May be viewed on Saturday next, and Catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W., and 80, Fore street, E.C.

BUILDING MATERIALS, OLD BROAD STREET, CITY

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvements Committee of the Corporation of the City of London, to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 15, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FITTINGS-UP of a large HOUSE, with Office, No. 38, Old Broad street, comprising sound brickwork, lead gutters and pipes, plain and pan tiles, useful timber and floor boards, glazed sashes, doors, partitions, and marble chimney pieces, stone, and useful fittings-up.—May be viewed the day previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

SMITHFIELD.—450 Oak Posts, and 12 300 feet of Oak Railing, forming the Pens and Cattle-rails in the late Market

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvements Committee of the Corporation of the City of London, to SELL by AUCTION, at SMITHFIELD, on MONDAY, APRIL 18, at TWELVE, 4,500 OAK POSTS, and about four run of OAK RAILING and BARS, forming the pens and cattle-rails, oak gates, wrought ironwork, &c. the whole under improvement lots.—May be viewed, and Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

Important Sale of Extensive Freehold Estates in Oswaldtwisle, near Blackburn.—Preliminary Notice of SALE by AUCTION.

MR. GRUNDY begs to announce that he will very shortly offer for SALE by PUBLIC AUCTION, in Lots, the several FARMS and PROPERTIES forming the Stanhill Estate, together with other Farms adjoining, all situate in the Township of Oswaldtwisle, in the Parish of Whalley, and County Palatine of Lancaster, and containing together upwards of 2 acres of good arable, meadow, and pasture land. Full particulars and plans will shortly be published, and further information may be obtained on application to Messrs. WESTALL, BROTHERS Whitcock Mills, Oswaldtwisle; also to Messrs. Ramsbottom, Norris, & Slaughter, King-street, Manchester; or on application at the Offices of Messrs. ROBINSON & SON, Solicitors, Blackburn.

21st March, 1864.

Important Sale of first-class Timber, &c. on the Knowsley Estate, Prescot, Lancashire, the property of A. J. Gaskell, esq.

TO BE SOLD by AUCTION, by

MESSRS. PENDERED & SON, on THURSDAY, APRIL 7, 1864; consisting of 130 Ash Trees, averaging 16 feet; some long Beech Trees, averaging 16 feet; 180 Elm, averaging 35 feet, some very large; 5 Sycamores; 3 Poplars, 28 feet each; and 11 Black Alder. The whole of the Hardwood and Faggot Lots will be sold on the 8th. The Estate is in good roads, and to the Inchester Station of the Midland Railway, and about three miles from the Warrington-bank Station of the North Western Railway. Catalogues and further particulars may be had of the Auctioneers; or of Mr. ROBERT SMITH, Land Agent, Emmett's Grange, South Moulton, Devon. The Foreman, WM. JARMAN, will show the lots of timber to purchasers, on application to him, at WM JOYCE'S, Inchester. Sale to commence each day at HALF PAST TEN o'clock, a.m.

MARLBOROUGH PLACE, near the Lord Nelson, Old Kent-road.—Extensive Sale of First-rate Building Materials, Fittings, &c.

MR. JENN. ABBOTT, Jun. will SELL by AUCTION, on MONDAY, the 11th of APRIL, on the above SITE, a large quantity of MAHOGANY DOORS and FITTINGS, Sashes, plate glass sashes and frames, glass doors, modern chimney pieces, piano paving, 7,400 feet; long seasoned joists, nearly new, 9 by 3; long sound oak and fir timber, joists and plates, a quantity of modern iron railing, stoves, flooring and lining boards, slates, tiles, Portland landings, &c.—Catalogues on application to Mr. B ABBOTT, Jun Auctioneer, Gracechurch-street; and on the Premises.

ELMS, three miles from Wokingham and thirty miles from London.—Capital Site the Well-to-do College, and close to the Railway Station, about 200 Acres of Freehold Building Land. Land Tax redeemed

MR. ROBINS is instructed to SELL by AUCTION, at the MART, on THURSDAY, MAY 5, at TWELVE for ONE, in one or three lots, unless previously disposed of by private contract, FREEHOLD BUILDING LAND, comprising 200 Acres, more or less, (subject, however, to such reduction as may be found convenient for water carriage.—May be viewed on Saturday next, and Catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W., and 80, Fore street, E.C.

SPECIAL SALE. To BUILDERS, DECORATORS, and OTHERS

MR. EDWIN WHITE will SELL by AUCTION, at his Rooms, 32, Holborn-bars, and 1, Castle-street, Holborn, on TUESDAY next, APRIL 5th, at ONE o'clock, 2,500 Pieces of rich French PAPER HANGINGS and DECORATIONS, by order of the Executors, 7,500 Pieces of English Paper-hangings in immense variety, 50 Marble and Slate Chimney-pieces, both true and plain, and 3 capital Watercolours. May be viewed, and Catalogues had on Monday next and morning of sale.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Appley House an upper and Freehold Property on the Coast, at Ryde, Isle of Wight. With immediate possession

MESSRS. FULLER & HORSEY are instructed by the Trustee to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15th, at TWELVE o'clock, in one lot, APPLEY HOUSE and ESTATE, an important freehold property, situate within a few minutes' walk of the Pier at Ryde, Isle of Wight, possessing many natural advantages as a residential estate, with numerous sites for the erection of villas, so rarely to be obtained, and valuable for building purposes, &c. very greatly in demand in this much-admired watering-place, it being now the only land available for building purposes with a sea view, being now the only land available for building purposes with a sea view, being now the only land available for building purposes with a sea view,

The Builder,

Architect, Engineer, Operative & Artist.

VOL. XXII.—No 1105. APRIL 9, 1864. PRICE FOURPENCE. By Post, 5d.

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WORKING MEN'S SHAKESPEARE CELEBRATION.—The Delegates appointed by various Trade Societies and Associations recommend that the 300th Birthday of William Shakespeare, their illustrious countryman, which falls on Saturday, the 23rd April next, be celebrated by the operatives and workmen of the metropolis in the following manner:—1. That the day be kept as a holiday. 2. That the Trade and other Associations, accompanied by such of the Volunteers and their musical bands as may elect to join them, with their banners and other symbols, floral, their respective districts, assemble in Hyde Park, by 12 o'clock at noon, and there go in procession to the site of the proposed National Monument in the Green Park, and with musical honours plant a sapling oak (the emblem of England's power and vigour), in memory of the poet. In the after part of the day there will be provided at the Royal Agricultural Hall, Islington, a monster Shakespearian Musical Festival for the People, for which some of the most accomplished artistes of the day have kindly given their services, as also have Mr Benedict, and a choir of one thousand voices, in order to invest this particular demonstration with a truly graceful and national character. Admission by Ticket, 1s. for which early application must be made.

N.B. A memorial badge, specially designed and approved by the delegates, can be had, price 1s., at the Committee Room, and other places to be appointed. RICHARD MORE, Chairman.
JOHN BAINBRIDGE, Hon. Sec.
Committee Room (No. 18), Whittington Club, Arundel-street, Strand, W.C.

THE METROPOLITAN BUILDING ACT, 1855, SECTION 33.—The Institute of British Architects hereby give notice, that on EXAMINATION of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover-square, W., on FRIDAY, the 29th day of APRIL, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before TUESDAY, the 19th day of APRIL, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.
JOHN P. ~EDDON,
(Signed) CHAS. FORSTER HAYWARD, } Hon. Secs.
Conduit-street, April 2, 1864.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
LECTURE SESSION, 1864.
TUESDAY next, APRIL 12, "Judging from the Past and Present, What are the Prospects for Good Architecture in London?" By His Eminence CARDINAL WISEMAN. The Chair will be taken at EIGHT o'clock precisely.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.
The PRIZES for 1864 will shortly be announced.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, NOW OPEN, Nine till Six. Admission, one shilling. Season Tickets, Half-a-crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery. JAS. FERGUSSON, F.R.S., Hon. Secs.
JAS. ELMESTON, F.R.I.B.A.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S
Sales-room, one shilling. Season Tickets, Half-a-crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery.
New List on Application
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72-74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

BOROUGH of IPSWICH.—To ARCHITECTS.—The Corporation of Ipswich are desirous of receiving DESIGNS for a TOWN HALL, including a Museum and Library. A premium of 100 guineas will be given for the design which in the opinion of the Council is the best, and a premium of 50 guineas for that which, in their opinion is the second best. Both the premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope, containing the name and address of the competitor, bearing a corresponding motto or device written on the plans, &c. Plans of the site, with printed statements of the rooms and conveniences required, and of the conditions to be observed by competitors, may be had on application to the Town Clerk. The competing designs are not to be delivered at the Town Clerk's Office, Museum street, Ipswich, on or before the 22nd day of MAY next. S. A. NOTCUTT, Town Clerk.
Ipswich, March 24, 1864.

TO ARCHITECTS.
A PREMIUM of 70*l.* will be given for the Best and 30*l.* for the Second best DESIGN for a COVERED CORN MARKET, and other Buildings, by the Directors of the Hexham Corn Market and Public Buildings Company (Limited). Plans to be sent in on or before the 12th MAY next, and the gainer of the best premium to furnish a detailed estimate.—All particulars may be known on application to Mr. J. OSWALD HEAD, Hexham, the Secretary.

CONTRACTS.

TO SEWERAGE CONTRACTORS and Others.—TOWNSHIP of TRANMERE, CHESHIRE.—The Local Board for the District of Tranmere are prepared to receive TENDERS for the CONSTRUCTION of about 2,000 yards of MAIN BRICK SEWERS, and at or 7,000 Yards of PIPE SEWERS, with the necessary Junctions, Branches, Manholes, Gullies, &c. Working plans, Sections, Books of Prices, Bills of Quantities, and Specifications may be seen on application to Mr W. A. RICHARDSON, C.E. surveyor to the Local Board, on and after TUESDAY next, the 22nd instant, and copies of the specifications and Forms of Tender may be obtained on payment of 1*l.* Sealed Tenders, made on the printed forms only, to be addressed to me, and left at my office not later than THURSDAY, the 21st APRIL next. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,
GEORGE LLOYD, Law Clerk to the Local Board.
Public Offices, Holt-hill, Tranmere, March 14, 1864.

CROYDON LOCAL BOARD of HEALTH. TO CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the EXECUTION of a length of MAIN SEWER, 4 feet by 2 feet, and the Works connected therewith, at Blind Corner, south Norwood, in the county of Surrey; and another length of such sewer and Outfall Sewers, with the Connections and Manholes complete for the Effluent of sewage, also the Erection of a Filter house and the laying down of land for the purposes of irrigation, at Penge, in the county of Kent, in accordance with the Plans and Specifications prepared by Mr. BALDWIN LATHAM, C.E. the Engineer for the Croydon Local Board of Health, can inspect the plans and specification, in the Office of the said Engineer, at the Town hall, Croydon, on or after this date. Sealed Tenders, indorsed "Tender for Norwood Irrigation Scheme," are to be delivered at the Board's Offices, in the Town hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 19th of APRIL next ensuing. The Local Board of Health do not pledge themselves to accept the lowest or any Tender.—By order of the Board.
April 2nd, 1864. HENRY RICHARDS, Clerk

BRISTOL and PORTISHEAD PIER AND RAILWAY.—CONTRACT for WORKS.—The Directors of the Bristol and Portishead Pier and Railway Company are prepared to receive TENDERS for the CONSTRUCTION of about 10 miles of their RAILWAY, with Approaches, Works, and Conveniences. The Drawings of the principal works may be seen on and after the 11th day of APRIL next, at the Office of the Company's Engineers, Messrs McCLEAN & STILEMAN, 21, Great George-street, Westminster, S.W. or at the Secretary's Office, 6, Clare street, Bristol. Contractors who wish to Tender, may obtain the printed Copies of the Drawings, bills of quantities, specification, and form of Tender, on application to the Engineers, or at the Secretary's Office, on payment of 2*l.* 2*s.* Tenders must be addressed to the Secretary, 6, Clare street, Bristol, on or before the 21st day of APRIL next. The Directors do not bind themselves to accept the lowest or any Tender.
JAMES FORD, Chairman
Bristol, March, 1864. J. J. R DANIEL, Secretary.

TO PAVIORS and OTHERS.—The Commissioners of sewers of the City of London, will meet in the Guildhall of the said City, on TUESDAY, the 12th APRIL next, at Half past TWELVE o'clock precisely, to receive TENDERS for RELAYING the CARRIAGE WAY PAVEMENT of the Mansion, agreeable to a specification, which may be seen at this Office. Persons tendering, are required to give the names and addresses of at least two substantial householders as their sureties, to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory, and no Tender will be received after TWELVE o'clock on the day of treaty.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, 16th March, 1864.

CONTRACTS.

BARNSLEY LOCAL BOARD of HEALTH. WATER WORKS DEPARTMENT.—CONTRACT No. 3. To CONTRACTORS for RESERVOIRS, &c. The Barnsley Local Board of Health are desirous to receive TENDERS for the formation of a large STORAGE RESERVOIR (of about 30 acres area), to be situate near Ingwerthwaith, about two miles from the Penistone Station on the Manchester, Sheffield, and Lincolnshire Railway, in the West Riding of the county of York, together with Waste Weir, Tunnel, Roads, Filter Beds, and other constructions. Drawings and specifications may be inspected at the Office of Mr. RICHARDSON, Surveyor of the Local Board, St. Mary's place, in Barnsley, and at the Office of Mr HAWKSLEY, Civil Engineer, 30, Great George street, Westminster, on and after the 21st day of MARCH instant, where also bills of quantities and other particulars may be obtained, on payment of two guineas for the same. Tenders must be delivered at my Office on or before MONDAY, the 18th day of APRIL next, but the Local Board do not pledge themselves to accept the lowest or other Tender.
By order, WM. H. PEACOCK, Clerk to the Local Board.
Barnsley, 4th March, 1864.

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at Guildhall, London, on FRIDAY, the 22nd APRIL next, to receive TENDERS for TAKING DOWN and REMOVING the present BRIDGE at Blackfriars, and ERECTING a NEW BRIDGE in lieu thereof. The plans of the said new bridge and specifications of the works to be executed, may be seen, and further particulars be known, upon application at the Office of the Bridge. JOSEPH CUBITT, Esq. No. 37, Great George street, Westminster, on and after MONDAY, the 21st MARCH instant. The Tenders must be sealed up, addressed to the Bridge House Estate Committee, endorsed "Tender for New Bridge at Blackfriars," and left at the Comptroller's Office, Guildhall, London, before TWELVE o'clock on FRIDAY, the 22nd APRIL next, and the parties tendering are requested to be in attendance at Guildhall on that day, at ONE o'clock precisely. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.
Guildhall, March 5, 1864. FERDINAND BRAND, Comptroller.

SECOND DURHAM MILITIA STORES, AT DURHAM.—The Magistrates for the County of Durham are desirous of receiving TENDERS for the completion of the requisite BUILDINGS and WORKS for the proposed STORE ROOMS and QUARTERS of the Second Durham Militia Regiment, intended to be erected on ground in the street of Gilesgate in the city of Durham. The plans, sections, and specifications for these respective works may be inspected, and perused at the Office of WILLIAM CROZIER, Esq. F.R.I.B.A. County Architect, County Courts, Durham, on and after MONDAY next, the 28th instant. Tenders (properly filled up in every particular, and strictly in accordance with the prescribed form, under seal and indorsed, "Tender for proposed Durham Militia Stores") to be sent or delivered to the County Architect not later than THURSDAY, the 14th APRIL next. The Magistrates do not pledge themselves to accept the lowest or any Tender.—By order,
JOHN TIPLADY, Deputy Clerk of the Peace.
5, South Parade, Leeds.
Durham, 23rd March, 1864

TO BUILDERS.—Persons desirous of TENDERING for the EXECUTION of the various Works required in the ERECTION of a hundred-quarter MALT-KILN, for Messrs Tetley & Son, at Leeds, may see the plans and specifications at my Office from MONDAY, the 11th of APRIL, to SATURDAY, the 16th of APRIL. Tenders to be delivered to me not later than TWO o'clock on the day last-named. The lowest or any Tender will not necessarily be accepted. GEORGE CORSON, Architect.
5, South Parade, Leeds.

TO BUILDERS and OTHERS.—TENDERS are invited for the REPAIRS of the STEEPLE of the Parish Church of Goldsborough Surrey. Parties can be obtained on application to the Churchwardens.
JOHN SIMMONDS, } Churchwardens
ROBERT W SHUTTER, }
Goldsborough Surrey, April 1864

SOUTHPORT HOTEL COMPANY (Limited). Parties desirous of CONTRACTING for the WORKS necessary for the ERECTION of the HOTEL, may see the Quantities at the Office of Mr A. D. TURLEY, Architect, 11, Princes street, Manchester, upon the payment of Two Guineas. Will and must be attached to the Tenders the Names of two Sureties, and a Deposit of 5 per cent. Tenders to be sent in sealed, and addressed to the Directors, care of Messrs WADE, Jun. Esq. Secretary, Messrs LEE, WORTHINGTON, SHIPMAN, & SEDDON, Solicitors, Booth street, Manchester, on or before APRIL the 21st. The lowest or any Tender will not necessarily be accepted.

ST. MARTIN'S-IN-THE-FIELDS.—CONTRACT for WATERING the STREETS.—The Vestry will meet on THURSDAY, 21st APRIL, at SEVEN o'clock in the evening, at the Vestry Hall, to receive TENDERS from persons willing to CONTRACT for the SUPPLY of GOOD, steady DRIVERS, HORSES, and proper WATER CARTS, and other requisites, MAKING and CONVEYING the WATER TO, and SPREADING the same over, the streets, squares, roads, and places under the control of the Vestry, for the period of One Year, or for two years certain, as the said Board may determine, from the 1st day of MAY next, at the option of the Vestry. The Vestry will supply water from their waterside pipes, and men to turn the cocks. Sureties for the due performance of the Contract will be required. Forms of Tender may be had on application to Mr. JAMES NEWELL, Mr. J. K. BURTALL, at the Vestry Hall, between the hours of Ten and Twelve, when they may see the draft of the proposed Deed of Covenant to be executed by the Contractor. No Tenders will be received after FOUR o'clock on the day appointed for the meeting of the Vestry. At present the watering is to be done once a week. Tenders to be delivered at the Vestry Hall, on THURSDAY, the 21st of APRIL next, at SEVEN o'clock in the Evening. The successful Contractor will be required to sign the draft Contract at that time.—By order,
J. DANSEREIELD, Vestry Clerk.

[For remainder of Contracts see next Page.

CONTRACTS.

TO CONTRACTORS. — Messrs. TOD & MACGREGOR are prepared to receive TENDERS for the CONSTRUCTION of the WORKS necessary for the FOUNDATIONS, QUAYS, &c. for an HYDRAULIC SLIP DOCK, to be erected at their Dockyard, at Meadowside, on the Clyde. The plans and specifications may be seen, and copies of bill of quantities and orders to visit the ground obtained, at the Offices of Messrs. BELL & MILLER, Civil Engineers, 4, Bothwell-street, Glasgow, on and after MONDAY, the 11th inst. Tenders, sealed, and endorsed "Tender for Slip Dock," to be sent in not later than MONDAY, APRIL 25.

NEW VICARAGE HOUSE. — Persons willing to CONTRACT for the ERECTION of the NEW VICARAGE HOUSE of LLANBADARN-FAWR, near Aberystwyth, may see the plans and specifications on the Black Lion Inn, Llanbadarn-Fawr. Tenders to be sent in to the Rev. JOHN PUGH, Vicar, by the 30th of APRIL. W. BUTTERFIELD, Esq. Architect.

TO BUILDERS and OTHERS. — The Macclesfield Burial Board are desirous of receiving TENDERS for the ERECTION of THREE MORTUARY CHAPELS at the Cemetery. Separate Tenders will be received comprising all the work of the following trades, viz. Carpenter and Joiner, Slater, Plumber and Glazier, Plasterer and Painter. The drawings, specifications, and conditions of contract may be inspected at the Offices of Mr. JAMES STEPHENS, Architect, 18, Cooper-street, Manchester, and Chestergate, Macclesfield, on and after the 7th of APRIL. The quantities have been taken out, and can be had from the Architect on payment of 1*l*. which will be returned on receipt of the Tender. The Tenders must be sent to my Office on or before the 14th of APRIL.
JOHN MAY, Clerk to the Board.
Macclesfield, 30th March, 1864.

CONTRACTS, 1864. — PARISH of ST. MARYLEBONE.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will meet in the BOARD ROOM of the Court House of the said Parish on THURSDAY, the 14th day of APRIL, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the SUPPLY of IRONWORK for SEWERS, for one year, from the 14th day of APRIL, 1864. All Tenders to be signed and delivered at the Court House, Marylebone-lane, before ELEVEN o'clock in the forenoon of the said 14th day of APRIL, 1864. Tenders to be made upon, and strictly in accordance with, the printed Forms of Tender. Further particulars may be known, and Forms of Tender procured, on application to the Vestry's Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court House, from TWELVE to ONE o'clock. The Vestry will require the parties Tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders, and the Vestry do not bind themselves to accept the lowest or any Tender.—By order,
W. R. GREENWELL, Vestry Clerk.
Court house, St. Marylebone.

CONTRACTS, 1864. — PARISH of ST. MARYLEBONE.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will meet in the Board Room of the Court House of the said parish on THURSDAY, the 14th day of APRIL, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the SUPPLY of GRAVEL and HOGGIN for ONE YEAR, from the 14th day of APRIL, 1864. All Tenders to be sealed, and delivered at the Court House, Marylebone-lane, before ELEVEN o'clock in the forenoon of the said 14th day of APRIL, 1864. Tenders to be made upon and strictly in accordance with the printed Forms of Tender. Further particulars may be known, and forms of Tender procured, on application to the Vestry's Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court House, from TWELVE to ONE o'clock. The Vestry will require the parties Tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders, and require the materials to be delivered free of charge at the St. Marylebone Court House, on or before TUESDAY, the 12th day of APRIL, 1864.—By order,
W. R. GREENWELL, Vestry Clerk.
Court House, St. Marylebone.

ABERYSTWYTH NATIONAL SCHOOLS. To BUILDERS.—Persons willing to CONTRACT for the ERECTION of the NATIONAL SCHOOLS at Aberystwyth, for 400 children, may see the plans and specifications on application to the Rev. E. OWEN PHILLIPS, Vicarage, Aberystwyth. Tenders to be sent in, to or before SATURDAY, the 23rd of APRIL, addressed to the Vicar. The Trustees do not pledge themselves to accept the lowest or any other Tender.
March 30, 1864. R. KYRKE PENSON, Architect.

ABERYSTWYTH WELSH CHURCH.—TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of the NEW CHURCH at Aberystwyth, may see the plans and specifications at the Office of HUGH HUGHES, Esq. (Vestry Clerk), North Parade, Aberystwyth. Tenders to be sent in on or before SATURDAY, the 23rd of APRIL. The Building Committee does not pledge itself to accept the lowest or any other Tender.
March 30, 1864. WM. BUTTERFIELD, Esq. Architect.

TO BUILDERS. — Persons desirous of offering TENDERS for the ENLARGEMENT and RE-SEWING of BARNHAM CHURCH, near Bletford, can see the plans and specifications and forms of Tender upon application to the Rev. G. T. NURSE, Barnham, on and after FRIDAY, the 8th inst. Tenders to be sent in under cover to the Architect on TUESDAY morning, the 19th APRIL who will give any further information on the subject that may be required. The Rector and Churchwardens do not bind themselves to accept the lowest or any Tender.
JOHN HENRY HAKEWILL, Architect.
50, Maddox street, London, W.

BOROUGH of BRIGHTON. — To CONTRACTORS and OTHERS.—Notice is hereby given, that the Town Council will receive TENDERS from such person or persons as may be willing to enter into a CONTRACT for the PERFORMANCE of the necessary Works for FORMING the KING'S-ROAD and JUNCTION ROAD, from Spring-street to the western extremity of the Chain Pier, in the said borough, agreeably to drawings, specifications and conditions, which may be inspected on or after MONDAY, the 11th day of APRIL next, at the Office of the Borough Surveyor, Town Hall, Brighton. Sealed Tenders, addressed to the Works' Committee, and indorsed "Tender for Widening Kings-road," must be left at my Office, at the Town Hall, in the said Borough, before FOUR o'clock on THURSDAY, the 28th day of APRIL 1864. The Council do not bind themselves to accept the lowest or any Tender.
DAVID BLACK, Town Clerk.
Town-hall, Brighton, April 6th, 1864.

TO BUILDERS.—Persons wishing to TENDER for the RESTORATION and REFITTING of MIDDLETON CHENEY CHURCH (near Banbury), may see the drawings, specifications, and conditions at the National School room, Middleton Cheney, and any further information may be obtained on application to G. G. SCOTT, Esq. R.A. 20, Spring-gardens, London. The Committee will not bind themselves to accept the lowest or any Tender. The contractor will be required to furnish sufficient security for the due performance of the work. Tenders to be sent to the Rev. W. F. HOCKLEY, Middleton Cheney, on or before FRIDAY, the 22nd instant.

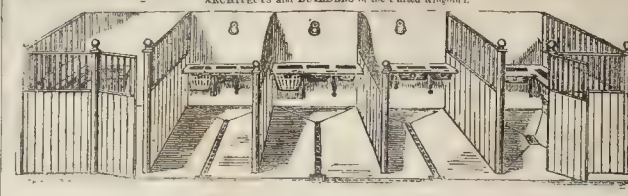
THE BOARD of WORKS for the PLUMSTEAD DISTRICT.—To MASONS, PAVIORS, and OTHERS.—The Board is desirous of receiving TENDERS for LAYING DOWN about 144 feet run of New KERBING and CHANNELLING to the Road and Footpaths in the Lee Park-road, in the Parish of Lee, within the said District; and having prepared Plans, &c. for the same, at or before FIVE o'clock on the afternoon of THURSDAY, the 21st day of APRIL, at the Office of Mr. F. F. THORNE, in Lee-road, Lee, Surrey, where the plans, specifications of said Works may be seen, and all further particulars required can be obtained. The lowest or any Tender will not be necessarily accepted.—By order,
CHARLES AUGUSTIN SMITH, Clerk to the Board.

TO BUILDERS. — Persons desirous of sending TENDERS for the proposed REPAIRS and RESTORATION of WINTON CHURCH, near Bournemouth, may see the plans and specifications at the Parsonage, Pokesdown, Normal, until SATURDAY next, the 9th of APRIL, and after that day at Mr. ROBINSON COOKE'S, the Church Wardens, Holdenhurst, near Holt.
T. JECKYLL, Architect to the Trustees.

BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES.

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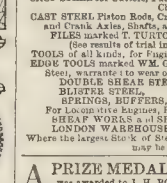
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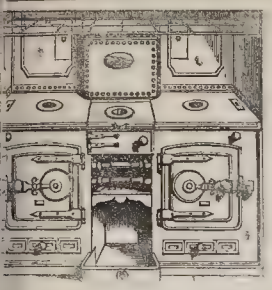
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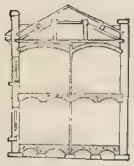
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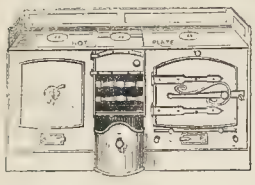
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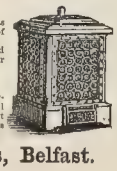
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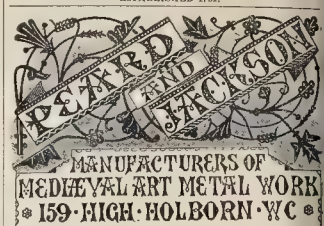
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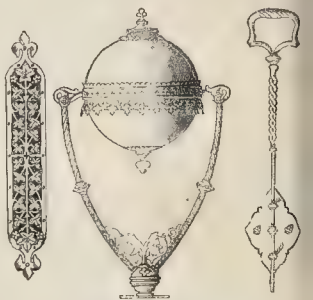
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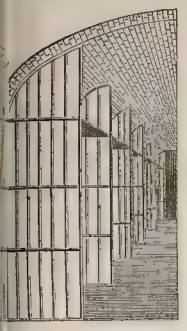


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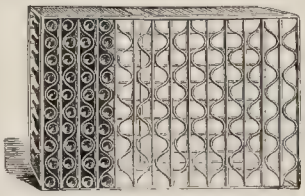
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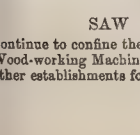
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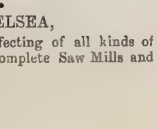




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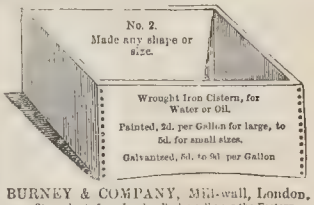
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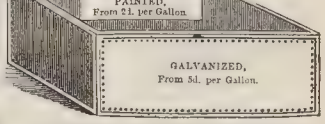
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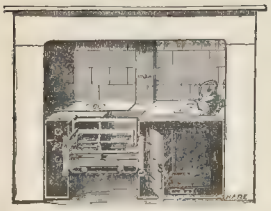
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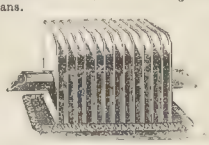


THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



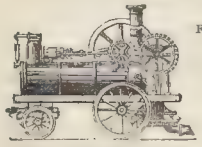
The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit-street, Regent-street.

Particulars and testimonials forwarded on application.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
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FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
No. 73, LIME STREET (late of Lawton Street), LIVERPOOL.



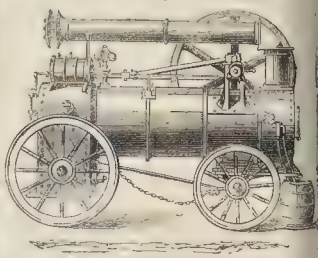
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Wrought-Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
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S. W. & CO. keep a large stock of all sizes up to 2 inches wide, from which they can supply orders to any part of the kingdom within twenty-four hours notice.
For Price Lists, apply to
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SAW MILL ENGINEERS,
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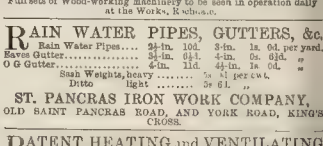
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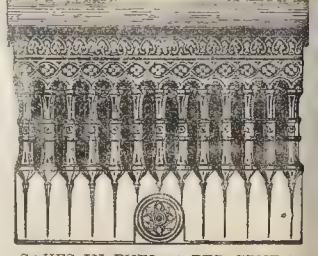
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Rain Water Pipes....	2½-in.	10d.	3-in.	1s.	6d. per yard.
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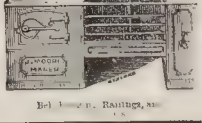


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Opposite J. W. Bird's Marble and Stone Works.
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The advantages attending this Cap are—it can be thoroughly cleaned by the machine when the chimney is swept, the brush being able to pass through the Cap without the liability of misplacing it; an increased up current, and the impossibility of a down one.
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MANUFACTORY:
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THE PATENT UNIVERSAL

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Price in Zinc ... 20s.
Ditto, Kitchen size ... 10s.
Price in Galvanized Iron 25s.
Ditto, Kitchen size ... 12s.

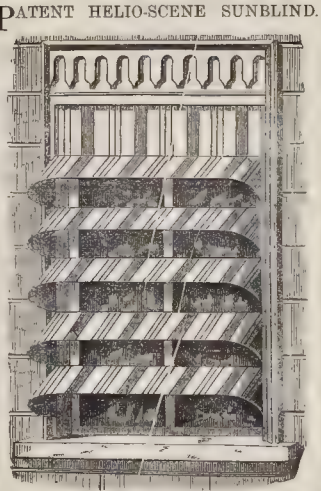
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And to be obtained of all respectable Ironmongers in London and Country.

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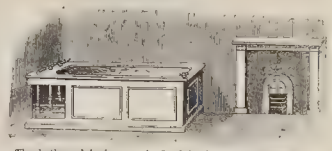
These Blinds give a highly decorative finish to the front of a house, and are fitted in frames of any design, the cases fitting into reveals of windows as other outside blind cases. The prices are the same as Spanish blinds. R. LOWTHER & Co. Manufacturers of ALL DESCRIPTIONS of SUN BLINDS. Works, South Lambeth, and Vauxhall. OFFICES, 31, REGENT STREET, LONDON. A liberal discount to the trade.



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OUTSIDE SUN-SHADE,
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SPRING ROLLER MAKER
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Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
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Worked by Foot Treadles or Steam Power
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Complete Machine	£16
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With Boring Machine	30s. extra.

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MANUFACTURER.—THOMAS FOX, 99, Hatton Garden, E.C. and 381, Charles street, Hatton Garden, E.C. A large assortment of Silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Bent Glass Silvered.
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Beg to call the attention of Architects, Builders, and the public to their
IMPROVED LIGHTNING CONDUCTORS
(SPRATT'S PATENT),
As presenting the MOST EFFECTIVE MEANS of OBTAINING SECURITY from LIGHTNING. They are economical, easily fixed, and APPLICABLE TO ALL BUILDINGS, including Private Houses, Churches, Chimney-Shafts, Dairies, Powder Magazines, &c. &c.
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in great variety, equally low in price.

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AND EXECUTED WITH DISPATCH IN TOWN OR COUNTRY.

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First-class Bed-room ditto, £1 10s.

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HONOURABLE MENTION
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SPECIAL DESIGNS
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SUPPLIED WITHOUT CHARGE.

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Temporary advances will be made on landed estates, and on houses in course of erection, with, or without the deposit of title deeds; and they undertake the purchase of special investments.

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Thomas Brassey, Esq.
Hugh Owen, Esq.

Chairman of the Board of Directors
THOMAS BARNES, Esq., M.P. Peter street, Manchester, and The Queen's Bishop.

Extract from the Directors' Report for 1863.

IN THE FIRE DEPARTMENT

The New Fire Premiums received £21,850 16 8
The Fire Premiums of the year were 20,184 14 0
Two Years' Reserve 13,451 0 6
The excess of Premiums received over Claims . . . 7,283 13 6

IN THE LIFE DEPARTMENT

There were received
834 Proposals for the Assurance of £322,134 6 0
541 Policies were issued, assuring 174,884 0 0
The annual Premiums on which amounted to . . . 5,511 11 11
The Life Premiums for the year amounted to . . . 27,306 1 8
Claims were paid upon
25 Policies, amounting to 6,695 8 0

The year 1863 has been the most successful year in the history of the Company."

Applications for Agencies are invited
ANTHONY BOLTON, Secretary to the Company

FOR CONTRACTORS and RAILWAY COMPANIES.

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The Builder.

VOL. XXII.—No. 1105.

The Evidence on the Bradfield Reservoir Failure.

PERSISTENCE is necessary. In our last article on the failure of the Bradfield reservoir, we promised to return to the evidence adduced at the inquest.

Mr. T. M. Jackson, C.E., Sheffield, was the next witness examined. He said he was chief engineer to the Melbourne Water works, consulting engineer to the Adelaide Waterworks and the Ballarat Waterworks, and first engineer to the Bendigo Waterworks, Australia. "I think," he went on to say, "*the quantity of material in the embankment ample*, and the slope sufficient, but for my own practice should have preferred 3 to 1 on the inside." The length of the embankment at Melbourne is 1,053 yards: it is 30 feet high, width at top 20 feet, width at base 170 feet; inner slope 3 to 1, outer slope 2 to 1, depth of water 25 feet: the inside face of the slope was pitched, 15 inches to 20 inches deep, with an unusual thick puddle wall, clay being plentiful, and the puddle wall was put in 10 feet below the base of the embankment. There are three inlet and two outlet pipes, each of 33 inches diameter: these were fixed in a well tower at the foot of the inner slope. This gentleman has the coolness to say that he thinks the quantity of material in the Bradfield embankment ample, the height being 95 feet with an apex 12 feet in width, and 90 feet head of water, and slopes of less than 2½ to 1. If he thinks so, why did he make the Melbourne embankment 20 feet wide at top, with only 25 feet head of water, when the material of that embankment was good retentive clay, and the Bradfield embankment was formed of loose friable shale and rough stones. "There is something rotten in the State of Denmark." Either the Bradfield embankment is too weak, or the Melbourne too strong, or the laws of statics are different in the different hemispheres.

"There was sufficient puddle, and I think it decidedly good, though for my own practice I should probably have put in a greater proportion of puddle." He does not enlighten us as to the dimensions of the puddle wall of his embankments, but probably he erred on the safe side, as he did with the Melbourne embankment; and as his opinion did not appear to be very decided one way or the other, we may take this sort of evidence for what it is worth. "I should not have formed the embankment in the same way that of Bradfield was formed. I should distinctly prohibit the use of waggons upon a bank, more especially on the inside slope." If it is necessary to make the inside slope solid, it is equally necessary to make the outside solid also, as that assists the inner slope in the support of the hydrostatic pressure: the embankment is intended to support the weight of water, not to be made porous for water to escape through, as appears to be the vague theory of some engineers.

"It is obvious that the layers of earth have been put on in greater thickness than 2 feet. I have seen the Agden embankment, that is now being constructed by finishing one layer before the other is commenced; and if the one at Bradfield had been constructed similarly to Agden, I am quite sure there would be unequal settlement, which is dangerous."

If unequal settlements be dangerous, why recommend the inner slope to be constructed of 2 feet lifts, and the outer slope 3 feet, open and porous? Would not that produce unequal settlements, and the very danger the witness apprehended, and would avoid?

"I think the construction recommended by Mr. Leslie, of Edinburgh, is the best. He restricts the lift to 6 inches, in layers spread evenly over the whole. I also approve of Mr. Leslie's stipulations, that the puddle be carried up, and kept on a level, 6 inches above the adjoining portion of the embankment." These stipulations could not be very well carried out in practice. 6 inches is too little for a lift: it should not be less than a foot, nor more than 3 feet. The puddle is usually carried up in layers of a foot in thickness of clay, &c., at a time. After it is wrought and trodden down, it would probably be reduced to 8 inches or 9 inches in thickness. And it is better that the puddle-wall should be carried up on a level with the embankment as it proceeds, lift by lift, and be well and solidly backed up with the earth forming the embankment.

"In my works at Melbourne, I have had two fractured pipes on each main. They are laid in solid ground up to the edge of the puddle, and, in passing through the puddle, each pipe of each main, which was only 6 feet 6 inches long, was supported on *ashlar pillars*. The fracture of the pipe, I have no doubt, was caused by an unequal settlement of the bank."

This was under a 30-feet bank of good clay. Of course, if no attempt was made to consolidate the bank or puddle, and the outer slope was made open and porous, so as to pass water, we cannot wonder at unequal settlements or fractures in pipes, because the system adopted is the very one to bring about such results.

"I am of opinion that the way in which the embankment at Bradfield was formed, gave a probability of unequal pressure on the pipes, which unequal pressure has caused them to leak." This unequal pressure is occasioned by a soft and unconsolidated puddle, and a loose and porous embankment.

"I consider that on the reservoir at Bradfield being filled, the bank settled, thereby causing a starting or drawing of the pipes." That is the reason why we advocate a solid embankment,—not one that will settle, and in time become solid, but one so made and constructed, lift by lift, as it rises. It would really seem that some engineers attempt to form banks by tipping earth in any way, and in any thickness, without an attempt being made, or time allowed it, to consolidate; and then they feel astonished that the banks fail, and will not hold water. If they went the right way about their work, the result would be different.

When asked by the coroner to account for the failure, he said, "In the first place, I do not think there is any objection to take materials from the valley or to baring the rock: this is more a question of waste of water to the company: no damage could be occasioned thereby to the embankment unless the water percolated under the seat of the embankment." The object of making an embankment for a reservoir there was for the purpose of holding and retaining water, not that it should escape through fissures in the rock, or in any other way: what is the use of going to the expense of such works if large leakages are to take place? What was required was an impervious bed for the reservoir, one that would hold water. If leakages take place the reservoirs are imperfect works, and we do not expect in the present day that such should be constructed.

In Adelaide reservoir there are leakages of rather an extensive character (see *Builder*), and we do not think these matters are to be taken credit for: on the contrary, they rather reflect on the character of the age.

Witness said it would be desirable to have better means of discharging water than by the 18-inch pipes, and he could have designed such outlets by running pipes in a tunnel in the solid, round the end of the embankment, or by a by-wash, as it was when the reservoir was being made.

"There is also another means of averting danger arising from the too rapid influx of the water. In the first instance, the bywash should not be constructed on its ultimate level, but considerably below it, until the reservoir bank has permanently settled and been consolidated. That suggestion is capable of being worked out in a valuable manner, because you may construct a waste weir 40 feet below the bank, and fix a series of sluices in lifts 4 feet or 5 feet above each other, and so ease the bank amazingly." All this evidence is so far good, supposing we are always to have ill-constructed, porous, and unconsolidated embankments: what we contend for is, good substantial work, such as it is possible to attain, and as was the case formerly in our canal works. It is all very well to provide for every possible contingency, and even failures; but it is much more creditable to execute works with an eye to substantiality and durability, and place failures beyond the probability of occurrence.

"Since I was at the Bradfield reservoir on Saturday, that portion of the bank near the weir has fallen [sunk] considerably." This we particularly noticed before in our first article, and that was a satisfactory proof to us of the loose and incohesive character of the earth composing the embankment. That sinking was a settlement of the earth occasioned by the water for the first time filtering in and coming in contact with it; but, being a shallow part, it did not have much effect.

This witness gave at the time rather inconclusive evidence, and assumed, rather irreverently, we think, from his failures at Melbourne and possibly Adelaide, that Telford and other early engineers adopted the same practice, and that the whole profession is at fault. These observations seem uncalled for. Where are the failures in their works? Echo answers, "Where?" Only in the mind's eye of the witness. Their stability and endurance for upwards of half a century attest to the soundness of the principles on which their works are constructed. On the witness retiring, Mr. Gunson was recalled, as there was an impression that he stated that water percolated through the rock he had bared, and came out in the rock in which the puddle-trench had been made. What he intended to convey was, that water which percolated the rock might come out at a considerable distance below the embankment.

He is then examined about the specification. The clauses are:—"That the embankment shall be formed of the most suitable *soil*, slate, clay, or other material, obtained within the reservoir *above* the level at which the water will be drawn off." Again, all the slopes are to be trimmed to 2½ to 1. Again, it says:—"That, after the puddle-trench has been filled to the level of the surface, and the soil stripped off, the formation of the embankment must be commenced at the deepest part, and brought up in horizontal courses of not more than 3 feet in thickness, taking care that the sides are at least 3 feet higher than the middle. Each separate course to be completed throughout before another is commenced. That the whole of the material must be well broken up, and spread in a uniform manner, so as to form a close and compact mass." Mr. Gunson stated these clauses had not been carried out. The slopes are not trimmed so flat as stated, and the lifts are from 3 to 5 feet (said to be 6 feet, at least).

"We are using a similar specification at

Agden reservoir," or rather, we should say, *already it*. He says the specification was intended as a guide, to be departed from or not, as suited the whims or caprices of others. This may, to a certain extent, exonerate the consulting engineer, but it makes the case stronger against the resident engineer. If specifications are to be so readily departed from, and the works, in consequence, fail, as this most likely has done, censure must be looked for.

To avoid such serious evils for the future, a clause ought to be inserted in every specification that no important alterations should be made without the knowledge and consent of the consulting engineer *in writing*.

We must, in justice to Messrs. Leather and Gunson, say that they declared that every precaution had been taken, and everything done that they considered necessary, to produce good and perfect work.

Mr. Gunson said, Mr. Simpson, C.E., of London, who was employed by the mill-owners, saw the Agden reservoir embankment, and was satisfied with it (?). It was stated by the company's solicitor that, in consequence of Mr. Jackson's evidence, "*the points in question relative to the construction of the works are matters of doubt.*" As far as we are concerned, we do not see any points that could be matter of doubt to practical men. The bank failed from being badly designed, improperly constructed, and of improper materials. This is the general opinion of experienced practical men; and who doubts but those who have an interest in doing so. We would recommend in cases of this kind, should they unhappily occur again, that a jury of engineers, specially qualified from a practical knowledge of the particular works to be inquired into, should investigate them, and that matters of such great moment and importance should not be left to the scrutiny of juries as ordinarily composed: they are very useful bodies in their way, but on subjects in which subtle and abstruse points of science arise, rendering skilled and scientific acquirements necessary to arrive at a correct and proper decision, both juries and coroners are too often misled by the plausibility and sophistical argument of expert and learned witnesses, and the consequence is, unsatisfactory, indecisive, and incomprehensible verdicts are sometimes given.

Mr. Rawlinson, the Government Inspector, was the next witness called; and after describing his experience of such works, says, "No waterworks embankment ought to have a line of pipe passing through it, so as to preclude the possibility of examination and repairs." That objection of course may be avoided in some reservoirs; but how would he obviate it at those reservoirs that are embanked all round, or three-banked reservoirs with shelving bottoms? and many exist.

"I know many instances of failures where pipes and culverts are laid through the made embankment." And we know many instances of success, both in England and Scotland; the pipes at Bradfield were not laid through the made embankment, but in a trench cut into the solid earth, 9 or 10 feet below the seat of the embankment.

"When I have laid pipes through puddle, under small heads of water, I have found it necessary to fix in 'washers' to prevent the water creeping along the pipes;" and we have found no such expedient necessary in good retentive strata, with good clay puddle, and workmanship. These are only the means to alleviate or tamper with the disease, not to strike at the root and eradicate it. He then disapproves of the system adopted in laying the pipes. He expected to learn that the course of the puddle trench had been provided for, so as to give the same bearing to the pipes uniformly, as in the solid ground; and he was surprised to find that 200 feet or more were laid in puddle from 18 inches to 30 feet deep, where the greatest possible weight was, under the apex of the embankment, which would be brought to bear upon them. If, as we before stated, puddle be well made and of good material, it can be made more incompressible than solid clay; and if well backed up and rammed with good solid earth, no weight of embankment would disturb it. He observes further, "that embankments frequently sink on railways, from the superincumbent weight on the compressible substratum;" but we seldom find that the case in districts where strong tenacious clays or rocky shales prevail.

"He had been told that the material of which the embankment is formed on either side the puddle trench is not watertight; the inference is, the water would find its way to the puddle wall itself and search out, under the accumulated head, the weakest part. As the water rose foot by foot in the reservoir, it narrowed the space between the water and the puddle 2½ feet each foot; the upper half of the bank not being made of watertight material, but containing a large proportion of rubble stones (some of them measure 4 feet by 2 feet 6 inches, by 9 inches, inside the bank); therefore, as the water rose, it would percolate to the puddle, gradually creep down the face, and find out the weakest point. That this was so, is evidenced by the description given of the breaking down at first of the top part of the bank." This theory harmonises with our own; but the esteemed Inspector, we think, is too chary of giving his opinion about the strength of the embankment, as we think that an important element in bringing about the failure.

"He had been told that this reservoir embankment was made exactly like the Agden one is being made. Having seen that embankment, the mode of tipping the waggons, and the kind of material tipped, he had no hesitation in saying that the substance of that bank is as *porous as a sieve*." Again, he says, "The specification states the tips (or lifts) are not to exceed three feet in thickness. The present lifts at Agden are double that thickness; and in the method of working, the large stones roll to the bottom and form a rubble embankment, in open and porous layers."

These remarks perfectly agree with our observations: we believe we were the first to bring this subject to the notice of the public, and we cannot refrain from expressing our astonishment that in this, the nineteenth century, in one of the centres of industry, abounding with practical workers of all kinds, and shrewd and able thinkers, this blot, this anomaly, should occur. Why, nine-tenths of those unscientific, untrained, uneducated eyes, that saw the embankment after the accident, said, "it was never likely to stand." Why was not a little of this sterling common sense brought to bear upon the work in question during its operation.

"I hold that it was most objectionable to take the material to form the embankment from within the reservoir, unless trial shafts had shown the strata to be watertight;" but this, it appears is contrary to the specification; and what they could expect in stripping the rock we cannot imagine, unless they had been trying to make a leaky reservoir. In a specification lying before us, by an old engineer, it is stated, "When the bottom and sides of the cutting shall be sand, or other material that is not watertight, a puddle of three feet in thickness shall be laid over the whole surface thereof, and thoroughly connected with the natural watertight ground."

"I have examined the by-wash, and I do not think this is adequate to safely carry away the flow of water into the reservoir; I would have made a much larger one." That we have already clearly shown to be necessary: the rainfall on those hilly gathering grounds is at times exceedingly heavy. On the 8th August, 1856, 3·12 inches fell in one day, producing on the gathering-ground nearly 49,000,000 cubic feet; and if only two-thirds of that was collected, it would yield 32,466,720 cubic feet, which would take the present weir and pipes upwards of seven hours to discharge: the water might possibly accumulate in half that period; and what is to become of the excess? Mr. Rawlinson thinks it is a fatal objection not to provide means to shut off the water inside the reservoir, as is generally adopted, and expressed great surprise that the by-wash made to facilitate the execution of the work was destroyed.

When asked to account for the accident, he says, there may be a dozen causes which may have led to it,—"the fracture of a pipe, a blown or drawn joint, a pressing down of the pipe in the puddle-trench, or a washing away of the outer slope (the landslip), a creep along the pipes or through the springs in the stratum." His opinion is, that it was a fatal mistake to lay 200 feet of piping in an artificially-formed compressible material. The rough stones should have been left out of the mass of the embankment nearest the puddles; the layers of 3 feet were far too thick for an embankment of that character; and he agrees with Mr. Leslie as to the use of 6-inch layers, and that no waggons should be used in the embankment. Many of these suggestions are mere matters of opinion: some would have been obviated by perfect work, and we think lifts so shallow as 6 inches would be difficult to carry out: this is rushing to the other extreme.

In cross examination, he said, "You might never have heard of this accident if the internal portion of the bank had been impervious to water, and could have kept the water from the puddle-trench. It is quite clear that, up to a certain height, the embankment was safe. It stood with 50 feet of water from June till recently, therefore something afterwards occurred, when the water rose which altered all the conditions, the water feeling its way through the puddle, and working its way out." It is strange that the latter fact was only extracted after the evidence in chief,—absolutely drawn out, while we consider this one of the chief causes of the failure, a weakly-designed and insufficiently-made embankment, one that was as open and "*porous as a sieve.*"

If the embankment was constituted as described, why need we search for or adduce other causes for the accident? That alone is sufficient of itself to produce it, plain and palpable to even ordinary observers. Mr. Rawlinson was evidently swayed by the different theories set up, and, perhaps, a little by "fellow feeling," or professional etiquette; and he did not appear to be invested with sufficient authority. Even now a thorough examination of the embankment and pipes might be made, and the mystery, if any, at once cleared up.

In a matter of this nature, it is very unsatisfactory to the country, that after this awful sacrifice of human life, the primary cause of this accident has not been discovered, whether occasioned by defective works, or faults over which there was no human control; but we trust it will not be allowed to rest here; a thorough and searching examination is called for, both in the interest of the public at large, and for the benefit of engineering science in particular. Mr. N. Beardmore, who was sent by the Secretary of State to assist Mr. Rawlinson, was the next witness called. He says, "I think the Agden embankment is not being built in a sufficiently secure manner that a work of that kind requires. Such a work should be largely secured against the remotest contingency of accident;" and he thinks, alluding to the cause of accident, it would be difficult to discover the difference between cause and effect. This gentleman is the compiler of certain hydraulic tables, &c., treating of the properties and strength of materials, but he gives us no calculation of the pressure of water on that embankment, or the strength and resisting properties of the bank itself, nor does he give any opinion about it, so that it must be inferred that he considered the bank strong enough. Mr. Rawlinson also expressed no opinion on that point, but *Mr. Jackson said the strength was ample.*

"My impression is, the puddle is excellent workmanship." In that opinion we do not agree: it does not accord with our own experience, nor that of most practical men who have seen it. Indeed it does not appear there is good clay for such a purpose to be had in the neighbourhood (clays such as we have near London, Oxford, Leicester, Birmingham, Cheshire, &c., good argillaceous material that would hold and retain water); but there appears plenty of shale,—a term adopted by geologists to express an indurated shaley clay. It is stiff and moulders into powder in water, while good clay is insoluble in water: such material can never make a good puddle. But we should like to have a fair sample of the puddle analyzed, and to see what its component parts are. It would not certainly do to make bricks of, or it would have been turned to profitable account long ago.

"To my mind, the most natural conclusion is, that the pipes led the water to do the mischief. Telford, the great engineer, never, I believe, put pipes through the embankment of a dam." If the pipes are laid as described by Messrs. Leather and Gunson, the failure could not arise from the cause stated; and, as to the latter remark, we may state without fear of contradiction that that was Telford's practice, as appears by the section of the dam-head of the Rotten Park Reservoir, near Birmingham, as published in his work. This reservoir is about 80 acres in extent, and its dimensions we have given in a previous number.

If Telford could accomplish such works with the knowledge and experience of his day, surely it reflects strongly upon us, in our era of boasted advancement and intelligence, that our works fail under similar circumstances; but it perhaps may be accounted for by the fact that at the present time we theorize too much, and that

practical detail does not form the groundwork of an engineer's education, as in the olden time of our Brinsleys, Rennies, and Telfords.

THE ARCHITECTURAL EXHIBITION.

It is becoming necessary that original promoters of the Architectural Exhibition, or those by whose arduous exertions it was provided with a home, should consider whether the present position of the institution is exactly what they can be satisfied with. This much is certain, that the proportion of merit to exhibited works of the especially desired class, has not been increasing during the last few years; whilst if we may judge from the attendance on Tuesday evening, when the opening *conversazione* took place, the Exhibition does not attract so many of the heads of the profession as previously, or a class to whom (as something more and higher than professional interests would counsel) our art should be addressed, and by whom it should be an object in demand.

The *conversazione*, or private view, of the Architectural Exhibition in former years was both an agreeable meeting-place of friends, and an occasion likely to attract persons not of the profession. On Tuesday evening, however, which certainly was wet, some of those who had watched the struggles that led to a benefit conferred upon all the Societies at present under the roof in Conduit-street, were heard to regret that neither exhibition nor *conversazione* were equal to what they had been on the opening of the present galleries.

Without effort, both to keep up an institution, and to make it pass the previous mark, it is sure to be in danger of extinction, if only from contrast between the external advancement accrued, which it professes to represent, and the manner of the representation.

We have perhaps been heretofore too sanguine in expecting that the Exhibition should in a great degree represent the contemporary practice of architecture. It is worthy of remark that a much more extensive and comprehensive exhibition of art, than any that we have in England,—that which takes place in Paris,—is more, and much more, than ours, in contrast, as to architecture, with the French art as exhibited in buildings. But French architects seem to publish everything, or to procure the publication of their works, as in books of engravings: the result is that the profession is before the French people; a large section of the public, interested in art, is formed, or assisted in the formation; names in the profession get known, and works become the means of mutual education to architects, and general advancement. We have no substitute for these agencies: for, exhibitions of competition drawings must be very differently managed from what they are now, before their part of the competition system will effect the good that it in particular might.

Moreover, it is admitted by us, and indeed directly urged, that the proper subject-matter for the architect,—his real work,—is not an exhibition drawing, but the building. We have seen so many apparent evidences of a power of design helped by the practice of perspective-drawing, and use of the brush, that we could not be prepared to treat them as non-essentials; yet, it is very remarkable in the French architecture, as it has been previously in the course of progress of our art, how much work of the highest class is produceable without those aids to representation.

This we are satisfied about, that the system of representation of buildings, which is persevered in to a great extent in Conduit-street, and spite of all efforts to counteract it, is even an absurdity. A drawing in perspective is a view taken from a single point. The point may have been rightly selected; perspective, as of an interior, may be supposed to give the impression exactly as it is realized by the observer,—which *perspective* cannot: but the view is still but one; whilst the actual impression conveyed, just as in the case of an isolated statue, is realized by a multitude of observations. Whatever be given, therefore, plan and section should, as we have been repeating for years, be never omitted. The profession does not want the public to be interested in the perspective *drawing* mainly, and much less in the pretty colouring, but in the thing itself; and if it does not want the public to make the mistake, it does not itself want to be interested that way, excepting the same as by any relaxation, a good novel, or the play.

The system of representation thus being, as there is reason to suppose, erroneous to a great degree, besides impolitic in one sense, we come to this further and evident objection, that it is this chiefly that prevents the exhibition of drawings by the architects who are most engaged in actual work of art in building.

Looking at the question in all lights, we think it is now for the original promoters, and the whole profession, to consider whether an exhibition of drawings, and the galleries in Conduit-street, may not be made the means of greater help to progress in our art, than they have been of late years. In the room devoted to competition drawings, one author of a design will exhibit his plan; and the author of the next design will have no plan; whilst, not the slightest information is afforded us, in the catalogue or on the walls, of the nature of ground, and generally of the problem in the case. Mr. T. C. Sorby is almost alone as an exhibitor who has got up the representation of his design in something like the manner to afford complete knowledge of it. Plan might have nothing to do with architectural design and effect, following the idea that exhibitors seek to give the public of it.

The members of the present committee seem to have been in office many years. We know that some of them gave much time in hanging the drawings, in early years; and that one or two of them gave some time that was very valuable to them this year. But we are inclined to ask whether there are any meetings, and whether between one another they occasionally discuss the position of the undertaking over which they are supposed to preside. If even such drawings as the Pugin collection of a recent year, or such works as those of the Society of Sculptors (some of which this year are admirable) are required, the Architectural Exhibition, such as it was originally designed, will not be a permanent institution. A dozen architects out of those who are in practice, might, with little more than tracings of their working drawings, make up a much more valuable exhibition than that which is open at this moment; but architects will often prefer to send nothing, to being at the trouble of getting up elaborately coloured drawings. Exertions have been made to get this view of the matter understood: they must be continued with increased energy, and partly by members of the committee setting example themselves. The whole question should be at once discussed, and effort made towards a good exhibition for next year. The compilation, and indeed printing and appearance, of the catalogue, should be much improved, as we have often recommended: improvement of the ornamental details of the galleries should be considered, even should the result be to only displace the plasterer's trusses and some of the ill-proportioned and common-place ornament; and on great occasions, the galleries should be at least comfortable and clean.

We have written strongly, because of our desire to aid the committee in rendering the exhibition what it should be.

At the *conversazione* Mr. Digby Wyatt took the chair, in the course of the evening, and addressed the meeting briefly; Mr. Godwin and Mr. E. B. Lamb, on invitation, following him.

It should not be supposed that the present exhibition does not well deserve to be visited; and the 2s. 6d. season-ticket as usual includes admission to six lectures, all of which promise to be interesting and useful. Professor Donaldson will deliver the first.

There are 399 numbers in the section of the catalogue devoted to drawings. Of these, about 110 are attached to competition drawings; whilst 61 belong to "Sketches contributed to the Class of Design of the Architectural Association during the sessions 1862-63," four to models, and some other numbers to drawings and specimens of decorative works. One side of a screen is covered with the set of photographs issued for 1863, by the Architectural Photographic Association. Many of the designs, and drawings of executed buildings, have been exhibited before,—which we mention as a fact, not as itself a reproach. There are some drawings of old buildings by the Rev. J. L. Petit (117, 279, 282), Mr. R. P. Spiers (102, his St. Stephen's, Walbrook, Royal Academy Drawing, for which the silver medal and books were awarded), Mr. E. I'Anson (137, the Cathedral of Basle, &c.), and others. One of Mr. I'Anson's drawings (192) shows the "Ancient Painted Altar Piece A.D. 1636—Dutch Church, Austin Friars." This altar-piece, though by no means what should be imitated, was a specimen so interesting historically, that we are glad a drawing of it has been preserved. The altar-piece represented an interior somewhat like one of the perspectives of Peter Neffs; panels closed the end of the view; and upon these the commandments were painted. Eight careful drawings (319 to 326) of architectural remains at Baalbec, Cairo, Palermo, Agrigentum, Pompeii, Pæstum, and Gerasa, are exhibited by Mr. T. Wells. Dr. Dresser has some capital studies in ornament (307 to 313) chiefly conventionalized from floral and foliated types, and never departing from the flatness suited to mural decorations; and Mr. A. B. Donaldson has (315 and 317a) two sketches (or rather they should be called drawings; as they are carefully coloured and thoughtfully designed) of parts "of a procession intended to occupy a space under the clerestory in the nave of a church." With this class of works may be named the two drawings (115 and 118) of "Mosaic Pavement from Edward the Confessor's Chapel, Westminster Abbey."

Very nearly all the designs in the West Gallery, and some which are in the Great Gallery, relate to various competitions,—as those for Liverpool Exchange, the Albert Memorial, the West London Union Workhouse; St. John's Church, Carlisle; the Wedgwood Memorial Institute; Manchester Cemetery; the "Holborn Valley" Improvement; the German Evangelical Church, Islington; the Amicable Society's Schools, Scarbro'; New Blackfriars Bridge; Congleton Town Hall; and Freemasons' Hall and Tavern. Connected with the Liverpool case, there are selections of drawings from about fifteen of the sets of designs.

Perhaps the most striking drawings in the Great Gallery, are those by Mr. Spiers. One of them has been already mentioned. The others include the "Design for the Vestibule and Staircase of a Royal Palace," in three drawings (289 to 291), "for which the Gold Medal, Scholarship and Books, were awarded by the Royal Academy," a grand composition, and exceedingly well drawn, and the "Design for a Sculpture Gallery, for which the President's Prize and a Medal of Merit were awarded by the Institute of British Architects" (293, 294). Mr. Spiers has turned his studies in the *atelier* of Questel, and in the *concours* of the École des Beaux Arts, to the best account. Those who think that brilliant colouring is necessary to exhibition-drawings, should refer to the view of the staircase. It is more in accordance with the system originally required of students in the Royal Academy, than the present system of the Architectural Room, which the late Professor, Cockerell, so often spoke against. In the section of the Sculpture Gallery, colour was required to explain the decoration. Mr. Marrable's showy drawings at the opposite end of the room, the "Staircase, Garrick Club" (200) and "Board-room, Metropolitan Board of Works" (200a), contrast in every way with the works last named; but alluding to the difference in ornament on walls and ceilings, it must be recollected that the designs were made with reference to execution. The remark that there is such difference between the cases, may seem commonplace: but there is a very large and difficult subject yet to be treated and expounded, connected with the sort of difference of results and the reasons for it. We cannot say that there is much original art in these works by Mr. Marrable, or why there should be so little. In another drawing (199) the same architect shows the exterior of the Garrick Club, which will have (or in the building, has) a cornice, and decoration to the windows, of Italian character, in cement. Also by Mr. Marrable is the "Church of St. Mary Magdalen, Warriour-square, Hastings" (218 and 222, an exterior and an interior view).

Church architecture continues to afford distressingly little in the shape of new thought. Mr. E. G. Paley's "Churches recently built in Lancashire" (271) appear just what might have been erected in the thirteenth century; or they have only the negative merit of not falling into those eccentricities of colour and form which, when originality is sought now, are too often accepted in lieu of a better kind of invention and true taste. Mr. Bland, of Birmingham, seems in some of his works to have copied Mr. Street's details as well as his style of drawing. He exhibits "Design for Enlargement of Cheltenham Church" (110); "Proposed New Church, Stroud" (132); "Interior View of Church about to be erected at Acock's Green, near Birmingham" (242); "Interior View of Wesleyan Chapel, now erecting at Leeds, near Birmingham" (261); and an "Interior of Proposed New Church, Stroud" (280). Mr. Street himself exhibits a view of the exterior (147) and one of the interior

(154), of the proposed Church of St. Mary, Clifton, Bristol, each drawing being by Mr. R. Norman Shaw. The design is remarkable for a feature which is either original, or has not to our knowledge been introduced in recent churches. The aisles (of the choir, if we recollect rightly) are narrow and low; and each bay is arched over from the piers (which are massive) and from lintels, and is covered externally by a saddle-backed and coped roof between buttresses boldly projecting from the clerestory or main walls. The roofs of course show as gables; but the gable has an arch beneath, and windows. Let us hope that out of such attempts, may at last be realized what we certainly have not got yet, a style of church-architecture creditable to ourselves, as of our time. The tower in Mr. Street's design is plain octagonal except as to a portion of its height; and the spire is of course of the same form. More invention is occasionally shown in the Gothic designs for churches for the Protestant communities of foreign countries, than in those for our own country, or than was shown in the earlier nineteenth century churches planned for the colonies. There is much that is thus commendable in the "Proposed English Chapel at Amoy" (172), by Mr. P. B. Hayward. The roof, which is thatched with reeds, has wide, over-hanging eaves, carried by timber arches springing from the weatherings of the buttresses. In a corner of the west gallery is a "View of proposed Church at Cairo" (9), by Mr. C. H. Cooke. The whole building here, as shown in a plan, is surrounded by a cloister or ambulatory, for protection from the extremes of temperature. The chancel is apsidal; and the tower, rising from the ground at the south, is joined to the cloister by a short corridor. In decorative character, the design seems to be a happy combination of the English Gothic with local characteristics of style, including the use of coloured materials in horizontal bands. A plan also is attached to Mr. Joseph Clarke's "Interior of Chapel, House of Charity, Soho, showing a Portion of the proposed Decorations" (149). The plan, with other illustrations of the design, appeared some time ago in our pages. The site being nearly square, the aisles were arranged by as it were prolonging the space of each of the two bays of each side of the nave, transept-wise, and terminating each such bay by an apse, corresponding with that to the chancel. The nave by this arrangement does not exceed usual width. The aisles or chapels are enclosed by screens in metal-work. The painted decorations, archaic and partly symbolic, are not of the character of art that should be practised at this day, or that would be even understood by those to whom the paintings would be addressed. There is still much room for discussion about the subjects to be introduced in churches, in the painted decoration, and about the positions which should be occupied; but if paintings are to be so prominent as when they are of large size and occupy the east end, or space above the chancel arch, they should at least excite feelings of devotion, and not rather the opposite feelings produced by the grotesque. The "Baptistery: St. Francis of Assisi, Notting Hill; designed in May, 1861" (145), by Mr. J. F. Bentley, displays much elaborate work in coloured marbles, or other material,—the decoration resembling in some respects Mr. Butterfield's work in the church in Margaret-street, and in the chapel of Baliol College, Oxford.

Messrs. Newman & Billing are erecting a church at Deptford (127), Christ Church, which has a square tower with saddle-back roof, a roof in one span over nave and aisles, bands of coloured material; and windows carried up, some of them only, under gablets. Messrs. Banks & Barry exhibit (266) "Proposed Free Church, about to be erected for the Plaistow and Victoria Dock Mission," and (275) a "View of the Interior" of the same church. The tower has a slated spire; and the angles are terminated by square turrets, pierced, or as "tabernacles," capped by slated spirelets. Mr. Lamb's drawings include one (124) of "St. Martin's District Church and Parsonage House, about to be erected at Haverstock Hill," an Interior (260) of the same building; "A Study" (258) of a Church for London, and another (259) of an Interior; and a "Sketch for Stoke Mandeville Church, Bucks," (262). Mr. Lamb is evidently trying to aid in working out the problem of seating a large congregation without the use of obstructing piers. In one of his interiors, where there are transepts which appear to be of considerable width, and there are no aisles to the nave, the timber roof at the cross is partly carried directly on four stone piers, or without arches. These piers are in line with the walls of the nave, and at short distance from the transept-walls. The Haverstock Hill Church will have a square tower on bold arches, there being a carriage-way through. There is suggestive treatment of the clustered wall shafts, or pilasters, of red brick with stone capitals, to the western arch of Cold Hanworth Church, Lincolnshire, of which an interior view (202) is shown by Mr. John Crofts. These are all the drawings of churches that we have noted, excepting Mr. J. P. Jones's "Church and Proposed Buildings for the Brotherhood of Franciscans, West of England—Tower to be erected as a Memorial" (171), stone with red brick; and some good views in lithography by Mr. J. D. Wyatt (7, 155, and 203). Two of them represent works by Mr. G. G. Scott.

Looking, before conclusion of the present notice, at another class of subjects, we find a frame containing some of Mr. Truefitt's works (161 to 165) as usual prominent. They include "The Bell Inn, lately erected at Kilburn;" a "Warehouse, lately erected at Worcester;" and houses at Wimbledon, Potter's Bar, and Tufnell Park. The first-named work is a capital specimen of treatment of the subject, a common road-side inn. There is little effect from decoration, but much from the simple arrangement of the projections on plan, and from the grouping of the roofs of the centre and wings, the latter carried up a story higher than the centre. Most of Mr. Truefitt's designs, however, are lessons as to effect obtainable without ornament, and of the utilization of the Gothic without copyism of it, or without the introduction of things which are of old usage, rather than accordant with modern habits. Service has already been done, at least in suburban architecture, on the one hand, by abandonment of stucco, so far as this has taken place; and on the other, by that of stone mullions, whilst preserving the gable; and there may be some reason to hope that there will be good results in future art. Whether the future of the architecture of towns themselves is equally promising, or whether the art there could be helped by the same manner of building, might admit of much discussion.

ARCHITECTURE IN FRANCE.*

MEDIÆVAL TO RENAISSANCE.

A HISTORY of architecture in France is no light matter to give to this audience. Its leading features, and very much of its details, have been already most admirably set forth by such writers as Petit, Freeman, Fergusson, Scott, and others of our own country; and by De Caumont, Viollet-le-Duc, Verneilh, and other French authors; and there are few, perhaps, of my audience who do not well know not only those works, but the examples themselves, from personal study in France.

Much, therefore, that one would ordinarily dwell upon would be a mere waste of time here, and I trust, therefore, that I shall be excused in speaking to a greater extent than I usually do of these particulars, which have struck me the most forcibly in my own French studies.

Now, to begin with, I must ask you to call to mind the well-known fact that France never did, from the earliest to the latest of the Mediæval times, exist as an architectual whole. We find great local peculiarities in England, between even the different counties. Extend the studies to the sister kingdoms of Ireland and Scotland, and the peculiarities are seen still more strongly. But Mediæval France was broken up into various schools of art in a much more determined way. It was never, except in a few rare instances, one kingdom at all, politically,—not subject to one ruler, -not obeying the same laws.

Clovis found at his accession that his southern boundary was the Loire. He passed that, and pushed his confines on to the Garonne, and even beyond. Burgundy was added by his son. Charles Martel did nearly the same; so did Pepin; and so, after him, did the still more renowned Charlemagne, who ruled at his death what no French ruler, except Napoleon, ever did before or since, *all* France, with a great part of Italy, Spain, and Germany. But after these great monarchs, France was dismembered by their several sons; Italy, Spain, and Germany were eventually lost; and Mediæval France, such as her kings ruled in the twelfth century, really comprised only what was left of the kingdom when Brittany, Normandy, Burgundy, and all else to the east of the Rhone and south of the Loire were cut off.

And we must remember that this was not merely so in name: that these provinces, owning the French king as their feudal chief, were not really his vassals. These provinces were, *de facto*, distinct kingdoms, allied with their feudal chief when it suited their purpose, and allied equally often, for the same reason, with his enemies; and the counts of Brittany, Normandy, Burgundy, and Aquitaine, warring as often against the king as for him, and thus keeping up the national feeling of their several provinces in opposition to a united France, drew strongly a line of boundary to each for art as well as for war.

It was not till Philip Augustus and St. Louis (1226—1243), at the beginning of the thirteenth century, that the King of France was really the ruler of the greater part of it, as we now know it; and even after them France had to go through the fiery ordeal of our Edward and Henry, and saw Brittany, Normandy, Burgundy, and Guienne still and again defy him. Then, again, in England, ours was the architecture, mainly, of one race. The Roman work was well-nigh destroyed before our architecture, as we find it, arose; and exercised no influence whatever upon it. But in France, the Roman work remained bodily before the eyes of the Mediævalists. Even now, you enter Rheims, or Autun, or Bordeaux, by or near the old Roman gateway; you may still see bull-fights in the amphitheatre at Nismes, and may worship the arts there in the temple where the Roman bowed down to his gods. In fact, the Romans themselves, like their architecture, seem never to have quite died out, but to have amalgamated, in the south especially, with the conquering races. Many proofs of this will be found, directly stated, in history. Then, again, there came down streams of emigration from the Rhine and down the Rhone, the Rhenish arts and architecture coming down with the streams, as we English carry them to our colonies. Then, again, there came up from the sea, through the southern ports, whatever the Venetians could bring from Byzantine Venice, and whatever the Easterns could send from Saracenic Syria and the Nile; not mere goods and merchandise, but arts and the men who practised them, and who formed goodly colonies at Marseilles, and Narbonne, and Limoges, much as we English do now wherever the doing is worth it. Then, too, in the north, were the Normans working art in their own province, Normandy, their own peculiar style,—the only one, so far as I know, of Mediæval times clearly belonging to the name, and to be traced wherever the Normans went, in their own land, in England, in Sicily, distinctly, to them and to no one else. So that, with all these facts together, we may well hesitate at tracing French history in a part of an hour or so.

Yet I willingly have dwelt, at some little length, upon this beginning, because it really forms the basis upon which all knowledge of such history must be founded; and because, too, it shows how little an architect can expect really to know, if he venture beyond mere bricks and mortar, without being well grounded in history. Not only the history of France but, we must know something of what was practised at the time in Germany, Venice, Constantinople, and the East, before we can enter very deeply into the matter. Without, however, detaining you more as to this, I may state broadly, as an introduction to French architecture, that between architecture as practised by the Romans and as revived in France, in later times, there was a clear, deep gap of some six centuries. For the latest time assigned to any Roman work of note is the third century, whereas the earliest Mediæval work that we know of, as worth caring for, bears date about the tenth. That is a long stride, that same six centuries; Goths, Franks, Saracens, had overrun the country then; Charlemagne, the great emperor, had ruled and died, and his enormous kingdom had been scattered to the winds; and, as we come upon France at the awakening of art in the tenth century, we find its king governing no more than one of its large provinces.

Now in all this great space of 600 years there is scarcely anything, from one end of France to the other, of importance enough to have attained celebrity.

A few remains of some little interest may, indeed, be cited, and they are scattered widely

* By Mr. T. Hayter Lewis, read at the meeting of the Architectural Association, April 1st.

over the country, from the Basse Œuvre at Beauvais, in Picardy, to St. Jean, at Poitiers, and Coustonges, in the Pyrenees.* But the dates of these buildings are very doubtful, and the remains too scanty for successful theorizing, and all that we know beyond the Roman character of the detail is, that the nave and aisle arrangement with clerestory above was clearly, though rudely, even then in use; so, too, apparently was the dome; and that the masonry most in use was that of small stones, carefully bonded, and often arched with courses of Roman tiles.

It will assist us in our estimate of the arts in France at that time, if we call to mind that in England we had Brixworth, Wearmouth, and Jarrow; that in Germany there were Aix la Chapelle, and the portico of Lorsch; in Italy, St. Vitale, St. Prassede, and one, at least, of the fine brick towers; and at Constantinople, St. Sophia's. So that our art then in France was sadly in arrear, and that is about the sum total of our knowledge both of the character of existing works and of their dates. We get in the tenth century on somewhat surer ground, for we have then, as examples, Tournus, St. Etienne, at Nevers, the Abbey of L'Ainay at Lyons, and Note Dame de la Couture at Mans.

As to the latter, however, I have very strong doubts, and as the presumed age of the oldest part is almost the end of the tenth century, we may, I think, safely refer the building, generally, to a later date, and so remove it from our present consideration. The rest of these churches are more particularly within reach of German influences. At Lyons there is the dome, together with a singular arrangement of sculpture over the aisle columns; and at Tournus an almost unique example of vaults, arranged cross-ways, over the nave. This occurs in several places to the aisles, but I remember no other to nave. St. Etienne, at Vignory, I have not seen, but Viollet-le-Duc assigns it to the tenth century. There is, however, a very good monograph of it in the Institute Library, by M. Girault de Prangey, who gives good reason for supposing that the church is not earlier than the beginning of the eleventh century. Even at this date, however, we have the first, so far as I am aware, of the chevet arrangement, and without any trace of its being copied, to my knowledge, from any existing building.

The main works of similar date in Italy are parts of S. Ciriacco Ancona (a cross church) S. Fosca, in Torcello (also a domed church), and S. Ambrogio, at Milan; whilst in Germany there is little beyond parts of S. Pantaleone, at Cologne, and, perhaps, parts of Mayence. I say *perhaps*, for when we come to investigate these early-dated buildings—to go through the history of their repeated rebuildings and reconstructions, we become painfully aware that nothing but an examination, stone by stone, on the spot, such as Professor Willis and others have given to our own buildings, can, with certainty, clear up their history.

We may, however, so far as our knowledge goes, take it for granted that the beautiful arrangement of apsidal chapels appears in its earliest example in the north-east of France at the end of the tenth century, or beginning of the eleventh.

The interest increases with the next century. In the tenth century nearly all the examples were drawn from the countries near the Rhone: but in the eleventh we must trace the awakening of our art in nearly every part of France, and can find noteworthy examples everywhere.

In Picardy and Normandy we have Roscherville, Jumièges, the abbeys of Caen, St. Lo, and others, all bearing strong signs of their Norman parentage, and being, in fact, more Norman than French, if we may so distinguish the parentage.

In Brittany there is comparatively little worth notice clearly identified with the eleventh century; and one is surprised to find that the same must be said of that tract of country so rich in memorials of the two next centuries, French Flanders and the Isle of France. Champagne, Burgundy, Lorraine, and Alsace contain little more than Langres—a very large and interesting church with details clearly copied from classic remains (a good sketch of it is given by De Caumont)—S. Remi, at Rheims, which clearly shows a German feeling, and Notre Dame de la Couture at Mans, which shows the most northern, to my knowledge, of the Angiovine churches without aisles. But get down farther south and we have a most interesting series gradually appearing. We have in Anjou, Poitou, and the neighbourhood, Loches, Saumur, Villandry, that most interesting example, St. Hilaire, in Poitiers, and others.

Here we have clearly, so far as we can judge, in the eleventh century, the grand arrangement which we find in many of the old basilican churches, of the eastern end raised high above the western part. One finds too, in nearly all, the barrel vault, carried on great square sectioned ribs; the apsidal ends sometimes on the chevet plan, as at St. Hilaire, and sometimes in the plainer form of the simple apse to chancel and each aisle, as at Loches. And we find, too, the simple plan, so well known since as the Angiovine, of the cross church, without aisles, apsidal end and dome at the crux.

St. Hilaire and others, too, have their domes. All these churches are worth attentive study; St. Hilaire, in particular, seems to me to present as many picturesque features, shorn even as it is of its nave, as any church of the size that I know. Notre Dame de Nantilly, at Saumur, too, is a most interesting place, and if the date assigned to its roof (the eleventh century) be correct, it shows about the earliest case of the pointed arch, up north, that I am aware of.

Then we get down farther south to Guienne, and we find ourselves at once in a country where art has advanced in a degree that we should scarcely expect from the few examples northward. We find Souillac, Perigueux, Toulouse, Moissac, St. Croix at Bordeaux, Carcassonne, and others, all presenting the most picturesque effects of plan and section, and, as a whole, very much beyond the general style of the more northern provinces.

Now here we meet, for the first time, so far as I am aware, with well-recorded instances of the real Byzantine pendentives, as distinguished from the form used by more Eastern nations. This Byzantine form is so peculiar, difficult, and artificial altogether as to render it very unlikely to be invented by the architects of such, comparatively, rudely constructed works as those which we here investigate. We find it at St. Sophia's and St. Marc's; but not all through Venice even; for St. Fosca, in Torcello, has the beginning of a dome which shows a strange sort of compromise between the Byzantine and Eastern, whilst that most interesting church, St. Ciriacco, at Ancona, has a dome which is altogether Eastern. I shall allude again to this peculiarity in tracing the history of art from the south.

Then again we find the prototype (we may almost say the original) of Notre Dame de Poitiers, in the earlier church of St. Croix at Bordeaux. We have the curious plan of Moissac, not Angiovine, but more like the southern one of Avignon, and above all, we have the glorious church of St. Sernin, at Toulouse, containing, though in a rude way, all the essentials of the finest cathedral, save and except the clerestory. Five aisles, the centre having a fine barrel vault, a cross plan, with aisles to the cross, apsidal chapels to the transepts, a bold apse with aisles, and five apsidal chapels leading from it.

One cannot help regretting, in looking over this splendid church, and others akin to it, as one does too with the Renaissance churches of the Rhine, that so successful a beginning had not been further prosecuted and well worked out into a distinct style.

Now we come to Auvergne, a curious tract of country, distinct in its natural characteristics from the rest of France. It was first, I think, brought distinctly under notice in England by Professor Donaldson, and its main features have since been excellently described by Mr. Street. Both papers are amongst the Transactions of the Institute.

Clermont, Issoire, Brioude, and others, are most interesting, but they are so well known from the above and other works, that I will not detain you with them now. I ought, however, to remark, that two gentlemen of great knowledge in French art, Mr. Waring and Mr. Street, differ as to the claims of Auvergne as an art school. Mr. Waring considers it to be altogether indigenous and spreading its influence into the surrounding provinces; whereas Mr. Street assigns its origin to Eastern or Byzantine influence, like those which originated the style of Perigueux and others.

I now come to Provence, the most interesting district in France, to my mind, for Romanesque work, yet in the eleventh century it was scarcely so advanced as we might expect. We here find Valence, Avignon, Arles, St. Croix, at Montmajeur, La Palud, Vienne, and others. These Provençal churches have, for the most part, a cross plan, round arches for the subordinate parts, no triforium or clerestory, the nave being covered with a pointed barrel vault, resting on massive unmoulded ribs. The section of the few mouldings used is Mediæval in some, quite Roman in others. But the ornaments are, almost invariably, traditional copies of Roman. We have too, at Avignon, the dome combined with the pointed barrel vault, and at the picturesque sepulchral chapel of Montmajeur, one of those seeming imitations of such old work as the tomb of Galla Placidia, the baptistery at Ratisbon, or the end of Mayence cathedral, which make us doubt whether so clever a plan be original or not. The Avignon dome is, so far as I know, unique in the way in which the square plan of the dome drum is worked out from an oblong base. No Byzantine architect did that. It is Eastern altogether.

As this eleventh century is an important one in the history of our art, I will take a short review of its main features in France.

In the north we have a style pretty well developed by the Normans, who have left the clear distinct traces of their work wherever their race could find a home, in England and Sicily, as much as in Normandy. They get, so far as I can see, no share of their inspiration from the south. What was not their own was German. Then east, west, and south of this we find but little to remark until we come to the German provinces on the east, and approach Aquitaine to the south.

There we meet at once with the Venetian work as shown at Perigueux, Souillac, and Angoulême; and with the Eastern work as shown in nearly every other dome and in the pointed arches, and with details which show their copyism from the old provincial works of the Romans. I class them thus, for I have not the slightest doubt in my own mind that the use of the dome was altogether a revival that came from the East in the Middle Ages; the form of its pendentives being modified by the Roman architects of Byzantium, and as we see it at Perigueux, but showing their genuine Eastern origin in every other school with which I am acquainted.

It is the mixture of Roman, Norman, Rhenish, and Eastern art which makes the study of French so interestingly difficult, and results in so many picturesque arrangements in plan and outline. In the twelfth century we find art in Picardy and Normandy still Norman, but advanced, and slightly mixed with the pointed arch.

There is little in Brittany worth mention; but in central and northern France there are parts of Senlis, Noyon, Soissons, Laon, Bourges, Sens, Chartres, Le Mans, and St. Remi at Rheims.

In Anjou and Poitou we have the picturesque church of St. Nicholas; at Blois, the cathedrals of Tours and Angoulême.

In Guienne we have the portals and cloisters of Moissac, La Cité in Perigueux, &c.

In Auvergne, great part of Le Puy, &c.

And in Provence, the portals of Tarascon, St. Trophime at Arles, &c.

You will see by the above list that we are now in the era of great churches. Not that the great cathedrals were finished as we find them; but each has remains enough to show that those who first designed them were twelfth-century men at the latest, and that their designers meant them to be of the vast proportions which they assume now.

We find that the nave of Le Mans was then built of its present size, because the outer walls and arcades are original. Bourges, also, was designed to be of the same extent as we now see it, for the north and south doorways are of twelfth-century date. At Chartres, the great west front is of the same date. The great churches of St. Remi, at Rheims in the north, and Toulouse in the south, were earlier. Still, I doubt whether a more interesting series could be found than we see in ranging from north to south through these great French churches.

The fact of the great size of the churches at this date and earlier seems to interfere a good deal with M. Viollet-le-Duc's theory as to the thirteenth century work. He describes the cathedrals of that date as being rebuilt in consequence of the great and sudden efforts made during the enfranchisement of the towns, their great increase of wealth and population having led to the rebuilding on so vast a scale of their cathedrals. It did undoubtedly lead to their being

* Many of these buildings are very curious. St. Jean, at Poitiers, more particularly so. The mouldings are very carefully worked out, clearly in imitation of the Roman, and so bold and good, that one wonders that the building, as a mass, should be so rude.

rebuilt in a much more *ornate* manner, but the size had been set in the olden times long before.

Start at the extreme north, and we are stopped at once at Laon, one of the grandest as well as most ancient of these works,—almost superior in the beauty of its site even to Durham. It stands on a spur of a long range of hills, with a steep escarpment from the plain, and you ascend straight up the face of the rock by ranges of stairs, one only having no less than 260 steps. The face of the cliff is terraced off and clothed with vineyards, and high above you as you ascend, towering above all around it, and standing boldly and grandly out, with its towers against the sky, stands the grand church of Laon.

I know of no work more beautiful or nobler of the age,—noble in the magnificence of its outline, and beautiful in the richness of its detail. The date is given, in the guide-books, as 1114, and it is said not to have been altered since.

Nearly every arch is pointed, and it is so Gothic in its general feeling, so advanced in many of its details, that it is scarcely possible to credit its date to be so early. M. Viollet-le-Duc, indeed, considers that it was almost destroyed before 1190, and rebuilt *circ.* 1200, and that date quite harmonizes with its present appearance. The shafting to the piers is so delicate in form as almost to be painfully so in parts, those of the nave especially. The mouldings are those so well known in later times, and much of the enrichment is beautifully graceful, though the capitals retain much of the Romanesque in their foliage. The only thing wanting to complete the Gothic is tracery to the windows; and were the church restored in its integrity, or finished as designed, one thing more only would be required to make it almost perfect,—the chevet in place of the straight end. Laon altogether may be described as being thoroughly Gothic in outline, with much more Romanesque in detail than works of the same date with us. It is a marvel in art, and presents a subject well worth the most attentive study. Only a few miles from it is Noyon, almost perfect in plan, but wanting the picturesque towers of Laon.

Farther south, and about level with each other, are Senlis, between Noyon and Paris, and St. Remi, at Rheims, much more to the east, both Romanesque, but St. Remi has strong marks (in its tower particularly) of the German influences which we should expect to find there. Then we find at Paris a still more curious contrast in style and dates, for we have in the earlier parts of St. Denis a great approach towards the perfect Gothic, whereas, within a short distance of it, there remains the church of St. Germain des Pres, built twenty years later, and perfectly Romanesque. This curious fact was brought very prominently forward by Mr. Scott, in his Royal Academy lectures. But still more curious is the history of St. Germain, as told by the writers upon it; for they give clear and positive accounts of the church having been altogether rebuilt in the seventeenth century. I cannot account for these statements, and merely bring them forward as not to be forgotten. The church is well known to me, and I do not believe that any restoration such as this must have been could have been carried out at the date assigned to it, or even now; but, as the church is a most important one, the statements above alluded to should be known.

A little south of Paris we get Sens to the east, and Chartres to the west; Sens Transitional, but Chartres pure Romanesque in its sculptured porch and west front.

A little farther south and we come to the nave of the great cathedral of Le Mans, near Chartres. This, too, is one that requires very strict examination on the spot. The arches over columns have clearly been put in round, the pointed arches of moulding having been introduced afterwards; and it seemed to me, on close scrutiny, from a seeming alteration in the curve of the main arch ribs spanning the nave, that they were put in, at first round up nearly to the apex, and then the summit altered into a point. I have a very strong impression that the whole of this nave was finished at or near the end of the eleventh century, and that we have in it the nearest approach in these parts to the true basilican outline of the nave, it having been altered only as we find it in the twelfth century. A very little farther south and we come on the Loire, to Angers and Tours cathedrals, and St. Nicholas, Blois.

Tours was late in the century, and the earlier part is of well-advanced Gothic. But Angers and St. Nicholas seem much earlier, and present very noteable features. Angers has the bold cross, aisleless plan of Angoulême, but without its domes, the church, of some 50 feet span, being vaulted with high domical vaults, and nearly all the arches pointed: the ornamentation very rich and beautifully carved.

But Angers contains very much of early date of extreme interest. St. Serge, for instance, the choir whereof is said to be still earlier than the cathedral, and yet is designed with an elegance and lightness that make its feeling Gothic altogether. In fact, there are very few specimens of our Pointed architecture to equal it in lightness. Then, in St. Nicholas at Blois, we find the southern dome combined with the northern chevet, the arches partly pointed and partly round, and the dome itself most curiously formed in a half-Byzantine, half-Eastern way. Blois is just at the midway between northern and southern influences, and its architecture is influenced just as we might expect.*

* To be continued.

SOCIETY OF BRITISH ARTISTS.

The forty-first Exhibition of this corporation consists of 1,038 paintings and drawings, and fifteen small pieces of sculpture. Amongst many indifferent, not to say bad pictures, will be found a number of interesting works. We shall name but a few of them. The place of honour in the chief room is occupied by (158) "The Beaching of the Life-boat," by T. Roberts, and, on the whole, worthily. The boat contains a rescued crew. In colour it is tame; but varied emotions are cleverly expressed. It should be engraved and circulated by the active institution the name of which the boat bears a little too prominently. (135) "Private and Confidential," J. Collinson, is a charming little picture of a mother and child at play. (259) "Return of the Prodigal Son," J. Tissot, a fifteenth century representation of the event, is too reflective of Henry Leys, the well-known Belgian painter, and is open to any amount of criticism. Nevertheless, it is the cleverest picture in the gallery, and one before which the thinker will stand longest. (294) "A Family Group," J. Hayllar, is at the same time a picture, and a charming one too. Mr. Denby's Sacrifice of the Son of the King of Moab (372), notwithstanding its strange anachronism, shows thought and gives promise. Mr. Bromley's half-dozen rural and domestic scenes, *e.g.* (72), "The Photographer," and (325) "A Nest of Little Ones," found immediate purchasers, and deserved to do so. Mr. Cobbett has several agreeable pictures: we wonder, by the way, in what field such a "Gleaner" as he has painted (495) is to be seen? Amongst other figure pieces marked are (58) "A Sanatory Commission," G. A. Holmes; (76) "An Eye to the Future," W. Helmsley; (345) "War Tidings," by Miss Edwards; and a Portrait by Mrs. Croudace.

Mr. Hurlstone, president of the Society, exhibits pictures in his well-known manner.

Foremost amongst the landscapes stands (106) "Harvesting in Surrey," G. Cole, a stormy sunset very powerfully depicted. The same artist has some charming landscapes in water-colours. 182, W. W. Gosling, illustrates

> —— "An English home—gray twilight pour'd
> On dewy pastures, dewy trees."

(231) "Shades of Evening" is one of the best of H. J. Boddington's landscapes. Amongst the other striking landscapes may be placed "Summer Morning on the Thames" (27), C. Smith; "Cottages at Lyminge, East Kent" (53), J. J. Wilson; (133) "The Saw-mill on the Camlaw, North Wales, J. P. Pettitt; (562) "Sunset from the East Cliff, Hastings," A. Clint; and some by Syer, Tennant, Pyne, Wainewright, and others.

CONVERSAZIONE OF THE IRISH INSTITUTE OF ARCHITECTS.

On Tuesday evening, the 29th ult., a *conversazione* was held by the President, Mr. Lanyon, and members of the Institute of the Architects of Ireland. There was a considerable collection of works of art, including a number of architectural drawings; the first and second selected designs for Carlisle Bridge, and others. The Lord-Lieutenant favoured the Institute with his presence, and a military band contributed to the attractions of the evening.

THE RESERVOIR QUESTION.

Insecurity of the Pythorn Reservoir, near Rochdale.—A number of property holders have attended at the Rochdale police-court, requesting that the magistrates would communicate with the authorities at the Home Office, with a view of getting some eminent engineer to examine the Pythorn reservoir, which, they represent, is in a very dangerous condition. During a short conversation it was stated that there had, a short time ago, been a "slip" in the embankment when the reservoir was only a quarter full, and that the embankment is now sinking, on an average, 2 inches a week. The magistrates promised to communicate with the authorities at the Home Office.

Security of the Thornton Reservoir, near Leicester.—At a recent meeting of the Leicester council, it was stated by Mr. E. S. Ellis, that most of the directors of the Waterworks Company had visited the reservoir at Thornton, accompanied by Mr. Hawksley, C.E., and that they were perfectly satisfied with the appearance of the works in every possible way. They found them substantial and sound, and there was not the slightest reason for apprehension of danger, either from the water-works or the embankment. A brief report had already been received from Mr. Hawksley, which says:—"I have this day made an examination of the works of the Thornton reservoir, which is now full to the top of the weir, and have the pleasure to report that all the constructions are sound, water-tight, perfect, and safe."

The Sheffield Inundation.—From calculations that have been made, it would seem that the flood reached, and injured more or less seriously, not fewer than 4,000 houses. In the district of Neepsend alone, out of 600 houses, 400 are now empty. The total damage to property, from the scene of the accident to a point below the borough of Sheffield, where the destructive power of the flood may be said to have ended, is calculated at 250,000*l.*; and this, of course, is exclusive of tenants' and proprietors' claims, which will amount to an enormous sum. The relief fund amounted last week to about 36,000*l.*

COMPETITIONS.

New Public Offices and Gaol, Wigan.—At a special meeting of the council, held last week, the various plans which had been received in response to an advertisement, offering premiums of 80*l.*, 40*l.*, and 20*l.* for the most suitable designs, were inspected. The first was unanimously awarded to Messrs. Nuttall & Cook, Lord-street, Liverpool; the second to Mr. J. W. Best, Bolton; and the third to Mr. J. Harrison, Chester. Messrs. Nuttall & Cook have been appointed architects for the new buildings, which are estimated to cost about 12,000*l.*

Louth.—Trinity Church.—From the seventeen designs sent in for the rebuilding of Trinity Church, that of Messrs. Rogers & Marsden, Louth, has been selected.

Museum, Kensington.—We understand that thirty-nine sets of designs have been sent, in reply to the Government advertisement, and are now being arranged. Mr. Tite and Mr. Fergusson will, we believe, form part of the committee named to adjudicate upon them.

TELEGRAPHIC PROGRESS.

At an extraordinary general meeting of the shareholders in the Atlantic Telegraph Company, the chairman said that the directors now came to the proprietary to ask its sanction to lay the first portion of the new telegraph. He then stated that "the cable was heavier in air than had been expected," but "it would be lighter when submerged, and there was a corresponding gain of conductiveness, insulation, &c., which would more than compensate for the extra cost. The price was to be 700,000*l.* This was to be paid the contractors, not all at once, but in the following manner: 350,000*l.* in cash, 250,000*l.* in guaranteed 8 per cent. shares, and 100,000*l.* in debentures." The directors proposed to create 6,857 shares of 20*l.* each, representing a par value of 137,140*l.* If they were, as he was most sanguine they would be, perfectly successful, and the cable was properly submerged and in full working, they would earn by the telegraph an immense amount of money,—an amount unprecedented; and in that contingency, but not before the success of the company was estab-

shed, they were to pay the contractors, Messrs. Glass, Elliott, & Co., 137,000*l.* by way of bonus, which sum, by the terms of the contract, that firm were to take in unguaranteed shares of the Old company. He was not at liberty to divulge more at present, but asked them to have confidence in their directors. Resolutions were then passed to the effect that the contract with Messrs. Glass, Elliot, & Co. be approved of, and that the issue of shares to the contractors upon the completion of their contract be authorized, and the directors empowered to issue 100,000*l.* in debentures.——It has been decided in the Court of Common Pleas, in the case of the Submarine Telegraph Company *v.* Dixon, that a shipowner is liable for an injury done to a submarine telegraph cable by his anchor, as it will be assumed that he knows of the existence and position of the cable. He is bound to navigate with such care and skill as to avoid injuring these cables.

STATUES AND MONUMENTS.

The Prince Consort's Statue by Woolner.—The statue to be presented by the citizens of Oxford to the University, for the new Museum at Oxford, has been executed. The sculptor has represented the Prince as a young man, and in the ordinary walking or riding dress of an English gentleman, although without the hat. The figure is some inches above life size: the attitude is not more exposed than sculptors generally give to their portrait-statues, the head being turned a little away from the front, the right hand resting on the hip, and the left allowed to fall by the side, holding the gloves. The only accessory in the shape of drapery is the short riding cloak, which is thrown back on one shoulder. This statue, like the others which have already been placed in the Museum court, is carved in stone; and being one of the choicest blocks that could be selected from the Caen quarries, the colour is agreeable. It may here be noted that the Queen presented five of the statues which now ornament the Museum, viz., those of Bacon (by Mr. Woolner), Galileo, Newton, Leibnitz, and Oersted.

The Combermere Memorial.—At a meeting of the subscribers to the fund (about 4,500*l.*) for erecting a memorial of Field-Marshal Viscount Combermere, K.C.B., held at Chester Castle, it has been determined that the memorial shall be an equestrian statue; that Baron Marochetti shall be requested to execute it; and that it shall be erected in Chester. Matters of detail are to be left to the members of the Combermere family. It is understood that Lord Combermere himself wishes Baron Marochetti to be employed if the memorial be in the form of a statue, and that he would prefer it to be placed in Chester rather than on his own estate. The Viscount, it seems, has now worn the British uniform for no less than seventy-four years.

Memorial of the late Sir Tatton Sykes.—A meeting of the admirers of the late Sir Tatton Sykes, of Sledmere, has been held at Driffield, to consider the desirableness of providing a memorial of the deceased baronet. There was a numerous and influential attendance. Lord Hotham, M.P., presided. Much of the improvement in the agriculture of the East Riding is traced to the efforts of Sir Tatton Sykes, who promoted its interests by every means in his power. The meeting has appointed a committee to collect subscriptions and to consider and report to a future meeting as to the best means of carrying out the purposes of the meeting. If an obelisk should be resolved upon as the form of the memorial, it has been suggested that the site should be Garton Hill, about half way between Driffield and Sledmere Hall, an eminence from which it would be seen for many miles. Another suggestion is, that the memorial should take the form of an equestrian statue, at the entrance to Sledmere Park. The almshouse project is met by the remark that, thanks to Sir Tatton, there are no decayed farmers on his estate. It is hoped that a fund amounting in the whole to 3,000*l.* may be raised. A third of that sum has already been contributed by the tenantry on the Sledmere estate.

Memorial of the late Right Hon. James Wilson. A movement is in progress at Hawick, the native town of the late Chancellor of India, for the erection there of a statue to his memory. A committee has been appointed with that view at a preliminary meeting held at Hawick.

Memorial of the late William Dyce, R.A.—At a vestry meeting held at Streatham, the following resolution has been unanimously passed:—"That, regard being had not only to the great abilities of the late William Dyce, R.A., as an artist, musician, and author, but also to the services rendered by him to this parish (in which he passed the last years of his life) in his position as churchwarden, and otherwise, a monumental brass be erected to his memory in the parish church."

Mural Monument at Alne.—The parish church of Alne, in the North Riding of Yorkshire, has recently received an embellishment by the erection of a mural monument to the memory of the late Mr. E. S. Strangwayes. It is in the Early Decorated style, carved and foliated, and is composed chiefly of Caen stone, with columns in Italian marble. The tablet is of Carrara statuary marble, and the ground of polished black marble. Messrs. Skelton & Son, of York, were the sculptors.

CONSTRUCTED DAMS *versus* HEAPS.

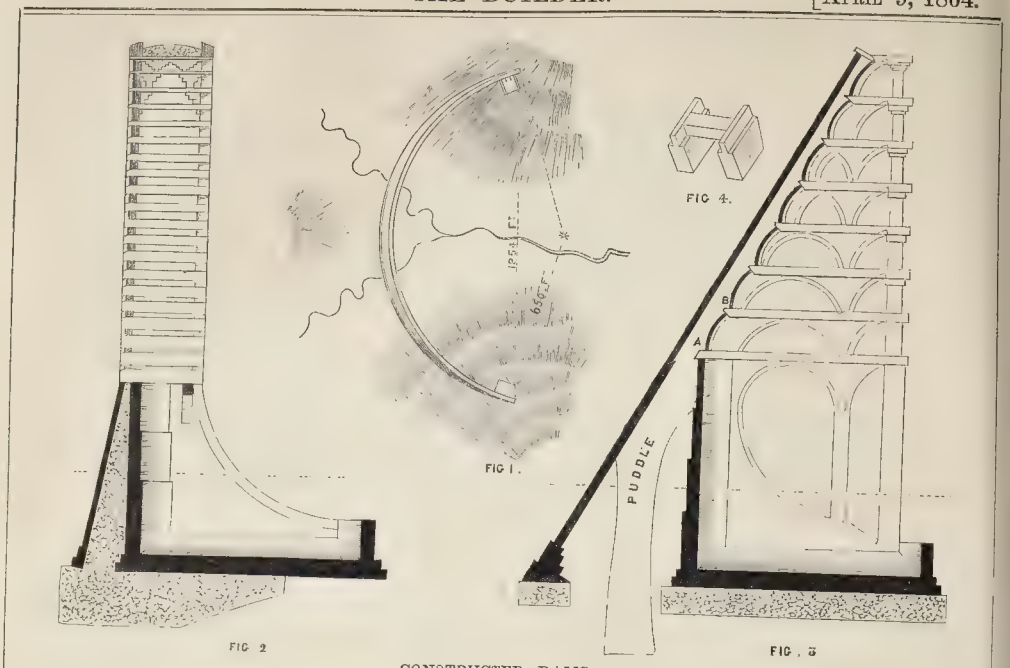
It seems universally taken for granted that the deluges suspended over each northern valley and its helpless crowds must hang on the invisible qualities of mounds of earth and clay; that "civilized" economy utterly forbids any safer fence, even in the district of the very finest quarries; or else that, as the pressure of a given store of rain water is of all forces the most rigorously limited, calculable, quiet, and tamely regular, it would be too uninteresting to deal with, if we could not manage to oppose in the other scale the most changeable, vague, least ascertainable or definable of all conceivable resistances, the glorious uncertainty of a heap of made ground, neither carried there on women's heads, trodden inch by inch, nor baked with a single month of tropic drought, even if we have to bring Hindoo engineers to instruct us in its confection. No one has settled within fifty per cent. what amount of any given quality of soil must be heaped up to confine any force, known to a pound, with tolerable safety, provided each to a pound, with tolerable safety, provided each foot of its unexaminable bowels be duly compacted, rat-proof, &c.; but it is assumed as beyond question that any safer work would involve not only contrivance approaching a beaver's, but an amount of handled building approaching a tenth or twelfth of the mass of these heaps themselves. Thus the *Times*, in commenting on the first absurd report of the Bradfield dam's thinness, laid down the law that even "solid masonry," to withstand 90 feet of water, should have had a base of 54 feet. It might be so on one supposition, that not a grain more art or science or instinct is to enter into the piling up one mass than the other, but both to employ the dead weight, and no other quality of any portion of their material, and to carry out in its utmost purity the grand principle of the new engineer-craft, "*Nothing by mind that can be done by matter.*" But if you allow me a page, I propose to show that the question of relative economy between a structure and a heap is not quite so certain, if we might for once infringe that principle by some slight return towards those of elder art, animal or human—at least that *three-fourths* of the solid masonry above indicated would be utter surplusage.

Of course, were the problem—what it never can be—to wall up 90 feet of water over or in the midst of a flat; to surround, for instance a reservoir of that height on a Middlesex field, the enclosure must do all by its mere gravity, or, at least, carry all the pressure to the ground below, but without even then requiring anything like the mass deduced in the books whence this 54 feet was copied, because nowhere that an atom of structural art remained,—*i. e.*, nowhere till the great new art of "per-centage-on-the-outlay"-paid designing had arisen, would any thus confound wall and buttress in one inorganic lump, on the narrowest base it could be restricted to. The whole thing's office is that of a shelf, which is to the wall what this is to the ground, and no one fancies the shelf most economic of material to bear a given weight, is one without brackets, all the material that might form them being gathered up into one continuous addition to the shelf's thickness. But the whole case, as I said, is imaginary. We never want to uphold any 90-feet mass of water over a plain, but only in some such glen as that of the Loxley, and at a part where it is suggested by a natural contraction or funnel, such as usually occurs just below a confluence. For all buttressing, then, we have the two approaching hill shoulders, reared ready to hand, well settled, heavier and higher that our whole proposed work. Is it rational to leave these totally unemployed, and require the chief part of our material brought and piled up into most inferior artificial buttresses or buttress at their very toes? Is it quite dignified in the presence of the bees and ants, and in the same world with the beavers and all building creatures, none of whom, except per-centage engineers, employ *any* of their material in this manner, but always make use of all such naturally provided butments? The present engineers' notion seems to be, that because it is *further* from most points of their dam to either hill than to the ground below, therefore it must be cheapest to carry all pressures down to the latter, especially as the referring any to the hills would involve bending our dam from the straight plan into a curve, which, in the extreme case of its being a semicircle, would be half as long again. Nevertheless, let us compare first with the economy of their method of referring *all* the pressure to the ground alone, the exactly opposite extreme of referring it *all* to the hills, even that of the lowest layer of water against the dam's ground-line.

Now, be it observed, that the pressure which swept away the Bradfield artificial mountain, has been very well resisted by an egg-shell or a nautilus. These delicate specimens of nature's limestone vaulting will bear external pressures equivalent to more than this 90 feet of water. Vaults of one identical material will bear equal fluid pressures when their thicknesses are the same fraction of their radii of curvature; so that if the Yorkshire people had, among their splendid stones, any ascertained to have a cohesion not inferior to egg-shell, they might, by mere measurement of a shell, have ascertained the quantity of such stone required to dam up safely any of their reservoirs. Of all the formulæ the mathematicians have yet deduced for constructors, the only one really having a bearing on rational work is that giving the relation between a material's absolute resistance to crushing, and that of a hollow cylinder of it: as the cylinder's radius to its thickness, so is the pressure bearable by a block of the material, of any given area, to the pressure sustainable on every such area of the cylinder's exterior. Bolsover stone, in the Westminster Palace experiments,* was loaded with successive increments of 2·53 cwt. on 4 square inches, or 70¾ lb. per inch, only began to be injured by the 70th of these, and was only crushed by the 117th, or 8,277 lb. per inch. Take as the limit to be practically allowed, two-thirds of the greatest load borne without injury, *i.e.* ⅔ of 69 × 70¾, or 46 × 70¾ = 3253.

A 90 feet column of water can only exert a pressure of 40 lb. per inch, and to bear this, the thickness of our artificial eggshell (at its base, where alone the pressure has the above magnitude) need only be to its radius as 40 to 3253, or as 1 to 81¼. The extremities of the Bradfield dam, then, being 1254 feet apart, it appears that a wall of say 650 feet radius (fig. 1) in this stone, would have been perfectly safe if only 8 feet thick (instead of the *Times* writer's 54 feet) at the lowest part of the ground line, and diminishing, by a straight batter, to as little as we please at the top. Omitting what would be added to each wall alike for the convenience of a way on the top, the quantities of stone in their two highest sections are 360 superficial feet in the circular wall, against 2,550 in the straight. Their whole solidities then, supposing each retained this section throughout its length (or that the valley were a flat between precipices) would be as 1 to nearly 5, but of course the full height of each is confined to its middle, and the chief part of their material is in the deep central portion, that would be very little longer in the semicircle than the diameter. Moreover, I have supposed at once the longest curve that would ever be adopted, and that having least curvature at the expensive central part. It might seem, indeed, that, as the pressure is everywhere perpendicular to the curve, and rigorously equal at all points of any one level, no deviation from a simple circular arc, and that of the shortest radius, and, consequently, most approaching a complete semicircle that the hills afford butment for is allowable; any other curve or combination being weakest wherever the radius is longest. But, in fact, the varying height of the wall, in every case except the flat valley above supposed, would make it worth while to vary the curvature, though involving an increase of thickness wherever the radius increases; and, where the bottom is narrow compared with the slopes,

* Parl. Report on Stones, 1839, Table D, cols. 8 and 9.



CONSTRUCTED DAMS.

a plan approaching a hyperbola would be best for the sake of the diminished radius of middle curvature, and hence diminished thickness needed in the short lower courses.

This really extravagant method, then, of referring the whole water pressure to the two hill buttresses, and nothing but the dam's own weight to the ground beneath, would be at least four times cheaper in stone than the engineers' method: but it is still wasteful, because, in any case, all the pressure below a certain level would be transferable by less material to the ground than to the hills. How much of the lowest and otherwise thickest part it might be economical thus to reduce and prop from the ground, would depend on the width of the valley's bottom and the depth we must go below it for firm matter to push against. But in no case, with these dimensions, would any very considerable part be so treated; for we must remember, the material needed to prop any point from the ground increases as the square of that point's height; double height, quadruple prop; tenfold height, hundredfold prop; and we have seen the egregious waste in the Bradfield case of referring any of the upper parts of the pressure to the ground, since the whole, even from the ground-line itself, could be four times more cheaply referred laterally to the hills than down to the ground. What engineers overlook is, that the latter, though so much nearer, has nothing opposite to combine with.

Now in this horizontal arch, let us observe, first, that the rigorous equality of pressure, the absolute impossibility of any partial load ever coming on much or little of the curve, gives us wondrous economic advantages over all vertical arches, especially those of bridges. Remember the sole reason the keys of London, Southwark, or Chester bridges are some dozen times deeper than they are required to be to bear safely the *greatest* loads that can come on them, is the *variableness* and variable placing of their loads. Every change alters the form of the curve of pressure, and there must be depth of stone to contain, not one, but *all* the forms it ever takes: *depth*, but not therefore *quantity*, of stone in the same proportion. To make the insurance increase of depth involve just as much increase of stone was, of course, mere engineerism and modern heedlessness. All the real designers before percentage-paid art was heard of, got the depth without the wasted weight, in arch or supports, by thickening, not the whole width, but only ribs. Our moderns, doubtless, do the same in all materials but stone (in Southwark Bridge, for instance), but thereby show it is from no clear view of this, but some confusion their heads have made between arches and beams, which have nothing in common. A beam or joist they can hardly help knowing (as Adam discovered, and many later constructors, without algebra) employs more of any given material's strength the deeper its section; but in arches of the same curvature, the same amount of matter will bear the same load, in whatever form of cross section; and the reasons they preferred, in all times of real engineering, deep ones to broad, and ribbed their bridges and vaults so as to partake more of the sea shell than the egg-shell, were double, but both distinct from the reason for deep and narrow joists. The chief reason was that above given, applying more or less to every case conceivable except our egg-shell dam; but there was a second reason, the desire to make the arch's rigidity less dependent on the workman's accuracy of jointing. The smaller fraction of the whole radius the radial joints may be, the more close and well-wrought must they be. The *boldest* known arch in the world, and therefore what had need be the best jointed, is still that beam-like one hidden in the roof between the towers of Lincoln Cathedral, because its shortest joint is to its radius only as 1 to 140.* This is nearly twice as bold as the proportion found above for the bottom thickness of our egg-shell wall, if in the Bolsover stone; but a weaker stone would be even preferable, if of larger horizontal dimensions; they being the quality most precious in the material for this purpose, and therefore no district in the world having fitter for it than Yorkshire.

The second Gothic reason, then, for ribs rather than a simple eggshell, namely, to save the necessity for Greek accuracy in the joints by making them longer, applies, I think, so far to the upper courses of our dam, as to make it desirable they should none have shorter joints than the lowest; so instead of battering, it should keep its full width to the top, with no more stone than if it battered: that is, if there are forty-five courses, and the top to be a tenth as strong as the lowest, instead of reducing each by a fiftieth of the *width* of the lowest, you will reduce each by a fiftieth of its *height*, and then raise them to intervals over each other, increasing by the same quantity (fig. 2), supporting them there by blocks, and thin fillings on the face next the water; and some of the lower courses — how many would depend on the circumstances above indicated—being suppressed and replaced by upright vaults and buttresses.

But if we cannot cement a wall watertight, or consider puddling, and therefore a sloping face to retain it, necessary, then we should, with no change in the amount of ribbing stone, require so much more supplementary masonry or brick, that we ought to utilize it by separating the ribs far enough to serve as floors (fig. 3). The vaults A B need only be a brick's breadth, and the higher ones a brick's thickness, each brick bearing on two ribs of large thin bricks made like fig. 4; and short common bricks being used for the lowest vaults, and progressively longer ones above, to separate these ribs farther, as fewer become necessary.

Thus we have a structure leaving nothing to chance nor hidden unskilled labour: one whose every part (in fact, every piece of material) is examinable, and almost singly renewable; one of a strength as definite, calculable, and unalterable as the force it has to restrain, and without a pound of matter wasted, in reserve, or even inactive: one aiming, in short, to be what I have long considered all worthy structures should be, —the exact opposite, in all points, to current English engineer-craft. E. L. GARBETT.

* Ware, Bridges, p. 21.

TUAM CATHEDRAL.

THIS edifice is now being rapidly proceeded with. Our engraving shows the shape it will take. The material used externally is the mountain limestone: the interior is lined with sandstone, from Mayo, of a reddish colour. The pillars dividing the nave from the aisles are to be of green Connemara marble; and the total cost will be about 12,000*l*.

The architect is Mr. Thomas N. Deane; and the contractor is Mr. W. Crow, of Dublin.

The eastern end of the building includes the ancient semicircular archway, concerning which, and the removal of some other parts of the old building, letters were printed in a former volume.



TUAM CATHEDRAL, IRELAND.—Mr. Thomas N. Deane, Architect.

EARLY BRICKWORK IN ENGLAND.

ARCHITECTURAL MUSEUM.

A LECTURE on "Early Brickwork" was delivered here on the 29th ult., by the Rev. E. L. Cutts. We must content ourselves with a mere memorandum of some of the headings. The Mediæval brick architecture is a chapter in the history of the art which is valuable in itself. It is interesting to note how the architects adapted the principles of Gothic art to the necessities of the unusual material. But it has a further and especial practical interest for us just now, because economical considerations make it politic that we should use brick in our architecture to an extent unprecedented in former times,—at least, to a far greater extent than it was used in England. Brick is in many parts of the country the usual and the cheapest substantial building material. If an architect is called upon to build a church, and is limited in the amount of funds placed at his disposal, which is usually the case, it is a great advantage if he can use brick for his material, and so have more to spend on the architectural features of his building. Especially, if Gothic principles are ever to be generally introduced in Domestic architecture, it is imperative that we should find or invent a style of brick Gothic which shall be applicable to the purpose. There is a considerable quantity of Mediæval brick architecture,—in France some, in North Italy more, and in North Germany a considerable quantity; and our modern architects who have at present practised brick Gothic, seem to have gone to these sources for suggestions as to design and construction. Our own Mediæval brickwork does not seem to have had much influence on modern practice. It is true that we have less than those countries above mentioned, and the chief part of what we have is of a later style than that which we have taken as the basis of modern practice. Still, it is natural for us to be desirous of knowing what our native architects have done, be it little or much, more or less excellent.

Britain was a Roman province 400 years; possessed considerable measure of civilization, numerous walled towns, with houses, public buildings, temples, amphitheatres, connected by good roads and bridges; villas were scattered over the country. Saxon invasion swept over the land in successive waves, occupying 100 years, of whose history we know very little; but at the end we find villas destroyed, inhabitants of towns diminished, while whole quarters were occupied by ruins. These ruins served the future builders as quarries of ready-prepared material. We find the materials of ruined Roman buildings worked into Mediæval buildings, and that Mediæval builders imitated the style of the still existing buildings. The Romans made extensive use of brick, even where stone was procurable, for bonding courses and dressings.

Builders of churches supposed to be Saxon used the Roman bricks they found, *e.g.*:—

Holy Trinity, Colchester.—West end, a gable, with round arch, rude, as if to be plastered; tower added, with coigns and windows of Roman brick.

Colchester Castle Keep, time of William the Conqueror, has same plan exactly as White Tower; brick and stone. On exterior, stone dressings, as far as it lasted them, brick coigns. Internally, arches of windows brick; bonding courses irregular.

St. Botolph's Priory, one of the most remarkable examples in England. Nave arcades of rubble, intended to be plastered; west end, brick arcades.

Matthew Paris tells us that Abbot Paul, 1077-1088, built St. Alban's Abbey Church out of stones and tiles his predecessor had collected from ruins of Roman city. Views have been published by Messrs. Buckler. Rubble walls, arches turned with brick. Eboracum bricks in St. Mary's Abbey.

Great Tey Tower, of Roman material, probably ruins of town which, according to tradition, formerly existed south of the church. Two dates. Lower parts brick dressings. Belfry-stage: stone coigns and battlement, brick introduced very nicely in belfry-windows, brick newel stair, hypocaust tile for light.

Spital Maldon, Early English, has a triplet of lancets turned with brick.

L. Wenham Hall, Decorated, used to be quoted in earliest Mediæval building. Some Roman shaped brick and flint in the walling, but bulk of it is a coëval pale red brick, more nearly of modern Flemish shape, viz., $9\frac{3}{4} \times 4\frac{3}{4} \times 2\frac{1}{2}$ inches, with stone dressings.

At Hull, a brick tower in the fourteenth century belonged to monks of Meaux, Wyke-upon-Hull, and the brick chancel of Holy Trinity Church was built in their time, viz., in 1270. It was a favourite resort of wool merchants, one-third of them Flemings and Florentines. No doubt this accounts for the introduction of brick. King Edward I. bought it in 1293, gave it a charter, De la Pole Mayor, and called Kingstown-upon-Hull. Wall built of brick begun 1299, and houses also of brick; but only side walls of chancel brick, east wall of stone, dressings and buttresses of stone; brick deep bright red $10\frac{1}{2}$ inches by $5\frac{1}{4}$ inches by 2 inches; plastered over, "but most of it has come off from the effects of time." Bricks made outside the town at a place called the Tylery.

Three quatrefoils of terra cotta, as ornaments in mould, Frittenden Church, Kent, inside.

Similar one in point of east gable of Lawford Church, Essex, outside.

A few other traces of the use of brick in Decorated period. Moulded bricks of various kinds built into wall of Danebury Church.

Mr. Street mentions in a paper in *Church Builder*, that there are records of their use at the King's Hall, Cambridge, time of Edward III., when they cost 6s. per 1,000; time of Richard II., cost 6s. 8d.; time of Henry IV., 5s. $7\frac{1}{2}$d.; Henry V., 6s. 8d. At Eton, time of Henry VI., 100,000 bricks at 10d., laying 25s., made in a field near the college.

It was not until the fifteenth century that bricks were generally adopted as a building material in England. They seem to have begun to come into fashion about the time of Henry VI., and for many years after used in domestic buildings of the first class, and in ecclesiastical buildings of some importance.

Three modes of using bricks:—

1. For walling, with stone dressings.
2. Exclusively with moulded brick dressings.
3. With terra cotta dressings and ornaments.

Of these various modes Mr. Cutts referred to existing examples, and commented on them.

INNS OF COURT HOTEL, LONDON.

THE works connected with the erection of this building have been this week commenced. The site extends from Holborn to Lincoln's-inn-fields. The hotel will have a principal entrance on each front, and will be in two large blocks, connected together across Whetstone-park by covered corridors. The accommodation provided by the plans consists of two spacious coffee-rooms, one fronting into Lincoln's-inn-fields, 70 feet by 30 feet; and another into Holborn, 56 feet by 23 feet; and a ladies' coffee-room, 34 feet by 24 feet. There will also be provided a drawing-room, 56 feet by 23 feet; a billiard-room for three tables, 70 feet by 21 feet; a smoking-room, overlooking the conservatory, 42 feet by 17 feet; fourteen private sitting- or arbitration-rooms, varying in size from 27 feet by 21 feet to 18 feet by 12 feet; and upwards of two hundred bed-rooms. On the ground-floor, a large interior court, 70 feet by 40 feet, is a prominent feature, giving light and air to the centre of the Holborn block. This will be roofed in, over the first-floor windows, with iron and glass, and rendered attractive by symmetrical arrangement, and by the introduction of plants, flowers, and a centre fountain; and round it are arranged many of the principal rooms. Hydraulic lifts for passengers and luggage, and also for domestic purposes, will be fitted up in each block, by Sir W. Armstrong & Co., of the Elswick Works; and the cooking apparatus will be by Messrs. Jeakes & Co. The buildings will be fire-proof throughout, from floor to roof, on Messrs. Fox & Barrett's principle; and the four principal staircases will be of Portland stone. Externally, the principal fronts in Holborn and Lincoln's-inn-fields will be in Bath and Portland stone, relieved by columns of polished red granite and serpentine marble shafts. The elevations are in the Italian style of architecture, and rise to a height of more than 80 feet.

The building contract has been taken by Messrs. Hill & Keddell, of Whitechapel, for 65,000*l.*; and the outlay on the site and buildings will exceed 100,000*l.* The works have been designed and will be carried out under the superintendence of Messrs. Lockwood & Mawson, architects; and it is intended that the building shall be opened in May, 1865.

ARCHITECTURE AND ITS TEACHING.

NOTHING is more opposed to the nature and progressive development of architecture than that system of teaching and practice which virtually makes it the mere toy of fancy, and which changes as the fashion of the day. Nothing, surely, can be more derogatory to the character of an art whose highest claim is that of its being the cystallization—not of days, but of centuries; not of individuals, but of nations! And yet the idea of a progressive development, if not altogether rejected, seems to be ignored in many quarters. In some of these, a sort of *indiscriminative* eclecticism that merely takes a bit from here and a bit from there, and that foists them upon our modern architecture, prevails. The bit is either from some ducal palace or some Italian or French example,—whether Classicesque or Gothic it often matters not, so long as a kind of originality or piquant effect be produced. Here it is something taken without adaptation from the Doge's Palace at Venice; there something else, from some French or Spanish Gothic building. What, I ask, can a system based on such a proceeding be really worth? It may form a *patchwork style*, but nothing better. I am not speaking now of that intelligent and discriminative eclecticism that has been the great source of growth in all past styles, but of that which merely selects—or rather *collects*—and adapts *in toto*. What, indeed, can be expected of a method that, ignoring the varied conditions of their existences, throw together *pêle-mêle* incongruous elements and styles, native and foreign? What but hybrid monstrosities can accrue? We must *bend*, *modify*, and *adapt* our borrowed elements,—not simply copy them, which we are too apt to do, notwithstanding the repeated denunciations against copyism and its baneful consequences. But there is another class, far more injurious to the development of true art, viz., those who reject all past principles and styles and cling to their own conceits. These "originalists," as they like to call themselves, pretend to work independently of all precedent, though it is pretty certain that the best works of this school have always a great deal in common with past and established principles. It is not so easy to get rid of forms, principles, and details that the past has sanctioned, any more than it would be to act contrary to the dictates of experience, or to throw to the winds the established facts and truths of moral and physical science. The one is equally as absurd as the other.

It is with these views that, in common with "M. A., Cambridge," I cannot look with satisfaction on any countenance or support given to principles so adverse to architectural growth as he referred to in these pages. The history of architecture, in its various stages of development, shows us clearly, that combinations of various circumstances quite beyond the control of *individual* talent, however great, have evolved all existing architectures. Each has been the result of climate, material, and thought, in conjunction with pre-existing elements. The early lintel type is modified and elaborated, by *degrees*, from the Egyptian to the perfected examples of Greece: the Etrurian elements are next blended; and we see the arch and the lintel equally dominant in the Roman, which becomes more individualized as a style, in the Augustan period. The foreign elements by the tide of conquest—from Asia and the East, and the growth of the arch element, gradually effect a change; the lintel at last yielding to the arcuated principle, which becomes the predominant characteristic in all the Romanesques, though modified, in the Byzantine and other Eastern varieties, by climate, religion, and national thought. Next we have the Pointed arch,—the origin of which—at least its form—has been traced back to Early Pelasgic art,—timidly introduced through the East, and not reaching its full development till the fourteenth century, when it culminated in our own Gothic.

Among these stages of architecture it is in vain that we look for any *sudden* transition, or for any individual peculiarity that pre-supposes a hasty invention. From one style, another follows as a *natural sequence*, never as an adventitious result. Each is a growth of time, of an *aggregate number*, never of a few individuals. Nor does this truth undervalue individual effort in the least. Ictinus, William of Wykeham, Sir Christopher Wren, are not one tittle the less thought of because they followed pre-existent examples. In science even, discovery, though it may first dawn on one or two, is never worth

much till many minds have been reflected on it. of our most competent authorities in art, and, ly lately, Mr. Scott in his recent lecture, have sisted upon the value of the past; not as our ly teacher, but as our guide,—never to be indly followed, but always to be consulted.

G. Huskisson Guillaume.

RESERVOIR EMBANKMENTS.

You state truly in your last impression that ie discharge pipes of the Manchester reser- oirs are 4 feet in diameter, but you might have so added that their use is now being discon- nued. At the Woodhead reservoir a tunnel 00 yards long is being driven through the solid ock at the end of the embankment; and at the orside reservoir, a little lower down, this im- rovement was carried into effect, I believe, about ree years ago. With this notable instance to dmonish them, it seems strange that the Shef- ield Waterworks Company should have con- nued the same plan in the Agden embankment, hich appears less solid than the Bradfield, tips f 9 or 10 feet being plainly visible, one above he other, the cavities in the interior of the tructure literally forming a mass of open stone- work.

It would be satisfactory if an accurate mea- urement of the water issuing from among the tones at the foot of the embankment were nade. An approximate calculation from velo- ity, &c. gave about 400 cubic feet per minute, xclusive of that derived from the springs, which would add materially to the above quantity. Scarcely sufficient attention has been paid to the question of springs, two of which can be seen in dangerous proximity (within 40 yards) to the north end of the embankment. Now, if leakage from the pipes, placed as they were below the surface of the ground, caused the accident by saturating the materials at the base of the embankment, the rush of water, finding nothing but a soft and unconsolidated barrier to arrest its progress, would probably have scoured out the dam to a much greater extent than actually is the case: it is, at least, as probable as any of the other conjectures, that water from the springs on the hill-side crept along the embank- ment until reaching the point of greatest pres- sure (the centre line of the chasm is exactly over the old bed of the river, and is the line of great- est depth), it caused that portion to give way. The rate at which water had to be supplied to the mills was 10 cubic feet per *second*, and the reservoir would supply that quantity without being filled for about twenty-two weeks.

The great lesson of such a catastrophe is assuredly to avoid a similar mistake in future. Mr. Rawlinson, in his evidence, says,—"The inference is, that the water, as it rose, would penetrate the bank, and search out its weakest point." The question, therefore, arises, Why let the water have the power of penetrating through to the puddle? Why not cut it off before it has reached the centre of the embank- ment, and rendered one-half the structure use- less to sustain the tremendous pressure of the water?

A. J. C.

VOLUNTEER REVIEW GROUNDS.

On the great demonstration near Guildford last Easter Monday, numerous accidents occurred owing to the rough nature of the wide field of action. Indeed, it would be difficult to pitch upon any one locality, at a convenient distance from London, where 17,000 or 18,000 troops could find free scope for the evolutions of a field-day.

For exercise, drill, and practice, there are several fields in and near the metropolis, Worm- wood Scrubs and Blackheath having long served for the practice of regular regiments of the line; but Wimbledon Common, an elevated and nearly level plateau, within seven miles of the centre, may be considered the best and most appro- priate locality for the metropolitan and home counties corps of volunteers on a field-day: ex- tending a mile from Putney to Wimbledon, and about half a mile in the traverse, the site is unrivalled. But it has the disadvantage incident to all old commons, of being badly drained in many parts, in others thickly grown with furze; and, what is more unfavourable still, there are a few deep dykes and trenches; and it is in many places rough with hillocks and deep cattle- tracks: besides that, the old custom (now obso- lete) of cutting turfs there, has spoiled the surface, beneath which there is a deep substratum of dry gravel. All these obstructions, although the expanse is clear of trees and plantation, are most unfavourable for evolutions of masses upon an extended scale. At a review which took place there last summer, on a charge at quick movement, over a dozen heroes tumbled into a trench, knee-deep in the bog.

As before stated, the condition of the ground is for the most part favourable, and it would not involve a great expense to fill in the deep trenches with sewers, conducting drain-pipes from the few marshy portions into them, at the same time levelling the furze-grown mounds and cutting away the scrub: this would be a benefit to the copyholders, by improving the pasturage, and could be effected at a trifling expense. There are, perhaps, about 50 to 100 acres which would require drainage, and for this the furze, with a few drain-pipes, would serve. About 150 acres more ought to be levelled, so as to form clear marching ground; and there is no reason where- fore this common should not be as smooth, clean, and at least as verdant as Hyde Park.

The National Volunteer Company, of which Colonel A. Lowry Cole, C.B., is chairman, pro- pose to improve the common after this fashion, on having permission of the lord of the manor; and, in connexion with the Volunteer Hotel, designed for that locality, it would confer great advantages upon this now justly popular national force. Already butts for rifle practice have been for some time established and in use, close to the site of the proposed hotel. No other spot so near London is more appropriate for that object; and, were the fine and elevated expanse of Wim- bledon common thus planed and levelled, it would meet a requirement which is every year becoming more essential, as our free legions increase in numbers and popularity.

M. A.

SHEFFIELD INUNDATION.

Sir,—At the inquest, the jury returned their verdict mainly on the evidence of Messrs. Jack- son and Rawlinson. With reference to the evi- dence of Mr. Jackson, I would like to make a few remarks, because I think it cruel that the pro- fessional reputation of a gentleman in Mr. Leather's position should suffer by the expression of opinion of an inexperienced and an unpro- fessional man.

Mr. Jackson stated that he had large experience in waterworks in Melbourne, and he gave an instance of one of those works failing in con- sequence of his having placed his outlet pipes on stone blocks. What else could he have expected? Such a course could only end as it did, inasmuch as the whole weight of his embankment had to be borne by the pipes, and of course they having support only at their end, the necessary consequence, viz. the fracture of the pipes, followed.

I am informed that Mr. Jackson's Australian works are of the smallest possible extent, con- sisting of an embankment or two, which any ordinary navvy ganger would carry out. Allow me to say I know nothing of either Mr. Leather or Mr. Jackson personally, and have no end to serve but that of obtaining fair play.

Mr. Rawlinson having endorsed the verdict of the jury, of course may be taken as having given the opinion expressed by them as his own.

To one of the points I beg to refer. In allusion to the work which was being carried on at the Agden reservoir, it is said, "The stratified and open-jointed seams of rocks within the water area of the reservoir are being bared," &c.

I am utterly at a loss to know what is meant by coupling this with the following: "And, in fact, everything objectionable at the Bradfield embankment, which has failed, is now in course of repetition at the Agden embankment." It is given in evidence, and the clearly visible conse- quence of any water passing down these strata is that you will lose water, but if the puddle- wall be good (and it was stated by Mr. Beard- more to be excellent), it is quite impossible that this work could have anything to do with the catastrophe, which we all so much deplore.

I have had some considerable experience in water-works for nearly thirty years, and, from my practice, I am prepared to say that if Mr. Leather's instructions, as given in his evidence, have been properly carried out, the cause of the failure must be looked for in other things than the matters referred to by Messrs. Jackson and Rawlinson.

James Knight.

Vestry Hall, Mile-end.

JERUSALEM.

Those who remember the debates which im- mediately preceded our war with Russia, and who have since perused the first volume of Mr. Kinglake's "Crimea," will know with what jealous care all Russian interests, rights, and property are guarded at Jerusalem, and how the enlightenment of the nineteenth century has been unable to lessen the national fanaticism with which the Holy City is regarded,—by mil- lions with the "mind's eye" only, by a happy few with their material organs of vision. Almost from the day when the cross rose above the crescent of Islam, the Eastern and Western churches rivalled each other in the possession of land in the vicinity of the city, and a corre- sponding number of churches and convents fol- lowed as a matter of course.

A letter from Jerusalem of the 26th of February informs us of a fresh batch of eccle- siastical buildings which have just been com- pleted on the plateau to the north-west of the city by the Russians. The architect was Mr. Eppinger, a German by birth, but practising in Russia; and the buildings con- sist of a church, a bishop's palace, a house for male pilgrims, another for female pilgrims, a spacious hospital and dwellings for officials, clerical and lay, amongst the latter a new con- sulate.

The cost of these buildings was two and a half millions of francs, to which will be added gildings, paintings, and mosaics worth 200,000 roubles more—a present from the Emperor—mak- ing a total of 800,000 roubles, or about 125,000*l*. The church is in that peculiar style which in Russia gradually developed itself out of the Byzantine Basilica, having six domes grouped round one larger one, and two campa- nili flanking the chief façade. The arrangement of the bishop's palace is in the form of a large quadrangle, containing, besides the episcopal residence, suites of apartments for clerical mis- sions, royal pilgrims, and others.

NEW EXCHANGE, LIVERPOOL.

Last week a contract was entered into with Messrs. Holme & Nicol for part of the proposed new Exchange, namely, the western wing, in- cluding the news-room and the offices extending to Rumford-street. The builders making pro- posals were eleven in number; and it is said that the following is a correct list of their tenders:—

J. Mullin	£82,310	0	0
Mansfield	77,600	0	0
James Burrowes	77,146	0	0
H. & R. Holland	74,589	0	0
J. Neill	72,900	0	0
R. Neill	72,450	0	0
Jones & Jump	71,350	0	0
Livesey Brothers	71,000	0	0
Haigh & Co.	71,000	0	0
J. Parker & Son	69,539	0	0
Holme & Nicol	68,380	0	0

PREMIUMS AWARDED BY THE ARCHITECTURAL INSTITUTE OF SCOTLAND.

1. For the best geometrical drawing, by apprentices of not more than three years' standing.

The Council have awarded a book to Alexander Suther- land, apprentice to Mr. David M'Gibbon, architect, Edinburgh.

2. For the best perspective drawing.

The Council have awarded the medal to Alexander Fraser, apprentice to Mr. John Lessels, Architect, Edin- burgh; and a second prize to Alexander Sutherland.

3. For a series of drawings of a small portion of any ecclesiastical building, measured and drawn from the originals.

The Council have awarded a book to William Rennie Syme, apprentice to Messrs. Peddie & Kinnear, archi- tects, Edinburgh.

4. For the best original design,—subject, a church tower in perspective.

The Council have awarded the medal to George F. Wilson, apprentice to Messrs. Leadbetter & Smith, archi- tects, Edinburgh. They also consider the designs of Hippolyte John Blanc, apprentice to Mr David Rhind, architect, Edinburgh, and of Andrew Dewar, apprentice to Mr. Robert Paterson, architect, Edinburgh, to be highly deserving of commendation.

5. The Council this year offered an extra prize for the best series of not less than five drawings of Scottish build- ings, suitable for publication in the Illustrated Transac- tions. They have awarded the silver medal and 5*l*. 5s. for a very elaborate and beautiful series of drawings from Elgin Cathedral and Coxton Tower, which they intend this year to publish, to John Ogilvie, Elgin. They have also awarded as a second prize 5*l*. 5s. to Edward F. C. Clarke, Edinburgh, for a scarcely less elaborate and beautiful series of drawings from Lincludin and Sweetheart Abbeys, and from a Carmelite Monastery at Queensferry, which will probably be published next year. Mr. Clarke has on several previous occasions distinguished himself by bearing off the Scottish Insti- tute's prizes.

VOCABULARY OF ARCHITECTURAL TERMS, IN EIGHT LANGUAGES.

The following Vocabulary of the principal Terms in Architecture, Civil and Ecclesiastical, in Six Modern European Languages, and the existing Equivalents in Latin and Greek, is by HENRY HALL,* F.R.G.S., Assistant Surveyor, War Department.

ENGLISH—Terms in Civil Architecture.
FRENCH—Les Termes d'Architecture civile.
ITALIAN—I Termini d'Architettura civile.
SPANISH—Los Terminos de Arquitectura civile.
GERMAN—Bürgerliche Bankunstworte.
DUTCH—Burgerlijke Bouwkundewoorden.
LATIN—Verba pertinentia ad Architecturam civilem.
GREEK—Ὀνόματα ἀρχιτεκτονικά.

ENGLISH.	FRENCH.	ITALIAN.	SPANISH.	GERMAN.	DUTCH.	LATIN.	GREEK.
Abacus	Tailloir, *m* Abaque, *m*	Abaco, *m* Barbacane, *m*	Abaco, *m*	Capitälplatte, *f* Abacus, *n*	Dekplaat, *f*	Abacus, *m*	Ἄβαξ, *m*
Abutment (1)	Arc boutant, *m*	Coscia, *f*	Estribo, Botarel, *m*	Strebepfeiler, *m*	Stut, Steun, *n*	Anterides, Erysma	Παρακλίντωρ, *m* Ἔρεισμα, *n*
Acanthus	Butée, *f* Acanthe, *m*	Sostegno, *m* Acanto, *m*	Acanto, *m*	Anstoss, *m* Bärenklau, *f*	Beerenklaauw, *n*	Acanthus, *m*	Ἄκανθος, *f*
Acroterium	Acrotères, *m*	Acroterio, *m*	Remate, *m*	Giebelzinnen, *f* Aufsatz an den Giebelecken	Geveltinne, *f*	Acroterium, *n*	Ἀκρωτήριον, *n*
Amphiprostyle Annulet	Amphiprostyle, *m* Annelet, *m*	Anfiprostilo, *m* Anelletto, *m*	Anfiprostilo, *m* Armella, *f*	Ringelchen, *n*	Ringchen, *n*	Amphiprostylum, *n* Armilla, *f*	Ἀμφιπρόστυλος, *m* Ψέλιον, *n*
Antæ	Antes, *m*	Ante, *f*	Antas, *f*	Anten	Anten	Antæ, *f*	Παράσταδες, *f*
Antefixæ Antepagmentum Apsis	Antefixes, *m* Antepagmente Apside, *f*, Chevet, *m*	Antefisse, *f* Antipagmento, *m* Cappellone, Apside, *m*	Antefixas, *f* Absida, *m*	Anten Eckige Wandpfeiler, *m* Steilziegel, *m* Thürgange, *f* Rond, *m*	Deur Kozijn, *n* Rond, *n*	Antefixæ, *f* Antepagmentum, *n* Apsis, *f*	Ἀψίς, *f*
Apteral	Apterale, *m*	Apterale, *n*	Apterale, *m*	Ohne Säulen an den Flügeln		Apteron, *n*	Ἄπτερον, *n*
Arœostyle Apophyge Arcade Arch (2) Architrave Archivolt	À Colonnes rares Congé, *m* Arcature, *f* Arc, *m*, Arche, *f* Architrave, *f* Archivolte, *f*	Areostilo, *m* Apofizi, Scapo, *m* Arcata, *f* Arco, *m* Architrave, *m* Archivolto, *m*	Areostilo, *m* Imoscapo, *m* Arcada, *f* Arco, *m* Arquitrabe, *m* Arquivolto, *m*	Fernsäulig Ablauf, Anlauf, *m* Bogengang, *m* Bogen, *m* Unterbalken, *m* Unterbogen, *m*	Verrezuilig Booggang, *m* Gewelf, *n* Hoofdbalk, *m* Hoofdgewelf, *n*	Arœostylum, *n* Apophygis, *f* Fornix, *f* Arcus, *m*, Fornix, *f* Epistylium, *n* Archivoltum, *n*	Ἀραιόστυλος, *m* Ἀποφυγή, *f* Στοά, Αἴθουσα, *f* Ἀψίς, Καμάρα, *f* Ἐπιστύλιον, *n*
Astragal	Astragale, *f*	Astragalo, *m* Tonelino, *m*	Astragalo, *m*	Reif um eine Säule	Ring, Krans, *m*	Astragalus, *m*	Ἀστράγαλος, *m*
Atlantes Attic (3) Astylar	Atlantes, *m* Attique, *f* Sans Colonnes	Atlanti, *m* Attico, *m* Senza Colonne	Atlantos, *m* Attico, *m* Astylar, *m*	Atlantes, *m* Attisch, *m* Ohne Säulen	Atlantes, *m* Attisch, *m* Zonderzuilen	Telamones, *m* Atticus, *m* Astylum, *n*	Ἄτλαντες, *m* Ἀττικὸς, *m* Ἄστυλος, *m*
Balcony Baluster	Balcon, *m* Balustre, *m*	Balcone, *m* Balaustro, *m*	Balcon, *m* Balaustre, *m*	Balkone, Söller, *m* Geländer Säule, *f*	Balkon, *n* Baluster, *m*, Stijltje, *n*	Podium, *n* Columella, *f*	Πόδιον, *n* Κάμαξ, *m*
Balustrade	Balustrade, *f*	Balaustrata, *f*	Balaustrada, *f*	Brustlehne, *f*	Balustrade, *f*	Balistarium, *n* Columellarum septum	Κλεῖθρον, *n* Βαλαύστριον, *n*
Band	Bande, *f*	Benda, *f*	Benda, *f*	Leiste, *f*	Platdekstuk, *n*	Lamina, Fascia, *f*	
Base	Base, *f*	Base, *f*, Zoccolo, *m*	Basa, *f*, Zocalo, *m*	Gestell, Basis, *f*	Basis, *f*	Basis, *f* Spira, *f*	Βάσις, *f* Σπεῖρα, *f*
Canopy Cantilever Cap Capital	Lambris, *m* Modillon, *m* Chapiteau, *m*	Baldacchino, *m* Modiglione, *m* Capitello, *m*	Baldachino, *m* Modillon, *m* Capitel, *m*	Kanape, *n* Gesims, *n* Kapital, *n*	Canape, *f* Modillon, *n* Kapitaal, *n*	Umbella, *f* Mutulus, *m* Epicranium, *n* Capitulum, *n*	Κωνωπεῖον, *n* Ἀγκὼν, *m* Ἐπίκρανον, *n*
Cartouche Caryatides Cauliculi Cavetto Cincture Clustered column	Cartouche, *f* Cariatides, *f* Caulicoles, *f* Gorge, Nacelle, *f* Ceinture, *f* Faisceau, *m*	Cartella, *f* Cariatidi, *f* Gambi, Volute minori Guocia, *f* Cintura, *f* Fascio, *m*	Cartucho, *m* Cariatidas, *f* Caulicolas, *f* Cavetto, *m* Cintura, *f* Fasca, *f*	Randverzierung, *f* Caryatiden, *f* Stengelförmig Hohlleiste, *f* Gurt, *m* Gekuppelten Säulen	Kardoes, *f* Cariatiden, *f* Stengelbloom, *f* Cavetto, Hollijst, *f* Lijst, *f* Gekoppelte Zuilen	Caryatides, *f* Cauliculi, *m* Cavetto, *m* Cintura, *f*	Καρυάτιδες, *f* Ζώνιον, *n*
Colonnade	Colonnade, *f*	Colonnata, *f*	Columnata, *f* Columnario, *m*	Säulenhalle, *f*	Zuilenrij, *f*	Peristylum, *n*	Περίστυλος, *m*

* The Author, we have pleasure in mentioning, has with much skill and labour completed similar Vocabularies of the Terms used in Building, Civil and Mechanical Engineering, Fortification, &c. &c.

(1) *Vide* also Civil Engineering. (2) *Vide* also Civil Engineering and Building. (3) *Vide* also Building.

ENGLISH.	FRENCH.	ITALIAN.	SPANISH.	GERMAN.	DUTCH.	LATIN.	GREEK.
Column	Colonne, *f*	Colonna, *f*	Columna, *f*	Säule, *f*	Zuil, Kolom, *f*	Columna, *f*	Στύλος, *m*
Console	Console, *f*	Mensola, *f*, Peduccio, *m*	Cartela, *f*	Pfeilertisch, *m*	Balksleutel, *m*; Console, *f*	Ancon, *n*	*m*
Corbel	Console, Corbeau, *m*	Beccatello, *m*	Modillon, *m*	Kragstein, *m*	Bloemkorf, *m*	Mutulus, *m*	Ἀγκών, *m*
Cornice	Corniche, *f*	Cornice, *f*	Cornisa, *f*	Karniess, *m*	Kroonlijst, *f*	Corona, *f*	Κορωνίς, *f*
Corona	Larmier, *m*	Gronda, *f*	Saledizo, *m*	Kranzleiste, *f*		Corona, *f*	Κῦμα, *n*; Κῦμα, *n*; Κορωνίς, *f*
Coussinet	Coussinet, *m*	Guancialetto, *m*	Camuesa, *f*	Wulst, *f*			
Crosette	Crossette *f*	Crossetta, *f*		Eckzierden, *f*	Crossette, *f*		
Cupola	Coupole, *f*	Cupola, *f*	Copela, *f*	Kuppel, *f*	Koepel, *m*	Tholum, *n*; Cupola, *f*	Θόλος, *f*; Κύπελλον, *n*
Cyma recta	Cymaise, Doucine, *f*; Gueule droite, *f*	Cima, Gola, *f*; Gola diritta	Cimacio, *m*	Kehlleiste, *f*	Groef aan Zuilen, *f*	Cyma recta, *f*	Κῦμα, *n*
—— reversa	Gueule renversée	Gola rovescia	Cimacio derribado, *m*	Hohlleiste, *f*		Cyma reversa, *f*	
Cymatium	Cymaise, *f*	Cimasa, *f*	Cimacio, *m*	Leiste, *f*	Lijst, *f*	Cymatium, *n*	Ἐπιτίθηδας; Κυμάτιον, *n*
Dado	Dé, *m*	Dado, *m*	Dado, *m*	Würfel, *m*	Dobbelsteen, *n*	Dado, *n*	Κυβεία, *f*
Decastyle	Décastyle, *m*	Decastilo, *m*	Decastilo, *m*	Halle mit zehn Säulen	Met tien Zuilen	Decastylum, *n*	Δεκάστυλος, *m*
Dentil	Denticule, *m*	Dentello, *m*	Dentellon, *m*	Zahnschnitt, *f*	Tandje, *n*	Denticulus, *m*	Ὀδοντοειδὴς, *m*
Diastyle	Diastyle, *m*	Diastilo, *m*	Diastilo, *m*	Weitsäulig	Wijdzuilig	Diastylum, *n*	Διάστυλος, *m*
Diglyph	Diglyphe, *f*	Diglifo, *m*	Cartela con estrias, *f*	Zweischlitz, *n*		Diglyphum, *n*	Δίγλυφος
Dipteral	Diptère, *m*	Diptero, *m*	Diptero, *m*	Doppelflüglicht	Tweevleugelig	Dipteros, *n*	Δίπτερος, *n*
Distyle	Distyle, *m*	Distilo, *m*	Distilo, *m*	Zweisäulig	Tweezuilig	Distylum, *n*	Δίστυλος, *m*
Dome	Dôme, *m*	Duomo, *m*	Naranja, *f*; Dombo, *m*	Dom, *m*	Dom, *m*	Tholus, *m*; Concameratum ædia Fastigium	Θόλος, *m*; Βασιλική, *f*
Dressings	Appareils, *m*	Apparecchi, *m*	Apparajos, *m*			Lapidum apparatus	
Drops	Gouttes, *f*	Goccie, *f*	Gotas, *f*	Thürbekleidung, *f*; Tropfen, *m*	Aankleeden, *n*; Droppels, *m*	Guttæ, *f*	Σταλαγμοί, *m*
Echinus	Échine, *f*	Fusarolo, *m*	Cuartobocel, *m*	Eierunde Zierrath, *f*	Stekelige Kruin, *f*	Echinus, *m*	Ἐχῖνος, *m*
Egg-and-dart	Ove, *f*	Uovolomoldura, *f*	Equino, *m*	Eierleiste, *f*	Eilijst, *f*	Astragalus, *m*	Ἀστράγαλος, *m*
Elevation	Élévation, *f*	Elevazione, *f*	Elevacion, *f*	Aufriss, *m*	Opschets; Verheffing, *f*	Orthographia, *f*	Ὄψωσις, *f*
Engaged column	Colonne engagée, *f*	Colonna appoggiata, *f*	Columna arrimada, *f*	Eingeblindete Säule, *f*			
Entablature	Entablement, *m*	Cornicione, *m*	Entablamiento, *m*	Gebälk	Zuiltop, *m*	Corona, *f*	Κορωνίς, *f*
Entasis	Renflement, *m*	Grossezza, *f*	Ronquido, *m*	Ausbauchung, *f*	Uitswelling, *f*; Versterking, *f*	Entasis, *f*	Ἔντασις, *f*
Epistylium	Épistyle, *f*	Epistilo, *m*	Epistilo, *m*	Hauptbalken, *m*	Hoofdbalk, *m*	Epistylium, *n*	Ἐπιστύλιον, *n*
Exedra	Exèdre, *m*	Stanza da ricevere	Exedra, *f*	Horsaale, *f*	Gehoorzaal, *f*	Exedra, *f*	Ἐξέδρα, *f*
Extrados	Extrados, *m*	Estradosso, *m*	Estrados, *m*	Äussere Wölbung, *f*	Rug van het gewelf, *m*	Extradossum, *n*	
Eustyle	Eustyle, *m*	Eustilo, *m*	Eustilo, *m*	Schön säulige Bau	Eustile	Eustylum, *n*	Εὔστυλος, *m*
Façade	Façade, *f*	Facciata, *f*	Fachada, *f*	Vorderseite, *f*	Façade, *f*, Gevel	Frons, *f*	Μέτωπον, *n*
Facet	Facette, *f*	Faccetta, *f*	Fachetta, *f*	Kleine Fläche, *f*	Facette, *f*	Latus, *n*	
Facia	Platebande, *f*	Fascia, Benda, Lista, *f*	Barra, Lista, *f*	Binde, *f*, Streifen	Zwachtel, *m*, Lijst, *f*	Fascia, *f*	Φάκελος, *m*
Fastigium	Comble, *f*; Fastigium, *m*	Fastigio, *m*	Colmo, *m*	Gipfel, *m*	Toppunt, *n*	Fastigium, *n*	Ἄκρον, *n*
Fenestration	Fenêtrage, *m*	Finestrato, *m*	Ventanage, *m*	Bifensterung, *f*; Fensterarchitektur	Bevenstering, *f*	Fenestratio, *f*	
Festoon	Feston, *m*	Festone, *m*	Feston, *m*	Blumengewinde, *n*	Loofwerk, *n*	Encarpa, *f*	Στέμμα, *n*; Ἔγκαρπα, *f*
Fillet	Filet, Listel, *m*	Listello, Filetto, *m*; Gradetto, *m*	Filete, *f*	Binde, Leiste, *f*	Kroonlijst, *f*, Rolstuk, *n*	Fascia, *f*; Tænia, *f*	Ῥάβδος, *f*; Ταινία, *f*
Flutings	Cannelures, *f*	Scanalature, *f*	Acanaladuras, *f*	Kannelirung, *f*	Groefing, *f*	Striaturæ, *f*	Ξυστρὶς, *f*; Ῥάβδωσις, *f*
Fresco	Fresque, *f*	Fresco, *m*	Pintura en el yeso	Frescogemälde, *n*	Fresco	In udo tectorio pingere	
Fret	Frète grecque, *f*	Frete, *m*	Frete, *m*	Griechische Winkel Schnur, *f*	Bloemwerk, *n*	Cælatura, *f*; Mœandrus, *m*	Μαίανδρος, *m*
Frieze	Frise, *f*	Fregio, *m*	Friso, *m*	Friess, *m*	Fries, *n*	Zoophorus, *m*	Ζωοφόρος, *m*

TERCENTENARY NEWS.

Photograph of Shakspeare.—Not exactly that: what a rush there would be for it if such a thing existed: but a photograph of the *portrait* of Shakspeare, preserved in his house at Stratford-on-Avon, has been published by Messrs. Cundall & Co., and will doubtless find buyers. We are not bound to establish or disprove the authenticity of the portrait. Suffice it that it agrees to a considerable extent, especially in the lower part of the face, with the bust in the church,—perhaps was painted from it;—and that the photograph is forcible. . . . .

Commemoration Ribbons.—We have before us the commemoration ribbons manufactured by Mr. Thos. Stevens, of Coventry, which show both skill and taste. The bust of the poet, his birthplace, and Stratford Church, are cleverly woven. Illuminated book-markers and badges form quite a new branch of trade in Coventry, and employ a large number of weavers. Since the date of the French treaty, there would seem to have been an improvement in the character of designs here. It is thus that manufacturers may place themselves beyond fear of foreign rivals. . . . .

Birmingham.—On the morning of the 23rd the mayor will invite a number of gentlemen to a breakfast, at which he has kindly consented that the Shakspeare Library shall be formally presented to the town, as the room in the Free Library will not be ready for several months yet. In the evening of the same day the Shakspeare Club and their friends will dine together, with Mr. George Dawson in the chair.

Gloucester.—A public meeting has been held, at which the Mayor of Stratford attended, and advocated the movement of the monument.

London. In aid of the fund of the National Shakspeare Committee, an artistic amateur musical entertainment of a novel kind was to take place at the Assembly Rooms, Eyre Arms, St. John's Wood. There Mr. George Cruikshank vocally and pantomimically illustrates the adventures of Lord Bateman and Billy Taylor, — adventures which the caricaturist has already immortalised by his pencil. There Mr. Stacy Marks sings the "Country Fair;" while Messrs. Desanges, Du Maurier, and Leslie also contribute to the good cause.

THE DRAMA IN THE DRAWING-ROOM.

LAST Wednesday evening a new and original play, called "Light and Shadow," by Mr. Angiolo R. Selous, author of the "Templar," was acted at the house of his brother, Mr. Henry C. Selous, with remarkable success. The latter gentleman had painted for it three capital scenes, the Park of Belle-Maison, and two Interiors; and with the author, who played the chief part, Miss Minnie Selous, Miss Jennie Selous, Mr. Dever, Mr. Joseph Durham, and others, acted excellently. Mr. Planché's "Loan of a Lover," with all the songs, followed, the cast including, besides some already named, Miss Maria Selous, and a fourth capitally-painted scene.

Such an incident, where we find in one family the author, the scenic artist, the actors and the singers, all good, is worth wider mention.

The period of the new play, which is of the "Plot and Passion" class, and is full of opportunities for good acting, is that of the Regency of Philip of Orleans, memorable by the rise of the great Mississippi scheme. It can scarcely fail to obtain an effective public representation before long.

COMPENSATION CASES.

Cooper v. *The Charing-cross Railway Company.* This was a writ of inquiry (Lord Mayor's Court) to assess the compensation to be awarded to the claimant in respect of a block of very old-established up-town wool warehouses, known as the "Dowgate-hill Chequers-yard," the same being taken by defendants in accordance with the terms of their City Extension Act.

Mr. Bovill, Q.C., and Mr. Garth (instructed by Messrs. Van Sandau & Cumming, King-street, Cheapside), appeared for the claimant; Mr. Lloyd and Mr. Mellor (instructed by Messrs Toogood) representing the Company.

Mr Bovill detailed a short history of the premises, premising that, although this might be called a compensation case, yet nothing could really recompense the claimant for the compulsory removal. The old tenant in this case was the only son and successor of the late Mr. John Cooper, who had for about forty years before his death carried on business as an up-town wool warehouse-keeper. The claimant naturally increased his business, and at length the old Dowgate-hill Chequers-yard became a very favourite warehouse in the trade. In 1860, however, he received notice from defendants that they intended applying to Parliament in the following year for powers to take Chequers-yard. The claimant at once dissented from this proposition, and presented a petition to the House of Lords; but his opposition did not stop the railway company, for the bill passed, and in February, 1862, Mr. Cooper received the usual notice to treat. As soon as he found that he would certainly be displaced, Mr. Cooper cast about for other premises, but could not find them at any price, and after great anxiety he purchased the site of a plot of ground in New-street, Bishopsgate. Although he commenced negociations in the autumn of 1863, he did not gain possession until December, and then he had to clear the ground of a number of small buildings, which had been let to weekly tenants. After having done this, he commenced erecting a spacious warehouse, which will in all probability be finished about September next. It had been his wish to get it ready for the reception of wools before he would be altogether removed from his old premises, but this was found to be impracticable, and in addition to the ordinary loss consequent upon removal, there would be an almost entire suspension of the business, with a probable loss of connexion, and great loss of profit. For all this Mr. Cooper had sent in a claim of 20,000*l.* To this a kind of valuation of something like 8,000*l.* was put by Mr. Ryde, but no real offer ever came from the company. The company then advertised the sale of the premises, and to show how speedily they have gone to work, it must be seen that they were now nearly demolished.

Mr. Cooper, an accountant, then went through the figures of a balance-sheet for 1862 and 1863, showing that the net annual profits were about 2,250*l.*

Mr. Williams, the architect of the new premises, stated that in addition to 10,000*l.* for the land, the plaintiff was laying out 20,000*l.* on the new warehouses in New-street.

Mr. Balme, a wool broker, deposed to the advantageous situation of the old warehouses. New-street, Bishopsgate-street, was a very inferior situation, and it would take time and money for Mr. Cooper to get his connexion together again.

Mr. T'Anson, Lawrence Pountney-hill, said that the three warehouses, comprising Chequers-yard, were D, E, and F. Warehouse D, held on lease from the Plumbers' Company, having 14 years unexpired from Christmas, 1863, was estimated to be worth 53*l.* per annum: the present rent and land-tax, amounting to 28*l.* 10*s.*, leave a profit rent of 26*l.* 10*s.* This being capitalized, at the 6 per cent. tables, for 9·6 years' purchase, gave 256*l.* 12*s.* Warehouse E, held under the Drapers' Company, lease six years to run, gave a profit rental of 41*l.*; capitalized under the 6 per cent. tables, was worth 2,041*l.* 16*s.* Warehouse F, also held under the Drapers' Company, six years unexpired, gave a profit rental of 54*l.* 3*s.* 4*d.*, which capitalised gave 2,701*l.* 18*s.* To these sums is added 42*l.* for situation and benefit to be derived therefrom, and with 10 per cent for compulsory sale, witness put the value of the leasehold interest at 5,545*l.* 6*s.*

In cross examination, Mr. T'Anson considered that plaintiff would of necessity be a great sufferer by this compulsory removal.

Mr. Marsh, Nelson valued the leasehold interest at 9,280*l.*; Mr. Farmer (Debenham & Tewson) at 9,223*l.*; Mr. Arntz agreed with Mr. T'Anson.

Mr. Lloyd then addressed the jury for the railway company, and said that he should call several highly respectable professional witnesses, who would prove that the claim as set up was very much exaggerated.

Mr. Shaw valued D warehouse at 1,587*l.* 17*s.* 6*d.*, E warehouse at 1,550*l.*, and F warehouse at 1,370*l.* 18*s.* 8*d.*, making a total of 4,508*l.*, with 10 per cent., 4,958*l.* for the leasehold interest.

Mr. Pownall valued the three warehouses at respectively 1,335*l.*, 1,600*l.*, and 1,570*l.*, with 10 per cent., gaving a total of 5,155*l.*

Mr. Clarke (Farebrother, Clarke, & Lye) gave 1,250*l.*, 1,400*l.*, and 1,550*l.*, with 10 per cent., 4,561*l.*

Mr. Reid gave 715*l.*, 1,400*l.*, and 1,250*l.*, with 10 per cent., 3,753*l.*

Mr Charles Lee, 1,087*l.*, 1,325*l.*, and 1,440*l.*, with 10 per cent., 4,247*l.*

Mr. Vigers made his total 4,470*l.*

The Recorder in summing up remarked upon the difference in the figures of the professional witnesses, and said it was for the jury to decide between the parties, always remembering that plaintiff was entitled to a fair and reasonable compensation.

The jury awarded plaintiff 16,400*l.*

Books Received.

Compensation to Landowners: being a Practical Digest of the Law of Compensation. By GEO. V. YOOL, M.A. London: Maxwell, Bell-yard, 1864.

ALTHOUGH this little book purports to be an endeavour to explain the subject of Compensation to Landowners in a manner which shall be as little embarrassing as possible to those who are not engaged in legal pursuits, it is one that the professional valuer should obtain, and may benefit by; and that is more than can usually be said of popular expositions of any subject. It quotes the most recent cases, and comments on some of the defects in the existing state of the law, defects which should at once be remedied.

The headings stand thus:—1. Lands injuriously affected; 2. Lands taken; 3. Lessees; 4. Taking part of a house or manufactory; 5. Private agreements; 6. Power of entry.

Under the heading "Lessees," speaking of the position of yearly tenants, Mr. Yool notes:

"Compensation to yearly tenants whose property is taken, are frequently avoided by settling with the freeholder and then giving the necessary legal notice to determine the tenancy."

No doubt of it; very frequently; and in this way robbery is committed,—quite legally, but robbery for all that. The tenant may have been in possession for five, ten, or fifteen years, and, so far as his landlord is concerned, might remain so, though without a lease, five, ten, or twenty years more. He has made a business, and could perhaps find no place near where he could locate himself to retain it; to say nothing of the unavoidable expenses and loss even if he could; and yet any compensation in his case may be "avoided" by "settling with the freeholder, and then giving the necessary legal notice to determine the tenancy." It has been suggested, and not unreasonably, that every yearly tenant, occupying premises compulsorily taken, in which a business has been carried on by himself or his predecessors for three years or more, should be entitled to be compensated for the loss of his business in the same manner as if he had a lease for as many years (up to twenty-one) as he or his predecessors had carried on the same business in the premises.

The tendency in the earlier days of railways was to victimise the company and to obstruct public improvements by excessive awards. More recently, we are disposed to think, it has been the other way, and individuals have been made to suffer often without forwarding any great public improvement either.

A certain number of leading surveyors, who appear usually to act together, having fought through the first phase of the movement, have acquired such a pious fervour in defence of companies, that it leads them often to underrate very considerably, according to the opinion of others, the value of any property about to be taken by them. The result is, that when, in opposition to their statements, the opinions of other surveyors, perhaps on their side exaggerating, are set, we get startling differences, not very demonstrative of professional knowledge, judgment, or (we must say it) integrity.

A fortnight ago, the surveyors for the owner, in a certain case, swore that the land taken and damage done to other land would not be paid for under 13,000*l.*; and the surveyors for the company swore, on the same book, that 1,200*l.* would be ample compensation. The difference in a case reported in our present number is striking enough, and more than enough, though, the question being narrower, not so startling as in the first-named instance.

It would not be uninteresting to go more fully into this subject, giving photographs of some of the principal performers in the remarkable game that is going on, but this is scarcely the proper occasion. Some other day, perhaps.

VARIORUM.

The Popular Science Review; edited by Henry Lawson, M.D. April, 1864 (Hardwicke, Piccadilly). This well-conducted periodical always contains something of especial interest at the moment. There is in the present number a paper on printing telegraphs, with a page of engraved facsimiles from the printing telegraph of Bonelli, now at work between Liverpool and Manchester, and from Caselli's pantelegraph, in Roman and in Persian written characters, showing the wonderful possibility of writing with a pen two or three hundred miles long. Wheatstone's automatic printing telegraph is also here illustrated. Another interesting paper relates to pre-historic dwellings, with a plate of illustrations; and there are various others, besides a full and excellent summary of scientific progress in all its branches.——"Thomas's Universal Newspaper and Periodical List" (Watson, Brydges-street, Covent-garden, 1864). This is the most complete list of newspapers we have yet seen: it contains, not only the newspapers published throughout the three kingdoms, with their politics and price, and also the weekly, monthly, and quarterly magazines and periodicals, their publishers, price, place, and time of publication, but also a very full list of the principal colonial and foreign newspapers.——"The Sewing Machine" (Spon, Bucklersbury, 1864). In this volume we have an interesting history and description of that very ingenious piece of mechanism the sewing-machine, in its various modifications and applications. The matter is translated from the German of Dr. Herzberg, by Mr. Upfield Green, and it is illustrated by seven plates.

Miscellanea.

The Carmichael School of Medicine, Dublin.—The first stone of the new building was laid on the 29th ult. by the Lord Lieutenant. The principal front will be faced with granite. Mr. J. E. Rogers, of Dublin, is the architect. Messrs. Cockburn & Sons are the contractors. The cost is estimated at 5,500*l*.

Dust Oh!—In London, the price of "breeze," for the purpose of making bricks, has risen to 3s. 6d. per load, though but a few years ago it was scarcely saleable at 1s. 6d. per load. In consequence of this increase of value, the dust contractors are now paying for the dust in many parishes, instead of, as formerly, being paid for removing it.

Mr. W. Simpson's Drawings of India and Cashmere.—The German Gallery, Bond-street, contains just now 158 out of 250 water-colour drawings, made by Mr. William Simpson during a lengthened stay in India and some of the regions beyond the British frontier. He appears to have had great facilities afforded him through the kindness of the late Lord Canning, and has made admirable use of them. The subjects are very varied: with landscape and figures, the ancient rock-cut temples and the Bhore Ghaut incline of the Bombay Railway, the artist is equally at home; and the result is a highly interesting exposition of architecture, scenery, manners, and customs. The religious ceremonies set forth include that of praying by machinery, practised by the Lamas, the Buddhist priests of Thibet. Mr. Simpson's drawings are to be published by in chromolithography, Messrs. Day, and will make a very fine work. The room has been decorated to receive the pictures by Mr. Truefitt.

The Growth of the Local Press throughout the Country.—Go where we will, not only in the metropolitan districts and the large provincial towns, but also in towns of from 2,000 to 3,000 and 6,000 population, we find this power of the State increasing to an extent which can only be properly understood by those who have watched its growth. In many of the large towns there are two or three local daily newspapers, besides several published weekly. The publication of the proceedings of parish and other boards, and of comments on matters of importance to the respective districts, leads to many improvements. By this means, to a certain extent, but not so much as we would wish, sanitary improvements are advanced; schools, hospitals, and other charities promoted; and through the advertising columns of the local press an impulse is given to business of all kinds. For the most part these papers are sold for a penny. Besides matters of local interest, we find in such papers well-digested extracts as to the general news and politics, literary reviews, agricultural notes, leading articles of local or general interest, and very often essays, tales, or rhymes, by some aspirant for literary fame. It is surprising that these speculations can pay, considering the limited price and circulation which many of them must have.

Coal in Mont Cenis Tunnel.—At the Manchester Geological Society, Mr. Joseph Dickinson has exhibited a number of specimens taken from the rocks now being tunnelled through the Savoy side of Mont Cenis. They appeared generally to be from metamorphic rocks; and as yet, he believed, no granite had been touched upon. The most interesting mineral is coal, which is found associated with the metamorphic rocks. It has, he was informed, been cut through in different places in the tunnel. Between San Michel and Modane similar coal is being worked to supply the district. In thickness it is as irregular as the rocks themselves. It is very similar to the Welsh anthracite. There is no regular dip at all in any of the rocks. In one part they stand up like a cone. As for the coal, it is impossible to say which is the roof and which is the floor, as it is sometimes vertical, and it dips in such a variety of directions. The rock which adjoins the coal is of the nature of shale. There are no stratified rocks near—not more than the bedding sometimes met with in metamorphic rocks; neither is the limestone stratified, but it lies in large masses, the same as quartz. The masses are partially laminated, and the coal lies imperfectly bedded. Here and there the quartz and limestone, instead of taking the shape of solid rock, are like snow or flour, and are used in making the mortar for the tunnel.

The New Infirmary for Leeds.—The chief stone of this building, of which we have already given a description, with view and plans, has been laid with some ceremonial, and in the presence of many thousands of the townspeople and visitors from various parts of the Riding. The total expenditure before the building can be opened will be 101,948*l*., of which 97,752*l*. have already been realised, chiefly by subscriptions. Messrs. J. & W. Beanland are the contractors; and Mr. Scott, as we have before said, is the architect.

Fall of a Blast Furnace.—Recently one of the three blast furnaces, belonging to the Messrs. Aston, Wolverhampton, fell with a fearful crash. Fortunately there happened to be only a few men at work at the time, or the consequences might have proved fatal: as it was there were only two men slightly hurt. The iron was in a liquid state at the time of the accident, and ready to be run into the moulds. The place is one mass of ruins, the molten iron and the broken brickwork being mixed together in one great pile. The furnace in question was the newest of the three, and had been built about eighteen years.

The Sluicing Operations at Birkenhead.—The sluicing operations in connexion with the Great Low-water Basin, at Birkenhead, have been resumed. At the commencement of the operations there were about 13 feet of water in the basin, and the tide had about an hour to ebb. The sluices, according to the *Albion*, are found to take off, when all fully opened, a foot in five minutes. This, over an area of 112 acres, would give 39,000,000 gallons of water every five minutes, or a total of 126,600,000 gallons during the time the gates were open. This will give some idea of the immense commotion caused in the basin by such a sudden influx of that vast body of water. Mr. Lyster, the dock engineer, states that during four days' operations, when he wrote, no accident of any kind occurred, and the machinery worked with perfect precision.

Sanitary Matters.—The Local Government Act has been adopted at Tamworth, and also at Blandford.——The district of Beaufort is to be at once thoroughly inspected.——Public feeling in Douglas, the capital of the Isle of Man, is now in a state of the greatest ferment. The legislature of the Isle of Man is vested in a self-elected and irresponsible body, called the House of Keys, all laws being submitted to them for their sanction. A few weeks ago a sanitary bill was laid before this body by the town-commissioners of Douglas. This pigmy parliament, jealous of the town, rejected the bill, though the citizens were alone to be taxed for it. Popular indignation was great on the matter, and the *Isle of Man Times* commented severely on the arbitrary conduct of the self-elected Keys. At a recent meeting of that body the article was declared to be "a contempt of the House and a breach of its Privileges." The editor being summoned before the House, was offered the choice of an apology or six months' imprisonment. The latter alternative was accepted, and the editor was at once removed to the insular gaol. Meetings have been held and a committee appointed, to raise a fund for the purpose of trying the legality of this extraordinary proceeding of the House of Keys.

Gas.—The Sheppy Gas Consumers' Company, Sheerness, have declared a dividend after the rates of 4 and 5 per cent. per annum on two classes of preference shares respectively, and a dividend of 10 per cent. per annum on all ordinary shares paid up on the last day of that year. The directors contemplate reducing the price of the gas now charged at 5s. per 1,000 cubic feet, at the end of the present year.——The Southwell Gas Light and Coke Company (Limited) have declared a dividend of 6*l*. per cent., leaving 119*l*. to the current account.——At the Selly Oak Nail Works, Birmingham, a new system of coke-burning has been adopted, whereby the offensive and pernicious gases which usually escape to taint the atmosphere and injure vegetation, are turned to good account by being conveyed to a neighbouring furnace or fire, either for blast-heating, generation of steam, or other purposes where they can be usually consumed. There is also, it is said, a complete removal from the coal of all sulphurous properties, and thousands of tons of coal now considered of no use may thus be converted into strong and good coke. The invention is patented by Messrs. J. & C. Hawkins, of Walsall. The *Builder* first suggested the utilization of the gas in coke burning, and several plans have since been put into practice, but this is the last we have heard of.

Monster Steam-hammer.—Messrs. R. & W. Morrison, of Newcastle-upon-Tyne, have just forged the largest and most powerful steam-hammer in the world for the Russian Government. The piston-rod to which the hammer is attached is a ponderous piece of metal, weighing no less than 42 tons in its rough forged state; and now, when dressed down to the required dimensions, it has only been reduced to 35 tons. The length of the piston-rod is 58 feet, the diameter 2 feet 4 inches, having a stroke of 14 feet 6 inches, the piston being 6 feet 8 inches. The forging of this mass of metal occupied forty-four days. The cylinder for this hammer was cast at the Elswick Engine Works. Its diameter inside is 6 feet 8 inches, its weight upwards of 49 tons. The standards weigh nearly 40 tons each. The united weight of the hammer-bar, the cylinders, and standards, amounts to over 150 tons.

Artificial Light and Lighting Materials. A paper on this subject was read at the Society of Arts, by Mr. B. H. Paul, on the 30th ult. In speaking of the history of lighting materials, mention was made of the fact that just before "gas" was discovered, mineral oils of the petroleum or paraffine class were being tried with every prospect of success. These oils were distilled, as they still are in some cases, from bituminous shale and other minerals. Although the introduction of gas completely superseded the mineral oils at that time, works were established in France in 1830 for the manufacture of artificial petroleum, and these are still in operation. Somewhat later, other works were started in other parts of the Continent as well as in this country; and about the year 1853, the earth oil of Rangoon was examined by Mr. Warren De La Rue and Hugo Müller, with a view to its application for lighting purposes. About 1860, the extraordinarily abundant supplies of petroleum in America became the object of special interest as materials for lighting. One object of the paper was to consider the charging of atmospheric air with volatile mineral oils, on the principle discovered and patented by the late Mr. Mansfield many years ago, and recently brought out as a new French invention. The danger of explosion was, under certain circumstances, admitted; but it was considered possible to make arrangements for completely obviating that objection, so that these oils might be burnt like gas without any danger of an explosive mixture being formed.

Salisbury Cathedral. The condition of this structure, both as to its general disrepair, and more particularly as to the safety of the tower and spire, having been for some time past a source of much anxiety, it has been resolved to hold a diocesan meeting in the chapter-house attached to the cathedral, with the view of raising the necessary funds for its complete restoration. The cathedral has already been surveyed and reported on by Mr. Scott, and at his suggestion certain works which were considered absolutely essential to the security of the building are in rapid progress, and the contractor, Mr. G. W. White, of Pimlico, has undertaken to complete them by the spring of next year. These works comprise the entire renovation of the decayed portions of the foundations,—a vital part which, from defective drainage and from the whole of the close having been raised several feet when the tombstones were removed and interments discontinued,—had fallen very much into decay; the removal of the soil surrounding the foundation, and replacing it with concrete; the taking down and reconstructing several of the flying buttresses, and certain other substantial repairs, the cost of which will completely absorb the 10,000*l*. received from the Ecclesiastical Commissioners towards the sustentation of the fabric. The additional works recommended by Mr. Scott are estimated to cost from 35,000*l*. to 40,000*l*., and will comprise, in the first place, the carrying out of certain plans to insure the permanent security of the tower and spire, which, from their not having formed part of the original design (a lantern ornamented internally with a colonnade rising 8 feet above the present roof), have for centuries past pressed so heavily upon the four piers which support them as to throw the columns very perceptibly out of the perpendicular; the entire restoration of the interior and exterior of the building, including the west front; the removal of the present unsightly yellow wash from the ceilings, and restoring the ancient decorations; and also the refitting of the choir, and a variety of other important works, together with drainage and warming.

WORKMEN'S CLUB AND TEMPERANCE HALL FOR STOCKTON.—On Easter Monday, the foundation-stone of a temperance-hall and working men's club-rooms was laid at Stockton, by Mr. H. Pease, M.P. The cost of the building is estimated at about 1,500*l.*, nearly 500*l.* of which have already been subscribed.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 19th of March, on 11,184 miles, to 551,185*l.*, and for the corresponding week of last year, on 10,805 miles, to 502,868*l.*, showing an increase of 379 miles, and of 48,317*l.* in the receipts.

THE BLANDFORD BUILDING OPERATIVES' SOCIETY.—The seventh anniversary of this society and division of profits, has just been celebrated by a supper at the Exchange. The company present numbered about 150. The chairman, in his address, commented unfavourably on the Chancellor of Exchequer's new measure, and was followed by another speaker who complained that he could not understand the principle of division of profits in the operatives' society: for, whereas some who had been in the society a twelvemonth received 3s. 10½d., others who had been in the society only seven times that period received fourteen times that amount, viz. 2*l.* 11s. 9½d. No very satisfactory reply was given to this objection. The total income of the society is stated to have been 313*l.* 3s. 0½d.; payments, including 10*l.* kept in stock, 174*l.* 2s. 10d. Amount divided, 139*l.* 0s. 2½d.

ACCIDENTS.—On the 23rd ult., at the main drainage works in Old Kent-road, a boy named George Finch, employed at the steam-engine used for pumping the water from the excavation, was in the act of arranging some part of the machinery, when the engineer, not knowing the position of the boy, put on the steam, and before it could be stopped the wheels had dragged in the boy, crushing and breaking his left arm, and otherwise dreadfully injuring him.——In Gravesend Church, a young man, name and residence unknown, was in the bell-tower taking off the inscription on the bells, when he stepped back, and, missing his footing, fell into the bell-room, a depth of about 22 feet. He was removed to the Gravesend Infirmary, where, on examination, it was found he had sustained concussion of the brain, besides several other injuries.——A serious accident has occurred at the Garston Salt-works, Church-road, Garston, on the bank of the Mersey. The chimney of the engine-house was 60 feet high: it had been built thirty-five years ago. A few bricks fell out recently from its base. The aperture, which prevented the engine fire from burning, was covered over with an old sail, but no other measures were taken. About two hours afterwards, however, the whole base of the chimney gave way, and the upper part fell partly upon the roof of a house, which, of course, it smashed in. A child was crushed to death, and a woman fearfully cut about the head, and her body much crushed.

RAILWAYS IN THE CITY.—A meeting of some of the leading bankers, merchants, and other principal citizens, has been held at Messrs. Rothschild's, in New-court, St. Swithin's-lane, to confer as to the best mode of giving effect, in the House of Commons, to the objections entertained by the great mass of the citizens to the various railway projects now in contemplation, and calculated seriously to affect their interests. Baron Rothschild was called to the chair, and Mr. Samuel Morley, Mr. Crawford, M.P., Mr. Tite, Sir S. M. Peto, M.P., Mr. John Abel Smith, M.P., Mr. Alderman Salomons, M.P., Mr. Gassiott, and Major Snell, were present, with others. A public meeting was held at the London Tavern on the 4th ult. for the purpose of considering in what manner the City of London could be best protected against the various railway bills now before Parliament. The meeting was very numerously and most influentially attended, resolutions were passed, and a committee appointed. The House of Commons has appointed a select committee to consider all the railway bills which affect the metropolis, and it meets on the 11th of April. A petition praying that legislation with respect to all railway schemes which propose entering the City of London shall be postponed until some of the large public works already sanctioned shall be further advanced and time thus obtained for more mature consideration, has been almost unanimously adopted, and most influentially signed.

TENDERS.

For St. Clement's Church, Arundel-square, Barnsbury. Mr. G. G. Scott, architect:—

Ruddle & Thompson	£10,898 0 0
Jackson & Shaw	9,789 0 0
Glenn, Brothers	9,719 0 0
Smith & Taylor	9,480 0 0
Holland & Hannen	9,400 0 0
Piper & Wheeler	9,308 0 0
Myers & Son	8,988 0 0
Carter	8,875 0 0
Dove, Brothers	8,775 0 0

For additions to Dulas Court, Herefordshire, the residence of Colonel Feilden. Messrs. Elmslie, Franey, & Haddon, architects. Quantities supplied by Mr. T. Sutton:—

King	£5,685 0 0
Bigglestone	5,590 0 0
Pearson & Son	5,375 0 0
M'Cann & Everal	4,990 0 0
Woods & Son	4,987 0 0
Welsh (accepted)	4,985 0 0

The bricks, walling-stone, and hauling being provided for by the proprietor.

For cottage Ornée, at Westfield, near Hereford, for Mr. H. Vevers. Messrs. Elmslie, Franey, & Haddon, architects:

Serrigo	£575 0 0
Mason	375 0 0
Lee	370 0 0
Ford (accepted)	320 0 0

For rebuilding premises at Hornсastle, for Mr. H. Lunn. Bellamy & Hardy, architects:—

Pike & Wright	£1,010 0 0
Carter	910 0 0
Huddlestone (accepted)	890 0 0

For erecting a corn exchange, magistrates' rooms, &c. at Wantage, Berkshire. Mr. R. Wheeler, architect. Quantities supplied by Mr. B. A. C. Herring:—

Sims & Marten	£3,444 0 0
Cordery	3,313 0 0
Wheeler	2,900 0 0
Futcher	2,870 0 0
Gardiner	2,800 0 0
Stevens	2,785 0 0
Barrett	2,700 0 0
Bartlett	2,600 0 0
Nash	2,555 0 0
Jones & Sons	2,540 0 0
Thomas	2,535 0 0
Dover	2,300 0 0

For St. John's Parsonage, Battersea. Mr. E. C. Robins, architect:—

Hill & Sons	£1,815 0 0
Sims	1,798 0 0
Jackson & Shaw	1,770 0 0
Easten	1,735 0 0
Patrick	1,730 0 0
Bass	1,719 0 0
Sharpington & Cole	1,697 0 0
Crescell	1,673 0 0
Newman & Mann (accepted)	1,585 0 0

Freemasons' Schools, Tottenham:—

Matthews	£23,539 0 0
Patman & Co.	23,220 0 0
Haward	23,110 0 0
Laurence	23,000 0 0
Brass	22,978 0 0
Patrick	22,800 0 0
Piper	22,700 0 0
Humphreys	22,675 0 0
Hill	22,640 0 0
Turner & Son	22,376 0 0
Myers & Sons	21,894 0 0

For alterations, No. 33, Hampstead-road, for Messrs. Garrett, Whittaker, & Grimwood. Mr. J. F. Holdsworth, architect:—

Longmire & Burge	£624 0 0
Tracey	623 0 0
Baugh and Bryant	589 0 0

For four new shops and cottages, Billinghurst, Sussex. Mr. R. W. Edis, architect:—

		Allow for old materials.
Grinstead	£1,145 12 0	£100 0 0
Wadey, Sons, & Voice	1,120 0 0	100 0 0
Skinner	875 0 0	40 0 0

For three new loose boxes to stables, Somers House, for Mr. H. Carnsew. Mr. R. W. Edis, architect:—

Skinner	£215 0 0
Grinstead	199 6 0
Wadey, Sons, & Voice	194 0 0

For works, No. 5, Park-crescent, Regent's Park, for Mr. F. Wyatt Truscott. Messrs. John Young & Son, architects:—

	New story.	Billiard room.	Total.
Lawrence & Sons	£599 0 0	£798 0 0	£1,397 0 0
Brass	589 0 0	765 0 0	1,354 0 0
Patman	598 0 0	687 0 0	1,285 0 0
Henshaw	564 0 0	663 0 0	1,227 0 0
Fish	556 0 0	660 0 0	1,216 0 0
Browne & Robinson	488 0 0	519 0 0	957 0 0
Hill & Sons	390 0 0	490 0 0	880 0 0

For building a house at Bride Haven, Cornwall, for Mr. A. Mills, M.P. Mr. Benjamin Ferrey, architect. Quantities supplied:—

	Carcase.	Fittings.	Total.
Birmingham	£2,142 3 3	£1,764 5 2	£3,884 8 5
Stafford	2,248 10 0	1,590 0 0	3,838 10 0
Hiard	2,021 0 0	1,228 0 0	3,249 0 0
Dove	1,870 0 0	1,350 0 0	3,220 0 0
Burt	1,817 4 9	1,288 2 9	3,205 7 6
Woodford	1,597 0 0	1,494 0 0	3,091 0 0
Pollard	1,680 0 0	1,396 0 0	3,076 0 0
Shewbrooks & Son	1,800 0 0	1,250 0 0	3,050 0 0
Davis	1,747 18 0	1,265 15 0	3,013 13 0

For new warehouse, Queen Elizabeth-street, Southwark, for Mr. Robert Ledger. Messrs. Newman & Billing, architects. Quantities supplied by Mr. Edsall:—

Rawlins	£2,830 0 0
Brass	2,272 0 0
Peake	2,029 0 0
Axford	1,965 0 0
Dale	1,940 0 0
Coleman	1,872 0 0
Wells	1,839 0 0

For dwellings for the labouring classes, to be erected at Bull's Cross, Herts, for Mr. Bowles. Mr. F. G. Widdows, architect:—

Ransom	£1,108 0 0
Patman	948 0 0

For erecting a house in Elgin-road, Addiscombe, Surrey, for Mr. Howard. Mr. F. G. Widdows, architect:—

Wilson & Raynham	£777 0 0
Patman	740 0 0
Enmor	734 0 0
Fairhead	680 0 0
Green	637 0 0

Works at Coombe Abbey, near Coventry, for Lord Craven:—

Holland	£23,857 0 0
Trollope	23,700 0 0
Rider	23,680 0 0
Cubitt	23,545 0 0
Myers & Sons	23,106 0 0
G. Smith & Co.	22,855 0 0

For three houses and shops at Child's Hill, Hampstead. Mr. R. A. Potts, architect. Quantities by Oliver & Pauce:—

Arnold & Brown	£3,204 0 0
Beaves	1,921 0 0
Hill & Keddell	1,710 0 0
Fish	1,701 0 0
Rudkin	1,485 0 0
Palmer	1,481 0 0
Scriviner & White	1,454 0 0
Genge	1,422 0 0
Batt	1,249 0 0
Blower, jun. (accepted)	1,125 0 0

For dwelling-house in the Wellesley-road, Croydon, for Mr. G. T. Loddy. Mr. J. T. Barker, architect. Quantities by Mr. Ladds:—

Hooker	1,578 0 0
King	1,460 0 0
Hipwell & Burton	1,384 0 0
Sugden	1,177 17 7
Harvey	1,165 0 0
Warne (accepted)	1160 0 0

For erecting two villa residences at Richmond, for Messrs. Kerby, Braithwaite, & Williams. Mr. Gordon Stanham, architect:—

Sims	£2,070 0 0
Adamson & Sons	1,997 0 0
Dawson	1,890 0 0
Newman & Mann	1,876 0 0
Jones	1,757 0 0

For additions to sculpture gallery, for Mr. D. Gooch, Warwick-road. Mr. E. Roberts, architect:—

Lawrence & Sons	£832 0 0
Holland & Hannen	794 0 0
Dove, Brothers	675 0 0

For the erection of a new church at Lawley, near Wellington, Salop. Mr. J. Ladds, architect. Quantities supplied by Mr. Thomas Ladds:—

		Extra for stone carving.
Hinley	£1,494 0 0	£5 0 0
Paterson	1,485 0 0	10 0 0
Millington & Son	1,471 10 0	10 0 0
Yates	1,429 0 0	—
Nevett, Brothers*	1,327 0 0	15 0 0

* Accepted subject to slight alteration so as to reduce the amount.

For a public-house at Woodford Bridge, Essex. Mr. G. R. Noble, architect:—

Rivett	£947 0 0
Hedges	933 0 0
Saville	905 0 0
Perry & Judson	895 0 0
Hill & Keddell (accepted)	885 0 0

For alterations at Feru House, Upper Clapton, for Mr. R. King. Mr. W. Lee, architect:—

Fisher	£257 0 0
Roome (accepted)	251 10 0
Case	160 0 0

For repairs to lodge, and completing detached house in Belvedere Park, Kent, S.E., for Mrs. J. Hutchinson. Mr. Herbert Ford, architect:—

Gumbrell	£905 0 0
Rawlins (accepted)	746 0 0
Relph	650 0 0

For three shop-fronts (exclusive of plate-glass, painting, &c.) at Erith, Kent, for Mr. Webber. Mr. Herbert Ford, architect:—

Relph	£112 0 0
Priestley	109 12 0
Gumbrell (accepted)	105 0 0

TO CORRESPONDENTS.

To deaden Sound.—A correspondent wants to know how he can stop the sound of a piano played in the next house. He says,—"The wall between my house and the next is 9 inches thick. I have tried several things to stop the sound: first, I had the wall battened out and thin boards nailed to the battening, leaving a space between the boards and wall of ½ inches at least, and well packed the space with sawdust, but this had no effect. I then took out the sawdust and put in sand, and the same result followed. I then took down the boarding and sand and had a ½ inch brick wall built in its place, the bricks laid in cement, and leaving a space between the old and new walls of about 2 inches, but still the sound is heard as much as ever."

Colour in Bricks.—F. G. W. writes,—"Can any of your correspondents inform me what remedy to apply to black bricks of a soft nature used in gauged arches to prevent the colour running when exposed to rain?"

C.—N. B.—M. M. (out of our province).—J. H.—J. J. (We have doubt you will hear from Mr. Forrest in due time).—C. S.—H. S.—E. M.—?—N. & C.—A. J. C.—F. E. H.—Pedestrian.—F. W.—E. R.—T. H E.—Mr. S.—T. H. A. (next week).—A. J. B (30).—O. & P.—J. G.—J. L.—E. J. T. (does Carter give the decoration on the chair?)—G. W. B.—H. P. R.—Decorations of St. Paul's (next week).—S M.

Serious articles and notices, in type, are unavoidably postponed.

We are compelled to decline pointing out books and giving advice.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

[ADVERTISEMENTS.]

STAINED GLASS WORKS. — HEATON, BUTLER, & BAYNE have REMOVED to their new and extensive Premises, KING STREET, COVENT GARDEN, W.C.

ADVERTISEMENTS.

TO BUILDERS AND OTHERS.—Absolute Sale

MR. WILLIAM HOLLINGSWORTH is instructed to SELL by AUCTION, at the SALE ROOMS, 7, High Holborn, on MONDAY next, at TWELVE precisely, a Variety of BUILDING MATERIALS, including Black and General Ironmongery of every description, Register and Elliptic Stoves, Gas Fittings, Iron Piping and Guttering, Glazed Sashes Mahogany and other Doors, an Iron strong Room Door, Carved Stone and Marble Chimney-pieces, Stone Balusters and Traceries, and other Marble and Stone Work, 25 cwt. of White Lead, 4 cwt. of unground Colours, Turps and Varnishes, a patent Oak Bruiser and Beam Splitter, Iron Stable Fittings, and other Goods May be viewed, and Catalogues had.

To Millwrights, Engineers, and Ironfounders.—Notice of Sale of the MILLBANK IRONWORKS and SAW-MILLS, Oxford.

MR. R. PIKE begs respectfully to announce that he is instructed by the Proprietor to DISPOSE of the above VALUABLE FREEHOLD PROPERTY, he having purchased a good-established business of the late Mr. Coltman, of High Wycombe Bucks, Millwright. The trade attached to these works gives constant employment to from 2 to 30 hands, and possess great facilities both for water and railway conveyance; possessing a frontage to a navigable stream, and immediately opposite the landing wharf of the Great Western and Midland Railway goods station. The purchaser will have the option of purchasing all or any of the plant, the valuation in the usual way. Full particulars will be given in next week's paper.

To Builders Carpenters, Timber Merchants and Others.—Extensive Two Days' Sale of NEW TIMBER, Deals, Prepared Flooring, Building Materials, Glass, 1,000 Pieces of Paper, White Lead, and other Effects. By order of the Contractor, and the party will be on the premises are required.—KENNINGTON

MR. HALL & SON will SELL by AUCTION, on THURSDAY and FRIDAY, APRIL 14th and 15th, 1864, at 6 o'clock each day precisely, on the PREMISES, Chesterfield-street, Kennington, and Chester-gardens, Walcot-place, Kennington-lane near the New Church, about 5,000 Planks, Deals and Battens, various lengths, 400 pieces of Ivy Pine cut into boards, 500 Deals and Planks cut various, 150 Squares of New Flooring, 10,000 feet of Quartering and Scantlings, 2 Crates of Glass, 1,000 Pieces of Room and other Paper, White Lead, &c. Mahogany Boards, Deal Wood, Lime to the excellent Timbers and Fittings of some modern houses taken down for the New Railway Extension, Lodgate hill, and comprising excellent 4-and 8-panel double moulded doors and Frames, modern sashes and frames, cupboard fronts, floating joists, timbers, and other effects. The whole sent in for immediate and unreserved disposal.—May be viewed, and Catalogues had on the Premises, and of the Auctioneers, Kennington, S.

VAUXHALL-GARDENS ESTATE, LAMBETH, SURREY.—Valuable FREEHOLD BUILDING LAND, arranged in lots, suitable for the erection of Shops, Residences for Operatives, Factories, and Business Premises; also GROUND RENTS, amounting to 460l. per annum

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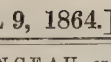
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Experience has proved that increasing receipts from the working of submarine cables bring with them only a trifling proportionate increase in the annual working expenses.

Messrs. Glass, Elliot, & Company and the Gutta Percha Company have hitherto together had the principal share in the manufacture of cables and telegraphic lines.

The form, or form, which have undertaken the manufacture, laying down, and maintenance of the cables, have hitherto obtained the greater part of the orders from the Gutta Percha Company, which has, in this branch of its trade, confined itself entirely to the production of the gutta percha.

Messrs. Glass, Elliot, & Company have, during the last ten years, manufactured and laid down in different parts of the world no less than a thousand miles of Submarine Telegraph Cable, while the Gutta Percha Company have, during a like period, manufactured upwards of three miles of insulated wires for submarine Telegraph Cables now in work.

It has been estimated that the manufacture of entire cables could be more speedily and profitably carried on by uniting in one establishment the manufacture of the outer cable and wire, and the execution of the whole of the work, hitherto separately executed by the Gutta Percha Company, and with this view contracts have been entered into for the purchase of the entire machinery, premises, land, patents, stock, goodwill, &c. of the Gutta Percha Company, by Messrs. Glass, Elliot, & Company; and it is from these agreed to transfer to this Company at the cost price to them, the works so acquired. A contract has also been concluded with Messrs. Glass, Elliot, & Company, for the acquisition by this Company of their manufactory, premises, plant, stock, and business, the consideration being paid, to the extent of 150,000l. in fully paid-up shares of the Company. Upon these completed arrangements the Company will enter into possession of the above-named businesses, and be entitled to their profits, as from the 1st of January last.

The Company's business will be conducted under the personal superintendence of Mr. Henry Clay and Mr. Glass, as Managing Directors, assisted by the staff at present employed under them.

The agreement with Messrs. Glass, Elliot, & Company, provides for the assignment, with the consent of the Treasury, to the Company of the benefit held by the Firm of the Submarine Telegraph between Malta and Alexandria. The Alexandria, Cairo, and Suez Telegraph held by Messrs. Glass, Elliot, & Company, under agreement with the Telegraph Administration of Egypt, is also comprised in the arrangement.

The large profits which have hitherto been realised by both of the above firms, and the prospect which exists of considerable extension of the business, justify the expectation of a large return to the Shareholders, independently of the profits arising from the working of the telegraph lines at present referred to.

Copies of the above contracts, together with the Articles of Association of the Company, may be inspected at the Solicitors' offices.

Applications for shares must be made on the annexed form; but no application will be considered unless the deposit of 1l. per share has been previously paid to the Bankers of the Company. This deposit will be returned if no allotment is made in the applicant, and if an allotment is made, it will be applied towards the payment then due.

An option will be given to the Subscriber of taking one-fourth of the shares allotted to him, fully Paid up Shares.

Prospectuses and Forms of Application for Shares may be obtained at the Offices of the Company, and of the Brokers

London, 7th April, 1864.

No.

FORM OF APPLICATION FOR SHARES.

(This Form should be presented entire to the Bankers of the Company, who will detach the receipt, and return it to the Applicant.)

To the Directors of the Telegraph Construction and Maintenance Company, Limited.

GENTLEMEN,—I request you to allot me Shares of 20l. each in the Telegraph Construction and Maintenance Company, Limited, and I hereby agree to accept such Shares, or any less number that may be allotted to me subject to the regulations of the Company, and to pay the further deposit of 3l. per Share on allotment; and I authorize you to enter my name in the Register of Members of the Company in respect of the Shares allotted to me.

Name in full ... ...
Usual Signature ... ...
Address in full ... ...
Date ... ...

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above-extensive Premises with convenient SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

LONDON and WESTMINSTER MARBLE WORKS.—The attention of Builders and the Public is invited to JOSEPH HADFIELD'S CHOICE SELECTION of CHIMNEY-PIECES, in all the VARIOUS FOREIGN and BRITISH MARBLES, which he offers on MOST REASONABLE PRICES.—LONDON and WESTMINSTER MARBLE WORKS, No. 16, Earl-street, Westminster, S.W. and at Sheffield.

LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. FINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

*** The above WEATHER STONE is 1s. 9d. per cubic foot, delivered in London.

MARBLE SLABS of BEST QUALITY, at low prices.—ONE THOUSAND SICILIAN, VEIN, DOVE, and PASTARD STATUARY, just landed at Carrara Wharf, Grosvenor-road, Pimlico, from the FABBRICOTTI, BROS Quarry Owners. Slabs of other qualities, and Blocks of every description of Marble in demand.

WILLINGTON STONE WHARF,
REGENT'S PARK BASIN, N.W.
HY. GEORGE & CO.

MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, slabs, &c.; Bath, Caen, Portland, Aubigny, and Granite Cargoes direct from the quarries. Wrought work executed at moderate prices.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
and
SUPERIOR PLASTER OF PARIS.

This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent in use, from its covering one-third more superficies than the general plaster.

PRIZE MEDALS
Were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
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SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W.

PORTLAND STONE.
Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Merchants, Jersey Quarry, and Moors Wharf, Chelsea, and Grosvenor-road, Pimlico.
THORN & CO. Stone Merchants and Contractors

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall.
Agent for Manchester and Liverpool, T. GARDEN, 24, King-street.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, or Engineering and Building Purposes. Supplied direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

G. MITCHELL,
MARBLE, STONE, and GRANITE WORKS.
SHOWROOMS:—
No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.
Estimates will meet with prompt attention.
MANUFACTORY at WALTON STREET.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Paving, Hearthing, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Rock Stone delivered direct from the Quarries.
Prices and specimens forwarded on application.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS,
STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Office 10, Three Crown-square, Southwark.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862, for enhanced value, but no gold medal will be considered unless the deposit of 1l. per share has been previously paid to the Bankers of the Company. This deposit will be returned if no allotment is made to the applicant, and if an allotment is made, it will be applied towards the payment then due.

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London, 7th April, 1864.

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Name in full ... ...
Usual Signature ... ...
Address in full ... ...
Date ... ...

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This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

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BILLS of QUANTITIES, SPECIFICATIONS, DRAWINGS, &c. neatly and expeditiously Lithographed and Copied. A numerous staff of hands always engaged. Prompt attention to Country Orders. Specimens and Price list post free.
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MESSRS. CLAYTON & BELL,
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Adjoining the Polytechnic Institution.

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Designs and Estimates submitted.

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GOULD & PORTER (late CARY) are now manufacturing their improved 10-inch DUMPY LEVEL, best quality, complete in case, 9l. 9s. 0d.; with silver ring compass, 10l. 10s. 0d.; 12-inch ditto, ditto, 11l. 5s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, 22l. 0s. 0d. All other MATHEMATICAL INSTRUMENTS at Reduced Prices.—Mathematical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century.—254, Strand, London.

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JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the Profession that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Driving Bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractability and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which they can be joined or made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Boxes, Union joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON.

HONDURAS WHARF AND FALCON WHARF,
74 and 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms Shipping Orders executed with Dispatch

HOWARD & CO.
MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES,—1, VICTORIA STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.
This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, and MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

J. B. WHITE & BROTHERS,
CEMENT MANUFACTURERS,
BRICKMAKERS, AND MARBLE IMPORTERS.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL and MANCHESTER,—THOMAS OAKDEN, 42, SEEL STREET, LIVERPOOL.

RAILWAY CONTRACTORS AND ALL LARGE CONSUMERS OF GREY STONE LIME OF THE BEST QUALITY,
As used for the Construction of the New Chatham and Dover, London Bridge and Charing Cross, and the Brighton Extension Railways, Government and Sewer Works, &c. &c. supplied direct from the Kilns per barge load, delivered alongside Wharfs on the Thames and Canals.
WILLIAM PETERS,
GREY STONE LIME BURNER, WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:—12, UPPER GROUND STREET, BLACKFRIARS, S.; 7, NORTH WHARF ROAD, PADDINGTON, W.
Large Grey Stone free on Board at Works, at 1s. 9d. per ton.
Small ditto, the best Material for the Manufacture of the well-known Medway Portland Cement, 8d. per ton.
Barges of 100 tons loaded in a few minutes.

SOUTH EASTERN RAILWAY.
HALL'S MERSTHAM GREY STONE LIME WORKS.
WILLIAM PETERS
has taken possession of the above Works from the 25th March inst. and solicits a continuance of that support which has been so liberally given to his predecessors. Orders addressed to
WILLIAM PETERS,
MERSTHAM GREY STONE LIME WORKS, near REDHILL, SURREY, and
No. 199, OLD KENT-ROAD, S. (Bricklayers' Arms Station), will receive immediate attention.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 121, Bishopsgate-street Within, E.C.

PORTLAND CEMENT WORKS.
FREEN & COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
LIME BURNERS, AND LATH RENDERS.
MANUFACTORIES AND WHARFS:—
17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, S.W.
3, CANAL ROAD, KINGSLAND ROAD, N.; and FRINDSBURY, near STROOD, KENT.
FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by shippers and the trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal-road, Kingsland-road or to 17, Abingdon street, Millbank-street, Westminster, will receive prompt attention.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
OLD JAMAICA WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also HALDON EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA &c., CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

TO BUILDERS, CONTRACTORS, AND ENGINEERS
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the Foreign trade treated with on the most advantageous terms. Stock of every size landed afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, colleries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in casks and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to R. & W. AARON, Agents, 66, South John-street, Liverpool

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

ABERTHAW BLUE LIAS LIME COMPANY.
WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.
The Company are now prepared to supply, at the shortest possible notice, their WELL KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE Westbourne Grove, Paddington, W.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at the St. Pancras Station of the Midland Railway, direct from the kilns, at 20s. per ton.—The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias Stone.—March, 1864.

ESTABLISHED 1852
PORTLAND CEMENT WORKS,
EAST GREENWICH.
EDWIN HOLLICK,
Manufacturer of PORTLAND CEMENT of the best quality only, for the English and Foreign Markets.
Vessels loaded alongside

W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (ot the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

MINTON & CO
Have REMOVED FROM ALBION PLACE, BLACKFRIARS TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

GREAVES'S BLUE LIAS LIME,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IN KEPT.
Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

GEORGE ALLEN (late W. & T. N.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PYROGRAPHIC FACTORY.
THOMAS PONSONBY & CO.
TREDEGAR WORKS, BOW,
And 52, GRACECHURCH STREET,
Are now prepared to supply the Trade with ORNAMENTAL MOULDINGS, either in Veneers or on the solid, for Settingline, Prints Picture, or Glass Frames
Builders can have their own wood prepared in imitation of Dark or Light Oak, Walnut, or Rosewood. Made to any size to lead Ornamental Panels for Railway Carriages or Sliding Cabins, to any size or design given.
THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY-SEVEN SHILLINGS per square, including the wood.
This can be obtained either direct at the Works, or at Messrs. ESDAILE & CO'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.
They also draw special attention to their Door-plates and Door Furniture, not only on account of their price, but also for their great durability, and not being liable to fracture or breakage. Price lists forwarded on application, at either Tredegar Works, Bow; or City Office, 52, Gracechurch-street.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9d. 10s. per 120, 12 feet; Yellow ditto, 10s. ditto ditto. ¾ Match Boarding, 14s. per square; ¾ ditto, 16s. ditto. Venetian Blind Laths, 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

DRY WAINSCOT,
At 5d. 7d. and 8d per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,
in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river side Premises and Wharf, with inland yards, they are enabled to sell at the very lowest prices.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered by all Railways in London, and alongside of any craft on the River Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Basin Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Banders' Goods in General
COUNTRY ORDERS PROMPTLY EXECUTED.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of shutters, at the way they go up.
Sold by all ironmongers, and the inventor,
GEORGE JENNINGS,
Engineering Depot, Palace Wharf,
Stangate, Lambeth, S.

FLOORING! DEALS! MAHOGANY!
100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Dry Pine Plank ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s. per square
FIR TIMBER, 45s. PER LOAD,
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 5½d. per foot
YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash.
Sawn and Framed, Bracing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned. Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



TIMBER! DEALS!! FLOORING!!!
YELLOW DEALS, £15 10s. per 120 of 12 feet.
Good 2¼ Mill-sawn White Battens ..... from £8 10 per 120 of 12 feet
Good 2¼ Mill-sawn Yellow ditto ..... 9 10 „
Good 3 by 9 Mill sawn Yellow Deals ..... 13 0 „
Good 3 by 9 White Deals ..... 15 0 „
Good and well-prepared ¾ Flooring Boards ..... from 11s. 6d per square
„ ¾ „ ..... 12s. 6d. „
1 inch „ ..... 14s. 6d. „
Matched Lining ..... 12s. 0d. „
YELLOW FIR TIMBER (good length and size), 45s. per load.
THOS. W. ELLSTON, No. 109, SNOW'S FIELDS, KING STREET, BOROUGH.
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 33s. per Load.
Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.
Spruce Deals ..... 15 0 0 „ 2¼ „
2¼-inch Battens ..... 9 0 0 „ 1¾ „
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, well prepared ..... White 11s. 6d. ...Yellow 12s. 0d. per square.
¾-inch „ „ ..... 12s. 0d. ... „ 13s. 0d. „
1-inch „ „ ..... 14s. 6d. ... „ 15s. 0d. „
2½-inch Battens ..... Yellow, £10, White, £9 per 120 of 12 feet.
3 by 9 Deals ..... Yellow, £18, White, £16 10s. „
Matched Linings, ¾-inch ..... White, 12s., Yellow, 13s. per square.
Deals and Battens, in the Docks, at a considerable reduction.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	16s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

ELLOW FLOORING, WELL PREPARED,

First Quality, ¼ by 6½, at 10s. 6d. per square.
Yellow Deals, ¼ by 6½, at 11s. 6d. per square.
Spruce £15 per 120.

TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

CHARLES WINN, TIMBER MERCHANT,

W CRANE WHF., SHADWELL, E.; and VICTORIA WHF. and SAW MILLS, DEPTFORD, S.E.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

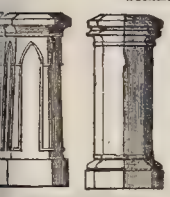
JAMES STIFF & SONS,

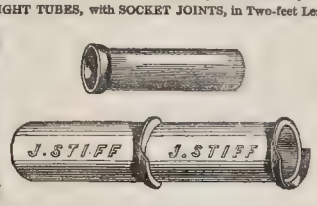
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

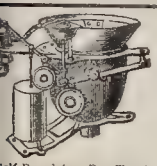
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. etc., sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much face as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls or floors, under carpets and floor-cloths. Price ONE PENNY per Square Foot.

DRY HAIR FELT, for Covering steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

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REGULATOR WATER-CLOSETS.



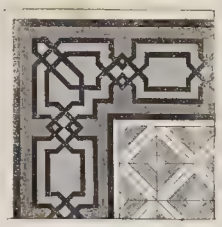
Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No extern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

UNDER THE PATRONAGE OF H.M. THE QUEEN.

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The first Establishment founded in England (in 1842) for the exclusive manufacture of SOLID and PLATED PARQUET FLOORS and BORDERS, CEILINGS, and WALL DECORATIONS; and SOLE PATENTEES of the only system adapted to the English climate whereby the effects of DRY ROT, SHRINKAGE, and WARPING (so common to work manufactured in foreign climates) are EFFECTUALLY PREVENTED.—For Designs, Estimates, and List of above 200 Floors, &c. apply to THE LONDON PARQUETRY WORKS, Grove-gate, Camberwell; or their sole Agents, MESSRS. GILLOW & CO. 176, Oxford-street.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not pierced

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Bodoir Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

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& SONS, 26 and 27, Berners-street, are prepared to supply Machine-made Patented Solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered. Illustrated Catalogues plans, and estimates free.

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POTTERY, warranted to stand Frost.

JOHN M BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra'Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friezes, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Swiftly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and fully, that the "Reports of the Juries," page 881, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tilaries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Finnish Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

TARPAULINS, MARQUEES, &c.

for SALE or HIRE.

SCAFFOLD AND HEMP ROPE FALLS.

H. PIGGOTT & SONS,

9, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

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AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

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INDIA-RUBBER MILL BANDS,

WASHERS for STEAM JOINTS. HOSE PIPES, and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

SALES BY AUCTION.

TO BUILDERS, CONTRACTORS, and OTHERS.—Metal Timber and surplus Plant, from the Works of the Charing cross Railway Station.

MR. PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Cochrane, Grove, & Co. in consequence of the completion of their contract, to SELL by AUCTION, at their WORKS, adjoining the Southwark Waterworks, Battersea-fields (about half a mile from the Nine Elms Pier), on MONDAY, APRIL 11, at ELEVEN for TWELVE, about 300 LOADS of capital MEMEL TIMBER, used for the staging in the erection of the large roof of the Charing-cross Station, and comprising whole timbers, from 30 feet to 45 feet in length, half timbers and quartering; also, several thousand short boards, suitable for fencing, erection of sheds; two trussed iron girders, 27 feet 6 inches long; cast-iron guttering, pile-engine, and other surplus plant which will be put into suitable lots for builders, and lying convenient for water carriage.—May be viewed, and Catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

BUILDING MATERIALS, OLD BROAD STREET, CITY.

MR. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 15, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FITTINGS UP of a large HOUSE, with OFFICES, No. 38, OLD BROAD STREET, comprising sound Fir Wrought and cutters and joists, plain and pan tiles, useful timber and floor boards, glazed sashes, doors, partitions, and marble chimney-pieces, stoves, and useful fittings.—May be viewed the day previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street E.C. and 40, Parliament street, S.W.

SMITHFIELD.—400 Oak Posts, and 1,600 feet of Oak Railing, forming the Pens and Cattle-rails in the late Market

MR. PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvements Committee of the Corporation of the City of London, to SELL by AUCTION, at SMITHFIELD, on MONDAY, APRIL 18, at TWELVE, 400 OAK Posts, and 1,600 feet run of OAK RAILING and BARS, forming the pens and cattle-rails, oak gates; also a large quantity of granite stone-stair and landing, Ransom flooring, and Lotus tiles laid in pipes, cutters, and setting, plate and general wrought-iron frames, skylights, glazed sashes, doors, framed panel and moulding and covered doors, spiral Barge boards, neat timber and posts, modern grates, excellent stove, polished slate in antique tiles, Bennett & Co.'s patent revolving curvilinear iron shutters, iron columns, balustraded and other iron, ornamental cast-iron vases and urns, apparatus for heating with hot air, gas fittings, and a variety of useful and ornamental fixtures and materials.—May be viewed the day prior and morning of Sale, and catalogues had at the Contractors' Offices, 1, Worcester-street, Southwark, on the Premises, at 9 of Messrs. WILLIS & HARROW, Architects and Surveyors, 8, New-inn-chambers, Cornhill, E.C. and West Molesey, Kingston, Surrey

BRENTWOOD, ESSEX.—Eligible Freehold Building Land, near to the Railway Station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the WHITE HART Hotel, Brentwood, on WEDNESDAY, APRIL 20, 1864, at TWELVE for SIX o'clock in the Evening, in lots, the valuable FREEHOLD BUILDING ESTATE for building or garden purposes, having frontages to the new roads leading from Ongar and Romford, situate near to the Brentwood Station on the Great Eastern Railway, a short distance from the Metropolis, and remarkable for its healthy situation, and for the many desirable residences in the neighbourhood.—Plans and conditions of sale may be obtained about ten days before the sale at the principal Inns in the neighbourhood; of T. J. BAILEY, Brentwood; of Messrs RUSSELL & DAVIES, 29, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the Foreman on the Estate; and at the Place of Sale.

SHOOTER'S HILL, KENT.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWNHALL, Woolwich, on FRIDAY, 22nd APRIL, 1864, at SIX for SEVEN o'clock in the evening, in three parcels, the eligible FREEHOLD PROPERTY, known as the Pines, fronting Shrewsbury Lane.—The views from this part are very extensive and beautiful, making it a most delightful situation for the residence. The Royal Military Academy and Woolwich Common are within a few minutes' walk. Nine-tenths of the purchase money may remain on mortgage at 5 per cent., if so required. To be paid in ten years, by half-yearly instalments, or the whole or any part of the balance may be paid off at any time without notice. Particulars and conditions of sale may be obtained about ten days before the sale of Mr. R. GREEN, Richard-street, Woolwich, of Mr. JOHNSON, on the Estate; of Messrs. RUSSELL & DAVIES, 29, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the FOREMAN, on the Estate; and at the Place of Sale.

PIMLICO.—Important Unreserved SALE, in consequence of the Dissolution of Partnership in the old-established firm of TURNER and OWST, PAPER-STAINERS, ELIZABETH STREET SOUTH, PIMLICO.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES as above, on TUESDAY, APRIL 19th, and following days, at TWELVE, in one or two lots, the entire WORKING PLANT and STOCK of a well known firm of PAPER STAINERS, without a single Bankrupt or Fictitious construction, and adapted for the production of first-class work, 9 other desirable block-printing machines, technically known as Grass-hopping, grounding, cutting, and drying machines, a valuable two hundred sets of printing blocks, including a number of new ones intended for the present trade, 250 decorators' unit blocks, thousands unpainted grounds, printing cloths and blankets, flat and cylinder buffalo hide pieces, 4 tons French white, 3 tons whiting, dry colours and chemicals, vast brief lustre and brocade, useful brass about 14 hands, lantern, foot-wheel, stitching closer, and numerous other items.—May be viewed on Monday prior and mornings of sale, when catalogues may be had on the Premises, and at the Auctioneer's offices, 12, Holborn Bars, E.C.

PIMLICO.—In consequence of the Dissolution of Partnership of Messrs. TURNER & OWST, the old-established Paper stainers.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES, ELIZABETH STREET SOUTH, PIMLICO, on TUESDAY, APRIL 19, at ONE, on the LEASE of the most desirable MANUFACTURING PREMISES, together with the whole of the useful PLANT, TOOLS, &c., employed in and particularly adapted to the production of Paper hangings in an extensive way, but capable of every description of any other wide trade.—Printed particulars will shortly be obtainable on the Premises, and at the Auctioneer's Offices, 12, Holborn Bars, E.C.

PIMLICO.—The whole of the Unrivalled Stock of PAPERHANGINGS and DECORATIONS, for Unreserved Sale, in consequence of the Dissolution of Partnership of Messrs. TURNER & OWST.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES, ELIZABETH STREET SOUTH, PIMLICO, on THURSDAY, APRIL 21, and following days, at TWELVE, the whole of the extensive stock of PAPERHANGINGS and DECORATIONS, consisting of upwards of 50,000 pieces, in golds, flocks, satins, grounds, Scagliola and Sienna marbles, architectural and floral borders and decorations, &c. including all the newest and most admired patterns issued by this renowned house.—May be viewed early in the week of sale, when catalogues may be had on the Premises, and at the Auctioneer's Offices, 12, Holborn Bars, E.C.

LANCASHIRE.—OSWALDTWISLE, near BLACKBURN.—SALE of Valuable and Extensive FREEHOLD ESTATES.—TO BE SOLD by AUCTION, by

MR. GRUNDY, on THURSDAY, the 28th day of APRIL, 1864, at the BULL HOTEL, in Blackburn, in the County Palatine of Lancaster, at FOUR o'clock in the afternoon, subject to the conditions to be then and there produced by the Vendors, and in the following, or such other lot or lots as may be agreed upon at the time of sale

Lot 1.—All that Close, Piece, or Parcel of MEADOW LAND (part of the Salt pie Farm), situate at Smalley Brook, within the Township of Oswaldtwisle, in the Parish of Whalley and County Palatine of Lancaster, bounded on or towards the south by the public highway leading from Oswaldtwisle to Accrington, on or towards the west by the stream or brook called Smalley Brook, and containing in statute measure 2a. 1r. 14p. or thereabouts, and fully delineated and described in the plan thereof (No. 2) hereunder and hereafter referred to.

Lot 2.—All that Farm and Tenement known by the name of the Falls Farm, situate in the township of Oswaldtwisle aforesaid, on the north-east side of the highway leading from Blackburn to Little Moor End, on the north-east by the lower Stanhill Farm, and on the south by the stream or brook known as Smalley Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully and satisfactorily occupied therewith as the same are more particularly described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 12a. 1r. 9p.

Lot 3.—All that Farm and Tenement known by the name of The Lower Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the north-east side of the highway leading from Blackburn to Little Moor End, on the west by the highway leading from Blackburn to Little Moor End, on the north east by the lower Stanhill Farm, and on the south by the stream or brook known as Smalley Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully occupied therewith as the same are more particularly described in the plan thereof (No. 2) hereunder and hereafter referred to, and containing together in statute measure 12a. 1r. 9p.

Lot 4.—All that Farm and Tenement known by the name of The Fountains Farm, situate in the township of Oswaldtwisle aforesaid, bounded on or towards the north by Aspen-farm, on the east by a pipe to feed on the west and south by Lower Stanhill Farm and part of Wheatley Mills, and on the north-eastern extremity by the turnpike-road leading (at that point a small portion of this lot) leading from Blackburn to Accrington, and consisting of the farm-house, farm, and other buildings, and the several closes, pieces or parcels of fine fertile pasture land delineated and described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 20a. 0r. 29p.

Lot 5.—All that Farm and Tenement (forming part of the Stanhill Farm) situate in the township of Oswaldtwisle aforesaid, on the north-west side of and bounding on the south west side by the turnpike-road leading from Blackburn to Accrington; consisting of the several closes, pieces or parcels of land, fully delineated and described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 18a. 1r. 25p.

Lot 6.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, and on the south-west side of the highway leading from Blackburn to Accrington, bounded partly on the north by the said turnpike-road leading from Blackburn, on the south by the highway leading from Blackburn to Little Moor End, on the east by Stanhill Farm, and on the west by part of the farmhouse, farm and other buildings, and the several closes, pieces, parcels of meadow and pasture land, fully occupied therewith as the same are more particularly described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 20a. 0r. 29p.

Lot 7.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south by the Rushes Farm, and on or towards the west by property of John Reddish, esq. and others, and on the east by part of the farmhouse, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2), hereunder referred to, and containing together 16a. 1r. 30p.

Lot 8.—All that Farm and Tenement known by the name of the Rushes Farm, situate in the township of Oswaldtwisle aforesaid, on the south west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south by the Rushes Farm, and on or towards the west by property of John Reddish, esq. and others, and on the east by part of the farmhouse, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2), hereunder referred to, and containing together 16a. 1r. 30p.

Lot 9.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south east by the Rushes Farm, and on or towards the north-west and north-east by land of John Reddish, esq. and others and consisting of the Farm House, Farm, and other Buildings, and the several Closes, Pieces, or Parcels of Meadow and Pasture Land, fully coloured and described in the plan thereof (No. 11) hereafter referred to, and containing together 16a. 1r. 30p.

Lot 10.—All the several Closes, Pieces, or Parcels of Meadow and Pasture Land, situate lying and being within the township of Oswaldtwisle aforesaid, known by the several names and containing in statute measure the several quantities following:—That is to say, the Old Meadow (including the sites of Grove House, Stables, Shippons, Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, Out buildings connected with Grove House) 2a. 1r. 14p. or thereabouts; Far Croft, 1a. 0r. 15p.; and the Chapel Field, 1a. 0r. 12p.

Also all that modern capital Family Residence erected on part of the before mentioned land, with the Shrubberies, Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, and Outbuildings connected with Grove House, and now in the occupation of Messrs. Wesfall Brothers, Whitewash Mills, Oswaldtwisle aforesaid.

Lot 11.—All that Farm and Tenement known by the name of The Fountains Farm, situate in the township of Oswaldtwisle aforesaid, on the north-east side of and bounding on the south west side by the turnpike-road leading from Blackburn to Accrington, and on the west by the public highway leading from Blackburn to Little Moor End, on the north by the Fountains Farm, on the east by Whitewash Mills, and on the north-west by a way or road leading from the said highway to Aspen-farm; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 20a. 0r. 29p.

Lot 12.—All that Farm and Tenement known by the name of The Lower Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the north-east side of the highway leading from Blackburn to Little Moor End, on the west by the highway leading from Blackburn to Little Moor End, on the north east by the lower Stanhill Farm, and on the south by the stream or brook known as Smalley Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2) hereunder referred to, and containing together in statute measure 12a. 1r. 9p.

Lot 13.—All that Farm and Tenement known by the name of The Falls Farm, situate in the township of Oswaldtwisle aforesaid, on the north-east side of the highway leading from Blackburn to Little Moor End, on the west by the highway leading from Blackburn to Little Moor End, on the north east by the lower Stanhill Farm, and on the south by the stream or brook known as Smalley Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2) hereunder and hereafter referred to, and containing together in statute measure 12a. 1r. 9p.

Lot 14.—All that Farm and Tenement known by the name of the Salt pie Farm, situate in the township of Oswaldtwisle aforesaid, on the south west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south east by the Rushes Farm, and on or towards the west by property of John Reddish, esq. and others, and on the east by part of the farmhouse, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2), hereunder referred to, and containing together 16a. 1r. 30p.

Lot 15.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south-west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south east by the Rushes Farm, and on or towards the north-west and north-east by land of John Reddish, esq. and others and consisting of the Farm House, Farm, and other Buildings, and the several Closes, Pieces, or Parcels of Meadow and Pasture Land, fully coloured and described in the plan thereof (No. 11) hereafter referred to, and containing together 16a. 1r. 30p.

Lot 16.—All the several Closes, Pieces, or Parcels of Meadow and Pasture Land, situate lying and being within the township of Oswaldtwisle aforesaid, known by the several names and containing in statute measure the several quantities following:—That is to say, the Old Meadow (including the sites of Grove House, Stables, Shippons, Cottages, Out buildings, Gardens, Coachhouse, Stable, Shippons, Cottages, Out buildings connected with Grove House) 2a. 1r. 14p. or thereabouts; Far Croft, 1a. 0r. 15p.; and the Chapel Field, 1a. 0r. 12p.

Also all that modern capital Family Residence erected on part of the before mentioned land, with the Shrubberies, Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, and Outbuildings connected with Grove House, and now in the occupation of Messrs. Wesfall Brothers, Whitewash Mills, Oswaldtwisle aforesaid.

Grove House is an excellent family residence, containing spacious and well-proportioned dining-room, drawing-room, breakfast-room, and library; two entrance halls, seven bed rooms, bathroom, water-closet, &c.; kitchen, scullery, cellars, entrance hall, and convenient staircase. The several rooms have been carefully fitted up with and now contain expensive and handsome grates; the whole premises are well supplied with hard and soft water, and are replete with every convenience and appendage usually to be found in extensive family residences.

The whole of the before-mentioned farms and properties are freehold of inheritance, and will be Sold subject to the reservation of the coal within and under the said farms and premises.

The tenants of the several Farms and Properties have instructions to show their respective holdings, and printed particulars, with lithographic plans of each holding, may be had on application to Messrs. WESFALL BROTHERS, Whitewash Mills, Oswaldtwisle aforesaid; or to the Auctioneer, at his Office, No. 86, King-street, Manchester, or on application at the Offices of Messrs. ROBINSON & SON, Solicitors, Blackburn; or Mr. GEO. M'CALL, Land and Engineering Surveyor, Blackburn.

Blackburn, March, 1864.

MARLBOROUGH PLACE, near the Lord Nelson, Old Kent-road.—Extensive Sale of First-rate Building Materials, Fittings, &c.

MR. BENJN. ABBOTT, Jun. will SELL by AUCTION, on MONDAY, the 11th of APRIL, on the above SITE, a large quantity of MAHOGANY DOORS and PANELS, sash-fast plate glass sashes and frames, plate glass, about 70 chimney-pieces, stone paving, 7,000 feet; long sound joists, nearly new, 9 by 3; long sound oak and fir timber, joists and plates, a quantity of modern iron railing, stoves, flooring and lining boards, slates, tiles, Portland landings, &c.—Catalogues may be had of Mr. B. ABBOTT, Jun. Auctioneer, Gracechurch-street; and on the Premises.

PORT of WEYMOUTH.—Eligible Ship-Building Premises, together with the Plant, Steam Engines, and Apparatus.—TO BE SOLD by AUCTION, by

MR. MILLEDGE, at his General Sale Rooms, 74, St. Thomas Street, on TUESDAY, the 26th of APRIL, 1864, at THREE o'clock in the afternoon, subject to such conditions as will be then and there produced, unless previously disposed of by private contract, of which due notice will be given all that well-erected and conveniently situated FREEHOLD PIECE of LAND, as well as a Slip-Way, capable of hauling up vessels of 600 tons, together with the Smiths' shop, Engine House, and other Buildings, erected on part of the same. Also, all that Leasehold SHIP BUILDING YARD, with Slip-way, Boat House Workshops, Block Makers' date, Office, Stores, Saw-pit, spacious Yard, and other convenient premises, necessary for carrying on the Ship Building business there while the Premises held by the Lessee for a long term of 60 years, of which 36 are still unexpired, and subject to an annual ground-rent of 17l. 10s. The Patent Slip, with steam apparatus, believed to be the only one of the kind on the Dock or Trade, may be taken at a valuation by the purchaser of the premises. Further particulars may be obtained of Mr. THOMAS COOMBS, Solicitor, Dorchester; of Mr. ROBERTS, Ship Broker, Weymouth; or the Auctioneer.

After which will be SOLD a NEW SCHOONER-RIGGED, A1 eight years, burthen 100 tons, not yet named, length aloft 75 feet, breadth 16 feet 6 inches depth 7 feet 6 inches.

630 Superior Oak trees, 230 Oak felled Elms 2 Ash, and 11 large Chestnut trees, in the parishes of Ightham, Wrotham, Ash, Hartley, Horton, Southfleet, Northfleet, Farningham, and St. Mary's Cray, Kent.

MR. WILLIAM HODSOLL will SELL the above by AUCTION, on WEDNESDAY, APRIL 13th, 1864, at TWO o'clock, at the Lion Hotel, Farningham, Kent.—Catalogues may be had at the Inns in the above parishes, and of the Auctioneer, Farningham, Kent

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. E. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 20th day of APRIL, 1864, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock). For account of Importers.

2,500 Spruce Deals, Battens, and Ends
Quebec Pine and Spruce Deals
400 St Petersburg Red and White wood Deals
300 Swedish Red and White Deals and Battens
3,000 Archangel Red Deals and Battens
250 4 by 11 inch Red Redwood Memel Deals
200 4 by 11 inch Quebec Red Deals
2,000 3 by 9 inch Sundarlie Redwood Deals
6,000 Redwood Deals, Battens, and Ends
Logs Quebec Yellow Pine
50 Logs Quebec Birch
Loads Quebec Red Pine
Loads Quebec Pine
100 Loads Prime St. John Board Pine Timber
100 Loads Fresh Birch
50 Loads Fresh Quebec Elm
50 Loads Fresh Memel Timber
50 Loads Dantzic Redwood Timber
500 Logs Swedish Timber
1,000 Memel Pipe staves
Flooring

With other Goods

Catalogues will be issued in the Week of Sale.

F. E. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, April 6th, 1864

NORTH LYNN, NORFOLK.—Valuable BUILDING and other MATERIALS, including a first-rate 10-horse power double cylinder condensing steam engine, in good order, portable horse engine, capital machinery, spun and driving wheels, two pairs of excellent millstones and lifting-gear, nine and twelve presses, with plates and cocoa-nut bags; three brass force-pumps, table vice, three large iron cisterns capable of containing above 1,000 gallons each, a quantity of cast-iron pipes and fittings, 3,000 sash-bars, 3,000 squares, and 1,000 feet of glass; 1,200 good red pantiles, several thousand nine feet of sound Memel timber, 4 by 3 inch quarters, joists, &c.; 1 inch and 1½-inch flooring-board, a quantity of York paving and sills, a large number of doors and framings, and a great many other building things, three wooden buildings, 2 iron ditto, a very spacious and lofty down-pipe; sundry useful iron and brasswork, about 25 tons of old lead, four pairs of strap hinges, iron girders, screws, and a large quantity of building materials, to form the Old Mills, North Lynn, taken down and cleared in convenient lots, which

MR. C. M. BIDWELL will SELL by AUCTION, without reserve, on FRIDAY, APRIL 15, 1864, at TWO o'clock in the afternoon, on the PREMISES, by the Railway Bank, North Lynn, subject to such conditions as will be duly announced at the Sale:—

Catalogues may be had at the Globe Hotel, Lynn, and of C. M. BIDWELL, Land Agent, Ely, who will put the same, free, on application.

CAMDEN TERRACE, CAMDEN TOWN, NEAR THE OLD RAILWAY STATION.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, as above, near the old Eagle Tavern, on MONDAY, APRIL 11th, at TWELVE for ONE, 1,500 bricks, and lantern and cupola of 7 feet wide by 9 feet square, 12 feet quartering, 3 inch and 4 inch pine, and planking, mahogany, 7,000 feet dry lath lime, oak, deal, and pine, 7 two-panel doors, dry oak sill, spar, and other pine skylights, cast-iron soil and other pipes, an assortment of sashes, sashbars, and lead lights.—Auction Office, Cardington-street, Hampstead-road, N.W.

A FINE ORGAN, by R. Jackson, of Liverpool suitable for a Church, Chapel, Lecture Room, or other public building.

MESSRS. CHRISTIE, MANSON, & WOODS respectfully give notice that they will SELL by AUCTION, at SINGLETON HOUSE, Higher Broughton, Manchester, on MONDAY, APRIL 18th, at THREE o'clock, a fine ORGAN, by Jackson, of Liverpool, in handsome oak case, with fluted pillars and arched openings, showing numerous pipes handsomely painted and ornamented with gold. The instrument has Great, Swell, and Pedal Organs and 22 stops.—Great Organ, C to F in 54 octaves, open diapason (8 feet), dulciana stopped diapason bass (8 feet), clarionet (8 feet), principal (4 feet), flute (4 feet), fifteenth (2 feet), sesquialtera (3 ranks), powerful trumpet (8 feet).—Swell Organ, C to F in 54 octaves, double diapason (16 feet), open diapason (8 feet), stopped diapason (8 feet), principal (4 feet), fifteenth (2 feet), cornopean (8 feet), oboe (8 feet).—Pedal Organ, C C C to F (2½ octaves), open diapason (16 feet).—Couplers, swell to great, great to pedals, swell to pedals, octave higher on Pedal Organ. There are four composition pedals.—May be viewed on and after MONDAY, APRIL 11th

BROOKS & SCHALLER'S AUCTION SALES of ESTATES, HOUSES, GROUND RENTS, REVERSIONS, ANNUITIES, and LIFE INTERESTS, &c. will take place at GARRAWAYS, on the FIRST and LAST TUESDAY of each month. A nominal charge made per lot to include all expenses.

The Estate Register, containing Sales of Estates, Country and Town Houses, Shootings, &c. to be Let or Sold, is issued free on application.—AUCTION and ESTATE OFFICES, 23, Charles street, St. James's, London

Printed by CHARLES WYMAN, Printer, at the Printing-office of CLEAVE, WYMAN, & SON, 74 to 77, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, April 9, 1864.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1106. APRIL 16, 1864. PRICE FOURPENCE. By Post, 5d.

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ART-UNION of LONDON.—The ANNUAL GENERAL MEETING, to receive the Council's Report, and to distribute the amount subscribed for the purchase of Works of Art will be held at the new Theatre Royal, Adelphi, on TUESDAY, APRIL 26th, at half past ELEVEN for TWELVE o'clock, by the kind permission of Benjamin Webster, Esq. The receipt for the current year will procure admission for members and friends.
No. 444, West Strand. GEORGE GODWIN, } Hon. Secs.
LEWIS POCOCK, }

INSTITUTE of PAINTERS in WATER COLOURS.—Their 30th Annual Exhibition will OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

INVENTORS' INSTITUTE. — The next Meeting of this Institute will be held at No. 9, Conduit street, Regent street, W., on THURSDAY, APRIL 28, when the following paper will be read:—"On Inventions relating to the Permanent Way of Railways," by Benjamin Burleigh, esq., C.E. The Chair will be taken at EIGHT o'clock, p.m. precisely. A Model of Mr. R. B. Greenwood's recent Improvements for Preventing Accidents upon Railways will be exhibited for one hour previously to the meeting.
R. MARSDEN LATHAM, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, Nine till Six. Admission, One shilling. Season Tickets, Half-a-crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery.
JAS. FERGUSSON, F.R.S.; JAS. EDMESTON, F.I.B.A. } Hon. Secs.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S New List on Application. 87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S New List on Application. 87, BISHOPSGATE STREET WITHOUT, E.C.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72–74, Bishopsgate-street Within, November, 1863.

ROYAL MANCHESTER INSTITUTION. EXHIBITION OF MODERN PICTURES AND OTHER WORKS OF ART. Intending Contributors are informed that the EXHIBITION of MODERN PICTURES in OIL and WATER-COLOURS, SPECIMENS of SCULPTURE and CASTS and ARCHITECTURAL DESIGNS, will be opened as soon as practicable after the closing of the Royal Academy, and that all Works of Art must be sent so as to arrive not later than the 27th of AUGUST. Pictures, &c. from London will be forwarded by Mr. JOSEPH GREEN, 14, Charles-street, Middlesex Hospital, if delivered to him before the 3rd AUGUST, by Artists who have received the Invitation Circular; from other places, Artists who have also received such circular are requested to send them by the most convenient and least expensive conveyance. Works sent by other parties must be carriage paid. Contributions to this Exhibition will not be confined to Artists alone, but will be extended to the admission of works from private individuals, and from dealers. The Council offer a prize of Fifty Guineas to the Artist of the best picture exhibited during the whole period of the exhibition, provided it has been painted within two years; but they reserve the power of withholding the prize should there be no work of sufficient merit in the collection. A separate collection will be formed of pictures lent by private individuals for exhibition during a shorter period and contributions to this collection are respectfully invited from the possessors of private galleries. The pictures in this collection will not enter into competition for the prize.
THOS. WORTHINGTON, Hon. Sec.
Royal Manchester Institution, April 1864.

MARYLEBONE AND WEST LONDON SCHOOL OF ART.
204, Great Portland-street, Portland-place, W.
President: A. J. B. BERESFORD-HOPE, Esq. M.A. D.C.L. &c. &c.
Treasurer: PETER GRAHAM, Esq.
THE LADIES' MORNING CLASSES meet on TUESDAYS and FRIDAYS at TEN o'clock. Prospectuses on application. Evening Classes as usual.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings. For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

BOROUGH of IPSWICH.—To ARCHITECTS.—The Corporation of Ipswich are desirous of receiving DESIGNS for a TOWN HALL, including a Municipal Library. A premium of 100 guineas will be given for the design which in the opinion of the Council is the best; and a premium of 50 guineas for that which in their opinion is the second best. Both the premiated designs are to become the absolute property of the Corporation. The plans, specifications, and estimates must be distinguished by a motto or device, and be accompanied by a sealed envelope, containing the name and address of the competitor, bearing a corresponding motto or device on the plans, &c.—Plans of the site, with printed statements of the rooms and conveniences required, and of the conditions to be observed by competitors, may be had on application to the Town Clerk. The competing designs, &c. must be delivered at the Town Clerk's Office, Museum-street, Ipswich, on or before the 23rd day of MAY next.
Ipswich, March 24, 1864. S. A. NOTCUTT, Town Clerk.

TO ARCHITECTS.
A PREMIUM of 70*l.* will be given for the Best and 30*l.* for the Second-best DESIGN for a COVERED CORN MARKET, and other Buildings, by the Directors of the Hexham Corn Market and Public Buildings Company (Limited). Plans to be sent in on or before the 12th MAY next, the owner of the first premium to furnish a detailed estimate.—All particulars may be known on application to Mr J. OSWALD HEAD, Hexham, the Secretary.

BIRKENHEAD INDUSTRIAL RAGGED SCHOOLS.—The Committee are desirous of receiving PLANS and ELEVATIONS for the Erection of SCHOOLS to accommodate 200 children, of whom 60 boys and 40 girls will be resident. A plan of the site and particulars of the requirements and premiums, with the terms of competition, may be obtained on application by post to the undersigned.
WILLIAM JACKSON, Jun. Honorary Secretary, Birkenhead.

CONTRACTS.

TO BUILDERS.—Persons wishing to TENDER for the RESTORATION and REPITCHING of MIDDLETON CHENEY CHURCH, near Banbury, may see the drawings specifications, and conditions at the National School-room, Middleton Cheney; and any further particulars may be obtained on application to G. G. SCOTT, Esq. R.A. 20, Spring-gardens, London. The Committee will not bind themselves to accept the lowest or any Tender. The contractor will be required to furnish sufficient security for the due performance of the work. Tenders to be sent to the Rev. W. E. BUCKLEY, Middleton Cheney, on or before FRIDAY, the 22nd instant.

THE BOARD of WORKS for the PLUMSTEAD DISTRICT.—To MASONS, PAVIORS, and OTHERS.—These Persons desirous of submitting TENDERS for LAYING DOWN about 4,444 feet run of New CURBING and CHANNELLING to the Road and Footpaths in the Lee Park-road, in the Parish of Lee, within the said District, are hereby requested to deliver the same, at or before FIVE o'clock on the afternoon of THURSDAY, the 21st day of APRIL, at the Office of Mr. F. F. THORNE, in Lee road, Lee, Surveyor, where the plan and specification of such works may be seen, and all further particulars connected therewith may be obtained. The lowest or any Tender will not be necessarily accepted.—By order,
CHARLES AUGUSTIN SMITH, Clerk to the Board.

CONTRACTS.

NOTICE to CONTRACTORS.—Royal Engineer Office, Sheerness, April 8th, 1864.—TENDERS are required for PROVIDING and LAYING NEW CAST-IRON WATER-PIPES from the War Department to the various Barracks, &c. at Sheerness, a distance of 1,500 yards. A plan, showing the direction of the pipes, may be seen, and a specification, with all necessary information, be obtained on application at this Office between TEN and FOUR, from 14th to 23th instant.
The parties tendering will be required to take out their own quantities.
Tenders will not be received later than 28th APRIL instant.
The Secretary of State for War does not bind himself to accept the lowest or any Tender.

WAR DEPARTMENT CONTRACTS.—Builders and such competent persons as are desirous of undertaking the several WORKS and REPAIRS to the FORTIFICATIONS, BARRACKS, and other BUILDINGS, required by the War Department, at the places undermentioned, upon a contract for three years, from the 1st JUNE, 1864, may be furnished with every necessary information respecting the same, on personal application at this Office, for Pembroke Dock and Penally, and at the several Barrack Offices for other stations, between the hours of ELEVEN and THREE each day, Sundays excepted, from the 9th MAY, 1864, after which date no further issues will be made.
Stations for which separate Tenders will be received:—
1. Pembroke Dock, including the various Forts, Towers, and Barracks in Milford Haven.
N.B. Portrooning will form a separate contract from the 1st April, 1865.
2. Penally Barracks and Rifle Range.
3. Newport Barracks.
4. Brecon Barracks.
5. Cardiff Barracks.
6. Munitions Fort and Barrack.
One Contractor only will be accepted for the whole of the trades for each of the above-named stations, but the rates of per centage at which the parties Tender may be different for each trade, at their option, but such rates must be shown in the proper place on each form of Tender.
The Tenders must be delivered on or before the 14th day of MAY, 1864, at the War Office, Pall Mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work" in the left hand corner of the envelope.
The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Pembroke Dock, 8th April, 1864.

CROYDON LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the EXECUTION of a Length of MAIN SEWER, 3 feet by 2 feet, and the Works thereto belonging, with, at its end Corner, South Norwood, in the County of Surrey; and another length of such Sewer and Outfall Sewers, and the Construction of Filters in duplicate for the filtration of sewage; and also the Erection of a Filter-house and the laying down of land for the purposes of irrigation, at Penge, in the county of Kent, in accordance with the plans and specifications prepared by Mr. BALDWIN LATHAM, C.E. the Engineer for the Croydon Local Board of Health, can inspect the plans and specification at the Office of the said Engineer, at the Town Hall, Croydon, on or after this date. Sealed Tenders, marked "Tender for Norwood Irrigation Scheme," are to be delivered at the Board's Offices, in the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 26th of APRIL next ensuing. The Local Board of Health do not pledge themselves to accept the lowest or any Tender. By order of the Board,
April 2nd, 1864. HENRY RICHARDS, Clerk.

BARNSLEY LOCAL BOARD of HEALTH. WATER WORKS DEPARTMENT—CONTRACT No. 2.—To CONTRACTORS for RESERVOIRS, &c.—The Barnsley Local Board of Health are desirous to receive TENDERS for the formation of a large STORAGE RESERVOIR (of about 60 acres area) to be situated near Ingbirchworth, about two miles from the Penistone Station on the Manchester, Sheffield, and Lincolnshire Railway, in the West Riding of the county of York, together with Compensation Weir, Tunnel, Roads, Filter Beds, and other constructions. Drawings and specifications may be inspected at the Office of Mr. RICHARDSON, surveyor of the said Board, St. Mary's-place, Barnsley; and at the Office of Mr. HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, on and after the 21st day of MARCH instant, where also bills of quantities and other particulars may be had or obtained, on payment of two guineas for the same. Tender must be delivered at my Office on or before MONDAY, the 18th day of APRIL next, but the Local Board do not pledge themselves to accept the lowest or other Tender.
By order, WM. H. PEACOCK, Clerk to the Local Board.
Barnsley, 4th March, 1864.

BLACKFRIARS BRIDGE. — Notice is hereby given, that the Bridge House Estate Committee will meet at Guildhall, London, on FRIDAY, the 22nd APRIL next, to receive TENDERS for TAKING DOWN and REMOVING the present BRIDGE at Blackfriars, and ERECTING a NEW BRIDGE in lieu thereof. The plans of the intended new bridge and specifications of the works to be executed, may be seen, and further particulars obtained, on application at the Office of the Engineer, JOSEPH CUBITT, Esq. No. 37, Great George-street, Westminster, on and after MONDAY, the 21st MARCH instant. The Tenders must be sealed up, addressed to the Bridge House Estate Committee, endorsed "Tender for New Bridge at Blackfriars," and left at the Comptroller's Office, Guildhall, London, before TWO o'clock on FRIDAY, the 22nd APRIL next, and the parties tendering desired to be in attendance at Guildhall on that day, at ONE o'clock precisely. The Committee do not bind themselves to accept the lowest or any Tender that may be sent in.
Guildhall, March 5, 1864. FERDINAND BRAND, Comptroller.

TO BUILDERS and OTHERS.—TENDERS are invited for the REPAIRS of the STEEPLE of the Parish Church of Godalming, Surrey. Particulars can be obtained on application to the Churchwardens.—Dated 6th April, 1864.
JOHN SIMMONDS,
ROBERT W. SHOTTER, } Churchwardens.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—Persons willing to CONTRACT for the ELECTION of a CORN EXCHANGE, at Ilfracombe, may see the Plans and Specifications at the Office of Mr. Hayman, Architect, Ilfracombe, on and after Monday, the 18th instant. Tenders to be sent in, on or before THURSDAY, the 21st of APRIL. The lowest or any Tender will not necessarily be accepted.

ROLT ROBINSON, Architect.

Huntingdon, April 12th, 1864.

TO BUILDERS. — Persons desirous of TENDERING for a new OAK ROOF, and other Works, to be done at Keeper's Chalk, may see the Plans and Specifications at the Architect's, from TENTH to FIFTEENTH days, and must tender by the 20th of APRIL, as will not be time to answer after. The lowest or any other Tender will not necessarily be accepted.

Bedford, April 1st, 1864. JAMES HORSFORD, Architect

TO BUILDERS.—Builders willing to TENDER for ANY or ALL of the undermentioned WORKS in the neighbourhood of Aylesbury are requested to call upon Mr. Arthur Bryant, GENERAL EDMUND STREET, Aylesbury, near Tring Junction, WORKS—NEW CHURCH at WITHINGTON; NEW CHURCH at WATER STRATTON; RESTORATION of the CHURCH at HIGH ERCAL; REPAIRS and ENLARGEMENT of RECTORY at UPTON MAGNA.

TO BUILDERS and BUILDING SPECULATORS.—The Trustees of the Rugby Charity are prepared to receive TENDERS from Builders and others for the EXECUTION of certain WORKS in FORMING the ROADWAY of a NEW STREET, or Communication between Old and New Millman-streets, and also for Taking, on Repairing Lease, certain Houses; and also on Building Lease, a Plot of Ground adjoining thereto. The Trustees do not bind themselves to accept the lowest or any Tender. Plans and specifications may be seen, and particulars furnished, on and after FRIDAY, the 15th APRIL instant, but information will be given at any time previously at the Offices of Messrs. LITTLE, RUSSELL, & ILIFFE, 2, Bedford-row, Holborn.

WEST HAMPNETT UNION, SUSSEX.

The Guardians of this Union having decided on a GENERAL REVISED VALUATION of the Rateable Hereditaments in the Union, for the purpose of the Parochial Assessment Act, 1862, TENDERS for the PERFORMANCE of the above Work are required, subject to the following Regulations:—1. The Union will be divided into Five separate Districts, comprising the following Parishes:

DISTRICT 1.

	Area in Statute Acres.
Bidham	1,948
West Bilney	482
West Wittering	4,0
East Wittering	3,656
Ems ton	1,783
Southsham	2,0
Selsey	1,414
Total	17,457

DISTRICT 2.

Eglam	1,457
Hardham	1,1
North Mundham	1,8
Pagham	1,021
Aldingbourne	1,1
New Fishbourne	1,0
Runcton's Wyke	6
Merston	7,0
Total	11,4

DISTRICT 3.

Birdham	7,0
Dellham	2,2
Westbourne	6,9
Yapton	1,893
Bersted	1,0
Boxgrove, including the Chapelry of	5,1
Mid-hurst	8
Walberton	2,2
Eastergate	2,2
Total	14,674

DISTRICT 4.

Amberley	3,869
Bury	2,3
Pulborough	3,956
West Hampnett	1,869
Otter	2,936
Duncton	2,4
East Lavant	2,284
Total	19,652

DISTRICT 5.

Mid Lavant	50
West Stoke	8,1
Walbeck	1,790
Singleton Parish	5,1
Stoke	5,030
Charlton	3
East Dean	2,6
Lynchmere	3,2
Graffham	1,0
Total	17,8

2. No Valuer will be eligible to act for more than one of the above districts, but Parties desirous to be appointed to the Appointment of Valuer of the district in which they are interested are requested to send in their names to the undersigned on or before JUNE 1st, 1864.

R. E. RAPER, Clerk to the Guardians.

Clerk to the Assessment Committee.

From whom all information can be obtained.

TO BUILDERS.—Persons desirous of TENDERING for the execution of Works required in ERECTING a HOUSE at Duppas Hill, Croydon, for H. Webb, Esq., can see the Plans and Specifications at the Office of Mr. J. BELCHER, 5, Adelaide-place, London-bridge, on and after WEDNESDAY next, between the hours of TEN and FIVE o'clock. Tenders to be sent in to the Office, on or before WEDNESDAY, the 2nd MAY next, endorsed, "Tender for a House at Duppas Hill." The lowest or any Tender will not necessarily be accepted.—JOHN BERNEY, Architect and Surveyor, Croydon.

TO BUILDERS.—TENDERS are required for the ERECTION of extensive STABLING, COACH-HOUSES and DAIRY BUILDINGS, and COTTAGE LODGE, &c., in connection therewith, at Marton Hall, near Malton, for H. W. Barker, Esq., according to plans, specification, &c., which can be seen on application at Marton Hall; or at the Office of Mr. ROSS, Architect, Darlington, from WEDNESDAY, APRIL 27th, until TUESDAY MAY 3rd. Tenders to be delivered at Marton Hall before TEN o'clock a.m. on WEDNESDAY, MAY 4th, 1864.

BRICKLAYERS desirous of CONTRACTING for the BRICKWORK (labour only) of several first-class HOUSES, may apply to Messrs WELCHMAN & GALE, at their Office, 76, Princes-terrace, Pimlico.

TO BUILDERS.—TENDERS are required for the ERECTION of a CHURCH in the village of Clack, Wiltshire, seven miles from Trowbridge. The plans and specifications may be seen, and printed forms of tender obtained, at the Office of Priddy, Clack, from MONDAY, the 18th inst. until SATURDAY, the 23rd inst., when tenders to be sent to me, before MONDAY, the 2nd of MAY. No guarantee is given to accept the lowest or any other tender.

CHAS. F. HANSOM, Architect.

Bath House, Bath, April 12, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of WORKS required in erecting an Tavern at Lower Sydenham, for Messrs. SALDER & COLLYER, can see the plans and specification at my Office on and after WEDNESDAY next. Tenders to be sent to me before TWELVE o'clock, on MONDAY, the 2nd of MAY next, endorsed "Tender for a Tavern at Sydenham." The lowest or any Tender will not necessarily be accepted. JOHN BERNEY, Architect and Surveyor, Croydon.

16th April, 1864.

FARNHAM, Surrey.—Builders desirous of TENDERING for the ERECTION of FARM BUILDINGS at Dippenhall, for Mrs. C. Payne, can see the plans and specification on and after this day (Saturday) at the Public-house there, at the Office of the Architect, Mr. T. WONNACOTT, West-street, Farnham, on and after the 21st instant. Sealed Tenders to be sent in not later than Wednesday.

BUILDERS willing to TENDER for doing sundry WORKS at Kingsbury-green Farm, near Cricklewood, Middlesex can inspect the specification at the Farm or at the Architect's Office. The Architect reserves the right of rejecting the lowest or any Tender. Tenders are to be sent in on FRIDAY, APRIL 22, at FOUR o'clock.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton square.

TO HORTICULTURAL BUILDERS and OTHERS willing to TENDER for BUILDING a CONSERVATORY, &c. A., for Fernhurst, Essex, can inspect the drawings and specification at the Office of the Architect. The lowest or any Tender will not necessarily be accepted.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

TO BUILDERS. — Persons willing to TENDER for the BUILDING of new SHOP-FRONTS, &c., can see the drawings and specifications at MR. H. TURNER'S, Crown Patent and Wire Blind, Manufacturer, Paddington, W., any day before SIX p.m. Tenders to be delivered (under cover) as above, on or before the 20th instant, and the lowest will not necessarily, but will probably, be accepted.

NEW CHAPEL, HIGH-STREET, HODDESDON.—To BUILDERS.—Persons desirous of TENDERING for the whole or any portion of the WORKS required in the erection and completion of the above Chapel for the Methodist New Connection, may inspect the drawings and specifications, and obtain lists of quantities at my Office, 71, Albion-street, Leeds, from MONDAY, the 2nd, to THURSDAY, the 5th of MAY; and at the Chapel, High-street, Hoddesdon, from FRIDAY, the 6th, to MONDAY, the 9th of MAY. Tenders to be sent in to me, not later than TWELVE o'clock on TUESDAY the 10th of MAY. The lowest or any Tender not necessarily accepted.—By order,

Leeds, April 7, 1864. WILLIAM HILL, Architect.

TO BUILDERS.—Persons desirous of TENDERING for the EXECUTION of WORKS required in the ADDITIONS and ALTERATIONS to the HOUSE at the SURREY TAVERN at Croydon, for Mr. J. B. Jayne, can see the plans and specification at my Offices on and after WEDNESDAY next. Tenders to be sent to me before TWELVE o'clock on TUESDAY, the 3rd MAY next, endorsed "Additions to the Horseshoe Tavern." The lowest or any Tender will not necessarily be accepted.

JOHN BERNEY, Architect and Surveyor, Croydon.

16th April, 1864.

MANUDEN CHURCH, ESSEX. Builders are invited to TENDER for the ENLARGEMENTS and RESTORATION of the PARISH CHURCH of Manuden, near Bishop's Stortford, on receipt of the drawings and specifications at the residence of Mr. W. BUSH, Manuden, and at the Office of the Architect, where bills of quantities and all information can be obtained, on and after the 18th instant. Tenders to be forwarded on or before the 30th instant, to me. No pledge is given to accept the lowest or any Tender. By order,

THOMAS S. LANSDOWN, Architect, Malmesbury

LONDON, BRIGHTON, and SOUTH-COAST RAILWAY.—South London Extension to London Bridge. CONTRACT No. 2.

TO CONTRACTORS.—TENDER for ARCHING. The Directors of the London, Brighton, and South Coast Railway Company are ready to receive Tenders for the execution of the Works in erect ng a Viaduct, extending from Blue Anchor-road to Crimscott-lane, in the parishes of St. Mary, Bermondsey, Islington, and John Horsleydown, and crossing the south-western side of the viaduct of the South-Eastern Railway. The drawings, schedules, and approximate quantities of the Works to be executed, may be seen at the Company's Offices of Mr. FRED. DALE BANISTER, the Company's Engineer, London-bridge Terminus, on MONDAY, the 18th instant; and Tenders, in the printed form only, must be addressed to the Secretary, and endorsed, "Tender for Arching," and delivered at his Office, on or before MONDAY, the 2nd MAY next. The Directors will not be bound to accept the lowest or any Tender.

FREDK. SLIGHT, Secretary

London-bridge Terminus.

TO CONTRACTORS and BRICKMAKERS.—WANTED to be MADE, in a Brickfield near Romford (already opened and provided with Sheds and other conveniences), 1,000,000 BRICKS, 1,000,000 two-inch DRAIN-PIPES, and other Tiles. The Contractor to provide Machinery.—Apply to Messrs WESTERN & SONS, 7, Great James-street, Bedford-row.

PARISH of HORNSEY.—To CONTRACTORS for ROAD MATERIALS, MASONS, &c.—The Board for the Repair of the Highways will, at their Meeting, on MONDAY, 25th APRIL, be prepared to receive TENDERS for the SUPPLY of BALLAST, RAG, &c., to be delivered in such quantities and at such time as may be required by the Assistant Surveyor; also for Paving, Kerbing, and Mason's work as may be required. Forms of Tender and any information that may be given in application, by letter, addressed to Coxall's Road, Hornsey-road, Holloway, and marked, Surveyor's Office, Hornsey. Tenders to be sent in by NINE and ELEVEN. No Tender will be received after TWELVE o'clock on MONDAY, the 25th inst; nor do the Board bind themselves to accept the lowest or any Tender.

11th April, 1864. WILLIAM POTTER, Clerk to the Board.

TO BUILDERS and CONTRACTORS.

Persons desirous of tendering for the ERECTION of FIVE first-class HOUSES at Redcliff Road, Earl's Court, may see the drawings and specification at the Office of Mr. J. BELCHER, 5, Adelaide-place, E.C., any day between the hours of TEN and FIVE o'clock. Tenders to be sent in on SATURDAY, the 23rd instant, at TWELVE o'clock. The lowest Tender will not necessarily be accepted, but it will be necessary for the Builder whose Tender is approved to give such references and to provide proper sureties for the due performance of the works.

THE BOARD of WORKS for the PLUMSTEAD DISTRICT.—To SEWER CONTRACTORS, BUILDERS, and OTHERS.—Those persons desirous of submitting TENDERS for LAYING DOWN and CONSTRUCTING about 600 lineal yards of HALF-BRICK SEWERS, in the several roads in the district behind Shooter's-hill, Lee, within the said District, are requested to deliver the same at or before FIVE o'clock upon the afternoon of THURSDAY, the 5th day of MAY next, at the Office of Mr. F. W. PAWLEY, in Lee-road, Lee, Surrey, at which Plans and Specification of such works may be seen and all further particulars may be obtained. The lowest or any other Tender will not necessarily be accepted.—By order,

CHARLES AUGUSTUS SMITH, Clerk to the Board.

Crooms-hill, Greenwich, 14th April, 1864.

SOUTHPORT HOTEL COMPANY (Limited).—Parties desirous of CONTRACTING for the WORKS necessary for the ERECTION of the HOTEL, may obtain the plans and specifications at the Office of Mr. A. DARBYSHIRE, Architect, 44, Princes-street, Manchester, upon the payment of Two Guineas, which sum will be returned to the competitors not engaged upon the carrying out of the works. The drawings will be ready for inspection on and after the 21st of MARCH. Sealed Tenders to be addressed to the Directors of the SALE, Esq., Secretary, Messrs. SALE, WORTHINGTON, SHIPMAN, & REDDISH, Solicitors, Booth-street, Manchester, on or before APRIL the 21st.—The lowest or any Tender will not necessarily be accepted.

TO CONTRACTORS.—Messrs. TOD & M'GREGOR are prepared to receive TENDERS for the CONSTRUCTION of the WORKS necessary for the FOUNDATIONS, QUAYS, & C., for a HYDRAULIC SLIP DOCK, to be erected at their Dockyard, at Meadowside, in the Clyde. The plans and specification may be seen, and copies of bill of quantities and orders to visit the ground obtained, at the Offices of Messrs. BELL & MILLER, Civil Engineers, 4, Bothwell-street, Glasgow, on and after MONDAY, the 11th inst. Tenders, sealed, and endorsed "Tender for Slip Dock," to be sent in not later than MONDAY, APRIL 25.

NEW VICARAGE HOUSE.—Persons willing to CONTRACT for the ERECTION of the NEW VICARAGE HOUSE of LLANBADARN-FAWR, near Aberystwyth, may see the plans and specifications at the Black Lion Inn, Llanbadarn-Fawr. Tenders to be sent in to the Rev. JOHN PUGH, Vicar, on the 30th of APRIL.

W. BUTTERFIELD, R.I.A., Architect.

ABERYSTWYTH NATIONAL SCHOOLS.—To BUILDERS.—Persons willing to CONTRACT for the ERECTION of the NATIONAL SCHOOLS at Aberystwyth, for 400 children, may see the plans and specifications on application to the Rev. E. OWEN PHILLIPS, Vicarage, Aberystwyth. Tenders to be sent in, on or before SATURDAY, the 23rd of APRIL, addressed to the Vicar. The Trustees do not pledge themselves to accept the lowest or any other Tender.

R. KYRKE PENSON, Architect.

March 30, 1864.

ABERYSTWYTH WELSH CHURCH.—TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of the NEW CHURCH at Aberystwyth may see the plans and specifications at the Office of HUGH HUGHES, Esq. (Messrs. Clerk) North Parade, Aberystwyth. Tenders to be sent in on or before SATURDAY, the 23rd of APRIL, addressed to the Rev. E. OWEN PHILLIPS, Vicarage, Aberystwyth. Tenders to be sent in, on or before SATURDAY, the 23rd of APRIL, addressed to the Vicar. The Trustees do not pledge themselves to accept the lowest or any other Tender.

R KYRKE PENSON, Architect.

March 30, 1864. WM. BUTTERFIELD, R.I.A. Architect.

BOROUGH of BRIGHTON. — To CONTRACTORS and OTHERS.—Notice is hereby given, that the Town Council will receive TENDERS from any such person or persons as may be willing to enter into a CONTRACT for the PERFORMANCE of the necessary Works for WIDENING the KING'S ROAD and JUNCTION-ROAD, from Ship-street to the western entrance of the Chain Pier, in the said borough, agreeably to drawings, more fully set forth in the conditions, which may be viewed and an offer MONDAY, the 18th day of APRIL instant, at the Office of the Borough Surveyor, Town-hall, Brighton. Sealed Tenders, addressed to the Works' Committee, and endorsed "Tender for Widening King's-road," and delivered by nine o'clock in the Town-hall, in the said Borough, before FOUR o'clock on TUESDAY, the 26th day of APRIL 1864. The Council do not bind themselves to accept the lowest or any Tender.

DAVID BLACK, Town Clerk.

Town-hall, Brighton, April 6th, 1864.

THE FURNISHING OF BED-ROOMS.

HEAL & SON have observed for some time that it would be advantageous to their Customers to see a much larger selection of Bed-room Furniture than is usually displayed, and that a large property of the sale and retail of the different descriptions of Furniture, it is necessary that each description should be placed in separate rooms. They have therefore erected large and additional Show-rooms, by which they are enabled not only to extend their Show of Iron, Brass, and Wood Bedsteads, and Bed room Furniture, beyond what they believe has ever been attempted, but also to provide several small rooms for the purpose of keeping complete sets of Bed room Furniture in the different styles

Japanned Bed Goods may be seen in complete suites of five or six different colours, some of them light and ornamental, and others of a plainer description. Suites of Stained Deal Gothic Furniture, Polished Deal, Oak, and Walnut, are also set apart in separate rooms, so that customers are able to see the effect as it would appear in their own rooms. A suite of very superior Solid Oak Furniture will generally be kept in stock, and from time to time new and select Furniture in various woods will be added.

Bed Furnitures are fitted to the Bedsteads in large numbers, so that a complete assortment may be seen, and the effect of any particular pattern ascertained as it would appear on the Bedstead.

A very large Stock of Bedding (HEAL & SON'S original make) is placed on the BEDSTEADS.

The Stock of Mahogany Goods for the better Bed rooms, and Japanned Goods for plainer and servants' use, is very great, increased. The entire Stock is arranged in eight rooms, six galleries (each 120 feet long), and two large ground floors, the whole forming as complete an assortment of Bed-room Furniture as they think can possibly be desired.

Every attention is paid to the manufacture of the Cabinet-work, and they have just erected large Workshops on the premises for this purpose, that the manufacture may be under their immediate care.

Their Bedding trade receives their constant and personal attention, every article being made on the premises.

They particularly call attention to their Patent Spring Mattress, the Somnifère Elastique Portatif. It is portable, durable, and elastic, and lower in price than the old Spring Mattress

HEAL & SONS' ILLUSTRATED CATALOGUE of Bedsteads, Bedding and Bed room Furniture sent free by Post.—196, 197, 198, Tottenham court road, London.

DOVER FOUNDRY and IRON WORKS, STAPLE STREET, BOROUGH, S.E.



Girders, Wrought.
Ditto, Cast.
Columns.
Tanks.
Railings.
Staircases.
Machine Castings.
Roofing.

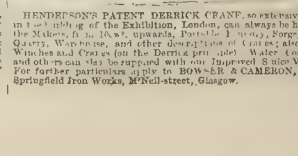
All kinds of Cast or Wrought Iron Work estimated or designed

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CONTRACTORS' RAILS. — WANTED, about FIFTEEN TONS, from 30 lb. to 36 lb. to the yard, in good condition. Reply, by letter only, stating where the rails are lying — Address, B. F. Mr. Wm. Marchants, 304, Regent-street, Oxford street, W.

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HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Exhibition, London, can always be had from the Makers, from 10 to 15 Tons, upwards, Portable Engines, Forge, Winch, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Cranes for the Derrick principle). Water Companies and others can also be supplied with our Improved Sluice Valves.—For further particulars apply to HENDERSON & CAMERON, Makers Springfield Iron Works, M'Neil-street, Glasgow.

ST. PANCRAS IRON WORK COMPANY,

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THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

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MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



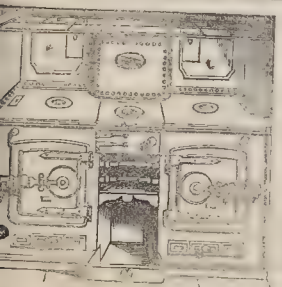
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
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Round Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney pieces, from 11. 8*s.* to 106*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES,

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39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

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DAY and GAS LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 98, Hatton Garden, E.C. and 283, Clarence street, Hatton Garden, E.C. A large assortment of silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Best Glass Prepd.

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CHUBB'S LOCKS, with all the recent improvements.

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

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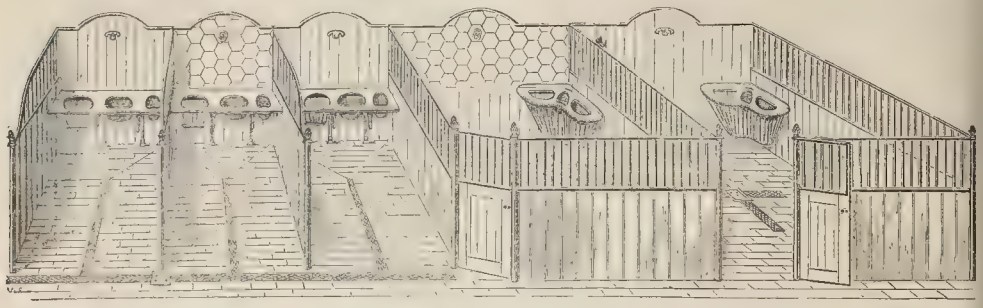
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

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COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

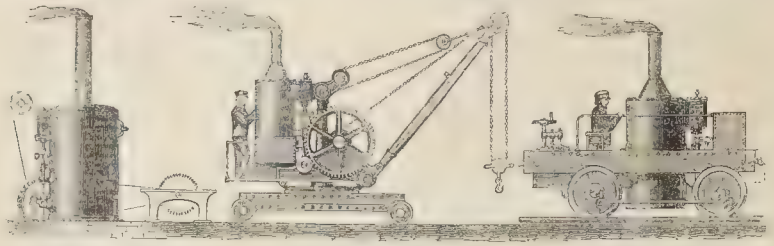
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Stationary Engine. From 1 to 30 Horse Power.

Portable Steam Crane. 1 to 30 Tons.

Contractors' Locomotive. 6 to 27 Horse Power.

From the strength, simplicity, and compactness of these Engines, they are now extensively used for general purposes; also in situations where Steam Engines of the ordinary construction cannot be applied.

Stationary Engines, —require no building in, nor chimney stalk, and with our Patent forced combustion apparatus, will burn inferior qualities of coal, wood, or peats. These Engines are specially suited for shipment, and may be packed inside the Boiler to economise freight.

Portable Steam Cranes,—for wharf or railway, with wrought-iron carriages on wheels, link motion, foot brake, &c., all under the easy control of one man; the larger sizes hoist, lower, and turn round in either direction by steam.—*These Cranes were selected by H.M. Commissioners for receiving and sending away the heavy machinery at the International Exhibition of* 1862.

Contractors' Locomotives,—are adapted to work on rails or tramways of a gauge from two feet upwards; they are complete and efficient Locomotives, simple in construction, and the working parts easily got at for repair; they draw heavy loads at reduced speeds. These Engines are usually sent in one package, ready for work on arrival.

LIGHT PORTABLE, HOISTING, WINDING, AND PUMPING ENGINES, &c.

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Engines of each class KEPT IN STOCK for SALE or HIRE, and all our Manufactures GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

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WALSALL, THE ALBION TUBE & FITTING WORKS, STAFFORDSHIRE.

LONDON: THOMAS LAMBERT & SON, LAMBETH.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS:

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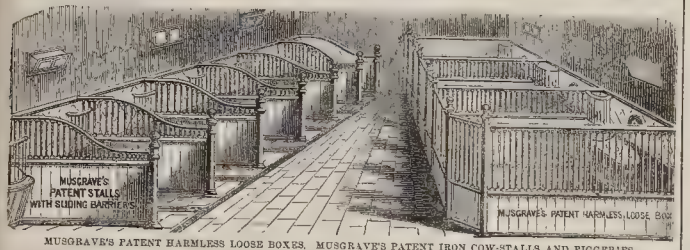
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MUSGRAVE'S PATENT STABLE AND HARNESS FITTINGS.



MUSGRAVE'S PATENT HARMLESS LOOSE BOXES. MUSGRAVE'S PATENT IRON COW-STALLS AND PIGGERIES.

Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first-class stables in almost every county in England and MUSGRAVE, BROTHERS, are now fitting several very large establishments under their direction in London. Architects, noted for adoption only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to

MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

WILSON'S DOUBLE-ACTION SCREW SPANNER,

MANUFACTURED BY

JAMES HEELEY & SONS,

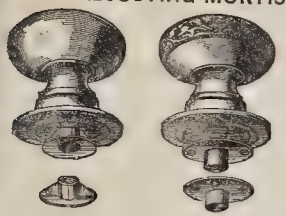


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The superiority of this Spanner consists in its novel and rapid mode of adjustment by a double action screw, and its new and convenient arrangement of curved handle and shank, which, combined with its superior strength and excellent workmanship, renders it by far the best and handiest tool of the class hitherto produced. It is being extensively used by Engineers, Manufacturers, Machinists, and Railway and Steamboat Companies, and can be had of all respectable Ironmongers.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.



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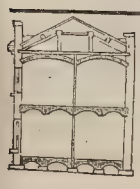
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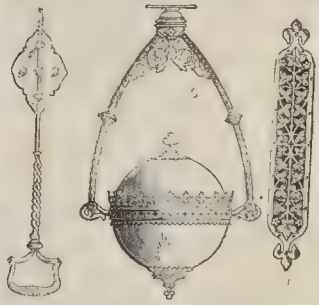
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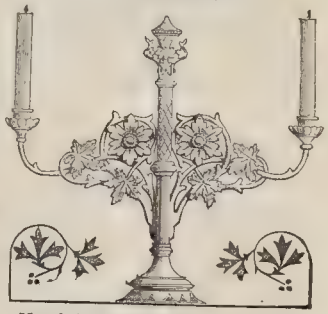
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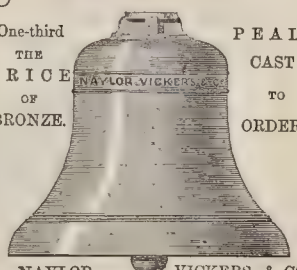
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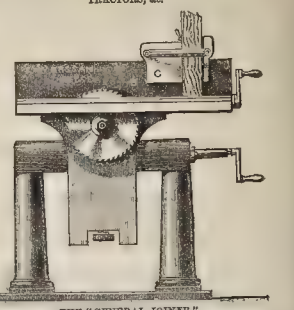
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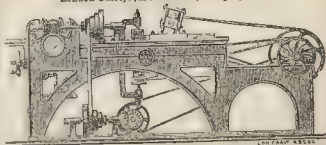
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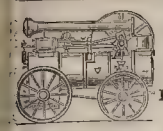
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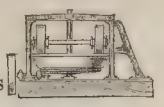
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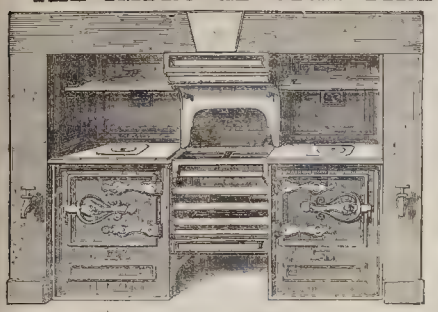
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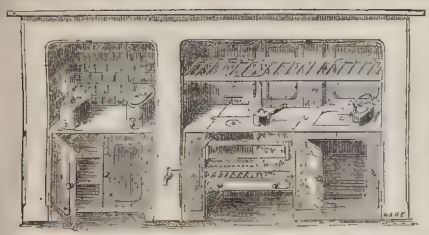


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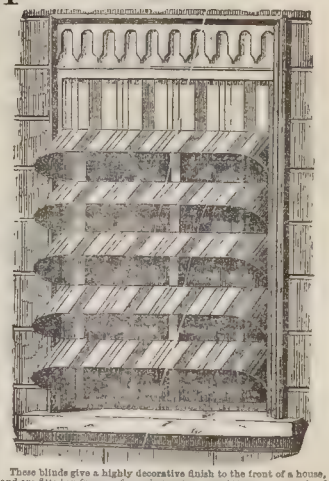
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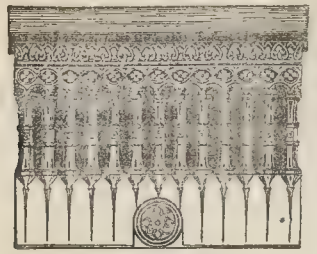
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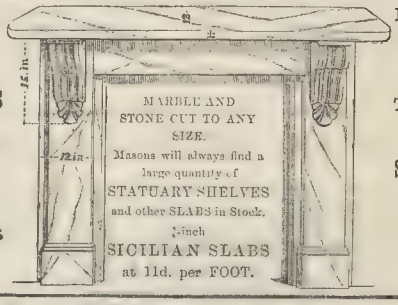
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VOL. XXII.—No. 1106.

*The Metallurgy of Iron and Steel.**

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"Dass ihr den sichersten Pfad gewahlt, wer mochte das laugnen?
Aber ihr tappet nur blind auf dem gebahnten Pfad."

Practice, however, has always been in advance of theory; empiricism is always the pioneer of science; and pretty much the same as we eat, drink, and sleep without understanding how we do these things, so do we make iron and employ it in our buildings, without thoroughly understanding the laws of the heat by which we have produced a molecular structure just as little understood. Apart and distinct from the progress in practical metallurgy to be expected from the ever-widening and ever-deepening flow of physical research, carefully collated narratives of the many and varied metallurgical processes continuously carried on by the most civilized as well as only semi-civilized communities, ought to afford us that tuition, those lessons, and that extension of knowledge, which are only to be acquired by comparison. Dr. Percy has already rendered good service in this way, and his work, published some two years and a half ago, "On Fuel—Fire-clays, &c.—Copper, Zinc, and Brass," attracted much attention from men of science of all classes. Metallurgy is indeed a science, or, rather, a scientific art, of the greatest interest, and it probably appeals to the attention of a greater number of classes than any other branch of the arts. The physicist and chemist can look upon our great iron, copper, and similar works as so many gigantic laboratories; while the engineer draws from thence some of his most important materials of construction, upon the quality and right usage of which depend his own good name and fortune, and, of much greater importance, the lives and fortunes of hundreds. The bulky octavo volume now before us, measuring some three inches in thickness, is on iron alone, in its various shapes, and it need scarcely be said that the subject is not merely one that is now attracting the concentrated and trained attention of the man of science, but is also exciting the wide-spread but necessarily superficial regards of the popular mind. Dr. Percy begins by giving a chapter of some ten pages to the physical properties of iron,—its purity, its crystalline system, its tenacity, and its varied relations to heat. More fully are the chemical properties of iron dilated upon, and its relations to the different gaseous elements, and the various metalloids. We then have chapters on the alloys of iron with the metals and metalloids; on the various iron ores, and the methods for assaying them; on the direct extraction of iron in the malleable state from the ore; on the indirect extraction of iron in the state of cast iron from the ore,—which last subject, of course, forms about one fourth in bulk of the book. Puddling, working of the ball, working of the puddled bar into merchant or finished iron, sheet iron, and slit rods, are the principal subdivisions of the subject of the production of malleable iron from the cast iron of the blast furnace. That compound of iron we call steel, has of course a good portion of the book to itself, and the different ways by which steel is produced, either by the addition of carbon to malleable iron, or by the partial decarbonization of cast iron, or by fusion of pig iron with malleable iron, are very fully treated upon. The casting and manipulation of steel, a chapter on the strength of iron and steel, and a highly interesting sketch of the history of iron, form the concluding portion of the book, and an appendix contains several valuable metallurgical papers by other authors.

It need scarcely be said that a man with the abilities and opportunities of Dr. Percy could not fail to bring together a mass of extremely valuable and previously unpublished information. We have been looking forward to the issue of this work for a long time—more than a year. Dr. Percy's first volume appeared at the end of 1861, and he hoped to be able to publish a second volume, to complete the work, before the end of 1862. We find, however, that "on conferring with many persons engaged in the smelting of iron and in the manufacture of iron and steel, the author became speedily convinced that such a treatise as he had originally intended to prepare on these subjects would not be satisfactory; and he accordingly determined to proceed on a much more comprehensive plan than he had, in the first instance, contemplated." We are sorry to say that this portion of the work, even in its present enlarged shape, has very much disappointed us, and we venture to think that most engineers will look upon the work with the same feeling. We speak as users, not as makers, of iron and steel; for to examine minutely into the metallurgical qualifications of the book would take us too far out of our usual path.

In one word, Dr. Percy is lamentably deficient in the engineering qualifications, both mechanical and mathematical, requisite to handle certain portions of his subject. Iron is not made in order that books may be written about it; iron is made that engines, roofs, bridges, railways, guns, may be built of it. The metallurgist is the mere servant of the engineer. Accordingly, in a good work of this kind, we should expect as full a treatment as possible of the physical properties of iron,—of, for instance, the influence of annealing, of cold-rolling, of the loss of strength through welding, and similar important questions. We are promised an explanation of the phenomenon of "burnt" iron, but we have vainly sought for an answer to this question, which is stated, at one part of the book, to be reserved "for future consideration." Professor Walter Johnson's experiments on the thermo-tension of iron, conducted practically twenty years ago for the United States Government, are quite ignored by Dr. Percy, although he ought to have known that the principle has lately been employed in several instances. The following remark is something quite beyond us:—"So universal is the recognition of the high character of Lowmoor iron, for example, that when civil engineers specify that it shall be used in cases where security to life is the first consideration, they are absolved from responsibility in the event of the occurrence of accidents from breakage of machinery." Does this mean that a railway company, or its engineer, would be absolved from compensation suits arising out of an accident through the breakage of a Lowmoor tyre? The sentence either means this or nothing at all; but whether there is any truth in the remark must be well known to any mechanic. One of the most surprising things in this work is the author's ignorance of, or ignoring of, Mr. R. Mallet's important researches into the molecular structure, the metallurgic treatment, and other questions connected with iron in its various forms. Some weeks ago we gave an account of Mr. Mallet's theory of the molecular structure of wrought iron, and we may as well at once state that all we know of this gentleman can be acquired by any reader of his work on the "Physical Conditions involved in the Construction of Artillery," and his later paper "On the Co-efficients of Elasticity and of Rupture in Wrought Iron, in relation to the Volume of the Metallic Mass, its Metallurgic Treatment, and the usual Direction of its constituent Crystals," the last of which was read before the Institution of Civil Engineers in the 1858-59 session. Dr. Percy so often shows a manly frankness in speaking of questions about which a less bold man would probably hold his tongue, that we fully acquit him of wishing to ignore the works of a fellow labourer; and we have no doubt that, if he had known Mr. Mallet's elaborate experiments, and truly philosophical deductions therefrom, Dr. Percy would have either praised or blamed them. Mr. Mallet's paper on "Heavy Forgings" is a philosophical investigation into a most important subject, we believe almost unique of its kind; and Dr. Percy would have gained much light from it, and would probably have been enabled to enter much deeper into questions he is now obliged to pass over rather slightly. Mr. Mallet has put forward a most valuable theory of molecular constitution of crystalline bodies, and he has applied it to the molecular constitution of cast and wrought iron. He has investigated, with more or less success and with greater or less results, the effects of bulk and fluid pressure on iron casting, on the relation of elasticity to the crystalline axis of wrought iron, on the relations between annealing and tenacity, and similar questions quite ignored by Dr. Percy, although these investigations have been already put forward some eight years before the public.

At no place do Dr. Percy's deficiencies appear more marked than in his chapter on the strength of iron and of steel. In the first rank he gives us that fossilized (1844) table of Mr. Fairbairn, of the "results of experiments on hot and cold blast pig-iron, from the principal ironworks of the United Kingdom," &c. Now, this table has little more than an historical value at present, as some nineteen of the works alluded to have been given up, while three have been pulled down, and one of the works has been changed into a railway station. *Tempora mutantur.* About ten of the whole number of firms which are quoted as making cold blast-iron, are now using the hot blast. With respect to another table giving the results of a series of experiments by Mr. W. Fairbairn, "taken from the report of the British Association for the year 1853, on the effect of repeated meltings on the transverse strength and resistance to crushing of cast-iron," Dr. Percy very truly remarks that the coke in the cupola was, doubtless, not without some influence on the results of these repeated meltings. But what Mr. Mallet has said long ago with reference to these experiments of Mr. Fairbairn, may be repeated to the "metallurgist" who endorses the "repeated meltings" theory, with the single reservation as to a supposed chemical action:—"Some most important conditions, modifying if not invalidating such a conclusion, and more especially the effects of the variable *mass* of the casting, seem, however, wholly to have escaped him. Indeed, these experiments, rightly considered, only prove what was well known before—that by continually remelting and casting into *small* pieces (*i.e.*, imperfectly

* "Metallurgy: the Art of extracting Metals from their Ores, and adapting them to various Purposes of Manufacture." By John Percy, M.D., F.R.S., Lecturer of Metallurgy at the Royal School of Mines. Iron and Steel. London: John Murray. 1864.

steeling) any cast-iron, we may gradually cause all its suspended carbon (in the state of graphite), to exude, as Karsten long ago proved, and so gradually convert the metal into an imperfect steel, with increased hardness and cohesion, and diminished fusibility, but with properties altogether unworkable and useless. No such result can occur when the metal is cast into large masses, nor any such assumed improvement by repeated meltings, but very much the contrary." Dr. Percy then copies, or rather abridges, five tables out of Mr. Kirkaldy's valuable work on the tensile strength of iron and steel. He very carefully gives the contraction of area at fracture of the specimen, and he thus seems to think with Mr. Kirkaldy, that this fractured area is a measure of the breaking strength of the iron—an assumption shown to be mistaken several years ago, although at the same time this measure is, no doubt, good for rough purposes. Then Dr. Percy copies another table of Mr. Fairbairn's,—that on the tensile strength of boiler-plate at various temperatures. He does not allude to the fact that Dr. Fairbairn has not given the extension of the plates, an omission which makes his experiments next to worthless for any useful purpose. In truth, Dr. Percy has excised the same detail from Mr. Kirkaldy's tables; thus showing that the learned doctor has little or no sound notion as to what really constitutes the value of iron for any use whatsoever, from the ring in a pig's snout to the girder of a bridge. We regret to have to speak in this way of what is, in its *narrative* parts, a very valuable book, and a book that will do much good. But *on ne peut pas faire une omelette sans casser des œufs.*

ARCHITECTURE IN FRANCE.*

MEDIÆVAL TO RENAISSANCE.

South a little farther, but more to the east, and out of the direct reach of mediæval traffic, is the magnificent church of Bourges. This is chiefly of later date than the twelfth century, but there still stand, little the worse for their 700 years' wear, the two grand portals, north and south, and in them you have the stiff archaic sculpture of the time. Bourges is now in the very heart of France, but it was, at that time, an outlying post in a barren country, and one does not look for nor find much progress there. Southward again, in the direct track of trade, we come to Poictiers—southward still of that, to Angoulême; both too well known to need much notice here. Poictiers is northern in its domical vaulting, and southern in the want of clerestory and triforium. Angoulême has the northern chevet, the Angiovine aisleless plan, and the altogether southern domes. These domes are Byzantine altogether. And now, for my last examples, we reach Moissac, Tarascon, and Arles, all in the great southern province: no trace there of northern art; no fine lights and shadows from clerestory and triforium; no boldly soaring towers; no beautifully-planned apse. We miss all these down south, but we have, instead, the bold and graceful portals and the richly-sculptured cloisters—so lavish in their decorations, so elegant in their carvings, that one almost forgets the contrast between Arles and Laon, in the wonderful interest which the carvings to these small southern churches excites.

Now I want to lead you, before we come to the great works of the thirteenth century, to examine again the course of the art-changes up to the end of the twelfth. First, then, we find Normandy, as before, still, to a certain extent, isolated in art, not borrowing from or influencing other provinces, and still keeping its own peculiar style, be the origin of it what it may. But it and its arts seem to have influenced us. Secondly, then, at the time when we had only such archaic work as we see at Durham, Peterborough, and Norwich, there had been finished a large part of the great Pointed church of St. Denis.

But the Angers Pointed churches must have been earlier still; and earlier still than those were Avignon and other Pointed vaults still farther south. We must call to mind that most of the buildings, Christian and Saracenic—and grand ones they are wherein the Easterns had a hand, as Sicily, and Egypt, and Syria, were, long before, all Pointed in their arches. In Italy, even in the north, all was strictly still Romanesque and round-arched. But, though the true Gothic seems to have been begun in France, it was only in the north that the style had taken root. Little of it is to be found south of Paris, for the Pointed arch in the southern provinces was used with no Gothic feeling. It marks, however, the influence of commerce upon art, in that the nearest to it, perhaps, is to be found in Angers, the chief town northward in the general route. Now, up to this time, it seems to me that this advance in Gothic was altogether French; at least, I know of no other place from which the style could have been borrowed: from Germany it certainly was not. All that I have ever seen or heard of it was Romanesque—Romanesque of a very peculiar and beautiful style; very Eastern much of it, and containing some of the finest specimens of plan and outline that the world has ever seen; but no Gothic was there. It did not come from England. Few of our works here are even Transition, and we cannot call such buildings Gothic.

It did not come from Italy, for nothing there is to be found that is not Romanesque. To France, too, we must, I think, give the honour of designing the great sculptured portals, such as we find in this country at Arles and Tarascon (most carefully described by M. Waring at the Institute, in 1860), and the earliest of these are at Bourges and Strasburg. Somewhat near to them in date are those of S. M. Toscanella and Verona. But these are very different in arrangement from the French—combine less harmoniously with the general mass; and, although the French and Italians of those times may have interchanged ideas, it seems to me that the French architects of Southern France may fairly claim the merit of their design, and nothing that I know is more rich and graceful.

It is clear, however, that there was, as I have before suggested, an interchange of thought between the art-workers of France and Italy, because, in addition to the twelfth century being the age of porches in both countries, we find, also, in both, the strangely conventional introduction, under the columns, of lions and other animals. This lasted in Italy to the fifteenth century, one of the most magnificent specimens being the porch at Ancona. To sum up—the French works of the twelfth century, as a rule, were more powerful than graceful—more bold than studied—less marked as a distinct epoch by mouldings, or outlines, or plans, but free in all to an extent that no age, before or since, perhaps, has known.

The architect in Provence, Auvergne, and Anjou, was a singularly unfettered man. He took for his plan the cross form or the oblong, with or without aisles, as it but answered his purpose or his funds. He turned his lower arches in the round form which his fathers used, covered his great church with the northern groin or the southern barrel vault, and sometimes with both together, and formed these groins or vaults with the Pointed arch. Then, upon that, if he wished for a bolder form, he raised the dome, with its pendentives borrowed from the east, and finished the great work by the radiating chapels which led to the glorious French *chevet*. And then he lavished upon the entrance to this church all the efforts which sculpture could make, and which were the beginnings of that work which culminated in the portals of Rheims and Bourges. Where, too, shall we find such studies in aftertimes as those that we get in the cloisters of Arles or Moissac? Rude they are,—rough,—not to be looked at for studies of anatomy or graceful drapery (though you may find that too), or for all the delicate refinements of the sculptor's art. But what a study there is of the men who wrought them! What lessons in stone do they teach! Walk through those cloisters; and, as you look at each capital, the mind can find a separate subject to learn from or instruct. The Greek never did this, nor did the Roman. Not even did the men of a century later! Compare, for instance, the carving in the cloisters of St. Triphime with that of the later cloisters of the Augustines at Toulouse,—a wretched falling off. I don't say copy these rude works; but I do say, work as they worked, with our superior knowledge as a help to us, and we shall do well.

Now for the thirteenth century, the last that one can well study in France, for art ran to riot very quickly afterwards; and, though much of the after work is beautiful, almost to perfectness, yet there is so much waste, if I may use the term, in its beauty, that one can scarcely well go very deeply into it; at least I, for one, never could; and I shall, therefore, now confine myself almost to the thirteenth century, with a general glance only at the after work. The thirteenth century is the date of Philip Augustus and St. Louis—of Philip the Bold and Philip le Bel—of the conquest by the French of the English provinces, north and south—of Provence and Champagne—of the Crusade in Languedoc, and the destruction of the great order of the Templars. It reached from our John to our Edward I.—from Norwich cathedral to Salisbury, Wells, Lincoln, and Westminster—the nave of York and the Eleanor crosses.

In Germany, it gave us many of the Cologne churches, with part of the cathedral itself;—in Italy, the Baptistery at Parma, St. Francesco at Assisi, the Campo Santo and Baptistery at Pisa;—in Spain, the Alhambra. It is the great era which M. Viollet-le-Duc brings forward as the age of prodigious activity in art—when the grandest of the French works were undertaken with the most marvellous power of design and richness of detail; but done, he says, in a hurried way, so that both the construction and details were wanting in that perfect finish which characterized the earlier works: and it is the time at which the purest Pointed architecture is to be found in Europe. Of this era are the chief parts of the great French churches of Amiens, Bayeux, Rheims, Chartres, Le Mans, Strasburg, Tours, Poictiers, Limoges, Bordeaux, Toulouse, and Alby, the walls of Carcasonne, and many another work that gives life and interest to the city or the landscape. Here again, as before, we find a difference, strongly marked, between the north and the south; but the strength of the south had now died out, and all the energy of design had passed to the north. There is, indeed, much of great interest in the south: the great churches of a single plan, and of one aisle only—marvels of construction, and valuable for study for our Protestant service. So, too, there is much to be learned from the brick architecture of Toulouse and its neighbourhood—a style quite peculiar to it, and not much known. But, nevertheless, the great move in architecture and sculpture in the thirteenth century was in the north, and to their architects, I think, belongs the credit of the movement.

The change, however, in France, was scarcely so great as with us, from the style preceding; and it was, to a much greater degree than with us, a mere refinement on the century before. We find the mouldings, to a great extent, very similar in both—the foliage to the capitals very much the same; so, also, the general contour of the buildings, the sculptured porches, the lofty spires. All had been shadowed out before very much more than with us, and though they had got the start of us in the twelfth century, I think that we had overtaken and outstripped them in the thirteenth.

To begin, now, with the details, the most important point, although the most minute in any comparison of work and dates.

No one studying the subject can fail to see at once that the change of details made in France is very much less than with us. The mouldings most in use continued with them to be almost the same; and one finds the sections that were used at St. Denis, in the middle of the twelfth century used still at Chartres in the middle of the thirteenth, with very little change indeed. Yet that length of time is very similar to that between our St. Cross and Westminster—between the Norman section of the one and the elegant Pointed section of the other. So, too, with the foliage. From a very early period in the twelfth century to a later period in the thirteenth, much of the foliage of the capitals was very similar throughout; and though the later work was somewhat freer and less archaic than the earlier, yet the general form was still the same. Compare this, now, with the difference between the same buildings that I have before named, or with the heavy work of Peterborough transepts and the Chapter-house of Salisbury and York. This great adhesion to a settled type of work presents much greater difficulty to any student investigating the theory of dates in France than he meets with in Great Britain, and it is somewhat dangerous to speculate too closely upon French dates from such details. It is, indeed, captivating when we find, as we do when first we begin our studies in architecture, that

* By Mr. T. Hayter Lewis. See p. 256, *ante*.

mere contour of a moulding, or the turn of a f, will sometimes fix a building's date within ne twenty years; and one is sorely tempted theorise thereon somewhat too confidently in ling to our minds a doubtful date. But a ger study will often show that a little knowge here, as in many other things, is a danous thing—not to have, but to theorise upon t the actual facts of a given proved date, I often show how much we must assign influence to local types and peculiarities. nowledge makes us modest in this as in all ngs else.

In France, however, so far as I can see, study s taken a path quite different; for details ere seem to be studied by the French in quite secondary way. I do not know a single ench work which gives the detailed mould- gs to any workable size.

This, however, is a digression.

Compare such of the French mouldings as I ve given, and which are perfectly fair speci- ens, with any of our works of the same date, d the difference will be found very striking in vour of the advancement in England.

As to the capitals, the magnificent series of awings which Mr. Scott has been kind enough lend me, and to which I shall allude in con- sion, will show at a glance the various differ- ces of form and foliage.

But then there comes the tracery of the ndows, and I am afraid that the French had early the start of us there. I must, however, ubt whether they had much start of us in their ulpture. Wells cathedral was about equal in te to most of the great French churches; and e sculpture there will hold its own, I apprehend, ith any. Take, as an instance, its sculpture as mpared with Chartres. Comparisons are, wever, rendered somewhat difficult by the certainty of the dates themselves in many of e examples best known. Take, for instance, miens, better known and more written about, rhaps, than any other, from its nearness to r own land, and its reputed date, so temptingly ar to Salisbury. The latter was begun 1220, d finished some forty years after, on one plan. miens about the same; but the works there are id to have extended to 1272; and then again, ter a severe fire, to have been renewed in the teenth century. Now, there can be no doubt hatever that a total change of the aisle plans took ace after the main skeleton of Amiens was up, ecause the outline of the buttresses, clearly eant to be external, can still be seen *within* the apels—this plan adding, in fact, another aisle the whole building, and pushing outwards the hole of the lower walls. These latter, there- ore, with the whole of the lower windows, aisle, roining, &c., must have been added after the eneral skeleton of the cathedral was finished. think, too, that any one carefully examining the tails will say that the work externally, above e canopies of the great portals, is later, to a narked extent, than the figures below. Also, hat the whole of the capitals to the traceried indows throughout are very much later than he general skeleton of the building; so are the arapets. Much, too, inside is clearly of a later tate, so that, until the history of this great hurch is much more closely written from the tones themselves, than has, I think, been done, e must scarcely take it as a good foundation or a theory of date comparisons. We may, owever, do something more by comparing it with other French works. I did so with Tours and Chartres particularly, and found the piers, apitals, abaci, groining, and many other parts, o be almost identical with one or other of these wo cathedrals.

Now, the date of Chartres and of Tours is bout the same, viz., 1,250, and I do not think hat we should put the upper part of Amiens at all earlier—the tracery of the windows, the arapets, and the west front decidedly later. This middle of the thirteenth century, then, affords us a most excellent standing point of comparison between Amiens, Tours, and Chartres of hat date, Westminster and other English examples of the same time, Paris a few years earlier, and Laon of a few years earlier still. The result is curious, for if you take the mouldings and the general lightness of the style as evidence only, the earliest, Laon, would really seem more advanced than the other French examples. The capitals are freer at the later date, but scarcely so finely modelled I think, and most decidedly the ornamental work of Laon, in the exterior, exceeds by far the rest. The early French work, in fact, in general, shows such broad surfaces and is so little cut with mouldings, that I am constantly reminded of Mr. Burges's remark, that, we must choose between colour and mouldings, and cannot have both—the French preferring the colour. It is not, however, very easy to find genuine examples for the study of colouring in the interior of the old French churches. There are, indeed, very many and large traces of it in many places. I may mention St. Hilaire, at Poictiers, and the cathedral of Tours in particular. But, it requires very great care in discriminating as to what was done at the time, or nearly so, of the building, and what was added afterwards in Renaissance times (often *upon* the first), when decoration was used in France most lavishly. Then all was whitewashed over, and it is sometimes no easy work to say, until we come to some decided ornament, to what date we must assign the painting.

To resume as to the comparison of dates, we may, I think, be quite safe in concluding that the Pointed style in France was developed at an earlier period there than with us, but that, in our mouldings, and our foliage, it advanced with us to a greater degree of delicacy, refinement, and beauty of details, than ever it did in France. I know of nothing in France that will equal in grace and delicate beauty the Early English foliage capitals, or the beauty of the spandrels and other ornaments that we see at Lincoln or Westminster, or the Chapter-houses of Salisbury and of York, for instance. The French are, no doubt, gloriously vigorous, as Mr. Scott's fine drawings here show. Their piers and mouldings, too, are bold enough, but they always seem to me to have scarcely the richness that one would expect to find in them. I mean, of course, up to and including the thirteenth century, for there was no lack of richness after,—it then ran quite to riot in its details. I should not care to trouble you much with this, even were there time; for, beautiful as much of the detail is, and picturesque as much of its effects, there seems throughout to be so much in it of the artificial, that its study is soon abandoned. Much of the very late work, quite of the Renaissance, is very picturesque in outline, and the skylines of the roof afford, very often, quite wonderful studies. I give a few examples, enlarged from my sketches.

Before quite concluding, I should like to make a few general remarks on the French works:—1st, with respect to the general outline, there is no one, I suppose, who does not know the wonderfully elegant flying buttresses of Chartres, for instance, which tell so well in a section. Beautiful they are in drawing, and fine as constructive works. But the real effect, more especially at the apsidal ends, is by no means so good. In many cases (I noticed it particularly at Chartres itself, and at Le Mans), the buttresses are so close together, and reach so nearly to the parapets or eaves, as quite to exclude the windows and the wall-lines from most points of view. There is at Le Mans a good opportunity of comparing the effects of these heavily buttressed apsidal ends with the simpler form of an earlier date; for the lady-chapel there is shown projecting its simple apsidal outline in direct contrast with the flying buttressed end of the church; and, certainly, I could not hesitate to say that the earlier simple form was the most pleasing. Then the excessive height of the French cathedrals seems to require such depth in the buttresses as, in many cases, to obscure the side walls, as I have above described they do the apse.

Then, again, the triforium is treated, generally, in a very different way to ours. We have, as a rule, in our early work, a deep practicable gallery, lighted from the back, low in height compared with the aisles and the clerestory, and giving thus a scale to the whole of great value. The darkness, too, offers a fine contrast to the lightness of the clerestory over.

In France, as a rule, the triforium is a mere gallery in the thickness of the walls, and is glazed throughout. Great lightness is, of course, the result, but one misses much the deep shadow of our own cathedrals. This great lightness, too, has another defect, viz., that the great solid piers of the nave and choir seem too heavy for their work. This is particularly the case, I noticed, at Bourges, and the effect is increased by the want of massiveness as well as richness, in the effect of the great aisle arch mouldings. On the other side, however, the French have many advantages over our plans. No one can, I think, contrast our square-ended churches, as compared with the French apse and chevet, without feeling the superiority of the French plan.

In a few instances, as at Strasbourg and St. Hilaire, Poictiers, the Italian arrangement of the apsidal end, raised above the Saints' Confessional, is to be found. But, in general, the French plan is strictly a congregational one, the aisle being continued round the apse as a regular path. Then, externally, we have in French works, the great crowning cornices—a feature of very great importance, and that gives a remarkably bold finish to the walls. This is found, too, in the domestic work as well as ecclesiastical, and in work of all dates. It deserves attentive study, both for detail and for general effect; and seems to supply the only want (and to my mind a very great want) which we find in the great Gothic palaces of Venice, viz., that of a great crowning cornice. Finally, we have the domical vaulting—a beautiful variety of groining in itself for one compartment seen separately, but very difficult to manage well when seen in a long succession of bays.

I must say a few words now as to the French glass. Many of the cathedrals are filled with it to an extent which we really cannot understand, when we think of the many vicissitudes that France has undergone, and one sees, especially, the actual treatment of whole ranges of great, untraceried windows of the twelfth and thirteenth centuries, as decorated with glass of the finest character.

Usually it is divided off, as in our own Early glass, into geometrical medallion patterns, with deep rich borders—the medallions filled with figure subjects, and the spandrels, &c., with a peculiar sort of plain diaper, almost invariably of blue and red.

Wherever the medallions and diapers are of much the same tone of colour, the general effect is that of a somewhat confused mass, owing to the smallness of the details. In such a case, the large single-figure lights of the later glass contrast favourably with the earlier. But when (as is usually the case) the latter have the medallions brought distinctly out by their contrast with the deeply-coloured diaper ground, the window so marked out produces all the picturesque effect of a traceried window, with the power of colour superadded. The borders are very beautiful in design, but the diaper which I have already alluded to takes very badly the place of our scroll-work. Sometimes, as at Strasburg, the glass is so thick with age, that the obscurity is too great. But, in general, the effect of the cathedrals lighted by ranges of such glorious windows as one often sees in France is a thing never to be forgotten, and affords means of comparing the general effect of glass of various dates which one can scarcely find elsewhere. Of one thing I must warn the young student, in prosecuting his studies in France. He will find that many churches, ancient or restored, have the vaults and masonry strongly lined with deep white or red lines. In very many cases this is really old, in the vaults especially; for there, the spaces between the ribs, being filled with chalk or light stone in irregular lumps, were plastered over with a thin plaster and lined. I think that this was done as a means of decoration, and a legitimate one. It certainly has a very good effect in general.

But the French architects of the present day often make a point of plastering over the masonry, wherever irregular, of the walls, with similar plastering, so closely resembling stone as to be very deceptive, and then lining it over in regular courses, quite irrespective of the actual joints of the masonry. I saw a ludicrous example of this at Saumur, for the piers had been jointed at different heights at the sides, and were often at a wide distance apart at the angles. Used properly, the showing the actual lines of the stones has an excellent effect, better, in fact, than one could expect. There is a striking proof of it in part of the Early arcade at Le Mans, where three of the arches only have been thus lined, the rest retaining their old coat of whitewash. The difference is wonderful.

I now come to the fine series of capitals lent to me by Mr. Scott. In his lecture at the Royal Academy, he brought forward very prominently their general characteristics, as being chiefly derived from Byzantium. You are quite aware that the French foliated capitals are very different from ours. We seldom see in France such beautiful and elegant work as we do here; but then the French is, as a rule, bolder; and I know of nothing in other countries quite like them in general design. They are, as Mr. Scott describes them, Corinthianesque, but not mere bad imitations of Corinthian. One seldom sees, for instance, the caulicoli at all. There is one instance from my sketch at Le Mans; and one finds them

in early examples, as at Caen, for instance; but very rarely indeed in thirteenth century work; and, although the general outline often suggests its Corinthian origin, yet these capitals, as a class, may fairly be ranked as genuine French work in design. Yet I quite agree with Mr. Scott's idea as to their Byzantine origin, and (after comparing notes with him) find that I do so from a different point of view altogether. Mr. Scott was struck with the general resemblance of the French capitals to the Byzantine rendering of Roman work, whereas I had invariably classed them as Byzantine owing to their peculiarity of sculpture.

There is a mannered style of manipulation found in nearly all the Byzantine work that I have seen which is rather difficult to describe, but is very evident in most examples. The lines are cut in very sharply and squarely; the eyes of the leaves and other points wanting emphasis are drilled in deeply, and the whole effect is that of a wish to give as much sharpness as possible, so as to bring out the work when seen at a distance. This gives a certain kind of stiffness to the work, but it is most so in the subordinate parts, the general curves and outlines being often as graceful as they are bold. Of course, these details of execution are not to be found throughout. The French school was evidently soon an independent one, preserving only in parts the traditionary style of work. But it is so clear that I feel no doubt whatever, looking at the matter from quite a different point of view to Mr. Scott, that Byzantine influenced French art, as I believe it did all other art, down to the thirteenth century at least. The French school soon then formed quite an independent style of its own, as you may see by the drawings of the Sainte Chapelle. I must, however, in fairness say, that there is a good deal of French work of by no means the high character that one usually sees, simply because one does not care to draw from bad examples. Much of the work, even at Chartres, for instance, is very coarse and poor.

I have alluded in this rapid sketch to ecclesiastical architecture only; for, to notice architecture in its domestic or military phases would have been too great a task for this short space. But I must remark that the same feeling for bold, horizontal, crowning lines, is shown even more in secular than in other works. You find the great crowning cornices used with a wonderfully good effect. Take, for instance, the Hôtel de Ville, at Bourges. It tells most capitally as a finish to the florid enrichments of the front, which would, in fact, be strangely overcharged without it. So, also, the door and window openings are often spanned by a bold, straight lintel, carried, perhaps, through the whole front, with no attempt whatever to disguise it in any way by an arch. It is simply a plain, straight piece of stone, clearly strong enough to do its work, and contrasting well with the arches of the other openings. This horizontality is a strong feature throughout French Gothic, and seems to pervade it even to the design of their most upright features, the pinnacles and spires.

To sum up. Whilst English Gothic has its own great beauties,—such as its delicate and graceful foliage, its splendid suits of mouldings, and its beautiful Decorated work, with all the elegance of the Flamboyant without its extravagance; and, whilst I hold that the beauty of such works of ours as Westminster and Lincoln, Salisbury and Wells, cannot be exceeded, it must be granted that the French has likewise beauties in its Early art that ours wants. The great rose windows, the bold capitals, the grandly-sculptured portals of the north, and the Romanesque work of the south, may all be claimed by France as her own. This is as it should be. Art varies with the climate and the race; and far be it from us to wish that it should be otherwise, or that such differences should not produce peculiar beauties in each land.

One word I must say as to the men to whom we owe them—the architects. These men of old are honoured still in France. The relic in all Rheims most noteworthy, perhaps, is the incised tomb of Libergius, the architect of its great church. That survives the stormy times that saw the monuments of St. Denis broken to powder, and as you walk up the wide new street which will soon afford a fitting entry to the cathedral, you will see that it is named after its architect. Can any one—can we above all—looking at such works as his, believe, for one moment,—the lowering theory constantly put by the clever author of the "Handbook of Architecture," (and my very good friend),—that they were not the products of genius and study, such as were sculpture and the painting, but merely advanced products of the technic art?—putting, in fact, the men who adorned the portals with their figures of stone, and decorated the shrines with colour, above him who designed the whole. To me it is a marvel that the gifted author I have mentioned could think, for a moment, seriously, that the designers of these glorious works which fill their beholders with wonder, and admiration, and awe, could be other than amongst the highest, in the fulness of their intellectual power.

And now, in bringing to a close this sketch, which must, from its nature, be somewhat bare, I cannot avoid saying a few words as to the country of which I have been speaking. I have travelled as much as most men, in most European countries, but in none have I found, as an utter stranger, a more kindly welcome than in France. A mischance may sometimes happen (and where in life may it not?), and sometimes one may meet with a surly neighbour, or ill-tempered host; and sometimes, possibly (though it has not fallen to my lot) one may meet with a lingering trace of the feeling that France and England are not quite friends.

But set out on your travels with a full intention of pleasing and being pleased—adapt yourselves to the customs of the land, and respect them when they differ from ours, and I know of no place, save our own land, where you will meet with more kindness, more thorough friendliness, than you will in gay, sunny France.

THE ARCHITECTURAL EXHIBITION.*

CONTINUING our inspection of the works in the galleries in Conduit-street, we find that Mr. G. Goldie exhibits two frames of "Sketches for Works in progress" (107 and 108). They include a "Design for a Monumental Cross," being a cross of very plain pattern, carried by a column; the Hospital Tribune, Great Ormond-street, which is a balcony overa doorway, similar in general form to a well-known example in the South Kensington Museum; a "Design for a Doorway to be erected in Irish Limestone;" a domestic chapel, with columns and ambulatory on the plan of an octagon; and other works. The same architect exhibits a drawing of the "Lady Chapel: Altar, Galashiels Church" (135). The crowning feature of the centre of the reredos belongs to that mimicry of castellated work which has come into favour, and would assuredly have been called "Carpenters' Gothic," or "cardboard Gothic," some few years ago. It may have been in use in the Middle Ages; but we doubt whether it is more consistent with "the True Principles of Pointed Architecture," than were some of those patterns of paper-hangings that Pugin held up to derision; and certainly we do not care to see it copied. The remainder of the altar-piece is in good taste. By Mr. Goldie also are "St. Mary's Orphanage, Norwood, Surrey; and St. Scholastica's Abbey, Teignmouth, Devon" (134), both Gothic, and (178), "Wood and Marble Altar and Reredos, Roscommon, Ireland; carved by A. Hayball, of Sheffield," of Italian character. The shafts, diapered and banded, of the dwarf-columns in the last-named of these works, are well treated; and the chapel is cleverly designed,—so far at least as the plan is part of the contribution to effect; whilst the sketches and drawings testify to the possession of a facility in drawing which should be subservient to, as well as foster, great power of design.

But, little as there is in this year's exhibition, there is enough to make us fear that the power alluded to, involving constantly the introduction of fresh elements of effect, is not with those who are most engaged in the execution of works, contributing much to the progress of our art. The new elements or details that we require, or even that we might deem consistent with a healthful condition of our art, are not necessarily many in number: but some such elements are at each moment essential; or, there is no art. We fear equally the eccentricities of those who are not practised in actual work of building, and any mere repetition of themselves by those who are practised. In Gothic, especially in those works wherein colour is introduced in brickwork, we apprehend that no advance is just now being exemplified. There appears to be the idea still prevailing, referred to in our articles of former years, that the simple introduction of the pointed arch, or only with *voussoirs* of red brick, is sufficient of itself, and whatever the form of such arch, or however the diminutive height of stories might suggest that the straight lintel would be best.

Mr. C. Gray, whose abilities have been displayed in former exhibitions, as in works in London and its suburbs, should be counselled to abandon the short arch-headed windows which he is fond of using. In his "First Design for Houses now erecting, Gore Road and Gloucester Road, South Kensington" (198), all the windows are of this character. The form of the head is objectionable on the score of lighting, and the proportion of the opening is both different to the best examples, and bad. The big cusps to the arches of one of the porches are no improvement to the arch. There is Gothic character in details of this design; but the arches are semicircular, springing from pilasters; and the balustrade to the cornice is formed of small columns. The building as finished has in it much to praise.

In the "Ateliers and other Buildings" erected for Mr. Emanuel (109) by Mr. J. Butler, there is little effect from other features than those, of brickwork and Gothic arches, that we have alluded to. Mr. Edmeston's works even, we think, would have been better without the Gothic arches used as they are in "Messrs. Davis's Premises, 158 and 159, Whitechapel Road" (211). The growing practice of arranging the stories over a shop-front with a large area of void, or window-opening, is founded on correct principles, so far as the omission of heavy piers between windows is concerned; and metal shafts or window-bars could be rightly used in the story over the brest-summer and the stories above. But we question whether the shafts should carry arches of brick-work, or masonry, at all. The idea, or *motif*, of the lintel, that is a beam borne by its ends, should be preserved throughout; the effect resulting from the use of the arches is opposed to the intention of the other arrangement; for, instead of the weight being relieved from the glass shop-front, the arches carry the weight down to it. Ths shafts strike attention as just sufficient for that; although, where there is great bulk to be supported, the eye has not yet become satisfied with any material in slender proportions in place of bulk of support. For filling-in and dividing the width of an opening spanned by a long lintel, metal-work is most valuable; but there should be a lintel or an arch spanning the total width, demonstratively strong enough to bear itself, or without aid from the brestsummer below. Numerous attempts are being made to produce decorative effect with a combination of brick or stone work and iron; but we do not find that the results yet have done much more than in manifesting the difficulty of such attempts, and showing that there is reason in the views we have ventured to put forth. The French, who are making much use of iron, in their street architecture, use it only for railings, and for light coverings (*perrons*) to the steps of entrances, or where in the former case the Italians might have had stone balusters, and where in the latter we might place a porch: rightly, or wrongly, the stone-work and the iron-work are as though they had been designed by different hands, and with no thought whether one might be intersected or hidden by the other. The material, iron, however, is obviously adapted to one of the positions named, weight being considered, and to the other where windows would have been darkened by a stone porch: whilst the ornamentation in the French iron-work is superior to any that we exhibit generally on the exteriors of London houses. In Mr. Edmeston's "Granary, erecting for the Patent Ventilating Company" at Canada Wharf, Rotherhithe (237), the zinc-work enclosed gallery at the top of the buildings, in the recesses between the square projections which are main features of the front, seems to us to call for observations similar to those just made. Without plan it is impossible to exactly understand the reasons for the peculiar arrangement of similar tower-formed projections which make up the front, and for the inserted gallery: but there is much merit in the design. In the same architect's "Parsonage, St. Faith's, Norfolk" (138), the stone corbels to the gable-caves are much too large for the thin lines that are the only termination to the gable; and the trefoils at the feet of the buttresses to the porch are misplaced.

Mr. T. C. Clarke's "Warehouses recently erected in St. Mary Axe" (140), involve a treatment of the shop-front, and are in some respects more, and in others less, successful than a work by him which we lately published, and which the present work resembles in the use of three

* See p. 255, *ante*.

ches to carry the cornice of the building, and springing from tall thin piers of the height of several stories. Here, the central bay has an eliptic arch, and the side spaces have semicircular arches. The effect would have been better had the crown of the central arch risen some few inches higher. But the piers, instead of standing over glass, are placed over corresponding piers, the central bay being the widest, as allowed by the plan of the ground story. But the raised panels on the upper piers cause these latter to appear still too heavy. The making mouldings of the cornice would have been better with more of emphasis, or "accentuation." We have described one of the warehouses in the drawing: there are two. In the less important building the cornice of the other structure runs across. Perhaps it is desirable to try for greater uniformity of levels than is observable in London. But the treatment of the last-named building generally, lessens the effect of the other: it would not have been correct had there been a building on the opposite side to correspond; but as the case is, the subordinate front should have been even plainer than it is, or so as to seem a mere adjunct to the main building.

Mr. G. Aitchison has been giving much attention to the proper treatment of iron, for decorative effect combined with structure; and we look to his lecture on the 31st of next month, calculating to derive information as well as hints from it. But those of his works in which stone, or brick, and iron, are attempted to be combined, are amongst the works which show to us the difficulty of the attempt. In his "Offices, 20 Mincing-lane, City, for Messrs. Innes Brothers" (133), the arrangement of the openings of the first and second floors, where each opening is divided into three lights by iron columns, the centre opening having a segmental arch, and the side-openings lintels, is exceedingly inelegant. The top story in the same building has the too common arrangement already described, of a range of lights each semicircular-arched and divided from the next by a metal shaft, whilst the superincumbent material is masonry or brickwork. The house recently erected in Somerset-street (141) by the same architect, has the arrangement of piers over a brestsummer. There is some novel decoration in the architraves of the windows. The "Cast Iron Staircase" (157) in the Mark-lane building is a much better exemplification of Mr. Aitchison's skill. It is wholly in iron. We believe the working-drawings have cost much labour and thought. We regret therefore that they are not exhibited. The bearers, the risers, and the shafts which help to carry the staircase, all are decoratively treated. No. 175 is the "Doorway, Nos. 1 and 2 Hammond Court" also of premises belonging to Messrs. Innes Brothers.

Mr. T. C. Sorby, who has already been named for much more suitable illustration of his designs than that involving elaborate colouring, has a capital representation of winter-effect in the view of his chapels of Harrogate Cemetery (273). The centre drawing is surrounded by plans and drawings of other buildings of the cemetery. With this exhibitor, Mr. J. T. Lepard deserves to be named at least for the completeness of the illustration of his design (234) "for Labourers' Cottages;" though the cost, 325*l.* the pair, is much too high for a very plain design, and contrasts strangely with the 98*l.* each of the design (146) by Mr. F. Sills, in coloured brickwork. A beautifully tinted drawing is that exhibited by Mr. H. M'Calla (231) "Elevation for the Proposed Temperance Hotel." But, the design though not deficient in grouping of masses, and possessing an effective feature in the roof over what is probably a central hall, shows want of study in the details. Amongst Mr. M'Calla's other works, are some that we must say, are so bad, that we would ask how they came to be hung at all. We have not seen worse Gothic, in these later days, than the "Butchers' Charitable Institution: Almshouses erected to the memory of the late Prince Consort" (232). Difficult as it is at any time to say in words, what should be done, and certain as we are that art requires something else than reproduction of old examples, it is easy to decide against certain courses; and one of these courses is the caricaturing of an old style, and the attempt to produce a work of the style without knowledge of the examples of it. And it is sad to see the erection of such a row of houses as "Sussex Gardens, Eastbourne" (283, in a different style), where Mr. M'Calla casts aside the knot of our question between balusters and railings, as of a balcony, and builds solid brickwork (panelled at the front) upon the landing, boxing-in the space, and fixes an iron balconet railing upon the top of that; and where he exhibits against the sky, certain most cinerary-urn-like terminations, and a statue that may be supposed to have relation with the name given to the terrace, but which has none with the architecture, any more than have the figures of terra-cotta in the Euston-road with the dealers' houses on which they are sometimes placed. There are those who say that the class of buildings of which this "Sussex Gardens" is a specimen, is better liked by the public than good architecture. Will they help us to the knowledge of why that is, and to the remedy? Such architecture, it is to be confessed, is widely prevalent.

There is not much art in the "Design for proposed Royal Arcade to connect Regent-street with Bond-street" (230), by Mr. E. B. Richards. Nothing so well exemplifies the want of appreciation of our art, as the fact that whilst the projectors of the arcade could see the desirableness of catching favourable opinions by a drawing, and could procure the artist to colour it, they could not see the importance of architectural art. They simply avoided in their design all attempt at novelty. The drawing shows a very common-place iron and glass roof, over a thirty-feet way, between buildings of three stories, only uniform in their details. The Burlington Arcade and the Lowther Arcade were creditable works in their day: there are points of merit in them still. It might be easily proved that effect derivable from the architecture, and connected with such merit as there may be in the art of the two works, has to do with the favour in which they are held, and with their success commercially.

Mr. Ashpitel has a work in the press which will contain illustrations of modern French architecture. He exhibits two or three specimens of the plates, giving elevations, parts of elevations, and details (239). Many of the subjects seem to be extracted from the work of Mons. César Daly, only perhaps reduced. Mr. Asphitel also exhibits drawings (243 to 245) showing "Alterations and Enlargement of Church at Great Ilford," the building being Gothicized; and a "Sketch for Town-hall at Hackney" (277), where the Tudor style is adopted, and the tower of the old church as a campanile, has the new work added on to it.

A drawing (113) of the "Entrance to Attingham Park," designed by Mr. Charles Fowler, and erected in 1862, under the superintendence of Mr. S. P. Smith, is exhibited. The design is an arrangement of five openings, the centre one being carried higher than the others, and finished by a pediment. We should have preferred the Vitruvian scroll at the top of the cornice of the sides, either not introduced or made bolder. Several other works, omitted from the earlier part of this notice, can be merely named. They include the Garden Front of the house for Mr. Unwin Heathcote, at Shephalbury, near Stevenayre (125), by Mr. T. Roger Smith, red brick and stone Gothic with pointed arches; Messrs. Austin & Johnson's proposed Church at the Friar's Goose, Newcastle-upon-Tyne (136 and 255) which has a porch or *narther*, the whole width of the west front, roofed with a lean-to returning that of the aisles, and in the interior of which church the architects have not hesitated to show a plain tie-rod and suspension bolt; Mr. R. P. Pullan's "Temple of Bacchus, Teos, excavated for the *Dilettanti* Society" (150), which fails somewhat as a drawing, especially of such a subject, because the details are not clearly delineated; and a good interior of the "New Catholic Church, Turnham Green" (252), and "the Lady Altar, St. John's Church, Hackney;" and front of the Hospice (253), along with some other works, by Messrs. Willson & Nicholl. A drawing by Mr. J. Hebb (270), of No. 83, Lombard-street, one of Mr. l'Anson's buildings, shows the cornice returning at the side, overhanging the building adjoining. It hardly could so overhang legally; and it does not overhang. Perfect accuracy of representation is essential in whatever professes to be a representation. A drawing (272) of a bridge for the London, Chatham, and Dover Railway, on the Dulwich College Estate, designed by Mr. Charles Barry, shows that iron bridges may be made ornamental. Unfortunately few engineers have tried, or at least have been able, to make them so. Mr. J. Brunlees's "Design for Blackfriars Bridge submitted in competition" (184 to 186), however, shows that his work would have been so. The design has a novel and effective treatment of the balustrade; whilst the spandrils are filled in with elegant scroll-work. Sir John Rennie in that one of his designs (212 to 214) where he proposed iron as the material, on the contrary would have filled the spandrils with mere perpendicular lines like common railing. His several designs for a bridge in stone have little variety or striking character. The elliptic arch below a segmental arch is incomprehensible from the elevations only; and the use of cofferdams, now that the practical advantage in every respect, of methods in which they are dispensed with, has been demonstrated, surely comes from prejudice. But we must not proceed to a notice of the competition drawings in this article.

CARDINAL WISEMAN ON LONDON ARCHITECTURE.

THE ARCHITECTURAL MUSEUM.

On Tuesday evening, Cardinal Wiseman delivered a lecture, in the theatre of the South Kensington Museum, before the members of the Architectural Museum, under this heading: "Judging from the Past and Present, what are the Prospects for good Architecture in London?" The chair was occupied by Mr. A. J. B. Beresford Hope, President.

The lecturer said, a great many years ago, early one fine morning in the spring—doubly so, the spring of life as well as the spring of the year—he found himself one of a large party hastening along a road which leads out of Rome. Many others were before, many followed after, until, at last, all met at their trysting-place, and clustered round a learned professor, who was about to be their guide and director in an antiquarian expedition. He might call it their "meet," and from it they went upon a chase across the Campagna, not in pursuit of the fox or the hare, but of the sites of ruined cities. They stumbled along the Appian Way—not then as now cleared and practicable for horses and carriages. Having examined many ancient monuments by the way, they at length found the remains of two cities, not far from each other, in the midst of the plain. The walls were traceable, and they entered by the gates. In one of them there still remained an old bridge, called by the peasants the Bridge of the Witches; but it has since been destroyed. They did not gain much advantage by the examination, either scientifically or artistically, certainly; they did in moral suggestion. There were two cities entirely destroyed. Not a vestige of a monument remained. The history of these two cities, and of others which had existed in the same plain, was contained simply in the record of their destruction. Livy says they were destroyed because they rebelled against Rome after having once been subdued. For 700 years they were as though they had never been, until, in 1824 they were discovered by the professor who then acted as guide. What had become of their villas? What of their monuments? What of their public buildings? Was it possible that time crumbled down stone until it became as dust; and did the great parent reabsorb those materials which she so freely gave before, the moment they had lost their shape and place? This at least was certain, that cities might disappear without leaving a trace behind. Nature thus triumphs over man and reasserts her rights and laws. But, still, man has often put the prints and marks of his passage on the ground in such a manner as to defy nature with all her influences and actions by earthquake, storm, or gradual decay. Some few miles from the cities of which he spoke, stood two ancient temples: not a column was wanting, not a trace of age was to be found, while nothing remained of the city which had surrounded them but its walls. Thus man was able to perpetuate his works and to build that which it seemed to be beyond the power of nature to destroy. In Sicily, many public monuments of a bygone age remained. Columns of temples had fallen, but they were otherwise perfect and undecayed, and lay side by side like soldiers slain in battle. Judging from the past, then, they gained this point, that there were buildings which survived cities, but that in every instance they were the great public edifices, and not those which were raised by individuals. In Athens, in Rome, what had become of the private residences of successive generations? They had disappeared, having often changed their character and style, according to the prevailing fashion or whim of the time; but the public monuments outlived the shock of time. Ten generations of houses succeeded each other, but the Pantheon survived the roll of 1,800 years. And yet the public edifices of the Republic were built of

a stone which was most friable and perishable, while the private houses of the Empire were built of marble or of Roman brick fastened with cement, which could only be broken by an operation similar to quarrying. In looking at the past, therefore, the law and principle which they ought to keep before their eyes as arising from the study, was that public monuments only remained to speak of the magnificence of ancient cities. This rule was confirmed by its only exception. Pompeii did not suffer gradual decay. It was destroyed while at the height of its vigour. It was embalmed in dust, and could now be placed upon the dissecting-table, as it were, to illustrate the private and domestic life of the Romans. The singularity of the exception, however, proved the universality of the rule, that it was only the public buildings of a city which escaped destruction; and consequently it was towards them that the skill, the genius, and the power of the nation and of national art ought to be directed. They were bound to consider the remains of the architecture of ancient nations as something beautiful,—not, perhaps, always artistically beautiful, but, at least, monumentally considered, they had a right to be so called. The past should be accepted with its legacies, judged by its own laws, and not regarded with a feeling of prejudice arising from a preference for one school or for one particular style. Each has in it something excellent and something to be admired. The architecture of each age is a picture of its moral, mental, and social condition. The architecture of a country perpetuates the taste, and feeling, and genius of that country. It becomes the national type, the national style, born, bred, matured, and consolidated by the people who inhabit the land. Have we reached that supreme and final point? Have we matured anything like a style of architecture commensurate with our greatness, our wealth, and our power? What have our peculiarities and propensities, our love of art, our love of nature and of natural beauties done for us in that respect? Is there anything which we could leave behind us which would determine whether London in the middle of the nineteenth century possessed an architecture of her own? Will it not be said by those who come after us that, judging from our public edifices, it is impossible to decide, whether we give a preference to the Mediæval, the Renaissance, the Classical, or any other? This was not saying much for our prospects, judging from the past. It would be very unjust, however, to close the subject there; for if there was a defect where there ought to be a directing power, he could not shut his eyes to the visible, the immense, the consoling improvement which had resulted from private enterprise, directed by private taste. He bore witness, with great satisfaction, to what had been done, and to what was still being done, in many parts of London by individuals, and in places where, judging from abstract principles, it might be least expected. In the business part of the City, substituted for that which in its name seemed the concentration and expression of everything that was hideous and mean in architecture—a warehouse—they now saw elegant edifices, subjects at once for study and for congratulation. He would mention a singular contrast to these buildings. No one now visiting London would look for anything characteristic of its architecture among the mansions of the rich—those monotonous rows of houses which Canova had called long brick walls with lines of slits. Not that he wished to find fault. He wished to explain that the aristocracy of the country were more partial to expending their means among their ancestral seats, and no doubt many noblemen had raised beautiful and sumptuous buildings in the country. Here and there, too, in the aristocratic quarter of London there was a noble mansion; but such were the exceptions to the rule he had spoken of. It was, therefore, with all the greater pleasure, he saw an improvement beginning to manifest itself in the City. In fact, the beginning might be said to go back to a time before our day. A foreigner standing at a point at which he could see the Bank, the Exchange, the Mansion House, the Goldsmiths' Hall, the Telegraph Office, would, in this very splendid forum where so many public buildings are collected, see at a glance the keys of England's prosperity not inharmoniously collected there. Radiating from that point were to be found evidences of an improving taste and finer feeling. It was pleasant to see the wealth made by commerce flowing back upon architecture and art; and it was gratifying to know that the power of indulging good taste generates it and brings it into action. He had alluded to places of business, he would next refer to another class of buildings, which had become exceedingly frequent in the metropolis, namely, churches, school-houses, and charitable institutions, which he rejoiced to see rising in every direction. He called them private buildings because they were built and supported by private benevolence. He regretted that here he could not speak in the same warm terms as before. No harmonious rule was observable in their construction. Sometimes the style was the Venetian, the Mediæval, the Classical, the Renaissance; sometimes almost the Turkish. There was not about them a distinctive type which would speak of the character and condition of the people. There was, no doubt, something here and there to indicate that we were gravitating towards the great and the good; but they were not yet quite in the right road. Solidity was an excellent quality, but it should not be allowed at the expense of elegance. There was an inclination to sacrifice beauty to mass, and to have great walls decorated with strongly-contrasted lines of inharmonious colour, sometimes grimly disposed. They were not soothing,—they did not appeal to the heart. And sometimes symmetry was a little too conspicuously despised. Prominence and relief were also neglected, or treated with contempt. There were faults, but the feet were trying to get on the better path: the hands were stretched forth to grasp at something more perfect. No doubt genius would purge the architecture of this time of its defects, and what was rude and in some respects overbearing would gradually be expelled. Working with brick was working with the lowest material. Brick was made in the days of Nero, but it was a well-formed and beautiful material, the interstices filled, and all so moulded as to be emulous and imitative of stone. The new material, terra-cotta, of which he had seen many beautiful specimens, gave promise of a brighter epoch in architectural art in the way of ornamentation. They might say, "You are speaking of London as if it was about to be destroyed and rebuilt." He contemplated no such thing. The conflagrations of old times need not now be dreaded: earthquakes were not now to be feared, although they had recently experienced a shock; and diplomacy had taken the place of blowing up cities and sowing them with salt. Gaps must, however, from time to time occur in London, and these gaps must be filled. They could not tell the change that might take place in the future, or how far the edifices which were now building in the City would continue to be useful for the purposes for which they were now intended. He trusted such a change would never occur. It was certain that, in the City and elsewhere in the metropolis, whole ranges of buildings were being removed, and their inhabitants obliged to locate themselves elsewhere. In the City, particularly, a very remarkable transmutation was going on. Squares well built, and formerly inhabited by persons of rank, —judicial rank, particularly,— were now given up to business, and the increasing demands of the law were absorbing a considerable space. It became him to speak with respect of the law; but it was a fact patent to all that, wherever it threw its meshes over a district, architecturally, it certainly exercised a deteriorating influence. The buildings in Lincoln's-inn showed that, as a society, lawyers were capable of doing great things; but he spoke of the influence of the daily abode of jurisprudence: the doors became dingier, the areas and lobbies more spider webby, and he only hoped that those who lived within kept their hands cleaner than their windows. Vocations and professions and occupations in London must waver and change. London was growing out in one direction, but how? Day after day he saw rows of houses, by twenties and by fifties, of which it might be said that a mould was put over one when completed, and used in the construction of all the rest; and, no doubt, if they looked into the contractor's book, they would see the cost of one, and then a long line of "ditto—ditto." The outskirts of London were delivered up to this sort of edifices, constructed for a temporary purpose, to last during the continuance of the lease of ninety-nine years. Meantime, he hoped that London would become a city worthy to be the capital of a great, a powerful, and a prosperous nation. Looking at the past, and judging from it of the present, he regretted to find now existing so great a want of reverence and respect for the great, the good, the beautiful, in itself or in its associations—the absence of a feeling that everything is not to be balanced by the realization of a passing advantage or a pecuniary gain. It must be discordant with the artistic taste of the architect to be conscious that however beautiful the edifice he erects, it may in a year or two succumb before some "profitable speculation," and be reduced to a heap of classified rubbish, beginning with "Lot No. I." The only thing considered seemed to be, how much would it take to buy it up, or, if necessary, to obtain a compulsory Act to sweep it away. People otherwise well educated did not seem to know that architecture, as well as painting and sculpture, was an art. It appeared from the report of the City Engineer, that public companies had applied to Parliament for power to carry out schemes which would involve the removal of the Monument on Fish-street-hill (and, though he had no sympathy with some of the suppositions connected with it, still it was a monument to commemorate an important fact in our history, and should not be disturbed), the Apothecaries' Hall, a portion of the *Times* Office, the Admiralty, Whitehall, and various public buildings and city offices. He had himself received eight notices for the total demolition of churches, schools, or charitable institutions, and others it was proposed to burrow under. He understood that Old St. Pancras burial-ground was included in an Act of Parliament, and to be handed over to a public company. Here two of his nearest of kin had reposed for over half a century, and it was never thought that their remains would be disturbed until time should be no more. This was a want of reverence as to which they might well learn a lesson from the heathen. It appeared, too, that the different companies required 160 acres in the city, or as the City Engineer reported, one-fourth of its entire area, that the total length of the lines projected to run through it was twenty miles, and the number of public ways to be interfered with over 300. It reminded him of the fate of a bungalow in which a gentleman resided in Southern Africa. It consisted of one long room, and one day the gentleman was writing, when he was alarmed by an invasion which he little expected. An enormous black elephant, on its way, perhaps, to a dainty meal, did not take his line of deviation and go round the cottage, but just put one huge foot through one wall, and totally disregarding the shower of roof and wall which fell on him: but failed to tickle his tough hide, put another huge foot through the opposite wall, and passed out. So it was with the railway invasion. Houses were pulled down, and when the lath-and-plaster shower cleared off, it was found that another was undergoing the process of demolition. It was proposed to cross Ludgate-hill by means of a viaduct, and thus interfere with the view of that magnificent edifice, St. Paul's. If it must be so, could it not be made ornamental —even monumental? The ancient aqueducts by which Rome was supplied with water were so contrived that even in their passage over the gates of the city they were made to add to its beauty. Under the spot where it will cross, two funerals of the representatives of our military and naval power had passed to that great church —Wellington and Nelson. Why could not reliefs commemorative of these events be placed one at either side? It might be so carried out that the fact that a railway was behind would be overlooked. The cost would not be great, as at that elevation the finish need not be fine, and it would be a lasting tribute to those who had gained for themselves immortal honour. It should be great and noble in art, having the double object he had pointed out. Art and Science might thus be conciliated: that which would be hideous, might thus become graceful and elegant. Science could bear Art on its stout shoulders:—why should not Art fly up and invest it with grace and beauty? The prospects of architecture in London were very promising, but they would be immensely promoted by exciting in the people a reverence for relics of the past, and a taste for the beautiful.

The lecture occupied more than two hours in the delivery, and was listened to throughout with the greatest attention by a crowded audience.

BUILDING LAND FOR THE OPERATIVE CLASSES. The first portion of the Plough Lane Estate, Battersea, which will be laid out for the erection of nearly 300 dwelling-houses and shops for the working classes, has been allotted by the Conservative Land Society. The prices of the plots range from 47*l.* up to 500*l.* each. For the last specified plot, having a house thereon let at 40*l.* per annum, there was a keen competition.

GARDENING AND ARCHITECTURE.*

The harmonious and tasteful association of landscape gardening with architecture, to the mutual advantages of which we have before now referred, ought to be more considered and practised at, both by architects and by landscape gardeners, than is usually the case. Every architect ought, to a certain extent, to have a knowledge of landscape gardening; and to this end he cannot do better than provide himself with the work under notice. Mr. Kemp's book is not a mere make-up from Loudon and others, but contains the fruits of his own experience in practical landscape gardening,—an experience which appears to have been considerable, and to have been guided by both taste and judgment. Mr. Kemp seems to be fully conscious of the importance of the tasteful association of architecture with landscape gardening. He rightly thinks that—

"It is much to be regretted that architects and landscape-gardeners do not more usually work together, in complete unison, from the very commencement of any undertaking in which they are jointly consulted; and he who would produce a work in which the relation of the two arts to each other, and the elements of garden architecture and of architectural gardening, should be skilfully handled and tastefully illustrated, would deserve the thanks of the entire art-loving community."

In speaking of "trees adapted to associate with different styles of building," he truly remarks that no subject, perhaps, is less studied by landscape gardeners, or occasions more alarm in the mind of an architect than the necessity that exists for assisting the effect of houses by the judicious introduction around them of a few trees or shrubs at the right points; and he refers to the entrance front of Blenheim as an example, on a great scale, of the want of such an association of architecture with a little landscape gardening. Of the sorts of trees to associate with different styles of architecture, he says;—

"Mr. Repton, in his 'Sketches and Hints' on landscape gardening, lays it down as a general principle, that round-headed trees harmonize best with Gothic forms of architecture, and trees of spiry shape with Grecian buildings; on the ground that the horizontal lines which prevail in the latter style, and the perpendicular in the former, are best exhibited and relieved by contrast with vegetable forms of an opposite character. Without questioning the soundness of the rule, which appears quite unexceptionable, it may be doubted whether, in the case of Grecian and Italian structures, at least, the appropriateness of the fir and cypress tribe is not the result of association; as the Cedar of Lebanon, the branches of which are purely horizontal, is the most magnificent of all accompaniments for any variety of Grecian architecture, but is not at all suited for either of the forms of Gothic. And so perhaps, the old ancestral elms and oaks, in which many an English Gothic house is often embosomed, may, by the commonness and antiquity of the usage, have given a propriety to the employment of that kind of tree in relation to all similar edifices. . . . Light, thin, and feathery leaves characterize *all* the plants that look best when in contact with the varied class of Grecian structures,—the heaviness (or rather massiveness) and regularity of Grecian forms demanding some such contrast and mitigation. Gothic buildings, on the other hand, already light and playful, full of variety, and abounding in small decorations, require more of the depth and breadth of foliage for which round-headed trees are conspicuous, to bring out their elegance, and impart, at the same time, a more substantial character.

Practically applying the subject, however, the very upright and the very horizontal forms of trees,—such as have spiry heads, and those of which the upper branches are nearly flat,—may occupy any desired position in the neighbourhood of Grecian, Roman, or Italian houses; while shrubs of similar (but chiefly upright) habits, and such as are pruned or trained into standards, with formal heads, will suit gardens laid out in any kindred style. In addition to those which have been named, I may note the Deodar cedar, the *Araucaria imbricata*, and the hemlock spruce, with the cypress tribe, and especially the Irish yew, for gardens, as deserving of particular praise. Larch, birch, acacias, the purple beech (though principally for its colour), the fern-leaved beech, the Turkey oak, and the lime, will further be suitable for the same style of erection.

On the principle above suggested, besides the numerous species of round-headed trees, of which the sycamore for westerly districts may be specially signalled out, and the horse-chestnut and Spanish chestnut for more inland counties, all the broader-leaved sorts of ornamental low trees and shrubs will be preferable for the immediate vicinity of Gothic houses. Portugal laurels, common laurels, different kinds of magnolia, ivy, hollies, the yew for its dark sombre colour, the arbutus, aucubs, &c., will all be to some extent harmonious. And commoner and less exotic plants may generally be brought closer to a Gothic house without injuring its effect, than they can be to any more classical structure. The latter seems to require associating with more foreign species.

Gothic architecture is rather improved by a framework of trees: Grecian only just tolerates them. With either style, however, the sudden dip of the building to connect with it a low wing, or the equally abrupt rise to form a tower, may often be softened with advantage by the introduction of a good and appropriate tree in the angle, if this does not cover any windows or other detail of consequence. In the same way a suitable lower plant or shrub in a deep angle of the building, or at a very bare corner of it, will sometimes divest it of a cold and naked appearance, and adorn rather than deface it. If one corner of a building stands higher above the level of the garden than the other, as will sometimes be the case on sloping land, it will particularly require help from a good large shrub or group at the corner that rises most out of the earth, to give it the requisite balance.

The high ends of buildings frequently demand some kind of plants to support them, and take off the hardness of their edges. No building should appear altogether naked and alone, but form a constituent part of a landscape. If the lines, therefore, be not duly carried down in the erection itself, and blended with those of the ground,—a thing which can very rarely be accomplished,—the effect of connexion should be attained by accompanying trees. Where a house is placed on a knoll, mound, or other kind of elevation, some such assistance becomes all the more essential. But the trees need not in all cases approach closely to the end of the building; as enough of a union of lines and balance of parts may mostly be produced by placing them at a little distance from it."

Statuary, vases, and similar architectural ornaments, Mr. Kemp regards as the fitting associates of Grecian and Italian houses, and less suitable in relation to every other style; not that such things as low terrace walls, with or without tracery, pillars for sun-dials, ornamented with the details of pointed architecture, and even vases or urns of a particular form, and with proper decorations, will be faulty in connexion with Gothic buildings, and formal gardens of the same character; only the varieties of the Grecian style, with their architectural arrangement of walks, beds, &c., would appear, he thinks, most to correspond with and demand such ornaments as vases, tazzas, urns, pillars, sculptured figures, basins of water, with fountains, and the like things, to carry out and finish their expression and design.

In discussing the subject of the association of gardening with architecture, more especially with reference to gardening, under the heads of "Garden Architecture" and "Architectural Gardening," the author says;

"Gardening and architecture, like all the fine arts, have much in common. And that department of architecture which belongs more exclusively to the garden has, especially, a great affinity with gardening in its broader principles. In fact, there is much more relation between the two than is usually admitted, or than the ordinary products of practitioners in either art would at all justify us in believing.

Architectural decoration is not, as many would assert, unfitted for English gardens, on account of the coldness and dulness of our climate; because stone gets speedily weather-stained and sobered down in colour, and the fine evergreens and beautiful grass of this country will, in association with architectural objects, impart sufficient warmth of tone. France, Italy, and even China, have been more zealous in applying garden architecture than Great Britain. And the earlier specimens of English gardening are often richer in architectural features than those of a later period. There has, indeed, been a subsequent retrogression in this branch, in consequence of the introduction of a more natural manner; for gardening, like most artistic pursuits, has had its historical cycles.

Modern tendencies in gardening have been too much *away* from its character as *an art*, and the more it is restored to its legitimate position, the more nearly will it be brought into kindred with architecture. On the other hand, the too commonly cumbrous, regular, and unyielding nature of architectural objects, when used for garden decoration, has tended still further to detach two pursuits which are essentially and obviously allied. For, as a house is a law of the universe that the boundaries of each domain in the natural kingdom should insensibly mingle and be lost in each other; so it is plain that an unrestricted taste would be most gratified when the province of architecture is extended so as to embrace lightly and harmoniously such parts of the garden as may be most contiguous to the house; while the garden also, in these parts, rises in character to meet the requirements of the architecture, until either art is so refined and attenuated that it would be almost difficult to say what belongs exclusively to each. . . . . .

The province of garden architecture is, primarily, to supply fitting appendages and accompaniments to a house, so that the latter may not appear naked, alone, and unsupported. If judiciously applied, it will be effective in helping to produce a good outline or group; to carry down the lines of the house; to connect it with other buildings, such as a conservatory, arbour, &c.; to provide a proper basement for the house, to afford shelter and privacy to a flower-garden; to extend the façade or frontage of a house; to shut out back yards, offices, &c.; to enrich, vary, and enliven the garden; to supply conveniences, such as shelter, receptacles for birds, plants, sculpture, &c., with museums for works of art, or specimens of natural history, and supports for climbing plants; to indicate refinement, wealth, and a love of art; and otherwise to blend the various constituents of a garden with the house, and harmonise the two by communicating a more artistic tone to the garden.

Wing walls to a house, broken by a conservatory, and terminated by a summer-house, aviary, museum, or sculpture-room corridors, similarly broken and terminated, and glazed or open so as merely to form covered ways; conservative walls, either glazed or simply protected by bold projecting piers and copings; viaducts, aqueducts, arbours, arches, arcades, tunnels, boat-houses, temples, prospect and flag towers; with an almost infinite number of smaller objects, such as sculptured figures, sun-dials, statuary, pillars, obelisks, terrace walls, &c., constitute the elements with which garden architecture has to work.

In its leading traits it necessarily comes within the same category as house architecture, and is governed by the same principles. Like the house, it should exhibit design, some degree of symmetry, harmony of parts, unity of expression, consistency of style, fitness for the locality, adaptation for the intended purpose, and stability and permanence of appearance.

But it should also display a greater amount of lightness and elegance; a *comparative* absence of regularity; a decorative rather than an exclusively useful purpose; a superior variety of outline; extreme attention to general grouping; a blending of its forms with those of nature; an especial regard for placing its creations where they will have a distinct meaning and object; a leaning to the use of good materials, but somewhat rougher than those employed in the house; a preference rather for a picturesque *outline* than for mere ornamental details; and, as a most important characteristic, a marked boldness and prominence of parts. Indeed, picturesqueness, such as would be occasioned by changes of level in the ground, by diversity in the heights of walls, by prominent piers, buttresses, or cornices, by broad projecting eaves to the roofs of buildings, and by any arrangement that will yield depth of shadow, should be the ruling constituent of garden architecture."

The first edition of Mr. Kemp's able and well-written work was considerably smaller in size than the second, which, however, was also rapidly sold; and, after being for some time out of print, the present still more elaborate edition has been issued, with many additional woodcut illustrations, a larger page, and extended text. The work altogether is a thoroughly practical one; and reference is facilitated by a good index. As noted in the title-page, it is intended to be of use in the laying out or improving not only of large estates but of small places, such as suburban villa gardens of a quarter of an acre and upwards.

* "How to lay out a Garden: a General Guide in Choosing, Forming, or Improving an Estate." By Edward Kemp, Landscape Gardener, Birkenhead. Third edition, enlarged. London: Bradbury & Evans, 1864.

ON THE PRINCIPLE OF IMITATION AS APPLIED TO THE DECORATIVE ARTS.

This was the title of the paper read by Mr. Thomas Purdie at the Society of Arts on Wednesday, the 6th. The following portion of it will show its bearing:—

There is a palpable fallacy contained in an argument which places in the same category imitations of objects which are used solely or chiefly on account of their beauty, and those which are used solely or chiefly on account of their suggesting ideas of cost. A fancy wood or marble is an example of the former, a precious stone of the latter. You may deceive by making an article which possesses little real value resemble a costly one; but to speak of deceiving as to beauty is a simple absurdity. The appearance of cost and value may exist without the reality: the appearance of beauty and the reality are one and the same thing.

Such a thesis as that which we have been disputing could not be maintained consistently throughout, so we find it stultified by the admissions of its author. "Gilding," he says, "has become, from its frequent use, innocent. It is understood," he says, "for a film merely, and therefore is allowable to any extent." I cannot admit the abstract justice of the doctrine contained in this passage, for it would go far towards justifying any practice, however absurd, which might happen to have the sanction of antiquity; and it is certainly altogether at variance with the principle on which imitations are condemned by the same author. According to this doctrine, gilding must at one time have been wrong. But that which is originally wrong can never be made right by repetition. On the contrary, it is common to hold that what is here advanced as a palliation can only serve as an aggravation of the offence.

It is hoped that we have already found sufficient justification for using imitations of materials, such as fine woods and marbles, in all legitimate situations; but this passage, if we could avail ourselves of it, and if justification were needed, would afford all that could be desired, for the use of these imitations has been for a long period so common, that however deceptive they may be, they will seldom, if ever, pass for aught else than what they are.

These remarks on gilding betray a total misconception as to what decoration really is. Decoration is a thing of surface, not of construction, although the construction will frequently indicate what the decoration ought to be. You have no more reason to suppose that a thing is solid gold because it is gilded on the surface, than to suppose that a lady is silk because her outer garment is composed of that material, or that you would find the downy surface or the delicate tints of the peach at whatever point you may intersect it. The apology, therefore, tendered for gilding is not only superfluous, but of a character which could not have been accepted had an apology been necessary.

This brings us to point out, as we proposed to do under the third division of our subject, the qualities which give their value to decorative appliances. These, which we name in the order of their importance, are—

1st. Beauty.
2nd. Durability, and
3rd. Costliness.

We have just been speaking of gilding. For

its employment we require no other apology than the possession of the above-named qualities; and in this respect it stands on precisely the same footing with almost all other decorative appliances, cement or plaster, metallic coatings of bronze, silver, or gold, paint, silk, veneers in wood, marble, or free-stone. Our principle is of universal application. A lady makes the dress which is to be seen of silk, her under-garments of a cheaper and less showy material. You veneer a plain inexpensive wood with one of a richer hue and of a more expensive quality. You coat your brick or rubble walls with cement, with paint, with ashlar stone, or with marble. They are understood to be mere coatings, thicker or thinner as the case may be. Zinc is coated with bronze, bronze with silver, and silver with gold, and in doing this we simply follow a natural instinct, and the example which Nature herself has given us.

We shall now try how far stucco and scagliola, or painted imitations of marbles, possess these three qualities of beauty, durability, and expression of cost.

First, as to stucco. It seems to be felt necessary that some expedient should be adopted for adorning the unsightly brick buildings of which such a town as London is chiefly composed. This is effected by the material under discussion, either by an entire coating, or by means of projecting facings, thus adding force to the outlines and principal features, and contributing to the composition those elements of light and shade so essential to the beauty of the architecture, and in which brick buildings are generally so deficient. It certainly is not the fault of bricks that they are not ornamental, seeing they can produce such buildings as the Ospidale Maggiore of Milan, the Certosa of Pavia, or even such examples of street architecture as those recently erected in Cheapside, which are now daily arising around us. But the ornamental bricks, or terra-cotta used in the construction of these buildings, being simply moulded as is the stucco or cement, are liable to precisely the same condemnation. Brick architecture of such a character would leave nothing to be desired, but it is to be feared the expense will interfere with its general adoption. The expedient usually resorted to for getting rid of the dull uniformity and flatness of brick erections, that of bands, lozenges, and squares of various colours, seems to me as barbarous as the tattooing of the savage and of precisely the same nature. The lines and forms seem to destroy the contour of the building by substituting stronger markings than those which are presented by the solids and vacuities. They withdraw attention from the principal architectural features—from the form and outline of the building which give it character and expression, and in which, as in a face, the beauty is chiefly to be found.

Stucco, then, supplies a want—in cases where stone is not to be had, or where it is too expensive for general use. In regard to its possession of the three qualities we have named; in beauty it is nearly equal to stone, because it admits of the same identical forms, and if properly treated the difference between the two surfaces is scarcely appreciable: in durability it is, of course, inferior to stone. But such beauty and such durability as it does possess are absolute qualities, and in regard to these stucco does not occupy the position of an imitative material, for it is obvious that beauty and durability do not admit of imitation. As to expression of cost, stucco expresses more cost than plain unadorned brick, and less than stone. It is, therefore, a less noble material than the latter, so that its use will be restricted by the conditions to be afterwards stated.

We may here remark, in passing although not quite germane to this part of the discussion, and although forming, it may be, an *argumentum ad hominem* rather than a general argument on the subject that so long as stucco remains unchallenged as a decorative appliance for interiors, it will be difficult to show why it should not be employed subject, of course, to conditions—on exteriors also.

Scagliola and painted imitations of marble stand on precisely the same footing. Their beauty arises from various sources. One of these is inherent, due to the colour shading and veining, which, constituting the loveliness of the real object, are found, only in a less degree beautiful, in the representation. The second source of beauty is the taste, skill, and ingenuity displayed in the execution of the imitation, which the practised eye at once detects; while a third class of beauty may be discovered in the deceptive character objected to, and which forms, we hold, a legitimate appeal to the imagination. No doubt such imitations are wanting in beauty of the highest class: they do not engage the greatest faculties of the artist: they do not suggest great thoughts; but such beauty as they do possess is derived from sources which are quite legitimate.

In durability they are, of course, much inferior to real marbles, although greatly superior to most other styles of painting in use for internal decoration. From the smoothness of the varnished surface they are easily cleansed, and at the end of thirty years will be found to have suffered less from tear and wear than plain paint would have done in a third of that time.

As expressive of cost they are of no mean value, though, from their inferiority in this respect to the originals, they will be excluded from use in many cases by one of the conditions I shall specify.

I now proceed to lay down and illustrate the last division of my subject—the conditions which ought to regulate the employment of surface coatings. These are,—

1. That they be not employed to imitate a material where the original itself would be out of place.

2. That no object be painted or otherwise made to imitate one material which, from its form, construction, or application, is obviously or necessarily composed of another.

3. That no inferior surface coating be employed where we should expect one more expensive, and no imitation where we are entitled to find the real material, or where the discovery of an imitation would create disappointment.

Every one may supply himself with illustrations. For example, as to the first condition. Imitation marble should never be used on such positions as ceilings, where the construction is obviously a wooden one; nor on shop-fronts in crowded thoroughfares, where the real material would be destroyed as soon as exposed, and where it would therefore be out of place.

In illustration of the second condition, we may mention that elaborate delicate carvings should not be painted to represent granite, nor iron columns wood or marble, where these materials are unfit for the duty, in the way of support or otherwise, which the iron had to perform.

In regard to the third condition. We have said that decorative appliances are valued for three qualities—their beauty, durability, and expression of cost. We may assume that the rank or wealth of the person who owns a work of art, or who makes use of a decorative appliance, will not alter our estimation of its value or fitness, so far as these are imparted by the two first-named qualities, beauty and durability. Our ideas on these points may be said to be absolute, except in so far as they are liable to be changed with regard to beauty by the influence of fashion.

At the close of the paper,—

Mr. J. G. Crace said he would preface the few observations he addressed to the meeting, by stating the great pleasure he had derived from the paper that Mr. Purdie had read to them. He thought it not only reflected great credit upon that gentleman, but upon the profession to which Mr. Purdie and himself belonged; and though he might not quite agree with all that had been brought forward, he thought their differences would not be material. First of all, he thought he might allude to a little confusion in Mr. Purdie's argument with reference to imitation. The true object of art he took to be imitation. the right application of imitation was another matter. The more perfectly a painter represented the subject of his picture, the more real and perfect would be his excellence in his art; but in using imitations the question of appropriateness and suitability must be borne in mind. He would begin with the use of stucco on the exterior of buildings. He thought, as influencing the progress of art, its use had been pernicious. It certainly afforded great advantages in the preservation of the exterior of buildings, but it also furnished such facilities for false representations and bad construction, and for hiding so many faults, that whatever its advantages might be, he considered they were neutralised by these objections. If there had been no stucco, long before this our artists might have introduced the beautiful forms and decorative features to which brickwork could be so well applied. He maintained that, in our street architecture, we were only now beginning to realize the beautiful forms, colouring, and architectural features of which brickwork was susceptible. Mr. Purdie had instanced some glorious examples in the buildings which abounded in Milan and other parts of Lombardy, where the most beautiful forms, with good effects of light and shade were produced by the employment, not of moulded bricks alone, but by the proper application of ordinary bricks, placed at certain angles and depths. If buildings such as were now designed had been erected in our country twenty or thirty years ago, it was absolutely certain that architects would not have attempted to conceal the brickwork by a covering of stucco, so as to make it look like bad stone, in addition to which a row of buildings monotonously alike were often painted a variety of shades, utterly destroying all harmony of effect.

Stucco in the interior of buildings assumed a different position altogether. It became then a legitimate covering to the construction, imparting a surface to a rough material. In ceilings, cornices, and walls such an application was useful and legitimate, unless they were content to have the brickwork shown inside, which he did not think would be satisfactory. They covered it with a material which could be made to assume any required form and colour. He thought, however, the great sin of ordinary house decorators was to use their paint when it was not wanted. In building a house, instead of leaving the wood-work to show itself, which he thought a legitimate plan, they put on several coats of paint, destroying the sharpness of the mouldings. If the wood were plain deal, and if a little more money were spent in the preparation of it, and then it was simply varnished and allowed to pass for deal, it would look infinitely better than half the elaborate colouring and graining put upon it. The wood itself might be legitimately decorated by light or dark lines of colour or by gilding. On one occasion he was called in to decorate a building in Scotland, where he found the wood-work of pitch pine, beautifully executed, but they had begun to paint it. He stopped this, and merely had the wood varnished, and though this was done many years ago, it looked as well as ever. Then again, with regard to graining, he thought this was too freely used. A whole tint worked up with varnish would look better and last as long as imitations of maple or other fancy woods, and the idea of a sham would be got rid of. The same remark applied to imitation of marble. A corridor might often be made far more tasteful and equally durable, with plain colour properly applied. Marbling was perfectly unsuitable for the style of houses in which it was frequently applied, though, if a hall presented a fair architectural appearance, he had no objection to imitation marbling where the real marble would not have been out of place. Then again, with regard to gilding. He thought "white and gold" was a perfect god-send to ordinary house decorators. They took no trouble to exercise taste or judgment by decorating with harmonious arrangements of colour, which presented considerable difficulties to incompetent persons, but felt themselves safe in recommending white and gold. It was sure to look simple and beautiful, but it prevented the march of taste in the decorative arts. Sometimes a delicate tint of green was suggested, but there appeared to be no desire to get beyond the hackneyed style which prevailed too much in the present day. He thought men should endeavour to improve upon what had been done before. Mr. Purdie, in his paper, had condemned the improper application of imitation, in which view all persons of sound taste must agree. Mr. Purdie had also remarked that they would, of course, expect in a nobleman's house that silver or gilt plate would be genuine; but that in more humble houses imitations were allowable. He could not agree to that. He thought that in a humble home it was bad taste to ape the splendour of royalty or nobility, however cheaply gilt objects might be produced. Silver was better than gilt brass. It was more satisfactory to use a material which was what it pretended to be, rather than an imitation of something else.

Mr. J. Beavington Atkinson said they ought to feel greatly indebted to the author of the paper for drawing the very important distinction which existed between ethics and æsthetics. No doubt much confusion had of late years been thrown into the sphere of the fine arts by mingling together elements which belonged rather to the sphere of ethics than to that of æsthetics: the danger of this was the greater because mere rhetoric was exceedingly taking with the general public. A critic, for example, who should write that a picture had thrust a dagger at the moral

use of the public, would probably find an echo many drawing-rooms in this country; and yet believed persons acquainted with the subject ould know that such a criticism was in all probility little better than nonsense. While he oke thus strongly, he yet was one of those o firmly believed that there were certain ndamental principles which governed the conation, and, if he might say, the morality of e fine arts; and the first and most essential rinciple was this, that the idea sought to be pressed, the essential and central thought to embodied, should be of the noblest kind, and at being established and fairly rooted in the ind of the artist, he thought secondly would me the consideration by what instruments id by what means the artist might best incorate and express that idea. Those two prinples, he believed, constituted the truth, the obity, and the purity of the fine arts. Now, to the means which an artist had to employ, really knew of nothing more practical, or ything better, than the doctrines of old laid own respecting drawing, composition, light, ade, and colour. He believed in these would found the true decalogue of the arts. As for e material, this, as he had already indicated, ust be subordinate to the intent. A statue ight be executed in clay, terra-cotta, plaster, arble, or gold; and he ventured to say, of all ose materials the gold would be the least adirable. The heroes of the world were not ccustomed to be clothed in gold. They spoke r what they were, for what they had done; and he expression, the intent of the work, conituted in fact its true nobility. Now, as to the bject of imitation, important and, he thought, ue distinctions, had been laid down by Mr. urdie. He would add to what that gentleman id said, that, perhaps, the primary question, fter all, was what should be imitated. A brass ettle in a Dutch picture could not have much dignity; but, if they took Holman Hunt's picure of the "Finding of Christ in the Temple," nd if they observed the fidelity with which he artist had there imitated the transparency nd the expression of the eye of the Saviour, he thought there they would find that imitation had attained to something like divinity. Imitation, therefore, was not an evil, but it was a means to an end. That was obvious: and he thought it was undeniable that the more perfect the imitation the better. With regard to the perfection of that imitation, and the mode of its application, much depended upon what the artist should emphasize and what he should leave out. If he directed his attention to what was really great, that imitation would then attain a great and dignified end; but if he descended to what was small and paltry, then his work was so far marred, and the imitation, which, as he had said, was in itself a worthy instrument, then became degraded. So far for imitation and its worth, and the mode in which it should be employed. He would now say a word upon what had incidentally fallen from Mr. Purdie, on the subject of coloured statues. He might state upon authority, for he had often conversed with Mr. Gibson on the subject, that the purpose of that great sculptor in colouring statues was not to attain to naturalistic imitation, but rather to conventional treatment. He (Mr. Atkinson) was not an advocate for the colouring of statues. It was a most difficult question; but it was, perhaps, right to put in this plea—that statuary, when coloured, became the sister of coloured architecture. Mr. Purdie would allow that it was possible to decorate the interior of a building to such an intensity of colour, that white marble would appear cold, crude, and inharmonious. That this had been felt in all countries, and in all ages, was manifest by the uniform practice of artists. Bronze was, in fact a colour. The employment of coloured marbles was of course the adoption of colour; so that, independently of the mere question whether they would colour white marble, which in itself was a lovely material, they could scarcely resist the conclusion that, under certain circumstances, coloured statues become inevitable. He need not say the detailed and varied management of colour in such cases was most delicate and difficult, and must be a question of subtle artistic treatment. What was the conclusion? He thought it was simply this—that a work of art depended for its worth principally upon the idea which it expressed; secondly, upon the aptness of the instruments employed as the language for expressing that idea; and thirdly, that the material might be valuable on many accounts, for durability and for other qualities, but that all such questions of material should be kept subordinate to the idea to be expressed, and the thought and purpose which the artist endeavoured to embody. Reverting to the distinction which had been justly drawn between ethics and æsthetics he would say that works executed on the principles he had ventured to inculcate, though not falling directly within the sphere of ethics, were in all points consonant, and might be made cooperative with true morals and pure religion.

The Chairman (Mr. Hawes), in proposing a vote of thanks to Mr. Purdie for his paper, remarked that he could not agree with some of the observations that had fallen from Mr. Atkinson. He was startled to find that that gentleman justified the colouring of statues, and not only justified it, but did so in terms which appeared to contradict the conclusions he subsequently arrived at. Mr. Atkinson had said that, in colouring the statues at the late Exhibition, there was no endeavour strictly to imitate nature — not to produce the most perfect imitation possible, but merely to conform to conventional ideas—to lower high art to the conventional taste and tone of the day, and to attract admiration from those whose education had not taught them to appreciate the highest style of art. The essence of sculpture was form, and marble was a material which was specially suited for conveying the true spirit of sculpture to the mind. Colouring took away the effect upon the imagination: it destroyed the great principles upon which sculpture was based, degrading it to a lower class of art. Another branch of the subject was what should be understood by the legitimate use of imitation. There was a pleasure to be derived from the contemplation of the imitation of the beautiful objects of nature, apart from the gratification afforded by the objects themselves. The works of Barry, on the walls of the room in which they were assembled, were an imitation undoubtedly, and the perfection with which the objects were represented was in itself a source of pleasure. This was an instance of an appropriate employment of imitation. He was obliged to Mr. Crace for the suggestion as to the more extended application of the ordinary woods in the fittings of rooms. At the same time, as the practice of painting and varnishing seemed to have been almost universally adopted, it was only fair to infer that there were some good reasons for the universality of this practice, and that by some means the conclusion had been arrived at that painting was the best mode of covering defects and giving durability. It was, therefore, reasonable to suppose that the practice was supported on some grounds of public utility and economy. With regard to another branch of imitation which had been so thoroughly anathematised by Mr. Crace—stucco, he would say that the reason why ornamental brick buildings had not been erected in this country, as in Italy or Flanders, had been mainly owing to the fact that, until the last few years, the manufacture of bricks was under the control of the Excise, by whom the size and mode of manufacture were restricted within certain defined limits, which might not be departed from. But when they got rid of the excise, and were allowed to make bricks as they pleased, it had already been seen how such materials might be successfully used in the ornamentation of our street architecture.

KING INA'S PALACE.

Last October we inserted a letter signed F. S. A., condemning the manner in which the structure in South Petherton, Somerset, known as King Ina's Palace, had been dealt with. The indignation of the writer was expressed in somewhat stronger terms than we usually admit, but as the letter was written by one of the most eminent and best-known archæologists in England, and the complaint in it was moreover repeated by other correspondents, we gave it a place.* In the following week we printed a note from an architect, in his own name, agreeing with F. S. A. as to the "mutilation" of the building. Immediately after this we received a letter signed "Joseph Chapman," dated from Frome, stating he was the person referred to by F. S. A. (by whom no name had been mentioned), and offering, if the latter would "lift the visor," to break a lance with him on any issue he might choose to raise respecting the manner in which the restoration of Ina's Palace had been effected. Mr. Chapman used very violent words, such as "bushranger," "coward," "villain," and "assassin;" but thinking it only fair he should make his reply, we printed the letter.

This brought upon us seven or eight communications condemning such language, and repeating the objections to the manner in which the building, as an interesting relic, had been treated. One of these, a short note, we printed, and with this we determined the matter should end. A letter from the owner of the structure, stating that the architect who, in his own name, had agreed with F.S.A. in condemning the treatment of the building, had been a competitor with Mr. Chapman for the commission, we did not think it necessary to print.

The original letter of F. S. A. had been published also in the *Gentleman's Magazine*; and in February last, when the whole matter had passed from our mind, Mr. Chapman wrote, reasserting his grievance; stating that the editor of that publication had inserted a retractation, and requesting us to do the same. Mr. Chapman said:—

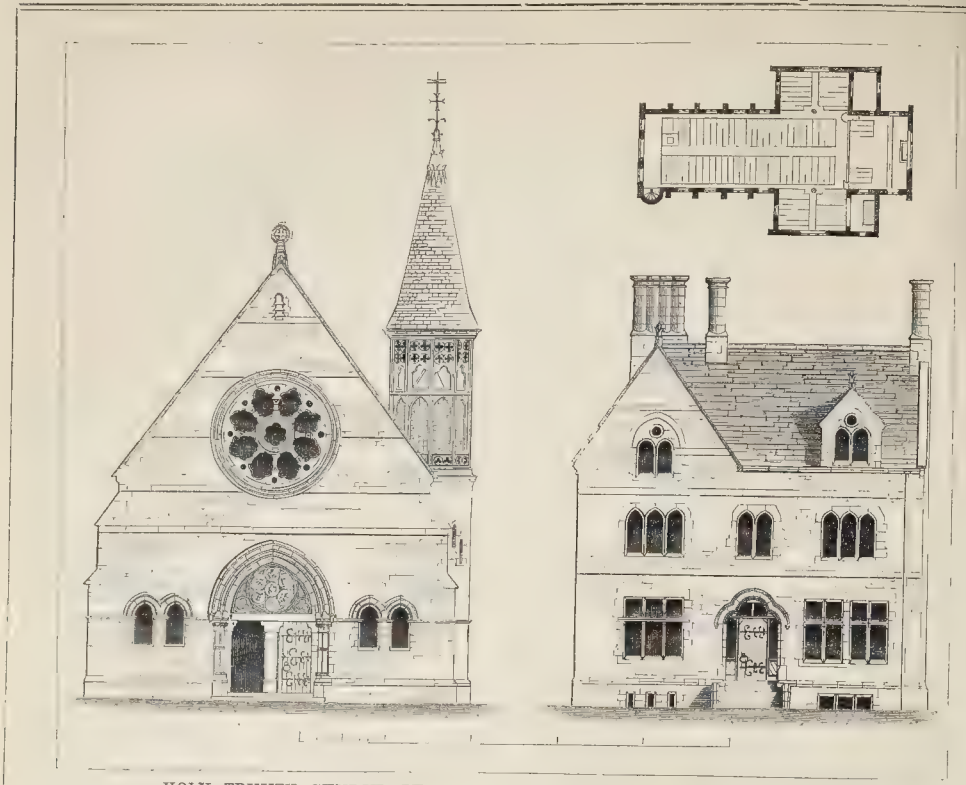
> "I have now completed the works referred to in the letter inserted in the *Builder*, headed 'King Ina's Palace,' and signed F.S.A., and have converted the ruin into a family residence, according to the requirements of the owner. In doing so I have preserved as much of the old structure as it was possible to do with regard to the adaptation of the building to its present purpose, and where addition was necessary, the most striking features of the original work have been repeated so as to make the new portion harmonize, so far as was practicable, with the old part of the building. I feel very strongly the injustice of the condemnatory remarks of F.S.A. in the letter alluded to; and that they went not only beyond the limits of fair criticism, but beyond anything that the most prejudiced and hypercritical view of the case could warrant. The remarks in question are calculated to prejudice me greatly in my endeavours to obtain employment as an architect; and fortified as I am by the opinion of many disinterested persons qualified by their education and calling to pronounce a sound judgment on my work, I feel so great confidence that the instructions of my employer have been carried into effect in such a manner as to entitle me to public approval rather than to subject me to the lash of condemnatory criticism, that I do not hesitate to call upon the writer of the letter in question to reconsider his harsh verdict, and set me right, so far as it is in his power so to do, with the public."

As we had already allowed Mr. Chapman to reply in his own very strong words (which was not the case in the *Gentleman's Magazine*), and we could have scarcely refused insertion to the letters of objectors if we had reopened the matter, we declined to do so. Mr. Chapman, however, again presses his complaints, and we yield. We have communicated with F.S.A., and he assures us that he had no knowledge whatever of Mr. Chapman, and so far as he is aware, never saw him in his life. He therefore could not possibly have any ill-will against him, nor intend to do him any injury. The peculiarity of the house was not in the exterior, but in the circumstance that the internal arrangements were entirely unaltered. It was a house of the fifteenth century, but the fine hall, with its open timber roof, has been divided by a floor and partitions into small apartments. Mr. Chapman, however, appears only to have followed the instructions of his employer, and is therefore not to blame. F.S.A. acknowledges that Mr. Chapman's work, of which he has seen photographs of the exterior, does not render him liable to the terms of reprobation and censure used by F.S.A., but that Mr. Chapman has carried out the views of his employer with considerable skill and judgment, and F.S.A. is glad to have the opportunity of retracting the expressions in his first letter which have given pain and offence to Mr. Chapman, and to express his regret at having made use of the same under misapprehension of the facts—and without due reflection.

F.S.A. mentioned no names; was actuated by no feeling of enmity against any individual. He reprobated the making any change in a building which had become by mere lapse of time an important Historical Monument. He addressed himself to archæologists, and any archæologist in Europe he believes will agree with him.

We must state, in conclusion, for ourselves, that we have not the pleasure of knowing anything of Mr. Chapman, and have not written one single word on the subject of his work. The *Builder* has been uniformly conducted with so tender a regard for the feelings and reputation of others, as to draw upon us rather the imputation of over-kindness than the reproach of injurious severity. It is our duty, and we consider it a great duty, to strive to induce a feeling of reverence for ancient buildings, landmarks of history; and to protect for posterity these works of the past. In that spirit, conjoined with a spirit of fairness, we allowed both sides to speak in the present case. On the one hand, let us add, we have no desire whatever to injure Mr. Chapman.

* Vol. xxi., p. 713.



HOLY TRINITY CHURCH, LEE, KENT.—Mr. W. Swinden Barber, Architect.

We have not a shadow of personal feeling on the subject, and did not even know who was the person who had been employed when we inserted F.S.A.'s letter. On the other hand, if the ancient building in question has been ill-treated, no soft words or reticence on our part will prevent a continually-recurring complaint, with more or less of anger, by those who prize properly the architectural antiquities of the country.

HOLY TRINITY CHURCH, LEE, KENT.

This church, of which we give illustrations, consists of a nave, 83 feet by 34 feet; chancel, 27 feet deep, and the same width and height as the nave; north and south transepts (opening by two arches into the nave), 28 feet wide and 20 feet deep; a vestry on the south side of the chancel, and an organ chamber on the north.

A porch, 8 feet wide, is screened off the nave the whole width of the church at the west end. The height to plate of the nave and chancel roof is 27 feet 6 inches, and to the ridge 51 feet. The walls are built of Kentish rag with hassock lining, and squared Kentish rag grouts, with Bath stone strings and dressings to windows and doors. The roofs are of darkly-stained deal, having principals carried on semi-circular laminated ribs. Accommodation is provided for 600 persons on the ground floor and 150 in the west gallery, in open deal seats. The pulpit, which is of Caen stone, and circular on plan, is placed at the corner of the chancel and south transept. The disposition of the plan is such that all persons have a direct view of the pulpit. Two rows of stalls are placed on each side of the chancel. The reading-desk, which is on the north side, is of oak.

Sculpture is introduced into the tympanum of the west doorway. Six medallions ranged round a centre one represent the days of creation, with the Creator placed in the centre medallion. The sculpture is ably executed by Mr. Nicholls, of Lambeth. An oak-framed bell turret terminates the circular staircase to the west gallery. The lower portion is filled with stamped parquetting. The east and west windows are filled with stained glass, from the works of Mr. Wailes, at Newcastle. The church, parsonage, and site, are given to the newly assigned district of the Holy Trinity, Lee, by Mr. Lewis Glenton, of Blackheath, at a cost of nearly 10,000*l*. The works have been carried out under the superintendence of Mr. W. Swinden Barber, of Buckingham-street, Adelphi.

THE ROYAL INSURANCE COMPANY'S BUILDING, MONTREAL.

The progress which has been made in the practice of insurance within the last twenty years is very marked both in the extent of the aggregate business transacted, and also the scale on which the various insurance institutions is conducted. Twenty years ago each insurance company confined itself to a single office and establishment, and its customers throughout the country or abroad had only a local agent to assist them in effecting their policies and obtaining the requisite information. At the present day a certain number of insurance companies give their clients in the seven or eight chief cities of the kingdom the advantage of a local office, and frequently also of a local committee to look after their interests; and thus we find that the Royal Insurance Company has such establishments in Liverpool, Manchester, Birmingham, Bristol, Leeds, Sheffield, Newcastle, Southampton, Edinburgh, Glasgow, Dublin, &c.; and passing beyond the United Kingdom, we find in Montreal, in Canada, the pile of buildings belonging to this company, of which we give the annexed engraving.

In an article at the beginning of the year, on the architectural progress observable in Montreal,* we referred to this building; and, judging from the view that was given in the local journal to which we were referring, pointed out that the upper stage of the tower was not in good proportion. In the colony they naturally enough attach some importance to the criticisms of the mother country; and the architect of the building, Mr. J. W. Hopkins, fully admitting the justice of the remark as founded on the materials before us, forwarded a photograph to show that the tower of the building itself, now completed, is, as he modestly enough put it, "in somewhat better proportion than in the view" we had before us, which had been made early from insufficient materials. We willingly admit the correctness of the remark; and, in order to afford an example of what is going on in Montreal, we give a view of the building. The roof of the tower is covered with zinc, in fish-scale pattern, as previously mentioned, and a lower story will contain an illuminated clock and large bell.

The building stands on a wedge-shaped piece of land at the junction of two streets close to the river and the Albert Pier.

The subject of insurance (and particularly of life insurance) is necessarily so important to the community, that we feel no apology is needed for adding a few words here on the position of the company whose premises, far away, we have been alluding to. The Royal Insurance Company, moreover, has, from its magnitude, obtained such a position among the commercial establishments of the country, as to constitute it almost a national institution. This will be understood when we mention that its income is over half a million sterling per annum. The company transacts both fire and life business, and the extent to which it has prospered in both these branches of its operations is, we believe, unprecedented. It appears to have doubled its fire business with in the last six years; while, in life business, it issued, in 1862, new life policies to the amount of over 700,000*l*.

The success of the Royal Insurance Company

* See p. 6, *ante*.



THE ROYAL INSURANCE BUILDING, MONTREAL.—Mr. John W. Hopkins, Architect.

has, indeed, been so remarkable that we append a Table showing the salient features of its progress:

FIRE DEPARTMENT.

Year.	Premium.		
1858	£31,346.		
1862	76,925.	Increase in 4 years	£45,579
1866	151,733.	,, 8 ,, ...	120,387
1862 over	300,000.	,, 14 ,, ...	268,654

LIFE DEPARTMENT.

Year.	New Annual Assurances.		
1858	£18,763.		
1863	175,925.	Increase in 5 years .	291 per cent.
1868	387,752.	,, 10 ,, .	690 ,,
1862 over	700,000.	,, 14 ,, .	1,350 ,,

The causes of such success in a line of business where the field is already pretty fully occupied by rival companies are, we believe, not far to seek. The Company has always made itself conspicuous, not only for a prompt settlement of all claims fairly chargeable on its funds, but has also repeatedly signalized itself by acts of independent and novel consideration for the benefit of its policy-holders. As recently even as January last, on occasion of the explosion of the *Lotty Sleigh* at Liverpool, the Company paid all its insurants for the damage done to their property, although it was admitted that it was not legally liable. So marked was the liberality of this conduct, that a gentleman who happened to hold a few shares in the Royal, and it was more largely interested in another company, felt himself aggrieved, and ventured to apply to the Court of Chancery for an injunction prohibiting the payment of the losses in question, on the ground that the Company had no right to pay, as there was no legal liability. The Vice-Chancellor, on the contrary, decided that the directors were quite right in the view they had taken as to the discretionary power possessed by them to pay such losses, and he added that he could not doubt but that the course taken by the directors was likely to conduce to the welfare of the company.

With reference to the life business, we are told that the bonus hitherto distributed to the policy holders is a greater one than has ever been continuously divided by any company; and in fact, that the representatives of a person who insures in the Royal at the age of twenty-one would receive at his death all the previous payments in addition to the capital sum assured.

All this being true, as we have no doubt it is, the success of the Company is quite understandable.

SELF-CULTURE AND ADULT INSTRUCTION.

A lecture was recently delivered at the Drill Hall, Newbridge, by Sir Thomas Phillips, on "Self-culture and Adult Instruction." Mr. H. M. Kennard, of Cramlin Hall, presided. The Drill Hall was well filled by from 600 to 700 persons, including nearly all the principal families in the neighbourhood. The object of the lecture was to aid in raising the fund necessary to defray the cost of a new infant school at Cramlin, and of enlarging the existing building. The lecturer said he held self-culture and adult instruction to be among the most important branches or agencies of education; and in the course of his remarks he alluded to many self-made men, such as the Archbishop of York, whose life, he believed, began at the Sunday School, - the Lord Chancellor, who was the son of a medical man, and he himself had told him (the lecturer) that his father had sent him to college at sixteen, and assisted him for only keeping there one year, and after that period he had never given him a farthing, - Lord St Leonards, who was the son of a barber, and had held the great seal; - Sir Benjamin Brodie, who was educated, but in medicine raised himself above his fellows by great qualities; Sir Thomas Lawrence, who was the son of an innkeeper; Turner, who was the son of a barber; - Chantrey, the sculptor, who was apprenticed to a wood-carver; Hugh Miller, the geologist, who was a stone-mason, and the Dean of Westminster had said he would gravel he possessed to write in the style of Hugh Miller; - Arkwright, the father of the factory system; and Wedgwood, who had been extolled in connexion with ceramic manufacture by the Chancellor of the Exchequer. The men so named had sacrificed present enjoyment to produce future advantages, and in doing so formed their own characters—of industry, well-disciplined wills, independence, truthfulness, self-control, and self-respect. These were the qualities we should struggle to obtain, — these were the qualities which would make us respectable and useful.

DRAWING LECTURE ON ANIMATED NATURE.

Mr. Davidson, head-master of the Chester Government Schools of Science and Art, has delivered another lecture at the Handbridge Reading-room, illustrated by numerous sketches which he drew in presence of his hearers. The mayor of Chester presided.

Mr. Davidson, in commencing, said he had been asked originally to give a lecture; and, not anticipating being called on again, he had on that occasion taken "Man" as a subject,—man, the head of the whole creation; and now, in this lecture, he found that he must work backwards, in order to give an idea of animated nature in all its phases. He would not, however, descend from man; but would start from the lowest order of animal life, and gradually ascend in the scale until he should reach the point where the subject of the last lecture commenced. This he did in such a way as to excite repeated applause from a very attentive and delighted audience. His sketches, on black-boards and paper, included a multitude of objects, from the protozoa and porifera, or sponges, and corals, upwards, through insects and reptiles, to birds and mammalia; for the last of which, however, there was no time left, after a two hours' lecture, to do much justice; so that Mr. Davidson may very likely be called upon for a third lecture of the same entertaining and instructive as well as novel description.

THE EFFIGY OF SHAKSPEARE IN STRATFORD-ON-AVON CHURCH.

The attention of not only men of our own country, but of many from foreign lands, is being directed to Stratford-on-Avon, and to every relic of Shakspeare which exists. The spot in which the ashes of the poet rest will to thousands be an especial attraction; and in connexion with the monument of the poet, many will regret the covering of white paint which no doubt was given in the best feeling by Mr. Malone, who, however worthy of praise as a painstaking historian and critic, certainly erred in this instance in a matter of taste. In Mr. Malone's time, however, we were a whitewashing generation, who smeared everything, particularly in ecclesiastical edifices; and, in consequence, many figures, which we believe to have been faithful transcripts of nature, have lost that charm and means of identity which colour gives to portraiture. We can still look with pleasure at the marvellous intellectual development of the head of Shakspeare as we see it in the chancel of Stratford Church; but many will regret the absence of the colour of the eyes, countenance, and hair, which originally, we have little doubt, presented the appearance which must have been familiar to the chief part of the inhabitants of Stratford-on-Avon at the time when the monument was erected: this was between six and seven years after Shakspeare's death, when his near relatives and many friends would be critical about the correctness of the resemblance. In accounts of this effigy, it is distinctly stated that the eyes were of a light hazel, the hair and beard auburn: the dress consisted of a scarlet doublet, over which was a loose black gown without sleeves. The lower part of the cushion was of a scarlet colour, with green on the top, and gilt tassels.

In 1748 the monument was repaired, at the instance of a traveling company of players, who raised money for this purpose by performing the play of Othello. In this repair the colours originally bestowed on the effigies were restored by a painter of the town: but in 1793 came the white paint. A very careful removal of this would probably confirm the accounts we have of the tints, and then an artist of first-rate ability should be requested to attend to the repainting of the figure. The present would be a fitting time to do it.

Some years since, when the monument of Gower, the poet, in St. Saviour's Church, was restored, we believe the late Mr. Pitt, the Royal Academician, undertook the direction of the colouring; and certainly, when it was completed, the effect was very good and harmonious. The figure of Watts, in Rochester Cathedral, and several others to which we could refer, have been treated in the same way with very good effect; and we see no reason why a similar course should not be followed at Stratford-on-Avon.

The state of Anne Hathaway's cottage is not satisfactory: the upper floor is in a very shaky state. It is, of course, desirable not to interfere with the picturesque appearance of the place; but at the festival people will flock there in crowds, and care should be taken to prevent too many persons from being in the upper rooms at the same time. When last there we noticed that the carved bedstead which is said to have been in the house in Anne Hathaway's days, and which is certainly a very good example of the better kind of domestic furniture of the period, was in a neglected condition, it being necessary to prevent the bedstead from falling to pieces by fastening it with ropes. There has been a good deal of damage done to this cottage even within the last few years. The father of the person who now resides here, and who claims to be descended from the father and mother of Shakspeare's wife, sold the old-fashioned pewter dishes, we are told, at the price of old metal, for the purpose of being *melted down*. And it may be noticed that parts of the original wainscoting have been removed, and probably sold to unscrupulous relic-seekers. Effectual steps should be taken for the preservation of the cottage. It would seem to be a pity, while exertions are being made to erect a fresh monument to the memory of Shakspeare on the 300th anniversary of his birth, to neglect those time-honoured relics which were associated with him during his life-time.

CATHEDRAL RESTORATIONS.

Important meetings, to promote the restoration of the Cathedrals at Salisbury and Worcester, have been held.

At the Salisbury meeting, the Marquis of Ailesbury presided. The Dean said, the sum which the Dean and Chapter had obtained from the Ecclesiastical Commissioners, as part of the consideration paid to them in exchange for the capitular property, was 10,000*l.*, but this would barely suffice to execute in a satisfactory manner the works which were already in progress. The tower and other portions of the work were still unprovided for, and the Dean and Chapter had consequently resolved on an appeal to the diocese and the public. The total estimated cost of the undertaking was between 35,000*l.* and 40,000*l.*, in addition to the 10,000*l.* already being expended. The Dean and Chapter were only able at present to set apart 500*l.* a year for the fabric, and this sum was not likely to be greatly enlarged for thirty or thirty-five years. The Bishop of Salisbury proposed the first resolution:— "That the condition of the Cathedral, as described in the statement of the Dean, renders it necessary that steps should be immediately taken with a view to its complete repair and restoration." Mr. Sotheron Estcourt, in seconding the resolution, said he thought the work ought to be taken up in every parish throughout the diocese, and he felt persuaded, if this were done, not only 30,000*l.* or 40,000*l.*, but 80,000*l.* or 100,000*l.* would be raised, if required. A committee was appointed to carry out the objects of the meeting, and 6,000*l.* were promised in the room.

At the Worcester meeting, Lord Lyttelton, who presided, referred to what had already been accomplished, and said the money spent came from the hands of the Dean and Chapter, from the Ecclesiastical Commissioners, and from the private resources of the Chapter. The sum so spent was considerably more than 30,000*l.* What remained to be done was, — Externally, the north west and south sides and the nave, the north porch and the west windows, and the cloisters (which were now in a very bad condition); estimated expense, 8,240*l.* Internally, the floor of the nave, 1,000*l.*; heating and lighting, 2,000*l.*; re-modelling the choir, a new organ screen, the aisles right and left, the reredos, the floor, and fittings, 10,720*l.*; total, 28,960*l.* He was allowed to announce that the Dean intended to add considerably to the sum which he and his brother had already expended, by giving 1,000*l.* to be applied to the restoration of the reredos. Another member of the Chapter — his hon. and rev. friend Mr. Fortescue — had undertaken the solid repair of the western wall. Other members of the Chapter intended to add contributions from their private resources, and there was reason to suppose the Ecclesiastical Commissioners would give as much as the private members of the Chapter—that was 2,000*l.* It was proposed that the time for paying the subscriptions should be over three years at least. In the diocese of Hereford the sum raised for the restoration of the Cathedral was 42,000*l.*; but that amount was spread over a period of

between ten and twenty years. In Yorkshire a long time was taken in rebuilding York Minster Abbey and in restoring Doncaster Church. Lord Dudley had promised 2,000*l.*, and the Mayor of Worcester had given 200*l.*—Resolutions for carrying out the objects of the meeting were adopted.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held at the House, in Conduit-street, on Friday, the 1st instant.

Mr. T. Roger Smith, the president, occupied the chair.

Mr. William Emerson and Mr. R. C. Batterbie, were on ballot elected members of the Association.

After the usual business had been disposed of, Mr. T. Hayter Lewis, preliminary to reading his paper on "French Architecture down to the Renaissance," directed attention to a collection of drawings illustrative of the subject on which he proposed to dwell, and which he said had been lent to him by Mr. Gilbert Scott. The drawings in question were those which Mr. Scott had used in 1858 for his lecture at the Royal Academy. In directing the notice of the meeting to these drawings, Mr. Lewis observed that Mr. Scott had placed them at the service of the Association in the most handsome manner.

Mr. Lewis then proceeded to read his paper, which will be found in another place.

At the conclusion,

Mr. Blashill and Mr. Bain commented upon the general accuracy of the observations made by Mr. Lewis, so far as their personal experience of French cathedral churches went. The former gentleman inquired whether Mr. Lewis could throw any light upon the circumstance that the ball-flower decoration was found in France as early as the twelfth century, while in England it was not to be traced in earlier than fourteenth century buildings.

Mr. Lewis said he was at a loss to account for the circumstance.

Mr. Bain inquired what was the date to which Mr. Lewis imputed the porch at Avignon.

Mr. Lewis observed that, in his opinion, the date was either the sixth or seventh century, and that he considered the porch built up of earlier materials.

Mr. Bain thought that the details looked Classical.

The Chairman observed that the able paper which Mr. Lewis had furnished was valuable as showing how much knowledge could be acquired upon a given subject, and how desirable it was to possess that knowledge. It might, it was true, be possible to put up showy buildings without this knowledge, but it was impossible not to detect in them the results of that ignorance which formed the stock in trade of their authors. If, therefore, a student of architecture wished to carry out works alike creditable to his own reputation and to the age in which he lived, he would supply himself with the largest and most varied stock of information which could be obtained in reference to the buildings of past ages. The study of the Renaissance had already affected, to a considerable extent, our own works. Except in the case of brick buildings, we were departing from our own types, and adopting simplicity of mouldings, single shafts, and the peculiar style of carving exhibited in French works. He himself was more familiar with the architecture of the south of France; and he was persuaded, from a careful examination of it, that it would be necessary to adapt it in order to meet the economical requirements of the age. If, for instance, those who were commissioned to build small country churches would take as their model the little Romanesque churches of the Pyrenees, the result would be most satisfactory. Here were to be found churches almost entirely without mouldings or carvings, and yet they struck the eye at once as graceful works of art, owing to their delicate proportions and the skilful manner in which the light was admitted. The hemispherical vault and the semicircular arch also showed what could be done in the way of effect with but slight materials and at small cost. While upon the subject of French churches, he thought it but right to allude to the ready assistance which the ecclesiastics attached to those buildings appeared ever willing to extend to the student of architecture. For his own part, he could say that he had always been treated with a courtesy and consideration by the French clergy which left a recollection he felt it a pleasure to acknowledge.

After a short discussion, a vote of thanks was unanimously accorded to Mr. Lewis for his paper.

COMPETITIONS.

Stratford Presbyterian Church.—In response to the advertisement of the committee of managers "for plans and specifications for a church and schools at Maryland Point," designs were received from eight architects, some of whom submitted several. After considering the various sets of drawings, the committee unanimously selected the design of Mr. Alexander Peebles, architect. The style is Early English, treated freely.

The Proposed New Buildings for the Leeds Mechanics' Institution.—Some time ago a design by Mr. Brodrick was recommended by the committee for adoption; but we understand that the tenders for carrying it out being in excess of the proposed expenditure, it had to be abandoned. The architects who had previously competed were invited to again submit their drawings and plans, and the choice has now fallen upon those sent by Mr. Crosland, architect, Leeds. The new building will be in the English Domestic Gothic style.

The Hawks Memorial on the Windmill Hills, Gateshead.—Eight designs have been sent to the committee, and are now on view in the town-hall.

Corn Exchange, St. Ives, Hunts.—At a meeting of the directors of the above company, held last week, from the plans which had been sent in a limited competition, those of Mr. R. Hutchinson, of Huntingdon, have been selected, and he received instructions to carry out the design.

GUILDHALL, LONDON.

We understand that there is a prospect of the new roof being forthwith proceeded with. Mr. Myers has entered into a contract, and has commenced the scaffolding. Our readers will recollect that the visit of the Prince and Princess of Wales interrupted his work, which had been begun. For that visit, besides the additions and decorations, a temporary series of trusses were placed under the ceiling, and invited comparisons. The anxiety of the Corporation to do full justice to their ancient hall, which has been so long disfigured by the miserable and unsuitable ceiling, is exhibited in the care taken to ascertain the kind of roof which will be most appropriate. In order to obtain this object if possible, the Council have, we understand, called in Mr. Wyatt and Mr. E. Roberts to confer with the City Architect and advise the Corporation on the whole subject, before they irrevocably commit themselves to the designs submitted by the late City Architect, which can, of course, no longer receive the exact interpretation of the author.

SANITARY PROGRESS IN ST. PANCRAS.

It is always a far greater pleasure, when it can be done with justice, to use words of commendation than of condemnation. We are therefore glad to notice some steps in the right direction which have been taken in this large and populous parish. Amongst them may be mentioned extra care in the licensing and inspection of cow sheds and other places, in which the unwholesome London milk is produced. The unhealthiness of these places is beginning to be better understood; and ere long none except those who have interested motives will advocate the continuance of such fever-spots in the midst of dense populations.

The Sanitary Board of St. Pancras have also directed their attention to the inspection of stables and mews, which are to be found extensively planted in many parts of this district. In former numbers of the *Builder* reference has been made to the danger of these places to health, particularly where rooms above the stables are occupied by families. We have even given illustrations of bedrooms situate over a stable, in which three or four children died within a very short time of each other from diphtheria. Now, however, the horse-refuse has to be removed from the premises at short and stated intervals, and the greatest attention has to be paid to them in other respects. Such measures, it is to be hoped, will be vigorously carried out, not only in St. Pancras, but in other metropolitan districts; for there is more evil arising from the present arrangement of those places than is generally supposed.

THE PROPOSED MUSEUM, SOUTH KENSINGTON.

The designs that have been submitted in competition, in reply to public advertisements, for the new Museum buildings proposed to be erected on the site of the International Exhibition, South Kensington, are now hung up in the Royal Gallery, near the House of Lords. They will be shown to the public on (this) Saturday. As it is a subject not to be treated hurryingly, we reserve our review.

MANSFIELD, NOTTINGHAMSHIRE.

A new Wesleyan chapel is about to be erected in Bridge-street, Mansfield, upon the site of the present one, which is too small for the requirements of the congregation. The building will be of a plain and substantial character, built of the stone plentiful in the neighbourhood. Mr. J. S. Norris, of Nottingham, is the architect. The erection of it is intrusted to Messrs. Lamb & Stevenson, of the Mediæval Woodworks, Nottingham. Some interesting old property will have to be demolished to clear the site which is at present occupied with the old chapel built in 1812, and the two wings of an ancient family residence of the Chesterfield family. The façade of the old mansion was taken down in 1812, and the present chapel was built in between the two wings occupying the façade and a portion of the quadrangle in the rear.

It was here that the Right Honourable Philip Dormer Stanhope, Earl of Chesterfield, statesman, and author of the well-known "Letters," resided, of whom Dr. Warren (when hearing him pronounce his last words, "Give Dayrolles a chair,") so justly said, "His good breeding only quits him with life." The unfortunate Dr. Dodd, who was engaged as pupil to his son, Philip Stanhope, Esq., had apartments and a study here, which are still to be seen,—the latter with little or no change.

The work of demolition was commenced on Monday. The new chapel is to be completed by December next.

ECCLESIOLOGICAL SOCIETY.

A Committee-meeting was held on Saturday, March 19th, when various matters were brought forward. A letter was read from the Rev. C. T. Weatherley, curate of Old St. Pancras, calling attention to the proposed occupation of that churchyard, and demolition of the church itself, by a railway company.

The committee was informed that the proposed restoration of St. Bartholomew's, Smithfield, is to be set in hand forthwith. It appears that a general meeting of the subscribers, held on the 17th of March, authorized the immediate commencement of the works. Among those to be begun in the first instance are the removal, as far as practicable, of the soil (accumulated to the depth of several feet) around the exterior of the wall; the lowering of the pavement to the original floor-level, some 3 feet below the present,—a process which will uncover the pier-bases hidden for centuries, and exhibit the piers anew in the proportions designed by Rahere; the cleansing and repair of the ashlar masonry and mouldings; the putting back the partitions in the transept arches (the transepts themselves having been destroyed), so as to display these handsome transitional arches *within* the church; the removal of misplaced monuments to less objectionable situations; and the rearranging and improving the fittings. Letters were read from the Vicar of Bosham, Sussex, explaining the progress of the restoration of that interesting church, and making an earnest appeal for further contributions towards the completion of the work. Mr. Mitchell also submitted a coloured cartoon for a proposed painting, representing the labourers in the vineyard, for the chancel arch, by an amateur. Upon this the committee adopted the following resolution:—

"The design proposed to be painted over the chancel-arch of Bosham church would be more appropriate if the style were more in harmony with the architecture that it is intended to decorate. It is most necessary to design a wall-painting that is limited by the architectural lines of the building in such a manner as to maintain as much as possible the effect of 'flatness,' in order that it may be a real wall-painting as distinguished from a picture. The effects of atmospheric perspective make the wall appear concave, and all architectural effect around it is at once destroyed, and the purposes of arches and other matters of construction are stultified. It is possible, without any return to what appears ugly to modern

eyes in Mediæval art, to design a perfect wall-painting in harmony with various styles of architecture."

The committee examined Mr. St. Aubyn's designs for the new church of St. Mark, New Brompton, in the parish of Gillingham, Kent. Mr. Poole laid before the committee, from Signor Salviati, some specimens of mosaic. Drawings for the restoration of the reredos (involving the removal of the solid altar) in Westminster Abbey, and for a new sanctuary pavement intended to harmonize with the ancient specimen of the Opus Alexandrinum in the choir, were exhibited.

DUBLIN.

Of late, many and varied have been the improvement projects set afloat by those who aim at the beautification of the Irish metropolis. It is to be feared, however, that the want of funds will in each case throw an early damper on their efforts.

Of these contemplated changes, the most important concerns St. Stephen's-green. This now forms the subject of a petition to Parliament, the object of which is to have the square tastefully arranged, and thrown open to the public. It is proposed to lay it out in ornamental plantations and walks, embellished with sculpture, fountains, and not improbably covered arcades, protecting mural decorations, chiefly the work of native artists. The idea deserves all the success that we can wish it. A design for the proposed improvement, prepared by the railway engineer, Mr. G. W. Hemans, is on view in various parts of the city of Dublin.

A proposition has been made in connexion with the intended Albert memorial, to improve the space immediately in front of the entrance building to the Dublin University, by removing the present unsightly railing, and giving a small portion of the ground—at present the property of the university—to the street, separated from it by an ornamental balustrade, as a commodious footway, an arrangement that would greatly facilitate communication between the main business streets of the city.

After a determined struggle between two parties of the corporation, it is proposed to erect the Albert memorial in the open space, outside and facing the Bank of Ireland, and the front of the university, the most central point of the city, traditionally called "College-green." It was to this site that Lord Carlisle referred when, at the inauguration of the Goldsmith statue, he said,—

"I trust that no long time will elapse before, on this very spot, where the historic recollections, the architectural beauties, the main thoroughfares, and the pulses of Dublin life, most crowd, the passer-by, as he halts for a moment, may look up, not without patriotic pride and emotion, to the statues of Goldsmith and Burke."

The proposed Albert monument consists of a group of sculpture, combined with a subordinate display of architecture, with what success will be anxiously looked for. It is entrusted entirely to Mr. Foley, whose statue of Goldsmith already adorns the entrance to the college at one side. At the other, a vacant pedestal—not nameless—awaits a statue of another illustrious son, probably from the studio of the same artist.

Many other improvements of a like kind are suggested for this neighbourhood.

CRANNOGES, OR LAKE DWELLINGS IN IRELAND.

It appears that Mr. Kinahan has discovered, far below the present level of Lake Loughrea, proofs of the existence of human habitations, and other lakes have long been spoken of as "enveloping with their waters the 'round towers of former days,' which the fisherman, while strolling of an evening along the banks, beholds in 'the waves beneath him shining.'" It is a curious circumstance, we may note, that the lake-dwellings of Switzerland and other countries were inhabited by dwarfs; that Irish legends people the lakes with "little folks," whom they called fairies; and that, from what little is known of the ancient Druids, "sacred lakes" were a marked institution in their doctrinal practices. Are not Venice and Mexico vestiges of such ancient cities? Even London may have once stood, not merely on marshy land, as we know, but on ground quite covered with water. The old name of Loughrea is said to have been Baille Riogh, or the City of the Kings; and Baille seems to indicate a close connexion with those ancient forms of religion in which the god Bel, or Baal, was worshipped, and which prevailed both in Ireland and Scotland, as the many places whose names still begin with the syllable Bal, or Bel, go to show—witness Balmoral itself. The crannoges discovered by Mr. Kinahan consist of circles and rows of oak piles, and regularly placed flat stones. Many bones of edible animals, and of large dogs, were long since found, besides bronze and brass ornaments and implements; and, what is very notable, as tending to show how lately such crannoges may have been used as human dwellings, even a brass crozier, inlaid with silver, a battle-axe, a gun-barrel, and a hammered iron vessel. Dwellings would appear to have stood round a common fire in these crannoges.

THE DRAINAGE WORKS IN BETHNAL GREEN.

The manner in which certain sewers are being built in this parish, contrary to the provisions of specification and contract, is now the subject of grave comment. At a recent meeting of the vestry, as reported in the *Bethnal Green Times*, it was asserted that the sewer, described to be 9 inches thick, and so certified by the parish surveyor, was in parts only 4½ inches thick. Mr. Ford, the recently appointed Inspector of Nuisances, reports that "The works are being carried out in the worst manner possible." When told he could refer what was unsatisfactory to the surveyor, Mr. Ford said,—he had frequently called Mr. Bainbridge's attention to matters that he (Mr. Ford) considered bad; but the surveyor said it was all right, and, as such, if Mr. Bainbridge's decision was to be final, he respectfully declined any longer to hold the office they honoured him with.

THE PROPOSED DECORATION OF SAINT PAUL'S CATHEDRAL.

As, from the attention which my letter in your pages has attracted, the subject of it seems to be one of much interest, I hope I may be allowed to notice some of the remarks that have been made on it.

It is true, as you state in a foot-note, that this letter was intended to be a reply to statements made in more quarters than one. It is also true, that when I wrote it I had in view an article in the *Illustrated London News* of the 20th Feb. last, p. 194, to which your correspondent "T. J. G." refers. But he has omitted to state that, within three or four days after the appearance of that article, the substance of my remarks was sent to the journal in question, in which, therefore, it *might* have appeared, and neither of us would have had occasion to trouble you.

Without further noticing your correspondent's attempts to explain away the obvious meaning of the article in question, the value of which any one can estimate who will refer to them, allow me to bring him and your readers back to the main point in controversy between us.

The whole gist of his attack on the St. Paul's committee consists in this, that, with reference to the only mosaic ordered, the committee had permitted a foreign artist to compete with some English ones, and had decided in favour of the foreign design; and that, in regard to the painted windows ordered, they had commissioned foreign artists to design and execute them. Your correspondent, thereupon, undertook to lecture the committee on the impropriety of their conduct, and to warn them of the consequences of persisting in it. * * *

I ask, what is the principle on which the foreign artist and his works are to be excluded from England? If there be any such principle, it must, *à fortiori*, be more applicable to the former than to the latter. Yet no such exclusion as this has ever been proposed, nor has the exclusion of either artist or works ever obtained in practice; neither has the admission of one or the other proved injurious to the progress of English art. There is scarcely a department in art or science, in painting, sculpture, architecture, music, or literature, in which, from the earliest times, foreigners have not been largely employed in England; scarcely one in which the practice has not operated beneficially. The reason why it should do so, and the kind of influence it exercises, are so obvious, that it is needless to point them out. I may remark, in passing, that it was by the liberal employment of foreigners by the late King of Bavaria that the school of artists was formed whose works have given Munich a world-wide celebrity.

I must really express my obligations to your correspondent for taking the trouble to inform me of the existence of frescoes at Westminster, Lincoln's Inn, and elsewhere. I was, however, already acquainted with them; and I had also heard the remark of a gentleman quite as well qualified to express an opinion on the subject as your correspondent can suppose himself to be, that it is much to be regretted that, generally speaking, the artists engaged at Westminster have been unable to emancipate themselves from the habit formed by *genre* painting; and that their works constitute at most a class which may be termed *genre historique*, and fail to obtain the dignity and simplicity of the monumental works we see abroad. If this be correct, it would seem that the employment of a foreign artist or two at Westminster might have exercised a beneficial influence on English art.

It would be impertinent in me to attempt to vindicate a reputation so well established as Professor Schnorr's; and hardly respectful, I think, to the committee, to treat as worthy of serious notice the application to any of their proceedings of such an expression as a "hole-and-corner competition."

With respect to the glass paintings ordered, it is unnecessary for me to say more than that I adhere to every syllable of what I have already stated, and which seems, in all the essential parts of it, to be admitted; for it appears to be confessed—as, indeed, it could not be denied—that glass paintings equal to the German are not to be obtained in England.

I have but few remarks to make on the communication of your correspondent "H. J." I know nothing whatever of the progress of the subscription list; nor had my letter any reference to it. My reasons for writing it I have already given.

As to his objection of needless haste in procuring the execution of the windows, it may be sufficient to say, in addition to the futility of waiting for the "coming man," that, if I am rightly informed, the donors of the windows are advanced in years, and it would be unreasonable to defer the works to a period when they may never witness the result of their liberality.

With regard to his comparison of the Glasgow windows with the great windows of the Renaissance; as an indefinite time must elapse before glass coloured like that of the Renaissance, and having a texture similar to it, is manufactured, I think it premature to discuss the question whether our glass painters are likely ever to rival the Renaissance. They, indeed, will have made a great stride if they succeed in becoming no more inferior to it than the German glass painters are at present. B.

ON THE SO-CALLED "SURE CURES" FOR SMOKY CHIMNEYS.

In an article headed "Murmurs from the Seaside," a correspondent of yours describes some chimney-pots seen at St. Leonard's, which are designed to prevent the nuisance of smoke within the house during windy weather; and although I have not seen these chimney-pots, I am quite sure from the description of them that they do answer the purpose for which they are intended, because I know from experience that the principle on which they are made is a right one. But his description of the way they are intended to act is scarcely correct, for although in gusty weather the smoke does find its way out of tubes placed on chimney-pots as he describes them to be, they are intended to create a protected upward current of air, to assist in carrying off the smoke, and in this way would act better in a moderately high wind than they would in calm weather.

Your correspondent goes on to say, "that in addition to their alleged merit of curing smoky chimneys, they possess the great recommendation of being pleasing to the eye;" and I think it ought generally to be known that the terminations of all chimneys need not be otherwise: they should be made to conform to the style of architecture of the buildings to which they belong; and this is the more necessary, seeing that chimney-stalks are indispensable, if the nuisance of smoke is to be avoided.

Sufficient attention is not paid either to designing or constructing chimneys, or we should not see the various forms of ugliness which so often disfigure new buildings soon after they are occupied. Important principles are involved both in their design and construction, which

equire to be observed, and if this be properly ttended to, all unsightly additions to chimneys fter the building is finished may be avoided; at if these principles are violated, the alterations necessary to remedy the defect are not nly unsightly, but very expensive.

And, while on the subject of chimneys to uildings of recent construction, I may as well ention that, during the erection of the new ew Library, adjoining the Temple Gardens, nd when passing along the river in company ith the late Mr. John Billing at the time the himney-stalks were being finished, we each remarked the error made in their situation, and ame to the conclusion at the time that an lteration would have to be made in them. I ittle thought that the extreme measure of arrying the flues by metal tubes on the roof up o the ridge would have been adopted, which as ruined the external appearance of the uilding, and must be a source of great annoyance and vexation to the architect.

I do not wish my remarks to appear harsh; ut I am quite warranted in saying that mistakes such as the one above mentioned ought not now to be made; and it is a reflection on the ficience of the age that they should occur so frequently as they do.

I will now turn from the consideration of himneys on buildings of recent construction to hose which were erected before the science of architecture had made such rapid strides; and, having had under my notice upwards of 2,000 such chimneys, with every variety of those defects which cause a smoky house, and, as I am not a patentee, nor interested in any patented contrivance, nor, in fact, have any crotchet in my head for the so-called "sure cure" of smoky himneys, I may possibly be able to give some useful hints on the subject.

Undoubtedly one of the principal causes of a smoky house is the want of a sufficient protection to the tops of chimneys, which should be constructed in such a way as to assist the smoke in escaping from the flue, and, at the same time, prevent it, as much as possible, from returning down the adjoining one. Another cause is from chimney-stalks not being carried well above the roof of the house. These have, no doubt, led to the innumerable inventions in zinc and iron which disfigure houses in this country and on the Continent. Many of these contrivances display considerable ingenuity, but it is rarely united with the necessary facility of being readily cleaned by the sweep's machine. Now, except in situations where it is impossible to raise the chimney-stalks by any other means, all metal tubes may be entirely dispensed with, and a permanent architectural termination substituted, formed with brick, stone, or terra-cotta, or a combination of the three, at much less cost than metal, which is not only more expensive, but soon decays.

Another great source of failure is in carrying flues of attached buildings in a double line in the chimney stalk. They should in all cases be built in a single line; for, unless this be done, it is almost impossible to make each flue perfect in itself, and prevent the smoke from one flue passing down that of the next house, which is as much to be guarded against as a so-called smoky chimney, or much vexation and annoyance will be the result. As a general rule, the attic rooms of all houses, and rooms in buildings of only two stories, are more liable to the nuisance of smoke than the lower rooms in buildings of greater height; and the tops of their chimneys require more protection from the effects of high winds. One reason is, that as smoke, by its nature, will bear a considerable amount of compression; therefore, the longer the column the greater amount of resistance it will bear without escaping into the room; for, if the upward current in each flue be equally good, smoke gains greater force in the larger column than it does in the short.

Amongst the most difficult flues to make act properly, are those of attic rooms having their chimneys in external walls: indeed, all flues in external walls do not draw so well as those in internal walls, for they assist each other by their warmth, while the flues in external walls cool rapidly, particularly when the wind is blowing strongly against them. Wherever practicable, flues should always be carried up in internal walls; but, where it is absolutely necessary for a flue to be placed in an external wall, the brickwork between the flue and the outward air, should not be less than 9 inches thick.

It would be impossible, in the limits of an article, and without the aid of diagrams, to explain all the minor faults which frequently cause a smoky house. They are more numerous than many persons would imagine; but they prove incontestably the fallacy of those who propose with one description of chimney-pot, or one special appliance to cure all smoky chimneys. It is very much like endeavouring to cure with one kind of medicine all diseases to which mankind is liable.

It requires a facility for observation, and an amount of experience which is seldom obtained by one person, to be able to decide readily as to the causes of failure in many apparently well-designed and well-constructed chimneys.

T. H. Adamson.

ARCHITECTS AND THE ROYAL ENGINEERS.

Sir,—I trust that you will not cease to call attention to the disgraceful placard offering 2*l.* bounty to architects if they will become Royal Engineer private soldiers. I, to-day, saw the offensive offer hanging in a frame on the wall at the front of the Horse Guards. Z. Z.

Sir, The counterpart of the placard described in the *Builder*, p. 238, may be seen on a board stuck up adjoining the carriage entrance to the South Kensington Museum, in the Cromwell-road, where the *military tradesmen*, formerly called Sappers and Miners, but now, *specialis gratia*, "Royal Engineers," have a sort of guard-house or porter's lodge (*cui bono*, seeing the ordinary police are close at hand).

In the list of "men of other *trades*," the names are placed in parallel columns in the placard. Column No. 2 (I think), in military parlance, No. 2 Company! contains,—architects, engineers, collar-makers, &c.

The "engineers," who follow the "architects" in the trades list, may be supposed to be *civil*, as contradistinguished from the gentlemen constituting the corps formerly called Army Works Corps, afterwards Sappers and Miners, but now "*Royal Engineers*." ?

CULPABLE CREATION OF FEVER.

Fever often brings death in its train in the mansions of the rich as well as in the hovels of the poor. It behoves every one to look around and see if the causes of these evils may be prevented. A recent case brought under my notice induces me to offer it as an illustration and a warning. A lady has taken a house in Kensington Garden Square, Bayswater. She finds, almost immediately after taking possession, that the health of every member of the family is more or less affected, and at length one little child is stricken with gastric fever. The doctor at once traced the evil to its source in a foul smell pervading the house, particularly in one of the principal bed-rooms. As soon as I was called in I concluded that the cause would probably exist in an untrapped waste-pipe. On examination, I found behind the pipe casing which concealed the waste-pipe of a bath-room, the origin of the evil, caused by the most culpable negligence of the builder. A soil-pipe, properly formed of lead, was brought up to the level of the water-closet, but above this a common iron rain-water pipe was introduced without tight joints. The effluvium from the drains thus found its way through a hole made in the wall for a gas-pipe, under the floor of the room I have mentioned, and thus in the most insidious manner is the poison introduced. The man who performs his work so as to create such mischief is surely chargeable for his neglect; and what if death should ensue on fever?

A. J. Baker.

THE WISE AND UNWISE USE OF BUILDING MATERIALS.

I have read the remarks of "A Traveller" on the above, in your paper of the 2nd instant, and much wish for further information as to the use of gravel, &c. with lime, and also as to the cob-walls.

If any of your readers will furnish the above it will be esteemed as a great favour. J. G.

Milton Abbey Church, Blandford, Dorset.—I trouble you with a line upon the letter signed "Traveller," to say I am quite of his opinion, and to inform him and others who take an interest in seeing old churches restored to their original intention, that this one is under restoration, and that it is built externally of flints and stone; and in knocking off the plaster on the inside (put there by Messrs. Conceit and Pocket) we find the same material; the flints square-headed, some of it very excellent work, and fair with the ashlaring and jambs of windows, doorway, &c., which shows it was never intended to be plastered.

The groining of choir, south and north aisle, also the transepts, is of chalk, with Ham Hill stone ribs, most part of which has been restored to its original face, and looks remarkably new. This is a chalk and flint country, which carries out the truth of "Traveller's" statement, that the old ones used to build with the local material. This church is of the thirteenth century. Mr. Scott, R.A., is Architect; and Baron Hambro the owner, who is at the sole expense of restoring.

J. Y.

NEWS FROM SCOTLAND.

Edinburgh.—The architectural improvement of Princes-street has been progressing for a good many years, but until recently the west end had scarcely partaken of those changes which have been going on in other parts of its long line of shops and houses. Within the last few months, however, a new building from the designs of Messrs. Peddie & Kinnear, architects, has been erected in the division between Castle-street and Charlotte-street, which, although occupying only the limited frontage of an ordinary dwelling-house, has importance and character from its general design and details. It consists of five stories from the level of the street—the uppermost one being in the high-pitched French roof. The street floor is devoted to a shop, with spacious saloon behind, and has in front the inevitable large plate-glass windows, which are usually so destructive to architectural effect. In the present case, however, a somewhat better treatment than usual has been adopted, and by carrying up at each corner a broad and strong-looking pier, between which the shop openings and the door to the house above are equally spaced out, the effect is that of an arcade standing out in front of the base of the main building, which has its own independent and sufficient supports behind. A light cornice, carried on double trusses at the ends, surmounts this arcade, upon which, forming a projecting balcony to the first-floor windows, is to be a light iron railing in ornamental panels between stone pedestals. These pedestals are to be finished with carved stone vases, in which, during summer, flowering plants may be placed. The three windows of the first floor, and also those of the second floor, are placed between three-quarter columns, with capitals of a Corinthian character, from which spring semicircular archivolt mouldings. The height from the street to the flat roof is 73 feet, and the view from it and the upper story commands the whole of Princes-street. The internal finishings, which are now being proceeded with, are in keeping with the style of the exterior. The second floor has been arranged for a house or chambers, and the two upper floors have been already let on lease for a dwelling-house. Besides the building in Princes-street, an extensive block has been erected in connexion with it in the Mews Lane. The whole building is being rapidly finished, and will be ready for occupation at Whitsunday. Mr. John Rhind, sculptor, executed medallion heads of Sir Walter Scott, Sir David Wilkie, Adam Smith, and James Watt—standing for Scottish literature, art, philosophy, and science,—with which the cornices are ornamented. The contractors for the various works are Messrs. William Beattie & Son, mason and wright work; Mr. T. Graham, slater; Mr. Kemp, plumber; Mr. John Steel, Princes-street, gas-fitting and bell-hanging; Mr. Steel, Glasgow, plaster work; and Mr. David Horn, clerk of works.——There has been a preliminary meeting of persons favourable to the establishment in Edinburgh of a workmen's club or institute similar in its arrangements to those now so popular in London and the principal English towns. A lady in Edinburgh offers 50*l.* towards the object. A public meeting was to be held for the purpose of laying the matter more fully before the working classes of the city.

Dundee.—The harbour works are now being proceeded with. The piling of the new coffer-dam has just been completed. The earth is being rapidly cleared away from the foundations of the rent wall of the lock. At the fallen east wall, about 100 feet of the foundations have been

removed, as well as the masonry of the old common sewer. The new wall has been founded without the old wall. Workmen are also employed throwing down the bulged north wall. The new wall is to be several feet within the old wall, to give a greater extent of quay accommodation. In the course of the present operations, it was discovered that the outlet from the old common sewer, which was stopped up after it burst, was leaking, and two pits were sunk in the centre of the triangular piece of ground to the east of the lock, for the purpose of having it stopped, by filling the sewer with masonry. ——Three large organs have been ordered of Messrs. Forster & Andrews, of Hull,—one for the Corn Exchange, to cost 1,300*l.*; one for St. Andrew's Roman Catholic Church, Nethergate, to cost 300*l.*; and one for the Roman Catholic Church at Lochee, to cost between 500*l.* and 600*l.*

Hawick.—The joiners' strike here has also come to an end, the masters having given the rise demanded by the operatives, which is an advance of 2s. per week.——Mr. Leslie, C.E., accompanied by a member of the town council, inspected the place where it is proposed to construct the reservoir for the Dean Burn Water Scheme. The opponents of the scheme, hoping to make capital out of the late disaster at Bradfield, have been exciting the fears of those resident on the burn. At a meeting, however, of the proprietors, all, with one exception, agreed to the scheme being carried out.——A large portion of the arch over the Slitrig, which is to form part of the site of the Exchange, has fallen into the bed of the river. It is now several weeks since the arch was finished, and the workmen were taking out the centres, when all that portion from which they had been removed, extending over nearly 15 yards in length, gave way.

Aberdeen. The episcopal church of St. Mary (which the English Bishop of Aberdeen has just refused to license) has been opened by the incumbent, the Rev. F. G. Lee, F.S.A. The general plan and design of the edifice are by the incumbent, who was one of the most active members of the Architectural Society of Oxford, from 1850 to 1854. Except in what the French call the *métier* of the building, however, and a general careful superintendence of the plan and details, assistance has been afforded by a young architect, Mr. Alex. Ellis. The style of architecture is Gothic, in important particulars of a Scottish character. It is peculiarly Scottish in the length and character of its long nave—altogether lacking aisles. As regards the west end, it appears to be somewhat in the style of the town churches of North Italy. The building consists of a nave 95 feet long by 40 feet wide, measuring outside the walls; a chancel, 35 feet long by 25 feet wide; with an organ-chamber to the south, and a vestry to the north of the chancel, each 15 feet by 14 feet. Under the chancel is a mortuary chapel, the roof groined in brick, and supported by freestone pillars, of exactly the same area as the chancel itself, with vaults, furnace-room, and lavatory flanking it. The side walls of the nave are 30 feet in height, and the apex of the roof 60 feet from the floor—higher, by some feet, than the nave of Lichfield Cathedral. The side walls of the chancel are of the same height as those of the nave, and the apex of the roof stands 53 feet from the floor. The chancel is divided from the nave by an arch, 50 feet in height by 20 feet in width. Externally, the masonry is of rough rubble granite, from Rubislaw the dressed base-course being of pale red Tyrebagger granite. A dark blue bastard granite, exceedingly hard, from Kemnay, together with red Turriff sandstone, and cream-coloured freestone from the Kenmuir quarries at Glasgow, are likewise used in the building. The west door is a lofty Pointed opening, with triangular tympanum of Glasgow freestone, in a circle of which in the centre is an ornament of polished red Derbyshire marble. On the apex of the door is a plain Maltese cross, and then, over a band of red sandstone, between two narrow bands of black granite, appears the great western rose window, 14 feet in diameter. This is likewise of plain tracery—the chambers of the various circles being ornamented with sculptured details. This, as all the other windows, is formed of alternate spaces of white and red freestone and hard dark blue granite. The tympanum of the door is supported on pillars and brackets of polished red Peterhead granite, the bases and capitals being of white freestone. The former have been carved by Mr. Brodie, of Aberdeen, sculptor. They consist of a mass of various sorts of lilies. The door itself is of teak, designed by the architect. We have not space to describe the interior, of which our authority, the *Banffshire Journal*, gives not only a full description, but an engraved view. One of the most notable features in it, as an episcopal church, is that the upper portion of the chancel arch contains a rood beam of varnished pine, on which is fixed a carved and life-like group, representing the death of the Redeemer. On either side stands a three-light branched candlestick in brass, which fills up and completes the design of this part of the building. On the front of the beam runs the following legend:—

"Effigiem Christi dum transis pronus honora,
Sed non Effigiem sed Quem designat adora."

Which is roughly Englished thus:—

"Honour by bending before the image of Christ while you pass,
But adore not the image, but Him whom it represents."

Very strong objections have been raised to this and other features, which are, naturally enough, viewed as symbols of doctrine not held by the reformed Church. Behind the beam is a row of gas jets, by which the chancel is to be lighted. Above and behind the altar, also, there is a picture of the Crucifixion by Mr. Westlake, which was exhibited in London. The whole of the glass, both in the nave and chancel, is by Messrs. Lavers & Barraud, of London. That in the nave is of different tints of green and blue, in geometrical patterns, designed not only to suit the peculiar tracery of the windows, but also to be appropriate for a church dedicated in honour of the Virgin Mary. The eight lancets and the two side circular windows of the apse are filled with *grisaille* glass, in which the lily, marygold, and fleur-de-lys are introduced. The seven small circular lights outside are occupied with representations of the following subjects, treated archaically:—1. The Annunciation; 2. The Birth of Jesus Christ; 3. The Presentation in the Temple; 4. The Baptism of Jesus Christ; 5. The Crucifixion; 6. The Resurrection; and 7. The Ascension. The large central circular light represents Our Lord in glory, throned and crowned, with a rainbow round the throne, while the Virgin Mary and St. John the Baptist are placed on either side. Below and around are the saints depicted, including SS. Andrew, Peter, Gregory the Great, Augustine of Canterbury, Margaret of Scotland, Thomas the Martyr, Cecilia, Agnes, Alban, the English proto-martyr, &c., &c. In the smaller circles are examples of the *lilium candidum*. The ground around the church will be laid out as a flower-garden, with trees and shrubs.

CHURCH-BUILDING NEWS.

Maddermarket. — St. John's Maddermarket Church, which, during the past year, has been undergoing such extensive repairs that it may almost be said to have been rebuilt, has been recently re-opened, after completion, at least in all its substantialities, though a good deal has yet to be done in providing the necessary fittings for the interior. The contract for the restoration, which was commenced in October last, was given to Mr. S. Hall, builder. The architects were Messrs. Elmslie, Franey, & Haddon, of London; and Mr. Hall subdivided his contract,—to Mr. Rust, the stonework; Mr. Downing, the bricklaying department; and Mr. Hardy, the glazing. The work was carried on under the direction of Mr. D. Smith, as clerk of the works. When the restoration was commenced it was found that the walls were out of the perpendicular by 2 feet, and the gable end by 15 inches. The walls are entirely rebuilt, the roof not being removed, but secured. The former ceiling has been supplanted by a stained boarded roof, and the organ, which was formerly stationed in the gallery, has been removed to the north-east end of the church, and the tower arch and window thrown open to the church, the latter being filled with stained glass. The vestry has been partly taken down, and the new roof so arranged as to throw open the north-east window, which was formerly blocked up by the old one. The church is not pewed at present, owing to the lack of funds; but a wainscot pulpit, on a stone base, has been furnished. Mr. Pank supplied the gasfittings, consisting of eight brass standards. The old gallery stairs have been removed, and replaced by new stone steps. In the interior of the church the pillars and stonework have been scraped and cleaned, and the monumental brasses all refixed. Mr. Lulham presented a stained-glass window for the western end; and the architects have promised a font.

Bishop's Caundle (Dorset).—The church here was reopened on March 31st, after having undergone extensive restorations. In plan it consists of a nave and south aisle, chancel, and western tower. The chancel is late Second Pointed, and the nave aisle and tower Third Pointed; the arcade between the nave and aisle being an insertion about 1600. The east end of the chancel is remarkable in having an old reredos of five moulded and cusped arches under the east window, which is placed very high up: under these arches is an oblong panel, formerly blank, but now filled in with sculpture representing the instruments of the Passion, with a floriated cross in the centre. The walls of the church have been for the most part rebuilt, reinstating the old windows. All the roofs are new, and are of the usual Somerset type, boarded to a curve and divided into panels, with carved bosses at the intersection of the ribs. The seats are of oak, of simple design: those of the chancel have carved ends. The pulpit is of Ham Hill and Marnhall stone, divided into panels, with carved heads, and in the panels are patterns and devices of the two stones contrasted. The font (Third Pointed) is replaced in its old position in the tower arch. This arch was formerly filled in, and a gallery obstructed the west end: it is now thrown open to the church. The windows of the chancel are all filled with stained glass, by Messrs. Clayton & Bell: the floor of the chancel is laid with Poole tiling, and Ham Hill and Marnhall stone. The carving of the pulpit, &c. was executed by Mr. Forsyth, and the works have been carried out by Mr. Taylor, of Bishop's Caundle, from the designs of the architect, Mr. William Slater.

Newent (Gloucestershire).—The new cemetery has been consecrated. The burial ground is within easy walking distance of the town. It is nearly two acres in extent, and is surrounded by a stone wall. At its lower end is a building divided into a church and chapel. Considerations of economy, it is said, have induced the directors of the scheme to disfigure the building by a mere apology for a steeple. The architect was Mr. Jacques, of Gloucester; and the builder, Mr. Spring, of Painswick.

Frome.—The restoration of the Parish Church is progressing. Two more instalments of the work were completed in time for the Easter festival, namely, the Ladye Chapel, and the organ. The Ladye Chapel is on the north side of the church. Until its restoration it was open to the church, but across the entrance there has now been placed a wrought-iron screen, in compartments filled with scroll-work, painted with foliage in gilt. It is the work of Mr. Singer. On the west side is a two-light window, the first compartment representing the Expulsion of Eve from Paradise; and the second, Isaiah's Vision of the Redeemer. On the north side, fronting the entrance, is a window of five lights. Each light is divided into three panels, and these portray principally the scenes in the life of the Virgin Mary. The upper portion of this window is filled with tracery of the Decorated period of art, containing the four Archangels and the emblems of the Virgin. On the east side there are a couple of two-light windows. One represents Our Saviour sinking under His Cross, and His descent from the Cross; the other His Entombment, and the death of Mary. It is meant that the north window should altogether represent the *Mater Amabilis*, and the two east windows the *Mater Dolorosa*. The whole of these windows are the gift of ladies bearing the name of Mary. The reredos, which is new, is of alabaster, carved into a representation of the slain Saviour. The artist was Mr. Ezard, of Bath, who has executed all the carved work. The walls round the *sacrarium* have been diapered to the height of the windows. The flooring of the *sacrarium* is of encaustic tiles, with marble squares at the intersecting angles of the panels, and dove marble in each alternate panel, so as to form a cross. A desire to preserve and restore, as far as possible, all the ancient features has guided the architect, Mr. Giles; but how much of these had disappeared may be inferred from the fact that the two east windows and the Norman doorway, a remnant of a still earlier church, have been re-opened, besides the restoration of the piscina and minor details. The stone-work generally has been restored, but the old roof has been replaced by a new one, in the Perpendicular style, and of the same design as the original. The arches have

been restored. The organ, instead of occupying the west gallery, and thus blocking up the great west window, has been placed on the north side of the chancel. The instrument has been entirely rebuilt and considerably enlarged. The work was done by Mr. Vowles, of Bristol. The organ has cost 500*l*.

Thurleston (*Devon*).—The old church here is now to be restored; also an additional wing on the north side, which is now in progress. The whole of the floors are to be raised, being below the outside surface and requiring ventilation, being damp. The old gallery is to be removed, the tower to be laid open, and the large arch repaired. There will be three new windows on the north side; the whole of the windows to be glazed with cathedral glass with margins. The roof is to be of wrought and stained woodwork. The organ will be placed in the north-east aisle. The contractors are Messrs. Milford & Sandford, of Thorverton. The carving is entrusted to Messrs. Rattee & Kett, of Cambridge, and is now progressing. The designs for the addition and restoring have been prepared by Mr. T. H. Elliott, of London, and the work is under his superintendence. The cost will be upwards of 2,000*l*.

Forest of Dean.—The new chapel at Newnham has been opened. The building is in the Decorated style, and has been constructed principally of native stone, in regular courses of rock-work, with Bath stone dressings. The frontage has a three-gabled porch, the entrance being made through the centre, leading to a large and open vestibule, out of which are two entrances to the chapel. Above the porch is a central window of stained glass, divided by four freestone mullions, with moulded caps, &c. The roof is covered with Brosely tiles. Internally, the roof is open, the wood-work being stained oak colour. The pews are of modern construction, made of stained deal, and having inclined backs, with a rise in the seat. There are eight windows of obscured glass, with a ruby border. Over the pulpit there is a circular window filled in with stained glass, in the centre of which is a representation of a dove descending. The window, together with the corresponding one in the front, was presented by Mr. Alfred and Mr. Tom Goold. The chapel is lighted with gas, in gilded stars, with a number of jets. The building will seat about 400 persons.

Sparkbrook (*Birmingham*). — A committee having been appointed to mature a project for the erection of a new church in this populous suburb, they selected five architects, says *Aris's Gazette*, and requested them to furnish competing plans for the proposed new church. Two of these gentlemen reside in Birmingham, two in the country, and one in London. The plans unanimously approved by the committee were those of Messrs. Medland, Maberly, & Medland, of Gloucester. It appears from the architects' plans that the style is Early Decorated. The edifice will consist of nave, 88 feet by 27 feet, with north and south aisles, each 88 feet by 13 feet 6 inches; chancel, 30 feet by 20 feet; organ chamber and vestry on the north side of the chancel; south porch, and tower 120 feet high, at the west end of north aisle of nave. The church is to be built with Hampstead walling stone, with dressings of Hollington free stone. It is arranged to accommodate 750 adults. The seats will be constructed of deal, moulded at the ends, and stained. The church will be lighted by large two-light windows in the aisles (the aisles being gabled to admit them), by a large four-light window at the west end of the nave (over the door), by a three-light window at the east end of the chancel, and by clerestory lights to the nave. The aisles will be separated from the nave by six moulded arches, supported on stone columns, circular on plan, with carved caps and moulded bases. The roofs will be open on the inside (showing the timbers, which will be wrought and stained), and covered outside with Westmorland slates. The floors will be paved with encaustic tiles. The church will be heated by Haden, of Trowbridge, and lighted by gas. The estimated cost (inclusive of boundary wall, and tower and spire) is 4,300*l*., exclusive of value of site. An eligible freehold site of more than half an acre has been offered, adjoining the Blue Coat School estate in Grantham-road.

Everton (*Liverpool*).—A monument has just been erected over the doorway in the south gallery of St. George's Church, Everton, in memory of the late Mr. Walter F. M'Gregor, of Liverpool. It is in the Gothic style of architecture, and is composed of alabaster and marble.

PROVINCIAL NEWS.

Ipswich.—At the usual monthly meeting of the Ipswich Dock Commissioners, the following report of the Committee of Management, on the death of Mr. Hurwood, their late engineer, was read:—"The committee record the death of their late engineer, Mr. George Hurwood, who had for many years very faithfully and conscientiously conducted the concerns of the Dock Commissioners to the general advantage of the port, and with much credit to himself as the superintendent of the port." It was resolved that the committee should take into its earliest consideration the question of appointing an engineer, and report upon the subject at the next meeting.

Brighton.—Operations have been commenced on the site for the erection of the west end pier, opposite Regency-square. The first pile has been sunk. According to the stipulations in the contract, the work will be complete in November.

Redditch (*Worcestershire*).—Improvements are in progress here. A new church has been constructed, with spire and clock; and a gas-house has been erected. New buildings, dwelling-houses, factories, and warehouses, are springing up in all directions; and a new county police-station and magistrates' rooms for the transaction of public criminal business have just been completed. The land on which the new station stands consists of 900 square yards, situate at the top of Evesham-street. The buildings are of brick, with Bath stone facings: there is an iron railing with pillars in front, and a brick wall encloses the rear of the premises. In the front are three entrances. The magistrates' room is 31 feet by 18 feet. At the back of the station are large enclosed drill and exercising yards for the police and prisoners, with carriage-house, stable, &c. The architect was Mr. Rowe, county surveyor; and the contractor, Mr. G. Hemming, of Redditch.

Penzance.—On the 28th ult., the tender for the proposed rooms for the Geological Society, the town, county court, public library, &c., were opened by the joint committees of the three bodies mainly interested, when they were found to be five in number, according to the local *Telegraph*, and as follows:—For the carpenters' work only, Mr. Thomas Carne, 5,673*l*.; for masons' and carpenters' work, Messrs. White & Bennett, 12,436*l*.; Messrs. Hubbard & Co., 11,287*l*.; Mr. Thomas Eva, 9,980*l*.; and Messrs. Olver & Sons, 9,695*l*. Messrs. Olver & Sons' tender was accepted, and the contractors have at once commenced their preparation of the ground. The glebe field not having been tilled for sixty years its surface is very desirable mould. This has been purchased by Mr. T. S. Bolitho of the contractors. Mr. John Matthews's estimate for the whole of the buildings, is stated to have been 10,070*l*. The eastern wing will cost 3,500*l*. The first masonry work will be the north wall. Wednesday, the 27th instant, is fixed for the laying of the foundation stone,—or stones, as probably the wings and centre may each have their separate memorial-block and ceremony.

Liverpool.—The foundation stone of the new workhouse for the West Derby Union has been laid at Walton-on-the-Hill. The house will be erected on an elevated plot of land at Walton, about 36 acres in extent, on the west side of the Liverpool and Preston turnpike road, nearly opposite to the Plough Inn, and adjoining the Lancashire and Yorkshire Railway. The extent of land covered by the workhouse and two hospitals will be 4½ acres. The main building is to be in the Italian style, three stories in height, and will be 487½ feet in length, having a wing at each end projecting 35 feet from the line of main building, and a central tower 120 feet high fronting the south. To provide against fire, a water tower will be built, and the water pumped up from a well near the tower. The buildings will be erected of brick, and Stourton stone dressings; and internally the corridors and staircases will be of incombustible materials. The house, with its adjuncts, will accommodate 1,000 paupers, and the estimated cost will be about 35,000*l*. Mr. William Culshaw is the architect, and Mr. James Walters the builder.

Bradford.—The foundation stone of the Eye and Ear Infirmary, of which we gave some account on the 19th March, has now been laid. The contracts have been let to Messrs. James Burnley & Son, masons; Ives & Son, joiners; Watson & Wormald, slaters; Walton & Brear, plumbers; Dixon, plasterer; and Harland, painter. Messrs. Lockwood & Mawson are the architects.

Darlington.—The foundation stone of a Temperance Hall has been laid in the village of Hurworth-on-Tees, by Mr. Joseph Pease, of Southend, Darlington. Mr. C. Hodgson is the contractor for the brick and stone work.

DECISIONS UNDER METROPOLITAN LOCAL MANAGEMENT ACT.

BUILDING BEYOND LINE.

Mr. Hayes, the proprietor of the George Tavern, Gravel-lane, Southwark, was summoned before Mr. Burcham (Southwark Police Court), by the District Board of Works of St. Saviour's, for unlawfully erecting a certain building adjoining his house beyond the line of frontage, without the consent of the Board.

Mr. Robinson, barrister, instructed by the Board of Works, said the defendant's house had been partially taken down by the London, Chatham, and Dover Railway Company, and some portions were pulled down. In consequence, in April last year, the defendant applied to the parish surveyor to erect a boarding, which was granted. Applications were afterwards made to the Board of Works to erect a building on that spot, but being beyond the regular line of frontage that was refused. The matter was then referred to the Metropolitan Board of Works, and by them to the superintending architect. That gentleman examined the plans, and wrote to the defendant's builder, informing him that the intended erection was beyond the regular line of frontage, and could not be allowed. Notwithstanding that, the building was erected, and the present summons was to compel the defendant to comply with the Act of Parliament.

The defendant said that about two years ago the London, Chatham, and Dover Railway Company took a portion of his premises, and in doing so the skittle-ground was pulled down, as well as the fence in front of the street, which had stood for many years. An arrangement was entered into to rebuild the skittle-ground, and the board applied for was put up where the old fence had formerly stood. The new building did not come within 10 inches of that, consequently there could have been no encroachment on the line of frontage.

Mr. John Howe, the parish surveyor, said he gave leave for the erection of the boarding, and as soon as the building was commenced he gave notice that it was beyond the line of frontage.

Mr. Burcham told the defendant it was quite clear that he had illegally erected a building beyond the regular line of frontage, without first obtaining the consent of the Board of Works. He therefore ordered it to be pulled down within fourteen days.

Mr. Hayes said that he had not the power to pull it down. He was a tenant of Messrs. Meux & Co., the brewers. He certainly should not touch it.

Mr. Burcham told him that he had nothing to do with that. He must make the order, and perhaps some arrangement could be entered into with the Board of Works.

ANOTHER DEATH FROM STARVATION IN BETHNAL GREEN.

It is not by the dismissal or compulsory resignation either of Dr. Moore on the one hand, or of the local relieving officer (who has well deserved his dismissal) on the other, that the Central Poor-Law Board are likely to be able to remove the discredit to us as a nation which the Bethnal-green "guardians" of the poor are bringing upon us. Merciful guardians, truly! were not their "tender mercies" rather of the "cruel" order. In the latest case of cruelty and manslaughter brought against them,—that of Mary Anfield, the husband of the deceased, who is a weaver, stated in his evidence before the coroner, that,—

"The deceased having been ailing about a week at the end of February, he got a parish order for the doctor, and Dr. Moore attended on the 28th. He gave a certificate for her admission to the workhouse infirmary next day. Witness thought it was an 'order,' and he took deceased out of bed and carried her in a cab to the workhouse. There she was refused admission. The porter said, 'We have had enough of Dr. Moore's writings. It would be on my peril to admit you on this paper.' Deceased was unable to stand. Her daughter and another woman had to support her and keep her from falling by propping her up against the railings with their hands. Her knees shook and trembled, and she vomited violently. It was raining hard, and she shook with cold. Mr. Christy in the morning had sent a note for witness to come at two o'clock, as the board of guardians would then be sitting. He begged the porter to let her in, but he said it would be as much as his place was worth. He did so without an order. Deceased was at the gate near an hour in the rain. She said, 'I shall die in the streets if you do not take me back. I have got my death-blow.' Witness then took her home, and she got worse. He went to Dr. Moore and got an order for nourishment, which he took on the Tuesday to Mr. Christy. The latter said, 'I will give no nourishment. You must both come into the house.' Witness said, 'It is very hard that the parish should be burthened with two when only one wants relief.' Christy said he did not care: both should come in. Ultimately he sent an order of admission to witness. While deceased, who, after another delay at the workhouse gate, was admitted to the house on March 2, was in the infirmary she complained that the meat was so hard she could not eat it, and sometimes it was so raw she could not manage it at all. She begged to be taken home, but before witness could do so she died."

Dr. Moore corroborated this evidence so far as his part in it was concerned. Dr. Gant said death had been accelerated by want.

Lord Robert Cecil, we observe, applies in the Commons for copies of the minutes of evidence

taken before the inspectors in the case of Sarah Dove; of the depositions of the coroner's inquest in the same case; and of all correspondence that has passed in reference to the dismissal of Dr. Moore.

Books Received.

The Stream of Life on our Globe. By J. L. MILTON, M.R.C.S. London: Hardwicke. 1864.

THIS very entertaining and well-written volume gives a sketch in untechnical language of the beginning and growth of life, as geology seems to have revealed it in the stony archives of the globe; and of the physiological laws which govern the progress and operations of life on its surface. The stripping of science as much as possible of the long-winded Greek and Latin nomenclature under which it is being hidden from the mass of the people is very desirable; and Mr. Milton shows how easily this can to a great extent be done. He rightly warns authors who are lovers of such a system, that in a generation or two, either by further changes in their ultra-learned phraseology, or by its disuse altogether, their works will be buried among the dead languages and all but forgotten; while books written in a simpler and more English language, will entirely supersede them, as the living languages in general have superseded the dead in scientific treatises.

We by no means assent to many of the author's views; but even those from which one cannot but differ are so gracefully and pleasantly written that all disposition to quarrel with them is soon forgotten, even if apt at all to be excited. The ingenuity with which the author, for example, maintains the earth to be the only habitable and comfortable world, which he does by running down all the other planets as if he had tried them all, and found, at last, that, after all, "there is no place like home," is at least amusing if not very convincing. We have no doubt that in the hot hell of Mercury, as Mr. Milton seems to conceive it to be, the very same feeling prevails; as, it may be, it also does in Jupiter, whose terrible cold, no doubt, made him shiver to the bones as he "took root" there. But could it have been much worse than the glacial era at home, do as he think? A little lifting of the land—towards the sun of course—did all that here, according to Mr. Milton; and might not a little levelling on Jupiter, on a like principle, modify his rigour? As regards the mere fact of distance from the sun, the heat or cold of a planet probably does not so much depend on that as on other, such as atmospherical, causes; and it may be a great mistake to think that because Mercury and Venus are so near the sun they must necessarily be excessively hot, especially with such atmospheres as theirs appear to be, and with mountains 27 miles high—a lifting of the land with a vengeance!—such as Venus at least is said to have. Men of science have even maintained that heat is only produced in the planetary precincts, while light alone emanates from the sun. In such a case Mercury and Venus, mayhap, are very cold places to live in, for all that we know. At all events, it is rather too fast thinking to regard our own little morsel of dirt as the only pleasant place in all the universe.

VARIORUM.

THE April number of the *Art-Journal* commences a history of Wedgwood and the Etruria works, and gives an engraving, amongst many others, of "The Fighting Téméraire," after Turner. Mr. Dafforne treats of Pugin Williams, Mr. Thomas Wright of the Grotesque in Art, and Professor Archer of the Materials of Clothing.—— "Notes on the Architecture of Ireland" (Aghadoe & Muckruss) are continued in the present number of the *Gentleman's Magazine*, and the second of the papers "Art applied to Industry,—Glass," appears. A report on Excavations in the Crypt of St. Peter in the East, Oxford (read at the Oxford Architectural Society), is illustrated.—— In No. IX. of "The Herald and Genealogist," Mr. Gough Nichols reprints, from our pages, with some agreeable comments and illustrations, Mr. Planché's capital "Literary squabble; *in re* Lord Houghton." The opening paper, a good one, is on "The Heralds' Visitations of Counties."——"Letter to the Right Hon. Sir Robert Peel, Bart., M.P., on a Plan for Converting the Royal Dublin Society and Museum of Irish Industry into a National Institution for Ireland. London: Williams & Norgate." The author of this pamphlet, who signs himself "An Old Member of the Royal Dublin Society," says of his plan:—"Thus, instead of two heavily-subsidised establishments in one city of scarcely more than 250,000 inhabitants, we should have but one—well organized and founded for the public weal one in which the people of the country could take a common interest—and one which will be at all times fully amenable to the Parliament of the country and the Government of the day. At present it is not astonishing that the Government act with extreme caution in granting the sums of money really wanted and constantly demanded by the Royal Dublin Society; but then, having confidence in their own appointed trustees, such demands would, in all probability, obtain a ready response, greatly to the advantage of Ireland and affording to the parties that give and those that receive, equal satisfaction. To suggest the possibility of such a state of things is the object of this letter, and I would hope that the Parliamentary committee will find out the feeling of the people of Ireland on this question." In reference to this subject we may here remark that on the motion of Mr. Gregory, in the Commons, a select committee has been appointed to inquire into the condition of the scientific institutions of Dublin assisted by Government aid.—— The new number of *The Art-Student* has, *inter alia*, an illustrated paper on "Regular Five-lobed Flowers as Objects for Flat Decoration," deserving the attention of architects as well as others. On what sound grounds an artistic journal, aiming, amongst other things, we suppose, at the adornment of the metropolis, opposes in the abstract the erection of a monument to Shakspeare, it would be hard to discover. —An extra double number has been issued of *Chambers's Journal*, as a "Shakspeare Tercentenary Number," and is a capital three-pen'orth. On 32 pages it gives a careful and written account of the Birth, Birthplace, Life, and Writings of the poet, with 16 illustrative engravings.—*The News Almanac*, 1864, gives lists of Insurance Offices and their Directors, Railways, and Banks.

Miscellanea.

STAINED-GLASS EXHIBITION. — The arrangements for this exhibition, which is to be held in the South Kensington Museum, are now nearly completed. The exhibition will open very shortly.

ASSEMBLY ROOM AND BATHS FOR BRIGHTON.—The borough surveyor has been empowered to obtain assistance in London, in order to prepare plans for a public assembly room and for public baths.

ROYAL ITALIAN OPERA.—Following the programme to which we have already referred, Mr. Frederick Gye has proceeded thus far in his present campaign with great brilliancy. Herr Wachtel, very nearly new to England, has achieved a remarkable success in the "Trovatore." A good actor, with good appearance, and extraordinary command of voice, this artist has already become a favourite, and bids fair to prove one of the best cards in the manager's hand. The opera was altogether well done, Madlle. Fricci making a satisfactory *Leonora*, Sig. Mario has re-appeared in "Massaniello," with all his old grace and much of his old power. His reception was enthusiastic. On Thursday evening, General Garibaldi was to visit the opera, and would doubtless find in it a brilliant crowd to receive him.

THE REMAINS OF CLARENDON HOUSE, PICCADILLY. In Piccadilly, between Bond-street and Berkeley-street, stood, in old times, the house of the great Lord Chancellor Clarendon. It was afterwards sold to Sir Thomas *Bond*, of Peckham. The Clarendon Hotel, in Bond-street, preserves the two names. Many pedestrians will remember two large Corinthian pilasters, one on each side of the Three Kings Inn gateway, in Piccadilly, adjoining the old Glo'ster Hotel: these were the only remaining portions of Clarendon House. One of these disappeared a year or so since; and now the second has been removed, to give place to a "street-door." Several correspondents have observed upon this, and one writes:—"Some might attach a degree of interest to a relic connected with the career and times of the famous chancellor, and, instead of having it ruthlessly swept away, would possibly think an odd nook might be occupied by them without disadvantage in some kindred collection."

TO DEADEN SOUND.—I have seen the bell-chamber floor of a large church covered with *turf*, effectually deadening a noise, almost unbearable before in the ringing-loft, immediately below. Whether conducive to health I cannot say; but should imagine, if kept dry, not the contrary.—D.

THE LIVERPOOL FREE LIBRARY BUILDING: FEE TO SURVEYOR.—The sum of 1,000*l.* has been presented by the Liverpool council to Mr. Weightman, the surveyor, for his services in preparing the plans for, and superintending as architect, the construction of so much of the Free Library and Museum as was erected at the cost of the late Sir William Brown, Bart.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—The fourth *conversazione* of the season of this society took place on Wednesday evening, in the gallery of the Society of British Artists, Suffolk-street, Pall-mall, when there was an unusually numerous attendance, it being understood that Lord Stratford de Redcliffe, the new president, would make his appearance in the chair for the first time. His lordship, who was warmly greeted on his entrance, delivered a brief address, in which he expressed his entire and deep sympathy with the objects of the society.

A "TELEGRAPH CONSTRUCTION AND MAINTENANCE COMPANY (LIMITED)."—An announcement was made in our last issue of advertisements that a company is being formed under this title, for the purpose of uniting the business of the well-known Gutta Percha Company with that of Messrs. Glass, Elliot, & Co., the contractors for the Atlantic cable. Among the directors we observe the names of Mr. Thomas Brassey, Mr. Samuel Gurney, M.P., and others of respectability and influence. The capital of the new company will be 1,000,000*l.*; first issue, 750,000*l.*, in 37,500 shares of 20*l.* each; deposit 1*l.*, and on allotment 3*l.* per share. The offices are at 23, Great George-street, Westminster.

COVENTRY AND WARWICKSHIRE NEW HOSPITAL. The outlay was limited to 5,000*l.*, with additions for Riga oak floors and Parian cement on the walls. The committee met on the 13th for the purpose of opening the tenders, and the result was as follows:—

		Additions.
Robinson	£5,740 0 0	.. Not sent.
Fox & Co.....	5,738 0 0	... £233 0 0
Merrett	5,618 0 0	.. 245 0 0
Mault	5,480 0 0	.. 363 0 0
Hallam & Co...	5,430 0 0	... 223 0 0
Dutton	5,400 0 0	.. 190 0 0
Wilson	4,950 0 0	... 212 0 0

Mr. Wilson's tender was accepted at the sum of 5,162*l.* Messrs. Nevill & Son are the architects.

TO MISS GLYN, ON HEARING HER SHAKSPEARIAN READINGS.

His were the wondrous words! Thine was the art
To wake to life and breath each separate part.
Thine was the task to re-create again,
The glowing fancies of the poet's brain.
As from thy lips thy master's precepts fell,
Perchance his spirit answer'd to thy spell,
And in thine eyes the glorious light that shone
Burn'd with a fire and passion all his own.
What nobler tribute could thy genius ask,
Than that we hail thee worthy thy great task?
For him be column rear'd, let marble speak,
Do all that man can do, and then how weak!
They can but tell that England's bard has been;
'Tis such as *thou* shall "keep his mem'ry green!"

Plymouth. L. N.

THE RE-DECORATION OF THE PAVILION-ROOMS, BRIGHTON.—At the last council meeting, the Pavilion Committee submitted the tenders received by them for cleaning and re-decorating the Pavilion suite of rooms, in accordance with the designs and specifications prepared by Mr. Pantaenius, and approved of by the council at their last meeting. The tenders were as follows:—W. Davidson, London, 3,825*l.*; R. Palmer, Brighton, 3,732*l.*; W. Sendall & Son, Brighton, 3,524*l.*; G. Smith, London, 3,113*l.*; T. Dury, Warwick, 2,750*l.*; J. L. Coulton, Hampstead-road, 2,597*l.*; W. Jackson, Eastbourne, 950*l.* The committee recommended that the tender of Mr. Tony Dury be accepted, subject to the approval of his securities by the committee. They further recommended that Mr. Pantaenius should be employed on behalf of the council, on the terms mentioned in his letter of the 6th January last, to superintend the carrying out of the contract. After some discussion, partly in favour of giving the contract to Mr. Coulton, the committee's report was approved of and adopted.

Gift of a New Chapel at Runcorn.—Mr. Hazlehurst, of Runcorn, has announced his intention to erect in that town a Wesleyan Methodist Chapel, at an estimated cost of 6,000*l*. Mr. Hazlehurst has already erected chapels and schools at Widnes, Halebank, and Ditton, on the Lancashire side of the Mersey, and in Cheshire at Helsby and Five Crosses.

International Exchange of Copies of Works of Fine Art.—The Committee of Council on Education have lately approved of a memorandum on this subject, in which it is stated that the period seems to have arrived when friendly relations might with reciprocal advantages be established through the Foreign Office, between foreign museums and the South Kensington Museum, for the purpose of organizing some system of an international exchange of copies of the finest works of art which each museum possesses. The object in view will be promoted by correspondence with the Governments of the various countries which possess museums and works of art.

Southampton.—The Bargate is undergoing restoration; the modern cement facing being first cleared off, and the ancient stone-walling once more being made visible. The Georgian windows are being replaced with windows to correspond in outline with the earlier openings, of which there are sufficient remains to guide the architects. All the debased portions are or will be taken away, and the genuine Mediæval work, whether early or late, will be preserved. The works are being carried out under the care of Mr. J. G. Poole, the Town Surveyor, assisted by the advice of Mr. Edward Roberts, architect.

Hamburg.—Mr. Wood, who for many years was been the Clerk of Works for St. Nicholas's Church, Hamburg, has been appointed to carry out a new Cemetery Chapel, about to be erected outside the city of Hamburg. The chapel will be of interest as being a posthumous work of Chateauneuf, the well-known architect, who died some twelve years ago in Sweden, ending his days in a madhouse which he himself had built. The chapel will be in yellow sandstone, and the cost is estimated at about 2,500*l*.

Manchester Sanitary Association.—The annual meeting of this association has been held under the presidency of the bishop of the diocese. The right rev. chairman, after passing a high eulogium upon the late Alderman Neild, commended the association to the interest of the meeting. He said rightly that it was necessary to make the home comfortable, cleanly, and orderly before the work of planting the seeds of religion was commenced. The report of the association dwelt upon the desirability of establishing an institution for the training of nurses for Manchester and its vicinity.

Cleaning Oil-paintings.—A new method of restoring old paintings is said to have been invented by Pettenkofer, a famous Bavarian chemist, and which a friend of his, Carl Vogt (himself a man of European repute as a natural philosopher), has brought to London, and lately exhibited in a practical example to Sir Charles Eastlake. The process, it is said, involves no chemical preparation whatever, is perfectly simple, and can be applied and acts in half an hour. It may be used, also, by a reversed application of it, to give the appearance of age to newly-painted pictures. The inventor has already received a considerable sum for his discovery from the Bavarian Government.

Accidents.—A road bridge which conveys the traffic between Cambridge and Newmarket, &c., over the Great Eastern line, at a place known as Paper Mills, in the Barnwell suburbs, has given way. The bridge, which dates from the formation of the line, is a girder one, with a centre-way for the metals, and two arches on either side, with a centre pier to sustain the girders. It is the pier on the Cambridge side that has given way, having, it appears, been built upon a treacherous galt foundation. The road material fell in a confused heap at the side of the line, but was prevented by the inner pier, which is intact, from intruding on the metals: thus the trains were not impeded.——The hanging stair inside a house at Gloucester-street, Glasgow, has fallen, carrying with it the whole of the joisting and internal structure of the building. Two plasterers were killed on the spot, and other two workmen severely injured. The partition against which the stair had been erected was built of a single 4-inch brick, and was, it is said, totally inadequate to support the strain that was brought to bear on it.

The Hotel Movement.—Seven tenders for preparing the foundations of the New Cardiff Hotel were received, viz.—D. Jones (accepted), 1,150*l*.; Messrs. Webb, 1,340*l*.; Cooper, 1,375*l*.; John & Son, 1,952*l*. 10s.; James & Price, 1,269*l*. 11s. 6d.; R. R. Watkins, 1,250*l*.; and Shepton, 1,220*l*.

The Proposed New Government Department. Mr. Tidd Pratt, the Registrar-General of Friendly Societies, has been designated to the office of general manager of the insurance department of the office about to be created by Mr. Gladstone's Government Annuities Bill. It is understood that the salary attached to this appointment will be 5,000*l*., with the option of simultaneously holding his present appointment of registrar. Dr. Farr will be the actuary, at a salary of 2,500*l*., but it is understood that his new appointment will not interfere with the holding of his present office.

Liverpool Docks: Raising of River Wall. At a meeting of the Docks and Harbour Board, the Works Committee recommended the Board to complete the north river wall, at a cost of about 20,000*l*. Mr. Bold said that the engineer reported that during the recent gales the sea made a clear breach over the wall, and injured the backing-up so much as to a certain extent to endanger the wall itself. He therefore recommended that the wall should be raised immediately, and that there should also be a parapet wall of about 4 feet high above the originally intended height, involving altogether an expense of 20,000*l*. The original estimate for finishing the wall was 11,500*l*., so that they were going to an additional expense of 8,500*l*. for that work. The confirmation of the proceedings was agreed to.

The Campbell Drinking Fountain, Nottingham.—Shortly before his death, Mr. Hugh Bruce Campbell formed the idea of erecting a drinking fountain on the Alfreton-road, where there was much need of water for horses to drink. At the time of his death, Mr. R. C. Sutton was engaged for him in designing a fountain and watering-trough, to be erected just at the commencement of the hill. Mrs. Campbell and her children resolved that the wishes of the deceased should be rigidly adhered to. Mr. Sutton supplied the plans. The contract was taken by Mr. C. Lowe; and the fountain has just been completed. It is 14 feet high, is of Gothic design, and is built into a stepped gable of brick-work. The material used is Robin Hood and a contrasting Gazeby stone. The watering-trough projects 2 feet 7 inches, and is 6 feet long. It is supported on an arched basement, and is fed by two taps surrounded by ornamental carving, placed one at each side of the tablet. The drinking-basin is of Gazeby stone, supplied from a tap in the tablet, the carving around which is somewhat more ornate than that of the other two. At each side of the tablet is a pillar, the shafts of Gazeby, and the bases and capitals of Robin Hood stone. The marsh-mallow, water-cress, and other aquatic plants are introduced into the carving of the capitals, from which springs a high-pitched Gothic arch, with cinquefoil cuspings on the inner edge. The whole is surmounted with a moulded stone coping, with carved finial.

Puddling by Machinery.—Messrs. A. Beards & Sons, of the Regent Works, Bilston, have had in operation for the past three weeks a machine for puddling iron. The machinery is described as being of simple construction, nominal in cost, and applicable to any ordinary puddling furnace or series of furnaces. It is the invention of Mr. Griffiths, the manager of the ironworks of Messrs. Eastwood & Son, at Derby, where it is said to have been in successful operation for the past three months. Mr. Griffiths calls it "The Poor Man's Friend;" but the puddlers at the Regent Works were by no means inclined to regard it as their friend. So soon as the "melting moment" comes, and the hand-work of keeping the iron curds and whey continually stirred arrives, when the puddler should begin to strain back, muscle, and nerve, and perspire from every pore of his naked skin, he coolly puts his long rake or poker into the hands of a long iron bar, with a rest that does duty for hands, and which hangs suspended in front of the furnace; turns on the steam; and immediately the iron bar begins puddling with a measured turn, twist, and poke, which works the iron quite clean from the bottom and out of the jams of the furnace, and puddles it about into the ball and condition that render it agreeable to the shinglers. The regular character of the iron the machine turns out is spoken of as its great characteristic.

The Power of the Penny is well illustrated in the accounts of the Birkenhead ferries. In the year ending March 31st, their returns were nearly 36,000*l*., and their profits above 13,000*l*.

Church and Chancel.—The Court of Exchequer Chamber has decided, in the long pending case of Griffin *v.* Deighton, that the incumbent and churchwardens of a parish have a right of access to every part of the parish church. Where there was a door leading from without into the chancel, upon which the lay rector had placed a lock, which he kept locked except during divine service, the incumbent was held to be entitled to have access to the chancel through that door at all times.

The "Great Eastern" and the Atlantic Cable.—The steamship *Great Eastern* has been taken up by Messrs. Glass, Elliot, & Co., the contractors for the Atlantic cable, for the purpose of laying it between England and America. The *Great Eastern* will be handed over, on the 1st of May, to the contractors, who from that date pay all the expenses of the steamer; and when the cable is laid the proprietors of the *Great Eastern* are to receive 50,000*l*. in paid-up shares of the Atlantic Telegraph Company. The cable, however, will not be laid across the Atlantic till spring.

A little Bill against the Mersey Dock Commissioners.—At a recent meeting of the Mersey Docks and Harbour Commissioners, considerable sensation was caused by the reading of a letter from Mr. C. Maciver, the agent at Liverpool for the Cunard Company, in connexion with a dispute between the board and the steam shipowners, relative to extra dues proposed to be levied on steamers. The letter stated, that the Cunard Company had a claim against the board for "460,000*l*.—say half a million," for loss incurred by inadequate accommodation afforded to that company at the port of Liverpool. The letter was ordered to lie on the table for perusal, the latter words being added probably with the view of avoiding the appearance of insult to a gentleman so widely known and respected in Liverpool as Mr. Chas. Maciver.

Railway Matters.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 26th of March, on 11,184 miles, to 601,625*l*.; and for the corresponding week of last year, on 10,805 miles, to 526,484*l*.; showing an increase of 379 miles and 75,141*l*. in the receipts.——Last year, in Scotland, with a population of 3,000,000, the number of persons who travelled by rail was 17,000,000; whilst, in Ireland, with 5¾ millions, only 10,000,000 travelled. The goods carried in Scotland amounted to 15,000,000 tons; and in Ireland only to 1,500,000 tons.——A new railway station has recently been erected on the Hyde and Marple Railway, at Marple, and will shortly be opened. The building is of brick. There are four waiting-rooms, station-master's house, booking-office, and other conveniences. There are overhanging roofs, on iron pillars, over the platform. The station is about 130 feet long. ——The Great Eastern Railway Company, for the purposes of their foreign traffic, are about to erect another pier at Harwich. The contract has been taken by Mr. Perry, of Stratford, and the works will be commenced at once.

Monument at Harrow.—A memorial has recently been placed at the south end of Harrow Church to the memory of the Rev. Wm. Oxenham, late second master of Harrow Grammar School. The material is of Cornish granite and serpentine, and consists of one large stone, 6 feet 10 inches long, 3 feet 1 inch wide, and 2 feet thick, which has a chamfer 4½ inches wide all round it. The inscription is cut on the chamfer in bold Roman letters 2 inches long and ¼ inch deep. On the top of this is another large slab of polished granite, 6 feet 2 inches long by 2 feet 10 inches wide, and 6 inches thick. This stone slopes from the centre 2 inches, showing an edge 4 inches thick. A flat place, 4 inches wide, is left in the centre, on which is laid a serpentine cross 6 feet long: the arms of the cross slope from the shaft 2 inches toward the edges. The granite is from the Lamorna Quarries of Messrs. Freeman, and the serpentine from the East Carne Quarries of Lord Falmouth. The whole is enclosed with a granite kerb and ornamental railing. The tomb is fixed close to the large tree known as "Byron's elm," and near the stone on which the great poet used to sit and enjoy the surrounding scenery. The tomb was designed and executed by Mr. John Murphy, serpentine worker.

Copper.—No improvement has occurred in the demand for this metal, and it may now be bought at 3*l.* to 4*l.* under official rates.

A Church Struck by Lightning.—On the 29th ult., the spire of Trinity Church, Westgate, Southwell, was struck by lightning, and so seriously damaged that it is a question whether it will not be necessary to pull it down. The lightning first struck the iron rod on which the vane is fixed, splitting a solid oak beam into which the end of the rod was inserted a few feet from the top.

Shakspeare Celebration at Stratford.—The proposed exhibition in the Town Hall of the various portraits of Shakspeare extant, and of the most eminent representatives of his characters, will be an attractive feature of the approaching festival. This exhibition will be enriched by valuable acquisitions in the shape of many of the finest works of art that now adorn the private galleries of our nobility and gentry. The Queen has been pleased to recognise the "very remarkable occasion" which the Stratford Committee has undertaken to celebrate, by granting the loan from the Royal Gallery of Sir Thomas Lawrence's picture of "John Kemble in the character of *Hamlet*."

The Building Trades.—Some dissatisfaction seems to exist in Basingstoke among the operative carpenters, who complain in the local press of "the inadequate wages given by the building trade, as not being sufficient to keep them in a state of decent respectability." This is a question, however, not very likely to be arranged by public controversy. —— At Inverness the joiners and carpenters have struck work for an advance of wages equal to 2*s.* a week. The *Inverness Advertiser* had stated the required advance to be 3*s.*, and that the masters had offered 2*s.*, but the correctness of this statement is denied on the part of the operatives.

Caution to Builders. — At the Manchester County-court, recently, an action was brought by a coal-dealer, named John Marsh, against a contractor named Thomas Mitchell, to recover 20*l.* damages to the waggons and coal shed by the falling of a chapel in course of erection adjoining his premises, in Upper Medlock-street, on the 3rd of December last. Mr. Smith (Smith & Boyer) appeared for the plaintiff; and Mr. T. E. Jones for the defendant. The defence was that the defendant was not liable on two grounds;—first, that the falling down of the chapel was occasioned by unavoidable circumstances; and secondly, that the defendant was the contractor only, and let off all the work except the joiner's and carpenter's work, which he did himself, to sub-contractors, who were liable if anybody was liable. After hearing the evidence on both sides, the judge stated that he was of opinion that the plaintiff was entitled to recover damages, as it was quite clear that the building was not so substantially erected as it ought to have been, and that the defendant was the proper party to be charged with those damages. He, therefore, gave a verdict for the plaintiff, damages, 11*l.* 8*s.* 8*d.* and costs.

Bristol Society of Architects.—The attention of the last monthly meeting of this society, held at the Academy, Queen's-road, was directed to the remains of a roof, fireplace, and carving existing in the Old Angel Inn, High-street, and which building is about to be demolished; and it was determined to write to the city treasurer thereon, requesting that such portions as were considered worthy should be given to the Academy, to add to their museum of local antiquities now forming. Afterwards, Mr. Masters read a paper upon Hotels. The lecturer drew attention to the success attendant upon the erection of hotels in England, and instanced the Great Western Hotel, at Paddington, and then went on to describe the early inns or hostelries existing in Chaucer's time, to those of Shakspeare, and to the times of Dr. Johnson. He also gave a description of the remains of the old inns of Bristol, and the various galleried inns of the same character at London, Gloucester, and elsewhere, dwelling at some length upon the Tabard in Southwark. He then described the monster hotels of America and Canada, also those of Vienna and Paris, including the Hôtels Louvre and De la Paix. The modern English hotels were dwelt upon at some length, and the Dover, Great Western, and London Bridge Railway Hotels; also the Westminster Palace and Grosvenor Hotels, and many others, were described.

Items from India.—A public meeting of the inhabitants of Bombay, convened by the sheriff, and held in the town hall on the 9th ult., voted a statue to the Hon. Juggonath Sunkersett.—— It has been determined to appoint a committee to report on the proposed line of railway through Central India and Rajpootana.

In Cloth Boards, 2*s.*

ANOTHER BLOW for LIFE.

By George Godwin, F.R.S.

Assisted by Mr. J. Brown.

With 11 Illustrations.

"Let it be remembered that these new pictures of London sketches: read in a work of fiction they might be rejected as exaggerations if not invention. There is no past-place pictured or described which Mr. Godwin has not personally inspected. The names and places are continually given. He does not ask his readers to accompany him and share the perils he has bravely and often encountered; but he does ask them to ponder over these graphic details, and aid him to accomplish the benevolent object, the very thought of which is appalling to an enlightened and Christian people. Notwithstanding the awful nature of his theme, he has made his book interesting. It is full of illustrative anecdote. While there is no pretence in the style to semblance of fine writing, it is the production of a scholar and a gentleman, deeply anxious to have his work read, and adapted, not to swing the mind that a degree of refinement may strengthen and not weaken forcible language and energetic thought."—*The Art Journal.*

London: W. H. Allen & Co. Waterloo place.

TENDERS.

For works of the Patent File Company, Smethwick, near Birmingham. Mr. R. C. May, engineer:—

Contract No 1.—Engineers' and millwrights' work. Drawings supplied —

Sir G. W. Armstrong & Co.	£10,659 0 0
Easton & Amos	9,131 0 0
Simpson & Co.	8,125 0 0
W. May & Co.	7,890 0 0
Thorneywell & Warham	7,350 0 0
James Watt & Co. (accepted)	7,160 0 0

Contract No. 2.—Iron, glass, and zinc roofing. Detailed drawings supplied:—

Perry & Sons	£4,924 0 0
M'Kenzie & Co.	4,750 0 0
Handyside	4,775 0 0
Hill & Smith	4,160 0 0
The Horseley Company	4,000 0 0
Ashbury & Co.	3,700 0 0
The Tividale Company (accepted)	3,660 0 0

Contract No. 3.—Builders' work. Quantities supplied by engineer:—

Bartlett & Co.	£10,500 0 0
Harley & Co.	9,229 0 0
Willett & Sons	8,175 0 0
Barnsley & Co.	7,880 0 0
Estcourt	7,750 0 0
C. Jones	7,750 0 0
Cresswell	7,700 0 0

For house in St. Giles-street, Northampton, the property of the Trustees of the Church Charities. Mr. Alex. Milne, architect:—

Dunkley	£3,255 0 0
Mason	3,130 0 0
Ireson	3,020 0 0
Redshaw	2,994 0 0
Beardsmore	2,875 0 0
Emery	2,838 0 0
Cosford	2,837 0 0
Watkins	2,789 0 0
Holding	2,675 0 0

For alterations at the Worcester Infirmary. Mr. H. Day, architect. Quantities taken out by the architect:—

Eassie & Co.	£3,400 0 0
Wm. Jones & Son	2,881 0 0
Jeffery & Pritchard	2,820 0 0
Wood & Son (accepted)	2,792 0 0

For new church at Leyton. Mr. W. Wigginton, architect:—

Meyers & Son	£2,600 0 0
Killby	2,192 0 0
Axford & Co.	2,150 0 0
Ennor (accepted)	2,147 0 0

For teachers' residences and temporary schools at New Hampton (Taylor's bricks and concrete walls). Mr. W. Wigginton, architect:—

Pearson (accepted)	£691 0 0

For new front to No. 12, New-road, Whitechapel. Mr. W. Wigginton, architect:—

	1st Contract.	2nd Contract.
Warskitt	£183 0 0	£159 0 0
Dudley (accepted)	175 0 0	152 0 0
Moyle	165 0 0	

For villa residence at Wotton, near Gloucester, for Mr. Joseph Karn. Mr. H. James, architect. Quantities supplied:—

Clutterbuck	£942 10 0
Jones & Son	820 0 0
Collier	750 0 0
Sheppard (accepted)	745 11 7

For the erection of a new church at Fulwood, near Preston, Lancashire. Messrs. Myres & Veevers, architects. Quantities supplied. Accepted tenders:—

Masons' Work.

Cooper & Tullis	£1,410 0 0

Carpenter and Joiners' Work.

James Grimshaw	£370 7 3

Slater and Plazyers' Work

George Pye	£175 7 0

Plasterers' Work.

James Tyson	£40 15 6

Plumber, Smith, Glazier, and Painters' Work.

John Dewhurst	£196 19 6

For erecting new jute and spinning mills, at Stratford, Essex, for Messrs. Ritchie & Son. Mr. Sabine, architect. Quantities supplied by Mr. R. Roberts:—

	Add if Ironwork is included.	Total.
Rivett	£9,299	£884	£9,983
Ashby & Son	8,697	667	9,364
Hack & Son	8,597	615	9,212
Brass	8,304	650	9,064
Killby	8,500	497	8,997
Perry & Judson (accept.)	8,290	690	8,980

For alterations, &c., to Post-office Tavern, Noble street, St. Martin's-le-Grand. Mr. H. H. Collins, architect:—

Cohen	£273 0 0
Ennor	216 0 0

For the various works to Verulam House, St. John's-wood. Mr. H. H. Collins, architect:—

Roper	£530 0 0
Cohen	498 10 0
Hurwitz	491 0 0

For house and outbuildings at Small Heath, for Mr. Shakespeare. Mr. F. D. Johnson, architect:—

J. Heywood	£595 0 0
Mountford	582 0 0
W. Bennett	550 0 0
W. & B. N. Smith	550 0 0
Horsley	540 0 0
W. Box (accepted)	450 0 0

For alterations and additions in Great Charles-street, Birmingham, for Messrs. Rowley & Co. Mr. F. D. Johnson, architect:—

Brookes & Co.	£1,123 9 0
W. & B. N. Smith	850 0 0
C. Jones	841 0 0
J. Heywood	835 0 0
W. Bennett	817 0 0
W. Matthews	780 0 0
C. Burkis	760 0 0
Naden & Son (accepted)	755 0 0

For rebuilding the Dublin Steam Wharf, Lower East Smithfield. Mr. T. Chatfield Clarke, architect:—

Downs	£12,200 0 0
Ryder	12,122 0 0
Brass	11,949 0 0
Lawrence & Sons	11,933 0 0
Hack & Son	11,916 0 0
Mansfield & Sons	11,823 0 0
Browne & Robinson	11,800 0 0
Holland & Hannen (accepted)	11,780 0 0
Coleman	11,500 0 0

For the arterial drainage of Letton Brook and Staunton Common, Herefordshire:—

Bowles	£3,998 0 0
Denley & Taylor	3,347 0 0
Cooper	3,110 0 0
Field (accepted)	2,603 0 0
Davis	2,685 0 0*

* The schedule of prices attached to this tender for private works, &c. was higher than the one attached to the accepted tender.

For house at Anerley, for Mr. Joseph Parsons. Mr. F. Boreham, architect, Anerley.—

W. Palmer (accepted)	£715 0 0

For new wool-shed for Messrs. W. Greame & Co., Tamb rook, Hereford. Mr. S. Brookes, architect:—

King	£339 0 0
Mason (accepted)	320 0 0

For repairs and alterations at same place —

Mason (accepted)	£306 0 0

For St. Peter's Church, Siddington, Gloucestershire. Mr. Woodyear, architect:—

	Extra for Oak Fittings.	Total.
Weeks	—	£2,280 10 0
Podley	£75 0 0	2,450 0 0
Estcourt	—	2,100 0 0
Newcombe	—	1,873 0 0
Hughes	—	1,870 0 0
Bridges	18 0 0	1,848 0 0
Jones	135 0 0	1,811 0 0
Restall (accepted)	70 0 0	1,595 0 0

For alterations to the Wesleyan Chapel, St. Ives. Mr. R. Hutchinson, architect:—

Heythorpe	£334 0 0
Thompson	328 0 0
Bunting	314 0 0
Meadows	312 0 0
Richardson	293 0 0
Smith	273 0 0
Allen	270 0 0

For new race-stand, Huntingdon. Mr. R. Hutchinson, architect:—

Thackeray	£833 0 0
Matle	801 0 0
Browne & Rowe	789 11 0
Cock & Jenkins	780 0 0
Balmer & Connell	766 0 0

For the erection of a house at Birchfield, near Birmingham, for Mr. E. Cartwright. Mr. John Burrell, architect:—

Wilson (accepted)	£940 0 0

For building ball-room, bar, &c. and other alterations to the "Country House," Mile-end, Landport, Portsea, for Mr. E. A. Seagrove. Messrs. Rake & Ranwell, architects:—

Guy	£636 0 0
Backhurst (accepted)	678 17 0

For building two shops and houses for Mr. J. Webb, Commercial-road, Landport, Portsea:—

Gain	£1,468 11 5½
Scadder	1,443 0 0
Backhurst	1,325 0 0
Morey	1,293 0 0
Harding	1,253 0 0
Burbidge	1,245 0 0
Duffett (accepted)	1,160 0 0

For villa residence at Fareham, for Mr. W. Sprent. Messrs. Rake & Ranwell, architects:—

Fulford & Boys	£1,465	0	0
Tutte & Trigs (accepted)	1,443	0	0

For new Bank at Landport for the National Provincial Banking Company. Messrs. Rake & Ranwell, architects:—

Rogers & Booth	£1,317	7	5
Lawrence	1,277	0	0
Burbridge	1,275	0	0
Light & Roberts (accepted)	1,235	0	0

For alterations and stable building at No. 1, Lee-grove, &c. Mr. Henry J. Lanchester, architect:—

Hammer (accepted)	£766	0	0

For a public-house in Sand-street, Woolwich, for Mr. Pitchell. Mr. Lanchester, architect:—

Taylor	£1,046	0	0
Combes	885	0	0
Sonuex	833	15	0
Thompson	825	0	0

For the erection of a pair of semi-detached residences, Lower Norwood, Surrey, for Mr. Barnett Meyers. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Myers & Sons	£1,823	0	0
Cannon	1,456	0	0
Wills	1,450	0	0
Patrick & Son	1,420	0	0
Fish (accepted)	1,398	0	0

For a villa residence at Edmonton. Mr. D. Campbell, architect —

Skelton	£1,060	0	0
Dabbs	1,030	0	0
Higgs	978	10	0
Harradine	846	10	0
Humpherys	825	0	0

For erecting a new warehouse, No. 16, Little Trinity-lane, City, for Mr. Richard Heald. Mr. Wm. Hudson, architect:—

Evans	£2,880	0	0
Clements	1,905	0	0
Brass	1,897	0	0
Child & Son	1,877	0	0
Newman & Mann	1,858	0	0
Sewell & Son	1,848	0	0

For Messrs. J. & J. Vickers & Co.'s new distillery, Victoria-street, Westminster. Messrs. Wm. J. Mayhew & Calder, architects:—

Rigby	£32,200	0	0
Piper & Wheeler	31,972	0	0
Holland & Hannen	31,480	0	0
Oxford & Co.	30,700	0	0
Mansfield	29,250	0	0
Lawrence & Son	28,820	0	0
Lucas, Brothers	28,147	0	0
Trollope (accepted)	27,743	0	0

TO CORRESPONDENTS.

Cast-iron Cisterns.—"Query" asks,—Can any of your readers inform me how to calculate the strain upon the sides of a cast-iron cistern of large size—say 20 feet square and 12 feet deep—composed of fifteen plates in each side and in the bottom; with the readiest method of obtaining the pressure upon the centre of each plate, the strain upon the tie-rods, &c.?

J. P. (note did not arrive in time).—H. de M. (it appeared in a journal).—E. A. D.—A. P.—W. G. (Dr. Moore was requested to resign).—T. F.—F. D. L.—A. H. W. (it is not necessary).—J. C.—E. S.—Mr. P.—A. D., Sandringham (nothing is yet determined on)—T. & C.—W. P.—J. W.—B.—J. R. (in type).—J. P., W. (ditto).—H. G.—H. N. H.—Messrs. Bt & Co.—H. J. L.—Conclusion of the Vocabulary in Eight Languages, in our next.

Some other articles in type are unavoidably postponed.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.**, *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

[ADVERTISEMENTS.]

STAINED GLASS WORKS. — HEATON, BUTLER, & BAYNE have REMOVED to their new and extensive Premises,
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ADVERTISEMENTS.

FINCHLEY, MIDDLESEX.—SALE of BRICKS, on the PREMISES, adjoining the turnpike-road, and north upon the Saint Pancras and Islington Cemetery.

MESSRS. DENT & SON will SELL by AUCTION, as above, on THURSDAY, the 28th day of APRIL, 1864, at ONE o'clock precisely, in Lots, about 32,000 BRICKS; consisting of malms, stocks, pickings, and place bricks.—The particulars will be ready forthwith, and may be obtained on the Ground; at the White Lion and Bald-faced Stag Inns, Finchley, and of Messrs. DENT & SON, 34, Great James-street, Bedford-row, W.C.

BROMLEY, KENT.—Second Sale.—Charming BUILDING SITES for Gentlemen's Residences, immediately adjoining the Shortlands station, on the Mid-Kent Railway, near the important junction at Beckenham, and consequently within very easy reach of nearly all the London termini.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, on TUESDAY, MAY 3rd, in lots of from ¼ acre to 6 acres each, a portion of the remainder of the very valuable FREEHOLD BUILDING ESTATE, known as Shortlands, affording some of the most agreeable sites to be met with near London. Excellent roads have been made, and nearly all these lots have large frontages thereto, and are within two or three minutes' walk of the station.—Plans, with particulars, may be had of Messrs. BURCHELL, solicitors, 5, Broad Sanctuary, Westminster; of JOHN WHICHCORD, Esq., Architect, No. 16, Wallbrook; and of the Auctioneers, No. 80, Cheapside, who will in the meantime be prepared to treat by private contract.

WIMBLEDON. The beautiful ESTATE formerly attached to the residence of LORD COTTENHAM (now removed), comprising the richly-timbered Cottenham park Grounds and Gardens, situate on the south-west slope of a considerable hill, enjoying uninterrupted views of some of the finest scenery in the county of Surrey, and affording an almost unrivalled opportunity for a gentleman desirous to build, and to combine the advantages of a modern mansion with an ancient park and grounds in one of the most delightful districts near London, and for the like reasons especially eligible for a large institution, or for sub-division and the erection of first-class villas.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, on TUESDAY, JUNE 7th, at TWELVE, in 17 Lots, varying from ¼ acre to 6½ acres each (unless an acceptable offer be previously made for the whole), the very valuable and most beautiful FREEHOLD ESTATE, known as the Cottenham-park, comprising nearly 40 acres of magnificently timbered Grass Land, having the important advantage of a park wall, a shrubbery, an abundance of good water, extensive frontages to good roads, opportunity to a church, ready accessibility from London by rail (shortly to be extended to Cannon-street) and situation and scenery that justly obtain for the property the title of the gem of the neighbourhood.—Particulars in due course of Messrs. FRESHFIELDS & NEWMAN, Solicitors, No. 5, Bank-buildings; and of the Auctioneers, 80, Cheapside, who are fully authorized to treat for the sale, in one Lot, by private contract.

PIMLICO.—Important Unreserved SALE in consequence of the Dissolution of Partnership in the old-established firm of TURNER and OWST, PAPER-STAINERS, ELIZABETH STREET SOUTH, PIMLICO.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES as above, on TUESDAY, APRIL 19th, and following day, at TWELVE, in numerous lots, the entire WORKING PLANT and STOCK of a well-known firm of PAPER-STAINERS, comprising 21 printing tables of an admirable construction, and adapted for the production of first-class work, 9 other desirable block printing machines, 36 heavily weighted Grass Hoppers, grounding, sanding, oaking, and striping machines, several hundred sets of printing blocks, including a number of new ones intended for this year's trade, 250 decorative finishes, 6 chests of upwards of 20 reams fine elephant in flat and roll, 30 cwt. buffalo lide pieces, 4 tons French white, 3 tons whiting, dry colours and chemicals, best leaf metal and bronzes, useful sets of all trade hands, harness, four-wheel travelling chaise, and numerous other items.—May be viewed on Monday prior and morning of sale, when catalogues may be had on the Premises, and at the Auctioneer's offices, 12, Holborn Bars, E.C.

PIMLICO.—In consequence of the Dissolution of Partnership of Messrs. TURNER & OWST, the old-established Paper stainers.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES, ELIZABETH STREET SOUTH, PIMLICO, on TUESDAY, APRIL 19, at ONE, about the Lot, the LEASE of the most desirable MANUFACTURING PREMISES, together with the whole of the useful fixed PLANT, many years employed in and particularly adapted to the production of Paper-hangings in an extensive way, but capable of easy conversion to any other wholesale trade.—Printed particulars will shortly be obtainable on the Premises; of R. PLEWS, Esq. Solicitor, 31, Mark lane; and at the Auctioneer's Offices, 12, Holborn Bars, E.C.

PIMLICO.—The whole of the Unrivalled Stock of PAPERHANGINGS and DECORATIONS, for Unreserved Sale, in consequence of the Dissolution of Partnership of Messrs. TURNER & OWST.

MR. EDWIN WHITE will SELL by AUCTION, on the PREMISES, ELIZABETH STREET SOUTH, PIMLICO, on THURSDAY, APRIL 21, and following days, at TWELVE, the whole of the extensive stock of PAPERHANGINGS and DECORATIONS, consisting of upwards of 30,000 pieces, in golds, flocks, satins, grounds, Scagliola and Sienna marbles, architectural and flora borders and decorations, &c., including all the newest and most admired patterns issued by this renowned house.—May be viewed early in the week of sale when catalogues may be had on the Premises, and at the Auctioneer's Offices, 12, Holborn Bars, E.C.

VAUXHALL-GARDENS ESTATE, LAMBETH, SURREY.—Valuable FREEHOLD BUILDING LAND, arranged in lots, suitable for the erection of Shops, Residence for Operatives, Packet-ice, and Business Premises; also GROUND RENTS, amounting to 30*l.* per annum.

MESSRS. DRIVER & CO. are instructed by the Mortgagee, under power of sale, to submit to AUCTION, at the MART, near the Bank of England, on FRIDAY, MAY 20, in numerous lots, to suit the convenience of purchasers, some very valuable FREEHOLD BUILDING LAND, situate in the parish of St. Mary, Lambeth; comprising a considerable portion of the site of the late Royal Vauxhall Gardens, and having frontages upon Kennington-lane, Vauxhall-walk, and several new roads and streets, called Parkland-street, Burnett-street, Brunel-street, Leopold-street, Gye-street, and Italian-walk. The Vauxhall Station, on the South-Western Railway, and the River Thames are close to the property, affording ready access from all parts, as well as facilities for the transit of goods. The sale will also include several lots of Ground Rents, amounting together to 30*l.* per annum. Detailed particulars, with plans, may be obtained at the Royal Vauxhall Tavern and other Inns in the neighbourhood; at the Auction Mart; of Messrs. KEMPSON & TROLLOPE, Solicitors, 31, Abingdon-street, Westminster; and of Messrs. DRIVER & CO., Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

ORNAMENTAL ART FOLIAGE and GUIDE for DRAWING of every Description; containing upwards of 200 Illustrations and 264 pages of Letterpress, for Workers in Wood, Stone, and Metal. 8vo. cloth, 12*s.*
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AN ARCHITECT and SURVEYOR, with available assistance, prepares designs, details, perspectives, specifications, valuations of houses, dilapidations, &c. on moderate terms.—Address, ARCHITECT, Mr. Tebr, No. 6, Upper Dorset-place, Clapham-road, S.

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IRON CONSTRUCTION.—ASSISTANCE given on the drawings, specifications, or quantities, of any description of difficult construction or detail, but especially ironwork, by a gentleman of well known ability and experience.—Address, O. O. O. Office of "The Builder."

AN ARTICLED PUPIL can be received into an Architect and Civil Engineer's Office, where he would have excellent opportunities for learning the professions.—Address, X. L. care of Mr. Batsford, Bookseller, High Holborn, W.C.

TO PARENTS AND GUARDIANS.

MESSRS. J. SIMPSON & SON, House Decorators and Builders, have a VACANCY in their Office for a well-educated YOUTH as an Out-door APPRENTICE. A premium required.—39, Baker street, Portman square, W.

TO PARENTS AND GUARDIANS.

AN Out-Door APPRENTICE WANTED to the Plumbing, Painting, Glazing, Paperhanging, &c.—Apply to W. HOUGHTON, Earl's court road, Old Brompton.

BAMPTON-WEST HIGHWAY DISTRICT.—DISTRICT SURVEYOR WANTED.—The Highway Board of the District require the services of a thoroughly Competent SURVEYOR for the Highways, who must devote the whole of his time to the duties of his office, and will be required to reside constantly in the District, to keep the necessary books and accounts, and give security for the due performance of his duties, as required by the Highway Act. The number of miles in the District hitherto usually repaired is about 110. Salary 120*l.* per annum, to include the keep of a horse and every other expense. It is contemplated to do the whole of the repairs as far as possible by contract. Applications, in the handwriting of the Candidate, stating age, accompanied with testimonials, must be forwarded to me (prepaid) on or before the 19th day of APRIL instant, after which day selected Candidates will receive a further communication from me.—By order of the Board,
JAMES S. PRICE, Clerk.

Dated Burford, Oxon, 7th April, 1864.

BRADFORD SEWERAGE.—FOREMAN of WORKS WANTED. Must be able to understand and carry out plans and working drawings, to set out work on the ground, to keep books and accounts of labour and materials, and must have a practical knowledge of the details of Sewer Work. Experience on similar work indispensable. Applications with Testimonials stating age and present engagement, and stating also the wages required, to be forwarded to the Office on or before FRIDAY, the 22nd APRIL instant.
CHARLES GOTT, Borough Surveyor.
Swaine-street, Bradford.

GODSTONE HIGHWAY DISTRICT.—The District Highway Board will be prepared, at their next Meeting, to be held at the Petty Sessions Room, Godstone, on FRIDAY, the 29th instant, at THREE o'clock in the afternoon precisely, to appoint a Surveyor for the office of SURVEYOR of the HIGHWAYS for the above District, which comprises the parishes of Bletchingley, Caterham, Chelsham, Crowhurst, Bailey, Godstone, Horne, Lingfield, Tanridge, Tatsel, Tandridge, Titsey, Warlingham, and Wellingham. The Salary will be 70*l.* per annum, and the person appointed will be required to give security for the faithful performance of the duties of the office, and to enter upon his duties forthwith. Applications, in the handwriting of Candidates, stating age and previous occupation, with Testimonials as to character and efficiency, to be sent to me on or before THURSDAY, the 28th inst. By order of the Board.
W. ALSTON HEAD, Clerk.
East Grinstead, 11th April, 1864.

RAILWAY in INDIA.—WANTED, by a Civil Contractor, an ASSISTANT ENGINEER, also a MASON, competent to superintend the erection of Bridges and Culverts in Stone. Age between 26 and 35. Applicants to furnish, in writing, addressed to Mr. J. J. TOURLE, 13, Southampton-buildings, Holborn, full particulars of their previous employment, and names and addresses of their referees for ability and character, and to state the Salary required for a two or three years' engagement.

TO CIVIL ENGINEERS AND SURVEYORS.

THE SLOUGH LOCAL GOVERNMENT BOARD are desirous of procuring the Services of a Gentleman competent to furnish a map with plans, specification, and estimate exhibiting a system of sewerage for effectually Draining the District of Slough. An outline of the district may be seen at the office of the Board, Windsor road, Slough. Tenders for furnishing the above are invited to be sent to the Clerk, on or before the 1st day of MAY next. The Board reserve the right to reject any or the whole of the Tenders.—By order of the Board
JOHN H. HETHERINGTON, Clerk.
Dated this 6th day of April, 1864.

TO CABINET-MAKERS, &c.

WANTED, an active Young Man, as WORKING FOREMAN. He must understand the Pitch-box, and have a general knowledge of the business.—Apply at 38, Soho square.

WANTED, ADDITIONAL ASSISTANCE in an ARCHITECT'S OFFICE. If mutually satisfactory, the engagement may be permanent.—Address, stating terms, M. A care of Messrs Thomason & Co. 29, Graham-street, Birmingham.

WANTED, an ARCHITECT'S ASSISTANT, well qualified to make out fair and working drawings, details, and specifications, and acquainted with general office routine.—Apply, stating references and terms, to EDWARD HOLMES, 4, Waterloo-street, Birmingham.

WANTED, a thoroughly Practical Man, to SUPERINTEND OUT DOOR WORKS, make estimates, measure up, and conversant with the routine of a builder's office.—Apply at 32, Upper Albany-street, Regent's Park, N.W.

WANTED, Two good GOTHIC STONE and WOOD CARVERS. Also some Improvers.—Apply, stating terms and name of last employer, to H. J. C. Chardstock Church, near Chard, Dorset. No answer given after four days.

WANTED, at once, a thoroughly competent DRAUGHTSMAN, who understands perspective.—Address, D. J. BROWN, surveyor, 27, Great George-street, Westminster.

WANTED, in a Manufactory of Mediæval Metal Work, a DESIGNER.—Apply by letter, stating terms, age, &c. to F. G. Z., General Post-office, Birmingham.

TO BUILDERS' FOREMEN

WANTED, an active, intelligent FOREMAN, to undertake the MANAGEMENT of a CITY JOB. None but those who can produce undeniable testimonials as to character and efficiency need apply.—Address, by letter only, stating wages required, age, and where last employed, to A. G. Office of "The Builder."

WANTED, in a Builder and Contractor's Establishment, in the Provinces, a thoroughly efficient CLERK, possessing the following qualifications:—A good and rapid Draughtsman, having a fair knowledge of Design, and a thorough knowledge of Details and Construction; he will put in Quantities and Surveyors' Accounts; and it is quite essential that he be a good and expeditious Writer, and accustomed to write Specifications. Salary—to be stated. Apply, stating terms and giving reference, to P.P. Office of "The Builder."

WANTED, a BUILDER'S FOREMAN, who is competent to superintend, measure, and conduct a general business. Write, stating salary required, where similarly employed, and age, to J. P. 35, St. James's-street, Piccadilly, S.W.

WANTED, in a Builder's Office, a CLERK, who must be thoroughly qualified in measuring, taking out quantities, estimating, book keeping, &c.—Address, stating age and full particulars, to C. D. Office of "The Builder."

TO SURVEYORS' AND BUILDERS' CLERKS AND OTHERS

WANTED, by the Board of Works for the Saint Giles's District, a CLERK in the SURVEYOR'S DEPARTMENT, to keep the books in such office; correct the men's time and materials, and other accounts. Office hours, from six a.m. to six p.m. Salary, 80l. per annum, with apartments over the offices, coals, and gas. Applications to be in writing, stating age and where last employed, accompanied with references, to be forwarded by the 21st day of APRIL instant, to the Board, at their Offices, 180, High Holborn.—By order of the Board,

April 14, 1864. ROBT. FINNIS, Clerk.

TO CANAL ENGINEERS AND PERSONS HAVING A PRACTICAL KNOWLEDGE OF THE CONSTRUCTION AND MAINTENANCE OF CANAL WORKS.

WANTED, immediately, by the COVENTRY CANAL COMPANY, a Person duly qualified to superintend the MANAGEMENT of their CANAL. It is 52½ miles long, and has in this distance 13 Locks, and commences at the city of Coventry, in the county of Warwick, and terminates at Fradley Heath, in the county of Stafford. The Company have a commodious house, with good garden, stables, and other necessary outbuildings, adjoining to which they have a good timber yard, workshops, and other buildings, used as a depôt for the Company's stores. This house and premises are situate adjoining the Canal, in the parish of Hartshill, in the county of Warwick, and are about midway between the extremities of the Canal. The person filling this situation will have the free use of the before-mentioned house and premises, in addition to a salary of 200l. a year. For this he will be expected to devote the whole of his time to the service of the Company, and to the superintendence of the Canal and its Works, and will be required to find security to the amount of 200l. Persons desirous of filling this situation must send their references, together with testimonials as to their qualifications, to the Clerk to the Coventry Canal Company, Navigation Office, Coventry, on or before the 3rd day of MAY next. The personal attendance of candidates will not be required, and canvassing the Directors of the Company will be considered a disqualification.

CHARLES WOODCOCK, Clerk to the Company.

Coventry, 13th April, 1864.

WATLINGTON HIGHWAY DISTRICT.

WANTED, a SURVEYOR for the above District. He must be under 45 years of age, be a good accountant, and thoroughly acquainted with the management of roads. He will be required to give security for moneys passing through his hands and the proper performance of his duties; to keep a horse; to reside at Watlington, or within two miles of that place; and to devote the whole of his time to the duties of his office. Salary, 80l. to include keep of horse, and all personal expenses. Length of roads in the district about 101 miles.—Applications for the appointment, in the handwriting of Candidates, with testimonials, to be forwarded, post-paid, to me, on or before the 30th instant, on which day they will be considered in Committee.—By order of the Board,

Watlington, 9th April, 1864. J. H. MAYNARD, Clerk.

WANTED, Immediately, some Good CARPENTERS and JOINERS.—Apply, stating wages required, &c. to Mr. GEORGE WILLICOMBE, Builder, Tunbridge Wells.

WANTED, a GENTLEMAN who can command a Capital of 3,000l. well connected with Contractors and Builders.—For particulars, address L. D. M. 5, Great Winchester-street, E.C.

WANTED, immediately, in an Architect's Office in the Country, a Thoroughly Qualified ASSISTANT, having a good knowledge of Construction and Design, and capable of preparing Working and Detail Drawings with despatch and accuracy. The engagement will probably be temporary, and a liberal Salary given to a fully competent person.—Apply to Messrs. MEDLAND, MASERLY, & MEDLAND, Clarence-street, Gloucester, stating terms and references.

TO DESIGNERS IN GLASS.

WANTED, immediately, by a first-class House in Glasgow, a DESIGNER for STAINED, EMBOSSED, and ORNAMENTAL GLASS. To one competent to make sketches for figures, landscapes, and geometrical designs, liberal encouragement and constant employment will be given. Apply, with references, &c. by letter, to JOHN CATTO, 50, Upper Thames street, E.C.

WANTED, an efficient ARCHITECTURAL DRAUGHTSMAN and ASSISTANT.—Address stating fully qualifications and salary, to S. care of Mr. Barcham, Bookseller, Broad street, Reading.

WANTED, a CLERK, well up in the duties of an Architect's or Builder's office, quick correspondent, neat writer, &c. 200l. security required.—Address, F. K., stating age, qualification, &c. to the Office of the "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, a thoroughly-qualified ASSISTANT, well versed in detail, and experienced in Gothic work. A good colourist preferred.—Address, stating age, salary required, and references, to F. P. Post-office, Dalington.

WANTED, 100 WALL MASONS and 50 MASONS' LABOURERS. Masons 4s. per day. Labourers 2s. 8d. per day. Working 10 hours per day, and 8½ hours on Saturday.—Apply to CALL & FETHICK, Contractors, Plymouth.

WANTED, immediately, by an Architect and Surveyor in the provinces, the SERVICES of an ASSISTANT. He must be accustomed to fair working and perspective drawings, and well up in general Office Work.—Address, stating age, salary required, and references, to P. Q. Post office, Worcester.

TO PLUMBERS

WANTED, in the country, a steady, experienced Man, well up in CLOSET and DEEP WELL PUMP WORK. To a steady persevering man a constant situation will be given.—Address, stating age, where last employed, &c. to Mr. H. BROOKS, Marlborough, Wilts.

TO BUILDERS AND HOUSE DECORATORS.

WANTED, by the Advertiser, a RE-ENGAGEMENT, as WORKING FOREMAN, in the Plumbing and Decorating, accustomed to the entire management of men and work in all the branches. Wages moderate. Good references.—Address, W. HOPE, 4, Clarence-road, Lower Clapton, N.E.

TO BUILDERS, &c.

WANTED, by TWO thoroughly practical CARPENTERS, PIECEWORK in Carcassing Buildings of any description. Town or country.—Address, E. M. Office of "The Builder."

TO TIMBER MERCHANTS.

WANTED, a SITUATION, as FOREMAN or CLERK in a Timber Yard, by a respectable middle-aged man, accustomed to the English and foreign timber trade.—Address, K. 11, New street, Vincent square, Westminster.

TO BUILDERS, &c.

WANTED, by the Advertiser, a Carpenter by trade, a RE ENGAGEMENT as Out-door FOREMAN, to Superintend the Erection of Buildings, General Repairs, &c. or to look after a Gentleman's Estate. Town or country. Five years with last employer. First-class testimonials.—Address, C. N. 24, Stanley-street, Chelsea.

TO PAINTERS AND DECORATORS

WANTED, by a respectable Young Man, aged 20, a SITUATION as IMPROVER in the Painting, Paperhanging and Decorating. Has just served five years to the above business.—Apply to J. B. No. 4, John-street, Elliott's-row, St. George's-road, Southwark, S.

TO SURVEYORS, ESTATE AGENTS, BUILDERS, &c.

WANTED, an ENGAGEMENT, by a Young Man. Is at present with an eminent Surveyor in London, is thoroughly acquainted with the routine of the office, is a fair draughtsman and bookkeeper, and used to railway compensations. The highest references and am in a situation of confidence and prospect is desired, security will be given.—Address, R. A. Office of "The Builder."

TO SURVEYORS, BUILDERS, &c.

WANTED, by a Young Man, aged 21, EMPLOYMENT as CLERK, in Town or country. Quick at figures. Three years' first class references to last employers.—Apply to W. H. Telegraph Office, High street, Peckham, S.E.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a useful mid-lle-aged Man, as FOREMAN of PLASTERERS. Has just completed some first class Mansions at the West End. No objection to Piecework, or to Superintend a Jobbing Business.—Address, J. F. 45, Brook-street, Paddington, W.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a YOUNG GENTLEMAN, conversant with Perspective, who has completed his articles with an Architect and Civil Engineer, also Surveyor of a Local Board of Health, a SITUATION in or near London. Salary a Guinea per week.—Address, A. I. B. 2, Devonshire place, St. John's hill, New Wandsworth, S.W.

TO BUILDERS AND OTHERS.

WANTED, by a Practical Man, a SITUATION as HOUSE PAINTER, &c. as LEADING MAN. Good reference given. Town preferred.—Address, D. D. No. 17, Mabledon-place, Burton-crescent, W.C.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly energetic and practical Man, a RE-ENGAGEMENT as GENERAL OUTDOOR FOREMAN, or to Take the Management of a Large Job. Town or country. Accustomed to taking out quantities, and estimating in all branches. Good references.—Address, J. G. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, an ENGAGEMENT by a CLERK of WORKS, or as general manager with a Builder. Age 33. Experienced in superintending works both in London and the country, making working drawings, taking off quantities, pricing estimates, and book-keeping, &c.—Address, JOINER, care of Mr. Shaw, 256, Oxford-street, W.

TO MASTER BUILDERS

WANTED, by a first-class Staircase Hand, aged 26 years, a SITUATION as above. Willing to fill up his time at joiner's work by the piece or otherwise.—Address, W. B. 6, Hope avenue, Lower Hamstead, Kingston, Surrey.

WANTED, a RE-ENGAGEMENT to SUPERINTEND the Erection of a Building. Carpenter by trade. First-class references.—Address, S. P. No. 3, Woodland-terrace, Union-square, Brunswick-street, Trinity-street, Borough.

TO BUILDERS.

WANTED, by a Young Man, a SITUATION as CARPENTER. Has had the misfortune to lose a leg; and, now quite recovered, would be glad to meet with employment at the bench, wages accordingly.—Address, F. J. Plough Inn, Langley, near Slough, Bucks.

WANTED, a fresh ENGAGEMENT, by a Practical Man, used to the Varieties of the Building Trades in Town and country. Can measure, keep accounts, and the necessary duties of superintending contracts, additions, repairs, &c. Middle-aged, and carpenter by trade. Unexceptionable references.—Address, C. M. Office of "The Builder."

TO PAINTERS, PLUMBERS, GLAZIERS, AND OTHERS.

WANTED, by a good Practical Man, a RE-ENGAGEMENT as WORKING FOREMAN, or to Manage a Business, or take charge of a good Job in either of the above branches. Good references.—Address, E. F. Office of "The Builder."

WANTED, by the Advertiser, an ENGAGEMENT in an Architect's or Builder's Office. He has a fair knowledge of taking out quantities, setting out buildings, &c. Can make plans from rough sketches, and the usual office work. He has had more than six years' experience in a builder's office, and can give good reference. Would like to go abroad.—Address, A. Z. Post-office, Blandford.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN, or Foreman of Masons, by one who has had thirteen years' experience as foreman in a large builder's yard, and has just completed an extensive mansion in the Midland Counties. Can make working drawings, and take out quantities.—Address, J. B. B. 2, Densel-street, Clare Market, W.C.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, aged 29, EMPLOYMENT as PLUMBER, PAINTER, GLAZIER, &c. Address, H. B. 11, Goding street, Vauxhall gardens, S.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical Man, a Carpenter and Joiner by trade, a RE-ENGAGEMENT as general FOREMAN of WORKS. Good reference and testimonials. Address, A B 8, Heath place, Cambridge Heath, N.E.

TO ARCHITECTS, SURVEYORS, AND OTHERS.

WANTED, by a CLERK well experienced in building matters, an ENGAGEMENT (total or partial) to Superintend Works, Assist in Office, and be generally useful. Is quick at figures, a good plain writer, and can draw. The best testimonials. Address, B. W. care of Mr. Metcalf, 22, Canterbury place, Lambeth-road, S.

TO ARCHITECTS AND SURVEYORS

WANTED, a RE-ENGAGEMENT as ASSISTANT in the Office of an Architect and Surveyor. Is thoroughly acquainted with surveying, levelling, the preparation of general and working drawings, &c. &c. First-class references. Terms moderate.—Address, DELTA, 15, Great Ferry street, Pentonville.

TO ARCHITECTS AND CIVIL ENGINEERS.

WANTED, by a Young Man, who will be shortly disengaged, a SITUATION. Has had a varied professional experience, and is competent to take out quantities, land-survey and level, prepare finished and working drawings, &c.—Address, E. K. care of Mr. Pugh, Church street, Kingston, Herefordshire.

WANTED, by a thoroughly experienced Man, a SITUATION as WORKING FOREMAN of JOINERS, or otherwise. Has had twelve years' good experience in London in all building matters. Can make working drawings, estimate, and measure. First-class references.—Address, H. Post-office, Brixton Rise, Surrey.

TO BUILDERS.

WANTED, by an OUT-DOOR FOREMAN, a RE Engagement. A Carpenter and Joiner by trade.—Address A B 28, St. John's-road, Hoxton, N.

WANTED, by a respectable Young Man, aged 20, who thoroughly understands book-keeping, a SITUATION as CLERK or otherwise.—Address, A. F. 3, Sussex-terrace, Old Brompton, S.W.

TO MASTER PLUMBERS, BUILDERS, &c.

WANTED, by a good PLUMBER, a SITUATION, permanent or otherwise. Can fill up time Painting or Glazing if required.—Address, B. F. Office of "The Builder."

TO BUILDERS, PLUMBERS, AND DECORATORS.

WANTED, by a Young Man, aged 34, a SITUATION as FOREMAN, or to Manage a Business. Is a practical Plumber and Decorator; has been in business ten years.—Apply to A. Z. No. 2, Barnsbury-street, Islington.

TO PLUMBERS AND GAS-FITTERS.

WANTED, an ENGAGEMENT as IMPROVER in the above trades, by a Young Man, aged 19, with four years' experience, who can be well recommended. Near Wimbledon preferred.—Address, W. G. M. 14, South-road, Wimbledon, S.W.

WANTED, EMPLOYMENT, by an active and respectable Young Man, with or without his wife. He has been accustomed to Jobbing Carpentering. Wife used to cooking, &c. but they have no objection to make themselves generally useful. Age 29. Wages moderate.—Address, E. B. 19, Palmerston-terrace, Grosvenor Park, Camberwell.

WANTED, a SITUATION in a Builder's Office, by a Young Man of Christian principles and steady respectable character. Or, as IMPROVER in a Surveyor's Office. Age, 20 years.—Address, A. R. Rev. R. Illingworth, South-street, Hammersmith, W.

TO MERCHANTS OR BUILDERS.

WANTED, by the Advertiser, a SITUATION, as CLERK, in either of the above offices. Understands book keeping. Trustworthy and obliging. Aged 20. Security if required. Salary moderate.—Address, A. C. 45, Castle-street, Farnham, Surrey.

WANTED, in the Country, an ENGAGEMENT for three or six months, as GRAINER, MARBLER, PAPERHANGER, &c. by a Young Man who thoroughly understands his business.—Address, C. JONES, 75, Warren-street, Tottenham Court-road.

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION, by a first-class Plumber, Gasfitter, and Glazier.—Address, H. LANG, No. 19, Godfrey-street, King's road, Chelsea.

WANTED, a SITUATION as GENERAL FOREMAN, having filled that situation for many years in the City, or to Take Charge of a Job. First rate testimonials.—Direct, X. Y. Norwich Coffee-house, Shoreditch.

TO GAS-ENGINEERS, MANUFACTURERS, AND PATENTEES.

WANTED, an AGENCY, for the Sale of anything in the above Business, or for Fitting and Fixing the same.—Apply to PATENT, 44, Chapel-street, Edgeware road, W.

WANTED, by the Advertiser, a Carpenter by trade, a SITUATION as GENERAL FOREMAN, or to Take Charge of a Job. No objection to the country. Good reference. Address, J. M. Office of "The Builder."

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THE ADVERTISER, a good Sign and Glass Writer, Embosser, &c., wishes for PERMANENT EMPLOYMENT, or would take work by the piece.—Address, WRITER, care of Mr. Burrell, News Agent, Borough-road, Southwark.

TO CONTRACTORS.

THE Advertiser, wishing to gain an insight into Contracting, is desirous of an ENGAGEMENT with a large Contractor, as TIMEKEEPER, or otherwise. Thoroughly conversant with levelling. Good references.—Address, B. B. 7, Hanway-street, Oxford-street.

TO BUILDERS, &c.

THE Advertiser is desirous of obtaining EVENING EMPLOYMENT in taking off quantities, estimating, and builders' accounts, &c. Has had ten years' experience.—Address, A. B. C. 1, York Villas, Brixton-road, S.

TO BUILDERS AND CONTRACTORS.

THE Advertiser is open to a RE-ENGAGEMENT as FOREMAN or BRICKLAYERS, or to Take Charge of a Job, or by the Rod. Reference from last employers.—Address, C. H. 25, Mitre-street, Short-street, New-cut, Lambeth.

THE Advertiser, having a good knowledge of building generally, is desirous of a RE-ENGAGEMENT to Take Charge of a Job.—Address, H. H. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Applicant, aged 20, is desirous of obtaining a SITUATION in an Architect and Surveyor's Office. He is a good draughtsman, and a quick and accurate leveller. Address, A. B. C. Mr. Westley's, Bookseller, No. 26, High-street Cheltenham.

TO PLUMBERS AND BUILDERS.

SITUATION WANTED, by a Practical PLUMBER, who has no objection to fill up time at Painting or Glazing.—Address, J. G. No. 14, Taylor's-row, Charles-street, St. John-street road, Clerkenwell.

STAIRS.—J. S., STAIRCASE HAND and JOINER, is OPEN for a JOB. Town or Country. Address, 183, Warner-street, Dover road.

BUILDER'S SMITH.—A SITUATION WANTED, by a steady Young Man from the country, experienced in general work, either at forge or vice. Address, D. VERCOE, 56, Upper Stamford street, Waterloo-road, London.

A FULLY-QUALIFIED ASSISTANT requires a SITUATION in an Architect's Office.—Address, B. G. Office of "The Builder."

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FIRST-RATE QUANTITY SURVEYOR and ESTIMATOR, of Sixteen Years' experience, who is a good draftsman, thoroughly understands construction, preparing specifications, surveying dilapidations, and the superintendence of works, EMPLOYMENT, either permanent or otherwise, on moderate terms.—Address, W. R. D. Post-office, Westow-hill, Norwood, S.

TO BUILDERS AND DECORATORS.

PAPERHANGER, and to fill up time with the other branches, being a good general hand. Age 30; good reference as to character and ability.—Address, C. 144, Fleet-street

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AN ARCHITECT, of considerable experience in Competition and General Works, offers his SERVICES on the Artistic Portion of similar undertakings.—Address, ARCHITECT 21, Carlisle-terrace, Foxley-road, South Kennington, S.W.

TO BUILDERS.

A YOUNG MAN, of good practical experience in the above trade, is desirous of an engagement (roughly accustomed with Office Duties, and can make Estimates) of references and security, if required.—Address, P.Y. Office of the Builder."

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AN Architect, of long practice, in one of the Midland Counties, with well-situated offices, is anxious to add his required attention to the business, and will, therefore be glad to meet with a PARTNER well fitted to continue the Architectural Department.—For terms, &c. apply to A. B. Z. Post-office, Birmingham.

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LONDON CLERK, aged 31, Draughtsman, Colorist, and Quantity Assistant, desires an immediate ENGAGEMENT, temporary or otherwise. Having a small independent income, a quarterly payment only required.—Terms 25s. per week.—Address, Z. D. X. 32, Elmore-street, Islington, N.

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YOUNG ARCHITECT, having part of his time disengaged, is willing to PREPARE complete sets of accurate WORKING DRAWINGS and PRACTICAL DETAILS. He is thoroughly knowledge of Gothic, and well acquainted with old work.—Address, R. DUGDALE, 2, Southampton-street, Strand, W.C.

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A THOROUGHLY experienced CABINET-MAKER desires an ENGAGEMENT as FOREMAN in a manufactory where steam power is employed, or about to be introduced.—Address, S. R. M. Office of "The Builder."

TO ARCHITECTS AND ENGINEERS.

AN Experienced ASSISTANT requires an ENGAGEMENT. Is well acquainted with the various styles, constructional details, and general routine of office. First-class draughtsman, colourist, and designer. Land-surveying and levelling, if fully required to act as a good general assistant. Terms and reference.—Address, T. G. B. Chevelier, Bowness, & Son, 12, Bell-yard, Temple-bar.

TO ARCHITECTS, &c.

AN Efficient and Thoroughly Practical Assistant wishes for an Engagement either in the Office or as CLERK OF WORKS. Is well up in Detail and Construction, and the Management of Estates, &c.—Address Architect, 27, Bishopsgate Street Within.

TO NOBLEMEN, GENTLEMEN, ARCHITECTS, AND OTHERS

PRACTICAL CARPENTER and JOINER, aged 34, married, is in want of a SITUATION as HOUSE CARPENTER and JOINER on an Estate, or to SUPERINTEND the REPAIRS of HOUSE PROPERTY, or any situation where first and confidence is required. First-class references for ability, sobriety, &c.—Address, JOINER, care of Mr. Ayliffe, Photographer, 20, Thames-street, Kingston-on-Thames, S.W.

A WELL-QUALIFIED General ASSISTANT who will be disengaged on the 23rd instant, is desirous of RE ENGAGEMENT in an Architect and Surveyor's Office. The advertiser is a thoroughly efficient and practical draughtsman, neat colourist, well versed in quantities, detail, and construction; competent with land surveying, mapping and levelling. Aged 28, terms moderate. Good references.—Address, A. B. 195, High-street, Rochester, Kent.

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AS CLERK, BOOKKEEPER, COLLECTOR, or MEASURER.—WANTED, by a young Man, aged 23, SITUATION, in either of the above capacities. Writes a good hand, and is thoroughly acquainted with book-keeping. Seven years' reference to late employers. — Address, M. H. 22, Park-street, Mile End, London.

AS CLERK or TIMEKEEPER, aged 35, accustomed to keep time, receiving delivery, and order work, taking out prime costs, collecting accounts, paying wages, &c. With good character and reference.—Address, F. Mr Carrington, 48, Rowland street, Tottenham Court road.

TO BUILDERS AND CONTRACTORS.

A SON of a Builder is desirous of being ENGAGED in a BUILDER'S FIRM. Has a good knowledge of the business. Can superintend, measure work, copy and price plans, and assist in taking out quantities, and is willing to make himself generally useful. Town preferred. Age 22.—Address, B. B. Post-office, Romsey, Hampshire.

MUTUAL LOAN FUND ASSOCIATION

(Incorporated by Act of Parliament, 1850), 14, Russell-street, Covent Garden, LENDS MONEY on personal or other security, in sums of 20l. to 500l. to be repaid by instalments extending over one, two, or three years. The large capital of this Association enables it to complete its transactions without delay. No inquiry or office fees, and strict secrecy observed. Bills discounted at short notice. Forms sent free on receipt of a directed stamped envelope.

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EDWARD HARPER, Secretary.

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Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

TIME IS MONEY.—All who employ workmen should send two stamps to MERRITT & HATCHER, 2, Grocers'-hall, Poultry, E.C. and by return of post they will receive a variety of useful Forms, by which book keeping is facilitated, and loss of time and material prevented.—MAPS, PLANS, DRAWINGS BILLS of QUANTITIES, &c. expeditiously Lithographed in the best style, at the lowest possible charges. — MERRITT & HATCHER, Printers in every Branch, 2 Grocers'-hall-court, Poultry E.C.

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Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Colonizers, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

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CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, TUCK HELVES HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rods, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.

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Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BRICK VIADUCTS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES

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BILLS of QUANTITIES, SPECIFICATIONS, DRAWINGS, &c neatly and expeditiously Lithographed and Copied. A numerous staff of hands always engaged. Prompt attention to Country Orders. Specimens and Price lists post free.

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MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



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Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock

GOULD & PORTER (late CARY) are now manufacturing their improved 10-inch DUMPY LEVEL, best quality, complete for 9l. 10s. 0d.; with silver ring compass, 10l. 10s. 0d.; 12-inch ditto, ditto, 11l. 0s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, 22l. 0s. 0d. All other MATHEMATICAL INSTRUMENTS at Revised Prices.—Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century. 181, Strand, London.

BALLAST, SAND, and GRAVEL FOR SALE, at Argyle House Argyle street, Oxford circus.—Apply at Back Entrance, in Marlborough-mews.

ASHES and BREEZE for SALE.—One, Two, or Three Thousand CHALDRON of fresh-collected HOUSE ASHES and BREEZE, of the very best quality, loaded into barges at Limehouse, E.—Apply to P. & E. ABBOTT, Gun lane, Limehouse.

BALLAST FOR SALE.—Close to the City. Inquire at No. 83, Wood-street, Cheapside.

BALLAST FOR SALE, at 2s. 6d. per yard. Inquire at 82, Wood street, Cheapside

WANTED, immediately, several SECOND-HAND SELF-REGISTERING TURNSTILES. Norton's patent preferred.—Address, stating price, &c. R. H. D. Office of "The Builder."

PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb
Best Fine White Plaster 45s. per ton Coarse ditto 40s. per ton.

PLASTER and CEMENT ENRICHMENTS (established 1834), of every description, and suitable for all classes of houses, and the cheapest in London. No charge for modelling.—HY. WILSON, Modeller, Plasterer, and Scagliolist, 191, Carlisle-street, Westminster-road, S.—Contracts for Plasterer's Work on the lowest terms. Prices on application. Shop-front Trusses, &c.

ARCHITECTURAL ENRICHMENTS, IN PLASTER, CEMENT, PAPIER MACHE, &c.

Centre Flowers, Soffits, Trusses, and all kinds of Enrichments for Ceilings, Cornices, &c. new in design and moderate in price, at

G. GEORGI,
MODELLER AND SCAGLIOLA MANUFACTURER, BAKER'S BUILDINGS, LIVERPOOL STREET, BISHOPSGATE E.C.

TO TIMBER MERCHANTS and OTHERS

TO BE DISPOSED OF, a First-class ENGLISH and FOREIGN TIMBER, CEMENT, LIME, and SLATE BUSINESS, with extensive Premises, comprising large and commodious sheds for stacking timber, cement and slate sheds, stabling for seven horses, and every convenience for carrying on and extending the present Business of Wholesale and Retail Timber Merchants, &c. situated close to the Goods Station, Tonbridge Wells, Kent. The continued ill-health of the present Managing Partner being the sole reason for disposing of the business. Stock to be taken at valuation.—For further particulars, apply to the proprietors, Messrs. LEANEY & CAREY Station-road, Tonbridge Wells, Kent.

TO BUILDERS.—TO BE DISPOSED OF, the STOCK, PLANT, and GOODWILL of an old established BUSINESS. About 3 of Premises 60 feet by 25 feet. Sawing pit and Sheds. Cistern, 10 feet by 12 feet. Workable power, 40 feet by 28 feet. Good dwelling-house. Present occupants retiring.—Apply on the Premises, 2, Bedford-street, Bedford-row.

TO BUILDERS, PAINTERS, &c.

OAK GRAINING in OIL, 4½d. per Yard, in quantities not less than 60 yards, or by contract. Writing, &c. Reference given.—Apply to C. PETTET, 12, Maida Hill, Edgeware road, Paddington.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Tint, 5s. per gallon; Dark Oak, 6s. per gallon; Mahogany, 8s.; Rosewood, 8s.; Walnut, 8s. Varnishes for NAYLOR'S Stains may be had at the Factory, No. 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford street, S.

DO NOT BURN OFF OLD PAINT, but use NAENIARE & CO.'s LETHICUM, which will remove it clean to the wood in twenty minutes.—Sold at 3s. per gallon, at 11, St. Andrew's-hill, Doctors'-commons, E.C. Brushes, 2s. Success guaranteed.—N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at

MARLBOROUGH HOUSE.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
59, Upper Thames street, London, E.C.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W.

Established 1777

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graining Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 28s. per cwt. Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 6d. per Gallon. Turpentine, 6s. 9d. per Gallon.

Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colechill-street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—White Lead (warranted genuine), 28s. per cwt. Linseed Oil, 3s. 4d. per gallon. Turpentine, 7s. 0d. per gallon. Fine Pale Oak Varnish, 9s. per gallon.

For cash at FRANCIS FICK'S Old Established VARNISH and COLOUR WAREHOUSE, No. 108 EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus. Agent for Hamilton's celebrated Painting and Graining Brushes.

NAILS and IRONMONGERY from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

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FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 76, Gresham-street, London, E.C.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator, as the only efficient instrument for insuring wholesome and uniform lighting, equalising the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 35, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS,
WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

THIRTIETH ANNUAL GENERAL

MEETING of SHAREHOLDERS of the AGRA and UNITED SERVICE BANK (limited), held at the Bank, 27, Cannon-street, E.C. on SATURDAY, APRIL 2, 1864

George Gordon Macpherson, Esq. Chairman, in the Chair

The notice convening the meeting and the following report and statement of accounts were read

The Directors have to submit to the Shareholders the audited accounts for the year ended 31st December last, and to report that, after making ample provision for all bad and doubtful debts, the net profits of the Bank for the year amounted to £2,000,102 1s 2d.

Out of this sum the Directors have declared, free of income tax, two half yearly dividends, at the rate of 10 per cent. per annum each, and have added to the last of these a bonus of 4l. per share, thus making a return for the year of 15 per cent. on the paid-up capital of one million sterling.

From the balance remaining the Directors have refunded to reserved fund the sum of £ 347 2s 4d, taken from it at last year, and, in consideration of the greatly extended business of the bank, have carried to credit a further sum of 25,000, thus raising the fund to 225,000. They have also passed the sum of 5,000 to superannuation fund, and 17,000 to building fund, carrying forward 10,762 1s 2d to credit of profit and loss account for the current year

Since last annual meeting the Directors have purchased desirable premises in Sydney, and have secured land at Shanghai, Karrachee, and Malta, and new to the erection of suitable buildings for the branches at those ports

The present Auditors be eligible for re-election, in terms of the deed of settlement, offer themselves accordingly.—By order of the Board,

MACKINTOSH BALFOUR, General Manager

(No. 1.)—BALANCE-SHEET, DECEMBER 31, 1863.

Dr. LIABILITIES.	
To paid-up capital	£1,000,000 0 0
,, Reserved fund	192,658 17 8
,, Amount due by the bank for customers' balances, fixed deposits, acceptances, letters of credit, circular notes, &c.	8,822,830 12 11
,, Profit and loss	242,909 12 6
	£2,388,399 3 1

Cr. ASSETS.	
By cash in hand and at call at head office and branches	241,863 4 1
,, Government securities	211,549 9 10
,, Other securities, including specie, bills purchased, discounts, loans, &c.	8,840,914 12 1
,, Freehold premises in London, Edinburgh, Calcutta, Bombay, Agra, Lahore, and Sydney, and leasehold property and building ground at the other branches	94,971 17 1
	£2,388,399 3 1

G. B. DALBY, Chief Accountant.

(No. 2)—PROFIT AND LOSS ACCOUNT FROM JANUARY 1 TO DECEMBER 31, 1863

Dr.		
To payment of dividend on paid-up capital 10 per cent. per annum for half year ended 30th June	£50,000	0 0
,, Ditto ditto for half year ended 31st Dec.	50,000	0 0
,, Bonus of 4l per share	40,000	0 0
,, Amount transferred to reserved fund	32,341	2 4
,, Amount transferred to building fund	15,000	0 0
,, Amount transferred to superannuation fund	5,000	0 0
,, Balance carried forward	10,762	1 2
	£242,909	12 6

Cr.		
By gross profits at head office and branches to Dec 31, 1863—after making provision for bad and doubtful debts	£2,042,032	6 0
Less interest allowed on current and deposit accounts	167,509	14 0
	£329,140	12 0
Total expenditure of head office and branches, including rent, income-tax, taxes, stamps, salaries with gratuity of 10 per cent. thereon to the officers of the establishments at home and abroad, miscellaneous charges, &c.	86,236	19 6
	242,909	12 6
	£242,909	12 6

G. B. DALBY, Chief Accountant.

(No. 3.)—RESERVED FUND ACCOUNT, December 31, 1863.

Dr.	
To balance at credit of reserved fund	£225,000 0 0
	£225,000 0 0

Cr.	
By amount on 31st December, 1863	£192,658 17 8
By amount transferred from profit and loss account, as above	32,341 2 4
	£225,000 0 0

G. B. DALBY, Chief Accountant.

We have examined the preceding statements (Nos 1, 2, and 3) with the books, vouchers, and certificates at the head office, in London, and with the detailed returns and balance sheets signed by the auditors of the several branches; and we hereby certify to the correctness and satisfactory character thereof

W. FARR,
J. HILL WILLIAMS, } Auditors.

London, March 16, 1864.

The following resolutions were duly moved, seconded, and carried unanimously:—

1. "That the report and statements which have been read to the meeting and previously circulated to the shareholders in Europe, be adopted.

2. "That George Gordon Macpherson, esq., Colonel Henry Doveton, James Sydney Stopford, esq., and James Thomson, esq. be re-elected directors

3. "That John Hill Williams, esq. and William Farr, esq. D.C.L. F.R.S. be auditors for the present year.

4. "That the thanks of the shareholders be given to the board of directors for their careful control of the bank's affairs; to the general manager, Mr. Mackintosh Balfour; to the London manager, Mr. William Shipman, and to the local committees and managers of the branches, for the satisfactory manner in which they have conducted the business of the bank for the past year; and to the auditors, for their efficient supervision of the accounts.

5. "That the thanks of the meeting be given to the chairman for his able conduct in the chair."

G. G. MACPHERSON, Chairman.

THE AGRA and UNITED SERVICE BANK (Limited).
Established 1833.
Incorporated by Royal Charter.
Paid up capital 1,000,000 (One Million sterling) Subscribed capital 2,000,000 (Two Millions sterling) in 20,000 shares of 100 each.
Number of shareholders, 720. Reserve Fund, 225,000
Head Office 27, Cannon street, London, E.C.
Agency for Marseilles, 21, Rue Grignan.
Alderman Thomas Quested Finnis, Deputy-Chairman.
GENERAL MANAGER—Mackintosh Balfour, esq.
LONDON MANAGER—W. Nicholas Shipman, esq.
AUDITORS
William Farr, esq. D.C.L. F.R.S.
John Hill Williams, esq.
SOLICITORS
Messrs. Upton, Johnson, & Upton, 20, Austinfriars.
INSURANCE BROKERS.
Richard Barnes, esq.
EDINBURGH BRANCH, 17, St. Andrew-square.
DIRECTORS IN EDINBURGH
Thomas Ranken, esq. 68, Queen street, Chairman.
Daniel Ainslie, esq. 48, Moray-place.
Benjamin Burt, esq. M.D. 31 Charlotte square.
George Moir, esq. Advocate, Sheriff of Stirlingshire, 14, Charlotte square
MANAGER IN EDINBURGH.
Robert Hunter, esq.
Branches in Edinburgh, Calcutta, Bombay, Madras, Kurrachee, Agra Lahore, Shanghai, Hong Kong, and Sydney.
Current accounts of firms and individuals are kept at the head office, on terms to be had with London bankers, and interest allowed when the credit balance does not fall below 100l.
Deposits received at ten days' notice of withdrawal, at rates fluctuating with those of the Bank of England; and for longer periods at fixed rates, part, shares of which may be obtained upon application.
Every other description of banking business and money agency, British and Foreign, transacted.
Letters of Credit and Circular Notes issued, payable at the chief cities of Europe and Asia, and also at Cairo and Alexandria.
MACKINTOSH BALFOUR, General Manager.

THE UNIVERSAL BUILDING SOCIETY
(Enrolled pursuant to Statute 6th & 7th William IV. c. 32).
OFFICE, 193, PICCADILLY
Attendance every Tuesday evening, from Six to Eight o'Clock.
Shares, 20 each. Monthly Payment, 10s per Share.
Advance Fee, 2s. 6d. per Share.
The Society will terminate in Twelve Years.
The First Monthly Subscription became due on Tuesday, 5th April, 1864
1,000l. will be offered for Sale to the Members, on TUESDAY, the 3rd MAY, at SEVEN o'clock, p.m.
Secretary, A. F. HAY, 41, Castle street, Leicester square.

A FREEHOLD MANSION TO BE SOLD.
The elegant Furniture may be had at a valuation. There are four receptions rooms, two being 50 feet in length, eleven best bedrooms, standing for eight horses and coach-houses for four carriages; suitable servants' offices, extensive ornamental grounds, with green houses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. MAY, Esq. Solicitor, 67, Russell-square.

VALUABLE PREMISES.—Large, open SPACE, with an area of 1,230 square yards, TO BE LET, immediately, with or without workmanship, as the tenant may require, in frontage of 167 feet to the road, situate in a main thoroughfare, on the north of the Bank. The extension of railways and city improvements, causing such a consequent scarcity of premises, render these extremely valuable.—Apply to E. & W. STURGE, Bridge-wharf, City-road, E.C.

DEPTFORD, Kent.—To BUILDERS, ENGINEERS, SHIPWRIGHTS, SMITHS, MANUFACTURERS, and Others requiring or desiring commodious Tenements or Residences for their workmen, or to sublet, or to any trade wishing to provide improved Dwelling Houses for their Operatives, together with Trinity House, having on every premises for the inmates of their establishment known as the Lower Ground Almshouses, at the Stowage, Deptford, comprising Twenty-six detached Dwellings, hereby give notice, that they are willing to receive TENDERS for LETTING the said HOUSES on a repairing lease for 21 years, or more, as may be agreed. Each house consists of a basement, ground, and chamber story; five having yards and additional offices; and the others can readily have every necessary accommodation added to them. The whole is approached from the Stowage, a centre roadway, and is inclosed within itself as a distinct precinct. These houses are situated in the centre of the large manufacturing districts on the South side of the Thames They are within 200 yards of the Deptford Pier, and at the ferry, very conveniently situated in relation to the large district of the many factories on the opposite side of the river, from Mill-wall and the Isle of Dogs to the localities adjoining Fox Point and Greenwich, apply to Mr. NORTHWOOD, No. 1, on the Premises. The whole are to be Let by Tender, in One Lot, and MONDAY, the 30th of MAY next, in the day fixed by the Corporation for receiving the Tenders for the further particulars apply at the offices of Mr. RICHARD SUTER, Architect and Surveyor, 25, Gracechurch-street, E.C. and where a plan of the property may be seen.

P. H. BERTHON, Secretary.
Trinity House, March 28, 1864.

BUILDING LAND at CHITT'S HILL, WOOD GREEN, overlooking three different counties, and fronting the High road, eight minutes walk from the station and Alexandra Park, TO BE LET for the erection of superior Villa Residences, which are in great demand in this beautiful locality. Term, 99 years. Money advanced if required.—A plan may be seen and particulars obtained, on application to S. HEWITT, Architect and Surveyor, 101, Great Russell-street, Bloomsbury, W.C.

WATERSIDE PREMISES, CITY-ROAD.
MESSRS. FULLER & HORSEY are instructed to LET, on Lease, from Michaelmas next, Extensive WATERSIDE PREMISES, occupying a site of 31,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick manufactory of two floors, erected on lofty brick piers, with Engine-house, Steam-engine and three Coal-barners; range of brick built offices, and paved yards with gateway entrances. There is a water frontage of about 270 feet.—For further particulars apply to Messrs. FULLER & HORSEY, No. 13, Billiter street, London, E.C.

THE BERNEY ARMS PORTLAND CEMENT WORKS, TO BE LET for a Term of Years, driven by Steam and Wind power; are in complete repair and working order, and calculated to carry on a trade to any extent, being in the neighbourhood of an abundant supply of the best materials, with water carriage to most parts of Norfolk and Suffolk, and through Yarmouth to all the world. The Berney Arms Station is within five minutes' walk leading to Norwich, Lowestoft, and Yarmouth.—Apply to Mr JAMES NESBIT, Merton, Norwich.

CITY of LONDON.—Very valuable and Extensive Building site, close to Wood-street.—The Court of Assistants of the Worshipful Company of Salters are prepared to receive TENDERS for taking a BUILDING LEASE or LEASES, for a term of 80 years, of the whole or part of all that valuable Plot of Land, containing about 11,000 superficial feet, situate close to Wood-street, Cheapside, and having frontages, to Foil street of 120 feet, Harb-street 87 feet, and Monkwell-street 138 feet. A plan of the ground may be seen, and forth particulars obtained, on application at the Clerk's Office, at the Hall, in Southampton Buildings, Chancery-lane, Fetter-lane, or to the Company's Surveyor, JOHN COLLIER, Esq. 20, Finsbury-street. Tenders to be delivered to EDWARD THOMPSON, Esq. Clerk of the Company, at Salters' Hall, and delivered on or before the 23rd day of MAY next, at TWELVE o'clock at noon.

FREEHOLD LAND TO BE SOLD or LET, on Building Leases.
2 Acres, near the Station, at Forest-hill.
1 Acre, adjoining Norwood Junction Station.
2 Acres, Grange-road, Old Kent-road.
A large WHARF TO BE LET, near the Old Kent-road.
Apply to Mr. MAY, Acorn Timber Wharf, Old Kent-road.

IMPORTANT to COAL PROPRIETORS, CAPITALISTS, and OTHERS.—The owners of valuable MINES of COAL, lying within and under a compact freehold estate of upwards of 1500 acres, situate about three miles from the important manufacturing town of Blackburn, Lancashire, are prepared to treat for the absolute SALE of the COAL, or to enter into favourable arrangements for leasing the same for a term of years. Good turnpike roads intersect the estate, and the same is within very easy distance of railway and canal.—For further particulars apply to Messrs. ROBINSON & SON, Solicitors, Blackburn.

BROMLEY, KENT.—To BUILDERS.—WANTED, by SEPTEMBER next, in a pretty situation in this locality, and not far from the railway-station, to be taken on LEASE, with option of purchase, an elegant, architectural, and well-constructed detached RESIDENCE; containing five or six good bedrooms, a dressing-room, dining and drawing rooms, small library, and the usual domestic offices; also a coach-house, two-stall stable, and laundry, together with a good garden tastefully laid out and stocked with shrubs, &c.—Apply, by letter, to H. F. H. care of Mr. A. J. Hall, Stationer, 78, Old Broad-street, City, E.C.

A CAPITAL WHARF TO BE LET, with Crane, near the Midland Railway, Camden-town.—Apply to Messrs. STRINGFIELD & BLYTH, Bangor Wharf, Camden-town.

TO BRICKMAKERS and CONTRACTORS.—TO BE LET, for a term of years, or otherwise, all that TEN ACRES of Capital BRICK EARTH, situated close to the water side, and near a Railway-station in the County of Essex.—Address, E. W. care of Mr. SKIPPER, 18, Jewry-street, London, E.C.

A LARGE BUILDING FOR SALE, at present used as a church, accommodating 1,000 persons.—Address, ZETA, 2, Northumber and Houses, King Edward's road, N.E.

TO BUILDERS.—LAND at NORWOOD, TO BE LET, for Building. Sixty per cent. advanced on account. For particulars address, J. B. Office of "The Builder."

THAMES BANK, PIMLICO. Extensive PREMISES, with the partial use of a Private Dock entering from the Thames, suitable for a Builder's Establishment or a Factory. TO BE LET on LEASE for a long term, at a moderate rents.—Apply to Messrs. SCURRY & WRIGHT, Surveyors, No. 6, Salisbury-street, Strand, W.C.

SOUTH CLIFF BUILDING ESTATE, TENBY, Pembrokeshire.—This Estate presents to Builders and others an unusual opportunity for a first class investment in the fashionable sea-side watering place.—For plans and particulars apply to Mr. J. H. SHIPWAY, Architect, 18, Great George street, Westminster, London; or J. MAULE SUTTON, Esq. Broomfield, Narberth, Pembrokeshire.

BUILDING LAND, TO BE LET, at low Ground Rents.—

UPPER NORWOOD	Villas	Rental £50
PERRY HILL, SYDENHAM	Shops	,, £30
HACKNEY (best part)	Dwelling House	,, £30
DALSTON (do.)	do.	,, £30

Money advanced if required.
Apply to Mr. T. K. GREEN.
25, COLLEGE HILL, CANNON STREET, E.C.

WANTED to RENT, Small PREMISES, with Dwelling-house, in any town or village where there is an opening for a Bricklayer or Builder's Business. Distance from London no object.—Address, with full particulars, X. X. X. Office of "The Builder."

TO BUILDERS.—BUILDING LAND TO BE LET, at Ealing, W. near to the Common, five minutes' walk from the station. The ground has a frontage of 65 feet, suitable to build a detached villa.—Apply to Mr. LIDDELL, Ravensworth Villa, The Grove, Ealing.

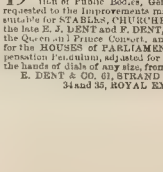
TO BUILDERS.—TO BE LET, in part or whole, a PLOT of 12 Acres of FREEHOLD BUILDING LAND, situated at Leyton, Essex, within five minutes' walk of the Railway-station at Leyton. Houses fitting at 30l to 50l. per annum are much needed in this locality, which is only six miles from the Bishopsgate-street and Fenchurch-street Stations, and within ten minutes, by railway, of Epping Forest. Soil, gravel. Drainage excellent. The Estate is laid out according to special Plan.—For particulars apply to Mr. KEATES, 140, Strand, W.C.

TO BREWERS and OTHERS.—For SALE, by PRIVATE CONTRACT, a Plot of FREEHOLD BUILDING LAND, in the immediate proximity of the Reading Stations on the Great Western, South Eastern, and South-Western Railways, and abutting on a road which will soon become one of the principal thoroughfares to these Stations. The site is admirably adapted for a good second class Hotel Money advanced if required. Apply to Mr. WM. WEEDON, Solicitor, Reading.

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LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B. Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, sawn as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at the St. Pancras Station of the Midland Railway, direct from the Kilns, at 20s. per ton.—The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias Stone.—March, 1864.

ESTABLISHED 1844.

JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, which, from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and protecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, also in barrels and bags. The limestone can be had in full cargoes, and their cement in barrels, which is of a very superior quality and guaranteed pure. Orders to be accompanied by a banker's reference, delivery at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Directly opposite Entrance to Goods Station, Great Northern Railway

MINTON & CO
Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

REEVES'S BLUE LIAS LIME,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

ROBERT WARD & SON, Timber Merchants, beg to announce their REMOVAL to THAMES BANK WHARF, Grosvenor road, Pimlico, S.W.

A LARGE QUANTITY of LARCH POSTS WANTED, 6½ feet long, 6½ by 3½ half-round, with 4 in mortice holes.—Apply to R. WARD & SON, Thames Bank Wharf, Grosvenor-road, Pimlico, S.W.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l. per 120, 12 feet; Yellow ditto, 10l. ditto ditto; ¾ Floor Boards, well prepared, from 1s. 6d. per square; Matched Lining, from 12s.; Venetian Blind slats from 8s. 6d. per 100 feet super.

PYROGRAPHIC FACTORY.
THOMAS PONSONBY & CO.
TREDEGAR WORKS, BOW,
And 52, GRACECHURCH STREET,
Are now prepared to supply the Trade with ORNAMENTAL MOULDINGS, either in Veneers or on the solid, for Stringings, Prints Picture, or Glass Frames.
Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had. Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.
THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY-SEVEN SHILLINGS per square, including the wood.
This can be obtained either direct at the Works, or at Messrs. CREDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Matched Lining in London.
They also draw special attention to their Door-plates and Door Furniture, not only on account of their price, but also for their great durability, and not being liable to fracture or breakage. Price lists forwarded on application, at either Tredegar Works, Bow; or City Office, 52, Gracechurch-street.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END-GATE.

DRY RIGA WAINSCOT,
in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by water sale premises as compared with inland yards, they are enabled to sell at the very lowest prices.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered by all railways in London, and alongside of any craft on the River Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.
COUNTRY ORDERS PROMPTLY EXECUTED.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls, and Lining Iron Houses.
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square
10,000 Dry Pine Plank ..... from 3s. 6d. each
5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 6½d. per foot

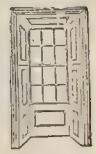
YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

WHITE BATTENS £8 10
YELLOW ditto 9 10
WHITE DEALS £15 0 0
¾-FLOORING .. from 0 10 6
FIR TIMBER, GOOD LENGTH AND SIZE.
T. W. ELLSTON,
No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adopted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Moulded Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.





MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given. Price Lists forwarded on receipt of One Stamp.



CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 33s. per Load.	
Good Yellow Deals	£16	10	0	per 120, or 2½ per foot.	
Spruce Deals	15	0	0	,,	2½ ,,
2½ inch Battens	9	0	0	,,	1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, well prepared ..... White	11s. 6d.	...Yellow	12s. 0d. per square.
¼-inch ,, ,, ... ,,	12s. 0d.	... ,,	13s. 0d. ,,
1-inch ,, ,, ... ,,	14s. 6d.	... ,,	15s. 0d. ,,
2½-inch Battens	Yellow, £10, White, £9 per 120 of 12 feet.		
3 by 9 Deals	Yellow, £18, White, £16 10s. ,,		
Matched Linings, ¾-inch	White, 12s., Yellow, 13s. per square.		

Deals and Battens, in the Docks, at a considerable reduction.
PRICE LISTS AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.

JOHN EMERY,
MANUFACTURING JOINER,
No. 28, GRAY'S INN ROAD, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION,

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

JAMES STIFF & SONS,

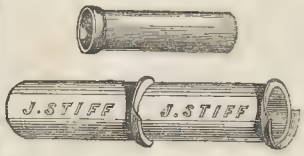
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for ready Sewer and Drain, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

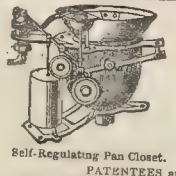
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.



Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



Lambert's Ball Valve.





High-Pressure Ball and Screw Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. which is sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can tell the difference between such material. Workmen who have once used the Patent Zinc Paint will never willingly be induced to use any other Paint for their best work.

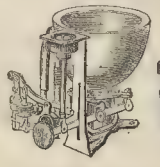
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. All the number can be worked by one simple lift. No intervalves, chains, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-road, Newgate-street, London.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In consideration of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary tiles of their perishable coverings MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friezes, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c. Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 91, Wharf, Macclesfield-street, North, City-road (as No. 2 only), that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and finally, that the "Records of the Jurors," page 681, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank this Manufacture known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard Tables, Table tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 30, Upper Belgrave place, Pimlico, S.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP-SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE USUALLY AND DESTRUCTIVE SHUTTER BAR. Scoops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of fronters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,
Engineering Depot, Palace Wharf,
Stangate, Lambeth, S.

CLINTON & OWENS

(LATE FOWLER & CO.),

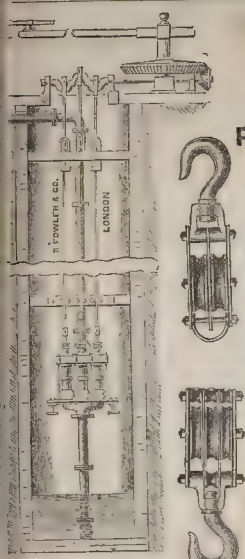
WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF

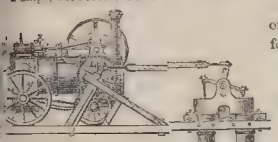
PUMPS OF ALL DESCRIPTIONS,

AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



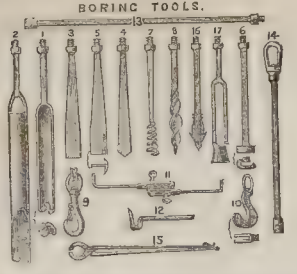
Treble Barrel Deep Well Pumps, with Horse Gear.



On Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

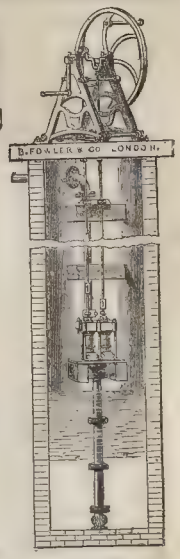
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

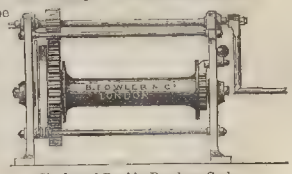
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes, Pulley Blocks, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a vertical column.

2½ inches	£2 10
3 "	2 15
4 "	3 15

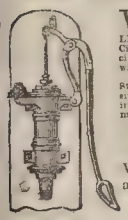
No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

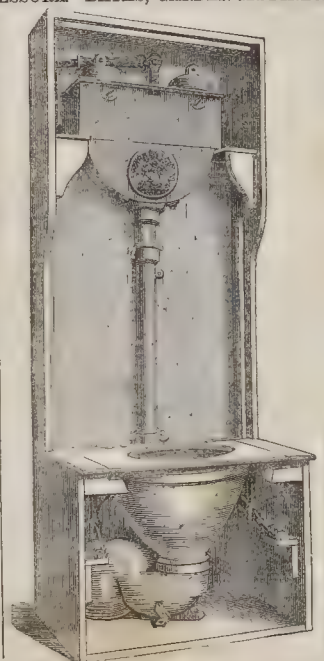
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and gudgeons are unnecessary, rendering the Pump considerably less than Pumps made on the old plan.

2½ inch ..	£1 4 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.

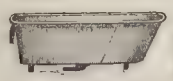


No. 1483.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 1484.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Pans, from 37s. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

SMITHFIELD.—1,400 OAK POSTS and 10,000 feet of OAK RAILING, forming the Pens and Cattle Rails in the late Market, PURBECK and GRANITE PAVING, &c.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the Market Improvement Committee of the Corporation of the City of London to SELL by AUCTION, at SMITHFIELD, on MONDAY, APRIL 18th, at TWELVE, 4,000 OAK POSTS, and 10,000 feet run of OAK RAILINGS and BARS, forming the pens and cattle rails, Oak Gates, a large quantity of Granite and Purbeck Paving and Granite Paving, Wrought-iron Work, &c. the whole on deal into convenient Lots. May be viewed, and Catalogues had, at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

ST. MARY-AT HILL.—Building Materials of Three Houses.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 22, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of three large Houses at 7 Offices, No. 5a, St. Mary-at-Hill and Nos. 12 and 14, Crooched-lane, comprising sound fir bricwork, slate rafters, joists and other useful timber plank, and pan tiles, sashes, doors, panelled partitions, landing chimney pieces and interior fittings; sound floor-boards, shop and warehouse fronts, lead flats, gutters, cisterns and pipes, stoves, mahogany desks and office fittings and various useful fittings on May be viewed 2 days previous; catalogues had of Messrs JOHN WILLING & SON, Architects, 25 King-street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CLAPTON.—Important Sale of BUILDING MATERIALS of Two Mansions GROWING TIMBER, &c. on the Clapton Hall and Priory Estate.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the London and Suburban Freehold Land Society, to SELL by AUCTION, on the PREMISES, on THURSDAY, MAY 19th, and following days, at TWELVE, in Lots, the whole of the capital MATERIALS and FIXTURES of the spacious Mansion distinguished as Clapton Hall and The Priory, Lower Clapton; comprising a large mass of useful and valuable materials and interior fittings up of an unusually superior description; also a portion of the valuable TIMBER standing on the Estate. Full particulars will appear in a few days, when Catalogues may be had of Messrs. HAMMACK & LAMBERT, Architects, 59, Bishopsgate-street; at the Offices of the London and Suburban Freehold Land Society, 70, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BRENTWOOD, ESSEX.—Eligible Freehold Building Land, near to the Railway Station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the WHITE HART HOTEL, Brentwood, on WEDNESDAY, APRIL 27, 1864, at FIVE for SIX o'clock in the Evening, in lots, the valuable FREEHOLD LAND, suitable for building or garden purposes, having frontages to the new roads leading from Crescent road, situate near to the Brentwood Station on the Great Eastern Railway. Nine-tenths of the purchase-money may remain on mortgage at 5 per cent. to be paid in nine years by equal yearly instalments, but the whole or any part of the balance may be paid off at any time within that period. Particulars, plans, and conditions of sale may be obtained ten days after the sale at the principal Inns in the neighbourhood; of T. I. BAILEY, Brentwood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the FOREMAN, on the Estate; and at the Place of Sale.

SHOOTER'S HILL, KENT.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWNHALL, Woolwich on FRIDAY, 22nd APRIL, 1864, at SIX for SEVEN o'clock in the evening, the upper portion of the eligible FREEHOLD PROPERTY, known as the Potteries, fronting Shrewsbury-lane. The views from this part are very extensive and beautiful, and the situation is most delightful situation for first-class residences. The Royal Military Academy and Woolwich Common are within a few minutes' walk. Nine-tenths of the purchase-money remain on mortgage at 5 per cent., at 5 per cent. to be paid in nine years, by half-yearly instalments, but the whole or any part of the balance may be paid off at any time within that period. Particulars, plans, and conditions of sale may be obtained ten days after the sale at the principal Inns in the neighbourhood; of T. I. BAILEY, Brentwood; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; of the FOREMAN, on the Estate; and at the Place of Sale.

NORTH LONDON RAILWAY.—CITY BRANCH

MESSRS KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, Plough yard, Shoreditch, on WEDNESDAY, APRIL 27th, 1864, at TWELVE for ONE o'clock, the MATERIALS of several HOUSES and BUILDINGS, in Cumberland-street Plough and Hedgwell-lane—May be viewed any time, and catalogue had at the Auctioneers' Offices, Camden Town and Islington.

CHARING CROSS RAILWAY, CITY EXTENSION, SURREY AND CITY WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, Clink street, on FRIDAY, 22nd APRIL, 1864 at ONE o'clock precisely, the useful number six of a range of stabling and storehouses at Carey's Wharf, and 3 houses on Montague Hill, comprising the land in ridges and gutters, the slates and tiles out of, about 1,000 feet of deals, battens, and other fixtures and fittings. May be viewed the day prior, morning of sale, and catalogues had at the Contractor's Office, Worcester street, Southwark, the Face of Sale and of Messrs WILLIS & HARROW, 3, Newman's court, Cornhill, and West Molsey, Kingston, Surrey

CONTRACTOR'S PLANT MACHINERY, PORTABLE STEAM-ENGINES, CRANES, AND EFFECTS.

MR. GAIRDNER is instructed by Messrs. Brassey, Ogilvie, & Harrison, having completed a portion of the Northern Mid Level Sewer, to SELL by AUCTION on the PREMISES, Hackney Downs, near Cassland-road, Victoria Park Railway, on MONDAY, the 18th day of APRIL, at TWELVE o'clock two 14-inch power portable steam engines, two steam cranes, four cent. feed lift pumps, Locomotive and Wagon Engines, Lime and Mortar mill, sling chains 25 14 yard side tip waggons 4 feet cages, pile driving portable office, ten brick carts, timber in balk and plank, 80 pair ladders, stacks of Portland cement, 1,000 sacks, pipes, brick, drain pipes and numerous valuable effects On view two days prior Catalogues forwarded by post, and at Mr. GAIRDNER'S Office, 199, Tottenham court road, W.

Stock and Plant of a Builder and Contractor, under a Deed of Assignment.

MR. GAIRDNER will SELL by AUCTION, on the PREMISES, No. 21, Harrington-street, Hampstead-road, on MONDAY, APRIL 25, at TWELVE, several Hoop-iron Iron Bound PORTABLE HUTS, in deals and planks, wide pine boards, mouldings and prepared joinery, 8 benches, shoring in pairs and balks, brickwork and masonry, trusses and painting timber, 200 new fir poles, wrought pales, laths and battens, 6 standard ladders, light ladders, steps and treades, barrows, truck, two carts, horse and dog cart, locks, sashes, and numerous useful effects May be viewed two days prior of the Sale Catalogues on the Premises and at Mr. GAIRDNER'S Office, 199, Tottenham court-road.

PIMLICO IMPROVEMENTS.—BUILDING MATERIALS of Fifteen Dwelling Houses

MR. GEO. HAINES announces FOR SALE, on THURSDAY, APRIL 28, at TWELVE o'clock the useful MATERIALS of the whole of Nos. 1 to 15, Cundy-place, comprising a large quantity of sound brickwork, lath and iron, slate and tiled roofs, battens in pattern plates, partitions, wainscots, doors, sashes, floors, slate staircases, cupboards, chimney-pieces, fixtures, and numerous fittings. May be viewed Catalogues of Messrs HAINES & SON, Moorgate-street City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

LANCASHIRE.—OSWALDTWISLE, near BLACKBURN.—SALE of Valuable and Extensive FREEHOLD ESTATES.—TO BE SOLD by AUCTION, by

MR. GRUNDY, on THURSDAY, the 28th day of APRIL, 1864, at the BULL HOTEL, in Blackburn in the County Palatine of Lancaster, at Six o'clock in the afternoon, subject to the conditions to be then and there produced by the Vendors, and to the following, or such other lot or lots as may be agreed upon at the time of sale:—

Lot 1.—All that Close, Piece, or Parcel of MEADOW LAND (part of the Salt-pie Farm), situate at Smithy Brook, within the Township of Oswaldtwisle, in the Parish of Whalley and County Palatine of Lancaster, bounded on or towards the south by the public highway, and on or towards the west by the stream or brook called Smithy Brook, and containing by admeasurement 2a. 2r. 24p. or thereabouts, described in the plan thereof (No. 1) hereinafter referred to.

Lot 2.—All that Farm and Tenement known by the name of the Falls Farm, situate in the Township of Oswaldtwisle aforesaid on the east side of and bounded on the west by the highway leading from Blackburn to Little Moor End, on the north and east by the Lower Stanhill Farm, and on the east by the stream or brook known as Smithy Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of land or pasture and fully delineated and described in the plan thereof (No. 2) hereinafter referred to, and containing together in statute measure 12a. 1r. 9p.

Lot 3.—Al that Farm and Tenement known by the name of The Lower Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, bounded on the north by the highway leading from Blackburn to Little Moor End, and for a considerable extent to the south by the said highway on the north, by the Fountains Farm, on the east by Walsh Mill, and on the north-east by a way or road leading from the said highway to Aspen-lane; consisting of the farm-house, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 3) hereinafter referred to, and containing together in statute measure 29a. 0r. 25p.

Lot 4.—All that Farm and Tenement known by the name of The Fountains Farm, situate in the township of Oswaldtwisle aforesaid, bounded on or towards the north by Aspen-lane, on the east by a private road, on the west and south by Lower Stanhill Farm and part of Whitnash Mills, and at the north-eastern extremity by the turnpike road (separating at that point a small portion of this lot) leading from Blackburn to Accrington, and consisting of the farm-house, farm, and other buildings, and the several closes, pieces or parcels of meadow and pasture land delineated and described in the plan thereof (No. 4) hereinafter referred to, and containing together in statute measure 29a. 0r. 25p.

Lot 5.—All that Farm and Tenement (formig part of the Stanhill Farm) situate in the township of Oswaldtwisle aforesaid, on the north east side of and bounded on the south west side by the turnpike-road leading from Blackburn to Accrington; consisting of the several closes, pieces, or parcels of land fully delineated and described in the plan thereof (No 5) hereinafter referred to, and containing together in statute measure 18a. 1r. 20p.

Lot 6.—All that Farm and Tenement known by the name of the Stanhill Farm, with the substantial and well-accustomed Inn or Public house (known as the Spread Eagle), with the farm and other buildings thereon, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the turnpike road leading from Blackburn to Accrington, and on the west by the private road or way from Stanhill Ho se to the said turnpike and consisting of the several closes, pieces, or parcels of meadow and pasture land, or part or parcels thereof, and fully delineated and described in the plan thereof (No. 6) hereinafter referred to, and containing together in statute measure 25a. 0r. 31p.

Lot 7.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the turnpike road leading from Blackburn to Accrington, bounded partly on the north by the said turnpike leading from Blackburn to Accrington, and partly by the highway leading from Blackburn to Little Moor End, on the east by Stanhill House and Stanhill Farm, and consisting of the farmhouse, farm and other buildings, and the several closes, pieces, or parcels of meadow and pasture land fully delineated and described in the plan thereof (No. 7), here inafter referred to

Lot 8.—All those Two Messuages or Dwelling hou es, and all that piece or parcel of Land or Ground (known as Hick Meadow), situate at Stanhill, within the township of Oswaldtwisle aforesaid, on the north side of the highway from Blackburn to Little Moor End, containing the whole, in statute measure, 3r 20p or thereabouts and fully delineated and described in the plan thereof (No. 8), here inafter refer ed to

Lot 9.—All that Farm and Tenement known by the name of the Salt Pie Farm, situate in the township of Oswaldtwisle aforesaid, on the west side of the high way leading from Blackburn to Little Moor End, bounded on or towards the east by the said highway, and on or towards the west by the Rushen Fold Brook, and on or towards the south west by property of John Redlish, esq and others; and consisting of the farm house, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 9), herein after referred to, and containing together 16a. 1r. 39p.

Lot 10.—All that Farm and Tenement known by the name of the Rushes Farm, situate in the township of Oswaldtwisle aforesaid, on the south west s de of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, and on or towards the south, east by Salt P Farm, on or towards the south west by part of Higher Stadvill Farm, and on the south by Smithy Brook, and property of Joseph Pickup, esq., and consisting of the farm-house, farm and other buildings, and the several close, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 10) hereinafter referred to, and containing together, in statute measure, 27a 1r 7p

Lot 11 All that Farm and Tenement known as part of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south east by Stanhill House and Farm, on or towards the south west and north west by land of John Redlish esq and others, and consisting of the Farm House, Farm, and other Buildings, and the several Closes, Pieces, or Parcels of Meadow and Pasture Land, fully delineated and described in the plan thereof (No 11) hereinafter referred to, and containing together in statute measure 34a. 3r. 0p.

Lot 12 All those several Closes, Pieces, or Parcels of Meadow and Pasture Land, situate lying and being within the township of Oswaldtwisle aforesaid, known by the several names and containing (in statute measure) the several quantities following: that is to say, the Old Meadow (including the sites of Grove House, Shrubberies Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, Outbuildings and Premises hereinafter mentioned, as forming part of this lot), as 3r. 28p.; the Croft, 1a. 0r. 15p.; and the Chapel Meadow, 1a. 1r. 12p.

Also, all that modern capital Family Residence erected on part of the before-mentioned Lot 12, with the Coachhouses, Plantation, Gardens, two Stables, Shippons, Cottages, and Outbuildings con nected with the Grove House and Premises aforesaid:

Grove House is a very convenient family residence, contains spacious and well proportioned dining room, drawing-room, breakfast room, seven bed rooms; numerous good and suitable bed-rooms, bath-room, water closet, &c.; kitchens, scullery, cellarage, entrance hall, and convenient staircases The several rooms have been carefully fitted up with modern conveniences and modern fixtures; the whole premises are well supplied with hard and soft water, and are replete with every convenience and appendage usually to be found in extensive family residences

The whole of the before-mentioned farms and properties are freehold of inheritance, and will be Sold subject to the reservation of the Tithes rent charge and under the several farms and properties

The tenants of the several Farms and Properties have duplicates of so much of their respective holdings, and printed particulars, with Lithographic plans of each lot, may be had on application to Messrs WESTALL BROTHERS, Church Mill, Oswaldtwisle, or on application to the Auctioneer, at his Office, No. 86, King-street, Manchester, or on application at the Offices of Messrs ROBINSON & SON, Solicitors, Blackburn; or Mr. GEO. M'CALL, Land and Engineering Surveyor, Blackburn.

Blackburn, March, 1864.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, WEDNESDAY, 27th APRIL, 1864, at TWO, 1 PIECES OAK TIMBER } Ex Elise from Stettin, wrecked on the 97 PIECES FIR TIMBER } voyage to London.

Also,

500 LOADS FOREIGN AND COLONIAL TIMBER.
50,000 PIECES ditto ditto. DEALS AND BATTENS
And other Wood Goods.

H. FREEMAN & CO. Brokers,
3, Crooked-lane, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.—The Remaining Stock, Utensils, &c.

MESSRS. FULLER & HORSEY are instructed by the Liquidator of the Keynsham Blue Lias Lime and Cement Company, Limited, to SELL by AUCTION, on FRIDAY, MAY 6, 1864, at TWELVE for TWELVE o'clock precisely, on the PREMISES, Keynsham Somerset, the remaining STOCK and UTENSILS, comprising 60 tons ground Blue Lime, 150 tons Scott's cement stone, 1,000 lime and cement sacks, 12 crosskills, 2 horse carts, 6 waggons, 18 sets cart and thill harness, stone trucks, sack-barrows, cement barrels, ladders, portable forge, a Pooley's 7-ton weighbridge with weights, &c. 160 feet run hurdles, spring cart, hay cob, office fittings, and numerous other effects. Tobe viewed the day previous and morning of sale, when catalogues may be had on the Premises; at the principal hotels in Bristol and Bath; of J. MAYNARD, Esq. Liquidator, 19, Broad street, Cheapside; of Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Appley House, an important Freehold Property on the Coast, at Ryde, Isle of Wight With immediate possession

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock in one lot, APPLEY HOUSES and ESTATE, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing many rare natural advantages as a residence of the highest class for the erection of villas, so greatly in demand in this much-admired watering-place. Appley being now the only land available for such a purpose with a sea view, the site is eminently suited for residences near the town of Ryde. The estate is literally within a ring fence, the northern boundary being girt by the sea, and secured by a stone wall, forming an esplanade in a line with the principal terrace at Ryde, leading to the pier. The land here, which rises precipitously, is covered with a thick wooded plantation, the ramous of which would (if declired) enable the owner to realise a large sum for the timber, without at all interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the north side, sloping towards the west and south by Lower Stanhill Farm and part of Whitnash Mills, and at the north-eastern extremity by the turnpike road (separating at that point a small portion of this lot) leading from Blackburn to Accrington, and consisting of the farm-house, farm, and other buildings, and the several closes, pieces or parcels of meadow and pasture land delineated and described in the plan thereof (No 4) hereinafter referred to, and containing together in statute measure 29a. 0r. 25p.

Lot 5.—All that Farm and Tenement (formig part of the Stanhill Farm) situate in the township of Oswaldtwisle aforesaid, on the north east side of and bounded on the south west side by the turnpike-road leading from Blackburn to Accrington; consisting of the several closes, pieces, or parcels of land fully delineated and described in the plan thereof (No 5) hereinafter referred to, and containing together in statute measure 18a. 1r 20p.

Lot 6.—All that Farm and Tenement known by the name of the Stanhill Farm, with the substantial and well-accustomed Inn or Public house (known as the Spread Eagle), with the farm and other buildings thereon, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the turnpike road leading from Blackburn to Accrington, and on the west by the private road or way from Stanhill Ho se to the said turnpike and consisting of the several closes, pieces, or parcels of meadow and pasture land, or part or parcels thereof, and fully delineated and described in the plan thereof (No. 6) hereinafter referred to, and containing together in statute measure 25a. 0r. 31p.

Lot 7.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the said turnpike road leading from Blackburn to Accrington, bounded partly on the north by the said turnpike leading from Blackburn to Accrington, and partly by the highway leading from Blackburn to Little Moor End, on the east by Stanhill House and Stanhill Farm, and consisting of the farmhouse, farm and other buildings, and the several closes, pieces, or parcels of meadow and pasture land fully delineated and described in the plan thereof (No. 7), here inafter refer ed to

Lot 8.—All those Two Messuages or Dwelling hou es, and all that piece or parcel of Land or Ground (known as Hick Meadow), situate at Stanhill, within the township of Oswaldtwisle aforesaid, on the north side of the highway from Blackburn to Little Moor End, containing the whole, in statute measure, 3r 20p or thereabouts and fully delineated and described in the plan thereof (No. 8), here inafter refer ed to

Lot 9.—All that Farm and Tenement known by the name of the Salt Pie Farm, situate in the township of Oswaldtwisle aforesaid, on the west side of the high way leading from Blackburn to Little Moor End, bounded on or towards the east by the said highway, and on or towards the west by the Rushen Fold Brook, and on or towards the south west by property of John Redlish, esq and others; and consisting of the farm house, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 9), herein after referred to, and containing together 16a. 1r. 39p.

Lot 10.—All that Farm and Tenement known by the name of the Rushes Farm, situate in the township of Oswaldtwisle aforesaid, on the south west s de of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, and on or towards the south, east by Salt P Farm, on or towards the south west by part of Higher Stadvill Farm, and on the south by Smithy Brook, and property of Joseph Pickup, esq., and consisting of the farm-house, farm and other buildings, and the several close, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 10) hereinafter referred to, and containing together, in statute measure, 27a 1r 7p

Lot 11 All that Farm and Tenement known as part of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south east by Stanhill House and Farm, on or towards the south west and north west by land of John Redlish esq and others, and consisting of the Farm House, Farm, and other Buildings, and the several Closes, Pieces, or Parcels of Meadow and Pasture Land, fully delineated and described in the plan thereof (No 11) hereinafter referred to, and containing together in statute measure 34a. 3r. 0p.

Lot 12 All those several Closes, Pieces, or Parcels of Meadow and Pasture Land, situate lying and being within the township of Oswaldtwisle aforesaid, known by the several names and containing (in statute measure) the several quantities following: that is to say, the Old Meadow (including the sites of Grove House, Shrubberies Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, Outbuildings and Premises hereinafter mentioned, as forming part of this lot), as 3r. 28p.; the Croft, 1a. 0r. 15p.; and the Chapel Meadow, 1a. 1r. 12p.

Also, all that modern capital Family Residence erected on part of the before-mentioned Lot 12, with the Coachhouses, Plantation, Gardens, two Stables, Shippons, Cottages, and Outbuildings connected with the Grove House and Premises aforesaid:

Grove House is a very convenient family residence, contains spacious and well proportioned dining room, drawing-room, breakfast room, seven bed rooms; numerous good and suitable bed-rooms, bath-room, water closet, &c.; kitchens, scullery, cellarage, entrance hall, and convenient staircases The several rooms have been carefully fitted up with modern conveniences and modern fixtures; the whole premises are well supplied with hard and soft water, and are replete with every convenience and appendage usually to be found in extensive family residences

The whole of the before-mentioned farms and properties are freehold of inheritance, and will be Sold subject to the reservation of the Tithes rent charge and under the several farms and properties

The tenants of the several Farms and Properties have duplicates of so much of their respective holdings, and printed particulars, with Lithographic plans of each lot, may be had on application to Messrs WESTALL BROTHERS, Church Mill, Oswaldtwisle, or on application to the Auctioneer, at his Office, No. 86, King-street, Manchester, or on application at the Offices of Messrs ROBINSON & SON, Solicitors, Blackburn; or Mr. GEO. M'CALL, Land and Engineering Surveyor, Blackburn.

Blackburn, March, 1864.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Appley House, an important Freehold Property on the Coast, at Ryde, Isle of Wight With immediate possession

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock in one lot, APPLEY HOUSES and ESTATE, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing many rare natural advantages as a residence of the highest class for the erection of villas, so greatly in demand in this much-admired watering-place. Appley being now the only land available for such a purpose with a sea view, the site is eminently suited for residences near the town of Ryde. The estate is literally within a ring fence, the northern boundary being girt by the sea, and secured by a stone wall, forming an esplanade in a line with the principal terrace at Ryde, leading to the pier. The land here, which rises precipitously, is covered with a thick wooded plantation, the ramous of which would (if declired) enable the owner to realise a large sum for the timber, without at all interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the north side, sloping towards the west and south by Lower Stanhill Farm and part of Whitnash Mills, and at the north-eastern extremity by the turnpike road (separating at that point a small portion of this lot) leading from Blackburn to Accrington, and consisting of the farm-house, farm, and other buildings, and the several closes, pieces or parcels of meadow and pasture land delineated and described in the plan thereof (No 4) hereinafter referred to, and containing together in statute measure 29a. 0r. 25p.

Lot 5.—All that Farm and Tenement (formig part of the Stanhill Farm) situate in the township of Oswaldtwisle aforesaid, on the north east side of and bounded on the south west side by the turnpike-road leading from Blackburn to Accrington; consisting of the several closes, pieces, or parcels of land fully delineated and described in the plan thereof (No 5) hereinafter referred to, and containing together in statute measure 18a. 1r 20p.

Lot 6.—All that Farm and Tenement known by the name of the Stanhill Farm, with the substantial and well-accustomed Inn or Public house (known as the Spread Eagle), with the farm and other buildings thereon, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the turnpike road leading from Blackburn to Accrington, and on the west by the private road or way from Stanhill Ho se to the said turnpike and consisting of the several closes, pieces, or parcels of meadow and pasture land, or part or parcels thereof, and fully delineated and described in the plan thereof (No. 6) hereinafter referred to, and containing together in statute measure 25a. 0r. 31p.

Lot 7.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the said turnpike road leading from Blackburn to Accrington, bounded partly on the north by the said turnpike leading from Blackburn to Accrington, and partly by the highway leading from Blackburn to Little Moor End, on the east by Stanhill House and Stanhill Farm, and consisting of the farmhouse, farm and other buildings, and the several closes, pieces, or parcels of meadow and pasture land fully delineated and described in the plan thereof (No. 7), here inafter refer ed to

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Lot 9.—All that Farm and Tenement known by the name of the Salt Pie Farm, situate in the township of Oswaldtwisle aforesaid, on the west side of the high way leading from Blackburn to Little Moor End, bounded on or towards the east by the said highway, and on or towards the west by the Rushen Fold Brook, and on or towards the south west by property of John Redlish, esq and others; and consisting of the farm house, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 9), herein after referred to, and containing together 16a. 1r. 39p.

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Blackburn, March, 1864.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, WEDNESDAY, 27th APRIL, 1864, at TWO, 1 PIECES OAK TIMBER } Ex Elise from Stettin, wrecked on the 97 PIECES FIR TIMBER } voyage to London.

Also,

500 LOADS FOREIGN AND COLONIAL TIMBER.
50,000 PIECES ditto ditto. DEALS AND BATTENS
And other Wood Goods.

H. FREEMAN & CO. Brokers,
3, Crooked-lane, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS, SOMERSET.—The Remaining Stock, Utensils, &c.

MESSRS. FULLER & HORSEY are instructed by the Liquidator of the Keynsham Blue Lias Lime and Cement Company, Limited, to SELL by AUCTION, on FRIDAY, MAY 6, 1864, at TWELVE for TWELVE o'clock precisely, on the PREMISES, Keynsham Somerset, the remaining STOCK and UTENSILS, comprising 60 tons ground Blue Lime, 150 tons Scott's cement stone, 1,000 lime and cement sacks, 12 crosskills, 2 horse carts, 6 waggons, 18 sets cart and thill harness, stone trucks, sack-barrows, cement barrels, ladders, portable forge, a Pooley's 7-ton weighbridge with weights, &c. 160 feet run hurdles, spring cart, hay cob, office fittings, and numerous other effects. To be viewed the day previous and morning of sale, when catalogues may be had on the Premises; at the principal hotels in Bristol and Bath; of J. MAYNARD, Esq. Liquidator, 19, Broad street, Cheapside; of Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

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The Builder,

A Journal for the Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1107. APRIL 23, 1864. Price Fourpence. By Post, 5d.

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ROYAL HORTICULTURAL GARDENS,

SOUTH KENSINGTON.—A FETE will take place on the QUEEN'S BIRTHDAY, TUESDAY, 24th of MAY, when will take place an EXHIBITION of the various USES of FLOWERS in Decorating Halls, Drawing-rooms, Balconies, Churches, and Buildings generally. Also for Dinner and Supper Tables, and for Bouquets, &c. Dried, Pressed, and Artificial Flowers in pots or out may be used. Prizes and Certificates will be awarded. Military bands will perform. The Cascades and Minton's Majolica Fountain, from the Exhibition of 1862, will play. Admission, 1s. from Twelve to Seven.—For further information, and application for space to exhibit, apply, by letter, to the Assistant Secretary.—By order of the Council,

A. MURRAY.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.

LECTURE SESSION, 1864.

TUESDAY next, APRIL 26.—"The Interior of a Gothic Minster," by the Rev. MACKENZIE E. C. WALCOTT, M.A. F.S.A. The Chair will be taken at EIGHT o'clock precisely. Art-workmen may apply for Cards by letter to the Hon. Sec. 15, Stratford-place, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.

The PRIZES for 1864 will shortly be announced.

ARCHITECTURAL ASSOCIATION, 9,

CONDUIT STREET, REGENT STREET, W. At the next Ordinary Meeting on FRIDAY EVENING next, APRIL 29, a paper will be read by WYATT PAPWORTH, Esq. F.R.I.B.A. "On English Architecture from the Accession of Henry VIII." The chair will be taken at EIGHT o'clock. Gentlemen not being members may obtain admission by presenting their cards on entering

J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

ARCHITECTURAL EXHIBITION

9, Conduit-street, Regent-street, NOW OPEN, Nine till Six. Admission, One shilling. Season Tickets, Half-a-crown. For lists of Tuesday evening Lectures and other information, apply at the Gallery.

JAS. FERGUSSON, F.R.S. } Hon. Secs.
JAS. EDMESTON, F.R.A. }

Also the EXHIBITION of the SOCIETY of SCULPTORS.

MERTON EDWARDS, Hon. Sec.

NATIONAL PORTRAIT GALLERY,

29, Great George-street, Westminster.

During the week of the SHAKSPEARE CELEBRATION, this Gallery, containing the Chandos portrait of Shakspeare, will be REGULARLY OPEN to the public between the hours of TEN and FIVE.

By order of the Trustees,
GEORGE SCHARF, Secretary and Keeper.

INVENTORS' INSTITUTE.—The next

Meeting of this Institute will be held at No. 9, Conduit-street, Regent-street, W. on THURSDAY, APRIL 28, when a paper by Mr. will be read:—"On Inventions relating to the Permanent Way of Railways," by Benjamin Burleigh, esq. C.E. The Chair will be taken at EIGHT o'clock, p.m. precisely. A Model of Mr. R. B. Greenwood's recent Improvements for Preventing Accidents upon Railways will be exhibited for one hour previously to the meeting.

R. MARSDEN LATHAM, Secretary.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate-street Within, November, 1863.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

MARYLEBONE AND WEST LONDON SCHOOL OF ART, 2a4, Great Portland-street, Portland place, W.
President: A. J. B. BERESFORD-HOPE, Esq. M.A. D.C.L. &c. &c.
Treasurer: PETER GRAHAM, Esq.

THE LADIES' MORNING CLASSES meet on TUESDAYS and FRIDAYS at TEN o'clock. Prospectuses on application. Evening Classes as usual.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S
New List on Application
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

COMPETITIONS.

TO ARCHITECTS

A PREMIUM of 70*l.* will be given for the Best and 30*l.* for the Second-best DESIGN for a COVERED CORN MARKET, and other Buildings, by the Directors of the Hexham Corn Market and Public Buildings Company (Limited) Plans to be sent in on or before the 19th MAY next, and the gainer of the first premium to furnish a detailed estimate.—All particulars may be known on application to Mr. J. OSWALD HEAD, Hexham, the Secretary.

BIRKENHEAD INDUSTRIAL RAGGED SCHOOLS.—The Committee are desirous of receiving PLANS and ELEVATIONS for the Erection of SCHOOLS to accommodate 200 children, of whom 60 boys and 40 girls will be resident. A plan of the site and particulars of the requirements and premiums, with the terms of competition, may be obtained on application by post to the undersigned.

WILLIAM JACKSON, Jun. Honorary Secretary, Birkenhead.

TO ARCHITECTS.—The Directors of the Durham County Permanent Investment Land and Building Society hereby offer the following PRIZES for the best DESIGNS for WORKING MEN'S COTTAGES:—

FIRST PRIZE ..... 10 Guineas.
SECOND PRIZE ..... 5 „

The Cottages to contain three and four rooms respectively, and the cost not to exceed 100*l.* per Cottage. Prices of labour and materials in the county of Durham will be furnished on applicati n to the undersigned. The architects should keep in view the following qualities:—1. Accommodation; 2. Ventilation and Sanitary arrangement; 3. Style of Elevation; 4. Cost; and 5. Stability. All designs will remain the absolute property of the Society. William Croizier, Esq. C.E. County Architect; Mr. Alderman Williams, Chairman of the Sanitary Committee, Sunderland Corporation; and Mr. Joseph Ridley, Building Surveyor, have kindly undertaken to adjudicate the prizes for the two best designs. The designs are to be sent in to the General Manager, sealed and endorsed "Designs for Working Men's Cottages," on or before the 30th JUNE next, marked with a motto, and with sealed envelope containing architect's address

SAMUEL WOODHOUSE, General Manager.
Offices, 28, Fawcett-street, Sunderland, April 21, 1864.

TO ARCHITECTS.—It is intended to ERECT a WESLEYAN CHAPEL in the town of Neath, Glamorgan. The Trustees are prepared to receive DESIGNS and ESTIMATES.—For further particulars, apply to Mr. T. ANDREW, Neath.

CONTRACTS.

CITY of LONDON.—Very valuable and Extensive Building site, close to Wood-street.—The Court of Assistants of the Worshipful Company of Salters are prepared to receive TENDERS for taking a BUILDING LEASE or LEASES, for a term of 80 years, of the whole or part of all that valuable Plot of Land, containing about 14,000 superficial feet, situate close to Wood-street, Cheapside, and having frontages, to Fell-street of 120 feet, Hart-street 87 feet, and Monkwell-street 108 feet. A plan of the ground may be seen, and further particulars obtained, on application at the Clerk's Office, at the Hall, in St Swithin's Lane, Cannon street; or to the Company's Surveyor, JOHN COLLIER, Esq., 28, Finsbury-pavement, Finsbury-circus. Tenders to be addressed to EDWARD THOMPSON, Esq. Clerk of the Company, at Salters' Hall, and delivered on or before the 2nd day of MAY next, at TWELVE o'clock at noon.

TO BUILDERS.—TENDERS are required for the ERECTION of extensive STABLING, COACH HOUSES, and DAIRY BUILDINGS, about COTTAGES, LODGES, &c. in connection therewith, at Marton Hall, near Middlesbro', for M. W. F. Bockow, esq. according to plan and specification, which can be seen on application at Marton Hall; or at the Office of Mr. ROSS, Architect, Feetham, Darlington, from WEDNESDAY, APRIL 27th, until TUESDAY MAY 3rd. The various offers to be delivered at Marton Hall before TEN o'clock a.m. on WEDNESDAY, MAY 4th, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of a CHURCH in the village of Clack Wiltshire, seven miles from Chippenham. The plans and specifications may be seen and quantities obtained at my Office, or at Bradenstoke Priory, Clack, from MONDAY, the 25th inst. until SATURDAY, the 30th, both inclusive. Sealed Tenders to be delivered on or before MONDAY, the 2nd of MAY. No guarantee is given to accept the lowest or any other Tender.

CHAS. F. HANSOM, Architect
Kock House, April, 12th, 1864.

CONTRACTS.

NOTICE to CONTRACTORS.—Royal Engineer Office, Sheerness, April 8th, 1864.—TENDERS are required for PROVIDING and LAYING NEW CAST-IRON WATER-PIPES from the War Department to the various Barracks, &c. at Sheerness, a distance of 1,500 yards. A plan, showing the direction of the pipes, may be seen, and a specification, with all necessary information, be obtained on application at this Office between TEN and FOUR, from 14th to 20th instant.

The parties tendering will be required to take out their own quantities.

Tenders will not be received later than 28th APRIL instant.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

WAR DEPARTMENT CONTRACTS.—Builders and such competent persons as are desirous of undertaking the several WORKS and REPAIRS to the FORTIFICATIONS, BARRACKS, and other BUILDINGS, required by the War Department, at the places undermentioned, upon a contract for three years, from the 1st JUNE, 1864, may be furnished with every necessary information respecting the same, on personal application at the Office, for Pembroke Dock and Penally, and at the several Barrack Offices for other stations, between the hours of ELEVEN and THREE each day (Sunday excepted), until the 5th MAY, 1864, after which date no further issues will be made.

Stations for which separate Tenders will be received:—

1. Pembroke Dock, including the various Forts, Towers, and Barracks in Milford Haven
   N.B. Felt roofing will form a separate contract from the 1st April, 1865.
2. Penally Barracks and Rifle Range.
3. Newport Barracks.
4. Hubberston Barracks.
5. Cardiff Barracks.
6. Maumbles Fort and Barrack.

One Contractor only will be accepted for the whole of the trades for each of the above-named stations, but the rates of per centage at which the parties Tender may be different for each trade, at their option, but such rates must be shown in the proper place on each form of Tender.

The Tenders must be delivered on or before the 14th day of MAY, 1864, at the War Office, Pall Mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work" in the left hand corner of the envelope.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Pembroke Dock, 8th April, 1864.

TO BUILDERS. — Persons desirous of TENDERING for a new OAK ROOF, and other Works, to be done at Kempston Church, may see the Plans and Specifications at the Architect's, from TEN till FIVE daily, on and after the 18th to the 30th of APRIL, on which day the Tenders are to be sent in. The lowest or any Tender will not necessarily be accepted.

Bedford, April 15th, 1864. JAMES HORSFORD, Architect.

TO BUILDERS.—Builders willing to TENDER for ANY or ALL of the undermentioned WORKS in the neighbourhood of Shrewsbury, are requested to send their names to the Architect, GEORGE EDMUND STREET, Esq. 21, Russell-square, London, W.C.:—NEW CHURCH at WITHINGTON, NEW CHURCH at WATERS UPTON, RESTORATION of the CHURCH at HIGH ERCAL, REPAIRS and ENLARGEMENT of RECTORY at UPTON MAGNA.

TO BUILDERS.—Persons desirous of tendering for the execution of Works required in ERECTING a HOUSE at Duppas Hill, Croydon, for H. Webb, esq. can see the plans and specification at my Office, on and after WEDNESDAY next. Tenders to be sent to me before TWELVE o'clock on MONDAY, the 2nd MAY next, endorsed, "Tender for a House at Duppas Hill." The lowest or any Tender will not necessarily be accepted.—JOHN BERNEY, Architect and Surveyor, Croydon.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of works required in erecting a Tavern at Lower Sydenham, Kent, for Messrs. NALDER & COLLYER, can see the Plans and Specification at my Office on and after WEDNESDAY next. Tenders to be sent to me before TWELVE o'clock, on MONDAY, the 2nd of MAY next, endorsed "Tender for a Tavern at Sydenham." The lowest or any Tender will not necessarily be accepted. JOHN BERNEY, Architect and Surveyor, Croydon.
16th April, 1864.

FARNHAM, Surrey.—Builders desirous of TENDERING for the ERECTION of FARM BUILDINGS at Dippenhall, for Mrs. C. Paine, can see the plans and specification, and obtain any further particulars and bills of quantities, at the Office of the Architect, Mr. T. WONNACOTT, West street, Farnham, on and after the 21st instant. Sealed Tenders to be sent in not later than the 29th inst.

TO BUILDERS.—Persons willing to TENDER for the BUILDING of new SHOW-ROOMS, &c. can see the drawings and specifications at Mr. H. TURNER'S, Stoke Pottery and Works, Hanley-street, Paddington, W. up to day before SIX p.m.—Tenders to be delivered (under cover) as above, on or before the 30th instant, and the lowest will not necessarily, but will probably, be accepted.

MANUDEN CHURCH, ESSEX.—Builders are invited to TENDER for the ENLARGEMENTS and RESTORATIONS of the PARISH CHURCH of Manuden, near Bishops Stortford, and can see the drawings and specifications at the residence of Mr. W. BUSH, Manuden, and at the Office of the Architect, where bills of quantities and all information can be obtained, on and after the 16th instant. Tenders to be forwarded on or before the 30th instant, to me. No pledge is given to accept the lowest or any Tender.—By order,

THOMAS S. LANSDOWN, Architect, Malmesbury.

[For remainder of Contracts see next Page.

CONTRACTS.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 25th inst., at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, White chapel, to receive TENDERS for the FILLING of a New BOARD ROOM and OFFICES, at the rear of the present Offices. Plans, &c., in specification may be inspected, and forms of contract obtained, on application to Mr. FISHER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders must be delivered at the Office previously to the hour of meeting, and no Tender will be entertained unless delivered by the Board and in accordance with the terms of the printed Forms issued by the Board and signed by the person or persons tendering will be required. Persons tendering or their representatives are required to attend at a meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, April 20, 1864.

TO IRONFOUNDERS.—Parties desirous of TENDERING for the ERECTION of the METAL-WORK in IRON and GLASS ROOF, 62 feet span, to communicate with Mr. ALLEN MILNE, Architect, Southampton.

TO BUILDERS.—TO BE LET, the different WORKS required in the Erection of a Malt Kiln, purposed to be erected in connection with the Trafalgar-street Brewery in Manningham-lane, Bradford.—The plans and specifications may be seen at my Office, from SATURDAY, the 23rd, to SATURDAY, the 30th instant, when the estimates are to be received.

J. C. HOPE, Architect.

31, Kirkgate, Bradford.

TO STONE MERCHANTS, CONTRACTORS, and OTHERS.—The Vestry of the Hamlet of Mile-end Old Town will meet at the Vestry Hall, Bancroft-road, Mile-end-road, on WEDNESDAY, the 27th day of APRIL next, at SEVEN o'clock, p.m. precisely, to receive TENDERS for the supply of 2,000 tons of BLUE BROKEN GUERNSEY GRANITE. To be delivered pursuant to the terms of a specification, which may be seen at the Office of Mr. JAMES KNIGHT, the Surveyor, at the Vestry Hall, between the hours of TEN and ONE o'clock. The contractor will be required to enter into sureties, which may be approved and taken by the Clerk to the Vestry, at a cost not to exceed £5 and find two sureties; half the amount of his contract, for the due performance thereof. Tenders (stating names and addresses of proposed sureties, endorsed "Tender for Granite," are to be sent into my Office, before THREE o'clock in the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Vestry Hall, Bancroft-road, Mile-end-road, April 14, 1864

NENE NAVIGATION (Third Division). To CONTRACTORS, EXCAVATORS, and OTHERS.—Persons willing to CONTRACT with the Commissioners of the Nene Navigation (Third Division), for DEEPENING the RIVER NENE, from Peterborough downwards, are requested to send or deliver to me, on or before WEDNESDAY, the 11th day of MAY next, sealed TENDERS for Executing the Work. Two several alternative Specifications, and two several corresponding sections of the proposed Work, may be seen on application to Mr. WM. ADAMS, Wisbech. The Tenders to be indorsed "Tender for Excavating the River Nene." The Commissioners are not pledged to accept the lowest or any Tender.—By order,

FRA. JACKSON, Clerk to the Commissioners.

Wisbech, April 14th, 1864.

NEW CHAPEL, HIGH-STREET, HUDDERSFIELD.—To BUILDERS.—Persons desirous of TENDERING for the whole or any portion of the WORKS required in the erection and completion of the above Chapel for the Methodist New Connexion, may inspect the drawings and specifications, and obtain bills of quantities at my Offices, 71, Albion-street, Leeds, from MONDAY, the 2nd, to THURSDAY, the 5th of MAY; and at the Library of the chapel, High street, Huddersfield, from FRIDAY, the 6th, to MONDAY the 9th of MAY. Tenders to be sent in to me, not later than TWELVE o'clock on TUESDAY, the 10th of MAY. The lowest or any Tender not necessarily accepted. By order,

Leeds, April 17, 1864. WILLIAM HILL, Architect.

PADDINGTON.—To STONE MERCHANTS and OTHERS.—Notice is hereby given, that TENDERS will be received by the Vestry of Paddington, for the SUPPLY of GRANITE for Paving Roads during the ensuing year, 6,000 cubic yards of broken, and 1,000 tons of unbroken; and 1,000 tons of small brown surface, hand-picked Hertfordshire or Kentish FLINTS, free from pebbles and dirt; to be delivered by the side of the Parish Wharf in the Harrow-road, free of expense, before the 25th day of MARCH, 1865.—The Tenders to be sent sealed, and directed "To the Vestry," and left at the Vestry Hall, Harrow-road, before the hour of Noon on the 2nd day of MAY next (after which no Tender will be received), endorsed, "Tender for Granite or Flints," as the case may be; and persons sending Tenders are to attend the Vestry Committee of the following morning (TUESDAY), at TEN o'clock precisely. Printed forms of Tender may be had (and none others will be received), on application to the Vestry Clerk's Office, between the hours of Ten and Four. The expenses of the contract to be paid by the Contractor. A £50 Bank of England note must be previously lodged with the Vestry Clerk as evidence that the Tender is made *bonâ fide*, the same to be returned in the case of parties whose Tender shall not be accepted; but in the case of accepted parties, to be retained until the contract is signed. The Tender must be accompanied by an acceptance by the Vestry, the deposit becomes forfeited. The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

FREDK. AVELING, Vestry Clerk.

April 22nd, 1864

TO BUILDERS.—TENDERS are required for BUILDING TWO SEMI-DETACHED VILLAS, at Bexley Heath, Kent, for Mr. S. G. Richmond. Plans and specifications may be seen at the Offices of Messrs. W. GOSLING & SON, Architects and Surveyors, 82, Wellington-street, Woolwich. Tenders to be sent in on SATURDAY, the 30th inst. Mr. RICHMOND does not pledge himself to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.—Persons desiring to TENDER for REBUILDING the PARISH CHURCH of FORDEN, near Montgomery, can inspect the Plans and Specification at the Church House Inn, in the Parish of Forden, and at the Office of the Architect, in Hereford.—Tenders are to be delivered to the Architect on the 1 th day of MAY next, and no pledge is given that the lowest will be accepted.

THOS. NICHOLSON, F.I.B.A. Diocesan Architect.

Hereford, 22nd Apl. 1864

TO BUILDERS, &c.—Notice is hereby given, that PLANS and SPECIFICATIONS for REPAIRING, RESTORING, and ENLARGING the PARISH CHURCH of St. PETER AT ASH, in the County of Surrey, close to a station on the South-Eastern Railway, will be kept at the SCHOOL-ROOM, in the village, from APRIL 28th till MAY 7th, inclusive; and all persons desirous of contracting for the above named works must send in sealed Tenders directed to Rev. J. H. CANCELLOR, Ash Rectory, Farnboro' Station, on or before MAY 14th. Neither the lowest Tender nor any will necessarily be received. The Contractor must be prepared, if required, at his own expense, to enter into the usual legal bond, with two good and approved sureties, for the due execution of the works.

LONDON, BRIGHTON, and SOUTH-COAST RAILWAY.—South London Extension to London Bridge. CONTRACT No. 2.

TO CONTRACTORS.—TENDERS for ARCHING.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the execution of the Works in erecting a Viaduct, extending from Blue Anchor-road to Crucifix-lane, in the parishes of St. Mary, Newington, and St. John, Horsleydown, and adjoining the south-western side of the viaduct of the South-Eastern Railway. The plans, specifications, and approximate quantities of the works to be executed, will be ready for inspection at the Offices of Mr. FRED DALE BANISTER, the Company's Engineer, London-bridge Terminus, on MONDAY, the 18th instant; and Tenders, in the prescribed form, only, must be addressed to the Secretary, endorsed "Tender for Arching," and delivered at his Office, on or before MONDAY, the 2nd MAY next. The Directors will not be bound to accept the lowest or any Tender. FREDK. SLIGHT, Secretary.

London-bridge Terminus.

TO BUILDERS.—TENDERS are required for the ERECTION of STABLING, &c. at Brighton.—Plans and specifications can be seen, and a copy of the quantities obtained, at the Office of the Architect, Mr. W. F. HOOPER, 14, Queen-square, W.C. Tenders to be delivered not later than SATURDAY, the 30th inst. The lowest Tender not necessarily accepted.

TO BUILDERS and BUILDING SPECULATORS.—The Trustees of the Rugby Charity are prepared to receive TENDERS from Builders and others, for the EXECUTION of certain WORKS in forming the ROADWAY of a new Street or Communication, between Oxford and New Millman-street; and also for Taking in Repairing Lease certain Houses; and also on Building Lease a Plot of Ground adjoining, having a frontage of about 60 or 70 feet. The Trustees do not bind themselves to accept the lowest or any Tender. Plans and specifications may be seen, and information obtained, at the Office of Messrs. ILIFFE, RUSSELL, & ILIFFE, 2, Bedford-row, Holborn.

TO BUILDERS.—Persons desirous of TENDERING for the EXECUTION of WORKS, required in the ADDITIONS and ALTERATIONS to the HORSESHOE TAVERN at Croydon, for Mr. J. Bull, can see the plans and specification at my Office, and after WEDNESDAY next. Tenders to be sent to me before TWELVE o'clock on MONDAY, the 2nd MAY next, indorsed "Additions to the Horseshoe Tavern." The lowest or any Tender will not necessarily be accepted.

JOHN BENNEY, Architect and Surveyor, Croydon.

16th April, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW MORAVIAN CHAPEL, at Bedford, may see the plans and specifications at the Architect's Office, from TEN till FIVE daily, up to the 27th of APRIL, on which day the Tenders are to be sent in. The lowest or any Tender will not necessarily be accepted.

Bedford, April 13, 1864. JAMES HORSFORD, Architect.

BOROUGH of SOUTHAMPTON. — To IRONFOUNDERS and OTHERS.—Notice is hereby given, that the Local Board of Health for Southampton are prepared to receive TENDERS from any person or persons willing to enter into a Contract for SUPPLYING and FIXING proper IRON FENCING, about 5,500 lineal yards in length, for the garden fronts around the Common fields in Southampton. The Local Board of Health consider advisable that the parties Tendering should submit their own designs and specifications for supplying and fixing such fence. They, however, suggest a design suitable for the purpose. Lithographic plans, showing the roads to be fenced, and a general outline of the fence suggested, and all further particulars, can be obtained upon application to me or to Mr. S. G. POOLE, Surveyor to the Local Board of Health, Southampton, on and after MONDAY, the 25th instant. Sealed Tenders, accompanied with designs and specifications, must be left at my Office, on or before MONDAY, the 9th day of MAY next. No pledge is given to accept the lowest or any other Tender.—By order,

CHARLES E. DEACON, Clerk.

Public Health Office, Southampton, April 13th, 1864.

TO BUILDERS.—Persons willing to TENDER for the ERECTION of NEW CORN STORES to Aldermaston Mill, Berks, may see the plans and specifications at my Office on and after MONDAY, the 25th APRIL. Tenders to be delivered to me not later than FOUR o'clock on SATURDAY, the 30th. The lowest or any Tender will not necessarily be accepted

164, Friar-street, Reading. CHARLES SMITH, Architect.

NEW VICARAGE HOUSE. — Persons willing to CONTRACT for the ERECTION of the NEW VICARAGE HOUSE of LLANBADARN-FAWR, near Aberystwyth, may see the plans and specifications at the Black Lion Inn, Llanbadarn Fawr. Tenders to be sent in to the Rev. JOHN PUGH, Vicar, by the 30th of APRIL.

W. BUTTERFIELD, Esq. Architect.

BLACKHEATH and GREENWICH.—The Trustees of Morden College are prepared to receive TENDERS for REPAIRING LEASES for several HOUSES on Blackheath-hill.—For information, apply to Messrs. SMITH & WILLIAMS, Architects and Surveyors, Frederick's-place, Old Jewry, E.C.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY the 3rd of MAY next at Guildhall aforesaid TWELVE o'clock precisely, to receive TENDERS for CLEANSING the STREETS, and for Removing Dust, Ashes, &c. from the Houses of the Inhabitants; and also for Watering certain streets within the said City for the term of One Year from Midsummer-day next, agreeably to specifications, copies of which may be had at this Office. The City is divided for the purposes of these Contracts into four districts, and the Contractor will be required to enter into bond, with two approved sureties, in the sum of £200 for each Division for Cleansing, and for £80 each Division for Watering, for the due performance of the same. And no Tender without the consent in writing of the parties proposed as such sureties, must be enclosed with the Tenders. The Commissioners do not undertake to accept the lowest Tender in any case; nor, unless deemed satisfactory. No Tender will be received after TWELVE o'clock on the day of treaty; nor will any Tender be received unless it contains enclosed the sum of £20 in Bank of England notes, for each Tender; for, in evidence that the same is made bonâ fide, which sum of money will be returned to each person whose Tender is not accepted; it will be retained in the event of the Tender being accepted, and shall have been duly executed by the parties Tendering and their sureties; and in case of such contracts and bond not being duly executed the said sum of money will be retained by and vested in the said Commissioners.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 19th April, 1864.

MONAGHAN and CAVAN LUNATIC ASYLUM.—Builders are invited to TENDER for the ERECTION of BOUNDARY WALLS, GATE PIERS, &c. to enclose the site of the above Asylum Grounds, the plans and specifications of which may be seen at the Office of the Architect, Mr. MCURDY, 1, Harcourt-place, Lower Merrion street, Dublin; and at the Office of Mr. HARRY ROGERS, Monaghan, Secretary to the Committee. Tenders are to be lodged with the secretary, Board of Control Lunatic Asylums, Dublin Castle, on or before the 21st day of MAY next, and endorsed "Tender for Boundary Walls for Monaghan and Cavan Lunatic Asylum." Security will be required for the due performance of the Works. The Board of Control do not bind themselves to accept the lowest nor any of the Tenders.

2nd April, 1864.

MONAGHAN and CAVAN LUNATIC ASYLUM.—Competent persons are invited to TENDER for SINKING a WELL on the site of the above Asylum Grounds at Monaghan, the specification of which may be seen at the Office of the Architect, Mr MCURDY, No. 1, Harcourt-place, Lower Merrion street, Dublin; and at the Office of Mr. HARRY ROGERS, Secretary to the Committee, Monaghan. Tenders must be lodged with the Secretary Board of Control, Dublin Castle, on or before the 21st day of MAY next, and endorsed "Tender for Sinking Well for Monaghan and Cavan Lunatic Asylum." Security will be required for the due performance of the Works. The Board of Control do not bind themselves to accept the lowest nor any of the Tenders.

2nd April, 1864.

MONAGHAN and CAVAN LUNATIC ASYLUM.—NOTICE to BUILDERS.—Builders are invited to TENDER for the ERECTION of a LUNATIC ASYLUM at Monaghan, according to the plans and specifications, which can be seen at the Office of Mr. JOHN MCURDY, No. 1, Harcourt-place, Lower Merrion street, Dublin, until the 1st day of MAY next. Builders who purpose Tendering are requested to signify their intention by sending letter addressed to the Architect, on or before the 16th day of MAY next, and to name a Surveyor in case the selection of whom will depend on the majority of votes. Two Sealed Tenders are to be sent in by the Architect to open the letters. The Tenders to be left with the Secretary of the Board of Control Lunatic Asylums, Dublin Castle, endorsed "Tender for Monaghan and Cavan Lunatic Asylum," on or before NOON of the 30th day of JUNE next. The Board of Control do not bind themselves to accept the lowest nor any of the Tenders. The work to be commenced immediately after the acceptance of the Tender. Security will be required for the due performance of Contracts.

Office of Control Lunatic Asylums, Dublin Castle,
2nd April, 1864.

WEST HAMPNETT UNION, SUSSEX. The Guardians of this Union having decided on a GENERAL FIELD VALUATION of the Rateable Hereditaments in the Union, for the purposes of the Parochial Assessment Act, TENDERS for the PERFORMANCE of the above Work are requested, subject to the following regulations:—1. The Union will be divided into Five separate Districts, comprising the following Parishes—

DISTRICT 1.

	Area in Statute Acres.
Birdham	1,948
West Itchenor	782
West Wittering	3,645
East Wittering	1,605
Earnley	1,182
Sidlesham	4,189
Selsey	4,214
Total	17,455

DISTRICT 2.

Pagham	4,376
Hunston	1,043
North Mundham	1,882
Donnington	1,029
Appledram	1,197
New Fishbourne	610
Rumbold's Whyke	645
Merston	710
Total	11,452

DISTRICT 3.

Burnham	740
Felpham	2,254
Middleton	859
Yapton	1,930
Bristol	1,665
Slindon, including the Gumber	2,504
Madehurst	1,568
Walberton	1,722
Eastergate	912
Total	13,674

DISTRICT 4.

Aldingbourne	3,009
Eastham	1,504
Boxgrove	3,076
West Hampnett	1,399
Oving	2,346
Tangmere	774
East Lavant	2,884
Total	16,752

DISTRICT 5.

Mid Lavant	330
West Stoke	880
Binderton	1,790
Singleton Parish	5,010
Singleton	
Charlton	
East Dean	4,647
Up Waltham	1,245
Graffham	1,658
Total	15,580

2. No Valuer will be eligible to act for more than one of the above districts, and no gentleman will be eligible for the appointment of Valuer of the district in which he is an owner or occupier of land.

3. Tenders are to be delivered on or before JUNE 1st, 1864, to Mr. R. G. RAPER, of Chichester, Clerk to the Assessment Committee, from whom all information can be obtained.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of SCHOOL BUILDINGS at Adisham, in the county of Kent, may see the plans, &c. by application to the Rev. H. MONTAGUE VILLIERS, at the Rectory, Adisham, on and after MONDAY, 25th inst. Tenders to be sent to the Office of the Architect, Mr. CHRISTIAN, 8A, Whitehall-place, London, S.W. on or before MAY 9th.—The committee do not bind themselves accept the lowest Tender.

TO BUILDERS. — SCHOOL for DAUGHTERS of OFFICERS of the ARMY, LANSDOWN-HILL, BATH.—Persons desirous of SUBMITTING TENDERS for the ERECTION of NEW WING, and carrying out certain alterations and additions to the school building (lately known as the Lyceum Or College, Bath), are requested to send their names and references to the Honorary Architect.—WILLIAM G. HABERSHON & PITE, 38, Bloomsbury-square, W.C.

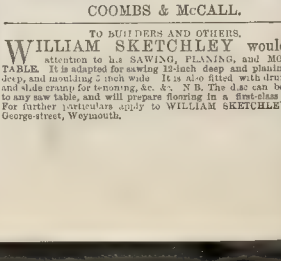
TO BUILDERS, &c.—Notice is hereby given, that plans and specifications for RESTORING, ALTERING and ENLARGING the PARISH CHURCH of ST. MARY'S, at Ryhill (two miles from the Weybridge Station), will be hung at the National Schoolroom, from MONDAY, APRIL 25th to SATURDAY, the 30th, both inclusive; and all persons desirous of contracting for the execution of the works must send in sealed Tenders directed to Rev. NEWTON J. SPICER, Rectory, Weybridge, Surrey, on or before TUESDAY, the 10th of MAY next evening. Neither the lowest nor any Tender will necessary be accepted. The Contractor, if required, must be prepared with two good and approved sureties, to enter into the usual legal bond for the due fulfilment of his contract.

THE BOARD of WORKS for the PLUMSTEAD DISTRICT TO SEWER CONTRACTORS, BUILDERS, and OTHERS. Those persons desirous of submitting TENDERS for LAYING DOWN and CONSTRUCTING about 510 feet run of HALF-BRICK SEWER, 24 by 18 in the clear, in and upon Belmont-hill, Lee, within the said District, are requested to deliver the same at or before FIVE o'clock upon the afternoon of THURSDAY, the 5th day of MAY next, at the Office of Mr. F. E. THORNE, 11, Lee-road, Lee, Surveyor, where the Plan and Specification of such works may be seen, and all further particulars may be obtained. The lowest or any other Tender will not necessarily be accepted.—By order,

CHARLES AUGUSTUS SMITH, Clerk to the Board.

Crooms-hill, Greenwich, 14th April, 1864.

DOVER FOUNDRY and IRON WORKS, STAPLE STREET, BOROUGH, S.E.



Girders, Wrought.
Ditto, Cast.
Columns.
Tanks.
Railings.
Staircases.
Machine Castings.
Roofing.

All kinds of Cast or Wrought Iron Work estimated or designed.

HOISTS FITTED UP.

COOMBS & McCALL.

TO BUILDERS AND OTHERS.

WILLIAM SKETCHLEY would call attention to his SAWING, PLANING, and MOULDING TABLE. It is adapted for sawing 12-inch deep and planing 11 inch deep, and moulding 5 inch wide. It is also fitted with drunken saw and slide cramp for tenoning, &c. &c. N.B. The dado can be applied to any saw table, and will prepare flooring in a first-class manner. For further particulars apply to WILLIAM SKETCHLEY, Great George-street, Weymouth.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



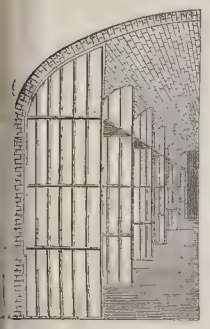
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

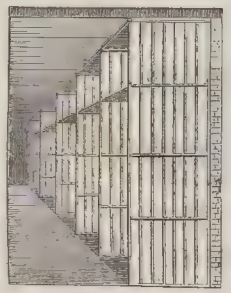


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.

WROUGHT IRON WINE BINS.





FARROW & JACKSON
Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING nearly FORTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

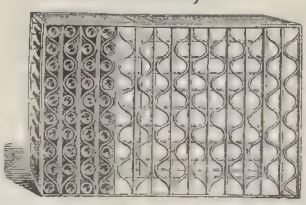
Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

ALSO THEIR

NEW REGISTERED IRON BINS,

Made any size or shape, to fit any spare corner, with
SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents of the Bin.



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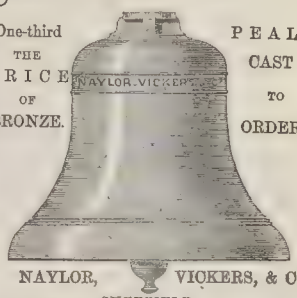
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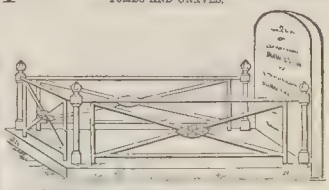
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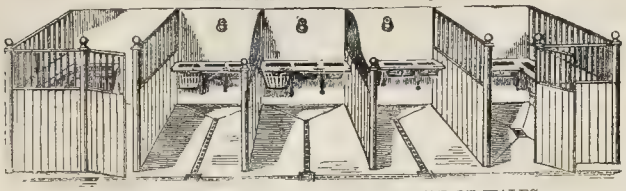
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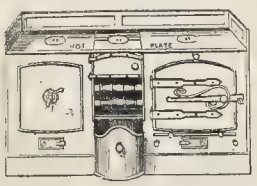
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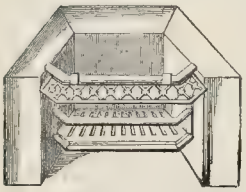
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38	,,	27 ,,	36	0	Extra strong.		
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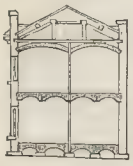
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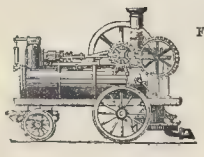
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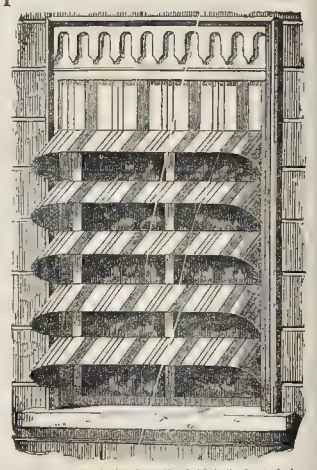
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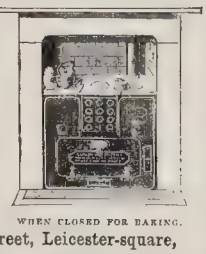


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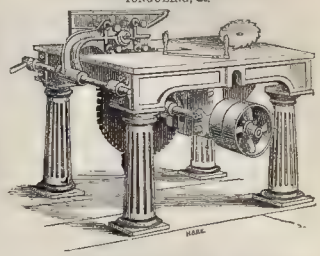
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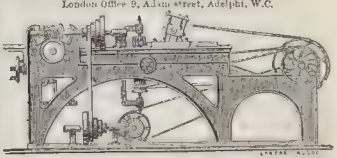
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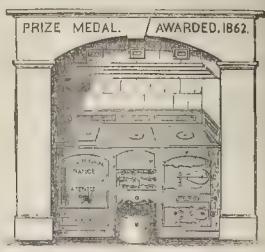
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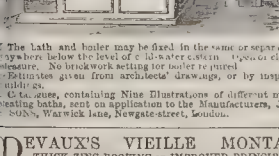
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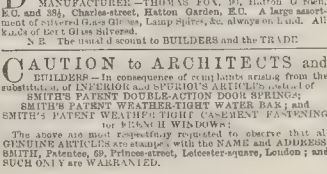
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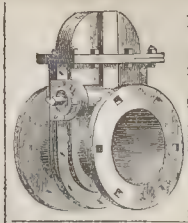
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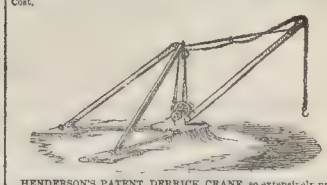
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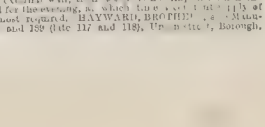
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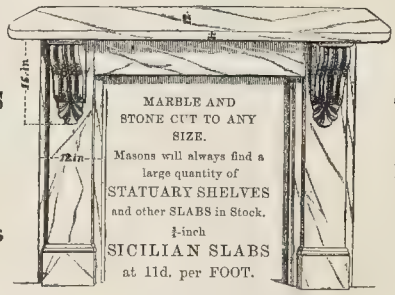
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VOL. XXII.—No. 1107.

The Designs for proposed Museums, South Kensington.

WHETHER the buildings for Government Offices, now in progress on the site between Downing-street and St. James's Park, be regarded as a successful issue of the competitions of 1857, to the extent of their division of the entire project, or as themselves not promising to be characterized by that small element of invention, without either *bizarrerie* or caricature, which art ever requires in new structural work, and which might be all that we should desire; this much is plain, that altogether the results have been disproportionate to the comprehensiveness of the original programme of 1856,—which was based upon conclusions that are now cast aside, or widely departed from, as to the wants of the departments,—and are disproportionate to the pains which architects were induced to take, as also to the merit of the designs that were received in 1857. The exhibition of that year, in Westminster Hall, is to be regarded as having been formed from two competitions, if not three, or even more. Architects were invited to send in a "block plan" showing general arrangement of the whole number of offices, and disposition of surrounding streets and routes of access, only keeping within a certain boundary for the offices generally, and placing the War Office and the Foreign Office on a site corresponding as to its northern, southern, and eastern boundaries, with the actual site of the Foreign Office and the India Board buildings which are now in progress. But the question of such arrangement was unavoidably mixed up with that of Westminster Bridge, and that of proposed routes which it was necessary to regard extending to considerable distance. Thus, even the part of the programme involved questions, the solutions of which could not be exhibited without a plan of a considerable portion of London, as well as the "block plan," by each competitor, and also could not without consideration of the detailed planning of each office. As to the particular offices at the time intended to be commenced immediately,—and for which the exact site was shown,—architects might compete for them by detailed drawings, or might confine their attention to the "block plan;" or they might send in drawings for one of the two offices only. In short, architects disposed to accept the invitation to compete, had several courses open to them; and it was gravely calculated by the Office of Works, that the liberty of choice, and the preparation of "block plan," Foreign Office design, and War Office design by different hands, would result in a perfect fitting together of the designs of three persons, in default of the fortuitous circumstance of the three first premiums being accorded to the same individual. The result was that which had been expected by every one not of the Department, premiums were awarded to designs which could not work together; and the chief result of the competition, apart from its having made one or two individuals better known, may be that the improvement of London street-communications, which has from several causes received *impetus*, allows us to recognise as approaching formation, some of the lines of route which were indicated on plans; though the bulk of the suggestions of 1857 were cast aside, after we believe having been scarcely looked at. The whole management, however, of these competitions, and of the competition for the Wellington Monument in St. Paul's Cathedral, was bad enough to prevent success from any future announcements on the part of Government.

This at least architects have been able to satisfy themselves about,—and we have shown,—that it is not to their interest to accept the invitation to any competition, unless their designs will be exhibited, and much better as to the arrangement, and for longer period of time, than the drawings are exhibited generally, or than they can be without ample space; unless the competitors have the option of affixing their names; and unless the designs are judged of by professional architects altogether, or forming the majority of the judges, and unless these take more pains than generally, and are able to give themselves time which might deserve to be paid for even at a much higher price than the amount of the premiums. We have also been able to satisfy ourselves, that "instructions" beyond what may be necessary for comparison of the designs, are often asked for, by architects themselves, under erroneous notions; the effect of such "instructions" being to bring all designs to a general resemblance; whilst the object of the competition is to produce new suggestions, and untrammelled by anything beyond what is necessary to good faith on the part of those who give architects the trouble of preparing designs. The management of the Government Offices competition failed, first, in the programme; second, in the exhibition, which was open too short a time, and not a sufficient number of days in the week, to be of much advantage, even towards educating the public, and which had all the usual defective arrangement of such exhibitions; third, in the selection of judges, who were nearly all amateurs, who showed by the allotment of many of the premiums at least, that they had not studied the designs, and were chiefly anxious to confer rewards upon the greatest number of persons; and fourth, by the waste of public money involved in allotment of premiums, and not proceeding with the two selected designs.

The later history of the Government Offices, resulting in the appointment of a competitor who had not received a first premium, and the selection of a design by him totally different in character to that for which he had been rewarded; and the incidents comprising changes of intention that might have worried every spark of art-enthusiasm out of another man; may not be to the discredit of the Office of Works: but it is very much to the discredit of the parliamentary and Government management combined, of public works in this country.

Undaunted by the ill-success of one of his predecessors in office, Mr. Cowper in January last, announced that the Commissioners of Works were prepared to receive designs for buildings, of a different character, to be erected on the site of the Exhibition Building of 1862. Having obtained a vote of the House of Commons in favour of purchase of the ground, but followed by one adverse to the retention of the building, the Government perhaps felt bound to make some use of the site. They appear to have considered the question of the removal of the Natural History collections of the British Museum, to South Kensington, as settled; and equally so that of the establishment in the same locality, of the permanent collection of models and specimens described as belonging to the Commissioners of Patents. As to the location of the latter collection, distant from the offices which have to be resorted to by inventors and agents, and from the library, open to all persons and invaluable to men of science, if not as to the removal of the other collections, the Government must be prepared for considerable opposition. The question of the object of the intended buildings was mooted in the House of Commons on Friday in last week, when Mr. Cowper raised a laugh by saying in the course of his reply, as reported, that "the first thing would be to get designs for the building; and the use to which the building should be put, would be a matter for further consideration." He had, only in the previous sentence, said that "the proposed building was to occupy one front of the site lately occupied by the Exhibition, and there would be space enough to receive the Natural History collection of the British Museum, and also the contents of the Museum of Patented Inventions, if it should be ultimately determined to remove those inventions to Kensington." Had Mr. Cowper not given the explanation which we have quoted last, no words would have been too strong for condemnation of a mode of proceeding not more likely to conduce to success in public works than in any other sort of object usually attempted to be served by logical system. Still, he seems to have added, that "no decision had yet been come to on that subject,"—the use to which the building should be put,—and afterwards to have said that he was "really unable to say at what particular period of time the matter" of the proposed Natural History Museum building "would be brought before the House." We should not be surprised to find that Mr. Cowper was wrongly reported.

However, designs had been advertised for; and 33 sets were received on the 30th of March last. The number 32 was first stated in the House; but this resulted from a mistake. They are now hung in the Royal Gallery near the House of Lords, as stated in our last, and were seen by the public last Saturday, as probably they may be again on this Saturday; and they will soon be on view on successive days, for, we hope, sufficient time to be examined by all persons interested. We count the straining-frames, many of which of course contain several drawings to each, 248 in number. Some of the competitors have about a dozen of these groups of drawings; and the others have different numbers down to three. We are disposed to speak highly of the manner in which Mr. Fincham, the Clerk of Works of the Westminster Palace, under the Commissioners, has managed the arrangement of the drawings, which is really as good as the space would permit. It has often fallen to our lot to endeavour to describe a similar number of drawings packed together in a much smaller space, and generally without their having been arranged on any principle. But we must venture to impress upon those who may be named as judges, that they will not obtain that knowledge of the competitors' intentions which is essential, unless with some exertion and perhaps fatigue. Some of the drawings which, with the writing upon them, are important, are as usual not to be examined without ladders, or hassocks to kneel upon; and the light in the gallery is not good.

The number of competitors is greatly below what it would have been prior to the epoch of the Government Offices case; and the falling-off may show dissatisfaction with the conduct of the Government, and with that generally of the projectors of competitions. Such an attitude of the profession, the Government ought to be observant of. Mr. Cowper will, we believe, do all that he can to obtain the best decision, and to promote the interests of the competitors; and, as a first step, he has appointed as judges three architects not at present in practice,

one painter, and one amateur. They have commenced work. As usual, the authorship of several of the designs is recognisable at once; though this may be less the case than generally. Difficulty of the recognition, and absence of many whose efforts would have been desired, will commonly go together in a competition. There are, however, in this instance, five or six designs of considerable, and some of them of great, merit; though, as usual, the "instructions" have operated, and here more than their wording should have operated, to restrict independent study of plan with the objects in view. Such objects *may* be correctly stated by those who have need of the accommodation: the manner of satisfying them can be but seldom, without architects' experience. In many of the designs, there is strange resemblance, either externally, or in construction and arrangement, to the existing and so often condemned building. Is it possible that competitors continue trying to catch what they fancy may be prepossessed views, instead of to produce the best arrangement? That would be one way of competitions not realizing the intentions of their projectors. Scarcely more than two of the designs can be classed as Gothic.

In the programme of January last, it was stated that all the buildings then standing on the land, excepting those facing the Horticultural Gardens, and used in 1862 as refreshment-rooms, were to be removed. The buildings excepted, measuring about 360 feet by 20 feet, were to be incorporated with those of the new project. This scheme, as already stated, was to provide accommodation for the collections of natural history of the British Museum, and for the models and machines belonging to the Commissioners of Patents. Besides the designs for the two museums (the buildings for which were required to be placed on the eastern, or Exhibition-road portion of the site), each competitor was to submit a block-plan embracing the whole area from Exhibition-road to Prince Albert's-road; and there is one paragraph in the original paper of particulars, which says that the buildings intended to provide the accommodation mentioned, would "probably be erected at intervals of time," and refers to future extension of those buildings, as also to the ultimate appropriation of the whole site for buildings fitted for exhibition of various objects of art and science. Premiums of 400*l.*, 250*l.*, and 100*l.*, respectively, were to be given; excepting that an architect to whom a premium had been awarded, and who might be employed to superintend the execution of his design, was to receive only a commission of 5 per cent. upon the outlay,—the commission to include all expenses for measuring, but not salaries to clerks of works.

As to the requirements of the Natural History Museum, it was stated that the extent of floor-space and wall-space might be learned from plans which were prepared in 1862, for another site, under the directions of Professor Owen, and which were printed by order of the House of Commons on the 23rd of June, 1863. These plans, along with sections, were the work of Mr. Hunt, who arranged the building in two stories above ground, with an attic over part of the centre, and with a vaulted basement under all. The ground and first floors were for exhibition purposes; whilst in the third floor provision was made for libraries and professors' rooms. A theatre, 100 feet in diameter, was provided, in a central position, for popular lectures. The museum was to be lighted from the roof, and from windows; which last were to be 10 feet above the level of the floor, so as to admit of upright glass-cases being placed under them. The building would have covered about four acres of ground; the total floor-space available for exhibition would have been about five acres; and the cost, exclusive of fittings, was estimated by Mr. Hunt at 350,000*l.* The plan resembled in some respects, in principle, that which we recommended in 1862, for any future Exhibition building, namely that of long galleries placed transversely or transeptwise to a longitudinal hall or corridor; but the connecting longitudinal portion was in two floors, whilst the transverse galleries were on one side only. But there are defects in Mr. Hunt's plan that would be fatal to it in our opinion. One of them is the provision of but one door, though a large one, to an area of plan measuring 220 feet (or eventually even 364 feet) by 200 feet. This arrangement seems to be the result of designing all the corridors (out of which open the transverse galleries, and of which corridors there are four, or two in each story, in Mr. Hunt's plan) to lead right and left, from one entrance-hall, which however is rightly shown of ample dimensions. The theatre is at the back of it.

In some of the designs, or at least in one design, the galleries placed transversely are on both sides of a central corridor, and the arrangement somewhat resembles the pavilion-plan of hospital-building, as carried into effect at Blackburn, Woolwich, and some other places where the foreign arrangement has been modified.

Mr. Hunt made his transverse galleries about 155 feet in length and 40 feet in width; and they were placed at intervals, for light, of less than 20 feet. The collective length of the galleries, giving the accommodation required, was stated as 3,280 feet, with the breadth of about 40 feet. The lower floor was to be 30 feet in height, and the upper one 25 feet in the centre. No rooms for attendants were provided in contiguity with the rooms containing the collections; but the particulars dated in last January, required twenty-five such rooms, to be each about 25 feet by 18 feet. Generally, the plan was referred to merely as explaining the views of Professor Owen, but not with the intention of restricting the designs to similar disposition or to forms and dimensions. The 20 feet width of areas would have been inadequate; and it has been so viewed by the authors of some of the best designs.

Professor Owen's requirements of space in the whole, and for each of the four departments of Natural History, namely, Geology, Mineralogy, Botany, and Zoology, and for such groups as those of Mammalia, Birds, Reptiles, Fishes, Invertebrata, Shells, Insects, Ethnology, and Osteology, were explained by him in a report which has been printed, and which the authors of the best plans have probably made themselves acquainted with; though the programme omitted to distinctly refer to it.

The judges, before beginning their examination, would do well to consider the question of lighting. It is attended with difficulty; but upon the settlement of it, the principle and the starting-points of the planning may be said to depend; and these, if not solved, may leave the utility of the building greatly beneath the full requirements. Mr. Hunt's arrangement is that of an upper story top-lighted, and side-lighted where the external walls would allow, and of a lower story lighted (except as to the side-lighting windows in the external walls) by well-holes, or in effect as was the space under the galleries of the Exhibition Building of 1862. This perhaps may be said to be necessarily the position of the matter, wherever there are more than one story, the only choice being as to the width of the courts or well-holes by way of which the light has to get to the space below a gallery, or under an upper floor; and as to the roofing-over the courts at one level or the other, or the leaving them open to the sky, which latter method would render substantial walling, with windows in it, unavoidable, however the light-admitting area might seem to be reduced below that of such an arrangement as one in which iron columns could be used as in the building of 1862. But then would arise the question whether a building with iron columns throughout the interior could be regarded as fire-proof, as required by the programme, or otherwise as consistent with preservation of the collection. An additional point not telling for the acceptance of the "ferro-vitreous" system of building, is the fact of the arrangement of the contents of a museum in upright cases to a considerable extent. But it has been contended that top-lighting (here assumed to be the best), the full amount of wall-space, and even ventilation, are all secured by a building, of one story in height, and that space in a second story really involves a loss, light being considered. The principle of one-storied arrangement has, we believe, been adopted in the design for the National Gallery, by Messrs. Banks & Barry, which is intended to be carried into effect on the ground at the back of Burlington House; and it is very prominently put forward by one of the competitors in the present instance, in an alternative design. But we are ourselves strongly of opinion that whatever may be desirable in picture-galleries, side-lighting, as well as ample light, is necessary for the exhibition of all minute objects such as are to be displayed in table-cases. Moreover, as to wall-cases, top-lights must be arranged with the greatest care, or the objects will not be seen as intended. The aim in both instances is to get the light in ample quantity upon the object, and to avoid if possible reflection of the spectator's head or figure. If any one will go to the Jermyn-street Museum, so admirably planned in some respects, he may discover that the reflection makes it impossible to see even the very forms of fossils, as those of the lower *strata*, which rather than the mere stones, were the objects of exhibition; and the same disadvantage would be experienced were the contents of the table-cases insects or shells. In the portion of the South Kensington Museum, where the objects lent on loan were exhibited in 1862, those in the table-cases, could be seen only insufficiently by day, and badly by night, owing to the position of the light with reference to the spectator's position; and partly to the light being, after all care, inadequate for objects of minute workmanship; whilst, as to the largest area of top-lighting, those who, in 1862, in the International Exhibition, had goods which they were anxious should be seen, especially some of the French exhibitors, might be questioned with advantage as to the effect of the lighting upon the objects in upright cases. We do not profess to have decided, or to be able now to more than suggest these questions as necessary for consideration of the judges, and belonging as much to their duties as a question of taste, or as the mechanical process of testing whether the number of superficial feet for each portion of the collection has been provided by a competitor.

Of the Patent Museum, little was said in the programme, excepting that a superficial area not less than 23,000 square feet, was to be provided, disposed on two floors. A residence for a director of police was mentioned, as though it should form part of the Patent Museum building.

Decidedly the most conspicuous, or in some respects the most meritorious, set of drawings in the exhibition, is that which faces the entrance, and is marked with the motto, "*Ad ogni uccello suo nido è bello.*" It includes nine frames of drawings, got up and mounted with skill and taste. The perspective is sketched in in brown ink, and tinted, with a masterly hand. The judges will decide whether it tallies with the instructions. No other competitor has addressed himself more completely to the question of the appropriation of the whole ground extending from the situation indicated by the instructions as to be appropriated to the Natural History Museum and the Patent Museum (that is the east, skirted by Exhibition-road), to the western extremity bounded by Prince Albert's-road. His view is taken from the south, making the Cromwell-road the boundary, that way, of a most effective group of buildings, as in the drawing, composed of a central mass, and four subordinate masses, the latter being one at each angle of the ground, and the central mass being crowned by a large dome and four smaller domes. The masses are joined together only by covered ways; excepting as to the north, or Horticultural Gardens, side, along which the Natural History Museum, with the space reserved for its extension, forms a continuous building. From this the dome-crowned portion projects southward. In the elevation east, as in that west, a space of 100 feet is left without any obstruction (other than the low covered way) to the view of the dome. The south-eastern mass is the Patent Museum: the north-eastern is the end of the Natural History Museum already named. Each of the four angles of each mass at the angles of the ground, is crowned by an octagon story, or belvidere. Deferring mention of the decorative details, we revert to the question of plan. Here it is seen that the design is not quite abreast with the requirements, and in external effect even would not equal what might be supposed only from the view. The centre, for a length much more than the breadth of the dome-crowned projection, is recessed from the Cromwell-road; but we question whether, considering width of that road, the building could be seen as represented in the view. It may be quite right to give up space for foreground and accesses: but the whole building might have to be set back to secure the effect shown in the view we have mentioned; which the requirements, large as the space is, might not allow. Several other designs in the collection would fail greatly through neglect of the consideration of the width of the Cromwell-road and the other two roads. Trees are in the foreground of one of these views; and the building is shown as though in a park. It may be regretted that the site was not large enough to admit of due effect, and that approaches obliquely disposed and otherwise were not made to lead up to it; but if distance and foreground be limited almost to the width of the street, designs should be made as might be best, accept-

r facts. The author of the design spoken of, s taken great pains to show that his general in is divisible, according to as many as nine idifications, any one of the number being capa- of being regarded as final or to be carried ward at a later time. The rooms, or divisions the museum, open from one side of a side- ated corridor; and parallel with each dividing ll, is a row of columns on each side thereof. e wall and columns carry a gallery. The fing is arranged in wide spans over the lofty ition of the room, and in narrow spans over gallery. Excepting in the case of the corri- s, the lighting is all from the top. Provi- n is made for cleaning; and, by double glazing, prevent access of wet. Though columns ve been mentioned, the author says that none iron are used. The system of top-lighting, peated in large courts near the main entrance, s shown by the design itself in one small tch, might entail all the objections that we ve alluded to. The Patent Museum complete shown as a building square on plan, with side- hted galleries next the external walls, four ircases, one at each angle, and a glass- vered central court. The basement story, as the manner of lighting it, is not the same in the drawings. The general character of this sign, decoratively, is that of the works of ramante. There are broad angles, panelled; ere are pilasters; windows that nearly all are ch-headed and furnished with small shafts, b-arches, and ornamented spandrels; there is uch sculpture; names of celebrated men are serted in the frieze; and there is a bold and ry effective base-moulding. The materials roposed are stone and granite, or red brick, hite terra-cotta mouldings, and red terra-cotta rnament. One merit of the design is in the rrangement of the chief dome central to each evation and surrounded by the other domes. n the plan, the lighting of the museum, the aircases to the galleries, and the position of he attendants' rooms, are perhaps not so good s in other designs.

In the design marked "Well to build is well o buy," buildings covering the eastern half of he entire ground comprise nearly everything hat is brought into the perspective view. The eneral plan shows the eastern half nearly all overed by the buildings of the two museums, ith the requisite courts or areas for light, and ndicates that the other half might have build- ngs similarly arranged in plan. The author egards an exact counterpart of decorative etails for symmetry, as unnecessary; though e might desire the general character, and the eights, to be observed throughout. In the entre of the entire ground would be a building, eeply recessed from the Cromwell-road front, o be used as a general meeting-hall; and it would be terminated by a lofty dome. The omewhat lancet-form of this latter feature seems o have been intended to accord with high- itched roofs and other picturesque features which are amongst those of the design; although the details, displaying originality, and seeming to be the result of much study, are nearer to Italian in character, than to Gothic. The two blocks of building of the Cromwell-road front, would be joined together by a covered way, carried by an arch or arches, an arrangement similar, in fact, to that of the bridge of the Rialto; although that example is a far larger structure than the covered bridge in the design before us. Two similar bridges appear in the Exhi- bition-road elevation, connecting three blocks of building. Of these three blocks, that which is to the south, and which running west, forms nearly the half of the Cromwell-road front, is the Patent Museum. This building, and the width of ground at the back of it, comprise space which is not at all too much for the requirements of a museum that ought one day to equal and to surpass that noble institution the Conserva- toire des Arts et Métiers. The several parts of the eastern front, have an accordance only of character and style, and an accordance in heights: the long front in the middle, that of the Natural History Museum, is symmetrical; but the end of the Patent Museum, and the buildings which are in corresponding position northward, do not resemble one another further than has been stated. The northern buildings comprise the theatre (some of the details of which combine with the general form to remind us of an Italian baptistery), an Educational Museum, and a clock-tower, terminated with a lofty curved roof. In the plan of the Natural History Museum, which building occupies by far the largest portion of the eastern half of the ground, the galleries are arranged transversely to a central corridor, as by our principle explained in 1862 with the aid of type, excepting that there are courts open to the sky. There are twelve of these courts, measuring each 110 feet by 27 feet 6 inches; the great central corridor, in the axis of the plan, is about 440 feet in length, and is 30 feet in breadth; and the transverse galleries measure 155 feet by 40 feet. As will have been understood, they are in two stories, whereof the lower one is lighted by side-lights, and the upper one from the lower halves of the slopes of the roofs. At the end of each transverse gallery, and next to a corridor of communication from gallery to gallery, is an attendant's room with separate staircase and a lift. In the arrangement of these attendants' rooms, this plan is superior to any in the exhibition, as, we might add, it is in most of the features of the Natural History Museum. The courts are at least 7 feet 6 inches wider than those of Mr. Hunt's plan. Of course the ground covered, in order to get the Exhibition-space, is considerable, whilst probably not more than necessary. We have alluded to the decorative character of the front. It has been well studied; and the mouldings, and the details of ornament, display much invention. The roofs are of high pitch and flat-topped, and have dormers. The windows are generally arch-headed, and have a novel form of archivolt combined with the key-stone. Sculpture, as of shells and vegetable forms, or otherwise designed with special reference to the use of each building, ornaments certain spandrels; whilst other spandrels, those of the upper range of windows particularly, are carved in patterns resembling drapery, but not suspended exactly as hitherto in the much-criticised festoons. The sculpture in the Patent Museum front is excellent. The main entrance of the Natural History Museum has an arcaded porch, with steps right and left. The ground story of the whole building is well raised above the street-level. Brick and stone are suggested as the materials to be used. The author of this design deserves great praise for the thought he has evidently given to plan; and on the whole, his idea of grouping the buildings with a symmetry of positions, and general masses, whilst in other respects varying corresponding fronts, is worked out with skill, and with a result well deserving to be recollected when the general question involved in such treatment may be mooted, as it is likely to be again from time to time. Some of the details resemble those of the Insurance Office at the corner of Gracechurch-street and Eastcheap, which we have published, whilst the general character reminds us of that of a design for the Government Offices which also we have published. It would be almost idle to refrain from this slight indication of the authorship, which moreover is stamped upon the design as plainly as the merit of the plan and the art-work of the elevations.

We are not able now to describe more than these two designs: but we have referred to others; and we shall continue our notice. Out of the designs that we have not distinctly mentioned, we have noted those marked "Sublime Moliar Atrium," "Not known and yet well known," "Ich Dien" (with the Prince of Wales's Feathers), "Fortiter et Fideliter," "Utilitas," "Dieu et Mon Droit," "Mæcenas," "Athenian," "Pro Rege et Lege," "Bramante," "Consilio et Labore," and "One more Attempt at Design out of the beaten Track," as worthy of attention for various features of plan or decorative treatment.*

* We have received several communications pointing out the extent to which the instructions have been departed from by some of the competitors; but we have already devoted so much space to the designs that we cannot find room for the letters.

COUNTRY CONTENTMENTS TWO CENTURIES SINCE.

We are apt to overlook, as we contemplate the various transitions from style to style in English architecture, the alterations that were taking place at the same periods in the domestic life of our ancestors. These alterations bear so materially upon the styles of their buildings that we should at least keep their influence in mind. The thick walls and small windows of the very early builders gave place to those of lighter construction for the sole reason that the deviation made from olden manners called for the change. In this matter we are prone to attach, perhaps, too much importance to the political aspects of the country at given periods, and to ascribe too much to their effects. We think more, for instance, of Oliver Cromwell and his generation as iconoclasts than as husbands and fathers requiring certain accommodation in their homes; and more of the tragedy enacted on a platform in front of one of the windows of Whitehall than we do of the myriads who lived and died at the same time in less isolated grandeur and misery, and left the children behind them of whom the present generation are descendants: and yet we may be sure that the sweet scent of hay floated in at their windows as in at ours in the spring-time, that roses bloomed and faded, that corn grew, was gathered in and garnered up, that waters froze and thawed; in fine, that the seasons brought their various exigencies and employments then as now, and required as varied provisions in the construction of dwellings and homesteads; and that it was in the concession of these requirements of seasons and civilization that the progress of domestic architecture consisted. With the object of viewing the every-day occupations of those who dwelt in the land two centuries since we dip into a knotty nut-brown volume lying before us, the pages of which are of the tawny tint of old point-lace, entitled "Country Contentments, or the Husbandman's Recreations. Contayning the wholesome Experiences in which any Man ought to recreate himselfe, after the Toyle of more serious Businesse; as namely, Hunting, Hawking, Coursing with Greyhounds, and the Laws of the Lease, Shooting in Longbow or Crosbow, Bowling, Tennis, Baloone, the whole Art of Angling, and the Use of the Fighting Cock." It is written by Gervase Markham, and bears date 1633. With this is bound up "The English House-wife, containing the inward and outward Vertues which ought to be in a compleate Woman. As her Skill in Physick, Surgery, Cookery, Extraction of Oyles, Banquetting Stuffe, ordering of Great Feasts, preserving of all Sorts of Wines, conceited Secrets, Distillations, Perfumes, ordering of Woull, Hempe, Flax, making Cloth, and Dying; the Knowledge of Dayries, Office of Malting, of Oates, their excellent Uses in a Family, of Brewing, Baking, and all other Things belonging to a Household." This is also written by Gervase Markham. As he sat compiling these works, which he affirms, parenthetically, are most profitable and necessary for all men and the general good of this kingdom, there were sixteen years to run before the dread vision of a block and edged axe began to obtrude itself into the thoughts, day and night, of Charles I. John Hampden had fallen on Chalgrove field ten years before. Rubens had yet seven years to dream of his gorgeous ceiling in the banqueting-room in Whitehall Palace. Dugdale, Ben Jonson, and Inigo Jones were still living. Evelyn was but thirteen years old. Sir Christopher Wren was an infant in arms. Milton's step was falterless and his vision keen. Camden, the antiquary, had lain but ten years in his grave; Sir Robert Bruce Cotton, whose collection of records, charters, and MSS., is the marrow of the British Museum, but two. The Great Fire had not then consumed old London; nor the great plague depopulated it. And the charm of novelty had scarcely vanished from its pages when Richard Cromwell resigned a crown to enjoy the "country contentments" of which it treats.

It is observable that whenever the master of the house is alluded to he is called the husbandman: whenever the mistress is indicated, she is called the housewife. The various "contentments" appear to have been pretty equally divided between them; all the outdoor occupations being set aside for the husbandman, and the superintendence of the indoor economy placed in the hands of the housewife. The husbandman is recommended to make himself proficient in the cure of all diseases of cattle, as well as those of horses and hounds, including hydrophobia,—a recreation that it would be, doubtless, difficult to reconcile with enjoyment at first; in the art of breaking in horses, and of producing white or black stars upon their foreheads, at pleasure,—another contentment that the uninitiated would be scarcely likely to enjoy; in the proper mode of composing kennels; in the art of enriching barren soils; in the most effectual ways of preserving seeds and grain; the husbandry of bees; the ordering of poultry, including the proper gathering of goose-feathers, for, be it known, "the custom pursued by some of pulling the feathers out of their living geese twice a year for scriveners, beds, and fletchers, is but a needless profit, as it disables their flight and leaves them a prey to the rapacity

of the fox, and also exposes them to the cold;" in the construction and stocking of fish-ponds, and similar pursuits.

The planting of an orchard is esteemed one of the greatest boons permitted to man's lot. "What was Paradise," asks the good Gervase, "but an orchard?" Again, he urges, when wearied with the troublesome affairs of their estate, being tired with the hearing and judging litigious controversies, and choked with the close *ayres* of their sumptuous buildings, their stomachs cloyed with variety of banquets, where do the gods of the earth fly but into their orchards?" An orchard planted with fruit-trees, decked with flowers, ornamented with mounts of stone or wood curiously wrought within and without, with a true *dyall* or clock in a corner thereof, and some *anticke* work placed here and there, especially if silver-sounding music composed of instruments and voices commingled could be introduced, both delights the mind and brings health to the body. And if they added to these, large walks, broad and long, close and open, raised with gravel and sand, having seats and banks of camomile, with borders on every side hanging and drooping with fruits, the roots of their trees powdered with strawberries, red white, and green, their lesser wood cut to the form of men armed in the field ready to give battle, or of swift-running hounds to chase the deer, a bowling-alley, and a pair of buts with which to stretch their arms, the gallant cavaliers could wish for nothing more to delight their friends; unless, indeed, it might be a maze well framed to the height of a man, wherein a guest might divertingly lose himself while gathering berries; or, perhaps, a brood of nightingales. Should there be, though, hard by, a pleasant river, they might make a conduit or two, and sit on their mounts and angle *peckled* trout or *sleighty* eels; or moats whereon they might row and fish with nets. Bees, if kept in a dry and warm beehouse, *comely made of fir-boards*, would thrive in an orchard, yield great profit, and pay the gardener his wages. Yea, continues the practical Gervase, twenty stocks or *stooles* of them would pay your orchard. "What can your eye desire to see, your eares to heare, your mouth to taste, or your nose to smell, that is not to be had in an orchard, with abundance of variety?"

Gardens bear no comparison to orchards in the esteem of this representative writer, and are handed over to the care of the country housewife; for, let a garden be laid out with ever so much profitable quaintness, or be never so fresh and fair and well kept, it will require renewal of soil and herbs many times in the short life of a man; but orchards endure for hundreds of years. He condemns with much warmth the indifference which deters tenants from planting fruit-trees, and endeavours to induce landlords to grant longer leases, so that they can no longer defend themselves behind the proverb, "Botch and sit; build and flit."

The medium through which our author viewed life for his readers' behoof, was the conviction that a good man was entitled to every comfort and felicity that the earth, or the creatures of the earth, could afford him. High in the list of earthly pleasures, he placed country recreations; and foremost among these the most royal, stately, manly, and warlike chase, the hunting of wild beasts. Hawking, coursing with greyhounds, angling, training fighting-cocks, shooting with crossbows, bowling, playing tennis and *baloone*, follow in the succession given. These amusements are severally treated at great length, every mischance anticipated, every remedy detailed, every success delineated, and rigid compliance with every etiquette insisted upon. The treatise on angling requires especial comment as having been published exactly twenty years before the first edition of Izaak Walton's more celebrated work appeared, and as having considered the subject in as devout and deferential a light. Gervase Markham claims for angling the antiquity of having been the recreation of the first patriarchs, and the dignity of being ever attended by four sisters, Patience, Justice, Temperance, and Fortitude. It is the most comely and honest of pastimes, and gives the most liberty for religious meditation. It calls, too, for as much learning as skill; for an angler, to come up to Markham's standard, should be a general scholar, acquainted with all the liberal sciences and grammar, so that he may be able to write or discourse of his art in true and fitting terms. He should have sweetness of speech, strength of argument; be able to tell by the aspects of the sun, moon, or stars, of coming changes in the weather; know the geography of the country well; and be skilled in proportions so as to be able by soundings and calculations to arrive at questions concerning currents and bends of rivers. He should not be unskilful in music, so as to be able to relieve any possible melancholy by a hymn or anthem, as David did in Salem. Full of love for his neighbour, he must be strong and valiant, not affrighted with thunder, nor fearful of storms, not affrighted with thunder, nor fearful of storms, humble of thought, not disdaining at need to kneel, lie down, or wet his feet and figures, and dexterous in the manufacture of lines, hooks, floats, and artificial flies. Above all things, an angler's apparel should be plain and comely, of no garish or shining hue; but of a tawny or russet colour, fitting close to the body, well lined, without any new-fashioned slashes, or hanging sleeves waving loose, for fear of offending the sharp eyesight of the fish.

In a computation of the labour to be expected from an agricultural servant daily, we may see whether times have bettered in this respect. Gervase Markham led husbandmen to expect that their men might well plough an acre each of stiff soil daily, or, perhaps, an acre and a half, with one team; and in light sandy soils two or three acres. A man could well mow an acre of meadow-land a day, or an acre and a half of barley or oats, or, if the latter should be growing thin, he might even mow three or four acres a day, and not be over-worked; of wheat he might thrash four bushels; of barley, six; of beans or peas six bushels per diem. A good farmer or *plowman* rose at four, and after giving thanks for his rest and the success of his labours, proceeded to the stable, foddered his cattle, cleaned the house, rubbed down the beasts, curried his horses, rubbing them with cloths and wisps till they were as clean as they would come. He then took both oxen and horses to water, and, housing them after that process, then gave them more fodder and, his horses especially, provender, consisting of chaff, dry beans or oat-hulls, peas or beans, or clean oats, or clean garbage, with straw chopped small with it, according to the means of the husbandman. Whilst they were eating he attended to their harness and the plough-gear, duties which occupied him till six o'clock. He then spent half an hour over his own breakfast before yoking his cattle, which would occupy him another half-hour. At seven he began to plough, and ceased not till two or three in the afternoon, when he brought home his cattle, rubbed them, foddered them, gave them food, and went in to his own dinner. At four o'clock, allowing half an hour for his dinner, he went again to his cattle, rubbed them down, cleaned their stalls, gave them more fodder, and then occupied himself in preparing the necessary fodder for the next day. This done, and carried to the stable or ox-house, he once more watered his plough-oxen and horses, and gave them more provender. At six o'clock he went into the house for his supper, after which meal he sat by the fireside, mending shoes for himself or the family, or beat hemp or flax, or picked and stamped apples or crabs for cider, or ground malt or querns, or picked candle-rushes, according to the season, till eight o'clock. Then he took his lanthorn and candle, and went to take a final look at his cattle, littered them, saw that they were safely tied, gave them food for the night; and then, giving thanks for benefits received during the day, retired to rest himself. There were many other duties performed, but these were all that fell to the ploughman's share. Each month brought its varied occupation, all of which Markham duly chronicled and grouped with rules to maintain the husbandman's health through each season. In January, he was to keep his body warm, and let his diet be good and wholesome, taking exercise for his sauce. In February, he was to forbear meats that were slimy or phlegmatic, and either purge, bathe, or bleed, as art directed. In March, bathing was to be frequent, bleeding but rare, and diet cool and temperate; and so on throughout the year, till towards Christmas, when meats might be well spiced, wines used, and every means taken to banish care, and keep the heart in good cheer.

But it is in the duties devolving upon the "complete housewife" that we may best discern the influences that affected domestic architecture. The profusion of provisions in the banquets of the time bordered upon barbarous magnificence, compared to the elegant modes of preparing dishes in the present day, and called for dining-halls and kitchens of sufficient dimensions to avoid the terrible confusion that must otherwise have occurred. It was held that a woman had no right to enter the state of matrimony unless possessed of a good knowledge of cookery; for otherwise she could perform but half her vow: she might love and obey, but she could not cherish. To be perfect in this art she must know in which quarter of the moon to plant and gather all kinds of salads and herbs throughout the year; she must also be cleanly, have "a quick eye, a curious nose, a perfect taste, and a ready eare;" and be neither butter-fingered, sweet-toothed, nor faint-hearted: for if she were the first of these, she would let everything fall; if the second, she would consume that which she should increase; and if the third, she would lose time with too much niceness. For an ordinary feast with which any good man might entertain his friends, about sixteen dishes were considered a suitable supply for the first course. This included such substantial articles as a shield of brawn with mustard, a boiled capon, a piece of boiled beef, a chine of beef roasted, a neat's tongue roasted, a pig roasted, baked *chewets* (minced chickens made into balls), a roasted goose, a roasted swan, a turkey, a haunch of venison, a venison pasty, a kid with a pudding in it, an olive-pie, a couple of capons, and custards. Besides these principal dishes the housewife added as many salads, fricassees, *quelquechoses*, and *devised pastes* as made thirty-two dishes, which were considered as many as it was polite to put upon the table for the first course. Then followed second and third courses, in which many of the dishes were for show only, but were so tastily made as to contribute much to the beauty of the feast. The banquets given by princes or nobles were much more important affairs. They were served in this manner:—First the grand sallet was to be marshalled in by gentlemen and yeomen-waiters, then green sallets, boiled sallets, and compound sallets; these were followed by all the fricassees, such as collops, rashers, &c.; then by boiled meats and fowls; then by the roasted beef, mutton, goose, swans, veal, pig, and capon; next were ushered in the hot baked meats, such as fallow-deer in pasty, chicken or calve's-foot pie, and dowset; then the cold baked pheasants, partridges, turkey, goose, and woodcocks; lastly, carbonadoes both simple and compound. These were all arranged upon the table in such a manner that before each trencher stood a salad, a fricassee, a boiled meat, a roasted meat, a baked meat, and a carbonado,—a profusion that must have been almost overwhelming. The second course comprised the lesser wild and land fowl, which were again followed up with the larger kinds, as herons, shovellers, cranes, bustards, peacocks, &c., and these by cold baked red-deer, hare-pie, gammon of bacon pie, wild boar, roe-pie; and scattered among these were the "conceited secrets" in the way of confectionary and sweet pastry, which were the pride of the good housewife's heart; besides whatever fish was available, which was to be distributed according to the manner in which it was dressed, with the respective courses, the fried with the fricassees, the broiled with the carbonadoes, the dry with the roast meats, and those stewed in broths with the boiled meats. The carbonadoes consisted of any meat scotched on both sides and sprinkled with seasonings in various combinations, and then either broiled over the fire or before it. Roasted geese were stuffed with gooseberries, hence the term; and, if we were to enter into the given details of the various modes of dressing these numerous dishes, we could mention many as long disused. Some of the terms employed are as startling to modern ears as the ingredients: to take one instance, pie-dishes were called coffins.

We are not to conclude that this profusion was an everyday fact. There are hints here and there that this was by no means the case. Oatmeal is called the crown of the housewife's garland, as being the largest item of consumption in the household; and whigge (whey) is praised as an excellent cool drink, and as wholesome as any other with which to slake a labouring man's thirst the whole summer long. On the other hand we know this whigge was looked upon in a somewhat similarly scornful light as that in which we regard small beer, because it was adopted to distinguish the political body opposed to the Tories. And the constant supervision of the mistress of the house over every undertaking would also be a surety against the practice of extravagance. Although there were good men-malsters in the land, there was no beer to compare with that made by the mistress and her maids. These made both beer and ale; cider from apples; perry from pears; mead and metheglin from honey and herbs. The wines,

,oo, were in her care. It is curious to note the kind of care they experienced at her hands. Every *fatt* (vat) of foreign wine was dosed with several gallons of milk and eggs beaten up, and each was flavoured with some gallons of another, in a mode that must have much bewildered the palates of King Charles's lieges. If claret lost its colour, she stewed some damsons or black pullasses, and poured their syrup into the hogshead, when all came right again. If sack ran muddy, she took some rice, flower, and camphor, and popped that mixture into the butt; if any wine became hard, she knew how to make it mellow with honey and eggs: the same with muskadine and malmsey. The indefatigable mistress of the house was as omnipresent in the bakehouse as elsewhere, and saw to the making up the various kinds of bread, both for the family and the hinds or servants. There were several kinds in use; wheat bread, rye bread, rye and wheat mixed, and barley and wheat mixed: into the servants' barley-bread she adroitly mixed two pecks of peas and a peck of malt. She also looked in at the dairy, saw that it was kept as clean as a prince's chamber, and gave an eye to the profits. She could send several cheeses to table,—new milk cheese, nettle-cheese, floaten milk cheese, and eddish or after-math cheese. By way of relaxation to these serious duties, which, with the necessary supervision of the dressing and spinning of wool, hemp, and flax, must have kept the good dame pretty fully employed, she prescribed for any of her household that were indisposed, compounded her own remedies, and made stores of scented bags to lay among her hoarded-up linen, scented waters for different ornamental purposes, perfumes to burn, washing-balls, perfumed gloves, rosemary-water to preserve the complexion (called the bath of life), violet-water, herb-water for weak eyes, and other distillations. Plaisters, ointments, lotions of all kinds were among her cunning secrets. These occupations serve to show why the offices were so spacious and my lady's closet so small. Markham gives scores of quaint recipes no housewife should ignore who was at all sensitive as to her reputation for skill. In these we are reminded of the absence of really scientific knowledge in the peculiar value set upon valueless distinctions. The milk of a red cow, for instance, was deemed more efficacious than that of any other colour for medicinal purposes; butter made in May without any salt in it was esteemed a sovereign cure for wounds, strains, or aches, although that made in any other month possessed no such virtue; and again, it was of no use to apply certain remedies unless the moon was on the wane. This portion of the volume is dedicated to the Right Honourable and most Excellent Lady, Frances, Countess Dowager of Exeter.

In the state of society here depicted as passed amidst "country contentments" it was estimated that a man's life, or, as Markham quaintly expressed it, "A clean body kept by the three doctours, Doctour Diet, Doctour Quiet, and Dr. Merriman," should endure for a space of a hundred years; and the reason why this was not always attained was ascribed to the fact that the person dying below that age had degenerated his constitution to a condition of "tender rottenness" from cloying his frame with excess of meat, drink, sleep, and idleness. This opinion is applied to every phase of longevity, both in the animal and vegetable kingdoms. The conviction points to a healthy energy of mind bearing alike on social, scientific, and architectural progress; and that this worked its due effect we have evidence in the strides since made in these matters. Those who would not exert themselves for their own profit, or for the benefit of a friend, were deemed "well worthy to want." A noteworthy instance of the result of this sturdy shouldering of the wheel may be seen in the very different face now worn by the Weald of Kent to that it presented two centuries since. We now look upon Kent as the garden of England: husbandmen, in King Charles time, pulled their broad-rimmed slouched hats over their eyes, and turned their gaze from it as an "unfruitful wilderness." Our author was in possession of information "painfully gathered for the good of this island by a man of great eminence and worth," and this he revised, enlarged, and presented to his readers in the form of an additional "booke" or chapter of his more important work, entitled "The Enrichment of the Weald of Kent; or, a Direction to the Husbandman for the true Ordering, Manuring, and Inriching of all the Grounds within the Wealds of Kent and Sussex, and may generally serve for all the Grounds in England of that Nature." The particular manure he recommended for this large tract of woody soil, that from ancient British times had retained much of its original character of a vast hunting-ground, was marl. And this was to be applied with the characteristic profusion and energy of the period. The land was to be well ploughed with the "strength of eight beasts at least;" and then the marl was to be spread over it at the rate of 500 cartloads an acre, every load to contain ten or twelve bushels of eight gallons each, and every acre to contain 160 rods of 16½ feet to the rod.

As the tawny pages flutter to and fro there is a little movement in the air: we could almost fancy as of groups of old-world husbandmen and housewives busy with the tasks set forth. There were no periodical reviewers in those days; but as corn found in Theban tombs has sprung up in modern soil, perhaps this notice of an old book may verify the virtues of good seed; and the energy, industry, economy, and enterprise shown to have been so profusely sown by our forefathers be reaped by us and left, in new forms, to posterity.

CIVIL ENGINEERING IN INDIA.

Having seen in your valuable periodical some complaints respecting the treatment the English civil engineers have met with from the Indian Government, I deem it my duty, both for the interest of truth and the benefit of the profession generally, to lay before the public, through you, a few leading facts of some importance connected with the subject.

I am the more encouraged to do this from the circumstance of our Indian possessions presenting an immense field for the exercise of engineering talent, and the Home Government of India continually advertising for young men to come out to India to fill certain appointments in the Department of Public Works; and I consider the treatment those have met with who have been deluded from their homes by false and deceitful promises, deserves to meet with a world-wide circulation.

In the year 1855, some seven or eight English civil engineers were sent out by the Court of Directors of the late East-India Company, and about the same number of subordinates, to the Madras presidency. The former were to receive 600*l.* and the latter 300*l.* per annum: some of these were young men, but others were persons of considerable practical experience, and all of them possessed a good English education and excellent testimonials. They were under a legal covenant to serve the East-India Company for twenty years, after which, they were to retire with a certain pension: this covenant entitled them to certain privileges; and they were, moreover, told that they were to serve a company remarkable for its liberality and generosity to all deserving servants.

For some time after their arrival, there did appear a disposition on the part of the Madras Government to treat them with liberality: they were allowed a good establishment of clerks, draughtsmen, &c., and a sum of 6s. per day was granted to each of the engineers, and half that amount to their assistants, to pay for a conveyance to and from their place of business; and this sum, they were told, was in accordance with their covenants with the Home Government. After some little time, a change seemed to come over the Madras Government, the cause of which it was not very easy to explain. In the first place, they were all placed in the rank of uncovenanted servants, directly contrary to their own covenants; and persons of the most inferior rank in the uncovenanted service were suddenly, and much to their own amazement, raised to the same rank and rewarded with the same salary. The next step was to reduce all their pay to one-half what was agreed; but this was so glaringly illegal that it was ultimately abandoned. Next, their establishment of clerks, &c., was reduced until they had nearly all the inferior office work to do themselves. Then their travelling allowance of six shillings per day was taken away, and they were told that when their journeys out and in did not exceed five miles in each direction, they must pay for it themselves, although five miles in India is fully equal to twenty miles in England, the heat being so excessive and the so-called roads so miserably bad. Then they were informed that unless they learnt the native languages no promotion would be allowed to them; and yet there are about seven or eight different languages in the Madras Presidency; and the head officers of the Department of Public Works have in many instances been twenty years or more in the service, and never learnt even *one* language properly. Besides all this, not one of the English civil engineers has, up to the present time, been made district engineer, or even allowed to superintend a single work on his own responsibility, but compelled to abandon his European experience and do his work in the same disgraceful manner that it is done in by the military officers who are placed over him, and whose total ignorance of practical science in many instances exceeds all belief. The Home Government engaged to supply them with everything for the proper performance of their duty, and yet they have been left sometimes even for years with no proper instruments, no office of any kind, no office furniture, and hardly any kind of stationery except a few miserable articles of the most obsolete character. Often their surveying instruments are of so wretched a description as to be more fit for a marine-store dealer's shop than an engineer's office. They are often removed to distant stations for no assignable reason, and allowed only one shilling per mile for travelling, while their actual expenses are frequently three times this amount. I know of one gentleman who has been removed six times in eight years, and he told me that one of his journeys extended to nearly 800 miles: he was compelled to start without a single rupee in his pocket, and do the best he could; and he received his travelling expenses three months after his journey was completed.

Latterly, every attempt has been made to degrade their professional character by refusing them all opportunities of displaying their abilities: hardly one of them has ever been permitted to begin and complete a single engineering job on his own account. Their time is mostly frittered away in patching up broken bridges, mending tank-banks, and filling in useless office forms: often they are employed for days in paying native labourers with their own hands, as the Government pay the clerks and writers so wretchedly that their honesty can never be depended upon,—the head writer of an establishment seldom getting more than two shillings per day. If they fall sick in the execution of their duty, one-half of their pay is deducted: if they have families, no medical attendance is allowed to their families without payment of a most exorbitant description. I knew one gentleman who was suddenly called upon to pay 20*l.* for medical attendance to his family of a most trivial character; and 15*l.* or more are often charged for an accouchement. Sometimes they have to live at a station sixty or seventy miles distant from all European society, and lodge in the most wretched and unhealthy hovels. The actual cost of living is at least double what it is in England, so that it is extremely difficult to save money. I know it may be alleged that some of these inconveniences are inseparable from their duties, and that military engineers are equally exposed; but even when this is the case, the latter are far more liberally paid, and constantly promoted over the civil engineers' heads, without the slightest reason, except favouritism.

The following facts will show the difference between the pay of civil and military engineers, &c., in the Madras Presidency:—

	Per annum.
Military Officers of the Engineer Corps in the Department of Public Works, Madras Presidency:—	
Lieutenant-Colonel of thirty years' standing, with no European experience, from 2,000*l.* to	£3,000 0 0
Captain of twelve years' standing, with no European experience	1,320 0 0
Lieutenant of six years' standing, with no European experience	640 0 0
Infantry Officers:—	
Major of twenty years' standing, no European experience	1,250 0 0
Captain of twelve years' standing, no European experience	808 0 0
Lieutenant of six years' standing, no European experience	630 0 0
(Besides travelling allowance according to rank.)	
Covenanted civil engineers of eight years' standing, besides European experience varying from six to twenty years	600 0 0
(Besides travelling allowance, same as the above.)	
Uncovenanted Members of the Department of Public Works:—	
Corporal of Sappers and Miners, of above twelve years' standing, with no European experience	500 0 0
Assistant-engineer of about six years' standing, with no European experience	600 0 0

Besides this, it must be borne in mind that during the past eight years nearly all the young lieutenants of engineers have been promoted to be captains, and many of the captains raised to lieutenant-colonels, while during the same period

the covenanted civil engineers have received no promotion except a trifling deputation allowance, and this only temporary and in a few cases.

There are still nearly fifty captains and lieutenants of engineers to provide for, so that the English covenanted civil engineers stand but a very poor chance of promotion.

Let us now inquire what grounds the military gentlemen have for this preferential preferment. According to the constitution of the late East-India Company, each director was entitled to a certain amount of patronage, so that all the military officers were appointed by individual directors, as a matter of favour, and very often as an act of charity towards their needy friends or relatives. The education of the young cadets was paid for entirely out of the public funds; and not only was their passage out to India defrayed by the State, but they were allowed to count the last year of their training at Addiscombe, or Chatham, as part of their period of service, to entitle them to pension. How their time was generally employed there is well known to every one in their neighbourhood. They likewise participate in the benefits of the military fund, retiring regulations, and furlough, &c.

The whole of the covenanted civil engineers were appointed by the Court of Directors, unsolicited on their part, most, if not all of them being at that time employed in Europe. Their education had been paid for by themselves or their families, without any expense to the State: their passage out was paid by the East-India Company. Here they are excluded from the benefits of the military fund, entitled to no furlough and no retiring benefits, while after twenty years' service their pension is only one-third of their average salary.

As to the value of the professional services of the two classes, the bad manner in which all the works of the military engineers are performed, is so well known, that it is sheer waste of time to attempt to prove what has been already proved over and over again, and fully testified by all the higher authorities for upwards of sixty years. These *mock engineers* have had the sole control of the public works of the Madras presidency: they have spent about forty millions sterling, and left the country without roads, bridges, canals, or any available means of communication: not one single man of acknowledged talent has appeared among them; hardly one single building deserving of the name: by ignorance, incompetence, extravagance, and shameful waste of the public money, with a fixed determination to oppose every species of improvement, and crush every attempt to put matters upon a right footing, they have made the name of a civil engineer a by-word of reproach, and the Department of Public Works a name of scorn and derision to the whole public press of India.

How the Madras Government—composed of gentlemen of honour and respectability—could behave in the manner they have done to the civil engineers sent out from England, must always be a matter of astonishment and regret; or how the Home Government could tolerate such proceedings, is equally inexplicable; but it is most earnestly to be hoped that no more English civil engineers will be so weak as to be deluded from their homes by such false and specious pretences: if they do, they richly deserve the treatment they will get. Let them remain at home, or try the new colonies, resting assured that 100*l.* per annum in their own country is very far better than 600*l.* in India, with all the indignity and the ill-treatment they will be certain to meet with there from a clique who know nothing except what they learn from more ignorant native overseers, and hate really clever practical engineers, because they refuse to conform to their ways of wasting the public money.

ONE OF THE VICTIMS.

Madras Presidency.

A BORGIA RING.—At the last meeting of the British Archæological Association, Mr. Pettigrew, F.R.S., in the chair, the Rev. C. H. Hartshorne exhibited the signet ring of the celebrated Cæsar Borgia. This remarkable object of Roman art is of gold, slightly enamelled, with the date 1503. Round the inside is the motto, *Fays ceque doys avien que pourra.* A box drops into the front, having on it BORGIA, in letters reversed, and round it the words, *Cor unum, una via.* At the back is a slide, within which it is related he carried the poison he was in the habit of dropping into the wine of his unsuspecting guests. The signet is contained in an elegantly chased silver box, surmounted by a jewel.

GARIBALDI.

FAREWELL! England's honour'd guest!
England's blessings on thee rest,
For that thou hast stood the test,
Garibaldi!

Not from party love or spite;
Not some old grudge to requite;
Not to prop up wrong 'gainst right;
Garibaldi!

Leapt thy sword forth from its sheath;
March'd thy volunteers to death,—
Murm'ring with their failing breath,
"Garibaldi."

But to break thy country's chain;
Freedom for her sons to gain;
Fellow-sharer in their pain,—
Garibaldi.

Thus in honouring thy name,
England honours ev'ry aim
Freedom's jewel to reclaim,
Garibaldi.

And may heroes still to be,
When they bend their gaze on thee,
Learn that deeds of bravery,
Garibaldi,

Not alone suffice to earn
England's reverence: may they learn
Self-denial, when they turn,
Garibaldi,

To Caprera's rocky isle;
Patience when they strive to smile,
Suff'ring wrongfully the while,
Garibaldi;

Proud respect to honour'd laws,
That thou, from a tyrant's claws,
Wrench'd a kingdom! Then didst pause,—
Garibaldi,—

With thy hand upon the crown,
Which one word had made thine own!
At Another's feet laid down,—
Garibaldi,—

What thy sword alone had won!
This the cause why ev'ry son
Of England, with admiring tone,—
Garibaldi,

Shouts aloud thy honour'd name,
Which we glory to proclaim—
Glory in thy well-earn'd fame—
Garibaldi!

R. F. H.

INSTITUTE OF PAINTERS IN WATER COLOURS.

THE thirtieth exhibition of the one-while "New Society of Painters in Water Colours," consists of 323 pictures; and though the works of two or three of the members who have heretofore furnished chief features of the gallery—Mr. Haghe and Mr. Henry Warren, for example—are not so prominent as usual, the collection as a whole is an excellent one. The most ambitious figure-picture is a triptych, by Mr. Tidey, "The Night of the Betrayal," 253, whereof the two outer leaves are more satisfactory, as it seems to us, than the centre. It may be said to be "washy," but is, nevertheless, a work of great merit. Mr. Edward Corbould illustrates in his own peculiar manner the "Morte d'Arthur," 282. It is a very elaborate production, and must be placed amongst his most successful works. A portrait of a *piquante* light-haired lady, playing with a little hairy dog, "Fluffy," by Mr. J. M. Jopling, will not be overlooked by any visitor to the gallery. It shows great advance in technical power. Six or seven landscapes, by Mr. George Shalders, mostly with sheep, are amongst the gems of the gallery. Of Mr. Edmund Warren's contributions we must say the same. Mr. Chas. Vacher comes out strongly with views in Egypt, whence he has recently returned. 7, "Amalfi, in the Gulf of Salerno," T. L. Rowbotham; 23, "View of Ingleborough," H. C. Pidgeon; 29, "Windermere by Sunset," A. Penley; 47, "Stokesay Castle, Salop," J. H. Mole; 186, "Doorway, south side of Rouen Cathedral," W. W. Deane; 315, "A November Day in Nantfrancon," J. C. Read; and some of Mr. Fahey's, are good landscapes. 76, "The Beacon," John Absolon; 203, "The Eleventh Hour," Elizabeth Murray; 262, "The Snake Charmer," Carl Werner; and others, deserve notice. Mr. C. Cattermole gives promise: but he should try his subjects by the test of truth. Does he think, for example, that the casting of the Perseus by Cellini was done in the manner he has presented?

LIGHT FLOATING PROJECTILES.

JOSEPH NOVI, formerly an officer of the Neapolitan artillery, perceiving from the year 1842 the defects of the parachute rockets, light balls, and other illuminating implements, conceived a projectile formed of a hollow globe or case of fusible metal, filled with a composition similar to Indian fire or blue light, consolidated by a combination of various resinous solutions. The fire was transmitted by a fuse, and an almost inextinguishable composition, gradually increasing towards the great section of the globe. Guns, mortars, and howitzers might discharge these light balls, in the same manner as common shells, from which they differ, the sides being less thick, and with alloy, so as to enable them to bear fusion. The inventor claims to have produced a fire-work similar to the ancient Greek fire. Purified petroleum and naphtha, camphor, resins, combined with different oils, fused saltpetre, and cotton, rendered nearly fulminating,* were employed, to procure an inextinguishable flame.

Mr. Novi has now improved this light ball by enclosing the composition with vulcanized guttapercha, lined with sulphuretted copper, combining therewith the etherised essences (*vives essences*) of bituminous substances. This projectile may be fixed to a wooden disk (*sabot*), put into an uncovered common case, and fired from cannon or howitzer. If the composition be contained in wooden cylinders, like the safety cable of the life apparatus, the same effect will be produced. There are many circumstances under which such a projectile might be very useful.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held at the House in Conduit-street on Friday evening, the 15th inst.

The chair was occupied by the Vice-president, Mr. J. H. Christian.†

Mr. J. D. Mathews (Hon. Sec.) said that, on making inquiry, he had ascertained that the Society of Arts had not yet arrived at any decision with reference to the prize drawings for model cottages; but that he had been given to understand that after the award had been made, the drawings would be exhibited.

Mr. T. Blashill announced that the architectural examination class would meet on Tuesday next; and that several interesting papers had been promised on the following subjects:—Timber (strength of), Brickwork, Masonry, Vaulting and Groining Timber-roofs, Plumbing, &c.

Mr. E. J. Tarver then proceeded to read his paper on the desirability of establishing a School for Figure Drawing from Living Subjects. This will be given hereafter.

At the conclusion,

Mr. Burges observed, that he had very little to add to the able paper of Mr. Tarver. He approved of the recommendation of that gentleman to begin with a skeleton, but he would not advise the student to devote too much of his time to that particular department. If, however, the human figure were drawn alongside of the skeleton, the student would by degrees be able to get a competent knowledge of anatomy without much trouble. With regard to finding a room in which to establish their school of drawing from the life, he would suggest that they should apply to the Institute up-stairs for the use of one, and to keep knocking at the doors until the Institute either opened their own doors or found an asylum for them. With respect to the preparation of drawings of sculptured subjects by architects, he thought it would be far more desirable that they should make small sketches, rather than attempt cartoons, for which the commission of 5 per cent. did not supply any adequate remuneration. His advice, therefore, was to prepare a small drawing, to be afterwards developed and improved upon by the person to be charged with the execution of the work. In olden times, there was little difficulty on this head, as the architect usually combined in his own person the professions of the painter and the sculptor. In those days the architects were not paid 5 per cent., and they did not in all probability hold a similar social position to that

* *Vide* Battista Martena Flagello Militare. Napoli, 1676.

† The following gentlemen were, on ballot, elected members of the Association:—Mr. J. T. Allen, Wish House, Southsea; Mr. J. S. Quilton, 3, Harley-road, West Brompton; Mr. W. C. Henman, 7, Milman-street, Bedford-row; Mr. A. C. Browne, 2, Verulam-buildings, Gray's Inn; Mr. M'Callum, 25, Westbourn-place; and Mr. C. Malseh, Pimlico.

hich the architect now enjoyed. There were course exceptions to the rule. Raffaelle, for stance, lived like a nobleman, and received incely honours at his death; but, as a general le, the architects of olden times were not what light be called gentlemen. He was glad to see e members of the Architectural Association aking a move in the direction suggested by r. Tarver. He hoped, too, it would continue, r it was the only indication of progress which e was able to discover.

Mr. Ridge observed that, in his opinion, the reat objection to students of architecture ining existing life schools was, that they ould have to conform to a certain routine, hich in their case would be unnecessary. He dvocated, therefore, the establishment of a urely architectural class, whose object would e fixed and definite. Looking to the experience erived from other classes connected with the ssociation, he saw no reason to doubt that a fficient attendance would be obtained. He sugested, however, that as the question of expense as of primary importance, the subject should be eferred to a committee, who would make the ecessary inquiries, and report the result.

A member said that he feared Mr. Tarver had nder-estimated the cost of the school or class hich it was proposed to establish. From his wn experience he could state that models (unde r draped) were not now to be had on the econolical scale suggested; and that the other accesories would prove more costly than Mr. Tarver ppeared to suppose.

Another member said, that as the question of ent might prove an obstacle in the first instance, he would be happy to place a room in is house at the disposal of the school for one or wo evenings each week.

Mr. Mathews suggested whether it might not e better to think over the matter, and confer with Mr. Gilbert Scott (from whom the first suggestion of the school had been derived), so that beginning might be made in the autumn.

Mr. Lewes thought they ought not to begin in small way, and that before committing themselves to any definite scheme, they should endeavour to get subscriptions or a grant of money rom the Institute.

A member suggested that a committee might e formed to consider the question of modern costume, and that they should endeavour to bespeak a favourable reception for whatever dress hey might suggest by adopting it themselves.

The Chairman said he approved of the paper read by Mr. Tarver, and of the suggestion for the establishment of a school of figure drawing, as an adjunct towards that proficiency in drawing generally which it was so useful and necessary for the architect to acquire. He also approved of the suggestion, that they should knock at the doors of the Institute; for he believed that body would not reject the proposition in the manner apprehended by some of the speakers. The reference of the whole subject to a committee of the Association might, however, be desirable in the first instance.

Mr. Blashill quite approved of making the experiment, and expressed his opinion that it would be desirable to make a commencement as soon as possible. With regard to modern costume, he was aware that Mr. Burges, in his Cantor Lectures, had done all he could to throw ridicule upon it; but, in his opinion, it was not deserving of it. The costumes of all nations were generally determined in great part by the varying circumstances of each; and that our costume was suitable and convenient, if not as picturesque as it might be, was proved by the fact that it was popular. Like all other human institutions, it was, however, susceptible of amendment; but he for one was not prepared to visit it with unreserved condemnation.

After some further discussion, the proposition to refer the subject to a committee was adopted.

A vote of thanks was passed to Mr. Tarver for his paper.

The Sheffield Waterworks Company.—The directors of the Sheffield Waterworks, in the report submitted to the shareholders, recommend that the question of the general liability of the company, for the damage occasioned by the bursting of the reservoir, should not be disputed. They propose that legitimate claims should be fairly and promptly met, leaving the shareholders the duty of determining how the money is to be raised. The directors still have faith in the prospects of the company, notwithstanding the disaster which has swamped their resources.

COMPETITIONS.

Museum and Albert Memorial, Exeter.—Twenty-three plans were sent in competition for the premiums offered for the best designs for an Albert Memorial Building at Exeter. After examination of the plans, the sub-committee, on the 22nd of March, resolved,—

"That the plan numbered '5' was entitled to the first prize; the plan numbered '15' to the second prize; and they commended plan numbered '16' for its internal arrangement."

At a meeting of the general committee, the sealed letters were opened, and it was found that the plan "No. 5" belonged to Mr. Jno. Hayward, of Exeter; plan "No. 15" to Mr. J. Philpot Jones, 21, Whitehall-place, London; and plan "No. 16" to Mr. W. F. Cross, Exeter. The committee purpose to exhibit the plans to the public, provided the authors of them consent to the exhibition of their works.

Ashford.—The committee selected twelve designs, and then resolved to limit the outlay to 3,000*l.* They reduced the number to six, putting aside those which exceeded that amount. The mottoes of these six are "Civis Romanus;" A O in circle; "'Tis good to begin well;" "'Tis better to end well;" cross compasses in circle; and "Pro rege, lege, grege." These were referred to Mr. Joseph Clarke to report on. The design with last-named motto has since been selected, and is found to be by Mr. H. J. Austin, of Hereford-road, Bayswater.

WORKING OF THE PUBLIC WORKS ACT AT MANCHESTER.

In the course of some remarks on this subject in the town council, a statement was read, to the effect that at the Prestwich reservoir, where cotton spinners were employed, "whilst the work was near the surface, and the soil to be removed was light and sandy, the men earned reasonable wages; but when the solid clay was reached and the excavation became difficult, the same men did not earn more than fivepence per day; and, as might be expected, they soon abandoned that part of the work. The contractors then put on a gang of their own trained navvies, who, for the same work, and at the same rate of pay, earned 3*s.* 10½*d.* per day." The loans already agreed to be made to the corporation, are for the execution of the following works, viz.:—

1. The purchase of land for, and the formation of, a public cemetery (25,000*l.*).
2. The extension of waterworks (30,000*l.*).
3. The severing and paving of new streets, and the repairing and otherwise improving the condition of public highways in the several townships of Chorlton-upon-Medlock, Ardwick, and Cheetham (61,000*l.*).

With respect to the works referred to in No. 3, the corporation had always entertained the opinion that it would not be practicable to employ to any great extent the unemployed operatives. So far as the cemetery is concerned, the land is purchased, and the contract with Mr. Gay has been signed. In the execution of these works, the corporation feel confident they will be able to secure employment for a considerable number of operatives. With respect to the waterworks, the only works yet undertaken have been the obtaining, removal, and preparation of clay for the reservoir intended to be formed at Prestwich. On the 28th ult. there were 309 able-bodied operatives receiving relief. Efforts are being made to secure a site for the new public park for Chorlton-on-Medlock and Hulme, as there is little doubt the loan of 30,000*l.* will be obtained under the Public Works Act.

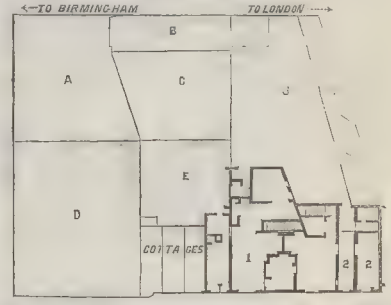
THE BIRTH-PLACE IN STRATFORD-ON-AVON.

With a better fortune than has been the lot of many of the places connected with our eminent men, the house in which Shakspeare first saw the light now stands, after experiencing various vicissitudes, with much the same appearance that it presented three hundred years or so ago. Recently we gave some account of its restoration, and glanced at the uses to which portions of the interior are now devoted. So great, however, is the interest which is attached to this subject, especially at the present time, that we are led to annex some engravings which will afford a better idea of the past and present aspect of this famous spot than any mere written description.

From an examination of prints and drawings of the houses in Henley-street, which are still in existence, it is clear that as far back as the reign of Henry VII., and perhaps before this date, a substantial dwelling stood here, isolated from other buildings; backed by cherry and apple orchards and garden ground. Probably it was originally one mansion, occupied by a family in good circumstances. However this may be, the house is described, during William Shakspeare's life-time, as consisting of two messuages, two gardens, and two orchards, with their appurtenances. The tradition that the poet was born in this house in 1564, six years after Queen Elizabeth began to reign, has never been disputed; but there is no actual evidence that he was born on St. George's day, the 23rd of April, in the above-named year. The register-book of Stratford shows that the future dramatist was baptized on April 26th; so that, if he were born on St. George's day, he must have been only three days old when the baptism was solemnized. It is certain, however, that early christenings, particularly when the child showed indications of weak health, were common. Nor is there anything except the tradition to show that John Shakspeare was in possession of this property in 1564, when his eldest son was born; but the persevering investigation of Mr. Halliwell has brought to light a deed dated 1596, which proves that the two houses in Henley-street were purchased by John Shakspeare, for 40*l.*, in 1575. At this time William would have been eleven years of age. Considering the discoveries which have been recently made, we should not despair of finding documentary evidence which will confirm the early traditions connected with the poet; but, in the meanwhile, until evidence can be shown to the contrary, we must be content with tradition. In this house, there can be but little doubt the seven children of John Shakspeare and his wife Mary Arden, of whom William was the eldest, were born; and here John Shakspeare died, after experiencing pecuniary difficulties.

At the time of his marriage with Mary Arden, the youngest daughter and co-heiress of Robert Arden, of Wilmcote, Shakspeare's father was a man of good condition, who, no doubt, had "two gowns," and everything handsome about him. He had been a glover—a trade which was formerly extensively practised in Warwickshire. He afterwards became a wool-dealer and farmer.* He also received a little property through his wife, in 1565, when the eldest son was a year old. John Shakspeare was an alderman,; and, in 1569, was high bailiff of Stratford; but, as the children grew and increased in numbers, misfortune appears to have come upon the family.

Various circumstances seem to show that the poet's early and, it is said, unhappy marriage was



Plan of the Shakspeare Property in Henley Street, as shown in the Account of the Birthplace, 1824.

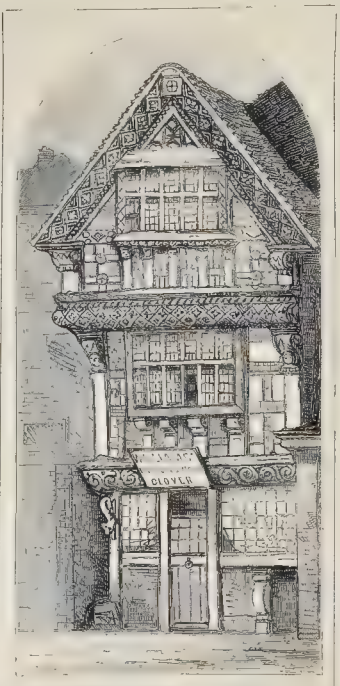
References.—1. Apartment below the room in which the Poet is said to have been born, which was long used as a Butcher's shop. 2, 2. Bar and parlour of the Swan and Maidenhead Inn. 3, 3. Back yard and other premises. A, B, C, D. Land which belonged in 1824 to the White Lion Inn (B shows the site of the old barn which was bought by Alderman Payton, in 1771). E. Plot of ground sold by Thomas Hart to Alderman Payton in 1771.

* It is worthy of remark, that even at the present day, it is not uncommon for the tradespeople of Stratford-on-Avon to combine several kinds of business, or to exchange that to which they have long been accustomed for some other.

BITS FROM STRATFORD-ON-AVON.

in some measure forced upon him by debt and difficulty; and that, at the early age of twenty-two, Shakspeare was driven from Stratford by trouble and anxiety. In 1578, John Shakspeare mortgaged his estate of Asbies, that came to him with his wife, for 40*l.*; and in 1579 sold other property in Snitterfield. In 1580 he became involved in a Chancery suit about Asbies, which was undetermined in 1597. In 1586, in an action for debt in the Bailiff's Court, there is a record of a warrant of distress issued against him, with "nothing to distrain upon," as the return to it; and in the same year his name was struck off the roll of the corporation. Notwithstanding, the Henley-street property does not appear to have passed from the Shakspeare family; and part of the premises was occupied by Mrs. Hart, the favourite sister of the poet. The success of Shakspeare in connexion with the stage must have been both rapid and brilliant; for, in 1597, when thirty-three years of age, he purchased New Place, the best house in Stratford-on-Avon, and altered and fitted it for his future residence.

For the greater part of two centuries the house in Henley-street, divided into two tenements, was but little altered in its outward appearance. In an old print dated about a hundred years ago, the birthplace is shown, with the dormers and gable, the porches and other peculiarities which have been recently added. But for this print it would have been difficult to obtain authentic particulars on which to carry out the work of restoration; for the pecuniary circumstances of the possessors of this property (the Hart family) declined, the house became subdivided, and many of the old picturesque features were destroyed. At one extremity the old wood timbering had been covered with the modern brick front of the "Swan and Maidenhead Inn;" and at the other there were planted some mean-looking cottages, in the ground floor of which were small open-windowed shops; and from the roof the dormers, which formerly, as they do now, were important features of the building, had



OLD HOUSE AND SHOP IN THE HIGH STREET.

entirely disappeared. More description is, however, not necessary, for the accompanying engraving is a careful illustration of the place, as it appeared before the restoration was commenced.

John Shakspeare died in 1601, and the property in Henley-street passed to the dramatist. Joan Hart, the sister of William, resided in one of these tenements until her death; and the Hart family remained in possession until 1806, when William Shakspeare Hart sold the houses to Mr. Thomas Court, by whose family the premises were afterwards sold to a committee for the public.

It is satisfactory to know that the place in which our greatest poet first saw the light is now in good and substantial condition; and that it is placed in the custody of those whose successors will cause this quaint and interesting building to retain its present appearance in centuries which are yet to come. In this way Shakspeare's house will have a double interest, for the English buildings of this style are rapidly disappearing; and, two or three centuries hence, this house will have become an architectural curiosity.

RONDEAU SUR SHAKSPEARE.

23 AVRIL, 1864.

C'est noble et grand de célébrer Shakspeare!
De présenter un hommage à sa lyre,
Dans un sonnet ou bien dans un roudeau
D'examiner en lui ce qui fut beau,
A l'univers afin de le redire.
D'un monument de marbre et de porphyre
De tous les yeux qui soit le point de mire,
C'est noble et grand de lui faire cadeau.

C'est noble et grand de célébrer Shakspeare!

Il fait surgir la terreur ou le rire,
Nous peint l'amour ardent et son délire,
Avec un tact, un goût toujours nouveau;
Sa verve est grande, et son style un joyau,
Qu'à chaque instant on cite et l'on admire.

C'est noble et grand de célébrer Shakspeare!

LE CHEVALIER DE CHATELAIN.



EXTERIOR OF THE BIRTHPLACE, BEFORE ITS RESTORATION AND SINCE.



THE RANDOLPH HOTEL, OXFORD.—Mr. Wilkinson, Architect.

RANDOLPH HOTEL, OXFORD.

THIS building has just been commenced. It will stand at the corner of Beaumont-street, and opposite the Taylor and Randolph Institution, erected, some twenty-four years ago, by Professor Cockerell; likewise facing Magdalen-street, and opposite the Martyr Memorial, a well-known piece of work by Mr. Scott. Within view of the hotel will be the Colleges of Baliol and St. John, the churches of St. Mary Magdalen and St. Giles, and the whole of St. Giles's-street.

The site purchased for the hotel is freehold, and contains almost an acre of ground. The building has been designed with a view of making it a first-class hotel, and every new appliance will be introduced to render it as complete as possible. The plan is arranged so that several suites of rooms may be let off (without interfering with the working of the hotel), and which will possess all the comfort and quietude of private dwellings.

The basement plan contains the kitchen, scullery, bread and pastry rooms, bakehouse, larders, icehouse, wine and beer cellars, rooms for linen, knives and clothes cleaning, strong closets, servants' halls, a few servants' bedrooms, and a telegraph-room. The ground plan contains a coffee-room and library, 65 feet by 27 feet; a dining-room and room for public purposes, 34 feet by 27 feet; commercial-room, lavatories, bar, servants' rooms, a spacious entrance-hall, smoking-rooms, and conservatory. The one-pair plan are private dining-rooms, ladies' coffee-room, sitting-rooms, and eighteen bed-rooms. On the second-floor are twenty-one bed-rooms and sitting-rooms, and on the two upper floors are twenty-nine rooms, making a total of sixty-eight rooms on the four floors, besides bath-rooms, water-closets, lavatories, and servants' rooms. A Portland stone staircase leads from the ground-floor to the various landings and corridors, which are fireproof; so is also a considerable portion of the ground-floor.

The hotel is undertaken by a joint-stock company, to supply a want generally felt of first-class accommodation in Oxford. The architect is Mr. Wilkinson, of Oxford; the clerk of the works, Mr. Cleland. The contractors are Messrs. Kirk & Parry, of London. The cost of the building and fittings will be 18,000*l*.

PROVINCIAL NEWS.

Blackburn.—A new Reform Club-house is about to be commenced in Victoria-street, Blackburn. The building is in the Italian style of architecture, the front being of stone. The entrance-door and windows of the ground-floor are finished with carved key-stones and spandrels, above which is a projecting balcony supported by carved cantilevers on a level with the first floor, the windows of which, and the floor above, have columns and carved caps in the reveals, and are finished with carved key-stones, and also Corinthian columns between the windows. The whole is completed with block-cornice and parapet, with carved vases, and a Mansard roof, with ornamental iron cresting round the lead flats. The interior arrangements comprise an entrance-hall and reading-room, with staircase leading to the assembly-room on the first floor, and billiard-room above, and also to the committee and other rooms set apart for the convenience of the club. The cost of the entire premises, exclusive of furnishing, will be about 4,500*l*. Mr. B. Abbott, of this town, builder, is the contractor; and the whole of the works are to be carried out from the plans, and under the superintendence, of Mr. James Patterson, architect, of Blackburn.

Lumley Castle.—The additions and alterations at this seat of the Earl of Durham are making progress towards completion. The whole of the new works have been designed by Mr. Sydney Smirke, and are being carried out under the immediate superintendence of Mr. Leighton, clerk of the works to his lordship. One of the chief buildings is the great hall, which will be covered with an open timber roof, with moulded principals. This is being made and fitted up by Messrs. W. & C. Burnup, of Newcastle, builders.

Jarrow.—Building operations are at present being actively proceeded with at Jarrow, Hebburn, and Hebburn Quay. At Jarrow two hundred new houses are being erected by the workmen of Messrs. Palmer, Brothers. This is exclusive of great numbers of houses being built by other persons. Workmen are also at present engaged in erecting new coal staiths at the Jarrow Iron Works.

NEWS FROM SCOTLAND.

Edinburgh.—A proposal, often mooted, to establish in Edinburgh a college hall in connexion with the University, is now made in a practical shape. A joint-stock company, on the limited liability principle, has been formed, and shares to the amount of 7,600*l*. subscribed in furtherance of the undertaking, the nature and aims of which are set forth in a prospectus just issued. The site which the council have in view for the proposed building is a large triangular area opposite the City Workhouse, bounded by the Forrest-road, Bristo-street, and Teviot-row. The situation is open and airy. The designs have been prepared by Messrs. Peddie & Kinnear, and a lithographic sketch has been circulated with the prospectus. This view represents the principal front, which faces south-west, and looks straight to the entrance to the Meadow-walk. This front is 170 feet long, and is composed of two advanced wings and a main building or curtain connecting them, in the centre of which is a steep-pointed and somewhat slender belfry tower. The northmost wing is composed of the building at present on the site and immediately at the back of the Free Church, which building was originally erected for an industrial school. The style of the building externally is that variety of Gothic common in the domestic and municipal buildings of Belgium, and which is a lighter and less stronghold-like variety of the Scottish baronial. The main front of the building is in three stories—ranging in height with the two stories of the present building to be used as dining-hall and library. The windows of the two lower stories are divided by mullions and transoms, and have segmental and curved heads. The upper row of windows rises somewhat above the eaves of the steep roof, and their gables, supported by buttresses and pinnacles, are made important features in the design. The two projecting wings terminate in gables ornamented with crockets and finials; and, corbelled out at each corner at the level of the first floor, are large circular turrets in two stories. These turrets have large windows, and form a kind of conical roofed projecting oriel from the corners of the rooms.——A public meeting has been held in furtherance of the project for the establishment of a workmen's club and institute. It is proposed to rent a large hall in the middle of the town, and the total expense would be about 200*l*. for the first year, which would require about 480 members, at 2d. a week to render it self-supporting. Resolutions were agreed to promotive of the object in view.——The Edinburgh scavengers have struck work, the cause of complaint being night work and Sunday work. Officials have been sent to Glasgow and Dundee to raise a new force, and placards have been issued through the town calling for men at 15s. a week. The streets, particularly in the poorer quarters, are already in a filthy and offensive state. Altogether about 200 men are on strike, and some who were willing to work were prevented.

Perth. An endeavour is being made to have the statue of the late Prince Consort, for which subscriptions are being collected, cast in bronze instead of being set up in stone. From 150*l*. to 200*l*., however, are still wanted of the sum requisite for the stone statue, and the subscribers have therefore resolved to carry out the memorial as originally intended.——The lands and castle of Balthayock, in this neighbourhood, after remaining for five or six hundred years in the hands of the Blairs of that and other lks, within the last year or two were purchased by Mr. Samuel Howard, late of Stanley. Mr. Howard began forthwith to make improvements, first on the dwelling-house, and then on the old castle immediately adjoining. The castle is grey with old age, save where (which is in most places) its massive old walls are covered with luxuriant and venerable ivy, which clings to them so tenaciously that you might climb to the summit through its branches. The castle walls are so ancient, that neither history nor tradition, it is said, assigns any date to them. They are about 12 feet thick in the basement story, and about 7 feet in the summit one. A spiral staircase winds up through them from what was once the dungeon-keep. The castle was fire-proof. For a long time past it was unroofed, and the upper arch was partly broken. That has been repaired, and the whole is now covered with a roof, in keeping with the general aspect of the building. The length of the walls is about 52 feet, the breadth 39 feet, and the height 55 feet. Apart from the dungeon there are only two rooms. The lower one is being fitted up as a dining-hall; the upper one as a picture-gallery. The restoration is not yet completed. More joiner-work than any other has been required, and this is being performed by Messrs. Pullar & Keay. Mr. Annan has taken the plaster-work; and Messrs. Frew & Son the plumber-work.

Aberdeen.—The ceremony of cutting the first turf of the aqueduct of the new gravitation water-works, for the supply of 6,000,000 gallons of water per diem from the Dee at Cairnton to the city has just been cut by Sir Alexander Anderson, of Bielack, the Lord Provost, who, in his address on the occasion, referred to the contractor, Mr. Gibb, as being the fifth generation of a family of most respectable contractors, who had distinguished themselves in many important works; while, during these five generations, they had always paid 20s. in the pound.

CHURCH-BUILDING NEWS.

Oakham (Rutland).—At a meeting of the church spire restoration committee, the following tenders were received for taking down the church steeple a certain distance from the top:—*Mr. J. Brown, builder, 170l.*; and Mr. Cave, 146*l*.; when the latter tender was accepted.

Wokingham (Berks and Hants).—The parish church of St. Mary, Wokingham, has been reopened. From lapse of years and other causes the edifice had fallen into a state of decay, and was choked with unsightly fittings. The chancel arch and its piers were in a ruinous state, and the outer walls of the fabric generally were in a very dilapidated condition. The present restoration consists in an entire rebuilding of the chancel, with its north aisle, and the addition of a south aisle and large vestry. The chancel arch also, and the arches to the north and south of it, have been rebuilt; as also the north and south aisles of the nave. The tower has been opened out to the rest of the church; but funds were wanting for the restoration so much needed of the tower generally: had these sufficed, it would have been put into repair, and heightened. Of the new work, in such portions as are restorations or intimately connected with old features, the original date of the work has been adhered to; but where, as in the case of the chancel, the building was new from the ground, Middle Pointed or fourteenth century work has been adopted by the architect. The new south chapel, however, has received the old windows and doorway from the former aisle of later date. The old Norman south door has been restored, and a new porch erected over it. A simple form of reredos has been adopted over the altar, and plain stone seat for sedilia and a credence niche; and the chancel is further furnished with light iron girdles in the side arches, choir seats, and low wooden screen in the chancel arch. The pavement is of Minton's tiles. The fittings in the nave are open sittings, and the old font has been refixed near the tower arch. Several painted windows have been presented to the church. The east window in the chancel, which is by Hardman, of Birmingham, was presented by Mr. Elliott Morres. The central figure represents the Crucifixion, and on each side the Evangelists. Above is represented our Saviour in glory, taken from the first chapter of the Relevations. On the left and right of this there are two figures, representing the Resurrection and Ascension. In the east of the south side aisle there is a memorial window; and, facing the south, another, presented by members of the Twycross family. The former window has the following subjects,—the Baptism, Crucifixion, Resurrection, and Ascension of our Lord, under Perpendicular canopies, with pedestals and inscriptions relative to each subject. The tracery contains devices of angels with crowns of glory, and palm branches. The south aisle window contains the subject of our Saviour raising Jairus's daughter, under a canopy of floreated ornament of the lily, with angels bearing a scroll with the words, "She is not dead, but sleepeth." In the tracery are figures of Faith, Hope, Charity, Piety, Prudence, and Devotion. These windows were designed and executed by Mr. W. Holland, of Warwick. The old solid chalk pillars still remain. The stone carving in the new work has been executed by Mr. Nicholls. Upwards of 21 feet altogether have been added to the length of the edifice. The church has been drained, and a heating apparatus applied to it, which was constructed by Mr. Potter. Mr. Woodyer, of Grafham, was the architect: Messrs. Lawrence were the contractors; and Mr. Edgington acted as clerk of the

:ks. The ironwork was by Messrs. Filmer & ison, of Guildford.

Barming (Kent).—A plan of repair of the old urch here was made by Mr. Hakewell; and, on ng laid before the parish, with the estimated pense, was approved and adopted. Accordingly chancel has been repaired, the roof renovated, old pews removed, and the church reseated. w stone windows have been made, and the wooden ones taken away. Messrs. Whittaker Whitehead also gave two new windows of inted glass. The money raised was 620*l.*, nich was expended as mentioned; but some ngs, as designed, still remained undone. But rything has now been completed.

Birchington (Isle of Thanet, Kent).—The re-oration of the church is shortly to be proceeded th. The chancel will be restored at the cost the Dean and Chapter of Canterbury; the ispe chantry, by Mr. H. P. Cotton, of Quex ark; and towards the thorough reparation of e tower and spire the Board of Trinity House s made a grant of 100*l.* It is also proposed open, repair, and re-tile the roofs; to raise the vel of the floor; to provide new seats of uniform naracter, enlarging the number of sittings from il to 542; and generally to restore the whole ructure. Towards this portion of the restora-on (the estimated expense of which is 1,000*l.*) ont 500*l.* have already been promised. Mr. N. Beazley is the architect.

Newport (Isle of Wight).—The *Isle of Wight Churchman* states that the church of Brading is ortly to be restored. A new roof is now ndertaken at the expense of Sir Henry Oglander, nd the reseating of the church is also in con-mplation. The restoration of the nave of Niton arish church is to be immediately put in hand. The chancel to Whitwell church is also to be efitted; and the restoration of Gafcombe church looked upon as a certainty. These three last-amed works are to be from designs by Mr. R. . Jones, of Ryde.

Hewelsfield (Forest of Dean). — The parish hurch of Hewelsfield, in the rural-deanery of he Forest, has been re-opened, after restoration nder the superintendence of Mr. Butterfield.

Whitwood.—On Easter Monday, the corner-tone of All Saints' Church, Whitwood Mere—ne of two places recently formed into parishes n that district, through the liberality of the ean and chapter of Christ Church, Oxford—as laid by the Hon. & Rev. P. Y. Savile, rector f Methley.

DISSENTING CHURCH-BUILDING NEWS.

Walsall (Staffordshire).—The foundation-stone f a new Wesleyan school chapel has been laid t the junction of Queen-street and Bridgman-treet. The site is sufficient to admit of the rection of not only a school capable of accommo-lating 200, but a chapel calculated to contain ittings for 500. The new building will cost bout 200*l.* and is of red brick, with dressings of white and coloured bricks. The chapel, which will be erected hereafter, will cost about 500*l.* or 600*l.* The plans of both buildings have been prepared by Mr. A. Beardsmore, of Darlaston. Mr. J. Wilkes, of Darlaston, is the contractor for the present building.

Leicester.—The new Congregational Chapel in Oxford-street has been opened. This chapel has been built for the use of the congregation re-cently attending the Harvey-lane chapel. The architects were Messrs. Shenton & Baker. It is built in a free rendering of the Lombardic style. The buildings, including school-rooms, are 110 feet in length by 54 feet in breadth, with an elevation in front of 53 feet. From the back part 36 feet have been taken for school purposes. The interior of the chapel is 74 feet by 49 feet 8 inches; the average height from floor to ceiling is 30 feet 8 inches. The gallery is supported by octagon pillars. The floor line is 10 feet above that of the chapel. The ground-floor is an inclined plane, rising 16 inches from back to front. The seats are arranged in a segment of the circle, each one inclining 4 inches. Access to the pews is given by two aisles. The seats in the gallery rise each one 13 inches above the other. The front is of open ironwork. The gas-fittings were supplied by Mr. Bramley. There are two sunlights in the ceiling, and brackets of a twisted cord pattern give additional light under the gallery. The school-rooms are behind. The boys' school is 32 feet by 24 feet: on either side is a class-room, 12 feet 6 inches by 10 feet, which, by means of sliding doors, can be thrown open to the school. On one side, in the hinder part of the building, is the minister's vestry and staircase; on the other side an infant school-room, 18 feet by 12½ feet. The height of these rooms is 13 feet 6 inches. The upper room is intended for girls: it is 50 feet 6 inches in length by 33 feet 6 inches in width. The height from floor to ceiling is 18 feet. At one end a senior class-room, formed by sliding-doors, and a teacher's retiring-room, have been provided. The cost of the building, including ground, will somewhat exceed 4,000*l.* The contractor was Mr. T. B. Collins. The woodwork was done by Mr. W. Clifton, and the ironwork by Mr. Richards. The staining, gilding, and glazing by Mr. W. Widdowson.

Cheltenham.—A committee has been formed for erecting a new church for the ministrations of the Rev. George Roberts on his expulsion from St. John's. The sum required for the building and endowment is 10,000*l.* Of this sum nearly 3,000*l.* are already subscribed.

Willenhall.—The foundation stone of a new school chapel, in connexion with the Primitive Methodists, has been laid at Lane Head. The structure will be a plain brick building, constructed to seat about three hundred persons, and the price, including site (the price of which was nominal), will be about 230*l.*

Knutsford (Cheshire).—The builder's contract for the erection of a new Wesleyan chapel at Knutsford, on the vacant plot of ground adjoining the savings-bank, in Princess-street, has been let to Mr. Massey, contractor, Chorley. The voluntary contributions already amount to something like 1,300*l.*; and it is expected that the work will be commenced without delay. Mr. T. R. Clements, of Knutsford, is the architect.

Lincoln.—On Monday, the foundation-stone of a new Wesleyan chapel and schools was laid, in the parish of St. Peter, at Gowts, by the Rev. H. H. Chettle, to be erected from the designs of Messrs. Bellamy & Hardy, architects.

STAINED GLASS.

St. Alban's Church, Worcester. A circular west window has been erected in this church. The subject is, "The Baptism in Jordan." The window has been erected, by subscription, to the memory of the late rector. Mr. F. Preedy was the artist.

Hereford Cathedral.—The accepted design for the memorial window which is proposed to be erected in remembrance of the late Archdeacon Lane Freer has been exhibited, according to the local *Times*, in a shop in High Town. This design is intended to fill the great window of the north transept of the cathedral, which presents a peculiar difficulty in treatment, owing to the fact that the number of lights is equal, thus precluding the pyramidal arrangement. Judging from the drawing, remarks our authority, we cannot say that the artist has succeeded in conquering this difficulty. Not only is there nothing in the upper part of the window conspicuous enough to form an apex to his design, but the two sides do not balance either in grouping or in colour. On the left hand there are two striking groups—the Crucifixion and the sending forth of the Apostles—against which the right side has only one, the Saviour in his exaltation. In the colouring, too, the predominant blue of the left-hand triplet of lights seems to outweigh the dominant ruby tone of the other half of the window. The chief subjects for illustration cross the triplets, within scroll-work. The two centre pieces are illustrative of "the Church Militant" and "the Church Triumphant." The former depicts Our Lord sending forth the apostles to convert the world and establish the Church. On the other side appears the Church Triumphant, in which the figures are grouped with thoroughly artistic effect. Here the Saviour appears enthroned in Heaven, surrounded by the blessed, bearing emblems of the Christian virtues; and the figures are similar in number to those opposite, enclosed in a scroll, the principal ornament in which are angels' faces. Underneath each principal compartment there are five of a minor character, the centre being larger than those by which it is flanked. Forming the base of the group illustrating the Church Militant are the following pictures:—St. Stephen distributing Alms; the Baptism of the Eunuch by St. Philip; the Shipwreck of St. Paul; and the Persecution of St. Paul in Prison. Below the Church Triumphant are five distinct groups, representing the angels of Heaven sealing the servants of God. In the base appear the emblems of masonry, in allusion to the fact that the deceased was the D.P.G.M. of the Province of Herefordshire. The spaces above the principal groups are divided into eight compartments on each side. Over the Church Militant are representations of St. Paul disputing with Festus, St. Peter and St. John confirming in Samaria, Angels with spiritual armour, the Martyrdom of St. Stephen, and St. Peter healing Æneas, with the Crucifixion of Our Lord as a centre. A similar number of compartments appear above the Church Militant, the principal representations in which are the Heavenly Jerusalem, Angels crowning and receiving the Just into Heaven—two compartments each. Above these are seven oriels, three in a triangle over each triple light, with a smaller one in the centre. These seven lights illustrate the seven gifts of the Holy Ghost. The apex is formed of a larger oriel, in which the descent of the Holy Ghost in the form of a dove is surrounded by six cherubim.

St. Asaph's Cathedral.—An east window has just been put up in the choir of St. Asaph's Cathedral, as a memorial of the late Bishop Carey and Mrs. Carey, both of whom have been great benefactors to the diocese by their bequests towards the building of churches, schools, and parsonage houses, and the relief of poor clergy. The window is the gift of the representatives of Mrs. Carey, Mrs. Levitt and Miss Sheepshanks. The stained glass is the work of Messrs. Ward & Hughes, of London. There are seven lights, forming in the arrangement of the tracery two distinct windows, with a centre compartment between them, which is devoted to the subject of "The Ascension." The three lights on either side contain in each two subjects from Our Lord's history. The reticulated tracery above the side-lights is occupied by the six Acts of Mercy, and the whole is surrounded by a cusped oval, in which is a representation of Our Lord enthroned in glory, bearing in his hand the orb and sceptre. The tracery (which harmonizes with the old original windows of the cathedral) is from a design of Mr. Gilbert Scott, and has been carried out under the direction of a local architect, Mr. Fairclough.

SANITARY MATTERS.

Kidderminster.—Under the head of "Preventible Disease at Kidderminster," *Aris's Birmingham Gazette* states that "an unpleasant discovery has recently been made in Kidderminster, testifying to an amount of ignorance of the simplest sanitary laws which is anything but blissful. Small-pox having been alarmingly prevalent throughout the past winter, and previous vaccination proving but a slight defence against the scourge, the attention of the sanitary inspector became directed to the condition of the spot where the disease appeared to have originated. The locality is described as not naturally unhealthy; but, from insufficient sewerage, and the neglect of the inhabitants, it has become so. In his researches, the inspector found that in one yard 'pigs were kept in a brew-house adjoining the house where children were affected, and the whole gutter drainage emptied into a grate under the pump trough, thus polluting the well. The tenants had dunghills also within two yards of their doors.' But this is not the worst instance. 'In another small and confined yard there was a pigsty, dung collected from the roads, a privy with the floor a foot below the yard, and ankle-deep with the drainage from the dunghill and pigsty, and a range of stabling, privies, and slaughter-houses, all adjoining'!" Lark Hill, described as "one of the most beautiful spots in the town," is now one of the least desirable residences; because, whilst it has become densely populated, it has not been provided with sewerage. The authorities, however, have turned their attention to the important question of the sewerage; and it is to be hoped they will also take measures for enforcing some degree of attention to sanitary requirements throughout the borough.

Rugby.—Messrs. Easton & Amos have been appointed engineers to the Rugby Board of Health, with the view of carrying out their plans for water supply, in preference to those of Mr. Hawksley for obtaining water from the river Avon. Messrs. Easton & Amos's plan consists in securing a supply by impounding the water of several small streams and the surface water from about 900 acres of land in two storage reservoirs.

Britonferry (Glamorganshire). — The Local Government Act has been adopted by the owners and ratepayers of the parish of Britonferry.

VOCABULARY OF ARCHITECTURAL TERMS, IN EIGHT LANGUAGES.*

* See pages 264-5, *ante*.

ENGLISH.	FRENCH.	ITALIAN.	SPANISH.	GERMAN.	DUTCH.	LATIN.	GREEK.
Gallery	Galerie, *f*	Galleria, *f*	Galeria, *f*	Galerie, *f*, Gang, *m*	Gaanderij, *f*	Ambulatio, *f*, Xystum, *n*	Παραξῶμις, *f*
Glyph	Glyphe, *m*	Glifo, *m*	Glifo, *m*	Schlitz, *m*	Spleet, *f*	Glyphus	Στοά, *f*
Guilloche	Guilloche, *f*	Rabesco, *m*	Guilloche	Netzartige Verzierung, *f*	Guilloche, *f*		Γλύφος
Gutta	Gouttes, *f*	Goccie, *f*	Gotas, *f*	Tropfen, *m*	Droppen, *n*	Guttæ, *f*	Στάγματα, *n*
Helix	Hélice, *f*	Spirale, *m*	Elice, *f*	Schnecke, *f*	Spiraalijn, *f*	Helix, *m*	Ἕλιξ, *f*
Hexastyle	Hexastyle, *m*	Esastilo, *m*	Hexastilo, *m*	Mit sechs Säulen in der Fronte	Zeszuilig	Hexastylus, *m*	Ἑξάστυλος, *m*
Honeysuckle ornament	Gousse, *f*	Guscio, Baccello, *m*	Cascara, Vaina, *f*	Geissblatt	Kamperfoelie, *f*	Siliqua, *f*, Anthemium, *n*	Ἀνθέριον, *n*
Hyperthyrum	Hyperthyrum, *m*	Iperturo, *m*	Hiperthiro, *f*	Ueber der Thür		Hyperthyrum, *n*	Ὑπέρθυρον, *n*
Hypæthral	Hypèthre	Ipetro, L'Edifizio senza tetto	Hipetro	Unbedacht	Hipietral	Hypæthrus	Ὑπαίθρος, *m*
Impost	Imposte, *f*	Imposta, *f*	Imposta, *f*	Kampfer, *m*	Impost	Incumba, *f*	
Intercolumniation	Entrecolonnement, *m*	Intercolonnio, *m*	Intercolumnio, *m*	Säulenraum, *m*	Ruimte tusschen Zuilen	Intercolonium, *n*	
Intermodillion	Entremodillon, *m*	Intermodiglione, *m*	Intermodillon, *m*	Sparrenkopf an Säulenraum			
Intrados	Intrados, *m*	Soffitta, Imbotte, *m*	Intrados, *m*	Innere Wölbung, *f*, Wölbfläche	Gewelfvlakte, *f*	Intradossum, *n*	
Medallion	Médaillon, *m*	Medaglione, *m*	Medalion, *m*	Flachenbrustbild, *n*	Medaillion, *n*	Majus numisma, *n*	Νομισμάτιον, *n*
Metope	Métope, *f*	Metope, *f*	Metopa, *f*	Zwischentiefe, *f*	Tusschendiepte, *f*	Metopa, *f*	Μετόπη, *f*
Minute	Minute, *f*	Minuto, *m*	Minuto, *m*	Minute, *f*	Minuutlijn, *f*	Minutum, *n*	Ἐμβάτης, *m*
Modillion	Modillon, *m*	Modiglione, *m*	Modillon, *m*	Sparrenkopf an Säulen	Modillion, *n*	Mutulus, *m*	
Module	Module, *m*	Modulo, *m*	Modulo, *m*	Model, *m*	Module, *n*	Modulus, *m*	Ἐμβάτης, *m*
Monolith	Monolithe, *m*	Monolito, *m*	Monolitho, *m*	Monolith, aus einem Stein	Monalith, *n*	Monolithus, *m*	Μονόλιθος, *m*
Monopteral	Monoptère	Monoptero	Monopterio	Einflügel	Eenvleugel	Monopteros, *n*	Μονόπτερος, *n*
Moulding	Moulure, *f*	Modanatura, *f*	Moldura, *f*	Glied, *n*, Rand, Gesims, *m*	Hallijst, *f*	Moldura, *f*, Torus, *m*	
Mullion	Meneau, *m*	Tramezzo	Crucero de Ventana	Fensterkreuz, *n*	Middelstijl, *n*	Fenestræ scapus	
Mutule	Mutule, *m*	Mutilo, *m*	Modillon, *m*	Kragstein, *m*	Mutule, *n*	Mutulus, *m*	Μύτιλος, *m*
Narthex	Narthex, *m*					Narthex, *f*	Νάρθηξ, *f*
Neck of a column	Escape, Conge, *f*	Scapo, *m*	Scapo, *m*	Säulenhals, *m*	Zuilenhals, *n*	Summus Scapus, *m*, Hypotrachelium, *n*	Ὑποτραχήλιον, *n*
Niche	Niche, *f*	Nicchia, *f*	Nicho, *m*	Bilderblende Nische, *f*	Nis, *f*	Absis, Zotheca, *f*	Ἀψίς, *f*
Obelisk	Obélisque, *m*	Obelisco, *m*	Obelisco, *m*	Obelisk, *m*, Prachtkegel	Gedenknaald, *f*	Obeliscus, *m*	Ὀβελίσκος, *m*
Octostyle	Octostyle, *m*	Ottostilo, *m*	Octostilo, *m*	Achtsäulige Bau	Achtzuilig	Octostylus, *m*	Ὀκτάστυλος, *m*
Odeon	Odéon, *m*	Odeo, *m*	Odeon, *m*	Singsaal, *m*, Odeon	Odeon	Odeum, *n*	Ὠδεῖον, *n*
Ogee	Ogive, *f*	Ogivo, *m*	Ogivo, *m*	Kreusbogen, *m*	Ojief, *n*	Ogivum, *n*	
Order	Ordre, *m*	Ordine, *m*	Orden, *m*	Saulen Ordnung, *f*	Orde, *m*	Ordo, *m*	Τάξις, *f*
Doric	Dorique,	Dorico	Dorico	Dorische	Dorische	Doricus	
Tuscan	Toscan	Toscano	Toscano	Toscanische	Toscansche	Tuscanus	
Ionic	Ionique	Ionico	Ionico	Ionische	Ionische	Ionicus	
Corinthian	Corinthien	Corintico	Corintico	Korinthische	Corinthische	Corinthicus	
Composite	Composite	Composito	Compuesto	Zusammengesetzte	Samengestelde	Compositus	
Orchestra	Orchestre, *f*	Orchestra, *f*	Orquesta, *f*	Orchester, *m*	Orchest, *n*	Orchestra, *f*	Ὀρχήστρα, *f*
Ordonnance	Ordonnance, *f*	Disposizione, *f*	Ordonanza, *f*	Anordnung, *f*	Ordonnaantie, *f*	Dispositio, *f*	Διάθεσις, *f*
Ornament	Décoration, *f*, Ornement, *m*	Ornamento, *m*	Adorno, *m*	Verzierung, *f*	Sieraad, *n*, Versierinoz, *f*	Ornamentum, *n*	Κόσμημα, *n*
Orthostyle	Orthostyle, *m*	Ortostilo, *m*	Ortostilo, *m*	Orthostile, *m*	Orthostile	Orthostylus, *m*	Ὀρθόστυλος, *m*
Ovolo	Ove, *m*	Uovolo, *m*	Ovelo, *m*	Wulst, *m*	Eijerlijst, *f*	Echinus, *m*	Ἐχῖνος, *m*
Panelling	Lambrissage, *m*	Intavolatura, Impiallacciatura, *f*	Cuarterones, *m*	Fachwerk, *n*	Paneeling, *f*	Tabulatio, *f*	
Patera	Patère, *f*	Patera, *f*	Patera, *f*	Patera, *n*	Patera	Patera, *f*	Φιάλη, *f*
Pavilion	Pavillon, *m*	Padiglione, *m*	Pabellon, *m*	Zeltdach, *n*	Paviljoen, *n*	Ædes quadratæ	Κωνωπεῖον, *n*
Pedestal	Piédestal, Scabellon, *m*	Piedestallo, *m*	Pedestal, *m*	Säulenstuhl, *n*	Voetstuk, *n*	Acropodium, *n*	Στυλοβάτης, *m*
Pediment	Fronton, Tympan, *m*	Frontispizio, *m*	Timpano, *m*	Frontispiz Giebel, *m*	Kroonlijst	Fastigium, *n*	Ἀετός, *m*, Α�έτωμα, *n*
Pentastyle	Pentastyle, *m*	Pentastilo, *m*	Pentastilo, *m*	Mit funf Säulenreihen	Met vyf Zuilen	Pentastylus, *m*	Πεντάστυλος, *m*
Peripteral	Péripière	Peripteralo	Peripteralo	Von Säulen umgeben	Met Zuilen omgeven	Peripteron, *n*	Περίπτερον, *n*
Peristyle	Péristyle, *m*	Colonnato, Loggiato, *m*	Peristilo, Piazza, *f*	Runde Säulengang, *m*	Ronde rij Zuilen, *f*	Locus columnis cinctus	Περίστυλος, *m*

Pier	Pilier, Piedroit, *m*	Pila, *f*	Pie derecho, *m*	Strebepfeiler, *m* Pilaster, *m* Viereckige Stützen	Brugpijler, *m*	Orthostates, *f*	Στῦλος, *m*
Pilaster	Pilastre, *m*	Pilastro, *m*	Poste, *m*, Pilastra, *f*		Pilaster, *m*	Parastata, *f*	Στυλίσκος, *m*
Pillar	Pilier, *m*, Colonne, *f*	Piliere, Colonello, *m*	Poste, Pilar, *m*	Pfeiler, *m*, Säule, *f*	Pilaar, Stut, *m*	Columna, *f*	Στήλη, *f*
Plafond	Plafond, *m*	Solajo, *m*	Arteson, *m*	Decke, *f*	Dak, *n*	Lacunar, *n*	Φάτνωμα, *n*
Plan	Plan, *m*	Pianta, *f*	Planta, *f*	Grundriss, *f*	Ontwerp, Plan, *n*	Ichnographia, *f*	Ἀρχέτυπον, *n*
Platband	Platebande, *f*	Fascia, *f*	Barra, *f*	Platte, *f*, Streifen, *m*	Rabat or Rand, *m*	Taenia, *f*	Ταινία, *f*
Platform	Platforme, *f*	Lastrico, *m*, Piattaforma	Plataforma, *f*	Altan, *m*	Plattegrund, *n*	Castrotoma, *f*	
Plinth	Plinthe, Socle, *f*	Plinto, *m*	Plinto, *m*	Plinthe, Tafel, *m*	Plint, *f*, Dekstuk, *n*	Plinthus, *m*	Πλίνθος, *m*
Podium	Podium, *m*	Podio, *m*	Podio, *m*	Podium	Podium	Podium, *n*	Πόδιον, *n*
Polystyle	Polystyle, *m*	Polistile, *m*	Polistilo, *m*	Vielsäulige Bau, *m*	Veelzuilige	Polystylus, *m*	Πολύστυλος, *m*
Porch	Porche, *f*	Portico, Atrio, *m*	Zaguan, *m*	Vorhalle, *f*, Vorhof, *m*	Portaal, *n*	Atriolum, *n*	Στοά, *f*
Portico	Portique, *f*	Portico, *m*	Portico, *m*	Säulengang, *m*	Zuilengang, *m*	Porticus, *m*	Παραστάς, *f*
Profile	Profile, *f*	Profilo, *m*	Perfil, *m*	Durchschnitt, *m*	Profiel, *n*	Obliqua Imago, *f*	
Prostyle	Prostyle, *m*	Prostilo, *m*	Prostilo, *m*	Mit Säulen vorn	Zuilenrij voor een gebouw, *f*	Prostylus, *m*	Πρόστυλος, *m*
Pseudo dipteral	Faux diptère, *m*	Pseudodittero, *m*	Pseudodittero, *m*	Falsch doppelflüglig		Pseudodipteros, *n*	Πσευδοδίπτερος, *n*
Pycnostyle	Pycnostyle, *m*	Picnostilo, *m*	Picnostilo, *m*	Engsaulig	Engzuilige	Pycnostylus, *m*	Πυκνόστυλος, *m*
Pyramid	Pyramide, *f*	Piramide, *f*	Piramido, *m*	Pyramide, *f*	Pyramide, *f*	Pyramis, *f*	Πυραμὶς, *f*
Quadra	Quadre, *m*	Telajo, Quadro, *m*	Quadro, *m*	Viereck, *n*	Regthoekig	Margo, Quadra, *f*	
Quirk	Conture, *m*	Conturo, *m*	Conturo, *m*	Kante, *f*, Umkreis, *m*	Loopje, *f*		
Quoin	Coin, *m*	Cantone, Bozzo, *m* Spigolo, *m*	Esquina, *f*	Eckquader, *m*	Hoeksteen, *n*	Cuneus, *m*	Λίθος γωνιαῖος, *m*
Recess	Enfoncement, *m*	Sfondamento, *m*	Hondonada, *f*	Versteck, *m*	Vertrek, *n*	Recessus *m*	
Relief	Relief, *m*	Rilievo, *m*	Relieve, *m*	Erhobene Arbeit	Verhefenwerk Relievo, *n*	Species, *f*	
Renaissance	Renaissance, *f*	Rinascimento, *m*	Renacimiento, *m*	Renaissance, *f*	Renaissance, *f*		
Rococo	Rococo, *m*	Rococo, *m*	Rococo, *m*	Rococo, *f*	Rococo, *n*		
Rostrum	Rostres, *m*	Rostrale, *f*	Rostrale	Rednerbühne, *f*	Spreekgestoelte, *m*	Rostrum, *n*	Βῆμα, *n*
Rustic work	Bossage, *m*	Opera rustica, *f* Opera a bozze	Almohadillado, *m*	Hervorspringendestein	Boerschewerk, *n*	Opus rusticum	
Sarcophagus	Sarcophage, *m*	Sarcofago, *m*	Sarcofago, *m*	Sarkophag, *n*	Sarcophaag, *m*	Sarcophagus, *m*	Σαρκοφάγος, *m*
Scape of a column	Congé, *m*	Apofigi, Scapo, *m*	Apofigo, *m*	Anlauf, Ablauf, *m*		Apophysis, *f*	Ἀνόφυσις, *f*
Scotia	Nacelle, *f*	Guscio, Cavetto, *m*	Navecilla, Escocia, *f*	Regenrinne, *f*	Verdieping, *f*	Scotia, Cavetta, *f*	Σκοτία, *f*, Τρόχιλος, *m*
Scroll	Enroulement, *m*	Cartella, *f*	Espiral, *f*	Rolle, *f*, Liste, *f*	Rol, *f*	Convoluta, *f*	Σχεδάριον, *n*
Section	Coupe, *f*	Sezione, *f*	Corte, *f*	Durchschnitt	Snijding, *f*	Sectio, *f*	Τομὴ, *f*
Shaft	Fût, Tronc, *m*	Fusto, *m*	Tronco, *m*	Schaft, Stamm, *m*	Schaft, *f*	Scapus, *m*	Στύλος, *m*
Soffit	Soffite, *f*	Soffitta, *f*	Artesonado, *m*	Gewölbdecke, *f*	Sofite, *f*	Lacunar, *n*	Φάτνωμα, *n*
Spandril	Hanche, Naissance, *f*	Anca, *f*, Nascimento, *m*	Anca, *f* Nacimiento, *m*	Hintermauerung, *f*	Zekere ruimte van een gewelf, *f*		
String course	Cordon en saillie	Cordone, *m*	Cordon, *m*	Band, *m*	Band, *n*	Corona, *f*	
Stylobate	Soubassement, *m*	Zoccolo, Basamento, *m*	Pedestal de columna, *m*	Untersatz, Säulenstuhl, *m*	Basis, *f*	Stylobates, *n*	Στυλοβάτης, *m*
Surbase	Moulure de la base Plinthe, *f*	Plinto, *m*	Moldura de basa	Fussleiste, *f*	Kraag aan debasis		
Systyle	Systyle, *m*	Sistilo, *m*	Sistilo, *m*	Nahesäulig	Nabijzuilig	Systylus, *m*	Σύστυλος, *m*
Temple	Temple, *m*	Tempio, *m*	Templo, *m*	Tempelhaus, *n*	Tempel, *m*	Templum, *n*	Τέμενος, Ναὸς, *m*
Terminus	Termine, *m*	Termino, *m*	Termino, *m*	Grenze, *f*		Terminus, *m*	
Terrace	Terrasse, *f*, Perron, *m*	Terrazza, *f*	Terrado, *m*	Terrasse, *f*	Terras, *n*	Agger, *m*	Ἄετὸς, *m*
Tetrastyle	Tétrastyle, *m*	Tetrastilo, *m*	Testrastilo, *m*	Viersaulig	Vierzuilig	Tetrastylus, *m*	Τετράστυλος, *m*
Torus	Tore, *m*	Toro, Bastone, *m*	Toro, *m*	Pfuhl, *m*	Torus, *m*	Torus, *m*	
Triglyph	Triglyphe, *m*	Triglifo, *m*	Triglifo, *m*	Dreischlitz, *m*	Driespleet, *f*	Triglyphus, *m*	Τρίγλυφος, *m*
Tringle	Tringle, *m*	Regola, *f*	Lata, *f*	Kranzleiste, *f*	Kranzlijste, *f*	Buccula, *f*	
Tympanum	Tympan, *m*	Timpano, *m*	Timpano, *m*	Giebelfeld, *n*	Pancel, *n*, Tympan, *n*	Tympanum, *n*	Τύμπανον, *n*
Vault	Voûte, *f*, Arceau, *m*	Volta, *f*	Boveda, *f*	Gewölbe, *n*	Gewelf, *n*	Abbobuta, Apsis Fornix, *f*	Καμάρα, *f*
Veranda	Veranda, *m*	Veranda, *f*	Veranda, *f*	Veranda, *f*	Veranda		
Volute	Volute, *f*	Voluta, *f*	Voluta, Concha, *f*	Schnecke, *f*	Krul, *f*	Voluta, *f*	Καλχη, Ἕλιξ, *f*
Vomitory	Vomitoire, *m*	Vomitorio, *m*	Vomitorio, *m*	Haupteingang, *n*	Hoofdeingang, *n*	Vomitorium, *n*	
Voussoir	Vousseau, *m*	Pietra della Volta, *f*	La clave del Arco, *f*	Schluss-stein, *m*	Voussoir, *m*	Conclosura Camera, *f*	Κλείς, *f*
Zocolo	Zocole, *m*	Zoccolo, *m*	Zocolo, *m*	Sockel, *m*	Zocole, *m*	Zocolum, *a*	
Zoophorus	Zoophore, *m*, Frise, *f*	Zooforo, *m*	Zooforo, *m*	Frics, *n*	Vries, *n*	Zoophorus, *m*	Ζωοφόρος, *m*

INCREASE OF MORTALITY IN LIVERPOOL.

AT a recent meeting of the Liverpool town council, Mr. Jeffrey presented the following tabular statement, compiled by Mr. Miller from the report of Dr. Duncan for 1861, and that of Dr. Trench, the present medical officer of health, for 1863 :—

Rate of the Mortality per 10,000 of the inhabitants of Liverpool for the years 1861 and 1863, showing the increase or decrease.

		1861.	1863.	Increase.	Decrease.
Parish of Liverpool		319	360	41	—
Borough of Liverpool		288	332	42	—
Scotland	Ward	308	296	—	12
Vauxhall	,,	351	347	—	4
St. Paul's and Exchange	,,	309	339	30	—
St. Anne's and Lime-st.	,,	259	318	59	—
Castle-st. and St. Peter's	,,	210	206	—	4
Pitt-street and Great George	,,	267	298	31	—
Rodney-street and Abercromby	,,	206	201	—	5
Everton and Kirkdale	,,	221	260	39	—
West Derby	,,	201	240	39	—
North Toxteth	,,	236	254	18	—
South Toxteth	,,	296	375	79	—

Rate of the Mortality per 10,000 of the inhabitants of Liverpool through zymotic diseases for the years 1861 and 1863, showing the increase and rate :—

		1861.	1863.	Increase.	Rate.
Parish of Liverpool		70.6	104.8	34.8	48.4
Borough Liverpool		60.0	87.5	31.5	47.7
Scotland	Ward	80.8	89.6	8.8	10.8
Vauxhall	,,	95.0	110.9	15.9	16.7
St. Paul's and Exchange	,,	69.0	95.5	26.5	38.6
St. Anne's and Lime-st.	,,	54.3	84.5	30.2	55.6
Castle-st. and St. Peter's	,,	32.0	36.2	4.2	13.0
Pitt-street and Great George	,,	89.0	97.5	8.5	98.9
Rodney-street and Abercromby	,,	37.7	52.2	14.5	38.4
Everton and Kirkdale	,,	51.2	76.5	25.3	49.2
West Derby	,,	41.8	58.6	16.8	40.0
North Toxteth	,,	57.9	74.4	16.5	28.5
South Toxteth	,,	83.0	131.3	48.3	58.0

The local *Journal* states that in the "talk on Change" there is great reluctance to admit the accuracy of these statistics, as "it is very difficult to believe the frightful deterioration in the health of the town which the returns presented to the council seem to show; and that proper inquiry should, therefore, be promptly made, before Liverpool is again represented to the world as one of the most unhealthy spots in it." Liverpool, however, has been frequently shown to be an unhealthy town, notwithstanding recent endeavours; and the reluctance of its merchants to admit the fact is of little or no force against such statistics as those produced.

LECTURES BY DR. FAIRBAIRN, C.E.

DR. FAIRBAIRN has recently been lecturing at the Dumfries Mechanics' Institute. There was an excellent attendance at the first lecture, but the attendance at the second was not so good, though the lecture was of a much more popular character than the first one, the subject of which was "Iron and its Appliances."

The lecturer began by saying that the extensive use of iron in aid of our manufacturing interests might date from the commencement of the present century; or, more accurately, from the close of the war in 1815, when a new era burst upon the country in the arts of peace. It must be in the recollection of many persons now living, how very imperfect our machines and mechanical constructions were as late as 1820. At that time the steam-engine had certainly attained a tangible shape in being composed entirely of iron; and millwork was just emerging from the state in which it was left by Smeaton and Rennie. Both of these engineers had introduced improvements by the substitution of iron for wood; and the latter, in his construction of the Albion Mills, was the first to supplant the old wooden wheels by the more compact and ingenious constructions of cast iron. Smeaton and Rennie may, therefore, be considered the pioneers of iron appliances. The lecturer went on to treat of the appliances of iron, 1st, to the steam-engine; 2nd, to mill work; and 3rd, to machinery; noticing the varied forms and conditions in which it is employed for security on the one hand, and its economical distribution for the purposes of construction on the other. In regard to the steam-engine, he dwelt at some length on the construction of boilers. On the question of engine-beams, he said,—"It has often occurred to me, in the exercise of my profession, that in engine-beams, as in bridges, a judicious combination of that material would relieve us from all anxiety on the score of security; and, moreover, it would establish a new and important era in the application of wrought iron in place of cast iron for the main beams of engines."

The subject of the second lecture was "On the Present State of our Knowledge in Science and the Useful Arts, as compared with the Past."

The lecturer began by saying that the last fifty years had been remarkable for the discoveries, inventions, and improvements made in every branch of art and science; and there was every reason to believe that the next fifty years would be no less remarkable for the development of material progress and mental acquirement. He would first consider the state of our knowledge of practical science as it existed a century ago; second, its progressive improvement; and third, its comparative value and influence on the present as well as future generations.

In speaking of the construction of submarine telegraph cables, Dr. Fairbairn said :—If a heavy weight were suspended to a piece of the cable, the copper wire, which is exceedingly ductile, would be drawn out, the gutta-percha covering would also expand; but on the removal of the weight the insulator, being elastic, would contract, but the copper wire would not go back; the result of which was that the contractile force of the gutta-percha had a tendency to double up the wire and push it through the insulator: so that when the cable was being paid out there was the risk, whenever the cable came in contact with the water, of the electric current passing into the sea, and the wire thus becoming useless. This showed how very cautious and careful they should be in the construction of such cables, in order to see that one part of the cable, when put to a severe strain, should harmonize with the other parts of it.

PROPOSED THEATRE IN MANCHESTER.

A LIMITED liability company has been formed in Manchester to raise the capital necessary for the construction of a small building adapted for various purposes of public amusement, including concerts, popular entertainments, and dramatic performances of a light character. The shares were taken immediately, without any appeal being made to the public. The site of the building will be at the western end of Oxford-street, nearly opposite St. Peter's Church. The theatre will be bounded on one side by Messrs. Henderson's warehouse, and will extend as far back as Bale-street.

The façade will be Italian, treated freely. The interior will be comfortably fitted up, and is intended to accommodate between 1,400 and 1,500 individuals, each of whom will have from 15 to 20 per cent. more room than is usually afforded in places of public entertainment. The stage, it is proposed to arrange in a novel manner, which will be carried out under the superintendence of Mr. William Beverley. Mr. E. Salomons is the architect; and Messrs. Metcalfe & Waterson have contracted to execute the works.

ROYAL HORTICULTURAL SOCIETY.

THE show on Wednesday was excellent, and was well attended. Minton's fountain is being erected in the gardens. A column has been stuck up, we hope temporarily, in a line with the fountain, so as to hide it altogether from those walking towards it down the centre path. On the Queen's birthday, 24th May, the gardens at South Kensington will be opened to the public at a low rate. An exhibition will be held, showing the various uses of flowers for the decoration of halls, drawing-rooms, balconies, churches, and buildings generally; also dinner and supper tables, hand bouquets, garlands, and floral devices of all kinds, for which prizes will be awarded. Lady amateur artists and Royal Academicians will be associated with the judges. On the evening of Wednesday, 25th May, the conservatory will be lighted for the first time, and there will be a *conversazione*, open exclusively to Fellows and debenture-holders, who will be received by the President.

TO DEADEN SOUND.

IN answer to your correspondent as to the best means of deadening sound, when altering an old house in North Lancashire, about four years ago, I met with the best deadened floor I ever saw. Long moss had been gathered in the adjoining woods, dried, and mixed with dry lime rubbish, and filled in between the joists. I adopted the same method in the new portion of the house with equal success. The moss has the advantage of being exceedingly light. The lime rubbish should be well screened and mixed with the moss, great care being taken to leave no part unfilled. The neglect of this is, in my experience, a very common cause of failure.

R.

THE POSITION OF THE ARTIST WORKMAN.

WHILE so much is being said and written respecting the position of the artist-workman, perhaps a few words from one of the craft may not be out of place.

I believe there is a very general feeling prevailing in the architectural world that the artist-workmen of the present day are not making that steady progress which the well-wishers of art could desire. In a paper recently read at the Architectural Association, and reported in your valuable journal, Mr. G. G. Scott alluded to this deficiency in very pointed terms, calling, at the same time, upon all thorough architects to assist to the utmost of their power the studies of the workman; for, said he (speaking of figure and animal sculpture), "We really, for the most part, dare not let our carvers introduce such subjects, for fear of making our whole work ridiculous; and even a grotesque animal, as a gurgoyle, in which the Mediæval sculptors were so wonderfully successful, becomes in the hands of our own simply contemptible." This is certainly a sweeping assertion, but in many cases too true. Still more recently the subject was touched upon by Mr. Beresford Hope, who suggested some admirable paths to improvement. In fact, there is scarcely a thinking man of the day who does not draw ugly comparisons between ourselves and the careful workmen of the Middle Ages.

But as there are always two sides to an argument, let us look at the question from an artist-workman's point of view.

I would ask these questions :—Are we considered by our architects as were the architectural sculptors of the Mediæval period by theirs? And does the award of employment go, as a rule, to merit, as was the case with them? Decidedly not: our system of working is totally different. Taking the average amount of carving done in this country, I will venture to say *one-half* of it comes to the carver, not direct from the architect, but through the hand of the builder. Of course the builder must have a profit from the work; and as builders, generally speaking, are not enthusiasts in art-matters, they get it done as cheaply as they possibly can. A man is looked out who has a reputation, not for *skill* and *taste*, but for doing the greatest amount of work in the shortest possible time. The "job" is finished, the architect not pleased, committee grumbles, and the builder makes excuses; the scaffold is cleared away, and there stands a fifth-rate carver's handiwork—as Mr. Scott justly remarks, "simply contemptible." Why should builders have this work under their hands? It is well known, and patent to every one, that they are not educated in a school to qualify them in the direction of such work. I have heard a statement made in defence of this principle, asserting that it would be difficult in many cases to get carving done at all if it were not included in the general contract; but I hold it would be better were it never done than that such absurdities should be committed in the name of art.

I beg also to call your attention to the system of competition in very many instances, even where the work comes direct from the architect. I will take, for example, a church to be carved. Carvers are invited to send in tenders: each one sends in his price, *in accordance with his acknowledged ability*, and, in nine cases out of ten, the *lowest one* gets it. This blunder no sensible man would attribute to the architect: it rests entirely with the building committee, who, preferring economy to skill, have the mortification of seeing an otherwise beautiful building covered with meaningless rubbish.

Then where, I ask, is the encouragement for the skilled artist? Is he to spend his hours studiously, carefully noting the best examples within his reach, searching every garden, wood, and valley in quest of Nature's beauties, labouring with an earnest love for his work, striving with all his energy to produce those wonderful forms and effects which make his art divine! Is it fair to bid him excel the studious masters of the past, and then put him in competition and on a par with some brainless fellow who has just sense enough to know that his works are next to worthless? I wonder what glorious old William of Wykeham would have said if any one had suggested such a competition to him? And if such a system had prevailed at that period, should we have cause to blush now when the early and modern works are placed in comparison?

The productions of the skilled workman are rated in competition by the price of his unskilful

ther. He has only to prefer *quantity* for *ity*, and employment is certain; or, if he ine on the ground of not being able to pro- good work for the money, he can stand out gether. A starved artist certainly tells iography, but in real life it is the reverse of sant; so he usually chooses the former se, trusting more upon his strong arm than rains for remuneration. This, I think, is one ne principal reasons why many architects are lid to trust their carvers, "for fear of making r whole work ridiculous." And such, I fear, continue to be the case while art is in a petition precisely similar to brickwork and ng.

AN ARTIST-WORKMAN.

Books Received.

Elementary Text Book of the Microscope. By W. GRIFFITH, M.D., &c. London: Van oorst. 1864.

author of this elementary work is also the joint author of the "Micrographic Dictionary." is a very competent writer on such a subject, ither for students or for adepts in the science Micrography. The present volume is illus- ed by twelve coloured plates, containing no than 451 microscopic figures; and it includes escription of the methods of preparing and unting objects, &c. The work is both interes- g and instructive,—with the plates, especially

VARIORUM.

The Speeches and Addresses of H.R.H. the nce Consort. London: Murray. 1864." This a cheap edition of these excellent speeches, l it contains some new matter not in the other tions.——"On the Economical Use of Fuel, and Prevention of Smoke in domestic Fire-places, h Observations on the Patent Laws. By F. wards, jun. London: Hardwicke. 1864." hough the author of this treatise belongs to ire-grate manufacturing firm, this is not a re advertising puff, but of general utility on subject of which it treats. It contains nu- rous sketches and descriptions of fire-grates various principles of construction, with re- rks on what the author regards as the best ms of domestic fire-places. Fire-brick and zed tiles are recommended for a considerable rtion of the fire-grate, instead of black iron.

Miscellanea.

ART UNION OF LONDON.—The general meeting, receive the Council's report and distribute e amount subscribed, will be held in the lelphi Theatre on Tuesday next. Each sub- iber's receipt will admit a party.

THE LANDSEER LIONS FOR NELSON'S COLUMN, TRAFALGAR SQUARE. — We perceive, from the vil Service estimates, that these lions are to st something more than 4,000*l.* apiece, or ,000*l.* for the four. From the same source we rn that 53,000*l.* is the sum to be asked of the tion for the purchase of land at Kensington re.

CARDINAL WISEMAN'S LECTURE AT THE ARCHI- CTURAL MUSEUM. We are requested to men- n, in consequence of inquiries on the subject, at the lecture by Cardinal Wiseman on the th instant will be published. The address by e president, Mr. Bereesford Hope, on the posi- on of the art-workman, is now in the press, opies will be sent to the subscribers to the useum.

WOBURN, BEDS.—Lord Charles Russell, ser- eant-at-arms, House of Commons, and half- ncle to the present Duke of Bedford, who had r some time acted as parish churchwarden, signed that office at the late Easter meeting, ving dislike to pulling down the church as his ason. According to a statement in the *tandard*, it will be carried out against the ishes of the great majority of inhabitants, old d recent; "two or three" only concurring in e "ambitious desires of a few years' resident cumbent." It is stated that 2,000*l.* would fectively improve the present church, and that e greater part of 12,000*l.* proposed for a new e might be well applied in charity, the town pos- ssing, amongst other deficiencies, "the poorest mshouses in that part of the kingdom."

THE RADNOR COUNTY SURVEYORSHIP. — Mr. Stephen Williams has been appointed to this office, in the place of Mr. Morton, who has resigned.

THE DUBLIN EXHIBITION OF 1864. This exhi- bition, which is to be opened in May, gives promise, it seems, of attaining successful results. Nearly double the amount of available space has been applied for by manufacturers and ma- chinists. There will be a large display of machinery in motion.

THE COPPER TRADE.—The price of copper has been reduced 5*l.* per ton, making 15*l.* since the 1st of March. The present price is, for tough cake, 98*l.*; best-selected, 101*l.*; manufactured, 105*l.*; yellow metal, 9¼*d.*; sheathing nails, 11¼*d.* per lb. This reduction is said to have been unexpected.

FREAKS OF LIGHTNING.—In a house at Felzius, near Figeae, struck with lightning, says a con- temporary, the flooring of the upper story was turned upside down, and all the nails disap- peared. All the locks and bolts were destroyed, and there remains nothing of a large press which was in one of the rooms. The owner of the house was in the act of unlocking the outside door at the time, and the key in his hand was cut in two by the lightning, without causing him any injury.

A DAVY MEMORIAL.—A committee of the working men of Penzance having raised 500*l.* towards a memorial of the late Sir Humphry Davy, two ladies of that town have offered to contribute 1,000*l.*, on the sole condition that the memorial shall take the form of almshouses. The *Cornish Telegraph* announces a further donation of 100*l.* by Mr. T. H. Bodilly, a mer- chant of Penzance, and the proffered assist- ance of the London Chemical Society in securing for his natal place a memento of the distin- guished chemist.

ROOFING AND PAVING THE HAYMARKET, LIVER- POOL.—It has been resolved by the Liverpool Council to cover the Haymarket, pave it anew, and light it at night with gas. The covered space will be used as a drill-shed by the local volunteers. The Council resolved on thus altering the whole area, although the Markets Committee only recommended 6,500 square yards to be roofed, and the whole to be repaved with boulders, at a cost not exceeding 6,210*l.*

TAYLOR PRIZES (IRELAND).—It is known that the sum of 2,000*l.* was bequeathed by the late George Archibald Taylor, of Dublin, for the pro- motion of art in Ireland. This has been applied to the establishment of a perpetual endowment for the encouragement of art students, the management of the scheme being intrusted to the Royal Dublin Society, in conjunction with the trustees of the will. For the year 1864 the trustees offer the following prizes, open to art students of Irish birth or attending a school of art in Ireland, to be awarded at an exhibition to be held on the 23rd of November, 1864, at the house of the Royal Dublin Society. 1. For the best drawing or cartoon in chalk, the figures to a scale of 3 feet (two or more prizes each), 10*l.* Subjects—"The Good Samaritan;" "The Meet- ing of Æneas and Dido, after the Shipwreck." 2. For the best landscape in oil colours, 20*l.* To be increased or lowered in amount, or wholly withheld, according to the merit of the works. All works must be delivered before two o'clock on the 14th of November, 1864, at the House of the Royal Dublin Society, Kildare-street, Dublin.

THE DENBIGH WATER WORKS.—We see from the *Carnarvon Herald*, that the town of Denbigh, not to be left behind in the march of improve- ment, has just supplied itself with that invaluable adjunct to health and comfort, "good water." It had long been an object greatly desired, so much so that a committee of the townspeople had offered a premium for the most feasible plan of supply, but as none were approved of, the premium was divided among the competitors. In 1862, Mr. William Richardson, civil engineer, of Birmingham, and lessee of the Denbigh Gas Works, found that there was a source at Llewesog, about three miles from Denbigh, peculiarly adapted for the supply by gravitation of a soft water, sufficient in quantity, at the usual average of consumption, for the increase of many years. A company was quickly formed, and the Act of incorporation obtained last session; and within ten months the works have been sufficiently executed for the water to be brought into the town. The principal reservoir is called the Myddelton Reservoir.

DOMESTIC HYDRAULICS.—A horizontal water- wheel, according to an American paper, has been recently invented, by which parlour-organs, washing machines, mangles, sewing machines, &c., may be worked in all houses where hydrants have been introduced.

STAGE FOOT-LIGHTS. — A. M. Subra has in- vented a new system of foot-lights, by which, it is said, much of the peril to artistes on the stage is avoided, and the nuisance of fumes streaming upward in their faces obviated. A third advan- tage is said to be its economy, to the saving of fifty per cent.

JESTING WITH "THE LAST ENEMY." — The fol- lowing laconic inscription is said to be engraved upon the tombstone of a person who had lived opposite to a churchyard: "Removed from over the way." This reminds one of the "disconso- late widow" who informed the public, on her husband's tombstone, that she still "carries on the tripe-shop round the corner."

ARTISTS' GENERAL BENEVOLENT INSTITUTION. The forty-ninth annual dinner of this Institu- tion was held in the Freemasons' Hall, on Satur- day, the 16th inst., with remarkable success, the Bishop of Oxford presiding. There was a very large attendance, and the donations and subscrip- tions announced amounted to 1,190*l.* Amongst those present were Messrs. R. Redgrave, W. P. Frith, Creswick, E. M. Barry, Hakewill, J. Turner, Gambart, Hurlstone, Farrer, Millais, Weekes, Dobson, Anthony Trollope, Faed, Hors- ley, Chas. Lucas, &c. &c.

RAILWAY WHEELS FOR PREVENTION OF ACCI- DENTS.—Mr. R. B. Greenwood has taken out a patent for a simple mode of preventing acci- dents from engines, carriages, or trains running off the line in consequence of obstructions on the rail. The invention consists merely in reversing the middle pair of wheels where six are used, or inserting a middle pair where not used, so that the flanges will run outside the rails while those of the other wheels run inside. The tendency of the old flanges to push the rails out of gauge, too, he considers will thus be obviated, and this cause of trains running off the line removed.

BATH ABBEY RESTORATIONS. — The following tenders were received for the external work pro- posed to be done at the abbey, under the speci- fication of Mr. Scott, architect, as approved by a former vestry. The tenders were separated into items for the fabric generally; the east window, the roof of the tower, the parapets, the roof of the nave, north and south aisles, and choir, and the cleaning and decorating the ceiling of the choir. The totals were as fol- lows:—Messrs. James & Price, of Cardiff, 6,551*l.*; Mr. H. W. Penning, Marlborough, 6,509*l.* 10*s.* 1*d.*; Mr. G. Pollard, Taunton, 5,799*l.*; Mr. G. C. Mann, Bath, 5,760*l.* 12*s.*; Messrs. Morgan & Lovell, Bath, 5,393*l.* 16*s.*; Messrs. Bladwell & Ambrose, Bath, 5,389*l.* 14*s.* The lowest was a little below Mr. Scott's estimate. The work is nearly all external, and includes wood, stone, and lead work. A committee, consisting of the rector, churchwardens, and other parochial officers, with a list of influential parishioners, has been ap- pointed to carry out the work and raise the necessary subscriptions.

BELLS FOR ST. HILDA'S, MIDDLESBROUGH.—A peal of bells for this church have been cast by Messrs. Mears & Co. of London. The bells are eight in number. The peal is in the key of G natural, and the tenor weighs eleven cwt. and three quarters. Each bell bears the founders' names and the year of casting. The following is a description of each bell:—

No.	Weight. Cwt.	qrs.	lb.	Inscription.
Treble	4	0	2	Presented by Thomas Vaughan. "Gloria Deo in Altissimis."
2nd	4	1	9	Presented by the Clay Lane and South Bank Iron Companies.
3rd	5	0	0	Presented by Gilkes, Wilson, & Co.
4th	5	2	17	Presented by Cochrane & Co.
5th	6	2	1	Presented by Hopkins & Co.
6th	7	2	12	Presented by Joseph Pease.
7th	8	1	20	Isaac Benson, Incumbent. Richard Bradley, Curate.
	John Shields Peacock, Beckwith Johnson Hopper, } Churchwardens.			
	John Storey, Francis Atkinson, William Rayner, Joseph Hodgson, } Sidesmen.			
Tenor	11	3	0	Presented by Henry Wm. Ferdinand Bolckow, and John Vaughan, and the motto "Venite Exultemus Domino."

The *Notts Guardian* states, that it is expected the bells will be ready for ringing in about a month. The entire cost of bells, frames, and other expenses, will be about 500*l.*

Concentration of the Law Courts.—In the Commons, the other day, Mr. A. Mills asked whether the Government had abandoned the intention to introduce a measure for this purpose. The present uncertainty had inflicted a very serious injury upon the owners of property. He knew a case in which a man had seventeen houses on the site selected. That person had been almost reduced to beggary by the interference of the Government; whereas his property had formerly brought him in 2,000*l.* a year. Mr. Cowper, in reply, said he was happy to inform the hon. gentleman that her Majesty's Government had a measure on the subject, which they hoped very shortly to introduce,—during the present session.

Land Societies.—The report read at the last meeting of the Conservative Land Society stated that the receipts for the half-year ending Lady-day, 1864, were 32,694*l.* 17s. 6d.; and the grand total, 733,841*l.* 16s. 1d. Shares of 50*l.* each had been issued since the formation of the society, representing a subscribed capital of 1,007,400*l.*, the actual cash receipts from all sources having been nearly 734,000*l.* The total sale of land amounts to 336,118*l.* 3s. 1d.; and the total withdrawals since the formation of the society to Lady-day are 218,650*l.* 17s. 8d.

Railway Matters.—The traffic receipts of the railways in the United Kingdom for the week ending 15th April, 1864, upon a mileage of 11,206, amount to 587,127*l.*, being equal to 52*l.* 8s. per mile. For the corresponding week of last year the receipts were 550,498*l.*; the number of miles open, 10,702¼, or 51*l.* 3s. per mile. A comparison of the two weeks shows an increase in the aggregate receipts of 36,629*l.*, and of miles open 443¾, being at the rate of 82*l.* 13s. per mile.——The preparations for commencing the masonry-work for the railway-bridge across the Mersey at Runcorn having been completed, the first stone of the Cheshire abutment has been laid. The foundation stone will be laid about this time next year, it is expected, by the Prince of Wales.

The Hotel Movement.—The Sablonière Hotel in Leicester-square, a noted resort of foreigners, is about to pass into the hands of a company, which is being got up for the purpose of enlarging and carrying on the hotel, with the assistance of the present or late proprietor, as manager. The same thing is being done with the Royal Sea House Hotel at Worthing, to which it is proposed to add a new wing. Preposterous as the conduct of hotel-keepers in this country but too generally is, we scarcely think anything in the shape of extortion can excel an item or two of which a correspondent of the *Globe* complains. A gentleman whose own house was filled with visitors, had quartered his son for a night, at 3s. 6d. for his bed, on the fourth story at the Grosvenor Hotel, explaining the circumstance, and that he would only sleep there. Here is the "little bill" presented to him first thing in the morning:—"To bed, 3s. 6d.; attendance, 1s. 6d.; not taking anything at the hotel, 2s. 6d.!—total, 7s. 6d.!" A still more absurd part of the story is, that an item of an advertisement in the hotel ran as follows:—"Cup of coffee, with hot milk, roll, and butter, 1s. 6d." So that had a cup of coffee, with hot milk, roll, and butter been ordered, he would have had 1s. *less* to pay than he was charged for "not taking anything."

Builders digging for Sand.—Much dissatisfaction has been expressed by the Shoreditch Board of Guardians in consequence of the contractors for the new workhouse having extracted a large quantity of sand from the ground, not necessarily in the exercise of their contract labours, but purposely for their own use and profit. Mr. Judson, one of the contractors, stated to the board, on an inquiry as to it reported in the *Shoreditch Observer*, that he was not aware it was contrary to their orders to dig out the sand. They were at first excavating for the drain, and gravel was found, and they extended it a little. They expected to find gravel and sand, and on that account their estimate was much lower than it would have been if no sand had been there. Whether any sand was found or not, the board would reap the benefit of it. Mr. Walker, one of the guardians, said that, in this case [a previous case of a like nature had occurred], they were digging the sand for about a fortnight, in direct opposition to the orders of the clerk of the works, and under the immediate observation of the architect and building committee. The clerk of works, it seems, had ordered the digging to be stopped, but was disobeyed; and he had not complained to the guardians or the committee till all the sand was dug out.

An Indian Inventor.—At Kaira, a carpenter some time ago invented a machine on the principle of the velocipede, which he proposed adapting for passenger traffic on a tramway. The inventor, says the *Times of India*, had the honour to submit his locomotive for the inspection of his Excellency the Governor, who was much pleased with the mechanical ingenuity displayed in its construction; and, besides giving the man a substantial reward, sent him a very rich turban.

A New "Ghost."—Mr. H. N. King, photographer, of Bath, according to a correspondent, is the inventor and patentee of a marvellous ghost. In this new invention, Mr. King claims superiority in every respect over any "ghost" yet produced. Under his new arrangement, he does away with the necessity of ceiling the stage, and can introduce any number of figures, each with perfect freedom of action, and without the least distortion. In addition to this, the "ghosts" of an entire set of furniture for a room can be shown at once on the stage, every object being clear and distinct. Mr. King, adds our authority, dispenses entirely with lenses as now used, and has reduced the whole to a formula so simple, that a child may with ease and safety work the machinery.

TENDERS.

For Wesleyan Chapel, Peckham. Mr. W. F. Poulton, architect.

Myers	£5,267	10	0
Tarrant	5,168	5	0
Streeter	5,062	0	0
Snaps n	4,960	17	6
Colls	4,882	0	0
Thompson	4,720	0	0
Downs	4,635	0	0
Sawyer (accepted)	4,377	0	0

The above amounts are in addition to the old materials on the site.

For the erection of school, New Cross-road, Deptford. Mr. S. K. Bland, architect:—

Jerrard	£493	0	0
Spillaw & Co.	480	0	0
Dearsly	479	0	0
Martin	478	0	0
Lester	390	0	0

For alterations at Homerton-road Chapel. Mr. S. K. Bland, architect:—

Hearle	£245	0	0
Dearsly	233	17	0
Brett	217	0	0
Skinner	183	10	0

For alterations and additions to house in Hungershall Park, Tonbridge Wells, for Mr. J. Stone Wigg. Mr. W. Bond, architect:—

Funk (carpenter)	£485	0	0
Taylor (plumber)	104	7	0
Catt (ironmonger)	38	12	0

For the erection of two villas at Bordesley, Birmingham, for Mr. W. Whittle. Messrs. Norton & Son, architects:—

Twigg & Fowke	£1,012	0	0
Street & Birch	1,010	0	0
Bateman	1,010	0	0
Smith	1,000	0	0
Matthews	961	0	0
Jeffery & Pritchard	930	0	0
George	905	0	0
Knight	900	0	0

For alterations and additions to house and premises at Netherton, in the county of Worcester, for Mr. S. Woodall. Messrs. Norton & Son, architects:—

Wilson	£915	0	0
Knight	840	0	0
Holland & Son	770	0	0
Street & Birch	730	10	0
Matthews	725	0	0
Ault	683	0	0
Harvey	634	0	0

For seven houses and out-offices, Warstone-lane, Birmingham, for Mr. W. Whitehouse. Messrs. Norton & Son, architects:—

George	£1,008	0	0
Knight	850	0	0
Smith	785	0	0
Charley	730	0	0

For the erection of a keeper's lodge, and the brickwork and slater's work of farm-buildings, to be carried out on the Wimpole estate, for the Right Hon. the Earl of Hardwicke. The clerk of works on the estate, Mr. Erant, architect:—

Gimson	£1,117	0	0
Thoday & Clayton	1,025	0	0

For repairs and alterations to house, No. 14, James-street, for Mr. J. M. Itter. Messrs. T. & W. Stone, architects:—

Norman	£243	0	0
Wilson	198	0	0
Higgs	197	17	0

For the erection of a dwelling-house in Bow-road, for Mr. O. Sostli. Messrs. Hammack & Lambert, architects:—

Browne & Robinson	£2,069	0	0
Perry & Judson	2,057	0	0
Hedges	1,962	0	0
Gibson	1,955	0	0
Child & Son	1,909	0	0
Newman & Mann	1,895	0	0

For the arterial drainage of Letton Brook:—

Bowles	£3,998	4	6
Denley & Taylor	3,347	3	0
Cooper	3,110	0	0
Field (accepted)	2,603	6	6
Davis	2,584	19	1

The schedule of prices attached to the last tender, for private works, &c., was higher than the schedule attached to the accepted tender.

For alterations to house, Calverley Park, Tonbridge Wells, for Captain Hotham. Mr. W. Bond, architect:—

Mercer & Camfield	£495	17	6
Dickinson	129	0	0

For the erection of three shops in Smithfield Market, Manchester, for Messrs. McKenna. Mr. Herbert E. Tijou, architect. Quantities supplied:—

Bowden & Edwards	£2,186	0	0
Thompson	2,179	0	0
Southern	2,150	0	0
Metcalf & Waterson	2,097	0	0
Cochrane (accepted)	2,093	0	0

For building chapel-school at Coatham Mundeville, Durham, for the Rev. E. Cheese. Mr. H. J. Withers, architect:—

Robinson & Marshall	£496	0	0
T. Hodgson (accepted)	450	0	0

For the erection of Durban House, East Ham. Contract No. 1. Messrs. Laws & Dennison, architects. Quantities by Mr. Franklin:—

Lawrence & Sons	£2,740	0	0
Patman and Fotheringham	2,692	0	0
Hill & Keddell	2,672	0	0
Myers & Sons	2,650	0	0
Browne & Robinson	2,615	0	0
Perry & Judson	2,480	0	0
Adamson & Sons	2,474	0	0

For Wesleyan Church, Clapton. Mr. J. Tarring, architect. Messrs. Hammock & Lambert joined with him in the superintendence:—

Dove, Brothers (accepted)	£4,515	0	0

For Branch of the Union Bank of London, corner of Carey-street and Chancery-lane. Mr. F. Porter, architect:—

Rigby	£38,880	0	0
Holland & Hannen	31,100	0	0
Lawrence & Sons	29,883	0	0
Lucas, Brothers (accepted)	29,109	0	0
I'Anson	28,763	0	0
Trollope	28,743	0	0

For six houses, Handsworth. Mr. Geo. Bidlake, architect:—

Barker	1,817	18	0

For japanning works, Wolverhampton. Mr. Geo. Bidlake, architect:—

Tron	£714	0	0

For alterations and additions to residence, Dunstall. Mr. Geo. Bidlake, architect:—

Cockerill	£779	0	0

For alterations, additions, &c., to premises, Percy Lodge, Margate, for Mr. Wm. H. Thornton. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Hill & Keddell	£3,354	0	0
Fish	3,260	0	0
Turner & Sons	3,000	0	0
Cannon	2,970	0	0
Woodward	2,580	3	3
Sayers	2,577	6	0

For the completion of a villa residence at Walton-on-Thames, for Mr. Charles Jas. Abbott. Messrs. Morphew & Alldridge, architects:—

Green & Son	£934	0	0
Rudkin (accepted)	895	0	0

For new sewers in Clapham. Mr. C. W. Johnson, surveyor:—

Garner	£6,055	15	11
Mundy	5,400	0	0
Thrust	5,193	0	0
Meston	5,155	0	0
Haywood	5,099	0	0
Dethick	4,972	0	0
Rowe	4,941	0	0
Newton	4,806	0	0
Pearson	4,500	0	0
Mayo & Son	4,260	0	0
Parker	4,185	0	0
Blackmore (accepted)	4,168	0	0

Tenders for Re-building the Dublin Steam Wharf, for Messrs. Hartley & Company.—Knowing your desire to give correct information, we will thank you to say, with reference to your report of the tenders for rebuilding the above wharf, that, our tender being the lowest, we declined executing the contract under the superintendence provided.—J. J. & F. Coleman.

TO CORRESPONDENTS.

Charcoal.—Can any of your readers inform me as to the best means of apparatus for producing charcoal in large quantities out of refuse wood, in pieces varying from ah inch cube lowuward—P M.

W. T—C H. S. (in type).—H. T. E—Espagnole (we are not aware) S. R.—T. G.—C. T.—R. F. D. C. (such a building has been proposed)—J. O. P. (it is out of our power to comply).—M.—P. C.—Archi (if we wrote replies to all who request us to do so, we should have time for nothing else. We cannot attempt to assist every architect in his disputes and difficulties).—C. D.—A Competitor.—Justice.—Fairplay—Museums.—M. P.—J. R. L.—L. & D.—T.—C. F. M.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

The Publisher cannot be responsible for Original Testimonials *left at the Office in reply to Advertisements, and strongly recommends that* Copies only *should be sent.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.**, *on Thursday.*

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

[ADVERTISEMENTS.]

STAINED GLASS WORKS. — HEATON, BUTLER, & BAYNE have REMOVED to their new and extensive Premises, KING STREET, COVENT GARDEN, W.C.

ADVERTISEMENTS.

BRIGHTON.—To CONTRACTORS, BUILDERS, and OTHERS.

SIDLEY & POTTER have received instructions from Messrs. Clayton & Blaker, owing to their dissolution of partnership and relinquishing the Town Contract, to SELL by AUCTION, on THURSDAY, APRIL 28th, 1864, at TWO o'clock to a minute, on the PREMISES, the Contractors' Yard, Windsor-street, North-street, Brighton, the whole of the valuable STOCK, including thirty fresh and useful DRAUGHT HORSES, a useful brown cob, thirty town carts, eight scavenging carts, one scavenging van, three broad-wheel waggons, broad-wheel timber carriage, thirty sets of thill and trace harness, stable implements, cast tubs, and scavenging tools. May be viewed the morning of sale, and catalogues obtained at the offices of the Auctioneers, 155, North-street, Brighton.

HAW ESTATE, two miles from Newbury, Berks.—Noble OAK, SHIPPING COPPICE, TIMBER, with Lot, Top, and Bark, standing in Mousefield Coppice, Shaw, and Upper Grange Coppice, Courage, near Newbury, Berks.

MESSRS. ALEX. DAVIS & THOMAS PALMER are honoured with instructions from Henry Richard Eyre, esq. to SELL by AUCTION, at the PELICAN HOTEL, Speenhamland, Newbury, on WEDNESDAY, APRIL 27th, 1864, at THREE o'clock in the Afternoon, in Lots, 245 noble OAK TREES, of good girth and length, and particularly adapted for Government and shipping purposes. Also Seventeen useful OAK TREES, standing in the above-named Coppices. The Auctioneers beg particularly to call the attention of Timber Merchants and Government Contractors to the above timber, being very first-rate quality, and such timber that is scarce to obtain. It is close to good roads, and within easy distance of Newbury Railway Station and the Kennett and Avon Canal. Catalogues may be had of the Auctioneers, Valuers, and Estate Agents, Market-place, Newbury, Berks; or by post on application.

WANDSWORTH, SURREY.—Valuable Freehold Building Land; land-tax redeemed.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 18, at TWELVE, in lots, upwards of Two Acres of very valuable FREEHOLD BUILDING LAND, delightfully situate near Wandsworth-common, opposite Holy Trinity Church, about a mile from the Clapham Junction, Wandsworth and Balham Stations, on the South-Western, Victoria, and Crystal Palace Railways, and within six miles of the metropolis, having a frontage to the road, leading from Tooting to Wandsworth and Clapham, of about 630 feet, and presenting most eligible sites for the erection of villa residences.—Particulars, with plans, may be had at the Spread Eagle, Wandsworth; King's Head, Tooting; of W. LANE, Esq. solicitor, No. 4, Bedford place, Russell-square; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 69, Old Broad-street, Royal Exchange.

SURREY.—The WALTON LODGE ESTATE, extending over about 247 acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, MAY 20, at TWELVE, in 60 lots, the WALTON LODGE ESTATE, a very important freehold tithe-free property, Land-tax redeemed, situate within 5 minutes' walk of the Walton Station, on the South-Western Railway, and within an hour's journey of all parts of the metropolis. It will be subdivided into numerous lots, and will comprise a very comfortable, modernized residence, with gardens, pleasure-grounds, ornamented with fine old stately timber, detached offices, farm buildings, orchard, and paddock in the rear, the whole containing about 12 acres, and forming a very enjoyable occupation. The remainder of the estate will consist of lots varying from 1 to 10 acres, having important frontages to excellent roads, offering most eligible sites for the erection of first-class villa residences, for which there is a great demand in this healthy, convenient, and favour-te locality, the neighbourhood abounding in walks and drives of singular beauty and attraction. A more detailed advertisement will shortly appear.—Particulars, with Plans showing the arrangement of the lots, will be ready in due course, and may be had at the Inns in the neighbourhood; of Messrs. MURRAY, SON, & HUTCHINS, Solicitors, 11, Birchin-lane; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 69, Old Broad-street.

HOMERTON.—Freehold, Copyhold, and Leasehold Investments.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on MONDAY, MAY 23, at TWELVE, in Lots, the following valuable PROPERTY, viz.:—Three Shops, Dwelling houses, and Premises, known as the Barracks, situate in High street, Homerton, adjoining the Plough Inn, and facing Bridge-street; stabling, sheds, and yards in the rear; four tenements in Haywood's court, and valuable building ground in the rear, having a frontage of about 60 feet to Alderman's-walk, and 240 feet to a proposed new road. The whole copyhold, but nearly equal in value to freehold, being subject only to a small fine certain; also two capital newly-built freehold and leasehold shop and convenient dwelling-houses with gardens, a freehold dwelling-house with garden and forecourt, near St. Barnabas Church, and two small leasehold tenements in Freeman street and Hockley-street. May be viewed by permission of the Tenants, and particulars, with plans, had at the Plough Inn, High-street, Homerton; of G. R. WALES, esq. Surveyor, 8, Great St. Helen's; CHARLES HORTON FULLEY, esq. Solicitor, 58, Great Winchester-street, E.C.; and High-street, Homerton; at the Mart; and of Messrs. NORTON HOGGART, & TRIST, 69, Old Broad-street, Royal Exchange, E.C.

ASCOT.—Attractive Freehold Building Site, consisting of 22½ acres, the greater part in plantations, &c. exceedingly well situate, with a commanding frontage, within five minutes' walk of the railway station, on the high road from Bracknell to Sunningbill, close to the Grand Stand on Ascot Racecourse, and within one mile from the church, in a neighbourhood proverbial for its salubrity and good society, dry gravelly soil; with immediate possession.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to offer the above valuable BUILDING LAND for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, the 24th of MAY, 1864, at TWELVE o'clock.—Particulars may be obtained of Messrs. BLAKE, TYLEE, & TYLEE, 14, Essex-street, Strand; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

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As only a limited space is allowed for Advertisements, preference is given to those which are more immediately addressed to Tourists.
Advertisements for insertion during the Season 1864, must be forwarded to the Publisher by the 2nd of MAY, accompanied by a remittance.
JOHN MURRAY, Albemarle-street.

In the Press.

A LECTURE: the POSITION of the ART-WORKMAN.
By A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. F.S.A.
President of the Architectural Museum
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TO ARCHITECTS, SURVEYORS, and OTHERS.—A liberal COMMISSION will be paid to gentlemen who can introduce the Advertiser to LITHOGRAPHIC DRAWING and PRINTING. Chromo Drawings of Buildings, surveys, plans, mechanical drawings, &c. executed in the best manner, on moderate terms.—Write, in strict confidence, to S. T. S. 35, Ludgate hill.

TO GENERAL CONTRACTORS, PLUMBERS, DECORATORS, &c.—PARTNERSHIP or Otherwise.—The Advertiser, having a very old-established Business, a few miles from London, wishes to enter into an arrangement with a respectable first class Tradesman, who has at his command about 200*l.* or 300*l.* or can give unexceptional security. The concern is very bona fide.—Address, B. C. Office of "The Builder."

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A GENTLEMAN who has been actively engaged in the Profession, and having moderate capital and influential connexion, is desirous of ARRANGING with an Architect of established reputation for a SHARE of BUSINESS (or PARTNERSHIP). Communications, which will be considered strictly confidential, to be addressed to A. B. care of Mr. St. Quintin, Surveyor, &c. 30, Royal Exchange, City.

COVENTRY CANAL COMPANY.
Notice is hereby given, that the Company having made an arrangement with a Son of their former Engineer, Mr John Sinclair, deceased, for superintending the management of the Canal, the APPOINTMENT of an ENGINEER WILL NOT TAKE PLACE as notified in the advertisement which appeared in this paper last week.
By order, CHARLES WOODCOCK, Clerk to the Company.
Coventry, 20th April, 1864.

CARPENTERS WANTED. — Intelligent CARPENTERS and JOINERS. None need apply but those whose characters are strictly sober.—15, Gate-street, Lincoln's-inn-fields.

TO JOINERS.

EXPERIENCED WORKMEN can have EMPLOYMENT by applying to JOHN FOORD & SONS, Acorn Wharf, Rochester.

GODSTONE HIGHWAY DISTRICT.—The District Highway Board will be prepared, at their next Meeting, to be held at the Petty Session's Room, Godstone, on FRIDAY, the 29th instant, at THREE o'clock in the Afternoon, to consider Applications for the office of SURVEYOR of the HIGHWAYS for the above District (comprising about 160 miles of roads). The Salary will be 200*l.* per annum, and the person appointed will be required to give security for the faithful performance of the duties of the office, and to enter upon his duties forthwith. Applications, in the handwriting of Candidates, stating age and previous occupation, with Testimonials as to character and efficiency, to be sent to me on or before THURSDAY, the 28th instant.—By order of the Board,
East Grinstead, 11th April, 1864. W. ALSTON HEAD, Clerk.

REQUIRED, in an Architect's Office, an additional ASSISTANT, a careful draughtsman, and fully qualified to prepare general and detail drawings; also required, an Assistant competent to Superintend Buildings during their Erection, and having a knowledge of building surveying.—Address, B B. Mr. Roebuck, Stationer, Darlington street, Wolverhampton, stating terms, age, and references.

SURVEYOR.—PUBLIC WORKS.—BOROUGH of STOCKPORT.—WANTED, an active person of competent knowledge and experience, to undertake the PROLECTION and CARRYING OUT of the PUBLIC WORKS in the BOROUGH of STOCKPORT. He must be a fair draughtsman and accustomed to direct and superintend Public Works, especially the Formation of New Streets and the carrying on of Works of Sewerage. He will have to devote the whole of his time to his public duties, must not be engaged in any other business, not interested in any contract. His salary will be 250*l.* a year, and three months' notice on either side, ending on any quarter day. Any requisite assistants, clerks, &c. in case of pressure of business, will be provided. Applications with testimonials as to fitness to be sent, under cover, to me before the 5th day of MAY next.—By order of the Council.
HENRY COPPOCK, Town Clerk of Stockport.
Warren-street, Stockport, April 16th, 1864.

TWO or THREE good PLASTERERS WANTED.—Apply or address to J. POLLARD, Builder, White Horse-road, Croydon, S. None but good hands need apply.

WANTED, an APPRENTICE, In or Out-door, by a GEOMETRICAL STAIRCASE BUILDER, where a general knowledge of the Building trade may be acquired. Address, J. R. 3, Thurlow-place, East-street, Old Kent-road.

WANTED, IMMEDIATELY, a good WORKING FOREMAN, one who has had good experience in setting out and fixing Joiners' work. None need apply except those who have filled a similar situation and have first-class references.—Apply, before 11, to Mr. PAWLEY, Sydenham.

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WANTED, IMMEDIATELY, good Gothic CARVERS, who can carve wood and stone expeditiously (foliage), and used to the figure also.—Apply, stating terms and references, to R. L. BOULTON, Sculptor, Worcester.

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WANTED, a sober and industrious WORKING FOREMAN of JOINERS. Must be a good staircase hand, and well up in all kinds of joiners' work generally. For a country shop. Wages, 30s. per day.—Address, by letter, to LEWIS SHRUBSOLE, Builder, Faversham.

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WANTED, by an extensive concern in Sweden, producing Granite for Building Purposes, Monuments and Paving stones, an active competent Man, as AGENT for England.—Apply by letter, with references, to the Russian Vice-Consulate, 25, Mount-street, Manchester.

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WANTED, a SURVEYOR for the above district. He must be under 45 years of age, a good accountant, and thoroughly acquainted with the management of roads. He will be required to give security for moneys passing through his hands, and the proper performance of his duties; to keep a horse, to reside at Watlington, or within two miles of that place, and to devote the whole of his time to the duties of his office. Salary 150*l.* to include keep of horse and all personal expenses. Length of roads in District about 165 miles.—Applications for the appointment, in the handwriting of candidates, with testimonials, to be forwarded, post paid, to me, on or before the 30th inst. on which day they will be considered in committee.—By order of the Board,
Watlington, April 12, 1864. J. H. MAYNARD, Clerk.

TO SURVEYORS AND OTHERS.

WANTED, an active, industrious Man, as ROAD SURVEYOR, and to Superintend Workmen employed upon the highways. He must be able to write well, and to keep ordinary accounts. Wages, from 25s. to 35s. per week. Apply, by letter, in own handwriting, stating age, references, and past and present occupation, to Mr. P. C. LOCKWOOD, Borough Surveyor, Brighton. The Advertiser does not undertake to reply to any application unless approved.

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WANTED, by a Practical Mason, MASONRY by the Piece or Day, having just finished a large piece of work, in England and abroad. Town or country.—Address, W. F. 23, Market-street, Millbank, Westminster.

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WANTED, by two steady Young Men, or separate, constant EMPLOYMENT; one as Jobbing Carpenter, and the other as Jobbing Bricklayer and Plasterer. Thoroughly understand the repairs of houses property in all branches.—Address, R. G. 4, Brooklyn-road, Shepherd's-bush.

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WANTED, a RE ENGAGEMENT as WORKING FOREMAN of CARPENTERS, or to take the entire Charge of a Job or Shop. First-class references.—Apply to Y. O. at Mr. Warwick's, 14, Albany-road, Camberwell.

TO ARCHITECTS.

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WANTED, by an experienced THREE-BRANCH HAND, a RE-ENGAGEMENT as FOREMAN, or Working FOREMAN, in either of the above branches, to MANAGE a BUSINESS, or TAKE CHARGE of a good JOB. Unexceptionable references given.—Address, W. BELL, Office of "The Builder."

TO CONTRACTORS AND BUILDERS.

WANTED, by a Practical, sober, energetic Man, a Bricklayer of great general experience, can set out, measure, and level, a SUB-CONTRACT, or the MANAGEMENT of a large JOB.—Address, A. B. Mr. Sunley's, Post-office, Gosewell-road, E.C.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a respectable Young Man, a SITUATION, as PLUMBER. Good references if required. Address, J. F. S. 4, South-street, Pentonville.

TO BUILDERS AND OTHERS.

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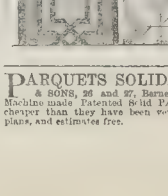
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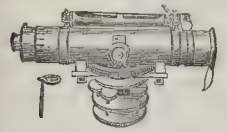
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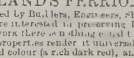
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STAINED GLASS and WALL PAINTING.
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Adjoining the Polytechnic Institution.

PORTLAND CEMENT WORKS.
FREEN & COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS; LIME BURNERS, AND LATH RENDERS.
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FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER OF PARIS (coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade

F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

KEENE'S and MARTIN'S CEMENTS.

SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed to 3, Canal-road, Kingsland-road or to 17, Abingdon-street, Millbank street, Westminster, will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
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SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all description. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same kind as the cement used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so highly celebrated for its strong cementitious and cementing powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South Johnstreet, Liverpool.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c ; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON

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LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
OLD JAMAICA WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherever can be obtained, of the best quality :—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also RENNEI'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COMMON and BLUE BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto, ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BURNTS, &c. BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRA METALLIC GROOVED SLATEABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GARDEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Rooms, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTERS, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

YELLOW FLOORING, WELL PREPARED,
First Quality, ¾ by 6½, at 10s. 6d. per square.
¼ by 6½ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
Spruce £15 per 120.
TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.
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NEW CRANE WHF., SHADWELL, E.; and VICTORIA WHF. and SAW MILLS, DEPTFORD, S.E.

RAILWAY CONTRACTORS AND ALL LARGE CONSUMERS OF GREY STONE LIME OF THE BEST QUALITY,
As used for the Construction of the New Chatham and Dover, London Bridge and Charing Cross, and the Brighton Extension Railways, Government and Sewer Works, &c. &c. supplied direct from the Kilns per barge load, delivered alongside Wharfs on the Thames and Canals.
WILLIAM PETERS,
GREY STONE LIME BURNER, WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:—19, UPPER GROUND STREET, BLACKFRIARS, S.; 7, NORTH WHARF ROAD, PADDINGTON, W.
Large Grey Stone free on Board at Works, at 1s. 9d. per ton.
Small ditto, the best Material for the Manufacture of the well-known Medway Portland Cement, 8d. per ton.
Barges of 100 tons loaded in a few minutes.

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HALL'S MERSTHAM GREY STONE LIME WORKS.
WILLIAM PETERS
has taken possession of the above Works from the 25th March inst. and solicits a continuance of that support which has been so liberally given to his predecessors. Orders addressed to
WILLIAM PETERS,
MERSTHAM GREY STONE LIME WORKS, near REDHILL, SURREY, and
No. 199, OLD KENT-ROAD, S. (Bricklayers' Arms Station), will receive immediate attention.

HALL, BROTHERS,
LATE OF
MERSTHAM GREY STONE LIME WORKS,
Resigned the above works on the 25th of March, at the expiration of their Lease, in consequence of being unable to effect such terms for a renewal as they could accept. The works used by them for nearly forty years, during which time a considerable business has been established; and now to give them up so unexpectedly, with only a few weeks' notice, without any remuneration for the trade, has caused to them great loss and disappointment.
Anxious that their customers should not be inconvenienced by the sudden change, HALL, BROTHERS, have arranged for them to be supplied in LONDON, and by Railways from these Works, upon the terms then existing, until the 24th JUNE, by Mr. W. PETERS.
They wish to remind their customers and the public that their business in Grey-stone and Chalk Lime, Cement, Slates, Sand, Coal, &c., is carried on as usual at Croydon, Coulsdon, Redhill, and Reigate; and, should they be successful in obtaining premises for the manufacture of Grey-stone Lime, they will resume their trade in London and on the Railways, and hope for a continuance of that support they have hitherto so generously afforded them.—Address,
HALL, BROTHERS, CROYDON, OR REDHILL, SURREY.

BORSTAL PORTLAND CEMENT WORKS,
ON THE MEDWAY, NEAR ROCHESTER, KENT.
MESSRS. BOOTH & CO.
BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF
MESSRS. JOHN HOLLICK & CO.
At the above Works, and are now prepared to supply Cement of the best quality. Their Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
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STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at the St. Pancras Station of the Midland Railway, direct from the Kilns at 20s. per ton. The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias Stone.—March, 1864.

W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

FLOORING! DEALS! MAHOGANY!

0,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
000 Dry Pine Plank ..... from 3s. 6d. each
000 Yellow Battens ..... from £10 per 120
000 White Battens ..... from £9 per 120
atched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

WHITE BATTENS .. .. £8 10 | WHITE DEALS.. .. £15 0 0
YELLOW ditto .. .. .. 9 10 | ¾-FLOORING .. from 0 10 6

FIR TIMBER, GOOD LENGTH AND SIZE.

T. W. ELLSTON,

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,

res minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adopted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

eg to inform their Friends and the Trade generally that, having extended their Premises and increased their lachinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from hose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 33s. per Load.
Good Yellow Deals ..... £16 10 0 per 120, or 2¾d. per foot.
Spruce Deals ..... 15 0 0 „ 2½ „
2½ inch Battens ..... 9 0 0 „ 1¢ „
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, BATTENS, &c.

¾ inch Flooring, well prepared ..... White 11s. 6d. ...Yellow 12s. 0d. per square.
¾-inch „ „ ..... „ 12s. 0d. ... „ 13s. 0d. „
1-inch „ „ ..... „ 14s. 6d. ... „ 15s. 0d. „
2½-inch Battens ..... Yellow, £10, White, £9 per 120 of 12 feet.
3 by 9 Deals ..... Yellow, £18, White, £16 10s. „
Matched Linings, ¾-inch ..... White, 12s., Yellow, 13s. per square.

Deals and Battens, in the Docks, at a considerable reduction.

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PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

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JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.

List of Prices forwarded on receipt of postage stamp.

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	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

ESTABLISHED 1844.

JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

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PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

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KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brick work, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.,

24 WHARF, HARROW ROAD, PADDINGTON, W

FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.

GAS RETORTS always in Stock.

GARDEN EDGINGS of various Patterns.

ORNAMENTAL BUILDING BRICKS.

GRATE BACKS in various Designs.

Contracts entered into to set Retorts, erect Furnaces, &c.

SHIPMENTS ON THE SHORTEST NOTICE.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brindled colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses &c.

Dressed Blue Facing BUILDING and SEWER BRICKS

Architectural designs carried out on the shortest notice

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Belvedere road, Lambeth, and Kent road Bridge

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CEMENT MANUFACTURERS,
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SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
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CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

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DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE UPON TRENT

GREAVES'S BLUE LIAS LIME,

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L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT

Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

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NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PRIZE WAGGONS and CARTS.—

HAYES & SON,

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Oil bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

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CARTS, LADDERS, BARROWS, &c.—

GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.

Price Lists on application.

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INDIA-RUBBER MILL BANDS,

WASHERS for STEAM JOINTS, HOSE PIPES, and PLUNGER TUBING

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens 9f. per 12ft, 12 feet; Yellow ditto, 10d. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 10s.; Venetian Rail Laths from 8s. 6d. per 10 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

PYROGRAPHIC FACTORY.
THOMAS PONSONBY & CO.
TREDEGAR WORKS, BOW,
And 52, GRACECHURCH STREET,
Are now prepared to supply the Trade with ORNAMENTAL MOULDINGS, either in Veneers or on the solid, for Stringings, Prints Picture, or Glass Frames.
Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.
THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY-SEVEN SHILLINGS per square, inclusive of the wood.
This can be obtained either direct at the Works, or at Messrs. BSDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.
They also draw special attention to their Decorations and Door Furniture, not only on account of their price, but also for their great durability, and not being liable to fracture or breakage. Price-lists forwarded on application, at either Tredegar Works, Bow; or City Office, 52, Gracechurch-street.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
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DRY RIGA WAINSCOT,
in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility offered by riverside premises, enables them with fullest yards, they are enabled to sell at the very lowest prices.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf, Pimlico, London, S.W. five minutes' walk from the Victoria Station.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
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Fire Brick, Tiles, and Clays of all sizes, made to order on short notice.
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MESSRS. J. & W. EASTWOOD have a few freights of COWLEY and KENT STOCK BRICKS FOR SALE, for delivery during APRIL and MAY.
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They have also HALF A MILLION of MALM SHIPPERS, and PAVIORS, at their BRICKFIELDS at PECKHAM, besides, also, a MILLION of MALM BRICKS, of the various kinds, now being sorted at the SHOEBURY FIELDS.
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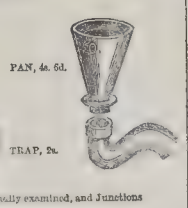
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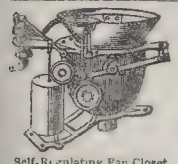
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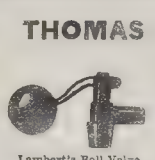
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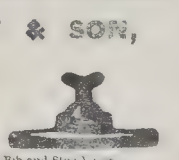
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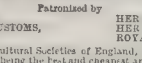
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KENT'S BRUSHES have been celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL

PAINTING BRUSHES,

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graners' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS.

White Lead (WARRANTED GENUINE) 32s. per cwt.
Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 7s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ely-place, and 45, Coleshill street, Pimlico, S.W.

Every article for the Trade at the lowest prices.

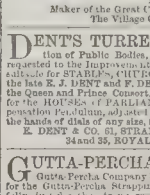
TO PAINTERS and BUILDERS.—

White Lead (warranted genuine), 32s. per cwt.
Linseed Oil, as 3d. per Gallon. Turpentine, 7s. 6d. per gallon
Fine Pale Oak Varnish, 9s. per gallon.

For cash at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 130, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.

Agent for Hamilton's celebrated Painting and Graining Brushes.

TURRET CLOCKS, designed and constructed upon the most approved plans and of the very best workmanship and materials, at the lowest possible prices, for Cathedrals, Churches, Public Buildings, and Gentlemen's Mansions, Stables, &c., comprising Turret Timepiece, Striking, Quarter, and Chime Clocks. Windmill dials made and fixed. Also Clock dials adapted to the various orders of Architecture.



JOSEPH FAIRER,

188, St. George-street East, London.

By Special Appointment to the Queen and to his late Royal Highness the Prince Consort, her Majesty's War Department, &c.

Maker of the Great Clock of the Tower of London.
The Village Clock, price 45 guineas.

DENTS TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCKS, suitable for STABLES, CHURCHES, and other large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 20 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractability and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the straps are repaired can be made in bands of from 2 to 24 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Chess-pieces, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Tailpotype Trays, &c. &c. manufactured only by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON.

SALES BY AUCTION.

EXTENSIVE SALE of BUILDING MATERIALS, LEADENHALL STREET and ST. MARY AXE, facing the new buildings of the East India House Estate Company.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 10th, at TWELVE, in Lots, the whole of the valuable BUILDING MATERIALS and FITTINGS UP of the extensive block of Houses at the corner of Leadenhall street and St. Mary Axe, being Nos 117 and 118, Leadenhall street, and Nos 54, 55, 66 67, and 68, St. Mary Axe. Further particulars in a few days, when Catalogues may be had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq., Architects, 17, Gracechurch street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CLAPTON.—Important Sale of BUILDING MATERIALS of Two Mansions, GROWING TIMBER, &c. on the Clapton Hall and Priory Estate.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the London and Suburban Freehold Land Society, to SELL by AUCTION, on the PREMISES, on THURSDAY, MAY 19th, and following days, at TWELVE o'clock, in Lots, the whole of the capital MATERIALS and FIXTURES of the spacious Mansions distinguished as Clapton Hall and The Priory, Lower Clapton; comprising 250,000 capital bricks, 20 squares of slates, prime oak and fir timber in roofs and floors, 20 pairs plate-glass sashes and French casements, 30 pairs other sashes and shutters, capital moulded doors, handsome mahogany cabinet doors with silvered plate-glass panels, 60 panelled doors, various; 120 squares of sound floor-boards, 8 squares of oak management floor, fine statuary marble and other chimney-pieces, the handsome stone front with lofty domes, 50 squares of stone paving, 300 feet run of Portland plinth, stone staircase, stone landings, steps and rails, 5,000 feet run of iron railing and fencing, coachhouse gates, racks, mangers, and stable-fittings; several tons of lead in flats, gutters, cisterns, and pipes, register and other stoves, ranges, force-pump, copper bath, brewing copper, closets, blinds, and a great variety of useful fixtures and fittings up. Also a portion of the valuable TIMBER standing on the Estate. May be viewed by the previous Catalogues had of Messrs. HAMMACK & LAMBERT, Architects, 39, Bishopsgate-street; at the Offices of the London and Suburban Freehold Land Society, 70, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BROMLEY, KENT.—Second Sale.—Charming BUILDING SITES for Gentlemen's Residences, immediately adjoining the Shortlands station, on the Mid-Kent Railway, near the important junction at Beckenham, and consequently within very easy reach of nearly all the London termini.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, on TUESDAY, MAY 3rd, in lots of from 3 acres to 6 acres each, a portion of the remainder of the very valuable FREEHOLD BUILDING ESTATE, known as Shortlands, affording a few of the most agreeable sites to be met with near London. Excellent roads have been made, and nearly all these lots have large frontages thereto, and are within two or three minutes' walk of the station. Plans, with particulars, may be had of Messrs. BIRCHELL, Solicitors, 5, Broad Sanctuary, Westminster; of JOHN WHICHCORD, Esq., Architect, No. 16, Walbrook; of ROBERT RITCHIE, Esq. Architect, 7, Beaufort Buildings, Strand; and of the Auctioneers, No. 80, Cheapside, who will in the meantime be prepared to treat by private contract

IMPORTANT NORTH STAFFORDSHIRE ESTATE, KENT.—A Registered and Indefeasible Title to every Lot.

MESSRS. DEBENHAM & TEWSON beg to inform the public that the OPTION of having a REGISTERED TITLE under the Act of 1862, will be FREELY GIVEN to the Purchasers of Lots on this Estate, steps having already been taken by the Vendor to obtain this advantage. The effect of a Registered Title will be to reduce the present and all future Purchase-deeds to a mere nullity at almost nominal amount. This is the first estate which has been brought into the market for sale with a REGISTERED and INDEFEASIBLE TITLE under the New Act, and the immense advantages thereof to all purchasers, and especially those intending to deal with it, building on the land, can hardly be over estimated as not only will the title be absolutely indisputable, but all sales of the whole or any portion, or of houses to be built thereon, will be as simple and inexpensive as the transfer of a ship, or money in the Funds. This advantage, in addition to the attractive character of the estate itself, and the fact of the locality being one of the most favourite near London, cannot fail to render any building operation on an extensive scale a tolerably successful speculation. Particulars as above.

On the Border of the City of London.—Valuable Freehold Property, covering a large extent of ground, close to the Metropolitan Station and Farringdon-street.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, MAY 10, at TWELVE, an important FREEHOLD PROPERTY, comprising an Old-fashioned Dwelling-house, with Back-land, Close, and 2, 3, 4, 5, and 6, Bay Plans, with the extensive Yards in front of the same, the whole covering an area of nearly 8,000 feet, with frontages to Glasshouse and Bell-yards, and Aldersgate-street, affording a fine site for extensive manufacturing or warehouse premises. The property is at present occupied by four tenants, at rentals amounting to about 212l. per annum, but is underlet at much larger rentals, estimated to produce considerably more as a ground-rent.—Particulars and Plans of Messrs. G & R. H. BRANDON, Solicitors, 15, Essex-street, Strand; and of the Auctioneers, Chapside.

FULHAM.—Speculative Property, fronting the main road, covering about half an acre, nearly Freehold, offered as a good site for a Public Building or number of Detached Houses

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, MAY 17, at TWELVE, in one Lot, by order of the Trustees of the late Mr. William White, with consent of the mortgagee, a well-situate and for the most part FREEHOLD PROPERTY, comprising seven houses, with large gardens in the rear known as Nos. 1 to 7, White's cottages, on the east side of Bridge-street, Fulham, close to the line of improvements lately made by the New Bridge and Pier Company, occupying an area of about half an acre, and having a frontage of 160 feet, to which main road all let to weekly and yearly tenants at rentals amounting to 144l. 8s. per annum. The cottages are copyhold, at a small fixed fine, and equal to Freehold.—Particulars of Messrs. DAWSON & BRYAN, Solicitors, 33, Bedford-square; and of the Auctioneers, 80, Cheapside.

WIMBLEDON.—The beautiful ESTATE formerly attached to the residence of LORD LYTTELTON (now removed), supplying the finest Unbroken Timbered park Grounds and Gardens, situate on the south-west slope of a considerable hill, enjoying uninterrupted views of some of the finest scenery in the county of Surrey, and affording at almost the smallest opportunity for a great small walking to build, and to combine the advantages of a modern mansion with an unusually large amount of the most delightful rural attractions near London, and for the like reasons especially eligible for a large institution, or for sub-division and the erection of first-class villas.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, early in the Spring, in Lots, (unless an acceptable offer be previously made for the whole), the very valuable and most beautiful FREEHOLD ESTATE, known as Cottenham park, comprising nearly 40 acres of magnificently timbered Grass Land, having the important advantage of a dry gravelly subsoil, an abundance of water, extensive frontages to good roads, contiguity to a church nearly accessibility from London by rail shortly to be extended to Cannon street) and situation and scenery that likely obtain for the property the title of the gem of the neighbourhood.—Particulars in due course of Messrs. FRESHFIELDS & NEWMAN, Solicitors, No. 5, Bank-buildings; and of the Auctioneers, 80, Cheapside, who are fully authorized to treat for the Sale, in one Lot, by private contract.

Early Sale, on account of the number of lots.—To Timber Merchants, Builders, Carpenters, Lucifer Makers, and Others.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Maiden-terrace, Camden-town, on MONDAY, MAY 9th, at ELEVEN for TWELVE, 2,000 yellow, white, and pine planks, deals, and battens, 7 to 20 feet of wide and narrow, 250 squares of prepared flooring, 12,000 feet of quartering, 700 feet of mahogany and oak, 6,000 4 feet laths, dry cut stuff, staving, battens, scaffold poles, ladders, barrows, chimney pieces, loose materials, &c.—Auction Offices, Carlington-street, Hampstead-road, N.W.

LANCASHIRE.—OSWALDTWISLE, near BLACKBURN.—SALE of Valuable and Extensive FREEHOLD ESTATES.—TO BE SOLD by AUCTION, by

MR. GRUNDY, on THURSDAY, the 28th day of APRIL, 1864, at the BULL HOTEL, in Blackburn, in the County Palatine of Lancaster, at FOUR o'clock in the afternoon, subject to the conditions to be then and there produced by the Vendors, and to be read following, or such other lot or lots as may be agreed upon at the time of sale:—

Lot 1.—All that Close, Piece, or Parcel of MEADOW LAND (part of the Salt-pit Farm), situate at Smithy Brook, within the Township of Oswaldtwisle, in the Parish of Whalley and County Palatine of Lancaster, bounded on or towards the south by the public highway, and on or towards the west by the stream or brook called Smithy Brook, and containing in statute measure 2a. 1r. 34p. or thereabouts, and fully delineated and described in the plan thereof (No. 1) hereinafter referred to.

Lot 2.—All that Farm and Tenement known by the name of the Falls Farm, situate in the Township of Oswaldtwisle aforesaid, on the east side of and bordering on the west by the highway leading from Blackburn to Little Moor end, on the north east by the Lower Stanhill Farm, and on the east by the stream or brook known as Smithy Brook; consisting of the farmhouse, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 2) hereinafter referred to, and containing together in statute measure 12a. 1r. 2p.

Lot 3.—All that Farm and Tenement known by the name of The Upper Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the north east side of the highway leading from Blackburn to Little Moor End, and on the east by the Fountains Farm, on the south by Whitcash Mills, and on the north west by a way or road leading from said highway to Antgreave; consisting of the farm-house, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof hereinafter referred to, and containing together 31a. 0r. 2p. in statute measure.

Lot 4.—All that Farm and Tenement known by the name of The Fountains Farm, situate in the township of Oswaldtwisle aforesaid, bounded on or towards the north by Antgreave, on the east by a private road on the west and south by Lower Stanhill Farm and part of Whitcash Mills, and on the north eastern extremity by the turnpike road (separating at that point a small portion of this lot) leading from Blackburn to Accrington, and consisting of the farmhouse, farm, and other buildings, and the several closes, pieces or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 4) hereinafter referred to, and containing together in statute measure 29a. 2r. 25p.

Lot 5.—All that Farm and Tenement (formerly part of the Stanhill Farm) situate in the township of Oswaldtwisle aforesaid, on the north east side of and bordering on the south-west side by the turnpike-road leading from Blackburn to Accrington; consisting of the several closes, pieces, or parcels of land, fully delineated and described in the plan thereof (No 5) hereinafter referred to, and containing together in statute measure 25a. 3r. 13p.

Lot 6.—All that Farm and Tenement known by the name of the Stanhill Farm, with the substantial and well-accustomed Inn or Public House (known as the Spread Eagle), with the farm and other buildings thereon, situate in the township of Oswaldtwisle aforesaid, on the south side of and bounded on the north by the turnpike-road leading from Blackburn to Accrington, and on the west by the private road or way from Stanhill House to the said turnpike; and consisting of the several closes, pieces, or parcels of land, and pasture land, in or upon those aforesaid, and fully delineated and described in the plan thereof (No. 6) hereinafter referred to, and containing together in statute measure 25a. 0r. 3p.

Lot 7.—All that Farm and Tenement known by the name of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid on the south side of the turnpike-road leading from Blackburn to Accrington, bounded partly on the north by the said turnpike-road leading from Blackburn, on the south by the highway leading from Blackburn to Little Moor End, on the east by Stanhill House and Stanhill Farm, and consisting of the farmhouse, farm and other buildings, and the several closes, pieces, or parcels of meadow and pasture land fully delineated and described in the plan thereof (No. 7) hereinafter referred to, and containing together in statute measure 30a. 2r. 8p.

Lot 8.—All those Two Messuages or Dwelling-houses, and all that plot or parcel of Land or Ground (known as Rock Meadow), situate at Stanhill, within the township of Oswaldtwisle aforesaid, on the north side of the highway from Blackburn to Little Moor End, containing in the whole, 3a. 2r. 9p. or thereabouts, and fully delineated and described in the plan thereof (No. 8), hereinafter referred to.

Lot 9.—All that Farm and Tenement known by the name of the Salt Pit Farm, situate in the township of Oswaldtwisle aforesaid, on the west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the east by the said highway, and on or towards the west by the Rushes Farm, and on or towards the south-west by property of John Reddish, esq. and others; and consisting of the farmhouse, farm, and other buildings and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 9), hereinafter referred to, and containing together 16a. 1r. 19p.

Lot 10.—All that Farm and Tenement known by the name of the Rushes Farm, situate in the township of Oswaldtwisle aforesaid, on the south west side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north-east by the said highway, on or towards the south east by Salt Pit Farm, on or towards the north west by part of the Rushes Farm, and on the south by Smithy Brook, all property of John Reddish, esq. and others, and consisting of the farm house, farm, and other buildings, and the several closes, pieces, or parcels of meadow and pasture land, fully delineated and described in the plan thereof (No. 10) hereinafter referred to, and containing together, in statute measure, 27a. 1r. 3p.

Lot 11.—All that Farm and Tenement known as part of the Higher Stanhill Farm, situate in the township of Oswaldtwisle aforesaid, on the south side of the highway leading from Blackburn to Little Moor End, bounded on or towards the north by the said highway, on or towards the south-east by the Rushes Farm, and on or towards the south west by land of John Reddish, esq. and others, and consisting of the Farm House, Farm, and other Buildings, and the several Closes, Pieces, or Parcels of Meadow and Pasture Land, fully delineated and described in the plan thereof (No. 11) hereinafter referred to, and containing together in statute measure 34a. 3r. 0p.

Lot 12.—All those several Closes, Pieces, or Parcels of Meadow and Pasture Land, situate lying and being on the north side of Oswaldtwisle aforesaid, known by the several names and containing (in statute measure) the several quantities following: that is to say, the Old Meadow (including the site of Grave House, Shrubbery, Plantation, Gardens, Coachhouse, Stable, Shippons, Cottages, Outbuildings and Premises hereinafter mentioned, as forming part of this lot), 3a. 3r. 38p.; the Croft, 1a. 0r. 19p.; and the Chapel Meadow, 1a. 3r. 19p.

Also, all that modern capital Family Residence erected on part of the before-mentioned land, with the Shrubberies, Plantations, Gardens, Coachhouse, Stable, Shippons, Cottages, and Outbuildings connected with Grove House and Premises aforesaid

Grove House is a very excellent family residence, contains spacious and well proportioned dining room, drawing-room, breakfast-room, and library; numerous good and suitable bed-rooms, bath-room, water-closet, &c.; kitchens, cellarage, entrance hall, and convenient staircases. The several rooms have been carefully fitted up with and now contain expensive and modern fixtures; the whole premises are well supplied with hard and soft water, and are replete with every convenience and appendage usually to be found in extensive family residences.

The whole of the before-mentioned farms and properties are freehold of inheritance, and will be Sold subject to the reservation of the coal within and under the said farms and properties.

The tenants of the several Farms and Properties have instructions to show their respective holdings, and printed particulars, with lithographic plans of each lot may be had on application to Messrs WESTALL BROTHERS, Whalley Mills, Oswaldtwisle; also on application to the Auctioneer, at his Office, No. 86, King-street, Manchester, or on application at the Offices of Messrs. ROBINSON & SON, Solicitors, Blackburn; or Mr GEO. M'CALL, Land and Engineering Surveyor, Blackburn.

Blackburn, March, 1864.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, WEDNESDAY, 27th APRIL, 1864, at TWO, for account of the Underwriters

150 PIECES OAK TIMBER } Ex *Elizo* from Stettin, wrecked on the
207 PIECES FIR TIMBER } voyage to London.

Also,

500 LOADS FOREIGN AND COLONIAL TIMBER.
50,000 PIECES ditto ditto DEALS AND BATTENS.
And other Wood Goods.
H. FREEMAN & CO. Brokers,
3, Crooked-lane, E.C.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS SOMERSET.—The Remaining Stock, Utensils, &c.

MESSRS. FULLER & HORSEY are instructed by the Liquidator of the Keynsham Blue Lias Lime and Cement Company, limited, to SELL by AUCTION, on FRIDAY, MAY 6, 1864, at ELEVEN for TWELVE o'clock precisely, on the PREMISES, Keynsham, Somerset, the remaining STOCK and UTENSILS, comprising 60 tons ground lias lime, 150 tons Scott's hydraulic cement, 4,000 lime and cement sacks, 12 crosskiln, 2 horse carts, 6 waggons, 18 sets cart and thill harness, stone-trucks, sack-barrows, cement barrels, ladders, portable forge, a Pooley's 7-ton weighbridge with weighhouse, 180 feet iron hurdles, spring cart, hay cob, office fittings, and numerous other effects. To be viewed the day previous and morning of sale, when catalogues may be had on the Premises; at the principal hotels in Bristol and Bath; of F. MAYNARD, Esq. Liquidator, 19, Broad street, Cheapside; of Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

PORT of WEYMOUTH.—Eligible Ship-Building Premises, together with the Plant, Steam Engines, and Apparatus.—TO BE SOLD by AUCTION, by

MR. MILLEDGE, at his General Sale Rooms, 74, St. Thomas Street, on TUESDAY, the 26th of APRIL, 1864, at THREE o'clock in the afternoon, subject to such conditions as will be then and there produced, unless previously disposed of by private contract, of which due notice will be given, all that well erected and conveniently situated FREEHOLD PIECE of LAND, used as a Ship-Way, capable of building up vessels of 400 tons, together with the Smiths' Shop, Engine House, and other Buildings, erected on part of the same. Also, all that Leasehold Shipwright's Yard, with Ship-way, Boat House Workshops, Block Makers' ditto, Office, Store, Saw-pit, Spacious Yard, and the convenient premises necessary for carrying on the ship-Building business on a large scale. The Leasehold Estate is held for a term of 63 years, of which 53 years are unexpired, and subject to an annual ground rent of 17l. 10s. The Patent Slip, with steam apparatus, belonging to the Ship-way, with or without the Stock in-Trade, may be taken at a valuation by the purchaser of the premises. Further particulars may be obtained of Mr. THOMAS COOMBS, Solicitor, Dorchester; of Mr. ROBERTS, Ship Broker, Weymouth; or the Auctioneer.

After which will be SOLD a NEW VESSEL, Schooner rigged, A-1 eight years, burthen 100 tons, but yet named, length aloft 75 feet, breadth 18 feet 6 inches, depth 7 feet 6 inches.

PIMLICO IMPROVEMENTS BUILDING MATERIALS of Fifteen Dwelling-houses.

MR. GEO. HAINES announces FOR SALE, on TUESDAY, APRIL 26, at TWELVE o'clock, the useful MATERIALS of the whole of Ranelagh-place, comprising a large quantity of sound brickwork, lead and iron, slate and tiled roofs, timber in rafters, plates, partitions, wainscots, doors, sashes, floors, joists, staircases, cupboards, chimney pieces, fixtures, and numerous fittings.—May be viewed. Catalogues of Messrs. HAINES & SON, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

PIMLICO IMPROVEMENTS.—To Builders, Dealers in Materials, and Others.

MR. GEO. HAINES is instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY and THURSDAY, MAY 4th and 5th, at TWELVE o'clock, all the very excellent MATERIALS of FOURTEEN DWELLING-HOUSES and back Buildings, situate No. 23 to 36, Ranelagh-street; comprising half a million of sound bricks, lead and iron, slate and tiled roofs, useful timber, in rafters, plates, partitions, wainscots, doors, glazed sashes, floors and joists, staircases, presses, chimney-pieces, fixtures and fittings May be viewed.—Catalogues of Messrs. HAINES & SON, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square; and No. 12, High-street, Kensington.

REPOSITORY, BARBICAN.—CONTRACT CART HORSES.

MR. J. GOWER will SELL by AUCTION, on FRIDAY, APRIL 29, by direction of Messrs. Brassey, TWELVE powerful, active CART HORSES that have been working on the Mid-level Sewer, nearly completed. On view two days prior.

PRELIMINARY ANNOUNCEMENT.—Important City Freehold, comprising the Spread Eagle Hotel, Gracechurch-street, with extensive Premises and Yards, adapted for rebuilding.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, in the month of JUNE (unless previously disposed of by private contract), valuable FREEHOLD PROPERTY, situate in the very heart of the City, and comprising the principal portion of that well-known establishment the Spread Eagle, Gracechurch-street, with extensive premises and yard, having a back entrance to Leadenhall-street; the whole comprising an area of nearly 8,000 square feet, and forming one of the most important building sites to be found in the City, its advantageous position renewing it certain to be highly valuable for offices, whereby a very large rental may be created, thus offering a desirable opportunity for the employment of capital. Particulars may be obtained of O. LEASE, Esq. Solicitor, 5, Pancras-lane, Cheapside; of Messrs. WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C.; at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo place, Pall mall

WEDNESDAY NEXT.—IMPORTANT to BUILDERS, SPECULATORS, BUILDING SOCIETIES.—Freehold Land, close to the Victoria Railway Station, and Unfinished Building, close to Victoria-street, Westminster.

MR. MOXON will SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY next, 27th APRIL, at TWELVE, by order of the Commissioners under the Westminster Improvement and Incumbrance Estate Act, 1861, a valuable plot of FREEHOLD BUILDING LAND, having an extensive frontage to Elizabeth-bridge-road, close to the Victoria Railway Station, containing about 5,380 square yards; also Three large Freehold Buildings, on the south side of Philippa-street, near Victoria-street, designed and well adapted for setting as chambers or offices; they are at present unfinished, but erected in the most substantial manner, with iron girders, &c., and require but a small outlay to complete.—Plans and particulars may be obtained of Messrs. MAYHEW & SALMON, Solicitors, 39, Great George-street; of Mr. C. W. JACQUES, 4, Victoria-street; at the Auction Mart, City; and of Mr. W. MOXON, 3, St. Martin's-place, Trafalgar-square.

In Bankruptcy.—GOSWELL STREET. Extensive MANUFACTURING PREMISES.

MESSRS. EDWIN FOX & BOUSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, APRIL 27, at TWELVE for ONE, by order of the assignees of Messrs Walker, Walker, & Co. (LEASE, 14 years unexpired, at £77 10s.), 77, Goswell-street, lately in the occupation of Messrs. T. Walker & Co. timber merchants, together with the capital warehouses, offices sheds, two-story stable, and other effects on a manufacturing business, erected thereon, and which, with a judicious outlay, may be converted into a commanding range of first-class manufacturing premises. Held for a term of twenty-one years (save to-day) from the 29th of September, 1859, at £97 per annum.—May be viewed, and particulars had on the Premises; at the Mart; of Messrs. VEVNING, NAYLOR, & ROBINS, Solicitors, 9, Tokenhouse-yard; and of Messrs. EDWIN FOX & BOUSFIELD, 31, Colemau-street, Bank, E.C.

BROOKS & SCHALLER'S AUCTION SALES of ESTATES, HOUSES, GROUND RENTS, REVERSIONS, ANNUITIES, ADVOWSONS, &c will take place at GARRAWAY'S, on the FIRST and LAST TUESDAY of each month. A nominal charge made per lot to include all expenses

The INDEX, published Monthly, of Estates, Country and Town Houses, Reversions, &c. to be Let or Sold, is issued free on application.—AUCTION and ESTATE OFFICES, 25, Charles-street, St. James's, London.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of CHARLES WYMAN, No. 74 and 75, Great Queen-street Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, April 23, 1864.

The Builder,

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1108. APRIL 30, 1864. PRICE FOURPENCE. By Post, 5d.

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ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, NOW OPEN, Nine till Six each day, One shilling. Season Tickets, Half-a-crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery. JAS. FERGUSSON, F.R.S. } Hon. Secs.
JAS. EDMESTON, F.L.S.A.
Also the EXHIBITION of the SOCIETY of SCULPTORS.
MERTON EDWARDS, Hon. Sec.

INSTITUTE of PAINTERS in WATER COLOURS.—The 58th Annual Exhibition is now OPEN, at their GALLERY, 54, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
73–74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The Directors of the Durham County Permanent Investment Land and Building Society hereby offer the following PRIZES for the best DESIGNS for WORKING MEN'S COTTAGES:—
FIRST PRIZE .... 10 Guineas.
SECOND PRIZE .... 5 „

The Cottages to contain three and four rooms respectively, and the cost not to exceed 160l per Cottage. Prices of labour and materials in the county of Durham will be furnished on applicati n to the undersigned. The architects should keep in view the following qualities:—1. Accommodation; 2. Ventilation and Sanitary arrangement; 3. Style of Elevation; 4. Cost; and 5. Stability. All designs will remain the absolute property of the Society. William Crozier, Esq., C.E. County Architect; Mr. Alderman Williams, Chairman of the Sanitary Committee, Sunderland Corporation; and Mr. Joseph Ridley, Building Surveyor, have kindly undertaken to adjudicate the prizes for the two best designs. The designs are to be sent in to the General Manager, sealed and endorsed "Designs for Working Men's Cottages," on or before the 30th JUNE next, marked with a motto, and with sealed envelope containing architect's address.
SAMUEL WOODHOUSE, General Manager.
Offices, 26, Fawcett-street, Sunderland, April 21, 1864.

CONTRACTS.

NOTICE to WELL-BORERS, &c.—TENDERS are required for BORING to a greater depth the WAR DEPARTMENT WELL at Sheerness.
A section of the well, showing the depth proposed to be bored, may be seen, and a specification of the proposed work may be obtained, on application at the Office, between the hours of TEN and FOUR from the 5th to the 16 h of MAY next.
The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Sheerness, April 26, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Carsethorne, in the county of Kirkcudbright, may inspect the Drawings and Specifications at her Majesty's Custom House at Dumfries, or at this Office, between the hours of TEN and FOUR, from WEDNESDAY, the 27th inst. to THURSDAY, the 12th of MAY now next ensuing, and both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 12th MAY, under seal and directed to the Commodore Controller General of Coast-Guard, and endorsed "Tender for Carsethorne."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 19th day of April, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.
TENDERS are required for the RENEWAL of the SLATING, LEAD GUTTERS, VENTILATOR COVERS, and FLASHING, and for the REPAIR of the BOARDING under SLATING and LETTERS of the WEST WING of the CAVALRY BARRACK, Brighton.
Parties desiring to Tender for these essential of these Works must call or send their names to this Office, between the hours of TEN a.m. and FOUR p.m. (Sundays excepted) from the 2nd to 7th MAY, 1864, inclusive, when they will receive every information to enable them to take out their quantities.
The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Royal Engineer Office Brighton, 26th April, 1864.

CITY of LONDON.—Very valuable and Extensive Building site, close to Wood street—The Court of Assistants of the Worshipful Company of Sellers are prepared to receive TENDERS for taking a BUILDING LEASE or LEASES, for a term of 80 years, of the whole or part of all that valuable Plot of Land, containing about 14,000 superficial feet, situate close to Wood street, Cheapside, and having frontages, to Falcon street of 130 feet, Hart-street 87 feet, and Monkwell-street 138 feet. A plan of the ground may be seen, and further particulars obtained, on application at the Clerk's Office, at the Hall in St. Swithin's Lane, Cannon street, or to the Company's Surveyor, JOHN COLLIER, Esq. 26, Paternoster-row, Paul's Church-yard. Tenders to be addressed to EDWARD THOMPSON, Esq. Clerk of the Company, at Sellers' Hall, and delivered on or before the 2nd day of MAY next, at TWELVE o'clock at noon.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, 16th day of MAY, 1864, at SIX o'clock in the evening, at the Office of the Board, No. 1, Great Alie street, Whitechapel, to receive TENDERS for the ERECTION of a New BOARD-ROOM and OFFICES, at the rear of the present Offices. Plans, sections, and specification may be inspected, and bills of quantities, with forms of Tender obtained, on application to Mr FRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders must be delivered at the Office previously to the hour of meeting, and any Tender which is not upon the form prepared by the Board, and duly signed by the person or persons tendering will be rejected. Persons tendering, or their representatives are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.
ALFRED TURNER, Clerk to the Board.
15, Great Alie street, Whitechapel, April 20, 1864.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 3rd of MAY next, at half-past TWELVE o'clock precisely, to receive TENDERS for CLEANSING the Streets, and for Removing Dust, Ashes, &c., from the Houses of the Inhabitants; and also for Watering certain streets within the said City, for the term of One Year, from Midsummer day next, agreeably to the directions, copies of which may be had at this office. The City is divided for the purposes of these Contracts into four divisions. Each Contractor will be required to enter into and with two approved sureties, in the sum of 500l for each division for Cleansing, and 100l for each division for Watering, for the due performance of the several Contracts, and the consent in writing of the parties proposed as such sureties must be enclosed with the Tenders. The Commissioners do not undertake to accept the lowest Tender in any case; or any, unless deemed satisfactory. No Tender will be received after TWELVE o'clock on the day of treaty; nor will any Tender be received unless it contains enclosed the sum of 20l in Bank of England notes, for each Tender for, in evidence that the same is made in good faith, under seal, and will be returned to each person whose Tender is not accepted, but will be retained in the other cases until the contracts entered into shall have been duly executed by the parties Tendering and their sureties; and in case of such contracts and bonds not being duly executed the said sums of money will be retained by and forfeited to the said Commissioners.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 19th April, 1864.

TO SEWER-PIPE MANUFACTURERS, &c.—The Local Board for the District of Bacup, in the county of Lancaster, desire to receive TENDERS for the SUPPLY of EARTHENWARE SEWER and DRAIN PIPES, JUNCTION BLOCKS, INVERTS, and other Materials required for the Drainage of the District. Specification and conditions may be seen, and forms of Tender obtained, on application to Mr. BRIERLEY, Civil Engineer, Blackburn. Sealed Tenders, indorsed "Tenders for Sewer Pipes, &c." may be sent to the undersigned, at the Office of the Local Board at Bacup, not later than TUESDAY, the 3rd day of MAY next.
April 20th, 1864. E. M. WRIGHT, Clerk to the said Board.

CONTRACTS.

TO IRONFOUNDERS.—Parties desirous of TENDERING for the ERECTION of the METAL-WORK to an IRON and GLASS ROOF 52 feet span, to communicate with Mr. ALEX. MILNE, Architect, Northampton.

TO BUILDERS and CONTRACTORS.—Persons desiring to TENDER for REBUILDING the PARISH CHURCH of FORDEN, near Montgomery, can inspect the Plans and Specification at the Church House Inn, in the Parish of Forden, and at the Office of the Architect, in Hereford. The Tenders are to be delivered to the Architect on the 28th day of MAY next, and no pledge is given that the lowest will be accepted.
THOS. NICHOLSON, F.L.B.A. Diocesan Architect.
Hereford, 22nd April, 1864.

TO BUILDERS. — SCHOOL for DAUGHTERS of OFFICERS of the ARMY, LANSDOWN-HILL, BATH.—Persons desirous of SUBMITTING TENDERS for the ERECTION of NEW WING, and carrying out certain alterations and additions to the school building (lately known as the Lansdown College, Bath), are requested to send their names and references to the Honorary Architects.—WILLIAM G. HABERSHON & FITE, 38, Bloomsbury square, W.C.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLITAN SEWERS in GREENWICH and DEPTFORD.—TO BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring-gardens, S.W., on FRIDAY, the 27th day of MAY, 1864, at TWELVE o'clock at Noon precisely, and will then be prepared to open TENDERS by parties who shall be willing to contract for the CONSTRUCTION of BRICK SEWERS, in or of 4'6" feet 3 inch, or thereabouts, to communicate at the Pumping Station at Deptford, and terminate at Pelton road, with Branch Sewer in Knott-street, Albert street, Victoria road, and Grove-street-hill, with other Works in connection therewith, all situate in the respective parishes of Saint Alphage, Greenwich, Saint Nicholas and Saint Paul, Deptford, in the county of Kent. Parties desiring to submit Tenders can (on and after TUESDAY next, 3rd MAY) be supplied with specification and form of Tender, upon payment of 2l and inspect plans and sections, and obtain other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 26th day of MAY, 1864. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office, before FOUR o'clock on the last-mentioned day. No Tender will be received after that hour. The Parties Tendering must be in attendance at the Board, at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. 28th April, 1864.

TO CONTRACTORS. -TO BE LET, either in one Contract or separately, the several WORKS required in the ERECTION of a new CONGREGATIONAL CHURCH, Scarborough. The plans and specifications may be seen at the new school-room connected with the Bar Church, Scarborough, on and after Tuesday next, and forms of Tender may be had, either by written or personal application, at our Offices, Bradford, from MONDAY, the 2nd, until FRIDAY, the 6th day of MAY, both inclusive, sealed Tenders to be delivered there by TWO o'clock on SATURDAY, the 7th day of MAY, addressed to the Rev. E. BALGARNIE, Scarborough. The lowest Tender not necessarily to be accepted. By order of the Building Committee.
LOCKWOOD & MAWSON, Architects.
Post-office buildings, Bradford; Lincoln's-inn-fields, London.

TO IRON PIER CONTRACTORS.—TENDERS are required for the SUPPLY and ERECTION of an IRON SCREW PILE PIER on South Shore, Blackpool, Lancashire. Specifications to be seen at the office of GEORGE WILLIAMS, 12 Northumberland-street, Westminster, on and after TUESDAY, the 3rd of MAY, 1864.

TO CONTRACTORS, BUILDERS, and OTHERS.—DURHAM COUNTY JAIL.—NEW WING TO THE FEMALE PRISON.—The Visiting Justices are desirous of receiving TENDERS for the COMPLETION of the several BUILDINGS and WORKS of the proposed addition of a New Wing to the Female Prison of the County Jail in Durham. The plans, sections, and specifications for the respective works may be inspected and perused at the Office of WILLIAM CROZIER, Esq. C.E. the County Architect, County Courts, Durham, on and after WEDNESDAY, the 4th MAY next. Tenders properly filled up in every particular, and strictly in accordance with the printed bill of quantities, under seal, and endorsed "Tender for New Wing to Female Prison, Durham," to be sent or delivered to the County Architect not later than TUESDAY, the 17th MAY next. The Visiting Justices do not pledge themselves to accept the lowest or any Tender. By order,
JOHN TIPLADY, Deputy Clerk of the Peace.
Durham, 27th April, 1864.

BUILDERS willing to TENDER for the ERECTION of the new SCHOOLS, St. Mark's parish, St. Saviour's, Southwark, are desired to send their names and addresses at once to the Architect, Mr. R. P. POPE, 8, Kings-road, Gray's-inn, on and after FRIDAY, the 29th instant, between the hours of TEN and FOUR, at which time plans to be delivered at the Office of the Architect, by or before FOUR o'clock, on THURSDAY, the 5th of MAY. The Committee will not be bound to accept the lowest or any Tender.
April 29th, 1864.

TO BUILDERS. —Persons desirous of CONTRACTING for the ERECTION of PARSONAGE HOUSES, at Horby, Warthill, Market Weighton, Bugthorpe, and Fridaythorpe, in the East Riding of the county of York, are requested to apply before May 9th next, giving references, to Mr. CHRISTIAN, Architect, 8a, Whitehall-place, London, S.W. Mr. Christian does not bind himself to reply to any such application.

[For remainder of Contracts see next Page.

CONTRACTS.

WEST HAMPNETT UNION, SUSSEX.
The Guardians of this Union having decided on a GENERAL FIELD VALUATION of the Rateable Hereditaments in the Union, for the purposes of the Parochial Assessment Act, TENDERS for the PERFORMANCE of the said Work are requested, subject to the following conditions:—The Union will be divided into Five separate Districts, comprising the following Parishes:—

DISTRICT 1	Area in Statute Acres.
Bradham	1,998
West Itchenor	792
West Wittering	3,615
East Wittering	1,505
Earnley	1,182
Selsea-m	410
Selsey	4,274
Total	17,425
DISTRICT 2.	
Pagham	4,376
Hunston	1,003
North Mundham	1,982
Donnington	1,027
Apuldram	1,176
New Fishbourne	600
Rumbolds Whyke	647
Merston	710
Total	11,432
DISTRICT 3.	
Barnham	733
Felpham	2,234
Middleton	800
Yapton	1,509
Walberton	1,985
Eastergate, including the Glumber	2,514
Binderton	1,1
Walberton	1,722
Eastergate	902
Total	13,4
DISTRICT 4.	
Aldingbourne	3,039
Earthamb	1,794
Boxgrove	3,078
West Hampnett	1,899
Oving	2,946
Tangmere	1,724
East Lavant	2,881
Total	16,732
DISTRICT 5.	
Mid Lavant	350
West Stoke	580
Lavington	1,760
Singleton Parish	5,010
Singleton	
Charlton	
East Dean	4,647
Up Waltham	1,540
Graffham	4,553
Total	15,580

2. No Valuer will be eligible to act for more than one of the above districts, and no gentleman will be eligible for the appointment of Valuer of the district in which he is an owner for the object of Rate.

3. Tenders are to be delivered on or before JUNE 1st, 1864, to Mr R. G. RAPER, of 61 Chester, Clerk to the Assessment Committee, from whom all information can be obtained.

SMETHWICK LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Local Board of Health for the District of the Hamlet of Smethwick are desirous of receiving TENDERS from persons willing to CONTRACT for the following WORKS with the Drainage according to plans and specifications prepared by Mr. JOSEPH BENJAMIN NICHOLLS, C.E. the Surveyor appointed by the Board, to execute the special attendance required between the HOLLYHEAD and ONE from the present date until the 12th MAY next, at the Office of the Board, in Rolfe-street, Smethwick, on TUESDAY, WEDNESDAY, and FRIDAY in each week.

CONTRACT No. 1.

The Constructing, Forming, Making, Keeping, and Channelling the Carriageways and Footways of St. Paul's road, commencing at the Holly Lane Entrance to end of boundary of the district.

CONTRACT No. 2.

The Constructing, Forming, Keeping, and Channelling of Mount Pleasant, commencing at St. Paul's road, and terminating at the Turnpike-road

CONTRACT No. 3

For the Widening and Improving the Holly Lane and Greenlane, and the Constructing and Forming of the Carriageways and Footways, Planting a Quick-set Hedge, and Fencing.

The Tenders to be sent in on the forms which will be supplied, duly to be signed and sealed, and to be delivered at the Office of the Board, on or before the 14th of MAY next. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

RALPH DOCKER, Clerk.

Board room, Smethwick, 27th April, 1864.

WHITECHAPEL UNION.— To BUILDERS.—The Board of Guardians having determined to complete the new workhouse forthwith, will meet in the Board-room of the Workhouse, at the end of Charles-street, Mile-end New Town, E., on TUESDAY the 7th of JUNE next, at TWO o'clock in the afternoon, to receive TENDERS for ERECTING the REMAINING PORTION of the BUILDING, and such parties as desire to Tender are to attend at the Clerk's Office, at the Workhouse, on TWELVE o'clock on WEDNESDAY, the 4th day of MAY next, to APPOINT a SURVEYOR on their behalf, to take out the quantities. The Guardians will require a deposit of 10 per cent. from builder, which will be returned to those who send fair and authentic Tenders.

The plans and specifications may be seen, and lists of quantities obtained, at the Office of WALTER BLACKETT, E., 12, Furnival's Inn, E.C. after the 3rd of May, and further information may be obtained from Mr THOMAS D. BARRY, Norwich, the Architect appointed by the Guardians.—By order,

G. ADAMS FARR, Clerk to the Guardians.

Clerk's Office, Workhouse, Charles-street, Mile-end New Town, N.E. April 27, 1864.

DOWNPATRICK NEW LUNATIC ASYLUM. EXTENSION of TIME.—NOTICE to BUILDERS The TIME for receiving TENDERS for the above Building has been EXTENDED to the 2nd day of JUNE next. The Tenders to be lodged with R. M. JEBB, Esq., Office for Control, Lunatic Asylums, Dublin Castle, endorsed "Tender for County Down Asylum," on or before ONE o'clock on that day. The work to be commenced immediately after the acceptance of the Tender. Security will be required for the due performance of the contract.—The lowest or any Tender will not necessarily be accepted.

Office of Control, 10a Ely Place, April 27, 1864.

TO BUILDERS and CONTRACTORS.—Persons desirous of CONTRACTING for the ERECTION of NEW and EXTENSIVE WAREHOUSES, SHOPS, and DOMESTIC APARTMENTS, after MAKING other ALTERATIONS, at the premises of Messrs. Phipps & Son Drapers, &c. Northampton, may see the plans and specifications, and obtain a bill of the quantities, at our office, on and after THURSDAY, the 28th instant.—The Tenders to be delivered at our Office, on or before TUESDAY, the 10th day of MAY next, sealed, and endorsed "Tender for the erection of new warehouses, shops, &c. for Messrs. Phipps & Son."

N.B. Messrs. Phipps & Son do not pledge themselves to accept the lowest Tender.

Priory Cottage, Northampton, April 22, 1864.

NEW SCHOOLS. — INDEPENDENT CHAPEL, Ossett, near Wakefield.—TENDERS are required for all the ARTIFICERS' WORKS for the above building. Drawings and specification and conditions of contract may be seen and lists of quantities obtained, free of charge, at the Shop of Mr JOSEPH ELLIS, Druggist, Ossett, on and after MONDAY, the 9th of MAY. Tenders to be delivered to the following Friday, the 13th of MAY. The Committee will not make any allowance for Tenders, and reserve the right to accept either or reject all.

PAULL & AYLIFFE, Architects,
India Buildings, 20, Cross-street, Manchester, 14th April, 1864.

TO CONTRACTORS.—The Sheerness Local Board of Health are prepared to receive TENDERS from persons willing to contract with them for the undermentioned Works, viz.:—To excavate for, supply, lay, and fix in the streets and other public passages and places in the town and district of Sheerness the wrought iron pipes, bends, sockets, caps, stop cocks, and other appurtenances for conveying water from the cast iron main pipes in the said streets and places to and into buildings and other property, and to make the said mains to receive such wrought iron pipes, and to make the necessary connections between them, and make good the streets and paving which shall have been disturbed for any of the purposes of laying which shall have been disturbed for any of the purposes of laying such pipes. N.B. The Board have a quantity of wrought iron pipe in hand which the Contractor will be required to use in the said work so far as the same will extend. To cut through walls or fences when and where required by the Surveyor of the Board, for any of the purposes aforesaid, and make good the brickwork or wall work, and the Specifications may be seen and forms of Tender obtained at the Office of Mr. JAMES LUND the Surveyor of the Board, Trinity Office of Mr. JAMES LUND the Surveyor of the Board, Trinity Office of the Board, Sheerness, on and after WEDNESDAY, the 27th day of APRIL, 1864. Sealed Tenders, in the prescribed form, endorsed "Tender for Water Services," and addressed to Mr EDWARD FELKIN, the Clerk of the Board, must be delivered at the Office of the Board, Trinity-road, Sheerness, or before THURSDAY, the 5th day of MAY, 1864, and not later than SIX o'clock in the evening of that day. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

EDWARD FELKIN, Clerk.

Trinity-road, Sheerness, 21st April, 1864.

TO BUILDERS. — Parties who may be desirous of TENDERING for the RE BUILDING of the PARISH CHURCH of ST MARY MAJOR, Exeter, are requested to forward their names to the Architect, Mr. ASHWORTH, 37, Southernhay, Exeter, who will submit the same to the Building Sub-committee. Those whose names are accepted will have further notice as to the particulars.

Exeter, April 26th, 1864.

TO WELL-BORERS and WELL-SINKERS.—The Harrow Waterworks Company are desirous of receiving TENDERS for the SINKING a NEW WELL at their Works. Specifications and particulars to be seen at the Office of the Secretary, Mr WM WINKLEY, Sun Harrow, London, N.W. The Tenders will be required to be sent in on or before the 9th of MAY, 1864.

DORKING BURIAL BOARD.—TENDERS are required for DRAINING the DORKING BURIAL GROUND, in accordance with the plan, specification, and section prepared by Mr. RICHARD B GRANTHAM of No 7, Great Scotland yard, Westminster. Persons desirous of Tendering for the above Works, may inspect the plan, specification, and section at the Clerk's Office, East street, Dorking, any day, until the 11th day of MAY next, between the hours of TEN and FIVE o'clock each day. Sealed Tenders are to be delivered at the Board room at the Cemetery, West Dorking, aforesaid, by TWELVE o'clock at noon precisely, on THURSDAY, the 12th day of MAY next. Contractors are to find sureties to the satisfaction of the Board. The Board will not be bound to accept the lowest or any Tender.—By order of the Board,

JOHN DENDY SADLER, Clerk

Dorking, 23rd April, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of extensive STABLING, COACH-HOUSES, and DAIRY BUILDINGS; also, COTTAGES, LODGE, &c. in connexion therewith, at Marton Hall, near Middlesbro', for H. W. F. Bolckow, Esq., according to plan and specification, which can be seen on application at Marton Hall; or at the Office of Mr. ROSS, Architect, Feetham, Darlington, from FRIDAY, APRIL 29th, until THURSDAY, MAY 5th. The various offers to be delivered at Marton Hall before TEN o'clock on FRIDAY, MAY 6th, 1864.

N.B.—The above dates are substituted for those previously advertised.

TO BUILDERS. — Persons desirous of CONTRACTING for the REPAIR or REBUILDING of the TOWER and SPIRE of the Parish Church of Great Easton, in the County of Leicester, are informed that the plans and specification may be seen, on and after MAY 2, by application at the Rectory, Great Easton. Tenders to be sent to the Office of the Architect, Mr. CHRISTIAN, No. 84, Whitehall place, London, S.W. on or before MAY 16th next. The Churchwardens do not bind themselves to accept the lowest Tender.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of NEW CONGREGATIONAL CHAPEL, Peterborough, are requested to send their names and references to the Architects

WM. G. HABERSHON & PITT, Architects,
38 Bloomsbury-square, W.C.

MELBOURNE CHAPEL, CAMBRIDGESHIRE. Builders desirous of TENDERING for the ERECTION of the COMPLETE NEW CHAPEL and VESTRIES, at Melbourne, can inspect the plans and specification on application to the Rev. A. C. WRIGHT, Melbourne, after MONDAY, the 2nd day of MAY, and at the Office of the Architect, where, if need be, the quantities and other information can be obtained. Tenders to be sent to the Architect, H. H. MOLE, Esq. 30, Welbeck-street, London, not later than THURSDAY, the 19th day of MAY. The committee do not bind themselves to accept the lowest Tender.

WANTED, a CONTRACT, for the IRON and WOODWORK of a WAREHOUSE and SHOPS to be built in New Zealand, according to plan, &c. particulars of which will be furnished on application, by letter, to Messrs. SAUNDERS, OTLEY, & MORGAN, Bankers and Army Agents, 9, Waterloo-place, Pall Mall, S.W.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
PALCON SQUARE, LONDON, E.C.
, Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

STEPHENS'S STAINS for WOOD. A SUBSTITUTE for PAINT, and at HALF the COST.

Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHITTENDEN, of Littleham, Bideford, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that numerous others have requested me to procure for them the quantity now paid for, in order to finish the church."

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For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury street, and 45, Colesh ll street, Pimlico, S.W.
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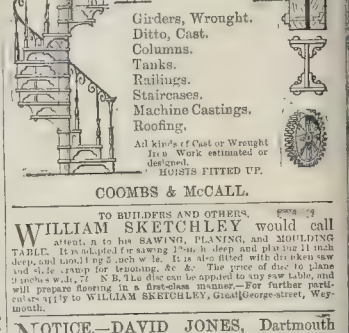
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NOTICE.—DAVID JONES, Dartmouth Works, Birmingham, begs to inform his London connexion that he has discharged his traveller, ROBERT THOMAS, and appointed in his place Mr H. SYMONS. The business of the London office is REMOVED from Bull Wharf to No 29, CHARTERHOUSE-LANE, E.C. where DAVID JONES hopes to receive their commands as usual.

BOILER, egg-end, 11 feet 6 inches by 3 feet 6 inches, nearly new, with fittings all complete.—Apply to Mr BENWELL, 58, Vauxhall walk, Lambeth

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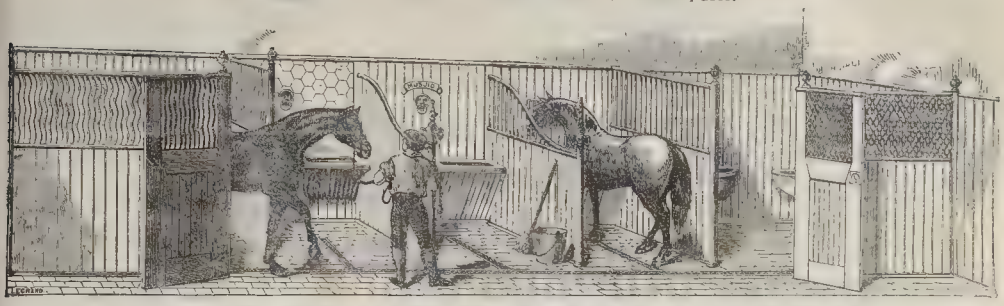
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The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

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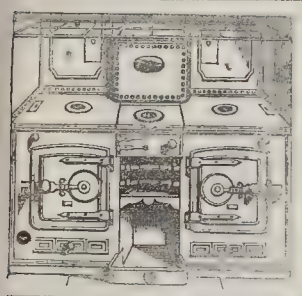
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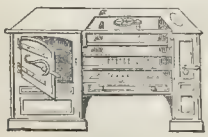
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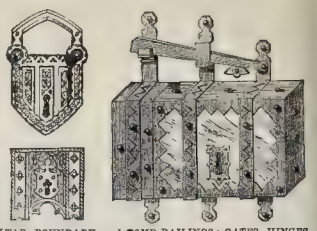
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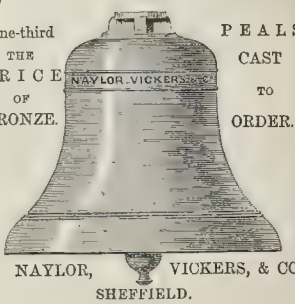


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CAST STEEL BELLS.

One-third THE PRICE OF BRONZE.



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This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

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In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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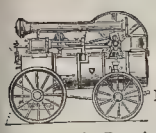
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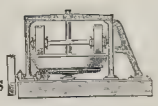
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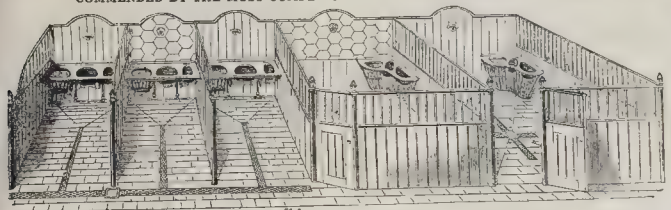


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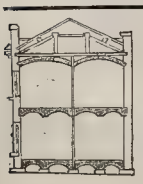
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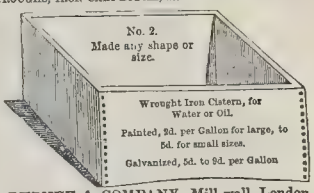
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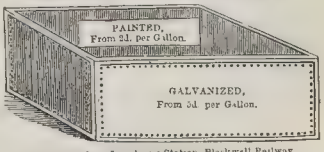
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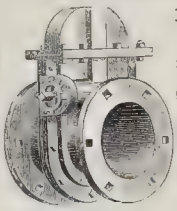
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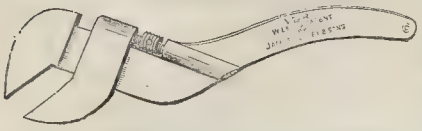
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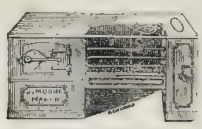
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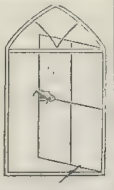
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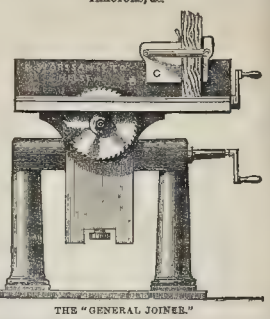
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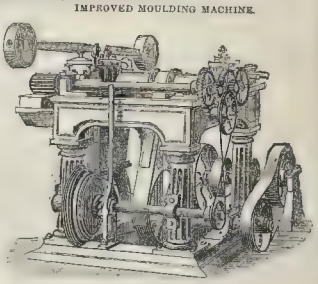
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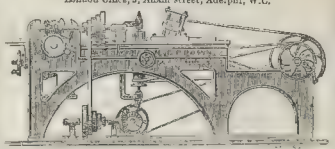
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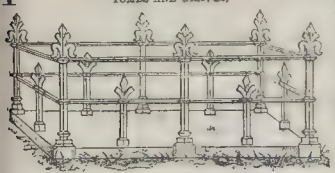
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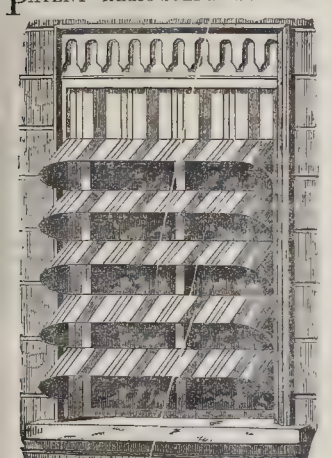


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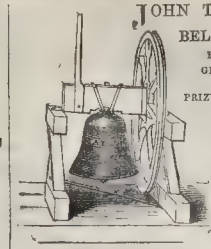
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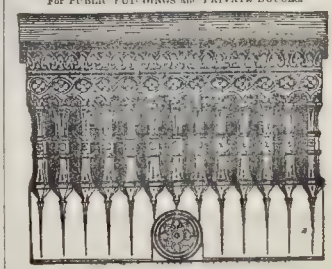
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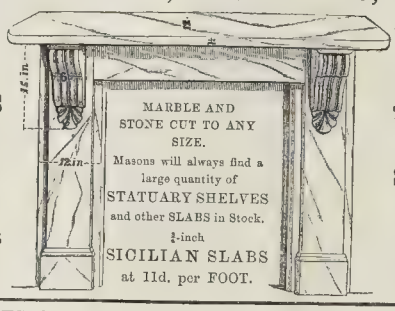
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VOL. XXII.—No. 1108.

The Designs for proposed Museums, South Kensington.



HE judges appointed to award the premiums in the Museums Competition noticed in our last number,* are Lord Elcho, M.P., Mr. Tite, M.P., Mr. Pennethorne, Mr. Fergusson, and Mr. David Roberts, R.A. We have been informed that they have already determined upon the work for which they intend to give the first premium. We hope that such is not the fact. The considerable experience we have had in the examination of competition designs, goes to convince us that it is scarcely within human power, in a case of this nature, and under the difficulties which result from insufficient exhibition-space, to discover distinctive features of designs, to come to conclusions on the all-important principles, and to register a decision which is to be of value, all within a fortnight, or rather that number of days or hours which individual members of the Committee in this instance can have had to spare. The greatest possible misapprehension prevails, most strangely even with architects, or those who are in the habit of competing, as to that which is possible. Judging from manner of looking at the drawings in an exhibition, all forget that the perspective view which has been hung in the best place, is not the most important part of the exposition of the design; and that a plan which has been so placed as to require a ladder to get up to it in order to measure its parts or to read writing upon it, or a section so close to the floor that the height of a room could not be measured without a painful twist of the body, may be chief elements in the demonstration of the author's intentions concerning that part of the building wherein its utility is involved. They forget the loss of time, and bewilderment, which result from the arrangement of drawings of the same kind sometimes above "the line," and sometimes below; from the placing a title sometimes at the foot and sometimes at the top of a drawing; from difference and sometimes the absence of scales; and from the separation of one design from another, even by a red line, being not sufficient. Competitors should be only glad to learn that proper time has been taken to obtain a decision which may tend to the objects of the projectors of a building. In the present case, as we said in our last, in order to attain the ends, the solution of certain difficult questions is necessary. They are not only those of lighting. But confining our attention, just now, to these latter, let us express the hope that the Committee will report with the full apprehension that their decision will have one of two characters: that either, it will be a decision to be not acted upon at all, and therefore will not justify the course taken by the First Commissioner, including their own appointment; or it will be such as may be acted upon, and committing us to the possession of a building, good, or bad and not what the merits of the designs and the architectural talent of the country would have permitted of.

* See p. 289, *ante*.

We have alluded to the effect of the "instructions;" but there is advantage to be derived from study of all the requirements of the proposed building, prior to any refusal of suggestions which the designs collectively would afford. The extent to which the question of lighting is mixed up with other questions, important in themselves, could hardly be supposed without detailed examination of all the drawings; and the actual system of the British Museum Natural History department, seems to have been scarcely examined. As to lighting, the number of stories altogether, and the number which are to be well lighted, are most important. Otherwise important is the position of the "attendants' rooms." In Bloomsbury, the basement has, we believe, quite a different character to that which would be supposed in judging from Mr. Hunt's design for a new museum. It may be regarded as the depository or storehouse of the most important part, or the bulk, of the collection. Here may be found specimens recently received, and which are not ready for exhibition. Here are laid together specimens of skins of the thousands of species of birds, most interesting to the naturalist, but out of the limits of appreciation of the public, and more conveniently and usefully preserved in the skin than if stuffed. Such specimens may be examined by men of science better even in the basement, whence they would otherwise have to be brought, than in a crowded room. The basement-story therefore should be as well lighted as are the sunk basements of ordinary houses, and perhaps rather better. Much work of various kinds is done in the basement of the British Museum; bulky objects have to be moved; a tramway is laid down; and probably there are "lifts" to the different floors. Scarcely any of the competitors seem to have apprehended these points. The rooms "for the attendants," as in the original programme, we must consider to have been misnamed. They should be "in contiguity" to the exhibited collections, as explained, and not be separated from them, as in several of the designs; and they should be distributed as much as possible, not concentrated. They are intended each as a convenient intermediate resting-place for the object or specimen, between the storehouse, or basement, and the glass case in the exhibition.

Further examination of the drawings has led us to perceive even greater importance in side-lighting than we ascribed to it. The covering a great area with an iron and glass roof carried by very slender supports, might seem to allow of the nearest approach to the advantages of side-lighting, combined with utilization of the entire area as exhibition-space. But independent of the question of safety from fire, and other reasons, it must not be forgotten that small galleries are much the best for study of objects exhibited, and that the Crystal Palace arrangement where the eye is distracted, and where sizes, even to men best acquainted with the objects, are reduced, is the worst that could be selected.*

Capital suggestions may sometimes be obtained from designs that are not altogether prepossessing. Thus in this competition, the design marked "Thorough" has a suggestion as to lighting, which ought at least to be taken into consideration. If reported upon, by those who have the care of the collections, as not entailing inconvenience in arrangement of the objects, it might turn out to be a proper starting-point of the entire planning. The feature which we allude to is shown in a section taken across the galleries and courts separating them. It will be immediately understood by the form of one of the windows of an artist's room, which is very common, as in houses about Newman-street. There a window may be seen carried above the ceiling-line, and even so much as to cut off a portion above the floor-line in the room over. But with some form of window-seat to the upper room, this may be no inconvenience. The artist gets not only a light falling downwards on his model, but light extending to a farther part of the room; and he gets more light, just as he would were the buildings on the opposite side of the street reduced the two or three feet in height. The author of the design "Thorough," has adopted the arrangement described, with little modification, for the lighting of his lower galleries (where there are two stories) from the courts. In the gallery of the first floor, the skirting and a small portion of the flooring would be cut off, and the splay would be hidden by a portion, supposed to be not serviceable as exhibition-space, of a wall-case or table-case. In the gallery below, there is a splay at right angles to the other, or a cove, which is glazed. There is still space for a low gallery in the court between the buildings; but of course that would require the basement to be given up. The perspective view in this design shows some good grouping of masses. A large dome, a modification of that of St. Paul's Cathedral, not well drawn, appears in the centre of the view. In some of the masses, there is a range of small arch-headed windows at the top; whilst the lower story, having few windows, and those of small size, does not suggest the good lighting essential to a museum; however, the plan shows that the galleries next the external walls are also lighted from the courts. In the recessed portions of the front, and to the north where the windows of the old refreshment-rooms seem to have been taken as the *motif*, there is sufficient glass-surface. In the plan, the arrangement of a corridor with the galleries opening from each side of it, or transeptwise, corresponds with what we have regarded as the best arrangement. The corridor is parallel with the eastern front, and the galleries are at right angles. It is obvious that the feature which led to our noticing the design, might allow of narrower courts, or of a somewhat reduced height in the lower story. Thus the arrangement would conduce to economy. The Patent Museum is near the centre of the ground, and runs north and south.

A design which also deserves attention for some of its features, is that marked "Utilitas." We may not think what is shown in the perspective view to be quite free from the "horse-and-carriage bazaar" appearance which the popular voice will have to be that of the 1862 building; and the arrangement of steps, and in two places, in a central-hall, reproduces one of the features of the interior of that building, with questionable advantage. There is just this alternative from having to go up steps and down to the other side, of each obstruction, in accomplishing the entire length, 400 feet, of the hall: there are sideways, through, or under the top-flights of the staircase. Cleverness indeed is shown in the planning the landings or prospect-places, each in combination with a staircase from ground-floor to gallery. The *baldacchino* on the landing does not exactly please us. But the author's general design, and explanation of his views, should assist the settlement of the question of the principle of planning and lighting for museums. We may mention that in his general plan, the author has sought to grasp not only the whole ground bound-

* In our last we referred to one of the designs as having columns to support, with a division-wall, the galleries. Columns are what they appear at three feet distance, in the dim light of the Royal Gallery: but we should have written *piers*. From these piers spring arches. The wall-cases within the arcades could scarcely be well lighted.

ing the Cromwell-road, but the entire areas which were occupied by the Annexes and ground somewhat further north than the Conservatory, or up to the Kensington-road. As the level at the junction of Exhibition-road and the Kensington-road and that of one of his floors would be the same, and the level of the road at Queen's Gate and that of another of his floors would be the same, he points out that access might be obtained to each of his floors without steps. The advantage, if there could be one having regard to distance, would be very slight. However, it was not the sole reason for his arranging his building in three stories in place of the two of nearly all other competitors. By the three-storied arrangement, or four-storied including the basement, he has contrived to cover very little ground with the buildings for the Natural History Museum and Patent Museum, and yet to provide the large hall. Thus, his design may afford hints. He covers little more than one-third the ground required by the other competitors; although his hall alone would be 400 feet by 80 feet. His basement also is lighted. The museum-rooms on the ground and first floor, are lighted at the sides; and each room is divided by piers and arches into a broad centre and narrow side spaces, on the plan of nave and aisles. The cases are placed transversely to the external walls, between the wall-piers and the internal piers. Thus to the visitor, the arrangement is that of recesses, which are all well-lighted, and in each of which the objects can be seen without inconvenience from the crowd: whilst the whole centre would be kept free. Several other competitors have seen the advantage of a similar arrangement of the cases. The galleries of the top story have a lantern-light, and a waggon-headed ceiling; the latter the same form as the roof-covering. The author says the form is chosen for external effect; but it is necessary to non-interference with the light for his galleries on the opposite side of the court. The springing of the curve however starts from but 5 feet from the floor-line. This would reduce his exhibition-space considerably. Not contemplating the use of the centre-space of each gallery, in the ground and first floors, he has been able to reduce the height of each story to about two-thirds that of other designs. The hall is roofed in semicircular form. The ribs spring from piers boldly projecting, and narrow on the face, where they are decorated by columns, in the upper level, bearing arches, and by sedent figures on the ground. The rooms for the staff are placed at the angles of the building where there are pavilions. Amongst the author's aims in the plan has been great regularity,—to be consistent with the re-arrangement occasionally necessary in museums. The Patent Museum is not kept distinct. The required space for the Natural History Museum is provided without use of the central hall; and the general plan comprises areas of the like character which might be at any time covered. Although the Exhibition Building may be said to have suggested the central hall, the author is anxious to direct attention to the fact that, whilst his building can be easily extended, and whilst the visitor will be everywhere in a spacious apartment, he will never be liable to be bewildered. The distinction between the Exhibition Museum and the Educational Museum,—the latter as suggested by Professor Owen, in connexion with the lecture theatre,—has been understood by this competitor and one or two others. In the exterior of the building, the chief effect is due to the square, and square domical capped, masses which there are at the angles and in the centre of the principal front, each having a sort of belvidere story, and groups of sculpture. In the lower part of the angle pavilions, however, an immense window in each face, lighting three stories, and more than one room in each, sadly wants filling-in work. The intermediate portions of the front have merely arch-headed windows, excepting that those of the chief front have buttresses to the narrow piers, with a sedent figure at the base of each.

It has been seen that in the first design we described (in our last article) the original Crystal Palace system of lighting, with some modifications, is adopted, excepting in the galleries next external walls. The space on the ground floor without floor over, was made wide, and the space under an upper floor was kept narrow. Walling, however, was substituted for iron columns, and with considerable skill. The basement was not lighted. In the other design, the ground-floor space under another floor was made broad, and the space without floor over was narrow (though wider than in Mr. Hunt's design), and open to the sky. Use, also, was made of the basement.

Whilst this last-named design adopted an arrangement of building with open courts that were less than thirty feet wide, the author of the design marked "Sublime Molar Atrium" adopts the converse system of large quadrangles, which might be covered with iron and glass, and are surrounded by buildings that seem narrow in proportion. Of course, exact comparison of designs giving the same wall and table space, would require that the superficial, or rather cubical, contents of each should be taken out, after the fact of the provision of the space demanded had been verified; but this labour we have deemed within the duty of the judges rather than ours. The general plan in the design now before us, has four angular masses or pavilions, one at each of the angles of the whole ground, and recessed centres to the south, east, and west fronts, each with a portico in the middle. The distance between wings of the Cromwell-road front, is, of course, such as to make that recess the widest; and the depth from the road to the portico is considerable. The portico here is joined to the front line of the wings or angle masses, by quadrant lines on plan. The reasons adduced for the recessed disposition of this part of the plan, are important. The author thinks, that a long line, such as that of the Cromwell-road frontage, and made to coincide with the southern boundary of the land, (as in the case of the building of 1862, he would have said,) would be monotonous, if without break, and that no pavilions or raised wings of reasonable height, would produce the desired play of outline; that, in the contracted space of a street, any central or large feature, viewed near, would overwhelm the other features; and that, consequently, open space, such as his plan provides, is a requisite, whilst it allows of the effect imparted to architecture by trees and shrubs which would be placed. The effect on this side is further studied in the design of his portico, which is hexastyle recessed between two wings that are terminated by turrets, and has a flight of steps the full width, reached from side flights. Over the portico are three semicircular windows, each window under a gable. A small elevation of the Cromwell-road front helps his explanation. The eastern end of the ground is to be covered first, following the programme; and here, behind the portico of the recessed centre, is the theatre for lectures. The perspective of the eastern portion of the building is taken from a supposed point on the opposite ground (the intervening houses being shown as though in course of removal); thus, as with other designs, though not so unfairly, the representation is not one of what could be seen. The author not inappropriately observes of the Horticultural Gardens gallery, proposed to be left, that it would have the appearance of a make-shift, unless modified. Such modification he would effect by removing the wall of division, and thus allowing the gardens to appear. The fact of the Commissioners being in possession of this portion of the Exhibition building should certainly not be allowed to trammel contrivance of the best plan for the whole site. The galleries surrounding the courts are of two stories. The flooring above the lower gallery is partly carried by trusses in ornamental metal-work, and by iron columns in line with the wall-cases; and the same arrangement of columns, with an ornamental iron roof-truss, is repeated in the upper gallery. The ground-story is lighted at the sides, and the upper-story at the top. In the principal fronts, a story is added where there are pavilions. A recess, corresponding with an intercolumn in the centre of this pavilion, and in the attic an arch springing from one part of the entablature to another, as well as statues over some of the columns, at once point to the authorship of the design. Where the attic to a pavilion is finished with a balustrade, the pedestals are surmounted by *chimeræ* or vases, or by obelisks with lions at the base. The pavilions are of stone; but the rest of the work is of stone and yellow brick. The lower story of the external fronts, excepting the pavilions, has arch-headed windows, with frames of novel design. In the lunette-light at the centre of the arch, the frame has a carved representation of a bird, different in each of the instances. The upper story shows no windows. Pilasters, each one of ordinary width being on the face of a pier or broader pilaster, carry a frieze without architrave and charged with tablets for inscription of names; whilst a block-cornice is surmounted by the *chéneau*, the highly ornamented member in place of a blocking course, which is almost peculiar to French architecture, and whereof we shall have to speak in our concluding article on the work of Mons. César Daly. The wall of the upper story, only relieved by the pilasters, and otherwise blank, is after a manner that is never quite satisfactory to us; besides, side-light is, we have considered, more valuable than top-light: but the design throughout is remarkable for careful study of its details.

It is a subject for remark, that this competition has called forth expression from many authors of designs, of an opinion that has been lately growing, of disadvantages of stone as a material, in the disintegrating or corroding, and the discolouring atmosphere of London. Brick and terra-cotta have been adopted by many of the competitors, and in particular by one of them, reported to be of South Kensington, whose design bears the Prince of Wales's feathers, and the motto "Ich Dien." But varying the ornament, as will be hereafter referred to, nearly all the designs could be executed in terra-cotta, as well as those claiming to be made specially for the material. The author of the design just mentioned, is one of those who treat the building as though within a park. He would, however, set back the eastern front, in great part, and eventually the western front, to a considerable distance. He would not adopt a similar course as to the south front, excepting in the centre to a slight degree. His general plan has for its main features, two parallel ranges of building, one fronting east and the other west, and each with projecting wings, and a centre grouped as a pavilion. The eastern and western buildings would be joined together by two smaller ranges, so as to enclose a court in the centre of the ground, to be roofed with glass. The eastern buildings are all that are to be described. They are devoted exclusively to the Natural History Museum: the Museum of Patents is placed to the north, coming forward to the line of the Exhibition-road and northward nearly to the entrance to the gardens, a residence for the director of police only intervening. In the Natural History Museum galleries, the author has done scarcely more than copy Mr. Hunt's plan. Thus there is but one entrance to an area of 215 feet by 183 feet; to which should be added the space, at least 60 feet by 40 feet, in the wing. The galleries of the first-floor, together with the roofs, are carried on iron columns, the roofing being in alternate wide and narrow spans, the latter being placed over the well-hole openings of the upper floor; and all having glazed openings in the slopes. The arrangement of the floors corresponds generally with that of the building of 1862, excepting that the ground-floor space beneath upper flooring or galleries is large, whilst area of well-hole opening is small, instead of as in the 1862 building, where those proportions were reversed. The well-holes in the design now before us, are several of them 1 foot less in width than they were in Mr. Hunt's design; but the height of the lower floor is 34 feet instead of 30 feet; and that of the upper floor is 29 feet 6 inches, instead of 25 feet, to the ceiling at the collar. The breadth of a gallery from well-hole to well-hole, may be considered as 45 feet. The attendants' rooms are badly placed. They are not, as they should be, distributed and placed one closely in connexion with each gallery or division of the entire museum,—just like the nurses' rooms in an hospital on the pavilion principle: but twelve of them are placed three together on each floor of the wings; whilst the remaining thirteen are in the building which was devoted to the refreshment-rooms of the Exhibition, before mentioned as to be preserved. In the building exclusive of the advancing wings, a third story is added along the eastern façade: the back of the range, where the museum has to be lighted, and the wings, are of two stories only. The third story is a low one, excepting in the pavilion, where the centre breaks forward with coupled columns, and where there is a pediment and flat-topped roof, rising high above the roofing of the ends of the same pavilion, as these latter themselves rise above the attic story. In style and manner the architecture is Palladian. A French character indeed appears in the centre; and, the ground-story of rusticated piers and large arch-headed windows, is rather Florentine. The upper story has large arch-headed windows and narrow piers with pilasters; and throughout the front, the idea is given of an area of window surface that would afford ample light. A wide

porch, with coupled columns and rusticated shafts, projects from the main entrance. Oval windows to light the basement appear in the front. Circles in the spandrel-spaces are filled with sculpture representing animals; and the tympanum of the pediment represents a crowd of animals and Noah's ark. The pilasters are shown as of red granite. In speaking of the materials generally, however, the author refers to the use of terra-cotta and moulded brickwork almost entirely throughout the exterior; and he remarks that moulded terra-cotta can be adopted with economy, only where great repetition is required. In one drawing, he shows an alternative treatment of the design, omitting the red granite pilasters, and depending entirely upon red and yellow terra-cotta. The upper windows are divided into three lights by ornamental shafts of terra-cotta, which carry sub-arches and circles in the head. In the lower windows a similar system prevails; but they are of two lights. Projecting piers between the windows are ornamented with foliated work in panels; and similar ornament is introduced in the frieze. The resources of terra-cotta are certainly considerable; and the skill of manufacturers in casting has greatly increased of late. But every material requires that its special properties should be studied; and attempts to get the same effect as is dependent upon the nicely set stones, and straight lines and worked arrises, of cornices and mullions, may result in demonstration of inferiority and of the fact of imitation, such as will at any time stamp a would-be work of art with ill-success. There is certainly in the terra-cotta design now before us, much that might remove it from the application of such remarks.

The drawings marked "Not known and yet well known," generally attributed to a certain architect (who however denies the authorship), include two distinctive arrangements of plan, and principles of disposition and construction, which we have before referred to as competitive. In both cases, the whole site is embraced. In "Design A," the author adopts two-stories, and the principle of lighting the lower story from large open courts. In place of making these long and narrow, say 150 feet by about 20 feet as in Mr. Hunt's design and so many of the other designs, he makes them generally 80 feet by 43 feet; whilst two of them, he makes 105 feet by 85 feet. In "Design B," he has the principal rooms and galleries on one floor, excepting as to the Patent Museum, where there would be two floors as required by the "instructions." Admitting that side-lights are preferable for some purposes, he yet puts prominently forward advantages of light, ventilation, and wall-space, which all he considers there are in the skylight system. The general arrangement of both plans is characterized by symmetry, and by the provision of central halls at all intersections. One such hall forms the centre of the eastern portion of the building, a staircase leading from it to the right, and another to the left. On the Cromwell-road side, the centre is set back to get a large quadrangle, the front of which is enclosed by an arcaded screen with a covered way. After crossing the quadrangle a portico is reached; and the entrance leads to an octagonal hall 70 feet across. This feature of the plan is proposed to be considered as the Albert Memorial Hall. It is surmounted by a dome resembling in some of the more prominent features, the dome of St. Paul's. Right and left of the octagonal hall, are halls, each 220 feet by 80 feet, and 60 feet in height, lighted from above, for sculpture and occasional exhibitions. Parallel with these latter halls, are passages, and extensive ranges of offices. The author would use the building of the Exhibition refreshment-rooms, only temporarily for some purpose: he considers, not unreasonably, that the ultimate removal might be economical. The external character of the architecture, without any recognizable invention, is not so meritorious as the planning. Each front may be described simply as having an order enclosing two stories, and with the columns, which are everywhere, only varied by making them sometimes salient and sometimes as three-quarter columns. The pediments to the three centrally placed porticoes, are even ill-proportioned; but the large dome, and two smaller domes, give effect to a design that would probably have been better, but for the lack of time for its production, which the author speaks of.

The design with the motto "Fortiter et Fideliter" has the mark of a well-known hand, just as much as if the author had signed it. A small perspective view of the building as covering the entire site, displays a multitude of domes. There is a large one in a central position: two next in size are in positions very similar to those of the building of 1862; and the smallest domes terminate the four angles of pavilion-blocks, or break the length of the Cromwell-road front. There would be twenty-one domes in all. The centre of this front is slightly recessed, and is joined to the pavilions of the ends by quadrants. The domes, which are octagonal on plan, are intended to be of iron and glass, but with effective ornamentation in bands and filling-in, and the glass being coloured. Having the pointed form, and no heavy lantern, they give a Saracenic character in part to the design. The treatment of the windows, which are arch-headed and grouped in various ways, and of an arcaded porch, however, is nearer to the character of rich Italian Romanesque. Great skill is shown in the design of the octagonal base to the dome, and the junction decoratively of this base with the square form of plan below. Much taste also is shown in the introduction of *antefixæ* of novel form, in ornament generally, and in the introduction of sculpture. Of the plan we cannot speak so well. The relative sizes and requirements,—in fact, what constitute planning,—seem to have been scarcely studied at all. Mr. Hunt's arrangement of the galleries, and one of roofing in alternate large and small spans, are adopted, with iron columns; and the well-holes are 20 feet in width. The rooms for attendants are detached from the museum. A contrivance is suggested for the rain-water pipes in preference to that where the columns are made to serve. The pipe is placed in a central position to a group of four columns. This method is thought most convenient for the removal of obstructions and the prevention of leakage.

We have gone into the notice of some of the designs at great length; and we shall have little room for description of the remaining number. Our readers, however, will have the opportunity of seeing the drawings themselves, on this Saturday, and during at least a month commencing from Monday next, when the exhibition will be opened to the public. Mr. Cowper is anxious that Mr. Maclise's work in the Royal Gallery should be retarded as little as possible, but seems also desirous that the works of the competitors should be examined by as many persons as may wish to see them.

THE ART-UNION OF LONDON.

The continuing and extraordinary success of the Art-Union of London, while other associations professing to have the same objects in view rise and pass away, shows the soundness of the principles on which it was established. Ramifying as it does all over the world, and binding together a multitude of persons of kindred taste, the Art-Union may be regarded as a bond of peace: love of art is a good basis of human brotherhood.

The Adelphi Theatre was well filled on Tuesday last, on the occasion of the annual meeting of the Association.

The president, Lord Monteagle, having taken the chair,

Mr. Godwin, F.R.S., Hon. Sec., read the following Report:—

In commencing their present report, your Council think it may not be useless to refer to the grounds on which the Art-Union of London originally rested its claims as well on the assistance of artists as of the public. First, it was said, there is a large class of persons much impressed with the value of the Fine Arts and anxious to encourage them, who, on account of comparatively limited resources, are unable to purchase what they would wish to possess. To this class the Art-Union offers the means of at once encouraging deserving artists, and of getting around them, sooner or later, works of art. There is another class who, in many cases with ample means, have hitherto failed to evince any interest in the progress of the arts, mainly from the want of having their attention properly directed to the subject. To these the Art-Union makes a systematic and continuous appeal, and opens the way to a new enjoyment. Thirdly, it was shown that, as a result, works of merit are frequently returned unsold from the public exhibitions, to the discouragement of their producers, who, with aid, might have done good service and reflected honour on the country.

The operations of the Association during the years that have elapsed since these arguments were put forth have happily tended to lessen somewhat the strength of the latter two grounds; but all still remain sufficiently strong to maintain its claims for earnest and wide support.

Its original promoters felt that, in proportion as the public taste was cultivated, so necessarily would a knowledge of the real qualities of art increase,—so would artistic labours be more and more appreciated,—so would the producers of such works be sympathised with and fostered. The result has unquestionably justified their expectations. Contrast the little feeling in respect of such matters that was to be found amongst many classes of persons when this Association was first formed with the amount of interest that is now manifested; compare the sums then expended in the purchase of modern works with the amount of money now annually devoted to that object, and the justification will be evident.

From the early period in the history of the Art-Union which has been referred to, the Association has been uniformly prosperous; increasing at first, year by year, in a manner to be marvelled at, and then settling down to an annual income ranging from 10,000*l.* to 14,000*l.* a year, according to the circumstances of the time, the popularity of the print or other work offered to each subscriber, and perhaps the prosperity of the country and the colonies. The subscriptions for the present year amount to the sum of 12,469*l.* 16*s.* If the number of subscribers were regulated wholly by the value of the work of art presented to each in addition to the chance of a prize at the annual distribution, the amount on the present occasion might well have been expected to be even larger, the opinion of competent critics having been expressed unanimously in praise of Mr. Noel Paton's illustrations of "The Ancient Mariner," given with the text, and bound as a book. The *Art Journal*, for example, pronounces it "the greatest work offered to the subscribers of the Art-Union of London since the establishment of the society;" and similar opinions have been given on all sides.

For the ensuing year, every subscriber will be entitled to receive a fine line engraving by Lumb Stocks, A.E.R.A., after W. P. Frith, R.A. Macaulay relates, as illustrating the state of society at a particular period, how Claude Duval became captain of a formidable gang; how, at the head of his troop, he stopped a lady's coach in which there was a booty of four hundred pounds; how he took only one hundred and suffered the fair owner to ransom the rest by dancing a coranto with him on the heath. It is this incident that the artist has depicted. The attendants are secured, the contents of the carriage have been turned out by the gang, while the lady, with forced gaiety and mortal fear, admirably shown, is dancing with the highwayman,—none the less a scoundrel because well dressed and protected to a certain extent by the licence of the times. Mr. Stocks has translated the picture into black and white very successfully.

Some other engravings of great importance are in hand for future circulation.

It seems tolerably clear, notwithstanding the objection of a few, that with the general public a fine engraving continues to be a greater inducement to subscribe than other artistical productions of the same cost. A taste for engravings pervades every grade of society, differing, of course, very greatly in different persons and at different ages; and the cultivation of this taste promotes refinement. With some, and these are at the lowest, the enjoyment is confined to the pleasure with which prints are regarded by the organs of vision. For their complete enjoyment, however, the knowledge, the imagination, and the judgment of the examiner must be brought into play, and, to the extent to which these qualities are cultivated, the taste is improved. It has been well urged, that if we would better our taste for engravings, as well as for every other branch of art, we must mature our judgment, increase our knowledge and familiarity with works of real excellence, and devote ourselves assiduously to that special department in which we aspire to superiority. A true taste may be said to consist in a perception of what is agreeable to the eye, joined to what gives pleasure to the imagination, and is justified by the judgment; and this must include a susceptibility to nobleness, and a heart to love all truth, harmoniousness, and beauty; that beauty which is the special care of art:—

> "Art seeks to penetrate the inner veil,
> Where Beauty sits conceal'd, but oftener fails
> Thau finds the hidden labyrinth to her feet.
> Every creation of victorious Art
> But vibrates to that centre."—*C. Swain.*

It was a charming notion entertained by the heathen, that love of beauty gave wings to the soul; as thus it could mount into purer regions for enjoyment.

The list of prizes for the present distribution includes *fac-similes* of a drawing, "Young England," by Mr. A. D. Fripp, executed in chromo-lithography by Mr. Vincent Brooks; and of a drawing entitled, "Wild Roses," by Mr. Birket Foster, chromo-lithographed by Messrs. Hanhart; both very successfully produced: also proof impressions of a beautiful series of etchings, by the late Mr. R. Brandard.

In the production of the chromo-lithograph "Young England," twenty-five stones were used; and, for "Wild Roses," twenty-six. The process is one requiring great nicety, taste, and skill; as may be supposed when it is remembered that saying "twenty-five stones were used," means that every example passes through the press twenty-five times, each colour being applied by a separate printing.

The list of prizes will also include a certain number of examples of the Bust, in porcelain, of H.R.H. the Princess of Wales, prepared for the Association last year. Possessors of this bust will be pleased to hear that the Council have received an intimation by command of the Prince of Wales, that his Royal Highness "admires it exceedingly." The Council have arranged to produce in the same material a bust of the Prince of Wales, from a model by Mr. Morton Edwards. It is to be hoped that when this, the companion bust, is completed, it may elicit a similar satisfactory testimonial from the Princess.

With reference to another work prepared for the Association, the Memorial Tazza of H.R.H. the late Prince Consort, it was a great satisfaction to the Council, after forwarding the tazza to Buckingham Palace, to receive a letter by command of the Queen, assuring them "that her Majesty will value very highly this very creditable example of printing on Ceramic ware." Shortly afterwards the Queen desired to have three of the Tazzas made for her. On these being sent to the Palace, with a request that her Majesty would be pleased to accept them, Sir Charles Phipps, in the course of his reply, said,—

"I have received the commands of the Queen to inform you, that although there exists a general rule against the acceptance of presents, her Majesty willingly makes an exception in favour of the Art-Union of London, and that her Majesty deeply feels and appreciates the motives which have led to the production of this Memorial Tazza."

The lamented death of J. B. Bunning, esq., and of William Herbert, esq., and the retirement of J. E. Soden, esq., left three vacancies in the Council. These have been filled by the election of T. G. Sambrooke, esq., R. Broadwater, esq., and J. Leaf, esq.

Mr. Bunning, whose decease is mentioned, was the City Architect, and in that capacity made many successful endeavours to aid art and artists; notably by the part he took in inducing the corporation to appropriate a large sum of money for the production of statues in marble for the adornment of the great hall of the Mansion House. Mr. Herbert, himself a collector of works of fine art, was for many years a most active and useful member of the

Council: his friendship is held in affectionate memory by those who were his colleagues.

To their honorary assistants all over the world, the Council offer their warmest thanks; as they do also to the Society of British Artists, for the use of the Galleries in Suffolk-street, for the exhibition of the works of art selected by the prizeholders of 1863. The Council would here, too, express their appreciation of the efficient services of Mr. T. S. Watson, B.A., assistant secretary, who has now discharged the duties of that office for twenty years.

In their last report your Council stated that they had offered a premium for a life-size figure or group in marble to be competed for by finished models in plaster. The particulars of the competition and some account of the Association were translated into French and Italian, and published in several foreign journals. In reply to the offer, fifteen models were sent by the time specified, and three arrived from abroad too late to be admitted to competition.

By the courtesy of the Committee of Privy Council charged with the superintendence of the Department of Art, the models were exhibited in the North Court of the South Kensington Museum, and were visited by very large numbers of persons.

The Council, after due deliberation, selected three of the models as best meeting their requirements, viz., "A Wood Nymph," "The Lady of the Lake," and "Imogen entering the Cave," and ultimately awarded the premium to the "Wood Nymph," the sculptor of which was found to be Mr. C. B. Birch, of Keppel-street, Russell-square, who is now proceeding with the group in marble. The premium will be hereafter charged to the funds of the year in which the statue may be allotted, or otherwise made available. To the other competitors the Council return their thanks.

The account of receipts and expenditure may be stated in outline thus; a detailed statement will as usual, be printed with this report:—

Total amount of subscriptions received		£12,469 16 0
Cost of printing report, almanacs, &c.; clerks, rent, exhibition and other expenses, including agents' commission and reserve	£2,794 18 10	
Total cost of volumes of illustrations of the "Ancient Mariner"	3,453 17 2	
Amount allotted for prizes	6,221 0 0	
		£12,469 16 0

The reserve fund now amounts in the whole to the sum of 11,549*l.* 10s., and by its progressive accumulation it will place the Art-Union upon a most solid and permanent foundation. The Council have had under consideration a proposal for erecting, on freehold ground, a building of its own, uniting offices, warehouse room for its valuable stock, capacious galleries, and a good-sized meeting-hall for the occasional assembling of the members. This is an object to be kept in view whenever a favourable site may present itself.

The accounts have been audited by two members of the general body of subscribers, G. H. Griffin, esq., and H. Mellnish, esq., and three members of the Finance Committee.

The amount set apart for the purchase of works of art from the public galleries by the prizeholders themselves is divided in this manner:—

32	works at	£10 each.
32	"	15 "
20	"	20 "
20	"	25 "
12	"	35 "
12	"	40 "
10	"	50 "
6	"	75 "
3	"	100 "
2	"	150 "
1	"	200 "
150		

To these are added:—

4 Statuettes in Bronze, "Caractacus," from the statue by J. H. Foley, R.A.
150 Statuettes in Porcelain, "Go to Sleep," from the original by Joseph Durham.
150 Busts in Porcelain of H.R.H. the Princess of Wales, from the original by Mrs. Thorneycroft.
150 Pairs of Bas-reliefs in fictile ivory, of subjects from Milton, by E. Wyon and R. Jefferson.
200 Chromo-lithographs, "Young England."
200 Chromo-lithographs, "Wild Roses."
170 Volumes of Etchings, by R. Brandard.
30 Silver Medals, commemorative of Bacon, the sculptor.

making in all 1,204 prizes, in addition to the volume of illustrations received by every member, and the Parian busts due to those who have subscribed for ten years consecutively without gaining a prize.

In accordance with the wishes of a large number of members, the smaller prizes will be allotted by numbers drawn from the vessel, in the same manner as the picture-prizes; but, as the drawing of these prizes would occupy more time than the proper business of this theatre would allow, the drawing will take place at the office to-morrow morning, at ten o'clock, when any members desirous of being present are invited to attend.

It is satisfactory to the Council to find subjects early mooted in their annual reports now engaging more general attention. As early as 1841, it was urged in one of our reports with reference to the influence of this Institution, that the arts of design being generally promoted, and the public taste enlarged and improved, the manufacturers of the country connected with design would receive a similar impression. "Thus," the report went on to say, "considerable assistance may be rendered to that movement now going on in the various tasteful productions of the hand and the loom, and the Art-Union may be directly instrumental in creating new objects of industry and of enjoyment, and therefore in adding at the same time to the wealth of the country." It was fairly argued that, as the collection and exhibition of works of art had not merely tended to the moral elevation of the people, but had given a stimulus and direction to their industry, so a direct encouragement of the higher branches of art would have a similar effect in a still greater degree. In another early report, it was said,—"To lead the arts to the aid of our manufactures has been one of the objects kept steadily in view by the Council of the Art-Union of London from the date of its establishment. Apart from the increased commercial value thereby given, it is much to be desired in an educational point of view, that all articles of furniture and in daily use should have the forms of beauty which art can give. As these become familiar to the eyes of all, that which is inelegant and unsymmetrical becomes unpleasing, and the general standard of taste is necessarily raised." The things which are around us influence the mind. Homes are the manufactories of men, so to speak: the well-ordering of them is a matter of no trifling moment.

Since, then, this doctrine has obtained more general acceptance, it is seen that the want of artistic taste amongst the people has been a loss to the country, and England is already reaping benefit from increased means of art-education even in a pecuniary point of view. Our exports, which have enormously increased, show it; for the greatest increase is found in articles involving taste in the production of them,—such as plate, silk manufactures, pottery, and paper-hangings.

This advance in industrial art has even startled our tasteful neighbours, the French; has led to various official reports, and to steps for the improvement of their schools of art. A recent writer, there, appeals to the great masters of the art not to disdain industry, but to give it their support; not, as it were, to imagine that nothing is pure in art but upon the condition of being materially useless. He reminds them that Raffaelle drew arabesques on the walls of palaces, and designs for tapestry; that Titian, Tintoretto, and Paul Veronese did the same, and knew that in giving a high artistic character to various industries, they augmented the influence, the riches, and the glories of their beloved country.

Drawing is beginning to take its proper place in English educational courses. Even partial instruction in it gives power of accurate observation and improves the mind. The number of persons learning drawing in 1863, in connexion with the Department of Art, were 16,480 in art schools with 79,305 children in poor schools, being an increase of more than five per cent. on the returns of the previous year. Upwards of 18,400*l.* was paid by them in fees, seeming to show that the instruction is appreciated.

The Schools of Design, if they have not yet produced any large number of creative designers, are thus giving some knowledge of art to thousands, improving their taste, and so forcing on manufacturers who have to supply them to better things; and providing, as the Art-Union has aided in doing, a cultivated and therefore appreciative public for true artists. Some part of the charm of every work of art the gazer must find within himself. The highest qualities of a picture can scarcely be obvious to an uncultivated spectator.

The demand in England at this time for pictures is very great, and the prices paid for the works of our best painters are larger than has ever been the case before. Money judiciously spent in this way is well invested. The first purchaser of the "Strawberry Girl" gave Reynolds fifty guineas for it; the last, the Marquis of Hertford, was delighted in obtaining it for 2,100 guineas.

Artists should be paid for *thinking*. Pictures that can be understood at a glance do little service to art. If writing for a cursory perusal by those who run has been the bane of literature in our time; so painting without thought, the products therefore requiring no thought, is ruinous to art.

From the first incorporation of the Art-Union of London the annual report has called for the union of painting with architecture,—the adornment of large spaces in public situations by the best painters; and has urged upon corporations and other powerful bodies the appropriation of some of the funds at their disposal for such purposes. What was done in this direction by the municipal councils of the Italian republics and by guilds in early times may be pointed to for imitation. Many will remember, for example, the remarkable Scuola di San Rocco, in Venice, built in the sixteenth century by a fraternity of merchants—a fraternity still in existence—who employed Tintoretto, as well as Titian and others, in a less degree, to cover the ceilings and walls of the hall with grand pictures. For 300 years these works have attracted and charmed the lovers of art of all countries, and will long continue to do so.

A great advantage claimed for mural painting, and which can scarcely be denied it, is that, besides spreading the salutary influence of art amongst the most numerous classes, it withdraws the artist himself from influences entirely individual and evanescent.

Some noble wall-pictures are now on the eve of completion in the Palace of Westminster; not to mention others which, though less important, give reason to hope that the practice of so employing painting, of so setting up pictures where they can be seen by all,—pictures in which may be found,—

"The spiritual presences of absent things,"

is increasing and will be persevered in.

The study of fine works of art tends to the elevation of character. Art lifts the mind a little out of the real up to the ideal; and may indicate the something more that the striving soul longs for. As Mrs. Browning sings, the artist has,—

"To keep up open roads,
Betwixt the seen and unseen, bursting through
The best of your conventions."

If, then, as some of our wisest thinkers have said, the elevation of the mind ought to be the principal end of all our studies, which indeed are of little service if they do not in some measure effect that, art must always be a powerful agent in education.

Art, let it be remembered, is something more than the simple imitation of physical nature,—it is inspired by thought, includes thought. A picture is a translation of nature by the *mind* of the producer; and much the world owes to the artist who translates it well. It goes to establish the supremacy of mind over matter. It is a triumph of mind. And what triumphs can be nobler than those of the mind,—triumphs that injure none, but, while adding to the fame and fortune of the artist, tend to the glory and advantage of the country?

GEORGE GODWIN,
LEWIS POCOCK,
Honorary Secretaries.

Lord Monteagle, in moving the adoption of the Report, described it as being at once encouraging and instructive. He thought their annual Reports formed the most interesting part of the modern history of art in England. In the course of its twenty-eight years of existence the Art-Union had met with many difficulties; and it had been, though sympathised with by all classes, entirely unassisted by public support, either from Parliament or the Government for the time being. It was to themselves that the Society owed its present position. The Society had not only extended its influence and its usefulness among the people to a greater extent than almost any other popular establishment, but it had produced a most intimate and binding connexion between the artists and their countrymen in all parts of the empire. He was glad to see as a happy and encouraging example of the services of their artistic diplomacy that we were at length likely to have a suitable building for the reception and exhibition of our noble works of art. He saw it mentioned in the daily papers, and he presumed they had some authority for their statements, that at a not very remote period a new National Gallery was to be built. The chairman then referred to the recent date of the foundation of the National Gallery. Since that time our country, as the country of peace and freedom, had become the asylum of all the wandering pictures of Europe. It was a noticeable fact that, in this commercial country, Manchester, Liverpool, and Leeds, the greatest centres of our commerce, had also given our artists many of their largest and most persevering purchasers. Wealth could have no more justifiable object than the encouragement of art; and he was happy to see that men who had well earned their riches in commerce had the good taste and feeling to promote the fine arts.

Mr. Jas. Fahey, as representing artists, seconded the motion, and wished particularly to dwell on the sentiment of the report: the figures would speak for themselves. The motion having been carried unanimously,

Professor Donaldson proposed a vote of thanks to the honorary secretaries, and stated that the society owed a great deal of its present success to the unpaid exertions during many years of these gentlemen, to each of whom they desired to present a testimonial, in the shape of an artistic table-ornament in silver, of the value of 250*l.* Towards this sum 350*l.* had been already collected, the matter being quite independent of the ordinary funds of the society.

Mr. Joshua Butterworth, F.S.A., seconded the resolution, which was carried unanimously.

Mr. Godwin, in responding for Mr. Lewis Pocock and himself, said, though grateful, they would both have preferred that the subscribers should not have been troubled as to a testimonial. Both Mr. Pocock and himself had given their exertions in the cause because they believed the Art-Union would effect good, and the result had justified their expectations. In concluding, he proposed a warm vote of thanks to Mr. Benjamin Webster for allowing the society the use of his theatre; and to Mr. R. Phillips for superintending the arrangements.

Mr. Bennoch, F.S.A., seconded the motion, which was carried unanimously; and Mr. Phillips returned thanks.

Miss Helena Manuel and Miss Blanche Medhurst having consented to draw the prizes, and Mr. C. J. Atkinson and Mr. W. Fearis to act as scrutineers, the distribution was proceeded with. Lord Monteagle being forced to leave,

Mr. S. C. Hall, F.S.A., was called to the chair in his stead.

The following is a correct

LIST OF THE PRINCIPAL PRIZEHOLDERS:—

200*l.*—Brewer, Capt. Robe, S. A.

150*l.*—Ryder, T., Kent Dispensary; Shepherd, J. W., Grimsby.

100*l.*—Dunlop, Miss, 63, Torrington-square; Watkins, T., Deptford; Gamgee, J., Edinburgh.

75*l.*—Badger, H. P., Rotherham; Drillio, Mrs. G., Hamilton, N.S.; Haine, G. J., Farringdon; Hall, R., King's-road, Brighton; White, Mrs., 50, Borough-road; Woolcot, W., Suez.

50*l.*—Foster, R. C., Halifax; Gould, Miss, Maida-hill, W.; Hutton, H., Adelside, C.G.H.; James, A., G.W.R.; Jones, W. B., Tollington Park; Lewis, H., Rotherhithe; Powerscourt, Lord, Grosvenor-square; Shaw, F., Dundee; Sparin, W., Fenchurch-street; Tuke, Dr., 37, Albemarle-street.

40*l.*—Carruthers, J., Lockerbie; Costerton, C. F., Eye; Dobson, H. A., 8, Onslow-terrace; Hannam, W., Bury, Manchester; Heggie, W., Kirkcaldy; Holas, V., Constantinople; Littlehales, E. H., Winchester; Mann, J. H., 3, Albert-road, Regent's Park; Sewell, G., Clapham Rise; Taylor, F., Staines; Thurburn, Charles, Brighton; Woolfe, T., Shadwell.

30*l.*—Bain, W., 1, King William-place; Feeney, J., Edgbaston; Gillman, A. W., Southfields; Greenway, J., Plymouth; Howard, S., Brewery, Lewisham; Jameson, Mrs., Thornhill-square; Lovell, R., 11, Holloway-terrace; Middleton, W. W., Hitcham; Oliver, T., Holloway; Ramsbottom, J., Orme; Ross, Mrs., Edinburgh; Solly, S., 6, Saville-row.

25*l.*—Broadhurst, S., Longton; Buttemer, Rev. R. D., Millbrook; Cunliffe, Rev. G., Wrexham; Davis, F., Pershore; D'Oyley, R., Christchurch, N.Z.; Fletcher, Mrs. R. M., Launceston, S. A.; Gardner, Mrs., Eaton-square; Hamilton, W., 26, Old Jewry; Hall, J., Birmingham; Hawke, C., St. Columb; Hopcraft, G., Bilister-square; Mackrell, S. M., Wandsworth; Mosley, Miss Fanny, Woolton; Nicholson, J., 14, Cambridge-terrace; Pilcher, D. H., 34, Russell-square; Powerscourt, Lord, Grosvenor-

square; Rudge, B., Bedford; Squire, L., Falmouth; Stanton, G., Shrewsbury; Wells, Geo., Retreat, Clifton.

20*l.*—Ackroyd, Mrs., Nantwich; Ashford, J. H., Tiverton; Bartlett, W. E., 6, Bath-place; Dean, R. S., 5, Cleveland-gardens; Dunbar, A., Sunbury; Elliott, E., Wimborne; Emberlin, Mrs., Marlborough; Freeman, N. W., Northampton; Hawkes, G. W., Norwood, S. A.; Hewardine, G. F., Hull; Jeffries, E., Kandy, Ceylon; Jupp, R., 98, New Bond-street; Lewis, D. H., Cornhill; Mumford, A., Walthamstow; Parker, T. J., Melbourne; Stuart, W. J., 45, Pall Mall; Walls, John, Edinburgh; Wemyss, C., Cawthorn; Whitehall, Col. J., per Smith & Co.; Young, S., Limehouse.

15*l.*—Aitkin, R., Linlithgow; Ardaseer, J., Kurrachee, E.I.; Bailey, R., Nelson, N.Z.; Bowker, J., Gray's-inn-square; Beale, C., Birreguna, Ceylon; Blyth, N., Adelaide, S.A.; Clark, W., 76, Borough; Clayton, F., Upper Vernon-street; Conybeare, W., 15, Warren-street; Copeland, H., Chelmsford; Dixon, J. J., Great Baddow; Duffield, J., Manchester; Fairbairn, T., Hamilton; Fisher, T., Greenwich; Ford, T., Leith; Foster, W. S., Lincoln's-inn-fields; Grove, J., Halesowen; Guy, J., Grimsby; Hale, B., Hartfield; King, E., Lynn; Laurie, R., Dunfermline; Lewis, W., Bath; Murton, J., Croydon; Neate, R., Duke-street, Adelphi; Norris, T., Liverpool; Pearson, Miss A. S., Malvern; Purnell, J. J., Streatham-hill; Robinson, Capt., Ryde; Schloesser, Mrs., Bryanstone-square; Thomson, J. C., Quebec; Wright, H., 7, Great George-street, S.W.; Zipcy, M., Smyrna.

10*l.*—Booth, W. S., Coventry; Boyden, T. H. Stoke Newington-green; Boycott, Mrs., Bridgnorth; Croome, J. D., Fishsweet-place, Belfast; Deering, S., Adelaide, S.A.; Finlay, G. L., Edinburgh; Foster, W., Broomsgrove; Frith, F. H., 122, Leadenhall-street; Gibbin, V. W., Geelong; Glover, A., Longton; Jeeves, A., Preston; Kidd, A. G., Dundee; Le Feuvre, J. E., Southampton; Longson, John, Stockport; McCrystal, P., Cape of Good Hope; Purrott, J., Examiner's Office, Customs; Richardson, A., 39, Sutherland-street; Scovell, H., Portswood, Southton; Smeaton, J. Perth; Stuart, R., Liverpool; Stewart, W., Paisley; Thacker, R., 38, Southampton-street; Tovey, W., Nelson, N.Z.; Turner, W. Sheffield, Valentin, Jas., Cow-cross; Wade, H., Derby; Watkins, R., Pimlico; Whiffen, H., St. John's Wood; Wilson, W. H., 25, Coldbath-square; Whittey, G., King Edward-street; Wordsworth, W., Leeds; Young, R., 3, Furnival's-inn.

Entitled each to a Bronze Statuette of "Caractacus."—Austin, R., Halifax, England; Black, Capt., per Smith & Elder; Fenn, T. H., Nayland; Spilsbury, B., 1, Huggin-lane.

Entitled each to a Porcelain Statuette, "Go to Sleep."—Anderson, F. B. Hessle, Hull; Aste, H., Hampstead; Atkins, C., St. John's Wood; Attwood, J. A., Bermuda; Banks, J. R., Leeds; Baron, G. E., Strood-hill; Barr, Maj.-Gen., Saffron Walden; Bartlett, J., Euston-road; Bevilaqua, L., Lindoch, S.A.; Biggs, B., Laurence Pountney-hill; Bignell, Mrs. W., Hobart Town; Black, J., Higher Broughton; Borthwick, J. A., Gresham-street; Bowen, D., Alfreton; Breeze, —, Jamaica Coffee-house; Brunton, W. W., West Hartlepool; Butter, D., Upper Norwood; Cawse, G., Peckham-rye; Chissholme, J., Berners-street; Clarke, G., Northampton; Clarke, J. H. Adelaide; Costerd, E. C., Turnham-green; Davis, M., Piccadilly; De Winton, Lieut.-col., Oriental Club; Dickon, W. J., Tehran, Tripoli; Dimsdale, Miss J., Islington; Dingley, R., Launceston, Cornwall; Dobson, J., Birkenhead; Dodds, Miss, Gosburton; Dumain, G., Kentish Town; Edmonds, F., Aberdeen; Elliot, G., Ashford; Emmerson, —, Brixton; Filmer, J. F., Berners-street; Fisher, J., Sowerby; Fisher, W., Barking; Folliott, Rev. J., Canonbury; Forbes, K., Cruden; Forrest, D., Brompton; Foulsham, C., N. Brixton; Froom, C. P., Lincoln's-inn-fields; Frost, W. E., A.R.A.; Gape, W., Melbourne; Gardener, J., Folkestone; Gatenby, Miss L., Bicton; Giblin, J. T., Geelong; Gordon, Miss, Edinburgh; Gore, Lady Grace, Brighton; Greenwood, J. B., Bingley; Guy, H. J., Portsmouth; Hankinson, G., Manchester; Harding, E., Reform Club; Harrold Bros., Great St. Helen's; Harris, J., Dulwich-common; Hartnell, P., Dalston; Harvey, J., jun., Bishops Stortford; Hawkins, W. L., Christchurch; Hill, Mrs. S., Gopsall-street; Hinds, Miss, Demerara; Hitchcock, G. B., San Francisco; Hoad, L., Rye; Hodgson, J., Clapham-common; Hoffman, A., Copenhagen; Holden, J. P., Manchester; Horsfall, W. C., Leeds; Jackson, Miss, Carshalton; Kane, C., Gawler-town; Keppel, Admi. Sir H., Bishopstoke; Lancaster, T., Clifton; Leveson, E. J., Singapore; Liddington, A. J., Sydney; Livesay, A. F., Portsmouth; Llewellyn, J., Stone; M'Crae, C., Oxford; Mannings, G., Kensington Palace; Mercer, J., Clitheroe; Moffat, H., Edinburgh; Moon, T., Thornley; Morrish, F. A., Plymouth; Mulligan, M. B., Belfast; Muzio, J., sen., Highbury; Nathan, A., Hartlepool; Newton, F., Westbourne-terrace; Nichols, J., Coburg-road; Nichols, S. A., Darwen; Northumberland, the Duke of; Nutman, Jno., North Holt; Oakley, J. J., 183, Piccadilly; Parkinson, Rev. Dr., Grimsby; Pease, J. B., Middlesborough; Perry, Miss, Islington; Perrin, Mrs., Buckingham-street; Peters, Rev. H., Sunderland; Preston, J., Liverpool; Prince, J. F., Manchester; Purchase, E., Merthyr Tydfil; Rayley, Mrs., Southwold; Rich, Mrs., 22, Bayswater-terrace; Ricketts, J., Sheffield; Rhodes, J., Ripley; Robb, W., Stepney; Rook, E., Sittingbourne; Rose, Jas. A., Salisbury-street; Rush, W., Craig's-court; Russell, D., Dunfermline; Russell, J., Bannstead, Sandford, W. A., Wellington; Savage, G., Northampton; Savile, C., St. George's-road; Senior, B., Batley; Sharp, W., Birmingham; Sharp, W., Handsworth; Sharples, J., Blackburn; Shelley, Lady, Christchurch; Skerman, J. C., Waltham; Smale, R. G., Hoxton; Smith, Job, Yarmouth; Smith, J. B., Feltham; Spencer, T., Liverpool; Spokes, E., Cholsey; Stanfield, —, Bradford; Stevens, J. C. M., Torrington; Stephens, Mrs., West Brompton; Steward, J. R., Jedburgh; Struthers, R. V., Natal; Stubbs, J., New Brunswick; Sudbury, J., jun., Halstead; Sydenham, J. P. W., Islip; Tanner, J., Christchurch; Taylor, T. G., Edinburgh; Thompson, C. G., Newcastle-on-Tyne; Tomlinson, T., Hackney; Tuckett, T. H., Dunfermline; Turner, C., 84, Park-street; Vincent, J. E., South Audley-street; Wade, J., Brompton; Walmsley, H., Clapham Park; Walters, J., Borden; Walton, C. E., Acton; Warden, J. W., Finchley-road; Wates, E., Gravesend; Weston, T. A., Bury, Lancashire; Wickham, Capt., Winchester; Wilkinson, Miss, Oxted; Wood, E., Aylesford; Wright, J., jun., Middlewich; Wyon, E. W., Stanhope-street; Young, W., Bolton; Young, W. W., Hartlepool.

New York Tenements.—There is a house in New York having 68 rooms, 8 feet by 10 feet, containing 144 adults and 138 children.

NEW MATERIALS FOR THE LIFE OF DANIEL MYTENS.

In a MS. Book of Warrants (preserved in the British Museum) under the signet of King Charles I. when Prince of Wales, the following document, hitherto overlooked by all who have written on the history of art in England, is to be found. It supplies the earliest illustration we possess of King Charles's well-known love for the fine arts, and is in every respect important:—

"*To o^r Right trustie and wel-beloved Sir Henry Hobart, K^t., &c.*

Right thrusty and wel-beloved Wee greet yo^u well &c. Whereas in and by one Indenture dated the 29th day of August [1624] last made betwene o^rselfe one thone parte and Daniel Mittens of London Picture Drawer one thother part for considerations us movinge Wee haue demised and granted unto the said Daniel Mittens all that messuage or tenem^t wth the yard and garden plott behinde the same adioyninge as it is nowe enclosed wth a bricke wall sett and being at the upper end of St. Martin's Lane, in the parish of St. Martin's in ye Fields butted and bounded as in the said Indenture is expressed of which premisses Wee now stand possessed for divers yeare yet enduring by and under a lease thereof made by Allen Turner of the p'rish of St Martin's in the Feilds aforesaide unto Sr Paterick Murray and by ye said Sr Paterick Murray late assigned unto Us To haue and to hold the said messuage or tenem^t unto the said Daniell Mittens his Executors and Assignes from the feast day of St John Baptist last past before the date hereof unto the full end and term of 12 yeares and a halfe from thence fully to be complete and ended yeilding and payinge the yearlie rent of vj^d [sixpence] at the feast of St Michaell the Archangell onelie if it shalbe demanded, wth divers covenants in ye said Indenture conteyned, as in and by the said Indenture, &c. Dated at Newmarkett, 3° Decem. 1624.*

The following payments were made to Mytens in the reign of James I., and are now first published:—

"To Daniel Myttens upon the Counsells warr^t dated at Whitehall xxv^to May 1620 for making the picture of the Earle of Nottingham by his Ma^ts comaundem^t with a guilded frame for the same, xxvij^li.^"†

This was the Lord High Admiral Earl,—the Armada Lord Howard of Effingham,—at this time an old man.

Three years later he commanded a higher price for his full-length portraits:—

"To Danyell Mittens uppon lyke warr^t dated quarto Aprilis 1623 for drawinge his Ma^ts picture at the length wch was given to Mounsieur Boyschott ambassador from the Archduke, xxx^li.^"‡

"To Daniell Mittens, upon like warraunt dated ix°. Octobris 1623 for a picture of the Prince his highnes [Charles I.], drawne at length and delivered to Don Carlos de Coloma ambassador from the King of Spaine, xxx^li.^§

19 July, 1624. Grant to Daniel Mytens of a pension of 50*l.* per ann. for his encouragement in the art and skill of picture drawing, on condition that he do not depart the realm without warrant from king or council, and that he do not refuse such service and employment in his said art as shall be reasonably required of him."

Among the miscellaneous state papers in the custody of the Master of the Rolls is the following entry:—

"2 July, 1625. Warrant to pay to Daniel Mittens his Majesty's picture drawer the sum of 120*l.* in full satisfaction for a copy of Titian's great Venus by him made and delivered in at Whitehall for his Majesty's use and service."

This very interesting entry relates to the Titian now at Hampton Court,—the Titian of one of Walpole's many reminiscences: "While Queen Caroline dressed," Walpole writes, "prayers used to be read in an outward room, where hung a naked Venus. Mrs. Selwyn, bedchamber woman in waiting, was one day ordered to bid the chaplain, Dr. Madox (afterwards Bishop of Worcester) to begin the service. He said, archly, 'And a very proper altar-piece is here, madam.'"

The following entries (now first published) throw additional light on the character of his employment:—

"To Daniel Mittens picture maker upon the like warr't dated the viij°. of December 1625 for severall pictures of deverse noble personages done for his Majesty, cxxx^li.

10 July, 1627. Warr^t. to pay to Daniel Mittens, the king's painter, 100*l.*, for three pictures,—one of James IV. of Scotland, one of Mary the last queen of Scotland, and another of his Majesty's own royal person."

The "whereabouts" of the James IV. and of the Mary Queen of Scots are, I believe, unknown. Cannot David Laing, so well read in Scottish history, or all-accomplished Albert Way assist us in recovering them?

Two years later the following entry relates to Mytens, and to art in England:—

"By order dated 15 July, 1629. Unto Daniel Mittens, painter, as well 120*l.* for a great picture of his Majesty, and a picture of the Queen and the Dwarf; and 20*l.* in part of 95*l.* for a picture of Queen Mary and a small picture of Prince Henry, made by him for his Majesty."

The "great picture" of this interesting entry is the noble Mytens of the King, Queen, and Sir Jeffery Hudson, the Dwarf, the pillioned horse with dogs, now at Serlby Hall, in Nottinghamshire, the seat of Viscount Galway. Many will doubtless remember to have seen it at the famous Art Treasures Exhibition at Manchester in 1857.

In the earliest volume of the Lord Chamberlain's MS. Warrant Books, preserved in St. James's Palace, I found the following entry:—

"24th May, 1633. A warrant to Daniel Mittens to deliver to the Lord Deputy the picture he lately made of the King."

The Lord Deputy was the famous Earl of Strafford. This picture is now, I believe, at Lord Fitzwilliam's in Yorkshire.

The following letter from Mytens to Sir Dudley Carleton, has been imperfectly printed by Mr. Carpenter.* I owe my transcript to the courtesy of the accomplished Mrs. Everett Green. The original is in the keeping of the Master of the Rolls:—

"Laus Deo this 18th of August a° 1618.

Right Honnorable my varry good Lord.—My deutie first being remembred, wishinge your lordship muk healt and happynes. These feuwe lynes are to aduese you that I send you by this bearer that picteur or portrait of the Lord of Arundel and his lady to getthir in a small forme: it is rowled op in a smal case. I have donne my indeaure to perswaide his lorship to send your honnor those great picteures, butt he is not willinge to parte from them, by reason thye doe lycke his honnor so well that he wil kiepe them, and he willed me to make these in a smaller forme, who I trust your honnor wil accept and exsteme as a smal presente donne by by my Lord of Arundel, & for my paynes and keare, I have donne therein to the most of my pouwre. I leaue the judgment to your lordship's good discrecion.

I have binne at Harckney [Hackney?] to see wether I could fynde occasion to drawe the Prince's hignes picteur, but the prince beeinge a huntinge & suddainly to depart forthir in progres, I am returned for London, so that I must waight for a better oportunity at his retorne backe; and this is for the presente the effecte of my writtinge to your honnor the which it may please you to accept as from your pore & onworthie seruant, whoe wil ever bee reddie to showe my bounden dewtie when your honnor shall haue occasion to make tryall; in the meane while, I pray unto the Lord to preserue & kepe your honnor in healt & prosperitie to the ende of euerlasting glorie. Amen.

Your honnor euer to command,
Daniel Mytens."

Other printed papers relating to Mytens in England, which future editors of Walpole and picture historians of art in England would do well to refer to, may be found in Mr. Tierney's "Arundel," p. 495, and Mr. Sainsbury's "Rubens." The "new materials" of my communications are from MS. sources or from personal observation.

The late Mr. Frank Graves, of Pall Mall (with whom so much curious information has passed away) told me (Nov. 1853) that the portrait withdrawn at the Plumer Ward sale in Hertfordshire (in 1853) of the beheaded Duke of Hamilton, was so like Vandyck, that he should have called the picture a Vandyck had he not detected

* Harleian MS., No. 1718, fol. 85.

† MS. Accounts of the Treasurer of the Chamber, formerly in the Audit Office.

‡ *Ibid.*

§ *Ibid.*

* Carpenter's Vandyck, p. 176.

Mytens's name in a corner of the canvas. Where is this portrait?

The works by Mytens not already mentioned I will now attempt to catalogue:—

At Combe Abbey, full length of Charles I., standing.

At Hampton Court, full length of Charles Howard, Earl of Nottingham; the Armada Earl. Another at Greenwich.

Ditto, ditto, James Hamilton, second Marquis of Hamilton (died 1625), with his staff as Lord Steward. This is no doubt the picture which Charles had when Prince of Wales (Sainsbury's Rubens, p. 355).

Ditto, ditto, dated 1623, of Ludovic Stuart, Duke of Richmond and Lenox, buried 1623, with monument in Henry VII.'s Chapel.

Ditto, ditto, seated, of Edward Lord Zouch.

Ditto, ditto, standing, of Jeffrey Hudson, the dwarf.

At Kimbolton, ditto, standing, of Robert Rich, Earl of Warwick, inscribed "Ætatis sue 44 anno 1632, D. Mytens, fet."

At Drayton (formerly), ditto, standing, of Henry Rich, Earl of Holland, in a striped habit, with a walking-stick. Walpole calls it "very fine."

At Welbeck, ditto, of Sir Charles Cavendish, father of William Cavendish, Earl, Marquis, and Duke of Newcastle.

Ditto, ditto (in blue), of the mother of the same person.

Ditto, ditto (in black), of the first wife of the same person. Signed in gold letters,—"Ætatis suæ—anno 162[illegible], D. Mytens, fet."

At Knowle, ditto, Lionel Cranfield, Earl of Middlesex (d. 1645), with his white staff as Lord Tresurer. A small bell on the table has these letters, D.M.F. 1623.

At Euston, ditto, Villiers, first Duke of Buckingham, signed "D. Miitens f[t] a°. 1626."

At Grimsthorpe, ditto, Richard Weston, Earl of Portland. The same person that Vandyck painted. If the Mytens and Vandyck were hung together on the walls of the British Institution a real service would be rendered to portraiture and portrait painters.

At the Bodleian, half-length of John Selden. Extremely fine, and well preserved.

I have shown that Mytens held a house from the Crown in the parish of St. Martin's-in-the-fields, in London. I have now to give, and for the first time, the entries in the register of St. Martin's relating to Vandyck's immediate predecessor in reputation and practice. That Mytens was married, and that the Christian name of his wife was *Grace* are *additions* to the scanty materials we have of a great painter.

"1624-5, March 8. Martinius Mitten filius Danielis et Grace ux btiz[us] fuit.

1627, July 9. Elizabetha Mittens et Susanna daugh[rs] of Daniel and Grace Mittens bap[d].

1627-8, Feb. 1st. Suzanne Mitten filia Danielis et Gracie ux sepulta fuit in ecclesia.

1628, Aug. 1st. Suzanne Mitten filia Danieli et Gracie sep in eccla."

Mytens sleeps in the same grave with his predecessor and rival in reputation, Paul Vansomer, and in the same cemetery with his friend and neighbour, Sir Theodore Mayerne, the famous physician, whose fine portrait-tomb, coloured to the life, stands—shame to say—bricked in and buried in the vaults of Gibbs's noble church of St. Martin's-in-the-Fields. When they took, the other day, the coffin of *Surgeon* John Hunter from St. Martin's to St. Paul's, they might have taken the fine monument of *Physician* Sir Theodore Mayerne from buried darkness into decent daylight. Let the College of Physicians unearth and erect in their own college the characteristic monumental effigy of famous Sir Theodore Mayerne. The distance is nought from one side of Trafalgar-square to another.

PETER CUNNINGHAM.

THE SANITARY ARRANGEMENTS OF BUILDINGS IN HOT CLIMATES.

As I only receive your invaluable periodical monthly, and then two months after publication, I trust you will permit me to refer to one of your numerous articles on sanitary improvement, which must have, in the opinion of all sound men, much merit and great weight. The article I refer to is published in your issue of October 3rd, 1863, and is entitled "The Sanitary State of our Army in India;" and, as most of the article alludes to the defective drainage of barracks, I should just like to point out a few of the practical difficulties attendant on ventilation and drainage in a warm climate. I write from the new colony of Queensland, which is partly within the tropic of Capricorn, and where I have resided for seven years, during which time I have had to contend with some of the difficulties the architects, engineers, and builders of India are constantly beset with. Throughout the article quoted, the following remarks, being iterated and reiterated, would appear to contain the complete key to the cause of most of the disease and mortality in the Indian barracks:—"We very much doubt, however, whether much of what is called malaria does not simply mean foul air from station barracks and towns." Again, Sir Ronald Martin says, "It is evident that due regard has not been paid to the sanitary condition of the Indian barracks; *and that proper attention has not been paid to the surroundings.*" Again, in Dr. Bird's remarks, "In some cases where disease prevailed in the army, the greatest part of the outbreak was occasioned by the *overcrowding of the barracks and the filthy cesspools in the midst of them;*" and in quotations from Miss Nightingale's report the substance of the above is repeated. As to overcrowding, little can be said in extenuation except that the first cost of suitable buildings deterred the timid authorities from erecting them at once. It would not appear that the said authorities ever for one moment took the frightful cost of the "avoidable excess of mortality" set down in your article at 388,000*l.*, in the calculations of their building projects, into consideration. This, to my knowledge, is a frequent and most fatal oversight with governments, who seem to consider that as "sufficient to the day is the evil thereof," so also is the good thereof, and who "take no thought of the morrow." Hence the officers whose business it is to carry out the views of a governor or government is saddled with the whole blame for such incurable defects as we complained of. But, to turn to the deficient ventilation and drainage, it were hard to say which in a hot climate is most difficult to effect. And let me remark, that you, from your stand-point, in the cool, moist climate of the sea-girt isle, are scarcely fair judges of the requirements of such extreme climates. I would mention, in reference to this climate, which is similar to that of Rio Janeiro, how almost impossible it is to give ventilation by the vast variety of ventilation openings that have from time to time been invented and patented, at those times of the atmosphere when it is quite stagnant, as it is for days and nights together during the height of summer, when the thermometer stands at 90° in the shade, and during the long continuous rains which for days together descend in vertical lines, or sheets very often. You will admit at once, that, unless means are adopted for stirring up the lazy air, it must become foul and oppressive. In India the *punkah* is the means usually adopted to effect this; but in this country we are fast wedded to the "habits and customs of the English." There are insuperable difficulties in the way of introducing machines for artificial ventilation, either into Indian barracks or into buildings in far outlying British possessions. First, their cost is enormous; then, fuel is perhaps required where it is difficult to obtain: the heat of the climate is also against their use, as it would be futile to attempt the warming of buildings in most cases in such climates: the whole utility of the machinery would consequently consist in the agitation of the air, and of forcing it over large evaporating surfaces kept constantly wetted. The best system of general ventilation that can be obtained appears to be by building only single buildings, not in any case back to back, or honey-combed, perforating them with double-hung sash windows, and by thoroughly shielding them by wide, low verandahs or arcades; the rooms being lofty, and lighted and further ventilated by lunettes over the verandahs or arcades. And, above all, to give the air a clear passage through the buildings from side to side and from end to end, little artificial ventilation will be found requisite should such means be tried. It is admitted that buildings on this plan are more costly in the mere erection; but not, according to the showing of your article, in the end; by their saving thousands which are spent in sanitary measures and in the cure of disease.

Drainage is an impossibility without water-supply, and ten times more so in climates where the evaporation is two-thirds of the annual rainfall. If we suppose a barrack station on some elevated site, in India, or in such a country as Australia, running streams not being everywhere present, the supply of water will necessarily be from the rainfall, collected in tanks, perhaps rather limited in capacity, even for the daily consumption of the officers and men. A copious supply of pure water being obtained, drainage were a light consideration; and it would seem hopeless to attempt any system of drainage to barracks, or anywhere else, without it; so that the Indian reporters are about right when they consider *no drainage* a sufficient guarantee for health. If there be no sufficient water-supply, the latrines cannot be cleansed, except by hand labour; for if you attempt to drain them, if there be no rain, the drains get choked by the drought, and the evil is increased prodigiously. If drainage be attempted, there is probably no outfall except into an open ditch; and it will be apparent that this is only removing the sore spot without benefit. Or, say the drainage debouches into a tank, would there be much benefit in this way? Here, then, arises another question,—Are proper sites selected? It might happen that many of the evils complained of could be obviated by more attention to the site and its capabilities for getting properly supplied with water.

I trust it will appear from the above remarks that the greatest obstacle to efficient drainage in warm climates is the want of water, and where its want is greatly increased by the enormous amount of evaporation by heat, which causes the inhabitants to "waste not" that they "want not." And, further, even suppose you have water more abundantly than you require, if it have no natural fall, but require pumping for the purposes of draining, the difficulty of thorough drainage is still very great, and will, in such a case, be very expensive. It will often be found that any system requiring manual or machinery labour will get out of order and be a constant cause of outlay. In this new-made city of Brisbane, the inhabitants have been made fully alive to the necessity for drainage; but to attempt it has been found impossible, as the place, containing, by the census of the 1st of January, 1864, about 15,000 inhabitants, is precariously supplied by a reservoir holding not more than 400,000 gallons of brown water, alive with the most curious animalculæ, and thickened with "nearly all the chlorides, sulphates, nitrates, and carbonates of the pharmacopœia."

However, the Parliament voted a loan of 50,000*l.* to bring water to the city, and the commissioners have set about this highly important work; and it is expected, ere long, that the dam will be in building and the pipe-laying commenced. One thing, the promoters of the scheme never put forth at all during the whole agitation for the work, namely, the conjunction of a system of drainage. But this may be accounted for, that when they got the water-supply loan, another loan for drains to carry the waste-water off would necessarily follow.

I trust you will pardon the introduction of local matter into this letter, and that you will sometimes condescend to notice some of our doings in your journal, which, to us, in Australia, possesses a double value, where we have no institute (the British Institute have closed their stores to us, in the far South, as well as to you), no museums, no galleries, no fine old buildings to feast upon and copy. I suppose we ought to strike out something quite new in Australia in architectural art; but where is the man that dares attempt it? We are wedded to the habits and customs of the English, as before remarked.

Brisbane, Queensland. C. T.

THE HAGUE MUSEUM COMPETITION.

LAST autumn,—when the Dutch celebrated their national jubilee, in grateful commemoration of the erection of their country into a constitutional monarchy, under the dynasty of the present reigning house of Orange Nassau, fifty years ago (1813),—the King proposed to the States General a vote for the sum of a million florins for the purpose of erecting at the Hague a building to be called the "Museum of King William I.," in which should be placed the different collections of paintings, statuary, and other objects of art now distributed in the various museums of Holland. The vote being unanimously agreed to, a committee was appointed to take the preliminary steps, and home and foreign architects were invited to send in plans and estimates for the proposed building. The invitation having been responded to by twenty-one different architects, the committee

arranged a public exhibition of the plans received, which was held last week in Amsterdam, and an independent jury was appointed to examine the merits of the competitors, and award the prizes offered.

In conformity with the above, the jury have awarded the first prize of 1,500 florins to Professor Ludwig Lange and his son, Mr. Emil Lange, at Munich, for their plans with the motto, "*Wo die Bildung, ist auch die Kunst zu Hause;*" and the second premium of 300 florins to Mr. P. J. H. Cuypers, architect, at Roermond, with the motto, "*Toute forme, qui n'est pas indiquée par la structure doit être repoussée.*" Five others, bearing respectively the mottoes,—"*Concordia res parvæ crescunt,*" "*Rembrandt,*" "*Travailler c'est vivre,*" "*Streben ist Leben,*" and "*Orange boven,*" received honourable mention; but, as the names of their designers were sealed up, it has not transpired by whom they were sent in.

FIGURE DRAWING APPLIED TO ARCHITECTURE.*

The subject is one of considerable extent, requiring an acquaintance not only with books and theories, but with many buildings; and in this acquaintance, I regret to say, I am deficient, especially in not having seen many of the examples to which I shall refer. I wish to urge the practice of figure-drawing amongst architectural students. There are, it seems to me, three great reasons why this practice is valuable to an architect.

1st. Because it trains his eye to a knowledge and appreciation of good form and true proportion. 2nd. Because a really perfect building is never without figures, represented by means of painting, sculpture, or some other method. 3rd. Because, granting the latter reason, the architect should be able himself to indicate these figures on his designs, and in some instances to make full-sized drawings for them.

Firstly, then, a knowledge of the human figure is valuable, if not necessary, to the architect, because any one who studies from the life is almost sure to acquire what is called a "correct eye;" and this he will gain more by drawing the human figure than if he made plants or even animals his study; for, in his representation of these, he would not be so readily sensible of his slight faults as he would be in copying the human form,—the most perfect of all created forms,—with the appearance of which he is so intimately acquainted, and in which the slightest deformity is so readily appreciated, although men and women do not go about *in puris naturalibus*. And a complete mastery over the drawing of the human figure not only gives a man facility in drawing difficult details, such as he meets with in every subtle curve and delicately-pronounced projection; but the accomplishment of an entire figure, well balanced and proportioned in all its parts, will have afforded a sound training to his eye, and will also make him sensible of a feeling much akin to that which he would have in completing a satisfactory and pleasing design for a building. Arguing conversely, then, a man who can readily shape a design for a building into pleasing proportions will probably have a fair knowledge of drawing the human figure. Architects of past times have proved this fact; and we of the present day need no better proof of it than can be found in the drawings here exhibited.

I said that no really perfect building is without figures represented by painting or sculpture. These are Mr. Fergusson's words; and we have only to look through the pages of his "Handbook" to see the truth of this statement borne out by the buildings mentioned in it; though, of course, we are not supposed to believe that any of them are "really perfect." The Buddhist builders encrusted their topes with sculpture, and adorned their rock-cut caves with frescoes. Persians, Assyrians, and Egyptians laid on their temples imagery that only enhances their beauty and grandeur, but hands down to us the means of understanding their religion and history, and of introducing us to their habits and manners of living. The Greeks applied the very best sculpture to the very best architecture. The Romans, indeed, do not appear to have used sculpture to so great an extent in their temples; but there is a good deal to be found on their triumphal arches; and in Pompeii the walls of the houses were covered with exquisite paintings. Rude bas-reliefs adorn the walls of Mexican temples; in fact, turn where we will, we find that the pre-Christian builders produced the semblance of their gods, or recorded the glorification of their kings and the exploits of their warriors by means of the chisel and the brush. The religion of the Jews and Saracens imposed two notable exceptions on this almost universal rule: with both of these people the fear of idolatry forbade the representation of figures on their temples.

Christian art furnishes us with examples of figures applied to buildings in many and various ways: at first sparingly, as by a people whose enemies—enemies in religion—so vastly outnumbered their friends that they had to seek refuge in catacombs and other humble places for the exercise of their religious offices, and with whom the portraiture of a sacred figure would have been a doom of death. As they gained in strength and numbers they overlaid their tombs and temples with holy emblems, dear to themselves and fraught with meaning, and here and there with scenes from the Bible, simply put forth; and when the imperial religion and theirs became one, long lines of stately figures adorned the sides, while grand and simple pictures of Christ and his saints looked down from the vaulted ends of their great basilicas. Then, as time rolled on, and while mosaics and paintings were teaching their awful lessons on the inner walls, the axe and chisel had not been left unused; but, guided by hands of sculptors, as yet untutored, have given to lifeless stone shapes that present bright hopes of redemption or of solemn warning, from over the doorway, to those who entered the church. These sculptures spread and spread, until at length, in the thirteenth and fourteenth centuries, they had invaded every available space; and told not only Bible stories, but a great many other stories too; and were, moreover, the cyclopædias to which men turned for information on almost every subject. And now the tide of Mediæval art had ebbed; and though the painting and sculpture of the fifteenth century, sharing the delicacy of the prevailing architecture, present to us many examples which put our modern efforts to shame, yet living art was feebly awaiting the waves of the Renaissance, which came with the returning tide, and at last engulphed all the feelings, forms, and fashions of the Middle Ages.

In England, the odd little figures that the carvers of the Elizabethan age indulged themselves in applying to their architecture and furniture, do not seem to have had any high aim; and, worse than this, figures were frequently used, both here and abroad, as structural supports; as, for instance, in the case of bedposts, or bearing the canopy of a monument—a fatal error from the true principles of architecture. In other countries, monumental sculpture attained great perfection; and in Belgium and Germany the fireplaces of baronial halls were chosen as vehicles for the display of statues and groups—often of a religious character—that are not wanting in grandeur. Tapestry had come into more frequent use, and supplied the place of frescoes, which had now almost gone out of fashion. During the latter half of the sixteenth century architects began to perch rows of figures along the tops of many buildings, a practice that prevailed chiefly in Italy, and was more or less common in all European countries.

With the revival of the Classic styles came men of whose names our country especially will always be proud; but still they were revivalists, and therefore, to a certain extent, copyists, and that of styles which, however beautiful in themselves and in their proper homes, are alien to the natural feelings of Englishmen; and so little influence have their works had in forming anything like a national school of sculpture, that we may pass a score of doors in succession, from over each of which the same plaster face, in the shape of a key-stone, grins down upon us; while poor "Venus robing," and "Diana going to bath," have to serve as the presiding goddesses of general outfitters' shops,—I beg pardon, "emporiums," assembly-rooms, mechanics' institutions, and noted eel-pie houses.

I have, as yet, said nothing of the painting of figure subjects employed to decorate architecture since the Renaissance, because, with comparatively few exceptions, a universal love for whitewashed walls banished them from buildings of all kinds; at all events, in the Northern countries of Europe. This absence is redeemed, to a certain extent, in the churches, by the much-admired Cinque-cento glass, beautiful in itself, and giving relief to the monotonous colour of the walls by casting its stained light. The mosaics and frescoes of the Middle Ages found a substitute in the easel-pictures which form the altar-pieces of this period; but, though many of them are the most perfect embodiments of the grandest conceptions that ever entered the souls of men, yet their very portability is a humiliation by which no mosaic or fresco would bemean itself. However, as it is to this very attribute that we owe the possession of many of the finest pictures in our own National Gallery, and in all great collections, Raffaelle, Perugino, and Murillo, may perhaps be excused for painting easel-pictures.

The Mediæval revival has not as yet produced much for us to be proud of in the way of painting and sculpture, although, indeed, long strides are being made in the right direction every day; but we still see a vast amount of mawkish stained glass and sleepy sculpture executed, and I hope to be able to point out the cause of this in a future part of my paper.

But apart from all precedent for the employment of figures as an embellishment to architecture, there surely can be nothing fitter for the purpose than that which is in itself both the most beautiful form of decoration that can be conceived, and is also, when properly employed, the most wholesome way of embuing that which it decorates with an interest and history of its own. The puritans, who treated as many sacred paintings and statues as they could get at in such a very disagreeable manner, have made us Englishmen peculiarly sensible, negatively, of the truth of this. What appeals to us more strongly than the vacant stare of a statueless altar-screen? or what is more chilling than the vast expanse of whitewashed walls, once warm with painting, that have been roughly hacked by Roundheads, and then physicked by successive churchwardens with their universal cure for a dirty church? There can, I think, be no objection, even in the minds of those who hold the most Low Church views, to the adornment of their places of worship with subjects simply and directly taken from the Bible,—subjects which the unlearned can gaze upon with reverence, and the educated reflect upon with devotion; while children's attentions will be fixed, and their tongues and fingers kept quiet as they muse on "that bald old man with the keys." And, again, in the field afforded by our secular buildings for the frequent display of representation of the human figure, its absence is rather a want acutely felt than its presence a thing to be urged. This is essentially an age of copyism, and in lieu of distinctive groups, or even heads, attached to various buildings to give one a notion of their object or character, we find, if there is any thing at all, a repetition of the same thing, such as I referred to above, applied to hundreds of different buildings having no object or character in common. The collection of various specimens of the plastic art that may be seen in the Marylebone-road must have had great influence on the "national sculpture" of the nineteenth century; for we may see copies of the meaningless objects there exhibited now and then patched on to houses, by a liberal builder, in a promiscuous kind of way; as when Pallas Athene forms the keystone of the doorway, but by no means the key to the occupation of the inhabitant of a small private house; or, as in the case of a pair of guardian animals bearing somewhat canine proportions; or of a couple of fierce eagles, with outspread wings, flanking the entrance to a suburban villa. We might perhaps imagine that such houses were inhabited by gentlemen with a taste for natural history, were we not inured to the sight of these plaster botches, which do not retain half the character that animated the originals from which some of them have been perverted.

This is also an age of easel-pictures, so that when we are inside the houses we do not fare much better if we are in search of decorative painting. Of course, in the case of private dwellings, especially in large towns, this want is chiefly attributable to the present method of leasing and letting houses; but there can be nothing, except expense, which is often incurred in other less worthy ways, to prevent our public buildings from having their stories and histories told by painting and sculpture. The great fresco in Lincoln's Inn Hall, and the statues in the Museum at Oxford, show us what can be done in this way.

Having urged a general use of figures, it may be well now to see in what way this can be carried out; and if we go back to ancient examples, we find that figures are used either as conspicuous objects, or at what I may call "sur-

* By Mr. Edward John Tarver.

prises." Firstly, when the figures are intended to convey to us some deep meaning, or to tell some soul-stirring history, they are so placed as to catch our eye as soon as the general proportions of the entire building have satisfied and delighted us, as they must have done from their frames along the frieze of the Parthenon, binding its brows like a jewelled tiara. Or they are confined chiefly to one façade, as at Wells Cathedral, when it was whole, covering it with one connected Bible history, that held one's attention, as it crept on and up from niche to niche, until it reached the crowning figures of Christ and His angels. Or again, as at Rheims, where one, I should think, might revel in the riches of sculpture spread over its portals, until the interest of one's mind had worn out the strength of one's eyes in following out the lines and lines of angels, divines, and saints. Or, if sculpture was sparingly laid on to a building, it was placed in, at all events, the most telling position, as on the corner-stones of the Ducal Palace at Venice, or on a well-chosen spot on the front of a house, or else in the form of statues flanking the entrance-door: at any rate, when it was meant to be conspicuous, it *was* conspicuous. What I mean by figures used as "surprises," are those which we come across every now and then in a row of gargoyles; or which, in the shape of heads, suddenly flash upon us from amongst the scrolls and contortions of an illumination, or peep out of a foliated cap, or bud amongst the leaves and tendrils of a piece of intricate ironwork. Great care should be taken not to confound these two methods of employing figures; and, to show how this mistake may be made, I will adduce, as an instance, the sculpture on the Houses of Parliament, where the statues of our kings—careful works of art in themselves, and of considerable value,—are so lost amongst the windows and wall tracery, that it is some time before we see them all, and a long while before we appreciate them: in fact, to use the term I have chosen, many of them come upon us as "surprises."

And now that we have seen the propriety of applying figures to architecture, and the way in which they may be used, it seems almost strange that they do not form as usual a feature in our buildings as they did in those of other ages. And there is very little doubt that they would do so, were it not for two very great difficulties that beset us. Firstly, our costume; and, secondly, the want of ability in figure drawing amongst architects.

Firstly, our costume. This is so utterly unpicturesque, both in form and colour, that it imposes an almost fatal barrier against all attempts at historical painting and sculpture; and all decorative art should be historical, if only for the sake of the antiquaries and historians of some thousand years hence, who will be sadly puzzled to make head or tail of it as it exists at present, to say nothing of the architecture of which it forms a part. The painters, indeed, have a slight advantage over the sculptors, as they can heighten the colour a little, and make up a presentable effect with accessories. Indeed, amongst the lower classes, a painter may find plenty of subjects in which deep rich colours, well toned down with dirt, and picturesque, though not always pleasant forms, give him good materials for a picture; while grotesques, which should be occasionally but cautiously employed, find fit subjects in the extravagant dances of Ethiopian serenaders. But the case is far different with sculptors; for there is no more delicate test of the form of anything than rendering it in colourless sculpture; and what *can* a sculptor make of a crinoline, a chimney-pot hat, or a pair of trowsers? Now, if a Mediævalist had to carve a single figure or group, even such a one as represented any common incident of life, the costume of the day lent itself most fitly to his purpose; and, if he had the necessary talent, his work always resulted in an artistic production; but a similar subject, treated in the costume of the present day, would baffle the efforts of any man; and the result is, that sculptors either go back to former times for their subjects, or dress our contemporaries in the garbs of our ancestors, to say nothing of Roman togas; or else they have to spoil what might otherwise have been a work of art, by clothing their figures in the hideous protections from the weather which we submit to wear.

It would probably be futile for any but the most powerful European potentates to work any sudden or material change in modern costume. Such an attempt has lately been made by a body of artists, and the subject has both been treated seriously, and, still oftener, ridiculed, in many public papers and serials, particularly in *Punch*; and some of the slight improvements that have arisen may be due to these causes; but there is very much yet to be done before the walls of a palace can receive pictures of its pageants, or the doorway of a shop bear a decent group of sculpture showing the history of the goods sold within. The following seem to be the chief difficulties thrown in the way of the sculptor. We will follow the rule of "ladies first."

No one will deny that our lovely Englishwomen would look well in any costume; but it by no means follows that any costume looks well on them; and, to begin at the head, a bonnet is, when we consider it from all points of view, a very ill-shapen thing. As seen from the front, it certainly seems to form a frame calculated to set off a handsome face to great advantage; but it is a question whether the beauty of the picture is not the key to our admiration of the frame; at all events, the same head invariably looks better in a well-shaped hat; and then how utterly does that starched projection, misnamed a "curtain," rebel against true principles of beauty! especially when compared with the beautiful hoods that hung in graceful folds around the heads of our Mediæval ancestresses. The bodices of modern dresses are indeed, in most instances, worthy of the bodies they inclose, except those worn in full evening dress, which present an unartistic form in that straight line drawn horizontally from shoulder to shoulder; a low dress, cut in what is called the Venetian manner, is infinitely better. But now we come to the grand source of difficulty, the true "sculptor's puzzle," to which women cling as obstinately as it refuses to cling to them. It is reported that it has been decided to erect a statue of the Empress of the French, with crinoline complete. It is just possible that a figure thus encircled may be well treated by a clever artist; but even this would seem doubtful, and a group containing two or three of these overspread cages would be ridiculous. We must not, I suppose, find fault with the charming little boots which give the finishing touch to a well-dressed woman's appearance; but we must look upon the foot as a part of the body that has undergone a great change in form, which form is now quite a creation of man's, and utterly different from the natural one that it retained until about the time of the Restoration.

We will now look at the costume worn by men. A general absence of creases in all his clothes seems to be the chief object aimed at by a well-dressed man,—and this stiffness is, no doubt, the cause of the want of colour in our clothes; for anything which hangs in folds can bear a much stronger colour than that which is stiff. Nature shows us this principle in the crumpled petals of the scarlet poppy.

The parts which call most urgently for more artistic clothing are the head, the neck, and the ankles. No one can possibly say a word in favour of the chimney-pot hat, except as a safeguard in riding. Its stiffness, its sheen, its want of comfort when on, the difficulty of disposing of it when off, and, above all, its hideous shape, are objections which an eye for the beautiful, combined with a love for comfort, ought to be able to overthrow, but which are patiently borne by the spirit of fashion. In the next place, collars, both of coat and shirt, are not yet what they should be; the large overlapping layers of cloth that used to creep up men's necks are not yet fully abandoned. If the neck is to rise well out of the shoulders, there should be either no projecting collar at all, or else a *bonâ fide* one, standing well away from the neck, and setting off the head to great advantage, such as those worn in the fifteenth century, or by the common sailors of the present day. Lastly, the ankles of a gentleman in trousers look very badly in sculpture, stained glass, or on a monumental brass. It would seem that the ankles ought either to be tightly clothed, or else entirely concealed behind a loose robe hanging in folds: the latter expedient would be inconvenient; but the former one, which has been started in the form of knickerbockers and gaiters, or thick stockings, might well find more general favour. The only sculpturable costumes of the present day are to be found amongst the lower classes of life. Perhaps the best of all is that of a burly brewer's drayman, with his scarlet Phrygian cap, his thick padded coat, leathern apron, and rough gaiters.

Having now treated of the obstacle which our costume imposes on the representation of figures on our buildings, I come to the second difficulty; namely, the general want of a power of figure-drawing amongst architects; and this brings me back to the last of the three objects with which I started:—"That the architect should be able himself to indicate figures upon his designs, and in some instances to make full-sized drawings for them."

The ignorance of figure-drawing amongst artist workmen is, of course, another great want of the present day; but this subject has been so thoroughly treated of by Mr. Burges, in his Cantor Lectures, that there is nothing left for me to say; and, moreover, it has no immediate connexion with the object of this paper. I have to deal with this ignorance amongst ourselves.

In the course of a conversation that I had with Mr. Burges about figure-drawing, he said that an architect should be able to provide small sketches of all the painting and sculpture required in the building that he has designed; and might, in some instances, prepare full-sized cartoons of the subjects; but that he should be careful not to do this too often, as he would run the risk of becoming a mere cartooner, and of neglecting the wood and stone to which his art should be especially applied. I do not think that many of us will be likely to need the last portion of his advice just yet; but I trust that I have said enough, in the course of this paper, to satisfy you of the urgent necessity of our attending to the first portion of it. The drawings contributed to the Class of Design are the strongest proof that we can have of our backwardness in figure-drawing: as a rule, they either contain no figure at all; or, if sculpture or painting be shown in them, it is generally of the very mildest description.

No time should be lost in extricating ourselves from this mire of ignorance on the most vital part of our artistic education, and we should take immediate steps in joining or forming a life school. It will not be irrelevant here to say a few words about the scheme suggested by Mr. Scott, in the admirable paper that he was good enough to read before us the other evening. It is my firm conviction that the classes that he recommended should be held in the day time. Such a proposal would, no doubt, meet with strong opposition amongst architects who have clever pupils in their offices, and who expect of these the work that more properly belongs to paid assistants; but it would seem to me to be expecting too much of a pupil that he should work decently during the day, and acquire in the evenings that which is of course intended to be the soundest part of his professional education. This course would be injudicious for one reason, if for no other. Many students whose eyesight is not very strong would run great risk of impairing it by continual evening work. Of course, these classes, if held in the day time, would be out of the reach of most of us who are out of our articles. The answer that I make to this objection is, that gentlemen now in articles would owe Mr. Scott deep thanks for his excellent suggestions; and that assistants, to whom time is money, should be content to earn as high a reputation as Mr. Scott himself, who probably had not, in his time, more advantages than they have.

But to return to my proper subject. Mr. Burges strongly recommended the formation of a life school amongst us, and that it should be attended every evening of the week; and that, above all, we should have a competent teacher. I have accordingly corresponded with an artist whom he recommended, who would attend the class for 10s. an evening. As nothing has been definitely settled, I would rather not mention this gentleman's name. It appears to me that it would be impossible to get a sufficient number of students together to warrant the formation of a class for every evening of the week; but such a class might well meet thrice or even twice a week, in which case the attendance of the presiding artist on one of those evenings would be sufficient.

I have prepared a list of the probable expenses of a life school, and the amount of subscription that each student would have to pay.

* * * * *

And when, in the course of time, architectural students have become as familiar with figure-drawing as they are now with the ordinary routine of an office, we may confidently hope for an architecture worthy of the nineteenth century; and we may even cease from fighting battles of styles, for the champions of each of the armies will be so satisfied with the designs of their enemies that they will envy rather than criticise

them, and seek a general reconciliation; and so, by the strength of union, the architecture of the nineteenth may equal and perhaps put to shame that of the thirteenth century.

SHAKSPEARE.

The three hundredth birth-day of "the one and only Shakspeare," has been celebrated, notwithstanding mistakes, in a very remarkable manner all over the country and out of the country; and we do not doubt we shall yet see erected in London a permanent monument to the poet, expressing the national feeling, and at the same time adorning the metropolis. The ceremony of planting a tree at the foot of Primrose Hill brought together an immense number of persons, and produced a picture which, if not quite "one of the grandest spectacles that ever met human eye," as Mr. Phelps termed it, was nevertheless a very wonderful sight. Primrose Hill was covered from bottom to top with people looking down upon the acting group, and the effect was certainly remarkable.——At the Crystal Palace other thousands had assembled, actuated by a similar feeling.——The London actors had supped together the previous night to the number of 400, and so ushered in the morn, Mr. Webster presiding and Mr. Buckstone acting as vice-president.——At Stratford-on-Avon, the banquet presided over by Lord Carlisle was successful in every respect. The speech of the chairman and that of Mr. Creswick, the tragedian, will be long remembered by those who heard them. "I heartily approve," said Lord Carlisle, "the idea of this festival. I think the leading events, epochs, persons of this our earth require their occasional commemoration. Life is stagnant enough—men and women are commonplace enough—to avoid the risk of such disturbances cropping up too frequently. Least of all can the nation which boasts of Shakspeare fear to misplace her homage." Germany sent an excellent address and good supporters. Russia has since co-operated. One telegram from Moscow said:—

"The Imperial University of Moscow, recognising the great influence of Shakspeare on the Russian literature and stage, this day publicly celebrates the three hundredth anniversary of the birth of that great genius, equally dear to the whole civilized world; and hereby congratulates his countrymen on the occasion."

The celebration has since proceeded successfully; but we still think it was an error to fix the prices of admission to the Pavilion so high: more money would have been taken with smaller charges.—— The Mayor of Liverpool, Mr. Mozley, has gained golden opinions by the share he has taken in the matter. Besides a ball and a *soirée* he threw open the theatres and other places of amusement where Shakspearian entertainments were provided. The appreciation of this liberality was shown by the enthusiastic ovations which the mayor received on visiting the theatres.——In Manchester there have been illustrative readings and musical illustrations. All rendered their services gratuitously; and the gross proceeds of the entertainment are to be given in aid of the endowment of a Shakspeare school for the education of poor actors' children in connexion with the Royal Dramatic College. The Freemasons of Manchester also celebrated the tercentenary by the consecration of two lodges—the Shakspeare and the Robert Burns.——The series of celebrations in Birmingham was opened by a *soirée*, given by the Shakspeare Club, in the Assembly-rooms at the Royal Hotel. The large room had been decorated under the superintendence of Professor Chamberlain. In front of the orchestra was a proscenium; while at the back, and in the centre, was a copy of the Stratford bust of Shakspeare, under a decorated canopy of the period. The bust was lighted by a coronal of gas jets from above, and stood out well from the red drapery in the background. On each side of the canopy was a large picture contributed by Mr. Leitch: the one on the left represented the house in which the poet was born, and that on the right the church at Stratford-on-Avon, where his remains now rest. On the wall at the bottom of the room was a large sketch, in colours, by Mr. Sebastian Evans, of the principal characters in the plays of Shakspeare. ——At Leeds the dramatic commemoration in the town-hall was eminently successful.——The inhabitants of Birkenhead celebrated the event in a very spirited and commendable manner. A committee, comprising all the influential men of the district, had the management of affairs; and have, further, decided to establish a fund for the purpose of giving a yearly prize for competition amongst the inhabitants of the borough, the subjects to be Shakspearian. Ten thousand working men planted an oak, and an able address was delivered. ——At Ipswich there were considerable doings, and Mr. T. S. Gowing, as usual, wrote prologues and epilogues, and "verses" for the entertainments, and planted a tree (a silver cedar), in the Public Arboretum. On the latter occasion a space was railed off for children, and more than 600 of them threw their tiny spadefuls of earth on to the roots of the tree.——The last number of "The Autographic Mirror" is a Shakspeare memorial. It gives, by means of photo-lithography, Droeshout's print of the bard; a copy of his will, fac-similes of all the Shakspearian autographs, and of several letters and documents cognate.——We will end our memoranda with one out of half a dozen poetical contributions forwarded, reminding our obliging correspondents, at the same time, that poetry is not our specialty, and that it is only homœopathically we can indulge in such delights:—

Hark! in the springtime of the year arises
Nature's sweet music in a roundelay,
From bush, and brake, and dell, and craggy height,
The songs of thanks, and freedom, and delight.
Methought the nation was astir to pay
Its adulation unto one it prizes;
And, mingling with the music of the trees,
Echoes roll'd solemnly from loud acclaim,
And Shakspeare lived at mention of his name!
Did ever man, I thought, work with such ease
To gain his glory and immortal fame?
No, no; it cannot be; he must have been a god!
But, as I spoke, a lark sprang from a sod,
And, warbling, whirl'd himself into the very sky!

C. G. S.

COMPETITIONS.

Alexandra Park.—The premiums have been awarded as follows:—First premium, 100*l.* Messrs. Marsh Nelson & Innes, and Mr. William Harvey (joint design). Second premium, 50*l.* Mr. J. A. Bone and Messrs. Wimble & Taylor (joint design). Third premium, 25*l.* Mr. A. McKenzie.

Drinking Fountain for Gateshead.—The Hawks Memorial Drinking Fountain committee at Gateshead have awarded the prizes for the best and second-best designs of a memorial to the late Alderman Geo. Hawks, J.P. The design selected for the first prize was one bearing the motto of "*Quod face volde face*," and the second prize was awarded to a design bearing no motto. On the letters being opened it was found that Messrs. R. Craggs & Sons, marble masons, Gateshead, were the authors of the best; and Mr. J. Johnstone, of Newcastle, the second best. The successful design consists of a statue of the deceased gentleman on a plain pedestal, with detached drinking-fountain on either side. The erection will be proceeded with as soon as the necessary contracts can be entered into.

ACCIDENTS.

The Langholm Branch of the Border Union Railway, which was recently opened for passenger traffic, has been inaugurated by a rather inauspicious and unfortunate occurrence. One of the bridges on the line near to Langholm gave way about the foundation and fell to the ground. It is said that the bridge was built in or near to the site of an old coal-pit or quarry, and that the foundation did not rest upon a sufficiently solid basis.——At Sandown another railway arch has become a ruinous heap. The report runs that the work in the neighbourhood of Hide had made great progress, and that an arch had been completed. It was found advisable to test the strength of the structure by driving a heavy waggon over it. The attempt was made, but when the pressure reached the crown the whole mass gave way, precipitating everything thereon into the space beneath. The men employed in the operation, being prepared for possible accident, avoided the fall, and no further damage ensued.——The floor of the Wesleyan schoolroom at Altarnam, near Launceston, gave way lately, while a temperance meeting was being held, and fully 100 persons fell through the floor into some stables below, a depth of about 10 feet. No one suffered any worse injury than slight bruises. It was found that the beams had rotted away where they were inserted into the wall.——A building lately used as a storehouse, attached to a brewery in Croft-street, Newcastle, fell lately into the main street. The site was formerly Mr. Grainger's work-yard; and on his requiring greater accommodation it was roofed, and a gateway formed, the main walls being little more than a foot thick.

THE ROYAL ACADEMY EXHIBITION.

The private view takes place on this Friday: the dinner will be given on Saturday, and on Monday the doors will be opened to the public. We are given to understand that the collection is a very fine one. Numbers of good pictures remain unhung from sheer want of wall-space. In respect of architecture, probably so large a number of really good *accepted* drawings, remaining unhung on that ground alone, has never before been sent back. The Professor of Architecture, we have reason to believe, has found this necessity for rejection very painful.

THE FLEMISH AND FRENCH GALLERY.

Mr. Gambart has this year formed a most interesting collection of works by artists of the French and Flemish schools, 186 in number. It has received, as it deserved, full notice from the daily press, and will doubtless attract a large number of visitors. A perfect picture by Gérome, "Scene on the Nile off Thebes" (two black rowers conveying a prisoner); two fine pictures by Gallait ("Vargas taking the Oath" and "The Sentence of Death read to the Counts of Egmont and Horne"); three works by Henry Leys (especially "Going to Church on New Year's Day"); and "Saying Grace," by Edouard Pierre Frère, are the gems of the collection, but there is scarcely a picture in it that will not give pleasure to a cultivated mind. Beyond those already named, we specially commend to attention Baugniet's "Innocence and Repentance" (in which David Roberts has co-operated); Israel's "Poor Widow's Removal;" Madame Jerichau's "Shipwrecked;" Laugee's "Dame School;" Plassan's "Scene from 'Le Bourgeois Gentilhomme;'" "The Amateurs," by Ruiperez; "A Glass of Lemonade," by Stevens; and Verboeckhoven's "Flemish Sheep." The gallery altogether is a treat.

MONUMENTAL.

The statue of Schiller, intended to be placed in front of the new Picture Gallery, now in course of erection at Hamburg, is announced to be in such an advanced state of forwardness that it will be ready by the next anniversary of the great poet's birthday (November 10th). The cost is calculated to be 16,000 Prussian dollars (about 2,300*l.*); but, as there is still a sum of 1,000*l.* wanting to cover the expenses, the Hamburg committee are canvassing their fellow-citizens and the public for voluntary contributions to make up the present deficiency.

A family monument to the late Countess Canning has just been completed by Mr. J. B. Philip, of Hans-place. The whole of the monument is of Sicilian marble, and is about 15 feet long, 9 feet wide, and 11 feet from the ground to the top of the cross. The destination of this work is Calcutta, to which place it will shortly be despatched.

THE RELATION OF ARCHITECTURE TO DAILY LIFE.

On this subject Mr. Ruskin lectured last week in Bradford. As reported in the Manchester papers, the lecturer said he had come, after a five years' absence from Yorkshire, not so much to deliver a lecture, as to utter to them a complaint. He uttered this complaint at Bradford now, because it was here that he first proposed a question which it appeared to him necessarily should be answered before any point of architectural interest could be determined upon for the manufacturing interest. They had not answered it; and he had not himself, by thinking over it, got any answer since. The question was this,—"What are you going to make of the architecture of the districts in which manufactures are prevalent?" It was five years since he put that question, and the interval, which he had passed for the most part abroad, had shown him more and more the necessity for answering that question speedily. The most beautiful features of the Continent, and especially of Switzerland, were on the point of being swept away by the progress of manufactures. The Swiss had caught from us the infection of money-making, but they had not caught our earnestness, honesty, and benevolence; and in that country there was nothing but a low money-making spirit, which stopped at nothing. He wished to ask what were they (the English people) going to bring the world to if they



PECKHAM WESLEYAN CHAPEL.—Mr. W. F. Poulton, Architect.

had it all their own way? He had come there in answer to an invitation to give them his opinion upon the style in which they were to build their new exchange. He could not speak to them in a healthy straightforward way about that. He did not care much about their Exchange, and that because they did not care, and knew perfectly well they did not. Let them look at the real circumstances of the case. They were going to spend 30,000*l.*—which to them collectively was nothing, not so much as the buying of a new coat to him—in the erection of an Exchange. But they thought they might as well have a right thing as a wrong thing for their money. They knew there were a great many odd styles of architecture. Dress was the exponent of daily life and character; and good architecture was the expression of national and social life, character, and taste. He wanted them to think what was the deep signification of the word "taste." No statement of his had been more frequently contradicted than this, that good taste was essentially a moral quality. Many of his antagonists said taste was one thing and morality another. Allow him to fortify his old dogma. Taste was not only a part, but an index, of morality: it was the only morality. Tell him what a man liked, and he would tell him what he was. The object of true education was not merely to make people moral, and to do the right thing, but to make them enjoy the right thing; not merely industrious, but loving industry; not merely to learn, but loving knowledge; not merely pure, but loving purity; not merely just, but hungering and thirsting after justice. What they liked determined what they were; and to teach taste was to form character. He had noticed in the new buildings which covered their hills that churches and schools were mixed, in large proportion, with their mills; and he noticed also (although there were some exceptions) that the churches and schools were almost always Gothic, whilst the mills were never Gothic. What was the meaning of this? Was it that they were thinking of changing their style of architecture back to the Gothic, and were treating the churches experimentally, thinking that it did not matter what mistakes they made in a church? Or was it that they were beginning to feel that Gothic was permanently more beautiful than any other style? He believed they would find that, at the root of the matter, it signified neither more nor less than that they had in some degree separated their religion from their lives.

NEW WESLEYAN CHAPEL, PECKHAM.

The above building is about to be erected in the Queen's-road, Peckham, on a site at the junction with the Harders-road. The Early Decorated style has been adopted in the design. The principal feature is a tower and spire at the angle 120 feet high.

In addition to entrances in the tower, and a porch abutting on the Harders-road, two separate exits are to be provided for the galleries, as well as an additional exit in the rear of the chapel. The chapel will be 81 feet long in the clear (exclusive of an apse, which will be 11 feet 6 inches in addition), and 43 feet 8 inches wide. A vestry is provided at the side of the apse. The chapel is to be ceiled below the roof-level in a slightly-arched form; and the ceiling will be divided into panels throughout. Height of chapel internally, in the centre, to be 37 feet; and at the plates 24 feet. Iron tie-rods will connect the roof-plates, and the gas pendant-pipes will intersect the rods at three points in each truss, with ornamental junctions. The walls and ceiling-panels are to be relieved with ornamental distemper work. The materials of construction are to be Kentish rag stone, and Bathstone dressings. Mr. Sawyer, of Dulwich, is the contractor for the building, at the sum of 4,427*l.*; and Mr. W. F. Poulton, of Reading, is the architect.

NEW WAREHOUSE, SOUTHWARK BRIDGE ROAD.

The engraving in our present number illustrates the premises lately erected on the site of Nos. 20, 21, 22, 23, and 24, Southwark Bridge-road, for Messrs. Pocock, Bros., leather merchants. The building is five stories in height, including the basement, having a frontage of 30 feet, and a depth of 36 feet. The style adopted is of an Italian Romanesque character: arcaded windows, with single and coupled columns, are, however, frequently met with in the provinces of the south of France, in buildings of the thirteenth century.

The front is faced with red bricks set in black mortar. The cornice, strings, columns, and hood moulds are of Portland stone. A band of black bricks is introduced under each string: a band of black bricks also marks the arches of the third-floor windows. All the windows in front are glazed with British plate glass, and the frames and sashes are painted bronze-green. The arcade on each side of the steps is surmounted with semicircular stained deal ribs with perforated spandrels and a deal cornice. The entrance-doors and transome over are of oak, French polished. The landings are laid with Maw's tiles. The gates at the bottom of the steps are of wrought iron. At each side of the entrance are circular stone panels, in the centre of which are the monograms of the firm and the date of the year, and pieces of serpentine marble are let into the margins.

The back front is faced with picked stocks, having the arrangement of the openings similar to that in front, brick piers taking the places of the columns in front. The strings and caps are of Beart's patent moulded white bricks; the arches gauged yellow malms. There are raking windows to the staircases at the back.

The floors are supported on wooden girders, resting on cast-iron columns placed longitudinally down the centre of the warehouse.

Natural foliage has been introduced in the caps of the columns to the windows on the ground and first floors, in combination with such British ferns as the *Polypodium vulgare* and *Scolopendrium vulgare*.

The counting-house is on the ground-floor: it is enclosed with a glazed deal screen.

A wing has been added at the back of the warehouse, four stories high, 81 feet long and 20 feet deep, having windows of a similar character to those of the back front, which it adjoins.

The architect is Mr. Henry Jarvis, of Trinity-square, Southwark: the builder is Mr. Henshaw, of Sun-street, Bishopsgate. The carving has been executed by Mr. Plows, of St. Margaret's-place, Westminster. The total cost of the warehouse will be about 4,800*l.*; the cost of the wing about 1,500*l.*, exclusive of trade fittings.



NEW WAREHOUSES, SOUTHWARK BRIDGE ROAD, LONDON.—Mr. Henry Jarvis, Architect.

INTRAMURAL BURIAL-PLACES AND THEIR DESECRATION.

IF the desecration of the resting-places of the dead in the metropolis, either carried out or attempted, could have been anticipated, there is no doubt that measures would have been taken by the legislature to have prevented the disgraceful proceedings which in several instances have taken place. Years since we described the overcrowded condition of the burial-ground attached to the Tottenham-court-road chapel, in which the celebrated Whitfield formerly preached. Year after year, when it was thought impossible to bury more dead, hundreds of human bodies were stored away in this burial-place, until some were only covered by a few inches of surface earth. Here, as at Bunhill-fields, enormous sums must have been paid for interments. There were numerous grave and tomb stones, some of which had been erected at a considerable expense. A few years ago, as our readers know, a ruthless raid was made by the trustees of Whitfield's chapel upon the stones; and in a very short time these memorials were removed from their places, and arranged in heaps, ready to be carried away. By means of the press this desecration was brought before the notice of the public, and the gravestones were laid flat over the surface of the ground. Persons who had family graves there instituted legal proceedings against the trustees for the removal of the tombstones, and it was ordered that they should be restored to their original position. Since then, until recently, matters have been kept quiet, and but little mention of the sale of this property has been made. It seems, however, that the temporary lull is no longer to be continued; that the trustees have sold the ground to persons who, if not prevented, will soon cart away the remains of the dead, and build upon the site.

Some time ago Mr. H. O. Nodes waited on Mr. Tyrwhitt, at Marlborough Police Court, and said he had to ask his worship for summonses against a master builder named Richards, and his foreman, named Wilkes, under the Malicious Injuries to Property Act (24 & 25 Vic., cap. 97, sec. 52), for unlawfully removing and injuring a gravestone in the Tottenham-court-road chapel and burial-ground, his property, and thereby destroying all identity of a family vault, also his property. Mr. Nodes stated that, but for the restrictions of the conditions of sale in 1862, as to private rights, the property, which sold for 4,500*l.*, would have fetched at least 15,000*l.*, it being freehold and in a most valuable locality. The persons Mr. Nodes applied for summonses against stated that they were acting under the orders of Mr. Tarring, architect, and a committee; and tauntingly laughed at anything like remonstrance, and refused to restore the gravestones to their original site; stating that all the stones were the property of their employers, the purchasers. Mr. Nodes mentioned that his parents were interred in the grave, and that it had cost something like 30*l.* A summons was granted, which has since been dismissed; but we trust that Mr. Nodes will persevere in this matter, and prevent similar acts of gross injustice from being done.

Now that the unhealthy and evil practice of intramural interment has been put a stop to in the metropolis, except in a few rare instances, it is to be regretted, we may here observe, that it still continues in force within the precincts of Newgate. Not long since the bodies of five pirates, it will be remembered, were buried after their execution, under the stones of a passage in the prison; and such has been the practice for many years past. We do not know the number of those executed who have been buried here during the last quarter of a century, but it is considerable. The population of this prison, not prisoners alone, but also warders and attendants, is not small; and especial care should be taken of the health of those who are pent up within the jail walls for many hours together.

In the olden times monks buried the dead of their brotherhoods in their cloisters, and we know the fatal results which often followed. In the instance referred to, the use of chemicals *may* prevent some of the mischief, but probably not entirely; and besides, there is no reason why this prison should be allowed to continue an unwholesome practice which is not permitted in any other part of the metropolis.

Let us hope, therefore, that measures will be taken by the corporation; and, if not by them, by the Secretary of State, to put an end to this unwholesome and unseemly remnant of the practice of metropolitan intramural interment.

NEWSPAPER PRESS FUND.

UNDER this title an association has been formed to provide a fund for the relief of the necessitous members, and the widows and orphans of a large and meritorious class whose claims have not hitherto been recognised by any of those public institutions which have been established to alleviate the wants of other classes.

It will embrace within the scope of its operations the relief not only of gentlemen engaged in the ordinary editorial and reporting departments of the newspaper press, but those employed in the criticism of the fine arts, music, and the drama, as well as reviewers of books, and periodical literature. The institution, in fact, has for its aim and object the relief of all who look to the Newspaper Press for their maintenance and support. A good list of vice-presidents has been published; and it is proposed to hold a public dinner in the course of the ensuing month, to assist in raising funds for the purposes of the association.

The office is at 6, Beaufort-buildings, Strand; and Mr. Henry George Warren acts as honorary secretary.

THE BUILDING TRADES.

A DISTURBANCE took place at the close of last week, at the outfall sewerage works, Erith Marshes. About a thousand labourers are here employed, the greater part being Irish. One of the men having been dismissed, a large number of the labourers demanded that the foreman should reinstate him. On refusing this they struck work, and attempted to prevent the others working. A general fight ensued, which was only quelled by the arrival of thirty armed police from Woolwich. This force patrolled the noisy streets of Plumstead and Woolwich on Friday and Saturday night, where the disaffected navvies had collected together in a threatening manner.

The bricklayers and labourers' strike at Stockton has now terminated, the masters having acceded to their requests,—bricklayers to have 27s. per week, and labourers 20s. The strike has lasted exactly one month.

The sawyers and blacksmiths in the shipyards on the Wear are still out on strike. The shipbuilders seem determined not to concede the advance required, and are in some places setting on shipwrights to do sawing work; while the men, on the other hand, show no signs of giving in.

At Birmingham, a set of rules has been issued by the masters (following the example set by the workmen), to be observed between them in the several branches of the building trade:—

Rule 1 is, "That the rate of wages per day to be paid to skilled workmen be,—Carpenters and joiners, 4s. 4d.; bricklayers, 4s. 6d.; plumbers, 4s. 6d.; plasterers, 4s. 4d.; painters, 4s.; glaziers, 4s.; labourers, 2s. 10d.; excavators, 3s., all the year round; and for masons as follows:—5s. per day from the first week in March to the first week in November, and 4s. 6d. per day from the first week in November to the first week in March; but should artificial light be used between November and March, the wages to be 5s. per day. In case of less skilled workmen being employed, the master may take the opinion of the foreman as to the rate of wages such men should be paid."

Rule 2 states, "That the hours of work shall be from six o'clock in the morning to six o'clock in the evening, on the first five days in the week, and from six o'clock in the morning till half-past one o'clock on Saturday, on which day walking time to be allowed at the rate of three miles per hour, so that each man may be at the pay-table at half-past one o'clock."

The time allowed for meals is to be one hour and a half per day during summer, and one hour per day during winter, except on Saturday throughout the year, when the time will be half an hour.

Rule 8 is, "If either of the contracting parties should at any time contemplate an alteration in any of the foregoing rules, a notice stating such alteration must be given. The giving of such notice shall be limited to the month of January, and always expire on the first day of the ensuing May."

One of the demands made by the men is, that they shall leave off work at half-past five o'clock, as at present, excepting on Saturdays, when work shall cease at one o'clock.

MANCHESTER SCHOOL OF ART.

At the annual meeting held last week, Mr. Muckley, the head master, read his report, recording facts in relation to recent changes which, he said, concerned all schools of art, and that of Manchester in particular, and which, if persisted in, would irreparably damage the growth of art for years. Last year, the institution had three pupil-teachers and seven prize students; and thirty schools for the poor received instruction in drawing through its aid. The pupil-teacherships had been abolished, and in December next it was proposed to cancel the appointments of the prize students, whilst twelve of the schools alluded to, which were taught drawing through the art pupil teachers, had remained untaught during the whole year, from the circumstance of the students of the school of art being unwilling to accept the terms of the new code. He was glad to be able to report favourably on the condition of the school as to the progress of its students.

In October, he was requested by the Science and Art Department to visit Paris again, and to report on the works of the French schools then exhibiting in the Palais de l'Industrie, and the opinion he had formed on his former visit was abundantly confirmed. The French Government had determined to consider anew every point relating to ornamental art, and a special commission had been appointed. Able directors had also been selected; more institutions were about to be established; and it was certain that a steady and beneficial innovation would be the result. In a few years there would be brought about a revolution in all that related to industrial art; and it would only be by the most cautious steps we could hope to be able to compete with the French, or indeed to maintain our present position.

The report of the committee stated that they had been in correspondence with the managers of other schools who joined with them in denouncing the conduct of the department of science and art in still further crippling the provincial institutions, whilst so large a sum was bestowed on the parent establishment at Kensington. The committee had sent a deputation to London to give evidence before the select committee. Whatever might be the result of its inquiry, the committee had no hesitation in stating that unless some Government aid was afforded to replace, in part at least, the 300*l.* which the school had been so unjustly deprived of, the institution must inevitably be closed, as it could not exist on local support alone.

The financial statement showed that 381*l.* had been received in subscriptions, 286*l.* in donations, and 550*l.* in students' fees. The total income had been 1,221*l.*, and the expenditure had been 1,157*l.* The balance owing at the beginning of the year was 241*l.*, and at its close was 177*l.*

Councillor Rumney moved that the reports and treasurer's statements be adopted and printed. All the schools, both metropolitan and provincial, were, he said, in arms against the recent change made by the Science and Art Department. On Thursday last he had heard the evidence of the chairman of the Lambeth school, the most numerously attended and successful of the metropolitan schools; and that evidence quite dissipated the fears that had been entertained that the London schools would support the action of the Department. His evidence was utterly condemnatory of the proceedings of the heads of the Department: he stated emphatically, that if the Department insisted on carrying out the present regulations, the Lambeth school, which had been the means of spreading a knowledge of art amongst a great number of working people, must be closed.

AN IRON FORT FOR CRONSTADT.

THE first of a series of enormous iron bars has been successfully rolled by the Millwall Iron Company, with which Mr. Brassey is connected, for the Russian Government, for the construction of a powerful iron fort at Cronstadt. Armour-plates of immense thickness are now being made at Messrs. Brown & Co.'s works at Sheffield for the Belgian Government, to be used in the construction of some additional iron defences at Antwerp. France, it is said, intends similar works on all the more important points of Cherbourg's sea defences; and now Russia has ordered the materials for an iron fort at Cronstadt. The bars rolled were an advance even upon what has been hitherto done. Each bar when delivered was to weigh six tons, to be

15 inches square, to be tongued and grooved in the rolling, and to be perfect in its soundness throughout. When the furnaces were opened, the immense mass of metal was drawn forth on to an iron truck, heated to a brilliancy that was almost blinding. Workmen, shielding their faces as they best could, then swept the impurities from its surface with long brooms soaked in water, but which nevertheless lit like tow the instant they came in contact with the iron, which was sparkling like a gigantic firework. [Could not brooms made of steel wire be used?] It was then let down the incline to where the rollers, turned by one of the largest fly-wheels in the kingdom—more than 100 tons weight and nearly 40 feet in diameter—was waiting to crush the mass into its required form. This was the critical moment: for an instant or two the rollers failed to grip it, but at last it was caught, and the whole machinery moved slower, as, amid loud cheers from the workmen, they began to wind it in. The refuse melted iron was squirted out in all directions, and as the mass emerged from the rollers on the other side it lit up everything with a bright, lambent flame, said to be caused by the pressure to which the bar was subjected. This was only the first roll, but it was passed through three times to reduce it to its proper thickness; and the last operation was effected by lifting the bar into a bed, so to speak, made between two masses of iron, and then passing over it an enormous iron roller, which removed the curved form the bar had received in passing between the rollers. When the fort is erected in Russia it is intended to test its powers of resistance with a gun throwing a shot of a thousand pounds weight, which is to be cast in Prussia.

THE DUBLIN EXHIBITION.

The distinctive features of the forthcoming Great Exhibition of 1864 are thus described in a circular issued by the committee:—1st. The principal department will consist of articles of exclusively Irish manufacture. 2nd. The machinery court will contain machines of the newest and most improved construction, suited to manufactures of various kinds, amongst which will be exhibited the most modern appliances used in the production of linen and woollen fabrics, and which will be exhibited in motion. 3rd. Each of the varied industries of the country will be fully represented. 4th. Specimens of all minerals of the country will be exhibited. 5th. How the water-power of the kingdom may be economized, so as to employ in it manufactures at a small expense, will be shown. 6th. How the bogs may be utilized, so as to render them sources of wealth, will also be exhibited by the application of new and important discoveries. 7th. The fine arts gallery will contain important pictures from the Government collection at South Kensington, from the galleries of private collectors, and from the studios of many of the leading artists in the United Kingdom and on the Continent. 8th. For the opening ceremony, Mr. John Francis Waller, LL.D., will write an inaugural ode, and Dr. Stewart compose the music. 9th. It is intended to have musical performances, upon an enlarged scale, morning and evening, during the exhibition. All the space at the disposal of the committee has been applied for and allotted, and the most strenuous efforts are being made to have the several arrangements ready for the opening on the 25th of May. The interior of the Agricultural Hall is undergoing decorations, and the ground-floor is being boarded over with 3-inch deals. The partitions shutting off one department from the other are far advanced, as are also the apparatus for lighting and for supplying the fountains with water. Preparations are making for erecting the great organ built by Messrs. Telford, of Stephen's-green, and which is to be placed in the southern gallery in the rear of the orchestra, capable of accommodating three hundred performers. The new building in Shelbourne-yard is approaching completion, and will be joined to the Agricultural Hall at the southern aisle, by a passage covered with glass. The new building is divided into three great compartments or aisles by metal pillars, which sustain the roof. The structure is composed of corrugated iron. It will be used for machinery in motion. The contractors are Messrs. Grendon & Co., of Drogheda. The engine for driving the machinery is being placed in position. It is one of 20-horse power, and will be supplied with steam from Elson's patent boiler, erected by Messrs. Wilsenhame & Rye, of Oldham, Lancashire, free of cost. On the southern side of the court-yard of the Royal Dublin Society House large refreshment and waiting saloons will be erected adjoining the aisle of the Agricultural Hall on the south side. In front of the refreshment rooms a portion of the yard will be laid out as a garden, and for the display of articles which will not be injured by being exposed to the open air. In every part of the city shopkeepers and manufacturers are making active exertions to have their contributions sent in. Every kind of manufacture produced in Ireland will be represented. The following are the charges fixed for season tickets—for a gentleman, 21s.; for a lady, 15s.; and for children under twelve years of age, 7s. 6d.

THE ENGLISH CHURCH IN NAPLES.

The English church in Naples, of which not long ago we gave views, both internal and external, is now roofed in, and a very handsome building it promises to be. If funds were forthcoming, the church might be completed in the course of next winter. The committee earnestly appeal to all who are anxious to see the church of their own land taking its part as a witness for the truth in a country, to which, under the Providence of God, a Constitutional Government has given the priceless blessing of freedom of worship. Garibaldi, it will be remembered, during his brief dictatorship, gave the site. The author of "The Stones of Venice," closes the first volume of that work, with a statistical question which bears on this subject. First pointing out how many thousands a year are spent by this Protestant England on the Continent, he suggests that the Recording Angel may keep some such an account of these spendings as this:—

"To wooden spoons, nut-crackers, and jewelry bought at Geneva, and elsewhere among the Alps, so much; to coral horns and lava brooches, bought at Naples, so much; to glass beads at Venice, and gold filigree at Genoa, so much; * * * to ball dresses and general vanities, so much. This, I say, will be the sum on one side of the book, and on the other will be written,—

To the struggling Protestant churches of France, Switzerland, and Piedmont, so much."

Had we not better arrange this piece of statistics for ourselves, in time? Should any of our readers be led to do so, it may result in aid to the English committee in Naples, who are striving to provide a church for their countrymen.

LODGING HOUSES FOR THE CITY.

At the last meeting of the Common Council a report brought up by Deputy Fry from the Improvement Committee, authorizing the expenditure of 37,043*l.*, for the erection of model lodging-houses in Farringdon-street, was agreed to. Upwards of a year ago the Improvement Committee were directed to report as to the state of the Finsbury Estate Surplus Fund, amounting to nearly 42,500*l.* stock, which, by a previous resolution of the Common Council, was ordered to be applied to a similar purpose, and upon the extent to which the homes of the industrial poor in the city of London and its immediate vicinity, had been or might be destroyed by various schemes for metropolitan improvements then already sanctioned. The result of inquiry by the committee leads them to make an effort to meet the present requirements of the labouring classes of the City, by assisting them to obtain healthy separate homes, and that without overtaxing their means or compromising their independent position as working men. Acting under a power conferred upon them by the Clerkenwell Improvement Act, they now contemplate the erection on a plot of vacant ground on the west side of Farringdon-road of three separate blocks of buildings, fronting Farringdon-road and Ray-street. Accommodation will thus be provided for 160 families, eighty of them having three rooms, and eighty having two rooms each, with all suitable conveniences. In the general arrangements care is to be taken to insure the domestic and family comfort of the occupants, and by having a direct access from the street to each set of rooms the privacy of distinct dwellings will be secured. The basements of the various blocks will be used for warehousing purposes, and the ground-floor as shops. A design for the buildings has been approved by the common council, and the erection of them will be commenced forthwith.

MANUFACTURING DISTRICTS PUBLIC WORKS ACT.

The last printed report, made by Mr. Robert Rawlinson, C.E., to the president of the Poor-law Board, and dated the 7th of April, shows that the amount ordered by the Board on the 5th instant, was 1,147,865*l.* In addition to this sum, applications to the amount of 209,527*l.*, are now under consideration. Of the works undertaken, the great bulk of expenditure will be upon town sewerage and street improvements, including the formation of roads, paving, flagging, and channelling of streets. This class of works will improve the several districts to the greatest extent. Of the 1,147,865*l.* already ordered by the Board, it is proposed that 229,558*l.* 17*s.* 6*d.*, shall be expended on main sewers, and 555,082*l.* 2*s.* 6*d.* on street improvement works, amounting together to 784,641*l.*, or 68 per cent. of the total sum.

The length of main sewerage thus undertaken is 344,760 yards, or 195 miles. The area of paving and street works undertaken in respect of the above-mentioned sum of 555,082*l.* 2*s.* 6*d.*, is 3,186,768 square yards (about 3*s.* 6*d.* per square yard). This area makes 658 acres, the length of streets being 341,187 yards, or 194 miles, and costing about 2,861*l.* per mile. 7,838 men are now employed directly and indirectly, and receiving payment from funds provided by the Act. Adding the numbers dependent upon these men, there are about 38,014 persons supported by means of the public works. The measure of the benefits of the Act is, however, but very partially represented by this statement.

Such has been the progress of the men, that Mr. Rawlinson says,—"Before the coming summer is far advanced, I may strike out of my future reports the terms 'unskilled labourers.'" He justly expects that much advantage will result from the works already in progress, and points out others needed:—"If the population of Lancashire be placed in a sanitary state only as favourable as that of the metropolis, there will be an annual saving of some ten thousand lives, and an improved state of health throughout the entire population." Out of evil will come good.

THE RESERVOIR QUESTION.

Rochdale.—In consequence of the repeated complaints by the inhabitants of Milnrow, Ogden, and other villages in the neighbourhood of the Oldham Waterworks, at Piethorn, the public authorities of Rochdale are now about to apply to the Home Secretary for the appointment of Mr. Rawlinson, or other public officer, to inspect and report upon the state of the embankment of these waterworks. At a recent meeting of the Rochdale town council, it was stated by one alderman that he had that morning heard that the embankment, to some slight extent, had given way, and that the water was now escaping from it.

Hertford.—There was a rumour last week that the embankment of the reservoir in Port Hill field had burst. The reservoir had been filled, and there being a high wind, the water overflowed, and washed away some of the gravel of the embankment; but the reservoir, as stated by the local *Mercury*, is sunk in the solid earth, and the embankment is of no great height, so that when the reservoir is full, which is not frequently, the pressure upon the sides of the embankment is not very considerable, and if the whole volume of the water above the level of the field were to escape, no extensive injury would follow; but there is no likelihood of such a result.

Sheffield.—The annual meeting of the shareholders of the Waterworks Company has been held, in the Cutlers' Hall, Mr. W. Smith, of Dam House, in the chair. The report stated that the directors intend to admit the liability of the company; and that in order to meet the claims upon them they propose to ask Parliament for powers to raise 400,000*l.*, and to issue a special commission to assess the compensation due to the sufferers by the flood. The report recommended that no dividend should be declared; but Mr. M'Turk moved that the usual dividend of 5 per cent., which had been earned previously to the 31st of December, should be declared; and it was urged that many widows and orphans were dependent upon the annual dividends of the company, and that "no dividend" meant to them the extremity of distress and privation. It was felt, however, that under present circumstances it would not be

right to declare a dividend, and the motion was withdrawn by Mr. M'Turk, and the report of the directors adopted.

Mr. Jackson, the chief constable of Sheffield, prepared a table, showing the amount of property totally and partly destroyed within the borough by the bursting of the Bradfield Reservoir. From it we learn that the number of manufactories totally destroyed was 3; partially destroyed, 20; and flooded, 76. The number of rolling, grinding, corn, and other mills, totally destroyed, 6; partially destroyed, 14; and flooded, 23. Seven workshops, warehouses, store-rooms, &c., were totally destroyed, 12 partially so, and 127 were flooded. The number of malthouses, breweries, public and beerhouses totally destroyed, is 2; partially destroyed, 20; and flooded, 154. There were no churches, chapels, or schools, totally or partially destroyed, but 10 were flooded. Of shops flooded, there were 393. The number of dwelling-houses flooded was 4,172; totally destroyed, 28; and partially destroyed, 384. There were 4,150 yards of fence walling destroyed. Four bridges were totally destroyed, and 1 partially so. From a report of the Harvestlane district, where out of 680 houses, 600 suffered from the effects of the inundation; 5,020 loads of mud have been led away from the streets and cellars: 276 cellars have been emptied and whitewashed: for this purpose, and for purifying the roads, 68 tons of lime have been used.

ON THE CAUSE AND PREVENTION OF IRON RUST.

In a paper recently read publicly, the writer states that "one of the objections to the use of iron is its rapid oxydation when exposed to the weather," and he suggests covering it with glass or porcelain enamel. This plan, I fear, would not only be very expensive, but almost impracticable on a large scale: painting with oil colour, too, requires to be renewed every three or four years

Many a valuable hint is to be obtained from an intelligent practical labouring man, which may lead the philosopher into a train of ideas that may, perhaps, result in discoveries or inventions of great importance. When bricklayers leave off work for a day or two, as from Saturday to Monday, they push their trowel in and out of the moist mortar, so that the bright steel may be smeared all over with a film of it, and find this plan an effectual remedy against rust.

In Wren's "Parentalia" there is a passage bearing upon this subject:—"In taking out iron cramps and ties from stonework, at least 400 years old, which were so bedded in mortar that all air was perfectly excluded, the iron appeared as fresh as from the forge."

In the victualling department at Plymouth, some years ago, I observed a man lime-whiting the inside of some iron tanks, previously to their being filled with water for the service of the crew and passengers during a voyage: this was to prevent the iron rust affecting the water. In London I have also recently seen men, with a tub of lime-whiting and a mop, smearing the inside of large water-pipes, as security against rust.

Oxygen, which is the main cause of rust, is abundant in the composition of both water and the atmosphere; and that quicklime has an astonishing affinity for it is evinced in the homely practice of preserving polished steel or iron goods, such as fire-irons, fenders, and the fronts of "bright stoves," when not in use, a little powdered lime beaten upon them out of a muslin bag being found sufficient to prevent their rusting.

Another instance, very different and far more delicate, bearing upon the same principles: the manufacturers of needles, watch-springs, cutlery, &c., generally introduce a small packet of quicklime in the same box or parcel with polished steel goods, as security from rust, before sending it to a distant customer, or stowing it away for future use.

These cases are extremely curious, because, as a general rule, bright steel or iron has a most powerful affinity for oxygen: consequently it is very readily acted upon by damp, and is rusted in a short time, either by decomposing the water and obtaining oxygen from that source, or direct from the atmosphere. It is not absolutely essential that the quicklime should be in actual contact with the metal, but if somewhere near, as in the case of the parcel of lime packed up with the needles or watch-springs, the bright metal will remain a long while without the least alteration in its appearance; the lime (which is already an oxyde of calcium) either receiving an additional dose of oxygen, or being converted into a carbonate of lime. The effect of mortar in preserving the bricklayer's trowel from rust is even more remarkable, because the mortar is already hydrated, and fully saturated with water.

In these several illustrations it should be distinctly remembered that the iron or steel has had nothing whatever to do with the experiments. Under all circumstances, the oxygen has so determined a liking for the lime, that it passes the metal entirely unheeded, not an atom being left by the way. The steel and lime are no more influenced by the presence of each other than if they were miles apart; but it shows in the most convincing manner that, although oxygen has a great liking or powerful affinity for iron, it has a very much greater liking for lime, either as a hydrate or fresh from the kiln; and that its attachment commences from the moment it has the opportunity, and continues to unite, to absorb, and to again restore the quick or hydrate of lime to its original state of carbonate of lime. This process goes on expeditiously at first, but with less and less avidity during an almost unlimited period of time.

Hitherto I have not ventured to give an opinion of my own on the matter. I have merely stated facts, which may surely be turned to practical purposes upon a large scale. If this law of nature can be applied so effectually as to prevent rust forming upon needles and cutlery, why should it not apply with equal force to the Britannia tubular bridge, the iron roofs of some of our great public buildings, or the iron-clad steamers that cross the ocean? It is not likely that either wind or water will readily remove the coating of lime, the attraction of cohesion being so determined between this material and any hard, smooth surface.

There is another remarkable phenomenon in the oxydation of iron. It is this: machinery, and implements of all kinds, scarcely rust while they are in use, even if used only for a few minutes daily. It would seem as if the molecules of iron, once disturbed, continue to vibrate long beyond human appreciation; and if one might allow imagination a licence, it would suggest that, while vibrating, the oxygen cannot approach the iron; and that only as this vibration diminishes does it draw nearer and nearer, till at last, when motion has entirely ceased, the oxygen and the iron combine.

It may be supposed by some that steel and iron are different materials. This may be true in one sense, but, as far as oxydation is concerned, there is scarcely a trace of difference between them. Either pure iron or steel may be considered almost as an imaginary material: in fact, the best steel may be regarded as very little more than purified iron.

I have studied the subject of lime and its innumerable appliances during a very long period, and can myself see no reason why this material should not be generally used to prevent iron, in any form, from rusting; and, if it answer this purpose, it will be found the cheapest and most readily applied of anything, besides possessing the extra advantage of retaining its preservative quality during at least a century.

C. H. Smith.

THE PROPOSED DECORATIONS IN ST. PAUL'S CATHEDRAL.

Your correspondent, "B," appears to me to argue in a circle; or, rather, to simply revolve on his own axis: both figures would indeed apply if—as seems highly probable—his orbit is confined round that great dazzling, nay, blinding, luminary, the St. Paul's Decoration Committee.

* * * *

I now ask for a little of your space to set right certain repeated perversions of my meaning; and to deny, as I feel justified in doing, certain statements in your correspondent's last letter.

First, then, I do not wish to see either foreign artists or their works excluded from free competition in this country; albeit I am at a loss to imagine what are the very great "benefits we have derived from the employment of foreigners in the departments of painting, sculpture, architecture, or literature." I do, however, think it highly desirable that for national works of decoration, national artists should be employed when these can be had as well qualified as, or better than, foreign artists. Your correspondent says, with a view to strengthen his argument, that he is "aware of the existence," nay, more, that he is "acquainted with frescoes at Westminster, Lincoln's Inn, and elsewhere." May I ask, has he seen *all* the mural paintings at Westminster alone? I confess that it is only through my connexion with the press that I have had the pleasure of viewing Mr. Herbert's great water-glass picture, lately finished and not yet exhibited to the public; and it is only through a special application to the Chief Commissioner of Works that I have enjoyed the opportunities of examining the grand series of frescoes by the late Mr. Dyce, in the Queen's Robing-room—a room which had been closed even to that artist's personal friends during fifteen years, and to which no admission has yet been given without the order I obtained. If your correspondent has really seen these works together with Mr. Maclise's noble water-glass picture in the same building, it appears to me absolutely inconceivable upon any theory of his capacity to form an opinion for himself, that he should seriously make the following announcement:—"I have also heard," says he, "the remark of a gentleman, quite as well qualified to express an opinion on the subject as your correspondent can suppose himself to be [very cruel this, is it not?] that it is much to be regretted that, generally speaking, the artists engaged at Westminster have been unable to emancipate themselves from the habit formed by *genre* painting; and that their works constitute at most a class which might be termed *genre historique*, and fail to obtain the dignity and simplicity of the monumental works we see abroad." He goes on to say, in effect, that it might have been better had we employed foreign artists to paint the "Meeting of Wellington and Blucher at Waterloo," the "Death of Nelson," and so forth. Now, admitting the always arbitrary and often absurd distinctions of *genre* and *genre historique*, the remark can only possibly apply to a few small paintings in the corridors and upper waiting hall; but to say the remark holds good "generally speaking," is simply ludicrous, and tempts me to ask,—Is the "gentleman" referred to any relation to Mrs. Harris? Why, sir, I boldly affirm that no finer examples of the best and purest principles of monumental art have been produced in Europe since the sixteenth century than the frescoes by Mr. Dyce in the robing-room; and that if the paintings of Messrs. Herbert and Maclise are in any degree less purely monumental in character, they yet compensate for any possible deficiency in this respect by their extraordinary originality or power. Probably, however, your correspondent's chief object in advancing "the gentleman's" testimony was to throw discredit upon my "qualification to express an opinion." If so, I beg to observe, that I *ought* to know something of this matter, seeing that I have a practical as well as a theoretical acquaintance with art; that monumental painting has been a special study with me; that I have seen all the great monumental paintings in Europe; that the habit of writing on art has compelled me to weigh and compare my impressions; and that a book containing, among other things, my views on this particular subject, has been so far approved by competent authorities, that it is given as a prize-book in the schools of the Department of Science and Art. Can "the gentleman" say more?

It only remains to contradict assertions I know to be groundless. It is, then, a garbled statement of the fact, that "the committee permitted a foreign artist to compete with the English *ones*." The truth is, that although three English with one foreign artist were *invited* to compete with designs for the apse mosaic, Mr. Stevens (the sculptor) sent nothing; Mr. Watts declined to compete (though he sent sketches as a sort of memorandum of what might be done); and the designs of Mr. Leighton, the only English artist who went to the trouble of preparing finished drawings, were declined in favour of those by M. de Triqueti, though I maintain the latter to have been far inferior in nearly all the essentials of art. Does not this look like the "hole-and-corner competition" which your correspondent thinks it so highly indecorous even to hint at? Moreover, I believe, so far from this being the "only mosaic ordered," that M. de Triqueti has been commissioned to prepare designs for the spaces below the apse windows also, without any pretence of competition.

Your correspondent is obliged to resort to the *petitio principii* in regard to the painted windows "ordered" of Professor Schnorr, and the glass

painters of Munich. With Professor Schnorr's reputation I am acquainted perhaps as well as your correspondent; but he is seventy years of age; and recently, at all events, was almost blind; and in any case his designs will certainly be executed mainly by pupils in that style of German academicism which I should never wish to see naturalized in this country. Moreover, they will be mere pictorial transparencies answering none of the requirements of that monumental art the necessity of which is so much insisted on in reference to the wall-paintings at Westminster. Again, I altogether deny having "admitted" that glass paintings equal to the German could not be obtained in this country. On the contrary, I said that as we had excelled in windows of Gothic character, so, doubtless, we should in the style suitable for St. Paul's, if called upon to do so. Besides this I believe the forthcoming exhibition at South Kensington will prove that, as regards the "colour and texture" (whatever is meant by the latter) of the Renaissance glass, we have examples as near it in these qualities as is produced in Germany.

Lastly, I wish to deny what appears to me like a most disingenuous assertion, viz., that it "was by the liberal employment of foreigners by the late King of Bavaria, that the school of artists was formed whose works have given Munich a world-wide celebrity." King Ludwig certainly commissioned a few works of sculpture from Thorwaldsen, Canova, and Gibson; but were Von Klenze, Ohlmüller, Gärtner, Kaulback, Cornelius, Hess, Schnorr, Neurenther, Adam, Zimmerman, Rauch, Schwanthaler, Haller, Wagner, and their numerous pupils foreigners? or, indeed, any other artists engaged on the great national works to which Munich really owes its celebrity. If they were not all Bavarians, were they not Germans? As well almost might we call a Welsh, Irish, or Scotchman a foreigner. No, for national works Ludwig employed national artists,—as all, I should have thought, would wish to see done who have really at heart the welfare and dignity of their country, and the successful accomplishment of any scheme of national decorations. T. J. G.

THE BURSTING OF THE BRADFIELD RESERVOIR.

I HAVE read with much attention the evidence that has been given as to the cause of this sad accident, and must confess that I think as yet very little light has been thrown on it.

I have for many years been engaged as a draining engineer and Government inspector in the drainage of clay land, and have had to observe the wonderful contractile power that clay exhibits in drying. I may instance the cracking of clay land in autumn, and our ability to make the strongest soil porous by inserting 4-feet drains every 27 feet. This experience leads me to think that this accident may have been caused by the drying and cracking of the clay puddle in the embankment consequent upon the sinking of the water in the reservoir during this singularly dry winter, and its exposure while in this state to the sudden rise in the reservoir after the heavy rains at the time of the accident.

The reservoir was formed by an embankment carried across the valley, 90 feet high, for the purpose of collecting the water that came down in the wet seasons; and the embankment has been made water-tight by having a puddle of clay carried up along its centre. This puddle, it appears, was made 14 feet thick at bottom; tapered off to 4 feet at top; and was supported, back and front, by the material of the embankment, which it is admitted was formed of loose earth: so that the puddle stood like a wall 90 feet high, 14 feet thick at bottom, tapering to 4 feet at top, exposed to wet and drought as the water rose and fell in the reservoir. This puddle was made of clay worked wet, and would be dependent for its continuing imporous upon its retaining the water incorporated in it. Now, the question with me is, has this clay wall remained in a condition this winter to retain its moisture, and not undergone the change that takes place whenever clay parts with its moisture? I think not. The amount of rain-fall in the Midland Counties during the six preceding months to the accident had been remarkably small,—only 9 inches, or less than half the usual quantity,—and the springs throughout the county had been remarkably low. The ponds usually overflowing at Christmas were not half filled in February; and wells were dry that were never before known to fail at that season: so that the contents of the reservoir must have been reduced very low, and the embankment have been exposed to an unusual exhaustion of its moisture; and while in this condition the heavy rains came, and the water suddenly rose in the reservoir, filling the fissures under great pressure. The effect of this, I take it, has been that the water has been forced through the puddle. Let me ask, is this not likely to have been the case, and the cause of the accident? HEWITT DAVIS.

WANTED, A LIFE SCHOOL.

SIR,—I observe from the reports of the meeting of the Architectural Association, held on the 13th inst., that some gentlemen present entertained the opinion that the Institute would oppose the proposal to establish a life school at the House in Conduit-street. As a Fellow of the last-mentioned Society, I sincerely hope that an application will be made to the Council, who, I trust, will show by their answer that there was no ground for supposing that the Institute would act in any way as an obstruction to the interests of art and education.

It has appeared to me somewhat surprising that a life school for architects should not long since have been established by the Institute for the use of members,—old and young. From personal experience I know how feebly academy schools meet the requirements of the architect; and the value of a distinct professional school, where the architect may see attitudes and compositions which may be of service to him, cannot be too highly estimated. If such a school be established, might not arrangements be made which would include other art-workmen besides architects? as, for instance, the architectural sculptor, the artist on glass, the wall decorators, &c. Unless this can be done, I fear the architect's knowledge of the figure (although under any circumstances most desirable) will nevertheless not be of that great practical utility which it unquestionably would be if responded to by similar knowledge in the artists employed by him. EDWARD W. GODWIN.

SOUND BETWEEN TWO HOUSES.

IN reply to your correspondent as to what will deaden sound between two houses where the party-wall was 10 inches thick, and the thickness of which he has considerably increased by various methods, I think, after the many experiments he has tried, he will find the cause to be a very simple one; *i.e.*, the floor-joists of both houses either are a continuous length, or some one or two of them touch or abut at their ends.

E. BEATTIE, JUN.

PROVINCIAL NEWS.

Northampton.—The new town-hall will be opened on Tuesday in Whitsun week by the mayor, with some ceremonial and holiday proceedings.

Southampton.—An appeal to the town council as to the castle wall has received signatures of various influential inhabitants. It prays the council to preserve the portion of the castle wall opposite to Albion-terrace, lately purchased by Mr. Wheeler, of Winchester, and intended by him to be pulled down for building purposes. "This venerable relic of the past," continues the memorial, "is justly regarded as a great ornament to that part of the town. It is associated with various historical recollections, dating back to the reign of King Stephen; and, in connexion with its keep and its relation to the external defensive walls of the town, admirably exhibits by its outline the plans and method of fortification of that early period. The whole of this wall may be purchased for 100*l*.

Malvern. Several new villa residences have been recently erected at the Wells by Mr. Davis, including one for the Marquis de Lys, and another in a different style for Mr. and Mrs. Lampen. It is proposed to cut a new road from the south end of the village to the station on the Tewkesbury line. Shops of a fixed value are to be built on each side. The principal work in hand—the Proprietary College—is being pushed forward to completion. The south portion of this building has already the roof on, and the opposite wing is almost in an equally advanced state.

Middlesbrough.—An exchange is to be erected for Middlesbrough at a cost of 15,000*l*. The matter was mooted at a meeting of the iron-masters, and the greatest portion of the above sum was immediately promised for the purpose.

NEWS FROM SCOTLAND.

Elgin.—The foundation-stone of a new United Presbyterian Church was laid in South-street, Elgin, with Masonic honours, on 10th March last year, and on 3rd April next the church is to be opened for public worship. The architect was Mr. Bisset, since deceased, and the builders are Messrs. Humphrey & Rennie; carpenter, Mr. Kitchen; plumber, Mr. Hunter; plasterer, Mr. Simpson; painter, Mr. Kintrae; slater, Mr. Findlay; and sculptor, Mr. Goodwillie—all of Elgin. The church was intended to hold 500, and the cost of the whole works was estimated at 1,300*l*. The edifice is in the Pointed style, which is carried out in every part of the building. Above the door is a large window divided by a mullion and tracery, and on each side of this centre window there is a smaller one with deeply cut mouldings, and at the intersection of the labels there are carved bosses. Above the centre window there is a large circular one with cusped trefoil, and the front terminates in a pseudo bell-cot, 12 feet in height, with crockets on each corner, and a carved finial rising above. Along the west side of the church a street is to be opened. This side has five windows, divided by mullions. The south end has two windows. Attached to the church, at the south end, there is a vestry. The church is built of freestone from the quarries of the builders at Quarrywood.

Falkirk. The new episcopal church for this town has been consecrated under the name of Christ Church. The designs were prepared by Mr. R. Anderson, architect, Edinburgh. The edifice consists of a nave, with porch at the north-west corner, south transept, chancel with organ aisle, semi-circular apse, and vestry under the organ aisle. The roof is an open timber one, consisting of principals with circular braces, diagonal ties, purlins, and common rafters. The nave is lighted by plain single-light pointed windows, and a west window of two tall lights, with a circular and foiled opening over them; the chancel and apse by five narrow pointed headed windows, and a two-light window, with plate tracery, opposite the organ aisle. Buttresses are placed at the angles of the building, and at right angles to the principals of the roof. The east gable of the nave is surmounted by a belfry, and the west gable by a carved cross. The contractors for the work were Messrs. J. Law, mason; J. Black, carpenter; D. Draper, slater; R. King, plumber; and Miller, plasterer.

The Building Trades and Strikes.—The operative masons of Arbroath—who are at present a numerous and well-employed body, there being a great deal of building going on in the town and neighbourhood—have made a requisition to their employers for an advance of wages from 4½d. to 5d. per hour. At a meeting held in the George Inn, on Thursday evening, the masters consented to give 4¾d., which has been accepted. This is at the rate of about 23s. a week.——The Inverness masons have come to an agreement with their employers, so that the strike here is now at an end.——The Banff ship-carpenters have struck for an advance of wages. They presently receive 18s. per week, and they seek 2s. more, with a half-holiday.——The carpenters of Messrs. Adamson, shipbuilders, Grangemouth, lately struck work. The men have been working at the rate of 3s. 8d. a day for new work and 4s. for jobbing, and they had requested an advance of 6d. a day on both, which was refused. Messrs. Adamson, however, offered an advance of 4d. a day on new work, and granted the advance on jobbing, the men having returned to their employment. ——The engineers in the Greenock shipbuilding establishments and foundries having followed the example of the ship-carpenters and joiners in making a demand for an addition of 3s. to their wages, presently averaging 26s. and 27s. per week, have been only partially successful—some of the foundries having refused—and in these a considerable number of the younger men have struck work. Those who have given the rise have done so to the extent of 2s. making the average 28s. The wages now ranging here for those connected with shipbuilding and engineering are,—engineers, 28s.; joiners, 28s.; and ship-carpenters, 36s. The two former trades allege as their reason for this demand the great increase of wages given to the ship-carpenters.

CAUTION TO BUILDERS.

NEGLECTING TO GIVE NOTICE.

ON Saturday, the 23rd inst., Edward Martin, of Old Ford-road, Bow, was summoned before Mr. Leigh, at the Worship-street Police Court, by the district surveyor of Bow and Poplar, for having erected an irregular building to be used for making matches, without giving any notice, as required by the 38th section of the Metropolitan Building Act, 1855. The magistrate, considering the building to be of a dangerous nature, inflicted the full penalty of 20*l.* and costs, but with a proviso that if the building be made conformable to the Act within one month, the penalty should be reduced to 40*s.*

Mr. Hames, of Old Ford-road, and Mr. Moyle, of Commercial-row, were summoned at the same time for similar offences, and were ordered to pay mitigated penalties and cost for their neglect.

A builder of the name of Aldon, of Armagh-road, Bow, was also summoned before the same magistrate, for having enclosed a stable and workshops at the rear of his house with woodwork, and not with brickwork, as directed by the Act. The irregularity was ordered to be amended in three weeks.

ERECTIONS BEFORE LINE OF FRONT.

METROPOLITAN LOCAL MANAGEMENT ACT.

THE case "St. George's Hanover-square Vestry *v.* Spencer," tried in the Court of Common Pleas, on the 22nd inst., was an appeal against a magistrate's decision, under these circumstances:—The respondent was a tradesman in Half Moon-street, and he took out one of his windows on the first floor, and covered the opening with a case of glass and iron, extending the width of the window, and projecting 2 feet from the wall, but 9 inches less than the projection of the shop front. The magistrate thought that this was not a "structure or erection" within the meaning of the Act; and he also found that it was within the line of frontage; and he declined to make an order for its removal. The decision was now appealed against.

Mr. Brett, Q.C., and Mr. Sippetel, appeared for the appellants; and Mr. Keane, Q.C., and Mr. Macnamara, for the respondent.

The Court held that they could not say, as a matter of law, that the magistrate ought to have held that the glass case was a "structure or erection." There was another question upon which the magistrate had entertained a doubt, and that was whether he was obliged to receive as conclusive the decision of the superintending architect as to the line of frontage, or whether he had a right, when called upon to demolish any erection, to decide for himself whether it was or not within the line of frontage. The court were of opinion that the magistrate was at liberty to form his own opinion upon this question.

Appeal dismissed, with costs.

CHURCH-BUILDING NEWS.

Winchester.—At a meeting of the trustees of St. Cross Hospital, held in Beaufort Tower, tenders were opened for the restoration of the chancel of the church, and that of Messrs. Newman & Son was accepted. The restoration will be conducted under the supervision of Mr. Butterfield, architect, and will comprise the opening of the two large windows immediately over the altar, the making good the two octagonal piers which have been cut away, the erection of eight Derbyshire marble engaged columns, the cleansing off the whitewash from the arches of the triforia and the bosses and groining: in addition to this, the present pavement in front of the altar will be removed and be replaced by a tesselated one on the original level, which has been discovered about 3 feet below the present surface. The whole of the windows will be filled with stained glass, which is now in process of preparation. "Brother" King has been engaged in clearing and restoring the north and south chapels of the chancel.

Chichester.—The work of restoring the central tower and spire of the cathedral is still slowly, but steadily, proceeding. The platform upon which the workmen are engaged has recently been raised several feet, and this has brought into view a large portion of the ornamental external work of the tower, which can now be distinctly seen above the roof of the nave and chancel. The walls of the tower, which are 5½ feet in thickness, have now reached a height of nearly 100 feet from the ground. There are turrets at the four corners, which, like the tower itself, are embattled; and these corner turrets, ornamented as of old, have also been carried up to a considerable height. Three of them are octagonal, and the other the south-western one—circular, as in the original tower. The tower is to contain two windows on each side, each of which will be divided by clustered columns, supporting two pointed arches within larger ones of the same character. The bases and lower parts of the mullions of the great window on each face of the tower are now in their positions, while the arcading below them is finished. The "traveller" now works at an elevation of about 110 feet from the ground, and it will be necessary to have the scaffolding again raised in the course of a few weeks. This, when done, will be high enough to admit of the completion of the tower, which, it is expected, will be finished before the end of the present year. As yet no attempt has been made to connect the new work with the old, nor will this be done until the tower is completed.

Yeovil (*Somerset*).—Since the re-opening of the church of St. John, in February, 1861, several works have been carried into execution. The removal of the building erected in recent years for a vestry-room on the north side of the chancel was deemed desirable to carry out the work of restoring the exterior of the church; and the position of the crypt, under the chancel, at once suggested a substitute, with the double advantage of removing an eyesore, and of restoring an ancient feature. The taking down of the old vestry-room on the north side led to the removal of the porch to the priest's door on the south side of the chancel,—a modern erection, for which has been substituted a plain flight of steps enclosed with masonry. This part of the work, combined with that of opening the windows lighting the crypt, led the way to the necessary repairs of the chancel externally, at the expense of Capt. Messiter, of Barwick House, the lay rector, consisting of rebuilding the decayed buttresses and the restoring of the missing and defective pinnacles on the parapets, as well as the setting up of new crosses over the two eastern gables, on their original bases. Another work, decided on at about this period, and since completed, was the rebuilding of the south entrance porch. The roof is of carved and panelled stone, divided into compartments by moulded ribs, terminating on angel corbels, and having carved bosses at the intersecting points, on which are represented the Agnus Dei, the monogram of St. John the Baptist, and other devices. Carved texts in panels decorate the walls of the interior, and brass gas standards on stone carved shafts are placed on each side wall. Stone benches against the wall, and a tile encaustic pavement, complete the internal decorations. It was deemed at this time to be a fitting opportunity to open the principal western or tower entrance; to restore the window over, filling it with painted glass, and dedicating it to the memory of the late Prince Consort. This idea was speedily acted upon and carried into effect. Messrs. Hardman were entrusted to execute the pictorial glass which decorates this portion of the church, and in which are represented the principal incidents of the life and death of St. John the Baptist, to whom the church is dedicated. An engraved inscription on brass under the window, forming a scroll, describes the dedicatory object of the window, and is further emblazoned with the armorial bearings of the Prince. A tile pavement forms the tower floor, by Minton, in which are depicted the same royal badges, as well as the heraldic cognizances of the diocese. A chamber has been built for the organ adjoining the east side of the north transept, filling in the angle. The opening into the body of the church has been formed by cutting down to the floor line one of the windows, and inserting a new arch, with open spandrels filled with tracery, just below the original springing line of the window head, which still answers its original purpose for lighting the church, and is now filled with painted glass, by Hardman, representing angels playing on musical instruments, intermixed with singing-birds and foliage. The organ-chamber, with the organ-case, have been executed from the designs of Mr. R. H. Shout, of Dorchester, architect, to whom also the whole of the restorations in the church, from their commencement until the present time, have been entrusted by the committee, under the supervision of their honorary secretary, Mr. Thomas Lyon. The organ was rebuilt by Mr. J. W. Walker, of London.

Dowlais (*Merthyr Tydvil*).—Efforts are now being made to erect a new church in this populous district. The number of inhabitants is more than 17,000, and at present there is but one church, capable of holding only 400 people. The population is composed of English and Welsh. The Dowlais Iron Company, who built and keep in repair the present church, have offered an eligible site, and Mr. G. T. Clark and Mrs. Clark have offered to erect at their own expense the chancel. The trustees of the Marquis of Bute have promised 500*l.* A sum of 2,000*l.* will be required to build a suitable nave, and for this sum an appeal has been made to the friends of church movements.

STAINED GLASS.

Albury Church (*Surrey*).—A two-light window has just been painted for the east end of this church by Lady R. Gage. The principal feature in one light is the Crucifixion and in the other the Resurrection of our Lord. The window containing the Crucifixion is thus arranged:—A medallion in the centre comprises the subject, viz., our Lord on the cross, and on either hand the Virgin Mary and St. John. The background of this subject is ruby, diapered, broken by the passion-flower. Below the subject, forming the base, the emblem is again shown; and above the subject, bosses of ornament, in which the foliage of the vine is introduced; the whole surrounded by a border, on a ruby and blue ground, which completes the window. The second, as far as the ornament is concerned, is the same, both in colour and design, with this exception,—instead of the passion-flower the lily is introduced, the emblem of glory, joy, and innocence. In the Resurrection our Lord is represented rising from the tomb, the guards occupying the foreground. The whole has been finished under the direction of Mr. Gibbs, of London, in whose establishment the glass has been prepared and burnt.

Gloucester Cathedral.—The Jenner window is in hand, and will be erected in October next. The execution of the work was given to Messrs. Clayton & Bell, and the subject of the window will be the several miracles of healing performed by our Lord. The large window on the south side of the south aisle and nearest to Jenner's will be filled with painted glass to the memory of the late Mr. John Elliott. The dean, according to the local *Chronicle*, has secured five or six windows for the cloisters, and the workmen are now fixing the stonework. The clerestory windows in the south transept were promised by Messrs. Hardman at Christmas last.

St. Thomas's, Heaton Norris.—A memorial window has been erected at the east end of the chancel of this church. It has three principal lights or bays, which unitedly contain a representation of the "Crucifixion." The window is from the establishment of M. Capronnier, of Brussels.

Rotherham Church. This church has received an addition of decoration in the shape of a new stained glass window, in the south transept. Before the window could be put in, it was found necessary to restore the whole of the arch. The subjects selected for the window are all, with one exception, incidents in the life of Our Saviour. The principal subject, occupying the two centre lights, is "Christ's Charge to Peter." Each of the other four lights has two subjects. In the first is the "Annunciation." At the top of the second light the Saviour is healing the blind man; and, underneath, He is laying His hands on the little ones. The Saviour's "Entry into Jerusalem," illustrated by many of the attendant circumstances, is the first subject on the fifth light. At the bottom is the "Last Supper." The last incident illustrated in connexion with Our Saviour is "His Agony in the Garden." The other subject is the Healing of the Lame Man by Peter and Paul at the gates of the temple. The window is a memorial at the cost of Mr. John Waring, and has been put in by Mr. A. Gibbs, of London. Messrs. Blackmore and Mitchell Withers were the architects. The masonry work was done by Mr. Harper, of Masbro', and under the superintendence of Mr. Roddis.

Dowsby Church, Bourne, Lincolnshire.—One of the windows in the north aisle of this ancient church has just been filled with stained glass, a memorial, as the brass plate on the wall below describes,—"*In affectionate remembrance of Lucy Jane, the beloved daughter of Edward and Martha Scales. She died July 6th*, 1863, *in the 19th year of her age.*" In one of the openings is represented the "raising of Jairus's daughter:" in the other (being a couplet window) is shown the "raising of Lazarus." An angel holding a scroll—"I am the resurrection and the life"—is in the centre tracery light, on one side of which is an ornamental light with "A" alpha, and in the other "Ω" omega. This window was executed by Messrs. Thos. Baillie & Co., London.

Holy Trinity Church, Gainsborough.—Another stained-glass window has been placed in Holy Trinity Church by Mr. R. Capes.

Miscellanea.

Architectural Association.—Voluntary Examination Class.—During the next six weeks the class will meet on Monday evenings. The subject for Monday, May 3rd, will be "Mensuration," introduced by Mr. Lacy W. Ridge.

Metropolitan Buildings.—The draft of a bill "to further amend the laws relating to the Construction of Buildings in the Metropolis and its neighbourhood," has been prepared, by order of the Metropolitan Board of Works, and is now under consideration.

Architectural Society for Archdeaconry of Northampton.—At the meeting of the committee, held April 11, the Rev. Lord Alwyne Compton in the chair, it was finally resolved that the summer meeting of the society be held, in the early part of June, at Wellingborough. The secretary was also requested to write to some of the members of the society, who might appear likely to contribute papers at such meeting.

Memorials of Exhibitions.—The Council of the Society of Arts has appointed a committee to consider and report what memorials should record the sites of the Exhibitions of 1851 and 1862, which were originated by the Society; such committee to consist of the Chairman of the Council; Earl Granville; Sir C. W. Dilke, bart.; Sir J. Paxton, M.P.; Capt. Fowke, R.E.; Messrs. H. Chester; H. Cole, C.B.; Warren De la Rue, F.R.S.; G. Godwin, F.R.S.; P. Graham; Owen Jones; John Kelk; F. Lawrence; M. H. Marsh, M.P.; Marsh Nelson; S. Redgrave; Gilbert Scott, R.A.; Sydney Smirke, R.A.; T. Winkworth; and M. Digby Wyatt.

Liverpool Architectural Society. — The fortnightly meeting was held on Wednesday evening before last at the Royal Institution, Mr. W. H. Weightman, president, in the chair. A number of competitive designs by the student members for a drinking fountain, were exhibited; and the chairman, after remarking that they were all very creditable, announced that the council had awarded the first prize to the one marked "Spes," by Mr. Taylor; and the second to the one marked "Truth," by Mr. Jackson. A plaster model of a foot, by Mr. Rodwell, a member of the modelling class, was also exhibited. Mr. J. A. Picton then read the paper for the evening, on "The Philology of Architectural Terms."

Sanitary Condition of St. Mary's, Islington. The report of the medical officer of health for March states that the mortality of the parish has continued to be excessive during the five weeks of March, but not from any remarkable amount of zymotic disease. The total number of deaths registered was 406, which is 56 above the corrected average mortality for March in the seven previous years. There were 21 deaths from measles and 18 from scarlet fever. The latter number includes the death of a young surgeon, aged 22 years, whose life was sacrificed to his devotion to the sick poor, while fulfilling the duties of assistant resident officer at the London Fever Hospital. A fearful outbreak of infectious fever (typhus) has occurred in Mildmay avenue, —some new houses lately erected on waste ground in the rear of Mildmay-street—all of which might have been prevented had the owner of the premises carried out what has been required of him by the sanitary authorities of the parish.

The Bethnal Green Disclosures. — A numerously-attended public meeting has been held in the Peel Grove Institution, Bethnal Green, to express sympathy with Dr. Moore, who had been requested to resign his office as medical officer of the union. The following resolutions were carried with but two dissentients: "That the unwearied efforts of Dr. Moore, in endeavouring to obtain a more merciful administration of the poor-law, by bringing before the public the numerous cases of neglect and starvation which have taken place in this parish, have entitled him to the warmest thanks of this meeting and of all friends of humanity;" and "That a public subscription be commenced to compensate Dr. Moore for the heavy legal expenses and the serious interference with his private practice consequent upon the recent proceedings against him." A resolution was then passed appointing the Marquis of Townshend and Messrs. Jasslar, Chandler, & Moody the committee of the Dr. Moore Defence Fund. The conduct of the guardians was strongly condemned.

The Drinking Fountain Movement. — The new drinking-fountain in the Park, at Gloucester, presented to the local public by the Gloucester Temperance Society, has been erected near the entrance-gate opposite Falkner-street. The opening has been fixed to take place on Whit-Monday.

Princess's Theatre. — Mdlle. Stella Colas resumed the part of *Juliet* on Monday last, and was received most cordially. Her pronunciation has not improved, and at first it mars the effect of her acting; it affords the opportunity of objection, indeed, throughout; but such are her natural gifts and her skill as an actress—not to use the word genius—that it is soon overlooked, and the sympathetic auditor forgets the broken English of Miss Colas, and thinks only of the love and woes of *Juliet*. The mingled artlessness, gaiety, pathos, and intense feeling of the character are equally well portrayed, and make the assumption, as a whole, delightful.

The French Fly, and Poison from Drains.—The cause of the venomous nature of the sting produced by the common fly, which has become frequent enough, of late, in France, to create panic amongst the population, and despair amongst the faculty, has been exciting much interest amongst chemists and medical men. Several doctors have agreed that the constant opening of the drains of Paris, and the length of time they are suffered to remain under repair, have caused many inflammatory complaints to become prevalent; and it has been suggested that the venomous nature of the fly may be attributed to the same cause. Flies in great numbers are often seen to issue from the drains; and these, it is suspected, may be the minute enemies sent forth to deal death and destruction wherever they happen to alight.

Telegraphic Progress.—Mr. Collins has returned to Washington after nearly two years' absence in Russia and England. Negotiations for right of way and the construction of a telegraph across Asiatic Russia, Russian America, and British Columbia, so as to connect Europe with America by way of Behring's Straits, having been brought to a satisfactory conclusion, under very favourable terms, now awaits the final action of Congress.——Advices have been received from Sir Charles Bright announcing the entire completion of the Persian Gulf cable on the 27th of March. The line was working excellently through its whole length. The land-line between the head of the gulf and Bagdad is not yet completed.

Railway Accommodation for Working Men. In the House of Lords last week, the Earl of Derby moved the following:—"That it shall be an instruction to the committee on every railway bill providing for the construction of any new railway within the metropolis to insert in the bill provisions analogous to those contained in the North London Railway Act, 24th & 25th Vict., cap. 196, sec. 45, for the purpose of securing to the labouring classes a cheap transit to and from their labour by a morning and evening train, with such modifications as may appear to be required by the circumstances of each case." The Earl of Shaftesbury pointed out that, although the experiment might be tried, yet it could not be successful unless suitable residences for the working classes were provided along the various lines, and there were great difficulties in the way of doing that. Besides, one train in the morning and evening would be quite insufficient. The resolution, however, was agreed to.

An Eirde House in Aberdeenshire.—At a recent meeting of the Society of Antiquaries of Scotland, an account of an "Eirde House" at Migvie, Aberdeenshire, by Mr. A. Jervise, Cor. Mem. D.A. Scot., was read. This was described as one of a numerous class of underground houses in this district. It is curved in shape, about 41 feet in length, 5 feet in height, and 5 feet broad, except at the entrance, where it is about 2 feet square. It is built of rough boulders, with walls slightly converging, which are covered with flags for a roof. It has been recently cleared out, and its preservation secured by directions of the proprietor, Mr. Farquharson of Finzean. At the same meeting, Mr. Stuart drew attention to a curious specimen of the ancient sculptured stones of Scotland recently dug out of the foundations of the old church of Migvie, and to the fact now stated by Mr. Jervise, that, since the time of its discovery about three years ago, some of the sculptures of equestrian figures have been re-chiselled and defaced.

A "Burned in" Portrait of Garibaldi.—A curious artistic production,—a portrait of Garibaldi, burned on a piece of sycamore with a piece of heated iron, is spoken of by the *Manchester Courier* as an admirable likeness, done by a Mr. T. Clayton. The picture was publicly exhibited in Manchester, some time ago, when it was admired, says our authority, for its resemblance to an oil painting (than which, however, it is more transparent), and for the effectiveness of its lights and shades.

A Telegraph Clerk Committed for Manslaughter.—At Aberbeeg, on an inquest held on the bodies of two men, who were killed on the Western Valley branch of the Monmouthshire Railway, the jury returned a verdict that the deceased died from injury received at an accident on the 17th ult., which accident was caused through the negligence of the telegraph clerk, James Yendoll, of the Aberbeeg station, against whom they returned a verdict of manslaughter. The coroner read the report of the inspector of the Board of Trade, who thoroughly condemned the condition of the line, and recommended that the staff system should be adopted.

The Concentration of the Law Courts.—In the Commons, last week, Mr. Selwyn asked the First Commissioner of Works whether Government intended to accept the offer made by the Society of Lincoln's-Inn in 1859, and since repeated,—viz., either to give the ground necessary for the erection of courts for the vice-chancellors, or to build such courts at the expense of the society, upon receiving, for a term of years, 4*l.* per cent. per annum on the actual outlay on the buildings from the Suitors' Fund, but without any charge upon or guarantee from the national exchequer? In reply, Mr. Cowper said, that the offer made for erecting vice-chancellors' courts in Lincoln's-inn had not been accepted, because, although that scheme might be for the benefit of Lincoln's-inn, it would not be for the convenience of the suitor, nor meet the general desire of the public. A scheme for the concentration of the law courts, embodying the main features of the report of the commissioners, was under consideration, and would, he believed, be brought forward in a few days.

New Dining-halls for Workmen in Birmingham.—A new building has been erected and opened in Cambridge-street, in the centre of the town, for the provision of cheap meals to workmen. The building is described in the local *Gazette* as a spacious one, more like a chapel than a dining-hall. It is built of red pressed brick, and the entire cost of it, although it is a large building, was only 1,300*l.* The large doorway and the two large windows in front have semicircular heads, with brick margins, and key-stones of granite. In the pediment there is a semicircular pierced iron ventilator, with stone dressings. Inside the doorway a small portion of the hall is partitioned off and covered in with boards, to prevent draughts of air through the hall when the outer door is left open for customers. The hall is a quadrangle, 115 feet long by 34 feet wide. The ceiling is 24 feet high, and light is admitted through skylights in the roof and through the windows at each side of the hall. There are forty tables, giving accommodation to 400 persons. The seats are backed, but not cushioned, and the tables are covered with mahogany oilcloth. The walls are papered with a dark paper for a height of about 5 feet from the ground, and the remaining portion is covered with a lighter paper. There are a large mirror and a clock at one side of the room. The bill of fare includes some dishes which are not provided at the Slaney-street dining-hall. The following is a copy of it:—Prices: cup of coffee, 1d.; cup of tea, 1d.; cup of milk, 0½d.; bread and butter, 1d.; bread and cheese, 1d.; slice of bread, 0½d.; boiled egg, 1d.; slice of broiled bacon, 2d.; ginger beer, 1d.; all of the best quality, and always ready. Besides the above, may be had, from twelve to half-past two,—bowl of soup, 1d.; plate of potatoes, 1d.; plate of hot roast beef, 3d.; plate of hot boiled beef, 3d.; plate of hashed mutton, 2d.; plate of hashed beef, 2d.; plate of cold beef, 2d.; plate of cold ham, 2d.; plate of plum-pudding, 1d.; plate of rice-pudding, 1d. Dinner (between the above hours, of soup, cold or hashed meat, potatoes, and pudding), 4½d. Breakfast (with the morning newspapers) ready at eight o'clock. The room is kept warm with stoves and gas, and is well ventilated. On the left-hand side there is a small room for women, with seats for between thirty and forty. This, it is expected, will be a very valuable part of the institution.

CHURCH-BUILDING IN THE ANDAMAN ISLANDS.—The foundation-stone of a church has been laid in the Andaman Islands, for behoof of those curious little men who look like a living remnant of the drift era of which so much is said at present. The chaplain, the Rev. Henry Corbyn, does not entertain the old opinion that the Andamanese are cannibals, and has no fear, therefore, of their taste for roasted missionary: it seems that of late they have shown very friendly feeling towards the few English settlers in the islands.

WATER BOILED IN PAPER VESSELS.—M. Terreil has laid before the Chemical Society of Paris facts proving that the paper on which a layer of water is placed may be heated to the highest temperature without being changed. The paper employed by M. Terreil was ordinary writing-paper. He states, in conclusion, that the non-conductibility of the paper for heat, and the constant evaporation of the liquid through the pores of the paper, prevent the combustion of the paper during the ebullition of the water when heated in vessels of paper. It is a curious fact that an iron kettle of boiling water may be taken off the fire and held on the hand without inconvenience from the heat.

HINTS TO TOWN GARDENERS.—As a general rule seeds should be sown in soil that is rather moist, and which has been previously made quite smooth. The pots should be prepared just as if for cuttings. The seeds being scattered thinly or placed separately on the soil, a little fine dusty earth should be strewed lightly over, and the pots should stand in a light and airy place: a roof or balcony does well for this. In all cases, however, it is best to let them be sunk in a box nearly to the rim, to prevent the serious injury incurred by over-dryness. March is, for town gardeners, the best time for sowing seeds, except, indeed, when we can preserve them through the winter for early spring flowering. Nemophila, stocks, mignonette, and sweet peas, are often treated thus, when they flower early, in a window or in the garden.—*Churchman's Family Magazine.*

HEBREW ANTIQUITIES IN PARIS. Senator de Saulcy, member of the French Institute, and Abbé Michon, have returned from Palestine and Trans-Jordanic Arabia. They were enabled to explore the inner wall of the Solomonic Temple, erect scaffoldings, take impressions, and make drawings of those precious relics of Solomonic architecture which have been spared by the conflagration of Titus. The most important of these labours is the excavation and complete uncovering of the vast necropolis known as the "Tomb of the Kings." The monument of expiation which King Herod erected on these tombs, after they had been desecrated for the sake of the treasures they contained, was found in the ruins. The travellers discovered a hitherto unknown mausoleum, containing the sarcophagus of a king of Jerusalem. The royal corpse crumbled into dust the moment it came into contact with the outer air. There is a Hebrew inscription belonging to the most ancient period on the lid of the marble sarcophagus, which is now in the Louvre, together with other antiquities found during the expedition.

GATESHEAD-ON-TYNE.—The great extension of manufactures on the Tyne of late years, and the consequent influx and increase of population in this town and the neighbourhood, have led to the conversion of large areas of ground, hitherto waste or agricultural, into building sites and new streets. Many of them, however, being in the hands of separate owners, no general system of design or arrangement has been practicable, and many groups of streets remain long incomplete and devoid of proper communication with other and adjoining groups. The importance of avoiding these and other consequent evils has been recognised by Sir Walter and Lady James, the owners of an extensive area of land in the vicinity of the town; and by their instructions upwards of 160 acres have been laid out by Mr. S. Oswald, architect, of Newcastle, in main intersecting roads, and adjoining streets, with sites for various classes of houses and villas, the latter being for the most part so located as to command picturesque views of the valleys of the Tyne and Team rivers; and where an extended prospect cannot be had, other arrangements in compensation have been designed. The erection of a church, in a central position, being contemplated on the estate, a suitable site has been provided, together with a park or pleasure-ground, for the recreation of the residents and the public.

OPENING OF FREE LIBRARY AT BIRKENHEAD.—The new Free Public Library building, which has recently been erected in Hamilton-street, has been formally opened. The body of the hall, to be used as the reading-room, is lofty, lighted from the roof, and the walls bear busts of eminent literary men, including Shakspeare. The gas chandeliers are in keeping with the rest of the building. At one end is a recess, used as the library proper, in which some 8,000 volumes have already been deposited. By a flight of steps a balcony running round this recess is reached. The architect was Mr. James Fisher, of Birkenhead; and the builders were Messrs. Roberts & Robinson.

GAS.—The Directors of the Brighton and Hove Gas Company have been induced to make a reduction in the price of the gas supplied to the town of New Shoreham. The present reduction will be 6d. per 1,000 feet, and a further reduction of 6d. will be made in March, 1865. The superintendent of the Brighton Company was closely questioned, at a meeting on the subject, as to the low price charged at Plymouth. The meeting resolved that the reduction in price promised should begin at Midsummer, 1864, instead of March, 1865.——The Market Rasen Gas Company are now engaged in making considerable additions to their works. An excavation, closely abutting upon Nursery-street, has been made for the placing of a second gasometer.

DOCTORS AND PATIENTS.—It is reckoned that for every death in a year there are constantly two persons ill in the year; and, so reckoning, the Census returns of 1851 and 1861, and the mortality returns of the intervening years, give the following results:—In all England and Wales, 47 persons constantly sick to one medical man; including, under this last term, not only physicians and general practitioners, but also such assistants and medical students as are above 20 years of age. In London the proportion is only 24 resident sick to one doctor; in the South-eastern counties, 37; South-western, 45; South-midland, 49; West-midland, 54; Eastern, 57; Northern, 58; North-midland, 59; Yorkshire, 64; Monmouthshire and Wales, 75; and in the North-western counties (Lancashire and Cheshire), as many as 80. The calculation shows one medical man to every 1,071 persons in England and Wales; but the numbers differ so greatly in different parts of the kingdom, that in London the medical men are one to every 514 persons, and in Monmouthshire and Wales, only one to every 1,769.

TENDERS.

For New Primitive Methodist Chapel and School at Tadcaster. Mr. Joseph Wright, architect. Bricks, lime, sand, and leading, not included:—

Bricklayer, mason, plasterer, and slater's work.

Bilbrough	£236 8 0

Carpenter and joiner's work.

Whitfield	350 10 0

Plumber, glazier, and gas-fitter's work.

Bailey	34 5 0

Painter's work.

Whitfield	19 5 0

For pulling down and rebuilding offices, Quay-street, Hull, for Messrs. J. B. Lambert & Sons. Mr. Joseph Wright, architect:—

Musgrave	£560 0 0

For Primitive Methodist Chapel at South Ferriby. Mr. Joseph Wright, architect. Bricks and leading not included:—

Stamp	£245 0 0

For the erection of manufactory for Messrs. Paish & Laroche. Messrs. T. & W. Stone, architects:—

		Allowed for old materials to be used again.
Higgs	£1,088 0 0	£20 0 0
Wilson	1,057 0 0	20 0 0
Norman	825 0 0	30 0 0

For rebuilding the house and premises, No. 107, High-street, Guildford, for Mr. John Cooke. Mr. Henry Peak, architect. Quantities supplied:—

Nye	£1,217 0 0
W. and T. Smith	1,190 0 0
Moon & Son	1,180 0 0
T. & J. Loe	1,175 0 0
Garnett	1,126 0 0
W. Mason & Son	1,080 0 0*

* The above Tenders are in addition to the value of the old materials.

For a new Infectious Hospital, at the Union-house, Chelmsford. Mr. Chas. Pertroce, architect:—

Thorn	£615 0 0
Baker & Last	600 0 0
Choat & Son	598 0 0
Roper	577 0 0
Brown (accepted)	545 0 0

For two houses for Messrs. J. Sissons & Son, Hull, Mr. Joseph Wright, architect:—

		Extra for two bay windows.
Evington & Wharam	£853 0 0	£24 0 0
Sergeant	817 0 0	26 0 0
W. & J. Hall	784 0 0	46 0 0
Wales	773 0 0	16 0 0
Barrett	755 3 0	34 0 0
Musgrave	750 0 0	34 0 0
Morrell	722 0 0	30 0 0
Jackson	664 0 0	40 0 0
Marshall (accepted)	660 0 0	24 0 0

For addition to Cavendish House, Clapham Common. Mr. Witherden Young, architect:—

Smith & Co.	£4,152 0 0
Patrick & Son	3,948 0 0
Bird	3,669 0 0

For the decoration of the Army and Navy Club, Pall-mall. Mr. C. O. Parnell, architect. Quantities supplied by Mr. C. Balam:—

Colman & Davis	£1,893 10 0
Simpson	1,199 0 0
Trollope & Son	1,183 13 0
Hermon (accepted)	1,151 0 0

For the erection of a villa residence with coach-house and stabling, for Mr. George Cutt, at Clapham Common. Mr. J. H. Rowley, architect:—

Myers & Sons	£4,486 0 0
Conder	4,266 0 0
Piper & Wheeler	4,090 0 0
Rider	4,020 0 0
Brass	4,013 0 0
Axford	3,940 0 0
Brown & Robinson	3,813 0 0
Colls	3,763 0 0
Rivett	3,758 0 0

For retort-house, coal store, chimney-shaft, &c., for the Imperial Gas Company, at their Shoreditch Station. Quantities supplied by Messrs. Lee and Linsdell & Giffard:—

Docwra	£9,100 0 0
Mansfield & Son	8,990 0 0
Perry & Judson	8,298 0 0
Aird & Son	7,943 0 0
Piper & Wheeler	7,922 0 0
Myers & Sons (accepted)	7,635 0 0

Union Bank of London. Messrs. Trollope inform us that their Tender in this case was the accepted one.

TO CORRESPONDENTS.

J. D. P. (declined, with thanks).—J. A. M. (we shall be glad to receive the information offered).—F. H. G.—H. de M.—J. L.—W. L.—F. F. (write again to the secretary. We are quite tired of complaints as to the Carlisle Bridge competition).—G. S.—Art Lover (in type).—H. B. (ditto).—A. C. (ditto).—Dr. D. (ditto).—R. R.—A. T.—Capt. A. (has been forwarded).—E. W. (a man is bound by his agent).—J. R.—A. L.—H. P.—R.—H. B.—P. P. H.—W. & T.

Several articles in type are unavoidably postponed.

We are compelled to decline pointing out books and giving addresses.

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Advertisements for insertion during the Season 1864, must be forwarded to the Publisher by the 2nd of MAY, accompanied by a remittance.

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In the Press,
A LECTURE: the POSITION of the ART-WORKMAN,
By A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. F.S.A.
President of the Architectural Museum.

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CONTENTS:
I. PROSPECTS OF THE CONFEDERATES.
II. POMPEII: PAST AND PRESENT.
III. EMPIRE OF MEXICO.
IV. SIR WILLIAM NAPIER.
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THE ART-JOURNAL for MAY (price 2s. 6d.) contains three Illustrations on Steel, viz.:—"Puck and the Fairies," by G. Lizars, after R. Dadd; "View of Orvieto," by S. Bradshaw, after J. M. W. Turner, R.A.; "The Hunter" (H.R.H. Prince Arthur), by E. W. Stodart, from the statue by Mrs. Thornycroft. The literary contributions include:—"Wedgwood and Etruria," by Llewellynn Jewitt, F.S.A. Illustrated: "The Works of W. Mulready, R.A.;" "A Walk in South Wales," illustrated by Birket Foster: "History of Caricature and of Grotesque in Art," by T. Wright, illustrated: "Fresco Painting," "Photo Sculpture," illustrated: "The Exhibition in Dublin;" "New Fresco by R. M. Ward, R.A.," "Monument to H.R.H. the late Prince Consort;" "British Artists: Charles Baxter," by James Beltorne, illustrated; "Almanac of the Month," illustrated from Designs by W. Harvey; "Art-Work in May," by the Rev. J. G. Wood, M.A., "Exhibition of the Society of British Artists," &c. &c.
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BRICKS.—300,000 GREY STOCK BRICKS FOR SALE.—Apply to SAMUEL ANDREWS, Merchant, Hertford.

BRICKS.—A large quantity of every description of Superior BRICKS is now on Sale, at WILLIAM HILL'S Brickfields, Ilford, and Wanstead Flats, Essex. The bricks from Ilford can be delivered alongside in the Thames, or in trucks at the station on the Great Eastern Railway. Prices on application at the Office, No. 3, Whitechapel-road; or to the Foreman, Upnall Brickfields, Ilford, Essex.

FIRE BRICK and CEMENT WORKS, WOODEN BOX, near BURTON-ON-TRENT. Established 1847.

JOHN KNOWLES, HAWLEY NEW WHARF, HAMPSTEAD ROAD, CAMDEN TOWN, N.W. Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.

Crucible and Cement Clay, Whitesand and for Exportation. EVERY ARTICLE MANUFACTURED AT THE ABOVE WORKS. N.B. These goods are supplied to the largest Steel Smelting, Armour Plate, and Crucible Works in the World, to which references can be given on application.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, 55s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
White Inside ditto, 40s per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

BRICKS.

MESSRS. J. & W. EASTWOOD have a few freights of COWLEY and KENT STOCK BRICKS FOR SALE, for delivery during APRIL and MAY.

Also ROUGH STOCKS and PLACE for immediate loading

They have also HALF a MILLION of MALM SHIPPERS, and PAVIORS, at their BRICKFIELDS, at PECKHAM, besides, also, a MILLION of MALM BRICKS, of the various kinds, now being sorted at the SHOEBURY FIELDS.

Belvidere-road, Lambeth, 31st March, 1864.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS. By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS. By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ledgster, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

RED BRICKS, STOCKS, PAVIORS, PALE and BRIGHT YELLOW CUTTERS.—ROBERT LITTLE, Brickmaker, Slough, begs to inform Builders and the Trade generally that he is now prepared to Supply any quantity of good well-burnt RED BRICKS (either plain, splay, or moulded), suitable for facings. Mr. LITTLE is able to Load Bricks for London or any other part, by either the Great or South Western Railways. The Bricks may be seen, and prices obtained, either at the Field, Slough, or on application to R. LITTLE, Great Western Railway, Windsor.

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BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PECKINGS,
AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.

Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

TO CONSUMERS of BRICKS.—A remarkable Deposit of the finest BRICK CLAY, immediately adjoining a harbour of shipment, has lately been brought under the notice of the metropolitan building trades. This Clay, which is of fine colour, has the unusual quality of entire freedom from stones, chalk, or other foreign matter that can interfere with its manufacture, and is also of suitable consistency to enable it to be passed from the clay bed through the machines without the usual expensive processes. While the fineness of its quality cannot be exceeded, its adhesive properties are so great that Bricks and Flooring Tiles made from this Clay can be thrown about or unloaded from carts by tipping without breaking. There is every convenience for making these Bricks on a large scale, there being an abundance of suitable land for works and floors, with coal by sea or train at a low rate. There are also unusual facilities for loading vessels in one of the finest harbours on the coast, having plenty of space. The prices at which these Bricks and Tiles can be supplied are from ten to twenty-five per cent. under the lowest London prices. A Company is now about to be formed to make 100,000,000 of these Bricks.—Samples of Clay, also of the Bricks and Tiles made from it, can be seen at the Offices of JOSIAH FORSTER FAIRBANK, C.E. 20, Parliament-street, Westminster, S.W.

19th April, 1864.

THE PATENT CONCRETE STONE COMPANY (LIMITED) are prepared forthwith to GRANT LICENCES in each town for the several objects of their Manufacture

These are,—1st The Patent Concrete Stone (Ransome's Patent), moulded and not burned; inexpensively made; durable, hard as York stone; applicable to every purpose, both constructive and decorative, for which natural stone is used.

2nd. Indurating Solutions, also simple, easy, and cheap in applications, for stopping and preventing decay in stone and brick.

3rd. The Patent Silicoton Paint, comparing well with oil paint in every particular hard, permanent, incombustible, used on iron, wood, stucco, brick.

The authorized Agent of the Company is now travelling through the Northern Counties, and will visit the principal towns for the purpose of opening negotiations on the Company's behalf.

Applications may be made to the Secretary of the above Company, at 16, Parliament street, Westminster, S.W

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FABBRICOTTI, BROTHERS, Carrara Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE a well selected Stock of Statuary, Vein, Faonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Grecolo, Breccia, Sienna, St. Ann's, Languedoc, Vert des Alpes, Black, &c. &c.; and Alabaster, in Blocks, with slabs of several of those qualities. Also Solid Marble Baths and Mortars, and Vases and Figures, in Statuary and Sicilian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, slabs, &c.; Bath, Caen, Portland, Ashlgny, and Granite. Cargoes direct from the quarries. Wrought work executed at moderate prices. Agent, JOSEPH CHADWICK.

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Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

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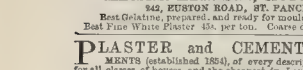
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These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union street, Borough, London.

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Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
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Shares, 100l. each. Monthly Payment, 10s. per Share
Entrance Fee, 2s. 6d. per Share.
The Society will terminate in Twelve Years.
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1,000l. will be offered for Sale to the Members, on TUESDAY, the 3rd MAY, at SEVEN o'clock, p.m.
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Trustees.
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The income for 1863 was ... £30,000
The accumulated fund amounted to ... 221,000
The claims paid since the foundation of the Association, in 1840, amount to ... 126,000
The cash bonus at the recent quinquennial division was ... 36,000
The Reports and Balance-sheets of the Association may be had on any one in, whether a member or otherwise, on application at the Chief Office, 16, Moorgate-street, E.C.; or of the Agents to the Association.
Apr 2, 1864. WM. THOS LINFORD, Secretary.

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(Incorporated by Act of Parliament, 1860), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope
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WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
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REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

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2s. 2s. 6d. 3s. and 3s. 6d.
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
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1862.
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ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

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GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.
It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c., for the linings of walls and ceilings, and for all purposes of ornamental plaster.
The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.
SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
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LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

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THE CHEAPEST HOUSE IN LONDON FOR MARBLE AND STONE CHIMNEY PIECES.
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Box Stone Chimney Pieces.....from 6s. to 9s.
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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
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5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £8 per 120
Matched Lining ..... from 12s. per square

FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
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Honduras Mahogany ..... from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	½-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,
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FLOORING, DEALS, BATTENS, &c.

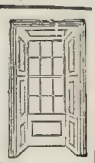
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅜-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.

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TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



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(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

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RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

		Laths, 33s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.		
Good Yellow Deals	£15 10 0 per 120, or 2½d. per foot.	
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
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STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
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C. B. N. SNEWIN,
MAHOGANY and TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand rail Planks, Prepared Flooring, and Banders' Goods in General
COUNTRY ORDERS PROMPTLY EXECUTED.

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THOMAS PONSONBY & CO.
TREDEGAR WORKS, BOW,
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Are now prepared to supply the Trade with ORNAMENTAL MOULDINGS, either in Veneers or on the solid, for Stringings, Fronts Picture, or Glass Frames.
Builders can have their own wood pyrographed in imitation of Dark or Light Oak, Walnut, or Rosewood. Maple may also be had. Ornamental Panels for Railway Carriages or Ships' Cabins, to any size or design given.
THOMAS PONSONBY & CO. call special attention to their Prepared Match Boarding, Imitation Dark Oak or Light Wainscot, at TWENTY-SEVEN SHILLINGS per square, including the wool.
This can be obtained either direct at the Works, or at Messrs. ESDAILE & CO.'S, the City Saw Mills, City-road, Sole Agents for this Match Lining in London.
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30,000 feet in Plank and Board, sawn three years.
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At 6d. 7d. and 8d. per foot, at
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TURRET CLOCKS, designed and constructed upon the most approved plans and of the very best workmanship and materials, at the lowest possible prices, for Cathedrals, Churches, Public Buildings, and Gentlemen's Mansions, Stables, &c., comprising Turret Timepieces, Striking, Quarter, and Chime Clocks. Wrought-iron Dials and Hands. Also Clock dials adapted to the various orders of Architecture.



JOSEPH FAIRER,
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By Special Appointment to the Queen and to his late Royal Highness the Prince Consort, her Majesty's War Department, &c.
Maker of the Great Clock of the Tower of London.
The Village Clock, price 40 guineas.

DENTS TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCKS, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 20 feet diameter.
E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
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ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
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PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

YELLOW FLOORING, WELL PREPARED,

First Quality, ¾ by 6¾, at 10s. 6d. per square.
" ⅞ by 6¾ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
Spruce £15 per 120.

TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

CHARLES WINN, TIMBER MERCHANT,

NEW CRANE WHF., SHADWELL, E.; and VICTORIA WHF. and SAW MILLS, DEPTFORD, S.E.

HALL, BROTHERS,

LATE OF

MERSTHAM GREY STONE LIME WORKS,

Assigned the above works on the 25th of March, at the expiration of their Lease, in consequence of being unable to effect such terms for a renewal as they could accept. The works have been used by them for nearly forty years, during which time a considerable business has been established; and now to give them up so unexpectedly, with only a few weeks' notice, without any remuneration for the trade, has caused to them great loss and disappointment.

Anxious that their customers should not be inconvenienced by the sudden change, HALL, BROTHERS, have arranged for them to be supplied in LONDON, and by Railways from these Works, upon the terms then existing, until the 24th JUNE, by Mr. W. PETERS.

They wish to remind their customers and the public that their business in Grey-stone and Chalk Lime, Cement, Slates, Sand, Coal, &c., is carried on as usual at Croydon, Coulsdon, Redhill, and Reigate; and, should they be successful in obtaining premises for the manufacture of Grey-stone Lime, they will resume their trade in London and on the Railways, and hope for a continuance of that support they have hitherto so generously afforded them.—Address,

HALL, BROTHERS, CROYDON, OR REDHILL, SURREY.

BORSTAL PORTLAND CEMENT WORKS,

ON THE MEDWAY, NEAR ROCHESTER, KENT.

MESSRS. BOOTH & CO.

BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF

MESSRS. JOHN HOLLICK & CO.

At the above Works, and are now prepared to supply Cement of the best quality. Their Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

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74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

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STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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MANUFACTURERS OF WOULDHAM PATENT

PORTLAND CEMENT AND GREY STONE LIME.

WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.

OFFICES,—1, VICTORIA STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

FRANCIS, BROTHERS, & POTT,

NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.

ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

PORTLAND CEMENT WORKS,

EAST GREENWICH,

EDWIN HOLLICK,

MANUFACTURER OF PORTLAND CEMENT, OF THE BEST QUALITY ONLY, FOR THE ENGLISH AND FOREIGN MARKETS. VESSELS LOADED ALONGSIDE.

ESTABLISHED 1852.

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ILLUSTRATED LISTS ON APPLICATION.

ABERTHAW BLUE LIAS LIME COMPANY.

WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.

The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE, Westbourne Grove, Paddington, W.

STRINGFIELD & BLYTH, BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

STRINGFIELD & BLYTH, SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME,

No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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LIME, CEMENT, & PLASTER MERCHANT,

BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

ESTABLISHED 1844.

JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS,

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c; Stoneware Drain pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

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OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Dutch, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parg's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.

MESSRS. LARK & PARROCK,

Late Lark, Fleicher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

N.B. Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded alfloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at the St Pancras Station of the Midland Railway, direct from the kilns, at 9s. per ton.—The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias Stone. March, 1864.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 121, Bishopsgate-street Within, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.,

24 WHARF, HARROW ROAD, PADDINGTON, W.

FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.

GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.

SHIPMENTS ON THE SHORTEST NOTICE.

GREAVES'S BLUE LIAS LIME, 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

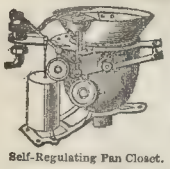
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IN KEPT.

Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

ESTABLISHED 1795.
MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES,
TERRA-COTTA CHIMNEY TOPS,
CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.
MARCUS BOURNE NEWTON,
LONDON AGENT.
DEPOT, No. 4, GREAT NORTHERN GOODS STATION,
KING'S CROSS, N.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

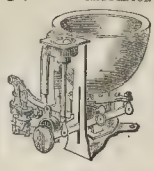
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



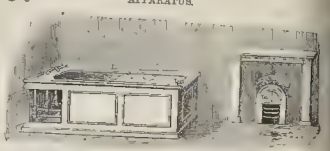
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No internal valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH
APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.



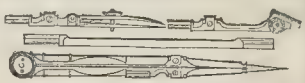
Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.

PAN CLOSET,
and HYDRAULIC REGULATOR.

COMPLETE,  1l. 18s.

W. PATTEN, Patentee and Manufacturer,
22, OLD FISH STREET, ST. PAUL'S, LONDON.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

GOULD & PORTER (late CARY) are now manufacturing their improved 10-inch DUMPY LEVEL, best quality, complete for 9l. 9s. 0d.; with silver ring compass, 10l. 10s. 0d.; 12-inch ditto, ditto, 11l. 0s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, 22l. 0s. 0d. All other MATHEMATICAL INSTRUMENTS at Revised Prices.—Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century.—181, Strand, London.

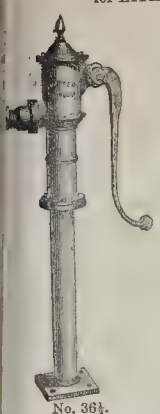
FOR CONTRACTORS and RAILWAY COMPANIES.—9,000 BARROWS FOR SALE. Barrows, Keys, Trenails, Bunters, Sleepers, &c. and all other Contractors' Plant.—Apply to W. P. FRANCE, 2½, Bridge Wharf, Paddington.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply Machine-made Patented Solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered. Illustrated Catalogues, plans, and estimates free.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

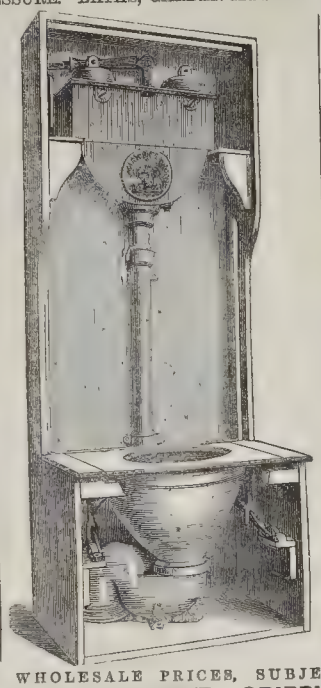
By the introduction of the Vibrating Standard, the cast-iron carriage and expensive dies and gearing are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£1 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No 1483.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra	0 2 0
Blue Basin, extra	0 1 0

No. 1453.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized Indian Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Pans, from 30s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS

(LATE FOWLER & CO.),

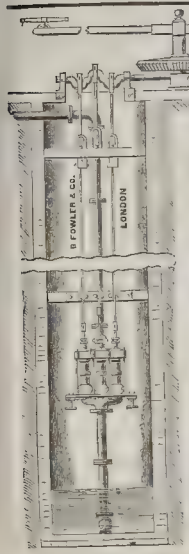
WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

AND OF

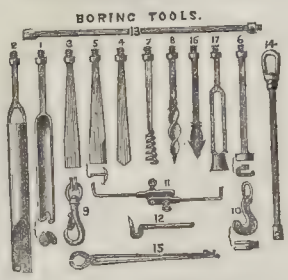
BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



Treble Barrel Deep Well Pumps, with Horse Gear.







BORING TOOLS OF EVERY DESCRIPTION,

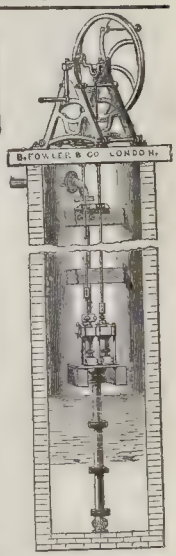
For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

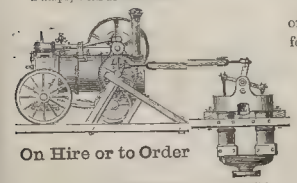
THESE TOOLS MAY ALSO BE HAD ON HIRE.



Contractor's Portable Hand Pumps.

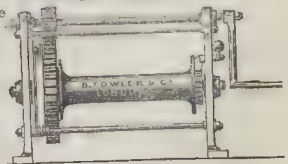


Double Barrel Deep Well Pumps, with Hand Gear.



On Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.



Single and Double Purchase Crabs, Cranes, Pulley Blocks, &c.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

WORKS, WHITEFRIARS.

SALES BY AUCTION.

BASINGHALL-STREET.—Building Materials of a large House Furniture, Fixtures, Coffee-house Fittings, &c.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, MAY 6, at TWELVE, in lots, the valuable BUILDING MATERIALS and Fittings-up of a large House, No. 26, Basinghall street: comprising sound brickwork, useful timber, tiles, sashes, doors, partitions, chimney pieces and interior fittings; floor boards, lead gutters and pipes, 4 mortion beer-engines, mahogany dining and coffee-room tables, mahogany cabinet works, gas fittings, and the remaining household furniture and effects.—May be viewed the day previous.—Catalogues had of PULLEN, HORNE, & EVERSFIELD, 20, Fore-street, E.C. and 40, Parliament-street, S.W.

BUILDING MATERIALS, CHEAPSIDE

PULLEN, HORNE, & EVERSFIELD are directed by the Worshipful Company of Salters, to SELL by AUCTION, on the PREMISES, on FRIDAY, MAY 6, at TWO o'clock, in Lots, the BUILDING MATERIALS and FITTINGS UP of TWO HOUSES and 1 REMISES in Salter's-court, Bow-lane: of the usual description.—May be viewed the day previous. Catalogues may be had of JOHN COLLIER, Esq. Architect, 26, Philpot-lane, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 20, Fore-street, E.C. and 40, Parliament-street, S.W.

EXTENSIVE SALE of BUILDING MATERIALS, LEADENHALL STREET and St. MARY AXE, facing the new buildings of the East India House Estate Company.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 10th, at TWELVE, in Lots, the whole of the valuable BUILDING MATERIALS and FITTINGS UP of the extensive block of Houses at the corner of Leadenhall-street and St. Mary Axe, being Nos 117 and 118, Leadenhall-street, and Nos 64, 65, 66, 67, and 68, St. Mary Axe: comprising good sound brickwork, stout rafters, joists, and other useful timber, plain and part leaded slates, mahogany and plate glass and other sashes, doors, panelled partitions, wainscoting, linings, mantle and other chimney-pieces, and interior fittings, plate glass and other shop-fronts, sound floor boards, lead flats and gutters, cisterns and pipes, iron columns, stone paving, coping and sills, stoves, erection of a baker's oven, and various useful fittings up.—May be viewed the day previous, and catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Leadenhall-street; and of PULLEN, HORNE, & EVERSFIELD, 20, Fore-street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market.—Fourth Clearance Sale.—Building Materials of various Houses and Premises, Smithfield

PULLEN, HORNE & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on FRIDAY, MAY 13th, and following day, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of several dwelling-houses and premises, situate in Red Lion court, Warwick court, Chartreux-square, and Green-lell's-rents, comprising excellent stock bricks, oak and fir timber, in roofs and floors, plain and part tiles and slates, glazed sashes, doors, chimney-pieces, and interior fittings; flooring boards, shop fronts, lead gutters and pipes, stone paving, cisterns, stoves, heads of drawers, counters, shelves, and other useful house and trade fixtures.—May be viewed the day previous, from Red Lion-hall at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, Fore-street, E.C. and 40, Parliament-street, S.W.

CLAPTON.—Important Sale of BUILDING MATERIALS of Two Mansions, GROWING TIMBER, &c. on the Clapton Hall and Priory Estate

PULLEN, HORNE, & EVERSFIELD are instructed by the London and Suburban Land and Building Company, Limited, to SELL by AUCTION, on the PREMISES, on THURSDAY, MAY 19th, and following days, at TWELVE o'clock, in Lots the whole of the capital MATERIALS and FITTINGS of the spacious MANSIONS distinguished as Clapton Hall and The Priory, Lower Clapton; comprising 350,000 capital bricks, 30 squares of slates, prime oak and fir timber in roofs and floors, 30 pairs plate-glass sashes and French casements, 30 pairs cill-sashes and fittings, carved Spanish mahogany doors and inst gany folding doors with moulded plate-glass panels, 60 panelled doors, various; 120 squares of sound floor-boards, 5 squares of oak parquet flooring, fine stanmary marble and other chimney-pieces, the handsome stone front with Ionic columns, 19 gallons of stout zinc-work, 200 feet run of Portland plinth, stone staircase, stone landings, steps and rails, 5 50 feet run of iron railing and fencing, cockle ure gates, racks, mangers, and stable fittings, several lots of lead in flats, gutters, and cornices, at pipes, register and other stoves, ranges, force pump, copper bath, brewing copper, cocks, linings and a great variety of useful fixtures and fittings. Also a portion of the valuable TIMBER standing on the Estate.—May be viewed the day previous. Catalogues had of Messrs. HAYMACK & LAMBERT, Auctioneers, 53, Bishopsgate-street; at the Offices of the London and Suburban Land and Building Company, Limited, 70, Fenchurch-street; and of PULLEN HORNE, & EVERSFIELD, 8, Fore street, E.C. and 40, Parliament street, S.W.

BUSHY HEATH, Herts.—FREEHOLD BUILDING LAND.

MESSRS. FURBER & PRICE are instructed to SUBMIT to AUCTION, at the MART, Bartholomew lane, London, on WEDNESDAY, MAY 18th, at TWELVE for ONE, in four lots, 14 Acres of valuable FREEHOLD LAND, affording fine sites for the erection of villa residences, the road being gravelly. Water of the purest quality easily obtained at a short distance from the surface. Church, chapel, and schools are in the immediate neighbourhood, and the premises are situate within a few minutes' walk of the Bushy Heath station on the North London Railway, and within a short distance from the Watford Railway station, which is only 15 minutes' walk from the Bushy Heath station, and can be reached in 20 minutes from Euston-square, Regent's-park, and the most fashionable parts of the metropolis.—Particulars and conditions of sale to be obtained of the principal auctioneers in the neighbourhood; of Messrs. TALBOT & TASKER, Solicitors, 6, Bedford-row, at the Mart; and at the Auction and Estate Offices, in Warwick court, Gray's-inn.

On the Borders of the City of London.—Valuable Freehold Property covering a large extent of ground close to the Metropolitan Station in Farringdon-street.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, MAY 17, at TWELVE, by auction, FREEHOLD PROPERTY, comprising six dwelling-houses, Nos 8 and 9, Cherkenwell-close, and 2, 3, 4, and 5, Bell-yard, with the extensive vaults under the same, the whole covering an area of nearly 8 feet, with frontages to Cherkenwell-close and Bell-yard, and offering a fine site for extensive warehousing or manufacturing premises. The property is at present occupied by five tenants at rentals amounting to about £127 per annum, but is undoubtedly much larger rents, and estimated to produce considerably more as a genuine rental.—Particulars and plans shortly of the Auctioneers, 80, Cheapside.

HAMMERSMITH AND CITY.—Railway Cart Horses.

MR. J. GOWER will SELL by AUCTION, on the WORKS, near Shepherd's Bush green, on MONDAY, MAY 2, 1864, at ONE o'clock, without reserve, by direction of Mr. Robertson, the Engineer and Railway Contractor, Thirty valuable Cart Horses, fifteen strong cob carts, Rubber Carts, Twenty sets of Trull and Chain Harness, the first of which, that have been used on the above line, and in course of completion, the whole nearly completed.—On Saturday first Catalogues had on the Premises; and of the Auctioneer, at his Repository, Barbican.

CHARING-CROSS RAILWAY.—CITY TERMINUS.—TO BUILDERS, CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW are favoured with instructions from the contractor, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 3rd, 1864, at ONE o'clock punctually, the valuable and useful MATERIALS of SIX DWELLING HOUSES, in Upper Thames street and near Queen's yard, and a WAREHOUSE, in Little Scotts' yard, comprising the lead in pipes, gutters, and ridges, plain and pan tiles, and slates in roofs, joists, rafters and battens, doors and frames, sash frames and sashes and fittings up.—May be viewed the day prior and morning of sale, and catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

KEYNSHAM BLUE LIAS LIME AND CEMENT WORKS SOMERSET.—The Remaining Stock, Utensils, &c.

MESSRS. FULLER & HORSEY are instructed by the Liquidator of the Keynsham Blue Lias Lime and Cement Company, Limited, to SELL by AUCTION, on FRIDAY MAY 6, 1864, at ELEVEN for TWELVE o'clock precisely, on the PREMISES, Keynsham, 8 miles from Bristol, the remaining STOCK and UTENSILS, comprising 60 tons ground lias lime, 130 tons Scott's patent cement, 4,000 lime and cement sacks, 12 crosskills, 2 horse carts, 6 waggons, 18 sets cart and thill harness, stone trumpets, sack barrows, cement barrels, ladders, portable forge, a Pooley's 7-ton weighbridge with weighhouse, 180 feet iron hurdles, spring cart, box cob, office fittings, and numerous other effects. To be viewed the day previous and morning of sale, when catalogues may be had on the Premises; at the principal hote's in Bristol and Bath; of P. MAYNARD, Esq. Liquidator, 19, Broad street, Chesapide; of Messrs. N. LINDO & SONS, Solicitors, 47a, Moorgate street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Appley House an Improved and Freehold Property on the Coast, at Ryde, Isle of Wight.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock, in one lot, APPLEY HOUSE and ESTATE, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing singular natural advantages as a residential estate, with undoubted sites for the erection of villas, so greatly in demand in this much-favoured watering-place, and also being now the only land available for such a purpose with a sea view, in close proximity to the main road, from the town of Ryde. The estate is literally within a ring fence, the northern boundary being girt by the sea, and secured by a stone wall, forming an esplanade in front wall, the property consisting of about 24 acres, including the pier. The land here, which rises precipitously, is covered with a thick evergreen plantation, the removal of which would (if desired) enable the owner to build a residence with unsurpassed views for the whole estate, interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the north side, sloping towards the south, and there is a spring on a considerable elevation, commanding very extensive and uninterrupted views from Sea-bound Spithead, on the east, extending to Southampton water on the west. The house, which was enlarged and improved by the late owner, is approached by a carriage-drive through a thick evergreen park, with two lodge entrances from the Upper-road, and from the St. Helen's turnpike-road, near St. John's Church.

The internal arrangements comprise a suite of three reception-rooms, well-proportioned dining-room and gentleman's room, numerous principal and secondary bed-chambers and dressing-rooms, bath-room, work room, nursery, very complete domestic offices, with capital arched cellaring, an ample supply of spring water from a deep well, and large underground tanks for soft water. In the front and rear of the house are the north and south lawns, noted for the luxuriance of the myrtles, and other choice shrubs and trees; the whole encircled by a park-like land, studded with stately timber, including many very fine oaks, chestnuts, limes, and elms; the latter towering high and forming, with the rookery established on their branches, a conspicuous object from Ryde Pier. At a short distance from the house are modern stables and farm-buildings, including a dwelling-house for the gardener, stabling for four horses, double coach house, cow-house, cart-house, laundries, potting and fruit rooms, a range of forcing and succession houses, large walled kitchen garden, with choice wall fruit trees and espaliers, and a well-stocked orchard. The Apply road from the northern and western boundary of the estate, and affords a large available frontage, while the land itself contains valuable stone for building and brick earth, and the remarkable and at present inexplicable arch on or Apply Hill need be but little if at all interfered with, by any future building operations under the control of the purchaser. The increasing value of building land at Ryde, abundantly confirmed by the fact that all marketable land has within the last few years been let at high rents for building purposes; the singular natural advantages possessed by this property, no sea frontage, and yet so near to the pier, admit to render this estate deserving attention, either as a speculation alone or continued with the possession of one of the most charming marine residential properties in the Isle of Wight. Printed particulars, with plans, are in course of preparation, and may be had of Messrs. WALLIS, House Agents, and at the Pier Hotel, Ryde, at the Portland Hotel, Weymouth, at the Star Hotel, Portsmouth; of Messrs THOMAS & HOLLAMS, Solicitors, Commercial Buildings, Mincing-lane, London, E.C.; and of Messrs FULLER & HORSEY, Billiter-street, London, E.C. to whom all applications to view the property must be addressed.

PRELIMINARY ANNOUNCEMENT.—Important City Freehold, comprising the Spread Eagle Hotel, Gracechurch street, with extensive Premises and Yard, adapted for rebuilding.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, in the month of JUNE (of which due notice will be duly given), by private contract, a valuable FREEHOLD PROPERTY, situate as above, very centrally placed, and comprising the principal portion of that well known established HOTEL and TAVERN, the Spread Eagle, with extensive premises and yard, having a back entrance to Leadenhall Market, the whole containing an area of nearly 6 000 square feet, and forming one of the finest and most valuable building sites to be found in the City, its advantageous position rendering it admirably adapted for the erection of offices, wherein a very large rental may be secured, the present rental being an eligible one for the employment of capital.—Particulars may be obtained of O. LUCAS, Esq. Solicitor, 7, Lincoln's-inn-fields; of Messrs WALES & SPARKS, Surveyors, 8, Great Ge Hall, E.C.; at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo place, Pall-mall.

VAUXHALL-GARDENS ESTATE, LAMBETH, SURREY.—Valuable FREEHOLD BUILDING LAND, arranged in lots suitable for the erection of Shops, Residences for Tradesmen, and Business Premises; also GROUND RENTS, amounting to £ per annum

MESSRS. DRIVER & CO. are instructed by the Mortgagees, under power of sale, to submit to AUCTION, at the MART, near the Bank of England, on FRIDAY, MAY 20, in lots, as may be determined at the convenience of purchasers, a very valuable FREEHOLD BUILDING LAND, situate in the parish of St. Mary, Lambeth, comprising a considerable portion of the site of the Royal Vauxhall Gardens, and having frontages to Kennington Park, Vauxhall Bridge, and several roads and streets, viz. Black Lion, Kennington, Burrell street, Prince street, Leopold street, Tyler street, and Indian Walk. The Vauxhall Station, on the South-Western Railway, at the River Thames, will be within a few moments' walk of the property, and will afford ample facilities for the transit of goods to and from it; while the Metropolitan Railway, now running together with the South-Western Railway, will bring passengers to the doors of the property. The Royal Vauxhall Tavern and Concert Room, now in full trade, will be sold at the Auction Mart, of Messrs. KEMPSON & HOLLOWAY, on the 31 March next, and Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

TO BUILDERS, CONTRACTORS, CARPENTERS, AND OTHERS.—Huge Fine Stock of Stock in Trade and Working Plant.

MR. REYNOLDS, having let the Premises on lease, is instructed by the Proprietor, who is retiring to the country, to SELL by AUCTION, on the PREMISES, Whitelion-street, North Edgate end, WEDNESDAY, MAY 4, and following day, the whole of the extensive STOCK and PLANT, comprising well-seasoned deal and pine planks, also best pine yellow planks, dove and cantern floor boards, oak quartering, lime, and other rods, sawing, bed, and 4 in. deal boards, 30 carpenters' benches, quantity tools various, a builder's hoist, 2 strong carts, a handsome cart, timber trolley, truck, large quantity iron mongery, Turkey and Scotch grits, stairs, floor deals, rosewash, shop front, glazed sashes, and internal fittings, large stone landing, chimney-pieces, and numerous effects, appurtenances to the trade. Also a handsome Bishopsgate street Without

Early Sale, on account of the number of Lots.—To Timber Merchants, Builders, Carpenters, Wheelwrights, and others.

MESSRS. LEREW & LEREW will SELL by AUCTION on the PREMISES, Camden terrace, Camden yellow, white, and red deal planks, deals, and battens, 7,000 feet of wainscot feet of mahogany and oak, three 4 feet Lathe, dry cut stuff, battens, sash-sill-poles, wheeling-planks, ladders, barrows, chimney-pieces, 24 doors, loose materials, &c.—Auction Offices, Cardington-street, Hampstead-road, N.W.

BRIGHTON.—To CONTRACTORS, BUILDERS, and OTHERS.

RIDLEY & POTTER have received instructions from Messrs Clayton & Baker, owing to their dissolution of partnership and relinquishing the Town Contract to SELL by AUCTION, on TUESDAY, MAY 3rd, and NOT THURSDAY, APRIL 28th, 1864, as previously advertised, at TWO o'clock to a minute, on the PREMISES, the Contractor's Yard, Windsor street, North-street, Brighton, the whole of the valuable STOCK, including thirty fresh carts, eight covered going carts, one scavenging van, three broad wheel barrows, stable implements, dust tubs, and scavenging tools.—May be viewed the morning of sale, and catalogues obtained at the Offices of the Auctioneers, 155, North street, Brighton.

WIMBLEDON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, MAY 2nd, at TWELVE for ONE o'clock, in 54 Lots, the fourth portion of the eligible FREEHOLD BUILDING LAND, free of the roads leading to Wimbledon, Putney, Tooting, and Clapham, close to Wimbledon common, and within a short distance of the Wandsworth, Clapham Junction, and Balham Stations, on the South-Western, Victoria Crystal Palace, and Kensington Railways.—Moderate-sized lots, the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Auction Mart; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, E.C.; and at the Place of Sale

WANDSWORTH-COMMON, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, London, on MONDAY, MAY 2nd, at TWELVE for ONE o'clock, in 54 Lots, the fourth portion of the eligible FREEHOLD BUILDING LAND, free of the roads leading to Wandsworth common, and within a short distance of the Wandsworth, Clapham Junction, and Balham Stations, on the South-Western, Victoria Crystal Palace, and Kensington Railways.—Moderate-sized lots, the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained at the Auction Mart; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; and at the Place of Sale

REDHILL, SURREY.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION at the MART, London, on TUESDAY, MAY 3, at TWELVE for ONE o'clock, in 71 lots, a FURTHER PORTION of the eligible FREEHOLD BUILDING LAND, free of tithe and land tax, situate on the Ridgway road, near to the Royal Oak Inn, and within a few minutes' walk of the Redhill Station on the London, Brighton, and South Coast Railways. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained before the sale, at the principal Inns in the neighbourhood; of Mr. THOMAS BUCKLAND, Church street, Reigate; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

PIMLICO IMPROVEMENTS.—To Builders, Dealers in Materials, and Others.

MR. GEO. HAINES is instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY and THURSDAY, MAY 21 and 12, at TWELVE precisely, the very excellent MATERIALS of FOURTEEN DWELLING HOUSES and SHOPS, forming Nos. 1 to 15, Rawlings-street, comprising a first-class ENGLISH and FRENCH ROOFING SLATE, lead and zinc, lead and zinc flats and roofs, useful timber, in rafters, plate partitions, wainscots, doors, sashes and frames, fine marble and other chimney pieces, iron railings, fixtures and fittings.—May be viewed.—Catalogues of Messrs HAINES & SON, Moorgate street, City; and at the Auctioneer's Offices, Grosvenor street West, Eaton square, and No. 12, High street, Kensington.

TO PLUMBERS, PAINTERS, and GLAZIERS.—TO BE DISPOSED OF, a BUSINESS, with a well kept good-will, capable of considerable extension, and with convenient premises, in an excellent neighbourhood, six miles from town.—For particulars and terms, apply to Mr JOHN WALLEN, 68, Old Broad street, London, E.C.

TO BUILDERS.—TO BE DISPOSED OF, in the thriving market town of Wantage, Berks (very strong BUILDING and JOBBING BUSINESS, capable of much increase), with or without the valuable Contract for cement-work in and premises, well situated near the canal wharf.—Part of the purchase money may be left on mortgage, if required.—For particulars apply to T. NASH, Wantage.

TO JOURNEYMEN GRAINERS.—A Grainer to the Trade, going abroad, wishes to SELL his CONNEXION, on easy terms, to a good hand. Established seven years.—Address, A. M. Post-office, Camberwell Green.

TO TIMBER MERCHANTS and OTHERS.

TO BE DISPOSED OF, a First class ENGLISH and FOREIGN TIMBER, CEMENTING, and SLATE BUSINESS, with extensive Premises, comprising large and commodious sheds for timber, cement and slate sheds, stabling for seven horses, an entry convenience for extending the present Premises if Wholesale and Retail Timber Merchants, &c. situated close to the Goods Station, Paddington Wells, Kent. The continued illness of the present Managing Partner is the sole reason for disposing of the business. Stock to be taken at valuation. For further particulars, apply to the proprietors, Messrs. LEANEY & CAREY, Station-road, Cambridge Wells, Kent.

GAS PLANT, suitable for a large Manufactory, FOR SALE by PRIVATE CONTRACT, including set of three 3 lifts, with 15 feet stroke, main purifier, scrubber receiver, tubes up holder, Glover's patent dry gas meter and pipes, water tank, upright steam boiler &c.—For further particulars, apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1827.—Apply for PRICED CATALOGUE of St. Cecilia, Seraphone, and other Organs, usually in the Trade, also to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or repaired as well as removed and WAREHOUSED DURING RESTORATIONS PRIZE MEDAL, 1851.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS—Hints and, and made of procedure to be adopted—issued gratis by the General Patent Agency, Limited, 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

INDIA-RUBBER MILL BANDS, WASHERS for STEAM JOINTS, HOSE PIPES, and SHEET RUBBER.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK, VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

London: Printed by CHARLES WYMAN, Printer, at the Printing-offices of WYMAN & SONS, 74 & 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, April 30, 1864.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1109. MAY 7, 1864. PRICE FOURPENCE. By Post, 5d.

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ROYAL ACADEMY of ARTS.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admittance (from EIGHT till SEVEN) One Shilling. Catalogue, One Shilling.
JOHN PRESCOTT KNIGHT, R.A. Sec.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
LECTURE SESSION, 1864.
TUESDAY next, MAY 10 "The Monumental Architecture and Sculpture of this Country during the Middle Ages." By M. H. BLOXAM, Esq. Hon. Local Sec. The Chair will be taken at EIGHT o'clock precisely. Art-workmen may apply for Cards by letter to the Hon. Sec. 13, Stratford place, W.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.
The PRIZES for 1864 will shortly be announced.

ARCHITECTURAL EXHIBITION 9, Conduit-street, Regent-street, NOW OPEN, NINE till SIX. Admission, One shilling. Season Tickets, Half a Crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery.
JAS. FERGUSSON, F.R.S. } Hon. Secs.
JAS. EDMESTON, F.R.I.B.A. }
Also the EXHIBITION of the SOCIETY of SCULPTORS
MERTON EDWARDS, Hon. Sec.

NEWSPAPER PRESS FUND.—The INAUGURAL DINNER of this institution will take place at FREEMASONS' HALL, Great Queen street, on SATURDAY, the 21st of MAY, at Half past FIVE o'clock
The Right Hon. Lord HOUGHTON in the Chair.
Noblemen and gentlemen intending to act as Stewards are requested to communicate, not later than the 14th inst., with
HENRY G. WARREN, Hon. Sec.
6, Beaufort-buildings, Strand, W.C. May 2nd, 1864.

MR. AUGUSTUS FRERE finds it necessary to state that his Office is at 22, HENRIETTA STREET, COVENT GARDEN, his address being accidentally mis-stated in the List of Members of the Royal Institute of British Architects.

JUNIOR ATHENÆUM CLUB.—Gentlemen making application to join the Junior Athenæum should accompany the same with References by Noblemen or Gentlemen to whom they are well known, in order that the Committee may be enabled as much as possible in the election of the remaining Original Members. A list of the Committee, with all other information relative to the Junior Athenæum, may be obtained of the Secretary, GEORGE R. WILDING, Esq. F.S.A. at the Committee room, St James's Hall, Regent-street, W.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS. The Proprietors of these PATENTS have given the Whole an Interest in the same, and have consequently reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices apply to the Manager, Mr TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

ARCHITECTS' BENEVOLENT SOCIETY.
PATRONS.
Sir Robert Smirke. A. J. B. Beresford Hope, Esq.
PRESIDENT—Sydney Smirke, Esq. R.A.
TRUSTEES.
Philip Hardwick, Esq. R.A. | Geo. Gilbert Scott, Esq. R.A.
TREASURER—William Tite, Esq. F.R.S. M.P.
The List of Subscribers and Annual Report is ready to be claimed of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 33, Tothbridge-street, Baker-road, W.C.
J. TURNER, Hon. Secretary, 15, Wilton-street.

PLATE, SHEET, and CROWN GLASS. T. MILLINGTON'S
New List on Application
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES. T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of the Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution by the manufacturers themselves, of all descriptions of hot water, bath, scullery, and steam work.
72–74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The Bala College Building Committee hereby give notice that they require PLANS and SPECIFICATIONS for the NEW COLLEGE, &c. about to be erected near Bala, and they offer 50l. for the plan which will be approved of and adopted.—Particulars as to site, accommodation required, maximum cost, &c. to be had on application to the Rev. EDWARD MORGAN, Dyffryn, Merionethshire.

TO ARCHITECTS.—The Visitors of the Cornwall County Asylum are desirous of receiving, on or before the 21st MAY, PLANS and ESTIMATES for BUILDINGS to accommodate 100 Patients. Full particulars of the requirements of the Visitors may be obtained on application to Mr. HICKS, at the Asylum, where Plans of the existing Buildings may be seen. The Visitors do not bind themselves to accept any of the Plans submitted to them
April 23, 1864.

SOUTH PETHERTON GAS and COKE COMPANY.—To ENGINEERS, BUILDERS, CONTRACTORS, &c.—The Directors of the above Company are prepared to receive PLANS and SPECIFICATIONS for GAS WORKS and BUILDINGS, and TENDERS for the Erection of the same, including a Cottage with two rooms on the ground floor, and one bedroom, laying the mains, and all other necessary works. The site which is to be provided for the works is about 2½ feet in length and 167 feet in breadth, but the Company do not want to be restricted to that space if more be necessary for the convenient erection of the works and cottage. The streets proposed to be lighted are about 1¼ yards in length, and about 40 town lights will be required. The precise number of private lights will be about 240. The Plans, Specifications, and Tenders to be addressed to the Secretary, on or before the 12th day of MAY next.
P. CLARKE, Secretary.
Dated, South Petherton, April 19 h, 1864.

TO ARCHITECTS.—The Directors of the Durham County Permanent Investment Land and Building Society hereby offer the following PRIZES for the best DESIGNS for WORKING MEN'S COTTAGES:—
FIRST PRIZE ..... 10 Guineas.
SECOND PRIZE 5
The Cottages to contain three and four rooms respectively, and the cost not to exceed 100l. per Cottage. Prices of labour and materials in the county of Durham will be furnished on application to the undersigned. The Architects should keep in view the following qualities:—1. Accommodation; 2. Ventilation and Sanitary arrangement; 3. Style of Elevation; 4. Cost; and 5. Stability. All designs will remain the absolute property of the Society. Wilfrid Cruzier, Esq. C.E. County Architect; Mr. Alderman Williams, Chairman of the Sanitary Committee, Sunderland Corporation; and Mr. Joseph Robey, Building surveyor, have kindly undertaken to adjudicate the prizes for the two best designs. The designs are to be sent to the General Manager, sealed and endorsed "Designs for Working Men's Cottages," on or before the 30th JUNE next, marked with a motto, and with sealed envelope containing architect's address.
SAMUEL WOODHOUSE, General Manager.
Offices, 28, Fawcett-street, Sunderland, Apr. 21, 1864.

CONTRACTS.

TO BUILDERS or CONTRACTORS.—The Directors of the Great Western and Brentford Railway Company are prepared to receive TENDERS for the CONSTRUCTION of about 300 lineal yards of BRICK WALLING, about 127 lineal yards of BRICK DRAIN, and about 60 lineal yards of TIMBER WHARFING, near to the Brentford Dock. Working drawings and specifications can be seen at the Office of the Engineer, E. P. MURRAY, Esq. 37, Great George street, Westminster, on and after the 28th instant. Tenders addressed to the Secretary of the Company must be delivered at the Company's Offices, on or before the 2nd instant. The Directors do not bind themselves to accept the lowest or any Tender.—By order.
27, Great George-street, Westminster, S.W. May 5th, 1864.

CONTRACTS.

NOTICE to WELL-BORERS, &c.—TENDERS are required for BORING to a greater depth the WAR DEPARTMENT WELL at Sheerness.
A section of the well, showing the depth proposed to be bored, may be seen, and a specification of the proposed work may be obtained, on and after the 4th inst. at the Office, between the hours of TEN and FOUR from the 5th to the 10th of MAY next
The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Sheerness, April 26, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Carsethorne, in the county of Kirkcudbright, may inspect the Drawings and Specifications at her Majesty's Custom-house at Dumfries, or at this Office, between the hours of TEN and FOUR, from WEDNESDAY, the 27th inst to THURSDAY, the 12th of MAY now next ensuing, and both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 13th MAY, under seal and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Carsethorne."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 19th day of April, 1864, at the Admiralty, Coast-Guard Office, 12, Spring gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.
TENDERS are required for the following service at Chatham, viz.—ERECTING a SURVEYOR'S LAUNDRY.
Parties desirous of Tender for the execution of these Works must leave their names at this Office, on or before SATURDAY the 14th day of MAY, 1864, and by the same a Guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Chatham, May 3rd, 1864.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 16th day of MAY, 1864, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the ERECTION of a New BOARD-ROOM and OFFICES, at the rear of the present Offices. Plans, sections, and specification may be inspected, and bills of quantities, with forms of Tender obtained, on application to Mr FRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders must be delivered at the Office previous to the hour of meeting, and any Tender which is not upon the form prepared by the Surveyor, and duly signed by the person or persons tendering will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender
ALFRED TURNER, Clerk to the Board.
15, Great Alie-street, Whitechapel, April 29, 1864.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLITAN SEWERS in GREENWICH and DEPTFORD.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 27th day of MAY, 1864, at TWELVE o'clock at Noon precisely, and will then be prepared to open TENDERS for obtaining the Lowest Price for the CONSTRUCTION of BRICK SEWERS, 1 mile 1470 feet in length, or thereabouts, to commence at the Pumping Station at Deptford, and to terminate at Church-road, with Branch Sewers in Knott street, Albert street, Victoria-road, and Grove-street-end, with other Works in connection therewith, all situate in the respective parishes of Saint Alphage, Greenwich, Saint Nicholas and Saint Paul Deptford, in the County of Kent. Parties desiring to submit Tenders can do so, and after 21st DAY next, 3rd MAY be supplied with specification and form of Tender, upon paying 2l. 2s. and upon the same will be delivered, with all particulars, on application to Mr J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. on SATURDAY, between the hours of NINE a.m. and TWO p.m. and THURSDAY, the 26th day of MAY, 1864. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at the Office on or before FOUR o'clock on the day appointed for opening Tenders. No and no Tender will be received after that hour. The Parties Tendering must be in attendance at the Board, at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board.
Spring gardens, S.W. 28th April, 1864.

DOWNPATRICK NEW LUNATIC ASYLUM.—EXTENSION of TIME.—NOTICE to BUILDERS. The TIME for lodging TENDERS for the above building has been EXTENDED to the 3rd day of JUNE next. The Tenders to be lodged with R. M. ARBUCKLE, Esq. Office of Control, Lunatic Asylums, Dublin Castle, endorsed "Tender for County Down Asylum," on or before ONE o'clock on that day. The work to be commenced on or before ONE o'clock on the day of the Tender. Security will be required for the due performance of the contract.—The lowest or any Tender will not necessarily be accepted.
Office of Control, Dublin Castle, April 25, 1864.

BRICKS TO BE SOLD by TENDER.—There are now standing at the Burham and Aylesford Brick Yard, near Maidstone about One Million and a half of good Malding, Stock and Shoulder Gault BRICKS, TO BE SOLD by TENDER (can be inspected at any time) prior to the 20th MAY, 1864, on which day Tenders may be sent to Mr. GEORGE FLINDERS of 30, Great George-street, Westminster, stating price per thousand for each quality of Brick, free on board at the Brick Yard. The Advertiser will not be bound to accept the lowest or any Tender.

[For remainder of Contracts see next Page.

CONTRACTS.

CITY of LONDON.—Very valuable and Extensive Building Estate, close to W. Ald-street.—The Court of Aldermen of the Ward of Cripplegate, without, are prepared to receive TENDERS for taking a BUILDING LEASE or LEASES, for a term of years, of a valuable piece of Building Land or Ground-rent, of the yearly rent of £60, situate on the south side of Long-lane, in the said Ward, and extending from the said Long-lane to W. Smithfield-street, and having frontages to Long-lane of 75 feet, to W. Smithfield-street of 18 feet, and to Hart-street 18 feet. A plan of the ground may be seen, at Garth's Auction Rooms, Cornhill, on application at the Chamberlain's Office, Guildhall, London; and at the Office of the Comptroller of the Corporation's Estates, John Collier, Esq., 20, Poultry, London, E.C., and at the Office of Messrs. Lee and Pemberton, Solicitors, 44, Lincoln's-inn-fields. Tenders to be addressed to EDWARD THOMPSON, Esq. Clerk of the Company, at Salters' Hall, in Fore-street, London, E.C., and to be delivered at the Office of the said Company, at Salters' Hall, in Fore-street, on or before the 12th day of MAY next, at TWELVE o'clock at noon.

TO BUILDERS and CONTRACTORS.—The Building Committee of the St. Thomas's Lunatic Hospital are desirous of receiving TENDERS for the ERECTION of a new LUNATIC HOSPITAL on a piece of land near the Toll-gate Brooke, in the parish of Heavitree, Exeter, containing 12 acres and upwards. Plans which may be seen at my Office. Sealed Tenders are to be delivered to me on or before MONDAY, JUNE 13th, 1864, endorsed "Tender for Lunatic Hospital." The Contractor will be required to provide two sureties for the due and satisfactory performance of the contract. The Committee do not bind themselves to accept the lowest or any Tender, and no communication will be made to applicants.

W. F. CROSS, Architect, Queen-street, Exeter.

May 2nd, 1864.

TO IRONFOUNDERS and OTHERS.—The Vestry of the Hamlet of Mile-end Old Town will meet at the Vestry Hall, Bancroft-place, Mile-end-road, on WEDNESDAY, the 11th day of MAY next, at SEVEN o'clock, p.m. precisely, to receive TENDERS for the SUPPLY of 100 GULLY GRATINGS according to a pattern, and the terms of a specimen, which may be seen at the Office of Mr. JAMES KNIGHT, the Surveyor, at the Vestry hall, between the hours of TEN and ONE o'clock. The Vestry of Mile-end Old Town is not to exceed 2 cwt. The contractor will be required to enter into a contract, and give one surety, to be approved by the Clerk to the Vestry, at a sum not to exceed one half the amount of the contract for the performance thereof. Tenders, stating the number and mileage of proposed sureties, endorsed "Tender for Gully Gratings," are to be delivered at the Office before THREE o'clock, on the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Vestry Hall, Bancroft road, Mile-end-road, April 25, 1864.

TO STONE MERCHANTS and OTHERS. The Vestry of the Hamlet of Mile-end Old Town will meet at the Vestry Hall, Bancroft-road, Mile-end-road, on WEDNESDAY, the 11th day of MAY next, at SEVEN o'clock p.m. precisely, to receive TENDERS for the SUPPLY of 1000 CUBIC FEET GRANITE KERB, to be delivered pursuant to the terms of a specimen which may be seen at the Office of Mr. JAMES KNIGHT, the Surveyor, at the Vestry Hall, between the hours of TEN and ONE o'clock. The contractor will be required to enter into a contract at his own expense, to be prepared by the Clerk to the Vestry, at a cost not to exceed £1 and find sureties to the amount of £100 for the due performance thereof. Tenders, stating the number and mileage of proposed sureties, endorsed "Tenders for Granite Kerb," are to be delivered at the Office before THREE o'clock, on the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Vestry Hall, Bancroft-road, Mile-end-road, April 28, 1864.

SHIPLEY LOCAL BOARD of HEALTH. To CONTRACTORS for RESERVOIRS, &c.—The Shipley Local Board have to receive TENDERS for the CONSTRUCTION of a STORAGE RESERVOIR, to be situate in the township of Bowling, and a specification may be inspected, and forms of Tender obtained, at the Office of Mr. JAMES BOTTOMLEY, C.E. Queensgate, Bradford. Sealed Tenders, addressed to the Chairman of the Board, to be delivered at my office in Bradford, Yorkshire, on or before MONDAY, the 16th day of MAY next, and endorsed "Shipley Waterworks Tender for Reservoirs." The Local Board do not bind themselves to accept the lowest or any Tender.

JO THOMPSON, Board's Clerk to the Local Board.

Bradford, May 3rd, 1864.

CHESHIRE.—Builders willing to TENDER for the ERECTION of a FARMHOUSE and HOMESTEAD, near Malpas are requested to communicate, by letter, to Mr. W. F. GOODING, Architect, 72, High-street, Camden-town, N.W.

BUILDERS desirous of CONTRACTING for the ERECTION of a VILLA RESIDENCE, for Captain Hanly, at Berkhampstead, in the county of Hertfordshire, are requested to forward their applications and references to Tethewith, to Mr. H. H. COLLINS, Architect and Surveyor, No. 19, Poultry, E.C. London. Whole quantities will be supplied. Mr. Crimes does not bind himself to accept the lowest or any tender.

TO BUILDERS.—TENDERS are required for the ERECTION of a PAIR of SEMI-DETACHED VILLAS, at Lee, Kent. The plans and specifications can be seen at the office of the Architect, Mr. W. W. POCOCK, 7, Craven-street, Strand. Tenders to be delivered on FRIDAY afternoon, the 13th inst. at FOUR o'clock. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of NEW CONGREGATIONAL CHAPEL, Peterborough, are requested to send their names and references to the Architect,

WM. G. HABERSHON & PITE, Architects, 28, Bloomsbury-square, W.C.

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the ERECTION of a WAREHOUSE, SHED, and OFFICES, on a piece of land near to the Derby station. The drawings and specifications may be seen, and information obtained at the Engineer's Office, at Derby, on and after the 7th inst. Tenders upon the printed form supplied to the forwards to the Secretary to the Works, at the Derby station, by THREE p.m. on MONDAY, the 16th inst. The Directors do not bind themselves to accept the lowest or any Tender. By order

Derby, May 3, 1864. G. W. BROWNE, Secretary.

LONDON and NORTH-WESTERN RAILWAY.—The CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of a LOCOMOTIVE ENGINE SHED, to contain nine Engines, on the Line at Page-nook, Liverpool. Entire drawings of the building, and the quantity and description of the materials, may be seen at the Office of Mr. WILLIAM BAKER, Engineer, Chester, on Monday, and after WEDNESDAY, MAY 11th, from the hours of TEN to FOUR o'clock. Local Tenders, addressed to the undersigned, at Chester, to be sent in on or before WEDNESDAY, MAY 18th, at TWELVE o'clock. The Directors do not bind themselves to accept the lowest Tender.

CHAS. E. STEWART, Secretary.

Euston Station, April, 1864.

PARISH of ST. MARY ABBOTT'S, Kensington, in the County of Middlesex.—BUILDERS and others. The Works, Repairs, and Sanitary Contents of the Vestry of the Parish aforesaid will meet at the VESTRY HALL, Church-street, on FRIDAY, the 13th day of MAY next, at SEVEN o'clock in the Evening, to receive TENDERS for Repairs, Painting, and BUILDING WORKS, &c., OFFICES, with Rooms over same, and Shed over the Yard, Paper, and other Detail Drawings, Conditions, Specifications, and Quantities may be seen at the Office of Mr. JAMES PROA BRIDGE, the Vestry Surveyor, 9, Victoria-road, Vestry Hall, aforesaid. Tenders to be sealed, and endorsed "Tender for Depot Buildings," and to be delivered at my Office on or before FOUR o'clock in the Afternoon of FRIDAY, the 13th instant aforesaid. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor or Contractors to enter into a written Contract, and to pay the expense thereof. By order,

Vestry Hall, Kensington, May 2, 1864. REUBEN GREEN, Clerk of the Vestry.

TO CONTRACTORS, BUILDERS, and OTHERS.—DURHAM COUNTY JAIL.—NEW WING TO THE FEMALE PRISON. The Visiting Justices are desirous of receiving TENDERS for the COMPLETION of the new BUILDINGS and WORKS for the purpose of erecting an addition or New Wing to the Female Prison of the County Jail at Durham. The plans, sections, and specifications for the respective works may be inspected, and printed forms of Tender obtained, at the Office of WILLIAM CROZIER, Esq., C.E., the County Architect, Durham, on and after WEDNESDAY, the 4th MAY next. Tenders properly filled up in every particular, and signed by two sureties, will be received at the Office of the Clerk of the Peace, Durham, on or before TUESDAY, the 17th MAY next. The Visiting Justices do not pledge themselves to accept the lowest or any Tender.

JOHN TIPLADY, Deputy Clerk of the Peace.

Durham, 27th April, 1864.

SMETHWICK LOCAL BOARD of HEALTH. To CONTRACTORS.—The Local Board of Health for the District of Smethwick are desirous of receiving TENDERS from persons willing to CONTRACT for the following WORKS with the District, as specified in plans and specifications prepared by Mr. GEORGE BENJAMIN NICHOLS, C.E. the Surveyor to the Board, which plans and specifications may be inspected between the hours of ELEVEN and ONE from the present date until the 11th MAY next, at the Office of the Board, Public street, Smethwick, on TUESDAY, WEDNESDAY, or FRIDAY in each week

CONTRACT No. 1.

The Constructive Forming, Kerbing, and Channelling the Carriageways and Footways of Mount Pleasant, commencing at St. Paul's-road, and terminating at the Turnpike-road

CONTRACT No. 2.

The Widening and Improving the Holly-lane and Greenlane, and the Constructive Forming, Kerbing, and Channelling of the Carriageways and Footways, Planting a Quicket Hedge, and Fencing.

The Tenders to be sent in on the forms which will be supplied, duly filled up and sealed, and to be delivered at the Office of the Board, on or before the 14th of MAY next. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

RALPH DOCKER, Clerk.

Board room, Smethwick, 27th April, 1864.

SAINT PANCRAS, MIDDLESEX.—DEPARTMENT of WORKS.—To PAVIORS, CONTRACTORS, and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Office of the Department of Works, on MONDAY, the 9th day of MAY, 1864, at SIX o'clock in the evening, to receive TENDERS from persons willing to CONTRACT (separately) for the PAVING of Part of CALTHORPE-TERRACE, from Calthorpe-street, Lower, eastward, to the boundary of the Parish, agreeably to a specification, to be seen daily at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Clerk of Works, No. 1, Edward-street, Hampstead-road, where further particulars, together with the printed form of Tender, may be obtained, on depositing the sum of 1l. which deposit to be returned to each of such as shall deliver Tender. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received and considered unless made on the printed form. Good security will be required for the due performance of the contract. Tenders to be delivered at the Office of the Department of Works, by or before SIX o'clock, p.m. on the said MONDAY, the 9th day of MAY, 1864.—By order,

CHAS. WORRELL, Chief Clerk of the Department of Works, 1, Edward-street, Hampstead road, 3rd May, 1864.

CONSERVATIVE LAND SOCIETY.—BATTERSEA ESTATE, No. 2 (Highfield).—TENDERS are required by the CONSTRUCTION of DRAIN, PIPE SEWER, &c. on the Company's Estate, Plough-lane, Battersea, in the following quantities, as stated in their Specification, which may be seen at the Office of the Company's Surveyor, No. 31, Edward-street, Hampstead-road, where Tenders are to be delivered on or before the 14th day of MAY, 1864, endorsed "Tender for Drainage Works, Battersea."

New Roads, either wide, including Footpaths, 1,060 feet run.
Ditto ditto ditto Wide, ditto ditto 540 "
Drain Pipes laid in the above roads, about 9 feet below the surface of the road 600 "
Ditto to be filled in, and road area about 20 feet in width 960 "

The Earth works will include, besides those above indicated, the making up and making to formation level of roads, and level the whole of the ground in the following Plots, viz.:—Plot 1 to be raised to the Battersea Park Carriage Road Level, with Earth to be found by the Company, and another approved material. The plan, sections, and specification will be seen on and after MONDAY, MAY 9th, at the Offices of the Society's Surveyor, Mr. JAMES WYLSON, 31, Northumberland Strand, W.C.—Tenders, sealed, and endorsed "Tender for Works at Battersea," to be sent in to the Secretary, on or before MONDAY, MAY 16th, at TEN a.m. The Committee do not bind themselves to accept the lowest or any Tender submitted.

31, Norfolk-street, Strand, London, W.C. May 5, 1864.

NEW SCHOOLS.—INDEPENDENT CHAPEL, Ossett, near Wakefield.—TENDERS are required for all the ARTIFICERS' WORKS for the above building. Drawings and specification and conditions of contract may be seen and bills of quantities obtained, free of charge, at the shop of Mr. JOSEPH ELLIS, Druggist, Ossett, on and after MONDAY, the 9th of MAY. Tenders to be sent in on or before Saturday, the 21st day of MAY. The Committee will not make any allowance for Tenders, and reserve the right to accept either or part of.

ELLIS & AYLIFFE, Architects.
Iron & Buildings, 20, Cross-street, Manchester, 14th April, 1864.

TO PAINTERS, &c.—The Board of Guardians of the Parish of St. Saviour's, Southwark, are desirous of receiving TENDERS for PAINTING the INTERIOR of their ESTABLISHMENT, Bale House, Meeting Street, Sutrey Road, from six to seven coats of paint, to the Master, on the Premises, between the hours of NINE and FOUR o'clock. The Tenders to be delivered at the Workhouse, Mint-street, Southwark, on WEDNESDAY, the 11th day of MAY next, at NINE o'clock precisely, endorsed "Tender for Painting at Bale House, Brixham." The Guardians, however do not bind themselves to accept the lowest or any other Tender. By order

JOHN H. FITCH, Clerk to the Board

Workhouse, Mint-street, Southwark, 28th April, 1864.

MELBOURNE CHAPEL, CAMBRIDGESHIRE.—Builders desirous of TENDERING for the ERECTION of the above Chapel are requested to send their names and addresses, on or before the 9th inst., to the Rev. A. C. McGREGOR, Melbourne, Cambridgeshire, when they will be supplied with the plans and specifications, and information may be obtained of the Rev. HENRY MOORE, Esq. Wall road, Museum House, London, not later than THURSDAY, the 12th day of MAY. The committee do not bind themselves to accept the lowest Tender.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.

BENJAMIN SLATER

(Late E. GOLDING), SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor Hinges, Gate Hinges, Rising-hinges, Rising Rising-hinges, Not rising Rising Hinges, Double-acting Spring hinges, Rising and Not rising Door Back springs, &c.

Price List and Drawings on application as above.

TO CONTRACTORS and BUILDERS.—FOR SALE, a Second-hand MILL, in excellent working order, with steam engine and driving gear complete.—Apply to Z. 3, Kingsland-crescent, Kingsland-road, N.E.

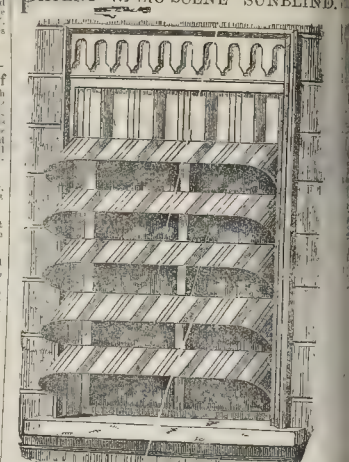
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GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

KITCHEN RANGES.—BROWN BROTHERS' are the best adapted for heating BATHS CONSERVATORIES, &c. and perfectly performing every other culinary operation. Require little or no fixing, save half the coals, cure smoky chimneys. The only Range which can use the Patent Ventilating Fire. In operation daily at the Depôt, LONDON: 44, CHARLOTTE-STREET, W.C. Illustrated Catalogue post free. Hot Water Apparatus for Buildings.

PATENT PANORAMIC-SCENE SUNBLIND.



These Blinds give a highly decorative finish to the front of a house, and are fitted in frames of any design, the two sliding sash reveals of which form no other outside fittings. The pieces are the size as SAMPLES of SUN BLINDS. Works, 339, Tottenham-court-road. OFFICES, 31, REGENT-STREET, LONDON. A liberal discount to the trade.

WILLIAM DAWBARN & CO. SLATE, TILE, IRON, and TIMBER MERCHANTS, ADELAIDE BUILDINGS, CHAPEL-STREET, LIVERPOOL

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BANGOR, PENRHYN, and PORTMADOC SLATES, supplied from their Depôts, BANGOR, LIVERPOOL, BIRKENHEAD, GARSTON, SALTNEY, and WORCESTER.—To every Railway Station in the Kingdom.

SLATE SLABS, SLATE RIDGING, MANGERS, CATTLE-TROUGHS, MILK COOLERS, CHIMNEY PIECES, CISTERNS, and every other Manufacture in Slate, made to order.

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IRON WARE CASTS, of Lamp-posts, Stairs, Grates, Kitchen Ranges, Hot-water Spouting, Iron Palings and Fanlights, Window Sashes, Sink Traps, Air Bricks, Hot-water Pipes, Stable Fittings, &c.

IRON WARE WROUGHT, Bar, Sheet, Hoop Iron, and other Plates, Galvanized Iron and Sheet Zinc, Wrought Iron Pipes, for Gas, Steam, or Water.

NAILS, JOINERS', SLATERS', and PLASTERERS', of all kinds, in Wrought and Cut Iron, Copper, Zinc, and Malleable Iron.

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TIMBER and DEALS supplied from their Timber Depôts—Liverpool, Garston, Hartlepool, Goole, Saltney, Hull, Gloucester, and Peterborough.

WOOD MOULDINGS, Manufactured DOORS, SASHES, and SKIRTINGS, Flooring-boards Planed and Tongued, and prepared ready for use.

YORK-STONE FLAGS, LANDINGS, STONE SINKS, &c. supplied of the best qualities.

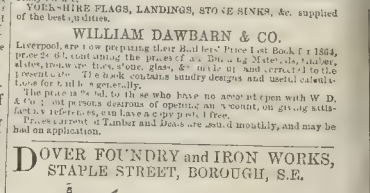
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Liverpool, are now preparing their Builders' Price List Book for 1864, price 2s. 6d., containing the prices of all Building Materials, Timber, Slates, Iron-ware, Tiles, Stone, Glass, &c. made up and corrected to the present date. The book contains sundry designs and useful calculations for public generally.

The price is sold, to those who have no account open with W. D. & Co., or not persons desirous of opening an account, on giving satisfactory references, can have a copy post free.

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Cranes, Wrought.
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All kinds of Cast or Wrought Iron Work estimated or designed.

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A BARGAIN, for 24l. a complete Set of WELL-BORING TOOLS, nearly new, upwards of 300 feet in length, including Rods, Pail, Augers of 3 inch Pipe, and about 3 dozen Chisels, various, all in good working order.—Apply to Mr. BROWN, Farmer, Milnham, Surrey.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Bolts and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
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CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

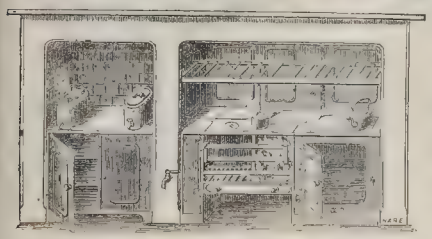


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MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

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CUNDY'S
PATENT BRICK OVEN WINDING CHEEK SEMI-CLOSE KITCHEN RANGE.



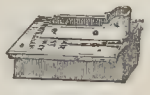
This RANGE, also
CUNDY'S PATENT BRICK OVEN
DOUBLE FALL-DOWN BAR KITCHEN RANGE,
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CUNDY'S PATENT COTTAGE RANGE.
Also CUNDY'S Patent Original Fire-Brick Warm Air Ventilating STOVE.
Suitable for CHURCHES, HALLS SCHOOLS, and STAIRCASES,
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Manufacturer, Wm. ADDIS, Wholesale and Retail Ironmonger, Stove Grate and Range Manufacturer,
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A Prospectus, with full Description and Price of the above, will be sent per Post on application.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
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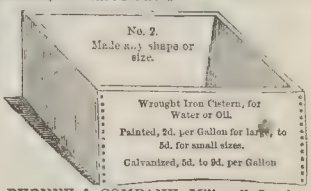


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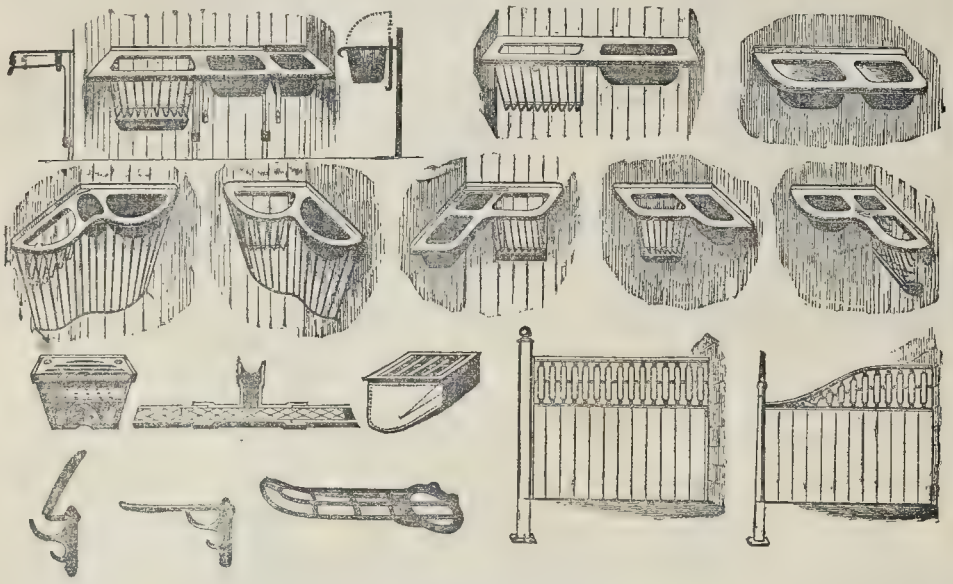
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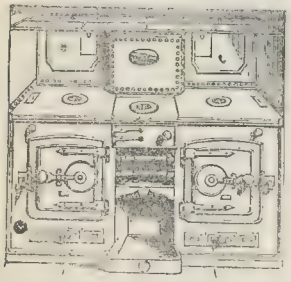
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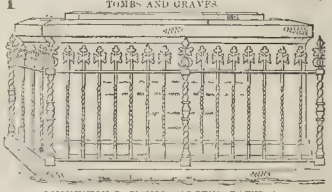
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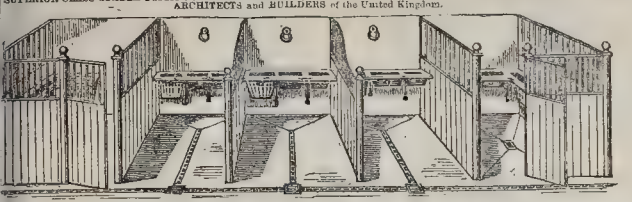
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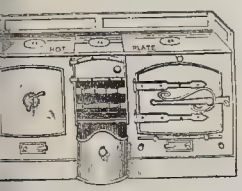
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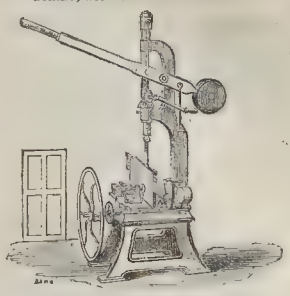
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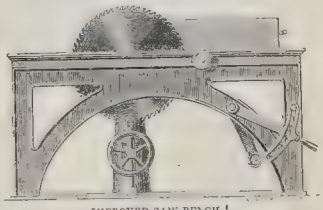
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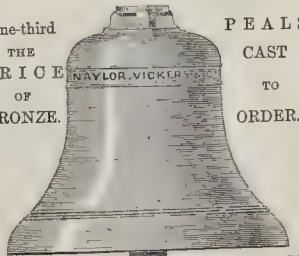
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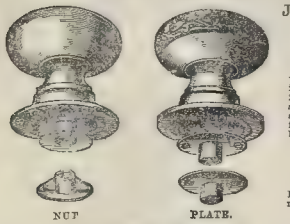
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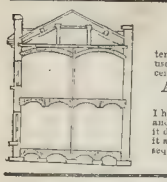
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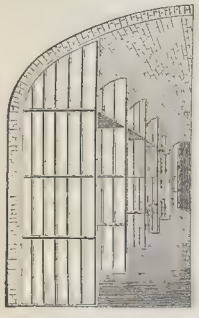
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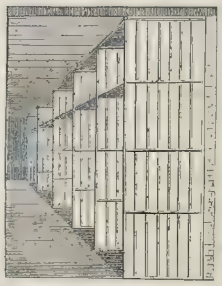
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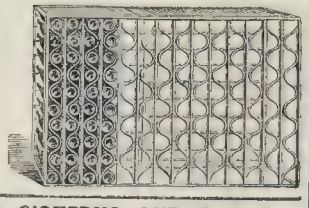
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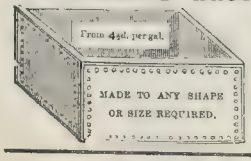


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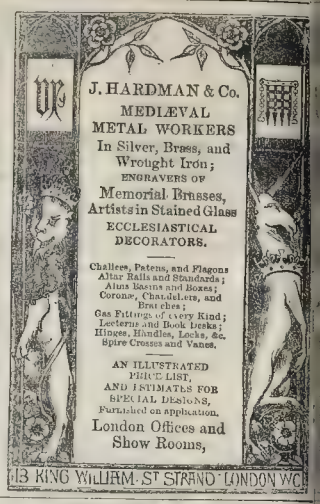
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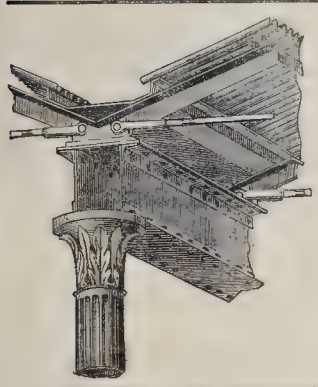
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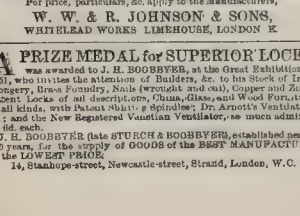
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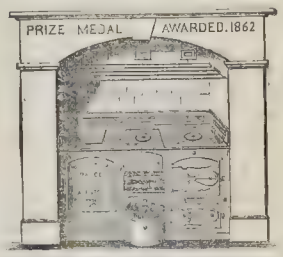
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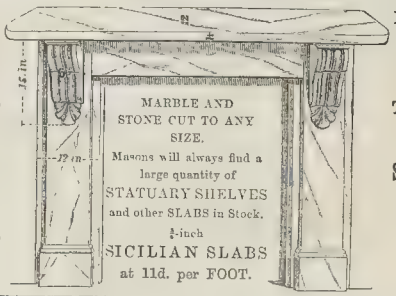
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The Builder.

VOL. XXII.—No. 1109.

The Royal Academy Exhibition.

PARTICULARLY pleasing it must be to some of our best known and ablest painters to hear so frequently as they do how little the temporary withdrawal of their assistance to it affects the prosperity of an institution, the present reality of which is supposed partly to exist in them; and how safely they may trust in others to support a character not so easily earned formerly as it now is,—perhaps.

Justice calls for a remembrance of the absent as well as acknowledgment of whatever claims the immediately visible may demand: and with no unreasonable wish to moot it, there can be very little doubt left in the minds of those who give consideration to the matter, and care to ask themselves the question, that the present collection does *not* reach the average point of attractiveness of an ordinary Royal Academy Exhibition, let some of the critics say what they may. The members themselves were never less conspicuously represented; and those upon whom has devolved for some time past the honour of supporting, to a great extent, its "*prestige*," — in fact, the younger and rising professors, who, from constant association, are almost considered a part of it,—though showing no deterioration or slackened industry,—have not been fortunate in selecting themes whereon to exercise their abilities, and consequently excite no proportionate amount of interest for a vast outlay of hard work and school knowledge.

Putting aside two most remarkable instances for exception—Sir Edwin Landseer's wonderful epitome of all the dread and supposition that can deter future Arctic explorement; and Mr. John Phillip's admirable Spanish episode,—there is little to impress a strong recollection upon the most retentive memory. The prevailing deduction must be, that to attain the very considerable amount of power manifest in innumerable instances, must monopolize all the attention and intention of our painters, leaving no time for consideration of how they may most advantageously expend it, until at last they become very misers of manipulation,—if they can be called such who make no secret of their hoard,—and love the coin for the coin's sake, and not for that of which it puts them within reach.

However, to repress anything like a feeling of dissatisfaction, heightened by disappointment at not finding some half-dozen achievements that rumour had asserted were forthcoming to enhance the value of this year's collection, we very gladly recognise in (51) "La Gloria: a Spanish Wake," J. Phillip, R.A., a production of such superlative excellence as will atone for much: painted as well as he always paints,—and he is of those few to whom pencil and palette are as pen and ink to the many,—means of expression in an extra-fine handwriting. The subject is one of the most sympathetic, as well as fruitful, he could possibly have chosen. The pet of a gipsy tribe has suddenly died; suddenly, apparently, from the little we see of the round face, with no signs of the alteration that would betoken long ailment; and with the national superstition of certain glory awaiting one so early called, the bereaved are endeavouring to persuade themselves; and less successfully still the poor, beautiful, woe-stricken mother, whose instincts rebel at the assumption, that they ought to rejoice at, rather than deplore, the severance: women with swimming eyes are singing gay melodies, accompanying the dancers, who, more mindful of the necessities of life, are amusing the crowd. It would require a chapter, and a long one, to dilate fully upon the qualities that distinguish this production, which may be fairly classed with the best of all schools, not only for colour and perfect execution, but for unaffected sentiment and dramatic force.

If it were desirable to point a moral and prove the worth of selection, of quality above quantity, and how unlimited is the power of cultivated genius, where could be found a more cogent exponent than Sir Edwin Landseer's (163) "Man proposes, God disposes?" It shows how small means may be made to tend to a great end. There is more human interest attached to this singular epic, more eloquent appeal to sensibility in this representation of two hideous polar-bears, than in most of the attempts at narrative with less ugly actors; as, sprawling over the slippery lumps of ice in their ravenous haste to discover what man's effort has failed in discovering,—the wherewithal to keep life and body together,—they painfully illustrate, besides the maxim that gives its name to the picture, the proverb that one creature's loss is another's gain, and much more for reflection.

Accepting Mr. F. Leighton's classic treatment of (194) "Dante in Exile" as the right one, it must be pronounced to be a noble picture, and a most praiseworthy application of natural gifts, as well as acquired power; though it may be objected, by those who prefer the warmth and animation of reality, that this power is made too subservient to an excessive love of elegance. (217) "Orpheus and Eurydice" and (293) "Golden Hours," by the same, are, like many preceding them, very charming in their super-elegance; rather inanimate, but not lacking warmth of a kind.

With nothing more important from Mr. Millais, R.A. elect, to contest their excellence, his portraits of children will sufficiently sustain his high reputation, and justify his late election to the full honours of the Royal Academy; they are painted with so much combined vigour and delicacy. (13) "My Second Sermon" will challenge favourable comparison with its prototype; and if the poor little duchess did succumb to its soporific influences, and behave not quite so well as on the first occasion, affection is more secured than ever, for the world does not care much for *very* good little people. (289) "Leisure Hours" is another exquisite portrait picture—the children a little over-dressed. And what a lovely little bit of natural childlikeness (176) "The New Dress," by Mr. J. C. Horsley, A., presents. Such truthfulness is seldom found accompanied by the refinement that distinguishes this realization. (100) "Within the Convent Walls" will not add greatly to the fame Mr. A. Elmore, R.A., enjoys as a depictor of nunnery life and nuns. So many far prettier specimens have emanated from him, and some so pre-eminently less presentable from other sources, that success would appear to depend entirely upon the extremes, and to have no chance in the mean. (424) "Excelsior," by the same, evinces in some degree his characteristic and beautiful method of painting, but has no recommendation beyond that which a half-length study of his, bearing any title, would be certain to possess.

We break off that we may at once look at the—

ARCHITECTURAL DRAWINGS.

The architectural drawings this year, are only sixty-two in number; but as most of them are large, they cover the amount of space which has of late years been appropriated to "Architecture," that is to say, about half of the south room. Indeed, last year, there were only forty-seven architectural drawings in the catalogue.

The practice of placing close to the ceiling and floor, these drawings, which require minute examination, is still maintained. Amongst the works are some which could be regarded as highly meritorious pictorially, but leaving unsettled the question how far the pictorial or polychromatic, as prominent in architectural drawings, retards by its substitution the appreciation on the part of the public, of the real art-architectural.

Amongst the more striking drawings, are views illustrative of some of the designs for the Albert Memorial in Hyde Park, which were exhibited in the Royal Gallery in the Westminster Palace, and one other design for the Memorial. Mr. C. Barry contributes (759) his "General View," showing "the proposed treatment of the entire site." For this treatment, his design was happily conceived. The building itself was to be cruciform in plan, with a dome. The end of the transept appears roofed in semicircular form, and as having a circular window. The details have a Byzantine character. No. 778 is an interior view of the same designed building, and shows a semicircular vault, with ornament, and subjects in panels, painted on a gold ground, columns of coloured marbles, and the monument at the end. Mr. E. M. Barry's design, shown by a view (768) of the exterior, and one (790) of the interior, was for a structure of four pilas-traded and turret-crowned piers, and four arches, carrying a dome, the panels of which were to be filled in with green and yellow tiles. The inner dome, or rather cove, carrying a balustrade, was to be richly decorated in colour; whilst on the inside of the outer dome, a painted representation of a procession was to be seen from below. Within this structure, the statue was to be placed. Sedent figures were to be attached to the pedestal of the statue; whilst in each re-entering angle of the structure was to be a winged figure. The design submitted by Mr. P. C. Hardwick is here exhibited in two drawings by Mr. F. P. Cockerell. One of them (802), shows the general arrangement of the site, with terrace-gardens and accessories; and the other (796), the statue itself, with the pedestal and subordinate sculpture, of which there is a profusion. The statue of the Prince would have been gilt: the other sculpture would have been bronze, with gold background apparently; a dado and plinth would have been of red marble, and the mouldings of white marble. That the effect here expected could be permanent in the open air, is very doubtful. In bronze alone, the London statues fail sadly. Mr. Cockerell's work in the drawing of sculpture, and the classical ornamentation of accessories of a building, shows that he is worthy of his name. In the general arrangement, effect of the group would have been diminished by contrast with the expanse of terraces. Mr. Scott, though he does not exhibit his accepted design for the monument, shows in several drawings his "Hall of Science," "one of the alternative designs offered" for the Memorial (776, & 779 to 781). In general arrangement, the building is simply four semicircles on plan, connected with a central space, which is covered by a dome, and surrounded by an ambulatory or cloister, to which are attached a porch and some other accessories. The windows are all round-arched, with shafts and sub-arches. The general details are a mixture of Early French,

Lombardic, and Byzantine. The dome, however, which is pointed, helps to give to the design somewhat the character of an Indian tomb. The sectional view of the interior of the building, displays some excellent ornamentation in colour and gold.

The last design for the Memorial, to which we alluded, is by Mr. Fergusson. Its main features are a structure of four arches, on a general square plan, crowned by a dome; and four smaller structures, also domed, but each having the entablature and dome carried by square piers or *antæ*. The arrangement thus far described, resembles that of the design of Mr. E. M. Barry. The details, however, are very different; and they have that attribute which not merely is not inconsistent with the highest merit, but must necessarily pertain to the art we desiderate, namely, that they cannot be easily described in words. We may say however that the arches being semicircular, and having nook-shafts, and ornamentation in the "orders" of the heads, show that the designer has made some use of Norman and Lombardic examples. Each angle of the building is splayed and moulded, and has a nook-shaft which carries two truss-formed projections, breaking the cornice; which therefore overhangs slightly, and not exactly so as to reconcile us to a splayed form of the angle as contrasted with usual rectangular form. However, the trusses and angle of the cornice, considered apart from the overhanging, are the best features of the design. The dome, of masonry, has some effective ornamentation of moulded ribs and horizontal lines. It is terminated by a finial, resembling that of the monument of Lysicrates, which bears an allegorical figure. Coloured marbles are profusely employed, as in the shafts; and the sculpture of the frieze has a blue background. These backgrounds, if painted, are not worth two years' purchase in the London atmosphere: witness the case of the British Museum pediment, and the more recent painting of the frieze of the Athenæum Club, which no one could now discover to have been painted some very few years since. Square piers in the four small domed-structures are placed one at each angle, and two others in each front, each one next to the angle. Novel ornamentation may be found in these smaller structures, as in the central shrine; but there is something wanting in the proportions of parts, which it is easier to recognise than describe. Generally, Mr. Fergusson has succeeded in showing, supposing that to be his object, that there is no reason why details in new works, should be simply reproduced; but he has at the same time allowed us to see that the teaching of old models could have contributed much to his design, and led to higher appreciation of result.

The conspicuous drawing in the room is Mr. Scott's "Design for the New Foreign and Indian Offices, as in the style desired by the Architect" (786). This drawing, Mr. Scott has made his diploma work "deposited in the Academy on his election as an Academician." As drawing, we must say it is not worthy to be compared with the drawings which Mr. Scott sent in the original competition. It is splashily coloured. However, the intention in the details can be made out. The architect has done well to leave on record his original ideas. Could the opinion of enlightened posterity, upon the design carried into effect and the design which was only made, and upon the whole affair of the Government Offices, be expressed, we should be amused; and "the authorities" in these matters might be benefited. Without saying whether the design should have been Gothic, or of another character, we apprehend that the details of the building now in progress are not improving as the work goes up. There are faults in them which, Italian though the style be, the study of *Gothic* architecture should have made impossible. In the design in the Academy, on the other hand, the architect is evidently master of his details; and, were we to accept the choice of Gothic, there would be little to displease us, except the form of the termination of the tower with saddle-back roof, wherein Mr. Scott always seems to us uncouth as well as unmoulded.

The most important subject illustrated in the Architectural Room, however, is the Thames Embankment. Mr. Bazalgette, who last year exhibited views showing proposed arrangements of the steam-boat piers, and of the gardens in front of the Adelphi, this year shows us four drawings (762, 763, 788, & 797) all of steam-boat piers or landing-stairs. Those of the designs which are for the same piers as he exhibited designs for, last year, are modified, and in accordance with our views as to some important particulars.* But they are yet sadly deficient, and even more than they were, in art; and must be considered as not at all worthy of the positions and the opportunity, and not calculated to contribute to the architectural character of London. In the steam-boat piers at Waterloo Bridge, one above the bridge and the other below, Mr. Bazalgette has united the piers and the embankment with the arch, instead of having the piers connected with one another, through the arch, by the roadway, as was the objectionable arrangement of last year. Moreover, pedestals all now support something. But whilst correcting certain defects which we specified, he has done nothing else to give a character of art to the piers and landing-stages. It is not sufficient to introduce sculpture, and to place for the support of each group, a blank cube of granite: but there is positively nothing more than this sort of treatment in the Waterloo Bridge piers. In the design for the Temple steam-boat pier and landing-stairs, there is just enough design in one portion of the balustrading, with the supports for candelabræ, to explain the difference between architectural art and absence of it. Also there is some ornamentation, though not of a high class, to pedestals; and to parts of the embankment or steps, by lions' heads and rings. But the centre of the composition is a gateway not a bit different to what may be seen in any book of tasteless designs of the end of the last century. The steam-boat pier at Westminster Bridge, though plainer than the others, seems likely to be in the best taste. The character of the mouldings at the Westminster Palace-terrace and landing-stairs appears to be repeated in it. "York Gate," at present standing at the end of Buckingham-street, will be removed, and rebuilt, "arranged to form an entrance to landing-stairs between Westminster and Charing-cross Bridges." A square landing will be placed in front of the centre of the gate, having steps right and left, and carried by an arch; but comparing what is shown in the drawing, with the ruined platform or steps on the river bank, we fear that difference will be found from features that originally conduced to the effect of the whole highly-estimated example of Inigo Jones's talent.

Mr. E. M. Barry, besides the drawings we have mentioned, has several others. Amongst them is a view (767) of "Proposed New Refreshment-rooms for the House of Commons." The room shown, has a central waggon-headed wooden vault springing from a cornice-moulding, carried by hammer-beams, rising from wooden shafts between the windows. The spaces between the timbers are coloured blue. The same architect exhibits a view of his Charing-cross Hotel, now erecting (777). The drawing does not make the red terra-cotta shafts to the chimneys so prominent as they are in the structure itself. The building has five stories between the pavilions of the ends, besides two stories with dormer-windows in the roof. The top story of all appears to have a continuous balcony, or deep gutter, the face of which is ornamented in party-colour. The details, in a modified Italian form, are some of them very good, whilst others are not so. Good features, besides those of the chimneys, are the deep recession of the window openings of the pavilions, and the nail-head ornamentation at intervals in the brickwork. Defects of the building are the use of cement for many of the members intended to be decorative, and the unsightly feature of each porch of entrance, a segmental arch to the centre opening, carried by columns. Spire-capped square turrets to the angles of the pavilions, and larger quadrangular masses with very high-pitched roofing, are features in this design; as they are becoming in many buildings of the day. Generally, as an experiment in decorative application of different materials, terra-cotta especially, the building will deserve particular attention. The Cross to be erected in front of the hotel and station entrance, and intended to be a "restoration of Charing Cross," is not shown in this view; but it is the subject of another drawing (807). This latter is not put forward by the architect, as displaying more than general effect: the details have been considered in preparing the working drawings, and will no doubt be found in some parts earlier in character of date than details in the exhibited view. In general character and details the work may be said to resemble most, Waltham Cross. Certain red granite shafts and panels, shown in the drawing, are now to be omitted. Although we have no doubt that the work will, in Mr. Barry's able hands, be a reproduction of Charing Cross, or as nearly so as is possible, we question the advantage of such reproduction, in the interests of art. Until it be recognised that each new structure should have *something* new in its decorative features, or that otherwise the work cannot be one of art-architectural, we shall make little way. Besides, here, an element of confusion will be brought into the topography and street-nomenclature of London. There will be two rather distant localities called Charing Cross, one the space and a portion of street in front of King Charles's Statue, and the other the space in front of the hotel. Another drawing by Mr. Barry (801) shows the Star and Garter Hotel, Richmond, as it will be, altered, and with the addition that is being made. Here there is a centre of four stories, of alternately arch-headed and square-headed windows, between two square spire-capped masses, and bow-fronted wings. In the centre there are two tiers of dormers in the roof, but in the ends of the building a regular story is substituted for the lower tier of dormers. The chimneys are important features: they are pilastraded in several tiers; and the character of Italian has some of the features of Jacobean as they are in Longleat. Of other new hotels there are two illustrations. Mr. J. Murray shows a view of the Tunbridge Wells Hotel (793). It has a square pavilion at each angle; and each pavilion is terminated by four angle-turrets, and a central *belvidere* story. There is a colonnade to the ground-story, between the wings; and the general character is Italian. A drawing (804) of Mr. Knightley's design for the Cavendish Hotel, Eastbourne, shows that it also will be of Italian character, but with an extended frontage, comprising a central and end pavilions, the latter terminated each by a lantern story or *belvidere*.

Some works of importance in one respect or other, considering the future architectural character of London, remain for notice. The chief of them is (795), "The Ludgate Bridge, now being erected for the London, Chatham, and Dover Railway Company; Joseph Cubitt and F. T. Turner, engineers." The drawing is exhibited by Mr. J. Taylor, jun. The design affords good evidence in addition to that which we have already had, that iron girder-bridges may be made slightly, and, indeed, ornamental. The ends of the girder here are carried by bold cantilevers; and coats of arms are placed on the sides, separating ornamentation of the middle portion of the girder, from the plainer treatment which is that of the ends where strength would seem to be required. Mr. Taylor, in the several stations of the line, has shown the public (if it looks), the advantage, with little cost, of taste, and of the employment of an architect. As the drawing is, of the Ludgate Bridge, the view of St. Paul's is not interfered with. Messrs. Ordish & Le Feuvre exhibit (783), their design for "Proposed High level Railway Bridge and Viaduct over the Thames, to connect the northern and southern railways below bridge." This design is a modification of the ordinary suspension-principle, by the introduction of obliquely placed chains, each suspending from the tower, or pier, a point in the length of the roadway distant from the pier about two thirds of the span, and themselves suspended intermediately by perpendicular rods from the catenary.

Two drawings are exhibited by Mr. T. Cundy, jun., showing "Projected improvements upon the Pimlico estates of the Marquis of Westminster," one (760) being "Lower Grosvenor Gardens," "looking north from Belgrave Place," and the other (761) "Upper Grosvenor Gardens," "looking south from Grosvenor Place." The Marquis of Westminster is understood to be desirous of improving the decorative character of buildings on his estate; and there is ample room for improvement. Mr. Cundy, we are told, had photographed a plan of the proposed improvements on another view; but this, for want of space, was not hung.

Mr. J. Murray exhibits a drawing (756) of the "Mansion for Sir Samuel Morton Peto, bart., M.P., Kensington Gardens." All that we can make out, in the elevated position in which the drawing is hung, is that the building is Italian. Next to it is a view (757) of a mansion recently erected near Geneva, by Mr. G. H. Stokes. It appears to be Italian of different character. Amongst the features are strings of flowers suspended on the piers. In the same top-line, is a drawing (754) of "Dundarave Hall, Lancashire," and one (755) of "Clervaux House, Hampshire,"

* *Vide* page 327 in last volume.

both by Mr. J. P. Jones, and Gothic in character. The first, in red brick and stone, seems to have round arches in addition to the high-pitched roofs. The other building, of grey and white stone, and with tiled roofs, appears to have both round and pointed arches.

We have mentioned one design for a bridge of wide span. There is a drawing (771) of the "Bridge in course of construction over the river Mersey, at Runcorn, for the London and North-Western Railway," designed by Mr. W. Baker. We can remember a project for a bridge over the Mersey at Runcorn being mentioned many years ago; and we remember what was deemed the absurdity of the idea. But at that time, the various forms of wrought-and-riveted iron and tubular girders had not been invented; and neither the Menai, nor the St. Lawrence, had been crossed by a railway-train. As well as we can make out, the girder here is of the lattice-form: there are three central spans of the iron-construction, and six arches of masonry or brickwork on one side, the piers founded under water, and four next the opposite shore. Mr. G. G. Page exhibits (805) his "design for the Carlisle Bridge, Dublin." The drawing shows a wide flat span of arch, in iron. On the abutments are pedestals with equestrian statues.

We must dismiss in a sentence, Mr. T. C. Sorby's "The New Town-hall, Bromley" (770), a red brick and stone Gothic structure, erecting for Mr. Coles Child; Mr. W. Wilkinson's "Interior of the New Library at the University Union Society's building" (774), Gothic, with waggon-headed vault, the principal ribs ornamented by perforation to the casing, and with iron-work supports to the gallery, brilliant in blue and gold; Mr. M. D. Wyatt's "Saloon lately erected for Messrs. Purdie & Cowton, 314, Oxford-street" (769), which is effectively lighted through the cove; and the same architects' "Original Study for the New Staircase at Compton Wynniatts, Warwickshire" (811); Mr. P. C. Hardwick's "South-east View of the House to be erected at Rendcomb, Gloucestershire, for Sir E. A. Goldsmid, bart., M.P." (775), ordinary Italian, and below the architect's powers; Mr. S. S. Teulon's "Bestwood, in the county of Nottingham, now in progress of erection" (806) for the Duke of St. Albans, illustrated in our last volume, and looking very red now as coloured, in the drawing; and Mr. G. Sykes's designs (813 & 814) for decorating portions of the north end of the gallery in the South Court of the South Kensington Museum. Mr. Prichard's "Design for a Mansion, about to be built for Señor Don Manuel M. Gonzalez, at Jerez de la Frontera, in the South of Spain" (785) is Gothic of a peculiar character. Pointed arches, Saracenic seemingly, predominate; but *loggie*, boldly corbelled balconies, battlements, an octagonal tower, and a very bold flight of steps, are important features in the design. Also Gothic, but of very different character, is Mr. C. E. Giles's "Hagley, South Carolina" (809), "a design for a house, with private chapel." An octagonal, balconied and spire-capped, structure, with a porch projecting from it, is the main feature.

Two of the designs for the New Exchange Building, Liverpool, are represented at the Academy. One drawing (794) is an external view of the design by Mr. W. J. Green. This design is evidently of superior excellence. It may be said to combine the Venetian Italian, as of Sansovino, with French and Greek elements. High-pitched roofs, and square domical-capped angle turrets, are chief features. The other drawing (803) by Mr. T. H. Wyatt, is an interior view of the News Room. It seems to differ somewhat from his drawing in the Conduit-street Exhibition, explanatory of the design to which the first premium was awarded. In the Academy drawing, the room is shown surrounded by columns, and pilasters, with shafts of coloured marble, bearing arches, and having the height of the arcade divided by a gallery: above the arches, in a cove, are lunettes with sculpture; and from the centre of the flat ceiling rises a domical light.

Mr. R. P. Spiers exhibits a view (789) illustrating the "Design for the Vestibule and Staircase of a Royal Palace," which obtained the Academy medal; but as coloured, it is less pleasing than the drawing in the exhibition in Conduit-street. Mr. W. V. Pickett turns up once more, with a "Series of Designs" (797*) in his "system of iron architecture" concerning which he has wasted some ingenuity. The designs are valuable chiefly as showing that, whilst it may be necessary to consider and not contradict facts of the properties of materials, which heretofore we have taken great pains to show, such expression of harmony is not enough, and that bulk and the idea of strength involved therein, besides breadth of surface, whereon light and shade may have their effect, are essential to the monumental. It is easy for an enthusiast to convince himself of truth of his theory, by shutting out of consideration half the premises. That sort of mistaken course has been long retarding the advancement of architecture and decorative art.

Mr. J. Drayton Wyatt exhibits a drawing (799) of a work of historic interest, "The Tomb of Queen Katherine Parr in Sudeley Castle Chapel, Gloucestershire, being part of the restorations, &c., lately completed there" for Mr. J. C. Dent, by Mr. Scott. The figure, recumbent on an altar-tomb, is placed in a recess decorated with an ogee canopy.

Mr. Ashpitel, who last year exhibited a drawing of the Basilica of Constantine and Maxentius restored from a very old plan among the MSS. discovered by the Prince Consort in the Royal Library, Windsor, has this year, a view (800) of the interior, restored from the same authority; and he mentions that the building covered more than three times the space of Westminster Hall, and was half as high again. The coffers divided by the angle of the groin, so that one-half the coffer is in one severy and the other half in the other, have a strange appearance. Can there be authority for this arrangement?

In former years, church-architecture contributed the larger number of drawings to the Academy exhibition. This year, there are few works of the class. One of the most important of the subjects is "St. James's Church, Calcutta," in course of erection, by Mr. C. G. Wray, which is shown in an exterior view (758) and an interior (782). The details may be described as of plain Early English character; but internally the decoration of the roof-trusses is Geometric-Decorated. The general plan is cruciform, with a western porch and turrets, and a wide porch to each transept. In the usual position of aisles there is an open cloister on the ground-story, and a gallery above, which is lighted by windows, to be closed by *louvres* or Venetian blinds. Mr. T. H. Wyatt exhibits a small perspective view (764) of his church at Fonthill; one (765) of a church at Pembroke, and one (766) of the church of St. Katherine's. Each one of them is of Early Decorated Gothic character. Mr. Street exhibits (808) "The Crimean Memorial Church, now in course of erection at Constantinople," after many changes of intention, ending, it now appears, in rejection of Mr. Burges's design. Mr. Street's design, judging from the exterior, is not equal to the design for which he received a premium, or indeed worthy of him. No. 773 shows a design by Mr. J. L. Pearson, for "proposed sculpture and incised decoration of the narthex of St. Peter's, Vauxhall," where the figures are white on red ground. The only drawing which seems left to be named is Mr. Pearson's "Interior of a Church now building" (810) at Appleton-le-Moors, near Pickering, by Mrs. Shepherd, "in memory to her husband." With the common plan and carved work, it displays ornamentation by coloured bands, which is all the more satisfactory because cool in tone, and has incised work of figures similar to that shown in his other drawing.

THE ARCHITECTURE OF INDIA.

CAN ITS FEATURES BE SUCCESSFULLY BLENDED WITH EUROPEAN STYLES?

IT would appear singular, were it not explainable by very obvious facts, that the ancient architecture of India should exhibit closer analogies with the European styles, both Classic and Mediæval, than does the style of Egypt, though belonging to a country which, comparatively speaking, may be considered a closely neighbouring one. These remarks especially apply even to the cave-temples of Ellora, produced under similar circumstances, and upon a similar scale with the cave-temples of Egypt. Yet, while the architecture at Ellora immediately suggests comparison with that of the crypts of our own early cathedrals, the style of the Egyptian works of the same class does not call up any association of the kind, but appears at once distinct and strange—an utterly foreign language of art, presenting no relation whatever with our European Gothic, of any date. The explanation of this apparent discrepancy is to be found in the chronology of the question, the great solvent which may be applied to almost all difficulties in the history of art, though often presenting considerable complications.

In order to explain why the distant art of ancient India more closely resembles that of Europe than does the more neighbouring Egyptian style, a very brief chronological survey will be sufficient. The Egyptians were the earliest people, of whom any record remains, who developed what may be termed a definite school of art. In sculpture as well as architecture the school of Egyptian art, after having seized upon the leading features of natural forms, and thoroughly appreciated their chief characters, and accurately understood their relative proportions, adopted their main outline only. This outline was refined, sharpened, and eventually reduced to set conventional forms, agreeable to the eye-culture of the Egyptian artist; but never *filled up*. In sculpture, the indication of the muscles was never added to the outline of the main form, in the limbs of the human figure. Nor, in architecture, were the *details* of the lotus or other plants, forming the floral decorations of columns and their capitals, ever added to the main external outline. It would almost seem as though the Egyptians had been only furnished with the shadows of objects to study from, and so would only seize the *silhouette*, or general mass of the object, with its terminal outline, without any of the details of those portions of the object not defined by the shape of the shadow. This simile must, however, not be too severely applied. Having once defined the style of art they first aimed at, a peculiar quality of the Egyptian mind caused it to remain obstinately stationary at a certain degree of development, producing that cold though grand severity in Egyptian works, which keeps them distinct from all other styles of art. This feature in Egyptian art resulted chiefly from the character of the people, as moulded by a theocracy, whose religious and political principles, being closely bound together, were necessarily unchangeable. And Egyptian art may, therefore, be strictly termed dogmatic art, as not admitting of either innovation or cavil; but to be practised from father to son by a race of hereditary architects and sculptors, who easily learnt the limited range of those orthodox forms, which were not to be departed from. As the race of priests learned the dogmas of the national religion, so the sculptor, architect, and painter learned the equally severe dogmas of art; and a departure from either would have been considered an equal heresy. A State art went hand in hand with a State religion.

The neighbouring school of art which most closely resembled the Egyptian was that of Greece, in its earliest attempts at refinement. In sculpture, especially, there are Greek remains which exhibit wonderfully strong affinities with the Egyptian school, from which those refinements were evidently derived; but then, Greek art was not encumbered by the dogmatic dictates of an all-powerful theocracy, and, therefore, worked out an eventual development of its own. In an Eastern direction, Assyrian art evidently owed much in its beginnings to that of Egypt,—a region which was then evidently the very core of the spirit of civilization, as Western Europe is now. The sculptors of Assyria, in adopting those principles which they could learn of their Egyptian brethren in the accurate seizure of the grand outlines of natural objects, appear to have followed the somewhat freer treatment found in the mural paintings of Egypt than the severer forms of the sculptures; while, in the figures of their richly-treated bas-reliefs, they soon added the delineations of the muscles to the main outlines,—not in that delicate and truly artistic manner afterwards developed by the Greeks; but with an over-marked and over-emphatic treatment, which is the characteristic of Assyrian art, dealing in exaggerations both of detail and proportion; while, in the Egyptian works, even when colossal, nothing ever seems exaggerated or over-emphasised. This disposition to profusion of detail and exaggerated emphasis is the natural course of unfettered art, at a certain period of its development; and it would doubtless have occurred in Egyptian art itself could it have received the stimulus of foreign superiority or rivalry without being crushed, as the art of Egypt eventually was, by foreign invasion and domination.

Assyrian art was doubtless the first step towards that kind of ancient Indian art with which we are best acquainted, and which, whether any national Indian style worthy of

the name of art preceded it or not, is, in the main, the earliest kind of art produced by the Indian races of which any examples remain.* It was through Assyrian art that the modifications afterwards produced under the subsequent ascendency of Persia were created, in which many of the special forms distinguishing the architecture of India were first developed,—such as the bracketed capital—the slender column, enriched at certain distances by bands of ornament—the deep and decorative base, made as important as the capital—and, perhaps, also the pointed arch, varied by many varieties of outline and enrichment. Hence the national Indian architecture, as we know it, was derived originally from the Egyptian, through the medium of the Assyrian and Persian styles, after several successive modifications, and more especially *complications*, which are the necessary consequence of long-continued development when accompanied by successive foreign influences; through all of which, however, both the sculptured caves of Ellora and the temples of the Ganges have preserved strong hereditary lineaments of those monuments of Egyptian greatness which still excite the wonder of the art-student on the banks of the Nile.

Our own Mediæval architecture, derived in a similar manner and by a similar process from the same parentage, has necessarily more affinity with the features of styles contemporaneous with its own, and derived from the same source, than with the features of their original and mutual parent; and this is rendered the more plain when we consider that the course of Egyptian art-influence in the West was entirely analogous to that worked out in the East. The Greek and Roman schools of art, though later styles, exactly corresponded in method of development with the Assyrian; introducing, especially in the Roman period, more abundant detail, and a sumptuous though yet severe kind of richness of general treatment. The Byzantine, taken as the next Western modification, corresponded in degree (though not in time) with that of Persia in the East, exhibiting greater intricacy of parts and more elaborate finish, but losing more and more of the original colossal grandeur as well as simplicity of the parent style. Then grew up, in successive phases, the various modifications called Gothic, exhibiting all that intricacy, extravagant profusion of ornament, and structural complication which likewise distinguish the Mediæval structures of India. Here, then, we have clearly established, not only the affinity between the early architecture of England and that of far distant India, as greater than that between English art and that of the comparatively neighbouring Egypt; but also the cause of that affinity, which could not, without entirely changing the course of art history, be otherwise than it is.

It should, however, be observed, that as among the forms and details of the Doric temples, many strikingly distinctive features were retained, which mark the still remaining influence of a national architecture, of the timber-building period —before the existence of Egyptian influence,— and which continued after it;—so, in India, in a few of the very oldest known monuments, similar traces of an original national architecture—very distinct from that of Greece, but also belonging to a rude timber-building period,—are plainly evident; and it is, in fact, the engrafting of these features on imported styles of a more advanced character, or rather, perhaps, their retention as still inherent features, that produces from age to age those well-defined and distinct national styles which, TOGETHER, but not separately, should form the study of the modern architect.

After these preliminary observations, an examination of some of the more remarkable examples of Indian architecture may be advantageously entered upon with the view of ascertaining whether, or not, they present features, details, and even general characteristics, akin to our own national styles, which, treated in our own national feeling, might be skilfully grafted on our existing methods of structure and decoration; serving as one of the means of getting out of the humiliating rut of that merely servile reproduction which is so unwholesomely checking the advance of our young architects, whose works display a vigour that, if not cabined and confined by the trammels of imitation, and the superstitious belief in existing "authorities," would perhaps lead to great results,—and that rapidly.

* A few examples, however, exist, which possibly belong to a primæval Indian style, and which will be referred to in the course of this paper.

The examples it is proposed to examine with this purpose in view are to be found in the magnificent collection of Indian drawings, by Mr. Simpson, now exhibiting at the German Gallery, in Old Bond-street, and already mentioned in these pages. They have been reviewed also by almost every organ of the press, which tends to render them more generally known; and so all the better suited as examples to illustrate the theories put forward in the present essay.

The first example to be referred to is one which, in all probability, exhibits the characteristics of an original Indian architecture, belonging to a time immediately following the timber-building period,—a time preceding the importation of those foreign influences which have produced the more recent styles. This example (No. 22 in the catalogue of the drawings) represents the gateway of the Bhilsa Tope, possibly one of the oldest architectural edifices in India, occupying the summit of a hill covered with Buddhist remains. According to Cunningham, as quoted by Mr. Simpson in his catalogue, who opened the tope some years ago, the period of its erection may date as far back as 443 B.C. These topes can scarcely be considered in the light of temples, as they appear rather to be gigantic reliquaries, in which were preserved objects of religious veneration, too sacred for the eye of the worshipper, there being no entrance to the interior cells in which the relics were deposited; the form of adoration consisting in the circumambulation of the building, and the muttering of certain prayers. For this purpose a paved passage-way surrounding the temple-shrine was provided; the passage being inclosed by an external fence, now existing, which, from its peculiar character, forms the subject of the present remarks. This fence, with its four gates, is entirely constructed of stone, though exhibiting all the primæval forms of a wooden stockade, of somewhat elaborate character; one of the peculiarities being a series of transverse rails mortised into the upright ones. In the stone structure, such forms as would have existed in the wood are still accurately carried out, even to the mortising. The huge blocks of stone thus mortised, which form a striking link between the widely-distinct epochs of timber and of stone architecture, are most elaborately decorated with intricate sculptures. Of the four original gates to the inclosure of this tope, only two remain perfect, one of which forms the subject of the drawing under description. The general effect of this entrance may be compared to that of the framework of a great Tudor window, but with the cross stanchions nearly as numerous as the upright ones, forming a number of oblong square openings.

The lower portion of this stone framework seems to be removed to form the gateway, while the upper part remains a fixture, beneath which the worshippers pass, as under a vast four-barred gate, or portcullis, suspended above them. At the period when such stockades or inclosures were of their original material, wood, the lower part of these entrances was, no doubt, made to open, gatewise, or to slide up like a portcullis; and, possibly, the first stone adaptations of these forms were similarly arranged, as remains of stone and marble gates of ancient workmanship are not uncommon in the East. Whether such was the case in the present monument our recollection of Mr. Simpson's drawing does not enable us to determine; or whether bronze gates, long since the booty of foreign spoilers, were fitted in below the heading just described. However this may be, the true way of carrying out the design in the present monument would have been to have the lower portion of the composition of this striking entrance also constructed of stone, formed of upright and transverse stanchions, and opening and shutting by means of gigantic pivots, working in sockets, instead of hinges. The present aspect of the remains of these gates is very singular and striking, the richness of the sculptured details rescuing the effect from that appearance of barbaric rudeness which its likeness to cross-timber work of very primitive character might otherwise suggest. The primeval posts on each side have, indeed, under their architect's hands, become most elaborately enriched columns, the capitals of which are formed of different animals, among the most characteristic of which are elephants, wrought with a skill and character truly surprising. From the external side of these capitals figures stand out laterally, or bracketwise, supporting the short continuations of the lowermost of the transverse stanchions, which extend beyond the upright ones. The transverse stanchions of the upper part of these gateways terminate in this manner, as they are above the level of the rest of the continuous fence, and are, consequently, cut off at a short distance beyond the external uprights, to which they are mortised. Human figures, as stated, project from the capitals of the piers or columns, and support the lower of these projections, while animals, standing in the intermediate spaces of the projecting stanchions, support the upper ones. The bracket-like support projecting from the column on the left of this gate, is a most gracefully-designed female figure, full of a rich Oriental elegance, which (if it has not been heightened by our modern artist in his beautiful drawing) must be considered very remarkable in so ancient a work. The entire surface of these gateways is elaborately carved with emblems of Buddha, and figures of various descriptions connected with what may be termed the ritual of the Tope or Dhagopa. But any written description of this most singular and characteristic stone fence and gateway can but suggest to the architectural student vague ideas connected with the early development of Indian art and the application of general principles in an original and picturesque manner. To form an accurate idea of what the structure may suggest in actual practice, the monument itself, or, at least, Mr. Simpson's beautiful drawing, ought to be seen and carefully examined.

The next examples of Indian architecture in this collection belong to a later period, and are those which correspond to the different early stages of our own Mediæval architecture. In the representations of the Golden Temple, at Benares, the present centre of existing Hindooism in India, good examples of the bracket capital may be studied. In the drawing, No. 18, capitals, formed of four brackets, the angles between them being filled with rich bosses of ornament, produce a sumptuous and appropriate effect. In the case of columns above which two beams meet and intersect, the four projecting brackets fulfil a seemingly necessary function, and appear to spread forth their support, armlike, in a picturesque and effective manner to each beam, on its arrival and departure from its temporary station. In No. 19 there are examples of columns of somewhat Egyptian proportions, and even Egyptian-like decoration, but of a more minute and profuse character, founding, by combination, a distinct and new style, as suggested in the preliminary observations. But the most striking examples of the bracket capital occur in the Vihara or cave-temple at Ajunta. These are only double-bracketed capitals, the double brackets extending on each side to near twice the diameter of the shaft, and nearly meeting those of the next column; producing, when the line of columns is seen, in front, and from a certain distance, the effect of a series of flattened arches, constructed upon some entirely novel principle.

Another cave-temple at Ajunta (No. 48) is very remarkable for the general richness and completeness of its details, and especially to be distinguished by its lofty arched instead of flat roof, cut out of the solid rock, but made to imitate such a roof as it would appear if constructed of wood. This is another and much later example of the lingering predilection to continue the old sacred forms of the primeval wooden structures, though the material come into general use was stone, the capacities and general structural qualities of which were so different. In the Buddhist cave at Karli this feeling for the characteristic forms of the old wooden structures is exhibited in a still more curious manner, the ribs of the roof being actually of wood, *fastened on*. Considerations arising out of these pertinacious struggles to imitate artificially, in stone, the forms naturally occurring in wooden structures, must lead us to be cautious in joining the outcry against so-called "shams;" inasmuch as we see in some of these Indian temples imitations of wood, in stone, producing highly successful results;—a principle which we also find exhibited in the classic Dorian temple of the Greeks, in which all the most characteristic details are stone imitations of wood-work. The interior of this temple (No. 48) is also very remarkable for the excessive enrichment of all the columns of the church-like nave, as well as for the elaborate frieze above, formed of a series of decorative niches, in which are seen, alternately, sitting and standing, figures of Buddha.

The Dhumar Lena cave-temple offers a good example of that kind of columnar supports, short and massive, which are one of the more ordinary characteristics of these works. In the present in-

stance they are formed, to about half their height, of a square shaft of great diameter, either decorated or plain, and with or without a plain or decorated square base. The upper part of the square shaft resolves itself into a capital of peculiarly Indian character,—a character not found in any other school of architectural art. It somewhat resembles a rather squat vase, enriched with ascending and descending flutings, meeting in a central ridge, and other enrichments; but, while its form is so unusual, it is yet, evidently enough, a decoration designed expressly to form the ornamental head of a columnar support, and for no other purpose. The shaft and capital together of this example are a decidedly successful form of columnar support; and plainly point the way to the conclusion that a servile adherence to Classic proportions, or even Gothic ones, need not constitute the sole standards of architectural beauty or strength, nor be accepted as the embodiment of principles from which all departure is dangerous.

Another example of supports of this kind, closely analogous in the principle of their general design to the short massive columns of the crypts of early European cathedrals, is exhibited in the view of the Lanka Cave at Ellora. But while their general principles of design are the same, they are altogether distinct in their details, both of external outline and the feeling and distribution of their ornamentation. Thus showing how unnecessary it is to adhere strictly to the pure columnar form, short or long, thin or thick, which is nearly always followed in the squat and massive supports of our crypts, which have, almost always,—whatever their proportions and decorations,—the shaft, base, and capital, of the Classic column more or less strictly defined; while in the analogous supports of the Lanka Cave, however, the mere columnar feature almost entirely disappears, giving place to a sort of decorative turret. The lower portion of this device is composed, like that of the Dhumar Lena cave, of a square shaft, which, being shorter, is rather a block, or pedestal, resting upon a strongly-moulded decorative base, the base and block together not forming above half the entire height. From the block, richly decorated at its angles, rises a slightly-tapering cone, very profusely ornamented, which is surmounted by a mass, of depressed spheroidal form, having a sharp ridge at its widest part, with decorated flutings above and below, meeting at the ridge; and this upper portion of the supporting turret forms a feature precisely analogous to the capital of a short, massive column. Notwithstanding the distinct character of both the main and minor features of the supports under description, they have a general family likeness and evident relationship to the dwarf columns of our crypts; and it is evident that, by modifying the feeling of the ornamentation, both in subject and treatment, in such a way as to stamp it with a modern European character, a freshness of form, a novelty of proportion, and a different distribution in the arrangement of the ornamentation, might be obtained through the medium of this ancient architecture of India to form the basis of a new style; at all events, the basis for a starting-point towards a more original code of architectural ideas.

To pass from the characteristics of massive dwarf supports to the strongly-contrasting feature of very tall and slender ones, we shall find a graceful example in the delicate columns of the dome of the old Jain Temple of Ajmere, in Rajpootana. This is one of the most ancient and best preserved of the works of the Hindoo period, and one of the completest monuments of its class. The columns are as slender as the slenderest of our Gothic columns of the thirteenth century, though standing singly,—while with us columns of such proportion usually stand in clusters. These Indian columns represent a corresponding architectural phase to that which developed itself with us at the end of the twelfth and throughout the thirteenth century; but, possessing decidedly distinguishing features in their evident, though gradual, tapering from base to summit, and in having, instead of the mere rings of moulding which occur in our thirteenth century columns, a similar number of projecting bands of much more important character, almost approaching in effect the successive galleries of Turkish minarets,—a feature which might be made much of in modern church architecture.

Among the later specimens of Indian art as influenced after the Mahomedan invasion, is the famous Taj at Agra, the tomb of Noormahal, the favourite wife of the Shah Jehan, which travellers generally agree in ranking among the finest buildings in the world. This should not be passed over without notice. It presents many suggestive features for architectural study; the more so as the details of the ornaments bear evidence of European origin, more or less strongly pronounced, which yet have quite a distinct and original character, showing what a vast amount of originality of a certain kind may be obtained by "treatment" alone;—such a kind of treatment as might be applied to all the details of our Gothic cathedrals under the modifications of modern genius of the true architectural type; while the servile reproductions which are being carried out, even as to the varied details of "handling," do not point the way to any real advance.

Several other examples of Indian architecture among Mr. Simpson's beautiful collection of drawings possess equally suggestive features with those referred to in this paper; especially some timber-work analogous to the Swiss style, or that of our timber houses of the fifteenth century, hinting at new and pleasing features; but the present article has already occupied more than its share of space.

THE INTERIOR OF A GOTHIC MINSTER.*

IN addressing you upon the subject of the interior of a Gothic minster I feel like the man in the Eastern story, who conjured the Genius of more than colossal dimensions kindly to recompose himself within his moderately-sized jar, so large are the materials and so short the limits of a lecture: in one respect, however, I will endeavour to secure your approval, in consulting your patience by brevity and conciseness.

The word "minster" I use in the following observations in its largest sense, embracing the cathedral, conventual, and collegiate churches; and if some points appear omitted from consideration, the reason will be found in the fact that they were treated on in my paper on Church and Conventual Arrangement, read before the Royal Institute of British Architects, and since published by Messrs. Atchley & Co.

Upon first entering a minster, the impression now is very different from that produced in Mediæval times, when colour was freely used. The red and blue draperies, the shining gold backgrounds common in Mediæval pictures, were intended for churches having such gorgeously-painted walls and pillars, and fainter colours would have appeared weak or been completely lost when submitted to the glowing streams of light which flowed from windows dyed with azure, ruby, and amber.

At St. Alban's we discover traces of successive stages of mural enrichment; representation of joints of masonry in the thirteenth century; rich diapering of the fourteenth, in imitation of stained glass; and in the fifteenth, scriptural or legendary illustrations. At Rochester, the shafts and arches were painted red, green, and yellow: the whole face of the stonework was filled with the same tint, not distinguishing the moulding, both in the nave and transept. At Carlisle, the choir pillars were painted white, and diapered with red roses nearly a foot in diameter, with a gold monogram, I. H. C. or J. M., of the fifteenth century. In Conrad's "glorious choir" of Canterbury the vault was painted like a sky. At Peterborough, the old Norman ceiling—and an imitation of the time of Abbot Wheathampstead, at St. Alban's,—and one at Bolton of the Early Tudor period, are good specimens of their style, to which the labours of Mr. L'Estrange and Gambier Parry will add another at Ely. At Winchester the hooks remain above the base arcade on which the superb suits of tapestry were hung on solemn occasions. At Chichester, the remarkable wall-paintings in the south wing of the transepts, made by Bernardi for Bishop Sherborne, are, I fear, irreparably injured: some were wholly destroyed by the calamitous fall of the tower and spire. At Canterbury, Winchester, St. Alban's, Durham, Exeter, Rochester, Carlisle, and Westminster, we can still point to specimens of mural ornament; and at Exeter, in the panels of the screen, to thirteen oil paintings of the time of Charles I.; and still later—of the date 1728—to some figures in distemper, by Damiani, in the north wing of the choir transept of Lincoln.

The Nave.—The nave was used for the passage of processions and for preaching. The time at my disposal permits me merely to mention that most of the Orders had their peculiar arrangement, the Benedictines preserving the area of their naves clear of the parish church found in those of the Austin Canons; and the Cistercians, holding aloof from the presence of any but of their own body, and exhibiting a stern simplicity, in striking contrast to the sumptuousness of the Clugniac — the Præmonstratensian churches, were usually small and irregular,—and the friars' naves long and narrow, with ordinarily a single aisle for the brethren at sermon-time, and a choir separated from approach by a central tower. But no positive law can be laid down for a certain discrimination at first sight, so frequent are the exceptional instances. Whilst from their constitution the Austin Canons of Thornton, Carlisle, and Christchurch, and the Secular Canons at Hereford and Chichester, left the naves open for the parish altar; the Benedictines, who, at Rochester, Westminster, Chester, St. Alban's, and other places, built a separate parish church, yet tolerated it within the nave at Bodmin and Tynemouth. At Romsey the Benedictine nuns, as at Marrick, allotted the north nave aisle to the townspeople, while they occupied that on the south; and at Romsey the raised step of the platform remained till recently for their stalls. At Lincoln, Bishop Sutton removed the parishioners of St. Mary Magdalene out of the nave. In order to give still further relief at Chichester and Scarborough, and with less uniformity at Manchester, side chapels were erected externally to the nave aisles: for the same reason a large chapel at York, and a church of St. Cross at Ely, were appended on the north, and at Rochester and Waltham, on the south of the nave.

In the nave stood the *pulpit*, which appears to have been moveable, as it ought to be again, after the roodloft was deserted for it. The stationary structures of stone, as at Worcester, 1504, Wells, sixteenth century, and Ripon are not earlier (nor were those of Norwich or Exeter now lost) than the Perpendicular period, and were copied from the refectory and open-air examples, such as those of Beaulieu, Chester, or Magdalen College, Oxford. In most of our cathedrals this traditional use of the nave was observed: at St. David's the pulpit stood in it until 1844. The pulpits of Winchester and Bristol are of wood, and the sixteenth century; that of Hereford Elizabethan, and of the same material. That of Lichfield was the gift of Bishop Hacket. In several instances the naves were very inconveniently blocked up: at Canterbury the south aisle only was available for the public.

At Durham, the Lady Chapel blocks the west front. It contained an iron pulpit, from which a sermon was preached on Sundays, between one and three to a congregation of women, as they were not permitted to pass the "row" with a cross of blue marble, which traversed the west end of the nave. This chapel derived its name of Galilee from being the last station of the procession (Martene, de Ant. Mon. Rit., iv. 155, 204), which took its origin in our Lord's command, given to His disciples after His resurrection to meet Him in Galilee (Rupert. Tuiten., l. vii. c. xxi.; v. c. viii.), and a Durham MS., quoted by Hutchinson, and Macro in his Lexicon, both mention that the Sunday procession was held in memory of the apostles' journey. But the Durham Rites say that it was called Galilee owing to the transposition of the eastern chapel to this site. Martene (u. s., p. 363), defines it to be "the lower end of the church," and in this aspect it may refer to the Galilee of the Gentiles as being the most remote part from the altar. It served as the place of penitents, and also for the burial of the worthy dead, says Ducange; but I may be permitted to suggest that the true allusion, after all, was to the original Hebrew word applied to the outer folding gates of the temple (1 Kings vi. 34; Ezek. xli. 24. Comp. Gesenius on the word "Galilee").

In the nave, the sanctuary chamber occupied the basement of the south-west tower: in the next bay was a chapel of the Bound Rood. Towards the east, in the south aisle also, was the Neville chantry, separated by low walls, on the east and west, and from the nave by a screen of ironwork: it contained the prior's pew when he attended the Jesus Mass. Under the north-west tower was the Saviour's altar, and in the next bay the chapel of Our Lady of Pity, enclosed with wooden screens. In the eastern bay was an organ-loft, used by the choir on Fridays for the Jesus Mass, and beyond it were the large

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* By the Rev. Mackenzie E. C. Walcott, M.A., F.S.A., Precentor and Prebendary of Chichester, read at the Architectural Museum.

folding doors opening into the transept, which were only unlocked at times of procession.

In the nave the great processions were arranged; and at Fountains, at Chichester, and York were two rows of circular *processional stones*, arranged at proper intervals, and allotted as the positions of the superiors and inferiors and singers. At Canterbury two parallel lines were cut in the pavement for a similar purpose. The new pavements were the cause of their disappearance; but at Norwich, on the north side of the nave, is a series of rings, through which, on such occasions, ropes were passed, in order to keep off the pressure of the crowd. Another adjunct which was used at these times was the *tribune* of Winchester, then occupied by musicians; like the *minstrel galleries* of Exeter and Wells. From the former, on Christmas morning, still, at seven o'clock, the choir sings the Old Hundredth Psalm.

The superb series of stained-glass windows of the early part of the fourteenth century at York will give some idea of the enrichment of a Mediæval nave. It also contains a unique feature,—the great beam carved like a dragon's head which supported the font cover, with the effigy of the Christian warrior appropriately facing it. The Norman fonts of Winchester, Hereford, Lincoln, Rochester, Wells, Dorchester, Christchurch, Brecon, and Crowland, and the Perpendicular examples of Norwich, Ripon, and Binham, are well known: it is only remarkable that there are no more, as the right of baptism specially pertained to the cathedral, and in consequence the Pentecostals, St. Chad's pennies and St. Richard's pence, were paid at Whitsuntide, because the cathedral formerly was the only baptistery, and at Easter and Pentecost it was administered (Mayer, i. 49). At Rochester the country clergy paid their cathedraticum yearly on Whitsun-Tuesday, in the cathedral.

At Canterbury, Erasmus mentions the books chained to the pillars for the use of the laity; but there are still earlier instances at St. Alban's, in the twelfth century, of a Bible placed in a painted aumbry, and the best commentators, for the "use of all lovers of Scripture;" and at Hereford in 1369, when Bishop Charlton bequeathed a copy, with other devotional books, for public use in the church. At Lincoln also, in the sixteenth century, a similar practice was observed. At St. Paul's, the standard measured foot was cut upon one of the pillars.

It appears, from several old statutes, that the pillars of the nave formed convenient places for gossipping to the canons out of their choral habit during the time of divine service.

At Durham and Worcester the lower portion of the nave was used as a thoroughfare between the north and south doors in the sixteenth and seventeenth centuries; but at an earlier period statutes in other cathedrals forbid the sale of candles in the cemetery. At St. Paul's the nave seems always to have been from a still earlier period desecrated; whilst at York the gossiping of the vergers in the vestibule outside the rood-screen was frequently prohibited.

The dinnerless lounger was said to be Duke Humphry's guest in the former church, as early as 1400. Bishop Baldock excommunicated persons making the nave a thoroughfare; and in 1385, Bishop Robert forbade buying, selling, and playing at ball; but at the close of the sixteenth century the desecration was something horrible, and only worse than the filth of the floors and the decay of the fabric. Drunkards and vagabonds slept off their drunken orgies on the bench at the choir door; butchers and water-carriers conveyed their wares, and men wore their hats through the aisles; mules and horses were driven across them; tobacconists sold in the nave; seamsters and booksellers plied their trades; a carpenter worked in the crypt; trunk-makers in the crypt disturbed the services; chantries had become cellars, lumber-rooms, and glaziers' shops; choristers, as at Lichfield and Westminster (but less courteous than those of Ripon, who distributed apples to the congregation on Christmas morning), hunted booted gentlemen for spur-money, only less vociferously than beggars pursued the other company; the usurer touted in the south aisle; simony presided on the north; the horse-fair in the central alley; and money was paid on the font. Masked women, ruffiers, ballad-mongers, stall-knights, captains out of service, and quacks, haunted the place; the servant waited to be hired at the serving-man's log; the serjeant-at-law received his client at his special pillar; whilst around were seen the merchants' change and the fashionable lounge.

In the ordinal of Lichfield, 1197, this entry occurs:—"On Pentecost and the three days ensuing, whilst the Sequence is being sung, clouds are customarily scattered." Architecture and tradition come in to enable us to explain this obscure intimation of an old ceremonial. A circular opening still exists in the centre of the vault of Norwich, as formerly in St. Paul's; and there are similar apertures at Exeter. At St. Paul's, Lambarde, when a child, saw at Pentecost a white dove let to fly out of it, and a long censer reaching almost to the floor, and swung from the west door to the choir steps, "breathing out over the whole church and company a most pleasant perfume." Bishop Pilkington, the Sacrist Rolls of Norwich, and the custom at Dunkirk narrated in Ellis's Letters, in 1662, allude to the ceremonial.

The Crossing.—In passing out of the nave into the choir, we must recal to mind the wonderful buttressing arches of Wells, and the less obtrusive examples of Salisbury, 1395—1415, and Canterbury, 1490-1517, which present remarkable evidences of the skill with which the Mediæval architect could convert times of difficulty into opportunities of adding at once beauty and support to a previous faulty construction, in marked contrast to the hideous contrivances devised at Hereford, Worcester, and Salisbury at a later period.

Rood-loft.—When the choirs were extended into the naves, the rood-screen was placed westward of the crossing, in the second bay of the nave, at Norwich, Peterborough, and Worcester; in the third bay at Melrose, Winchester, Binham, and Westminster; in the first bay at Ely, Gloucester, Tintern, Fountains, Chichester, Christchurch, and Chester. At Fountains, a curious range of pottery was found in connexion with it; but it is very doubtful whether it was designed on acoustic principles, or was part of a system of warming, as charcoal was found in the urns. At Exeter, Lincoln, York, Carlisle, Canterbury, Rochester, Lichfield, and Oxford (and Christchurch, Hants, in late Decorated times), the screen appeared under the eastern, and at Hereford below the western arch of the lantern; but the central tower was at length almost universally regarded as the natural division between the nave and choir, and the screen placed in consequence between its eastern pillars: hence its name of rood-tower at Lincoln and Hereford.

In the early part of the twelfth century, a stone screen, with a central altar of St. Cuthbert, was erected at St. Alban's, stretching between the two second bays westward from the lantern. In the thirteenth century a more magnificent screen was erected, formed so as to enclose this altar, in the next bay westward: it had side processional-doors, and windows pierced in its partition walls. In order to compensate for the limited accommodation afforded by the dormitory, the chapel was furnished above the vaulting with an upper chamber, containing about twelve beds, lighted by windows, and covered by a leaded ceiling. At Wymondham there was a dormitory over the south nave-aisle. In the reign of Edward I. the present screen was erected, the altar of St. Cuthbert standing unenclosed between the two doorways. The second screen at St. Alban's must have resembled the arrangement of the screens of Gloucester, St. David's, and Norwich, consisting of a front and inner wall, separated by a considerable interval; possibly one carried a rood and the other supported an ambon. The screen not only served to exclude draughts of cold air and seclude the choir, but also took the place of the double ambones of the basilica, and from its summit the Gospel and Epistle were read (Martene, de Ant. Mon. Rit., iv. 143, 96). Ciampini dates the desuetude of the ambones from the time of the removal of the popes to Avignon, in 1309. It was called *ambo* (Socrates, lib. iv., c. 5), from its stairs, *ἐκ τοῦ ἀναβαίνειν* (ab ambiendo quia intrantem ambit!—W. Strabo, c. 5), or *pulpitum* (S. Cypr., ep. xxxiii., xxxiv.) (Quod sit in publica statuendum, ut qui ibi stant ab omnibus videantur. W. Strabo, *u. s.*). The bishops used it for preaching, and the lectors for reading the Epistle and Gospel: in Cranmer's time the latter were read from the pulpit (Works, ii. 156, 501; Grindal, i. 132). The rood-stairs corresponded to those of the ambo. At Peterborough, Adam de Boothby, on his election to be abbot, was carried on the monks' shoulders to the high altar, and thence to the loft, where he was proclaimed (Comp. Martene, de Ant. Mon. Rit., iv. 232; ii. 154, 159).

The Altar of Jesus or Holy Cross (Willis, Mitred Abbeys, i. 320) usually stood below the great rood or cross. At Exeter the Lady Mass at break of day, and at Salisbury the Matin Mass was sung at the rood altar for the convenience of the working people. A lamp burned perpetually before the rood. A common arrangement of the screen was that of a *central doorway between two altar-recesses*, as at Exeter, 1370-95; Chichester, 1447; Lincoln, 1310; Winchester; Chester fourteenth century; Brecon; St. David's, fourteenth century; Norwich, fifteenth century, and Hereford. At Winchester, the choir platform erected over the crypt extends into the nave, and is ascended by superb flights of stairs: it has been suggested that this space was canopied above the lateral altars. At Hereford the vicars received their dole here, and at Exeter offending vicars were compelled to stand during all the canonical hours of a single day and night. At Durham, athwart the east end of the nave, between the western pillars of the lantern, stood the Jesus altar wholly enclosed like a porch, with wainscot-work, at which the Jesus Mass was sung on Fridays, and the Jesus Anthem, led by the master of the choristers and deacons, on Friday nights during the tolling of the Galilee bells after evensong. It faced westward, with a small doorway at each side of the screen which formed its reredos leading into the transept. On the north side were an organ and loft for the singers. Above the screen was the great rood; with St. Mary and John and adoring angels rising over sculptures of the Passion and apostles, and a broad band of foliage. Behind the screen and under the lantern was the clock. The north rood door was only opened for processions. The screen, like that of Chester, was painted with portraits of English kings and worthies. The choir-door was in the screen between the eastern tower pillars, over which were the great organs, used only on chief days, and the pulpit for singing the Nine Sections in the nocturns of principal feasts. Below the left was a form on which men might rest themselves. A tall square stone pedestal stood adjoining the south-east pillar, for the support of twelve cressets, one of which was lighted at midnight during Lauds. At Norwich, St. William's altar was on the north, and St. Mary's, or the Præcentor's, on the south side, enclosed with wooden screens. In the interval between the outer walls stood the altar of our Lady of Pity.

The other arrangement of the roodscreen was that of a *central door set in a wall*, which existed at Gloucester (of the fourteenth century, and destroyed with its pulpit in 1718); Canterbury, 1304; Wells, Decorated; Salisbury; Chester, fourteenth century; Ripon, after 1489; Worcester, fifteenth century; Carlisle and Lincoln, fifteenth century; Christchurch, temp. Edward III.; and York, temp. Henry VI. At Worcester, on the western piers of the lantern, are stone brackets of the *roodbeam*, at a height of 28 feet from the floor. At Canterbury, pilgrims passed up the south aisle of the nave, and through the passage under the platform of the crossing when about to visit the shrine of à Becket or the Martyrdom; so that the choir was positively secluded from the laity, and the door of the screen used only on occasions of high solemnity and processions. At York, the screen is covered with statues of kings: at Hexham, in the fifteenth century, the oaken panels were painted with figures out of the "Dance of Death." At Exeter, the antiphon was sung daily at the screen, and the procession, symbolical of man's journey through this life heavenward, passed through the north gate of the choir to the vestibule of the Lady Chapel, and then by the south gate of the choir near the throne to the high altar: it afterwards traversed the nave and cloisters, concluding before the rood-loft; and if there was no sermon, the procession returned to the altar. Carpets were strewed along the way on great festivals. The altar of the Holy Cross, in this instance, stood in the north wing of the transept. At Chichester, at Epiphany, an image "of the Spirit" was carried round the church by the dean or senior canon, and two vicars. On Whitsun-Monday, the parishioners in the diocese often came to blows about right of precedence, so that Bishop Storey made injunctions, 1478, for order on this occasion, when the Shrine of St. Richard was visited annually. The place of meeting was the choir and the time 10 a.m. by the cathedral clock. Crosses and banners were permitted, but the long painted rods with which the contending parties had hitherto belaboured each other were proscribed, as well as laughing, crowding, and noise. The pilgrims entered by the great south porch and assembled in the choir, and left the building by it, having duly visited "the chancel and

church." The pilgrims came by way of St. Richard's Wyne and the cloisters.

Organs.—This noble instrument was used at Winchester in the tenth century, and at Bury St. Edmund's in the thirteenth century. At a later period, as at St. Alban's and Crowland (Mon. Anglic., ii. 103) there were large organs at the west end of the nave. At Durham there was a pair over the choir door, on the south of the choir, for daily services; and another, "the orryers," on the north side. At Canterbury, in the twelfth century, and later at Winchester, the organ stood in the north wing of the transept in the ritual choir; but at York, St. Paul's, Westminster, Lincoln, Chester, Worcester, on the north side; and at Gloucester on the south side of the choir. After the Restoration, they were removed to the choir screen to destroy wholly the view of the interior. The vicars and clerks in most cathedrals were required to be able to play upon some instrument; and even in 1635, musical instruments were employed at Lincoln, at Westminster, and Exeter after the Restoration, and at Durham in the episcopate of Cosin and Lord Crewe.

We have now to choose for the position of the organ, usually set on the north side of the choir, not the top of the screen, but between a side chapel, an aisle, or the triforium. I only trust we shall have no more wholesale destruction of a beautiful vault, as at Winchester, for mechanical apparatus. Although the lateral position does necessitate a certain amount of loss to the effect of the music, I cannot but consider this unimportant when weighed against the more than compensating advantage of converting a cathedral into a great congregational church. May we see before long the removal of the modern screens of Westminster, Gloucester, Peterborough, Rochester, and Salisbury, although in the later case the ancient screen yet remains to be set once more in position, or used as a reredos. At Bristol, the screen was dated 1541, and that of Durham was later than the restoration.

*The Transept,** usually ill-defined in France and Scotland, is in England a feature of great importance in the ground plan. The early type was that of an aisleless oblong, with a single or double apsidal chapel to the east. We find this chapel existed in each wing at Tewkesbury, Worcester, Gloucester, Pershore, Christchurch, Hants, Bury St. Edmund's, and Norwich. There were two in each wing at St. Alban's. It is not uncommon to find the wings or arms of the transept called aisles, as at Rochester, Gloucester, and Hereford; as in Latin *ala* or *brachium* were used, the former in a constructional, the latter in a symbolic acceptation. This eastern chapel was double-storied at Canterbury, Worcester, Chichester, and Christchurch, Hants, the upper room being apparently connected with the sacristan's department at Worcester and Christchurch, and with the muniments at Chichester. These chapels were often removed and elongated at a later period, or received a complete re-arrangement and new forms.

At Canterbury, Chichester, and Ely, there was a transverse aisle, as at Winchester, and St. Etienne, at Caen, built possibly for the accommodation of chapels of peculiar sanctity and privacy, as well as to afford additional room for altars and shrines. At Chichester, Chester, and Hereford, a wing of the transept was used as a parish church.

In some instances, as at Carlisle, Chester, Rochester, and Bath, the transept is without aisles; but eastern and western aisles were provided at Ely, Winchester, Westminster, Wells, and St. Paul's; and an east aisle was divided into chantries at Durham, Peterborough, Lincoln, Lichfield, Hereford, and Ripon. At Exeter, two large towers were ingeniously converted into a transept. At Sallay, the transept exceeds nave and choir. The beautiful door of Gloucester, with its stooping angels, it is presumed was the ordinary entrance of the pilgrims and of penitents.

The sacristy adjoins either the transept or choir aisle: *the lavatory* used by the celebrant and assistants (Frances, c. xx. 98), remains at Salisbury, Lincoln, Selby, and Ripon. The *furnace* for baking the altar breads may be seen at Canterbury, Bristol, Lincoln, and Chester: at Lichfield the *hooks* for hanging the lamps used in service remain on the vault. The *calefactory* for lighting the censers is still pointed out at Winchester; the *watching-loft* at Lichfield, and the oriel at Worcester, from which the sacristan commanded a view of all the lights; *St. Peter's Well* at York; the *altar of St. Blaise*, at Westminster; and the *beautiful screen* of Gloucester, pierced (like one formerly existing at St. David's) for the exhibition of relics, are interesting features connected with the old arrangements of the revestry, which at Durham was used at ordinations by the suffragan.

A beautiful flight of steps, at Hexham, led to the dormitory, which communicated with the transept at Bristol, Carlisle, Westminster, Tintern, and Beaulieu. A small watching chamber remains at St. Alban's, and the watcher's door opened into the transept at Rochester. At Durham the bell-ringers slept over the revestry; and at Lincoln the searchers of the church, who walked round the Minster at night, after the doors were closed, and the lady bells had tolled forty times, occupied the old watching-loft of St. Hugh's shrine, in the choir transept. Had this admirable precaution existed, York and Westminster would not have been jeopardied in the present century. At Salisbury the vergers slept near the choir (Leland, Itin., iii. 95). In the north wing was a still more interesting sight, the altar of St. Sebastian and Radegunda, to which belonged the fraternity, consisting of 200 poor folk, men and women, who were furnished with books, shoes, garments, and all necessaries, purchased with the money there given, and distributed by a priest and boy attending at it; but, adds the old chronicler sorrowfully, these brotherhoods, by reason of the frequent frauds committed by some, and the ingratitude of others, and their universal variance, were dissolved and broken up. At St. David's, adjoining the north arm, is the chapter-house, on the first-floor of a three-storied building, with the treasury over it. Two centuries ago old people could remember having seen in the former alms apportioned by basinfuls, there not being leisure to tell them: these oblations were made by seamen, passengers, and pilgrims, at the little dependent seaside chapels, and distributed on Saturdays among the clergy then officiating.

In the great transept occasionally we find two large rose-windows, one in each arm, as at Westminster and Lincoln: in the latter instance that on the north was called the bishop's, and the southern one the dean's eye, as representing their several jurisdictions. At St. Paul's, the Lady Chapel had a superb rose-window in the east wall, and one still adorns the Nine Chapels of Durham. At Chichester, at York, and at Winchester, the rose-window occurs in the transept gable.

The choir transept is the Ala Superior of Gervase. It usually marks the termination of the sanctuary, as the main transept marks the entrance of the choir. As Leland calls "the second transept of Salisbury, a light and division between the choir and presbytery" (Itin., iii. 96). This additional structure would not only accommodate altars, but also sick and infirm monks and canons who were permitted to attend in the retrochoir. M. Vitet gives twenty-four examples of this transept on the Continent, and attributes its origin to an Oriental source (Cathed. de Noyon, Monum. Ined. pp. 204, 225). M. Didron likewise refers it to the influence of Byzantium. M. Martin found it ordinarily in churches built before the Ogival period. It came, probably, from Clugny into England. Chapels at Wells, Hereford, and York, form a *quasi* transept. It marks the limits of the choir at Canterbury, Southwell, Lincoln, York, Salisbury, Rochester, Worcester, Beverley. At Canterbury a pair of towers flanked this transept. At Rochester, in the north wing, the doorway of the Sacristan's chamber remains; and in the south wing the well-known archway of the sacristy, with its remarkable series of carvings, a similar design to which was painted at York.

The Choir (*Chorus cantorum*, Gervase, Scarf. ii. 255),—so called because formerly the choir sang arranged in a circle like a crown around the altar (Frances, p. 87),—in the Norman churches extended under the lantern, and sometimes into the nave, which a screen parted off, as at Winchester, Peterborough, Westminster, Norwich, Gloucester, Chichester, Ely. Sometimes it merely occupied the crossing, as at Chester, Hereford, St. David's, St. Asaph, Bangor. But at length the crossing was constituted a separate division, when the choirs were reconstructed and prolonged eastward during the thirteenth century; a solid rood-screen being constructed under the eastern tower-arch to ward off cold draughts of air, and a reredos added behind the altar. This was the case at Canterbury, York, Lichfield, Carlisle, Exeter, and Bristol.

At Canterbury, York, Salisbury, Lincoln, Rochester, Worcester, the choir occupies the space between the main and choir transepts. At Worcester and York, the western and eastern limbs of the church are of equal length. In many churches a deflection on symbolical reasons was given to the ground plan of the eastern arm, which was regarded as the caput or drooping head of the crucified, reproduced in the ground plan. The inclination is ordinarily to the north, and is first observable in churches of the thirteenth and fourteenth centuries: at Christchurch, Dublin, Bridlington, and St. Mary's, York, it was in this direction; but southward at York, Lichfield, Ely, Tynemouth, Canterbury. At Canterbury we may also observe the remarkable contraction of the central alley towards the east, contributing to improve the perspective and give the appearance of greater length, although designed to avoid the older side towers of the choir, and adapt the new structure to the width of the more ancient chapel beyond.

The Anchorage.—A recluse lived in the aisle of Westminster, at Leicester (Leland's Collect., iii. 337), and another near the Lady Chapel of Peterborough. At Durham, the cell was approached by a staircase from the north choir aisle. At Norwich, a gallery, still existing in the north choir aisle, communicated with the sanctuary men's chamber, which, before the fifteenth century, was the relic chapel of St. Osyth, and occupied by a recluse.*

* Crux [Gervase] duo brachia (MS. Harl. 3763, fo. 170).

* To be continued.

THE STRUCTURAL VALUE OF WROUGHT IRON.

IT is now nearly sixty years ago that the scientific acumen of Dr. Thomas Young pointed to the value of, and the part played by, resilience in construction. The teachings of this *savant universel*, as he is termed by Arago, were neglected for many years; and it is only in latter times that we are beginning to perceive that a knowledge of the mere breaking-weight of our materials is a rather delusive sort of knowledge. Hundreds of pounds have been spent on thousands of experiments, and in but a comparative minority of these experiments has the extension been taken into consideration in conjunction with the breaking-weight. Even now there are hundreds of people who estimate the value of a bar of iron merely by the amount of gradually applied weight that it will bear. But the ultimate strength of a balk of timber, or of a bar of iron, is only one of the qualities required by the exigencies of construction. It is not merely the magnitude, but also the nature of the forces to be undergone by any given arrangement that are to be considered. It is not merely the ultimate strength, therefore, of the material used, but its stiffness, or its resilience, or its ductility, that has to be adapted to a special case. As Young says, using literally household instances:—"For a ceiling, stiffness would be principally desirable, for a door, strength; for the floor of a ball-room, resilience; for a coach-spring, resilience and flexibility, that is, resilience without stiffness. An observatory should be as stiff as possible; a ship, as strong as possible; a cable, as resilient as possible. . . . . It is a common remark, that a floor which shakes is the strongest; and, improbable as it appears at first sight, it may perhaps be founded on truth; for if the absolute strength of a stiff and a shaking floor were equal, the shaking floor would bear the effects of motion with the least injury. It is possible that a stiff floor, which would support a numerous assembly, might give way at a ball, while a more resilient one, which would be suited for dancing, might be destroyed by a crowded concert."

At the time Dr. Young wrote, the modern engineer may scarcely be said to have had an existence. Unprovided with the present immense stores of iron, and more especially of wrought iron, there was no other material of a sufficiently tough character, with sufficient latent molecular power for diverting the energy or impetus of a body in motion, that would render possible structures such as our railway bridges—structures that have to absorb the otherwise destructive effects of a moving load. But these results cannot be attained by the use of a material which merely has a high ultimate cohesive power. An eminent French engineer has pointed to a useful measure of the working properties of iron, and we will now hear him in his own words. The power of clear, and of simple, yet *gründliche*, scientific description, indeed appears

at present almost like a lost art in England. We have, on the one hand, a set of manuals bristling with integrals, which have about the same effect on the majority of readers as the signs of the Cabala; or, on the other, the most flimsy and superficial accounts of matters that can never be really acquired by any amount of flimsy and superficial reading. The French appear to excel both ourselves and the Germans in the exquisite clearness and elegant precision of their scientific works. One of their most distinguished writers on engineering questions is the well-known General Morin, who is probably the ablest experimenter of the day, and whose results form the stock-in-trade of the innumerable ill-considered "engineers' pocket-books" that are perennially launched forth on the public of this country. Perhaps the most useful and complete work on the subject are his two volumes *sur la résistance des matériaux*.*

Much of the course of reading required by any engineer or builder who wishes to know what he is doing is laid down in the simplest and clearest manner by the aid of easy formulæ known to every tyro in algebra, and sometimes by simple, and yet remarkably ingenious geometrical expositions. Every one knows, or ought to know, French now-a-days; and the slight impediment, at first sight, to some, in the metrical weights and measures, ought to be rather considered as an advantage at this time,—at any rate, if it be not expected that Mr. Ewart's Measures and Weights Bill will remain a dead letter. To a reader who does not know thoroughly French, we cannot imagine a better way of acquiring the language than by means of such works, as the figures and formulæ form a universal language, and one that gives a running translation of the text. It is in this way that General Morin develops Poncelet's co-efficients, to the use of which so much attention has been lately given by engineers; but we need not say that his sentences are not improved in their English dress.

"As bodies elongate under the action of forces exerted in the direction of their length, their resistance develops, for each increment of the total extension, an amount of work measured by the product of the effort exerted into the elongation.

If a curve be now constructed, the ordinates of which represent the successive efforts exerted, and the abscissæ of which represent the elongations, or the distances passed in the direction of these efforts, then the quadrature of a curve of this kind will give the value of the work done in producing any given elongation.

This quadrature, carried out from the commencement of the elongations up to the extension corresponding to the limit of elasticity, gives the work done by the resistance of the given body during this given interval. M. Poncelet has termed this work done, *the living resistance of elasticity*, and he designates it by the sign T_e. If the quadrature be carried as far as the effort which takes place at the time of rupture, the total work necessary to rupture the body will then be obtained. This work done is termed by the same author *the living resistance of rupture*, and he represents it by the letters T_r, for each metre of length, and for a given unity of cross sectional area.

It will be at once seen that the work T_e, or the living resistance of elasticity, is given by the area of a triangle, the base of which is the elongation per metre corresponding to the elastic limit, multiplied by the length L of the body, and the height of which triangle is the effort corresponding to this limit." It may perhaps be as well to here remind ourselves of the sufficiently obvious fact that the amount of elongation, or the amount of the compression, of a body under a given stress, is proportionate to its length—that, for instance, a bar (say) 10 feet long will elongate under a given stress ten times more than a bar 1 foot long. This relation of the extension of a bar to its length is therefore evidently a constant quantity, which we may term i, and which in our case represents the elongation per current metre. Within certain limits, varying for different materials, the amount of elongation increases in the relation of the force exerted to the cross sectional area of the bar. That is to say, the bar does not take a permanent set by a strain the amount of which does not exceed the elastic limit. The experiments of Mr. Hodgkinson would appear to show that, for instance, a wrought-iron bar takes a permanent set with a very slight load, with a load much within the amount generally assumed as the elastic limit by engineers,—a limit upon which all the most successful constructions and adaptations of iron have been based. But, in the first place, the amounts noticed were microscopically small; and, in the second, the extensions only began to rapidly and irregularly increase *beyond* the limit generally received as true by engineers and builders. This co-efficient of elasticity may be called E; and supposing, therefore, that the load P is per square millimetre of cross section A, and that i is the elongation per metre corresponding to the limit of elasticity, the general relation $P = A\,E\,i$ becomes $P = E\,i$.

The area, therefore, of M. Poncelet's triangle representing the work done per each square millimetre in stretching the body, is $\frac{1}{2}\,P\,i\,L$; and, as we have seen that $P = E\,i$, then, substituting $E\,i$ for P, $\frac{1}{2}\,P\,i\,L = \frac{1}{2}\,E\,L\,i^2$. If the cross section A be expressed in square metres, then $T_e = \frac{1}{2}\,E\,A\,L\,i^2$. It will be seen that this product will increase the more the body has the power of keeping its elasticity under the action of forces tending to lengthen it. A glance at two or three curves constructed in this way will show that hard kinds of iron give a considerably higher living resistance of elasticity than the soft or ductile qualities.

If the quadrature be extended to the total surface of the curves, which surface is of course cut short at the ordinate corresponding to rupture, it will be seen that the area,—which represents the total work developed in producing this rupture,—is much greater for soft iron than for hard iron. This shows the advantage of, and the security given by, soft kinds of iron in all cases where the parts are subjected to shocks or to accidental efforts." General Morin gives the following practical examples:—"A bar is found to gradually lengthen up to a load of 16 kilogrammes per millimetre cross section; its elongation per current metre being $i = 0{\cdot}00086$m.; the work done, or the living resistance of elasticity, or T_e, is per square millimetre of section:—$T_e = \frac{1}{2}\,P\,i = \frac{1}{2} \times 16$ kil. $\times\ 0{\cdot}0086$ m. $= 0{\cdot}00688$ kilogrammetres.

Another bar of round iron, 6 metres long and 0·030 in diameter, or with 707 square millimetres cross section, will give a living resistance of elasticity of $T_e\,A\,L = 0{\cdot}00688$ km. $\times\ 6 \times 707 = 29{\cdot}18496$ km. If, for instance, a body of the weight Q, falling from a height H, had to be arrested in its fall by this bar, then the work developed in this body by gravity, or the half of its *vis viva*, $\frac{1}{2}\,\frac{Q}{g}\,V^2 = Q\,H$, would have to be absorbed by this bar. In order that the elasticity of the bar should not be destroyed, the product $Q\,H$ must not exceed 29·18 kilogrammetres. Thus, a weight of 1,000 kilogr. falling from a height of 0·02918 m. would develop a certain amount of work, which, if exceeded, would affect the elasticity of the bar.

The quadrature of the total surface of the curve, or the living resistance of rupture, would give $T_r = 4{\cdot}467$ km. per metre of length and per square millimetre of section. . . . . The application to the bar 6 metres long by 0·030 m. in diameter, would give, for the living resistance of rupture, the value $T_r\,A\,L = 4{\cdot}797$ km. $\times\ 707 \times 6$ mil. $= 19076{\cdot}27$ km., from which it results that a weight of 1,000 kilog. ought to fall from a height of 19·076 m. in order to break the bar. It will be seen by this example that soft iron is only broken when it has absorbed a *vis viva*, or after having developed a living resistance, very much superior to that sufficient to alter its elasticity."

The first man of science in England who appreciated the great practical value of Poncelet's co-efficients was Mr. R. Mallet. In a work of the highest importance on the "Physical Conditions involved in the Construction of Artillery," published in 1856, these co-efficients of elasticity and rupture were applied to an investigation as to the best material and structure for artillery; and, in 1859, to an important paper read on the 1st of March, before the Institution of Civil Engineers, on "The Co-Efficients T_e and T_r of Elasticity, and Rupture, in Wrought Iron, in relation to the Volume of the Metallic Mass, its Metallurgic Treatment, and the Axial Direction of its Constituent Crystals." Mr. Mallet has adapted M. Poncelet's co-efficients to the English mechanical standard of work,—foot-pounds; and the units of force and range thus adopted at once show the work done in producing the change of form. The co-efficients T_e and T_r thus translated into English, mean the work done by tension in elongating a bar of iron of the English unit of length 1 foot, and the unit of section 1 square inch, at the point of elastic limit T_e, and at that of rupture or of cohesive limit, T_r. In the same way the co-efficients T_e' and T_r' show the work done in compressing a bar of 1 foot in length and 1 inch cross section at the points of elastic limit or of permanent distortion T_e' and of cohesive limit by crushing T_r'. The force being variable between zero and i, as was graphically expressed in the triangle used by Morin, they are similarly obtained by multiplying the actual force applied, at the point either of the elastic limit or of rupture, into one-half the range of extension or of compression. Thus, the original faggot-bars for the Mersey Company's gun were found to take a permanent set with a load of 12·031 tons per square inch. The total extension of a bar 1 foot long, under this load, was 0·0292 of an inch. The tons being expressed in pounds, and the decimals of the inch in terms of a foot, one-half the product of the two amounts is $T_e = 32{\cdot}789$ foot-pounds. The tension at rupture of this bar was 21·875 tons; the total extension was 0·6600 of an inch; and expressing as before the weight in pounds and the decimals of the inch in terms of the foot by dividing them by 12, the product of the two numbers, divided by 2 is $T_r = 1347$ foot-pounds. The total compression per unit of length at the elastic limit was 0·36 of an inch; this was effected by the pressure of 21·42 tons; the final value of T_e' was therefore 360·0 foot-pounds. The pressure at complete distortion was 27·68 tons; the total compression was 0·64 inches; the value of T_r' due to complete distortion was therefore 821·0 foot-pounds.

The only objection we have seen made against the use of these expressions is that of Mr. Bramwell, who said that "if, for example, a cylinder, composed of hardened cast steel, containing an elastic body, as compressed air, which exerted a pressure of 1,000 lb. per square inch, was incapable of extension without fracture, and of fracture without a pressure of 1,001 lb. to the inch; then it would never give way under a steady strain of 1,000 lb. to the inch, and therefore would be fit to sustain that pressure. If, on the other hand, the material was only capable of supporting a strain of 999 lb. to the inch, but had a power of stretching an inch before fracture, then it was equally certain that with 1,000 lb. to the inch the cylinder would give way, and therefore would be fit to sustain the pressure; although the work done would be represented by 999 lb. moved through the capability of extension, viz., 1 inch; whereas the cast-steel cylinder would break with 1,001 lb., without appreciable extension, and the work done in so breaking it would be 1,001 lb., through an infinitely small space, and would, therefore, practically be nothing. This illustration showed that the value of a metal to withstand a quiescent load, did not depend entirely upon the work to be done in order to break it. If the impact from a non-elastic body had to be resisted, then this theory might be true; but he apprehended it would not be found to be so, when materials had to withstand pressure from elastic fluids. For hydraulic presses, boilers, air-vessels, &c., where there was an elastic load within the cylinder, this principle was not capable of application."

Now, without examining the conditions affecting the pressures of elastic fluids, and those of practically non-elastic liquids, it would appear that the condition supposed could not very easily exist, as the hardest steel must have some extension, and is never without some elasticity. But Mr. Mallet carefully guards these co-efficients from the assumption that structural value depends upon them alone. "It is upon the just balance of rigidity and extensibility, or ductility with cohesive power, that the true value of iron, in whatever state, depends as a material for construction."

Of course it is clear enough that T_r may be the same for a bar which has a high ultimate breaking strength, and a very slight extension, and another bar which has a low breaking strength, but a high amount of elongation. In choosing a certain material for a given purpose, both the factors should be taken into consideration. And, as was pointed out by Mr. Mallet, these expressions have another manifest advantage over others of the kind, that they admit of direct comparison with other correlated physical forces; for example, with the heat evolved by compression or extension, as measured into mechanical effort.

* Résistance des Matériaux. Par Arthur Morin, Général de Division d'Artillerie, Membre de l'Institut, etc. etc. etc. Troisième édition. Hachette & Co., Paris and London. 1862.

THE BUILDING AND IRON TRADES.

THE Birmingham architects have been endeavouring to bring the masters and workmen to a good understanding, so as to obviate the threatened strike. They called a meeting of both parties on the eve of the expiry of the time allowed to precede the strike, for the purpose of discussing the questions of difference.

Mr. J. T. Bunce, an honorary member of the architects' society, and a gentleman disinterested as regards both parties, was called upon to take the chair, and he presided over a very large and, on the whole, good-tempered meeting. There were, in all probability, about 800 members of the different trades present. The following architects were also present:—Messrs. Holmes, Chamberlain, T. Plevins, Bateman, Phipson, J. G. Bland, Cranston, W. Harris, Payne, Perry, Empson, Thomason, Chatwin, Jewell, Jenkins, Norton, Mansell, Fiddian, Orford, F. D. Johnson, and Hawkes. Amongst builders were Messrs. Hardwick, Briggs & Son, W. & R. Smith, J. Barnsley & Sons, W. & J. Welch, Wilson, Jeffry & Pritchard, Mathews, Heywood, Cresswell, Pashby, Bennett, Grove, Jones, and Godfrey.

Various delegates from the workmen were also present, and spoke moderately as to their respective grievances. Mr. J. H. Chamberlain moved the following resolution:—

"That, in the opinion of this meeting, it is desirable that the question in dispute between the master builders and the workmen should be settled in a friendly manner, either by arbitration or by a conference." The architects, he said, did not presume to dictate as to which of the two courses should be adopted, for they felt that either in arbitration or in a conference lay the only hope of bringing this dispute to an amicable termination. He believed that the dispute had arisen out of the very nature of things—out of the growing prosperity of the country, and out of that growing prosperity of the working classes which they were all delighted to witness; and when a crisis of this kind came, it was impossible to avoid it. The parties took different views perhaps extreme views—and the plan to remedy it was to call in the aid of some third person, who was not personally interested with the trade, to settle between them. He hoped some means would be taken to prevent the possibility of a strike, which, besides the pecuniary loss which it inflicted upon all persons concerned, laid the foundation of feelings of animosity which years could not wipe out. He asked all present to vote in favour of the resolution before the meeting, and at their own meeting to give the matter such mature deliberation as should secure its speedy and friendly settlement.

Mr. Plevins seconded the resolution; and, in doing so, said that the architects would in a body be glad, after hearing both sides of the case and weighing the evidence, to advise as to the course which should be adopted at this juncture.

Mr. Wilson (master builder), disclaimed on the part of the class to which he belonged any hostile feeling towards the men, whose interests were identical with those of their employers, and thanked the architects for having called the meeting, and thus thrown "oil upon the troubled waters." The reason why the masters did not then say anything, was that they were pre-engaged to meet the delegates from the various branches, with a view, if possible, to an amicable arrangement of the dispute. He thought that discussion on the part of the masters would come much better at that meeting.

The resolution was then put and carried, three only dissenting.

Mr. Bateman moved an adjournment of the meeting until after the discussion between the masters and men. This also was agreed to, as also that a deputation of architects should attend the trades' meeting, Mr. Chamberlain, Mr. Harris, Mr. Plevins, and Mr. Holmes being nominated to form the deputation.

The adjourned meeting was held on Saturday: Mr. Bunce, as before, presided. The delegates stated that they had not yet had time to consult the trade societies, but they promised to do so in the course of Saturday evening, and return a final answer on Monday morning. They were, generally speaking, favourably disposed towards the proposed mode of settlement, but they expressed a determination not to return to work again until the matter is arranged. The masters, on hearing this, decided that they must reconsider their previous decision as to a conference. The strike commenced on Monday. The proposal to refer the matter in dispute to arbitration, as suggested by the architects, was assented to by the masters and by the masons and carpenters, but declined by the bricklayers, plasterers, and labourers. The masters were to hold another meeting, and their *ultimatum* was to be made known probably to-day (Thursday).

At Hull, the whole of the bricklayers connected with the Society have struck for an advance of 6d. per day. Circulars were sent to the various builders demanding an advance, and also threatening that the men would not work unless the demand were acceded to. In one or two instances the advance was paid. Several hundreds of bricklayers are now out. Their wages were 4s. 6d. per day. The bricklayers' labourers, who had 18s. per week, have also struck for 21s.; and they, where work is pressing, have got the advance demanded.

The threatened strike of painters in Carlisle for an advance of two shillings per week has been averted by an arrangement with the masters, favourable to the men, but not to the full extent of their demand. The majority of the masters in the town signed the agreement.

At Malvern, the bricklayers and plasterers in the employment of Messrs. G. M'Cann & Everal, builders, refused to go to work until the masters agreed to let them leave in the evenings at 5·30 instead of 6 o'clock, and to have an hour at meals in winter, instead of half an hour as at present. The workmen in the employment of Mr. Perkins, builder, also refused to work under similar circumstances. An arrangement has since been effected between the masters and the men.

In consequence of strikes at one or two establishments for an advance of wages, the master builders of Plymouth, Devonport, and Stonehouse have decided upon a general lock-out. At a numerous meeting of carpenters and masons since held, a resolution was passed to the effect that the course adopted by the masters was unjustifiable, and merited their censure; but they trusted that the misunderstanding would soon be brought to a satisfactory settlement.

In the Leeds district seven large ironworks have been closed, in consequence of the men (both trade unionists and otherwise) refusing to accept an agreement proposed by the employers which would bind them not to associate or organize for the purpose of resisting any of the employers' arrangements in the labour department. The works so closed are the Monk Bridge, Perseverance, Clarence, Pottery Field (all in Leeds), Bowling and Low Moor (both near Bradford). In consequence of this disagreement five or six thousand puddlers, rollers, ball-furnacemen, &c., are thrown out of employment; though we understand that already strong symptoms appear of an amicable settlement being speedily arrived at. One of the leaders of the workmen, a Mr. Kane, charges another,—Mr. Marshall, the secretary for the Leeds district,—with having brought about the present dispute by peremptorily insisting upon the discharge of a non-union man from Messrs. Witham's, the Perseverance Mills, whereas the executive held it to be impolitic for their members to treat as obnoxious those who did not happen to belong to the same association. This assertion by an individual so high in authority among the men has produced a good deal of sensation, as clearly tending to pacification and conciliation.

At Liverpool a number of puddlers, employed at the Mersey Steel and Iron Works, have struck work, not for any increase of wages, but to compel their employers to ventilate the places where they work. That there was reason in the men's refusal to work appears from the confession of one of the firm, that he had thought of opening additional apertures in the walls, and that now they were in fact being opened; but why should the men have been forced to strike from want of these apertures? It would have been for the interest of the masters in more ways than one; for not only would the men have been better able to do justice to their arduous labours, but the metal, which is puddled for the very purpose of exposing it to the oxygen of the air, would have been better, and more quickly, and hence more cheaply, prepared.

At a meeting of the iron trade of the United Kingdom, held in London on the 28th ultimo, attended by its most influential members, resolutions to the following effect were unanimously adopted:—"That this meeting, without any desire to interfere with the right of the workmen to combine for any fair and legitimate object, is resolved to resist, by every means in its power, all attempts on the part of any combination of workmen to dictate to their employers the mode in which their work shall be conducted, and what workmen they shall employ; and, with a view to maintain this principle, a committee be formed, representing every iron-making district." These resolutions seem to refer to the Leeds lock-out.

PROPOSED GALLERIES AT SOUTH KENSINGTON.

THE Commissioners appointed to award the premiums for the designs submitted in competition for the galleries, met on the 29th ult. for the final decision. There were present:—Lord Elcho, in the chair, and the other commissioners, Mr. Tite, Mr. David Roberts, Mr. Fergusson, and Mr. Pennethorne. After final examination and discussion, they reported, on the 2nd instant, that they unanimously awarded the first premium to the design distinguished by the motto, "Ad ogni uccello," &c.; the second to that marked "Well to build," &c.; and the third to that inscribed "Pro Rege et Lege."

The report having been forwarded to the Chief Commissioner of Works, the Right Hon. W. Cowper, M.P., and the letters opened, it was ascertained that the first premium of 400*l.* had been awarded to Captain Fowke; the second, of 250*l.*, to Professor Kerr; and the third, 100*l.*, to Mr. C. Brodrick.

We understand that Professor Kerr, on behalf of the unsuccessful competitors, has protested against the decision, and appealed to the Institute of British Architects. His grounds are that the instructions had been exceeded by the author of the design "Ad ogni," &c.

We shall conclude review of the designs in our next. A full description of the first and second selected designs will be found in a previous number.

We are asked to mention that the drawings to which the first premium was awarded were coloured by Mr. Burbidge.

COMPETITIONS.

The new Literary Institute Building at Wednesbury-hall.—The designs for this new institute have been sent in, and the one by Mr. Veall, architect, Wolverhampton, has been accepted. The institute is to be erected on a site in Lichfield-street, Mr. R. D. Gough consenting to sell the ground for that purpose at 6d. per yard. The estimated cost of the building is 1,100*l.*, there still remaining 600*l.* to be subscribed to finish the undertaking.

CIVIL ENGINEERS IN INDIA.

APROPOS of this question, we have received a letter by the last Bombay mail, *vid* Marseilles. Our correspondent, to whom we were indebted some time ago for some notes on the Bombay artisans, is engaged in making roads and building bridges (some of these are of enormous dimensions) in the districts of Aurungabad and Berar, and dates at present from the "Goar River Bridge, Seroor." After stating a number of facts respecting the administration of public works in India, and the character of the work turned out by the military engineers, he proceeds to touch on rather a vital part of the question: "Berar is the great cotton district of India; and the Manchester people, or rather the manufacturing interests of England, are deeply concerned in what are now called here "cotton roads" and "railway feeders;" but if you only knew the kind of assistance they get from the Government,—if you could show how the money is misspent and squandered by those who direct,—I am confident, if there were no other remedy, that the Manchester Cotton Association would make a nice "Government grievance" out of it. The Aurungabad roads, he says, are all at a stop, owing to a dispute about the levels and the measurements; and the whole difficulty arises from the want of proper direction.

THE HOTEL MOVEMENT.

THERE seems to be no slackening in this movement, which extends to all parts of the country. What can have caused it, it is hard to say: doubtless some published statements as to the large profits of two or three metropolitan hotels have had something to do with it; but it is very questionable whether large profits are the rule and not the mere ex-



NEW CONGREGATIONAL CHURCH, SCARBOROUGH.

MESSRS. LOCKWOOD & MAWSON, ARCHITECTS.

ception. That the reiterated complaints in the newspapers of the extortionate and preposterous conduct of hotel-keepers in this country have not led to it seems evident, else we should have had plentiful promises of amendment in this respect. As indicating the very questionable sequence of large returns from such charges, however, even these complaints may have helped the movement; in which case the public had better look out, for their pockets are in more peril than ever. The only exception we recollect of is that of the Newmarket Hotels Company, in whose advertisement repeated allusion is made to a reform in the tariffs of extortionate charges. This new scheme is introduced under the auspices of a long list of lords and earls, headed by a duke and a marquis. The Palace and Burlington Hotels, in London, are about to be handed over, like so many others, to a new company, who are to have the benefit of the services of the present proprietor of both. Other schemes are the Bell Hotel Company, of Gloucester; and an Abingdon Hotel Company, with a new hotel on the site of the old Queen's Arms. The foundation-stone of the new Pier Hotel at Southsea has been laid.

THE ROOF OF THE GUILDHALL, LONDON.

At the last meeting of the Common Council, Mr. Kelday, the chairman of the Guildhall Improvement Committee, brought forward a motion for which the court was specially convened—namely, on the reference relative to the roof of the Guildhall, and recommending that the design of the proposed roof should be modified so as to make it in accordance with the intentions of the court and the period of the architecture of the hall, that the roof should be constructed of oak; also that the ancient windows, now blocked up, be opened, and that the four turrets be pulled down to the level of the wall; the whole to be carried out at an additional expense not exceeding 5,900*l*. Having briefly moved the adoption of the report, he said, that after consulting the City architect, Mr. D. Wyatt, and Mr. Roberts, they had come to the unanimous opinion that it was not advisable to carry out the original contract; as, if they did so, the new roof would not only not be erected in accordance with the intention of the court, but would be at variance with the ancient architecture of the building, and would very possibly subject the corporation to a great deal of comment on the part of those versed in such matters. After a few words from Mr. Rowe, to the effect that it would be better, in his opinion, to pull down the present building and erect a new one upon its site, and a suggestion by Mr. R. N. Phillips that the alterations should be made by tenders to be obtained by advertisement, the report of the committee was unanimously agreed to. The total cost will be about 23,000*l*.

BRICK FIRE-PROOF CONSTRUCTION.

In our volume for 1861 we described some brick arches under and over stables, erected for Mr. Smith, of the Strand, under the direction of Mr. F. H. Groves. The same architect, considering that it was practicable to erect a building wholly in brickwork, including the floors and roof, without the use of iron or wood, has since set up a brick model, so to speak, 20 feet long, 11 feet wide, and above 10 feet high, in two compartments, one illustrating a floor and close roof, the other an open-panelled roof for light, and adapted to any extent of embellishment. The floor in the first compartment is represented by an arch, taking on an average little more space than would be required for a wood floor with girders and ceiling joists. Above the floor is the close roof, also taking no more space than would be required for an ordinary roof, from the uppermost ceiling of square rooms to the ridge.

One object sought in the construction was to obviate the risk of thrust upon the outer walls, without any great extra thickness of walls, buttresses, or superincumbent weight beyond the ordinary height of a parapet, excepting at the extreme angles of the building, and something subordinate over the piers between, which would be of a decorative character, such as pavilions, pedestals, terminals, &c.: at the same time provision has been made for fireplaces, flues, and windows, by which, it is urged, it might be made applicable to churches.

In the model, the angle piers are two and a half bricks square, to admit of flues in them. The intermediate piers are two bricks square, for the same reason.

In the compartment where the roof only is shown, the space is covered by an open-panelled revolving arch; the main ribs are 9 inches deep. There is but little parapet; but the angle piers and intervening ones are carried higher, for the twofold purpose of weight and decoration, as before intimated.

In conclusion, it may not be misplaced to venture an opinion as to areas that may be covered by arches on this principle, of different thicknesses: Mr. Groves thinks a half-brick arch will suffice for a square, to a square and a half, or about 150 superficial feet; one brick about four squares; two bricks about sixteen squares, showing its applicability to buildings of various sizes. Touching the cost, he says that, in taking out the quantities in one bay of St. Katherine's Dock warehouses, and a bay of a warehouse constructed on this principle, the result showed the latter to be somewhat the cheaper of the two.

In carrying out construction on the principle here indicated, careful calculations and good workmanship would be necessary.

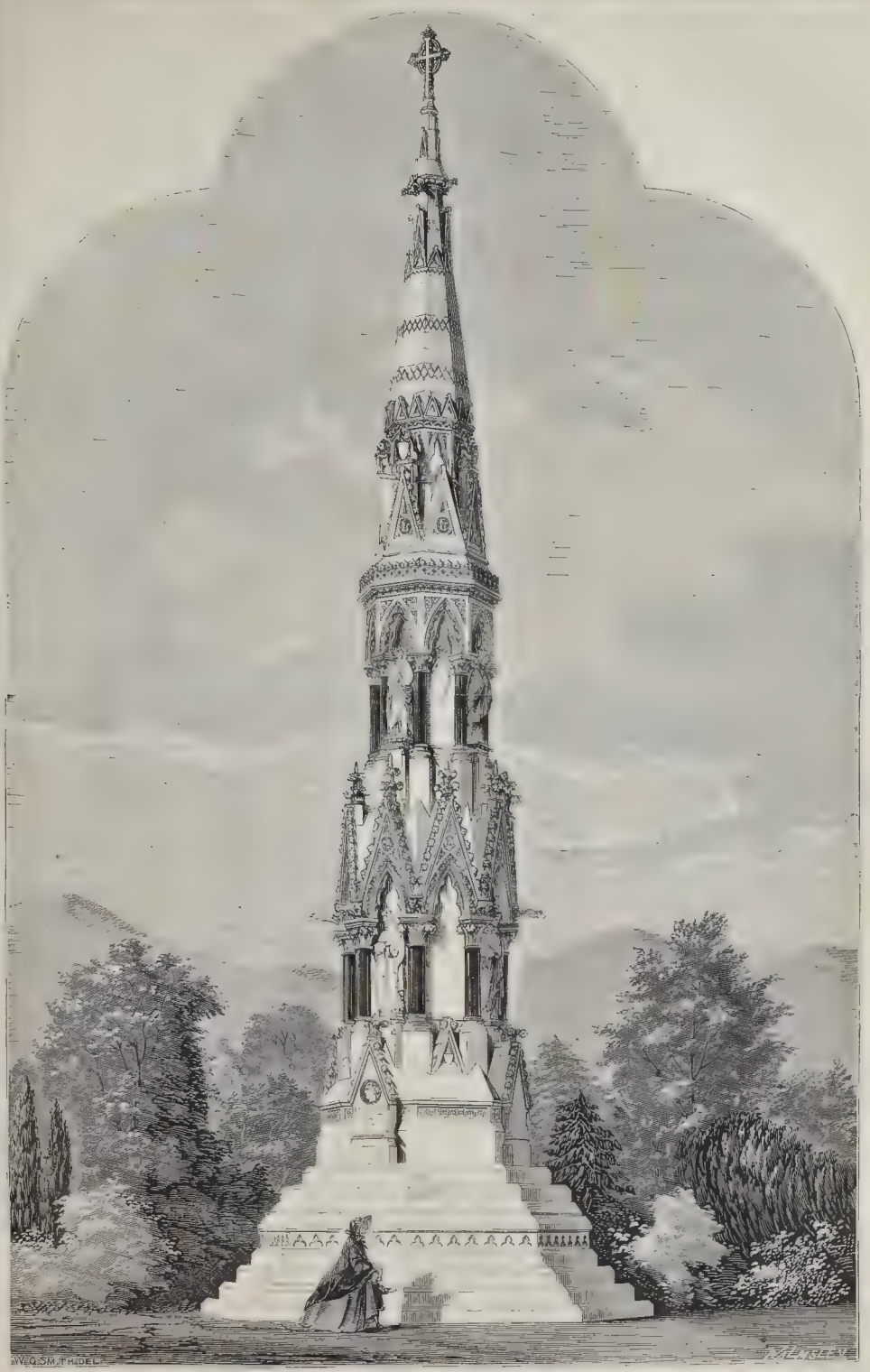
NEW CONGREGATIONAL CHURCH AT SCARBOROUGH.

THIS building is about to be erected on the South Cliff at Scarborough, at a cost of 8,000*l*., from the designs of Messrs. Lockwood & Mawson, architects, and on a site presented to the Committee by Mr. Titus Salt. Externally, the structure will be faced with Whitby wallstones and ashlar dressings; and internally the nave, transept, and organ chapel, piers, and arches, the door jambs, and the roof corbels, shafts, and capitals, will be of the same stone. The spire rises to a height of 160 feet, and accommodation is provided for 1,000 worshippers. Commodious class-rooms, committee-room, vestries, &c., are planned in the rear; and it is intended that the building is to be completed by July, 1865.

THE MEMORIAL TO THE LATE SIR G. C. LEWIS, BART., FOR NEW RADNOR.

THIS memorial is in due course of erection, and the committee fully anticipate having it completed and inaugurated during the month of October next. The accompanying engraving represents the design, which was selected from fifty-nine other competitive drawings sent in. The cost of the structure is estimated and contracted for at 1,000*l*. The total height will not be less than 77 feet, and the greatest width at the steps 25 feet. The material is Box ground stone, with red Mansfield stone columns. There will be four Caen stone figures in the first stage, and four in the second, all allegorical. A large medallion presenting a profile portrait of the late baronet, in marble, will occupy one of the lower gables of the base: coats of arms will appear in the three other gables. The plan throughout is octagonal.

The site first chosen was the Castle-hill; but after the workmen had tried the ground here and there at various depths, they unexpectedly came upon the foundations of the ancient Castle of Radnor, the character and condition of which are interesting and good. Consequently, the committee very wisely determined upon selecting a new site, which is between Radnor and the residence of the late baronet, and better adapted for the memorial, which is after the Eleanor Cross style, than a mound 100 feet high. Besides the family arms, &c., there will be many coats of arms of an historical character, with much elaborate carving. The architect of the memorial is Mr. John Gibbs, of Oxford; the contractor, Mr. W. Mansfield, of Kington, Herefordshire; and the carver, Mr. W. Stevens, of Barnwell.



THE CORNEWALL LEWIS MEMORIAL, NEW RADNOR.—MR. JOHN GIBBS, ARCHITECT.

ARCHITECTURE AT THE ROYAL ACADEMY DINNER.

ARCHITECTURE was a prevailing topic at the dinner given by the Royal Academy on Saturday last.

The president (Sir C. Eastlake) in proposing the health of the visitors, said,—On a former occasion I ventured to express a hope that the study of the fine arts might, to a certain extent, be introduced in our universities. I am happy to find that steps are being taken with a view to the promotion, at least, of that object; and should those efforts be successful, I trust that architecture will occupy the first place in any scheme that may be proposed. Although now extensively employed,—perhaps more so than at any former period,—architecture has not been so much an object of general interest as have been its more intelligible rivals. More creative than imitative, it does not, like them, admit of a direct reference to nature to test its excellences or shortcomings. Again, the greater part of its examples are only accessible to the student in fragmentary details or in comparatively minute copies. The mountain cannot come to Mahomet: transcripts and models have not the charm of original productions; and, except to professional eyes, convey but imperfect ideas of real structures. If I notice these circumstances, it is only to add that, notwithstanding the difficulties they suppose, the intelligent appreciation of architecture is everywhere increasing, and even its graver study has attractions for non-professional votaries. The prosperity of the country is undoubtedly the chief cause of the impulse which this noble art has received; but we are not the less sensible of the encouragement which is being extended to it by the Government and by public-spirited individuals. Societies have also done their part: I speak not of speculative undertakings, however useful, but of more disinterested efforts. The exertions of the Institute of British Architects, and the establishment a few years since of an Architectural Museum—an object accomplished with the zealous and liberal assistance of some enlightened amateurs now present—have all co-operated in producing the results to which I have the satisfaction to refer. At such a time the introduction of the study of architecture into the University curriculum would probably find public opinion prepared to recognise the advantage of such an addition. Viewed only as an academic study, no pursuit connected with the objects of taste can more fitly recommend itself as an adjunct to a liberal education. An acquaintance with the architecture of antiquity, leading to a corresponding knowledge of Greek sculpture, is closely allied to classical studies. Mediæval architecture, the examples of which abound in our own country, and even in the seats of learning themselves, has a peculiar interest from its frequent past and present application to the service of religion. It is also to be remembered that much of the theory of this art, depending as it does on scientific principles, is communicable by lectures and illustrations. With such aids and the study of existing edifices, the attainment of correct knowledge, the power of appreciating well-selected examples, and the gradual formation of a sound judgment, would be placed within the reach of many. I advert to this subject now, because some of those whom I have the honour to address may possibly have opportunities of assisting the efforts which are at present being made for promoting the study of the fine arts in the Universities. I have the honour to propose "The health of the distinguished guests who this day honour us with their presence."

The Archbishop of Canterbury, who replied, said in the course of his address,—As to the remarks you have made, Sir Charles, on the cultivation of the fine arts, and especially of architecture, in our public schools and Universities, I so far agree with you that I should be glad to see every branch of knowledge, and all the accomplishments which may combine to form the complete English gentleman, pursued therein, so far as is compatible with the maintenance in its real supremacy of the study of classical literature. That has hitherto been the staple of the education of the youth of England in our public schools and Universities, and will, I trust, continue to be so.

Again, in proposing the health of the Lord Mayor, the president got back to our art:—The prosperity of London, still marking its course by noble and patriotic results, begins to manifest itself also in an increased attention to external improvements. We may, consequently, indulge a hope that, before many years are past, the appearance not only of the city properly so called (which has led the way), but of the metropolis generally, will be more worthy of its universal importance. Instead of vieing with other States in the cost of armaments, it will then be satisfactory to contend with them in more peaceful objects; rendering our streets more convenient, our public buildings—whether museums or courts of law—more spacious and better adapted to their purposes, and our noble river more sightly. Such improvements, spread over many years, need not alarm even a Chancellor of the Exchequer. Apart from the question of cost, it is remarkable that our lively neighbours seem to be more patient than ourselves with regard to the necessarily slow progress of great undertakings. The poet Dryden regarded the Louvre as the most magnificent of earthly structures; yet how inferior must have been its effect in his day compared to that which it now presents. Whatever may be said of its architectural details, it is an instance of a comprehensive design, adhered to through ages, and finally completed. Viewed in that light, such works may serve as examples even to English perseverance.

The Lord Mayor, of whom there is a very good portrait in the exhibition, in replying, observed,—I should on this occasion have confined myself to the simple acknowledgment of the toast which has been proposed; but you have indicated a programme for the City of London which requires that I should make one or two observations in regard to it. You have stated what might be done in the shape of improvements in the City of London; but it appears to me that the City is very much in the position of the Israelites in Egypt, who were required to make bricks without straw. We are deprived in a great measure of the power of making improvements by the curtailment of our resources. And our power is interfered with in other respects. You have pointed to France and the magnificent improvements which have been effected in Paris; but it should be known that there they have something like 2,000,000*l.* sterling per annum to carry out these improvements. The city of London, on the other hand, is not permitted to hold the means she has, or use them for the improvements of this great metropolis.

Again it cropped up.

The President observed: Recurring to a subject on which I before ventured to offer some remarks—the introduction of the study of architecture in the universities—I now beg to propose the health of one who, in addition to his many other claims to our respect, is entitled to our thanks as having been himself formerly a successful labourer in the interesting field of architectural investigation; and who, having devoted much attention to the subject, may be disposed to think it not incompatible with university studies. I mean the distinguished master of Trinity College, Cambridge,—Dr. Whewell.

Dr. Whewell said that if he had been called upon as representing his University he could have responded with great pleasure, and could have said with great truth that that body was delighted to be remembered in any assembly of their countrymen in which men's minds were strung to elevated objects and pursuits—to the pleasures of intellect and imagination—to the admiration of art as well as of science. But that having been mentioned by the President with especial reference to his own concern with architecture, he could readily say that he looked upon the study of that subject as well fitted to enter into a course of intellectual training. Architecture had always seemed to him an especially intellectual study. He had first taken interest in it many years ago as a subject for theoretical history, and his views on that subject had been assented to by some of the most acute architectural speculators in Germany and in England. If there were time to dwell longer on the subject, he might remark that the prevalence of the intellectual element in architecture appeared at every period of the history of the subject, in the union and opposition, the contrast and the approximation, of the mechanical and the decorative structure. These two principles in the progress of the subject were perpetually coming together and then separating. To show how this had happened in Greek and Roman, Romanesque and Gothic architecture, would be too long a story; and he must conclude with thanking the President for the honour done him, and wishing success to the study of architecture, both in the world at large and in the Universities of this country.

And then, at nearly the close of the dinner, a toast was given to "The Royal Institute of British Architects and the health of its distinguished President, Professor Donaldson."

Professor Donaldson acknowledged the compliment, alluding to the rumoured proposal for the extension of the number of members of the Royal Academy, deprecating the idea of a further lay element until the suggested artistic education at the universities had better qualified amateurs to judge of the arts they were to direct and foster, and congratulating the Royal Academy upon the idea of admitting foreigners to its honours,—a principle which had been most advantageous to the Royal Institute of British Architects, which numbered seventy eminent Continental architects as honorary and corresponding members, and every three years awarded, with the sanction of her Majesty, their gold medal to a distinguished foreigner. He had that week delivered the gold medal at the French Embassy, to be forwarded by the ambassador to M. Viollet-le-Duc, the well-known architect, and writer on this art.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held at the House in Conduit-street, on Friday, the 29th ultimo. The president, Mr. T. Roger Smith, occupied the chair.

Mr. E. C. Lee, Mr. King, and Mr. James Cooper, of 61, Bartholomew-close, were, on ballot, elected members of the Association.

The Chairman announced, that on an early day the members of the Association would be enabled to pay a visit to St. Paul's Cathedral, when they hoped to have the valuable assistance of Mr. Penrose and of Mr. Blashill, in their examination of the building. He also drew attention to the circumstance that the voluntary examination class would, until further notice, hold their meetings on Monday evenings instead of Tuesday evenings, as heretofore.

The Chairman announced that, at the meeting on the 13th instant, for special business, it was the intention to propose two amendments to the rules, of which it was desirable that members should have notice. One was, that in future the names of candidates for admission should be put to the meeting, and their election carried by a show of hands instead of ballot, unless in cases in which any member might call for a ballot. The object in view was, to save as much time as possible for other business. The other proposed amendment of which notice had been given would be to change the time of meeting from half-past seven o'clock to half-past nine, instead of, as at present, from eight to ten o'clock.

A member reminded the meeting that the desirability of changing the time of meeting had been already discussed, and that the majority had expressed themselves unfavourable to the proposed change. In his opinion, it would not carry out the object in view (whatever that might be), because, as a general rule, the members would not come until eight o'clock, and in all probability would not leave until ten.

Mr. Mathews (Hon. Sec.) said he had received a letter from the Royal Institute of British Architects requesting that the following resolutions, agreed to at a meeting of the council of that body, held on Monday, the 18th April, might be brought under the notice of the Association:—

"That the subject of architectural education, as suggested by Mr. G. G. Scott, is well worthy of the attention of this Institute.

That the following societies be requested to depute certain of their members to form a committee, in conjunction with this Institute, for the consideration of the subject: Architectural Museum, four members; Architectural Association, four members; Architectural Exhibition, four members.

That the following members of the Royal Academy be requested to assist as members of the committee, viz.—Messrs. S. Smirke, P. Hardwick, E. M. Barry, E. W. Cooke, and R. Westmacott.

It was also resolved, that certain members of this Institute be appointed to represent it on the committee; and also resolved, that certain members of this Institute, having acted as examiners and moderators in the voluntary examination, be also appointed members of the committee."

Mr. W. Papworth then read a paper on English Architecture from the Accession of Henry VIII.

At the conclusion—

Mr. Blashill, in moving a vote of thanks to Mr. Papworth, said the history of architecture in England, since the Reformation had not been so much studied as it ought to have been. The art generally might not be of a high order,

but the architects worked under disadvantages such as we did not now experience, and probably succeeded in representing the general taste and feeling of the age in which they lived. In this view their works were entitled to respect, and ought not to be lightly destroyed. Many well-known examples were admirable in design and construction. Amongst others less generally admired and appreciated, he remembered hearing Mr. Petitt (himself an admirer of the Gothic school) give high praise to the arrangement of arched openings in St. Luke's Hospital, which praise was well deserved. The drawings exhibited that evening by Mr. Papworth were extremely interesting, and the Association was much indebted to him for having placed them at their disposal that evening.

The Chairman, previously to putting the vote of thanks, remarked upon the characteristic research which Mr. Papworth had brought to bear on a subject which was but inadequately represented in the literature of architecture. The paper which they had heard read was especially valuable to the student of architecture, and he hoped the Association would have an opportunity of studying it more at leisure.

The following gentlemen were then appointed as delegates to join the committee, as suggested by the Royal Institute of British Architects, to consider the subject of the Artistic Education of Architects:—Mr. H. Christian, V. P., Mr. Blashill, Mr. J. D. Mathews (Hon. Sec.), and Mr. Edis.

The next subject for the Class of Design will be the "Entrance door to a gentleman's house."

STATE OF ANNE HATHAWAY'S COTTAGE.

MR. JOHN ELLIS, architect, writes:—I was glad to read your remarks respecting these cottages and their present state. Will you allow me to inform your readers that I have been for some time past endeavouring to obtain the amount required to purchase this property complete, with its gardens and orchard, and to remove the modern work, as far as possible, attached to the three cottages, and by so doing restore it to one house, as it was originally built. I should be happy to receive and acknowledge any subscriptions for this object.

TELEGRAPHIC PROGRESS: THE NEW ATLANTIC CABLE.

SEVERAL gentlemen were lately invited by the directors of the Telegraph Construction and Maintenance Company to inspect the process of manufacturing the new Atlantic telegraph cable, now being made by them at the Gutta Percha Works, City-road, for the Atlantic Telegraph Company. Among those who accepted the invitation were the Marquis of Tweeddale, Professor Wheatstone, and others. One of the improvements in the cable is in the mode in which the gutta-percha coating is applied. Some time ago Mr. Chatterton discovered and patented a compound that is said to have the property of causing the coatings of gutta percha to adhere firmly, without the injurious use of naphtha, so as to form a completely solid core. The wires having been formed into a strand, and six wires being twisted round a central one, they are passed through a vessel containing Chatterton's compound, and are then covered with their first coat of gutta percha, about the eighth of an inch thick. After having been examined, by hydraulic pressure and by hand, the core receives another coat of Chatterton's compound, and then another layer of gutta percha; and so on, until it has attained the thickness of a little more than half an inch in diameter. It is then covered with ten solid wires drawn from Webster's & Horsfall's homogeneous iron, each capable of sustaining a strain of 1,000 lb., at which strain it only stretches 1 per cent. These homogeneous iron wires are surrounded separately with five strands of Manilla yarn, saturated with a preservative compound, the poisonous qualities of which have been found by experiment to prevent its destruction by insects, shell-fish, &c.; and the whole are laid spirally round the core, which latter is padded with ordinary hemp, saturated with preservative mixture. The weight of the cable, when completed, is 35¾ cwt. per mile, when weighed in air; but its specific gravity is said to be so little that it is capable of bearing eleven miles of its length when in water, a strain it is impossible it should ever be put to,—the deepest water encountered in laying the old cable being less than 2½ nautical miles. The company have made arrangements by which they can turn out fifty miles per week of the finished cable.

SOCIETY OF PAINTERS IN WATER COLOURS.

THE "*Old* Society," as it continues to be called, has an excellent exhibition, and the public have shown their belief in this by purchasing already nearly all the pictures that form it. It is worth while noticing, as serving to indicate the amount of encouragement now given to artists, that of the 351 works sent in by the members, more than 100 were sold before they came there; two of them, namely, Mr. John Gilbert's "Battle of the Boyne," and Mr. F. W. Burton's "Meeting on the Turret Stairs," realizing 1,100*l.*, and the remainder, we may safely say, 3,000*l.* more. Of those that came in unsold, nearly 2,000*l.* worth was disposed of at the private view. At the Water Colour Institute, pictures were sold on the private view day to the amount of 1,100*l.*, irrespective of sales beforehand: and at the Society of British Artists, Suffolk-street, the purchases, we believe, amounted to about 3,000*l.* What sum of money the sold pictures now forming part of the Royal Academy Exhibition represent, it would take some time to discover. Some thousands of pounds provided by the Art-Union of London have yet to go into the market; and we have left unspoken of the British Institution, the Ladies' Exhibition, and the French Gallery.

We return to the Old Water-Colour Society's Exhibition, merely to advise our readers to go and see it. We hear talk of the establishment of a third Water-Colour Exhibition, for the works of artists who are not members of the Societies.

A GLANCE AT THE DESIGNS FOR THE PROPOSED EXETER MUSEUM AND ALBERT MEMORIAL.

THE following are simply descriptive notes of the various designs submitted in competition for the proposed Exeter Museum and Albert Memorial, containing a free library and art school. These designs are exhibiting in Paul-street:—

No. 1. "Non sibi sed patriæ" (Mr. F. Boreham, London). A freestone exterior, the angles formed by large rusticated pilasters; windows twin lights, in circular arches; a classic cornice, with large modillions; a central block at the chief entrance, terminating in a rounded hipped dome. The museum cleverly represented in an interior view.

No. 2. "The righteous shall be had in everlasting remembrance" (Mr. E. Appleton, Torquay). A red brick exterior, with white arches to the windows, circular in the soffit, and pointed above; group of sculpture on a plain slab, over the entrance: a large cornice and perforated parapet of freestone run throughout: above this curb roofs appear. The museum occupies about half area; the art school is over it, on second floor.

No. 3. "Evocatus paratus" (Mr. F. Bakewell, Nottingham). A Classic design; a series of bold, blank arches, carried on red marble columns, in the first floor, with raised panels in stone: a cornice and balustrade conceal the roofs. This design has low wings at the ends, introduced with good effect.

No. 4. "Angelo" (Mr. Henry Lloyd, Bristol). Three tall domes, the angle one coupling with another on the short elevation; the summits adorned with ironwork; the front diversified with marble shafts, in Classic style. Over the columns are circular pediments, and other circular pediments in the domes are to be filled with sculpture: the roofs between the domes are concave and hipped.

No. 5. A quatrefoil in a circle. Obtained the first (50*l.*) premium. A design in Decorated Gothic (Mr. John Hayward, Exeter). A projecting centre forms the entrance through three good pointed arches, springing from marble shafts. This centre diminishes in bulk at a steep pitch at the roof level, and forms the base of a tower, terminating in a hipped roof crowned with ironwork. In the sides of this roof chimneys appear with good effect. The ends of the Queen-street front advance slightly; and the steep pitch of the tower base is repeated with good effect in the two gables over these projections. These gables, and the front generally, are treated with a very artistic arrangement of bold trefoiled windows, showing much variety of design, the glass kept within. The material is chiefly red brick. In plan the museum is to the right of the entrance, the free library left, and art school apartments are on the left of the upper floor.

No. 6. "Alberti" (Mr. E. C. Pressland, Taunton.) A churchlike design, having at the angle a tower with open steeple, carried on coloured marble shafts. The school of art to the left, one story in height.

No. 7. "Excelsior." A plain production in red brick.

No. 8. "Argus" (Mr. W. Dey, Exeter). Elevations in three stories, arched windows alternating with Corinthian columns attached.

No. 9. "In Memoriam" (Messrs. Walter & Ridge). A red brick front; an arcade without windows on first-floor; the arched recesses filled with patterns in dark brick, and coloured decoration in the arches. A central tower and spire-like roof over the entrance. The roofs are truncated to light the museum, which extends over the principal portion, and the tower forms a lantern to the museum.

No. 10. "Utilitas." Gables varied with straight parapet, in Paul-street front; a square tower, two or three large windows, with plate tracery. A picturesque design.

No. 11. A brick design, with battlemented small turrets, at different levels; stepped gables and battlemented parapets. (Messrs. Rasch & Marsh, Chelsea.)

No. 12. "Nota Bene." A plain brick design, with pointed windows; an advanced porch, with double doorway.

No. 13. "Exonius." A plain Doric block, with tetrastyle portico of small projection and pediment on Queen-street front. One range of windows on the ground-floor, high parapet with piers.

No. 14. A triangle in a circle. Classic composition; a good perspective. A tetrastyle pedimented projection of half columns, and projections at the ends of the front, with columns corresponding from the receding intervals; small porticoes or portals, with circular pediments in advance. The upper tier of windows has rustic quoins, which are prolonged as strings in the central compartment.

No. 15. Second premium,—"Semper fidelis" (Mr. J. Philpot Jones). Bold, well-executed elevations and perspectives.

Design No. 3, the premiated design. Classic arched windows above and below, in red brick, façade relieved with freestone. High French roof in centre, and projecting frontispiece, having Corinthian pilasters coupled, connected with a cupola,—a statue in a central arch, and bust in the tympana of the arched windows.

No. 1 (same Architect). A different design, having a third story faced with a blank arcade, and high central tower and roof. The windows arranged in triplets. Here are three entrances, one to each department of the edifice.

No. 2 (same Architect). The ends of the front run up flush into towers, roofed with bold curb roofs over a series of pointed arches and shafts. The windows bold pointed arches, with circular medallions in the arches. The central portion of the front is an open arcade of pointed arches; over the centre a tower with pinnacled turrets, sailing out near its summit.

No. 16. Angel carrying device, "In Memoriam" (Mr. W. F. Cross, Exeter.) A Classic design, with much detail, Corinthian columns in marble to three pediments in the Queen-street front. This design was commended for the internal arrangement.

No. 17. "Memoria Pii Æterna" (Messrs. Foster & Roper, London). A bold Gothic design, spiritedly etched. A tower at the angle, with pyramidal roof, and smaller roof over the pilaster projections; square-headed windows effectively used. The entrance is through this tower.

No. 18. "Experientia" (Mr. H. S. Snell, London). A Classic design, a range of large arched windows, predominant with Corinthian pilasters to mark the entrance and the flank projections: a balustrade and vases form the sky-line: a large museum, roofed with glass, at back.

No. 20. A Greek cross (Messrs. R. & W. Best, Exeter). A Classic design; large square windows in the upper floor, alternating with Ionic columns attached, standing on corbels; the ground-floor windows arched; a central dome springing from a tambour of alternating arched lights and

Corinthian columns: a domed lantern surmounts the dome.

No. 21. "In spe laboro." Central tower on Queen-street front, in the Belgian style; two long hipped roofs; twin Decorated windows.

No. 22. "Experiar" (Mr. G. B. Nichols, West Bromwich). Very ornate elevations; Pointed arched windows, with medallions in tympanum to be of della Robbia ware; twisted shafts on the quoins; much surface decoration in Minton's tiles; in centre a large canopy and statue of the Prince; a bold cornice with consoles throughout.

No. 23. "Commodum Experiar" (Mr. G. R. Redgrave, Kensington). The ends of the front advanced, and formed as low-roofed Italian pavilions raised above the central mass: the wings have lanterns for lighting; a double range of windows, and much tile and coloured decoration to the projecting angular portions: the ground story has alternate courses of dark red and freestone.

SCULPTURE AND THE ROYAL HORTICULTURAL SOCIETY.

A communication having been received from the secretary to the Sculptors' Institute, objecting to the rules proposed for this year's exhibition, the council directed the following letter to be sent in reply:—

"I am directed by the council to inform you that they have received your letter, stating that the Institute of Sculptors decline to take part in the proposed exhibition of sculpture, and have seen a printed circular to the same effect which has been brought before them.

The council think that there must be some misunderstanding on your part, as the object of the council has been to promote the interests of all parties and the progress of the art.

The council have been given to understand that the paragraphs of their circular numbered 4 and 6 have been specially objected to by the Institute, on the supposition that the Society desired to obtain a plaster cast, with the view of divesting the sculptor of the execution of it. The council had no such wish or intention. They desired simply to have it understood, beforehand, that, in purchasing a cast, they acquired the power of having it executed in different materials, should they see fit, having in view especially the use of terra-cotta. And they would be quite content, if more agreeable to the artists, to have simply the right of turning the work into terra-cotta; the sculptor himself undertaking the manufacture of the terra-cotta specimen, or not, at his pleasure.

The council cannot suppose that the Institute set themselves against the reproduction of works in terra-cotta, which artists of the Middle Ages and sculptors elsewhere in Europe at the present time are accustomed to execute.

As respects the execution of plaster models in marble and bronze, it may remain absolutely in the hands of the artists, if they prefer it; and those who would prefer not to mention prices need not do so.

The council conceive it might be a subject for regret that in the proposed International Exhibition the Institute of Sculptors, as a corporation, should hold themselves aloof."

PARLIAMENTARY.

National Gallery.—Mr. Heygate asked the First Commissioner of Works whether the scheme for erecting a new National Gallery at the rear of Burlington House, and which was last year stated by the First Commissioner of Works to "have been for a considerable time under the consideration of the Government," had yet been approved; and, if not, to what national purposes it was proposed to devote the estate purchased for the nation in 1854, at a cost of 140,000*l.*, and now occupied by Burlington House and gardens. Mr. Cowper said the Government had determined upon proposing to Parliament an estimate for the erection of a National Gallery upon the vacant ground in the rear of Burlington House. That estimate was now in course of preparation, and would shortly be laid upon the table.

Statue of Cœur de Lion.—Mr. Hankey asked the First Commissioner why the bas-reliefs intended to be placed on the base of the statue of Richard Cœur de Lion, in Palace-yard, had not been so placed; and whether he would communicate with Baron Marochetti, and have them done at an early period. Mr. Cowper was understood to say that the matter was still under consideration.

Metropolitan Sewage.—A select committee to inquire into any plans for dealing with the sewage of the metropolis and other large towns, with a view to its utilization for agricultural purposes, has been appointed.

Public Monuments in the Metropolis.—Mr. B. Cochrane has given notice that he will, at an early day, call attention to the state of our public monuments and statues.

Law Courts.—Mr. A. Mills asked the First Commissioner of Works when the Bill for the Concentration of the Courts of Justice, which, on the 22nd of April, he stated would be brought forward in a few days, would be introduced by the Government. Mr. Cowper said the re-introduction of the Bill for the purchase of the site, of which he had charge last session, must depend upon the introduction of another Bill for supplying the funds, which would be introduced by another member of the Government. He was, therefore, unable to give the information asked for by the hon. gentleman.

BRISTOL SOCIETY OF ARCHITECTS.

The annual meeting of the members of this Society took place on May 2, in the Architects' Room at the Bristol Academy, Mr. A. C. Fripp, vice-president, in the chair.

The Secretary (Mr. Phipps) read the committee's report, as follows:—

"The council, in this their report for the session 1863-64, are happy to state that the prospects of the society are most encouraging. During the summer of 1863 three excursions were organised. The first took place June 11th, and was attended by upwards of twenty-five gentlemen. Horfield, Almondsbury, Thornbury, Cromhall, Iron Acton, and Winterbourne were visited, and papers were read by the president and Mr. Godwin. The second excursion was to Exeter, on July 9th, where Mr. Godwin lectured upon the cathedral. The third and last excursion was to Llandaff, in August, where the cathedral was commented upon and explained by Mr. Fripp. During the winter lectures have been delivered by Mr. S. B. Gabriel, on the Pantheon; Mr. Ponton, on "Taste;" Mr. Godwin, "Sister Arts as applied to Architecture;" Mr. Phipps, "Monumental Brasses;" Mr. Crisp, "Ventilation;" Mr. Atkinson, "Fresco Painting;" Mr. Masters, "Hotels." The number of amateur members and students has been increased during the past year. It is mainly to the latter class of members that we must look for a continued vitality: every architectural student in Bristol and the neighbourhood should be urged to join our body. To aid the students we have adopted measures with a view to facilitate their preparation for the examinations organized by the Royal Institute of British Architects, which every student who aims at a status in his profession must now pass. They are happy to be enabled to chronicle the success of one of their members, Mr. W. V. Gough, who passed his examination in London with credit, and they hope that many others from this neighbourhood will follow his example, and prove as successful. Another effort that has been made for the benefit of the student members was the offering a prize for the best drawings of a chimney-piece and timber roof about to be taken down in the contemplated destruction of the Angel Inn, High-street. This prize has been gained by Mr. W. V. Gough, and a second premium has been awarded to Mr. Hannaford. The drawings are exhibited in the Architects' Room for public inspection. The artists following the sister art of painting, being members of the Academy, are also honorary members of our society. Special invitations to our meetings have been sent to them, in the hope that their presence would prove a mutual advantage. The council regret that, with a few honourable exceptions, these members have shown no sympathy, either by contributing papers or by their presence at the meetings. The report then referred to their relations with other architectural societies—the Royal Institute of British Architects and the Architectural Alliance (which embraced a number of provincial societies)—for the purpose of regulating professional practice, and raising the standard of education for the profession generally; and their labours were proving successful. The officers for the present year are:—President, Mr. P. W. S. Miles; Vice-President, Mr. S. C. Fripp; Hon. Secretary and Treasurer, Mr. C. J. Phipps, F.S.A.

On the motion of the chairman, the report was unanimously adopted.

Various votes of thanks were passed, and the Society arranged that their annual dinner should take place in Gloucester.

NEWS FROM SCOTLAND.

Edinburgh.—The seat-holders in the area of St. Mary's church, Bellevue, have long felt incommoded—especially during the prevalence of sunshine—by the strong light which shone directly in their faces through the two large windows situate on either side of the pulpit at the west end of the church. As a cure for the evil, it was lately suggested that stained glass should be substituted for the common glass with which the windows were filled; and a member of the congregation, Mr. Crabbie, Royal-terrace, having offered to subscribe 25*l.* towards the expense, a subscription was set on foot amongst the congregation, whereby a sufficient sum was speedily realised. The execution of the windows was intrusted to Mr. F. Barnett, of Leith, and they are now completed and placed in their proper position. The style in which the windows have been executed has been termed Norman-Mosaic. The borders, which are of great breadth, are Norman both in design and colour, with delicate pink leaves peculiar to that style. The Scriptural compositions in the centre of the windows, are St. Paul preaching at Athens, and John the Baptist preaching in the Wilderness. Above and beneath the Scriptural subjects are two large geometric figures of a circular form and symmetrical design. The intervals betwixt the outer borders and the leading objects are filled in with similar ornamentation, all partaking of the Norman character. To complete the general effect, it is suggested that the two smaller windows on either side of the large ones should be filled in with stained glass.——A movement is in progress for the erection of a new Episcopal church, in the south-western district of the city.——The scavengers' strike still nominally continues, but men are being brought from Glasgow and Manchester, to replace those on strike, and farmers are carrying off the refuse from the streets in large quantities. One half of the old nightmen, besides, have returned to work.

Perth.—A preliminary meeting of a private nature has been held in Dunkeld, for the purpose of considering whether a statue should be erected in memory of the late Duke of Athole. The Earl of Mansfield presided, and there was a good representation of aristocracy and landed gentry of Perthshire. The resolution agreed on did not transpire, but a public meeting on the subject will, ere long, be held. This movement is quite distinct from the proposal to place a memorial cairn on the summit of Craig-y-barns.

St. Andrews.—The contracts for the erection of a new and more commodious place of worship for the United Presbyterian congregation here, have just been entered into, and the erection is to be proceeded with immediately. The plans have been prepared by Messrs. Peddie & Kinnear, of Edinburgh, and the cost as contracted for will be about 2,100*l.* The site is at the south-west corner of the park containing Abbotsford-crescent, Hope-street, and Lockhart-place.

Forres. The contracts have been taken for a new Episcopal parsonage and school at Forres. Mr. A. Fraser, Nairn, has the mason's work; Messrs. Smith & Son, Forres, the carpenter's work; Mr. A. D. Cameron, Inverness, the slater's work; Mr. A. Ross, Forres, the plasterer's work; and Mr. John Taylor, Forres, the plumber's work. The cost of the buildings is estimated at about 1,500*l.*

IRELAND.

The several banking companies of Ireland seem of late to be sharing a healthy tone happily beginning to prevail: they are extending branches in many directions where such conveniences were unknown before; and in those towns where already they had made a footing they are expanding, and it is found necessary to erect more extensive and more suitable offices for their accommodation.

Among the new bank buildings the most important at present is that now in course of erection in College-street, Dublin, the central office of the Provincial Bank of Ireland. It faces a flank of Trinity College, whose colloquial denomination, for some cause now forgotten, is "Botany Bay." It is also in view from the front of the Bank of Ireland, the National Bank, and Brunswick-street, the busiest thoroughfare of the city. A crooked and intricate site, where formerly stood the Irish Institution, has called for some ingenuity and skill in the planning. The length of the principal front, facing College-street, is 77 feet; its height 61 feet. From this the bank extends backwards to Fleet-street, about 130 feet, where also is a façade of 70 feet long, having an entrance to the runners' office, manager's consulting-rooms, and private entrance to caretaker's residence.

Carving is extensively introduced in the strings and on the windows, especially on those of the first-floor. The material, on this as well as on the principal front throughout, is Portland stone. The principal front is Palladian in general character, with freedom in the treatment of the details.

Over a basement story,—bearing the character of an arcade of boldly recessed and moulded semicircular-headed arches, the principal entrance occupying the middle, at either side win-

dows, and on the left an entrance to the manager's and resident clerk's apartments, rises a complete Corinthian order, carried up the first and second stories, having at either side pilasters, surmounted by a balustraded parapet. In the middle three intercolumniations projecting, with three-quarter columns, support a pediment, for which a group of allegorical sculpture has been designed by Mr. S. F. Lynn, of London, representing the genius of banking, seated high in the centre, receiving on the right from the British merchant the productions of commerce, supported on the background by porters and other representatives of commercial industry; on the left side approached by the representatives of agricultural and other industrial interests.

The cost will be about 21,000*l.*, and the building is to be completed within a year and a half from the present time. The architect is Mr. W. G. Murray, of Gardiner-street. Mr. Jas. Nolan is the builder.

On excavating for the basement, not a few objects of interest to the antiquary came to light; amongst them a perfect jar, pronounced to be Roman; some portions of encaustic tiles of the thirteenth century; bottles and pipes, of shape peculiar to the reign of Queen Elizabeth; a skeleton of a woman, also; and, too deep to be associated with the purposes of the institution which formerly occupied this site, was found a still, embedded in the earth.

In common with most of the insurance companies which hold offices in this city, the Edinburgh Life Assurance Company has lately put its premises through a complete course of renovation.

An entire new front has been erected to it in Sackville-street, somewhat in the style best known as Scottish Baronial. The main portions of the dressings are of Mullingar limestone, light blue in colour. The entrance is through a tasteful porch, having Doric columns introduced. An area by which the basement is lighted is screened from the street by a handsome cut-stone balustrade.

The cost, when finished, will be about 1,000*l.* Messrs. Lanyon, Lynn, & Lanyon are the architects. Mr. W. Doolin is the builder.

Belfast.—The new Presbyterian church, Shankhill-road, has been opened for public worship.

BUILDINGS IN THE CITY.

CARDINAL WISEMAN, in his lecture at the Architectural Museum, said the City produced nearly all the good architecture of this day; and that warehouses, the name of which used to be a sarcastic reproach, are now an object of art, and means of great ornament to the streets that contain them.

City architecture is, indeed, making great strides: numbers of hideous houses are now being pulled down and rebuilt—some in brick, some in stone, some, alas! in compo; but all aspiring—some justly, some vainly—to architectural beauty. Half of Lombard-street is now covered with scaffolding—not the ordinary scaffolding of upright poles with horizontal ones tied across them, but strong beams jointed together in such a way as to bear the vast weight of the masses of stone to be lifted by them. Each joint-stock company (there is very little else now) erects a pile of buildings: each employs a separate architect; and consequently all their buildings are different. This I consider to be the great impediment to good architecture in London, or rather the great impediment which prevents London being an architectural city. Variety is, of course, a great source of beauty; but when buildings stand in a line—a straight line—with no room for projections, there must be a certain uniformity to create a favourable impression on the mind of the beholder. To express my meaning more clearly: the A, B, and C Company build large offices in a street, with, say, three stories above the ground-floor, with columns and entablature to each; the cornice of the ground-floor being about 30 feet above the pavement. The X, Y, and Z Company take the three houses on the left, pull them down, build them up again with a handsome stone front; but as they wish to have more office-room, they build their commercial palace with one more story than their neighbours, though they only build it a few feet higher. They also have an order to each story; but they have five orders to the A, B, and C Company's four, which makes their cornices abut on the capitals of the other in the lowest stories, and on about the middle of the column in the highest. As soon as this pleasing architectural contrast is shown to the good citizens of London, the Q, J, and V Company is formed, and the site on the other side of the A, B, and C Company is taken. Another magnificent pile is erected. This building has one order extending through the first and second stories, that stands on a stylobate, which is the ground-floor, and supports an attic. These three buildings occupy the entire frontage between two smaller streets. A still greater variety is produced by the different projection of the cornices, the different form of the window pediments, the doors, chimneys, &c. &c. This description may seem exaggeration, but it is the truth, nothing but the truth; but I am afraid not all the truth. Some streets, and, indeed, nearly all the streets in London, are of this patchwork. The beauty of many buildings is entirely ruined by it. In Cheapside, towards the west end of it, on the north side, two new buildings are being erected: one, I might say, is finished. The finished one is of brick, small and unassuming, yet of graceful form; and, with its high, metal-crowned roof, is a pleasing object. The other one has about five times the frontage, is much higher, is of stone, is larger in all its parts, and is as bold as its neighbour is modest. The buildings do not join. Between them is another, which is soon to come down and be rebuilt. This, I have no hesitation in saying, will be perfectly different from either of the other two; and the effect of all three will be marred, the smaller, of course, coming off the worst.

And not only do buildings spoil one another in this way, but taking them singly, we shall see how much better it would be if there were more uniformity. Look at Messrs. Sarl's place, in Cornhill, lately bought by the City Offices Company. This is a very striking building; or, rather, it is a small portion of a very striking building: it ought to be about four times the width, and then it would have a good effect. As it is, it looks over into the quadrangle of the Royal Exchange, and has a frontage of about two intercolumniations of the Exchange portico. It has a cornice which projects about one-fourth of its whole width. Look at Messrs. Moses, Son, & Davis's warehouses in Cheapside, that triumph of brick architecture: that, too, has a crowning cornice, not so disproportionate to its width as in the last-named building; but, as it abuts on a building on each side, this cornice is cut off at both ends, and may be seen in section at either end of Cheapside.

Where, in the city of London, is there such a thing as an architectural street? Moorgate-street and King William-street are nearest to it, though the hideousness of their stuccoed pilasters and window-pierced entablatures ruins them. We have innumerable fine buildings, many of them unknown, yet far superior to many in other places the occupants and uses of which make them famous. Our buildings have only one façade, instead of four, as they ought to have. Each block of buildings should be of the same general design; though, of course, much variety can be introduced. When we can effect this, then, and not before, shall we have a fine city. Then will it be one grand whole, instead of some thousands of houses. EX STIRPE.

ST. CROSS HOSPITAL, WINCHESTER.

SIR,—In reference to a notice, in your last number, of the restoration just commenced in the church of St. Cross Hospital, under the direction of Mr. Butterfield, it is but due to inform your readers that we are indebted for this work to the munificence of an anonymous donor, "Z. O.," who has forwarded the sum of 50*l.*, to be applied, under certain conditions, to the interior restoration of the east end of this noble church. Double the amount might most advantageously be expended upon our work; and through the kindness of the bishop of the diocese and other friends, I have already raised 130*l.* in addition to "Z. O.'s" gift; but more money is greatly needed, and cannot be supplied from the funds of the hospital, which, I regret to say, owing to heavy expenses incurred in litigation some years ago, are scarcely adequate to meet the current outlay of the charity. Under these circumstances, should our case attract the notice of any of your readers, who may be able and willing to aid in this really important work, supplemental donations of any amount will be most gratefully received and acknowledged by me, in the name of the trustees.

L. M. HUMBERT, Master of St. Cross.

BATHS AND WASHHOUSES.

SIR,—Will you allow me to call your attention to the comparatively slow increase of public baths and washhouses? There are none yet in the boundaries of the city of London: those in the Euston-road have been done away with; and very many of our large towns and metropolitan districts are still without them. I am not aware that any new ones have been opened in the metropolis within the last seven years. G. S.

MANAGEMENT OF THE INSTITUTE OF ARCHITECTS.

SIR,—Permit me to direct your attention to the "List of the Fellows of the Royal Institute of British Architects," issued by the secretaries of that body. You will observe that they have omitted my name, which will tend to injure me, as no doubt many of the Fellows will append the list in their offices during the year, and of course I shall not be known as a Fellow.

The careless manner in which the Institute has been for some time conducted has astonished me: there has been a loss of that dignity which used to characterise it: the sixpenny and shilling "Sessional Papers" have been under the mark; and altogether, in my opinion, there has been a change for the worse. If I understand the general account of receipts issued, from 1862 to 1863, the sale of the "Sessional Papers" raised 1*l.* 9*s.* 10*d.*!! Not enough to pay the wages of the boy for leaving them at the members' residences.

If the Institute on Monday proceeded to the election with my name omitted, it would be an illegal proceeding.

The short-sightedness of the Institute seems to me remarkable. When the papers read there were published *in extenso* in the journals, they were perused by thousands, not only in this country, but throughout the civilized world, and often translated into foreign languages. The Institute was benefited and respected; and the authors were repaid by the publicity thus given for the time expended in preparing their papers.

Beyond the members of the Institute (500 in all), it required, to raise 1*l.* 9*s.* 10*d.*, received during one year by the sale of two-shilling, one-shilling, and sixpenny sessional papers, about *twenty* purchasers,—and perhaps these were the authors themselves, to give to their friends.

The sooner that the Institute relinquishes its small bookselling business the better for the credit of the profession. The promoters of it may rest assured that they have signally failed.

If, by the publicity formerly given to the proceedings, one Associate only was obtained, the Institute was much more benefited than by the sale of the sessional papers during the whole year. W. P. GRIFFITH.

ARCHITECTURE AND THE HUMAN FIGURE.

IT is surely no particular compliment to architecture to suppose that it is necessarily incomplete unless it be further adorned by painting or sculpture—one if not both of them. For entertaining a worthier opinion of architecture as an art capable of exhibiting abstract unborrowed beauty, peculiar to itself alone, I shall, I trust, be forgiven, even if by no one else, at least by you.

Until it be explained to me,—if explained it can be,—I am utterly unable to perceive any sort of affinity between skill in "figure drawing" and talent in eumorphic design, either as regards general composition or detail. Nor have I ever met with any one who has been at all more *clairvoyant* in the matter than myself. If indeed it were customary for the same individual to be employed in the double capacity of both architect and sculptor, or in the triple one of architect, sculptor, and painter, and show himself, like Cerberus, "a leash of gentlemen rolled into one," the case would be widely different from what it is at present, when, under actual circumstances, it is surely quite as much as can reasonably be expected of the architectural student if he sedulously labours to acquire proficiency and shows himself an expert in his own proper immediate walk of art. By all means allow him to *sympathise* unreservedly with other art in all its various ramifications; but he who aims at universality in literature or art is likelier than not to achieve nothing higher than mediocrity. The few exceptional instances that can be brought forward to give a colour to the contrary argument serve only to prove the rule.

Mistaken, possibly, I may be; and those who disagree with me will, of course, say, if only in self-defence, that I am most grossly so; and quietly wrapped up in what they are at liberty to call a "surtout" or "dreadnought" of self-conceit; or, if it can be fairly and clearly shown in what way a perfect knowledge of the human figure conduces in any way towards accomplishing an architect in his own quite opposite walk of art, by all means let the proof be produced. But until we obtain such proof or explanation we

surely are at liberty to suspect that one cogent reason for its not forthcoming is that it cannot be found: the door cannot be unlocked, because the key can nowhere be discovered. How exceedingly unlucky! In the meanwhile, sceptics, like myself, are left at liberty to doubt if the late *Charles* Barry would have been at all a more accomplished architect, had he, in addition to his own genius, possessed that of the gifted but also ill-starred *James* Barry.

Finally, with respect to the beneficial influence of the study of the human figure upon architects—calculated rather to dissipate than concentrate the architectural student's ideas upon his own proper art—it may be observed, that such being the real state of things it ought, as an inevitable consequence, to follow, that an anatomist or a student of the life figure ought to have the keenest perception of the beautifully proportioned in architectural design.

Art-Lover.

NON-LIABILITY OF PAVIORS FOR ACCIDENTS TO CARELESS PASSERS-BY.

In the Southwark County Court, on April 18th, a case (Wagstaff v. Booth) of considerable importance to contractors for public works, as well as to the public generally, was decided.

The plaintiff, desiring to go from Blackfriars-road to Suffolk-street, Borough, chose, as his shortest cut, to proceed along the new Southwark-street, then under formation, and fell over an inch water-pipe laid across the footway, and injured himself, and for this he claimed 30*l.* damages from the defendant, who was contractor for the paving works of the new street. The facts were not disputed; but it was proved that the accident took place in broad daylight; that the works were in active progress at the time; and that the street had not then been dedicated to the public.

The Judge was of opinion that a contractor doing work of the kind in question had a right to suppose that there would have been no public user; that there was no negligence in the use of the place in the particular way which caused the accident; and that a person who chose to walk along a way which was not complete was bound to take more than ordinary care.

The plaintiff was nonsuited, with costs.

CASES UNDER BUILDING ACT.

FINE FOR NOT GIVING NOTICE.

At the Thames Police Court, Mr. Mitchell, builder, appeared before Mr. Partridge, to answer a summons taken out for the appearance of his partner, Mr. Reader, of Grafton-street, Poplar, and which charged him with neglecting to give notice in writing to Mr. J. H. Good, the district surveyor, of an alteration in the Guy Earl of Warwick public house, and the situation, area, and intended use of the building.

Mr. Partridge said the summons was against George Reader, and he could not recognize the gentleman before him, or hear him, unless he agreed to pay any penalty that might be imposed.

Mr. Mitchell said if his partner was fined the money should be paid.

Mr. Good said that he saw alterations going on at the Guy Earl of Warwick, under the direction of the defendant. The floor was bodily lowered, the story-posts which supported the front of the house were lengthened, and other alterations effected. They were putting a new front into the lower part of the house. He had received no notice, in writing or otherwise, of the alterations. The words of the Act were, "Shall give notice of any work."

Mr. Mitchell said the firm to which he belonged had no desire to evade the law, and submitted that no alterations had been effected, only repairs.

Mr. Good.—It is an alteration of a shop-front: the lengths of the story posts have been increased, and the floor lowered. I have not received any notice, and I do not know whether measures have been taken for the public security.

Mr. Partridge was clearly of opinion the defendant had violated the law, and that before he commenced making the alterations in question he ought to have given notice to the district surveyor. It was of the highest importance to the public that the regulations of the Building Act should be observed. The full penalty for the omission of which the defendant had been guilty was 20*l.* He inflicted the mitigated fine of 5*l.* and costs.

CHURCH-BUILDING NEWS.

North Pickenham (*Norfolk*).—The church, in this parish having long been in an unsound state, it was determined to rebuild it, and the work was commenced in May last year. On the 14th April, it was brought to a completion by the consecration of the new fabric. The nave, aisle, and chancel have been entirely rebuilt. The chancel had been previously shortened, but is now restored to its original length. The Decorated style of architecture has been adopted from the plans of Mr. D. Male, of Kensington, architect, whose design has been carried out by the contractor, Mr. William Brown, of Lynn. The new roofs are of deal, stained and varnished. The pillars and arches are also new, of Casterton stone. The windows are filled with Powell's tinted glass, having a border of leaves. The seats are of English oak, open throughout, and 2 feet 10 inches in height. The pulpit and lectern are enriched, the former with carvings by Rattee, of Cambridge; the latter with foliage, the work of Mr. Sporle. The floor of the chancel is of Minton's encaustic tiles. Provision has been made for lighting the church for evening service, by means of three coronæ and other appliances in polished brass, provided by Messrs. Hart, of London.

Derby.—The chief stone of St. Andrew's Church, Litchurch, has been laid. The edifice is larger than most of our modern parish churches, and consists of a nave and chancel with north and south aisles, and a steeple at the west end of the north aisle of the nave. The chancel has a semi-octagonal apse projecting beyond the east walls of the aisles, and the south aisle of the nave has a porch in its western bay. There are three entrances to the church, viz., a double doorway in the west wall of the nave, the doorway in the south porch, and a small doorway for the clergy at the east end of the south aisle of the nave. The tower has four stages connected by a circular stone staircase in the east wall. The tower abuts on the boundaries of the site at the junction of Hulland-street with the London-road. It thus does not encroach on the body of the church, but occupies what would otherwise have been rather an awkward corner of waste ground. The church is being built from the designs of Mr. George Gilbert Scott, by Messrs. Thompson & Tryer, of Derby, under the superintendence of Mr. W. Conradi, the resident clerk of the works. The amount of the contract is about 9,100*l.* The schools are two stories high, and built of brick, with stone dressings to the windows, doors, buttresses, gables, and chimneys: the roofs are covered with tiles, and there is a small bell-gable on the gable of the south front. These schools, &c., were built by Mr. Wood, of Derby, from designs by the Rev. S. Andrew, of Lichfield.

Collyhurst.—The Albert Memorial Church in Queen's-road, Collyhurst, the erection of which is just completed, has been consecrated by the Bishop of Manchester. The foundation stone was laid on the 6th of June, last year. The site for the church, as also for the schools adjoining it, erected by Mr. R. Gladstone, was the gift of Sir Oswald Mosley. The church consists of the nave, 90 feet 9 inches, by 46 feet 4 inches; chancel, 20 feet 3 inches by 21 feet 6 inches, with organ chamber on south side and vestry on north side. The style is Early Decorated. At the west end are three entrances, one through a large doorway under the centre window, and one through the lower and corresponding one on the other side; but these latter will be used chiefly as entrances to the gallery, which is proposed to be erected at some future period. There is also an entrance under the transeptal tables on the north side. The building is of seconds bricks, relieved with bands of blue Staffordshire bricks and white headers. The dressings are of Hollington stone. The slating is in alternate bands of different tints. The roof is in one great span, open to the ridge 48 feet from the ground. The absence of columns gives an uninterrupted view to persons in all parts of the edifice. The seats are open benches with inclined backs, and divided by a centre and two side aisles, paved with Minton's encaustic tiles, of a plain character. The tiling to the chancel is more elaborate. The seats for the choir in the chancel are of pitch pine, as well as the reading-desk and the pulpit. The vestibules are arranged so as to prevent as much as possible all draughts. The lighting is by means of three sun-lights in the nave and two standards in the chancel, by Mr. Heyworth, of Manchester; and the heating has been provided for by Messrs. Haden, of Trowbridge. The tower, at the north-west angle of the building, is in three stages, terminated with a spire, surmounted with a vane, the top of which is 130 feet from the ground. The church and schools form an ecclesiastical establishment of considerable extent. The original estimate (taken by Messrs. Clark & Jones, builders), for the church was 3,912*l.*, and has not been exceeded; but the committee have expended some 300*l.* additional in tiling and stained glass windows of elaborate design, and great richness in colour, executed by Messrs. Edmundson & Son, of Manchester, to the memory of the Prince Consort. The church has accommodation for 665 persons, of which 233 are free. The edifice has been designed and carried out under the superintendence of the architect, Mr. John Lowe, of Manchester.

Bradford.—A few years ago, the churchmen of Bradford determined to erect ten new churches, in five years, in various parts of that rapidly-extending borough. Five of these churches have since that time been built and consecrated, and the sixth, All Saints', at Horton-green, has now also been consecrated. All Saints' Church is in the Early Decorated style, and built at the sole cost of Mr. Francis Sharp Powell, of Horton Hall, M.P. for the borough of Cambridge. The building, though not yet completed, was commenced in November, 1861, and has so far progressed as to admit of its being opened for public worship. The cost will be about 15,000*l.* Schools, built in a style to correspond with that of the church, have also been built on the adjoining ground, at the expense of Mr. Powell. The plan of the church consists of nave with aisles, north and south transepts, apsidal chancel, with organ-chamber and tower on the south side, and vestry on the north. The aisles are entered by north and south porches, and the south transept by a doorway through the ground story of the tower. The dimensions are:—Nave: length, 98 feet 6 inches; width, 23 feet; aisles, length, 79 feet; width, 11 feet 6 inches. Transepts: total width, north to south, 79 feet; width, 19 feet 6 inches. Chancel: length, 38 feet; width, 22 feet. Vestry: 12 feet by 15 feet. Tower: 21 feet square outside. Height of tower and spire, 200 feet. Height of nave ridge, 60 feet; of chancel, 54 feet; of transepts, 43 feet 6 inches. North and south porches, about 10 feet square inside. The great bulk of the stone has been obtained from the Calverley Wood quarries, worked by the contractor, Mr. Thornton; that used for the inside carving from Sturdy Bank, near Harewood. All the walls inside are of cleansed stone. There is seat room in open pews for over 900; and, including chairs and loose benches, for more than 1,000 persons. The architects are Messrs. Mallinson & Healey, of Bradford. The original design, according to the local *Observer*, owes much to the late Mr. Healey. The plans of the father have, with considerable modifications as to detail, been carried out by his sons. Mr. I. Thornton, of Bradford, has been the contractor for the whole of the works. Mr. D. Kershaw is the clerk of the works. The window-glass has been furnished by Messrs. Heaton, Butler, & Bayne, of London; the carving by Mr. W. Farmer, of London; the metalwork by Mr. Skidmore, of Coventry; the heating apparatus by Mr. Byrne, of Bradford; the tiles by Messrs. Maw & Co., of Broseley; and the fittings for the altar, &c., by Mr. French, of Bolton-le-Moors.

Sheffield.—Wath Church has had the whitewash removed from a few of the pillars, and the stonework restored to its original condition. This restoration has led to an antiquarian discovery. The whole of the interior of the church has, at one time, been painted—at what date it is not easy, it is said, to define. The first, in order of time, consisted of animals, flowers, and human figures. Immediately over that there has been a coat of whitewash; and then over that a coat of painting—water colour. The capitals were painted red, and the arches above them red also. Above this there has been another coat of various colours, and above all several coats of plain colouring. The theory amongst "the oldest inhabitants" is that a certain vicar of Wath fancied the people attended more to the gay walls of the church than to him, and so he ordered these paintings to be obliterated. Possibly the second coating of paint was put on during the temporary revival of Popery in Queen Mary's reign, and was in turn covered by the Reformed clergy.

Miscellanea.

Society of Arts.—On Wednesday evening last, a paper on "The Testing of Chain Cables," by Mr. Frederick Arthur Paget, C.E., was read. We shall return to it for some portions interesting to our readers.

Architectural Exhibition, Conduit-street. On Tuesday evening, Professor Donaldson delivered a lecture "On the Military Architecture of the Middle Ages." The lecture was copiously illustrated by drawings of Raglan, Beaumaris, Chepstow, Conway, York, Hever, Alnwick, and other castles; and the lecturer gave a full and interesting account of the history of the several structures, commenting on their constructive peculiarities and characteristics. Little publicity was given to the commencement of the series, or the attendance would have been more numerous than it was.

GRAPHIC SOCIETY.—At the concluding *conversazione*, to be held on Wednesday, the 11th inst., the Committee expect contributions of the works of their late colleague, Mr. Augustus Egg, A.R.A., and of the late Mr. William Hunt.

SALISBURY CATHEDRAL.—The following letter from Mr. Scott in reference to an article in the *Times*, appeared in that journal on Monday:—"May I take the liberty of saying one word in correction of a point in your interesting notice of the state of the tower of Salisbury Cathedral? The point I refer to is this,—that we have no intention of touching the piers which carry the tower, but only of strengthening the feeble and shattered lantern story above them; and that on the principle of adding strength, while we scrupulously avoid the smallest disturbance of the existing structure."

THE NEWCASTLE HIGH LEVEL BRIDGE.—From the evidence of the engineer-in-chief of the North-Eastern Railway Company, given before the Committee of the House of Commons on the Newcastle and Gateshead Gas bill, we learn that the lower roadway of the high-level bridge, which the company were so reluctant to make, cost them about 50,000*l.*, and yields them a revenue in tolls of about 4,000*l.* a year. It pays, therefore, subject to deduction for collection and maintenance, an annual interest of 8 per cent., a profit which the shareholders would doubtless be glad to reap from the remaining portion of their vast property.

GATE CLIP LOCK.—An extremely simple turnbril latch lock for road, railway, and field gates, patented by Dr. Spratt, seems to offer security against the straying of cattle, and the accidents occasioned thereby on lines of rail. The invention is equally useful on all swing-gates. Where it is desirable to open the thoroughfare and stop access to the rail, the gates may clip across the line, as in this case the posts, at the angles of a square, being equidistant, the latches and fitments will correspond, and therefore lock. The whole mechanism consists of two tumblers, which move inwards, and up to a common centre, and catch the latch between them in a firm grip.

BRIGHTON.—The contractors for the Albion Outfall have again commenced operations upon it. The piping was only laid down to a certain distance, and the process of floating it out was suspended, owing to the favourable season having passed by. Steps are now being taken for laying down the remainder of the piping, not, however, by floating it out, but by erecting a stage over the bed, which will be dredged for it, and from which stage the pipes will be let down into the sea. The making of this stage is now being proceeded with.——Active operations have been commenced in connexion with the erection of the new pier opposite Regency-square.——The Works Committee of the town council have received the following tenders for widening King's-road and Junction-road, in conformity with plans prepared by the borough surveyor, Mr. P. C. Lockwood, C.E.:—

Anscombe	£12,924
Reynolds	11,613
Chappell (Steyning)	11,473
Cheesman & Co.	10,915
Scrivener & White	10,058
Simms & Marten	9,870
Nowell & Docwra	9,499
Sawyer (Dulwich)	9,484
Bennett & Co.	9,339
Aird & Son	9,258

Messrs. Aird & Son's tender was accepted by the committee.

REBUILDING AND REPAIRING OF CATHEDRALS.—According to a Parliamentary return recently issued, 500*l.* were granted for the restoration of York Minster in 1841 by the Ecclesiastical Commissioners, and 2,938*l.* 18s. 10d. for Ripon Cathedral, in 1842. Under the authority of Orders in Council of the several dates given below, the following chapters transferred to the Ecclesiastical Commissioners their corporate estates, in consideration of the annexed sums:—Bristol, June 7, 1862, 6,000*l.*; Canterbury, August 6, 1862, 20,000*l.*; Carlisle, November 10, 1852, 15,000*l.*; Salisbury, October 11, 1861, 10,000*l.*; Winchester, April 16, 1861, 5,000*l.*; and Worcester, November 29, 1859, 15,300*l.*; total, 71,300*l.* With respect to the Chapter of Worcester, it is noted that "the commissioners, being possessed of a lease for lives under the chapter, agreed to pay to the chapter for the addition of two lives, in the place of two that had died, a fine of 5,160*l.*, the chapter undertaking that the whole of it should be appropriated towards the repair of the fabric."

BETHNAL-GREEN.—Another death from *starvation* in this parish,—Elizabeth Bendall, aged 73. The verdict of the jury was, "That deceased was found dead from the mortal effects of bronchitis; and that her said death was accelerated by want of nourishment, clothing, and warmth." Surely some fuller inquiry into the management here is necessary.

THE NEW FREEMASONS' HALL.—We learn from the daily papers that the ceremony of laying the foundation-stone of the New Freemasons' Hall took place on Wednesday, the 27th ult., on the site of the building in Great Queen-street, Lincoln's-inn-fields, in the presence of the Grand Master, the Earl of Zetland, and a numerous body of the craft.

SOCIETY OF ARTS PRIZES.—A correspondent writes,—"Will you kindly hint to the Council of the 'Society of Arts' that much dissatisfaction is expressed by the successful competitors in the late 'Art-workmen's' Competition at the non-delivery publicly of the prizes; and that this *second* delay is calculated to destroy confidence and materially to affect the success of future competitions." Some of the prizes have been delivered privately, we believe.

NORTHERN ARCHITECTURAL ASSOCIATION.—The quarterly meeting of the Northern Architectural Association, was held at the Old Castle of Newcastle, on Tuesday evening, 26th ult., Mr. Pritchard in the chair. The principal business before the meeting was the discussion of the sub-committee's report on the subject of a universal system of measuring.

THE NATIONAL PORTRAIT GALLERY.—On Saturday was issued the seventh report of the trustees of this gallery. Among the donations since the last report are, a marble bust, by Behnes, of Dr. Arnold, of Rugby, presented by the Bishop of Manchester; and a portrait of Woodfall, the Parliamentary reporter, 1745-1803, painted by T. Beach, a pupil of Sir Joshua Reynolds, presented by Mr. H. D. Woodfall. The purchases made by the trustees now amount to 118. They have been increased since the last reports by portraits of Charles Churchill, Queen Catherine of Arragon, Sir Nicholas Bacon, Thomas Stanley, the historian of philosophy; Lord Heathfield, Archbishop Laud, and the Earl of Mansfield. The gallery, instead of being open from twelve to four, will henceforth be open from ten to five, between Easter and Michaelmas, and from ten to four between Michaelmas and Easter, the days of admission being Wednesdays and Saturdays, as before. The trustees renew their protest against the inadequacy of the space at their disposal.

THE TEMPORARY BRIDGE AT BLACKFRIARS.—It was an ingenious device to construct this bridge in two floors or stories, the necessary accommodation for carriages and foot passengers being thereby secured at the least expenditure of space and material. The *City Press* gives some details. The bridge is 990 feet in length, and the upper story is 16 feet above that designed for carriages. The upper story will accommodate foot passengers by means of two footways, each 9 feet in width: the footways of old Blackfriars are only 7 feet wide. The lower floor is 26 feet in width, which is the same width as the roadway of the old bridge. Its foundations are substantial. The lower piles are 18 feet apart, and are driven 10 feet into the bed of the river; and the transverse piles which carry the roadway are 7 feet apart from centre to centre. These parts are braced together with great firmness, so that the vibration common to wooden bridges will be reduced to a minimum. The openings for the river are each of 70 feet span, formed of iron girders 6 feet in depth. As regards the gradients of this bridge, horses have the best of it. The incline of the old bridge is 1 in 24, but for the roadway of the wooden-bridge the same gradient as that of the new Blackfriars-bridge has been adopted, namely, 1 in 40; but, as the footway for passengers is carried 16 feet above the roadway, pedestrians are here placed at a considerable disadvantage: they will, in fact, have to ascend gradients of 1 in 10 at the approaches; but, that difficulty over, the remainder of the journey will be almost a dead level. The first pile of this bridge was driven on the 11th of August last year, and the bridge was finished in a period of less than eight months. The number of piles which support the bridge is 300, and the depth of the timber below high-water mark is 40 feet. Messrs. Rennie & Logan are the contractors, and Mr. Scott is the superintendent-engineer.

BEDFORD SEWERAGE.—The town council having examined the schemes of proposed sewerage works for the Borough, prepared by Messrs. Haywood, Lawson, Stephens, & Usher (the engineers invited to submit plans), have selected the scheme of Mr. John Lawson.

MARSHLAND, SMEETH, AND FEN DRAINAGE.—The Marshland, Smeeth, and Fen Commissioners have laid the first stone of the new sluice now erecting for the drainage of that district. Mr. William Plews is the engineer; and Mr. William Derisley Harding, contractor.

NEW DOCKS AT NEWPORT.—The promoters of the new dock on the east side of the Usk have secured fifty acres of land from Colonel Wood, at a moderate price; but as this is not considered sufficient, negotiations are pending for a further purchase. Messrs. Lavin & Ward, contractors, have visited the port, with the intention of making arrangements for the construction of a new dock on the west side of the Usk, and have expressed a favourable opinion as to the practicability and paying nature of the undertaking.

COMPENSATION FOR LOSS OF MEDICAL PRACTICE.—On Saturday, in the Lord Mayor's Court, a claim was made by Mr. Hutchinson, a surgeon, of Bridge-street, Blackfriars, against the London, Chatham, and Dover Railway Company, for compensation in respect to the loss of his practice and house, owing to the building of the Farringdon-street Extension. The claimant said he had lived thirty-five years in his present house, and he could find no other house suited to him, consequently he had been obliged to move up to Woburn-place. After the case had proceeded some time, an arrangement was come to by awarding the claimant 2,500*l.*

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—Dr. Christopher Dresser delivered a lecture "On Colour: Its Harmonies and Contrasts." He gave in a succinct form a history of the discoveries as to the nature of colours and their progressive combinations, beginning with the three primitive colours, red, blue, and yellow, and then going into their combinations in the secondary and tertiary classes; showing also how by certain rules of proportion, certain combinations of colour, primary, secondary, and tertiary, brought into juxtaposition, would produce a harmonious effect or the reverse. A discussion followed, in which Mr. Hurlstone (who occupied the chair), Mr. H. Tidey, Mr. Dutton, Mr. Wood, and others took part.

ACCIDENTS.—At Leeds, a portion of a house in St. Mark's Villas, Woodhouse-lane, lately fell to the ground, owing to the foundations having been undermined. Happily premonitory symptoms were observed, and thus measures were taken not only to save the property—amongst which was a number of paintings—but to guard against personal injury.——The weights of the Yeovil new town clock, about midnight on Sunday before last, fell with a noise which alarmed the neighbourhood of the town hall. It appears that the weights were suspended by a rope about three-eighths of an inch in thickness—much too small, it is now evident, although the contractors allege that it is of the usual description. The rope broke and the weights fell, breaking through the ceiling of the town-hall, and partially through the floor of the hall, one of the weights having protruded through the ceiling below the floor. The affair has created quite a commotion in the town.

MONUMENTAL.—The first stone of the Yarborough monumental arch has been laid at Kirmington, by the Countess of Yarborough. After the trowel, mallet, and level had been well applied, her ladyship spoke a few sentences warmly expressive of gladness in being solicited to perform this interesting duty, and of all good feeling befitting the occasion. Mr. Flockton, of Sheffield, the architect; and Messrs. Waring, the contractors, were present. A brass plate bears the following inscription, written by Sir Charles Anderson, Bart. (chairman of the committee):—"This foundation stone of an arch erected by the tenants and friends of Charles, second Earl of Yarborough, was laid at their request by Victoria, Countess of Yarborough, April 23rd, 1861."——The sub-committee of the Rowland Hill statue having recommended that an application be made to Mr. Hollins to furnish a design or model, and an estimate of the cost; and that the selection of a site be postponed for the present; this has been unanimously approved, and the sub-committee instructed to confer with Mr. Hollins. The subscriptions exceed 1,200*l.*

DISCOVERY OF ANTIQUITIES AT CHARLTON.—As the workmen in the employ of Mr. S. C. Tucker, builder, were lately excavating the ground at the corner of Bridge-street, Charlton, they came upon a piece of pottery. Mr. Tucker, being on the spot, caused the surrounding earth to be carefully removed, and the result has been the discovery and preservation of some very interesting Roman remains, buried at a depth of 10½ feet from the surface.

TENDERS.

For rebuilding Bull Wharf, Queenhithe, for Messrs. Kibbel & Shepherd. Mr. E. T'Anson, architect:—

Oxford	£9,550 0 0
Lawrence	9,133 0 0
Myers	9,069 0 0
T'Anson	8,883 0 0
Macey	8,724 0 0
Ashby & Horner	8,687 0 0
Rider	8,660 0 0
Downs	8,493 0 0
Brown & Robinson	8,450 0 0
Conder	8,382 0 0
Coleman	8,159 0 0

For improved dwellings for the London poor in Farringdon-road, Clerkenwell. Mr. Horace Jones, architect —

Foster	£41,600 0 0
Rigg	40,600 0 0
Simmonds & Merton	39,987 0 0
Sawyer	39,982 0 0
King	39,777 0 0
Colls & Co.	38,744 0 0
Hart	38,666 0 0
Patman & Co.	38,600 0 0
Perry & Co.	38,400 0 0
Palmer	38,300 0 0
Gammon	38,220 0 0
Rudkin	38,200 0 0
Macey	37,949 0 0
Rider	37,717 0 0
Scrivener & White	37,500 0 0
Rowe	37,500 0 0
Hill & Keddell	37,050 0 0
Carter & Sons	36,938 0 0
Myers & Sons	36,900 0 0
Brown & Robinson	36,583 0 0

For house at Shooter's Hill, for Mr. A. E. Wilde. Messrs. Morphew & Aldridge, architects. Quantities not supplied.

Macey	£2,755 0 0
Allen	2,667 0 0
Rudkin	1,800 0 0

For the erection of mansion, &c., in Tisbury stone, at Hightrees, near Reigate, for Mr. Waterlow. Messrs. Hunt & Stevens, architects:—

	If in Portland stone, extra.
Carruthers	£9,452 £462
Hardiman & Sandon	9,175 414
Myers	9,159 398
Mansfield	9,143 440
Robinson	9,128 500
Smith & Co.	9,040 367
Lawrence, Brothers	8,983 300
Brass	8,883 369
Thornton	8,795 295
T'Anson	8,650 400
Jackson & Shaw	8,440 380

For building four houses and shops, in Caledonian-road, exclusive of digging and drains, for Mr. Matthew Hitchcock. Mr. D. Gylby, architect. Quantities supplied by Mr. D. J. Brown:—

	Without Shop Fronts.	Shop Fronts.	Totals.
Harvey	£1,620 0 0	£297 0 0	£2,117 0 0
Thompson	1,828 0 0	275 0 0	2,103 0 0
Richards	1,818 0 0	250 0 0	2,068 0 0
Carter & Sons	1,836 0 0	240 0 0	2,076 0 0
Kent	1,785 0 0	235 0 0	2,020 0 0
Allen	1,745 10 0	226 0 0	1,971 10 0
Madgin	1,627 0 0	220 0 0	1,847 0 0

For alterations to No. 80, Newgate-street, E.C. Mr. C. J. Phipps, architect. Quantities supplied by Messrs. Corduroy:—

Contract 1.

Tarrant	£567 0 0
Greenwood	548 0 0
Kiddle (accepted)	517 0 0

Contract 2.

Panter	£336 0 0
Yardley	332 15 0
Over (accepted)	321 10 0

For a cottage at Nechells, near Birmingham, for Mr. J. Knight. Mr. F. B. Osborn, architect:—

Jeffrys & Pritchard	£185 0 0
Barnsley & Sons	178 0 0
Whiston	173 0 0
Smith	150 0 0
Parker (accepted)	137 0 0

Accepted for villa residence on Lansdown, Bath. Mr C. J. Phipps, architect. Quantities supplied by Mr. H. Crisp:—

Mason's work.

Maun	£900 0 0

Carpenter and joiner's work.

Matthews & Hewish	£390 0 0

Slater and plasterer's work.

Wilkins	£142 0 0

Plumber's work.

Trewolla	£78 0 0

Painter and glazier's work.

Bussell	£71 0 0

Smith and iron-monger's work.

Glass & Gould	£26 0 0

For house at Northumberland Park, Tottenham, for Mr. Chamberlain. Mr. T. J. Hill, architect:—

Perry	£770 0 0
Henshaw	739 0 0
Cook	657 0 0
Larke (accepted)	594 0 0

For the erection of a new corn exchange, St. Ives, Hunts. Mr. R. Hutchinson, architect:—

Allen & Smith	£2,177 0 0
Cook & Jenkins	1,790 0 0
Saunders	1,685 0 0
Thackeray & Son	1,537 0 0
Thompson	1,529 0 0
Allpress	1,433 0 0
Bunting & Son	1,409 0 0

For alterations and additions to farm house, Rusper, Sussex, for Mr. George Knight. Mr. Frederick J. Dibble, architect:—

	For Weathertiling and Stucco to Old Part.
Lynn & Dudley	£890 0 0 ... £13 10 0
Gates	658 0 0 ... 27 0 0
Burstow & Sharp	648 0 0 ... 25 10 0
Hamblin	593 0 0 ... 10 17 0

For building a pair of semi-detached cottages at Ripon-road, Potteries Estate, near Shooter's Hill, Kent, for Messrs. S. & D. M'Carthy. Messrs. W. Gosling & Son, architects. Quantities not supplied:—

Sounes	£475 0 0
Lidbetter	440 0 0
Woodford	419 5 0
Thompson	415 0 0
Hubbard	408 0 0
Sutton (accepted)	390 0 0

For building a pair of semi-detached villas at Bexley Heath, Kent, for Mr. S. G. Richmond. Messrs. W. Gosling & Son, architects. Quantities supplied:—

Richardson	£1,532 0 0
Holmes	1,502 0 0
Sutton	1,475 0 0
Rudkin	1,325 0 0
Donnelly	1,315 0 0
Penlington	1,298 0 0
George	1,286 0 0
Mouncomb	1,252 0 0
Lidbetter	1,080 0 0
Hubbard	1,062 0 0
Thompson (accepted)	1,050 0 0

For repairs to houses in Whitechapel-road:—

Nutt & Co.	£365 0 0
Case	327 0 0
Haynes	290 0 0
Emese	210 0 0

For pulling down sundry buildings, and erecting five cottages, for Mr. Richard Terry, at Totton, near Southampton:—

James Toogood (accepted)	£370 0 0

For proposed additions to Tudor Lodge, Wimbledon Park, for Mr. Francis Martin. Mr. Alfred Wright, architect:—

Fish	£1,450 0 0
Longmire & Burge	1,394 0 0
Adamson & Sons (accepted)	1,275 0 0

For new infant school and residence, St. Ann's Hill, Wandsworth, Surrey. Mr. Joseph Peacock, architect. Quantities supplied by Mr. Northcroft:—

Lathey, Brothers	£1,030 0 0
Nicholson & Sons	926 0 0
Easton	918 0 0
Adamson & Sons	895 0 0
Carter	885 0 0

For the Hockley Bolt, Screw, and Rivet Works, Birmingham, for Messrs. Charles and William Barwell. Mr. Edward Holmes, architect. Quantities supplied:—

Branson & Murray	£3,720 0 0
Partridge	3,500 0 0
Hardwick	3,465 0 0
Mathews	3,399 0 0
Briggs & Son	3,380 0 0
Jones	3,350 0 0
Horsley, Brothers (accepted)	3,333 0 0

For stores for arms, &c., of 2nd Somerset Militia, Bath, with residences for the permanent staff. Mr. C. J. Phipps, architect. Quantities supplied by Mr. H. Crisp:—

Bladwell & Ambrose (accepted)	£5,517 0 0
Supplementary contract for additional work	300 0 0

For two semi-detached villas, in the Hagley-road, Edgbaston, near Birmingham, for Mr. H. Manton. Mr. Frank Barlow, Oxbury, architect:—

Barnsley & Sons	£2,080 0 0
Barker	2,080 0 0
Bennett	2,015 0 0
Smith & Sons	1,970 0 0
Jeffreys & Pritchard	1,965 0 0
Partridge	1,910 0 0
Parker (accepted)	1,900 0 0

For building two villas at Croydon, for Mr. F. J. Campbell. Mr. R. T. Woodcock, architect:—

King, Burton, & Co.	£1,740 0 0
Mason	1,676 0 0

For alterations and repairs to No. 7, Portman-street, Portman-square. Messrs. New & Cumings, architects:—

Butcher (accepted)	£330 0 0

For new shop front to 132, Oxford-street, for Mr. Lewis. Messrs. New & Cumings, architects:—

Drew	£535 0 0
Yardley (accepted)	240 0 0

For the erection of parsonage house, St. Paul's, Lorimer-square. Mr. H. Jarvis, architect:—

Garland & Fieldwick	£2,470 0 0
Marsland & Son	2,387 0 0
Sawyer	2,346 0 0
Thompson	2,270 0 0
Kent	2,215 0 0
Henshaw	2,214 0 0
Tarrant	2,098 0 0

For building a pair of residences at Shepherd's Bush, for Mr. Edwards. Mr. J. Dean, architect:—

Rickets	£2,564 0 0
Kirk	2,540 0 0
Macey	2,484 0 0
Adamson	2,288 0 0
Lamble	2,277 0 0
Bray	1,957 0 0

For work at the Cross Keys, Blackfriars-road, for Mr. Jonathan Wadden:—

Selbek	£795 0 0
Warne	725 0 0
Eatan & Chapman	610 0 0
Langmead & Co.	560 0 0
Nightingale	514 0 0
West (accepted)	492 0 0

For painting the outside of the Hackney Union:—

Young	£196 0 0
Burtwell	140 0 0
Robins	140 0 0
Harrison	110 0 0
Skinner	88 10 0

For buildings at Bermondsey. Mr. Joseph Peacock, architect:—

Wells	£9,297 0 0
Lugg	9,306 0 0
Carter & Sons	8,875 0 0
Piper & Wheeler	8,753 0 0
Condor	8,387 0 0
Macey	8,139 0 0

For building a villa residence in Batshul-road, Kentish Town, for Mr. J. J. Taylor. R. H. Moore, architect:—

Beckwith	£590 0 0
Stevenson	565 0 0
Noone	560 0 0
Rudkin	550 0 0

For alterations, additions, and shop-fronts to Nos. 1, 9, and 13, College-street, Camden Town, for Mr. Dunsmore. Mr. R. H. Moore, architect:—

Bott	£526 0 0
Rudkin	483 0 0

For rebuilding part of mansion at Broomhill Bank, near Tunbridge Wells. Mr. Wm. Reddall, architect:—

Dove, Brothers	£3,915 0 0
Lawrence & Sons	2,872 0 0
Mansfield & Son	2,735 0 0
Conder	2,687 0 0
Maeers	2,350 0 0

For detached house at Sharesbrook. Mr. Wm. Reddall, architect:—

Kelloy	£929 0 0
Case	927 0 0
Mortier	919 0 0
Macers	890 0 0
Pritchard	888 0 0
Wheen	873 0 0

For Hornsey Church. Mr. Edward Holmes, architect. Quantities supplied by Messrs. Cox & Mansell:—

	Church.	Tower and Spire.
Ife	£1,147 7 0	£700 0 0
Godfrey	3,276 0 0	393 0 0
Hardwick	3,270 0 0	390 0 0
Jones	3,250 0 0	400 0 0
Fern & Hextal	3,223 0 0	373 0 0
Mathews, Wm.	3,175 0 0	375 0 0
Mathews, E.	2,923 0 0	430 0 0
Burkitt	2,824 0 0	450 0 0
Thompson	2,906 0 0	297 0 0
Lilley & Elliott	2,879 0 0	290 0 0
Timms	2,795 0 0	380 0 0
Simpson & Lynam	2,800 0 0	340 0 0
Ratcliffe & Son*	2,690 0 0	293 0 0
Espley†	2,637 0 0	297 0 0

* Accepted. † Not in accordance with form.

TO CORRESPONDENTS.

Measurement.—J. Q. M. says,—"Will one of your correspondents kindly point out how to ascertain the numerical contents of a *circular* stack of pantiles?"

F. G.—J. A. P.—*Utilitas.*—F. C.—M.—E. T. F. (several suggestions have appeared in recent numbers of the *Builder*).—J. L. B., St. Paul's (letter does not carry the matter any further) —E. A. —C. S. H.—J. G.—C. J. P.—F. W. C.—F. B. O.—E. H.—Subscriber.—E. A.—W. S.—T. C.—H. B. C.—Rival.—Arch.—Museums (several letters have reached us too late for consideration).—W.

We are compelled to decline pointing out books and giving addresses.

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NOTE. *The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

ADVERTISEMENTS.

THE ART-JOURNAL for MAY (price 2s 6d.) contains three Illustrations on Steel, viz.:—"Puck and the Fairies," by C. Lucas, after R. Dadd; "View of Orvieto," by S. Bradshaw, after J. M. W. Turner, R.A.; "The Hunter" (H.R.H. Prince Arthur), by E. W. Stodart, from the statue by Mrs. Thornycroft. The literary contributions include:—"Wedgwood and Etruria," by Llewellynn Jewitt, F.S.A. illustrated; "The Works of W. Mulready, R.A.;" "A Walk in North Wales," illustrated by Birket Foster; "History of Caricature and of Grotesque in Art," by T. Wright, illustrated; "Fresco Painting;" "Photo-Sculpture," illustrated; "The Exhibition in Dublin;" "New Fresco by E. M. Ward, R.A.;" "Monument to H.R.H. the late Prince Consort;" "British Artists: Charles Baxter," by James Dafforne, illustrated; "Athenæ of the Month," illustrated from Designs by W. Harvey; "Art-Work in May," by the Rev. J. G. Wood, M.A.; "Exhibition of the Society of British Artists," &c. &c.

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Contents:
I. PROSPECTS OF THE CONFEDERATES.
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IV. SIR WILLIAM NAPIER.
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Are prepared to receive applications from qualified persons desirous of entering upon such an engagement, which applications must be in writing, addressed to SIR CHARLES FOX, 8, New street, Spring-gardens, London, not later than the 17th of MAY next, and must set forth age, qualifications, former employment, a list of references, number in family, and salary required.
A free passage will be given, and an engagement for three years entered into, terminable by the Government in case of misconduct.

SURVEYOR'S OFFICE, GLOUCESTER.
WANTED, a qualified ASSISTANT, accustomed to measuring up works executed, and generally assist in the office. He must be a steady writer, and of active, steady, and sober habits. Salary, 80*l.* per annum. Candidates to apply, by letter, in own handwriting, and the same will testimonials, to be forwarded to Mr. M. LANSDOWN, Architect and C.E. City surveyor, Gloucester, on or before FRIDAY, the 13th instant.

TO SURVEYORS.—The Board of Works for the Wandsworth District are desirous of receiving APPLICATIONS from skilful and competent surveyors for the APPOINTMENT of SURVEYOR and INSPECTOR of NUISANCES for the parish of Battersea, within their district, at a salary of 240*l.* per annum. The candidate selected will be required to enter upon his duties at Midsummer next, and will have to reside within the parish of Battersea, and to devote the whole of his time to the duties of his office. His duties will be superintend, personally, all works to be executed in the parish of Battersea, in connexion with the formation, repairing, and watering of roads and footpaths; the construction, repairing, and cleansing of sewers; the preparation of specifications, plans, surveys, and estimates; and the taking of levels; to attend all meetings of the Board, and of the Committee of the parish of Battersea, and generally to advise the Board and the Parish Committee as to any works necessary to be executed in the parish of Battersea under the provisions of the Metropolis Management Act, and to perform all such duties connected with such Office as the Board may direct. The appointment will be subject to the bye-laws of the Board; and the successful candidate will be required to give security to the amount of 500*l.* Applications are to be sent in, under seal, to the Board, endorsed "Application for appointment of Surveyor," on or before the 31st day of MAY next.—By order of the Board of Works for the Wandsworth district,
ARTHUR ALEX CORSELLIS, Clerk.
Battersea Rise, Wandsworth, S.W. April, 1864.

MARBLE MASONS AND POLISHERS.
WANTED, a few extra HANDS, at the Westminster Marble Works. To young men who are in the trade, willing to come to London for improvement, they will receive every encouragement for learning the trade.—Apply, by letter, to T. H. HARVEY & CO. Dart-street, Westminster, S.W. Vacancy for a Clerk, who can cut letters, keep books, and write well.

TO CARPENTERS.
WANTED, TWO Good Steady JOBBING HANDS.—Address, Mr. WREN, Builder, Tunbridge-wells.

WANTED, by a Builder, a short distance from London, the SERVICES of a CLERK for two days in the week. One who understands book keeping, drawing, plans, writing specifications, taking out quantities, &c. State terms.—Address, W. Office of "The Builder."

WANTED. — An Architect in Dublin requires a clever DRAUGHTSMAN, accustomed to details and specifications.—Address, stating age, references, and terms (if permanent), C. P. care of Mr. Cockrane, No. 23, Molesworth-street, Dublin.

WANTED, by a Practical BUILDER, a Carpenter by trade, a SITUATION on an ESTATE. Understands levelling and land surveying, road making, and draining. Good referencer.—Address, A. J. Office of "The Builder."

TO BUILDERS' FOREMEN.
WANTED, a steady, intelligent FOREMAN to superintend the restoration and repairs to a mansion in the North of Devon. He must be a carpenter by trade, and have previously filled a similar situation.—Address, by letter only, in own hand writing, stating age, reference, and wages required, to Mr. J. KENSHOLE, Builder, Heavitree, Exeter.

WANTED a steady, working PLASTERER who has had good experience in the use of Parian and Cements, to take the lead of men in restoration of external plastering to a mansion in the North of Devon.—Apply by letter, with references and wages required, to Mr. J. KENSHOLE, Builder, Heavitree, Exeter.

WANTED, BRICKLAYERS and RETORT SETTERS, of experience.—Apply to A. Z. care of Mr. King, "Journal of Gas Lighting," Bolt-court, Fleet-street.

WANTED, a BRASS-WORKER or CHANDELIER-FITTER. One who could take the lead in a shop preferred.—Apply, stating age, terms, &c. F. G. Z., Post-office, Birmingham.

TO IRONMONGERS' ASSISTANTS.
WANTED, a Young Man, as JUNIOR, to assist in the counting-house and warehouse of a manufacturer. No counter trade. Must write a good, quick hand. If been used to the kitchen ranges and hot-plate trade, preferred.—Apply, by letter only, to H. B. Messrs. R. W. Kennard & Co. 67, Upper Thames-street, stating previous occupation and salary required.

WANTED, by a BUILDER, a thoroughly Practical Man, competent to SUPERINTEND all BRANCHES in the TRADE. Capable of estimating, measuring, taking out quantities, and keeping a set of books. With a good knowledge of drawing. Undeniable references required. Apply, stating age and salary required, to G. G. Post-office, Brighton.

WANTED, a WOOD CARVER. Good at Gothic.—Apply, stating age, wages, and reference to ARTHUR HAYBALL, Cavendish-street, Sheffield.

WANTED, an ARCHITECTURAL ASSISTANT, well versed in construction, and thoroughly competent to prepare working drawings and details. A person of good ability will be liberally remunerated.—Address, J. L. Office of "The Builder."

TO BUILDERS' FOREMEN.
WANTED, by a Country Builder, a thoroughly experienced and energetic FOREMAN, that can undertake the management of Carpenters' and Joiners' Shop and Yard. No one need apply except having filled similar engagements, and can produce undeniable testimonials as to character, sobriety, and efficiency. Situation permanent.—Address, by letter only, stating wages required, age, references, and other particulars, to Eyre Messrs. Rowmson, Drew, & Co.'s, 217, Upper Thames-street, London.

WANTED, as FOREMAN, an experienced CABINET MAKER or JOINER, who is competent to set out Mediæval furniture, and take the entire control of the manufacture. A thorough acquaintance with the style indispensable.—Apply, by letter only, to A. B care of Messrs. G. B. Kent & Co. 31, Great Marlborough-street, London, W.

WANTED, a respectable Young Man, about 20 years of age, desirous of IMPROVEMENT, and more PRACTICE in DRAWING and WRITING.—Apply personally, to HENRY HAVELL, Decorator, Eden-street, Kingston, S.W. A young man from the country preferred.

WANTED, an experienced Man as General FOREMAN, a Carpenter and Joiner by trade. Will be required to take charge and use the tools when required. Wages about 30*s.* per week.—Address, JOHN A. MUNDY, Builder, &c. 45, Back Church-lane, Whitechapel, E.

WANTED, a good practical MASON,—an able and willing workman, used to jobbing work of every description; letter cutting and blocking indispensable. For a permanency. A married man preferred.—Address, stating terms and references, M. P. Post office, Stone, Bucks.

WANTED, a respectable intelligent MAN, as STOREKEEPER and TIMEKEEPER over the Building Workmen on a Gentleman's Estate. Unless furnished with unexceptionable references for the strictest punctuality, integrity, and sobriety, it will be useless for any one to apply. Salary 24*s.* per week.—Address, in own handwriting, stating age, last employment, and other particulars, to Mr. PEARDEN, 25, Union street, Hackney-road, N.E.

TO BUILDERS' FOREMEN.
WANTED, an experienced FOREMAN, thoroughly competent to TAKE CHARGE of OUT-DOOR WORKS.—Address, stating age and previous employment, to WILLIAM CUBITT & CO. Gray's-inn-road, W.C.

WANTED, a THREE-BRANCH HAND. One able to write and cast; and from the country, preferred, if suitable, for a constancy.—Address, by letter, stating wages, &c. J. W. P. 19, Jubilee-place, Chelsea, S.W.

TO SURVEYORS' ASSISTANTS.
WANTED, a thoroughly-qualified CLERK, accustomed to the routine of a Quantity Surveyor's Office, and able to prepare working drawings and specifications.—Apply, stating age and salary required, to M. at Mrs. Plummer's, Stationer, 46, The Mall-road, W.C.

TO ARCHITECTS' ASSISTANTS.
WANTED, immediately, by an Estate Agent in the country, a Fully qualified and Experienced ASSISTANT, capable of designing and preparing finished and detailed drawings, writing specifications, and superintending works. If accustomed to land surveying preferred. He must be a good accountant, and willing to assist in general business.—Address, particulars stating references, age, and salary expected, E. M. Post office, Colchester.

WANTED, a THREE-BRANCH HAND, for a constancy; must be a good Plumber.—Address, stating age, reference, and where last employed, to C. W. Post-office, 3, Connaught-terrace, Edgware-road.

WANTED, by a Builder's Office, a thoroughly practical Man. Must have a knowledge of the business in every department, and be competent to superintend all branches. Must be capable of estimating, measuring, and valuing works, keeping a set of books, and have a knowledge of drawing. Undeniable references required. Must be a member of the Established Church.—Address, stating age, salary required, and where last engaged, to JOSEPH M'AULEY, Builder, Ballymena, Antrim.

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly energetic and practical Man, a RE-ENGAGEMENT as GENERAL OUT-DOOR FOREMAN, or to Take the Management of a Large Job. Town or country. Accustomed to taking out quantities, and estimating in all branches. Good references.—Address, J. G. 65, Almastreet, New North-road, N.

TO ARCHITECTS, ENGINEERS, OR CONTRACTORS.
WANTED, by a thoroughly efficient, Practical Person, a RE-ENGAGEMENT, as AGENT or CLERK of WORKS, qualified in every branch of the Building trades or Engineering Works of any magnitude or description.—Address, X. Y. Z. No. 45, Duke-street, Manchester-square, W.

TO BUILDERS, PLUMBERS, &c.
WANTED, by a Young Man, a SITUATION, as good PLUMBER, or Three branch Hand. Has no objection to Town or country. Good references if required.—Address, J. W. C. 3, Chrisdinas place, Victoria-road, Peckham, S.E.

WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN or CLERK of WORKS. Good reference.—Address, S. W. Office of "The Builder."

TO PAINTERS, &c.
WANTED, by a steady Young Man, who has just served his time, a SITUATION as IMPROVER Can do plain writing, graining, marbling, &c. Wages low.—Address, W. B. at Mr. Prescott's, No. 1, Suffolk-street, Commercial-road, London, E.

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly practical Man, a RE-ENGAGEMENT as GENERAL FOREMAN. Well versed in construction. References and testimonials from London Contractors and Builders.—Address, C. S. S, Heath-place, Cambridge-heath, N.E.

TO ARCHITECTS AND CIVIL ENGINEERS.

WANTED, by a Young Man, who has had eight years' varied experience in the above, a SITUATION. Is competent to land survey and level, prepare finished and working drawings, superintend works, take out quantities, &c. — Address E K care of Mr. Pitch Church-street, Kington, Herefordshire

TO BUILDERS, ESTATE AGENTS, &c.

WANTED, a RE-ENGAGEMENT, by an experienced BUILDER'S CLERK, aged 26. Can measure up work, estimate, keep costs and extras, accounts, and possesses a good practical knowledge of the trade.—Address, BETA, 51, Princes-street, Maida hill, N.W.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN or CLERK of WORKS. Carpenter, &c by trade. Has been foreman for ten years in one of the largest builder's firms in London. Good references can be given.—Address, E. H. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a respectable Young Man, a constant SITUATION as PLUMBER. No objection to fill up his time in painting and glazing.—Address, W. G. 26, Lucas-road, Kennington Park.

TO BUILDERS, SURVEYORS, AND OTHERS.

WANTED, by a Young Man, who has just served his time as a carpenter and joiner, a SITUATION as IMPROVER. Can prepare drawings, keep time books, &c.—Address, A B 21, Stepney Causeway Commercial road E.

WANTED, EMPLOYMENT, by a good House Painter, aged 21.—Address, F. W. 32, Salisbury-street, Portman Market, London

TO DECORATORS, PAINTERS, &c.

WANTED, by a practical and thoroughly competent Man, with good business habits, and upwards of twenty years' experience, a SITUATION as FOREMAN, Leading Man or Decorator and Glazier. The Advertiser is also a gilder, writer, and grainer. Town or country. Address, stating wages, &c, L. F. 6, Back place, Bayswater-road, London.

WANTED, by an experienced Draughtsman and General Assistant, a RE-ENGAGEMENT in an Architect's, Surveyor's, or Builder's Office.—Address, Z Z. R. Office of "The Builder."

TO CARPENTERS AND JOINERS

WANTED, to APPRENTICE, a Youth of 16.—Particulars to H. H. 54 Alfred-place, Old Kent-road, S.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a first-class PLUMBER, constant EMPLOYMENT. Wages not so much an object as a permanency. Would join a hand when slack. Good reference as to ability, &c. In or near town. Address, A. C. 14, Little Baillie-street, Marylebone

TO ARCHITECTS.

WANTED, an ENGAGEMENT as ASSISTANT in the Office of a London Architect. Is thoroughly acquainted with surveying, levelling the preparation of drawings, and the general routine of an architect's office. Good references and testimonials.—Address, ALPHA, 15, Swinton-street, Gray's-inn road, W.C.

TO MASTER BUILDERS AND PLUMBERS.

WANTED, by a Young Man, just out of his time, a constant SITUATION. Is a good plumber. Can turn his hand if required.—Address, R. F. No 7d, East-street, Manchester-square, W.

TO BUILDERS.

WANTED, by a thoroughly practical Man, a carpenter and joiner by trade, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN. Good references for years with last employer.—Address, P G 3, Maria-terrace, Alma-grove, Barlsbury, N.

WANTED, by a competent Person, a RE-ENGAGEMENT as FOREMAN of MASONS CLERK of WORKS, or the MANAGEMENT of a MASON'S BUSINESS. Has had good experience in church work, can set up in drawings and figures, and can be well recommended from present employer, whom he will leave in a few weeks.—Address, GREY, Christ Church, Winbrook

WANTED, a SITUATION, as CLERK in a Builder's Office. Can prepare plans, estimates, &c. Is practically acquainted with the trade No objection to go abroad.—Address, W. B. 69, Broad street-hill, E.C.

TO BUILDERS

WANTED, an ENGAGEMENT, by a Youth, as TIME or STORE KEEPER, or in any similar capacity Can assist in office duties, is remarkably active himself useful Similarly employed for two years by a London firm. Well recommended.—Address, X M. A. Office of "The Builder"

TO ARCHITECTS AND SURVEYORS.

WANTED, by an experienced ASSISTANT an ENGAGEMENT with the above. Is fully competent to prepare working, detail and competition drawings, and is quick at quantities Good references, &c —Address, ALPHA, care of Mr. Sage, 11, Victoria grove South, Kensington

TO CONTRACTORS AND BUILDERS

WANTED, by the Advertiser, aged 20, just completing an engagement with an eminent London firm a SITUATION where there are Contracts for Government Assistant in taking out quantities, is a neat and expeditious draughtsman, and is thoroughly conversant with the office routine, &c References unexceptionable.—Address, M I No 2, Eastbury terrace, Beaumont square, E.

WANTED, by a Young Man, a SITUATION in an Architect's or Builder's Office. Has had seven years' experience in the practical part of the business, and has a good knowledge of drawing. Good hand writing Salary not a much an object.—Address, A R F 70, Downham-road, London, N.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT as WORKING FOREMAN of CARPENTERS and JOINERS, or to Take Charge of a Job. Five years with last employers, extensive Government works, &c Address, W. P 28, New road, Commercial-road East.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical and efficient SHOP FOREMAN, a RE-ENGAGEMENT as above or to Take Charge of Works, either in town or country References from first class London firms.—Address, W. C 37, Duncell street, St. Luke's, London.

WANTED, a SITUATION, as GENERAL FOREMAN or CLERK of WORKS, having filled those situations many years, and had great experience in City work No objection to take charge of a job, or act for the outlying house. First-rate testimonials.—Address, A. B. 332, Hackney-road, N.E.

TO IRONMONGERS AND BUILDERS.

WANTED, a SITUATION, by a Man, aged 36, as GASFITTER, Hot Water, and Bath Fitter. Good references Town or country.—Address, J. S. 27, Royal-street, Lambeth, S.

TO BUILDERS, &c.

WANTED, by the Advertiser, aged 34, a SITUATION in a Builder's or Surveyor's Office. Understands taking out quantities, estimating, &c, and the usual routine of office duties Highest testimonials and references.—Address, E. G. P. 21, Albert terrace, Barnsbury-road, N.

TO IRONMONGERS, &c

WANTED, by an experienced middle-aged Man, a SITUATION as WORKING FOREMAN of GASFITTERS, BELLHANGERS, &c. No objection to smith's work Country references. Address, A Z care of Mr. Pegg, Stationer, No. 55, Queen street, Edgware road, London, W.

TO TIMBER MERCHANTS AND SAW MILL PROPRIETORS.

WANTED, by the Advertiser, a SITUATION as the above or as CLERK Well qualified in ledger keeping, stock books, &c His last great experience in one of the largest houses in the trade Address, QUEBEC, No. 19, Haverstock-street, City road

TO BUILDERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as FOREMAN of JOB, or Foreman of Masons Has filled the former situation for a large London firm for several years, on several jobs. Town or country.—Address, G. S. 109, Brook-street, West-square S.

TO NOBLEMEN, ESTATE AGENTS, AND BUILDERS.

WANTED, a SITUATION, as ESTATE MASON, or to SUPERINTEND WORKS, or any capacity where trust and confidence are required First class recommendations.—Address, A. G 33, Kingsreet, Camden Town, London, N.W.

TO PLUMBERS, PAINTERS, &c.

WANTED, by a Married Man, aged 33, an ENGAGEMENT as WORKING MANAGER, or Superintendent as above. Is quite competent to carry on a business. Understands estimating; is a fair plumber; a good writer and grainer; and has had practical experience in all branches of the business.—Address, M. F. Post office, Red Hill.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by a thoroughly practical Energetic Man, of great experience, and can measure and estimate, a SITUATION as GENERAL FOREMAN. Capable of managing any large contract or business. Unexceptionable testimonials. Aged 38.—Address, ALLEN, 321, City road, E.C.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as WORKING FOREMAN of BRICKLAYERS. Good references.—Address, O. R. Post office, Whitestone, Hertfordshire

TO ARCHITECTS, SURVEYORS, AND BUILDERS

WANTED, an ENGAGEMENT, by a CLERK of WORKS, or as General Manager with a Builder. Age 30. Experienced in superintending Works, both in London and the country, making working drawings, taking off quantities, pricing estimates, and book-keeping, &c.—Address, JOINER, care of Mr. Shaw, 256, Oxford street, London, W.

TO MASTER GILDERS.

WANTED, by a Young Man, a SITUATION, in the country, as GILDER. One used to the country trade.—Address, J. M. 14, Hills-street, Soho, London

TO HOUSE PAINTERS.

TWENTY good WORKMEN may have immediate EMPLOYMENT, on application to SMITH, BROTHERS, Northampton. The engagement would be for a long period. Also, WANTED, a good PAPERHANGER, who can fill up his time at painting.

TO BUILDERS, CONTRACTORS, AND OTHERS.

THE Advertiser is desirous of a RE-ENGAGEMENT. Has had practical experience in the trade, and understands the management of difficult affairs, and competent to give plans and working drawings. Unexceptionable references, and security if required.—Address, F. L. Y Office of "The Builder."

TO BUILDERS, ENGINEERS, AND SMITHS.

THE Advertiser wants a SITUATION as a WORKING FOREMAN of SMITHS, or as Leading Hand in either of the above firms. He understands the different branches of his trade, and can have two years' character from his present employer—Address, A. B. 2, Esther terrace, Queen's-road, Bermondsey

THE Advertiser, a Joiner by trade, is in WANT of a SITUATION as SHOP FOREMAN, or Out-door ditto. Has filled both situations. Good references.—Address, F. L 86, Westminster Bridge-road, Lambeth.

AN ENGINEER, of experience in Drainage, Water Supply, and other Works, desires a SITUATION on PUBLIC WORKS, or as General Assistant. Served his time to a well known Civil Engineer, to whom and to other parties he can give references as to ability, energy, and character. In his 26th year. Salary required very moderate, not being the main object. Address, A. E Office of "The Builder."

TO SMITHS.

A FIRST-CLASS Hand wanting EMPLOYMENT, a Locksmith, Bellhanger, Gas fitter, Stove and Range and Hot-water fitter, and Fireman. Good references.—Address, H. R. No. 8, New Church-street, Edgware-road, W.

GENERAL FOREMAN, CLERK OF WORKS, OR FOREMAN OF CARPENTERS.

A PRACTICAL MAN, of great experience in conducting work, wants an ENGAGEMENT Has carried out many contracts in town and country, and can be well recommended. — Address, B. C. Mr. Sorrell, Baker, Upper Kennington-lane

A BUILDER'S BOOKKEEPER, who can furnish testimonials and references as to ability and respectability to several City houses, and to some of the leading building firms in London, will be shortly open to an ENGAGEMENT. Security if needed could be given.—Address, W. T. 37, Nelson-terrace, Stoke Newington road, N.E.

TO CONTRACTORS, ENGINEERS, &c.

A GENTLEMAN, of great experience in the Management of heavy Works, is open to an ENGAGEMENT with a view to a Partnership, or to meet another gentleman on equal terms, to undertake large contracts.—Address, E. D. N. Office of "The Builder."

TO BUILDERS.

A RESPECTABLE YOUNG MAN, 22 years of age, at present employed as Clerk, Book-keeper, &c, in a Builder's office, will shortly be disengaged, and is desirous of obtaining a similar SITUATION in London. Is a good penman, quick accountant, and can produce first-class testimonials if required.—Address, A. B. 1, Moor Park-road, Brompton-road, S.W.

TO ARCHITECTS.

A THOROUGHLY Practical CLERK of WORKS, of many years' experience on first-class works is open to an ENGAGEMENT. Has first-class references.—Address, J. O. S. Office of "The Builder."

TO PLUMBERS AND HOUSE DECORATORS.

A THREE-BRANCH HAND, who quite understands the jobbing trade, is in want of a CONSTANT SITUATION. Understands gasfitting.—Apply to A. C. 5, Ody's-place, Stepney-green.

TO BUILDERS, SURVEYORS, &c.

AN active and well-educated Young Man who writes well, and has a knowledge of drawing and tracing is desirous of ENTERING the OFFICE of the above. Willing to make himself generally useful. Salary a secondary consideration address, by letter, C. D. 19, Upper Albert street, Regent's-park.

AN Architectural Draughtsman, Colourist and Quantity Assistant, desires EMPLOYMENT. Age 22. Being engaged to a City Firm casually, would give his services to B D X 52, Elmore-street, N.

TO SAW-MILL PROPRIETORS AND TIMBER MERCHANTS.

A STEADY and persevering Man, who can manage a SAW-MILL or TIMBER-YARD, wishes for SITUATION Town or country.—Address, J. C. Mr. Parker's, near the Gate, High street, Stratford, Essex.

TO SURVEYORS.

A YOUNG SURVEYOR and DRAUGHTSMAN, disengaged for a few weeks, offers his SERVICES temporarily. —Address, HENRY EVANS, care of Mr. Leggett, News Agent, 20 A, North Audley street, London, W.

A PRACTICAL and experienced Man wishes a RE-ENGAGEMENT, as FOREMAN of PAINTERS, &c or to TAKE CHARGE of WORK, in town or country. Good reference can be given.—Address, A. Z. 12, Willow-place, St. Peter's road, Mile End-road, E.

TO TIMBER MERCHANTS AND WOOD BROKERS.

A YOUNG MAN, wishing to improve himself, desires a CLERKSHIP, or to Assist generally in a Yard. Is quick at accounts, active, and industrious Excellent references.—Address, E. E. L. Wellington House, Leamington, Hants.

MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, REVERSIONS and ANNUITIES, WINE, SPIRIT, and TIMBER WARRANTS, FURNITURE, SHARES, &c. Mr. RICHARD CROSSLEY, 17, Moorgate-street, Bank, E.C.

£1,000 IN CASE OF DEATH or an Allowance of 6l. per week while laid up by Injury caused by ACCIDENT OF ANY KIND, Whether Walking, Riding, Driving, Hunting, Shooting, Fishing, or at Home, may be secured by an Annual Payment of 3l. to the RAILWAY PASSENGERS' ASSURANCE COMPANY. MORE THAN 8,000 CLAIMS FOR COMPENSATION HAVE BEEN PROMPTLY AND LIBERALLY PAID. For particulars apply at the Offices, 10, REGENT-STREET, and 64 CORNHILL. WILLIAM J. VIAN, Secretary.

TEN THOUSAND POUNDS READY TO BE ADVANCED by the TEMPERANCE PERMANENT LAND AND BUILDING SOCIETY, on Freehold or Leasehold Property, for any period of years not exceeding fifteen, the mortgage being redeemable by equal monthly instalments Interest (in addition to a small premium), 5 per cent. on the balance each year.—Apply to HENRY J. PHILLIPS, Secretary. Offices, 34, Moorgate-street, London, E.C. NOTE.—More than a quarter of a million pounds sterling have been advanced upon house property alone.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 10l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or compulsion for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope. EDWARD HARPER, Secretary.

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD AND HEMP ROPE FALLS. H. PIGGOTT & SONS, 59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD

E. TAYLOR, Solid and Veneered HAND-RAIL and STAIRCASE MANUFACTURER, To the Trade, in Town or country, With Good Seasoned Materials and Workmanship, AT THE LOWEST PRICES FOR CASH. 3&7, CAMBERWELL NEW ROAD, LONDON.

UNDER THE PATRONAGE OF H.M. THE QUEEN.

THE LONDON PARQUETRY WORKS. The first Establishment founded in England (in 1841) for the exclusive manufacture of SOLID and PLATED PARQUET FLOORS and BORDERS, CEILINGS, and WALL DECORATIONS; and SOLE PATENTEES of the only system adapted to the English climate, whereby the effects of DRY-ROT, SHRINKAGE, and WARPING (so common to work manufactured in foreign climates) are EFFECTUALLY PREVENTED.—For Designs, Estimates, and List of above 200 Floors, &c. apply to THE LONDON PARQUETRY WORKS, Grove Lane, Camberwell; or their Sole Agents, Messrs. GILLOW & Co, 176, Oxford-street.

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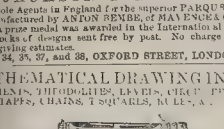


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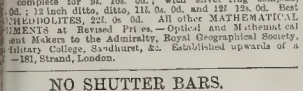
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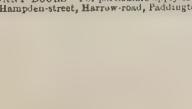
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ROBERT WHITE, SLATE MERCHANT,
SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames

BRICKS.—1,000,000 Good STOCKS.
A Quarter of a mile from railway-station, half a mile from the waterside To be seen in Maxey-road, Plumstead.—Address, W. G. DAWSON, Plumstead Common, S E.

BRICKS.—1,500,000 hard burnt Rough Stocks can be delivered, at low rates for cash, at the Bricklayers' Arms Station, as follows:—300,000 of last season's make, immediately, and 300,000 newly burnt, weekly, commencing the second week in MAY.—Apply to FREDERICK KING, Surveyor and Land Agent, Pope's Head Alley Cornhill, E.C.

BRICKS.—300,000 GREY STOCK BRICKS FOR SALE.—Apply to SAMUEL ANDREWS, Merchant, Hertford.

FIRE BRICK and CEMENT WORKS,
WOODEN BOX, near BURTON-ON-TRENT.
Established 1827
JOHN KNOWLES,
HAWLEY WHARF,
HAMPSTEAD ROAD, CAMDEN TOWN, N.W.
Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.
Crucible and Cement Clay, Wholesale and for Exportation.
EVERY ARTICLE MANUFACTURED AT THE ABOVE WORKS.
N.B These goods are supplied to the largest Steel Smelting, Armour Plate, and Crucible Works in the World, to which references can be given on applicat on.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of the plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
,, 8-inch Paving Tiles per 1,000.
,, Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
Ridge Tiles, 2s 73d. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS.
By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shenbury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA-COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER FACINGS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOOD
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Basin Wharf, Wapping, E

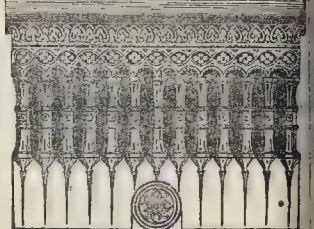
WANTED, near the Great Eastern Railway Station, ONE HUNDRED THOUSAND of SOUND WELL-BURNT GREY STOCKS, and One or Two Hundred Yards of good sharp Builder's Sand, to be delivered in quantities convenient to the advertiser.—Address, stating terms and other particulars, Mr. C. A LONG, 98, Bishopsgate, E.C.

RED BRICKS, STOCKS, PAVIORS PALE and BRIGHT YELLOW CUTTERS. ROBERT LITTLE, Brickmaker, Stoach, begs to inform Builders and the Trade generally that he is now prepared to Supply any quantity of good well burnt RED BRICKS (either plain, splay, or moulded), suitable for facings. Mr. LITTLE is able to lend Bricks for London, or other part, by either the Great or South Western Railways.—Bricks can be seen, and prices obtained, either at the Yard, Stoach, or on application to R. LITTLE, Great Western Railway, Windsor

OATES'S PATENT SOLID BRICK MACHINE.
Persons who may be contemplating MAKING BRICKS by Machinery are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make THIRTY PERFECT BRICKS PER MINUTE, stiff enough to be wheeled (as soon as made) to the kilns to be burnt; and from the time the clay is dug from the mine until the bricks are made and in the kilns for burning, does not exceed five minutes. To view apply to the GOVERNMENT DOCKYARD AUTHORITIES, PORTSMOUTH; JOHN GRUNDY, Esq. J.P. The Dales, Whitefield, Manchester; JOSEPH MARSDEN, Esq. Bolton le Moors, Lancashire; Mr J WALKER, Contractor, Patent Brick Works, Crewe, Cheshire; Mr GRADWELL, Hinlpool Saw Mills, Barrow in Furness, Lancashire; parties who are working the same, and have kindly consented to give every information
To treat, or for Drawings of same, apply to
Mr. OATES, ERDINGTON, NEAR BIRMINGHAM; or
OATES & BAYLIS, STOURBRIDGE.

BRICKS.
MESSRS. J. & W. EASTWOOD have a few freights of COWLEY, SHOEBURY, and KENT STOCK BRICKS FOR SALE, for delivery during MAY.
Belvidere-road, Lambeth, 5th May, 1864

PATENT HEATING and VENTILATING APPARATUSES,
For PUBLIC BUILDINGS and PRIVATE HOUSES.



SAVES IN FUEL 50 PER CENT.!
A prospectus, containing a full description of their action, and numerous advantages, will be sent on application to the Patentees,
G. LEWAL, 5 and 6, PHILPOT LANE, LONDON, E.C.
Agents Wanted.

THE FURNISHING OF BED-ROOMS.
HEAL & SON have observed for some time that it would be advantageous to their Customers to see a much larger selection of Bed-room Furniture than usually displayed, and that the cheapest as well as the most elaborate of the different descriptions of Furniture, it is necessary that each description should be placed in separate rooms. They have therefore erected large and additional Show-rooms, by which they are enabled at once to extend their Show of Iron, Brass, and Wood Bedsteads, and Bed-room Furniture, beyond what they believe has ever been attempted, but also to provide several small rooms for the purpose of keeping complete suites of Bed-room Furniture in the different styles.
Japanned Deal Goods may be seen in complete suites of five or six different patterns, some of them light and ornamental, and others of a plainer description. Suites of Stained Deal Goths: Furniture, Polished Deal, Oak, and Walnut, are also set apart in separate rooms, so that customers are able to see the effect as it would appear in their own rooms. A suite of very superior Gothic Oak Furniture will generally be kept in stock, and from time to time new and select Furniture in various woods will be added
Bed Furnitures are fitted to the Bedsteads in large numbers, so that a complete assortment may be seen, and the effect of any particular pattern ascertained as it would appear on the Bedstead.
A very large Stock of Bedding (HEAL & SON'S original trade) is placed on the BEDSTEADS.
The Stock of Manufactured Goods for the better Bed-rooms and Japanned Goods for plain and servants' use, is very greatly increased The entire stock is arranged in eight rooms, six galleries (each 120 feet long), and two large ground-floors, the whole forming as complete an assortment of Bed-room Furniture as they think can possibly be desired.
Every attention is paid to the manufacture of the Cabinet-work, and they have just erected large Workshops on the premises for this purpose, that the manufacture may be under their own immediate care.
Their Bedding trade receives their constant and personal attention, every article being made on the premises
They particularly call attention to their Patent Spring Mattress, the Sommier Patent Portable. It is portable, durable, and elastic, and lower in price than the Spring Mattress.
HEAL & SON'S ILLUSTRATED CATALOGUE of Bedsteads, Bedding and Bed-room Furniture sent free by Post.—196, 197, 198, Tottenham Court road, London.

TO BUILDERS AND OTHERS.
WILLIAM SKETCHLEY would call attention to his SAWING, PLANING, and MOULDING TABLE. It is adapted for sawing 12-inch deep and 9 inch 14-inch deep, and moulding 5 inch wide. It is also fitted with drunken saw and slide cramp for tenoning, &c. &c. The price of this to prepare 9-inch stuff is £70. It can be supplied to any saw table, and will prepare flooring in a first-class manner.—For further particulars apply to WILLIAM SKETCHLEY, Great George-street, Weymouth.

TO RAILWAY CONTRACTORS, EXCAVATORS, BUILDERS, and OTHERS.—TO BE DISPOSED OF, equal to new, a SET of Three-throw 6-inch Cylinder Barrel FORCE-PUMPS, 16-inch stroke, with metal buckets and valves, copper rods, slings, crank, plummer blocks, a pair of wood and iron gear driving wheels and brackets &c. with or without suction and rising main. Price £70. Also a PAIR of 5-inch FORCE-PUMPS, with side frames, bob-crank, buckets and rods, &c.—For particulars, apply at No. 17, Cromer-street, Grainger-road, Bermondsey.

WINDOW-BLIND MATERIALS.—H. & J. DOVE, 31, Ludgate-hill, London, E.C. SUPPLY the TRADE with every description of MATERIAL for INSIDE and OUTSIDE WINDOW-BLINDS, comprising Sun-Blind Ticks, Linen, Hollands, Buff, Green, and White Unbuns; Greek, Crimson, and Blue Taunnies; Fancy Printed Blinds; Cords, Tassels, and all kinds of Webs and Lines for Venetian Blinds; also every quality of Patent Sash Lines.—Price lists on application. Established A.D. 1797.

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SHUTTERS,
IN STEEL, IRON, & WOOD,
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PER FOOT.

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SOLE PATENTEES
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SELF-COILING SHUTTERS,
Which do not require Balance Weights or Machinery of any description,

Thousands of which are in daily use, being worked by Hand with the greatest facility. The WOOD SHUTTERS are lined with Steel Bands, affording every security. The STEEL SHUTTERS are in

ONE SHEET,

and from the hardness of material, and their construction, will defy the efforts of the most experienced Burglar, and afford an effectual protection against Fire.

THESE SHUTTERS RECEIVED
THE ONLY PRIZE
AWARDED AT THE
GREAT EXHIBITION, 1862.

Nine of CLARK'S Patent Self-coiling Steel Shutters have been fixed at MESSRS. MORLEY'S new Premises in Wood-street, the scene of the late

GREAT FIRE IN THE CITY,

the Revolving Shutters previously fixed having been removed.

Messrs. CLARK & COMPY. are erecting Shutters of immense size at the

THEATRE ROYAL, GLASGOW,

which was recently destroyed by Fire, as a safeguard for the future.

Their Shutters are also in daily use at all the principal Banks, Jewellers' Shops, Public Offices, Theatres, and Music Halls, in the United Kingdom. Testimonials of their great efficiency and ease in action received from many eminent Firms and Government Offices forwarded free, also Prospectuses, Estimates, and every information.

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LINCOLN'S-INN FIELDS,
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MESSRS. THORN & CO.
CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.
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Asphalte for Railway Arches and Iron Bridges

TERRA COTTA and Fine STONEWARE
POTTERY, warranted to stand Frost.
JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economized the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonise with Marble, Portland, and other Stones, and equal in hardness to Granite
A Medal at the International Exhibition was awarded, in Class 10 Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."
Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Cross-es, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c &c
Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.
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THE ARCHITECTURAL POTTERY
COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches square, hexigonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos verandahs; plinths, friezes, string courses, pilasters, &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their
NEW MANUFACTURE OF METALLINE TILES,
6 inches by 1 inch thick, in truck-loads of 4,000, from 63s. per 1,000 cash, delivered to Nine Elms. A 20, malt kiln, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks Specimens may be seen, and every information obtained, at the Offices, No. 33, Parliament-street S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

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IMPERISHABLE TESSELATED
PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
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PEAKE'S TERRO-METALLIC TILES,
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf Macclesfield-street North, City-road Basin, N. Thdly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor. and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
To obviate imitations of this beautiful material are being palmed upon the public, Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, Billiard-tables, Table-tops, Baths, Wall-linings &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

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COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

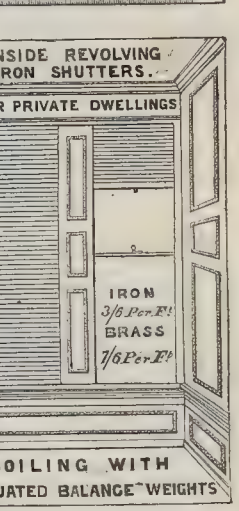
BARROW LIME.—JOHN ELLIS & SONS,
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With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
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At the above Works, and are now prepared to supply Cement of the best quality. Their Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

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WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.

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NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.

ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HALL, BROTHERS,

LATE OF

MERSTHAM GREY STONE LIME WORKS,

Resigned the above works on the 25th of March, at the expiration of their Lease, in consequence of being unable to effect such terms for a renewal as they could accept. The works have been used by them for nearly forty years, during which time a considerable business has been established; and now to give them up so unexpectedly, with only a few weeks' notice, without any remuneration for the trade, has caused to them great loss and disappointment.

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HALL, BROTHERS, CROYDON, OR REDHILL, SURREY.

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CEMENT MANUFACTURERS,

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For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

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MANUFACTURER OF PORTLAND CEMENT, OF THE BEST QUALITY ONLY, FOR THE ENGLISH AND FOREIGN MARKETS. VESSELS LOADED ALONGSIDE.

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HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it the per per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT"

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,
ST JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.

ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured on a large scale. This cement will carry more sand than any of the lias cements, so much of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.

LIME: Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or rail, and may be had fresh ground daily, by steam power, if required.

BRICKS from our fields in Kent, by the barge alongside, in the sewer vessels, or by cart from the above wharf, of good quality and at moderate price.

A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Fan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.

BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, NEAR ROCHESTER, KENT.

PORTLAND CEMENT WORKS, FREEN & COMPANY,

MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS; LIME BURNERS, AND LATH RENDERS.

MANUFACTORIES AND WHARFS:—

17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, S.W.
3, CANAL ROAD, KINGSLAND ROAD, N.; and FRINDSBURY, near STROOD, KENT.

FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.

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(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.

F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

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SAND, POTTERY WARE, &c. &c.

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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

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0 Yellow Battens ..... from £10 per 120
0 White Battens ..... from £9 per 120
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FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d. per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
HITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
LLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,
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FLOORING, DEALS, BATTENS, &c.

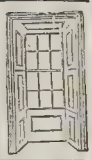
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅝-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.

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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with improved Steam Machinery especially adapted for the manufactures of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
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SMITH & McGAW



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BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 3½. per Load.
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	Spruce.	White.	Yellow
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⅝ by 7 ,, ...	13s.	13s. 6d.	11s. 6d. ,,
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
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STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brossley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
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Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
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ORNAMENTAL BUILDING BRICKS.
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Contracts entered into to set Retorts, erect Furnaces, &c.
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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
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And by the most eminent Engineers, Architects, Agricultural Societies of England, Scotland, and Ireland, as amongst others shown in Agricultural Society's House in Hanover-square. Its Advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any width, by 36 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the kingdom on application. DRY HAIR FELT, for covering Joists &c., also kept constantly in stock, and supplied at a very low price. The TRADE are respectfully informed that the Felt used in the Exhibition Building was supplied by F. McNEILL & CO.'S Manufactory, and all Letters and Orders for the Felt used therein should be addressed to the FACTORY, as the Contractors for the Building have no connection with the Sale of the Felt. Observe the Name and Address, F. McNEILL & CO., LAMB'S BUILDINGS, BUNHILL ROW. Beware of Spurious Imitations. The only Genuine Felt is made at F. McNEILL & CO.'S Manufactory, LAMB'S BUILDINGS, BUNHILL ROW. Each Roll bears a Label with McNEILL'S FELT on it. Sold at the CAMPS of ALDERSHOTT, CURRAGH, HOUNSLOW, and ONLY RESPECTABLE Agents of the Manufacturers in the Principal Towns of England. Also at the Depôts of the Royal Engineers, Royal Artillery, and Royal Marines. Price 1s. per Square of 100 Superficial Feet. A Liberal Discount allowed to the Trade.



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Maker of the Great Clock of the Tower of London.
The Village Clock, price 40 guineas.

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GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
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C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
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These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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Is used by Builders, Engineers, Ship Painters, Contractors, &c. &c. who are interested in preserving Iron, Wood, Stone, or Cement. For its work there is nothing equal to it. Its preservative and anti-corrosive properties render it universally applicable. It possesses a good body and colour for each dark ready, and the greatest recommendation of all, cheapness.
PRICE 2s.; 1 CWT. Samples sent if required.
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Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
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Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—
White Lead (warranted genuine), 29s. per cwt.
Linseed Oil, 3s. 4d. per gallon. Turpentine, 7s. 3d. per gallon
Fine Pale Oak Varnish, 7s. per gallon.
For cash, at FRANCIS TUCK'S Old-Established VARNISH and COLOUR WAREHOUSE, No. 148, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
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CLASS 35, No. 6849.

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The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, Obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

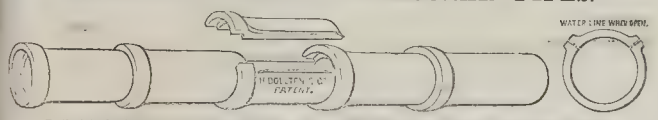
Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET

Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

, Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS, CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

MARCUS BOURNE NEWTON, LONDON AGENT.

DEPOT, No. 4, GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

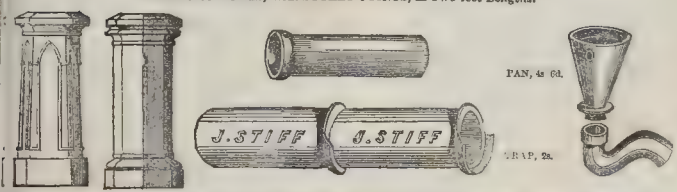
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

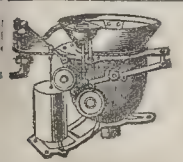


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person. 5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small. 6th. Under slate, metal, or tiles, it is a most effective non conductor.

INODOROUS FELT, for damp walls and roofs, for granaries and floor cloths. Price ONE PENNY per Square Foot.

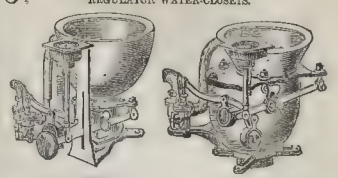
CROGGON and CO.'s PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. prevents the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

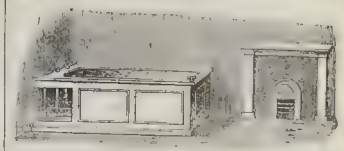
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No intern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

J. TYLOR & SONS' PATENT BATH APPARATUS.

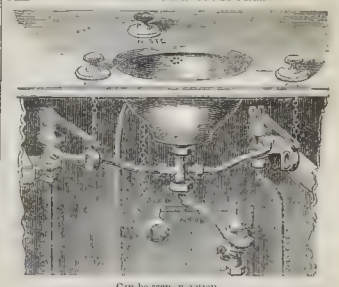


The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Of about three-fifths of pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATUS. ILLUSTRATED CATALOGUES FREE.



Can be seen in action

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 11. 18s.



Dispensing with Cranks, Wires, Balt, Lever, Servi e-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 1l. 8s. 0d.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 5,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves Gas Meters, &c. on the premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

SALES BY AUCTION.

EXTENSIVE SALE of BUILDING MATERIALS, LEADENHALL STREET and ST. MARY AXE, being the new buildings of the East India Home Estate Company

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 10th, at TWELVE, in Lots, the whole of the valuable BUILDING MATERIALS and FITTINGS UP of the extensive block of Houses at the corner of Leadenhall street and at Mary Axe, being Nos. 117 and 118, Leadenhall-street, and Nos. 64, 65, 66, 67, and 68, St. Mary Axe; comprising good sound brickwork, stout rafters, joists and other useful timber, plain and patent slates and slates, embossed and plate glass and other sashes, doors, panelled partitions, wainscoting, iron gs, marble and other chimney pieces, and interior fittings; plate glass and other shop-fronts, and 1 floor boards, lead flats, gutters, cisterns and pipes, iron columns, stone paving, coping and cills, stoves, erections of a baker's oven, and various useful fittings.—May be viewed the day previous, and catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gracechurch street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

METROPOLITAN RAILWAY, FINSBURY EXTENSION.—Building Materials of extensive Premises, in Red Cross street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, MAY 11, at TWO, in lots, all the valuable MATERIALS and FIXTURES of the extensive buildings and premises lately occupied by the Ripon Grammar Boy' School, and Dr. William's library, situate in Red Cross street: comprising oak and deal timber, in roofs and floors, slates, plain and pan tiles, glazed sashes, skylights, sash-frames, and interior fittings, doors, weather boarding fl oring boards, iron railing, stone paving, several tons of lead in flats, gutters, and pipes, cistern and other cisterns, ranges, stoves, &c.; also the valuable FITTINGS UP of the Library: consisting of mahogany bookcases (various sizes), 50 feet run, a range of walnut presses, a moveable oak spiral staircase, several thousand feet of shelving two tal. nailed, two pairs of gilt and lacquering doors, erection of strong room, with wrought-iron doors and other useful fixtures and fittings.—May be viewed the day previous. Catalogues had of Messrs. BUTCHER, Solicitors, 9, Sanctuary; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

The New Metropolitan Meat and Poultry Market.—Fourth Clearance Sale.—Building Materials of various Houses and Premises, Smithfield.

PULLEN, HORNE & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on FRIDAY, MAY 13th, and following day, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of several commanding houses and premises, situate in Red Lion-court, Whitbread's court, Charterhouse lane, and Green-hills rents, comprising excellent stock bricks, oak and fir timber, in roofs and floors, plain and pan tiles and slates, glazed sashes, doors, chimney-pieces, and interior fittings; flooring boards, shop fronts, lead gutters and pipes, iron railing, cisterns, stoves, heats of drawers, counters, shelves, and other useful trade fixtures.—May be viewed the day previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, Fore-street, E.C. and 40, Parliament-street, S.W.

CLAPTON.—Important Sale of BUILDING MATERIALS of Two Mansions, GROWING TIMBER, &c. on the Clapton Hill and Priory Estate, late the property of John Berger, esq. deceased.

PULLEN, HORNE, & EVERSFIELD are instructed by the Executors and Sub trustees to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 10th, and following days, at TWELVE precisely, in Lots, the whole of the capital MATERIALS and FIXTURES of the spacious Mansion-house, called the Grange Hall and the Priory, Lower Clapton; comprising 350,000 capital bricks, 5 squares of slates, prime oak and fir timber in roofs and floors, 20 pairs plate-glass sashes and French casements, parquet flooring, Italian marble and Spanish mahogany chimney pieces and handsome fluted iron with several plate-glass panels, 60 panelled doors, various; 120 squares of sound deal floor-boards, 5 squares of oak parquet flooring, false stairs, handsome and rich carved mahogany newels, the handsome joiners' work, lofty stone dressings, 50 squares of stone paving, 30 feet run of Portland pinnacle, and other ornamental stone dressings, about 5,000 feet run of iron railing and fencing, coach-house gates, racks, mangers, and stable-fittings; several tons of lead in flats, gutters, cisterns, and pipes, range and other boilers, stoves, and 4 pairs of copper bath, brewing copper, coach, blinds, and a great variety of useful fixtures and fittings, &c. Also a portion of the valuable TIMBER standing on the Estate.—May be viewed Catalogues had on the premises, and of Messrs. HAMMACK & LAMBERT, Architects, 29, Bishopsgate-street; at the Offices of the London and Suburban Land and Building Company, 69, Finsbury-pavement; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

EUSTON ROAD.—To BUILDERS and OTHERS.—MARBLE CHIMNEY-PIECES.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. A. Brine, to SELL by AUCTION, on the PREMISES, No. 1, Euston-road, near St. Pancras Church, on TUESDAY, MAY 24th, at TWELVE for ONE, one hundred and fifty MARBLE CHIMNEY PIECES, consisting of Sienna, Statuary, Siberian, black and gold, and other marbles, in every variety of style, which are in the first rate order.—May be viewed on Saturday and Monday previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, and 40, Parliament street, Westminster.

GREENWICH.—Three Lots of valuable FREEHOLD BUILDING LAND, with perfect of Water Frontage

MESSRS. GLASIER & SONS will SELL by AUCTION, in JUNE, at GARRAWAY'S, in one lot, three eligible FREEHOLD BUILDING LAND, having a frontage of about 200 feet, on Deptford Creek, slightly situate, with good approaches, from Rotherhithe and Deptford, and New Romney-road, Greenwich, with Lay shortly in hand of SAMUEL ARTHUR, Esq. 34, Broughton-square, of W. POPPLEWELL, Esq. Architect, 35, Craven-street, Strand; at GARRAWAY'S; and of the Auctioneers, 41, Charing-cross, S.W.

CASTLEBAR HILL, EALING.—Valuable FREEHOLD LAND, with beautiful Building sites, being a further portion of the Pitshanger Estate, divided into lots of about Two Acres each

MR. MOXON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, JUNE 2, at ONE o'clock, in several lots, about Two Acres of FREEHOLD LAND, most eligibly situate on the south-east side of Castlebar hill, near Ealing-park, in the parish of Ealing, within a few minutes' walk of the railway station, and seven miles from London; suitable for the erection of first-class villas, having a southern aspect, with a grand prospect, and overlooking the Valley, watered by the river Brent. Several excellent gravel roads already constructed and the ground well drained. Also, a valuable Freehold Building Estate, with Lay, will shortly be ready, and may be obtained of Messrs. LOWE, Solicitors, Tanfield court, Temple; and of Mr. WM. MOXON, 3, St. Martin's-place, Trafalgar-square.

IMPORTANT CITY FREEHOLD, comprising the Spread Eagle Hotel, Gracechurch street, with extensive Premises and Yards, containing 850 feet of ready 6, or square feet, adapted for advantageous rebuilding

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, in the month of JUNE (unless previously disposed of by private contract, of which notice will be given), the valuable FREEHOLD PROPERTY, situate in the City, known as the Spread Eagle, one of the most commercial interests of London are now being centered: comprising the principal public hall that would warrant establishment the Spread Eagle, Grace Church-street, with the extensive premises and yard, having a back entrance to Leadenhall Market; the whole containing an area of nearly 6,000 square feet, all forming one of the most important building sites to be found in the City, its advantageous position for rebuilding admirably adapted for refreshing as above, whereby a very large rental may be created, thus offering a desirable opportunity for the consideration of capitalists.—Particulars may be had (mid. of O. LUCAS, Esq. Solicitor, 20, Fenchurch street; of Messrs WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C. at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo-place, Pall mall.

BARK.—THREE HUNDRED TONS To TANNERS and OAK BARK MERCHANTS. New OAK COPPICE BARK, in the following Woods, TO BE SOLD by AUCTION, by

MESSRS. RICHARDSON, on FRIDAY, the 13th of MAY, 1864 at the GEORGE HOTEL, Stamford.

No 1 About 18 tons of new Bark, in Beam Wood, 3 miles north east of Stamford To view the same, apply to Mr J. FEATHERSTONE, Bourn

No 2 About 25 tons of new Bark in North Wood, 12 miles north-east of Stamford Apply to Mr J FEATHERSTONE, Bourn.

No 3 About 30 tons of new Bark in Peckworth Furnpike Wood, 7 miles north of Stamford.—Apply to Mr J. CHRISTIAN, Peckworth.

No 4 About 18 tons of new Bark, in Burghley Park, near Stamford.—Apply to Mr. J. SHARP, Burghley Park, Stamford

No. 5. About 28 tons of new Bark, in Easton Hillside, 2 miles south of Stamford.—Apply to Mr. J. SHARP, Burghley Park, Stamford

No 6 About 25 tons of new Bark, in Collyweston Great Wood, 4 miles south of Stamford.—Apply to Mr. J. SHARP, Burghley Park, Stamford.

No. 7. About 45 tons of new Bark, in Werthy Wood, near King's Cliffe, 7 miles south of Stamford.—Apply to Mr. J. SHARP, Burghley Park, Stamford.

No. 8. About 40 tons of new Bark, in Wakerley Wood, 8 miles south west of Stamford.—Apply to Mr W PEPPER, Wakerley.

Every attention has and will be paid to the Bark until it is sold. The whole is reserving the attention of all parties interested in the tanning and leather trades. Sale to commence at FIVE o'clock in the afternoon.—N B The Agent will be in attendance, and may be consulted on business, one hour prior to the sale, when all arrears must be paid

Burghley Park.

VAUXHALL-GARDENS ESTATE, LAMBETH, SURREY.—Valuable FREEHOLD BUILDING LAND, arranged in lots, suitable for the erection of Shops, Residences, Public Premises, Factories, and Business Premises; also GROUND RENTS, amounting to 460l. per annum

MESSRS. DRIVER & CO. are instructed by the Mortgagee, under power of sale, to submit to AUCTION, at the MART, in the Bank of England, on FRIDAY, MAY 13, in numerous lots to suit the convenience of purchasers, some very valuable FREEHOLD BUILDING LAND, situate in the parish of St Mary, Lambeth; comprising a considerable portion of the site of the late Royal Vauxhall gardens, and having frontages to Kennington-lane, Vauxhall-walk, and several new roads and streets, called Ann Khalde-street, Burnell-street, Bruton-street, Leopold-street, Gye-street, and Beaumont-walk The Vauxhall Station, on the South-Western Railway, and the River Thames are close to the property, affording ready access to all parts, as well as facilities for the transit of goods These will also include several lots of Ground Rents, amounting together to 460l per annum Detailed particulars, with plans, may be obtained at the Royal Vauxhall Tavern and other Inns in the neighbourhood; at the Auction Mart; of Messrs KEMPSON & TROLLOPE Solicitors, 31, Abingdon street, Westminster, and of Messrs DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 1, Whitehall, London, S.W.

PIMLICO IMPROVEMENTS.—To Builders, Dealers in Materials, and Others.

MR. GEO. HAINES is instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY and THURSDAY, MAY 11 and 12, at TWELVE o'clock, all the very excellent MATERIALS of FOURTEEN DWELLING-HOUSES and BACK Buildings, situate No. 33 to 36, Ranelagh-street; comprising half a million of sound stock bricks, lead and iron, slate and tiled roofs, useful timber, in rafters, plates, partitions, wainscots, doors, glazed sashes, fire and jamb, stoves grates, chimney-pieces, fixtures and fittings May be viewed.—Catalogues of Messrs. HAINES & SON, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square; and No. 12, High-street, Kensington.

PIMLICO IMPROVEMENTS.—Valuable Materials of Dwelling-houses and Livery Stable and Shop, with large plate glass windows.

MR. GEO. HAINES is directed to SELL by AUCTION, on the PREMISES, on MONDAY and TUESDAY, MAY 23rd and 24th at TWELVE o'clock, all the capital BUILDING MATERIALS of Nos. 37 to 44, Upper Eaton-street; comprising upwards of a million of prime stock bricks, lead work, slate and tiled roofs, excellent timber and fittings of the several floors of houses, stone stairs, landings, and other fittings, handsome, large fire and mantle pieces, plate glass front of shops, with doors and fanes in the same, patent ranges, kitchens, ornamental balustrades, balconies, and enclosure, a very large quantity of gas pipes, bath, water, patent range, and numerous useful fittings.—May be viewed Catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and at 12, High street, Kensington

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 18th day of MAY, 1864 at ONE o'clock precisely (Luncheon at Half past Twelve o'clock) for account of Importers.

- 28,000 Spar and Deals, Battens, and Ends
- 7,000 Quebec Pine and Spruce Deals
- 2,000 St. Petersburg Red and Whitewood Deals
- 7,000 Onega Red Deals, Battens, and Boards
- 3,000 Archangel Redwood Deals and Battens
- 3,000 4 by 9-inch Sundarne Red Deals
- 2,000 3 by 9-inch Sundarne Redwood Deals
- 5,000 Swedish Redwood Deals, Battens, and Ends
- 10,000 Fresh Norway Redwood Battens
- 60 Lots Quebec Red and Yellow Pine
- 40 Logs Quebec Birch
- 250 Loads Quebec Red Pine
- 400 Loads Quebec Pine
- 50 Loads Fresh Birch
- 30 Loads Fresh Quebec Elm
- 500 Loads Swedish Timber
- 100 Fresh Norway Masts
- 60 Pieces Yard Arm spars
- 20 Pieces Main ditto
- 500 Poles

} Cargo per "Viker," from Christiana

- 1,500 Memel Pine Staves
- Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

Canons' Marsh, Bristol, May 5th, 1864 F. K. BARNES & SONS, Brokers.

CHARING CROSS RAILWAY.—CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW are favoured with instructions from the contractor, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 17, 1864, at ONE o'clock punctually, the valuable and useful MATERIALS of SIX DWELLING HOUSES, in Upper Thames-street and Scot's-yard, and a WAREHOUSE, in Little Scot's-yard: comprising the whole of the sound stock bricks, oak, pine, and pan tiles, and slates of roofs, slate sills, and paving, 3 of 4 doors, sash frames, doors, and fittings, sashes and frames to match, fire-places, jambs, grates, hob doors, the lead in pipes, gutters, and ridges, and a variety of useful fixtures and fittings up to the time of the day prior and morning of sale, and catalogues had on the Premises; of the Contractors, 101, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 29, Soho square, W. and George-yard, Crown-court, 8, Ely-pl., W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass, suitable for any purpose can be put and WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the cheapest wholesale rates possible.

SPECIAL ESTIMATES given for supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS, MOSAIC, WATER GLASS and other CHURCH MURAL DECORATIONS.

MR. PREEDY, 13, York-place, Baker-street, Portman square, London, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL, 311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

STAINED GLASS for WINDOW DECORATION. GLASS MOSAIC and PAINTED OPAQUE GLASS for WALL DECORATION

J. T. LYON & CO. (late Moberly & Lyon), 14, BERNERS STREET, OXFORD STREET, W

Price lists, drawings, and estimates sent on application. Work executed on the most moderate terms compatible with excellence of design, material, and workmanship.

PAINTED DECORATION and STAINED GLASS.

CHARLES BLACKMORE, 372, EUSTON ROAD, LONDON, N.W.

Designs and Estimates submitted.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead, Zinc, and Wood Sash Bars, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath-street, City-road, E.C. Extra strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.

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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest prices.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Rough, Fluted, Rough Plate, Photographic, and every description of Glass.

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PATENT and BRITISH PLATE GLASS JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the year will be sent on application; they will also, on receipt of particulars, furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London

TO TIMBER MERCHANTS and OTHERS.

TO BE DISPOSED OF, a First-class ENGLISH and FOREIGN TIMBER, CEMENT, LIME, and SLATE BUSINESS, with extensive Premises, comprising large and commodious sheds for stacking Timber, cement, slate, &c. established for seven years, and every convenience for carrying on and extending the present Business of Wardside and Retail Timber Merchants, &c situated close to the Goods Station, Tunbridge Wells, Kent. The continued ill-health of the present Managing Partner being the sole reason for disposing of the business Stock to be taken at valuation.—For further particulars, apply to the Proprietors, Messrs. LEANEY & CAREY, Station-road, Tunbridge Wells, Kent.

PLUMBING and PAINTING BUSINESS Old-established at the West end, FOR DISPOSAL. Rent £70, on lease About 500l required.—Apply to Mr. JAMES REVELL, Auctioneer, 267, Oxford-street, W

TO BUILDERS and OTHERS.—TO BE DISPOSED OF, the GOODWILL and STOCK IN TRADE of a BUSINESS in the above line, that has been carried on successfully for the last twenty-five years; a good and substantial dwelling-house, with workshops in rear, capable of carrying on every convenience, the whole in full premises, to be let on lease or sold, the present proprietor retiring from age and other occupation.—Apply to Mr. APPERLEE, Timber Merchant, Church way, Islington-road N.W.

MEDWAY LIME and CEMENT WORKS. TO BE DISPOSED OF, the well-established BUSINESS, now in full operation, as MEDWAY LIME and CEMENT WORKS, situate at Halling, a station on the North Kent Railway, Kent, on the banks of the river Medway, together with its Machinery, Utensils, &c. The Works comprise a wash mill with drying floor, three cement kilns, a mill with three pairs of stones and crushing roll, engine house with pair of high pressure at-an-engines equal to 5 horse power, the steam boiler, chimney shaft, range of eight dumpshed Lime kilns, a large Silo, specially built, and 12-ward at stage near the Medway, with horse worked hydraulic power, &c. the whole occupied by the buildings being to extend 8a 2r 22p. The Rent £40 per annum. Buildings and plant of the capacity from which a sound trade can be done The Works have a high reputation for the quality of the cement manufactured, for which there is an unlimited demand. For terms to treat with the proprietors, Messrs. Jones, Wilkins, & Co. Halling, Rochester, Kent.

TO PLUMBERS and GLAZIERS.—An old-established BUSINESS, in the above line, to be DISPOSED OF. Carried on successfully for the late Robert Bright, now deceased, during five years extended to the present time. The Shop, Wandsworth, Goodwill, stock, fixtures, and lease, about 130l.—Apply to Mr. F. STOKES, High-street, Wandsworth

TO CARPENTERS, BUILDERS, UNDERTAKERS, and OTHERS.—GUILDFORD, SURREY.—TO BE LET with immediate possession, a genteel, good, old-established CARPENTER'S and BUILDER'S BUSINESS, doing a good respectable trade, in a very convenient premises, with stock in the yard, and the business. The present owner's health is the sole reason for his declining the business.—For particulars, inquire of Mr. DRURY, Auctioneer, &c. Guildford.

POLYTECHNIC.—Patron: H.R.H. the PRINCE of WALES.—The Christian Allegory of "The Knight with the Iron Hand" is exemplified by the Ghosts of Shakespeare. He calls up the Living Ghosts. Brooke's Patent Dissolving Views. He has taken Ghost a few inches high, in Professor Pepper's New Ghost Picture Entertainment (Limited Number of Seats). Also, a Lecture and Experiments on Electricity, and Mr. G. W. Jenkin's Vocal Sketch Entertainment. "A Dream in the Polytechnic," reader Gaston Murray, at the Harp. Mr. J. E. Pepper, esq. and Mr. Sidney Reid. Open Twelve to Five, and seven to Ten. Admission to the whole, 1s.; Saturdays (mornings, 2s 6d)

London: Published by CHARLES WYMAN, Printer, at the Publishing-office of Cox & Wyman, No. 74 to 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 7, 1864.

The Builder.

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1110. MAY 14, 1864. PRICE FOURPENCE. By Post, 5d.

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INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, Nine till Six. Admission, One shilling. Season Tickets, Half-a-crown. For lists of the Tuesday evening Lectures and other information, apply at the Gallery.
JAS. FERGUSSON, F.R.S. } Hon. Secs.
JAS. EDMESTON, F.R.I.B.A. }
Also the EXHIBITION of the SOCIETY of SCULPTORS.
MERTON EDWARDS, Hon. Sec

NATIONAL PORTRAIT GALLERY, 29, GREAT GEORGE STREET, WESTMINSTER. This Gallery will be OPEN to the PUBLIC on WHIT MONDAY and WHIT TUESDAY, between the hours of TEN and FIVE.—By order of the Trustees,
GEORGE SCHARF, Secretary and Keeper.

PLATE, SHEET, and CROWN GLASS.
T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

LEAD, COLOURS, OILS, VARNISHES.
T. MILLINGTON'S
New List on Application.
87, BISHOPSGATE STREET WITHOUT, E.C.

To Mr. JOHN BAKER, Abbots Iron Works, E. Dulk. Dover, April 5th, 1864.

Sir,

IN consideration of your not instituting any legal proceedings, we hereby express our regret for having infringed, unknowingly, your copyright design of Railway Bar No. 160707, and we beg to state that we have broken up all the patterns of same.

We are, Sir, yours truly,
(Signed) ISMAY SMYTH & CO.

DWELLINGS of the LABOURING CLASSES.—A CONFERENCE for the discussion of this subject is proposed to be held at the House of the Society of Arts, on TUESDAY and FRIDAY, the 26th and 27th of MAY, at 11 o'clock each day. Persons interested in the subject, and desirous of attending, are requested to communicate with the Secretary. By order,
P. LE NEVE FOSTER.
Society of Arts, John-street, Adelphi, London, W.C.
May 10, 1864.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
73–74, Bishopsgate-street Within, November, 1863.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, Conduit-street, Hanover square, W. May, 1864. Full particulars of the VOLUNTARY ARCHITECTURAL EXAMINATION, the Medals and Prizes for 1864, and the Pugin Travelling Studentship can now be obtained of the Librarian, at the Rooms of the Institute, as above.

COMPETITIONS.

TO ARCHITECTS.—The Directors of the Durham County Permanent Investment Land and Building Society hereby offer the following PRIZES for the best DESIGNS for WORKING MEN'S COTTAGES:—
FIRST PRIZE ..... 10 Guineas.
SECOND PRIZE ..... 5 "
The Cottages to contain three and four rooms respectively, and the cost not to exceed 100l per Cottage. Prices of labour and materials in the county of Durham will be furnished on application to the undersigned. The architects should keep in view the following qualities:—1. Accommodation; 2. Ventilation and Sanitary arrangement; 3. Style of Elevation; 4. Cost; and 5. Stability. All designs will remain the absolute property of the Society. William Crozier, Esq. C.E. County Architect; Mr. Alderman Williams, Chairman of the Sanitary Committee, Sunderland Corporation; and Mr. Joseph Ridley, Building Surveyor, have kindly undertaken to adjudicate the prizes for the two best designs. The designs are to be sent to the General Manager, sealed and endorsed "Designs for Working Men's Cottages," on or before the 24th JUNE next, marked with a motto, and with sealed envelope containing architect's address.
SAMUEL WOODHOUSE, Gen'l and Manager.
Offices, 23, Fawcett-street, Sunderland, April 21, 1864.

ALEXANDRA PARK COMPANY, LIMITED.—The Directors beg to notify that the FIRST PRIZE of 10l for the best DESIGN for laying out their BUILDING ESTATE at Muswell hill, has been awarded to the design marked "Acardo," the name being the object selection of Messrs Nelson, Charles Innes, and William Harvey, esqrs. The SECOND PRIZE of 5l was adjudged to the design marked "Invicta," the joint production of Messrs Wimble & Taylor and J. A. Bonsey, esq., and the THIRD PRIZE of 2l to design sent in by Mr. Alexander M'Kenzie. The unsuccessful competitors (their letters not having been opened) will kindly apply for their designs at the Company's offices
12, Tokenhouse yard, E.C. F. K. PARKINSON, Secretary.

CONTRACTS.

SALE of OLD BRASS, COPPER, and METAL, at the ROYAL ARSENAL, WOOLWICH.—Notice is hereby given that the Secretary of State for War is prepared to receive TENDERS for the purchase of a quantity of Old Brass, Copper, and Metal, which may be inspected at the Royal Arsenal, Woolwich, upon application to the Principal Superintendent of Stores.
Tenders must be made upon a printed form, which may be obtained from the Director of Contracts, War Office, Pall-mall; or at the Military Store Office, Woolwich; and are to be delivered at the War Office, Pall-mall, on or before the 25th MAY, 1864, addressed to the Under Secretary of State for War, and marked on the outside "Tender for the purchase of Old Brass, &c."
The Secretary of State reserves the right of rejecting any or all of the Tenders.
THOMAS HOWELL,
War Office, 10th May, 1864 Director of Contracts.

WAR DEPARTMENT CONTRACT.
NOTICE to BUILDERS.
TENDERS are required for the PERFORMANCE of certain WORK in connexion with ALLERATIONS and IMPROVEMENTS to Right Wing of Soldiers' Quarters, Hulme Barracks, Manchester.
Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 25th instant, and pay the sum of 10s. 6d. for the bill of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, 225, Shetford road, Manchester,
May 11, 1864.

ARMY CONTRACTS.—TENDERS will be received at this Office until TWELVE o'clock, Noon, on MONDAY, the 23rd instant, from persons who may be willing to enter into CONTRACT for the SUPPLY of FORAGE, in ovts, &c., as may be required, for four months, from the 1st JULY next, to 10th Nov. next, for the use of Her Majesty's Forces stationed at Aldershott Camp and within the command.
Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter addressed to the Storekeeper's Clerk, Office, or in person, between the hours of TEN and FOUR o'clock.
The Tenders must be properly filled up, signed, and delivered at this Office under closed envelope, marked on the outside "Tender for Forage," and no Tenders will be noticed unless made on forms obtained from this Office, and delivered by the hour above appointed.
Commissariat Office, Aldershott, 7th May, 1864.

VESTRY of ST. GILES, CAMBERWELL.
TO SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee will meet at the Vestry Hall on TUESDAY, the 24th day of MAY, 1864, at Half-past SIX o'clock precisely, to receive TENDERS for the EXECUTION of SEWERS WORKS, comprising about 1,850 feet 3 feet 9 inches by 2 feet 6 inches 1-brick sewer; 1,900 feet 3 feet by 2 feet 1 brick sewer; 100 feet 2 feet 6 inches barrel brick sewer; 3,800 feet 12-inch pipe sewer. Printed forms of Tender will be supplied, and no Tender will be received unless in a manner with the instructions contained in the specifications and conditions; and the parties Tendering must be in attendance when the Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wellstreet, Camberwell, between the hours of ELEVEN and THREE, on and after MONDAY next, the 16th MAY, 1864.
GEO. WM. MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, May 11, 1864.

CONTRACTS.

TO BUILDERS or CONTRACTORS.—The Directors of the Great Western and Brentford Railway Company are prepared to receive TENDERS for the CONSTRUCTION of about 750 lineal yards of BRICK WALLING, about 150 lineal yards of BRICK DRAIN, and about 40 lineal yards of TIMBER WHARFING, near to the Brentford Docks. Working drawings and specifications can be seen at the Office of the Engineer, F. F. MURRAY, Esq. 27, Great George-street, Westminster, on and after the 9th instant. Tenders, addressed to the Secretary of the Company, must be received at the Company's Offices, on or before the 23rd instant. The Directors do not bind themselves to accept the lowest or any Tender.—By order.
27, Great George-street, Westminster, S.W. May 9th, 1864.

TO BUILDERS and CONTRACTORS.—The Building Committee of the St. Thomas Lunatic Hospital are desirous of receiving TENDERS for the ERECTION of a new LUNATIC HOSPITAL on a piece of land near the Topsham Barracks, in the parish of Heavitree, Devon, according to plans and specifications which may be seen at my Office. Sealed Tenders are to be delivered to me on or before MONDAY, JUNE 13th, 1864, endorsed "Tender for Lunatic Hospital." The Contractor will be required to provide sureties for the due and satisfactory performance of the contract. The Committee do not bind themselves to accept the lowest or any Tender, and no payment will be made for estimates.
W. J. CROSS, Architect, Queen street, Exeter.
May 2nd, 1864.

LONDON and NORTH-WESTERN RAILWAY. TO CONTRACTORS and BUILDERS.—The Directors are prepared to receive TENDERS for the ERECTION of a LOCOMOTIVE ENGINE SHED (to contain sixty Engines) and OFFICES, at Edge Hill, Liverpool. Parties desirous of tendering may see the drawings, and obtain a statement of the quantities, upon application to Mr WILLIAM BAKER, Engineer's Office, Euston Station. All Tenders to be delivered on WEDNESDAY, MAY 18th, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary, at the Euston Station, to be sent in on or before WEDNESDAY, MAY the 18th. The Directors do not bind themselves to accept the lowest Tender.
CHAS. E. STEWART, Sec.
Euston Station, April, 1864.

TO CONTRACTORS, BUILDERS, and OTHERS.—DURHAM COUNTY JAIL. NEW WING TO THE FEMALE PRISON. The Visiting Justices are desirous of receiving TENDERS for the COMPLETION of the several BUILDINGS and WORKS for the proposed Additions of New Wing to the Female Prison of the County Jail in Durham. The plans, specifications for the respective works may be inspected and perused at the Office of WILLIAM CROZIER, Esq. C.E. the County Surveyor, County Courts, Durham, on and after WEDNESDAY, the 4th MAY next. Tenders to specify distinctly upon every part, and strictly in accordance with the prescribed Forms, which may be had and read over at the "New Wing to Female Prison, Durham," to be sent or delivered to the County Architect not later than TUESDAY, the 17th MAY next. The Visiting Justices do not pledge themselves to accept the lowest or any Tender.—By order,
JOHN TIPLADY, Deputy Clerk of the Peace.
Durham, 27th April, 1864.

PARISH of ST. MARY ABBOTTS, KENSINGTON, in the County of Middlesex. CONTRACT for BROKEN BLUE GUERNSEY GRANITE.—The Works, Buildings, and Sanitary Committee will meet at the Vestry Hall, Kensington, on FRIDAY, the 27th day of MAY instant, to receive TENDERS for the SUPPLY of 2,000 Yards of BROKEN BLUE GUERNSEY GRANITE, to be delivered at the Contractor's Premises at the New Dock, Hammersmith, free of all tolls and charges, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the Surveyor to the Vestry, the whole quantity to be delivered before the last day of SEPTEMBER next, and to be of best soap, hard stone. Guide as the Vestry may require, to the 30th day of APRIL, 1865. Forms of Tender and all particulars may be obtained on application at Mr. BROADBRIDGE'S Office, Vestry Hall, aforesaid. Tenders to be sealed, and endorsed "Tender for Granite," and to be delivered at his Office, before Twelve o'clock at Noon, on the day of FRIDAY, the 27th instant. No Tender will be received unless made upon one of the printed forms. The Vestry do not bind themselves to accept the lowest or any Tender. The contract to be under a written contract, and to pay for stamps thereof.—By order,
REUBEN G. PEN, Clerk of the Vestry.
Vestry Hall, Kensington, 11th May, 1864.

PERSONS desiring to TENDER for the ERECTION of a NEW CHURCH at BRITONFERRY, may see the Drawing and Specification at the Office of Mr. LEWIS, at Britonferry, on and after the 16th day of MAY next. Tenders are to be sent to the Rev. D. LEWIS, Britonferry, Glamorganshire, by SIX o'clock p.m. on FRIDAY, the 10th of JUNE. The right of rejecting all or any of the Tenders is reserved.
JNO PRICHARD, Diocesan Architect.
Llandaff, May 13th, 1864.

TO BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the ERECTION of a NEW HOUSE of STABLING, &c. at Hendre, Llanfair Dyffryn Clwyd, for Preece, Higgon, Esq., may see the plans and specifications at Mr. SINGLES', Llanarmon, Denbighshire, on MONDAY, the 16th inst. to MONDAY, the 23rd inst. between the hours of 10 in the morning and SIX in the evening. Tenders may be obtained by application to Mr. DAVIES, Surveyor, Ruthin. Tenders to be sent to Mr. MORGAN, Llanfair, on or before 11 o'clock, on the 25th inst. Mr. MORGAN does not bind himself to take the lowest or any Tender.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of a New CHURCH at Shadwell near Ashburton, may see the drawings and specification at the Rectory House, Shadwell, on and after the 23rd inst. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, 32 Staplehurst-street, Bristol, on or before 12 o'clock on the 2nd of JUNE next. No tender to be given to accept the lowest or any Tender.
May 14, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS. Persons desirous of submitting TENDERS for ALTERATIONS and DECORATIONS at the Prince of Wales Tavern, Prince of Wales Road, Kentish Town, St. Pancras, may see the plans and specifications on and after Monday at the Bar as above, on and after the 17th instant. The Tenders to be opened on the 24th instant. The Proprietor does not pledge himself to accept the lowest Tender.

THE Directors of the Great Central Gas Company are prepared to receive TENDERS for the TAR manufactured at the Works, for the year ending July 1st, 1865.—Particulars of quantity and delivery may be obtained on application to the Manager, at the Works, New Common, E. Tenders to be sent to the Office of the Company, 23, Coleman street, E.C., on or before 24th JUNE, 1864.
11th May, 1864.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the county of Middlesex, hereby give notice that they will be ready, at the Board Meeting to be held at Broadway House, Hammersmith, on WEDNESDAY the 1st day of JUNE 1864 at TEN o'clock precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for the LAYING DOWN, CONSTRUCTING, and completely FINISHING a certain intended BRICK SEWER, of about 1,675 feet in length, and other WORKS connected therewith, in the parish of Fulham from Waltham Green Church to the Great Western Road at North End. Plans specification, and detail drawings of the works to be executed may be examined and the form of Tender may, with other particulars, be obtained at Broadway House, Hammersmith, between the hours of TEN a.m. and FOUR p.m. on any day previously to the 31st day of MAY, 1864. The sealed Tenders to be addressed to the Chairman of the Board, on or before TEN o'clock of the said 1st day of JUNE, indorsed on the outside "Tender for Sewers," and the party whose Tender may be accepted will be required to enter into a Contract and Bond with two sufficient sureties, for the due performance of the undertaking, such Contract and Bond to be prepared by the Solicitor to the Board, at the expense of the Contractor. The Board does not pledge itself to accept the lowest or any Tender.—By order,
W. LOVELY, Clerk.

TEMPLE COMBE CHURCH, Somerset.—Persons willing to TENDER for the ENLARGEMENT and RESTORATION of the above-named Parish Church are invited to inspect the Drawings and Specifications at Temple Combe, on or after WEDNESDAY, the 18th INSTANT, at the Church-warden's, to whom also the Tenders are to be sent in by the 28th instant. No pledge is given to accept the lowest or any Tender.
F. C. PENROSE, Architect,
68, St. Paul's-churchyard, London, E.C.

TO BUILDERS, &c.—Notice is hereby given that PLANS and SPECIFICATIONS for RESTORING, Altering, and Enlarging the Parish Church of St. George, at Bentley, in the county of Southampton, 1 mile from Bentley Station, on the Basingstoke Railway, will be lying at Bentley Hall, from MONDAY, the 23rd, to TUESDAY, the 31st instant, both inclusive, Sunday excepted; and all persons desiring to contract for the execution of the work must send in sealed Tenders, directed to Mr. JAMES LOLTON, on or before WEDNESDAY JUNE 8th next ensuing. Neither the lowest nor any Tender will necessarily be accepted. The contractor, if required, must be prepared with two good and approved sureties, to enter into the usual legal bond for the due fulfilment of his contract.
Bentley Hall, May 7, 1864.

CROYDON LOCAL BOARD of HEALTH.—TO IRONFOUNDERS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for the manufacture, and delivery at the East Croydon Railway Station, of 9,000 yards of lineal and 2 yards of 9-inch IRON SOCKET PIPES and a small quantity of larger sizes, in accordance with the specification prepared by Mr. BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board, can inspect the specification and obtain forms of Tender at the above Engineer's Office, in the Town-hall Croydon, on and after TUESDAY, the 17th day of MAY. Sealed Tenders, and read "Tender for Iron Pipes," are to be delivered at the Offices of the Local Board, in the Town-hall, Croydon, on or before FOUR o'clock on TUESDAY, the 7th day of JUNE next.
11th May, 1864. HENRY RICHARDS, Clerk to the Board.

PETERBOROUGH UNION.—TO BUILDERS.—The Board of Guardians of the Peterborough Union are desirous of receiving TENDERS for the ERECTION of a CHAPEL, adjoining the Union Workhouse, at Peterborough. The Plans and Specifications may be seen, and every other particular known, on applying at Mr. HUTCHINSON'S Office, Architect, Bourne, on and after WEDNESDAY, the 18th instant, where they will remain until the 14th of JUNE next. The building to be completed within 12 calendar months from the 1st of JULY next. The Guardians do not pledge themselves to accept the lowest or any Tender, and they will require satisfactory security for the due performance of the contract. Sealed Tenders must be sent free of expense on or before FRIDAY, the 17th of JUNE next, directed to the Clerk to the Board of Guardians, Peterborough, and indorsed, "Tender for Chapel," but no Tender will be received after that day.—By order of the Board,
S. C. W. BUCKLE, Clerk to the Guardians.
Peterborough, 11th May, 1864.

TO BUILDERS.—Persons willing to submit TENDERS for the ERECTION of a SCHOOL for 100 Children, together with the necessary Offices and Teacher's Residence, at Emswell, in the county of Suffolk, are informed that the plans and specifications will be for inspection at the Fox Inn, at Emswell Heath on MONDAY, 16th inst. to SATURDAY, 21st inst. Tenders, upon forms supplied, to be forwarded by post on or before MONDAY, 30th inst. addressed to the Architect, Mr. R. J. WITHERS, 31, Bouverie street, London, W.C. and from whom further particulars may be obtained. The lowest or any Tender will not necessarily be accepted.
W. H. C. LUKE, Rector of Elmswell.
Elmswell, Suffolk, 7th May, 1864.

BUILDING MATERIALS.—The Guardians of the Poor of the Whitechapel Union are prepared to receive TENDERS for the PURCHASE of a BUILDING in Thomas-street, Mile End New Town, NEARLY the whole of the Workhouse of the Union, containing many thousands of excellent stock and other bricks, stone and other stairs and landings, tiles, lead, &c., and many useful materials. To be pulled down and taken away. May be viewed between Ten and Four daily, and Tenders must be delivered at my Office before FOUR o'clock on MONDAY, the 23rd MAY instant. Forms of Tender may be had on application at the Workhouse, no others will be noticed or received. The Guardians do not bind themselves to accept the highest or any Tender.—By order,
C. ADAMS FARE, Clerk.
Clerk's Office, White Chapel Workhouse, 11th May, 1864.

CONSERVATIVE LAND SOCIETY.—BISHOPS-STORTFORD ESTATE, HERTS.—TENDERS are invited for the CONSTRUCTION of ROADS and PIPE SEWERAGE, on the Society's Estate, at Bishop's Stortford. The following quantities are stated in order to indicate approximately the extent of the purposes intended, and the accuracy is not guaranteed:—

New Road, 21 feet wide, including Footpaths	61	feet run.
Existing Roads to be Widened 17 new Footpaths, and made good outside same	570	"
New 6 feet Footpaths	114	"
12-inch Pipe sewer	380	"
9-inch ditto	954	"
6-inch ditto, 15-inch and 9-inch sewers	No. 46	
Gully Cesspools, including Gratings in baked frames	No. 8	

The Earthworks will include cuttings and embankings to formation level of roads, cuts for cesspools, and levelling sundry hollows in the allotments. The plans, sections, and specification will be sent on application to Mr. JAMES WYLSON, 33, Norfolk-street, Strand, London, W.C. also at the offices of HENRY BAKER, Esq. Solicitor, Bishop's Stortford, "to the surveyor, on or before SATURDAY, MAY 28th. The Committee do not bind themselves to accept the lowest or any Tender or estimate.
33, Norfolk-street, Strand, London, W.C. May 12, 1864.

TO ROAD CONTRACTORS.—The PARISH of ST. GILES, CAMBERWELL, SURREY. The General Purposes Committee will meet at the Vestry Hall, on MONDAY, the 23rd day of MAY, 1864, at half-past SIX o'clock precisely to receive TENDERS for the REPAIRS of FOUR ROADS in the Parish; namely, Willow-brook road, length 600 yards; Crab tree Shot-road 480 yards; Lyndhurst-grove, 225 yards; Mawley-road and Emily-road, Old Kent road 350 yards, directed to be repaired by this Vestry, the particulars of which can be seen at the Office of the Surveyor, Mr. J. C. REYNOLDS, Office of Works, Wells street, Camberwell, on and after MONDAY next, the 16th MAY 1864.
GEO WM. MARSDEN, Vestry Clerk.
Vestry Hall, 11th May, 1864.

TO BUILDERS.—Builders desirous of CONTRACTING for the ERECTION of PREMISES at Everlands, near Sevenoaks, Kent, can apply, by letter only, for further particulars, to Mr. HARRY B. NEWTON, Architect, 6, Argyle-street, Regent-street, London, W.

TO BUILDERS.—In CHANCERY.—HOWARD v. KAY.—TRING PARK ESTATE, HERTS.—TENDERS are required for PULLING DOWN the present HOUSE and HOME-STEAD, and ERECTING a new FARMHOUSE and BUILDINGS, at the Longmarsh or Great Farm, in the occupation of Mr. John Fulks, on the above estate. The plans and specifications may be seen on application to the Surveyor, Mr. A. T. PARKES, Tring, Herts, on and after the 17th day of MAY, 1864. Tenders to be sent to or delivered at the Office of Messrs. J. & W. SALSWORTHY, 12, Old Jewry Chambers, E.C. London, on or before the 10th JUNE, 1864, after which day no Tender will be received; but the lowest or any Tender will not necessarily be accepted. Good security will be required for the due performance of the works.
ALEXR. THOS. PARKES, Surveyor
Tring, Herts, 11th May, 1864.

TO SPIRE BUILDERS.—The Committee of St. Gregory's Church, Cheltenham, are prepared to receive TENDERS for the intended COMPLETION of the TOWER and SPIRE.—Plans and specifications can be seen on application to the Rev. JAMES COTHAM, 3, Somerset-place, Cheltenham; or at my Office, in Clifton.
CHARLES F. RANSOM, Architect.
Rock House, Clifton, May 9, 1864.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the West Worthing Investment Company (limited) are desirous of receiving TENDERS for the ERECTION of an HOTEL and BUILDING upon the Company's property at West Worthing, in the county of Sussex.—Plans, specifications, and specifications may be seen at the Office of the Architect, G. A. DEAN Esq., 1, Lyt-after place, Strand, London, W.C. on and after SATURDAY, the 21st instant. TENDERS, addressed to the Secretary, and endorsed "Tender for Hotel," must be delivered at the Company's Offices on or before ONE o'clock on TUESDAY the 31st inst. Security will be required for the due performance of the Contract, and the Directors do not pledge themselves to accept the lowest or any Tender. By order
Offices, 27, Great George-street, Westminster, S.W.
13th May, 1864.

PENARTH HARBOUR, DOCK, and RAILWAY.—NOTICE to CONTRACTORS.—The Penarth Harbour, Dock, and Railway Company are prepared to receive TENDERS for the CONSTRUCTION of a ROAD from the Penarth Harbour to the Town of Cardiff. The work will include Two Swing Bridges of wrought iron; about 330 yards of Viaduct, to be composed of wrought iron girders and timber, stone pitching, earthwork, masonry, and retaining. Specifications and Drawings may be seen at the Engineer's Office, at the Penarth Dock Works, on and after the 10th inst., and Tenders, endorsed "Tender for Road," must be sent in on or before the 28th inst. addressed to the undersigned, Penarth Harbour, Dock, and Railway Company, Cardiff. Engineers, Messrs. HAWKSHAW & DOBSON. Mr. DOBSON will be at the above-named office on the 17th and 20th inst. The Directors do not bind themselves to accept the lowest or any Tender. By order of the Directors,
Cardiff, 10th May, 1864. BOOTH BACON, Secretary.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a BAPTIST CHAPEL and VESTRIES at BROMLEY, in Kent, may inspect the plans, and have copies of the quantities, and other information, on application to the Architect, Mr. R. H. MOORE, 16, Welbeck-st. Manson House, where the Tenders are to be delivered, not later than the 27th instant. The Committee do not bind themselves to accept the lowest Tender.

TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of STABLE OFFICES at West Dulwich Park, Sussex, for Sir Percy Burrell, bart. M.P. may see the plans and specification at West Dulwich, on application to the Clerk of WORKS.—Tenders are to be delivered to the Architect, at TWELVE o'clock at noon, on MONDAY, the 30th inst. Sir Percy Burrell does not bind himself to accept the lowest or any Tender.
S. S. TECLON, Architect,
3, Craig's court, Charing cross.

SASH-WEIGHTS, all sizes; Lava Cement, for fixing railings and other ironwork at a fraction of the cost of lead; Stoves, Ranges, &c.; and all kinds of Castings FOR SALE, by D. M. BURR, 15, Liverpool street, Bishopsgate, London, E.C.

POWERFUL TRAVELLER (Jenny), for SALE, 40', Also 25-ton CRANE 20' and a TIMBER CARRIAGE.—G. HELMORE, Abingdon Wharf, Westminster

TO IRON SHIP and WAREHOUSE BUILDERS and OTHERS.—WROUGHT IRON GIRDERS.—About 1,200 lineal feet, in lengths 25 feet 1 inch suitable for shed or roof, traveling ways, or warehouses, equal to new, to be sold very cheap. Apply to SAMPSON MOORE, North End Boiler Yard, Dee, Great Howard street, Liverpool

TO CONTRACTORS, IRON MERCHANTS, and OTHERS.—TO BE SOLD, by PRIVATE CONTRACT, about 20 tons Welsh 24 round IRON in 17 feet lengths.—Offers for the same at Poole Railway station to be made to Messrs. W. WILKINSON & CO. Foundry, Poole.



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FRENCH BAND SAW BLADES.

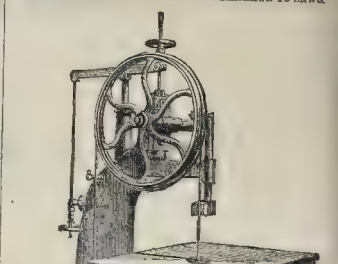
SAMUEL WORSSAM & CO. having purchased of M. Perin, of Paris, the sole right to import and sell his BAND SAW BLADES throughout the United Kingdom, beg to announce that they are now in a position to supply these Saws from 1-16th of an inch to 8 inches in width, and up to 50 feet in length.

The vast superiority of Perin's Band Saws over any others in point of finish, toughness, durability, and evenness of temper, is now everywhere admitted.

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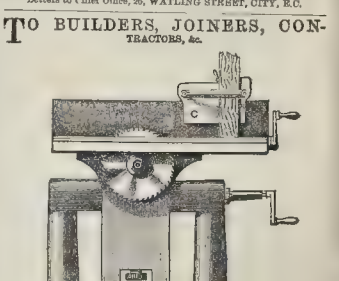
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SAW MILL ENGINEERS,
304, KING'S ROAD, CHELSEA, S.W.

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Awarded for a Collection of FIRST-CLASS MACHINERY for WORKING WOOD, being the "HIGHEST COMMENDATION" attached to any medal in this class.
IMPROVED ENDLESS BAND-SAW MACHINE, WITH PATENT ADJUSTMENT FOR PREVENTION OF BREAKAGE TO SAWS.



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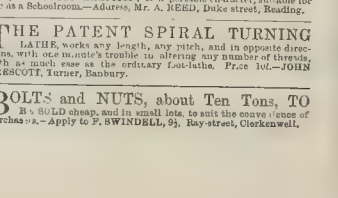
TO BUILDERS, JOINERS, CONTRACTORS, &c.



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SAMUEL WORSSAM & CO. having long felt the importance of introducing a LABOUR-SAVING MACHINE, which by combining several operations at a moderate cost, should meet the requirements of builders and others engaged in the conversion of timber, beg to offer for this purpose their "General Joiner" as above, which in its present greatly improved form, will, with 3-horse power, do the work of at least fifteen skilled joiners, in SAWING, CROSS-CUTTING, and SQUARING, PLANING and THICKNESSING, MORTISING, TENONING, GROOVING, TONGUEING, RABBETTING, BORING, BEADING, MOULDING, CHAMFERING, &c. &c. For priced illustrated circulars, apply to S. WORSSAM & CO. Saw-Mill Engineers, King's road, Chelsea (sole manufacturers), where the "General Joiner," and samples of the work may be seen.

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THOMAS ROBINSON & SON,
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London Office, 5, Adam-street, Adelphi, W.C.

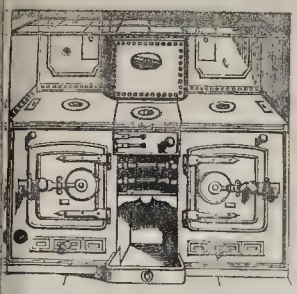


IMPROVED SAW-BENCH,
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Manufacturers of Sawing, Planing, Moulding, and Wood working Machinery of every description, suitable for Builders, Contractors, &c. Steam Engines and Boilers, Shafting, Gearing, &c.
Full sets of Wood-working Machinery to be seen in operation daily at the Works, Rochdale.

WANTED, on HIRE, an IRON or WOODEN ERECTION, of a portable character, suitable for use as a Schoolroom.—Address, Mr. A. REED, Duke street, Reading.

THE PATENT SPIRAL TURNING LATHE, works any length, any pitch, and in opposite directions, with one minute's trouble in altering any number of threads, with as much ease as the ordinary foot-lathe. Price 10l.—JOHN PRESCOTT, Turner, Banbury.

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Buyers of the above are requested, before finally deciding, to visit

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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 16*s.*; Bronzed Fenders, with standards, 7*s.* to 8*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*, ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 16*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
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Manufactured in WROUGHT and CAST IRON, and ERECTED.
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THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

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PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

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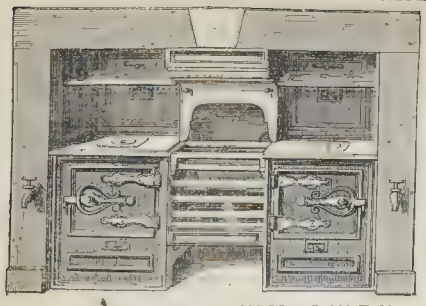
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The Ovens are heated upon Bradley's Patent Principle (under which W. O. possesses the sole right to manufacture), and by which a great economy of fuel is effected.

These Kitcheners are made of all qualities and sizes, suitable for all classes of houses, from the cottage to the mansion; and can be OBTAINED THROUGH ANY IRONMONGER in the UNITED KINGDOM.

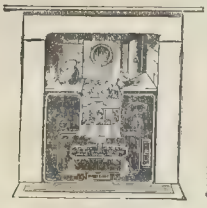
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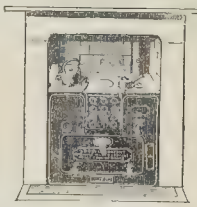
WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

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Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-circle Range, also CUNDY'S Patent Original FIRE BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the SHOW-ROOMS of the



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Patent Self-adjusting Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

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and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

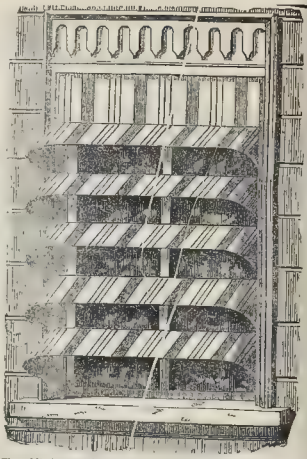
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IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

PATENT HELIO-SCENE SUNBLIND.



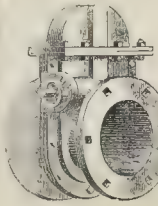
These blinds give a highly decorative finish to the front of a house, as they are fitted in frames of any design, the cases fitting into reveals of windows as other outside blind cases. The prices are the same as Spanish blinds. R. LOWTHER & Co. Manufacturers of ALL DESCRIPTIONS of SUN BLINDS. Works, South Lambeth and Vauxhall. OFFICES, 31, REGENT-STREET, LONDON. A liberal discount to the trade.

WINDOW-BLIND MATERIALS. —

H. & J. LOVE, 31, Ludgate-hill, London, E.C. SUPPLY the TRADE with every description of MATERIAL for INSIDE and OUTSIDE WINDOW BLINDS, comprising Spring Blind Tacks, Linen Hollands; Buff, Green, and White Unions; Green, Crimson, and Blue Tammies; Fancy Printed Blinds; Cords, Tassels, and all kinds of Webs and Lines for Venetian Blinds; also every quality of Patent Sash Lines. Price lists on application. Established A.D. 1777.

TO BE SOLD, a PIPE-MACHINE,

Spencer's patent (patent expired), with all dies, from 3 inches to 15 inches, complete. Address, A. B, Office of "The Builder."



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IMPROVED GAS VALVES,

With Wrought-iron Pistons.

From 2 in. to 18 in. price 9s. 6d. to 12l. per in. diameter.

List of prices, with full dimensions of all sizes up to 36 in. to be had on application.

These Valves are all proved on both sides to 50lb. on the square inch before leaving the works, and are always kept in stock.

Valves made with outside screw if ordered.

Also Screw Water Valves, with gun-metal faces.

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For progressive and general improvements in
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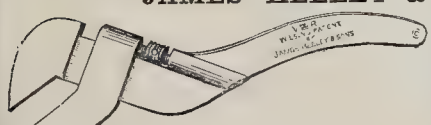
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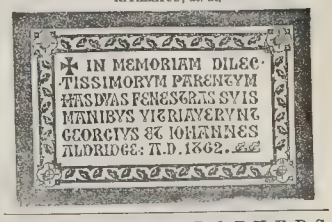
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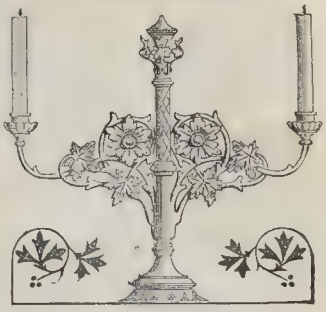
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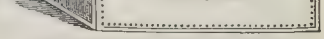
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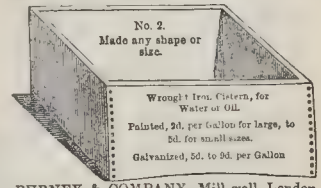
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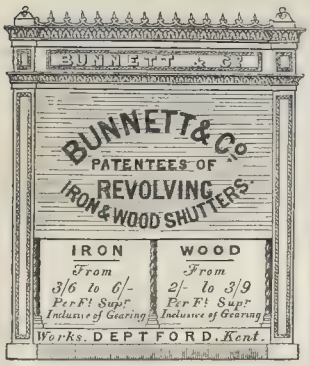
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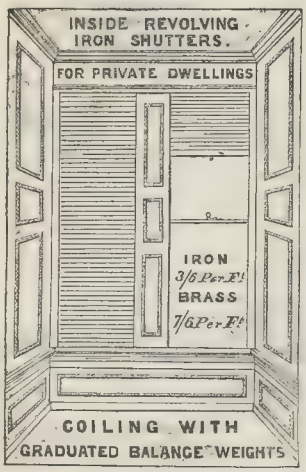
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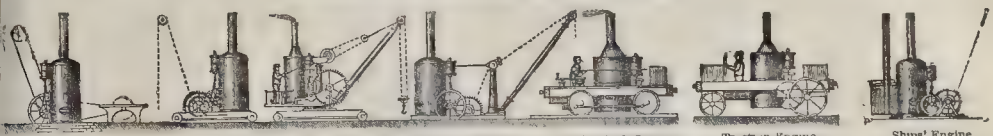
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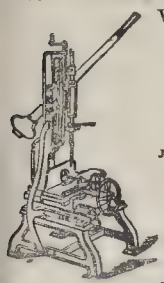
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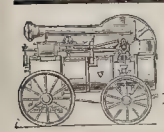
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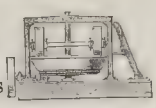
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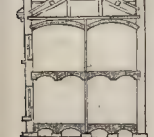


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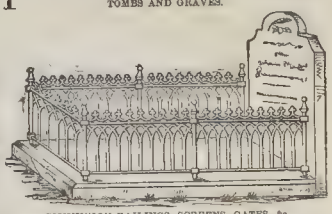


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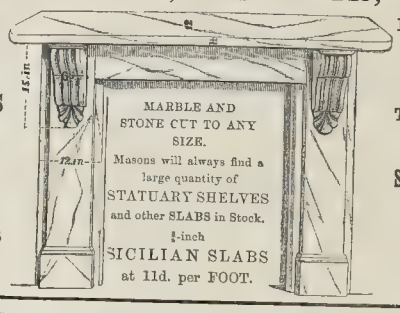
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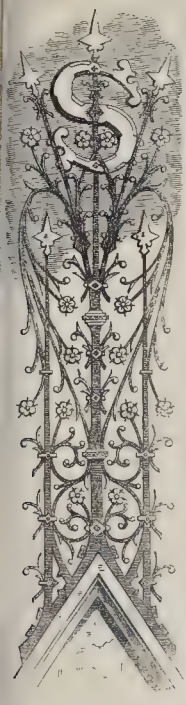
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The Builder.

VOL. XXII.—No. 1110.

Knole.



EVENOAKS and Knole are hard by. An hour on the London, Chatham, and Dover line, though the road is roundabout, with a short ride or a walk at the end, will take you there from London, to enjoy the quiet delights of a charming country and one of the most complete of the old Homes with which this England is sprinkled; a home full of quaint furniture and portraits of men and women whom the world knows. It is worth all the physic in all the hospitals to get away now and then into the country at this budding time. Who can resist the influence of a bright spring morning, the pure air as exhilarating as champagne and much more innocent? The blood flows, the chest expands, the spirits mount, difficulties are less thought of, troubles grow lighter, and to live is an enjoyment:—

> "Welcome every breeze and show'r;
> Sun that courts the blossom;
> Every new delicious flow'r
> Heap'd in Maia's bosom!"

The advent of spring is a perpetually recurring miracle. The blossoming of Aaron's rod once has been a marvel for ages: the annual blossoming of the earth, the periodic resurrection, is taken as a matter of course and little regarded. The present is a forward spring: the trees are in full leaf; the pear tree, as well as the cherry, has on its bridal dress of white, and the lilac, "many-plumed," is fully out and makes a glorious show.

Before going up to Knole the church may be looked at and into. A portion of it, at the west end, may be of the early part of the fourteenth century, but the main structure is later: the style Perpendicular of most prosaic kind. Amongst the monuments is one for Lawyer Lambarde, born in 1530, the earliest of county historians, and who also wrote "Eirenarchia." A book on Great Britain he put on one side because he found Camden was at work in the same direction; but it was afterwards published. He founded a school in Greenwich; and in a church in that town, now destroyed, this monument originally stood. A little bit of printing, however, preserves there the memory of his good deed. Writing is a more formidable opponent to Time than marble and stone. Geffrey Whitney, one of the Emblem writers of the sixteenth century, puts this truth quaintly:—

> "Then what may laste, which time dothe not impeache,
> Since that we see these monumentes are gone:
> Nothing at all, but time doth ouer reache,
> It eates the steele, and weares the marble stone;
> But writinges laste, though yt doe what it can,
> And are preseru'd, euen since the worlde began."

Another monument in Sevenoaks Church, one at the chancel end, gives us a grievance. The mention of it may, by chance, put things right. It records how Sir William Boswell left money for various good works, including the foundation of scholarships in one of the universities, and for apprenticing a certain number of poor boys of the town to handicrafts. The scholarships and other stipulations appear to be kept up; but inquiry forces us to believe that poor boys are not apprenticed. Admit that circumstances may have led to extra calls upon the funds, still there is no reason why the *poor* boys should bear all the loss, and we invite the parish authorities forthwith to "look to 't."

The School of Sevenoaks, founded, at the beginning of the fifteenth century, by Lord Mayor Sevenokes, who had his name from this town, where he was found when an infant, is understood to be a good one. Presently Sevenoaks will be brought even nearer to London than it is, by a new line of railway. The shafts by which a required tunnel is being formed may be seen from the well-kept gardens of the Royal Crown; whence, too, is had a good view of part of fruitful, beautiful, and story-full Kent (in British times, perhaps, the Caint or open country), including Kippington Park, now occupied by Mr. John Jay.

However, we must not longer tarry by the way, but get up to Knole; and, taking no count at present of the park, wherein we can ramble on our return, pass through the noble gate-house into the first court or quadrangle carpeted with grass: then, through an opposite archway to the second quadrangle, paved, and so into the great Hall of the house. In going through the courts, notice how the leaden rain-water heads are drawn out in length, with ornamental form, so that the pipes may come down midway between openings, or otherwise symmetrically; which would not be the case if they were placed directly under the mouth of the gutter. These courts, collegiate in character, have an air of repose which is soothing. As Tennyson sings,

> "This look of quiet flatters thus
> Our home-bred fancies."

We have no intention to describe the house or its contents: this has been done again and again. We would but gossip and incite. Let us, however, in a dozen lines, say with the guide-books that Knole was one of the many palaces belonging to the see of Canterbury, having been purchased in 1456 by Archbishop Bouchier, who rebuilt the greater part, if not the whole of the house, and left it to the see in 1486. After Cranmer, it came into the hands of King Henry VIII.; and, after changes, Queen Elizabeth, in 1603, granted the reversion of it to Thomas Sackville (the poet), afterwards Earl of Dorset, whose family have since retained possession of it, though, for a short time, in the reign of Charles II., it was alienated. The first earl formed the Hall, a handsome apartment with richly carved oak screen, now painted and varnished! The interior generally was then re-arranged and fitted up; and, from that time to this, with additions made in the next reign or two, it has remained a well-preserved specimen of a seventeenth-century house. This, with the remarkable collection of portraits it contains, including some by Vandyck and Holbein, constitutes its chief attraction. It exhibits no great architectural beauties, and the rooms are, for the most part, low and plainly fashioned; but there it stands, an untampered-with piece of past time with many associations. Things valueless at first, become priceless as time passes: as Schiller writes,—

> —— "Time consecrates;
> And what is gray with age becomes religion."

"And who," says an acute friend at our elbow, looking through the rooms, "who is forming a nineteenth-century house? Surely all that we are now doing in the way of furniture and pottery, carving and painting, though it may be in the shape of revival only, would interest those who come after?" No doubt of it; and such collections are being formed here and there, though with no view, perhaps, to the pleasure and advantage of posterity.

Sir Humphry Davy wrote of neighbouring Penshurst:—

> "Through thy deserted chambers I have walk'd,
> Musing on elder times,—cheering my mind
> By memories of the great and noble dead.
> Within thy walls the first high spirits breathed
> Who, through the darkness of the feudal times,
> Threw the bright light of letters and of arts,
> And to the warlike temper of the age
> Gave softness and the charms of social life."

This may be too lofty praise for Knole; but the latter has a long list of illustrious names connected with it, from the Earls of Pembroke, the Bigods, the Says, Protector Somerset, and Dudley Earl of Leicester, down to Tom D'Urfey, the wit, who wrote "Pills to Purge Melancholy," and lived there for some time. His portrait, and a little picture by Vanderguchtt, showing him carousing with some of the household, while the artist behind a curtain makes the sketch, records his connexion with the house. In the Dining-room, where these hang, are portraits of Dryden, Congreve, Pope, and others, who were visitors to the last earl, as well as of Reynolds, Goldsmith, Garrick (all by Reynolds himself), Handel (by Denner), Ben Jonson, Swift, Addison, and many other literary celebrities, with an interpolation of more recent time, Sir Walter Scott. Of Baron Theodore Mayerne, the eminent physician, for the destruction of whose tomb in the vaults of St. Martin's-in-the-Fields a lament was uttered in our pages, when speaking of Mytens lately, there is also a portrait. After serving Henry IV. of France Mayerne, came to be physician to King James I. of England, who made him *Sir* Theodore.

Shutting your eyes, it is not difficult amidst such associations to bring down these wits and poets from out their frames, to fill again with their forms the handsome old chairs placed against the wall, and to hear something like what their conversation in jovial hours may have been. They would stare at Sir Walter, but Dryden and some of the others would have to give thanks for his praise when they knew him. At one of the meetings here, if tradition deceive not, when Glorious John was present, the company were to try who could write the best impromptu, and the poet was named the judge. The first he read was the earl's: "I promise to pay Mr. John Dryden on demand the sum of 500*l*.,—Dorset:" and he thought it unnecessary to read the others before giving his verdict. The story has been often told; but, as serving to bring the men before us, will not be thought a vain repetition.

The Brown Gallery contains a number of historical portraits, some of them good, and some of them not; the whole, however, teaching if nothing else, contentment; since they say, with tolerably loud voice,—

> "A little rule, a little sway,
> A sun-beam in a winter day,
> Is all the proud and mighty have,
> Between the cradle and the grave."

Why, then, repine? Why, then, envy?

In this same gallery is a portrait of Ninon de l'Enclos, at the age of seventy, and looking more like twenty-five. Ninon, the Aspasia of her time, lived till ninety-one, and died in 1706. Two or three of the best heads in the gallery, by the way, hang near hers. In the Spangled Bedroom there is a well-carved ebony cabinet.

In the Leicester Gallery are several pictures, amongst others, by Mytens, of whom fresh information was given in our pages recently. His copies of some of Raffaelle's cartoons are in another part of the house. The well-dressed housekeeper calls him My-tens, as do some better authorities; but so he was not called during his life; as may be seen in all the warrants referring to him, and other documents of his time, such as the register of St. Martin's-in-

the-Fields, wherein the name is invariably spelt, from the sound, Myttens or Mittens.*

By the side of the fire-dogs in the Cartoon Gallery, by the way, are two small figures of Asiatics, carved in wood, and with the drapery from below the waist painted like life,—carved so vigorously and painted so harmoniously that they leave a vivid impression on the mental retina.

The chapel is poor; in the ante-room there is a good ancient carving of the Crucifixion, including a number of small figures: the expression in many of them is excellent. This group is further interesting from having belonged to Mary Queen of Scots. In the Crimson Drawing-room, with some other very good pictures, hang the Ugolino, an Infant Samuel, the Robinetta, and the portrait of Madame Schindlerin, all by Reynolds.

The King's Bed-room, so called from having been fitted up for James I. (notice the remarkable picture of this weakly king in another apartment), has a bed that cost 8,000*l.* at that time, and was once handsome. The hangings of gold and silver tissue, lined with satin, have now, however, lost all their beauty. Handsome beds and hangings were used in England as early as the fourteenth century, if not before. Allusions to them are often found in the romances of the period. Thus, in Syr Bevys, of Hamptoun, mention is made of—

> —— "Beddes of silke echon,
> Quiltes of gold thar upon."†

And so in "The Squire of Low Degree,"—

> "Your head shete shall be of pery pyght
> With dymondes set and rubyes bryght.
> When you are layd in bed so softe,
> A cage of golde shal hange aloffe."

The large picture in the King's Chamber is by Janssens, and represents Gaspard de Coligny, the noted Huguenot admiral (who was slain during the massacre of St. Bartholomew, 1572), and his brothers. Two days before the massacre he had been shot at by the instigation of the Duchesse de Nemours, but was missed. The silver ornaments with which this chamber, as well as some of the other apartments, is adorned, are ineffective. There are several pairs of andirons or fire-dogs (called in old inventories aundhyryns, andirnes, and hawnd-iryns), in various parts of the house worth notice, especially those in the hall, which were brought from Hever Castle, and are marked with the initials of King Henry VIII. and Anne Boleyn. The antique statue in the hall, by the way, called Demosthenes, is fine both in pose and in respect of the drapery.

Before we again pass out into the park, let us offer praise justly due to the present possessor of Knole for the care that is given to the preservation of the pictures, and the way in which the house and its interesting contents are surrendered during several days in the week for the enjoyment of visitors.

The park is nearly six miles round, and contains some noble trees; while its undulating surface shows sheets of vivid green, spotted with clumps of foliage, with troops of deer (notice the white ones), passing noiselessly across the glades and in amongst the trees. It was a good-natured old lady who came back on her road, thinking we were strangers, to point out to us where the shell of a mighty oak, called "old" two centuries ago, would be found, and where stood the noted beech-tree,—truly, a glorious growth, and nearly 30 feet in diameter. We shall have carried on the obligation if by this note we lead any of our readers to search out for themselves these monarchs of Knole Park.

* See p. 309, *ante*.
† Quoted in Parker's "Domestic Architecture."

THE DESIGNS FOR PROPOSED MUSEUMS, SOUTH KENSINGTON.

IN order that certain grounds of objection by some of the authors of designs, in the matter of the award of premiums in the competition for the proposed buildings at South Kensington, as well as our description of the drawings, may be understood, we preface the present notice with a statement of particular conditions amongst those issued by the Office of Works, that were not completely given in our first article.*

The designs required, were stated, first, as to be "for public buildings to be erected on the land," "used in 1862 for the International Exhibition" (excluding the ground occupied by the Annexes), shown by a plan whereon the site to be treated was coloured red; but, second, that which was wanted was particularized thus:—"The buildings for which a design is required are to be placed on the eastern portion of the site coloured red," &c.; whilst, afterwards, it was mentioned, that in designing the buildings for the particular accommodation of the Natural History collections, and the models belonging to the Commissioners of Patents, architects were to have reference not only to "future extension" for these purposes, but "to the ultimate appropriation of the whole site" for museums for "exhibition of various objects of art and science," and were "to show upon the annexed plan" (that before referred to), "the manner in which they would propose to lay out the whole site in such buildings." In a following paragraph, "the eastern side of the site coloured red" was again named, in connexion with the scale for the principal drawings and the scale for one elevation, and with "one perspective view tinted with light-brown Indian ink;" and in another paragraph, each competitor was required to "submit designs for the two museums, and a block plan embracing the whole site," &c. It has followed from these instructions, that some of the competitors have kept their museums as much as possible eastward of the central line of division between the eastern and western halves of the entire ground, and that many others have considered themselves at least restricted from trespassing at all upon the western half of the ground, with any portion of the Natural History Museum, or Patent Museum, and their adjuncts. All such competitors would consider those designs which treat, primarily and comprehensively, the whole site, and even those which in any degree pass the central line in providing the accommodation, as exceeding the fair limits of the conditions.†

In the following particulars of designs, as in the descriptions we have already given, where we speak of *the general plan*, we refer in each case to the competitor's arrangement of the ground east and west; that is, the whole area between Exhibition-road and Prince Albert's-road, and bounded on the south by Cromwell-road.

The design marked "Pro Rege et Lege," which has received the third premium, and is by Mr. Cuthbert Brodrick, has the general plan with each line of frontage set back considerably, excepting in the case of the theatre, which is at the north-east angle of the ground, and comes close up to Exhibition-road. The Cromwell-road front consists of a recessed centre and two wings. The eastern wing, of which the principal front is in Exhibition-road, is appropriated to the Natural History Museum. In the centre of the general plan is a rotunda, 180 feet in diameter, having an ambulatory round, and proposed to be appropriated to the Patent Museum. Therefore if the design that has received the first premium errs against the conditions as they are viewed by some of the competitors, in placing its theatre and its only adequate entrance-hall, centrally, or half in the western portion of the ground, the design now under notice must be considered to err similarly by the position taken for its Patent Museum. But it errs otherwise as to the circular hall. This rotunda of 180 feet diameter, is covered with a dome which is a mere shell in thickness, is very low, and therefore would have great thrust, and is pierced (judging from the section), with some hundreds of openings. The drawing is wanting in accuracy in all that relates to the openings; evidently, contrivance of the dome with reference to practicability could have formed no part of the competitor's labours. In the design that has received the first premium, indeed, it is not easy to understand that the abutment to the dome is sufficient, or how the lantern is carried, or what is represented by certain lines in the section: moreover, the lighting, about the rotunda below the dome, seems to be all by "borrowed light." As to the design that is mere immediately before us, the wing or building on the eastern portion of the ground, appropriated to the Natural History Museum, is divided by a wide central corridor into two large areas. Each one of these is again divided into square spaces, nine of which in the centre, have each a circular lantern or domical light carried by arches and pendentives rising from slender piers. The division or bay next the external walls on three sides, forms part of a corridor; and at each angle of the building, the plan includes an octagonal, chamber or "tribune," in a square pavilion. Externally, all the pavilions are richly decorated, and have attics with caryatides. The centre of the eastern front, and the centre of the recess facing the Cromwell-road, project; and the projection is flanked by pavilions, so as to give somewhat the effect as in the new French Opera House, whilst between them is a peculiar form of pediment with enriched mouldings. The general design is a compound of Florentine Italian and modern French. There is some good rustication in the lower story; where the windows are arch-headed, and there are festoons. In the story above, columns are used. There is considerable merit about the decorative features of the design: though many of them are more or less directly copied from models. The theatre much resembles one of Mons. Hittorff's circuses.

The design with the motto "Dieu et Mon Droit" is a very clever one decoratively regarded, in spite of a resemblance to Schinkel's Theatre at Berlin, and to some other buildings in the same city. The general plan is comprised mainly of two square blocks, forming wings in the Cromwell-road front, and a recessed centre. In this front, the end blocks appear each with a portico of six columns, over which is a great attic, with pediment; whilst a vast hall in the centre, has for its principal feature, a portico of eight columns. This hall is joined to the wings east and west, by a covered way; and at each of the two points of junction rises a lofty dome. Looking at the quadrangular block which is in the eastern portion of the ground; if the area be divided into nine squares; if the central square be given to the theatre, and the other squares be supposed each lighted by a central court, covered with glass, that will explain the general principle of the planning of the museums. We do not see that certain parts of the building would be adequately lighted from the courts, since there are no top lights. The general decorative features, besides the porticoes of Corinthian columns, are pilasters, angles formed by a double breadth of shaft and capital-decoration, a frieze with the names of eminent naturalists, a balustrade with pedestals carrying some form of ornament, a podium, and interpilasters filled in with an arrangement of mouldings separating the two stories, and with a window in each story, composed of two lights with a central shaft or anta. The general decorative treatment, and some of the details in the elevations, are excellent.

In the design marked "Mæcenas," the general plan shows a road 120 feet wide, across the ground, to afford a southern entrance to the Horticultural Gardens. But any advantage to be derived from the access, would be reduced, as the plan is, by the arrangement of the screen at the entrance from Cromwell-road, where the archways are insufficient. The lecture-hall is placed at the north-east corner of the ground, as in many other designs, and rightly so, in order that it may be used with or without the museums or library. In arranging the museums, the author claims to have kept in view the two important ends,—economy of space; and sufficiency of light. As he says, to meet these requirements, top-lighting is employed generally in his design; and he submits that this method is the best for the purposes of a museum. Our previous articles will show that we should be far from admitting any such view. He has endeavoured to provide an area of light-transmitting medium, or surface, as nearly as possible equal to the area of the museums, saying that the alterative would oblige resort to "wells;" which he thinks are to be avoided, by reason of the damp or lack of fresh air which are to some degree "accompaniments of confined quadrangles of whatever area." According to these views, he arranges a building filling nearly the entire eastern half of the ground, as two large covered areas, each 365 feet by 155 feet, and having a lantern in the centre, of 70 feet span, carried with the roof, by iron columns. A gallery on the first floor, surrounds

* See p. 289, *ante*. See also pp. 305 and 303.
† We are asked to mention that the perspective drawing alone of the 1st premiated design was coloured by the gentleman named in our last. The others were coloured by Captain Fowke's assistants.

he lantern-lighted central space. In principle, his is the original Crystal Palace arrangement; and he omits to consider not merely the superior advantage of side-lighting, but facilities of ventilation which are to be set against the disadvantages that he perceives in open courts. As to all these Crystal Palace arrangements of plan, the use of iron columns either as rain-water pipes, or as supports in a building intended to be fire-proof in accordance with the conditions, should not be for a moment thought of. Lastly, all the forms of the bazaar, or Manchester warehouse, are quite opposed to the requirements of those who go to study a collection; as they are opposed, we have reason to believe, to the views of the officers of the British Museum, who would prefer small galleries, or least of all, arrangements adopted in so many of the designs under the influence of Great Exhibition buildings. Decoratively regarded, the design marked "Mæcenas," has details of ornamentation which are not in bad taste. The general character is Renaissance Italian. Much of the enrichment is introduced in chamfers to windows, and on the lower portion of shafts of columns; but the best ornamentation is that of the lights of the windows, where the glazing is strengthened by standards of metal-work. The author's misconception of requirements in planning, however, is shown by the manner in which he would side-light his Patent Museum. This portion of the plan ranges along the Cromwell-road; and there are windows in front only; though the light would have to travel 50 feet. The contrasted merits and defects that are to be met with in the same sets of drawings in this collection, give a curious presentation of the state of education in our profession, a state which representative bodies are even yet but little alive to.

The design marked "Bramante," we thought fit to name in our first article, but not because it deserved precisely the notice which it has since received. The author seriously proposes to build, over the whole of the vast area of his general plan, a costly substructure of rusticated masonry, rising some eight or ten feet above the ground line, and of which the advantage may be estimated when we say that, excepting one or two places, windows are avoided in it. Its intended office is to impart effect to the more enriched portion of the building to be set upon it. In this, the author has *chosen* (we wish architects could be persuaded not to *choose*) the style of the Early Renaissance "because of its ready adaptability to the wants of modern civilization, and because of its capacity to incorporate or ally itself with the excellences and peculiarities of both the Gothic and the severe Classic styles." In the Cromwell-road front he proposes a curve inwards in the centre, in the form of a large flat segment. Internally, the arrangement of the museums includes roofing in wide and narrow spans, and the use of iron columns.

The design marked "Consilio et Labore" attracts some attention from the French appearance, both of the drawings and the design. The merit of the design however is not very great. The details and many features of the decoration are taken from the well-known Bibliothèque de Ste. Geneviève, by the Pantheon, Paris, and from the Palais de l'Industrie. In the general plan, the system of large open courts is adopted; and the buildings of the museum have the merit of being all side-lighted.

In the design with the motto "In Domino Confido," near to this last, the general plan seems to provide a way to the gardens, as in a design already mentioned. The eastern frontage is divided between the Patent Museum to the north, and the Natural History Museum which occupies the south-eastern portion of the whole site. The main features of this latter museum, are two oblong divisions, each with central glass-covered well-hole, and the two connected by corridors at the north and south, the whole enclosing a quadrangular space wherein would be the block containing the theatre and entrance. The upper galleries are both top-lighted and side-lighted; and their decorative features internally, include iron columns carrying arches, the spandrels of which would be ornamented with busts in circles. The chief features in the exterior are salient columns coupled, and roofs of high pitch.

In the design marked "Theta," the space between the two-storied blocks of the museum-galleries, is roofed over to get a ground-floor gallery, as in several other designs, but thus sacrificing the basement. Pavilion-masses at the centre and angles, columns superimposed, (and in the centre coupled, as well as in a portico,) are the decorative features.

There are some designs which are very peculiar decoratively, and in their arrangements for lighting, yet to be noticed. One with the motto, "One more Attempt at Design out of the beaten Track,"—and the features of which remind us of the plates in a work by a Liverpool architect, wherein endeavour is made to grasp the idea of a new style,—has the museum arranged mainly as two parallel buildings, each of which has the plan and section of clerestory-lighted nave, aisles, and lofty triforium-gallery. Each bay presents seven windows in the clerestory, and three arches in the triforium and aisle respectively; and the same character is repeated externally in the Cromwell-road front, the feature of the centre only of that line, being a loggia of five arches, and each wing having a bold arch as its central feature. In the eastern front, the ends of the two museum buildings appear, with the clerestory setting back in each case, and the buildings separated by a loggia of three arches. To the north, the Patent Museum is terminated by a lofty tower. In general arrangement of masses, and as to some of the details, there is much skill evinced in this design: though there are details, as those of the crowning balustrade, which are new rather than studied. At the opposite end of the Royal Gallery, there are two designs, one marked "Delta," and the other "Josephus," which adopt for the museums, modifications of the nave-and-aisles arrangement. They are difficult to describe in words; but the first of the designs has each block of the museum arranged in two stories, whereof each story has a central nave, and side galleries cutting across the windows; the galleries in the top story being lighted from the ceiling. Of course, all such arrangements, like that of the Crystal Palace system, are open to an objection before referred to. In the design marked "Josephus," there are two stories in the central division; or there may be said to be a gallery over the clerestory-lighted nave; whilst in the lower portion of the section, a top-lighted triforum appears with its outer walls set-in, so as to leave space for lights to chambers which are in the position of aisles. Externally, the set-off or set-in space where the lights occur, is divided by buttresses formed as *chimeræ*. The decorative character of these two last-mentioned designs is the same, a mixture of Florentine with Venetian-Italian, and Gothic, having some good features, but strangely at variance with any manner of building in our day.

Near to these productions is a design marked "Spectemur Agendo," wherein the museums are arranged partly with the long narrow courts and partly with large quadrangles. It has some good decorative features in arched principals, and the coffer-lights of ceilings; and in details of the exterior, which are of Romanesque or Renaissance character, where coloured marbles are introduced. Some of the internal decorative features resemble those of the shafts and arches of metal-work in the courts of the South Kensington Museum.

The design marked "Deo Gratias," has the general plan with a centre recessed with quadrants, whereof each is completed to a circle having its separate roof. One rotunda would be the "theatre," of which the galleries and roof would be supported by iron columns. The effect of this design as in the perspective view, is better than would be supposed from the details. These are of Italian character. "Regardez" has a general plan having a recessed centre and large courts; but the Natural History Museum is arranged with iron columns carrying the roofing in alternate wide and narrow spans. The light is admitted through double glazing in the roof. The design attracts some attention from the perspective drawing of the exterior, which is cleverly tinted in sepia, and emphasizes some of the masses and details effectively. The general character is Italian. The angle-pavilions are terminated by lanterns; whilst the centre-pavilion has angle-turrets and a loggia in the first-floor. In the upper story, the general character is given by coupled columns, and plain walling in place of windows. A certain blankness in a story thus treated, seems to have been perceived by the colourist of the view; for, he has indicated pictorial decoration on the wall-surface between the columns. "Lux" is an Italian design, with curved roofs; and it adopts the system of large areas with top-lighting, in the case of the museums. "Fides" is distinguishable chiefly as of red brick, with a portico in stone. "Theta Gamma" is remarkable in the general plan, for an open circular court, surrounded by a peristyle reached by four covered ways, to be appropriated for sculpture and called "Temple of Fame." The general requirements of the building seem to have been carefully studied; but the decorative features, which are Italian, are not very good. A design marked "Y. Z. &," is Italian with an immense square domical roof as the central feature. There are hints to be got from the details of degenerate Italian character of the design marked "A. Z.;" though such forms ought not to be copied. A lofty tower in the centre of the front is a main element in the design. The drawing is not good. "Mon Droit" has one commendable feature of plan in the central corridor with the galleries opening out, right and left; but the basement would be sacrificed, as in other cases, by appropriation of the space between the two-storied divisions, to the divisions of one story in height between them; whilst the rusticated podium is liable to the objection brought against the basement in another design, and from which the design that has received the first premium is not free, that the omission of windows makes use of the substructure or basement out of proportion with cost. The decorative character of "Mon Droit" is given by pavilions with roofs of high pitch, ordinary arch-headed windows in the upper story, and pointed-arch-headed windows and narrow rusticated piers in the lower story.

We have spoken of two or three designs as Gothic in some of their decorative features. There are two other designs which are markedly Gothic. One labelled "Nature and Art," has arches and cusping such as were in vogue half a century ago. The other, "Amor Patriæ," is noticeable for the manner in which its masses and high-pitched roofs are piled up, and for its sculpture introduced in the horizontal space between the windows of the ground-floor and upper story. The buttresses at the entrance, also, are terminated by carved representations of animals, some of them very prominent by dimensions.

Two designs, of unequal merit, in the collection, are of Greek character. One of them, with the motto, "'Tis well to begin well: 'tis better to end well," has the general plan formed of two large blocks of building separated by a deeply-recessed centre, having a portico of eight columns at the end. Each wing in the Cromwell-road front has three peculiar features in the upper story, which may be described as tetrastyle porticoes with the intercolumns filled up. They are certainly not elegant: the whole upper story, without windows, has more than the usual blank look of the method of treatment; and the ground story must be badly lighted by the small windows that are shown. The other design, marked "Athenian," has great merit of grouping in the masses, which include Doric temple-formed structures raised aloft, each main portico carried on a substructure having one long opening filled in with dwarf shafts of Indian character, and a larger opening filled in with Telamones or elephants. The portico is reached by side flights of steps. To the main block of the temple-formed structure, another block transeptwise is attached. The principal portion of the building devoted to the museums, has for its external features, plain openings between antæ or pilasters in the upper floor, and low windows, with Greek doorways at certain distances, in the ground story. A square tower rusticated in horizontal lines, and having marked *entasis*, and terminated by a lantern and balcony, is placed at the north-eastern corner of the ground. There is fine effect in this design; though it had no chance of selection.

The design marked "Aspiration," the author of which, not generally known as an architect, discloses his identity where he speaks of the stone that he would recommend, is of classical character; and its towering masses at angles and centres, and a large dome in the middle of the plan, give the building a grandeur of outline which is only too far removed from realization. In adopting the character described, the author has been governed by the fact of the area, more extensive than that of any building that can be readily called to mind as within the precincts of a town: but, in common with many other competitors, he has not remembered the disadvantages of a site so closely shut in. These would render unattainable the effects here shown, or such as belong to a perspective view supposed taken from the usual distance. The rotunda below the dome, is the main feature of the plan,

having sixteen openings and lines branching from it.

The design marked "Atom," has a dome 256 feet in diameter, and is mainly remarkable for having been mentioned in the House of Commons as evidence of asserted extravagant character of the designs generally. The mention of such a design as specimen of the works in the competition, is evidence of what is the fact, namely, that very little real attention has been given to the exhibition by members of the legislature; and had not our description extended to extreme length, we could say much respecting the evidence which is added to that which we previously had, but which the profession seem to be unmindful of, touching the habitual manner of looking at architectural designs.

We are authorized to state that the competitors who are willing that their names should be affixed to their designs, exhibited anonymously in the Royal Gallery, at the Palace at Westminster, should communicate with the Secretary of the Office of Works, 12, Whitehall-place, London, S.W.

THE ROYAL ACADEMY EXHIBITION.*

In all probability, if matters proceed as they lately have proceeded, style, as indicative of the painter, will become extinct in one comprehensive system of representation. Even in our picture-books of the present day one has to seek for the recognition of an illustration beyond any information individuality would afford, since the orthography of the respective pencils defies distinction, everybody being so like every one else, more especially those who, imitating all that they can imitate—namely, the bad points of the best of them at their worst,—produce a curious anomaly of monotonous confusion.

No two styles could, perhaps, afford a stronger contrast than the all-sufficient one of Sir Edwin Landseer, implying so much more than it asserts, and the purely assertive one of Mr. J. F. Lewis, equally inimitable in the absence of any proof to the contrary hitherto. To those who consider the perfection of finish the one thing necessary in a picture, what a triumph this marvellous transcript of positive fact must be. (110) "The Hôsh, or Courtyard of the House of the Coptic Patriarch at Cairo," introducing as immediate incident the patriarch dictating despatches, for which Arab messengers are waiting to convey them—as is intimated by the catalogue's description—to a convent in the desert. It would appear impossible to exceed the close imitation of reality in this without meeting the extreme; for, curiously enough, its excessiveness already suggests incompleteness; and everything represented as supposed to be alive is killed by it: the pigeons and ducks hang suspended and inanimate under its cruel dominion; when, on the other hand, the walls, tesselated pavement, and all such objects are nearly alive in their expressiveness and exquisite finish, and seem to be the only things that can breathe in such utter want of air and space. As—

> "A jest's prosperity lies in the ear
> Of him that hears it,"

may not the Shakspearian aphorism be transposed to another sense, and a picture's success depend entirely upon party judgment, irrespective of general opinion, and not so much upon the maker's effort to secure it? Looking with astonishment at Mr. J. F. Lewis's wonderful performance of minute elaboration, it is impossible to divest oneself of a certain respectful awe similar to that entertained for devotees to barbarous religions and their horrible ordinances, with whom new shirts were no luxury and flagellation frequent; and ask if this photographic fidelity to exact imitation is the true faith after all, or but an illusive one indeed!

However it may be, such sincerity in its worshipper entitles him to the highest consideration, and even those most inclined to question it must deferentially bow in admiration of its very intensity.

How refreshing it is after this to look at the green dewy grass in Mr. Hook's equally real landscape (105), "The Broom Dasher." He is another who relies upon realism,—upon judgment in selection rather than imagination,—for provision to expound upon; and though he has nothing on the present occasion that will compare with many of his more notable works of preceding years, his skill always agreeably educes the full value of the lessons constant intercourse with nature teaches him; and whatever he does proves how valuable a classic art-education is, even in the simplest application of it. (146) "From under the Sea," is the most striking of his contributions; but though he has selected fresh ground for observation, or rather gone under it, for the purpose of change, he has got on to no new track in his tramway picture, for we have the same utopian fond parents of the same freckled fair-headed bairns, as demonstrative of a most delightful appreciation of domestic happiness in Cornwall, as in former blest localities, somewhat precocious, but always most pleasing. There is more poetry in (445) "Cornish Miners leaving Work."

If recollection be worthy of any credit at all, why did Mr. Goodall, R.A., desert for desert sake his pearly complexioned Irish beauties and piquante Brittany peasants? With such a made and matured power of impressing them as he now may boast of, what a fund of result might be expected from his old happy method of investing historiettes of village life and interests with motive realization and artistic value in their depiction. His large and thoroughly well painted study of Eastern circumstance (397), "The Messenger from Sinai at the Wells of Moses," can evoke no compensating return for the amount of labour and knowledge so evidently bestowed upon it. Too much a matter-of-fact representation to be prized for historical associations,—as it has no pretensions for assuming any particular incident of Biblical narration,—the interest attached to its locality is destroyed by its subservience as merely a background for commonplace reality. The highest praise that can be awarded it is, that it might have been painted by Horace Vernet, if the solidity of its execution did not at once refute the supposition. (294) "The Song of the Nubian Slave" is most admirable for character. This is Mr. Goodall's diploma work, deposited in the Academy on his election as Academician, and rather an unusually strong attestation of acknowledgment. Mr. P. H. Calderon has been unfortunate, too, in the choice of subject-matter. It must be an affected taste or idiosyncrasy that could prefer so lugubrious a picture as the "Burial of John Hampden" (204), conspicuous as it is for many superlative qualities, to the far more attractive performance of this artist last season. The theme is unpromising enough in the hands of most consummate ability to contend with it; and since Mr. Calderon has failed to make anything of it beyond a most impressively oppressive exhibition of his rare manipulative attainments, and exquisite feeling for appropriate effect, it may deter others from similar attempts. The throng of Puritan soldiers in their sombre costume, although most cleverly diversified by individual portraiture, might surely have been further relieved of some of the heaviness and repetition that fatigues the spectator without commensurate advantage in assisting the painter to tell his story; and surely there would have been excuse for the introduction of female figures, considering how endeared the Garibaldi of that period was to the families of his supporters and dependents, and how enthusiastic so many fair Puritans were in the cause for which he fell. Another contribution by the same, more lucidly illustrative of his *forte* (264) "In the Cloisters at Arles," presents a pair of buxom washerwomen, very brilliantly coloured.

It is much to be regretted that a speciality such as belongs to Mr. Armitage and Mr. Watts in common should for want of opportunity remain almost dormant. From their introduction to public notice, they have loyally adhered to a predilection for monumental art; and, in spite of little encouragement beyond general acknowledgment of their aptitude, have so persisted in practising it as far as possible, even to the exclusion of a more profitable adaptation of their capabilities, that it amounts almost to a reproach to deny such a chance of development, where so much promise subsists, whenever it may be practicable to call them into requisition. (15) "Ahab and Jezebel," by Mr. Armitage, fully sustains this promise of ability on his part. The two impersonations are admirably expressive of the text descriptive of Ahab's greed and Jezebel's intention to satisfy it at the price of murder. The breadth of its treatment and simple arrangement of composition are singularly characteristic of this artist, who always depends more upon his Academic knowledge than artificial accessories, although such ornament as he does introduce is always well studied and appropriate. Perhaps to its surroundings may be attributed some of its want of force in colour, which appears to be detrimental in proximity to more elaborated and glowing exercise of it; but it claims a position for itself quite independent of its size.

Mr. Watts is less fortunate than usual in (437) "Time and Oblivion,"—a design to be executed in divers materials after the manner of Phidias; but he has already established himself as a master of all necessary requirements for mural decoration. In (395) "Choosing," a beautifully-painted head, the grace and power which distinguish it sufficiently proclaim the same author.

* See p. 325, *ante*.

THE LOCOMOTIVE BOILER EXPLOSION AT BISHOP'S ROAD STATION.

LAST Monday morning the echoes of the Underground Railway reverberated to a boiler explosion. The boiler of engine No. 138, —one of the locomotives supplied day by day by the Great Northern Railway administration to that of the Metropolitan,—exploded with apparently two loud reports. The Metropolitan Railway Company, in consequence of some delay in the delivery of the eighteen engines ordered in Manchester for the traffic of the line, has at present no engines under its direct control, but they are hired, together with the *personnel*, from the Great Northern Railway Company. This particular engine was built by a well-known Newcastle firm. It is six-wheeled coupled; the wheels, originally 5 feet in diameter, are now turned down to 4 feet 11 inches; the distance between the centres being 7 feet 6 inches. The cylinders are now 16½ inches, and with a 22 inch stroke. The inside length of firebox is 4 feet, its breadth 5 feet 5 inches, and its depth from top of bars, 4 feet 6 inches. The copper exhaust-pipe is 4½ inches outside, and the boiler is 9 feet 9 inches long, with a thickness of plate of 7-16ths of an inch. The plate-iron steam dome is 2 feet 1½ inch in diameter inside, and it was placed on the centre plate between the smokebox and the firebox. This ordinary goods engine, worked for several years on the Great Northern, had been adapted to the requirements of underground traffic by fitting it with an arrangement for conveying the steam back into the tender, and by placing a damper in the smokebox.

The engine had just come into the station, and was ready to start with the 9·15 train. It appears that the driver cannot say to a certainty whether he had or had not opened the regulator-valve and let on the steam. He had, however, opened the whistle, which had been heard to blow; and it is to be presumed, as most engine-drivers are in the habit of opening the regulator and the whistle simultaneously, that the steam had been, at any rate partly, let on. The pressure-gauge only showed 110 lb.; and at a previous hour of the same day, the dial pointed to 120 lb.; while the gauge has been since tested, and found to be correct. About two-thirds of the top portion of, firstly, the plates of that portion of the barrel next the firebox, and, secondly, about two-thirds of the top portion of the abutting plates on which was riveted the steam-dome, were torn into shreds like brown paper, and separated from the barrel; while the plate-iron dome, probably weighing from 6 to 8 cwt., was thrown high into the air. The present appearance of the tubes is very interesting and peculiar. They are all bent in the middle, or under the former situation of the dome; and with a camber of from 6 to 8 inches,—that is to say, if a straight line were drawn from the centre of each hole in the tube plates, the distance between that line and the present centre line of curvature of each tube would be from 6 to 8 inches. It is remarkable how symmetrical have been the results of this action on the tubes. Standing on the top of the firebox, and on the centre line of the engine, the eye of the spectator will see a perfectly symmetrical distortion of the tubes towards each side of the engine, the highest curvature being coincident with a line drawn at right angles to the longitudinal centre line of the engine, and coincident with the cross centre line of the former position of the dome. It is evident that the explosion first took place here. The copper steam tube, of course placed along the longitudinal centre line of the engine, is completely bent and doubled back on the top of the plate adjoining the smokebox. Two or three of the brass flue tubes are also doubled back in the same way. They are swung back just as one might fancy a

bell-rope to be flung back by a jerk. The brass tubes present the appearance of a bundle of canes, each end of which bundle of fasces, after being tied together, had then been submitted to a bending force, end on. The enormous and, above all, *instantaneous* force, may be conceived when we observe that none of the tubes seem to have been much disturbed in their ferule holes. The engine was not in the least disturbed on the rails, and was left in its original position just previously to the explosion. This is a proof, if any were wanting, that the explosion acted vertically upwards. The reaction, or rocket-like action, due to the sudden exit of the steam and water, thus pressed the engine firmly down upon the line, and actually prevented its moving, while, at the same time, it broke the top plates of the springs.

A tolerably sound and sure way to get at the origin of the explosion would have been, as soon as possible after its occurrence, to have cleared the fragments of the plates from any dirt and mud, and to have set them up, near and parallel to the boiler, as far as possible in positions similar to their original positions. Thus, before any oxidation had set in, it would have been possible to judge from the appearance of the fracture whether there was any old spot; and the parallelism of position would have aided the judgment in forming a decision as to the originating cause. The weak place certainly seems to have been the dome seating. This is pretty clear, not merely from the upper direction taken by the explosion, but also from a look at the dome itself. The riveting seems to have required a terrible amount of drifting before the holes in the boiler and those in the seating would coincide, and some of the rivets are indeed inclined in opposite directions to each other. There is a suspicious-looking crack in the plate still adhering to the seating. The diameter of the dome is also rather above the usual average, as it is 2 feet 1¼ inch inside. The plates are not worn much more than one-eighth, which slight wear would not of itself by any means account for the affair; but anything of this kind in the neighbourhood of the dome-seating would have furthered the effects of any initial weakness. The fracture probably first occurred at or near the seating, and, of course, above the water-line. The superincumbent pressure was thereby released from the top of the water, which thus surged up instantaneously, and with a sudden load, on the dome and plates. The plates were completely torn from the dome, which was then thrown up, and the water, in its passage from all sides of the boiler towards the outlet, encountered the tubes, which were thus bent. The plates first felt the full force of the exploding water. All the appearances, indeed, very well bear out the very rational explanation of boiler explosions published a few years ago by Mr. Z. Colburn. The last word, however, has not been said on all the phenomena attendant on these occurrences.

It is a noticeable fact that an explosion, which seems to have begun at the dome seating, also took place last Thursday week on a locomotive boiler belonging to the Midland Railway. In this case the driver's brains appear to have been blown out by the impelled water, thus producing the same effect as water when it is discharged from a gun. The verdict returned by the jury was that the explosion arose from a "scarcity of water." Perhaps there was a "scarcity" of something rather rarer than water, and there is probably, also, such a thing as "drifting" into a boiler explosion, as well as into a European war.

NOTES OF THE PAST AND PRESENT PRACTICE OF MEASURING MASON WORK.*

THE attention which, at the present time, is being bestowed on the subject of this evening's paper by kindred and allied societies in England, the movement now in progress in Edinburgh for a revision of the mode of measuring masonwork, and the bearing which the subject has on the interests of several classes represented in this society, invest it with a degree of importance which may excuse, while it is to be feared it will not obviate, its dryness.

To trace the history of any of the arrangements for adjusting and settling the transactions relating to the industry or to the commerce of a nation would reveal much curious and instructive information.

How the weights and measures now in use, the systems of calculation, and the modes of valuing have been formed—by what steps they have proceeded to their existing state—how, and to what extent they have been affected by the idiosyncrasy of the people—by the habits of the times—by the degrees of intelligence which those who used them possessed—by their standards of integrity—by the nature of the material employed—by the modes in which these materials were sold to the craftsmen—by the arrangements with operatives—and, with regard to the works of artificers engaged in building, in addition to these questions, how the modes of measuring have been influenced by the changes in the methods of building, and by the various styles of architecture, are among the topics which naturally suggest themselves by the subject now to be considered.

The aim of this paper is not so ambitious as to attempt to elucidate these questions, some of which might be suitable for the consideration of our brethren, the archæologists; its object is simply to glance at the things of the past, and by connecting them with those of the present, to endeavour, however feebly, to excite attention, with the hope that existing evils may be removed in the future.

The keeps and fortresses, the castles and palaces, and the magnificent ecclesiastical buildings of the Middle Ages, all attest the advanced state of the mason-work of the period; but the existence of the feudal system, then in full vigour, with its villenage, its requirements of personal services, and its other accessories, prevented the necessity of any measuring for the purpose of valuation in the erection of these edifices; while in the towns the dwellings were generally composed of materials so fragile, and so rudely formed, that skilled artisans were not required in their erection.

It was not until the thirteenth century when, the extent and influence of the burghs having greatly increased, transactions relating to the erection of buildings were needed. It has been the work of the intervening centuries to bring these transactions to their present state. It is difficult to speak with precision regarding the subject prior to the fourteenth century,—and subsequent to that period, while the records of burghs are crowded with absurd enactments relating to the strength of ale, the price of candles, and of aqua vitæ, &c., the references to building operations are few and far between.

One method of executing masonwork 500 years ago was to hire workmen for longer or shorter periods at rates of wages fixed by mutual agreement; and it may be remarked that the workmen were engaged at different rates. The idea that the labour of all operatives in a trade is of equal value appears to be a modern discovery. The materials were purchased by the proprietors of the buildings, and furnished by them to the workmen. Contracts made in the fourteenth century are extant; and they were more frequent in the fifteenth century, some of these being for a year's services. Besides these formal engagements with workmen, entries such as the following, taken from the accounts of one of the Scotch burghs in 1453, occasionally occur:—

To the masonys for the makynge of the key	lib.	3	5 0
For II dusane of hewyne parpannys	lib.	1	8 0
For efter hewynge of fre stanys			11 0
To Gilbert and Dauy for steppis to the key			20 0
For a hunder band stanys			20 0
For stanys			6 0
Schenderis and sande			5 0
To Tyre for reddying of the founde			5 6
To Tyre and tua uther men to help the masonys			3 0
To drynke sylare			1 0
		£3	4 6*

Eighty years later, measuring was employed to determine the quantity of masonwork; and a formal contract, of which the following is a transcript, is selected as an early instance of the use of the Scotch standard measure for building:—

"At Abirden, the XX day of Februarr, the yeir of God, ane thousand V^c. XXXII. yeirs, it is appunctit, agreit, and finale endit betwix Lonorabill man, Thos. Menzies, of Pitfoddells, and Alex Gray, maister of wark to the town of Abirden on the ane pairt, and Pate Franche and Sanderis Menypenny, maisonis, on that uther part, in maner, forme, and effect, as efter followis, that is to say, the said Pate and Sanderis sall big ane blok-house on the sandnes, of XXXVI. fuit of lynth, XVIII. fuit of breid, and VI. fuit of thiknes in the val, and of heicht as beis thocht expedient be the said maisteris of wark and masonis, with gun holles and dur of aistler, as beis thocht expedient be the saidis maisteris, and the heuss to be bigit in the maist souer vise for saulte of the raid and hevin, as beis thocht expedient be the saidis maisteris of wark and masonis, for the quhilke the said maisteris of wark sal deliuer and pay the said masonis for euery rad, three lib. Scottes mone and payaud for the hewandwark, the saidis maisteris of wark findand them all maner of stuff needful thairto, except sande and watter, and the saide maisonis to finde al maner of warkmene thairsellues, and to begunn the wark in al guidly haste. In witnes hereof the saidis maisteris of wark hes subscrivit this writ with thair handes, and the saidis masonis hes sett thair markis to the same, daye, yeir, and place forsaid."

A good deal of Scotch shrewdness is displayed in this contract. It is worthy of notice that there is no reference to a standard thickness for building.

Very well detailed specifications and contracts, extending to many pages of writing, for masonwork of buildings in the seventeenth century, are, unfortunately for us, totally silent regarding quantities and rates. The simple statement that the work is to be executed and completed for a certain sum, payable by instalments at certain terms, being the only information relating to the cost.

Extensive operations of the same period were executed by paying for the materials and for the labour. For examples: the masonwork of Heriots Hospital, Edinburgh, which was completed in 1642, was executed under the superintendence of a mastermason at the weekly wages of 6*l.* Scots, and a yearly salary of 100*l.* Scots in addition: the operative masons had 3*l.* 12*s.* Scots per week. Towards the end of the seventeenth century, masons at Dumbarton were paid at the rate of 13*s.* 4*d.* Scots per day; and there is an entry in the burgh accounts for 5,000 hewn stones for the bridge, which had been bought at the rate of 144½ marks per thousand, or about 1*s.* 10*d.* Scots a piece.

The details of accounts for building to be found in burgh records of the seventeenth century are abundant; but, to the disgrace of the age, these are greatly exceeded by accounts, of the most minute character, of the expenses for burning witches, and it would be easier to ascertain the expense of putting a witch to death than it would be to find the cost of a rood of building.

It is somewhat ludicrous to find an account for mason work occupying nearly a page, the total amount being about 8*l.*, followed by the following, remarkable, among other things, for its brevity (in 1647):—

"For ane supper in Alexr. Ramsay's, with the prowest, and baillies, and commissioners of the Kirke, sixty-four pounds 6*s* 4*d*."

When measurements of mason work became general, the practice, which still lingers in some parts of Scotland, of paying for labour by arbitrary allowances added to the true dimensions of the building, was general—levelling for wall-plates, &c., and measuring all the walls on the outside for their lengths, are instances.

Gradually, by slow degrees, so imperceptible as to be difficult to record, the system of measuring mason work in Glasgow, assumed the form of which the following, from an estimate for tenements built about twenty-five years ago, in the centre of the city, is a specimen:—

"2 feet ruble back wall with vents and polished jambs and all polished and back-filleted dressings, the back-fillets 9 inches broad, plinth and soles 8 inches thick, the outside work run in courses between the rybats, and clean pointed .....Roods 13 24 0 0 at 160s.
2 feet ruble north mutual gable with vents and jambs on both sides in all the *stories*, polished chimney-head and sques, measured as it stands—
Roods 8 27 0 0 at 200s.
Cube stones in pillars of shop-front in solid courses—
Cubic feet 697 0 at 11d.
Do. in lintel course 14 inches on the bed—
Cubic feet 258 0 at 1s. 4d.
2 feet ruble backing of ditto ...Roods 0 12 0 0 0 at 80s.
Polished and moulded hewing of pillars and lintel course .....Sqr. feet 985 0 at 8d.
2 feet polished ashlar front wall with vents and jambs per plan, and architraves and caps, &c., per elevation, above shop lintel course, the shop cornice and great cornice girthed into the height
Roods 8 31 0 0 at 230s."

By the present mode of measurement, and adopting the prices of the day, the cost of the back wall above mentioned, would be as nearly as possible one-half more, or 50 per cent. additional; and in regard to the front wall, the probability is that the increase would be even greater.

In the mode of measurement employed in the estimate from which the foregoing extracts are taken, the true lengths of the walls were reported, the front wall being measured on the outside, the gables within the front wall and over the back wall, and the back wall within both gables; but the heights were taken by girding all the projections, such as base, belt, and sill courses, frieze and cornices, to the line of wall, and gables to the top as if they had been built square, with, in addition, the half of

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* Read at a meeting of the Glasgow Architectural Society, by Mr. John Shields, measurer.

* It has not been attempted to institute any comparison of the value of money where it is mentioned in this paper, with its value at the present time.

the thickness of the gable added to its height. Brick has since been gradually substituted for stone in building gables of tenements:

The practice of including the valuable stones, and the labour, of such work as form the fronts of our street buildings, in the price of such a measure of quantity as the rood = 36 square yards, was most unjust; and, as might have been expected, this mode of measurement kept the tradesmen in a state of chronic discontent; while the rapid increase in the population and in the resources of the city, and the consequent great increase in the number and importance of contracts for building, attracted so much attention that, in 1814, the Incorporation of Masons framed a series of rules for measuring their work, of which the following are the more important:—

"1st. *Building.*—Building of every description, whether constructed of ruble or ashlar materials, to be first measured and rated as ruble wall.

6th. *Dimensions.*—The dimensions to include no more building than is actually erected.

8th. *Deductions.*—All apertures of doors and windows to be deducted from the building, the size of the daylight of each. When arched, the height to be taken to the spring of each arch only.

13th. *Hewn Work.*—All the hewn work of every description, however situated, to be measured and valued by the superficial foot or yard.

14th. *Hewn Materials.* Materials differing in value to be classed by themselves, and rated accordingly.

15th. *Dimensions, Ashlar.*—The dimensions of ashlar and of work similar to be regulated by the surface, and it is to be understood that the breasts of the rybats and lintels to the bottom of the checks, and the sills 6 inches inwards from the check, are to be included.

20th *Mouldings.*—Cornices and all other mouldings to be taken at the extreme points for the length, and girded across the mouldings, including the upper bed to the line of the wall for the breadth, all to be considered as moulded work."

There are twenty-seven rules and a concluding clause. It is worthy of remark that these rules were submitted to the Dean of Guild Court of the city, and sanctioned by it. Inquiries regarding the control exercised by Deans of Guild in various parts of Scotland warrant the supposition that their approval had not been applied for, out of Glasgow, for centuries.

A number of buildings were measured in accordance with the rules of 1814, but they were never properly established, and speedily fell into abeyance. The first rule relating to building appears to be stringent; it was not, however, held to apply to such work as pillars, &c., of shop fronts, insulated columns, lintels, &c., the stones of which were charged by the cubic foot without being measured as rubble, while such work as buttresses, turrets, and pinnacles of Gothic buildings were measured firstly as rubble by the rood, and then as polished work by the superficial foot, without any separate charge by the cubic foot.

In May, 1840, the mode of measuring masonwork, now in force in Glasgow, was agreed upon and adopted by the architects, measurers, builders, and incorporation of masons. There are in all twenty-eight rules, and the following are quoted as having been less or more subject to question:—

"*Building.*—1. Building of every description shall in general be first measured as ruble work, and classed according to style of work and value of materials. In particular cases, such as columns, pillars of shop fronts, and where heavy cube materials are used, the price may include both stone and building."

"*Openings.*—5. The daylight size of all thorough openings to be deducted from the building, whether arched or otherwise. No deduction to be made for vents, window bossings, or press recesses. The hammer-dressed scontions of thorough openings in internal walls, also returns of projected breasts, or exposed ends of detached walls, will be measured and classed, separately, by the superficial yard."

"*Hewn Work.*—11. Hewn-work connected with walls is to be charged for its additional value, over the price of ruble building. All hewn work of every description to be measured on the exposed surface, and classed and rated separately according to size of materials and kind of work. Circular hewn-work to be measured in the same manner as straight work, but classed separately according to quality. Where bevelled cuttings occur, such as at pediments, skews, &c., an allowance of 6 inches is to be given on each lineal foot of cutting.

Hewn Dressings of Ruble Walls.—12. The rybats and lintels of openings in ruble walls, are to be girded from the bottom of the back fillet, to the bottom of the inside check, and rated either by the superficial or lineal foot. If the latter, the girth to be stated, and, in either case, the price to include the broached tails. Corners, bases, plinths, and skews are to be taken in the same manner as the rybats. The window-sills will have one end projection added to the length, and the breadth taken 6 inches inwards from the check.

Ashlar Work.—13. All plain ashlar to be measured by the superficial foot; window and door rybats, and lintels, in ashlar walls, are to be girded to the bottom of the checks, and where these openings have upstart architraves, or side mullions, the ingoing of the rybat to be taken at the breadth of 6 inches. Window-sills in side walls are to be taken 6 inches inwards from the check for the breadth."

"*Mouldings.*—15. Cornices and other running mouldings to be measured at the extreme points for the length, and girded across, including the upper bed, to the line of the wall, for the breadth, as moulded work, and to be reported by the superficial foot, or lineally stating thickness and girth. Window and door architraves to be taken by the superficial foot, girding from the line of the wall to the bottom of the check, for the breadth, or to be taken by the lineal foot stating the girth.

Columns and Pillars, &c.—16. Columns, pillars of shop-fronts, buttresses, and similar work, where heavy materials are used, are to be taken by the cubic foot, and where said materials are not measured as ruble, the prices shall include for building. The hewing of such work is to be measured by the superficial foot for labour only."

"*Newals, &c.*—19. Stair-newals to be girded where hewn, and charged by the superficial foot, stating thickness; parpend ashlar walls to be measured in the same manner as newals. Note.—The prices of all parpend ashlar walls and steps, platts and newals of stairs, also hearths, pavements, skirtings, shelves, and similar articles shall be held to include building and laying, and not to be charged as ruble work unless particularly stated to the contrary."

"25. It is to be understood that, in all cases, the bevelling and washing of faces and soles, building or filling up savings, splicing window-breasts, plumbing rybats and scontions, clouring bossings of presses and recesses, &c., to a regular and equal thickness, and all matters of a similar description, required to complete the work as represented on the drawings, or described in the specification, and also the clearing away of all rubbish arising from the mason-work, shall be held to be included in the prices of the work without extra charge, unless a distinct agreement is made to the contrary.

26. It is likewise to be understood that cutting batt and dook holes and raggles, and executing the several jobbings required for the carpenters, plumbers, and other tradesmen employed at buildings, are not considered to be included in the prices of the work, but are to be charged separately, with the exception of cases where a special agreement is made in reference to the same."

These rules were in use for a short time after their adoption, but the wide estimating and the general increase of the expense caused by the introduction of so much detail, in place of the mode of measuring walls as they stood, speedily induced the people who had to pay for the buildings to discountenance them; and subsequently the new mode, as it is called, was only employed in the case of churches and other public buildings; many of the tenements which adorn the city having been measured and valued by the loose system previously in operation; and it was not until 1853 that the Glasgow new mode of measurement was definitely and exclusively adopted.

The clause in rule 5, "The hammer-dressed scontions of thorough openings in internal walls, also returns of projected breasts or exposed ends of detached walls, will be measured and classed, separately, by the superficial yard," leads to the supposition that the framers of the rule did not contemplate any separate allowance or measure for the scontions within the hewn work of windows and doors; owing, however, to the practice by some of the measurers of charging these scontions separately, it has become almost universal to add to the entries for rybats, &c., the words "including scontions." This practice is not quite correct, in so far as the inband rybats form the scontions which are thus described separately.

The silence of the rules in regard to the lengths of window-soles not projecting, *e.g.*, such soles as are common in Gothic buildings and in those of the old Scotch and the Elizabethan styles, has led to the practice by some measurers of taking the lengths of these soles only to the extent to which they are hewn on the upper bed; so that in fact a length of stone, in some cases amounting to 12 inches, for which the mason has paid the price of "long stones," is only measured to him as rubble building—with the measure for whatever kind of work the walls are faced with—and is a premium or inducement to furnish soles with as short bearings as possible. This remark applies equally to the lintels of windows and doors in buildings of the styles above mentioned.

For a considerable number of years after 1840, in cases where the new mode was adopted, the practice of charging cornices and similar work of cube materials attached to walls, by the superficial foot, for the extra value of the stone, over the cost of rubble, and for the labour in hewing, as provided by rule 15, was general practice. The 16th rule relating to columns and pillars, &c., was understood to have the literal meaning of the language employed; so that in the case of porticos, and similar erections entirely of cube materials, these were charged by the cubic foot for materials, and by the superficial foot for hewing on the exposed faces, without any separate measure as rubble, and frequently without any reference to building at all. The more general use of cube materials in the buildings of the present day, and the inherent justice of charging such expensive materials as cube stones, by the cubic foot, have gradually produced greater uniformity; so that it is now almost unknown to charge work executed of cube stones, merely by the superficial foot of hewn surface, in addition to the rate for rubble.

The practice of measuring cube materials as rubble by the rood, and as solid stones by the cubic foot, besides charging the hewing of the exposed faces by the superficial foot, has also become more general; and the chief reason assigned for it is, that by this means payment is obtained for the labour in dressing the beds of the stones; by a species of equivalent this may be the case, but it is a clumsy expedient: it is well known that in Glasgow, the cost of the cartage of the materials which form rubble is more than half the cost of a rubble wall; and as the cost of cartage is added to the cost of the stone, when charged by the cubic foot, it is obvious that to give rubble, on its own merits, for these cube stones, is false in principle.

It would occupy more time than can now be afforded to refer with any degree of minuteness to several of the rules which have been quoted, *e.g.*, the rybats and lintels referred to in rule 13, are frequently charged in ways differing from that prescribed; the 25th and 26th rules, relating to jobbings, are somewhat intermingled in the present practice; removing rubbish being almost universally mentioned in estimates.

A brief reference to the practice of measuring masonwork in other places will conclude this paper.

Although there have never been rules printed and circulated in Edinburgh, the measurers there have rules in MS., which provide for allowances and methods of taking dimensions now become obsolete, so that they are very much a dead letter; the actual practice varies but slightly from that of Glasgow at present. In regard to cube stone, these are not charged as rubble when employed in porticos, gate pillars, &c. As already noticed, efforts are now being made to improve the mode.

In Aberdeen (the granite city), the walls are measured complete as they stand; that is to say, a wall faced with hewn work and backed with rubble is charged in one entry by the rood; the openings are not deducted; the dressings of windows, &c., are charged extra per lineal foot for hewing only; cornices and other moulded work are charged by the lineal foot stating the girth, or by the superficial foot; rubble walls and gables are measured without deductions, and the dressings, chimney heads, &c. measured for extra value over rubble; fireplaces and vents are not charged separately; cube stones are charged according to the sizes of the blocks, by the cubic foot, and the hewing on them by the superficial foot; cube materials are not charged as rubble.

In Dundee, the practice is similar to that at Aberdeen; the standard thickness of 2 feet for walls is not strictly applied.

In Dumfries, walls faced with ashlar are measured complete,—the openings are not deducted; the dressings are charged extra by the lineal foot; rubble walls are measured in the same way; cube stones in a rubble wall are measured in the first instance as rubble and then for extra value over rubble; but as there are no professional measurers, the practice varies considerably. In extensive operations the estimates are prepared in Edinburgh or Glasgow, but in other cases the tradesmen get the plans to measure for themselves, and make up their estimates in their own way.

In England, where freestone is comparatively scarce, and where consequently the buildings are more frequently of brick, masonwork does not occupy the prominent position which it holds in Scotland.

From the rules for measuring masonwork at the Houses of Parliament,—and they may be inferred to form, to a considerable extent, the method now in use in London at least,—it will be seen that the system is very minute, and that higher value is placed on labour than in Scotland; besides measuring the hewing of the exposed faces of stone, as is done elsewhere, the plain and sunk beds, plain and sunk joints, preparatory labour, grooves for cement, rebates, metres to mouldings and to sinkings, &c., stopped ends, punching holes, notchings for embrazures, perforations, &c., are measured or numbered. On the other hand, it does not appear that cube stones are measured as rubble.

In some parts of England the walls, where built of ashlar and rubble, are charged separately; that is to say, the ashlar is charged by itself at its true thickness, and the rubble backing is also charged at its thickness: thus a 2 feet wall faced with ashlar would be charged for ashlar, say 7 inches thick, and for rubble 17 inches thick. Considering the great difference betwixt the cost of these two kinds of stone, this method seems to be more just than is that of charging every

kind of wall firstly as rubble, but there would be some difficulties caused by its introduction, such as the payment for bond and other stones; which extend beyond the inside face of the ashlar, or the converse, of causing a multitude of deductions in taking these stones from the rubble.

It is desirable to have greater simplicity in the mode of measuring masonwork, in particular to have the system exploded of charging work as rubble in which there is not a particle of rubble; and it is to be hoped that the attention now being bestowed on the subject will produce greater uniformity of practice, and, above all, lead to ideas more just and enlightened.

THE INTERIOR OF A GOTHIC MINSTER.*

Stalls.—The chorus, or *schola cantorum*, was at first devoid of seats, the ancient discipline requiring a standing position (Stat. Poict., c. 1; Mart. Anec., iv. 1071). In course of time, the infirm at first, and then all the choir, were allowed a resting crutch (Ib., de Ant. Eccles. Rit., lib. iii. p. 9). Forms were used by the clerks (Stat. Linc., 1212; Lichf., 1259). Half the choir stood and half sat during the Psalms (Stat. Lichf., 259; Austin Canons, Mart. n. s., 297); or one between two sat at Psalms, Alleluia, Gradual, and Epistle (Ib., 307). If any could not bear the fatigue, they were to sit *in loco talibus constituto*. At Besançon, sitting during the Psalms was reprobated (Beyerlinck, Theatr., ii. 71). *Quod quidem juris et is nostrum habeat qui in choro existens corporali obstaculo nonnisi sessu frui commode possit.* (Comp. Stat. Ratisp., cap. vii., where only sitting, standing, and genuflexion are permitted in choir,—Mayer, i. 187; and Stat. Braunschw., c. lvii.,—ibid. 115; and "*Incurvi super misericordias aut super formas:*" "*reclinando super misericordias; jaciendo super formas,*" Martene, iii. 327.) Waterville at Peterborough, "*ordinavit chorum*" (H. Cand., 93), and W. de Lindsay, in the thirteenth century, contributed to the stall work (p. 199), which was covered with paintings of Scripture subjects. In the ninth century, benches were introduced by the more luxurious communities; and about the twelfth century, stalls, with their misericords, were introduced as a compromise to rest the canons without deviating from a standing position. The Early English benches may be seen at Rochester: three unique shafts, with capitals of gilded wood, are preserved at Peterborough. At Wells, the Early English stalls have been recently destroyed, and incongruous stone seats erected between the pillars, a plan followed with the stalls at Durham in the modern reconstruction. At Hereford and Winchester are stalls of the thirteenth century; at Gloucester and Ely of the fourteenth century; at Carlisle, St. David's, Ripon, Norwich, and Chester, of the fifteenth century; at Manchester, Beverley, and Bristol, of the sixteenth century. Perpendicular stalls remain at Cartmel, Sherborne, Selby, and Dorchester; of the Cinque-cento period, at Christchurch; Jacobean, at Wimborne; and of the seventeenth century at Salisbury and Durham. There are also some stalls preserved at Hexham, Hull, Peterborough, Ottery, and Tewkesbury. Those of Canterbury were destroyed in 1704; and the carved panels of the stalls at Winchester survived until the civil wars.

The introduction of tabernacles and canopied backs was of later use than the stalls or forms. Bishop Lacy, at Exeter, in the fifteenth century, gave hangings, to be placed behind the canons and vicars, of damask for summer use, and of green powdered with flowers, in winter time to preserve them from wind and cold, and sixty years later cloths were hung in the choir for a similar purpose. The solid wall at Rochester and Llandaff, and the stone screen at Canterbury, c. 1304, enabled the monks to dispense with canopies; but the cold was so keenly felt at Peterborough and Ely, 1254, that caps were worn during the inclement season of the year—Michaelmas to Easter—in choir. Polydore Vergil, in the sixteenth century, gave hangings embroidered with his arms for the stalls at Wells (Leland, ii. 124): those given by Prior Goldstone to Canterbury are now at Aix. The screen hangings used for shelter and ornament at Exeter represented the story of the Duke of Burgundy, and were blazoned with chequey arms, the gift of the Courtenays. At Peterborough, in the transepts, tapestry, with the Deliverance of St. Peter out of Prison, of the time of Henry VIII., is the solitary relic of sixteen pieces used on festivals and suspended from the choir triforium. At Manchester, tapestry of a much later date, c. 1661, and at Chester, served till lately as a dorsal. At Lichfield, four times a year,—from Christmas to Purification, from Easter Eve to the octave of Trinity Sunday, from the Assumption to Michaelmas, and on St. Chad's day,—the church was adorned with silken hangings and cloth. At York, Archbishop Lamplugh gave tapestries for hanging the reredos. At Westminster, tapestries were hung round the easternmost bays at the coronation of Charles I. Until 1765, the bays between the pillars were hung with tapestry at Carlisle: at Peterborough, the tapestry hangings remained till 1643; at Norwich, till 1740; at Westminster, in Dart's time.

At Exeter, the vicars—then as numerous as their masters, the canons—were in the upper stalls at the east end, with only the archdeacons and the chancellor and treasurer beyond them. The annuallars, chaplains, and clerks were of the second form. At Lichfield, by a bad arrangement after the restoration, the stalls of the canons were interrupted by the vicars' and other stalls in the centre of the range. In cathedrals of canons regular, the bishop was vice-abbot, in place of abbot, with a prior as president: in monastic churches, the abbot, under the bishop, had jurisdiction in matters concerning the rule (Frances, xxxi. n. 59, 60).

There were three ranges of seats, called at Chichester "books," but ordinarily forms. At Hereford, in the third form sat canons and priests; in the second, deacon and sub-deacon vicars; in the first, clerks in inferior orders; but at Chichester, the choristers were called boys of the third form, the order being inverted. The double choir dates from the Arian heresy (Frances, p. 87). The clerks sat in front of their masters at Beverley. At each corner of the oblong formed by the stalls, in the nine cathedrals of the old foundation sat a dignitary; on the S.W.—as the highest place of dignity (Scarfantoni on Ceccoperius, lib. i., tit. ix., n. 16)—the dean; on the N.W. the præcentor: hence the terms used to designate the respective sides of a choir, *Cantoris et Decani* (Stat. Linc., 1215); the chancellor on the S.E., and the treasurer on the N.E., thus exercising a complete supervision. At Chichester these stalls were specially canopied. At Salisbury an archdeacon sat next to each of the dignitaries, the sub-dean in the third stall, on the dean's side: in the middle were canons; then priest, vicars, and first deacons, according to age, who were tolerated in the upper grade, by dispensation. The succentor was in the third stall, on the præcentor's side. In the second form were minor canons, then deacons and the other clerks: in the first form were "parvi canonici," and the other "parvi," according to age. Canons first occupied the upper seats in the choir, in the time of Pope Urban II., 1088-99, the inferior ministers using benches or forms (Thomassin., P. 1, l. iii. c. 10.). Every canon was to keep his own seat, and never to occupy the stall of an absent dignitary (Scarf., i. 34, 80; iii. 142). Where all the seats are alike, and the dignitaries (as archdeacons of churches of the new foundation) had no appropriated stall, then the canons might occupy the vacant stalls of their brethren, in order to preserve the choir from an uncomely and bold appearance, and from the intrusion of other persons to interrupt their order (Ib., i. 84). The first stalls on the right and left were always reserved to the first and second dignitaries (Ib., 35). The chaplains or vicars were not to sit in the same line or order with canons, and the place of their chief "Magister Chori," who was chosen by the chapter, was at the head of the second range (Ib. iii., 138). There was an *ordo Personarum* and an *ordo Sacerdotum*, both having stalls at Meaux in 1227 (Ducange, v. 214). Where the seats were returned the superior occupied the most westerly stall. At Ely and Carlisle, exceptionally, the bishop, as vice-abbot, occupied the customary seat of the dean, who sat in the prior's, or N.W. stall. A throne like a large choir-stall was allotted at the extremity of the range, usually on the south, to the bishop, for preaching, or during the daily office (Martene, de Ant. Ecc. Rit., i. p. 132) as in the centre, the place of dignity (Frances, p. 88), and a seat near the altar on the north side, during pontifical high mass (Ibid., 79). In the basilica, however, the bishop's choir-seat was in the ambo (Soc. H. E., lib. vi. c. 5), and used by him when preaching (Mayer, i. 38). His faldstool was in the midst of the apse, and called his throne, because in his diocese he acted as chief ruler, with the priests sitting on either hand and the deacons standing (Ibid., lib. xv. p. 50). The thrones of Durham, Exeter, Wells, and Hereford, of the fourteenth and fifteenth centuries, show the increase of episcopal splendour. With a specially solemn meaning at Durham, Bishop Hatfield raised his throne over a tomb also: (as Mr. Eustace playfully says) he sat higher than the Pope's chair. At St. David's the throne, c. 1500, contains a central stall, with side seats for the collateral canons, with a low partition (c. 1342) round it. The throne of Bristol is c. 1543. At Durham, the bishop frequently occupied an ordinary stall.

The correct position of the archdeacon was facing the bishop, as his "eye." Certain precedence was given to the sub-dean at Salisbury, Wells, Exeter, and York, and in the latter cathedral to the sub-chanter of the canons. The ordinary arrangement was, that the canons regular, and monks, sat in order of dignity or profession—seniors before juniors, priests before deacons, and deacons before sub-deacons; but in secular churches the stalls were marked, being divided into those of priests, deacons, and sub-deacons. The name of his prebend and the antiphon of the psalm which each canon was bound to recite daily for benefactors and departed canons were written up over his stall, as at St. Paul's, Lincoln, Chichester, Wells, &c., to which was added afterwards a notice of his preaching turn at Hereford. Citations to residence were affixed by the prebendary's vicar upon his stall. At Lichfield every canon was provided with his own light and book in choir; and a vestige of the old custom was preserved a century since at York, where, on the eves of certain holy days, a branch of seven lights was placed before each of the dignitaries' stalls. On feasts of nine lections at Lichfield, the chapter and collect were read out of the last stall on the east. At Canterbury, Westminster, and Wells, the lessons are now read from the stalls.

At Exeter we find books for devotional use chained before the altar; antiphoners chained before the dean, chancellor, and treasurer; ordinals in front of the precentor and succentor; and books chained between the choir-step and altar-step. Such chained books still remain at Selby.

The treasurer provided the lights for the choir. At Canterbury, York, Winchester, and Salisbury, a large seven-branched candlestick stood in the centre of the choir. A small candlestick of this kind is in use in the Lady Chapel at Lichfield. At Exeter, on Great Doubles, twenty-six lights burned in choir, and one on the choir-step: the pyx was pendent, and silver coronæ were hung lengthwise between the altar and screen. At Chichester two tapers during the night offices were lighted in the central chandelier, two on the altar step, and one outside the choir near the step leading to the vestry. At Hereford, Chichester, Exeter, and Lichfield, the central chandelier held twenty-four large tapers. The exact number of tapers to be lighted was rigidly defined. The priests, vicars, and vicars choral were required to learn, in their first year of probation, the hymnal and the antiphonar by heart, and in the second year the psalter, so that they would not require lights. At Ripon late in the last century the church was a blaze of light on Candlemas day, at evening service. At Durham there was a bell behind the stalls for signalling to the sacrists the time for ringing or stopping the church-bells. One of the most extraordinary occupants of a stall is mentioned by Bartholomew Cotton, under the year 1290, whom a canon of Hereford found after matins—an unearthly imp vested in robes, but deaf and dumb; however, the canon motioned him under awful penalties to remain until his return, when, with the whole collective chapter, he fell upon the wretched creature "like Germans," put him in fetters, and left him heavily chained before the Cantelupe Shrine. At Lincoln the churchwardens were greatly annoyed by the spirits of Bloet and others walking about the church at night.

Mats (Comp. Reg. of Durh., p. 174) were provided for the upper grade and second form at Exeter annually; at York twice a year. They were also provided in the chapter-house and before the altars. Hay or straw was laid down in the choir, sacristies, and loft, for warmth. At York and Hereford, on great days, it was sprinkled with ivy-leaves. Rushes were also used at Salisbury and York, and at Bristol, even Exeter, silver pendent coronæ were also employed now, when the mayor attends in state. The cold, however, was still felt; for, in 1390, the vicars

* By the Rev. Mackenzie E. C. Walcott, M.A. See p. 329, *ante*.

choral were delated at York for wearing clogs and patterns in choir. At Chichester the church was swept out with brooms twice a year.

At Lichfield the choir, till a recent date, was paved with cannel coal and alabaster. The use of marble pavements in the choir commenced in the seventeenth century; at Canterbury it was laid down in 1704. In the choir of St. David's there is a fine pavement of encaustic tiles; at Gloucester one in the sanctuary of armorial character, c. 1450. Good specimens also remain at Malvern and Worcester. At Canterbury and Westminster very beautiful mosaic pavements have been preserved. Out of the fragments of the French porphyry, which Edward I., in his eighth year, brought from France for his father's tomb, he made pavements of tesselated work (Leland's Coll., iii. 404). At Lincoln, a slab remains in the floor, marked "*Cantate hic;*" and Pugin discovered the marks of the chairs occupied by the rectors of choir. On the great festivals the præcentor "ruled the choir," standing at the altar-step, with the rectors of choir on either side, who carried staves in their hands, with which, marking the time of the chant, they walked to and fro up and down. At Lichfield, and probably in other cathedrals destitute of cloisters, the ceremony of the Maunday took place in the choir. At York there are some stalls and aumbries in the north side of the choir, which were probably connected with the ceremonial. Ancient statutes exhibit some curious customs and grave irregularities in choir; those of Exeter forbid banquetings and drinkings; and complain of talking and levity and irreverence. Bishop Grandison peremptorily forbade the acting of plays at Christmas, in 1360. At Lichfield, on Christmas Eve, was performed the representation of "The Shepherds;" at the dawn of Easter, "The Resurrection;" and on Easter Monday, "The Pilgrims to Emmaus." At York "The Three Kings" were represented at Epiphany, and "The Shepherds" at Christmas, stars being employed in the scene. At Wells no plays or spectacles, or exhibition of monstrous masks by laymen, at Whitsuntide, were to be suffered; nor gesticulations at Christmas time by the vicars during the divine service in the sight of the people, under pain of excommunication. In the earlier statutes a distribution of wine was made after mortuary masses to the canons and vicars present in choir, but a money payment was afterwards made in commutation.

At Durham the brass eagle for the lectionary stood in the choir, and another, of wood, near the choir-door. One was erected at Peterborough in 1472. There is an ancient specimen at Southwell, which formerly belonged to Norstead; at Winchester; York, 1686; Canterbury, 1663, used as a Litany desk; Lincoln, 1667; Bristol, 1683 (now in St. Mary-le-Port); and at Salisbury, 1714. Besides the eagle there was the lectern, or lectricium, for the rectors of the choir at Hereford, probably resembling the stone desks of Wenlock and Evesham, c. 1218 (Archæol. xvii. 278), and that of Gloucester. It stood in the midst of the choir, and was used for the reading of the Gradual and Alleluia, and for the lections on certain high days. The sub-deacon read the Epistle from the lectern at the step of the choir at Hereford, the Gospel being read from the upper step on the north by the deacon; but at Salisbury the Epistle was read from the rood-loft, or pulpit, on Sundays, and when the choir was ruled, but at other times on the choir-step. At St. David's the book-desk used by the bishop rests on the stand of a lectern of the sixteenth century. A Late Decorated lectern in the shape of a pelican remains at Norwich. A simple brass desk is at Wells, c. 1660.

In re-arranging the choir of a cathedral of the new foundation on the principle adopted for seating dignitaries in the old foundations, we can place the dean and sub-dean in the two western, and the archdeacons not canons in the two eastern stalls; the canons residentiary near the western ends; and the hon. canons (answering to non-resident canons) eastward; with the minor canons and their precentor (answering to the vicars and succentor) still more eastward, next the archdeacons, if there is room, or in the second range; and then, perhaps, the vicar in course, as the deputy of the hebdomadary canon, should be allowed a fixed stall in the upper form. In all cases where rood-screens are modern, we shall do well to remove them, and allot the nave exclusively to the laity, with an open screen to the choir entrance. Where the screen is, and the stalls are not ancient, we may form the western part of the choir into a quasi-nave, with the seats of the laity facing eastward; and rearrange the stalls towards the presbytery in sufficient numbers to contain every member of the capitular body, and the entire staff of vicars and clerks, dividing the clergy from the congregation by a low chancel-screen. By also placing open screens in the eastern bays, and by using again the triforia as was intended, large additional numbers may be accommodated both in the choir aisles and those upper galleries.

According to "Eulogium Historiarum" (i. 204), Pope Boniface II., c. 533, first made a distinction between the clergy and laity at mass. By the council of Nantes (658, c. iii.), lay persons were forbidden the choir (Martene, Thes. Anecdot., 962, 1108-9, 1202, 1247; Archæol., xi. 388-9; Frances, c. V. n. 42, 44; Counc. of Tours, 566, c. 4), and Martene complains that the laity, interdicted from approach except for communion (Frances, p. 78), pressed into the choir, and women sat on the altar-steps (de Ant. Rit. Eccles., i. 124); and this, probably, occasioned the introduction of the side screens of the presbytery, as at Winchester, 1528; at Carlisle, 1484; and another of Cinquecento work, c. 1540. They also gave access to the aisles by means of doors, and permitted the passage of processions without interruption to the choir service.

The Rood Beam.—A screen of lighter construction than that which fenced the entrance of the choir parted off the sanctuary at the extremity of the stalls, like a chancel rail. A solitary instance remains at St. David's, and, till recently, at St. Alban's. The end of the moulded beam of the thirteenth century remained embedded in one of the pillars: formerly, an altar of the holy cross, enclosed within an iron screen, stood beneath it. At Malmesbury a similar screen is said to have existed (Eccles., x. 152).

The Presbytery or Sanctuary (Frances, c. v., n. 37-41; c. xiii. 121; Jewell's Controv., i. 198, 310, 311; Conc. Rom. s. P. Eug., ii. c. 33; Bracar., i. c. 31; Vasense, c. 3; iv. Carth. c. 93; Bingham, viii. ch. vi. § 1; Scarf., i. 84), occupied the space between the choir and altar; it was also known as the *caputium*, *secretarium*, and *sancta sanctorum*. An ascent (*gradus presbyterii*) from the choir led to the presbytery, and a second flight of stairs (*gradus altaris*) led from the *planum presbyterii* to the altar. The presbytery usually stands on a higher level than the choir, being raised upon the crypt, the choir in turn being raised above the level of the nave (at Worcester and in other places the latter distinction has been obliterated in modern times); but at Canterbury, Winchester, Rochester, &c., grand flights of stairs still lead up to the choir. At Canterbury, Winchester, Worcester, and York, noble flights of stairs form the ascent to the presbytery; but at Norwich a Basilican arrangement was preserved probably until the stall work was erected, in the five arches of the apse. The steps to the central throne of the bishop remain in the east wall; and the doorway is still visible in the aisle. At that period, when the altar stood in the chord of the apse, a low screen and bench table for the clergy extended on either side, and the aperture in the vault through which the sacrament light was let down marks the position of the high altar. At Ely, Salisbury, and Gloucester a more richly carved boss denotes its site. In the thirteenth century the square east end became common in England, and the apse was replaced by a single east window; and it must be left to the taste of individuals which of the two forms is preferable, the grand apses of Peterborough, Norwich, Pershore, Tewkesbury, Westminster, or the noble windows of Lincoln, Dorchester, Carlisle, York, and Gloucester, and the tiers of lancets at Ely. At Canterbury, on the top of the flight of steps behind the altar, stood the patriarchial chair. The primate's marble throne of the thirteenth century is still preserved, and at Peterborough the abbot's stone chair remained, until the civil wars, adjoining the altar. Above the high altar, which at Canterbury, York, and Worcester was flanked by lateral altars, stood a beam at Canterbury, Westminster, Chichester, St. Alban's, Hereford, and Salisbury, upon which were arranged a rood, the relic chests, angels, and many tapers. At Chichester it was painted, supporting a crucifix and eight lights, and at Canterbury, where it carried seven gilded relic chests (somewhat like those at Winchester, of Cinque-cento date, set up by Fox as the side screens), a majesty, and images of SS. Dunstan and Elphege, supported on two pillars covered with rich metals, and flanking a cross set with sixty crystals. Adjoining it was a gilt, star-like glory, supported by archangels with expanded wings. The high altar erected in 1397, and screened with curtains, was backed by a reredos with two doors leading to the feretory, and immediately behind it was a small sacristy containing reliquaries. At Chichester, Llandaff, Canterbury, and York, there was a sacristy behind the high altar for the reliquaries and the use of the bishop at his enthronisation or pontifical mass. At York and Chichester there was a minstrel's gallery above it. At York were altars of St. Stephen on the north, and St. Mary on the south, and the paschal taper was adorned with colours, flowers, ribbands, and a dove, and, as at Exeter, with pendants and pennons. At Canterbury, on the north, was the altar with the shrine of St. Elphege, and on the south that of St. Dunstan. At Worcester, on the north side, was St. Oswald's; on the south, St. Wolstan's shrine, each with its bracket and western altar.

Matthew Paris has fortunately preserved to us a description of the appearance of a Norman high altar at St. Alban's. It had a superb frontal of carved work, inlaid with metal; over it appeared St. Alban's shrine, with relic shrines around, and in the centre the pendant pyx, suspended from the painted vault of the apse. At St. David's, the mortise for the Gospel lectern remains in the altar step; at Canterbury, a small orifice probably served for the same purpose; and at Exeter, the eagle till recently stood below the altar-step. At Manchester, the credence-table of wood, and at Lincoln the Easter sepulchre, with its sleeping guards; at Norwich, the quatrefoiled aperture for the watchers remain. The sedilia, or graduated seats for the priest, deacon, and subdeacon, remain at Exeter, Rochester, Selby, Ripon, St. David's, Ottery, Binham, Worcester, and Dorchester, and Tewkesbury, the latter still retaining their colour; four in number at Westminster, Durham, Furness, Paisley, Gloucester, Bolton, and Ottery, in the lady chapel, and five at Southwell. The chaplain, deacon, and sub-deacon, or cross-bearer, and, on great days, a canon with the mitre, were thus accommodated at an episcopal mass; and on great festivals, when the dean was celebrant, the assistants were doubled; but at Durham there are four sedilia on either side of the altar, these were probably used by the four acolyths in the pontifical mass, one with the mitre, the thuribler, and taper-bearers (Martene, de Ant. Rit. Eccles., i. 221). The præcentor and rectors of the choir had iron folding chairs when ruling the choir. Trivet says, that Edward I. gave the royal chair in Scotland, in 1296, for the seat of the celebrant at Westminster (Leland, Collect., iii. 328). Stowe, Harding, Holingshed, and Fabian mention it thus occupied. Those of Hexham, Beverley, and Westminster were of oak. The frid-stool, or chair of sanctuary, a hollowed seat of stone, is still preserved at Hexham and at Beverley. The privilege was held by many churches, as at Beaulieu, St. Martin's le Grand, Westminster (Archæol., viii. 1), Ramsey, Croyland, Ripon, St. Burian's, Tintern, Jarrow, Leominster, and Whitefriars (Jo. Assoc. Soc., vol. v., pt. ii., p. 253).

Reredos.—Curtains or dorsals originally fenced in the east side of the altar, but in time were replaced by the reredos of stone, as at Exeter, Lincoln, Brecon, Beverley, Bristol, York, Canterbury, Durham, Westminster, and with exquisite specimens, now lost, at Peterborough, Tewkesbury, and Gloucester. But these are dwarfed in importance by the enormous screens which were designed to enhance the magnificence of the high altar at St. Alban's, 1326—35; at Christchurch, Winchester, and St. Mary's Overye, a gorgeous structure, covered with tabernacle work, images, and sculpture, although obstructing the view of the furthest eastern limits of the church, which had heretofore augmented the sublimity of the sanctuary. And yet it appears like the gorgeous veil of a further holy of holies, wherein is the substance of which our earthly services are but the faint shadows. The germ of it may be seen in the panelled east wall at Wells. We cannot portray to our imagination the grandeur of Winchester when its canopied niches were filled with silver figures of saints surrounding the superb jewelled rood, above which hung the crown of Canute; but we may question if it could equal in effect the eastern end of Durham, where more than a hundred statues filled the empty canopies of its exquisite screens, c. 1380, and its pinnacles glittered in the light of countless tapers. Curtains of the richest velvet and silk closed the sides of the altar, on which lay the superb *Liber Vitæ*, the record of departed bene-

factors. Over it sparkled the golden pyx; below, a canopy, crested with a silver pelican. On the north side stood the pelican of brass for the gospel, near the place of the eastern sepulchre; while three lamps, suspended by chains and burning in basins of silver, threw down a tempered light perpetually. From Maunday Thursday until the Wednesday after the Feast of Ascension, a superb paschal candlestick, with seven branches (a type of the pillar of fire that led the Exodus), wrought into flowers of glistening latten, supported the Easter candle, which reached almost to the vault, and was lighted on the morning of the resurrection when the solemn procession, singing the hymn *Christus Resurgens*, with torch and taper, compassed the whole church. At St. Paul's and Durham a buck was offered at the high altar annually, and a lamb by the tenants at York.*

IRON, AND HOW IT IS AFFECTED.†

WHEN we remember that the very best wrought-iron of commerce is, to use the words of the well-known metallurgist Saint-Claire Deville, but a metallic sponge, like platinum, the pores of which have been simply closed up by pressure or percussion; that, in one word, ordinary wrought-iron has never, as wrought-iron, been fused, it will be seen that the uncertainties qualifying the material itself are still greater. Mr. Mallet thus found that, while the original hammered slab of a very large forged mass had a breaking strength of 24 tons to the square inch, it fell progressively to 17 and 16 tons at the different places of the mass, down to even as low as 6½ tons in some parts. Unless this iron had been burnt, its tenacity could doubtlessly have been restored; and, if drawn into wire, its breaking weight might have been increased to perhaps 90 tons to the square inch,—at least before annealing. An average of 188 experiments, made by Mr. Kirkaldy on rolled bars, gave a maximum breaking strength of 30¾ tons, and a minimum of nearly 20 tons to the square inch. These influences of the manufacture merely on the quality of wrought-iron are almost independent of the chemical constitution of any individual bar. For instance, until it be proved to the contrary, there are many reasons for the general belief that the cold shortness of wrought-iron is due to the presence of silicon and carbon, and its hot shortness to that of sulphur. A fractional percentage of copper also makes wrought-iron hot-short. In truth, there are probably no two bars or parts of a bar of an exactly similar chemical composition, or in an exactly similar state of molecular aggregation, and, therefore, of an exactly similar breaking strength or elastic limit. Even these are only a few of the elements of uncertainty in structural materials. But, when we further take into account the varied strains of extension, compression, distortion, twisting, and bending, to which mechanical structures are more or less subject; that the work done by a gradually applied load is doubled if this load be applied suddenly; that the impulsive strain of a moving load is generally more or less intensified by vibration; and that the varied shapes and arrangements intended to receive these strains must be often as much fixed by financial as scientific considerations, then the reason that the best engineering practice makes the ultimate strength of a wrought-iron structure from four to six times the working load must be even popularly evident. But these factors of safety are not sufficient. The structure must be tested as searchingly, and as far as is consistent with safety,—as far as is possible without injuring the material and its relation to the structure. In our case this limit is, in the main, given by the limit of elasticity of wrought-iron under extension, as this limit is less for wrought-iron than that of compression. It is also self-evident that the mode of testing adopted ought to approximate as nearly as practicable with the kind of stress the object is intended to undergo in practice. After loading a railway bridge with the greatest passive, or perhaps impulsive load that would ever come upon it in practice, the deflection and the permanent set, if any, are both carefully noted. As a boiler is subjected in practice to a complex train of mechanical and chemical forces that are always striving to break their bonds, its ultimate strength is made from six to eight times the working stress, and it ought to be periodically tested to half its working pressure. Its extension under this pressure is sometimes — and should always be—measured by the volume of water that is pumped in by pressure after the boiler has been filled; while the permanent set is determined by the difference between the volume pressed out by the contraction of the boiler when the pressure is withdrawn, and the volume of the water that remains in the boiler after the test—allowance being of course made for any slight leakages and sweating at the joints. In first-class locomotive works the deflexion and permanent set of the steel springs are always tested in an apparatus for the purpose. It may here be remarked that, although the designs of all the successful wrought-iron structures ever built have been based on the assumption of a limit of elasticity, nevertheless the relation of the permanent set of wrought iron to its ultimate resistance under a given load, is still a subject of some discussion. We have, on the one hand, the testimony of Professor Eaton Hodgkinson, who says, that "the maxim of loading bodies within the elastic limit has no foundation in nature;" and, on the other hand, some appear to believe that iron is even improved by breaking it under at least a tensile stress. Mr. Hodgkinson found that a rod, 10 feet long, and of 1 square inch section, took a permanent set of 0·0005 of an inch under a static load of 1¾ ton. Mr. Edwin Clark obtained very similar results. Such a microscopic set, however, could be referred to the elongation caused by the heat generated by the internal friction of the particles, or to the probable fact that these bars were also new; and it is conceivable that they might have taken a slight permanent set, just as new ropes take a permanent set, without injury, when the strain is first applied. There are, indeed, very few forms of wrought iron in which its internal particles are not, *ab initio*, subject to some mutual strain. At any rate, these elongations were very slight, and increased uniformly up to tensions varying from about 10 to 15 or 16 tons on the square inch. Beyond these strains the bars elongated in an irregular manner, until they at last broke. At the same time, as Dr. Rankine remarks, the demonstration by Mr. E. Hodgkinson that a set is produced by a strain much less than what would injure the specimen, renders the determination of the proof-strength a matter of some obscurity; but Dr. Rankine points out that the best test now known is the not producing an increasing set by the repeated application of a load. Some years ago, Mr. Loyd, of Woolwich, made certain experiments which have been cited as proving that a breaking strain does not injure iron, even when this strain is four times repeated; or rather, that after breaking a bar into, say, two pieces, the two pieces are thereby made stronger. In, for instance, experiment 2, the 1⅛ bar marked C was found to break with 33¾ tons, with a stretch of 9¼ inches in 54 inches; a piece of this bar then broke at 35¼ tons, with a stretch of only a quarter of an inch in 36 inches; another piece of the bar, 24 inches long, was broken at 37 tons, with a stretch of one inch; and at the fourth and last breakage was found to give way at 38¾ tons, but without any stretch at all. . . .

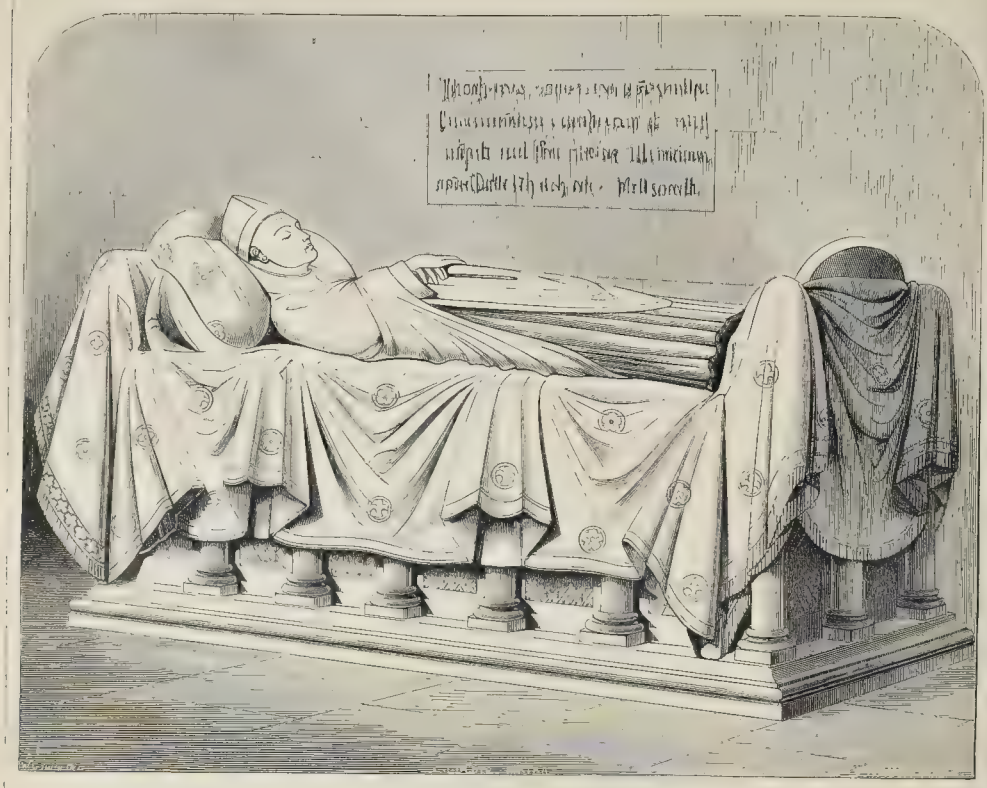
There is probably no metal the strength of which is influenced in such a remarkable way by temperature as iron. As M. Baudrimont showed in 1850, the tenacity of iron is less at 100° C. than at 0° C., but at 200° it is greater than at 0°, and these results have been exactly confirmed by Dr. Fairbairn in some experiments on boiler plates, communicated in a paper to the British Association. At yet higher temperatures this tenacity is of course diminished; and Seguin has shown that iron, the tensile strength of which could be represented by 100 at 10° C., had this tenacity lowered to 90·5 at 370° C., and to 58·7 at 500° C. In the royal dockyards of Woolwich and Portsmouth the atmospheric temperature during the testing of each anchor or chain is carefully noted, although the proving houses themselves are kept at a mean temperature of 56° Fahr., by means of stoves, which also thus save the water-pipes from freezing. This temperature of course falls a little during the winter and rises in summer, as the heat in the shade generally varies in England from about 76° to perhaps 34° Fahr. The action of frost on iron has not been completely investigated; and Dr. Percy recommends that some accurate experiments on the question be undertaken by the Institution of Civil Engineers. The daily observation of practical men has, however, as in so many other cases, preceded the deeper investigations of science. All workmen know that their tools, such as picks and chipping hammers, which have to undergo percussion in frosty weather, are then more liable to get broken. All chains are well known to be more subject to snap under the same circumstances. There is always a notorious increase of accidents through breakages, both in the permanent way and rolling stock of railways during frosty weather. It is stated that during the severe winter of 1860-61, 498 rails were broken on the Chemin de Fer de l'Est, from the 11th December to the 31st January inclusive. No less than 258 were broken from the 21st to the 25th of January, during which period the thermometer descended to—7·8°, and even to—16° centigrade. General Morin relates that during the northern campaigns of the first empire the artillery veterans used to believe that wrought-iron was subject to freezing, and after long winter bivouacs they never began their day's march without striking the gun-carriage axles in the direction of their length, and the vibration thus produced was said to "thaw" the iron. An intense cold is also said to have enabled the French garrison of Hamburg to disable the cast-iron siege guns, by knocking off the trunnions before evacuating the place. Mr. Lenox stated, in evidence, before the 1860 Committee, his belief that a cable would stand a test in warm weather that it might not in cold. The crews of the fishing vessels on the coast of Nova Scotia find that the cold renders their cables so brittle that a length of hempen cable is used for the portion out of the water, while the anchor end is kept from the vicissitudes of the atmosphere by the usual average temperature of the sea. A few experiments made by Mr. Kirkaldy showed that the breaking strength of a bar is slightly reduced by freezing when a gradual breaking load was applied, but that this difference between a frozen and an unfrozen bolt is much more increased by a suddenly applied load, being 3 per cent. less when frozen. The usual way adopted by French engineers to test rails is, as we have seen, to prove a percentage of the lot by means of a falling weight. Some tests were carried out a few years ago by M. Couche, on a number of rails, of very good quality from the Anzin works. The monkey weighed 300 kilogrammes, and the distance between the supports was 1m. 10. When the thermometer varied from —4° C. down to —6° C., the weight had only to be raised, in an average of twelve experiments, to a height of 5 feet 6 inches, in order to break the rail; but when the thermometer rose from +3° to +8° C., then the weight had to be lifted for a fall of 7 feet 9 inches. Similar experiments, conducted in 1860, showed that a difference of temperature from — 4° to + 5° Centigrade, was sufficient to greatly influence the height of fall necessary to break the rail. It is not unnatural to suppose that the particles of iron, after being worked at a heat and allowed to cool and set at a medium temperature, should when that temperature is lowered, get into a state of mutual strain; or that any initial mutual strain should be thus intensified. The toys made of suddenly cooled glass, known as Prince Rupert's drops, are exaggerated instances of a similar action. The outside portions of a bar, of whatever size, would evidently cool, and consequently contract, first of all. The inside portions would also at last cool; but, having kept the outside portions distended, when the inside does cool, it then becomes a question, to be determined by various circumstances, whether it would pull the outside shell into a state of compression, or whether the outside shell will draw the inside into fissures by tension. A somewhat similar explanation is given by Mr. Mallet of the rents caused in the interior of very massive forgings; and this state is probably always induced by the conditions of cooling in a small bar, but with, of course, a smaller range both as to size and temperature. In any case, it is apparent that a ductile, elastic material ought to be less affected by these doubtlessly complicated conditions of tensile and compressive strains. It is, therefore, probable that a hard, harsh, iron would be more affected by frost than a soft ductile iron; and also that the breaking strength of both qualities would be less affected by cold than their extensibility.

* To be continued.

† From the paper by Mr. F. A. Paget, C.E., referred to in our last.

THE GUTTER IN MODERN FRENCH ARCHITECTURE.

THE most distinctive feature of the cornice of a modern house in Paris, and sometimes of the entire front, to an English eye, is



THE MONUMENT OF BISHOP ANCHERUS, STA. MARIA MAGGIORE, ROME.

the *chêneau*. The word may be taken to mean gutter; and it would be used for that member of the antique cornice which was generally, as in Roman work, a cymatium ornamented, and furnished with lions' heads to spout the water from the hollow eaves'-gutter. But the *chêneau* of the French architects is different. Instead of being dished out of the top member of the cornice, the *chêneau* is rather to be regarded now, and perhaps more in accordance with the etymology, as a trough-gutter, placed upon the decorative member before mentioned. In position, it may be compared with a blocking-course, or with the parapet to the gutter of an ordinary London house which has a merely decorative cornice, excepting that the *chêneau* will in many cases be in advance of the face of the wall. With us, the blocking-course is seldom decorated; but the French seize upon this very feature, and give it the utmost enrichment, whilst the cornice below will be left plain. Adopting their system, it follows that the cornice has very slight projection. Such is the arrangement (only, some would say, carried to excess,) of the cornice in the new portion of the École des Beaux Arts, where the *chêneau* is most remarkable for its height, and for its richness of ornamentation. The examples given in Mons. Daly's work on the "Architecture of Paris" (our review of which is not yet finished), somehow, do not happen to include many of the enriched forms of the *chêneau;* but the thing itself will be understood from nearly every one of the examples. There is one of them however, the villa in the Avenue de l'Impératrice, by Mons. Hermant (Fig. 1), which shows the combination of a scolloped line with rosettes and *antefixæ*, which is very common, but does not altogether satisfy us. The author of one of the designs for the South Kensington Museums, has introduced the *chêneau*, as mentioned in our notice, and treated it very successfully in combination with *antefixæ*. Another form is well exemplified in the Hôtel des Ventes Mobilières, as given in Mons. Daly's "*Revue de l'Architecture et des Travaux Publics*," and which we reproduce (Fig. 2). Here the *chêneau* is a moulded blocking-course, with *antefixæ* at certain distances on the face; and between them are two small rosettes, or five-leaved flowers.

In other examples, *antefixæ* may stand upon the *chêneau* over each pier or pilaster, as in Fig. 3, from a house on the Boulevart Monceaux. Some of these features deserve to be looked at by those architects who adopt Sir Charles Barry's vase-formed terminations, which were not very successful.

In many cases the *chêneau* may appear as no more than a zinc or lead-covered trough.

In the more richly-decorated *hôtels*, a *chêneau*, or gutter, will be found at the meeting of the two slopes of the Mansard roof, generally upon an ornamented roll-moulding (Fig. 3). In this case, of course, lead or zinc will be employed.

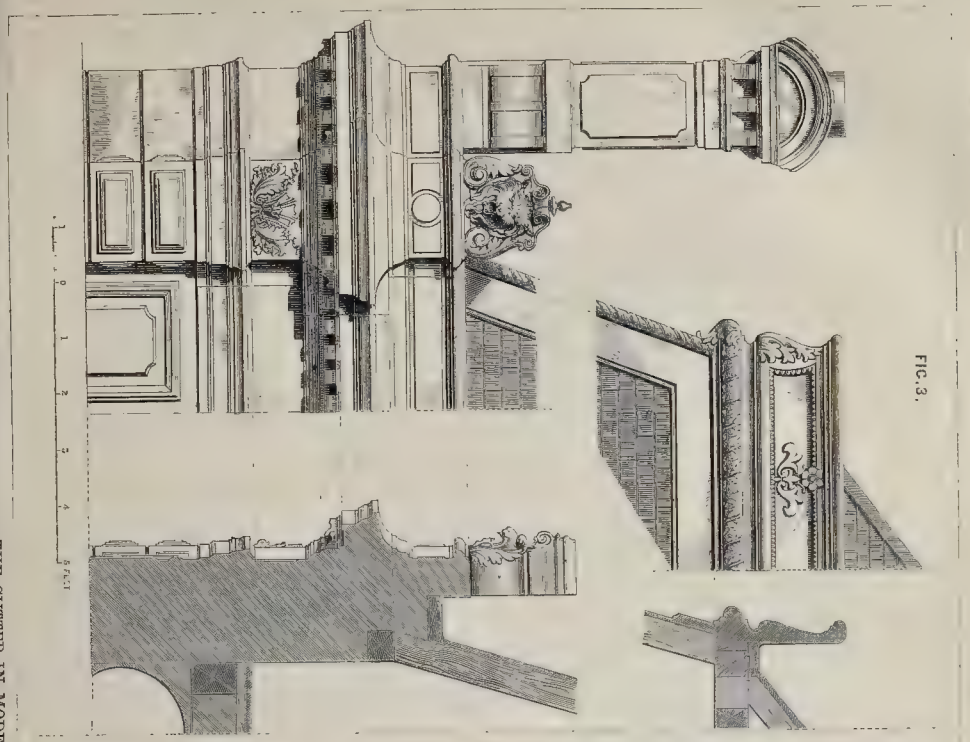
The French are first-rate artists in this kind of metal-work, as in every other; and the manner in which the kind of work contributes to the effect of the roofs of the Louvre can hardly be forgotten. In the *hôtels* of the first-class, the dormers are richly carved in stone; but elsewhere, zinc is much employed for these features, and for oval-formed lucarnes. To the principal entrance of an *hôtel*, there is generally a *perron*, or glass-covered shelter to the steps and threshold. The metal-work of this is very elaborate. The feature generally cuts across the masonic architecture, with no effort made at combination.

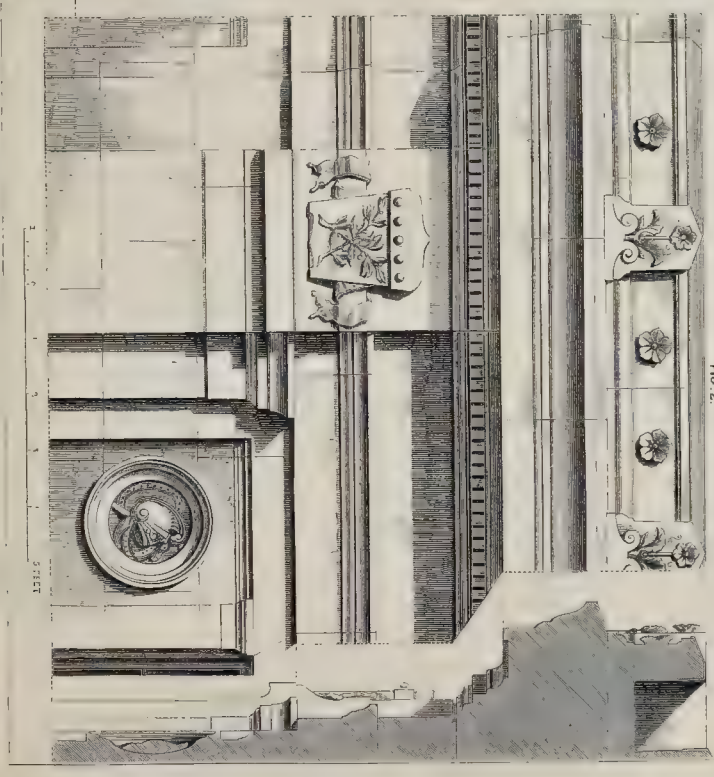
THE MONUMENT OF BISHOP ANCHERUS, ROME.

This remarkable monument stands in a side chapel of the south aisle of the ancient church of St. Prassede, near to Sta. Maria Maggiore, in Rome. It represents Bishop Ancherus, a native of Greece, and titular cardinal of the church. The date of his death is given in the concluding verses of a long inscription in Byzantine characters on the slab above the monument, as follows:—

Anno milleno centum bis et octuageno
Sexto decessit hic prima luce Novembris.

The tomb and effigy are executed in marble. The latter is vested in a flowing chasuble, with low jewelled mitre, and embroidered gloves and sandals. The monument has panels of mosaic, and a fictitious arcading, the upper portion of which is hidden, as it were, by an ample pall sculptured in fine folds and diapered with roses and *fleurs-de-lys*. The drawing we have engraved was made from a sketch on the spot by Mr. George Goldie.







THE GUTTER IN MODERN FRENCH ARCHITECTURE.

SANITARY CONDITION OF WOLVERHAMPTON.

THE value of life in Wolverhampton, as compared with all England, is, for males, 2·815 against 2·305; and for females, 2·673 against 2·132.

The mortality of children under five years of age stands as 20·959 per cent. against 13·517 for England altogether.

It appears from the Registrar-General's tables that the value of life in Wolverhampton is below the average up to the age of 15: from 15 to 35 it is above the average: from 35 to 85 it again sinks.

"The excessive mortality of children in this English town," says a paper published in the *Wolverhampton Chronicle*, "demands serious investigation. Why the value of life should rise from fifteen to thirty-five, I cannot explain: its fall during the advancing years of manhood is more easily accounted for, as arising from overwork, and destruction of the organism from irregular life amongst the lower classes."

The average annual rate of mortality in Wolverhampton from all causes to 10,000 persons living is 28, two or three above the average of Staffordshire as a whole. Excepting Manchester, St. George's-in-the-East (London), and Leeds, there is no town in the kingdom that presents a higher death-rate. The fluctuations from year to year are very remarkable. Calculating the population as numbering at present 63,000, the rate of mortality in 1863 stood as 28¾ per 1,000, by the side of 24·8 per 1,000 in 1862.

The water-supply is described in the paper quoted as being derived from two sources, from wells and from the supply of the Wolverhampton New Waterworks Company, founded in 1855. The water of the town naturally supplied is abundant and good. The company's is derived from a brook at Cosford, in Salop, nine miles from Wolverhampton; but supplementary supplies are pumped from borings through the red sandstone at Tettenhall and Goldthorne Hill. There is no filtration of the water. The supply pressure is sufficient to cover all the houses. In many houses there is no ready water supply; and the inhabitants seek for it at pumps in the street: water is in this way used over and over again to save carriage. The Board of Health has given orders to several owners of houses to provide water-supply.

The drainage of the town at the present moment is very imperfect. Surface drainage is general, and cesspools are abundant. Naturally, the town is well placed for drainage, being on a sandstone rock, and being situate so high that the flow from the drains is easy. There are also several outlets for the escape of water, while the sandstone acts as a filter for the removal of a large portion of the mere watery part of the sewage. Such errors as exist in the drainage of Wolverhampton will shortly be rectified. There is now a proposed plan for the complete drainage of the town. The plan has been inspected by Mr. Rawlinson on the part of the Government, and approved of by him; and sanction has been obtained from Sir George Grey for effecting a loan of 37,000*l.*, repayable by instalments, extending over a period of thirty years, for the purpose of carrying out the scheme.

The sewage of the town has been to a certain extent utilized, for the town council have for some time past had an arrangement with a firm of contractors (Messrs. Deans & Son) for the removal of night-soil, &c, and this firm has disposed of the sewage to a large extent for application to agriculture. Last year, however, the sanitary committee, with the sanction of the council, entered into a contract with the Wolverhampton Manure Company for the removal of manure. The conditions are somewhat singular. The contract is for a term of fifteen years, dated from Lady-day, 1864. The removal, cleansing, &c., are to be effected by the contractors to the satisfaction of the local Board; for which service the Board is to pay the contractors 500*l.* for the first year of the term, 400*l.* for the second, 300*l.* for the third, 200*l.* for the fourth, and 100*l.* for the fifth: for the remaining ten years no payment is to be made. The contractors have power to determine the contract at the end of any one year, upon giving the local Board three calendar months' notice in writing. The Committee congratulate the council that by this proceeding 1,050*l.* will be saved for the first year.

But little attention has been paid to the ventilation of private houses or of the public buildings. In the Agricultural Hall, however, there is carried out a simple mode of ventilation, consisting of shafts in the roof of the building, across each of which is a septum of wood, which can be made to open, by means of a cord, into four parts. This mode of ventilation is said to be effective.

The dwellings of the poor in this town are much superior to those that are met with in most of our agricultural districts; but amongst the poorer classes the internal management is said to be bad, and the rooms shockingly dirty. Overcrowding, moreover, prevails to a great extent, with the evils consequent upon it.

THE INSTITUTION OF ENGINEERS IN SCOTLAND.

AT the concluding meeting of the session, the prize gold medal for the best paper contributed last session was presented to Mr. David Kirkaldy. The Chairman said,—These prize medals have hitherto been awarded by the votes of the members of the Institution; and, seeing that we meet here on a footing of equality; that we do not know and do not acknowledge any difference of wealth or social position; that we recognise no distinctions but those of superior intelligence; it is most honourable and most meritorious for any of us to receive at the hands of his fellows one of these prize medals. The merits of Mr. Kirkaldy's work this Institution is peculiarly fitted to judge and appreciate. We see the ability displayed in the investigations: we know the immense labour and untiring perseverance which it requires. Mr. Kirkaldy has not confined his investigations to an inquiry into the strength of different qualities of iron and steel, but has extended them to an examination of the origin of the differences of strength arising from the conformation of the material: he has elaborated most carefully the apparent difference of strength due to the contraction of the breaking section: he has measured the amount of extension or stretching, which, in a sense, is a malleability, caused by the breaking loads in the different material tested: he has traced out the effect of both cold and hot rolling and tensile extension on the strength of material: he has investigated the different and relative properties of iron and steel, which are due to quality of material, to original manufacture, to the treatment of the material by workmanship after manufacture, to the kind of use to which the material is applied; and he has not omitted the effect of the climate in which the material is used.

THE BUILDING TRADES DISTURBANCE.

AT Birmingham the committee of the masters as well as that of the workmen meet frequently, but during the last week no progress was made towards a termination of the strike. The workmen's committee are said to have received applications from Newcastle-under-Lyme, Nottingham, and other places, urging that men might remove to these towns, where they would be provided with employment, and a large number have left.

At Walsall the majority of the bricklayers and carpenters are out on strike for a reduction of the hours of labour.

At Poole, in Dorset, the bricklayers have struck for an increase of wages and a diminution of the hours of labour.

At Malvern the master-builders of the town have held a meeting to consider the subject of the strike, which it appears was not arranged, as reported, so far as regards the bricklayers. It was suggested that a conference would be the best means to accomplish a proper arrangement, and the meeting unanimously approved of the plan. A disposition was shown to grant the alteration of time which the men desire.

At Plymouth the trade has been at a standstill from the strike of masons' labourers for an advance from 16s. to 17s. a week; but is now in movement again.

In Cornwall the following are the average wages paid to men employed in the various branches of the building trades:—Penzance, carpenters, 18s., but there has been a movement for an advance to 20s.; masons' stonecutters, 24s., providing their own chisels and hammers, which require very frequent repair, the granite being very hard to work; plasterers, 24s.; masons' labourers, 15s. Flour at Penzance is 4lbs. for 5½d.; beef, 6d. to 8d. per lb.; veal, 4½d.; mutton, 6d. to 7d. Falmouth: Masons' labourers, 18s.; carpenters, 18s.; ship-carpenters, 23s.; plasterers, 20s. and 21s.; builders' labourers, 15s. to 16s. Truro: Wall masons, 17s. to 18s.; masons' labourers, 13s. 6d. to 15s.; carpenters, 18s. and 20s.; plasterers, 18s. and 20s. The higher prices named are the exception. Hours from six a.m. to six p.m.; Saturdays, from six a.m. to five p.m.; one hour and a half allowed for breakfast. The building trade is regular, not brisk, and the men are believed to be well satisfied.

At Hull, the navvies employed in the erection of the Hull town hall, the riveters' labourers at the iron shipbuilding yards, and the workmen of some other branches have struck work.

At Grimsby, the bricklayers have struck for an advance of 6d. a day. The masters offered to cede the advance on condition of being allowed to pick their workmen, but this condition was refused.

At West Hartlepool, the great demand for labour in the iron shipbuilding trade has given rise to a strike at Messrs. Pile, Spence, & Co.'s yard, West Hartlepool. The particular branch which now is at variance is the "holders-up," who are in receipt of 23s. per week, and demand 1s. extra; basing their application on the wages paid at Sunderland, and other northern ports. The "riveters" are also off work, in consequence of the absence of the "holders-up," and they also have given notice that they will not resume their employment unless they receive 1s. per 100 extra for seven-eight work. Altogether there will be between 200 and 300 hands out of work.

In Scotland matters are also becoming unsettled in the trade. The Wick masons have gone out on strike for an advance of wages of 3s. per week. The Court House and the large block of buildings at the end of Bridge-street are the only works of importance at present going on, and there are now only a few apprentices employed on them. The number of workmen off work is about forty.

On the Tain and Bonar Railway the navvies struck work, demanding an advance of 2s. each per week. They marched in a body into Tain, where, on making their demand known to Mr. Grainger, the contractor, he immediately granted them 1s. additional, with which the majority seemed satisfied, while the whole of them resumed work on the following day.

HARBOURS OF REFUGE.

IN a country like this, the prosperity of which in a great measure depends upon our marine, it ought to be a chief consideration to preserve our vessels, and, what is of far greater consequence, the lives of those "that go down to the sea in ships."

Since the dawning of the present century there has been much good done. Many lifeboats have been placed on dangerous parts of the coast, and by this means numerous and valuable lives have been saved. Lighthouses have also increased in numbers, and been rendered more efficient by the application of modern inventions. There are other beneficial agencies at work: for instance, the entrances to several harbours have been materially improved: at the mouth of the Tyne a gigantic work is in progress, which, when completed, will make this one of the finest harbours in the kingdom. The exertions and large expenditure of the late Marquis of Londonderry have made at Hartlepool a tolerably safe port in a storm; but, until the great sea-wall and embankment at Tynemouth be finished, the "Black Middens" and the "Herd Sands" will continue to be places of destruction to both life and property. At present, the entrance to the port of Shields is only passable through a very narrow channel, and this is not available except at certain states of the tide; and, in rough weather, the ships, which are often brought here in the hope of shelter, are cast either on the rocks or the opposite sand. If we had the means of obtaining the particulars, the number of men who have perished within sight of the ancient priory since the days of Queen Elizabeth would form a terrible list. Tradition says that, from time immemorial,—probably as far back as the Roman occupation of England, and during the occupation of the promontory by the prior and monks of Tynemouth,—there was a pharos or beacon placed here to the south of the modern lighthouse. Not only has all trace of this disappeared, but the rocks on which it stood have crumbled away by the encroachment of the sea. In a new form the morning light still stands here; but, until about fifty or sixty years ago, this was rendered comparatively useless in conse-

quence of the want of another light on the inside of the bar, which would guide the ships through the dangers of the narrow water-course, and signal when the state of the tide would, even in calm weather, admit of the safe passage of vessels. This want has, however, been supplied, and other lights are placed along the east coast; but, at the date above mentioned, the coast from the Nore to the extreme northern point of Scotland was left in an almost entire state of darkness. Even now there is need of more lighthouses; and, notwithstanding all that has been done, the state of our sea-bounds is disgraceful to the greatest maritime nation in the world. Year after year the account of disastrous wrecks is sad to think of; and, while the most competent authorities are of opinion that a chief part of the loss might be prevented by the establishment of a sufficient number of harbours of refuge, the Board of Trade and the House of Commons discuss the question while our seamen are drowned by the hundred and our property lost to the value of millions. Mr. Lindsay has once more brought this important matter before the House of Commons, and reminded the members that, by a committee of that House in 1858, by a royal commission in 1859, and by a resolution of the House in 1860, the construction of harbours of refuge along the coasts of Great Britain was strongly recommended.

Previous to the above dates in 1852, a committee was appointed to inquire into the cause of the excessive loss of men and ships: the late Mr. James Wilson was the chairman of that committee, who reported that, in 1852, the tonnage of vessels, foreign and home, sailing inward and outward to and from British ports, amounted to thirty-nine millions of tons; and they estimated that from 1852 to 1856, the number of ships lost amounted to 5,328, and that the lives of the men lost with those vessels amounted to 4,184. The substance of the report of this committee was as follows:—that "considering what constitutes the chief cause of commercial greatness of this country, and considering the enormous risk to which life and property are exposed, there is no object to which public money can be more beneficially and humanely applied than that of the construction of harbours of refuge."

When we find that, in the course of the time above mentioned, over five thousand ships and more than four thousand sailors have perished, and that the value of the property wrecked is estimated at two millions and a half in each year, it becomes most important that we should consider how much of this might be saved by the completion of the harbours of refuge which have been recommended by practical men.

After all, it is the matter of expense which is the main consideration, and whether the harbours shall be made at the national cost or by means of local rates. It is, however, clear that a large part of those charges should be defrayed by the Imperial exchequer, which might in the end be repayed by ship and other port dues.

In all works of this nature, when the skill and strength of man are brought to battle with the ocean, there always has been, and to the end of all time there will be, a degree of uncertainty in the matter of estimates; and Mr. W. Gibson, on the part of the Government, objected that the sum mentioned by the Commissioners would be insufficient for the intended purpose. According to the report of the Commission, the whole sum to be expended would be 1,500,000*l.*, of which the Treasury was to find 2,350,000*l.* All that Mr. Lindsay asked the Government for was 134,000*l.* per annum for ten years. It was also urged that, especially in time of war, these harbours of refuge would be of as much service to the navy as to the mercantile marine. And, even looking at the question from a money point of view, if we admit that property to the amount of a million a year only would be saved by the construction of harbours of refuge, the investment would pay well.

The arguments advanced by Mr. Gibson against Mr. Lindsay's proposal were weak: nevertheless the proposal was lost by 58.

POST-OFFICE SAVINGS BANKS.—The deposits received in 1863 amounted to 2,649,919*l.*: the withdrawals were 1,026,207*l.*, withdrawals including interest as well as original deposit. The principal and interest due to depositors at the end of 1862 was 1,698,302*l.*, and at the end of 1863, 3,376,828*l.*, or very nearly double the amount at the beginning of the year. The charges of management and expenses for the year 1863 amounted to 25,500*l.*

PROPOSED NATIONAL GALLERY, BURLINGTON HOUSE.

THE estimate of the sum that will be required for the proposed building, including finishing and decoration, is 152,000*l.* The site consists of about three acres and a half, of which one-half is occupied by Burlington House, with its two wings and its colonnade, and by the court-yard which they surround. Mr. Cowper says these buildings need not be disturbed at present, since the garden which occupies half of the site will furnish ample accommodation for the pictures, ancient and modern, belonging to the Trustees of the National Gallery, and also for the additions to the collections which may be expected by gift and purchase for many years to come. The main entrance of the new building will be through the central hall of Burlington House. The proposed building will be 300 feet long, and 218 feet wide. That part of it which will be devoted to the exhibition of pictures will be of one story, lit from the ceiling, and will provide 3,000 lineal feet of wall-space in a horizontal line, exclusive of doorways, and 36,000 superficial feet of floor space. The larger galleries will be 40 feet wide and 40 feet high; and the rooms for small pictures will be 21 feet wide, with a proportionate height. The only external elevation that will be visible will be at the northern side in Burlington-gardens, where the board-room and offices of the trustees and the residence of the keeper will be placed in two stories, and where there will be a public entrance. On the southern side, where the level of the ground is lower, there will be a basement story, and the whole building will be of fire-proof construction.

SCHOOLS OF ART.

AT the Southampton School, eight medals and three "honourable mentions" have been awarded on twenty works done in four months, and forwarded to London under the new regulations. Four of the rewarded works are selected for competition for national medallions. ——From the Stroud School twenty-three works were sent for competition, and of these only eight failed in gaining medals, while eight have been selected for national competition. From Gloucester, twenty-three works were sent up, and ten medals have been awarded to the pupils, and six works have been selected for the national competition. Four medals and one "honourable mention" have been gained by students at the evening class at Gloucester, and several of the medal-winners at Stroud also belong to the same class.——The Cheltenham School has gained nine distinctions in the recent examinations. The works of three students are retained to compete for the national medallions.——To the Macclesfield School twenty-two local medals and one "honourable mention" have been awarded, and seventeen have been selected for national competition. Only twenty-eight drawings were sent.——By the Birmingham School thirty medals have been taken, and seven "honourable mentions" also awarded.——The Lincolnshire School has won twenty-two medals and ten "honourable mentions," and seven drawings have been selected for national competition.

THE LECTURE HALL OF THE LIVERPOOL INSTITUTE, MOUNT-STREET.

THIS hall, which is an amphitheatre, with a gallery, and containing accommodation for 1,200 persons, has recently been decorated according to designs supplied by Mr. H. B. Roberts, of the Liverpool Academy of Art, to whom the ornamentation of the Philharmonic Hall was entrusted on the last occasion, and whom the directors of the Institute engaged to devise and superintend the decoration of their lecture hall; and the painting and marbling have been executed by Mr. Davis, of Rathbone-street, the contractor. The following is a description of the work:—The ceiling is painted fawn colour, with border of double Greek key ornament in brown, and corners inlaid with red honeysuckle. The centre in white and gold, with red mouldings and band of blue and white, ornamented with purple honeysuckle. The chandelier is stone colour and gold. The skylights have been re-glazed with strong plate-glass, which diffuses a much greater and pleasanter light throughout the hall. The counter lights are painted Etruscan brown, the styles grey, with purple ornaments and gold mouldings. The large cove is painted pink, resting on a cornice of white and purple scroll-work, harmonizing with the walls, which are green. The doors of the gallery are purple, green, and gold. The pilasters in the niches are painted Sienna marble, and on each is placed a bust of some one eminent in science, art, or literature. Portraits of Mr. William Rathbone, Mr. Fawcett, and Mr. George Holt, adorn the walls of the gallery. The columns of the organ are painted in imitation of jasper marble, with white parian caps and gold mouldings, and resting on a base of porphyry, with panels of Egyptian green marble. The pipes are blue and gold; the cornice and arch white, gold, and pink, with frieze of blue and white ornament. In the gallery front the balusters are buff and gold; the pilasters buff and black, with grey and red styles: the frieze is stone-colour, inlaid with pink panels and purple ornament, in gold moulding. The light iron columns which support the gallery are encircled with strapwork ornaments and have caps of white and gold. The seats have been stained and varnished, the pads painted, and the body-seats are to be cushioned. Hitherto the hall has been used only for the lectures and meetings of the institution; but in future the public will be allowed to have the use of it, the Directors having determined to let the room for concerts, lectures, and public meetings.

EXCESS OF MORTALITY DURING THE WINTER.

THE Registrar-General's last quarterly return says;—Seldom has a winter been more fatal; for 143,030 deaths, 1,572 a day, were registered in 91 days. The mortality was at the rate of 2·773 per cent.; whereas the average of the season in the preceding ten years was 2·490 per cent.; thus the rate was nearly 28, instead of 25, in 1,000. 14,698 persons died in excess of the average number. Since 1842 it is only in the two winters (1847-48) after the potato failure, and in the winter of the Crimean war (1855), that the country has experienced any higher rates of mortality. The winter death-rate per 1,000 was 2,850 and 2·794 in the former years, 2·910 in 1855, and 2·773 in 1864. In unhealthy places, and in England formerly, when the land was undrained, and when zymotic matter soiled the air and waters more abundantly than it does in these days, the mortality was highest in the hot months of the year; but in the last quarter of a century the summer diseases have to some extent subsided, and left the mortality highest in winter, when the cold weather, in some proportion to its intensity, cuts off the weakly and the aged. London suffered to an extraordinary extent. The average annual rate of the winter quarter in London is 2·577 per cent., but in the last winter quarter the rate becomes 3·088, or ·511 above the average. The funerals increased in the proportion of five to six.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

CHICHESTER CATHEDRAL.

AT the meeting held April 27th, Lord Houghton presided, and a large number of very interesting matters were exhibited, for an account of which we unfortunately have not space.

Mr. Gordon Hills, who was an eye-witness to the fall of the spire of Chichester Cathedral in 1861, as our readers know, called the attention of the society to some very curious particulars relating to the subject. He alluded to the prevalent opinion, supported by the historians Hay and Dallaway, that the north-west tower of the cathedral had been battered down in 1642 by Sir Wm. Waller, the Parliamentarian general. Mr. Hills showed that the destruction of the tower could not have taken place at that time; but the exact period of its occurrence was left in doubt. This doubt he has been able to clear up. The Rev. C. A. Swainson, canon of Chichester, has furnished Mr. Hills with the particulars derivable from a MS. in the handwriting of Dr. Thomas Haley, preserved among the archives of the cathedral chapter-room. Dr. H. was prebendary of Heathfield in 1704, canon residentiary in 1712, and dean in 1755. The MS. consists of a copy of the paper written in 1684, in Dr. Ede's handwriting, being "An

Account of Sir Christopher Wren's Opinion concerning the rebuilding of one of the great Towers at the west end of the Cathedral (one-third of which, from top to bottom, fell down about fifty years since), which he gave after he had for about two hours viewed it both without and within, and above and below, and had also observed the great want of repairs, especially in the great west tower." The report bears the date of 1684, the year in which Wren was by letters patent made Comptroller and Principal Officer of the Works in the Castle of Windsor. It shows that the tower fell about 1634. Sir Christopher actually proposed to clear away the ruins of the fallen north-west tower, and also to pull down the corresponding one in the south-west, and shorten the nave by one arch, and to substitute "a fair-built west end" of his own design; and it is satisfactory to think that the dean and chapter practised greater economy than the architect advised, and let it alone altogether, by which we are still able to look upon the south-west tower, though condemned a hundred and eighty years since.

The remainder of the evening was occupied in the reading of an elaborate paper by Mr. Geo. Warcing Ormerod, "On the Hut Circles of the eastern Side of Dartmoor," derived from long and continued examination and survey, difficult to explain without the numerous plans, drawings, &c., with which it was accompanied. It will form a useful pendant to Sir J. Gardner Wilkinson's papers on Dartmoor, already printed in the journal.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting held April 26th, Mr. J. R. M'Clean, president in the chair, the first paper read was "On the Structure of Locomotive Engines for ascending Steep Inclines, especially when in conjunction with Sharp Curves on Railways," by Mr. J. Cross.

The second paper read was "On the Impedimental Friction between Wheel-tires and Rails, with Plans for Improvement," by Mr. W. B. Adams. The author thought that the chief source of destruction in rolling stock and permanent way, apart from disproportionate weight, arose from the blows and friction between the wheel-tires and the rails—that was, jumping and sliding. This conclusion was verified by the contrary results practically obtained on the main line of the North London Railway at Bow. He considered that the best mode of preventing the blow was to provide for elastic resilience immediately over the tire beneath the wheel, and immediately under the rail, taking care that the rail-joints were elastically supported by fishes of sufficient depth; a continuous elasticity which could only be obtained by discontinuous supports, as with the double-headed rail on an elastic base—the flat-footed and bridge rails with continuous supports not being adapted for it; and that the rail thus elastically supported should be in itself as rigid as possible. On the North London line, this desirable result had been obtained, by laying down longitudinal timbers on the ordinary cross-sleepers, and spacing the rail supports not on the cross-sleepers but between them; the cross-sleepers being packed, and the longitudinals unpacked, so as to yield elastic action. In a lapse of nearly two years and a half, the ordinary iron rails laid on this system were undamaged, and the cross-sleepers firm and unmoved, in marked contrast to the rails laid in the ordinary rigid way.

LONDON MAIN DRAINAGE.

At a recent meeting of the Metropolitan Board of Works, the engineer (Mr. Bazalgette) reported that, at the present time, about one-sixth of the metropolitan sewage was intercepted by the Northern Outfall Sewer works, and discharged into the Thames at ebb tide at Barking, whence it was carried to the sea. This sewage, about 14,000,000 gallons in quantity, was formerly discharged into the river within the metropolis at low water. The progress made with the Main Drainage works was thus stated.—On the Main Drainage Middle Level Sewer, work to the amount of 306,000*l.* had been done; on the Western Sewers, 3¾ miles of sewer had been constructed at the cost of 51,000*l.*; at the Northern Outfall Reservoir works had been executed to the estimated cost of 163,000*l.*; at the Southern Low Level Sewer, 3¾ miles of work had been completed at the cost of 110,000*l.*; at the Southern Outfall works at Crossness, work to the amount of 213,000*l.* had been finished. With respect to the Northern Thames Embankment, the engineer reported that the works of the first contract, (from Westminster-bridge to the east side of Cannon-street) had been much delayed by the difficulty in obtaining possession of the wharfs on the side of the river, and by the necessity there was for making experiments as to the best form of iron caissons for excluding the tide. Works had been done on this contract to the amount of 30,000*l.*, and on the second contract (between Waterloo-bridge and the eastern side of Temple-gardens) to the value of 12,000*l.*

ST. JOHN, NEW BRUNSWICK.

WITHIN the last four years, New Brunswick, and more particularly St. John, has been making a marked progress in architecture. In the country, numerous summer residences, and some churches, of a good though simple style,—Gothic modified to suit the climate of the province,—have been erected, and each year adds to the number. Near St. John, the residences of Mr. William Thompson (Mr. Stead, architect) and Mr. T. W. Daniel (Mr. J. A. Munroe, architect), are perhaps the best.

In the city, the new Roman Catholic Cathedral (Transition) and the bishop's residence (Perpendicular), are the best specimens of Gothic; and the stores of Messrs. Doherty & M'Tavish, Hall, and M'Cullough (Mr. Stead, architect), and Messrs. Ennis & Gardner, Ray, and Beard & Venning (Mr. Munroe, architect), of Italian. Some good residences and public buildings are scattered over the city. The new buildings are generally either of brick or stone, wood being used only for small houses.

The St. John gymnasium, in course of erection, is the first of the kind in the province. Mr. Munroe is the architect. The building is 40 feet front by 100 feet deep, and is built of wood; and, when finished, with baths, closets, sinks, &c., will cost 3,000 dollars (about 600*l.* sterling). The heating apparatus will consist of pipes for steam running around the building.

Our correspondent writes,—"The great evil we have to contend with is remodelling old buildings with stories 8 feet high. All St. John wants, to make it second to none of the colonial cities, is large fires; for people would rather spend 2,000*l.* on an old shanty, than build a new building for 1,800*l.* We have just established a school of design: it numbers some thirty members, intelligent mechanics of different trades, and is rapidly increasing in popularity."

NEWS FROM SCOTLAND.

Elgin.—An extensive and improved farm-steading has been erected at Drumbain, near Rothes, on the road from Elgin to the Spey Valley. The new steading is built on the site of the old one; but it covers so much more ground that it has been necessary to make an excavation, to the depth of 8 or 10 feet, into the hillside, in order to preserve the level of the foundation. The steading, as fully described in the *Elgin Courant*, may be said to consist of three squares joined together. First, there is the principal square built into the hill-side. This division contains the mill and barns, the granary, stable, cart-shed, and other offices. Next, there is a square in the same line containing the byres and the dung court; and, running back at right angles from this, are the cattle-sheds and courts for the accommodation of young stock. All these divisions are slated with very fine blue slate, and they differ in height according to the purposes which they are intended to serve. The first division is a story and a half high, with the exception of the thrashing-mill, which is two stories in height. This division measures 115 feet in length by 109 feet in breadth outside the walls, and contains inside a clean court 66 feet by 73 feet. The entrance to this court, and to the offices ranged round it, is by a gate 11 feet wide and 7½ feet in height. Going into this court, which is as well paved and as clean as the best streets in some cities, the stable is on the right, the cart-shed on the left, and the thrashing-mill and straw barn in front. The stable contains thirteen stalls, and is fitted up with the utmost regard to the convenience of the horsemen and the comfort of the animals. It is lighted with moderator lamps and paraffine. The lamps are enclosed in glass lanterns as a security against fire, and are balanced on pulleys from the joisting, so that the light may be moved up high or brought down to the floor if required. There is a plentiful supply of water brought in pipes to every part of the steading. It is introduced into the stable, outside of which there is also a large watering-trough for the use of the horses. Each man is provided with a chest to hold his horses' corn under lock and key; and in the angle of the stable, which occupies a side and a-half of the square, there is a harness-room, where every man has a trace on which to brush up his horses' harness. Immediately above the harness-room, and approached from it by a stair, is the ploughmen's sleeping apartments, which are ceiled and plastered. There are a bed-room and a dressing-room where the men may keep their clothes and dress themselves. A supply of water can at any time be had from a pipe which is introduced into this room. The sleeping-room, while it is made as comfortable as a place of the kind could well be made, is so constructed that if any of the horses should make a noise during the night, the men have only to open a small window looking down on the stable to satisfy themselves of what is wrong. The straw barn will hold at least 120 quarters of straw. It is 18 feet in width by about 60 feet in length, and, with a story and a-half of walls, is open up to the apex of the roof.

Wick.—The works in connexion with the new harbour are now advancing. The service railway from the quarries to the breakwater is almost completed, and a great quantity of plant and machinery is laid down to be ready for operation. Already about 200 feet of the breakwater have been laid down, and the staging on which the waggons are to run for pushing it seaward is erected for that distance. It is expected that other 600 feet of the work will be finished during the season.

Slateford.—The Free Church here, which was built only two years since, has been completely destroyed by fire, which (as usual) originated in the stove, communicating, it is believed, with the woodwork in a corner of the gallery. The building was insured to the extent of 500*l.*

COMPETITIONS.

The Southport Cemetery.—The Improvement Commissioners of Southport have awarded the first premium to the plans sent in by Messrs. Blackwell, Son, & Booth, architects, for the laying out of the intended cemetery at that place, and the erection of the necessary buildings. The principal entrance to the cemetery is in Duke-street, and is flanked on one side by a residence for the superintendent, and on the other by a porter's lodge. The extent of the cemetery is about 9 acres. Two semi-detached chapels, for the Noncomformists and the Church of England, are placed in the centre of the plot, and are approached directly from the principal entrance; whilst, immediately on entering, a winding road conducts to the Roman Catholic chapel, which stands on the south side of the plot. The semi-detached chapels are divided by a clock tower about 50 feet in height, on both sides of which are vestries leading to the chapels; and on the other side of the vestries are entrance porches for mourners. In connexion with each chapel is a mortuary for the reception of the coffins, and this is divided from that portion of the chapel occupied by the mourners by glass folding-doors, which will admit of the coffins being seen. The style of architecture adopted for the lodges is domestic Gothic, and that for the chapels is Continental Gothic.

Hackney Town-hall.—In the *second* competition for this building only four designs, according to the *Hackney Independent*, were sent in. From these a design by Messrs. Hammack & Lambert has been selected.

IRELAND.

The Clonmel School of Art.—This school has just been visited by Mr. Moodie, an officer from the Science and Art Department, and the students have undergone the usual examination. The inspector expressed his surprise at the low attendance at the school, especially of the artisan class. He stated that in England the artisans were most assiduous in their attention to the schools of art, as the knowledge there afforded was sure to advance them in their various employments, and thus procure for them a higher

ate of wages. He was sorry to perceive that he same influence did not appear to actuate the rish artisans. Mr. Moodie also remarked on he indifference to art education, exhibited by he friends of the elementary schools, where, notwithstanding the great encouragement afforded by the Department, only one school, hat is the Model School, was in connexion with he school of art. Alderman Hackett informed he inspector that the success of a school of art n Clonmel was much hindered by the absence f manufactories, and of the consequent demand or the service of the designer and draughtsman, nd that at present the artizan class were suffer- ng from a scarcity of employment in the various lepartments of buildings, so that many were eaving the country.

The National Model Schools.—A Parliamentary aper, moved for by Mr. Pollard Urquhart, M.P., contains tabulated details respecting twenty-even model schools. The expenditure on the entral model schools is omitted, as also that on he West Dublin model schools. The aggregate xpense of the other twenty-five establishments s 136,315*l.*, or an average of 5,452*l.* each, the Belfast model school having cost 12,453*l.* The twenty-seven model schools in operation cost 30,971*l.*, or an average of 1,147*l.* each, the cost of the larger establishments standing thus:—Central model, 3,416*l.*; Belfast, 4,516*l.*; Londonderry, 1,044*l.*; Newtownards, 1,606*l.*; West Dublin, 1,305*l.*; Limerick, 1,255*l.*; Galway, 1,246*l.*; Waterford, 1,020*l.*; and Trim, 1,007*l.* During the year 1863 the number of different pupils that passed through the schools was 16,768,—3,214 in the central model school, 2,805 in Belfast, 1,054 in West Dublin, and 105 in Enniscorthy. The daily average attendance ranges from 1,388 in the central model, 1,215 in Belfast, 427 in West Dublin, to 95 in Sligo, and, lower still, 52 in Enniscorthy.

PROVINCIAL NEWS.

Andover.—Mr. Gue, of this town, builder, has obtained the contract for building the new London and County Bank in the High-street. The sum agreed upon is 1,959*l.*

Penzance (Cornwall).—The chief stone of the Penzance Public Buildings has been laid with some ceremony.

St. Ives.—The following tenders have been received for the erection of the new Corn Exchange on the Market-hill. Mr. Hutchinson, the architect, was instructed to have the work commenced immediately:—

Allen	£2,177 0 0
Cock & Jenkins	1,790 0 0
Saunders	1,685 0 0
Thackeray & Son	1,527 0 0
Thompson	1,520 0 0
Allpress	1,433 0 0
Bunting & Son (accepted)	1,409 0 0

Messrs. Bunting & Son have commenced operations by pulling down the buildings purchased for its site.

Hereford.—A building at the cathedral-end of King-street, formerly in the occupation of a cabinetmaker, has been restored in the olden style of such buildings in Hereford, with external carvings and ornamental mosaic work in the windows and balcony. In Gwynne-street, adjoining, also, some street improvements have been carried out. The whole of these works have been done by Messrs. Ford, from designs by Mr. E. H. L. Barker.

LABOURERS' COTTAGES COMPETITION.

SOCIETY OF ARTS.

THE following is the report of the judges appointed to decide on the competition for prizes for designs of cottages for the labouring classes, offered by Mr. J. B. Denton, through the Society:—

"After a careful consideration of the designs submitted to us, numbering in all 134, from 107 competitors, residing in all parts of the United Kingdom, we feel it incumbent on us to offer a few remarks in explanation of our decision.

We would observe, in the first place, that although the terms of the competition are such as to limit our attention rather to small matters of detail, affecting the stated cost, than to permit our actually selecting the best design which could be built for a reasonable outlay, we have given our consideration to the whole subject of cottage accommodation for the labouring classes.

Notwithstanding that the offer of these prizes has been the means of procuring so large a number of designs, we cannot but consider that no satisfactory solution of the problem proposed has been given. The possibility of erecting really good and substantial cottages for the labouring population of this country generally, with the stated accommodation, at a cost not exceeding 200*l.* a pair, all profits and expenses included, is not demonstrated by the present designs. This is shown by the remarks of the competitors themselves, and by the shifts they have found themselves obliged to adopt in order to reduce the cost, as well as by those exceptional cases where, owing to some peculiarly favourable circumstances, or by omitting some feature not so important in one locality as in another, a result somewhat approaching that which is desired in the cost has been arrived at; not in any case, however, without contravening the terms of the competition in reducing the given prices of certain items.

We particularly mention good and substantial cottages of the given dimensions, for it is to such alone that our attention has been directed, as it cannot be the desire of the donor of the prize, or the wish of the Society of Arts, to encourage the erection of cottages of an inferior character. We have in all cases taken the cost of cottages to be erected in pairs, it being obvious that a better building can be provided for a stated sum when attached to a similar one, and thus the cost of some of the walls, roofs, &c., divided between the two. On the other hand, the cost of a row of ten pairs of cottages can hardly be taken as a fair criterion of the value of a single pair, a group generally much more frequent and desirable than the larger number.

Several items are included in the terms of the competition which we think should have been more clearly defined or excluded altogether from the estimate; for it is obvious that the words "water supply, well, fencing, paving, &c.," may be taken to imply very different items of expenditure by different individuals in a competition. Again, while brickwork as a material for walls of cottages is almost unknown in some parts of the country, it is obvious that rubble walling must be reduced to value in the terms of brickwork to get at a fair comparison of the cost according to the terms of the competition; and similarly, roofing, if of tiles, must be valued as slates at the given price.

The paragraph referring to the height of rooms seems to have been differently understood by the competitors, the word "clear," at the end of the sentence relating to this matter, having been taken by some to mean the height of the ground-floor up to the ceiling, while the generality of designs allow only 9 feet, including the thickness of ceiling, upper floor joists, and flooring.

It is true that in some parts of England, where bricks can be obtained at from 18s. to 20s. a thousand on the spot, and where certain facilities exist for obtaining other materials, where timber is inexpensive and concrete foundations are scarcely required, a certain kind of cottage may possibly be erected for the sum named in the instructions (though generally speaking it is not so), but it would be highly improper, without the addition of considerable improvements, at increased cost, to recommend such cottages as fit to be erected for the occupation of the labouring classes generally.

Of all the plans submitted, therefore, none can be said strictly to conform to the terms of the competition, both as to the accommodation required and the cost. To none, therefore, can we, strictly speaking, award the prize. We, however, deem the design marked by you as No. 23 to be, on the whole, the one most conformable to the terms of the instructions, as well as to the proper requirements and conveniences of a labourer's cottage, and, therefore, we recommend that the prize of 25*l.*, open to the United Kingdom, be awarded to this design.

It must be understood as our opinion, however, that, generally speaking, brickwork of 9 inches thick for outer walls in exposed situations is not sufficient to resist the weather, and therefore we should recommend some system of hollow walls to be adopted, which would of course add to the cost. With reference to this we would call attention to the remarks of a competitor (No. 71), to which we quite assent. He proposes to build the cottages shown in his design in 9-inch solid brickwork, the stipulated cost not allowing him to make them of greater thickness, and adds, 'Should it be thought advisable to increase the expenditure for this purpose he would recommend hollow walls built in brickwork, the space between being 2½ inches, and the walls bonded together with wrought-iron ties.' It is only fair to observe that several other competitors (as Nos. 2, 14, 30, 81, and others) show various systems of hollow walling, or some kind of hollow bricks.

Though not specially mentioned in the instructions, an oven is, we consider, often a matter of importance; and, if made common to both cottages (as in Design No. 71), may be added without any great expense.

We cannot recommend the ordinary water-closet apparatus with cistern-pipes, &c.—so liable to get out of order—for general adoption in ordinary labourers' cottages. A modification of this by the use of a common syphon pan, with the ordinary privy or cesspool, will be found sufficient; and when, by means of ashes, clay, or other deodorising substances thrown into the pit, the loss of the soil is prevented, the matter is not unimportant.

The use of cast-iron casements, as in Design No. 23, is not desirable, owing to the difficulty of making and keeping them water-tight, their liability to fracture, and the difficulty of repairing them. We should recommend sashes or casements in wooden frames, and no lead lights for other than ornamental purposes.

The internal walls of some of these designs are not plastered, thus evincing an attempt to save cost. Perhaps, in some cases, with very good bricks, and in certain localities, plastering may not be required; but, generally speaking it is desirable to plaster the bedrooms and living rooms of cottages.

In some of the designs the living-room floors are described to be common flat brick paving. Good paving tiles at least should be used, but we consider wooden floors, for the living-room as well as the bedrooms, generally indispensable to the comfort of the inhabitants.

The Design No. 23 shows well-ventilated pantries and good coal-stores; also a well, common to both cottages, and a rain-water butt.

The partitions shown in some designs (particularly No. 71) in the upper floors, of ½-inch boarding only, are not sufficient except, perhaps, next the staircase. The separation between the rooms should be of a more substantial character.

Design No. 23, to which we award the chief place, would be greatly improved by dormers over the upper windows at the back, so as to give greater space for light and air to, as well as to improve the appearance of, the cottage.

In all cases when the sloping parts of slate roofs especially (and generally also of tile roofs) are made a portion of the ceiling of the upper rooms, some plan should be adopted to check the access of heat and cold.

It is stated that cottages of the same design as No. 31 are being erected in large numbers in Yorkshire at a cost within the amount stated in the terms of the competition; but we find in the estimate that the brickwork is taken at 6*l.* a rod instead of 8*l.*, as in the instructions, and other work at proportionately low prices.

With regard to the prize offered specially to the members of the Architectural Association, the number of designs sent in is small in comparison; and we regret to observe that the attempt to conform strictly to the terms of the competition as to cost, seems to have led to the sacrifice of essential conveniences and comforts, although there is no design which we can say has successfully met the instructions even in this respect. Either in substituting tiling at a flat pitch for slates, or by reducing the heights of some rooms, or placing the water-closet inside the walls of the house, or in some other way, attempts have been made to meet the instructions, which only serve to preclude the possibility of our recommending any of the designs submitted for the prize, or of according to them our commendation as generally fit to be adopted as dwellings for labourers, without a variety of improvements.

We would observe, however, that No. 15 offers a suggestion deserving of remark, as it submits a plan with one of the bedrooms on the ground-floor, whereby the size of the upper rooms is increased and the boys and girls of the family are more completely separated. Only one door to the house is provided, and the scullery is reduced in size. This plan obviates in a measure the difficulty arising from the area required for the upper floor of a cottage with three bedrooms on that floor generally exceeding the area actually required on the floor below. Such an arrangement as this may be desirable in some localities, but it is not contemplated in the instructions. This design is shown as roofed only with pantiles at a low pitch. The general plan of No. 29 is, upon the whole, good; but the elevation as shown cannot be commended, unless the improved elevations, as sketched in the alternative design, were adopted, which would then bring the cost considerably beyond the stated sum.

In fine, we may observe that although good cottages may possibly be erected, under favourable circumstances, in some parts of England for a lower sum, we consider the probable average cost of a pair of cottages built with the conveniences we have enumerated would be about 300*l.*, to 360*l.*, and that the attempt to erect them at any considerable reduction upon this amount must result in some inferior kind of buildings, discreditable to the owner, and wanting in much of the necessary accommodation for a labourer and his family.

We would further remark, in conclusion, that there are other advantages besides the mere per-centage on the outlay which must be looked for to remunerate a cottage builder for his expenditure on improved dwellings,—advantages nevertheless capable of being estimated at a pecuniary value, such as proximity of the labourer to his work and consequent saving of time, &c., amounting often to quite as much cash value as half the rent of the cottage; but especially the moral and physical welfare of the tenants, and the proper sanitary condition of their dwellings. These latter considerations, after all, are those which give so great an importance to the subject, and which have prompted us to give especial attention and care in deciding what may at first sight seem but a simple matter.

(Signed) C. F. HAYWARD, Architect.
G. DINES, Builder.
J. CLUTTON, Land Agent."

The name of the successful competitor (No. 23) is Mr. John Birch, 51, Holywell-street, Westminster, to whom the Council have awarded Mr. Denton's prize of 25*l.* and the Society's silver medal, in accordance with the above recommendation.

COMPETITION, NEW MUSEUMS, SOUTH KENSINGTON.

WHILE the decision of the committee was in abeyance in this competition, it was, perhaps, as well to abstain from remarks on the subject of the infringement of the conditions with respect to the finishing of the drawings, because it might have been expected that the extent to which this has been carried in the first premiated drawings, in colouring instead of light brown Indian ink, could scarcely have escaped their attention.

It is not, of course, that the mode of finishing affects the merits of a design, *per se*; but it gives a most unfair prominence frequently to mere pretence and meretricious ornament over more meritorious and modestly finished drawings.

Without descending to the more minute though important process of lighting, which a very cursory inspection of these drawings shows to be exceedingly defective, there are two points which deserve especial remark.

First, that from the vagueness of the instructions, and the authorities simply referring back to them, such of the competitors as asked for further information, the difference of opinion as to the intentions of the Government was such, that while some of the competitors, including the first premiated, went in detail into the scheme for the whole site, and gave "full" perspective views of the principal front next Cromwell-road, 1,100 *feet long*, a large number believed themselves restricted by these instructions to the eastern side of ground only, and gave "full" perspective views of the façade, 600 *feet long only*, next Exhibition-road. Between designs so circumstanced no fair comparison could by any fair possibility be instituted.

Secondly, and it is a point of great importance to the Government as well as to the competitors, the instructions restrict the Natural History Museum to the *eastern side* of the site only, and clearly imply that it must be self-containing within those limits. Now as Captain Fowke places the lecture-hall, library, and even the entrance-hall, in the *central block* and on the *central axis* of the building, either the Natural History Museum must be constructed *without* these necessary appendages, or the Government, by commencing at all, commits itself at once to the whole scheme, and to a building which cannot be completed under 1,500,000*l.* The instructions clearly imply that they are anxious to avoid this necessity.

The modifications exhibited are equally illusory; each consisting in leaving out some essential point; *e.g.*, the *museum* without the *library, lecture-hall*, or even *entrance-hall*, or these *without* the *museum*. Now, the very essence of a modification consists in this, that though reduced in size, it is complete and self-containing in itself.

It is inconceivable how the committee can have overlooked these points.

AN ARCHITECT.

THE COFFIN OF EDWARD THE CONFESSOR.

THE following very interesting entry—relating to one of the most eminent of our Anglo-Saxon kings—has *never before been published*, nor referred to, nor ever imagined to exist. I found it (some seven years back) in the Accounts of the Paymaster of Works and Buildings, belonging to the Crown, during the reign of King James II.: -

"Paid to Mathew Bankes, for a large coffin by him made to enclose the body of St. Edward the Confessor, and setting it up in its place, in the year 1685,—6*l.* 2*s.* 8*d.* And to William Backe, locksmith, for large hinges and rivetts, and 2 crossebarrs for the said coffin,—2*l.* 17*s.* 7*d.*"

Lord Macaulay would doubtless have made use of this illustration of the religious character of the last of our Stuart kings—as he would have made like admirable use of the removal, by King William III., of Grinling Gibbons's Whitehall Chapel altar-piece—from Inigo Jones's Whitehall to the position it still retains in the Chapel of Hampton Court Palace; a fact alike significant and important, which I had the good fortune to discover and to make first known to the public in the columns of the *Builder*.*

"I have seen" (says Keepe) "a large chest or coffin, bound about with strong bands of iron, lying about the midst of the inside of this shrine, where I suppose the body of the pious Confessor may still be conserved." Keepe's work was published in 1681; and four years after, at the taking down of the scaffolding, erected for the coronation of James II., a hole was either accidentally or purposely broken in the lid of the Confessor's coffin. "On putting my hand into the hole" (says Keepe), "and turning the bones which I felt there, I drew from underneath the shoulder-bones a crucifix, richly adorned and enamelled, and a gold chain, twenty-four inches long." The crucifix and chain of the *last but one* of our Saxon kings were accepted by *the last* of our Stuart kings. Their destiny is, I believe, unknown.

This is the whole account we have of this discovery and its appropriation—a passage in "Bishop Patrick's Autobiography" (p. 191) excepted, with which, however, I will not trouble your readers.

PETER CUNNINGHAM.

SCULPTURE EXHIBITION AT THE ROYAL HORTICULTURAL GARDENS.

SIR,—As a letter addressed to the Sculptors' Institute by the Royal Horticultural Society, the original of which I received only on the 3rd instant, was inserted in your paper of last week, I deem it my duty to state that the reason why the Sculptors' Institute have thought proper to withdraw their support from the proposed exhibition of sculpture is, that the arrangement propounded to them in the first instance by the late lamented Prince Consort, and carried out last year, has been abandoned by the authorities of the Gardens, and a code of rules substituted of a character not in accordance with the views of his Royal Highness.

EDW. B. STEPHENS, Hon. Sec.,
Sculptors' Institute.

NEW PATENT DIRECT-ACTING STEAM-HOIST.

A NEW machine, for the purpose of raising weights, driving piles, and general hoisting purposes, has been tried at the works of Messrs. Peters, Brothers, Portwood, in the presence of gentlemen interested in this class of machinery, and of engineers from London, deputed to report upon the merits of the machine, which is the invention of Mr. A. B. Brown, C.E., of the firm of Scott Burn, Brown, & Co., of London. Most of the ordinary loss of power is avoided, the only wearing parts being reduced to a piston and piston-rod. Steam is admitted from a small tubular boiler, into the cylinder at a high pressure, and is thus permitted to exert its expansive force directly upon the rope by which the weight is raised. The whole machine, is portable and upon wheels. In one of the trial experiments, weight, being at once freed from all resistance, fell at the natural velocity, and descended like a blow from a hammer. The weight lifted was 5 cwt., the speed 900 feet per minute, the indicated pressure of steam 70 lb. to the square inch. Eleven blows per minute upon a pile were represented; and it is the opinion of the inventor and constructors that, with a larger steam-producing surface, a speed of from eighteen to nineteen blows could be obtained. The concluding part of the trial was to display its power as a general hoist for warehouses, wharfs, mills, and other manufactories. The operation of the machine itself is reported as almost without noise. The trial was considered satisfactory.

* *See* the *Builder*, Nov. 8, 1862, p. 793.

CHURCH-BUILDING NEWS.

Cambridge.—The chief stone of the new chapel of St. John's College has been laid. The chapel has already progressed considerably. The architect is Mr. G. G. Scott. Messrs. Jackson & Shaw are the contractors.

Thetford.—The church in this hamlet is now completed, after restoration and re-seating, and will shortly be re-opened for divine worship. The work has been carried out by Messrs. Freeman, of Ely, as contractors, from designs of Mr. J. Ready, of London, and the cost will be defrayed entirely by the family and friends of the rector, the Rev. H. H. Baber, of Stretham.

Stow.—Operations have at length been commenced for the necessary repairs required by the state of Stow Church. The work has been resumed at the point where the restoration of the choir left it twelve years ago, viz., with the Saxon piers of the tower next the chancel. As the work to be done is of a nature which does not admit of its being let to a contractor, careful workmen are employed in carrying it on under the eye of the incumbent, with the assistance of the architect and a clerk of the works. Some liberal donations have recently been added to the restoration fund from influential persons in the county.

Harleston.—The roof of the chancel of Redenhall church, which was in a somewhat decayed state, has been replaced by a new one, of similar design as the original, which belonged to the Decorated period. The whole has been executed in English oak by Mr. C. Godbolt, of Harleston, under the superintendence of Mr. R. M. Phipson, architect. A debased window, altar railings of the staircase balnster style, and a west gallery blocking up the lower arch, still exist; but these will gradually give place to better things.

Bedford.—The first meeting of a general committee for the restoration of St. Paul's church, Bedford, has been held at the Shirehall, according to the local *Times*, when resolutions were passed to the effect that the present condition of the church renders it highly desirable that steps should be at once taken with a view to its complete repair and restoration;—that to carry out such restoration a considerable expenditure must necessarily be incurred, towards which a sum of about 1,000*l.* has been already promised;—and that Mr. R. Palgrave, jun., be appointed architect. A working committee was appointed to carry out the objects contemplated.

Newbury. — A new chancel is about to be erected to St. John's Church, Stockcross. This church was erected about twenty-five years ago. The chancel at present is only about 7 feet deep, by 15 feet wide: it will be when completed 27 feet deep, by 18 feet wide. The plans have been prepared by Mr. Hyllier; and Mr. Low, of Speen, by whom the church was built, has taken the contract for this extension.

Llanelly.—A new Welsh church is about to be built on Glanmor Park estate, near the seaside, Llanelly.

Liverpool.—The foundation-stone of the Church of St. John's has been laid at Waterloo. The new church, according to the *Journal*, is to occupy a triangular piece of land at the upper part of Wellington-street, Waterloo North. The building will be of a simple and comparatively inexpensive character—the architecture being early English. Externally the church will be built of Yorkshire shoddy, with Stourton-stone dressings. The roof will be pointed, and the only addition in the way of ornament is a small bell turret which surmounts the west gable. The church is intended at first to accommodate about 600; but, when required, enlargements can be made by the addition of north and south transepts, which will accommodate about 300 more. The dimensions of the nave are 62 feet by 37 feet, and of the chancel 30 feet by 20 feet. The roof will be of open timber-work, stained and varnished, of one span. Mr. Culshaw is the architect, and the building contract has been left to Mr. T. Smitton, of Seaforth. The total cost of erection and endowment is estimated at 4,200*l.*

Books Received.

Engineering Facts and Figures for 1863. *An annual Register of Progress in Mechanical Engineering and Construction.* Edited by ANDREW BETTS BROWN, Mechanical Engineer. London and Edinburgh: A. Fullarton & Co., 1864.

THIS book is a product of the noble art of wielding the scissors and paste-brush. It is a reprint of selections from the articles published last year in the *Engineer*; the *Mechanics' Magazine*; the *Practical Mechanics' Journal*; the *Engineer and Architects' Journal*; the *Chemical News*; the *Scientific American*; and the *Builder*. The compilation of these so-called "engineering facts and figures for 1863" must be founded upon three assumptions;—first, that Mr. Brown's sources are ever-running streams of facts; second, that the figures are always given; third, that engineering progress is completely recorded in the more or less ephemeral class publications of the day. Is this so? The editor's name would give one the impression that the tinge of his intellect is that of the autumn leaf—when, as Kingsley sings, "all the trees are brown." We should be inclined to assert that his predispositions are of a more youthful kind, and are of the present joyous season of the year (Gioventu—primavera della vita; primavera,—gioventu del anno):—

> "When all the world is young, lad,
> And all the trees are *green*;
> And every goose a swan, lad,
> And every lass a queen,"
> * * * * *

But, instead of taking to boot and horse like the hero of Kingsley's lively and yet pathetic lyric, Mr. Brown rushes to the paste-brush and scissors. At the same time let us say that the articles chosen are very well selected from the special point of view of a mechanical engineer, and make a tolerably useful book. We notice, however, several misprints, which slightly alter the sense. Several names of foreign scientific grandees are also misspelt; *e. g.*, "Poncelef" for Poncelet; "Depretz" for Despretz; "Ruhlmann" for Bühlman (a very great difference to a German); and some other similar slips. For Mr. Brown's own sake, we advise him to spend his leisure hours with the true sources of mechanical knowledge; to, in one word, devote his time to getting up *one* subject well; and then, and not till then, to rush into print.

VARIORUM.

"HEROINES of the Household," by the author of the "Heavenward Path" (Hogg & Sons). This is a very interesting series of sketches of noble women of ancient and modern days, ranging from Monica, the mother of Augustine, to Miss Marsh, whose labours amongst the navvies will not soon be forgotten. It is well calculated not merely to interest young readers, but may suggest what many would gladly find,—a path of usefulness.——"The Steady Aim," by W. H. Davenport Adams (Hogg), is another book of examples and encouragements from modern biography. The author has found his subjects amongst all classes, inventors and discoverers, naval and military heroes, artists, authors, and men of commercial enterprise, choosing those who have become great by the adoption of a particular path in life, and following up that path with unfaltering resolution. It is useful to remember that,—

> ——"The virtue lies,
> In the *struggle*, not the *prize*."

——"Chasing the Sun," to name another reading book that has reached us (published by Nisbet & Co.) forms part of *Ballantyne's Miscellany*, the very good object of which we have previously mentioned. The present little volume describes familiarly some rambles in Norway.——The current number of the *Quarterly Review* contains an article on "Pompeii," founded on the reports of Signor Fiorelli, now at the head of the Royal Museum, and who was previously director of the works at Pompeii. Accounts of the more recent discoveries which have reached the English public only through the journals, are brought together, and their value is made evident. To check the habit of writing names upon the walls, Signor Fiorelli has ordered all names thus written to be published in the Naples paper which has the largest circulation. The *Quarterly* says, "he has been requested to furnish a list of those of our own countrymen, that they may be similarly exposed to public reprobation at home"!

Miscellanea.

Manslaughter by Artificial Manure Manufacturers. — An inquest has been held, in Wolverhampton, on the body of a young married woman, who lived near to the chemical and artificial manure works, in that town, of Messrs. Wildsmith & Gaunt. The deceased had complained several days of sickness and huskiness in the throat, caused by the sulphurous vapour arising from the works. Medical men were called in, and they found the house surrounded by a vapour of a peculiarly acrid taste. This they pronounced to be sulphurous acid gas given off from the works; and a *post mortem* examination revealed that the deceased died of inflammation of the lungs, which Dr. Henry Hancox, surgeon, who made the examination, believed was accelerated by the woman having inhaled the vapour in question. The jury returned a verdict of "manslaughter" against Messrs. Wildsmith & Gaunt, and those gentlemen were committed for trial, but admitted to bail. Previously the Corporation of Wolverhampton had commenced proceedings against them by indictment.

The Value of House Property in South London.—The following properties were recently submitted to public competition at the Mart, City, by Messrs. Charles & Henry White, auctioneers, of Kennington-cross, and after some spirited biddings were sold at the following prices:—Leasehold residence, 21, Trinity-square, Southwark, let at 35*l.* per annum; ground-rent, 12*l.* 1s. 6d.; unexpired term, 31 years, sold for 295*l.* Leasehold residence, 22, Trinity-square, Southwark, rental 42*l.* per annum, held at same ground-rent and term as above, sold for 300*l.* Two leasehold dwelling-houses, situate Nos. 1 and 2, Cottage-place, Vauxhall, Lambeth, held for about twenty years, at a net rental of 16*l.* 6s., sold for 75*l.* Twenty-five leasehold dwelling-houses, in Harris-place, Harris-street, Camberwell, let to weekly tenants at rents realising 260*l.* 8s. per annum, after deducting ground-rent, vendor paying taxes, held for an unexpired term of 76 years, sold for 1,750*l.*

Drainage of Salford.—A report on this subject by Mr. John Newton, C.E., Preston, to whom plans and reports of the borough and district surveyors had been referred by the Drainage Committee of the Salford Corporation, has been printed. Mr. Newton examined the locality previously to making his report, which is not in entire accordance with the recommendations of the borough surveyor; but the reporter urges the necessity of such works as those advised by the surveyor, or modifications of them, or others in lieu thereof, being forthwith undertaken, on sanitary grounds; the rate of mortality in the Salford district being excessive, and sanitary measures invariably resulting in a reduced death-rate. We regret to observe, however, that all idea of carrying out a great drainage scheme for Salford is abandoned. The objections urged in the council were two-fold—firstly, that the purification of the Irwell cannot be effectually carried out unless the co-operation of Manchester is secured; and secondly, that the allotment of the cost to the several districts of the borough was unequal and unfair. The proposed new works would, in all, have cost 39,374*l.*; of which 26,672*l.*, were for works to intercept the sewage from the Irwell and convey it to a proposed outlet away from the town, near Mode Wheel.

The Oswestry New Public Hall and Institute.—This building, which has recently been opened, stands on a site adjoining the New-road, not far from the railway stations. The front has a total extent of 50 feet. At the angle of the building rises a square tower to a height of 60 feet. The architecture is Italian, of a Florentine character, the effect depending chiefly on the treatment of the main cornice, the doorway, and the window-dressings. The materials used are stone from quarries at Shelvoke, and red pressed bricks jointed in black mortar. The sides of the building are of red brick, with white brick arches, and are relieved a little by a red brick cornice. They have a total length of 86 feet. The large hall, which occupies the upper floor, is a plain room, 36 feet in width by 83 feet in length, and 21 feet in height, and is capable of accommodating 700 persons or more. The architect was Mr. W. H. Spaull, of Oswestry; and the builder, Mr. R. Whiston, of Wolverhampton. The total cost of the building, with boundary-wall and fencing, which were not comprised in the first contract, will be about 2,050*l.*

Opening of Roman Catholic Cathedral, Northampton.—The "Cathedral of our Lady and of St. Thomas of Canterbury" has been opened with the celebration of Pontifical High Mass, the preacher being Cardinal Wiseman. Mr. Pugin was the architect. The cathedral consists of a nave and north and south aisles or chapels. Over the high altar is a stained-glass window, representing our Saviour in the centre, with "our Lady" on the left, and "St. Thomas of Canterbury," to whom the church is dedicated, on the right. In the tracery of the window is our Saviour in heaven, and the lower part of the window is a representation of the old town of Northampton. The south chapel contains the sacramental altar, and the north is a memorial of the Japanese martyrs. There are several stained-glass windows and sculptured groups in the church, which is estimated to contain about 600 persons.

The Iron Works at Ashton Vale, near Bristol.—A new company is being formed for conducting the Ashton Vale Iron Works, and producing iron in a finished state, fit for the home or export markets. For some time operations have been carried on at Long Ashton, but the facilities for the complete production of iron have been awanting; the rough material, or pig-iron, being sent to Staffordshire and South Wales to be manufactured, at a total cost, including carriage each way, of from 14s. to 15s. per ton. It is now proposed, by a limited liability company, to introduce a large capital, and, by erecting the necessary apparatus, rolling mills, &c., to produce iron in a complete and finished state at Long Ashton, fit for supply to the iron market. The property comprises a colliery, and the means of raising the coal. The estimate of money required to erect mills, and to purchase and further develop the works, is 110,000*l.*

Railway Returns.—The course of British railway revenue this year has been highly satisfactory. In the first quarter of 1864 the receipts were 7,102,378*l.*, as compared with 6,534,829*l.* in the corresponding three months of 1863, showing an increase of 567,546*l.*, or 8·67 per cent. The average extent of railway worked during the quarter was 11,151 miles, against 10,752 miles in the corresponding period of 1863, showing an increase of 399 miles, or 3·71 per cent. The receipts thus gained on the mileage during the past quarter to the extent of 4·96 per cent.

Dupa's Patent Bench Dog.—The bench dog manufactured by Messrs. Bailey & Co., of the Albion Works, Salford, appears to offer advantages over the primitive mode of securing a piece of wood on the carpenter's bench. The *Ironmonger* says of it, "When fixed it is sunk flush with the bench, and by turning the centre screw the toothed edge is raised up to the required height, so as to fix securely the piece of wood that is being planed, or otherwise operated upon. From the nature of the contrivance it effects this with much greater certainty than the old clumsy method usually employed, as there is no chance of slipping even with the thinnest plank, and, consequently, the progress of the workman is very greatly facilitated."

Committee on Metropolitan Subways.—A Committee of the House of Commons, consisting of Sir B. Leighton (chairman), Mr. Du Pre, Viscount Grey de Wilton, Mr. F. S. Powell, and Mr. Floyer, the first three only being present, met, on Friday in last week, to consider a bill on this subject. Mr. Phinn, Q.C., opened the case, and Mr. Bazalgette was examined at great length by Mr. Wilkinson, as to the structure and facilities afforded by subways. The bill is opposed by all the gas and water companies of the metropolis.

The Liverpool Borough Surveyorship.—A letter has been received by the local authorities from the borough surveyor, Mr. Weightman, stating that he has long felt that age and the necessity for more frequent relaxation incapacitate him for the due performance of the onerous duties of his office; and he now considers it to be his duty to place his resignation in their hands at an early date. Mr. Stewart, in referring to this letter, paid a high compliment to Mr. Weightman's ability and integrity.

The Local Government Act in Oxford.—It has been resolved, at a special meeting of the local Street Commissioners, by a majority of 69 to 9, to adopt the Local Government Act in Oxford.

The Sheffield Inundation.—At a meeting of the General Committee of the Bradfield Inundation Relief Fund, it was stated that the subscriptions actually received amounted to 42,751*l.* odd, and that about 10,000*l.* more was known to be in the hands of the committees appointed in several towns. The total disbursements, so far, have been 19,811*l.* The following statistics were submitted to the meeting:—Number of widows caused by the flood, 11; orphans, 40; deaths, 250; persons relieved, 20,537; houses in the district, 4,953; houses flooded, 4,357; houses destroyed and abandoned, 798.

The Gallery of Illustration.—Mr. Macfarren's delightful *Opera di' Camera*, "Jessy Lea," having greatly pleased the inhabitants of the "home counties," is now going upon another provincial tour. This Saturday is mentioned as the last evening on which the operetta can be given. Mr. and Mrs. German Reed have added to the "Pyramid" an allegorical, musical, and tercentennial *séance*, entitled "The Bard and his Birthday," written by Mr. W. Brough. It gives Mrs. Reed the opportunity of singing very charmingly several songs, in which she pleased playgoers some few years ago.

The Scottish National Memorial of the Prince Consort.—A meeting of the acting committee for promoting this memorial was lately held at Edinburgh, under the presidency of the Duke of Buccleuch. His Grace reported that her Majesty had been pleased to name a small committee of advice to assist her with their council in the matter, and had already decided that Edinburgh, as the metropolis of Scotland, was the most appropriate place for a Scottish national memorial. The committee consisted of the Lord Provost of Edinburgh, the Right Hon. Sir Wm. Gibson-Craig, the Right Hon. Sir John M'Neil, Sir John Watson Gordon, president of the Royal Scottish Academy, Dr. Lyon Playfair, and himself. It was resolved to wait the further expression of her Majesty's wishes as to the site and nature of the memorial. The fund amounts to 13,000*l.*

Monumental.—Viscount Combermere paid a visit recently to Chester, accompanied by Baron Marochetti and other gentlemen, and inspected the proposed sites for the equestrian statue of his lordship. The plot of ground just outside the castle gates was preferred.——The *Semaine Catholique* of Montauban (Ile-et-Vilaine) mentions that the friends of the Holy Land, who are exceedingly numerous in France, intend to erect on Mount Carmel a colossal statue of the Virgin. A French monastery has been built on the summit, and the bones of the French soldiers who were killed at the siege of Saint-Jean-d'Acre repose there.

Public Improvements at Hexham.—Besides the projected town-hall and corn-market, steps have been taken towards erecting a large reservoir on the outskirts of this borough; and arrangements have been completed for furnishing the town with an ample supply of water. The reservoir will be filled principally with Tyne water, by intercepting one of the streams tributary to the Tyne; and the promoters will thus be able to store up a supply of 70,000,000 gallons. The cost is estimated at about 12,000*l.* In other parts of the town various public improvements and sanitary measures are being carried out, mostly by the Local Board of Health.

Improvements in Inverness.—Contracts have been entered into for the completion of Union-street. The whole undertaking will be finished by Whitsunday, 1865. The total cost of the buildings will be about 50,000*l.*, of which the original projectors contribute about 40,000*l.*, the remaining cost being for the public hall, the Bank of Scotland, and the United Presbyterian Church.

Ventnor.—Mr. John G. Livesay, architect, has been selected surveyor to the Local Board of Health. The opposition to the adoption of the Local Government Act has been quashed; and the Board, we hear, are determined to carry out, immediately, the sanitary improvements authorised by this Act.

The Thames Embankment.—This great and interesting work is rapidly advancing. It is said that the Duke of Buccleuch, having abandoned all idea of occupying the costly mansion he has just completed, is anxious to let it for Government offices.

SOCIETY FOR THE ENCOURAGEMENT OF FINE ARTS.—On the 6th instant Mr. H. Otley delivered a lecture on the subject of the "Report of the recent Commissioners on the Royal Academy." He contended that the continuance of the Royal Academy in the exercise of its three several functions as dispenser of honours, art teacher, and exhibition proprietor, was inconsistent with the true interests and becoming position of art in this country; and that, leaving to them the appropriation of honorary distinctions, the Government ought itself to take the other two matters in hand, providing ample funds for education in art, and for the exhibition, upon a liberal principle, of the works of artists, without reference to the prestige or claim of those holding academic degrees.

THE LATE MR. F. W. DELAUNAY, ARCHITECT.—The people of Bradford will hear with regret of the death of Mr. Delaunay, architect, of this town. He was a native of Manchester, and during the earlier period of his life was educated in France, and was afterwards articled to one of the first architects in Manchester. Such buildings as Messrs. Milligan & Forbes' stuff warehouse, the bank of the Bradford Banking Company, the enlargement of our infirmary, and the different railway stations between Bradford and Colne, together with many gentlemen's residences in this town and neighbourhood, all of which had their origin from the firm to which he belonged, show he was master of all the different styles of architecture. He came to Bradford about twenty-five years ago, and has, during that period done much towards beautifying our good old town.—*Bradford Observer.*

THE SANITARY STATE OF BELPER.—Six or seven lying with fever in one house is no novelty in Belper, says the *Derbyshire Advertiser*, nor yet is it considered anything very extraordinary for a family of six to be reduced to three in the alarmingly short space of three or four days. There is in existence a sort of Nuisance Removal Committee, but what benefit that committee is to the town is as yet unknown. It is not over pleasant to examine and inspect the nuisances existing, and the post of sanitary officer would be anything but enviable; still the town ought not to be allowed to fall into this deplorable condition. There ought to be appointed a sanitary inspector to redeem Belper from its present lamentable state. The same paper says,—We can assert, without the slightest hesitation, that the habitations of the major part of the population of Belper are unbecoming Christianity, and unfit for human beings to dwell in. The stench upon visiting some of these localities is really unbearable, and, most indubitably, highly injurious to public health.

BRICK MAKING AT SWANAGE.—Stone quarrying and stone masonry have seemed to be almost the trade and occupation of the great bulk of the inhabitants of the town of Swanage, says the *Dorset Chronicle*, but now the whole machinery and operations of brick-making are in full work in a field not far from the beach. What with road-making, brick-making, and building about to be commenced, the place will be for some time a scene of trade, life, and activity. Sites for building are being obtained from Mr. J. Mowlem and Mr. G. Burt, and there is plenty of good stone close at hand at moderate prices.

UPTON-ON-SEVERN: SURVEYOR.—At a meeting of the Board of Waywardens, Mr. John Stephens, of Colwall, was elected surveyor of this highway district, at a salary of 150*l*. Mr. Stephens has had many years' experience in the construction of railroads, &c., under Mr. Ballard and other eminent contractors. The candidates for the office were reduced to two, Mr. Stephens and Mr. C. T. Ireland.

ARCHITECTURAL MUSEUM.—We are asked to mention that in consequence of the severe illness of Mr. J. H. Parker, who had kindly undertaken to lecture at the Architectural Museum, on Tuesday, June 7th, there will be no lecture on that evening. Mr. Parker has been in great danger.

BRIDGING NIAGARA RIVER.—A bridge is to be built over Niagara river at Buffalo, to connect with Canada, at a cost of 1,000,000 dollars. Over 300,000 dollars have been subscribed towards it.—*Canadian paper.*

SOUTH KENSINGTON MUSEUM.—Lord Granville has invited a large and distinguished party to the South Kensington Museum for this Thursday evening, to meet T.R.H. the Prince and Princess of Wales.

PATENT-OFFICE LIBRARY AND MUSEUM.—In the Commons last week, Mr. Dillwyn moved for a select committee to inquire as to the most suitable arrangements to be made respecting the Patent-office Library and Museum. Mr. Cowper said that a commission was now sitting, considering the entire subject, and it was expected that their report would soon be laid before the House. He therefore could not agree to a committee. The Attorney-General also thought it would be highly desirable to wait for their report. The House then divided, and the result was:—For the motion, 21; against it, 16. Majority for the motion, 5.

ROYAL ITALIAN OPERA HOUSE.—The return of Madlle. Patti, on Saturday last, to the scene of her first successes in England, induced what has been lately wanting amongst the *habitués* of Covent Garden,—some enthusiasm. She sang, as Rosina, brilliantly and piquantly as ever, and the rest of the opera was exceedingly well executed. The audience here have a great regard for old favourites, and, truth to say, the difficulty with which anything better is found may well make them so. "The Merry Wives of Windsor" will not be produced after all; and, judging from its very middling effect at the other house, we cannot say that we are sorry for it. Flotow's "Stradella" is in rehearsal, and will be given in lieu, with Signor Wachtel in the principal part.

THE HAYMARKET THEATRE.—All doubt as to the great ability of Mr. Sothern as an actor, entertained by some, notwithstanding the success of "Lord Dundreary," must be removed by his performance in the new piece, "David Garrick." More excellent acting has not been seen for some time. Mr. Buckstone gives force to a small part, and Miss Nelly Moore plays the daughter with grace and feeling. The whole makes a legitimate and increasing success.

PUBLIC HALL FOR DARWEN.—At a meeting held recently in Darwen, it was decided to form a company, with limited liability, for the erection of a public hall in that town. The cost will be about 10,000*l*.

TENDERS.

For three new warehouses, Wood-street, Cheapside. Mr. Robert W. Edis, architect. Quantities supplied by Mr. W. R. Gretten.

Mansfield & Son	£6,640 0 0
Myers & Sons	6,465 0 0
J. & C. Patson	6,460 0 0
Brass	6,429 0 0
Piper & Wheeler	6,244 0 0
Lawrence & Sons	6,182 0 0
Brown & Robinson	6,150 0 0
Hardiman & Sandon	6,147 0 0

For the ironwork of an iron railway bridge, across the River Lugg, near Hereford. Messrs. Curley & Kempson, engineers:—

Carter	£496 10 0
Cliff	332 0 0
M'Kenzie & Co. (accepted)	287 0 0

For the erection of the new building, Addenbrooke's Hospital, Cambridgeshire:—

Smith & Co.	£14,279 0 0
Holland & Hannen	14,848 0 0
Mansfield & Son	14,700 0 0
Jackson & Shaw	14,015 0 0
Bell & Son	12,247 0 0
Thoday & Clayton	10,975 0 0

For house, in the Anerley-road, Sydenham, for Mr. T. Drew. Mr. George Truefitt, architect:—

Messrs. Warne (accepted)	£331 0 0

For residence for Mr. Robert Standerwick, Tufnell Park. Mr. W. Allen Dixon, architect. Quantities supplied:—

Scrivener & White	£1,530 0 0
Manley & Rogers	1,443 0 0
Patman & Fotheringham	1,428 0 0
Sharpington & Cole	1,413 0 0
Holmes (accepted)	1,406 0 0

For the erection of two houses and shops, at Laudport, Hants. Mr. Hendy, architect. Quantities supplied:—

Ward & Son	£1,394 0 0
Buckhurst	1,375 0 0
Gain	1,344 0 0
Duffett	1,285 0 0
Burbidge	1,278 0 0

For new additions and alterations to the shop and premises of Mr. Nye, at Hendeross, Sussex. Mr. J. F. Mathews, architect. Quantities not supplied:—

Cook & Turner	£1,631 0 0
Cooke	1,408 0 0
Gates	1,336 0 0
Thornton (accepted)	1,124 0 0

For additions and improvements to Garendon Hall, near Leicester, exclusive of timber, for Mr. A. Phillips de Lisle. Mr. Pugin, architect. Quantities supplied by Mr. S. E. Marples:—

Ife	£10,200 0 0
Herbert & Son	7,798 0 0
Hallam	6,965 0 0
Lilley & Elliott	6,798 0 0
Gascoyne (accepted)	5,660 0 0

For the erection of warehouses, in Great Winchester-street, for Messrs. Waterlow & Sons. Mr. J. N. Randall, architect:—

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Mills & Sons	11,784 0 0
Holland	11,473 0 0
Mansfield	11,364 0 0
Jackson & Shaw	11,260 0 0
Cubitt	11,170 0 0
Piper & Wheeler	11,150 0 0
Patson	10,578 0 0
Robinson	10,323 0 0
Lawrence & Sons	10,732 0 0

For the erection of three warehouses, in Wood-street and Milk-street, for Mr. W. Haynes. Mr. R. W. Edis, architect:

Mansfield	£6,640 0 0
Myers & Sons	6,465 0 0
Patson	6,460 0 0
Brass	6,429 0 0
Piper & Wheeler	6,244 0 0
Lawrence & Sons	6,182 0 0
Brown & Robinson	6,150 0 0
Hardiman & Sandon	6,147 0 0

For completion of the Catholic church, Mount St. Mary, Leeds. Mr. Pugin, architect. Quantities supplied by Mr. S. E. Marples:—

	Shell.	Finishings.	West Entrance and Gallery.
Boothman	£4,560	£912	£686
Winn & Pawson	4,438	893	653
Glaister	3,268	966	601
Britton	3,367	969	450
Nicholson & Son	3,082	516	828

For new warehouses, 28, St. Mary-at-Hill, Eastcheap. Messrs. John Young & Son, architects:—

Carter & Son	£5,157 0 0
Ashby & Sons	4,930 0 0
Myers & Son	4,922 0 0
Lawrence & Sons	4,732 0 0
Browne & Robinson	4,687 0 0
King & Son	4,600 0 0
Hart	4,590 0 0
Brass	4,493 0 0
Conder	4,490 0 0
Hill & Son	4,380 0 0

For building three warehouses, at Bermondsey, for Mr. W. J. Clift. Mr. Josh. Peacock, architect:—

Lugg	£9,130 0 0
Wells	9,036 0 0
Carter & Sons	8,740 0 0
Piper & Wheeler	8,042 0 0
Conder	8,268 0 0
Macey	8,139 0 0

For alteration to Wesleyan Chapel, Stoke Newington. Mr. Pocock, architect:—

Clements	£1,037 0 0
Piper & Wheeler	1,025 0 0
Reed	995 0 0
Pritchard	931 0 0
Dove, Brothers	905 0 0

For building a pair of semi-detached residences, at Tunbridge Wells, for Mr. George Hills. Mr. W. Bond, architect:—

Mercer & Cornfield (accepted)	£1,255 9 0

For building a lodge, at Langton, near Tunbridge Wells, exclusive of bricks and tiles, for Mr. George Barrett. Mr. W. Bond, architect:—

Peerless & Hartridge (accepted)	£200 0 0

For excavating and building a large circular tank for a gasholder, for the Bath Gas Company:—

Bladwell & Ambrose	£2,790 0 0
Aust	2,000 0 0
Mann	1,969 0 0
Mitchell (accepted)	1,835 0 0

For village church, Clack, Wilts. Mr. C. F. Hansom, architect. Quantities supplied.

Gane & Co.	£2,358 0 0
Wilkins	2,331 0 0
Morris	2,100 0 0
Aust & Tinson	2,060 0 0
Drew	1,956 0 0
Chinnock	1,858 0 0
Beszant & Salway	1,836 0 0
Lewis	1,814 0 0
Stephens	1,682 0 0
Pinniger (accepted)	1,660 0 0

For alterations and reperations to a house, in Harley-ford-place, Kennington, for Mr. T. R. Apps. Mr. W. Sim, architect:—

Sykes	£318 0 0
Tye & Andrews	271 0 0
Fish	261 0 0

For alterations and additions to Lyndon Hall, Rutland, for Mr. E. N. Conant. Mr. E. Browning, architect:—

		Value of Old Materials re-used.
Halliday & Cave	£10,137	£592
Bradshaw & Perkins	10,119	1,404
Jeffs & Roberts	9,932	980
Richardson & Son	9,895	919
Thoday & Clayton	9,359	303
Ruddle & Thompson	9,187	—
J. W. Thompson	8,951	245
Timms (accepted)	8,500	850

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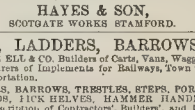
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BRICKS. 1,500,000 hard burnt Rough Stocks can be delivered, at low rates for cash, at the Bricklayers' Arms Station, as follows:—1,000,000 of last season's make, immediately, and 500,000 newly burnt, weekly, commencing the second week in MAY—Apply to FREDERICK KING, Surveyor and Land Agent, Pope's Head Alley, Cornhill, E.C.

FIRE BRICK and CEMENT WORKS,
WOODEN BOX, near BURTON ON-TRENT.
Established 1847.
JOHN KNOWLES,
HAWLEY NEW WHARF,
HAMPSTEAD ROAD, CAMDEN TOWN, N.W.
Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.
Crucible and Cement Clay, Wadesdale and for Exportation
EVERY ARTICLE MANUFACTURED AT THE ABOVE WORKS.
N.B. These goods are supplied to the largest steel Smelting, Armour Plate, and Crucible Works in the World, to which references can be given on application.

TO BRICKMAKERS. — All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of this plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent. of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s. per 1,000.
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Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

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By Messrs. Allen & Co. Ballingdon, near Sudbury.

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By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

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The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tean, near Leek; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.
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WELLINGTON WHARF, Belvedere-road, } CONSIGNEES.
Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

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BRICKS, TILES, SLATES,
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HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOOD
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
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Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

RED BRICKS, STOCKS, PAVIORS, PALE and BRIGHT YELLOW CUTTERS. — ROBERT LITTLE, Brickmaker, Slough, begs to inform Builders and the Trade generally that he is now prepared to Supply any quantity of good well-burnt RED BRICKS (either plain, splay, or moulded), suitable for facings. Mr. LITTLE is able to Load Bricks for London, or any other part, by either the Great or South Western Railways.—The Bricks may be seen, and prices obtained, either at the Field, Slough, or on application to R. LITTLE, Great Western Railway, Windsor.

BRICKS.
MESSRS. J. & W. EASTWOOD have a few freights of COWLEY, SHOEBURY, and KENT STOCK BRICKS FOR SALE for delivery during MAY.
Belvidere-road, Lambeth, 5th May, 1864

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Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE a well-selected Stock of Statuary, Vein, Paonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Greotte, Breccia, Sienna, St. Ann's, Languedoc, Vert des Alpes, Black, &c. &c.; and Alabaster, in Blocks, with slabs of several of those qualities. Also Solid Marble Baths and Mantels, and Vases and Figures, in Statuary and Sicilian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

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MARBLE and STONE MERCHANTS. Marble, in blocks and sawn slabs; Yorkshire stone of every kind in ditto; paving, landings, steps, sills, slabs, &c.; Bath, Caen, Portland, Aubigny, and Granite. Carvings direct from the quarries. Wrought work executed at moderate prices. Agent, JOSLPH CHADWICK.

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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
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Red, Blue, and Grey Granite for every description of architectural colouring in ornamentation, materials, and general purposes.
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This stone (which is a perfect oolite) is raised in blocks of any workable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works, and for the building and restoration of churches. When used as ashlar work it is not necessary to put a bed to the joints. Works freely with a cloth saw, and wrought at a cheaper rate than any stone in the kingdom.
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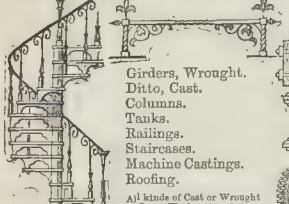


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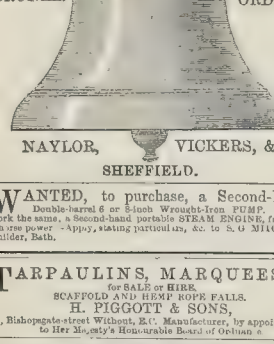
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PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply Machine made Patented Solid PARQUET FLOORS 10s per yard cheaper than they have been yet offered. Illustrated Catalogues, plans, and estimates free.

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The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coach-houses for four carriages; suitable servants' offices, extensive ornamental grounds, with cream houses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq., Solicitor, 57, Russell-square.

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Trinity House, March 28, 1864.

BUILDING LAND at CHITT'S HILL, WOOD GREEN, overlooking three different counties, and fronting the high road, eight minutes' walk from the station and Alexandra Park, TO BE LET for the erection of superior Villa Residences, which are in great demand in this beautiful locality. Term, 99 years. Money advanced if required.—A plan may be seen, and particulars obtained on application to S. HEWITT, Architect and Surveyor, 101, Great Russell-street, Bloomsbury, W.C.

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TO BREWERS and OTHERS.—For SALE, by PRIVATE CONTRACT, a Plot of FREEHOLD BUILDING LAND, in the immediate neighbourhood of the Really Splendid Lines of the Great Western, South Eastern and South-Western Railways, and abutting upon a road which will soon become one of the principal thoroughfares to the Metropolis. The site is admirably adapted for a good beer-and-wine House. Money advanced if required.—Apply to Mr. WM. WEEDON, Solicitor, Reading.

BUILDING LAND, Reading, Berks.—FOR SALE, by PRIVATE CONTRACT, in lots suited for the erection of private Dwelling-houses, several acres of FREEHOLD BUILDING LAND forming part of the rapidly improving Western suburb of the Town, situate on the Estate known as Cintra. The property is remarkably healthy, and several portions of it are well fenced in with hedges, and planted with trees and shrubs of many years' growth. Distant from the centre of the Town and three Railway-stations, about a mile. A second Church is being erected in the immediate neighbourhood. Money advanced if required.—Apply to Mr. W. WIPPELL, Solicitor, Reading.

IMPORTANT to COAL PROPRIETORS, CAPITALISTS, and OTHERS.—The owners of valuable MINES of COAL, lying within and under a compact freehold estate of upwards of 1,700 acres, situate about three miles from the important manufacturing town of Blackburn, Lancashire, are prepared to treat for the whole SALE of the COAL, or to enter into favourable arrangements for working the same for a term of years. Good turnpike roads intersect the estate, and the same is within very easy distance of railway and canal.—For further particulars apply to Messrs. ROBINSON & SON, Solicitors, Blackburn.

TO BUILDERS and OTHERS.
BROMLEY, KENT.—LAND TO BE LET, for Building, on Lease, for ninety-seven years, about half a mile from a railway station, and adjoining to the town of Bromley. Soil, sand and gravel; with a good supply of water.—For particulars, apply to Messrs. PRESTON & DORMAN, 15, Gresham-street, E.C.

BUILDING LAND.—Several PLOTS TO BE LET on LEASE for 99 years, in the Park, Highgate. One of the healthy situations in the vicinity of London, with extensive and beautiful views. A new church and a railway station immediately adjacent. Sewers and roads on the most approved construction are being made. Gas and water can be readily applied. For particulars apply to T. H. WYATT, Esq., No 77, Great Russell-street, Bloomsbury, W.C.; or to Mr. WHEELER, Builder, South Grove, Highgate, N.

BUILDING LAND TO BE LET, on advantageous terms, for 99 years, situate at Merton, Surrey, within ten minutes' walk of the Wimbledon Station, or 45 minutes of the City.—The plan of estate can be seen, and particulars obtained upon application to Mr. EDWIN SHALLES, Surveyor's Office, Christ's Hospital, Newgate-street, from TEN till FIVE o'clock.

BUILDING LAND TO BE LET on LEASE, in the Lower Richmond-road, within a mile of Putney and Barnes Railway stations.—Apply to W. R. WOOD, Timber Merchant, Wandsworth.

EXMOUTH.—To BUILDERS, CAPITALISTS, and OTHERS.—Notice is hereby given, that by a recent order of the Court of Chancery, the restriction against leasing for long terms of years, imposed by the will of the late Lord Rolle, and in consequence of which the extensive and beautiful district, situate at the vicinity of the town of Exmouth, and reaching to the villages of Littleham and Budleigh Salterton, has up to the present time been unable to be let for building purposes, has been removed, and the trustees of the property are now prepared to entertain offers for taking the LAND on LONG LEASES. The advantages of the situation, as regards salubrity, and beauty of scenery, are well known, and are justly recognised as to render it needless to refer to them more particularly here. All persons desirous to be informed by Messrs. FREERE, CHOLMELEY, & FOX-TER, of No. 28, Lincoln's Inn-fields, London, W.C. Solicitors to the Estate.

IPSWICH, Suffolk.—Valuable Leasehold BUILDING LAND TO BE LET, on advantageous terms, eligibly situate near the Great Eastern Railway station. Houses are much in demand in this locality, an excellent opportunity for investment is therefore offered.—Further information may be obtained of Mr. F. BARNES, Architect, Ipswich.

WATERSIDE PREMISES, PIMLICO.—TO BE SOLD, with possession, the LEASE for 63 years of a WHARF in Upper Belgrave-place, with modern-built house, offices, warehouses, granaries, 7-stall stabling, paved yard, &c. Frontage to the road, 77 feet. Or the adjoining WHARF TO BE LET, with option of purchase. The extensive improvements which are about to take place on the Marquis of Westminster's Estate in the immediate neighbourhood of this property, will materially increase the value of it in a short time.—For terms, apply to FULLER, HORNE, & EVERSFIELD, 10, Parliament-street, Westminster, or 80, Fore-street, City.

SUNNINGHILL WELLS, near ASCOT, BERKS.—FOR SALE by PRIVATE TENDER, a valuable and picturesque FREEHOLD ESTATE, known as The Wells, Sunninghill, which comprises a dwelling-house which has been used for many years as an Inn, with a large assembly-room, extensive stabling and buildings, meadows and gardens, and pleasure grounds, with ornamental timber and a mineral spring. The property is suitable either for the site for a New Hotel, or for the erection of elegant villa residences, being in the centre of a beautiful district, near to the Race-course, and containing altogether about four acres and a half, with immediate possession. A plan, with full particulars and conditions and form of Tender, may be obtained from Messrs DARVILL, SON, & POULTON, of Windsor, the Vendors' Solicitors. The TENDERS must be sent to Messrs. DARVILL & CO. on or before the 17th of JUNE next, endorsed "Tenders for the Purchase of the Wells, Sunninghill." The Vendors will not bind themselves to accept the highest or any other Tender.

SUNNINGDALE, BERKS.—TO BE LET, on BUILDING LEASES, for the erection of GENTLEMEN'S RESIDENCES, portions of an Estate, in the neighbourhood of Windsor Park, and in close proximity to the Sunningdale Railway Station. The neighbourhood is healthy. The Estate commands extensive frontages to existing roads and good views of the surrounding district.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster.

FREEHOLD BUILDING LAND TO BE LET. Term 99 years. Ground-rents moderate. Advances liberal.

At HIGHGATE, commanding extensive views.
At PLAISTOW, on Main Barking-road.
At STRATFORD, closely Railway Workshops.
Apply to Mr. WILLIAM ELLISON, Architect,
13, Fenchurch Buildings, London, E.C;
21, Manchester Buildings Westminster S.W.

CHISLEHURST, BROMLEY, and MOTTINGHAM, KENT.—About 240 Acres of FREEHOLD LAND, TO BE SOLD or LET, on building leases, direct from the freeholder, in suitable lots. Most delightfully situated near two stations, with speedy access to the Crystal Palace, Victoria, London Bridge, and Charing-cross Stations.—Apply to Mr. DAVENPORT, 35, Bucklersbury, E.C.

IN the matter of the FREE GRAMMAR SCHOOL of the Rev EDWARD WILSON, Clerk, in the Parish of Camberwell in the County of Surrey.—Notice is hereby given, that a Piece of LAND belonging to the above-mentioned Charity, containing Five acres, or there-about, and situate near to the Church and Churchyard of St. Giles, in the Parish of Camberwell, and now let as grazing-ground to Mr. JOHN DEACON, is proposed to be forthwith LEASED by the TRUSTEES for Building purposes, under the authority of the Charity Commissioners for England and Wales, for the term of 99 years, at the yearly rent of a peppercorn during the first year, of £100 during the second year, and of £2 0s during the remainder of the term; the Lessee being bound to erect fifty eight houses on the demised land of the value of at least £60. for each house. Any objection to the grant of the proposed lease may be notified to the said Commissioners, at their Office, No 8, York street, St. James's-square, London, within twenty-one days from the date hereof. Further information as I particulars may be obtained on application to Messrs. DESBOROUGH, YOUNG, & DESBOROUGH, 6, Size lane, Bucklersbury, City, E.C. the Solicitors of the Trustees.

(Signed) HENRY M. VANE, Secretary.

Dated this 26th day of April, 1864.

ALUM BAY ESTATE, FRESHWATER, ISLE of WIGHT.—BUILDING LAND TO BE LET, for a term of ninety nine years, and six recent Rent moderate.—Particulars may be obtained of Mr AUGUSTUS FREKE, Architect and Surveyor, 22, Henrietta-street, Covent Garden, London; of Mr. WILLIAM RAWLINS, Solicitor, Winchester; of Mr. C. F. FISHER, Solicitor, Ventnor; or of Mr. S. M. BAKER, Solicitor, Ryde, where plans showing the disposition of the estate may be seen.—The journey from London via Basingstoke and Yarmouth, can be accomplished in about five hours.

TO BUILDERS.—TO BE LET, on leases, direct from the freeholders, several valuable PLOTS of LAND, fronting Stanstead lane, and nearly midway from Forest hill and Catford Bridge stations. The water and gas pipes are laid down, and the sewer is made.—Apply to Mr. DAVENPORT, Estate Agent, 35, Bucklersbury, E.C.

WHARF, at CHARLTON, near Woolwich Dockyard.—TO BE LET on Lease, or the Lease TO BE SOLD, a WHARF 200 feet deep, river frontage 178 feet 6 inches, with dwelling house, out buildings, laundry, frame, &c.—Apply to the Wharfingers, on the Premises, Messrs. CHURCH & CO. William-street, Woolwich; or Mr. HARVEY, 81, Pope-street, Westminster.

BUILDING LAND, SURREY.—Most eligible and attractive SITES for VILLAS, near the Caterham Station. About 7 acres TO BE LET, with right of purchase. If desired, advances would be made to builders.—Apply to Mr. DODD, 53, Lincoln's-inn-fields, W.C.

WOODFORD.—To BUILDERS and OTHERS.—TO BE SOLD, by private contract, an eligible PROPERTY, facing the green, consisting of dwelling houses and cottages, producing a gross rental of £40, a year and in part let for ninety-nine years, from Midsummer, 1847 (less one day), at a groundrent of £6. There is ground convenient for building, frontage of about 241 feet, with a depth of about 198 feet. Apply to WILLIAM MUNDAY, Esq. Solicitor, 3, Carey-street, Lincoln's Inn.

EXTENSIVE GROUND WORKSHOPS to LET with excellent Dwelling-house attached, well suited for a Pianoforte or Cabinet Maker, separate gateway entrance if required. Rent 120l. a year, or Lease to be sold.—Apply to Messrs. LEREW & LEREW, Auctioneers, 2, Cardington-street, Hampstead-road, N.W.

TAUNTON, SOMERSET.—TO BE SOLD for building First-class Villa Residences, PART of the HOVILANDS ESTATE, in the Parish of Trull, on the road from Taunton to Honiton. This exceedingly desirable property is situated about half a mile from the town of Taunton; it is on an eminence commanding a most extensive view over the far famed vale of Taunton Dean, and is surrounded by nothing but residences of the highest character. Being out of the borough, the rates are very moderate; and gas and water pipes run in front of the land.—For plans and particulars apply to Messrs. LEVERIDGE & VENN, Surveyors, Upper High-street, Taunton; or, Messrs. JOHN HARE & SON, Estate Agents, North street, Taunton.

WALTHAMSTOW, ESSEX.—Eligible Freehold Building Land.—For Sale, NINE LOTS of eligible FREEHOLD BUILDING LAND, with frontages to Hoe street and Linden Grove, situate within five minutes' walk of the church, and in one of the most pleasant parts of the parish, having a gradual slope to the west, and being well adapted for the erection of a superior class of houses. For plans and particulars apply to Mr. HOWORTHAM, 94, Gracechurch-street, City; or to Mr. W. E. WHITTINGHAM, Hermon Villa, Oxford road, Walthamstow.

GROUND in HIGH STREET, Borough.—The Governors of St. Thomas's Hospital are prepared to receive ENDERS from parties desirous of Building Leases, for a term of 80 years from Christmas next, the valuable and extensive SITE of the premises known as the CATHERINE WHEEL INN, and of No. 9 and 10A HIGH STREET, BOROUGH. Plans and Particulars, with form of Tender, may be obtained at the counting-house of the Hospital, No. 14, St. Thomas's-street, Borough, or at Mr. HENRY CURREY's office, No. 4, Lancaster-place, Strand, and the Form of Lease may be seen (if desired) at the Offices of Messrs. CLAYTON, COOKSON, & WAINEWRIGHT, No. 5, New Square, Lincoln's Inn. The Tenders are to be delivered on or before MONDAY, the 6th JUNE, at 12, St. Thomas's-street, where the Governors will meet on TUESDAY, the 7th of JUNE, at half-past TEN o'clock, a.m. to consider the same. The Governor do not bind themselves to accept the highest or any Tender. HENRY CURREY,
4, Lancaster-place, Strand, W.C. May, 1864.

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Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
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It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

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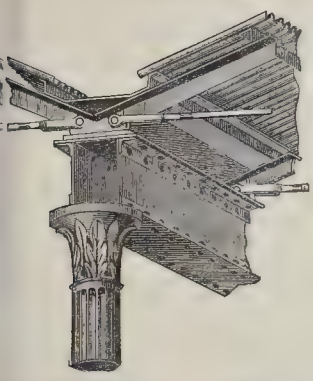
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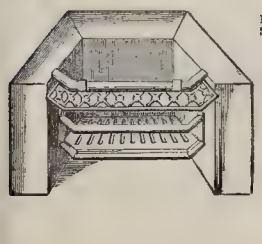
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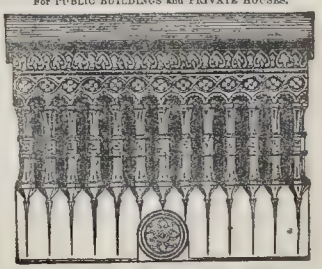
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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⅞-inch Flooring, White and Yellow, 10s. 6d. per square.
⅞-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
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WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash.
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

YELLOW FLOORING, WELL PREPARED,

First Quality, ⅞ by 6½, at 10s. 6d. per square.
" ⅞ by 6½ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
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TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

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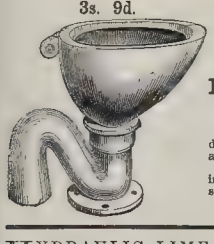
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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

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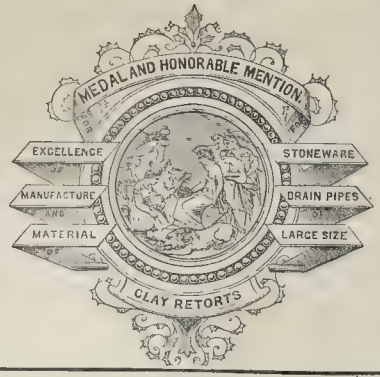
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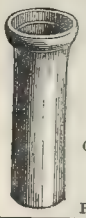
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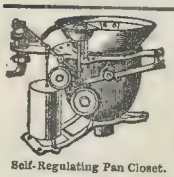
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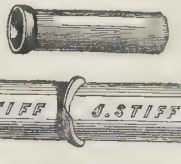
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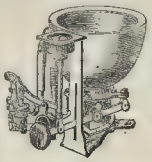
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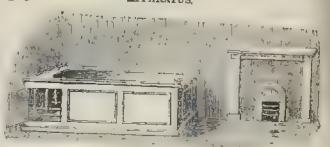
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The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

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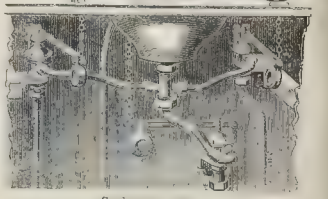
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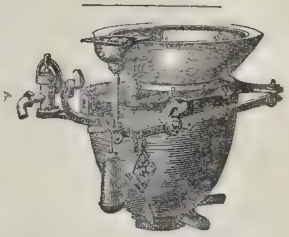


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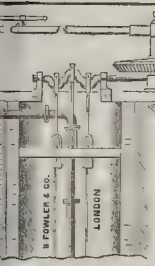
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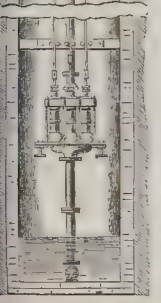
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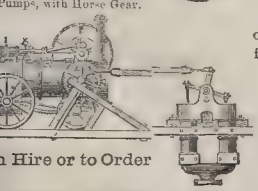




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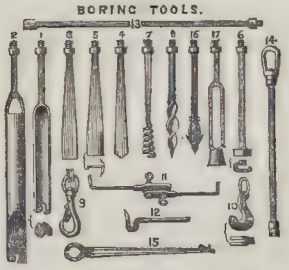




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BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

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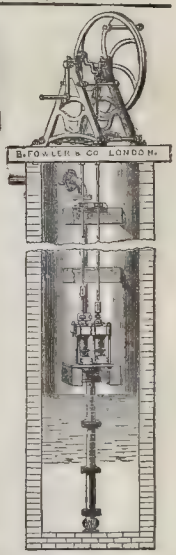
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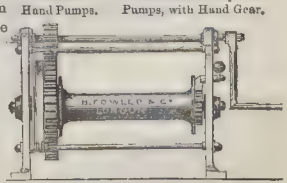
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SALES BY AUCTION.

CLAPTON.—Important Sale of BUILDING MATERIALS of Two Mansions, GROWING TIMBER, &c. on the Clapton Hall and Priory Estate, late the property of John Rogers, deceased.

PULLEN, HORNE & EVERSFIELD are instructed by the London and Suburban Land and Building Company, Limited, to SELL by AUCTION, on the PREMISES, on THURSDAY, MAY 19th, and following days, at TWELVE o'clock, all Lots, the whole of the capital MATERIALS and FIXTURES of the spacious Mansions distinguished as Clapton Hall and The Priory, Lower Clapton; comprising 350 best crystal tinted sheet plate glass squares of sixteen, twelve, nine and four inches, in parts pale glass sashes and French casements, 31 pairs other sashes and shutters, capitals, &c.; mahogany doors and mahogany folding doors with silvered plate glass panels, 60 panelled doors, upwards of 120 squares of sound floor boards, 5 squares of oak parquet flooring, fine statuary marble and other chimney-pieces, the handsome portico, with fluted stone columns, and a quantity of stone paving from the Portland plinth, the stone staircase, stone landings, steps and cills, 5,000 feet run of iron railing and fencing, cast-iron balconies, racks, mangers, and stable fittings, grates, kitchen and cooking ranges, several tons of lead in flats, gutters, cast ends, and pipes; register and other stoves, ranges, force pump, copper bath, brewing copper, coppers, stands, and a great variety of useful fixtures and fittings. Also a portion of the valuable TIMBER standing on the Estate.—May be viewed the day previous. Catalogues had of Messrs HAMMACK & LAMBERT, Architects, Basinghall-street; at the Offices of the London and Suburban Land and Building Company, Limited, 71, Fenchurch street; and of PULLEN, HORNE, & EVERSFIELD, 81, Fore-street, E.C. and 40, Parliament street, S.W.

EUSTON ROAD.—To BUILDERS and OTHERS.—PERIODICAL SALE of MARBLE CHIMNEY PIECES.

PULLEN, HORNE, & EVERSFIELD are instructed, by Mr A. Bruce, to SELL by AUCTION, on the PREMISES, 115, Euston-road, near St. Pancras Church, on TUESDAY, MAY 24th, at TWELVE for ONE, one hundred and fifty MARBLE CHIMNEY PIECES, consisting of statuary, vein, Sicilian, black, and coloured marbles, in every variety of style, and finished in the best manner.—May be viewed on Friday, and Monday preceding; and Catalogues had of PULLEN, HORNE & EVERSFIELD, 40, Parliament street, Westminster, and also, Fore street, E.C.

DISHOPSGATE-STREET WITHOUT.—BUILDING MATERIALS of several HOUSES.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 24, at TWELVE for ONE, a Lot, all the valuable BUILDING MATERIALS and FITTINGS UP of the Pair of Houses, Nos. 38, 39, & 40, Bishopsgate-street Without, and several Tenements in the rear, in Bishopsgate-alley, extending to No. 6 Hollo-way-court.—Further particulars in a few days when catalogues may be had at the Architect's Office, Gothic-hall; and of PULLEN, HORNE & EVERSFIELD, 81, Fore street, E.C., and 40, Parliament street, S.W.

IMPORTANT CITY FREEHOLD, comprising the Strand Eagle Hotel, Grace church street, with extensive Premises and Yard, containing an area of nearly 6,000 square feet, adapted for advantageous re-letting.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, on a day in JUNE (previously duly noticed in the printed contract), a valuable FREEHOLD PROPERTY, situate in the very heart of the City, where all the chief commercial interests of London are centred and concentrated, and forming the principal part of that well known establishment the Strand Eagle, Grace church street, with extensive premises and yard, having a back entrance to Leadenhall Market; the whole containing an area of nearly 6,000 square feet, and forming one of the most important building sites to be found in the City, its advantageous position property is admirably suited for the erection of warehouses, and a very large rental may be created, thus offering a desirable opportunity for the employment of capital.—Particulars may be obtained of G. LUCAS, Esq. Solicitor, 5, Bank-street; of Messrs WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C.; at the Mart, and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo place, Pall mall.

CAMDEN-TOWN.—To TIMBER MERCHANTS, BUILDERS, CARPENTERS, CABINET MAKERS, and others.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden-town, on MONDAY, MAY 23rd, at TWELVE for ONE, 2,500 Yellow, White, and Lime PLANKS, DEALS, and BATTENS; 500 cast doors, in various thicknesses; 30 feet of 9-inch and 200 feet of 4-inch moulded flooring, 12 inch fir quartering, 10,000 feet inch stave and boot moulding, inch stuff, twenty doors, jobs, useful stock, &c.—Auction Offices, 2, Cardington street, Hampstead road, N.W.

FREEHOLD BUILDING PLOTS, five minutes' walk from Teddington Railway Station, and twelve miles from London.

MR. J. MICHELS will SELL by AUCTION, at the CLARENCE ARMS, TEDDINGTON on WEDNESDAY, MAY 18th, 1864, at TWELVE for ONE precisely, 30 Lots of FREEHOLD BUILDING PLOTS, situate in the parish of Teddington, fronting the direct walk from the railway station to the pretty hills to Bushey park and within short distance of Twickenham, Richmond, and other favourite towns.—Particulars (with plans) can be obtained at the Clarence Arms, Teddington; the Greyhound Hotel, Twickenham; the Castle, Mortlake; the Kings Head Richmond; the Sun, Kingston; Kings Arms, Hampton Court; of Messrs BAILEY & CHILD, Solicitors, 3, Symonds-inn, Chancery-lane; of Mr. POCOCK, Architect, 45, Craven-street, Strand; and at the Auctioneer's Offices, No. 1, William street, facing Albert-gate, Knightsbridge, S.W.

TO BUILDERS and OTHERS.—WANDSWORTH, SURREY.—By order of the Mortgagee, valuable FREEHOLD BUILDING LAND, close to the Railway Station.

MESSRS. STUCKEY & PHIPPS will SELL by AUCTION, at the MART, on TUESDAY, MAY 31, at ONE, Large LOT of FREEHOLD BUILDING LAND, at the corner of Jessop-road, Wandsworth, and abutting on Bridgefield-grove and Bridge-road, the station of the South western Railway and to the proposed Bridge. A capital house now standing on the land let, with frontage of 100 feet per annum, but the tenancy expires at Christmas, when the whole can be made available for 12 lots of about 16 feet in front, 100 feet deep, and 1,600 feet superficial each.—Particulars of the Auctioneers, 48, Cornhill, E.C.

CHARING-CROSS RAILWAY, CITY TERMINUS.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW are instructed with instructions from the contractor, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 17, 1864, at ONE o'clock precisely, the valuable and useful MATERIALS of SIX LOW LAND HOUSES, in Upper Thames street and Scot-yard, and a WAREHOUSE, on the Bevis-point, comprising the whole of the well stock brickwork, plain and pan tiles, and slates on roofs, stone cills, and paving; good flooring boards, stout timbers, and joists, rafters and frames, doors and frames, jibs, cranes, hoisting doors, the cast iron pipes, gutter, stand pipes, and a variety of useful fixtures and fittings.—May be viewed the day previous and on view of sale, and catalogues had on the Premises; at the Contractor's Office, Worcester street, Southwark; and of Messrs WILLIS & HARROW, Auctioneers and surveyors, 3, Newman's court, Cornhill, E.C. and 4, West Molesey, Kingston, Surrey.

TO BUILDERS and OTHERS.—Camden-town.—Well Manufactured New Building Materials.

MR. KIRKMAN has received instructions to SELL by AUCTION, on the PREMISES, Devonshire-wharf, Camden-road, Camden-town, on THURSDAY, MAY 19th, 1864, at TWELVE for ONE o'clock precisely, 2,000 square Flooring Boards and battens, 16,000 feet run of Joists 11 inch and 9 inch sawing, 5—inches of yellow Pantile Laths, 1,000 feet run of various sized Sawing, 15 crates feet run of Mouldings from 1 inch to 5 inch, various patterns, 7½ inch, 11 inch, 15 inch, and 2 inch Moulded Doors; 15 pairs of well-made Sashes and Frames, 21 Green House Light, and miscellaneous effects. Approved Bills accepted May be viewed two day prior to Sale and Catalogues obtained on the Premises, and at the Office of Mr KIRKMAN, Auctioneer, Valuer, Surveyor, Loan and Estate Agent, 5, Chancellor's lane, E.C.; and Blackheath, Kent, opposite the Railway station.

RAILWAY CONTRACTORS, PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, June 2nd, 1864, at the Lamb Yard, at DEVIZES, at TWELVE o'clock precisely, on account of the Railway Contractors, Messrs Butterfield and Davis, CONTRACTOR'S PLANT, comprising 100 Trucks, new, 2 cranes, 2 portable engines, new, 2 crabs and pulleys, 2 sets of timber trucks, including 10 carried earth waggons, side and end tip, 2 contractor's trucks, for sleepers, 10 navvy-barrows, 50 timber trestles, 2 timber carts, 1 timber carriage, 1 hill-heart, dog-cart, 1 set of harness, 10 large wood centres, rail staples, buffers, iron wheelbarrow, tools, 1 two-horse drum, Perley's new planing machine, grates and washers, stocks and dies, smiths' tools, screw jack, new wire rope, 2 tarpaulings, pug-mill, the new loom of stabling and harness, portable office, new wrought iron wheels and axles, 2 cubic yards of stone, 1,000 yards gravel, water tank, 2 horse power chaff cutting machines, 1 hand power ditto, quantity of three-sail, and 1 three-sail other effects to be viewed on Wednesday previous and catalogues of Sale, when catalogues may be had on the Works, and of Messrs FULLER & HORSEY, 13, Basinghall-street, London, E.C.

MARINE RESIDENCE, with 24 acres of Land, distinguished as Apley House and Paddock, and Plot of Property on the Coast, as Apley Head, Isle of Wight.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock, in one lot, APLEY HOUSE and PADDOCK, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing singular natural advantages as a residential estate, with extensive sea views, and the whole of the grounds in demand as a first-class hotel watering place. Apley being now the only land available for such purposes with a sea view, in a close proximity to the esplanade, at the west end of the estate of Ryde, with a rising terrace the northern boundary being cut by the sea, and secured by a stone wall, forming an esplanade in a line with the principal sea front, 15 feet above other effects to be laid here, with chines for persons descending with their wheeled planta to the removal of which would (if desired) make the owner, to build a terrace of lodging houses on the esplanade, without interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the 11th side, sloping towards the south, and it commands again to the north-east able elevation, commanding very extensive and intricate views from the Isle of Wight, on the east, extending to Southsea towers on the west. The principal house, which was enlarged and improved by its late owner, is approached by a carriage drive through a park like grounds, with two lodge entrances from the Apley road, and from the St Helen's road, Ryde.

The internal arrangements comprise a suite of three reception-rooms, well-proportioned dining room, and gentleman's room, numerous principal bed rooms, large range of domestic and dressing rooms, bath-room, work room, nursery, very complete domestic offices, and capital servant cellaring, an ample supply of spring water from a deep well, and large underground tank for soft water. In the front of the house are lawns, north and south lawns, noted for the luxuriance of the myrtles and other choice shrubs and trees, the whole enclosed by rich park like land, studded with stately timber, and embracing many very fine oaks, chestnuts, limes, and elms, the latter towering high and forming, with the two very stately old cedar trees, conspicuous objects from Ryde Pier at a short distance from the house are modern stables and farm buildings, including a dwelling-house for the gardener, standing for four horses, a double coach house, cow houses, piggeries, harness, potting and fruit rooms, range of forcing and all essential houses, large walled kitchen garden, with choice wall fruit trees and espaliers, and a well stocked orchard. The Apley Pond, a fine sheet of water, in a warm sequestered part of the estate, and affords a large available frontage, while the land itself contains valuable stone for building and brick earth, and the remarkable and picturesque ruins of the old Apley House need be but little if at all interfered with, by judicious building operations under the control of the proprietor. The eligible sale of building land at Apley, abutting and confined by the fact that all marketable land has with the last few years been let at such rents for building purposes; the singularly rural advantages possessed by the property, as well as its high interest, render Apley House and Estate of more than ordinary attention, either as a building speculation alone or combined with the possession of one of the most charming marine residential properties in the Isle of Wight. Printed particulars are in course of preparation, and may be had of Messrs WALLIS, House Agents, and of the Bugle Hotel, Ryde, at Cattle Fair Hotel, Newport, and at the Star and Garter Hotel, Portsmouth; of Messrs THOMAS & HOLLAMS, Solicitors, Commercial Sale Rooms, Mincing lane, London, E.C.; and of Messrs FULLER & HORSEY, 13, Basinghall-street, London, E.C. to whom all applications to view the property is to be addressed.

GREENWICH.—Three acres of valuable FREEHOLD BUILDING LAND, in the perfect Water Frontage

MESSRS. GLASIER & SONS will SELL by AUCTION, on WEDNESDAY, JUNE 1, at GARRAWAY'S, in one lot, three acres of valuable FREEHOLD BUILDING LAND, having a frontage of about 400 feet, on Deptford Creek, partly situate, with good approaches, from Ravensbourne and Ramsgreen's roads, and New Road, Deptford, with plan, lay shortly be had of SAMUEL ARCHBUTT, Esq. 41, Gracechurch-street; of W. WILSON, Esq. Architect, 45, Craven-street, Strand; at GARRAWAY'S, and of the Auctioneers, 41, Charing Cross, S.W.

CASTLEBAR HILL PALING.—Valuable FREEHOLD LAND, with beautiful Building sites, being a little portion of the Pitshanger Estate, immediately adjoining the Ealing Railway Station.

MR. MOXON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, JUNE 2, at ONE o'clock, several Lots, 3 Acres of FREEHOLD LAND, exonerated of land tax, most delightfully situate, near Castlebar-hill, on the parish of Ealing, within a few minutes' walk of the railway station, and seven miles from London; suitable for the erection of first class residences, having good roads, with a gravel subsoil, and overlooking the valley, sacred to the river Brent. Several superior residences have already been erected and the gas and water pipes are laid up to the estate.—Particulars, with plans, may be obtained of Messrs LOWE, Solicitors, 6, Field-court, Temple; at the Auction Mart, City; and of Mr. WM. MOXON, 5, St. Martin's place, Trafalgar square.

PLOT of FOUR ACRES of BUILDING LAND, Walton on Thames.

MR. MOXON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, 2d JUNE, in one lot, an eligible FREEHOLD ESTATE of four acres, most pleasantly situate on the Walton Hill, and forming one of the entrance into the town of Walton on Thames, near to Oatlands Park and Walton Bridge. It has a frontage of 285 feet to the high road, and also a back entrance, and is well adapted for villa or other building plots. Also at same time, VILLA RESIDENCES, one known as First House, the other as Cypress Cottage. Particulars at the Auction Mart, City; of Messrs ABBOTT, ARKELL, & ABBOTT, Solicitors, New Inn, Strand; and at Mr. MOXON'S Offices, 5, St Martin's place, Trafalgar square, London.

Large Plot of Freehold Building Land, close to the Victoria Railway Station.

MR. MOXON begs to give notice that the Large PLOT of BUILDING LAND, having a frontage of nearly 250 feet, and a depth of 200 feet, on the Victoria and Chelsea street, was NOT SOLD at the Auction, and can now be treated for privately

No. 5, St. Martin's place, Trafalgar square.

TO BUILDERS, CONTRACTORS, DEALERS IN MATERIALS AND SHOP FRONTS, AND OTHERS

MR. GEO. HAINES is directed to SELL by AUCTION, on MONDAY and TUESDAY, MAY 23rd & 24th, at TWELVE for ONE each day, all the CAPITAL BUILDING MATERIALS of EIGHT DWELLING HOUSES with a BAKER'S and HABERDASHER'S SHOP, situate Nos 12 to 24, UPPER LADBROKE-STREET, PADDINGTON, comprising upwards of a million of prime STOCK BRICKS, several tons of lead, oak rafters, joists, gutters, pipes, and cisterns, excellent internal fittings of the usual description, panel ball and staircases, three bathroom baths over large show fronts, well two inches thick mahogany and brass inlaid sash windows, and large plates of glass; useful requirements in shutters, set fittings, counters, and useful fittings. May be viewed Cards, two of Messrs HAINES & SON, Auctioneers, Moorgate street, City; and at the Auctioneer's Offices, Gravenor-street West, Eaton-square; and 12, High street, Kensington.

TO BUILDERS, MATERIAL DEALERS, CONTRACTORS, AND OTHERS

MR. F. INDERMAUR will SELL by AUCTION, on WEDNESDAY and THURSDAY, the 18th and 19th MAY, at St. James's-road, Loughborough-road, Brixton, near St. John's Church, an extensive assortment of first-class MATERIALS, comprising Modern Pine deal shop fronts and doors, new sashes and battens, sound joists, rafters, quartering, partitions, sashes and frames, floor boards, 2, 4, and 6 panel doors, marble chimney-pieces, hearths, register grates, paving, landing, &c.; also an extensive stock of red terra cotta chimney pots. On view two days prior to Sale. Catalogues to be had on the Premises, and at the Auctioneer's, 134, Union-street, Borough.

VAUXHALL-GARDENS ESTATE, LAMBETH, SURREY.—Valuable FREEHOLD BUILDING LAND, arranged in lots suitable for the erection of shops, residences for Operatives, Factories, and Business Premises; also GROUND RENTS, amounting to 160l. per annum.

MESSRS. DRIVER & CO. are instructed by the Mortgagee, under power of sale, to submit to AUCTION at the MART, near the Bank of England, on FRIDAY, MAY 20, in twenty lots or such to suit the convenience of purchasers, some very valuable FREEHOLD BUILDING LAND, situate in the parish of St. Mary, Lambeth; comprising a compact block portion of the site of the late Royal Vauxhall Gardens, and having frontages upon Kennington-lane, Vauxhall walk, and several new roads and streets, viz. Oval Auckland street, Burnett-street, Brunel street, Leopold-street, Spring-gardens, and Italian walk. The Vauxhall Station, on the South Western Railway, and the River Thames are close to the property, affording ready access from all parts, as well as facilities for the transit of goods. The sale will also include several lots of Ground Rents, amounting together to 40l. per annum. Detailed particulars, with plans, may be obtained at the Royal Vauxhall Tavern and other bills in the neighbourhood; at the Auction Mart; of Messrs. KEMSON & TROLLOPE, Solicitors, 31, Lincoln's-inn-fields, Westminster, and of Messrs. DRIVER & CO. surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

FOR SALE.—E. DENCH, having given up business, has left on Land THREE HANDSOME CONSERVATORIES, ONE VINERY and PIT, for which he will not refuse any reasonable offer. Any letters to view the same, or for further particulars address E. DENCH, Pomfret Villa, Oakfield-road, Penge.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.
HEATON, BUTLER, & BAYNE,
New King street, Covent Garden, W.C. Removed from Cardington-street, Hampstead-road.
Specimens at the Exhibition of Stained Glass Windows South Kensington Museum.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 36, Soho square, W. and George yard, Cromwell-road, S.W.
ARTHUR GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for Building purposes can be had READY for SALE, either in STOCK SIZES or CUT TO ORDER, at the largest wine warehouses as above.
REDUCED ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS, MOSAIC, WATER GLASS, and other CHURCH MURAL DECORATIONS.
MR. PREEDY,
13, York-place, Baker-street, Portman square, London, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

STAINED GLASS for WINDOW DECORATION, GLASS MOSAIC and PAINTED OPAQUE GLASS for WALL DECORATION
T. LYON & CO.
13, BERNERS STREET, OXFORD STREET, W.
Price lists, drawings, and estimates sent on application. Work executed on the most moderate terms compatible with excellence of design, material, and workmanship.

PAINTED DECORATION and STAINED GLASS.
CHARLES BLACKMORE,
57a, EUSTON ROAD, LONDON, N.W.
Designs and Estimates submitted.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights, and Window Lead, on the shortest notice and lowest terms.—J. F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City road, E.C. Extra strong Lead for Casements, &c. Estimates forwarded on receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and
48, JOHN DALTON STREET, MANCHESTER.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, sky lights, verandahs, exhibition and counter cases, aquariums, greenhouses, &c. combining perfect transmission of light, durability, economy, and strength in the finest sizes, with which they are fully fitted. A specimen with slate or marble bottoms of various sizes, with or without fastenings, may be had. Manufactured by LLOYD & SUMMERFIELD, Bath Glass Works, Birmingham. All kinds of sheet glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

GLASS.—W. H. JACKSON supplies FRENCH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded on application at the Warehouse, 318, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British, Foreign, Patent, Crown, Sheet, Horticultural, Enamel, Coloured, Ornamental, Ground, Rolled, Figured, Embossed, Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. ARNTSAM & CO.
57 and 58, PRINCES STREET, SOHO, LONDON, W.

BELLHANGING done for the Trade, by a first-class workman, from 2s. 6d. per pull (about only)—Address, J. B. 31, Henry street, St. John's Wood.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Crosby Wyman, No. 74, and No. 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields, and published at the said Office by WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 14, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1111. MAY 21, 1864. PRICE FOURPENCE. By Post, 5d.

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DIED, in Lower Assam, E.I., aged 25, FREDERICK RAYMOND BUTT, of the Bengal Public Works Department, sixth son of William Butt, of Corney Bury, Herts Esq.

BUILDERS' BENEVOLENT INSTITUTION.—THURSDAY next.—An ELECTION of FIVE PENSIONERS, three males and two females, will take place on THURSDAY, 26th INSTANT, at the LONDON TAVERN; Mr. Alderman JAMES C. LAWRENCE, President of the Institution, in the Chair Polling commences at TWELVE and closes at THREE o'clock precisely. A. G. HARRIS, Sec.
May 20th, 1864.

THE QUEEN'S BIRTHDAY.—On TUESDAY, the 24th MAY, will be celebrated, by a FLORAL FETE, at the ROYAL HORTICULTURAL SOCIETY'S GARDENS at South Kensington. Cascades and Fountains. Also Minton's Majolica Fountain from the Exhibition of 1862. Mast tent for Rhododendron Show. New orchid houses. Military Bands. Hours, TWELVE to SEVEN. Admission, ONE SHILLING.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Flight into Egypt;" together with Robert. B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover-street, Regent-street, from NINE till SIX and from SEVEN till TEN.—Admission, during the day, One Shilling; in the Evening, Sixpence.

SCIENCE and ART DEPARTMENT of COMMITTEE of COUNCIL on EDUCATION, South Kensington. LECTURES upon the OBJECTS in the ART-COLLECTIONS of the SOUTH KENSINGTON MUSEUM, Affording Illustrations of "The PRINCIPLES of DECORATIVE ART."

A COURSE of LECTURES will be delivered in the Lecture Theatre, on MONDAY AFTERNOONS, the 30th MAY, 6th, 13th, 20th and 27th JUNE, and 4th JULY, at FOUR p.m.

I.—30th May.—"Terra Cotta and Luca della Robbia Ware." By the Rev. Dr. Rock.

II.—6th June.—"On the Specimens of Ancient, Mediæval, and Modern Decorative Sculpture in the Museum." By R. Westmacott, esq. R.A.

III.—13th June.—"Objects of Oriental Decoration and their Application to Modern Uses." By J. W. Wild, esq.

IV.—20th June.—"Ancient and Modern Specimens of Bookbinding." By the Rev. J. Beck, M.A.

V.—27th June.—"Architectural Specimens of coloured and other External Decorations." By W. Burges, esq.

VI.—4th July.—"Exhibition of Modern Stained Glass, and its Suggestions." By T. Gambier Parry, esq.

VII.—11th July.—"The Decorations of Raphael's Loggie in the Vatican." By J. H. Pollen, esq. M.A. (late Fellow of Merton College).

Students in Training admitted free; other students and the public by Tickets, which are issued at 3s. 6d. each for the course, or 1s. each lecture.

Tickets may be obtained at the Catalogue Sale-stall in the Museum.
By order of the Committee of Council on Education.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, Conduit-street, Hanover-square, W. May, 1864.—Full particulars of the VOLUNTARY ARCHITECTURAL EXAMINATION, the MEDALS and PRIZES for 1864, and the PUGIN TRAVELLING STUDENTSHIP, can now be obtained of the Librarian, at the Rooms of the Institute, as above.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.
LECTURE SESSION, 1864.
TUESDAY next, MAY 24: "Painted Glass in its connexion with Architecture." By the Rev. G. AYLIFFE POOLE, M.A. The Chair will be taken at EIGHT o'clock precisely. Art workmen may apply for Cards by letter to the Hon. Sec. 13, Stratford-place, W.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Sec.
The PRIZES for 1864 will shortly be announced.
"In consequence of the severe illness of Mr. J. H. Parker, F.S.A. there will be no Lecture on June 7."

THE ARCHITECTURAL MUSEUM LECTURES.—SESSION 1864.—Those who have received Cards for this Course of Lectures are requested to take notice that in consequence of the serious illness of Mr. J. H. PARKER, F.S.A. his LECTURE on TUESDAY, JUNE 7, CANNOT BE DELIVERED. There will be no Lecture on that Evening.

ARCHITECTURAL PUBLICATION SOCIETY.—The ANNUAL GENERAL MEETING will be held on FRIDAY, MAY 27th, at No. 9, Conduit-street. Professor Kerr will take the chair at EIGHT p.m. precisely.
May 20, 1864. ARTHUR CATES, Hon. Sec.

ARCHITECTURAL EXHIBITION and COLLECTION of BUILDING MATERIALS and MANUFACTURES, 9, Conduit-street, Regent-street.—Now open, Admission One Shilling. Lectures on TUESDAY evenings, at EIGHT o'clock Season Tickets half-a-crown. Will close JUNE 30th. Also, in the same Galleries, the EXHIBITION of the SOCIETY of SCULPTORS of ENGLAND.

DWELLINGS for the LABOURING CLASSES.—A SPECIAL CONFERENCE will be held at the House of the SOCIETY of ARTS, on THURSDAY, the 26th, and FRIDAY, the 27th of MAY, to which the Council invite all the Members of the Society of Arts, and others known to take a special interest in the subject.
The Conference each day will be open at 11 30 precisely, and closed not later than FOUR o'clock, the chair being taken by the Chairman of the Council
The discussion will be taken:—
1. On the insufficient number of habitations for the labouring classes in town and country
2. On the badness of the existing accommodation.
3. On the effects arising from this state of things, viz.:—
   (a) Religious, moral, and social.
   (b) Sanatory.
   (c) Economic.
4. On the causes to which these evils may be or have been attributed, such as—
   (a) The Law of Settlement.
   (b) The Poor Laws.
   (c) Tenure of property such as mortmain, leasehold system, tenancy for life, &c.
   (d) Legal difficulties affecting the transfer of property.
   (e) Difficulty of providing proper dwellings at a cost which will be remunerative to capital in town and country.
5. Remedies:—
   (a) What can be done by legislation?
   (b) What can be done without legislation?
   (c) What assistance, if any, can the society give in either of these directions?
Persons interested in the subject should make application to the Secretary.—By order, P. LE NEVE FOSTER, Secretary.
Society of Arts, John-street, Adelphi, May 17, 1864

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow and Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72—74, Bishopsgate-street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The GLOUCESTER BELL HOTEL COMPANY, LIMITED.—The Provisional Directors invite Architects to furnish PLANS and ESTIMATES for a new HOTEL (on the site of the present Bell Hotel, Gloucester), and offer the following premiums:—To the first in merit, 50l. and to the second, 25l. The Plans must be delivered at or before TEN o'clock a.m. on the 18th proximo, to THOMAS TAYNTON, Esq. Solicitor, Ashmeads House, Gloucester, who will, on application, furnish a plan of the site and conditions.

TO ARCHITECTS.—The Local Board of Health for the Hartlepool District are desirous of obtaining Plans, Elevations, Specifications, and Estimates for a COVERED MARKET, POLICE STATION, and OFFICES, to be erected upon a plot of ground in Middlegate-street, Hartlepool. A premium of 25l. will be paid by the Local Board for the plan and estimate selected by them, and a further sum of 5l. will be paid to the successful competitor, on condition that he furnishes a detailed specification for the proposed works, such plan, estimate, and specification to become the property of the Local Board. The whole expense of the erections not to exceed 2,500l. The Board do not bind themselves to employ the architect whose plan may obtain the premium. A plan of the ground and printed particulars can be obtained on application to the Borough Surveyor. All drawings to be on a scale of not less than 8 feet to the inch, and to be sent under motto, with sealed names (carriage free), addressed to the Borough Surveyor, King-street, Hartlepool, and endorsed "Market Plan," on or before the 18th day of JUNE next.—By order, F. G. MORRIS, Borough Surveyor.
May 13, 1864.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Penarth, near Cardiff, in the county of Glamorgan, may inspect the Drawings and Specifications at her Majesty's Custom-house at Cardiff, or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 19th of MAY, to SATURDAY, the 4th JUNE now next ensuing, but both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon, of MONDAY, the 6th JUNE, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Penarth."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 10th day of May, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACTS.—Such Persons as are desirous of UNDERTAKING the several Works and Repairs to the FORTIFICATIONS, MILITARY STORE BUILDINGS, BARRACK, and other BUILDINGS required by the WAR DEPARTMENT, at the places undermentioned, upon a CONTRACT, to commence on the 19th JUNE, 1864, and terminate on the 31st MARCH, 1868, may be furnished on payment of Seven Shillings and Sixpence, with the Printed Schedules of Prices, Conditions of Contract, and every necessary information respecting the same, on personal application at this Office between the hours of EIGHT and THREE, each day (Sundays excepted), from the 1st to the 9th JUNE, 1864, after which no further issues will be made.
Stations for which separate Tenders will be received:—
Portsmouth, including Portsea, Southsea, and Gosport, and with 5 per cent. allowed, Lumps, Eastney, and Cumberland Forts.
Hilsea, including Tipner.
Portsdown Hill and Works thereon, excepting Fort Wallington.
One Contractor only will be accepted for the whole of the Trades for each of the above-named Stations, but the rates of per centage at which the parties tender may be different for each trade, at their option, but such rates must, be shown in the proper place in each of the Schedules.
The Tenders will require to be delivered, before TWELVE o'clock at Noon on the 14th day of JUNE, 1864, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed "Tenders for Artificers' Work, Portsmouth District," in the left-hand corner of the envelope.
N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
C. FANSHAWE, Colonel, Commg. Royal Engineer,
Royal Engineer Office, Portsmouth District.
Portsmouth, 18th May, 1864.

WAR DEPARTMENT CONTRACT. NOTICE to BUILDERS.
TENDERS are required for the PERFORMANCE of certain WORK in connexion with ALTERATIONS and IMPROVEMENTS to Eight Wing of Soldiers' Quarters, Hulme Barracks, Manchester.
Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before the 25th instant, and pay the sum of 10s. 6d. for the bill of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, 225, Shetford-road, Manchester, May 11, 1864.

CROYDON LOCAL BOARD of HEALTH. TO IRONFOUNDERS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for the manufacture and delivery at the East Croydon Railway Station, of 9,000 yards of 3-inch, and 2,000 yards of 2-inch IRON SOCKET PIPES, and a small quantity of larger sizes, in accordance with the specification prepared by Mr. BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board, can inspect the specification and obtain forms of Tender at the above Engineer's Office, in the Town-hall, Croydon, on and after TUESDAY, the 17th day of MAY. Sealed Tenders, endorsed "Tender for Iron Pipes," are to be delivered at the Offices of the Local Board, in the Town-hall, Croydon, on or before FOUR o'clock on TUESDAY, the 7th day of JUNE next.
11th May, 1864. HENRY RICHARDS, Clerk to the Board.

TO BUILDERS.—Persons willing to submit TENDERS for the ERECTION of a SCHOOL for 100 Children, together with the necessary Offices and Teacher's Residence, at Elmswell, in the county of Suffolk, are informed that the plans and specifications will lie for inspection at the Fox Inn, at Elmswell, from MONDAY, 16th inst. to SATURDAY, 27th inst. Tenders, upon forms supplied, to be forwarded by post on or before MONDAY, 30th inst. addressed to the Architect, Mr. R. J. WITHERS, 51, Doughty-street, London, W.C. and from whom further particulars may be obtained. The lowest or any Tender will not necessarily be accepted.
W. H. C. LUKE, Rector of Elmswell.
Elmswell, Suffolk, 7th May, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 30th day of MAY, 1864, at SIX o'clock in the Evening, at the Office, No. 15, Great Alie-street, Whitechapel, to receive TENDERS from persons willing to Contract for the period of One Year for the EXECUTION of the several PAVING WORKS connected with the DISTRICT, described in the specification or schedule of contract prepared by the Board, a copy of which, with the form of Tender, may be obtained at the Office of the Board upon payment of Ten Shillings, which sum will be returned to persons tendering. All Tenders must be delivered at the Office previously to the hour of meeting; and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie street, Whitechapel, 17th May, 1864.

TO STONE MERCHANTS.—The Council of the Borough of Margate are willing to receive TENDERS for about 500 feet superficial of 2½-inch TOOLED YORK PAVING, to be delivered in the Harbour of Margate, free of all charges, on or before the 20th day of JULY next. Tenders, addressed to the Town Clerk, to be sent in before ELEVEN o'clock on TUESDAY, the 31st instant. The Council do not bind themselves to accept the lowest or any Tender. WM. BROOKE, Town Clerk.

Margate, 12th May, 1864.

TO IRON FOUNDERS and IRON BRIDGE BUILDERS.—Messrs. PETO & BETTS are prepared to receive TENDERS from parties desirous of CONTRACTING for the SUPPLYING and FIXING the IRON WORK, wrought and cast, for the SUPERSTRUCTURE of the NEW BRIDGE over the Thames at Pimlico, for the London, Chatham, and Dover Railway (Victoria Improvement). Also for the CYLINDERS for new foundations of same bridge.—Specifications and forms of Tenders can be had, and the drawings seen, by applying at the Office of Messrs. PETO & BETTS, 9, Great George-street, Westminster. Tenders must be delivered within fifteen days of this date. The lowest or any Tender not necessarily accepted.

9, Great George street, Westminster, May 18th, 1864.

THE Local Board of Health for the District of Sheerness, in the county of Kent, are desirous to receive TENDERS from persons willing to CONTRACT to the present time the ORDNANCE SURVEY PLANS of the said District, prepared in 1851, and to make the necessary Survey and Plans for that purpose. Further particulars may be known by personally applying at the Office of the surveyor of the Board, in Trinity-road, Sheerness, on MONDAY, the 23rd MAY, MONDAY, the 30th MAY, or MONDAY, the 6th JUNE, 1864.—Sealed Tenders, addressed to the Clerk, to be delivered, free, at the Office of the Board, Trinity-road, Sheerness, on or before THURSDAY, the 9th day of JUNE, 1864, and before SIX o'clock in the Evening of that day.—By order of the Sheerness Local Board of Health, EDWARD FELKIN, Clerk.

Sheerness, 12th May, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a RESIDENCE, Offices, and Stabling, for the Rev. E. T. CARDALE, at Uckfield, may see the Plans and Specification on and after MONDAY, the 16th MAY, on application to Mr. ALEXANDER CHEALE of Uckfield, to whom Tenders are to be sent, in, or before the 25th INSTANT, sealed, and endorsed "Tender for the Rev. E. T. Cardale's Residence, Offices, and Stabling." The Rev. E. T. CARDALE does not bind himself to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a VILLA RESIDENCE, in the parish of Kingston, near Torquay, for W. Froude, Esq., can see the Drawings and Specification at my Offices, Torquay, on and after FRIDAY, 27th inst. The Tenders must be sent in on or before FRIDAY, JUNE 10th, addressed, "Tender for House at Cockington." Mr. Froude does not bind himself to accept the lowest or any Tender. EDWD. APPLETON, F.R.I.B.A. Architect.

Torquay, May 18th, 1864.

JARROW LOCAL BOARD of HEALTH. SEWERAGE CONTRACT.—The Jarrow Local Board of Health are desirous of receiving TENDERS for the EXECUTION of the whole of the SEWERAGE WORKS comprised in the District of Jarrow. The drawings and specifications may be seen, and every information obtained, at the Office of Mr. T. M. ATKINSON, Borough Surveyor, South Shields. Tenders to be sent in to me not later than NOON on WEDNESDAY, the 25th MAY instant, endorsed "Tenders for Sewerage Works, Jarrow."

CHRIST WAWN,
Clerk to the Jarrow Local Board of Health.

76, King street, South Shields.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of NEW NATIONAL SCHOOLS and Master's House, at Dalston, near Carlisle, are informed that the drawings and specifications may be seen on and after SATURDAY, the 21st instant, by application to the Rev. E. J. GOODHART, at Dalston. Tenders to be sent to the Office of the Architect, Mr. CHRISTIAN, 8a, Whitehall-place, London, on or before 23rd inst. The Committee do not bind themselves to accept the lowest Tender.

TO CONTRACTORS.—TENDERS are required for MAKING certain ROADS and FOOTPATHS, on the Essex Land Company's Estate, at Leytonstone, Essex.—Plans and specifications may be seen at the Office of Mr. JOHN M. DEAN, Surveyor, No. 6, Cornhill, Bow Grove, Stratford, on MONDAY, TUESDAY, and WEDNESDAY next, between TEN and FIVE o'clock.—Tenders to be delivered at the said Office, on THURSDAY AFTERNOON next, the 26th inst. at FIVE o'clock.

WIGAN LOCAL BOARD of HEALTH.—To SCAVENGERS, NIGHT-SOIL CONTRACTORS, and OTHERS.—The Local Board of Health for the District and Borough of Wigan hereby give notice that they are willing to receive TENDERS from parties desirous of undertaking the following CONTRACT, viz.—The cleansing of the ashpits and cesspools, and the removal and carting away of the contents of the same, as also the removal and carting away of the sweepings from the markets, streets, lanes, courts, highways, and places within the said district. The contract to be for a term of three or five years, at the option of the Local Board. A specification of the work required to be performed may be seen, and forms of Tender had, on application to the Surveyor of the Local Board, at his Office, No. 6, Wallgate, Wigan. Sealed Tenders, entitled "Tenders for Scavenging," must be delivered at the said Office, addressed to Mr. J. L. HUNTER, the Engineer of the Board, by TWELVE o'clock at noon on TUESDAY, the 7th day of JUNE next.

CALEB HILTON, Town Clerk and Clerk to the Local Board.

Wigan, May 18, 1864.

BOROUGH of BRIGHTON.—To CONTRACTORS and OTHERS.—Notice is hereby given, that the Town Council will receive TENDERS from any person or persons as may be willing to Contract for the ERECTION of THREE GROYNES on the Beach, in the said Borough; namely, one opposite Charlotte-street, one opposite Montpelier-road, and one opposite Dudley-place, according to plans and specification, which may be inspected at the Office of the Borough Surveyor, at the Town Hall, Brighton, where all other information and forms of Tender may be obtained. The contract to be for a term of five years, at the option of the Council. Tenders, addressed to me, and endorsed "Tender for the Erection of Groynes," must be left at my Office, at the Town Hall, before TEN o'clock on MONDAY, the 30th day of MAY, 1864. Power is reserved to accept the lowest or any Tender.

DAVID BLACK, Town Clerk.

Town-hall, Brighton, May 18th, 1864.

WEAVER NAVIGATION.—To CONTRACTORS.—The Trustees of the River Weaver are prepared to receive TENDERS for the CONSTRUCTION of a SEA WALL at Weston Point, near Runcorn. Plans and specifications may be seen at the Company's Office, No. 1, instant. Sealed Tenders to be delivered at the Office of the Trustees, No. 1, on or before the 4th day of JUNE next. The lowest or any Tender not necessarily accepted.

Engineer's Office, Northwich, May 10, 1864.

THE Committee for RE-SEATING and RESTORING the PARISH CHURCH of Aldborough wish to obtain TENDERS for the above work.—The plans and specifications may be seen by applying at the Vicarage between the hours of TEN a.m. and FIVE p.m. on any week-day from MAY 9th to MAY 31st. Tenders to be sent in to the Secretary, H. CHAPMAN, Esq. Aldborough, Boroughbridge; not later than TUESDAY, JUNE 7th. The Committee do not bind themselves to accept the lowest Tender.

Aldborough, 18th May, 1864.

TO CONTRACTORS, ENGINEERS, and OTHERS.—Notice is hereby given, that the Southampton Harbour Board is prepared to receive TENDERS for certain works to be performed in EXTENDING the WOODEN JETTY at the TOWN QUAY, and for the CONSTRUCTION of an additional TRAMWAY thereon.—Also for PROVIDING and FIXING FLOATING IRON PONTOONS, LANDING STAGE, &c. at the ROYAL PIER, and for REPAIRS.—Plans, Specifications, and Form of Tender, and all further information, may be obtained on application to Mr. GEDDES, Surveyor to the Board, at his Office at the Town Quay, on and after the 26th day of May; and separate Tenders for the several Works must be sent to my Office, 5, Lower Bugle-street, on or before the 24th day of JUNE next. No pledge is given to accept the lowest or any Tender.—By order of the Board,

WILLIAM FARRAND, Clerk.

Audit House, Southampton, 17th May, 1864.

TO BUILDERS and CONTRACTORS.—Parties desirous of TENDERING for the NEW SEATING and other WORKS to be done in Osborne Church, near Canterbury, Kent, may see the plans and specifications on and after the 26th inst by applying to the Parish Clerk, or at the Office of Mr. WILKINSON, Surveyor, Grange-street, Canterbury. Tenders to be sent to the Churchwardens, on or before SATURDAY, 28th inst. The lowest or any Tender not necessarily accepted.—FOR SALE, the whole of the Interior FITTINGS and other Materials.—Apply to the Churchwardens, as above.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a new TOWN HALL, Congleton, may see the Plans, Specifications, and Conditions, and obtain a copy of quantities, on application to Mr. MOORHOUSE, the Town-clerk of Congleton; or to the Architect, on or after the 1st day of JUNE next. Sealed Tenders to be delivered to the Architect, on or before the 12th of JUNE next.

Conditions of Tendering.—1. The Town Council do not bind themselves to accept the lowest or any Tender. 2. The Contractor for the building will be required to furnish two sureties for the due performance of the contract. 3. The Council do not guarantee the quantities. EDWARD W. GODWIN, Architect,

21, Portland square, Bristol.

TO BUILDERS.—Builders desirous of CONTRACTING for the ERECTION of PREMISES at Everlands, near Sevenoaks, Kent, can apply by letter only, for particulars, at which the bills of quantities will be found, to Mr. HARRY R. NEWTON, Architect and Surveyor, 6, Argyle-street, Regent-street, London, W.

TO BUILDERS.—TENDERS are required for TAKING DOWN Four Cottages, and ERECTING new WAREHOUSE and Manufactory, and other Works, at Mr. GROVES' Establishment, Lower-marsh, Lambeth. The Drawings, Specification, and Conditions may be seen at the Office of Mr ROBERT PARRIS, No. 5, Waterloo-place, Lambeth, on and after TUESDAY, the 24th of MAY instant.

TO BUILDERS and CONTRACTORS.—The Building Committee of the St. Thomas Lunatic Hospital are desirous of receiving TENDERS for the ERECTION of a new LUNATIC HOSPITAL on a piece of land near the Topsham Barracks, in the parish of Heavitree, Devon, according to plans and specifications which may be seen at my Office. Sealed Tenders are to be delivered to me on or before MONDAY, JUNE 13th, 1864, endorsed "Tender for Lunatic Hospital." The Contractor will be required to provide two sureties for the due performance of the contract. The Committee do not bind themselves to accept the lowest or any Tender, and no payment will be made for estimates.

W. F. CROSS, Architect, Queen street, Exeter.

May 2nd, 1864.

BUILDING MATERIALS.—The Guardians of the Poor of the Whitechapel Union are prepared to receive TENDERS for the PURCHASE of a BUILDING in Thomas street, Mile End New Town, NE forming part of the Workhouse of the Union, containing many Lots of excellent stock and other bricks, stone and other stairs and landings, tiles, lead, &c. and other usual materials. To be pulled down and carted away. May be viewed between the hours of Ten and Four daily. Tenders must be delivered at my Office before FOUR o'clock on MONDAY, the 23rd MAY instant. Forms of Tender may be had on application at the Workhouse; no bidding will be noticed or received. The Guardians do not bind themselves to accept the highest or any Tender. By order,

G. ADAMS FARR, Clerk.

Clerk's Office, Whitechapel Workhouse, 11th May, 1864.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the West Worthing Investment Company (Limited) are desirous of receiving TENDERS for the ERECTION of an HOTEL and BUILDING upon the Company's property at West Worthing, in the county of Sussex.—Plans, sections, and specifications may be seen at the Office of the Architects, G. A. DEAN, Esq., 1, Lancaster place, Strand, London, W.C. on and after SATURDAY, the 21st instant. TENDERS, addressed to the Secretary, and endorsed "Tender for Hotel," must be delivered at the Company's Offices on or before ONE o'clock on TUESDAY, the 31st instant. Security will be required for the due performance of the Contract, and the Directors do not pledge themselves to accept the lowest or any Tender.—By order,

Offices, 27, Great George-street, Westminster, S.W.

12th May, 1864.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the county of Middlesex, hereby give notice that they will be ready, at the Board Meeting to be held at Broadway House, Hammersmith, on WEDNESDAY, the 1st day of JUNE, 1864, at TEN o'clock precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for the LAYING DOWN, CONSTRUCTING, and completely FINISHING a certain steel 1 BRICK SEWER, of about 9,125 feet in length, and other WORKS connected therewith, in the Parish of Fulham, from Walham Green Church, to the Great Western Road at North End. Plans, specification, and detail drawings of the works can be seen and examined, and the form of Tender may, with other particulars, be obtained at Boulney House, Hammersmith, between the hours of TEN a.m. and FOUR p.m., on any day previously to the 31st day of MAY, 1864. The sealed Tenders are to be received by the said Board, on or before TEN o'clock of the said 1st day of JUNE, marked on the outside "Tender for Sewers;" and the party whose Tender may be accepted will be required to enter into a Contract and Bond, with two sufficient sureties, for the due performance of the undertaking; such Contract and Bond to be prepared by the solicitor to the Board, at the expense of the Contractor. The Board does not pledge itself to accept the lowest or any Tender.—By order

W. LOVELY, Clerk.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a New CHURCH at Shalden, near Alton, Hants, may see the drawings and specification at the Rectory House, Shalden, and obtain forms of same from Bentley Station, on the Basingstoke and Alton Railway, with the living at Bentley Hall, from MONDAY, the 23rd, to TUESDAY, the 31st instant, both inclusive, between the hours of Nine and Four. Sealed Tenders, directed to Mr. JAMES LOLTON, at or before WEDNESDAY, JUNE 8th next evening. Neither the lowest nor any Tender will necessarily be accepted. The contractor, if required, must be prepared with two good and approved sureties, to enter into the usual legal bond for the due fulfilment of his contract.

Bentley Hall, May 7, 1864.

PERSONS desiring to TENDER for the ERECTION of a NEW CHURCH at BRITONFERRY, may see the Drawings and Specifications at my Office at Llandaff, on and after the 11th day of MAY. Sealed Tenders are to be sent to the Rev. D. LEWIS, Britonferry, Glamorganshire, by SIX o'clock p.m. on FRIDAY, the 10th of JUNE. The right of rejecting all or any of the Tenders is reserved. JNO. PRICHARD, Diocesan Architect.

Llandaff, May 11th, 1864.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also, on receipt of particulars, furnish estimates for any description of Glass now manufactured. Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 52, Soho-square, London.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.
HEATON, BUTLER, & BAYNE,
New King-street, Covent Garden, W.C. Removed from Cardington-street, Hampstead-road.
Specimens at the Exhibition of Stained Glass Windows, South Kensington Museum.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS, MOSAIC, WATER GLASS, and other
CHURCH DECORATIONS.
MR. PREEDY,
13, York-place, Baker-street, Portman-square, London, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

STAINED GLASS for WINDOW DECORATION, GLASS MOSAIC and PAINTED OPAQUE GLASS for WALL DECORATION.
J. T. LYON & CO.
13, BERNERS-STREET, OXFORD STREET, W.
Price Lists, drawings, and estimates sent on application. Work executed on the most moderate terms compatible with excellence of design, material, and workmanship.

PAINTED DECORATION and STAINED GLASS.
CHARLES BLACKMORE,
372, EUSTON ROAD, LONDON, N.W.
Designs and Estimates submitted.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead, Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath-street, City-road, E.C. Extra strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and
43, JOHN DALTON STREET, MANCHESTER.

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GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, alkalies, or water; and the facility with which the only joint required can be made in bands of from 2 to 30 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union joints, Flasks, Bottles, Bowls, Toilet trays, Curtain rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.
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THE PRIZE MEDALS,

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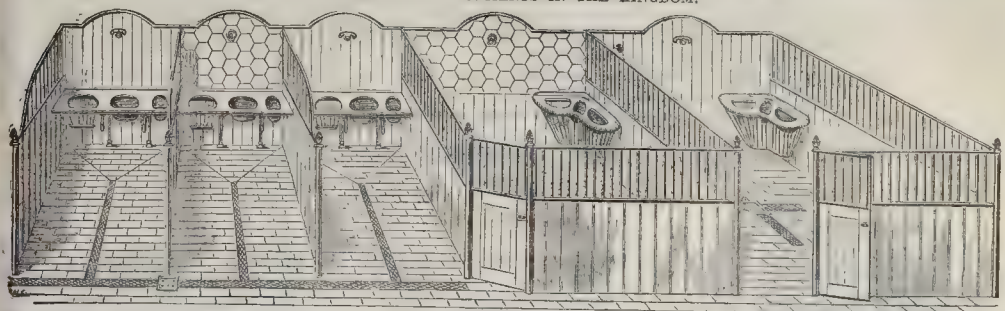
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

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Manufactured in WROUGHT and CAST IRON, and ERECTED.
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Wrought Iron Doors, Boiler and General Smith's Work.
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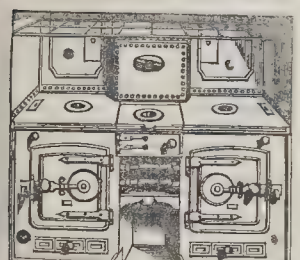
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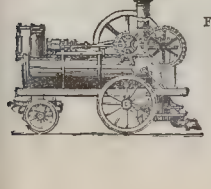
They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*, Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 9*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

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Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

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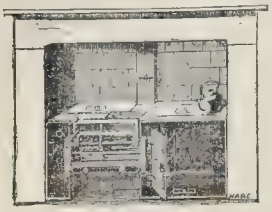
Most effective for the Cure of Smoky Chimneys.

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PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE.



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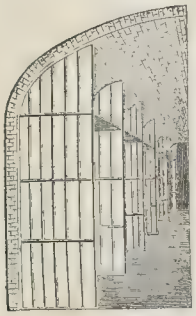
can be seen in operation daily at the SHOW-ROOMS of the MANUFACTURER,

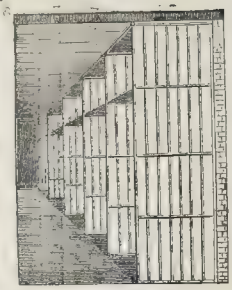
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Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING nearly FORTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

ALSO THEIR

NEW REGISTERED IRON BINS,

Made any size or shape, to fit any spare corner, with SEPARATE REST FOR EACH BOTTLE,

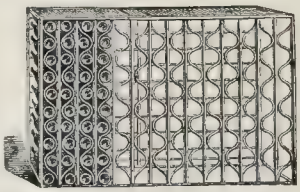
Peculiarly adapted for Private Cellars.

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Builders', Cabinet, and Ship Brass Founders.

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HEAL & SON have observed for some time that it would be advantageous to their Customers to see a much larger selection of Bed room Furniture than is usually displayed, and that to judge properly of the style and effect of the different descriptions of Furniture, it is necessary that each description should be placed in separate rooms. They have therefore erected large and additional Show-rooms, by which they are enabled not only to extend their Show of Iron, Brass, and Wood Bedsteads, and Bed-room Furniture, beyond what they believe has ever been attempted, but also to provide several small rooms for the purpose of keeping complete suites of Bed room Furniture in the different styles.

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Bed Furnitures are fitted to the Bedsteads in large numbers, so that a complete assortment may be seen, and the effect of any particular pattern ascertained as it would appear on the Bedstead.

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The Stock of Mahogany Goods for the better Bed-rooms, and Japanned Goods for plain and Servants' use, is very greatly increased. The entire Stock is arranged in eight rooms, six galleries (each 120 feet long), and two large ground-floors, the whole forming as complete an assortment of Bed-room Furniture as they think can possibly be desired.

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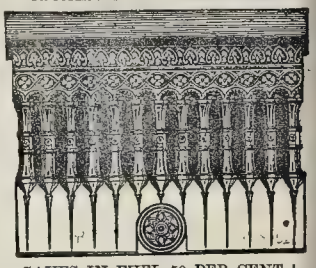
Their Bedding trade receives their constant and personal attention, every article being made on the premises.

They particularly call attention to their Patent Spring Mattress, the Sommier Elastique Portatif. It is portable, durable, and elastic, and lower in price than the old Spring Mattress.

HEAL & SON'S ILLUSTRATED CATALOGUE of Bedsteads, Bedding and Bed-room Furniture sent free by Post.—196 197, 98, Tottenham-court-road, London.

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For PUBLIC BUILDINGS and PRIVATE HOUSES.



SAVES IN FUEL 50 PER CENT.!

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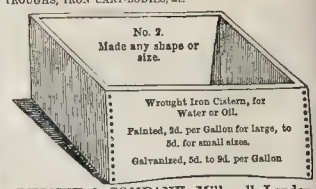
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Omnibuses from Limehouse Station, Blackwall Railway.

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GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



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Steam-boats from London Bridge call near the Factory.

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SPRINGS, BUFFERS, AND CAST STEEL TYRES,

For Locomotive Engines, Railway Carriages, and Waggons.

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THICK ZINC ROOFING on IMPROVED PRINCIPLES,

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MUSGRAVE'S PATENT HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW STALLS and PIGGERIES.



Architects who have not seen these fittings are requested to write for engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition.

They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under direction of London architects, noted for employing only what is the best of its kind.

Musgrave's Patent Slow-combustion Stove



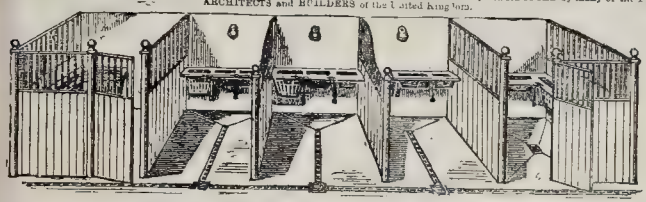
Is the nearest approach to Warming by Hot Water. It will burn in churches from Saturday till Sunday evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of 3d.; and deserving of special attention because of its safety, healthfulness, durability, and extreme simplicity.—For full particulars apply to

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

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BARTON'S PATENT PRIZE MEDAL STABLE FITTINGS.

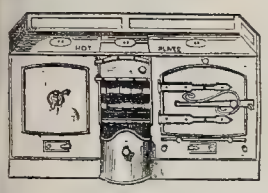
These SUPERIOR-CLASS STABLE FITTINGS are PATRONIZED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



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JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within Five Miles.

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BROWN & GREEN'S
PATENT KITCHEN RANGES.
PRIZE MEDAL, 1862.

These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c they form the most complete appointment for good establishments. Designs, &c. may be had on application at THE LONDON WAREHOUSE,

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"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept. 6, 1862.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

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PLATE.

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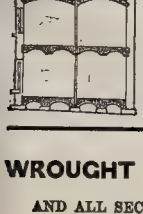
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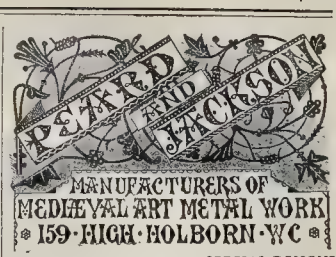
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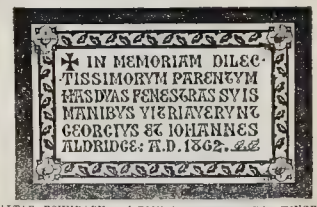
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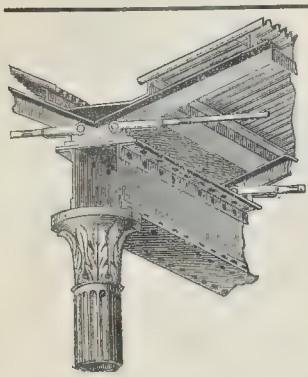
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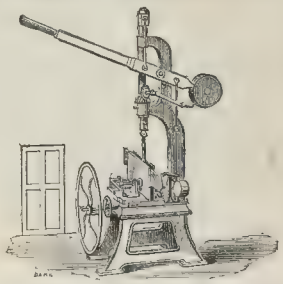
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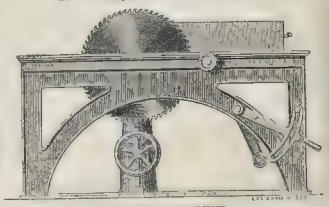
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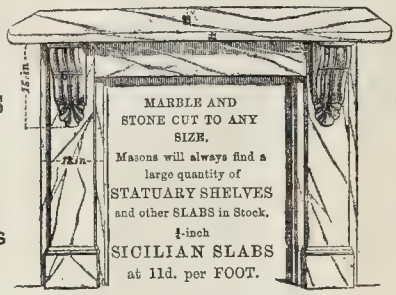
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VOL. XXII.—No. 1111.

Stables.

BEFORE attempting to design stables, it is very desirable that the architect should know something about horses. It is an easy thing of course to take the plan of stables already erected as a guide; to see the minimum width of a stall; the smallest-sized doorway that has sufficed; what description of drains have been allowed to pass muster; and that no provision at all for ventilation has been ordinarily the rule; and on these data, without the exercise of a thought, to put up buildings where horses may be protected from the weather, and which, being according to custom, may bring no blame on the designer or builder. That they will tend to make the life of a noble animal miserable, induce diseases, lead to accidents, and indeed shorten that life, is not perceived, and so they escape comment. The horse is an ill-used animal, spite of exceptions, and yet if man's friends should be cared for, in what direction could kindness more properly be applied? Even when dead, the horse is valuable. At one time, "a dead horse" was a term expressive of something of very little value. In these days—in the metropolis especially—the slaughtering of horses has been brought to such a degree of perfection that few portions of these valuable servants are without a profitable use. Not a part of the bones, the sinews, flesh, fat, skin, or hair, is without a regular and advantageous market; and the most miserable carcass will now bring as sure a price as any other mercantile commodity. There is in fact, in some quarters, an idea that the London horse-slaughterers, in their zeal for profit, appropriate parts of dead horses in a way which it is not agreeable to think of.

In the United States the mortality of horses has been enormous. We have yet no reliable statistics from the Southern States; but, as regards the North, Dr. Turner, the chief veterinary surgeon of the army, reports, that in the Eastern department alone, the mortality is 3,000 per month, and an equally large number are condemned. These seventy-two thousand horses per year cost the Government nine millions of dollars. This one of the items of the heavy bill serves to indicate the cost of war. In most of the large American cities, no doubt, the same degree of care is used to make profitable the carcasses of dead horses as there is in this country. Even on the battle-fields the trade seems to be successfully carried forward. Much, of course, is wasted for the want of a near market; but it is said that the contract for the dead horses in the Federal army has been at 7s. 4d. per head. Last year the contractor cleared 12,000*l*. There the horse's shoes are first pulled off, which are worth about 4s.; the hoofs fetch 8s., the tail brings 2s. The tallow is not worth much; the hide is worth something; and the shinbones are sold to be converted into cane-heads, knife-handles, &c.; so that even in those situations a "dead horse" is not a matter to be altogether despised.

It is not, however, of dead horses, but for live ones that we would speak, and of their better housing. Mr. Edward Mayhew has recently published a work on "Horse Management," wherein, after saying much in favour of more thoughtful and benevolent treatment of horses than now prevails, he protests against the present system of stable-building.* Our readers will be the better for knowing something of his views, even if it be considered that his desire to provide for the well-being of the horse carries him too far. Of 4 feet 6 inches, or even 5 feet stalls, he will not hear. 3 feet 6 inches is the width of many a stable-door. Improvers have urged that the stable-door should be 8 feet or 8½ feet high, and 5 feet wide; but even this Mr. Mayhew thinks insufficient.

When a horse is led, not ridden, out of the stable, the man grasps a rein, and, walking by the side of the animal, servant and slave pass the threshold together. The 3 feet 6 inches of clear space have to permit the passage of two bodies at the same moment; therefore, dividing the allotted width, and giving half to each, it allows 1 foot 9 inches as the share of either.

A person of moderate stature, and in average health, will measure, across the shoulders, from 17 to 20 inches. An animal of moderate size can barely squeeze through a clear gap of 22 inches width. Then, taking the man at the lowest standard, and adding 17 to 22 inches, we obtain 39 inches, as the smallest amount of room which servant and quadruped could manage to pass through. "Such a close measurement, however, supposes the two living beings to touch one another, as well as to graze the sides of the passage. Against such gross usage, the innate dignity of cockade, leathers and riding-coat, would alike protest!" A width of 3 feet 6 inches however, allows 1 inch to divide the door-posts from the man and from the horse; while an inch also remains to separate the domestic from the simplicity which it is conducting. The margin is not very ample; and both creatures must march with uncommon steadiness for neither of the animals to touch the posts, or to rub against the other. Five feet, certainly, afford more ample quarters. Through such a frame both man and horse, supposing each to be quietly disposed, may pass with ease. Even this limit, however, will not allow the groom to dispense with every care. An animal may, reasonably, be delighted, when he sniffs the fresh air; and may be permitted to perform a few pranks, as he quits positive stagnation to make the nearest approach to freedom which his enslaved condition can sanction. If, during one of these movements, the trunk should be inflected more than the 7 inches, which the 5 feet allow, or the animal, influenced by the impetuosity of excitement, should come in contact with the door-post, the consequence may be fearful. The possibility of check, certainly, does not enter the thought of the joyous creature. The blow is proportioned to the heedlessness which induced it. A bone can be fractured on such an occasion; nor is it an unusual accident. Most horses, which are beheld with one "hip down," have had the deformity produced by striking against the post of the stable-door.

Hear our author on another point.

Horses, says Mr. Mayhew, when disposed to remain stationary, always select ground where the fore-feet can occupy a position lower than the hind-legs. In stables, this inclination is reversed, the hinder limbs invariably resting on an inferior level to what the fore-feet range upon. The motive upon which the dictates of nature are outraged in stables is the facility which a floor slanting in the backward direction affords for surface moisture to flow into the open gutter that runs along the extreme margin of the gangway. Science, evidently, has not been consulted in an arrangement which sacrifices the health and the comfort of an inhabitant of the stall, to obtain so obvious, gross, and poor an advantage. Stables, evidently, were built only to please the fancy, and propitiate the prejudices of ignorant proprietors. No thought was bestowed upon the quadrupeds such edifices pretended to accommodate. The consequence is seen in the discomfort, torture, and the speedy decline of lives which are passed per-force within one of these notorious charnel-houses.

Knowing the object desired, the reader will naturally expect to be informed whether dryness is secured by the present arrangement? When answering this inquiry, the author describes the general plan, according to which the floors of most stables are laid down. The pavement of the stalls is composed of small hard bricks, known as "Dutch Clinkers." Bricks, however nicely they may be placed, cannot form an absolutely smooth or even surface. They must present spaces in which fluid will be retained; and, being porous, bricks cannot prevent effluvia from rising through their substances, or cannot hinder liquid from percolating into the soil on which they rest. The urine acquires acrimony as it corrupts beneath the pavement, and this makes a renewal of the flooring of a stall an efficient reason for ordering the inhabitants of a large building to be removed, since the pavement will have to be disturbed.

To procure from the excretion the greatest possible amount of noxious effluvia, the liquid is made to flow gently over an open, a rough, an uneven, and a slanting surface; thus subjecting the greatest possible quantity to the direct action of the atmosphere. Should not the whole change be thereby accomplished, the fluid slowly drains into an open gutter, which slopes so gradually that its contents frequently refuse to move. Had the architect, who originally laid down the plan of a modern stable, designed to make the interior poisonous, it would have been difficult, having no more active agent at command, for him to have conceived means better calculated to fulfil his object.

The groom, to warm the place, stops up every crevice through which the vapour could escape, or pure air could find admission. Many stablemen also exclude the light, under a groundless notion, that horses thrive best when in the dark. Darkness does not necessarily lead to sleep,—it simply disables one of the senses; thereby animal life is deprived of a harmless enjoyment, while at the same time the exclusion of light causes the eye to shrink from the glare of day; while the continuance of the evil is likely to induce blindness. Hours of weariness, passed in a confined space, and within a tainted atmosphere, are strange means when employed to promote extraordinary thrift;—more especially when we consider that the inclination of the floor forbids rest to the feet, while the exclusion of light incapacitates all visual recreation.

Reading of the floors of stables in Mr. Mayhew's pages, we are reminded of what is not generally known, and is so curious a circumstance, that, though not bearing on our present purpose, we are led to mention it. In years gone by, this country had to depend on its own resources for *saltpetre*, and in 1625, according to Mr. W. H. Hart, who last year brought the subject before the Society of Antiquaries, "a royal proclamation was issued, which states that our realm naturally yields sufficient mines of saltpetre without depending on foreign parts; wherefore, for the future, no dovehouse was to be paved with stones, bricks, nor boards, lime, sand, nor gravel, nor any other thing whereby the growth and increase of the mine of saltpetre

* The Illustrated Horse Management. Embellished with more than 400 engravings. By Edward Mayhew, M.R.C.V.S. London: W. H. Allen & Co. 1864.

might be hindered or impaired; but the proprietors were to suffer the ground or floors, as also all *stables* where horses stood, to lie open with good and mellow earth, apt to breed increase of the said mine, and that none hinder any saltpetre-man, lawfully deputed, from digging or working any ground for saltpetre. These saltpetre-men were commissioned by letters patent from the Crown to dig in all places where saltpetre grew, and so to amass a store for the king's use, the making of gunpowder being then a monopoly." These powers were often used arbitrarily, but with that we have nothing to do.

Let us now see how our author would have his stables built and fitted up. He maintains that bricks and mortar, however expensive such articles may be, are about the most economical purchases which the horse-owner can invest his cash in. One or two deaths in a prime stud may cost more dearly than would the largest of the proposed buildings. The money which shall be expended upon the improved stable, must not be viewed as cash sunk in an unremunerative object; but as a sum invested in that which will immediately yield an exorbitant interest. It will decrease the veterinary surgeon's bill; it will conserve the health and prolong the usefulness of the horse; it will put the animal in better heart, and will enable the proprietor to dispense with those repeated purchases which now occasion the horse-owner to stare at every fresh steed he chances to meet, and to inquire "if it be for sale?" Mr. Mayhew says rightly,—When we wish to raise any erection, we should, before we begin to plan, thoroughly comprehend the purposes which the new edifice is to serve. A stable is not the home of a horse, in the same sense that a house is the home of a human being. The animal has not one room for day and another for night. It cannot retire; it must remain in its compartment; and we must do what we can to render the limited space a healthful abode.

In the first place, he maintains, everything like a stall must be abolished; the uses of such abominations being supplied by loose boxes. Each box is to be 18 feet square; of these there are to be six, ranged in pairs; three upon either side of the interior. Every box is to be rendered dry and sweet, by six deep gutters, three on either side, and all emptying into a central branch drain, which discharges its contents into a main drain, running through the length of the entire building. The gutters commence 18 inches from the side divisions of the boxes; the first is situate 3 feet from the external wall. Six feet divide the first from the second gutter; the same space separates the second from the third gutter, which is removed only 3 feet from the central partition.

The flooring or pavement, between the gutters, is arranged in gentle undulations, like the walks in a garden. It is raised 3 inches higher in the centre of each division, than where its borders terminate in the gutter. The two pieces of pavement, at either end of the box, begin at the elevation of 3 inches, and sink to the level of the lowest surface as they approach the gutter. Thus, every portion of the pavement will incline one in twelve, a fall of fully sufficient magnitude to allow of the speedy disappearance of fluid, which is always ejected with force and in quantity. The gutters all terminate in "stink traps," which give admission into the branch drains; these last, as well as the main drains, consisting of circular earthen pipes

Each gutter should be 2 inches wide and 2 inches deep. They ought to commence at the depth of a Dutch clinker from the surface, and be covered by a perforated loose iron grating, the holes in which are a quarter of an inch wide, 1 inch long, and the last distance asunder. Thus, should the horse, when down, lie over one of these gutters: the body cannot then repose on a good conductor of heat.

The openings, which are ample to permit the escape of all liquid, are purposely made small; because rats and other vermin, too frequently, enter stables by the drains. It is by no means unusual for such pests, where they are numerous, to attack and gnaw the hoofs of living animals.

Neither the pipes, the gutter, nor the clinkers, are placed within or rest upon unprepared soil. Such may be the usual plan after which most stables are now built; for the drainage of these places does not generally extend beneath the surface. The pavement of the contemplated stable, however, is to be raised 2 feet above the level of the ground on which it is erected: for the entire space which the structure will occupy, the soil is, in the first instance, to be removed to the depth of 1 foot. After the foundations have been properly laid, the walls are then to be raised till they are built up 2 feet above the natural level of the surrounding surface. A layer of large flints, or of coarse brick rubbish, is then to be thrown in: this layer is to be 2 feet 6 inches in thickness. Within this, the main and the branch drains are to be arranged; though the principal drain will also have, towards its termination, to be sunk into the earth. The remaining 6 inches are to be filled in with coarse sand; and upon this the gutters are to commence.

The contemplated structure will be thus thrice drained. First—there will be the deep tubular main and branch drains; next—there is the sand and brick rubbish; while, lastly—there is the surface drainage, effected by the grated gutters. So much pains has been consciously bestowed upon the dryness of the building, because nothing will, in the end, prove more detrimental to the horse than confinement in a damp abode. Not only does perfect drainage conserve the health of the equine inhabitants, but it likewise tends to preserve the bricks, the mortar, and the fittings, that should adorn every stable.

According to the view, which we are enabled to transfer from Mr. Mayhew's volume,* there is a free, but covered space, 12 feet wide, extending all round the building. The soil of this free space, covered ride, or ambulatory, should also have been removed, and subsequently have been filled up, after the plan already described, as necessary for the interior of the stables. It need not, however, be paved with clinkers, as sand forms a better ground for a horse to exercise upon than can possibly be made with the hardest of known bricks. The roof, having sheltered the ride, terminates immediately over a metal gutter. This gutter communicates with five pipes upon the western and upon the eastern sides, with two pipes upon the southern, and with three upon the northern aspects of the building.

The roofing of the ambulatory is upheld by thirty-one posts, each 12 feet high, and the same distance apart. Between every two of these posts, on all sides of the stable save the front, are placed smaller uprights, which reach only to 6 feet. By these smaller posts are supported one end of three moveable bales on either side, the opposite extremities of the bales resting against the larger posts; each bale being 6 feet long, and reaching from the small uprights to the main supports. The first bale is 1 foot from the ground; while the others are at equal distances, and so placed as to leave 4 inches of clear pole to project above the highest rail.

When returned to the stable the horse does not enter solitary confinement. Its loose box is 18 feet square, and is enclosed by a fence 7 feet high. Only a height of 4 feet of this partition is composed of close 1½-inch boarding. At that height, a stout rail, having its edges rounded, is fixed upon the topmost edge of the wood-work. From this rail spring round iron bars, placed 3 inches asunder, and having the higher extremity inserted into another rail, which is also rounded.

The boxes have each a distinct entrance. The doors are fixed in the wall, and open upon the ambulatory. Each entrance is 9 feet high and 6 feet 6 inches wide; all sharp edges and projecting iron work, as hinges, latches, locks, &c., being strictly forbidden. Such things often injure animals, while in the act of passing through these openings, and should never be permitted to project in any well-managed establishment.

The folding doors are divided into two parts, though not absolutely in the centre, since the lower portion extends only 4 feet from the ground. The upper part can be thrown wide, without releasing the quadruped. The ventilation is, thereby, rendered far purer, while the captive is indulged with a more animated view than the walls of the interior can afford. The quadrupeds, says Mr. Mayhew, with a poetical view of the subject that distinguishes him, will protrude their heads through such spaces, and remain in that position for successive hours, "looking the pictures of mild contentment, and contemplating liberty, which a generous nature appears to have relinquished almost without regret. A simple creature may here in shade enjoy the summer breeze, as it blows aside the forelock; for, if man is, by his position, forced to confine the steed, he is not compelled to aggravate the sufferings which necessarily attend the condition of captivity."

This is the key-note of the book before us, and we cordially recommend it for a wide consideration.

* See p. 374.

FRENCH AND ENGLISH PAPER-HANGINGS.

ORNAMENTAL art seems to exist by necessity: it grows out of the very constitution of man, and is almost as characteristic of him as any quality which he possesses. It has been said that man is the animal that worships,—that he is the animal that cooks his food,—and that he is the fire-making animal: hence the affirmed facts, that all men worship, while no other animals do; that all men cook food, while the lower animals do not; and that all men make fire, while the brutes are destitute of the power necessary to their doing so, are each characteristic of man, and would furnish what scientific men term "essential characters," by which he might be known.

Might it not with equal truth be said that man is the animal that produces ornaments? Does not the savage ornament his bow? and even the arrows which he is to sacrifice to his enemies? The paddle of the canoe, the club, and even the skin of the body, are marked by flowing lines, arranged in fantastic ways, or with chequers or zig-zags, which are intended to render the object thus treated more beautiful. The most uncivilized,—those who have not even the simple arts,—trace out forms with the sharp points of stones upon the fruit-shells, which are their sole domestic utensils. In civilized life of every caste, and of every shade of development,—whether it have arisen in the east or west, in Europe or in the Asiatic countries,—we find ornamental art of some description: it is true that it has had but a feeble development in some countries, yet from none is it absent: hence it may be said of man with propriety that he is the ornamenting animal.

This desire for ornament seems to arise out of the very constitution of man; but as that which addresses the taste is not generally considered to have its origin in laws such as those which govern the physical world, but is the result of caprice, it is said to have its origin in fancy rather than in the intellect: hence it would be inferred that the ornamentist should have great fancy, but should be neither a profound nor philosophical thinker.

While fancy has much to do with the production of ornament, reason also exercises its control over the forms and combinations of lines produced; and, however little attention may have been given to this subject by persons generally, it is yet plain that reason modifies the forms

enerated by fancy to such an extent, that both ...e character of the ornamentist, and of the people who appreciate his works, can be, to a ...reat extent, discovered from the ornaments ...hich he produces.

The writer recently visited the Continent with ...e view of ascertaining the nature of the ornamentation which is this year most prevalent ...pon manufactured articles, especially upon ...all-papers, and visited most of the large paper-...anging manufactories of Paris. This extended ...isitation of the factories of Paris could not fail ...o afford knowledge of the present state of ornamental art in the great capital of the Continent; ...at the result of the knowledge gained is what ...e wish to consider, which is the firm conviction ...hat the difference between the art of the Parisians ...hd that of ourselves may be traced to differences of mental constitution.

It cannot be justly said that France has no ...reat thinkers. Its schools of philosophy and its ...any scientific discoveries testify to the profundity of many French minds. Yet while our neighbours have their great men of science, ...ey are not as a whole a hard-thinking people. ...he French are generally tolerably well educated, and few seem to be without the elements ...f secular knowledge; yet, as a whole, they love ...easure rather than thought, gaiety rather than ...earning, and seek excellence in handicraft ...ather than knowledge of the laws which govern ...he various operations which they perform.

The numerous pavilion *cafés* of Paris, the ...ancing gardens, and the numberless other ...laces of amusement in which the city abounds ...estify to the favour with which places of recreation and gaiety are received by the French; for ...hese arise out of the very desires of the people, ...nd are maintained by their partiality to the ...musement thus furnished. The character which ...aintains numerous places of gaiety could not ...ail to encourage show in whatever way it might ...anifest itself. The lavish use of jewelry, and ...f personal adornments generally; the employment of much mirror-glass, with the view of ...epeating and re-repeating any object of beauty ...hat may be possessed, might be expected from ...a people who are ever craving after show, and ...nd their chief enjoyment in presenting a beautiful appearance and in dwelling amidst gaiety.

No right-minded person will censure the desire ...hich prompts the French to seek to render ...heir persons pleasing and their surroundings ...eautiful. The mind that can fully appreciate ...eauty is of necessity far from uncultivated; for ...ears of careful training are necessary in order ...hat objects in good taste may be fully valued, ...nd that their merits may be understood. But ...f beauty be sought while the intellect is uncultivated,—if gaiety be attained at the sacrifice of ...he enlargement of the great faculties of the ...ind,—then those who labour to behold beauty ...annot be held wholly blameless.

To what extent the cultivation of the mind is ...acrificed to the attainment of beauty in France ...t is impossible to say. In many cases, it is to ...e hoped that there is no sacrifice made to its possession; yet this is certain, that as regards ...he ornamental art of our Continental friends, ...he manifestation is rather that of external ...beauty than of internal worth: a smart showiness ...haracterizes their productions, and gaiety in ...some form is everywhere apparent.

It is to be noticed that the French are an impetuous and excitable people, which fact would, of itself, account for the character of much of their decorative art. They seek excitement: this being best produced in ornament by a lavish use of gold and by forms in high relief (the relief being necessary if gold is to be shown to the greatest advantage), they use gilded carving and plaster-work to a great extent; with this they combine flowers and ornamental scroll-work in imitation relief; and thus they produce that which, when viewed by the casual observer, is exciting and gay.

This form of art is common in Paris. The *cafés* have this kind of decoration with few exceptions, and even the Louvre is no exception to the general rule; indeed, it is probable that this is the great type from which the styles of the smaller buildings of France are mainly derived.

But it is not about the architecture of Paris that we would now write, but about the paperhangings; and here we perceive a great change, which has yet to be accounted for. The gay floral patterns that reigned supreme in this manufacture only ten years back are fast disappearing, and in their stead we find comparatively simple ornamental compositions. Several things combined have probably induced this change. To be surrounded by objects which are all gay may be pleasing for the time, but it ultimately becomes monotonous and wearisome, for repose is as necessary as excitement. This may have led to the change. Then experience will ultimately show, even if it fail to do so at first, that whatever is of a pictorial character is injured by repetition, while ideal ornaments are generally improved by multiplication. Some of the flower-groups which we have just seen upon a few of the Parisian papers are almost as perfect as works of art as it is possible for anything produced by machinery to be. They are exquisite in drawing, in grouping, and in colour; but while every individual group is thus a wonderfully perfect production, the general effect of a wall when covered with such a paper is unsatisfactory. A picture upon a wall is a pleasing object, but if the one picture were repeated fifty times on the side of the room few would look at any one copy, still fewer would stay to admire what they saw; and even the general effect of the side of the room would be offensive rather than pleasing. Floral wall-papers when hung present very much the appearance of a wall thus covered with duplicates of the one picture, and have a similar unsatisfactory character: hence we might naturally expect that, while they might have their day, like every other fashion, they would enjoy but a short existence, and would give place to a more worthy form of art.

Another reason why patterns of a floral character should pass away may be found in the progress of a knowledge of art. The international exhibitions, and other displays of decorated objects which we have had during the last few years, and the systems of art-education which are now actively at work in bringing about the cultivation of the public generally, cannot have failed in producing wholesome results. That they have achieved much that they were intended to do is obvious, for even the lowest classes of society have now some idea of art, especially upon the Continent; and the very possession of such knowledge must lead to the abandonment of that ornament which fails in imparting an agreeable effect to the room to which it is applied.

While we, at first, may be surprised at the change which we perceive in the French paperhangings, inquiry into the matter causes our wonder to cease. But, while there is thus a great change in this branch of the French manufactures,—and a change which is very desirable, as the general effect of an apartment should always be considered before the details of the ornament,—the change has not erased from French papers the stamp of their origin; for the ornament which has now superseded the flowers is yet gay rather than solid, and is more pretty than absolutely beautiful; and, until the French character is changed, this will continue to be the case.

The English character is more solid and less frothy than the French. The French put their goodness outside, the English keep it in; and, in some cases, we must admit, the greater portion remains inside when it might advantageously be manifested. This diference of character would lead us to expect a difference in the ornamental art of the two countries; and, in accordance with our expectations, we perceive a marked difference. Our first-class papers are this year, for the most part, high in their art-character, being generally good in design and carefully considered; yet they are not as pleasing at first sight as the majority of the French productions. In order to see the excellence of a first-class English paperhanging, we must look at it for some time; and, if it be good, it will take hold of the affections, and will grow in the esteem. But it is otherwise with the French papers. They look best when first seen, and the pleasing effect which they have when viewed for the first time soon departs; and thus they gradually become less esteemed rather than cherished more. Also, a first-class English paper looks better when hung than when in the piece, while many of the French papers look better in the piece than when hung. Yet these remarks apply neither to all French papers, nor to all English; and we cannot but notice how the French papers of this season approximate in style to our own. Solidity or real worth is better than showy appearance, though beauty, with internal merit, is most to be desired.

That we, as a nation, are now making rapid strides in decorative art is certain, and to this our French neighbours are compelled to bear testimony. We were struck with the remarks of a large Parisian paperhanging manufacturer, who said of some of our best patterns that they were too good for them; that they had in them a depth which the French could neither appreciate nor understand; and that they revealed a perfect understanding of ornament and a mastery over its laws such as the ornamentists of Paris did not possess. This is a strange admission for a Frenchman to make, but it is the sentiment of more than one of the leading manufacturers of Paris. If, then, we are passing the French in real excellence of ornamental design, let us see to it that we encourage that healthy growth of art which has set in, and foster its further development rather than check its progress; and let us also strive to combine the most beautiful external appearance with the fullest manifestation of true learning and internal worth.

ECONOMY OF AGRICULTURAL COTTAGES.

SOCIETY OF ARTS.*

With a view to discuss the object before us in the most practical manner, I propose to consider the subject of the economy of cottage-building under the following distinct heads:—

1st. The cost of cottages, as influenced by sanitary requirements and considerations of durability.

2nd. How far the improvement of the dwellings of agricultural labourers may be advanced by a modification of prevailing views, without detracting from healthiness and comfort; and,

3rd. The advantages gained by the labourer himself, his immediate employer, and the owner of the land upon which his labours are expended, by the erection of good dwellings placed in judiciously-selected situations.

It should be premised that the subject under consideration is confined to rural cottages—the dwellings of agricultural labourers and their families,—and does not extend to houses in towns, the dwellings of artisans, mechanics, shopmen, and workmen engaged in commerce and trade. To place the dwellings of these two classes of our industrial population on the same footing, would defeat the object we have before us.

The economy of the two can only be fairly discussed by keeping them separate; for, to look at them in the same light, we must assume that urban and rural labourers have the same income and earn the same wages, which is not the case. We should extend these prefatory remarks too far if we went into a comparison of wages, and the profits of agriculture and trade, upon which wages are necessarily based; but it may be safely stated that whereas the average wages of farm labourers in England and Wales do not reach 11s. a week, the wages of artisans, mechanics, shopmen, porters, and others employed in towns, amount to at least 24s. a week; arising from the fact that the average profits of trade are at least double those of farming, for which there are, of course, many reasons, the principal one being that the trader's capital is generally turned over more than once in the year, while the farmer's capital is with difficulty restored to him within the year.

The cost of cottages is made the first object of consideration, because it is practically found that although all persons interested in the question admit the present bad condition of things, very few, comparatively, are found willing to improve it, for the simple reason that the outlay does not command that direct profit which attends other investments.

Decoration and ornament often form serious items in the outlay, and, unfortunately, often detract from utility; but as these are objects foreign to our present purpose, they must be excluded from consideration. Good judgment in cottage-building is best displayed by neatness and simplicity. It is very possible to depreciate the value of landed property by building unsightly cottages, erected in defiance of good taste and in opposition to all rules of proportion.

The cost of agricultural cottages necessarily depends on the amount of accommodation they afford, and the strength and substantiality of the structure itself. The extent of accommodation which rural cottages should possess has recently been somewhat arbitrarily determined on sanitary grounds. The miserable hovels in which large families were crowded, and which still un-

* From a paper by Mr. J. B. Denton, read on the 11th inst.

fortunately exist, to the disgrace of our country, have called forth the indignation of all right-minded men; and we have been gradually led to conclude that no cottages are suitable unless they contain five living-rooms, of which three are bedrooms, of prescribed dimensions, with minor offices.

The principles upon which these dimensions of space have been determined are not very distinctly acknowledged, as will be seen by an examination of the views of different authorities and the regulations of different institutions. These show that the space considered necessary to maintain health in dwellings varies from 240 to 1,500 cubic feet for each person.

According to Dr. Arnott—perhaps the greatest authority on this subject as connected with ventilation—the actual quantity of air respired by an adult human being amounts to 300 cubic inches per minute—not quite one-sixth of a foot, or 240 cubic feet in the course of the day, while the total quantity of air, directly or indirectly vitiated during the same period, is 2,880 cubic feet. Tredgold, however, states the amount of air respired by an individual to be as much as 800 cubic inches per minute, or nearly half a cubic foot, while the total quantity vitiated during 24 hours he considers to be at least 4,320 cubic feet.

These figures are quoted to show the wide difference of opinion which has been expressed by high authorities on the vital point of respiration; and if we examine the views practically carried out at our various national institutions in the space given to each person, we shall find parallel instances of diversity. For example, the space admitted to be sufficient by the police authorities under the Lodging-house Act is 240 cubic feet per person: in the dormitories of the barracks of our army the quantity deemed sufficient has been 500 cubic feet, although the Commission on Warming and Ventilation to the General Board of Health urged that this space should be increased to 700 or 800 cubic feet per man. In hospitals, where extra reason exists for large space, the amount varies from 1,000 to 1,500 cubic feet each person: in the prisons 800 cubic feet seems to be the recognized space; and in the model lodging-houses about 550 cubic feet is given.

In spite of this prevailing diversity, experience enables us to adopt with security for cottages the following dimensions of space:—

Height of lower rooms, 8 feet; height between floor and ceiling of upper rooms, 7 feet 6 inches.

LOWER ROOMS.

Living-room	Area, 150 ft.—Cubic contents	1,200 ft.
Scullery	,, 80 ft.— ,, ,,	640 ft.

UPPER ROOMS.

Parents' bedroom...	Area, 120 ft.—Cubic contents...	900 ft.
Boys' ,,	,, 90 ft.— ,, ,,	675 ft.
Girls' ,,	,, 80 ft.— ,, ,,	600 ft.

The ventilation which will render these spaces sufficient is gained by having a fire-place and window in each room, with the door entering directly from the porch, passage, or stairs. Practically, all minute refinements in the art of ventilation are found inapplicable. In addition to these desiderata, each cottage should be provided with a pantry within the dwelling, having a command of a free passage of air through it. The scullery, and not the living-room, should have a copper and sink for washing, which should be the property of the owner of the cottage: an oven is a desirable addition, but it is not essential. The out-offices should consist of a small barn, for wood and coal; a privy detached, with facility for emptying it; and an ash-pit, so connected with the privy that the ashes may be used to prevent effluvium. The whole premises should be perfectly drained. All the roof-water should be preserved, and a command of well-water should be provided also. The yards and walks (if any) should be paved or gravelled, so as to preserve cleanliness within the dwelling.

These details of accommodation shortly supply the sanitary data upon which cottages of the best class should be built.

To avoid any difference of opinion as to the proper degree of substantiality to be adopted, it should be borne in mind that a very large proportion of the landed property of the county is held by tenants for life, and that it is of the highest importance that all buildings erected by them should have equal reference to future maintenance as to present cost, for no owner is justified—especially if he charge his estate with the cost—in putting up buildings of any character which shall be a cause of constant repair. This remark applies to all agricultural buildings, but most particularly to labourers' cottages; though instances are not wanting in which landowners, to gratify a passing impulse, have raised upon their estates a number of flimsy habitations, sometimes adorned with questionable taste, which their successors are maintaining at a greater annual outlay than the rent derived from them.

If a landowner, whose interest in his estate is limited to his own life, desires to borrow money for the building of cottages, in the same way as he is empowered by the legislature to borrow for the building of farm-houses, or as an incumbent of a living can borrow for the building of a rectory-house, he must conform to certain rules. In the case of farm-houses and labourers' cottages, these rules are furnished by the Inclosure Commissioners for England and Wales, who are appointed under the several Agricultural Improvement Acts, to protect reversionary interests against the misapplication of money, and to see that cottages, of which the cost is charged on estates, are built according to the rules laid down by them. Objections have been raised by landowners and by architects to the requirements of the Inclosure Commissioners, on the ground that the rejection of home-grown timber is too arbitrary, and that the dimensions of the scantlings are unnecessarily large; but no sufficient reason has yet been recognised for departing from them. It may be a question for owners in fee to consider whether these rules are such as it may be expedient for them to adopt, when not charging their estates; but it will be clear, on examination of the rules referred to, which are printed in the form of a circular, that in all cases of entailed property the conditions recognised by the Commissioners are sound, and ought to be adopted by all tenants for life, whether they borrow money and charge their estates or not. If this be admitted there is the least possible room for difference in the cost of cottages of the same class. Yet there is no subject, perhaps, which has elicited such variety of opinion, and such diversity of designs and estimates. If we examine the Journal of the Royal Agricultural Society of England, we shall see conclusive evidence of this fact. In one case, that of Mr. Young Macvicar (prize design 1849), the amount of his estimate is honestly given at 296*l.* 9s. 8d. the pair, while in another instance a subsequent prize was given in 1856 for precisely the same object, the estimate of which is 170*l.* the pair.

Were it possible to erect a pair of cottages, with the same accommodation, and with the same degree of substantiality, with such a saving as here quoted, there is no doubt the country would gain a great advantage; but by comparing the details in the two cases it will be found that if the same prices were paid for labour and materials in each, the latter design, which is represented to be the cheaper by more than 125*l.*, would, in fact, turn out to be the dearer of the two. This instance is given to show that the parent Agricultural Society of England, whose desire in offering these special prizes could only have been to forward the object now before us, has been led to award them without that close examination which alone can determine the value of competitive estimates, and the omission of this essential duty has been to retard rather than to advance the progress of cottage building.

The Yorkshire Agricultural Society," having offered prizes for the same object in 1858, received 76 designs for double cottages, to be built at a sum not exceeding 200*l.* the pair; and in 1861 the same Society again offered prizes, and received 149 plans for double cottages, not to exceed 220*l.* the pair, and 69 for double cottages, not to cost more than 180*l.* the pair. Upon these competitions two very careful reports were written by Mr. C. W. Strickland. In that of 1861 the prizes were awarded to Messrs. Richardson & Ross, of Darlington, for the cottages to be erected at 220*l.* the pair; and to Mr. J. B. Corby, of Stamford, for the plans of cottages costing 180*l.* the pair. They each exhibit very considerable merit, and have been adopted by landowners in various parts of the country. Mr. Holland, M.P., of Dumbleton, contracted with Mr. Hunt, of Evesham, for the erection of several pairs upon the plan (No. 1) of Messrs. Richardson & Ross, whose published estimate was 210*l.* 14s. 1d. the pair. They are very well executed, but in some few particulars, such as the use of spruce for the floors of the bedrooms, and elm for staircases, are at variance with the requirements of the Inclosure Commissioners. Mr. Hunt's description of the construction, and his statement of facts are as follows:—

"CONSTRUCTION.

The cottages are built with red bricks, made upon the estate, those for the plinth and jambs of windows and doors of back elevation being moulded for the purpose.

The dressings to the windows are of Bath stone. The floors to the living-rooms and entrance passages are of blue stone, tooled, with steps at entrance and back doors of same material.

The floors of sculleries and pantries are of red squares, also made upon the estate. The floors of outhouses are brick on edge.

The roofs are covered throughout with Broseley tiles, the gutters and ridges being of same material; the gable ends are filleted with cement.

The eaves are spouted throughout with cast-iron spouting, with down pipes of same material, and the water equally divided and conveyed into a tank sunk below the surface to supply each cottage with water.

The timbers throughout are red deal, that to the roofs in sight being wrought and stop chamfered.

The floors of bedrooms are of spruce deal.

The staircases are constructed with elm.

The window frames and casement sashes are made of red deal, one compartment in each window being hung. The door frames and doors throughout are also made with red deal. Skirtings of wood to the bedrooms, and cement ditto to living-rooms and passages. Pantries fitted up with shelves.

Plastering to the whole of the rooms except walls of sculleries and outbuildings, those being grouted with lime only.

The windows are glazed with thirds sheet-glass, and the whole of the woodwork usually painted receives three coats.

Each pair of cottages are properly drained, gardens levelled, and paths formed and gravelled, pitched causeways at back leading to outhouses and approach gates.

The contract amount for the erection of each pair, including every description of labour, materials, and all hauling, was 250*l.* a pair.

It should be understood that bricks were near at hand, and charged at 25s. per 1,000; rubble was also obtained from the brickyard, for concrete to foundations and filling to garden paths, at 1s. per cart-load. Sand also was had for raising off the estate, also gravel for footpaths, and that the contractor lost 20*l.* upon each pair built. I do not think it possible to build cottages of this description, to cover everything, for a less sum than 270*l.* per pair.

GEORGE HUNT.

Evesham, 6th January, 1864."

Mr. Joseph Yorke, of Forthampton, Gloucestershire, has erected some cottages on Mr. Corby's plan, the estimated cost of which was 178*l.* 11s. 5d. the pair, and he has taken every care, by the employment of his own workmen, to reduce the cost to a minimum. The actual cost, exclusive of extras for ornamental chimneys and window labels, and exclusive of the out-buildings and tank, has been 209*l.* 1s. 3d. The work has been since measured and valued by a local builder, and his figures amount to 222*l.* 4s. 2d. for the same thing, showing that by the employment of the estate workmen a saving of 13*l.* 2s. 11d. was effected.

These results prove that, although a careful examination of the designs was made by the Yorkshire Society, the estimates of the prize designs would not stand the test of practical experience, and that 25 per cent. on the estimates must be added to arrive at the actual cost. These remarks are not meant to reflect upon the professional men who have furnished designs, and who have doubtless expressed truthfully their own convictions; but they are intended simply to disclose facts which have acted prejudicially to the advancement of cottage building. It may be stated in general terms, that where the accommodation afforded is precisely the same, and the same degree of durability is aimed at throughout, there cannot be a greater difference in any designs beyond 10*l.*, or at most 15*l.* per pair of cottages, always assuming that the circumstances are the same with respect to the employment of tradesmen by contract, who may fairly claim tradesmen's profit, or the employment of estate journeymen, whereby the tradesmen's profit is saved.

The number of cottages built in pairs, with three bed-rooms each, within the last ten years, upon the principles respecting accommodation and construction here explained, the particulars of which I have taken pains to ascertain, afford a close approximation to a general average of cost.

Including outbuildings, and the formation of a tank for roof-water, that cost is found to be 270*l.* the pair. This price represents the cost at which a builder will undertake the work, and it is possible, by employing the estate journeyman, to reduce it to 255*l.* This amount will necessarily vary with local circumstances and the cost of materials, and will be increased further by the expenses attending the borrowing of money and the inspection of the Inclosure Commissioners, in those instances where tenants for life resort to this mode of effecting their wishes. The price is independent of the land upon which the cottages are built, which, nevertheless, forms an important item of cost. In the consideration hitherto given to the subject, and in the estimates generally furnished with the prize designs, no notice has been taken of this point,

although it is one which must be considered, if we are to regard cottage-building as a proceeding worthy the attention of capitalists as well as land-owners.

Thus, it is not at all improbable that the total cost may frequently reach 300*l.* the pair. Where a landowner adopts the plan of borrowing money, and undertakes to repay it by instalments in thirty years, with interest, he must look to a return, in one shape or another, of at least 6 per cent. per annum. In fact, under any circumstances, the return, in one shape or another, for cottage-building, should be this per-centage, to render the outlay a discreet one; for cottages are perishable, and the first cost must be regained in a given number of years, to enable the owner to replace them.

On a pair of cottages costing 300*l.*, therefore, the return to be looked for is 18*l.* a year, or 9*l.* each cottage. This is equal to 3s. 6d. a week.

DWELLINGS IMPROVEMENT IN THE METROPOLIS.

A REPORT has been addressed to the Council of the Society of Arts by the special Committee on the Statistics of Dwellings Improvement in the Metropolis, and has been printed by Simpkins, 70½, Strand. Mr. Twining had offered to collect, at his own expense, in the name of the Society of Arts, information as to the results obtained, in a financial as well as a sanitary point of view, by the societies and individuals engaged of late years in providing improved dwellings for the working classes in town and country, or in organizing establishments for their benefit, as he considered that future operations in this direction might thus be much facilitated. The inquiry has produced a very satisfactory amount of information. This has been put into shape by Mr. W. G. C. Rigby, the builder, as reporter to the Committee, with the aid of Mr. Twining. The pamphlet under notice is the result. It contains a useful and important tabular classification of particulars as to no less than thirty-two different metropolitan establishments more or less connected with the dwelling reform movement, with profits ranging from none at all up to 14 7/8 per cent. on investment, as in the case of the model lodging-house in Charles-street, Drury-lane.

In a financial point of view, renovated dwellings have been found to have a decided advantage over new ones; but in sanitary respects the new have the advantage. Still, Mr. Rigby is convinced that even in this higher field of enterprise satisfactory results may be obtained by a combination of the various elements of success, carefully borrowed from the best examples. On the whole, he finds Clark's-buildings, in Broad-street, St. Giles's, to be the most usefully suggestive. In this case, too, the return on outlay is as much as 10 per cent.

THE MONUMENTAL ARCHITECTURE AND SCULPTURE OF THIS COUNTRY DURING THE MIDDLE AGES.*

IN the interment of our dead we are fast reverting to the ancient Roman law. Most of our cities and large towns have now cemeteries established in or beyond their outskirts, and many of our old graveyards are closed, and no longer suffered to be used for burial. Nor—with a few exceptional cases—are the pavements of our churches now allowed to be disturbed for further inhumation.

As to the new cemeteries they are not like the ancient, over-filled graveyards adjoining the churches in our populous towns, uncared for, and with a look of desolation, as if the memory of the dead were forgotten. They are laid out with taste, they are kept in order, and scope is afforded for sepulchral monuments in many a varied design.

In our memorials of the dead we go back to pre-historic ages, and from thence we can deduce, in regular succession, monuments of every period during the last seventeen centuries. Our churches abound with these remembrances: in them we find the most interesting records of the skill and taste evinced by our forefathers in architecture and sculpture. The peculiarities of costume, whether religious, military, or civil, of every fashion during the last 600 years, are there portrayed. These monuments are of historic worth: they carry us back to customs and observances: we find a difficulty in realizing or understanding without them; in a word, they afford some of the best illustrations to our national history.

In the pre-historic period, or that anterior to the occupation of this country by the Romans, we find two classes of sepulchral monuments, both unlettered. The most ancient of these was the monolith, or single pillar of unhewn stone, the "*Maen hir.*" Of this class of monument we find the earliest record in Holy Writ relating to the stele or stone placed on the grave of Rachael: "And Jacob set a pillar upon her grave, that is the pillar of Rachael's grave unto this day." These monoliths or pillar stones, "*meinian hirion*," high stones, are found in Cornwall, Wales, and the Isle of Anglesea, where they are numerous: in other parts of this country they are comparatively of rare occurrence. There is a huge monolith of this class, called the King stone, at Long Compton, in Warwickshire, about fifty yards west of the circle called the Rollright stones.

A monolith of this description has, I believe, within the last few years, been placed in the Norwood cemetery, as a memorial to the late Mr. John Britton, who was buried there; and a more fitting sepulchral monument to that eminent antiquary could hardly have been chosen.

The second and only other class of ancient British sepulchral monuments is the *Cromlech*, consisting of a huge unhewn stone, sometimes 18 or 20 feet in length, and of proportional width and thickness, placed flatwise or nearly so, on three, four, or more larger stones set beneath it as supporters, thus forming a huge but rude kind of table monument. This class of monument, like the former, is to be found more frequently in Cornwall, Wales, and Anglesea, than in other parts of this country. Kit's Cotty House, in Kent, and the stones called the five knights, near the Rollright stones in Oxfordshire, are sepulchral monuments of this description, on which I need not further dwell.

When the Romans had conquered and were in the occupation of South Britain, they retained the usages of their own country in the burial of their dead. Their interments, whether the body was burnt or deposited entire, took place in cemeteries outside and at some distance from their cities and towns, and generally by the side of or near to their great roads. This practice was in accordance with the Laws of the Twelve Tables, which forbade the burial of the dead amongst the habitations of the living.

The Romans, during their possession of this country, had two classes of sepulchral monuments—the upright stone, answering to our common churchyard tombstone; and the sarcophagus, answering to the high tomb or table monument, common both to our churches and churchyards. The upright stone was finished at top like a triangular pediment; and this part was often sculptured in relief, and sometimes even beneath the pediment; but on the side of the upper portion of the stone sculptured figures in relief are found. The stone was regularly cut or hewn, and beneath the part more or less covered with sculpture was the inscription in plain letters, well and carefully cut, and easy to be read. This generally commenced with the letters D. M., or *Dis Manibus*, the usual prefix to Roman sepulchral inscriptions, and contained the name of the person of whom the stone was commemorative, and the number of years and months he lived. Sometimes it concluded with the letters H. S. E., *Hic sepultus est*; but there is nothing, as there is on the consular diptychs, to denote the year in which the party died.

Monumental stones of this class have been found in or near London. I think there is one, if not more, in the British Museum; at Wroxeter, near Shrewsbury, now preserved in the Library of the Grammar School at Shrewsbury; near to Cirencester, now preserved in the Museum at that place; and elsewhere.

The other class of Roman sepulchral monuments we find in this country consist of sarcophagi or stone chests, of a regular oblong form, generally hewn out of a single stone, but sometimes formed of more, which contained the interment, whether by cremation or deposition of the body entire. This chest was covered with a massive coped lid. The sarcophagus thus constructed was ofttimes more or less ornamented on the sides and cover, though it was sometimes quite plain. On one of the sides we occasionally meet with an inscription, but there is often no inscription to denote the name of the person thus buried. Some of these sarcophagi discovered in or near London are deposited in the British Museum. One, perfectly plain and with a plain coped lid, was discovered a few years ago by Mr. Bros, in his grounds at Springfield, Upper Clapton, and is still preserved there. In the Museum at York are several, found outside of that city; and some were discovered years ago at Keston, in Kent, near to St. Alban's, Hertfordshire; and elsewhere.

These sarcophagi were evidently placed above ground, and not buried in the earth. A study of these monumental relics, even at the present day, might not be unproductive of good, as their forms might be adapted for a certain class of tombs in our modern cemeteries.

These two classes of Roman monuments may in date be attributed to a period ranging from the beginning of the second century to the fifth century after Christ.

We have a curious class of inscribed sepulchral monuments of the later Britons, after the departure of the Romans, extending in date over the sixth, seventh, eighth, and ninth centuries. These consist of rude monoliths, some of large, some of small size, bearing inscriptions which, for the most part, simply denote the names of the persons of whom the stones were commemorative, and of whom they were the sons, with sometimes the words, "*Hic iacet*," or "*Hic in tumulo iacet.*" These inscriptions are, with few exceptions, very brief, and the letters are badly shaped and irregularly cut. They are in Latin, and the grammar and spelling are often faulty. They are not cut or read horizontally across the stone, but vertically downwards. These lapidary inscriptions are mostly found in Wales, Cornwall, and the Isle of Anglesea. Many have been removed from their original positions, and preserved or built up into the walls of churches. There are, perhaps, about one hundred of this class of sepulchral monuments.

One of these lapidary inscriptions is, I think, in the British Museum, and there are two or three in the Meyrick collection at Goodrich Court, Herefordshire. The well-known pillar of Eliseg, near Llangollen, North Wales, contains, perhaps, the longest inscription, which is in the nature of a pedigree, to be found on these stones, and this is cut horizontally and not vertically. There is also a rude monolith of this class with a somewhat lengthy inscription, also cut horizontally, on the Duke of Buccleuch's property, near Yarrow, Selkirkshire, Scotland. As these lapidary inscriptions contain nothing approximating a date, the probable age of each is only to be presumed from the palæographic features or forms of the letters. These inscriptions are often partially obliterated or most difficult to be read.

Of the sepulchral monuments of the Anglo-Saxons, after their conversion to Christianity, we have very few existing remains, so few as hardly to be classed otherwise than singly. They comprise obeliskal crosses, as well as flat or coped-shaped monuments. Some of these are plain, some covered with involuted knot-work. Two ancient sepulchral crosses, which I should assign to the Anglo-Saxon era, are to be found in Penrith church-yard, Cumberland, and two in Whalley church-yard, Lancashire. These do not appear to have been disturbed from their original positions, from which in general we find Anglo-Saxon monuments to have been removed.

In pulling down the old church of St. Alkmund, Derby, some years ago, preparatory to erecting the present church, fragments of Anglo-Saxon monuments were discovered in the walls and foundations; some of these were ornamented with involuted knot-work in relief; one thus ornamented was coped.

I think it very probable that this may have been the shrine or sepulchral monument of St. Alkmund. One monument here discovered, a flat stone about a foot thick, had one of the sides covered with an arcade of plain semicircular arches, springing from plain block imposts on square piers. This is the earliest monument with architectural details I have found.

In the early historians we meet with some few notices respecting Anglo-Saxon sepulchral memorials.

St. Cuthbert, who died at Farn, A.D. 688, when dying, requested he might be buried near to his oratory, on the south side eastward, and close to a cross he had there erected. When his remains were removed in the eighth century to the cathedral of Lindisfarn, Ethelwold, ninth bishop of

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* By Mr. M. H. Bloxam, read at the Architectural Museum, on Tuesday, May 10.

that see, caused a cross of stone to be sculptured and set up in his memory. This cross was broken A.D. 793, when the Danes devastated the church of Lindisfarn. It is, indeed, to the destruction of the principal churches and monasteries throughout the kingdom by the Danes, in the ninth and tenth centuries, when the monuments of the dead shared the fate of the churches, that the paucity of such remains of the Anglo-Saxon era may be accounted for.

The body of Acca, Bishop of Lindisfarn, who died A.D. 740, was buried at Hexham, and two stone crosses covered with sculpture were set up over his grave, one at his head, the other at his feet. An ancient monumental stone rudely sculptured with crosses and other detail was, A.D. 1831, discovered in digging for a grave in Hexham churchyard: this is preserved in the church of Hexham, together with the fragment of another sepulchral cross covered with knot-work. One of these may possibly have been one of those set up over the grave of Bishop Acca.

Sepulchral monuments of the Anglo-Saxon era have been found at Dewsbury, Yorkshire, Repton, Derbyshire, Heysham, Lancashire, and elsewhere. One is built up in the wall of the tower of St. Mary, Junior Bishophill, York. In taking down old churches we often find remains of sepulchral monuments, some of which are of very early date, built up in the walls or buried in the foundations.

There is one sculptured stone, of which there is, I think, a cast in this museum, preserved in the cathedral at Peterborough. This, on the strength of a passage in the chronicle of the pseudo Ingulphus,—a chronicle, I believe, generally now admitted to be a forged document—was long considered to be a memorial raised over the body of the Abbot of Medehamstead,—as Peterborough was anciently called,—slain with the monks of that monastery by the Danes A.D. 870, and said to have been erected soon after that event; but a careful examination of this sculptured stone shows the date of it to have been at least two centuries later, and of Norman design and workmanship. I do not think it was a sepulchral monument, but a shrine or part of a shrine.

In the churchyards, and built up into the walls of churches in the Isle of Man, are numerous sepulchral headstone crosses, several of which bear inscriptions in Runic characters in an unusually perfect state; the material of which these monuments are mostly composed being a hard clay schist or slate. These crosses are generally embellished with interlaced braids and knot-work, and rude figures of men and animals sculptured in low relief. They appear to be of Scandinavian origin and design, the work of the Danes or Norsemen, who conquered that island about the close of the ninth century, and were succeeded by the Scots about the middle of the thirteenth century; and to a period comprising the tenth, eleventh, and twelfth centuries, these monuments may be ascribed. The inscriptions, so far as they have been deciphered, understood, and translated, bear the same import, namely, that one person, whose name is given, erected to another person, whose name is also given, the particular cross on which the inscription is cut. We have in England few sepulchral lapidary inscriptions in Runic letters.

A flat sepulchral slab bearing a cross, in form that of a globular pattee, and short inscription in runes, was some years ago discovered at Dover; and a sepulchral headstone cross, with considerable ornamentation and a Runic inscription, has also been discovered at Lancaster.

The forms of some of these early headstone crosses, but without the ornamentation, might be well adapted to the sepulchral memorials for our cemeteries; and, as such, are at least deserving of study.

Of the sepulchral monuments still preserved in the churches of this country, and which may be ascribed to a period comprising the latter part of the eleventh and the whole of the twelfth century, or from the Norman invasion to the close of the reign of Richard I., the number is comparatively small, notwithstanding the vast increase of monastic churches, more of which were then founded than in any other period of like duration. This may be attributed to the probable destruction of monuments of early date in the ruin which followed on the suppression of the monastic and conventual establishments in the sixteenth century, most of the churches belonging to which were then partially or wholly destroyed; and on the sites of these churches or amidst their ruins, ancient monuments or fragments of such, some of which may be referred to this, the Norman era, have been occasionally discovered. It was also by no means an unusual practice in subsequent ages, when ancient churches were rebuilt, to disregard or destroy the sepulchral memorials of earlier times, and conceal the fragments, or build them up into the walls of the new structure, since on the pulling down of late Mediæval churches for the purpose of partial or entire re-construction, early sepulchral memorials of this era, as well as of later times, have been disclosed.

The architectural monuments of Norman design are few in number. One was found some years ago in Fordwich Church, Kent, on one side of which was an arcade of semicircular intersecting arches,—and the fragment of a high tomb was discovered A.D. 1815, on the site of Abbey Church, Reading. This exhibited the bases and the lower portions of the shafts of a row of semi-attached columns, probably supporting arches, which had evidently surrounded the whole of this tomb. It was supposed to have been the tomb of Henry I., who was buried in this church, and whose effigy was thereon placed. Perhaps more monuments decorated with sculpture exist of this period than those architecturally adorned. A well-known monument, consisting of a slab of black marble covered with sculptured detail, consisting of a kind of stiff foliage, is preserved at Lewes. A long inscription, in Leonine or rhyming Latin verse, incised upon it, shows it to have once covered the remains of Gundrada, wife of William de Warren, first Earl of Surrey. She died A.D. 1085, and was buried in the chapter-house of the Priory of Lewes, but this monument is of a period of at least half a century subsequent to her death. From a careful examination of the details some years ago, I came to the conclusion that it had been sculptured in the latter part of the twelfth century. Now, in excavating on the site of the chapter-house at Lewes Priory, some few years ago, on the formation of a railway, a leaden cist of small size was discovered, with an inscription denoting it to contain the bones of the Countess Gundrada, so that when, years after her death, her remains were disturbed and thus deposited, this monumental slab was, I think, sculptured and placed over them. In form it was of a fashion which now generally prevailed to the close of the fourteenth century, wider at one end than the other.

In the church of Coningsborough, Yorkshire, is a coffin-shaped slab or monument of grit, slightly ridged and tapering from head to foot, being only 15 inches in height. It must originally have been placed close to a north wall, as the top and south side only are decorated with a profusion of rude sculpture. Thus is represented in low relief, the temptation of Adam and Eve, and a combat between two mounted knights, and a variety of other sculpture. In Wirksworth Church, Derbyshire, is a curious monumental stone covered with figures of rude Norman sculpture.

In Ely Cathedral is preserved a very curious sculptured monument of Norman design. It consists of a slab of black marble, of a coffin-shaped form, wider at the head than at the lower extremity, from which latter a portion has been broken off. This monument is said to have been removed from St. Mary's Church. On the upper part of this slab is sculptured, in low relief, a canopy with representations above of Norman buildings. Beneath this canopy is portrayed a figure of St. Michael bearing a soul to heaven, the soul being represented as a small nude figure with the hands and arms upraised, but not joined, the lower limbs being enveloped in a winding-sheet. This is an early instance of the conventional mode, afterwards common, of representing the conveyance of a soul to paradise by angels holding a winding-sheet, containing the nude figure of a child. This practice is thus alluded to by an old writer, Becon, of the sixteenth century, in a work entitled, "The Acts of Christ and of Anti-Christ:" "Anti-Christ is buried in a glorious tomb, well gilt, and very gorgeously set out with many torches and great solemnity, and with angels gloriously portured that bear his soul to heaven." At the back of the small nude figure is seen an episcopal pastoral staff, with the crook simply curved and turned outwards, thus indicating this to have been the monument of one of the Bishops of Ely, of the twelfth century. There are some plain slabs of this period with inscriptions in Leonine Latin verse, and otherwise, the dates of which are ascertained, but these are ornamented neither with sculptured nor architectural detail. Although there is a vast quantity of sculptured work of the twelfth century, such appears chiefly on the tympana of doorways and the capitals of columns; and the surface of such sculptured work is often abraded. We may observe a diversity of skill employed in the work, which for the most part is of a comparatively rude character, with the drapery disposed in a stiff and mechanical manner: we may, however, here and there discern the work of a superior artist, and the germs of a better school of art. About the close of this century we may notice the introduction of life-sized recumbent effigies, executed in very low relief. These as yet are not many in number; perhaps, one of the effigies in the Temple Church, London, is of this period. That in Salisbury Cathedral, ascribed to Bishop Roger, who died A.D. 1139, has an inscription in Leonine verse of six lines, which, however, give no name, and this monument, though of the twelfth century, is, I think, of somewhat later date than the time of Bishop Roger. There is also the recumbent effigy in Peterborough cathedral, of one of the abbots of that monastery, which I should ascribe to the close of the twelfth century; but the number of sepulchral recumbent effigies of this age are few, even if we include those at Fontevraud, in France, of Henry II., who died A.D. 1189, of Eleanor de Guienne, his Queen, who died A.D. 1204, and of Richard I., who died A.D. 1199.

In these recumbent effigies, notwithstanding the stiffness, formality, and multiplicity of folds in the arrangement of the drapery, we perceive the germs of a better school of art, which developed itself in the thirteenth century. These effigies are, therefore, worthy of notice, and casts of them may, I believe, be studied in the Crystal Palace at Sydenham.*

THE BUILDING TRADES MOVEMENT.

Birmingham.—A meeting of the Committee of the Birmingham Master Builders' Association was held on Wednesday in last week at the Woodman Inn. Delegates from the Carpenters', Masons', Bricklayers', Plasterers', and Labourers' Societies attended by invitation. Reporters were not admitted, but we believe the masters began by agreeing to the demand of the men to make four o'clock the hour of leaving off work throughout the trade. The carpenters were offered 26s. 6d. a week, their demand being 27s. The deputation consulted with their fellow workmen, and on their return refused the offer, urging that the masters might as well give the extra 6d. The masons desired to commence work on Monday at seven. The masters offered 6d. extra for the first hour of that day—from six to seven—with the option of beginning at either hour. The deputation, after consulting their society, declined the terms offered. The bricklayers, we understand, were offered 28s. per week during the eight summer months (they asked for 30s.) and their present rate of wages—27s. a week—during the four winter months. The deputation, having full power to treat, at once declined the offer. The plasterers were offered 26s. 6d. a week, and this was also refused. The labourers were offered 18s. a week, which offer they accepted. As regards overtime, the following offer, we understand, was made by the masters:—Over-time from half-past five till eight at the usual rate of wages; after that hour time and a half; and on Sundays double time. These terms were refused. The only deputation present, therefore, who accepted the terms offered by the masters was that sent by the Labourers' Society.

Walsall. The joiners and bricklayers in this town, struck on Monday in last week for a reduction of the hours of labour, the employers having refused to accede to the terms of a notice served upon them by the men on the 15th ult. to the effect that from the 2nd of May they should cease work on the evenings of the first five working days of the week at half-past five instead of six o'clock, and on Saturday evenings at four o'clock instead of five as hitherto,—the time of commencing work to remain the same as before, viz., seven o'clock on Monday mornings and six o'clock on the other days of the week. Mr. Highway offered to adopt the rules in force at Wolverhampton, the effect of which would be that the men would receive 4s. a week more, the hours of labour remaining somewhat less than before. This offer was accepted by the carpenters in Mr. Highway's employ, but declined by the bricklayers in consequence of its being contrary to the rules of their executive.

* To be continued.

ne other masters offered to accede to the demands of the workmen at the expiration of ten eeks. The operatives refused to accept this fer, believing that it was made with the view f getting rid of them when the affairs of the uilders would allow of its being done conveiently. A conference took place between the asters and men on Thursday evening, at which e whole subject was discussed, and the result as that the demands of the operatives were acded to, work being resumed on Monday. It was lso agreed that three months' notice should be iven in future of the intention of either masters r men to demand an alteration in the hours of abour or the rate of wages.

Liverpool.—The carpenters and joiners have een agitating recently for an increase in their ages to the amount of 2s. per week. Most of he employers have acceded to their request; but s a few have refused, the members of the oiners' Society held a meeting on the subject. he report of the executive committee contained list of 73 builders who had consented to raise he wages as requested. The secretary added to he report a statement that other employers had iven their word that they also would increase he wages of their joiners to the amount required, aying the increase back to the 1st of May. esolutions to the effect that every legitimate eans would be used to compel the remaining asters to comply; and that if not, by Saturday ext, those in their employ should strike, and e supported by subscriptions of their fellow orkmen, were carried unanimously. The meetng then proceeded to alter that part of the rules referring to the rate of wages, making the standing wages—instead of as hitherto, 4s. 8d. a day—5s. for the first five days of the week, and 3s. for Saturday.

Ormskirk.—The master painters, &c., of Ormskirk, having refused to comply with certain conditions, said to have been unanimously agreed upon by the journeymen, the men consequently struck work on Monday in last week. About a week before, the masters each received a notice, the following of which is a brief summary:—"That all men receive an advance of 2s. per week; that all men be at the pay-table by four o'clock on Saturday; that upon no consideration shall any man be required to find brushes of any kind; and that men at work in the country be allowed twenty minutes per mile for walking, and where the distance is too far the railway fare to be paid." The masters refuse to comply on the ground of not having had sufficient notice, in that it would materially interfere with the contracts they have at present in hand.

Great Grimsby.—The strike here, we are informed, was partial, and only against the subcontractor for the new hotel Royal Dock. He proposed to give skilled workmen the wages demanded, and the unskilled a less wage, which was declined. A staff of skilled bricklayers, and a sufficient number of good labourers, have now been obtained.

Wick.—The masons of Wick are now nearly all out on strike. Their wages have ranged from 10s. to 16s. a week for the last few years. They have struck for 1*l.* per week now, and the employers to be at the expense of sharpening the men's clurers, which is considered about equal to another 1s. a week.

THE ROYAL ACADEMY EXHIBITION.*

THE Great Exhibition of 1862 has left no remembrance likely to last longer than the impression made by its associated picture collection; and not many of the contributors are likely to be so well recollected after Baron Leys and M. Gallait, as M. Tidemand, who renews acquaintance this year on the walls of the Royal Academy, by sending one of his vigorous illustrations of Norwegian life and customs (542) "An old Norwegian Duel," represented with rather too strict an adherence to fact to be altogether pleasant.

A concourse of peasants, apparently assembled for merry-making, have their attention concentrated upon its very opposite result, though evidently not a surprising one to them, since every necessary preparation seems to have been forthcoming for any incident of the kind. Two youths, excited by love, loyalty, or liquor, have quarrelled and fought, and the deadly nature of the combat is only too forcibly realized: they are both mortally wounded, and the different degrees of grief and consternation of the various spectators consequent upon its termination admirably indicate their relationship to the combatants and interests in the fight. It will always be most desirable to secure such opportunity of contrasting the respective merits of foreign schools with our own, as may be offered by M. Tidemand and painters of continental celebrity becoming contributors to our exhibitions. If it were only for the sake of variety and novelty, such assistance would be valuable; although, with regard to variety, there is little to be said on the present occasion; for, what with M. Tidemand's killing picture, Mr. Phillips's waking, Mr. Calderon's burying, M. Legros's bewailing, and a host of allusions to the grim enemy, headed by Sir Edwin Landseer. R.A., and going no further down the list than to clever Miss E. Osborn, there may be even a greater want of it than is usually the case.

However disagreeable the subject of M. Tidemand's work, it is eminently characteristic of those primitive ideas of chivalry that obtained, and still obtain, in some parts of the world the least remarkable for police regulations, and where there are no courts of redress beyond what any clear space and no favour may be accounted. Indeed, "An old Norwegian Duel" may suggest to those who prefer chopping legs to logic a very perfect mode of settling a little difference; whilst to others with less conservative notions and more inclination for leaving it to the officers of the Peel institution to decide such disputes for them than to peel and do it themselves, it must be a satisfaction to reflect that this method of giving and taking satisfaction now, is left less to particular tastes and opinions than it formerly was in those good old times tradition would have us deplore.

And yet to the most appreciative of the law's majesty at home and abroad, there may be instances of very modern occurrence that would seem to furnish excuse for reverting to barbarous defence against barbarous prosecution. As when a judge, if exceeding his jurisdiction in giving the accused clear intimation that he means to kill him if he can, in spite of jury, witnesses, and all, reduces a criminal trial to a very unequal personal encounter, and the chances for prisoner, guilty or not, to a minimum.

Mr. Rankley, always conscientious and painstaking, has made a great stride towards the attainment of those qualities in which he may hitherto have been supposed to be deficient. (347) "The Doctor's coming," for its clever enunciation of story, and for its abstract claims to excellent workmanship, will take precedence of anything he has previously done; and although he certainly has employed the strongest means of producing a strong effect—bright firelight opposed to the more mysterious influence of the moon,—he has most judiciously used them. Gipsies, whether English or Spanish, are only equally amenable with the rest of humankind to the "thousand natural ills that flesh is heir to;" but what a help their romantic habits and picturesque circumstances afford to the artist, even when relating the simplest episodes of ordinary existence to enforce its consequence, such as in this, where a father and mother are watching their sick child, in apprehension of the coming too late of the doctor, whom they have summoned to its assistance by the little barefooted messenger, now breathless, after her long run across the misty common, to announce the welcome arrival. Taking advantage of the demonstrativeness of such actors, Mr. Rankley has been enabled to intensify expression to a most telling point, and, without exceeding probability, has reached the extent of it.

There are too few of our younger painters who venture upon subjects requiring research, and the difficulty of sustaining a story throughout a complication of incidents; great praise is due, therefore, to Mr. E. Crowe, whose (360) "Luther posting his Theses on the Church-door of Wittenberg" falls very little short of being a fine picture. The composition is rather too equally divided, and the clear stage left to Luther by the rest of the *dramatis personæ* gives to him the appearance of being an exacting theatrical star; but the easily-recognised portraits, well-studied costume, and capital manipulative qualities, bear witness to an energy of purpose and industry of the most desirable sort, that entitle the possessor of them to every encouragement. Similar commendation must be awarded to Mr. W. F. Yeames, for his careful rendering of one of the many adventures that befell Henrietta Maria, "La Reine Malheureuse" (477), who, on her return to England from Holland, where she had been to obtain supplies for her husband, King Charles I., to carry on the war with the Parliament, is pursued by Admiral Batten, sent to intercept her; and, two days after her landing in Burlington Bay, five ships entered the bay, and commenced an active cannonade.

"'One of their ships,' says the Queen in a letter to the King, 'did me the favour of flanking on the house where I slept, and before I was out of bed the balls whistled so loud about me, that my company pressed me earnestly to go out of the house. * * * So, clothed as well as in haste I could be, I went on foot to some little distance from the town of Burlington, and got in the shelter of a ditch, whither before I could get, the cannon bullets fell thick about us, and a servant was killed within seventy paces of me.'"

Mr. Yeames shows this place of refuge, with the queen surrounded by her companions; the cavaliers impatient at their somewhat ignominious position; frightened waiting-women, and a cowardly priest, who would appear to think no situation humiliating if it were only a safe one; have all appropriate character; but there is not enough of the serious import of the narrative conveyed into the picture to create a proper amount of commiseration for them. Pathos is neglected for humour, and this is the great failing of it.

Mr. Pettie also is evidently most at home where he has humour to deal with. (169) "The Tonsure" is very comical and apt in expression, besides being cleverly painted; but his execution is too slight for any such weighty matter as (471) "George Fox refusing to take the Oath at Houlker Hall, A.D. 1663." Mr. G. A. Storey's treatment of (465), "The Meeting of William Seymour and the Lady Arabella Stuart at the Court of James I., 1609," lends no additional interest to rather a bald subject, the success of which must mainly depend upon appositely imagined introductions to raise it above portraiture. Neither has Mr. Hayllar been more fortunate with a much better one, (450) "The Queen's Highway in the Sixteenth Century," which might be thought to offer vast opportunities to a more perceptive reading of it. And Mr. J. E. Hodgson's (512) "Queen Elizabeth at Purfleet" does not equal in conception or design the "Beacon" picture of last year, although it maintains promise of far better performances presently.

At the head of those who represent rustic and domestic incident Mr. T. Faed, A., has such resources at command that he may almost defy competition: putting aside his astonishing dexterity of touch and exquisite feeling for colour, his power of conveying expression is quite as remarkable; and, being a rarer endowment, it would suffice to make him eminent with less than half his other gifts. It is his habit to appeal to the widest range of sympathy, and all that he does is to be as easily understood by the peasant as the peer. (315) "Baith Faither and Mither" is exquisitely pathetic; and the poor old cobbler, a widower, so anxious to save his treasured little daughter knowledge of their common loss by supplying her place as far as possible, is a lesson to be universally applied. She is better cared for than her schoolmates, evidently, who are watching the bungling tenderness with which he is putting on her gloves to complete the operation of dressing her for school, with that mixed expression of respect and envy a nicer frock and bonnet than their own would be safe to excite; and no wonder, besides, with her father so obviously convinced of her being the most precious little woman in the whole world!

Mr. H. S. Marks may be of those who really do sigh after the good very old times, since he ignores things as he finds them, and insists that even with respect to bakers and blind pipers they must have fed and fasted, lived and died at least 300 years ago to be worth thinking about at all; and with so much quaint, dry persuasion in his argument, that one is half carried away by it to think with him. Of the three pictures he exhibits this year, only one, however, partakes of the comic. (326) "Doctors differ," as he shows in stature and implies in statute; the acumen with which the two professors are expounding their theories whilst practice is so much more needed is very perfectly indicated, and is a sharp satire. In quite another vein Mr. Marks has produced his best work (584) wherein an aged grandmother, the guardian of an orphan child, is reverently absorbed as she sits surrounded by the monumental tombs in a church listening to the service, with the little protected one asleep by her side. The intention of this, and mode in which it is expressed, are worthy of all praise.

In 464 he reverses the responsibility, for a poor little half-starved girl is asking of a portly baker, bread, whilst the white-headed blind

* See pp. 325, 348, *ante*.

grandfather is playing on the flageolet at the door of the shop to which she has led him. Both these illustrations are from Scripture text, and are equally sound in sentiment.

It is a fine line that separates power from coarseness, and Mr. V. Prinsep's "Berenice" (3) is open to the question of having crossed it. Ponderous rather than grand, with all its excellence of qualified rich colour, it must be conceded that where refinement is so sadly repudiated she can never be "such a lady, hands so white and lips so red," as Mr. Browning describes.

"My Lady Betty" (485), and "Benedick and Beatrice" (560), by the same painter, are further proof of rare ability, and stand less in need of a chastening influence.

(4) "Girl with Ferns," by Mr. Dobson, A., is nature refined, but nature still and very beautiful. Few look on this picture without desiring to possess it. (7) "Turtle-doves, Jerusalem," 1862, by Mr. W. Gale, very carefully studied; (29) "Awake" and (372) "Asleep," by Mr. H. O'Neil, A., are pleasing, if not the most favourable as examples of his skill; (62) "A Music Party," by Mr. A. Hughes, is poetical, and has the further recommendation of some beautiful passages of colour; but the lady is ill drawn, her neck to all appearance being dislocated; yet, there is much grace in this, as in most of its author's works. A charming notion is embodied in his village church scene (384), where some little children, more awake to a real presence than the understood one, are bathing their hands in a stream of sunlight, tinted with bright rainbow hues as passing through the stained glass of some memorial window, and, falling at the feet of a very old workman, it offers, apparently, almost a means of ascent to him, and most effectively elucidates the intention of Herbert's verse, "Then by a sunbeam I will climb to Thee," which has evoked this happy illustration.

(73) "An Interesting Topic," by Mr. Rossiter; (89) "The Knight's Guerdon," and "A Woman of San Germano" (518), by Mr. R. B. Martineau; (90) "The Interminable Story," by Mr. G. H. Boughton (very French looking); (137) "In a Spanish Venta," by Mr. D. W. Deane, are notable; and so are Mr. J. Archer's particularly pretty little lady as she stood to Valasquez (178), Mr. H. Wallis's (225) "Winnowing Corn, Capri;" (312) "The Lost Sheep," with two other highly-wrought studies of Eastern facts; (216) "Treading out the Corn: Lower Pool of Gihon, Jerusalem, May, 1862," and (383) "A Shop in Jerusalem," by Mr. W. H. Webb; (414) "The Flowers o' the Forest," by Mr. W. N. Orchardson; (483) "Gracenta," by Mr. R. Lehmann; (508) "Waiting for the Train," by Mr. E. Nicol (rich in character, and 391, by the same, is even better, and "among the old masters" places Mr. Nicol among the new); (523) "The Peepshow," by Mr. J. Burr, and (530) "Fun," by Mr. H. Burr (a falling-off after last year's contribution, though with sufficient good points to prove that the decline is but temporary); (527) "Hagar and Ishmael in the Wilderness" (a very old stock subject, with no novel aspect), by Mr. J. B. Bedford; (535) "In the East," by Mr. W. V. Herbert, jun.; and (545) "A Letter," by Mr. R. Carrick, are all indicative of great technical skill.

Mr. F. Sandys's "Portrait" (546), with its minute elaborateness, obtained without sacrifice of power, stands quite alone for the qualities that distinguish it.

INSTITUTION OF CIVIL ENGINEERS.

ON the 10th instant the paper read was "On the Means of Utilizing the Products of the Distillation of Coal, so as to reduce the price of Coke; with Descriptions of the Ovens and of the best Processes in use in Great Britain and on the Continent, in the Manufacture of Coke," by M. Pernolet, of Paris.

The author believed that this question had been practically solved, by the employment of existing ovens, to which certain inexpensive additions were made, and which, while still giving to the coke all the solidity, density, and lustre that distinguished good coke made in the ordinary way, enabled every product of the distillation of coal to be turned to account. This was effected, mainly, by keeping the coal from all contact with the air during its distillation, by performing that process very slowly, and by collecting and making use of the volatile products. The whole arrangement had been sanctioned by many years' experience, both in Belgium and France, where it was actively and profitably pursued at ten different establishments, with more than 400 ovens of the largest dimensions, capable of receiving from 5 to 7 tons of coal at each charge.

As to the cost, it was stated that the expense of altering each oven at St. Etienne was about 20*l.*; and that, as the value of the additional yield from each oven ought to be about 60*l.* per annum, this outlay should be repaid by four months' work.

The president's annual *conversazione* is to be held on Tuesday evening, May 31st.

ARTIFICIAL DIAMONDS.

AN ingenious Frenchman is said to have "taken out a patent for making diamonds," at Washington. "With two bushels of charcoal he can make a diamond that will weigh a pound." Does he expect his patented process to be perused and not imitated? The "patent" is rather suspicious: the discoverer of the way to make artificial diamonds is not at all likely to take out a patent for it. The improbability of making diamonds is not so great, however, as many—even chemists—may imagine. Indeed, a French chemist is said to have already produced very small ones by fusing carbon with the aid of borax. All that would be requisite to produce diamonds of large size would be the discovery of a solvent of carbon; and the alchemists were said to have possessed such a solvent and tincture. Just as alum dissolved in water can be made to crystallize into alum baskets, so might carbon, if it could only be dissolved in some fitting menstruum, be made to crystallize into abundance of diamonds. Carbon, to be sure, is regarded as an element, while alum is a compound; but it was Davy's opinion that diamond, too, was a compound, and not mere carbon, but probably carbon in combination with some slight tinge or tincture of halogenous material in it. Now, it is a curious circumstance that the alchemical accredited solvent of carbon, or diamond-producer, was called the hyle (or halogen) of the sages, and the elixir of the stone. Doubtful, however, as the alchemical diamond-producer may have been, we are inclined to regard the Frenchman and his patent as no less apocryphal.

DRINKING FOUNTAIN MOVEMENT.

AT the angle of a building at Vicar-lane and Church Bank, Bradford, Mr. Mills has erected a drinking fountain forming a part of the wall of the warehouse. It consists of an arched opening, supported by shafts of serpentine marble, the spandrel filled in with water flowers and ferns. The ground is a slab of polished red granite, with a moulded basin of the same material, supplied with water from a bronze lion's head, and with a silver-mouthed horn drinking-cup attached. The cost of the fountain was upwards of 50*l.*; and, along with the warehouses, it was designed by Messrs. Lockwood & Mawson.——Mr. Samuel Gurney, the chairman of the Drinking Fountains Association, has addressed us, appealing to the public for means to enable the Society to continue their exertions. The writer says:—"Through the instrumentality of this Association, upwards of eighty fountains have been already erected, at which it is computed that no less than a quarter of a million persons drink daily during the heat of the year." It is the desire of the Society to extend the boon as far as possible to every corner of the metropolis, so that the thirsty wayfarer may not be forced into the necessity of repairing to the public-house. Mr. Gurney invites subscriptions.

A PROPOSAL FOR AN ART RESULT SOCIETY.

UNDER this title Mr. Bruce Allen is proposing the formation of a new society, founded on the fact "that none of the Fine Art Educational Societies now existing seem competent to raise art, as applied to common objects in daily use, from their now artistically inexpressive state, as they are now executed by common workmen."

This proposed society would endeavour to create and help forward a radical change. "It would ask not only design, but execution,—not only for artistic design expressive of modern wants and feelings, but for artistic execution, embodying and carrying out in material such design.

It would regard designs and drawings on paper as means only, and not as ends, as is now the universal art practice, and would ask for the final result of all art power and action, whether in artists or workmen in material, *i. e.*, the object itself."

"In all cases the artist and workman would be credited with his work—irrespective of the architect, manufacturer, or seller—whether he be the artist draughtsman and designer on paper, thus indicating the work to the executive workman, a work now always to be done, or whether he be the artist workman, the actual executant. This is the one great essential of future progress in fine art."

"The chief and practical objects, therefore, of this society, or of any others that might spring from it, says the proposer, would simply be to offer prizes annually to arcist workmen and also to artist draughtsmen for specimens of their combined skill, *i.e.*, for the working drawing by the draughtsman, which served to guide the workman in his work; and also prizes for the actual work itself, as finally executed by the workman."

We do not perceive, at first sight, the difference between the object of the proposed society and that of the Architectural Museum, though the committee of the latter may not yet have been able to carry it out so completely as is desired.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE annual general meeting was held on the 11th, Mr. N. Gould, V.P., in the chair.

The report of the auditors appointed to examine the accounts of the Association was read, and it appeared that during the year 1863 the sum of 545*l.* 6s. 3d. had been received, and payments made of 478*l.* 0s. 7d., leaving a balance in favour of the Association of 67*l.* 5s. 8d. Fifty-six Associates had been elected; thirty had withdrawn, and ten had died. It was proposed also to erase twelve Associates for nonpayment of their subscriptions. Not a single debt remained unpaid. The congress held at Leeds, under the presidency of Lord Houghton, had been very successful; and Ipswich had been appointed for this year as the place of meeting, Mr. George Tomline, M.P., president; to commence on the 8th of August, and to be carried on to the 13th, inclusive.

Thanks were specially voted to the president, the treasurer, the auditors, the officers and council, &c.; and a ballot was taken for officers and council for 1864-5.

LIVERPOOL ARCHITECTURAL SOCIETY.

AT the annual meeting on Wednesday evening, the 4th instant, Mr. Weightman presided. Mr. Boult referred to an anonymous paper in the printed proceedings of the association, with reference to the Birkenhead docks, and which gave all the credit of the sluicing scheme to Mr. Hartley, and not to Mr. Rendel. He thought the name of the author should be appended. After some discussion, it was agreed that the names of the authors should be appended to all papers. Mr. Picton then read a short paper on "Classical Nomenclature as applied to Architectural Terms." Mr. Stirling reported favourably of the modelling class under his care. Mr. Samuel Huggins exhibited a chart he had prepared in explanation of his paper, read in January last, on the "History of Painting and Sculpture." The chairman awarded the prizes of the society to the successful competitors for designs for public drinking fountains; the first to Mr. N. G. Taylor, and the second to Mr. A. Jackson. The secretary read the report of the Council, from which it appeared that the number of members was 157. It was suggested that the annual excursion should be made to Manchester, Hoghton Tower, or Rufford. Manchester, it was thought for many reasons, was the most desirable. Mr. Horner, the treasurer, reported a balance of 8*l.* 13s. to the credit of the society. The following officers were appointed for the ensuing year, the election, as usual, being by ballot:—president, Mr. Joseph Boult; vice-presidents, Mr. T. J. Kilpin and Mr. W. H. Picton; hon. librarian and curator, Mr. Joseph Justin; treasurer, Mr. F. Horner; council, Messrs. William Hay, E. A. Heffer, W. H. Weightman, J. P. Bradley, and Frank Howard; hon. secretary, C. Z. Herdman. The president delivered his closing address.

BRICK FIREPROOF CONSTRUCTION.

It seems desirable to obtain consideration for the model illustrative of a system of brick fireproof construction, as set up by Mr. F. H. Groves, to which we recently referred. That the model fulfils what was expected of it is proved by the fact of its having stood seven months (it was finished the 21st October last), persons having been freely allowed to walk on the top of it, and the floor having been weighted by two tons. These tests it has withstood without the slightest appearance of settlement. The principle involved, if we understand it rightly, is that of balance. The arched floor and roof thrust against the walls, and this thrust is met by weight on the top of the walls. The floor and roof, however, being put together with quickly setting cement, become, to a considerable extent, solid slabs, with merely downward pressure. With reference to an observation in our previous notice, Mr. Groves writes,—"Let me remind you that every new principle of construction has required careful proceeding at its commencement. I well remember, when iron was not so well known as it now is, and the caution consequently that was exercised, when the five formulæ of Tredgold, mainly theoretical, formed the basis of the sections of girders, until by larger experiments, the compression and tension of metal was better known,—cast as one to six, and wrought as two to one or so,—and very different sections and disposition of the metal above and below the neutral axis were adopted. If such caution has been necessary in one, and I may say in every new principle of construction, then it is no objection to the one in question, for it is a difficulty which *all* have had to contend with."

HOUSES IN LIVERPOOL.

MR. RISHTON'S twenty-sixth annual report, as building surveyor, shows that during the year 1863, there were 2,015 dwellings erected, a number greater than in any other year since the passing of the Sanitary Act in 1846.

This increase has been chiefly in houses of which the rental is less than 12*l.* per annum, and in houses with a rental ranging between 12*l.* and 25*l.* per annum. Equal activity has prevailed in other departments of the building trade in the borough. Thus, the warehouses erected during the year were 68 in 1863, against 46 in 1862, which was above the average, and the number of extensive alterations made at existing buildings was 206 against 124. The probable cost of the building operations of the borough during the past year is estimated at 628,499*l.*

The reporter says:—

"The evils to which in former reports I ventured to direct the attention of your Committee in connexion with confined and ill-ventilated courts still continue, but it is gratifying to observe that the Council have taken the matter seriously in hand in the Sanitary Bill now before Parliament, and there can be no doubt, that when the measure becomes law, it will prove of immense advantage. Its beneficial effects will, however, to some extent be counteracted, unless proper measures are adopted for securing space for ventilation at new dwellings, more especially those known as terrace-houses—a class of erections now greatly on the increase."

Since the year 1838, 39,222 houses have been built in the borough of Liverpool.

IRON ARCHITECTURE.

A LIMITED lability company, with a capital of 500,000*l.*, in shares of 25*l.* each, is in course of formation, under the title of the Iron Architectural and Engineering Company, for developing the inventions of Mr. W. Vose Pickett, whose proposition to substitute iron for other materials in every description has been often alluded to in our pages. Mr. Pickett considers that the six primary principles of the system are—1. Canister, or hollow, iron walls, with cast chased or *repoussé* work ornamental surface, as a substitute for the solid wall and ashlared surface used in masonry. 2. Interstitial ornamental form, as a substitute for surface-carved, prominent, or basso-relievo form in masonry. 3. In close connexion with the first, and in contrast with the second principle, is the metallic low relief or intaglio form: this, though involving no invention, constitutes with the second two distinct characters to that of the one principle of relieve form in masonry. 4. As a substitute for the columnar portico, colonnade, and arcade of the ancient system, the metallic offers the suspension portico, the advantages of which are numerous. 5. The angular forms so prevalent in all erections in masonry, may be altogether dispensed with by the introduction of the curves of which metal so readily admits. 6. The sixth primary principle consists in the application of a coating of some kind, indispensable to iron, such as of glass enamel in colour, offering a cheap process of almost eternal durability.

SCHOOLS OF ART.

AT the Reading school 8 medals and 3 honourable mentions have been awarded, and five of the works have been retained for national competition.—At the Cirencester school 22 medals have been awarded, and nineteen works selected for national competition. There were also 3 honourable mentions.—The Taunton school has had 13 medals and 3 honourable mentions; and seven works have been selected for national competition. Only 27 works were submitted, being less than half the usual number, owing to the early date under the new arrangement.—Four medals have been awarded for the half year's work of the Stourbridge school, and 1 honourable mention.—The award to the Leeds school for nine months has been 41 medals, distributed thus among the central and branch schools:—Leeds 27, Keighley 8, Holbeck 6. There were also 9 honourable mentions:—Leeds 6, Keighley 2, Holbeck 1. The large proportion of 21 works has been selected for national competition, the largest number hitherto selected in any one year at Leeds being nine. Out of 27 medals awarded to the Leeds school, 14 have been obtained by the ladies in the morning classes.—The Carlisle school has obtained 12 medals and 1 honourable mention: 6 works have been retained in London for national competition.

COMPETITIONS.

Chester Town Hall.—Thirty-two sets of designs have been received, and are hung in the saloon of the Grand Stand. The mayor asked for power for the committee to call in professional assistance in making the selection, if needed, but the motion was postponed.

Brigg Chapel.—We hear that in a limited competition for Brigg Free Methodist Chapel, in which four designs were sent in, the first premium was awarded to Mr. Watkins. The other competing architects were Messrs. Bellamy & Hardy, of Lincoln, and Mr. Kitchen, of Hull. The chapel is intended to accommodate 350 persons, and will have schools beneath for 250 children.

Stockton-on-Tees.—In a recent competition for the New Ragged Schools and Master's House, Stockton-on-Tees, the designs submitted by Mr. Charles J. Adams, architect, of that town, were selected. The works are to be proceeded with at once under his superintendence.

Bradford Exchange.—The intended site of the new exchange between Market-street and Hustler-gate has been cleared of the old buildings, and the open space created by their removal affords such a pleasant breathing spot in the very centre of this densely-crowded town that many desire to see it kept open, and suggestions to that end are freely talked over, but the idea cannot be realized without the expenditure of a large sum of money, and there is little probability, therefore, of the ground being kept open. Meanwhile the directors of the New Exchange Company have received six sets of plans for their new building, and they are at present on view in the large room of the Exchange-buildings, preparatory to the directors making a selection. With one exception, which is in Italian, the elevations of the several plans are all in various forms of Gothic architecture, and the building in each case is intended to present a lofty tower over the entrance at the point known as "Bartle's-corner."

CAMPANOLOGY, OR SCIENTIFIC RINGING.

A LECTURE was lately delivered at Launceston, to a numerous audience, on "Church Bells and Campanology," the lecturer being Mr. H. R. Trelawny (brother to the M.P. for Tavistock), a member of the Ancient Society of College Youths. It was listened to with great attention by those assembled, amongst whom were many of the clergy and gentry of the neighbourhood. After an interesting account of bells, their origin, method of founding, and ringing, the lecturer enlarged at some length on the lamentably low standard in which bell-ringing stood in Devon and Cornwall; noticing the fact that the bells had, in most cases, fallen into the hands of the least intelligent and worse conducted characters; whereas change-ringing was an act requiring infinitely more exercise of intellect and skill than—as people generally thought—of bodily exertion. He also noticed that the neglected state of the bells and their fittings not only endangered the bells and their steeples, but rendered ringing three times more laborious than necessary. The lecturer proceeded to explain some of the various methods of change-ringing, which were illustrated by some peals of scientific changes on the hand-bells, assisted by another member of the Society of College Youths, Mr. M. Kelly, of Kelly, and some ladies, members of their respective families. Two peals of grandsire doubles, consisting of six-score changes were rung, and brought round with considerable skill, in about six minutes, each round being changed—not by lapping or crossing the bells—but by scientific striking, the gentlemen handling two bells, and each lady one. The peals were conducted by an amateur, who called the bobs.

It appears, from Mr. Trelawny's own account, that a letter, dated from Gloucester, signed F. C. B., and published in two or three papers, induced him to turn his attention to the art of bell-ringing, as it was advocated in that letter; and that about two months ago he bought two little books,—"Hubbard's Elements of Campanology," and Maunsell "On Church Bells;" and his first feeling, after a few days' study, was his surprise that such an ingenious art should be all but unheard of in the West of England.

It is to be hoped that this movement, so well begun, will be followed up in the West of England, and be the means of placing change-ringing in its proper position.

ECLECTICISM IN ARCHITECTURE.

IT may be urged in favour of an eclectic style of Gothic architecture that, in these days of railways, architects have a facility of visiting foreign countries, and that the true spirit of our age is cosmopolitanism, and a desire to break all national differences. Now, this seems to me to be especially absurd in architecture, since, in the Middle Ages, it grew up in each province to suit the wants of the inhabitants, and was principally affected by the materials at hand wherewith to build. Moreover, Mediæval architects travelled; if not to the extent of modern men, yet they did not commit the folly of building in England in a manner suited only to drier and more southern climates. They were essentially aware of the different climates and wants of provinces, and never introduced any glaring inconsistency. In the case of their foliage carving, or their tracery, they developed something truly national and widely removed from the Classic feeling that prevailed in France,—something in true accordance with English tenderness and love of nature. Who is there possessing the slightest sentiment of national poetry that would desire to substitute foreign folk-lore for our own,—to substitute foreign poetry for our own,—or to make an unmeaning jumble of all national writing without individuality,—without national spirit? What has ever proved such an utter failure as French eclectic philosophy? Has any eclectic system of metaphysics ever held its own? Do we not seek in all things peculiar national traits? And yet our modern architects desire to upset this absolute law of nature by introducing French and Italian Gothic into England.

If its merits are tried in our own scale, we find foreign Gothic to be deeply wanting in delicacy and refinement. French mouldings are coarse beside the exquisite tenderness of English work; French foliage is stiff and unnatural beside the play of English; plate tracery is heavy beside the chaste thinness of our own; French work is heavy and grand beside our small lightness; the North French plains are very different from our meadows; and scenery has ever had much influence upon the true architect. Altogether, let me ask, why are we to be French instead of English?

X. X. X.

THE NATIONAL ALBERT MEMORIAL.—The site of the intended memorial in Hyde Park has been surrounded with a hoarding, and excavations are being made for the concrete foundations. Mr. Kelk is the contractor.

TIVERTON NEW TOWN HALL.

THIS building, to be inaugurated on this, the 19th inst. by Lord Palmerston, the Premier, who for many years has been, and still is, the Member of Parliament for the borough, has been erected partly on the site of the old town-hall, partly on the old approach to St. Andrew's-street, and partly on land purchased by the Corporation of Mr. J. B. Cannon, proprietor of the Angel Hotel, adjoining the new building.

In 1862, the town council advertised for plans for a new town-hall, when sixty-two designs were sent in; the first premium of 50*l.* being awarded to Mr. Henry Lloyd, of Park-street, Bristol, the architect under whose superintendence the present building has been carried out. Many difficulties presented themselves, owing to the peculiar shape of the ground to be built upon, which the architect has creditably overcome.

Our engraving represents a perspective view of the new building facing St. Andrew's-street and the end of Fore-street. The style of architecture adopted is Venetian Italian, of a conventional character, in which stone and marble of various colours are used.

The principal feature in the design is an octagon tower, which, to the top of the weather vane, is carried up to a height of 100 feet, the roof of which terminates in a square, surmounted by ornamental galvanized cast-iron cresting, from which springs a handsome weather-vane, supplied, together with the other castings on the main roof and square tower, as also the moulded cast-iron shutes, from Messrs. Macfarlane's foundry at Glasgow. In the centre face of the octagon tower towards Fore-street, there is a semicircular pediment, with finial, in which provision is made for an illuminated clock: there are also circular louvres in four sides of the roof. On each side of the octagon there are massive chimney stacks, with moulded caps and bases. At each angle of the first and second compartments of the octagon tower are fixed detached red Devonshire marble columns, with richly carved Corinthian freestone capitals, with entablature and consoled cornices: the columns are fixed on freestone pedestals, and stand out in bold relief: they were supplied by Mr. Bluckler, marble mason, of Dawlish, and are the largest ever put up in Devonshire, being on an average 1 foot 9 inches in diameter. The main or principal entrance, which is 12 feet high by 6 feet wide, is at the base of the tower, having suitable antæ and archivolt, with richly carved keystone; there are also three other entrances from St. Andrew's-street,—one for the police office, one for private entrance, and one to the court-yard at the south end of the building, which is fitted up with water-closets and other conveniences.

The building down St. Andrew's-street terminates with a square tower, in which there is a stone staircase leading up to the hall from the cells and police-office below, by which prisoners can be taken to and from the court, without interfering with the public.

The back of the building, towards the Angel-yard, as also the north and south ends, are faced with Westleigh stone, with Bath stone dressings to windows, quoins, and string courses.

The principal fronts, towards St. Andrew's-street and Fore-street, are filled in between the marble columns and Bath stone work with grey



See p. 388, ante.

Pennant stone ashlar. The pilasters to police doorway, the rockwork base, also the steps, are of the same material, which, together with the stone staircases, sanded paving, &c., have been supplied from Mr. Lawrence's quarries, at Stapleton, near Bristol. The pilasters named are 8 feet high by 2 feet 6 inches square, in one stone each, and weigh upwards of four tons. The ground-floor of the building is appropriated to magistrates' offices, town clerk's offices, committee-room, muniment-room, police-office, and lock-up cells, with wide and capacious passages of communication. On the second floor is the town-hall, mayoralty-room, and grand jury-room, with anteroom, and other offices. The town-hall is 50 feet by 32 feet, and 27 feet high, well lighted and ventilated: at the north end of the hall, over the grand jury-room, is a large gallery fitted up with seats for the public, and from which all proceedings in the court can be seen. The new hall will be used only for council meetings, petty and quarter sessions, and county-court business.

Adjoining the hall, is the mayoralty-room, 40 feet long by 26 feet wide, lofty and well lighted; there is a small anteroom adjoining this room, with a door into the hall.

Over the mayoralty-room there is another large room forming the upper compartment of the octagon tower, in which it is intended to fix the works of the new clock. In the basement of the building there are capacious cellars for coals and stoves; also a chamber for a warm-water heating apparatus, by which the cells, muniment-room, and town-hall are heated.

Gas has been laid on to the various rooms and passages, and star-light burners of various sizes are fixed. A new foot pavement has been laid, and cast-iron lamp-pillars with globe lamps are fixed up. Since the commencement of the building, the Corporation have arranged with the trustees of St. George's Chapel, and have obtained a faculty granted by the Bishop of Exeter for taking down a portion of the old boundary, which formerly divided the churchyard from the old townhall, and have erected a new line of wall, and put up appropriate iron railing which, together with the lowering of the Angel Hill some 2 feet, a great improvement long needed in this particular locality, has been effected, there being now therefore a completely unobstructed view of the whole of the eastern front of the new building.

The general contractors for the various works were Messrs. Williams & Parish, of Tiverton, builders; the sub-contractors being Mr. Beck, for the plumbing, painting, and glazing, and Mr. Rundle for the smith's and iron work, the latter having a special contract for the heating apparatus and gas-fittings.

The total cost of the works, including purchase of land, improvements, &c., amounts to about 8,000*l.*

THE STOCKPORT BOROUGH SURVEYORSHIP. — About sixty-seven applications have been sent in to the Local Public Works Committee for the appointment of surveyor to the Corporation, at a salary of 250*l.* per annum. The list was reduced to three, but the successful candidate was not then appointed.



TIVERTON NEW TOWN HALL.—Mr. Henry Lloyd, Architect.

THE MONEY VALUE OF ENGLISH ART.

In the days of Sir Joshua Reynolds and Gainsborough, while enormous sums were paid for the works of ancient masters, modern painters were content with a sum so small that their incomes, except in a very few instances, were barely sufficient to keep soul and body together. In these latter days, however, the painter who has succeeded in reaching the summit of his art obtains a large pecuniary recompense and an honourable position. It is true that the painter has often devoted many years of his life to study and practice without any such recompense, but the same may be said in connexion with architecture, law, literature, and other intellectual pursuits.

Some facts in connexion with the prices paid to modern artists were mentioned the other day in the House of Commons, by Mr. Gregory. In arguing that Mr. Herbert and Mr. Maclise were paid for their work in the House far less than they could earn in the ordinary pursuit of their profession, he reminded the members that Mr. Frith had received 8,700*l.* for his picture of "The Railway Station;" and that 5,500*l.* had been paid to Mr. Holman Hunt for "Christ in the Temple." He mentioned that for some years previously to undertaking the frescoes at Westminster, Mr. Herbert's income had been 1,800*l.* a year, whilst under Government, for the last six years, it had not been 500*l.*; and that the gains of Mr. Maclise, twelve years previously to his present undertaking, had been 2,000*l.*, 3,000*l.* and 4,000*l.* per annum—and, in one year, as much as 8,000*l.*; and yet, for seven or eight years, the whole amount of payment to him by the public was only 7,000*l.* Mr. Gregory urged, as we think rightly, that these gentlemen, who have so ably done their duty to the nation, should have additional recompense from the House. This suggestion was supported by various members; and the Chancellor of the Exchequer said that Mr. Herbert had told him that Mr. Dyce had left upon the walls more than two or three times the value of what he had received. There were others whose claims had also to be considered. This was a matter of extreme delicacy. What the Government proposed to do in connexion with Mr. Herbert was to vote to him a sum of 1,500*l.* in addition to the 2,000*l.* which he had already received; but they did not intend that this should be the final settlement of the question. The Government proposed to form a small commission of persons, judiciously selected, for the purpose of impartially advising them as to the course that ought to be pursued.

Sir George Bowyer remarked that the case of Mr. Herbert did not stand upon the same grounds as those of the other artists. Finding that the process which he had at first adopted was not calculated to preserve the pictures, he had destroyed 400 feet of painting in order to adopt another and better process. There was also this particular circumstance with reference to Mr. Herbert,—that his work was of super-eminent merit,—that it went beyond anything heretofore seen in this country; and therefore it stood apart from the cases which had been mentioned in connexion with it. He did not think that the proposed commission would meet the merits of the case. The country ought to deal generously with Mr. Herbert, who had thrown his whole soul into the subject, and had produced a really great and sublime work, about which there could not be two opinions.

After various observations by other members, Mr. Gregory accepted the proposal of the Chancellor of the Exchequer.

WORKING MEN'S EXHIBITIONS.

The recent exhibition of objects of artistic design and skilful make in Lambeth is likely to lead to good. The exhibition of examples of skilled labour is by no means a new idea. In the *Builder*, some time back, an account was given of trade displays in the towns in the North of England on various days. At Newcastle-on-Tyne several of the trades walked in procession, many of the men carrying articles which they had made during their spare time. These processions took place up to the last thirty or forty years, on the saint's day of the craft. As time moved on, instead of *walking* in the streets, meetings were held in rooms; and there is little doubt that those exhibitions were the means of leading to the opening of the great display of art-manufactures in Newcastle.

In London, with its vast population, opportunities for bringing the various classes together are valuable. With good management the late Exhibition would have been more useful than it was. Nine-tenths of the workmen of the metropolis had very little useful knowledge of the matter: we trust, nevertheless, that the example set will not be without effect, and that we may have similar exhibitions in various parts of London.

In Lambeth recently, the display was in a chief manner brought about by the exertions of the clergyman of the district; and we could mention many instances where very great advantage has been the result of similar agency. The clergyman, when he is disposed to move in this way, soon meets with those who usefully assist him in his work. On mentioning this idea to a gentleman who has charge of a North-London district, he said, "How can I do it? There are sermons to write; the sick and schools to visit; and there are over twenty-two thousand persons in my bounds, and only one curate and myself to attend to them." This is, unfortunately, the case in other parts; but where there is a will there is a way; and we have found, in far larger populations, the advantage of the help of the clergyman in aiding such movements, which advance the general intelligence and promote social progress. Such displays bring people of similar pursuits together; but besides this, a great advantage would result from the inducement which such opportunities afford for the employment of spare hours. Those who have visited the houses of the industrious classes must have often felt surprise at the objects which are to be met with, and which have been made in leisure hours.

ACTIONS FOR EJECTMENT.

Sir,—I think all industrious and honest investors in house or land should look into the effects of Lord Westbury's Acts as affecting title, but more especially his Insolvent Acts. I know by most bitter experience that it is now of no use to arrest a scoundrel who has put you to the expense of defending two actions at law; for if you arrest for the costs you have been put to, he can, almost directly after arrest, get out of prison without payment of one farthing—by the new Insolvency law. I consider I am indebted to Lord Westbury's extraordinary Registration Act for the loss of four years' rental, and infinite vexation and annoyance. Advantage has undoubtedly been taken of that circumstance by a rascally solicitor to endeavour to extort money from me by an old probate of the days of Washington (long ago acted on), and endeavouring to substitute one man for another to obtain an estate long after living memory.

Why the copyholder should be debarred from registration by statute of his ancient title, as well as the freeholder and leaseholder, I know not; but so it is.

Every copyholder is now liable (owing to that circumstance) to the most illegal claims being set up to his property, *being debarred registration.*

I myself had eighty years' title by direct descent of inheritance, and eighty years more from the family from whom it was originally purchased; and what I have been told by three solicitors is a very good title, there being two recoveries amongst those old deeds. The unfortunate defendant in actions of ejectment, occasioned by circumstances over which no man or landlord could possibly have control, an aged tenant's grief, who alone had been on the land forty years, at the loss of his wife—occasioned my not hearing thereof, and advantage was taken of this circumstance to obtain a judgment against the land of which I was entirely ignorant. I am not only obliged by law to defend the tenancy under a writ of ejectment so improperly filled up that not even the abode of plaintiff is mentioned therein; but after a very cool attempt at extortion to defend the title against men who dare not give evidence before a judge, to find statutes and charters utterly set at nought for want of proper security for costs and recognizances for legal recognition of the attorneys that it is a just claim. To find, also, that the record can be withdrawn at the court doors (with perfect impunity to the transgressors) and payment of all costs (under Lord Westbury's Insolvent Acts) by the unfortunate defendant. More threats, too, of actions. The statutes of England stating after forty years (being a nullity), no action can be brought for want of a court of appeal in such cases to show the title to the land has been deliberately stolen, neither is there any statutable punishment under the Act of Limitation for so doing.

Many years ago one of the judges of Her Majesty's Court of Queen's Bench published a work of much merit on this very important point of defective judicature. It is noticed in the *Literary Gazette* of between 1830 and 1845, but in what volume I can hardly say, showing that the court of appeal had been done away with in the abolition of the Star Chamber, during the reign of King Charles II., and none other established to replace it, to the great wrong and injury of every honest man in the kingdom, and the constant insecurity of title in consequence.

This state of law ought to be well looked into; and I sincerely trust that you will give this matter your earnest consideration, as affecting every man in the kingdom, whether high or low, rich or poor, that some remedy may be found, property protected, and capital invested with security.

M. W. Harrison.

MULLIONED WINDOWS.

The author of the paper describing Nun Appleton in a recent number of the *Builder*, says of the window-sash "that all architects of the present day find it difficult to apply it consistently to the mullioned window."

It strikes me this difficulty might be overcome by making the whole window-sash *in one*, with transoms, mullions, and weights, and making it slide upwards into the arch of the window ope (which should be built double on purpose) as in the grooves of a portcullis. The plan would occasionally interfere with the splayed recess now in use at foot of the window in the room above; but window seats, formerly so prevalent, would obviate any difficulty on this head, and give sufficient thickness to the wall into which the sash would ascend to admit of grooves. The ascent of the sash would not need to be higher than three feet from its sill. Ventilators being now generally employed (which, pierce the upper part of the walls of rooms), a sufficient opening for air or contemplation of the landscape could thus be obtained, as at present, and thus would be combined with all the impermeability of the modern sash the beauty of the mullioned window.

J. C. Fitz-Gerald Kenney, J.P.

CAUTION TO SPECULATIVE BUILDERS.

IRREGULAR STRUCTURES.

Recently Mr. William Aldred, builder, of Harper street, New Kent-road, appeared to an adjourned summons at the instance of Mr. W. Snooke, district surveyor of Rotherhithe, Hatcham, and part of Camberwell, charging him with constructing the party walls of four buildings on the south side of Church-street, Rotherhithe, contrary to the provisions of the Metropolitan Building Act. The complaint was that the walls were not properly bonded, that a greater portion of bats than bricks were used, and that the mortar was bad, being composed of mould and lime, and no sand. The defendant denied that the work and materials were what was described, and it had been agreed to defer the case to allow of examination by Mr. Pouget, whose name was quoted by the builder as an architect to whom he was known, and who attended the court, and gave evidence that the work was very indifferent, not so well put together at the top as at the bottom, and that in his opinion the work which had been carried up two stories ought to be pulled down to within 2 feet at least of the one-pair floor. The defendant complained that the pulling down would be ruin to him; but Mr. Maude told him that if he and other builders chose to ride so close to the requirements of the Act of Parliament as to necessitate proceedings being thus taken by the district surveyor, having been repeatedly cautioned by him, and having carried up the works in defiance of repeated remonstrances, they must not be surprised at proceedings being taken against them. An order was then made to have the work demolished to the extent named, and as much lower as the district surveyor found necessary. The defendant was ordered to pay all the expenses and the costs of the district surveyor's attendance, which that gentleman requested the magistrate to give to the poor-box of the court.

THE LEVELS OF STREETS.

Sir,—Will any of your correspondents inform me what is the law, or the practice with borough surveyors, with regard to fixing levels of streets under the following circumstances?

A street with considerable and very irregular inclination has been laid out, drained and partly built upon in the centre of the town. The plans for the buildings have passed the Local Board of Health. Some of the buildings are opposite each other (in a 12-yard street), but the inclinations of the causeways, or foot-paths, vary considerably. Another party is about to build, higher up the street, where it is supposed the road will have to be lowered two or three feet. The Local Board have passed the plans, but refuse to let their surveyor fix the levels, though the street has been used in its unpaved state for years. If the building is erected and the inclination of the street be materially altered from what the supposed level may be, the building will be considerably damaged, as it is for a public school.

A. B.

CHURCH-BUILDING NEWS.

Leicester.—Earl Howe has given a donation of 500*l*. towards the erection of a new church in the populous district of Christ Church, Leicester, and 500*l*. for the general purpose of church extension in Leicestershire.

Marsworth (*Bucks*).—Marsworth Church is a Third Pointed edifice, consisting of a nave and chancel, with a south aisle to both, wider than, and of the same height as, the nave itself. The tower stands at the west end of the nave. The roofs are for the most part flat, and covered with lead. The nave and aisle have been filled with simple open seats, of deal. The passages are paved with Minton's tiles. The chancel seats are of oak, and are on the north side only. The two arches on the south side of the chancel, opening into the aisle, are filled in with a parclose, the lower part of which is of oak, and the upper part ornamental wrought-iron work. Attached to the eastern parclose are two sedilia. The floor has been laid with Minton's ornamental encaustic tiles, in geometrical patterns. The reredos is of stone, with patterns and devices, inlaid in marble and cement. On the south side a new porch, of oak, has been built. The gable, bargeboard, side-panels, &c., are ornamented with pierced patterns and tracery. The chancel-seats have been executed by Mr. Forsyth, and the reredos by Messrs. Poole. The rest of the works was by Mr. Cooper, of Aylesbury, under the direction of Messrs. Slater & Carpenter.

Rype (*Sussex*).—Rype Church has been completely restored and re-opened. It consists in plan of a lofty and broad nave and chancel, and a western tower. The style is Decorated, the east window having five lights with flowing tracery. The nave roof, which is of the usual Sussex type, with trussed rafters, &c., has been restored. The chancel roof is entirely new. The nave has been filled with open seats, of deal, the western gallery and filling in of tower arch being removed. The chancel seats are of oak. In the chancel arch has been placed a low wooden screen, with perforated panels. The chancel is paved with Minton's encaustic tiles. The windows throughout the church have been re-opened and restored, and filled with grisaille glass by Messrs. Lavers & Barraud. The chancel seats, base of pulpit, eagle, and screen have been executed by Mr. Forsyth; the brasswork of pulpit, the crosses, coronæ, &c., by Mr. Potter; the other portions of the works by Mr. Parsons, of Lewes, and Messrs. Piper & West, of Rype. The cost of the whole has been defrayed by the rector, the Rev. R. S. Sullon; and the works have been carried out under the superintendence of Messrs. Slater & Carpenter.

Madehurst (*Sussex*).—The chancel of Madehurst church has been rebuilt on a larger scale, and a larger chancel arch inserted in the wall between it and the nave. The nave has been reseated throughout with low open seats, and the old roof has been exposed to view and put in repair. The gallery has been removed, and a new two-light window opened in the south wall. A new aisle has been built, and the north wall of the nave taken down and two arches built in its place to connect the nave and aisle together, the old nave roof having been carried on shoring during the reconstruction. The tower has a new two-light window to light the lower stage, and three quatrefoils have been inserted in the belfry stage. The floors of the church throughout have been paved in tiles laid in patterns. The stained glass in the east window is for the most part new. The tiles for the floors have been supplied by Mr. Godwin, of Lugwardine. The marble work has been executed by Mr. Field, of London; and the stained glass by Messrs. O'Connor, of London. The builder's work has been executed by Mr. J. Ellis, of Chichester. The architect was Mr. T. G. Jackson, of London.

Brading (*Isle of Wight*).—The parish church is about to be put into a state of repair, at the expense of Sir Henry Oglander, bart. Mr. T. Hellyer, of Ryde, is the architect.

Longfleet.—St. Mary's Church, Longfleet, is shortly to be enlarged. The works proposed are the building of a new chancel, and the removal of the pulpit and organ to more convenient positions, whereby eighty-five extra sittings will be secured. The present accommodation at the church is 478. The cost of enlarging is estimated at 600*l*., of which 200*l*. are unprovided.

Tewkesbury.—A preliminary meeting of the principal inhabitants of this town, convened by the churchwardens, has been held at the Townhall, under the presidency of the vicar, to consider the best means of promoting a movement towards the restoration of the abbey church. It was determined to request the mayor to convene a public meeting on the subject for an early day.

Yeovil.—Preston Church, which has been for some considerable time under restoration, is now formally opened. The church in itself possesses no remarkable feature, but since the works of restoration its appearance has been improved. It consists of a nave and chancel, the latter of which is a continuation of the former, being similar in all respects, the old rood screen, which used to define its limits, having been done away with. It is of the Perpendicular style of the fourteenth century. Before the restoration the building was in a sad state of dilapidation: rotten plaster, wormeaten timber, and huge pews offended the eye; and the supporting walls, which had got considerably out of the perpendicular, must have filled the minds of the worshippers with anything but feelings of safety. Little has been done to alter the general character of the architecture, but numberless small improvements have been made: deal-box pews have been replaced by oak seats of modern style—rough flooring by encaustic tiles, and crumbling woodwork, and discoloured plastering by new. A stone pulpit has also been added, and a new porch improves the exterior. Mr. Shout, of Dorchester, carried out the repairs.

Hardington (*Somerset*).—The parish church of Hardington, which has just been rebuilt, is now open for divine worship. The old church having become so dilapidated that it was dangerous, it was resolved a year or two ago to take it entirely down, and erect a new church upon its foundation. Mr. Pearce, of Haselbury, architect, was requested to prepare the necessary plans. Tenders were invited, and that of Messrs. Draper, builders, of Crewkerne, for 950*l*., was accepted. In April the old building was pulled down, with the exception of the tower, which therefore remains unimpaired. The church is founded upon the rock, and a great portion of the stone used in the new building has been dug on the spot. Much of the Ham Hill stone for the facings, windows, &c., was taken from the old building, and reworked with new supplied from the quarries of Mr. Charles Trask, of Norton-sub-Hamdon. Messrs. Draper are the contractors. The new edifice will seat nearly 200 persons. The cost of the entire rebuilding has been a little over 1,000*l*. The old church, in common with nearly all the Somersetshire churches, was built in the Perpendicular style of the fifteenth century, and the tower, which remains, is also in that style. But in the new church the style selected is the Decorated, which prevailed a century previously. There are also Early English lancet windows on the south side of the chancel, and the arch between the chancel and its aisle is Norman, suggested from two or three relics of an ancient Norman arch discovered in pulling down the old walls. The church, as now arranged, consists of a nave and chancel, with an aisle on the north side extending throughout, a porch on the south side, and the old tower at the west end, containing five bells. The east window is of three lights, with circles containing trefoils in the head, and filled with stained glass. In the south wall is a small single lancet window and one of three lancet lights. The nave is lighted on the south side by three windows of two lights each, with decorated tracery in the heads, and hood mouldings inside. The lower story of the tower opens into the nave, from which it is divided by a carved oak screen. It is lighted by a Perpendicular window of three lights over the doorway. The north aisle, under a lean-to roof, is lighted by four small single-light windows with heads, and by a two-light window at the west end. The aisle is divided from the nave by five arches, exclusive of the Norman arch in the chancel already referred to. The floor of the chancel is paved with Minton's encaustic tiles, and the rest of the church with blue lias. The roof is of stained red deal, with curvilinear struts resting upon Ham stone carved corbels. In the chancel, the bosses at the intersections of the roof-tracings were carved by the Rev. Mr. Hancock, of Haselbury. The old carved oak altar has been retained, the old pulpit adapted, and a new lectern and reading-desk supplied.

Newlyn (*Cornwall*).—The first stone of a new church has been laid here for a new parish, including Street-an-Nowan, near Penzance.

Middlesborough.—Christ Church, which is to be built at the sole cost of a gentleman whose name is well known in connexion with local charities, is shortly to be commenced with. The plan is a simple parallelogram, comprising nave aisles, and a large chancel. The church will be built of common brick, with bands of black brick, and will be lighted by lancet windows, and dormer windows, above the aisles. The seats will be open throughout, and they will all be free and unappropriated. It is expected that the church will be ready for consecration by the 1st of November.

ROMAN CATHOLIC CHURCH-BUILDING.

Croydon.—The new Roman Catholic church, dedicated to "Our Lady of Reparation," has been opened here for divine service. The church, which is of Early Gothic style, is situate in the Wellesley-road, nearly opposite the West Croydon Station. The edifice is 75 feet from the bottom to the chancel, the chancel 18 feet, and the height 42 feet. The roof is of open timber-work. The architect was Mr. Pugin, of Ramsgate; and the builder, Mr. Smith, of the same place.

Turnham-green.—A new Roman Catholic church has been opened at Turnham-green. It has been built from the designs of Messrs. Wilson & Nicholl, of London. It is a small building, Gothic in style. There were present Cardinal Wiseman and many other ecclesiastics, and a large number of the laity. After the service the cornerstone was laid of new Roman Catholic schools, which are being erected in the same neighbourhood from designs of Mr. Pugin.

Liverpool.—The foundation-stone of the Roman Catholic Church of St. Michael has been laid on a piece of land adjoining the St. George's Industrial School, and opposite the Zoological Gardens, West Derby-road. The new church will face West Derby-road, and adjoin and run parallel with the St. George's Industrial Schools on the one side, and a new street on the other. The front will be set back a few feet from the road, and it will present a gable end, divided by two buttresses, surmounted by angles with crosses. Between the buttresses the front will be recessed and arched over. Enclosed by the arch will be a circular tracery window, some 15 feet diameter; below, an arcading, with stone arches and pillars, having seven narrow windows between the pillars. The doorway will be recessed and moulded. The space above the door and arch will be carved with a group of angels and St. Michael. The height of the gable to the top of the cross will be 76 feet, and the extreme breadth of front 53 feet. The side of the church parallel to the street will present an aisle without windows, but having sculptured panels, and divided by buttresses. Above will be the clerestory, with coupled lancet windows, nearly 13 feet high; the windows to be continued of the same size round the apsidal end of the chancel. There will be 36 of these windows in the clerestory. The church inside will be about 106 feet long by 50 feet wide. There will be three confessionals and two sacristies on the side next the school. The roof of the nave is to be of a high pitch, and exposed to view over the chancel, also arched and panelled; the roofs of the aisles to be carried on arches. The church will be built of patent red brick, with bands of blue brick, and dressing of Stourton stone. The contract has been taken by Mr. G. Glaister, of this town, for about 3,400*l*. Mr. E. W. Pugin, of Ramsgate and Liverpool, is the architect.

Dalkeith (*near Edinburgh*). There has been erected in St. David's Roman Catholic Church, Dalkeith, a new altar, in Caen stone, divided into panels by marble columns. In the front is a perforated iron rail, in which are contained the remains of an early martyr, taken out of the catacombs of Rome in the year 1856, which was presented to the foundress of this church by the Pope. The altar was designed by Mr. G. Goldie, architect, London, and executed by Mr. Earp, carver, Lambeth. The whole consists of about seven tons of carved work, including the illuminated encaustic tiles and the panels.

DISSENTING CHURCH-BUILDING NEWS.

Walworth-road.—The new Baptist chapel in Walworth-road has been opened for divine service. Messrs. Searle, Son, & Yelf, of London, were the architects. Messrs. Sharpington & Cole, of London, completed the building, the original contractors having failed. The chapel

is 75 feet by 49 feet, capable of seating about 850 adults, with extra accommodation in pews in the gallery for Sunday-school children. There is a lecture-room, capable of holding 150 persons; a minister's vestry, with deacons' vestry adjoining; and, on the floor above, a ladies' vestry, with store-closet for a benevolent society, and two large class-rooms with separate entrances. The cost of the building, including boundary walls, iron fencing, gas, commission to architects, and all expenses connected therewith, is 5,550*l.*; whilst the fittings and furniture, including both downstairs and in the gallery, cushions to all the pews, gas-stoves, and seats for lecture-hall, is 350*l.*; making the total cost of the building and furniture 5,900*l.*

Clapton. — The foundation-stone of a new Wesleyan chapel has been laid, on a plot of ground situate in the main road, opposite the Pond, at Clapton. The structure to be erected will be in the Gothic style. The architects are Mr. John Tarring and Messrs. Hammack & Lambeth. The contract for the erection has been taken by Messrs. Dove, Brothers, of Islington, for 4,515*l.*, and the works are to be carried out under the superintendence of Mr. W. Southam. The sittings are estimated at 1,150.

Ilfracombe (Devon).—The new Wesleyan chapel here has been opened. The site presented difficulties from its irregular shape, great inclination, and the soft nature of the ground requiring additional expense to secure for the buildings a good foundation. The buildings comprise the chapel, school-room, minister's vestry, two class-rooms, closets, and other conveniences. The chapel will accommodate about 500 persons, while its roomy aisles will seat many more when emergencies require. The school-room will accommodate about 200 scholars. The style carried out in the traceried windows, string-courses, turrets, &c., is the Decorated Gothic in its transitional period. The external walls are faced with Appledore stone. The dressings are in Bath stone. The plan of the chapel is a parallelogram, 55 feet by 34 feet, from which recesses are taken by a circular division wall for staircases to galleries, ascending on either side from a large entrance lobby, paved with Maw's encaustic tiles. The elliptical ceiling springs from a wood cornice, to the height of 32 feet from the floor, and is divided into panels by moulded groins. Two of the centre panels have ornamental flowers, pierced for ventilation. The whole of the seating on the ground-floor is swept from a centre to face the pulpit. The pews are open, with inclined backs, book-boards, and hat-rails. A light gallery runs round three sides of the chapel, supported on cast-iron Gothic pillars, having an organ recess over the entrance lobby. The front of the gallery is divided into panels filled in with cast-iron tracery, and finished to resemble wainscot oak carving. The windows are glazed with obscured glass in diamond panes, each window having a border of different coloured glass. The circular west window is filled in with stained glass. The whole of the glass was provided by the Messrs. Hall, of Bristol. The gasfitting was carried out by Messrs. Garton & King, of Exeter. The whole of the painting and staining has been executed by Mr. Bradley, of Exeter. The original estimate for the whole premises was about 1,500*l.*, but in the course of construction it was found that several additions and alterations, such as the greater elevation of the roof, and the increased width of the school-room, necessary to the completion and perfection of the building, had to be added. These swelled the original estimate to 1,750*l.* The architect was Mr. A. Lauder, of Barnstaple; and the contractors were Mr. J. Hartnoll, builder; Mr. J. Parminter, mason; and Mr. B. Williams, statuary, also of Barnstaple.

Aston Park (Birmingham).—The memorial stone of a new Baptist chapel has been laid in Aston Park. The piece of land upon which the chapel, now in course of erection, stands, contains 2,194 yards. The land and the building will cost 4,760*l.* The members of the committee have subscribed about 1,000*l.* The chapel has an area of 72 feet in length and 42 feet in width, fitted up with open sittings on the floor and in side and end galleries, arranged to accommodate 754 persons. The shape of the building is adapted to the peculiarities of the site, by placing the tower and spire and the main entrances at the end of the ground, where it comes to a sharp point by the meeting of Victoria and Alma streets. The tower and spire so placed are connected with the main building by corridors and entrances, three of the four sides being entirely open to view, and the fourth only partially concealed by the facing to the chapel. The height of the tower with spire is 115 feet above the level of the ground. At the end of the chapel, facing the entrance, is a semi-circular recess with raised platform, upon which the pulpit and open baptistery will be placed. Above the platform is a gallery for the organ and choir; and in connexion with it on either side are vestries for ladies and deacons, with library and minister's vestry above them. Adjoining the vestries, and with distinct entrances, are schools for boys and girls, each room being 50 feet by 20 feet. The style of architecture adopted is Gothic, of early character, mainly carried out with red bricks of the ordinary kinds; the windows, doorways, cornices, spire, and such prominent parts being of Bath stone, with bricks of various colours. Everything is done without elaboration of moulding or carving, the forms used being of the simplest consistent with architectural effect. The works have been undertaken, at the cost of 3,913*l.*, by Mr. W. Mathews, builder, Birmingham; Mr. J. Cranston, Birmingham, being the architect employed.

Birkenhead.—The new Wesleyan Chapel for Seacombe circuit, in Laird-street, Birkenhead, has been opened for Divine service. The building is a plain structure, in the Decorated style, about 60 feet long by 29 feet wide interior dimensions, and about 35 feet high to the ridge-piece. It is divided into five bays by means of buttresses, and lighted with two-light windows, with trefoil heads, filled in with rough plate-glass. A marigold window fills up the gable over the entrance-door, and the apex is finished with a neat bell-gable: open benches, stained and varnished, fill up the body of the chapel on each side of a central aisle, and will accommodate about 320 persons. The communion platform is protected by a carved Gothic railing, on the one side of which is placed the pulpit of three steps up. Behind is a large hall for Sunday schools, 36 feet by 18 feet, as well as vestry, &c. The school will afford accommodation for about 100 children. An iron railing and low wall form the boundary to the front, with gate pillars and wooden gate in the centre. The Messrs. Hay were the architects employed; and Mr. Westmorland was the contractor for the work. The cost of the chapel, exclusive of the land, which was given by Mr. Jackson, M.P., is about 1,300*l.*

STAINED GLASS.

Oxon Church.—A general wish having been expressed by the friends of the late Dr. Oliver, the physician, to erect an appropriate memorial of him, his friends resolved to fill the three lights at the east end of Oxon Church with stained glass. The east window is of the date of the thirteenth century, consisting of three lancet lights; and the subject illustrated is the cure of the demoniac by Our Lord. The subject is treated in three medallions, one in each light. In the centre light is Our Lord, in his glory, holding in his hand the Cross. In the dexter light is represented the demoniac, naked, having cast off his clothes, cowering at the feet of Christ, who is commanding the evil spirit to leave him. In the sinister light is the young man, clothed, and in his right mind, seated at the feet of Jesus, listening to his words. In a smaller medallion, at the base of the centre light, is St. Michael overcoming the dragon, signifying the triumph of truth. The medallions are surrounded by foliage work, on ruby and blue grounds. The whole is carried out in accordance with the early period of the stonework. The artists were Messrs. Hardman, of Birmingham.

Mottisfont Church (near Southampton).—Two stained-glass windows have just been fixed in this church, which is in the Early English (thirteenth century) style of architecture. The west window is composed of two lancet-shaped lights, surmounted by a quatrefoil tracery, in the centre of which is the emblem of the Trinity, on a floriated cross. In the centre medallion of the south light is the figure of Joshua as a warrior, below which is a medallion representing Joshua commanding the sun and moon to stand still. In the centre medallion of the north light of this window is shown the figure of Dorcas. The mosaic background of this window is composed of ruby and blue, of the scale diaper, on which are set ornamental medallions in addition to the above, the whole being inclosed by a bordering of Early English character. The north transept window is a triplet. In the centre light is a medallion containing an ascending figure, above which is a representation of our Saviour raising the widow's son, also in medallion. The lower medallion contains family arms. The light on the east side represents, in the centre medallion, the figure of Joseph as ruler over Egypt. In the lower medallion the group illustrates Joseph sold by his brethren, and in the upper medallion is represented the meeting of Jacob and Joseph and his brethren. The light on the west side represents, in the centre medallion, the figure of David in youth as a shepherd, in the upper medallion David and Goliah, and in the medallion below David and Jonathan. The whole of the above are upon a deep violet and green, and ruby and blue mosaic background, inclosed by bordering of Early English character. The two windows were executed by Mr. Baillie, of London.

St. Chad's Church, Over (Cheshire).—The east window, which is in the Decorated style, has been fitted with painted glass by Messrs. Ward & Hughes, of London, as a memorial of the late vicar. In the centre of the three principal lights is the subject of "Our Lord Blessing Little Children," on the left-hand side of which is an illustration of our Lord as the "Good Shepherd;" and on the right our Lord is again represented, but as bearing a lamb on His shoulders. The whole of the figures are upon a blue ground, beneath foliated canopies, the coloured foliation being upon a dark grey background, the principal tracery openings being three quatrefoils. The lower two have an angel playing a musical instrument in each, and the one above contains two angels bearing a red cross, surmounted by a celestial crown.

Glasgow Cathedral.—Another addition has been lately made to the decoration of this cathedral. The whole of the windows in Lauder's crypt, which is immediately below the chapterhouse, have been filled with stained glass, all the thirteen windows having been contributed by Mr. James Spens Black, of Craigmaddie. With the exception of the last, which contains the arms of Mr. Black and the dedication, each of the windows contains the representation of an angel supporting, within an oval compartment, one of the sacred emblems, and having below a shield containing the arms of some old Scottish family. The angels are all of the same size, and in like positions, with only minor variations in the faces and arrangements of the drapery, and each is dressed in white robes and with wings of varied colours. The whole is on a *grisaille* ground, drawn in black or white. Mr. Willement, of London, was the artist.

Miscellaneous. — Two stained-glass windows are at present being made at the establishment of Messrs. John Scott & Son, of Carlisle, according to the local *Journal*. One of them is a three-light memorial window for Bombay, and will contain nine illustrations of the life of Christ: the other, the design for which was selected in competition with the various artists throughout the kingdom, is for Dundee. The glass used is Powell's.

SURVEYING AT SEA.

A PARAGRAPH has gone the round of the papers relating to a recent extraordinary transparency of the sea at Deal, the bottom being distinctly visible at a considerable depth. The statement is somewhat suggestive, and I am induced to ask whether some useful purpose might not be served in the examination of sea bottoms for telegraphic and other purposes, by an arrangement which should enable investigators to look straight downwards or diagonally from the interior of a ship, either with or without the aid of telescopic apparatus. A good-sized disc of clear glass might, I imagine, be so fitted and so placed in the ship's hull as to avoid danger of fracture or other risk. With the full glare of mid-day shining on the surface, and the spectator standing in the dark interior of the hull, several feet below the sea-level, the circumstances would be favourable to careful survey over much larger areas than the simple act of sounding affords cognizance of. W. S. M.

EGRESS FROM BUILDINGS.

HAVING read of the great sacrifice of human life in the conflagration at the Catholic Cathedral, in South America, some few months ago, it occurred to me that the following alteration in the door entrance to churches and other large structures would be the means of affording ample egress to hundreds in case of the interior catch-

ig fire. In places erected to accommodate a arge assembly, instead of the old style of door eing the only entrance to the interior, I beg to uggest that there should be a case of wood four imes the size of the door, of a square shape, to un on casters, devised to harmonize with the rchitecture of the outer wall, parted in the iddle, with a door entrance in its centre to pen for ordinary purposes. In case of fire, hen hundreds are assembled, by closing the mall entrance, then pushing the two larger ivisions into the two side spaces in the stone- ork, made wide enough to receive them, an pening one-eighth the size of the outer wall ight be made in five minutes to enable the in- nates to escape, and thus prevent the sacrifice f human life to a great extent.

HAYDN WILSON.

SANITARY ARRANGEMENTS IN INDIA.

THE sanitary arrangements required in tropi- al countries being a subject just now of con- siderable interest, and one upon which I conceive reat misapprehension to prevail, I hope to be xcused for a few remarks.

It is very generally supposed, and now asserted by your correspondent "C. T.," that deficient water supply is the cause of the unsatisfactory state of sanitary works in India and Queensland. Now, with all deference to the opinions of "C. T.," I think, after the following remarks are con- sidered, it will be found that the cause must be sought for in some direction other than in de- ficiency of water supply—at least, for India. Queensland may be, and most probably is, so dry as to seriously obstruct sanitary improve- ments. But with India the case is different.

No wooded country can be without a good water supply in the ground, and the absence of this is probably the cause of the security of timber in some places—parts of South America, for instance. But the rainfall in India is very great at Cherra-ponjee, 592 inches per annum, and in several other places from 150 to 250 inches in the same period. But it is not with these excessive rainfalls that we will now deal. Singapore has a rainfall of 97 inches per year, and Bombay and Calcutta more than 75 inches each. Now suppose two-thirds of this to be carried off by evaporation, there would still remain about 25 inches (equal to the rainfall in the south of France, and slightly greater than that of London, which is about 24·5 inches) per year for the supply of brooks and springs. Perhaps the newly enlisted architects in the Royal Engineers may be able to clear up some points on this subject.

CHARLES S. HILL.

TRANSPARENT GARDEN WALLS.

LIKE most Cockneys, I have a fancy that I appreciate the delights of the garden; but I must own that I am more pleased with a garden as a picturesque appendage to a suburban resi- dence, than as affording space for conducting horticultural operations; and I have always con- sidered the monotonous brick walls, which hem us in so closely, as great drawbacks. It is true these walls may be masked by evergreen shrubs or climbing plants; but these take time to grow so as to cover the walls; and, long before this is effected, one may in these days be called upon to "move on" by some railway requiring the premises, or in order to allow of some metro- politan improvement being effected. In the horticultural point of view, I think it will be obvious that a space not many feet square, sur- rounded by walls, say 6 feet high, is very much deteriorated by such an arrangement; as, on the shady side or end, a shadow is projected on the ground to such an extent that for the greatest part of the day we have much more shade than sunshine in the garden, which is not conducive either to cheerfulness or to good gardening. Now, the remedy for this may be said to be the substitution of open palings or railings for the brick walls: but this has the very great objection, that the privacy of the place is destroyed thereby; and, to an Englishman, the privacy of his homestead is a matter of moment. To devise a plan which should part off one man's premises from another's, in a permanent manner, and yet let in the sunshine, has therefore appeared to me a desideratum; and I have thought that such a plan might be to build a footing or low wall, say 2 feet in height at the maximum, and fix upon it uprights of iron or metal of < shape across, be- tween every two of which thus arranged < > strips of (rough, plate, or ground, or obscured) glass could be fitted; and, when this glass paling, as it might be termed, was required to be of any considerable length, brick piers might be placed between, and the glass paling might be protected on each side by strong wire-work, which could be used as trellis for climbers; but, should the use of so much glass be considered objectionable, perhaps between each glass paling, a paling of galvanized iron, of the same width, might be in- terposed, as the sunshine coming through on each side would leave but small shadows between. As this suggestion, if not quite the practical thing, may be rendered practicable in the hands of some of your able readers, I have ventured to forward it to you.

F. C.

IRON WATER CISTERNS.

HAVING seen the *query* of your correspondent using that pseudonyme and asking one of your readers to inform him "how to calculate the strain upon the sides of a cast-iron cistern of large size,—say 20 feet square and 18 feet deep, —composed of sixteen plates in each side and in the bottom; with the readiest method of obtaining the pressure upon the centre of each plate, the strain upon the tie-rods, &c." I beg to submit the following "rule," divested as much as possible of the "scientific" paraphernalia so unattractive to people who wish for "rules" and do not care about reasons.

When his tank is quite full it will contain $18 \times 20 \times 20 = 7{,}200$ cubic feet. As a cubic foot of water weighs 62·5 lb., there will be an amount of water weighing 440,000 lb.

With a tank of this comparatively small size, there is no necessity to calculate the pressure on each separate plate. We may, therefore, take the entire side.

The pressure P of a fluid against a flat surface is given by the formula Fhy, in which F is the area of the surface; h is the depth of the centre of gravity of the surface from the level of the liquid; and γ is the specific gravity of the liquid. Calling the breadth b, and the depth a of our square sides, the height of water would then be $\frac{a}{2}$. Its pressure, is, therefore, $P = ab \cdot \frac{a}{2}\gamma = \frac{1}{2}a^2 b\gamma$. According to known principles of statics, the centre of pressure on the vertical side is really at a point two-thirds of the whole depth measured from the top level. All this applies to each plate, or to the whole areas of the sixteen plates taken together. But we may very well, practically, reckon it as, in our case, acting at the centre of gravity. We thus have to take one-half the square of the depth of the side in feet, multiplied by the breadth of the side in feet, and by the weight of 1 cubic foot of water. We thus have,— $\frac{1}{2}(18)^2 \cdot 20 \cdot 62{\cdot}5 = 202{,}500$ lb., or nearly $90\frac{1}{4}$ tons. If the tie-rods were not assisted by the joints, each end of each rod would have to sus- tain about one-sixteenth of this pressure,—of course, supposing a tie-rod to each opposite pair of plates. There is an advantage in repairs if the tie-rods, &c., be all made of an equal thick- ness. If the cistern be used for sea-water, it may be noticed that sea-water is a little heavier than common spring-water. Some waters, however, and more especially sea-water, have been found, in some pretty well authenticated instances, to exert powerfully corrosive effects on wrought-iron when in contact with cast-iron. In a number of the *Times* of last year, there is a remarkable account of the destruction of a salt-water cistern in this way. In the north-east portion of Ports- mouth Dock-yard was a large iron salt-water tank, standing on lofty iron columns over some stores of oak planking. It was 160 feet long, 40 feet wide, and 5 feet deep, and it was kept filled with salt-water to assist in quenching any fire which might break out in the neighbourhood. This tank burst and committed great ravages. It was found on examination that about 70 feet of the iron plates forming one side of the tank had given way, and had been pushed with the water into the roadway. The tank was built up of cast-iron flanged plates, fastened together with bolts, nuts, screws, &c., in the usual man- ner. Some of the plates were separated at the fastenings, the nuts having been torn off the screw ends of the bolts by the pressure of the water. In other instances the iron plates have been broken through diagonally, like pottery-ware. The weight of the water in the tank was calculated at 800 tons, and the pressure at the side of the tank which gave way at about 50 tons. "An inspection of the broken parts of the tank disclosed the somewhat extra- ordinary facts that the *wrought-iron* tie-rods in the interior of the tank were very much eaten away at their junction with the cast-iron plates, where they had been submerged in the salt-water." So that the factor of safety by which the strength of the rods was made four times the working load (or half the load due to the elastic limit) was not sufficient in this case, as a chemical force stepped in to the aid of the mechanical pressure.

C. E.

Books Received.

Beeton's Dictionary of Universal Information; comprising the Sciences, Arts, and Literature. London: Beeton.

IT is a pity so excellent a dictionary as this should be somewhat defective in the title. When the first part or volume was issued, the public must have been led naturally by the title to imagine that in it they had a really universal dictionary, whereas it was merely a biographical and geographical dictionary; and so with the present, till looked into, the impression given is a similar one, whereas this volume is limited to science, art, and literature. Now a dictionary comprises *an* alphabetical arrangement running on *once* for all from A to Z; but more than one such arrangement constitutes not a dictionary, but a series of dictionaries, even though there be but two. Had the titles, however, even con- tained but the two words, "part first" and "part second," comprising—so and so, the awk- wardness of the defective title would at least have been mitigated, and the two volumes really shown, on the face of each of them, to be, what the preface, when we come to look into it, tells us they are, "the separate moieties of a com- plete whole,—each being incomplete without its fellow."

The work, as a whole, is a most useful and faithful compilation. The type is small and economical, and the sixteen hundred pages and upwards of the volume under notice constitute in themselves an encyclopædia of no small extent, and contain much important matter not to be had in even the most ponderous of encyclopædias. Of course, the work has defects, as every such work must and will have to the end of time. Into its architectural shortcomings we cannot enter; but we may adduce two or three exam- ples of a miscellaneous nature to show how we think such a work might be here and there im- proved a little, and so made more complete. Thus, under the word "Dagon," we have a brief but good enough condensation of information as to the fish-god, but all "difference of opinion as to the form of this idol" has been set aside by the discovery (not alluded to) of the sculptured form of the fish-god, on the Assyrian slabs, by Mr. Layard. Under the words "Pearl," "Oyster," and "Mussel" (fishy subjects also), no mention is made of the ancient renown of our British coasts for pearls, which were, and still are, found in our oysters, but chiefly, it appears, in our mussels,—as at Portobello, near Edinburgh, and also in the Clyde, at Glasgow. Under the head of "Punctuation," amid matter which is quite free from the absurdities and errors to be found in more pretentious accounts of it, the pauses, which are described merely as "very short" for the comma, "a longer pause" for the semicolon, a "pause still greater" for the colon, and "a full stop" for the point or period, would have been better indicated by a pause counting *one* for the comma, *two* for the semi- colon, *three* for the colon, and *four* for the period, as is done in some of the better trea- tises on punctuation. Under "Uranus," the planet, we are told (wrongly) that this is the most distant of the planets; whereas, the article "Neptune" informs us (rightly) that *it* is the most distant of the known planets.

The work, nevertheless, is a laborious and admirable one, and ought to be in the library of all who desire to have a reliable work of general reference as to matters connected with science, art, and literature.

The Balance Sheets of Insurance Companies. By HENRY AYRES. London: Foss.

THE chief purpose of this pamphlet is to examine "the real advantages of publicity, by reference to the accounts of companies presented to Par- liament in June, 1863." The author points attention to the exclusion of insurance com- panies established previously to 1844 from publi- cation of accounts, and asks whether the time

has not now arrived when the public should be put in possession of information from these offices of a nature that should be a guarantee for the continuance of the confidence they have hitherto enjoyed. The evasion of the law as to publicity by other companies is also brought under notice; as also the very strange and inconsistent manner in which the accounts, where published, have been presented to Parliament, in huge and expensive, as well as useless, blue-books.

Picturesque Garden Plans: a Practical Guide to the Laying out, &c., of Public Gardens, Town Squares, and Open Spaces. By R. SIEBECK, Superintendent of Public Gardens, Vienna. Adapted to English Gardens, &c. by JOSEPH NEWTON, F.R.H.S. Hardwicke, Piccadilly, 1864.

A WORK on this subject by Mr. Joseph Newton, landscape gardener, meets opportunely the requirements of Hortulan Art, at this period of transition in the various styles of laying out grounds. The arrangement is concise and completely descriptive, so that any expert gardener can, by a very short study of the examples set forth, arrange or adorn large or small plots encircling new abodes, on naked down or barren waste. Twenty-four illustrations of a purely English garden character, as published by Professor Siebeck, of Vienna, are given as evidences of good design. These are applicable to larger or smaller compass—from 2 to 10 or more acres; and they are set to four distinct scales of measurement, in English, French, German, and Spanish; having been much used and exemplified on the Continent, but principally in the neighbourhood of Vienna and Paris. Short tables of reference, descriptive of the twenty-four plans, give the names and character of the trees, shrubs, clumps, and flower-knots, each object being marked with a number, which is recorded in the corresponding table, under its botanical designation. Geometrical beds, now so much in vogue, are not excluded; but the obvious characteristic of this simple work is to show the superiority of the old English garden, and the preference which that style has attained to amongst our refined and tasteful neighbours. The treatise guards, at least, against the quadratures and angularities of ancient walled inclosures, and introduces a free style of arrangement, which is more consistent with Nature's spontaneous growth, and admits of scenic embellishment that is far more healthful, consoling, and effective. For the unpractised gardener it offers a guide, and secures, at least, a pleasing *entourage* of graceful and beautiful objects; while upon the tasteful practitioner no restraint is imposed, for he may vary or diversify his nurslings. And now that the wolds near railway stations are being studded with villas, these actuaries of improvements may "make the wilderness blossom as a rose."

VARIORUM.

"THE Action of the Patent Laws in promoting Invention." By C. D. Abel, C.E. (London, Taylor & Francis). In this pamphlet, while the patent system is supported in its general principles, various amendments are suggested, such as an extension of time, and of the use of the patent office, and the establishment of a special tribunal for actions, &c., relating to patent inventions. An exhaustive and important discussion, we may here remark, has been going on in the Society of Arts on the subject of the patent laws, in consequence of the reading of a paper on the subject by Mr. Thomas Webster, F.R.S. There is hardly a single point, either *pro* or *con.*, which was not raised in course of the discussion. The inconveniences of the present patent law system, and the scandalous costs of litigation, were especially complained of.——"Report to the Local Board, Great Crosby District, Liverpool, on the Sewerage of the District and Disposal and Utilization of the Sewage." By Alfred Taylor, C.E. The village of Great Crosby is in a wretched state from want of proper sewers, and we are glad to hear that the local board, on Mr. Taylor's report, have determined to apply to the Home Secretary for power to borrow 9,000*l.* on the security of the rates, for the purpose of carrying out one of the schemes of sewerage reported on by Mr. Taylor. The sewage will be taken to the shore.——*The Social Science Review*, May 2nd, 1864. In this number the paper on the diseases of overworked men is continued; and there are others on ozone, the cure of drunkenness, the relation of crime and insanity, the cabmen of London, &c.

Miscellanea.

RAILWAYS IN DENMARK. — Respecting the construction of a line of railway across the Isle of Funen, the special correspondent of the *Evening Standard* says that, at the present time, owing, as he supposes, to the demand for men for warlike purposes, and the requirements of the tillage season, the nearly-completed works are almost at a standstill. It is impossible to get hands on any terms. The general payment of the Danish navvies is a dollar (2*s.* 3*d.*) a day. The wages are not high, but the contractors complain that the men work lazily and ineffectually. They acknowledge, however, that the men work on the railways as well as for themselves upon their small farms; and that the honesty of every one in this country is a perfect marvel. Nowhere is there more plunder than on a portion of railway under construction; and in England and other countries the contractors are heavily taxed for watchmen, day and night, to look after the loosely-scattered bolts and screws, nails, and pieces of timber. Here, I am told, a single watchman is never employed, and a single nail is never missed in the most crowded districts. Railways are constructed at such a cost as would make dividend-expectants' mouths water in England. In the first place, the line is single. The land is bought cheaply, and there is no tunnelling and little bridging. The sleepers, which look magnificent, come from Norway. The rail seems good and substantial. The stations will be small, and without much decoration, but suitable and convenient. The writer is told that the whole cost will be under 5,000*l.* a mile.

BROCKSBY HALL. — This fine old mansion, situate in the valley of the Wreake, six miles west of Melton Mowbray, and the property of Lord Alfred Paget, is about to undergo restorations and additions, under the superintendence of Mr. R. W. Johnson, architect. The mansion formerly belonged to the Villiers family, from whom sprang George Duke of Buckingham, and a monument occupies the east side of the small church (which is within a stone's throw of the Hall, and with its neat spire forms a picturesque object from the Hall windows), to the memory of Sir W. and Lady Villiers, who were buried here in 1711, and were the last of that celebrated family. The chief feature in the building is its very fine entrance-hall, the decorations of which are of a much later period than the exterior work. The building is of stone, and is surrounded by some fine timber.

YAXLEY CHURCH.—A correspondent of the *Suffolk Chronicle* says that the church of St. Mary is a fine building with square embattled tower and six bells, with nave, south aisle, and Gothic porch; and asks whether Churchmen will suffer this edifice *to fall* to the ground before the parishioners think of its restoration? The cracks in its exterior walls and steeple, he says, are nearly ready to swallow you; most of the stonework of the windows will soon fall out; the church doors are in such bad condition that small birds have free access to the church.

PROVINCIAL NEWSPAPER SOCIETY.—The annual meeting of this society was held at the Crystal Palace, on the 4th instant. It was resolved that a slight memento of the late Mr. Johnson Gedge, of Bury St. Edmund's, who had for years been honorary secretary to the society, should be erected by the society in St. Mary's Church, Bury St. Edmund's. Mr. BAXTER, of the *Sussex Express*, was appointed honorary secretary, and Mr. J. L. Foster, of the *Yorkshire Gazette*, was elected president for the ensuing year, together with other gentlemen connected with the press as vice-presidents.

NEW BORING MACHINE.—A very useful and simple rock-boring machine is stated to have been lately employed at Spezzia, in cutting one of the tunnels between that port and Genoa. It is asserted that it cuts at such a rapid rate that, if employed in the Mont Cenis excavation, the work would be completed in three years instead of eleven, which is at present supposed to be the period which must elapse before it is finished.

VARNISHING OF PICTURES.—A Spanish photographer has discovered a varnish which gives an astonishing brilliancy to the prints to which it is applied. He keeps his invention secret, but the varnish is believed to consist of albumen. M. Matthys has also produced a similar effect by means of a thin coating of collodion.

THE PROPOSED RESTORATION OF WORCESTER CATHEDRAL.—A county meeting, convened by the High Sheriff of Warwickshire, has been held in compliance with an influentially-signed requisition, at the Shirehall, Warwick, for the purpose of raising funds. The Bishop of the diocese occupied the chair, and there were also present Lord Lyttelton, the Lord Lieutenant of Worcestershire; Lord Leigh, the Lord Lieutenant of Warwickshire; and many other influential persons. The Bishop of Worcester explained that the Dean and Chapter of the Cathedral at Worcester had during the last few years expended 30,000*l.* in effecting the restoration of certain dilapidated portions of the building; but, after exhausting the funds at their command, so extensive was the work that still remained to be done that they were compelled to appeal to the public for assistance to enable them to complete the restoration of the edifice. With this object a meeting had recently been held in Worcester, at which 12,000*l.* were liberally subscribed; and if Warwickshire, which formed an integral portion of the diocese, came forward in the same generous spirit there was no doubt that the contemplated work could be satisfactorily completed. Lord Lyttelton explained that the total cost of the alterations and renovations, which would be carried out under the advice and superintendence of Mr. Scott, was estimated at 30,000*l.*, in addition to the 30,000*l.* already expended by the Dean and Chapter. In conclusion, he said that subscriptions might be distributed over a period of four or five years. At the close, and after appropriate resolutions were passed, the Bishop of Worcester said that the result of the meeting was very encouraging and satisfactory. The subscriptions announced from Warwickshire already amounted to 1,100*l.*

AN EXPLOSION WITH BESSEMER IRON APPARATUS.—An explosion, hitherto without example, says the Paris correspondent of the *Birmingham Journal*, has taken place at the ironworks, Tinpley, where Bessemer's apparatus has been employed for years without the smallest accident. In the midst of the fusing operation a tremendous report was heard, and presently a fiery torrent was projected from the mouth of the apparatus with such violence that the whole of the workmen engaged in superintending the operation were more or less injured. One of them was killed on the spot, while several others were lamed for life, and many were conveyed in great agony to the hospital. The cause of the explosion is about to be investigated scientifically, as it is the first example of the kind which has occurred. A report of the occurrence has been sent in to the École Polytechnique, in order that an inquiry may be made.

OPENING OF THE MUSEUM IN QUEEN'S PARK, MANCHESTER.—This museum, which has been in course of formation for the last nine months, has been opened by the mayor and corporation. Leading from the entrance-hall is a large, well-lighted room, 50 feet by 20 feet, which has been appropriated as a picture-gallery. At present there are about sixty pictures and engravings, but room could be made for as many more. The museum gallery and ante-rooms occupy the whole of the second floor. The principal feature in the gallery proper is a large collection of shells and minerals, contained in glass cases. Food materials are well represented in the museum. Another prominent feature is a series of the dye stuffs and materials so important to the manufacturers of Manchester.

BRISTOL FINE ARTS' ACADEMY.—The annual meeting has been held in the Exhibition room, Queen's-road, under the presidency of the Rev. J. Heyworth. There was but a small attendance. The committee's report was read. It stated in respect of last year's exhibition, that although the aggregate amount for pictures sold was nearly 800*l.*, the attendance of the public at the exhibition was so small that the net proceeds amounted only to 24*l.* 19*s.* From the financial statement it appeared that at the commencement of the year, there was a balance against the Institution of 57*l.* 15*s.* 8*d.*, and the total expenditure for the year had been 345*l.* 5*s.* 4*d.*

SPOTTY PAINT.—A subscriber, "E. A.," wishes some other of our correspondents to suggest a remedy for dark spots which appear on external paint over stone, and which have been attributed to salt in stucco, but, as our correspondent thinks, wrongly. These spots he has not seen in paint on wood; otherwise bad oil might be regarded as the cause.

The Park Lane and other Obstructions'—At the usual meeting, last week, of the Metropolitan Board of Works, Mr. Tite stated that a great complaint had been made in the House of Commons with respect to the inconvenience arising from the narrowness of Park-lane, and it had been recommended that this Board should take notice of the matter. The Chairman said that a motion would have to be placed on the agenda paper. Mr. Tite said he would do so. Mr. Nicholay said he should then move that something should be done with regard to Middle-row, Holborn; and Mr. Newton added, that he should bring to the notice of the Board that the long-needed improvement in Commercial-road, East, was still to be done. Mr. Bidgood said he should also propose the carrying out of the improvement in Rupert-street, Haymarket. Other members mentioned places which the Board had promised to improve when it should have the money.

Injury from Hoarding. — In the recent sittings at *Nisi Prius*, before Lord Chief Justice Cockburn and a common jury, the case of Brown v. Duncanson and another was decided. The plaintiff was driving a chaise through Upper Marylebone-street. The defendants were rebuilding in that street, and had put up the usual hoarding. In front of the hoarding there was a raised footway, which had been protected by a hand-rail, but one bar of this rail had been broken down or stolen. Plaintiff drove against the raised footway, and was thrown out of the vehicle, and injured. After the accident, the hand-rail was repaired and whitened, so as to be more distinctly seen. The defence was, that the hoarding was sufficiently well lighted, and that plaintiff by ordinary care might have avoided the accident. The jury found a verdict for the plaintiff—Damages, 25*l*.

Accidents.—A tall chimney in course of formation at Frizelnd, Saddleworth, in Lancashire, and belonging to Messrs. R. & R. Whitehead, of the Royal George Mills, has fallen, killing nine persons and injuring others. The new chimney was to be 50 yards in height, and was being built by Mr. John Jackson, of Grasscroft. About 20 yards of it had been built when one side of its foundations gave way, and it swerved, but was restored to the perpendicular, and was in further progress when it again gave way, and fell to the ground, destroying several houses, the inmates of which had no warning, although the chimney had been watched and was seen to settle over before it fell.——At Wolverhampton, the upper story of a malt-house has fallen in, while 500 bags of barley were on the floor: the building was an old one. —— At Hulme, a scaffold at a building in Upper Medlock-street has fallen, and so injured a plasterer that he has since died. The decease had misgivings as to the strength of the scaffold, and had loaded it with additional planks, which are thought to have brought it down.

New Theatre in Greenwich.—On Saturday, at a meeting of Kent county magistrates, application was made on behalf of Mr. Sefton Parry, of the Princess's Theatre, for a licence for a newly-erected theatre in the town of Greenwich, contiguous to the railway station. Mr. Parry stated that all modern improvements had been observed in the construction of the building, and that ample means of egress existed in the event of fire: the whole of the doors in the interior of the building opened outwards. The precautions suggested by the Lord Chamberlain for the protection of lights, both for the safety of the actors and the public, had been adopted. The magistrates, after a short consultation, agreed to grant the licence.

Engineer to Ipswich Dock Commission.—Mr. Edward Rush Turner, of the Ipswich engineering firm of that name, has been appointed engineer to the local Dock Commission. Mr. Wilkins was also a candidate. The votes were 42 for Mr. Turner and 15 for Mr. Wilkins.

The Holborn Valley Improvement Bill.—This bill has passed the Committee of the Lords, after meeting with opposition from the firms of Pontifex, engineers, and Meeking, drapers, and others, including two gas companies and the Holborn District Board of Works.

Industrial Exhibition for the Northern Suburbs of London.—It has been resolved to hold an industrial exhibition at the Amwell-street school-rooms, on the first two weeks in August. The exhibition will be as much as possible a workman's one.

The Proposed Shakspeare Memorial Building at Sunderland.—The project to erect a Shakspeare commemoration building at Sunderland, set a-foot by the offer of Ald. Candlish to contribute £500, has been revived by an offer made by Ald. Hartley to contribute one-sixth of £2,000, if five others will join him in making up the sum named. If £2,500 could be raised in this manner, the project would doubtless be realized in a very handsome way, as a display of liberality like this on the part of the chief men of the borough would induce the general public to subscribe liberally. It is intended that the building should include accommodation for the museum, and form a basis for the re-construction of the free library.

The Public Works Act and Manchester Cemetery.—At the Manchester City Council it was reported that the Cemetery Sub-Committee had concluded contracts for the expenditure of 14,000*l*. on the new cemetery, by which they will be enabled to give employment to factory operatives now out of work. At least one-half of this amount will be spent in unskilled labour, and the operatives will receive fair wages, as an engagement has been entered into by the contractor, Mr. Thornton, to employ all the corporation send at a fixed rate of wages. There are very few unemployed cotton-spinners, however, now at Manchester. The cemetery works are already laid out, and a commencement has been made.

Conference of Working Men's Clubs.—A conference has been held at the Whittington Club on working men's clubs, under the auspices of the Working Men's Club Union. There was a large sprinkling of gentlemen interested in working men's clubs, as the Bishop of London, the Earl of Lichfield, Admiral the Hon. Sir F. Grey, Lord Lyttelton, Viscount Ingestre, Mr. Thomas Hughes, Dr. Bowkett, and others. On one of the evenings of the conference a conversazione was held in the large hall of the club. A resolution, moved by Mr. Hughes, was passed, to the effect that a special effort be made to raise a sum of 500*l*. a year, in addition to the present income of the society, for at least three years.

A Fever Manufactory in Southwark.—Mr. William Hale, the owner of extensive premises in the "Grove," Great Guildford-street, Southwark, was summoned before Mr. Woolrych, at the Southwark Police Court, under the Nuisances Removal Act, for unlawfully carrying on a manufactory causing filthy effluvia injurious to the health of the inhabitants of the neighbourhood; when it was proved that the defendant had been carrying on a very disgusting manure manufactory, and that a fatal low fever existed in the locality. For the defendant it was stated that his men were about removing the materials to *premises he had taken near Belle Isle, King's-cross*. Mr. Woolrych made an order for the removal of the nuisance within a fortnight, under penalties.

Opening of the new Reservoir at Nottingham.—This new structure covers an area of an acre and a half, being three times the size of the old one, of which in conformation it is an exact duplicate. There are twelve chambers, large and roomy, and 12 feet in height. The reservoir is in length 220 feet, and in width 133 feet, and it is calculated that it will hold about two and a half million gallons of water. Mr. Hawksley was the engineer, and the contractors for the building were Messrs. Loverseed & Slim. The walls of the reservoir are built of Mapperley Hill bricks.

The Grotesque in Sculpture.—A humorous model for a fountain statue has been designed by a Hanoverian sculptor, Herr Rosenthal, representing a monkey holding a champagne bottle, of which he has imprudently drawn the cork with his teeth, and the contents of which he vainly endeavours to stop with his fingers. The champagne is represented by the different rays of the fountain bursting out in all directions.

The Franco-Spanish Exhibition.—The *Messager de Bayonne* states that the Franco-Spanish Exhibition about to be held at that town meets with such extensive support, that its success is likely to surpass all expectation.

Bristol Society of Architects.—At a meeting of the Society of Architects on Wednesday, the 4th instant, Mr. Fripp gave a lecture on "Door and Window Openings."

Slates.—As an instance of the development of the slate-quarries in Wales, it has been mentioned that 76,000 tons of slates were shipped from Portmadoc in 1863, against about 10,000 tons in the year 1834. This is from the district known as the Vale of Festiniog alone, and the shipments from Bangor and Carnarvon have increased in almost an equal ratio. The demand is so brisk at present for good slate that buyers have, as a rule, to wait about twelve months before their orders are executed. Many new companies have been promoted with the view of opening fresh ground, but at least three-fourths of the schemes have collapsed, owing to bad management, faults in the rock, or some other unfortunate cause. Some of our correspondents are calling out for slates of contrastive colours that are durable. It is stated that in Scotland, for example, Bangor, and Westmoreland green slates decay in the course of four or five years.

Chimneys.—According to the Earl of Shaftesbury's Bill before the House of Lords, when a chimney is built or rebuilt notice is to be given to the Board of Health or other local authority, and clauses are inserted in this Bill for securing that this authority shall ascertain that the rules laid down in the Act of 1840 are observed. The builder or owner is to pay to the surveyor, or other proper officer of the local authority, a fee not exceeding 5s. for inspection of the chimney or chimneys. An offender may be summoned before a magistrate, who will order the requisitions of the Act to be complied with under a penalty not exceeding 20*l*. a day.

To Purify Infectious Air. — At the late meeting of the British Scientific Association at Newcastle, Dr. Richardson said the best way to destroy organic poison in rooms was to place iodine in a small box with a perforated lid. During the epidemic of the small-pox in London, he had seen this used with great benefit. Though not so powerful as chlorine or bromine, we may remark, iodine is less offensive and not quite so injurious to gilding or other metal work. Dr. Murray Thompson said charcoal was now used in the hospitals in India with beneficial effect. It was hung up in bags from the rafters.

Church Extension in Leeds. — A meeting has been held in the Town-hall, Leeds, for the purpose of establishing a society in Leeds, the objects of which shall be:—1. The increase of the incomes of existing small incumbencies; 2. The sub-division of populous districts, and the establishing of additional incumbents to take charge of new districts; 3. The erection gradually of new churches. A subscription list of 25,275*l*. was read at the meeting. The list was chiefly made up of sums ranging from 5,000*l*., given by Mr. Gott, and a number of 1,000*l*. subscriptions, down to sums of 100*l*. each.

Preserving Wood by Salt.—J. B. Simons, of Brush Valley, Indiana, thus writes to the *Scientific American*:—"I have used common salt for the preservation of mill-shafts or water-wheel shafts, and it has had a good effect in staying the decayed timber. Take a 2-inch auger, bore holes into the stick of timber, and fill up with salt, and then plug up the holes tight. In a large stick of timber, like a water-wheel shaft, bore a hole through the centre, like a pump, and fill up with salt, and plug up; and there is no telling how long this may last, as it has been tried with us, and has answered very well."

Glass Manufacture.—A company of Boston capitalists are erecting a building in South Boston for the extensive manufacture of plate glass. The sand to be used in the manufacture is to be brought from Berkshire county, and 400 workmen are expected over from England in a few days.—*Boston (U.S.) paper.*

Female School of Art.—A fête and bazaar will be held in the Royal Horticultural Gardens, in aid of the building fund of the Female School of Art, Queen's-square, on the 23rd of June next; and we understand that H.R.H. the Princess of Wales will open the proceedings.

Berwick Walls.—Early on Wednesday morning a large portion of the outer, or, as it is called, the Old Berwick wall, which overhangs the river bank at the New-road, fell almost in a solid mass.

Fall of Iron Roof in Portugal.—The iron roof of the new railway station in course of erection at Staapolonia, Portugal, has given way, killing several persons and wounding others.

ST. CROSS HOSPITAL, WINCHESTER.—The contractors for the restoration of a portion of the chancel of the church of this hospital have commenced the works, and have removed the ancient oak stalls supposed to be of the time of Henry the Seventh, and bearing some curious inscriptions. Behind these were discovered some wall paintings, one of which it is supposed represents the Virgin Mary and St. Anne. Another is a female with the emblems of sovereignty, and dressed in the style of the reign of Edward I. Mr. F. Baigent, the local antiquary, is engaged in uncovering, examining, and making drawings of these ancient mural paintings.

MONUMENTAL.—A meeting of the subscribers to the memorial of the late Rev. T. James was held at the rooms of the Architectural Society, in Northampton, on Saturday last, the Rev. Lord Alwyne Compton, in the chair, when it was resolved that the memorial should consist of a font and cover for St. Sepulchre's Church, and that application be immediately made to Mr. G. G. Scott, R.A., to furnish a design for the proposed memorial.

CAN A WORKMAN CLAIM FOR HOLIDAYS.—At the Wolverhampton County Court, a brass furniture forger sued his master, Mr. Thurstans, for 13s. 6d., as three days' wages for the first three days in Easter week. Mr. J. F. Thurstans appeared for the defendant, and showed that the men all ceased work at their own choice. The judge decided for the defendant, but directed that the plaintiff should be paid back his court fees, in order that he might not be the loser by bringing the case into court. He observed that it should be distinctly put into the agreement in these cases whether the holidays would be paid for or not, as it was a matter of great importance to both masters and men.

TENDERS.

For alterations to the following City Schools, Norwich. Mr. J. H. Brown, architect:—

	Fittings.	Total.
St. Paul's School.		
Howard	£306 0 0	£37 15 0	£343 15 0
Whiting	298 17 6	—	—
Atkins	269 0 0	32 0 0	301 14 0
Lacey	—	—	298 0 0
Burrell (accepted)	227 0 0	25 0 0	252 0 0
St. Augustine's.			
Lacey	£282 0 0		
Worman	277 15 0		
Hood & Son	271 10 0		
Gilbert (accepted)	267 0 0		

Accepted for villa in Sowerby. Mr. W. A. Bourne, architect:—

Fawcetts (bricklayer and mason)	£321 10 0
Wild (carpenter and joiner)	289 1 4
Hudson (plumber and glazier)	94 0 0
Fryer (bells)	6 15 0
Fawcetts (plasterer)	60 10 0
Hauxwell (painter)	20 2 2
Kellett (slater)	34 10 6

Accepted for villa in Lancaster-crescent, Sowerby. Mr. W. A. Bourne, architect:—

Wright & Son (bricklayer and mason)	£436 1 0
Ruecroft (carpenter and joiner)	369 10 0
Amos (plumber and glazier)	97 0 0
Fryer (bells)	7 16 0
Amos (gas-fitter)	3 10 6
Rawlins (plasterer)	85 0 0
Kellett (slater)	43 12 6
Bickers (painter)	21 0 0

For alterations at 213, High-street, Camden Town, for Mr. Archer, jun. Mr. D. Gylby, architect:—

Scrivener & White	£209 0 0
Woolnough	189 0 0
Stableford	185 0 0
Dawe	175 0 0

For a house at Sydenham-hill, for Mr. R. P. Harding. Mr. George Truefitt, architect:—

Stimpson (accepted)	£1,676 14 0

For new shops, warehouses, &c., Northampton, for Messrs. Phipps & Son. Messrs. E. F. Law & Sons, architects:—

Dunkley	£4,700 0 0
Watkin	4,500 0 0
Ireson	4,240 0 0
Cosford (accepted)	3,990 0 0

For bricklayers', carpenters', plasterers', and slaters' work to pair of villas, Kendrick-road, Reading. Quantities supplied. Messrs. Cooper & Gouldin, architects:—

Matthews	£945 0 0
Simonds	830 10 0
Dunn	824 6 0

For houses in King-street, Battersea, for Mr. Hunt. Mr. Charles Bowes, architect:—

Bass	£325 0 0
Lathey, Brothers	317 0 0
Thornton	310 0 0

For Scarborough Congregational Church. Messrs. Lockwood & Mawson, architects. Quantities supplied by Mr. Brown, of Westminster:—

Barry (accepted)	£7,850 0 0

For two semi-detached residences in Bridge-road West, Battersea, for Mr. Bennett. Mr. C. Bowes, architect:—

Godbolt	£1,150 0 0
Lathey, Brothers	1,093 0 0
Thornton	1,065 0 0
Parsons	963 0 0

For residence at Esher, Surrey, for Mr. J. J. Clifford. Messrs. Hold & Hughes, architects. Quantities not supplied:—

Hayward	£1,018 0 0
Fish	996 0 0
Matthews	849 0 0
Saunders	775 0 0

For erecting two cottages at Buckhurst Hill, Essex. Mr. J. Tanner, architect:—

Case	£797 0 0
Turner & Son	773 0 0
Eaton & Chapman	703 0 0
Elston	675 0 0

For building a Wesleyan Chapel, with basement class and school-rooms, Leighton Buzzard. Messrs. Bellamy & Hardy, architects:—

Twelvetrees	£3,400 0 0
Simms & Marten	3,290 0 0
Kimberley	3,210 0 0
Ayre & Dunham	3,195 0 0
Young	3,050 0 0
Holdstock & Edwards	2,961 0 0
Hobson & Taylor (accepted)	2,837 0 0

For addition to Beaufort Lodge, for Mr. T. Vaughan Morgan. Mr. C. W. Eppy, architect:—

Higgs	980 0 0
Rudkin	875 0 0
Godbolt	795 0 0
Humbry	715 0 0

For the Brighton Club and Norfolk Hotel Company. Additions to Norfolk Hotel, Contract No. 1. Mr. H. N. Goulty, architect. Quantities supplied:—

Fabian	£8,248 0 0
Patching & Son	8,111 0 0
Patman & Fotheringham	7,887 0 0
Sawyer	7,723 0 0
Chappell	6,932 0 0
Reynolds (accepted)	6,825 0 0

For church at East Barnet. Mr. E. Christian, architect:—

Myers	£3,661 0 0
Piper & Wheeler	3,447 0 0
Macers	3,150 0 0
Jackson & Shawe	3,098 0 0
Sharpington & Cole	3,006 0 0
Dove, Brothers	2,815 0 0

For the erection of a warehouse in Southwark-street, for Mr. B. Meyers. Messrs. Tillot & Chamberlain, architects. Quantities supplied:—

Cannon	£8,900 0 0
Brass	8,768 0 0
Ashby & Sons	8,705 0 0
Lawrence & Sons	8,682 0 0
Patrick & Son	8,625 0 0
Myers & Sons	8,426 0 0
Piper & Wheeler	8,205 0 0
Hill & Keddell	8,070 0 0

For the erection of four villa residences on the Royal Hotel Estate, Ventnor, for Mr. B. Meyers. Mr. N. S. Joseph, architect. Quantities supplied by Mr. F. Newman:—

Langdon (accepted)	£1,477 0 0

For Thorpe Church, Norfolk. Mr. T. Jeckell, architect:—

	Brick Vaulting.	Timber Roof.
Baldwin & Burrell	£4,288 0 0	£3,714 0 0
Lloyd	4,150 8 0	3,970 0 0
Worman	4,064 0 0	3,638 0 0
Cornish	3,900 0 0	3,423 0 0
Balls	3,696 0 0	3,445 14 0

For erecting new school buildings in rear of Baptist Chapel, Walworth-road:—

	For Main Building.	Extra if Bath stone dressings.	Extra if room is plastered.
Sawyer	£1,953 0 0	£40 0 0	£70 0 0
Tarrant	1,868 0 0	83 10 0	59 0 0
Howard	1,854 0 0	25 0 0	56 0 0
Wells	1,813 0 0	20 0 0	58 0 0
Thompson	1,770 0 0	50 0 0	60 0 0
Downs	1,693 0 0	105 0 0	55 0 0
Henshaw	1,679 10 0	75 0 0	55 10 0
Sharpington & Cole*	1,733 0 0	18 0 0	50 0 0

* Accepted.

For the erection of warehouse in Tower-street, for Mr. W. Haynes. Mr. Chatfield Clarke, architect:—

Brass	£2,263 0 0
Hack	2,245 0 0
Smith	2,174 0 0
Conder	2,166 0 0
Hardiman & Sandon	2,154 0 0
Patman & Co.	2,151 0 0
Scrivener & Co.	2,097 0 0
Sharpington	2,057 0 0
Anley	2,020 0 0

For the restoration of the ancient Banqueting Hall, Mayfield, near Tunbridge Wells, for Mrs. Connolly. Mr. E. Welby Pugin, architect:—

Smith & Son, including 1,400*l.* for tower	£5,980 0 0
Wilson, excluding tower (accepted)	3,300 0 0

For parish church, Kingsdown, for the Right Hon. Lord Kingsdown. Mr. E. Welby Pugin, architect:—

Smith & Son (accepted)	£1,370 0 0

Exclusive of materials of old building.

For erecting a detached house in Lordship-road, Stoke Newington, for Mr. Wm. Bartlett. Mr. F. G. Widdows, architect:—

Cushing	£1,230 0 0
Green	1,137 0 0
Flint (accepted)	1,080 0 0

The Tenders submitted by Messrs. Key & Sons (carpenters and joiners), Mr. James Wade (bricklayer, &c.), Mr. J. H. Wilson (painter and decorator), have been accepted for the alterations, &c. to St. Andrew's Presbyterian Church, Stockton-on-Tees. Mr. C. J. Adams, architect.

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The Patent has been experimentally worked in Paris for nearly two years, where large orders are now in hand for gun and rifle barrels. The Ordnance Department of France having caused this process to be examined and reported upon with satisfactory results, negotiations are at present on foot for the supply of the Imperial Government.

It is intended to supply Machinery and to grant Licences to Manufacturers, on terms which shall conciliate existing interests, and to establish a factory for the manufacture of tubes. It may be stated as an example of the prospects of the undertaking, that steel rifle barrels can be produced independently of skilled labour, sold at the present price of iron ones, leaving a large profit to the Company.

The Patentees, in order to afford those interested a means of testing the commercial value of their mode of manufacture, have erected a powerful Hydraulic Draw Bench, of 600 tons pressure, at temporary works in London, 67, Willow-walk, Bermondsey, where it has been seen in operation, in consequence of which applications have been received for Licences and Machinery, and from these sources alone a large annual income cannot fail to be derived.

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Name in full .....
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Date .....

FROM "THE TIMES," FEBRUARY 25th, 1864.

DRAWN STEEL TUBES.

"Steel Tubes are one of the difficult problems of our hardware manufacture. They are very costly to produce, and very unequal in their tenacity when they are turned out, the weld, when the tube is joined down the middle, always proving its weakest and almost its unsafe part. Steel wires, however, of any thickness or of any fineness, are drawn every day, and by a very simple development of the same process, a machine has been invented, by which steel tubes of any thickness or internal diameter can be produced with the same certainty. In a few words, it may be said that the new method consists of substituting the slow, equal, but irresistible force of hydraulic pressure for the ordinarily rapid but somewhat uncertain steam power of the wire drawer's bench. The whole machinery consists of a hydraulic press, with double cylinders placed vis-à-vis, with a single piston, which, as it leaves one cylinder enters the other, and which, at its junction between the two, carries a powerful collar or flange of iron. To this flange the steel tube to be drawn out is secured in a die or gauge of the requisite shape, while down inside the tube itself passes a steel rod, which fits into the circle of the die or gauge, just allowing the requisite aperture round its circumference to regulate the size of the tube drawn over it. Thus, when once the machine is set in motion by its pump, the tube, held by its outer collar, is slowly drawn over the inner rod, which, according to its thickness, reduces the tube by pressure against the outer die to any fineness, and therefore to any length that may be required. Several tubes were thus drawn yesterday, in the presence of a number of engineers and scientific gentlemen, at Mr. Almond's Works, Willow Walk, Bermondsey, and the results, both as to the mechanical trueness of the tube, and its perfect homogeneousness throughout, were in the very highest degree satisfactory. Nor is it circular tubes only that can be drawn by this process. By altering the shape of the outer die and inner rod, to square, triangular, or octagon, the same form of tube is produced, with equal certainty and equal strength, though, in order to avoid distressing the metal, it is only reduced 1-48th of an inch at each passage through the machine. The movement is so slow that the tube comes out almost cold, yet burnished like the finest steel inside and out. The great pressure, however, to which it is subjected, has a tendency to harden the metal, so that when many reductions of size are necessary, it has to undergo annealing to keep it at the required toughness. After being drawn to whatever shape or length is required, the finished tube can be tempered up to any degree of hardness, or annealed down to its strongest stage of toughness as may be wanted. The whole process is neither an invention nor a discovery, but simply a most valuable development of our present means of manufacture, and one which we think will prove as lucrative to its patentees as it will undoubtedly be most useful to our steel producing districts. Just now, however, when our improvements in artillery have taken us to a point at which wrought iron can help us no further, and when all inventors are looking for a steel lining to their guns, this new process is likely to be regarded with unusual interest.

If, as the patentees claim, their processcan draw homogeneous steel tubes of 8 inches and 10 inches diameter, the long vexed question of trying to make wrought-iron guns to stand their rifling would appear to be near its settlement. The perfect ease and immense strength with which the common rifled and fowling pieces can be lined with steel tubing is shown at the Works at Bermondsey. What a boon a fine steel lining would be to the weapons of the Volunteers, armed as they now are with the Enfield, so soft in its barrel that nothing but the most careful handling can keep it from dent, and fatal injury to its efficacy as a true long-range rifle. The patentees of the machine intend putting up at once a press and dies by which taper steel barrels for the Enfield rifle can be drawn in one place. More, however, is to be gained by drawing steel tubes for the artillery, though neither guns nor rifles open up such a field of profit as is likely to be found in the everyday mercantile wants of Sheffield and Birmingham. Steel tubes, badly and expensively as they are now made, are still an everyday want in the hardware districts; and it is only their cost, and the uncertainty of their production, which puts a tolerable limit to their use. If by this process they can be produced of more than double the strength of the present steel tubes, and at the same price as the most common cast-iron gas piping, their uses in manufacture would seem to be almost endless. For tubing to boilers alone there is enough work to be done to keep all the hydraulic machinery in England, if fitted up to draw steel tubes, going for the next twelve months."

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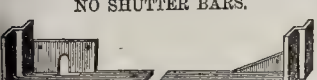
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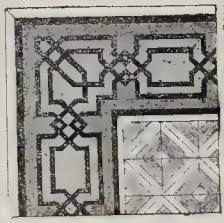
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P. H. BERTHON, Secretary.
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HENRY CURREY.
4, Lancaster-place, Strand, W.C. May, 1864.

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COMPANIES.—2,000 BARROWS FOR SALE.—Barrows, Keys, ils, Boshes, Sleepers, &c. and all other Contractors' Plant.—te W. P. FRANCE, 20, Bridge Wharf, Paddington.

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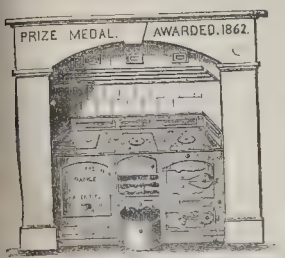
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Extracted from the "London Daily Telegraph," May 19th, 1862.
"INTERNATIONAL EXHIBITION, CLASS 31.
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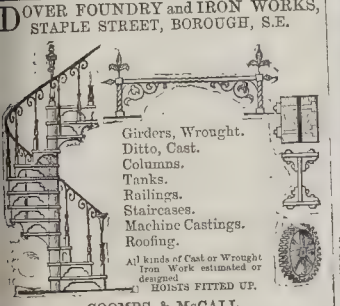
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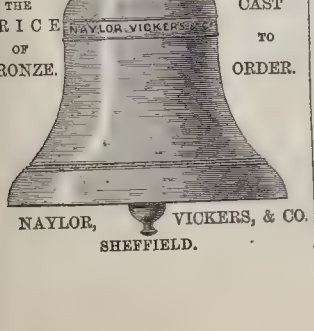
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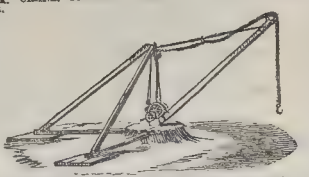
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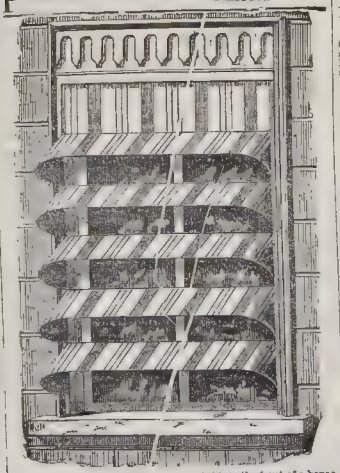
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TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Skirtings, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop Green-houses, Hot houses, and Conservatories, on the most improved principles.
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SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
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MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
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	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	18s. 6d.	16s. 6d. „
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
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First Quality, ¼ by 6½, at 10s. 6d. per square.
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TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

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ON THE MEDWAY, NEAR ROCHESTER, KENT.

MESSRS. BOOTH & CO.

BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF MESSRS. JOHN HOLLICK & CO.

At the above Works, and are now prepared to supply Cement of the best quality. Their Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

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NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.

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HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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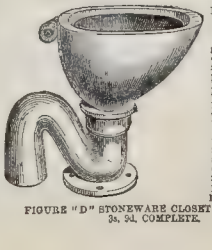


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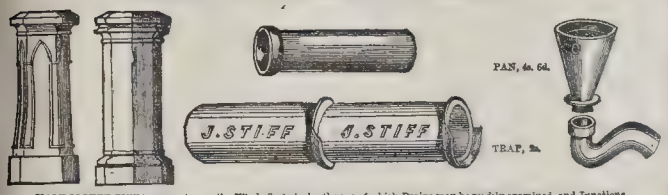
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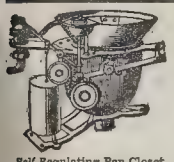


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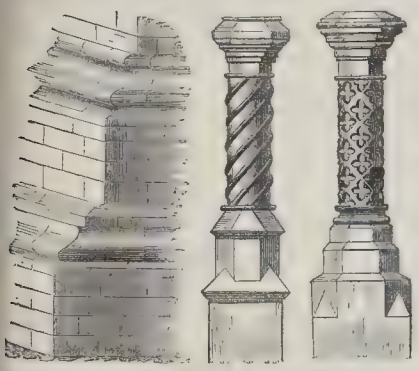
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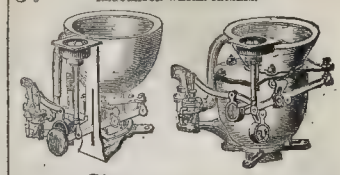
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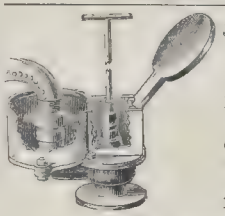


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PULLEN, HORNE, & EVERSFIELD are instructed, by Mr. A. Brine, to SELL by AUCTION, on the PREMISES, 155, Euston road, near St. Pancras Church, on TUESDAY, MAY 24th, at TWELVE for ONE, one hundred and fifty MARBLE CHIMNEY-PIECES, consisting of statuary, vein, Sicilian, black, and coloured marbles, in every variety of style, and finished in the best manner. May be viewed and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, E.C.

LONDON, CHATHAM, AND DOVER RAILWAY.—Building Materials of Four large newly-built Residences, Lewisham

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES on FRIDAY, MAY 27, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FIXTURES of FOUR newly-built SEMI DETACHED RESIDENCES, situate at Loam Pit Hill, Lewisham; comprising stock bricks, paving bricks, pressed and fire bricks and tile timber in stout rafters, joists, girders, and quartering, sashes and shutters, capital doors, sound floor-boards, marble and other chimney pieces, stone paving, stone dressings, steps and sills, iron railing and fencing, lead flats, gutters, cisterns and pipes, stoves, ranges, force pumps, coppers, and a great variety of useful fixtures and fittings up of superior description.—May be viewed the day previous. Catalogues had at Mr. VIGERS'S Office, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

ST. PANCRAS.—MARBLE SLAB FOR ABSOLUTE SALE.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, 23, King's-road, St. Pancras Road, Islington, on MONDAY, MAY 30th, at TWELVE for ONE, about 2 cwt feet of VEIN and SICILIAN MARBLE SLAB, of various thicknesses, which will be sold in lots, for cash.—May be viewed on Saturday previous, and Catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S. W. and 80, Fore-street, E.C.

HART STREET, CRIPPLEGATE.—To Velvet and Trimming Manufacturers, Embossers, Plant Dealers, and Others

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 7, Hart street, City, on TUESDAY, MAY 31st, at TWELVE for ONE, the Plant, Stock, and Fittings of a Velvet and Trimming Manufacturer, consisting of 8 gilling and cropping machines, of 30 inch size, with gun-metal rollers; 3 velvet stamping machines, blocking machine, 3 lock-stitch sewing machines, by Simpson, of Glasgow; about 400 carved wood-cutters, with the various patterns, a quantity of gun metal ditto; several hundred yards of silk and cotton velvet; mahogany tip counters, library table, mahogany desk, letter copying press, a Milner's fireproof safe, nests of shelves, office-fittings, harness, and in reserved case, and other effects.—May be viewed the day previously. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C and 40, Parliament-street S.W.

IMPORTANT CITY FREEHOLD, comprising the Spread Eagle Hotel, Gracechurch-street, with extensive Premises and Yard, containing an area of nearly 6,000 square feet, adapted advantageously for rebuilding.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, JUNE 22, at TWELVE (unless previously disposed of by private contract), a valuable FREEHOLD PROPERTY, situate in the very heart of the City, where all the chief commercial interests of London are now being centered: comprising the principal portion of that well-known establishment the Spread Eagle, Gracechurch-street, with extensive premises in the yard, having a back entrance to Leadenhall Market; the whole containing an area of nearly 6,000 square feet, and forming one of the most important building sites to be found in the City, its advantageous position rendering it admirably adapted for rebuilding as offices, whereby a very large rental may be created, thus offering a desirable opportunity for the employment of capital.—Particulars may be obtained of O. LUCAS, Esq. Solicitor, 50, Fenchurch street; of Messrs. WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C.; at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo-place, Pall mall

TO IRON BEDSTEAD MAKERS AND OTHERS

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, on MONDAY, the 30th day of MAY, 1864, at TWELVE o'clock, on the PREMISES, No. 13, Billiter-street, Leadenhall-street, E.C., the Stock-in-Trade of an Iron-bedstead Maker, including 20 tons bar, angle, rod, and hoop iron; 8 tons new wrought-iron bedstead-work, fly gears, 5 hp wheels, blocks and tackle, portable forge, bench and tools; a circular wrought-iron cupola, a Coalbrookdale patent portable cooking-stove; fittings of smiths' shop; double forge, bellows and tools; quantity of bolts, nuts, and rivets; a bay Mare, strong spring-cart, set of harness, and numerous other effects.—To be viewed on the SATURDAY previously and morning of Sale, when detailed lists may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

RAILWAY CONTRACTOR'S PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JUNE 9th, 1864, and following day, at ELEVEN for TWELVE o'clock precisely, on ground adjoining the Railway Station at Hungerford (in Berks), CONTRACTOR'S PLANT and IMPLEMENTS used in the Construction of the Berks and Hants Railway, including 1 set capital earth waggons, 8 end and tip, 50 lots contractor's rails, 2000 sleepers, 100 navvy-barrows, 500 wheeling-planks, 150 loads sound fir timber, 30 loads ash and elm, 8 dobbin carts, 6 tumbril carts, 1 timber carriage, 1 light cart, 1 pleasure harness, 2 large wood centres, 500 transoms, battens, 3 tons new bar and rod iron, 10 tons scrap iron, Pooley's weighing machine, scales and weights, stocks and dies, smiths' tools, screw-jack, new wire lines, 2 hay-cutting, pug-mill, the erection of stables and workshops, portable office, new waggon wheels and axles, 2 trollies, quantity of stone, 1,500 yards gravel, water tank, 2 horse-power chaff-cutting machines, 1 hand-power ditto, quantity of fire-wood, and numerous other effects. To be viewed on Wednesday previous and mornings of Sale, when catalogues may be had on the Works, and of Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

CAMDEN-TOWN. To TIMBER-MERCHANTS, BUILDERS, CARPENTERS, CABINET and PIANOFORTE MAKERS, and Others.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace Camden Town, on MONDAY, MAY 23rd, at TWELVE for ONE, 2 cargoes York, White, and Red PLANKS, DEALS, and BATTENS; 5,000 deal ends, in various thicknesses; 4,000 feet wide pine board, 250 squares prepared flooring, 17,000 feet quartering, 10,000 feet architrave and door mouldings, mahogany, twenty doors, poles, and useful stock.—Auction Offices, 9, Cardington-street, Hampstead-road, N.W.

TO BUILDERS, CONTRACTORS, DEALERS IN MATERIALS AND SHOP FRONTS, AND OTHERS.

MR. GEO. HAINES is directed to SELL by AUCTION, on MONDAY and TUESDAY, MAY 30 and 31, at TWELVE o'clock, all the CAPITAL BUILDING MATERIALS of EIGHT DWELLING-HOUSES, with a spacious HABERDASHER'S SHOP, situate Nos. 17 to 24, UPPER EATON-STREET, PIMLICO; comprising upwards of a million of prime STOCK BRICKS, several tons of lead, in large flats, gutters, pipes, and sinkings, excellent internal fittings of the usual description, paved hall and staircases, three handsome plate glass large show rooms, with two counters in mahogany and brass moulded shop windows, and large plate glass, patent revolving iron shutters, six lofty scagliola columns, and useful fittings. May be viewed.—Catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square; and 19, High-street, Kensington.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, WEDNESDAY, 1st JUNE, at TWO, TIMBER, 500 loads, Foreign and Colonial; Deals, Battens, 50,000 pieces, ditto; and other Wood Goods.—HY. FREEMAN & CO. Brokers, 3, Crooked-lane, E.C.

WIMBLEDON.—Remarkably choice Sites for the erection of First Class Mansions and Villas. The beautiful Estate formerly attached to the residence of Lord Cottenham (now removed), comprises the magnificently timbered Cottenham Park grounds, and gardens situate on the south-west slope of one of the most commanding hills in the county of Surrey, and affording opportunities that cannot elsewhere be equalled, for gentlemen who may wish to combine all the advantages of modern residences, upon ancient, well-matured grounds, in one of the most delightful districts near London.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, on TUESDAY, JUNE 7th, at TWELVE, in 17 lots, varying from three-quarters of an acre to 6¼ acres each (unless an acceptable offer be previously made) the very valuable and most beautiful FREEHOLD ESTATE, known as Cottenham Park, comprising nearly 40 acres of magnificently timbered grass land, having the important advantages of a dry, gravelly, subsoil, an undulance of the most picturesque character, close to good roads, contiguity to a church, ready accessibility from London by rail, being only about seven miles' drive from Hyde Park, and within a few minutes' ride by the railway which will very soon be extended to Cannon-street, City, and situation and scenery that certainly cannot be surpassed, and is but seldom equalled, even in this beautiful and highly favoured district.—Particulars (now ready) of Messrs. FRESHFIELD & NEWMAN, Solicitors, 5, Bank Buildings; and of the Auctioneers, 80, Cheapside

SURREY HILLS.—Beautiful Building Sites, forming the first portion of the Kenley Park Estate, only a mile from the Caterham Junction Station on the London and Brighton and South Eastern Railways, four miles from Croydon, and adjoining Kenley Station on the Caterham line

MESSRS. DEBENHAM & TEWSON have received instructions to offer for SALE, at the MART, on TUESDAY, JUNE 21, at TWELVE, in lots, varying from one to ten acres or more in extent, the FIRST PORTION of the KENLEY PARK ESTATE, comprising about 110 acres, offering some of the most attractive sites for building within fifteen miles of London, the situation being one of the most healthy on the range of the Surrey hills, the soil and climate remarkably dry, the air pure and invigorating, and the surrounding scenery of singular beauty. The land will be divided into lots to suit the requirements of gentlemen desirous of having detached houses for their own occupation, with sufficient land to enable them to enjoy the retirement of the country, combined with the advantages of ready access to the metropolis. The whole is freehold and land-tax redeemed.—Particulars, plans, of Messrs. JOHNSTONE, FARQUHAR, & LEECH, Solicitors, 85, Moorgate-street; and Messrs. DEBENHAM & TEWSON, 80, Cheapside.

Valuable POTTERY and BRICKFIELD, with 25 Acres of LAND situate within 10 miles of Brighton, 14 miles from the Burgess-hill Station, and 4½ miles from Hayward's heath Station, at both which places extensive building operations are going on.

MESSRS. DEBENHAM & TEWSON have received instructions to SELL, at the MART, on THURSDAY, JUNE 30th, at TWELVE, in One Lot, the valuable FREEHOLD PROPERTY, known as the Ditchling Pottery and Brickfield, situate in the parish of Ditchling, Sussex, and comprising a superior newly-erected Dwelling-house, with garden, stabling, and out-offices, large yard, three capital kilns, extensive sheds and other premises, foreman's house, and 25a 1r. 16p. of Arable and Grass LAND, containing a large extent of brick earth and pottery clay of a very superior quality. The Yard is now in full work; the ware and bricks are celebrated for being the best in the district; the demand greatly exceeds the supply, and the vicinity of railway communication offers great inducements to a capitalist desirous of conducting a profitable trade on an extensive scale.—Particulars of W. TOOTELL, Esq. Edgware; and of the Auctioneers, 80, Cheapside

GARRICK VILLA, HAMPTON, formerly the residence of the celebrated David Garrick, with its beautiful pleasure-grounds and extensive lawn fronting the river Thames, kitchen-garden and paddocks, comprising together between 11 and 12 acres, of which immediate possession may be had; also an Eyot in the river Thames, within a short distance, containing about 4¼ acres, let on lease at £27 per annum

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed by the Executors of the late owner Silvanus Phillips, Esq., to SELL by AUCTION, at the MART, on FRIDAY, JUNE 17th, at TWELVE, in One Lot, the valuable PROPERTY, which is situate on a beautiful wide part of the Thames, known as the Hampton Deeps a great preserve for fish, close to the pictures pque village of Hampton, and only a few minutes' walk of Molseyhurst and Hampton race-course, partly bounded by Bushy Park, and is within a mile of the Palace and gardens of Hampton Court, and the railway station, and only few hundred yards distant from the Thames Valley branch-line to Hampton, rendering the property accessible by rail from the City and west end of the metropolis in three quarters of an hour. The residence is therefore suitable to any gentleman whose avocations require frequent personal visits to and from the town, and it affords every accommodation for a family, with capital stabling and other offices. The property is intersected by the main road leading from Hampton Court to Sunbury, occupying a frontage thereto, on either side of 221 feet and 270 feet respectively, besides frontages in the village, and a frontage of 351 feet to the river Thames; which, combined with its beautiful situation, gravelly soil, proximity to the church, and easy communication with the metropolis, render it worthy the attention of capitalists and builders. In a separate lot will be sold the eyot in the river Thames, above referred to. Cards to view may be obtained of Messrs. HOLLAND & SONS, Upholders, 28, Mount-street, Grosvenor-square, W.; and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Land Surveyors and Auctioneers, Saville-row, W. and 19, Change-alley, E.C.; and without which no person will be admitted. Printed Particulars may likewise be had as above, and of Messrs. COTTERILL & SONS, Solicitors, Throgmorton street, E.C.

FREEHOLD LAND, BATTERSEA, SURREY, close to the New Park, and giving Votes for the County.

GEO. TODD will SELL by AUCTION, on TUESDAY, 7th JUNE, 1864, at the AUCTION MART, opposite the Bank of England, in Plots of FREEHOLD BUILDING LAND, situate in the Bridge road and Park road, close to the New Park, 13 FREEHOLD HOUSES in the latter road, which might be converted into shops, and a FREEHOLD GROUND-RENT of 45l. per year.—Plans and particulars may be had of Messrs. H. & F. CHESTER, Solicitors, 1, Church-row, Newington Butts, and at the Auctioneer's Office, Battersea Bridge road, Battersea Park, S.W.

GREENWICH.—Three acres of valuable FREEHOLD BUILDING LAND, with 300 feet of Water Frontage.

MESSRS. GLASIER & SONS will SELL by AUCTION, on WEDNESDAY, JUNE 1, at GARRAWAY'S, in one lot, three acres of valuable FREEHOLD BUILDING LAND, having a frontage of about 300 feet on Deptford Creek, slightly situate, with good approaches, from Ravensbourne and Road-streets and New Road, near Greenwich. Particulars, with plan, may shortly be had of SAMUEL ARCHBUTT, Esq. 34, Finsbury-square; of W. W. POCOCK, Esq. Architect, 35, Craven-street, Strand; at GARRAWAY'S; and of the Auctioneers, 41, Charing Cross, S.W.

YORK ROAD, LAMBETH.—Leasehold and Copyhold Estate, consisting of about 50 houses, the York-road Chapel, a well-accustomed Public-house in the Belvedere-road, and other properties; the leasehold parts being held for nearly 60 years, and the whole producing a clear rental of about 1,500l. per annum, in a neighbourhood which is rapidly improving.

MESSRS. FOSTER are directed to SELL by AUCTION, at the MART, on TUESDAY, MAY 31, an important ESTATE, mostly leasehold, comprising a large block of excellent property, in and near the York-road, Lambeth, including the Guildford Barge licensed public-house, in the Belvedere-road; Nos. 105 to 132, inclusive, and Nos. 78, 81, and 83 to 91, inclusive, York-road; Nos. 11 to 21, inclusive, Nos. 2 to 6, inclusive, and No. 10, Belvedere-road; Nos. 11, 12, 13, 14, and 16, Johnson-place; Nos. 1 to 8, inclusive, in Addington-place, Addington-street; also an improved leasehold ground-rent of 22l. for 60 years, arising from the York-road Chapel. The various properties will be fully described in the printed particulars of Sale. The whole of the buildings on the Estate were erected by the eminent firm of Grissell & Peto, and are of a character in accordance with their great reputation. Portions of the property are let at ground rents, other parts on leases at full yearly tenants, and held by various leases for terms of which about sixty years are unexpired, at ground rents, and producing a well-secured income of nearly 1,500l. per annum. The copyhold is held of the Manor of Lambeth.—Particulars may be had, twenty days before the Sale, at the Mart; of Messrs. J. & G. BARNARD, Solicitors, 148, York-road, Lambeth; and of Messrs. FOSTER, 54, Pall-mall,

An extensive Assortment of English and French PAPERHANGINGS and DECORATIONS, and the largest and best Stock of MARBLE CHIMNEY-PIECES ever offered to public competition.

MR. EDWIN WHITE is directed to SELL by AUCTION, at his ROOMS, 13, Holborn Bars and 1, Crest street, Holborn-hill, on TUESDAY next, at ONE, a valuable STOCK of English and French PAPERHANGINGS, comprising flocks, gold satins, grounds, tints, sraglios, Siennas, white and other marble oaks, granites, and others in great variety. Also nearly 200 CHIMNEY PIECES in all the white and coloured Marbles, some enamelled Slate Chimney-pieces, a few Watercloset, and half a ton of White lead and Colours.—May be viewed, and catalogues had, on Monday morning of Sale.

TURPENTINE

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

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Is continued by his successors,

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Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

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These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 20s. per cwt
Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 7s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
Fine Pale Ditto, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TO PAINTERS and BUILDERS.—

FINE PALE OAK VARNISH, 7s. per Gallon!
For cash at FRANCIS TUCK'S Old-Established
VARNISH and COLOUR WAREHOUSE, No. 128, EDGWARE-ROAD, PADDINGTON, W. next door to the Wheatsheaf, and within five minutes' walk of the Great Western Railway Terminus.
Agent for Hamilton's celebrated Painting and Graining Brushes.

MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, REVERSIONS and ANNUITIES,
WINE, SCRIPT, and TIMBER WARRANTS,
FURNITURE, SHARES, &c.
Mr. RICHARD CROSSLEY, 17, Moorgate-street, Bank, E.C.

£1,000 IN CASE OF DEATH,

or an Allowance of 6l. per week while laid up by Injury caused by

ACCIDENT OF ANY KIND,

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For particulars apply at the Offices, 10, REGENT-STREET, and 64, CORNHILL. WILLIAM J. VIAN, Secretary.

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(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, no withdrawing fees in advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

KAMPTULICON FLOOR CLOTH.

DURABLE, COMFORTABLE, ECONOMICAL, and ORNAMENTAL, for CHURCHES, PUBLIC BUILDINGS, BILLIARD-ROOMS, and PRIVATE HOUSES.

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76, CANNON STREET WEST, E.C.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 21, 1864.

The Builder

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1112. MAY 28, 1864. PRICE FOURPENCE. By Post, 5d.

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FIRST ANNUAL EXHIBITION of STAINED GLASS, SOUTH KENSINGTON MUSEUM, is NOW OPEN. By order of the Lords of the Committee of Council on Education.

The Museum is open Free on Mondays, Tuesdays, and Saturdays, from 10 a.m. to 10 p.m. The Students' days are Wednesdays, Thursdays, and Fridays, from 10 a.m. to 6 p.m. Admission 6d. each.

THE PAINTERS' COMPANY'S EXHIBITION of DECORATIVE and IMITATIVE PAINTING, will OPEN at their Hall, No. 9, Little Trinity-lane, City, on WEDNESDAY, the 1st JUNE, and REMAIN OPEN to the 30th.—Admission to any respectable persons on signing their names and addresses, from TEN to SEVEN daily.—By order, F. G. TOMLINS, Clerk.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

ARCHITECTURAL ASSOCIATION.—VOLUNTARY EXAMINATION CLASS.—Subject for MONDAY next, the 30th, "VAULTING," to be introduced by Mr. R. R. BANKS. Commence at 7:30 p.m.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt;" together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 7, Hanover street, Regent-street, from NINE till SIX and from SEVEN till TEN.—Admission, during the day, One Shilling; in the Evening, Sixpence.

THE ARCHITECTURAL MUSEUM LECTURES.—SESSION 1864.—Those who have received Cards for this Course of Lectures are requested to take notice that consequence of the serious illness of Mr. J. H. PARKER, F.S.A. his LECTURE on TUESDAY, JUNE 7, CANNOT BE DELIVERED. There will be no Lecture on that Evening.

ARCHITECTURAL EXHIBITION and COLLECTION of BUILDING MATERIALS and MANUFACTURES, 9, Conduit-street, Regent-street.—Now open, admission One Shilling. Lectures on TUESDAY evenings, at EIGHT o'clock. Season Tickets half-a-crown. Will close JUNE 30th. Also, in the same Gallery, the EXHIBITION of the SOCIETY of SCULPTORS of ENGLAND

WYGGESTON'S HOSPITAL, LEICESTER.—Notice is hereby given, that the DESIGNS for the New HOSPITAL BUILDINGS will be open to public inspection at the Corn Exchange, Leicester, on FRIDAY, SATURDAY, and MONDAY, the 3rd, 4th, and 6th days of JUNE next, between the hours of TEN and SIX o'clock.
WILLIAM H. DRACKLEY.
Clerk to the Trustees of the above Hospital.
Leicester, May 24th, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72—74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS.—The GLOUCESTER BELL HOTEL COMPANY, LIMITED.—The Provisional Directors invite Architects to furnish PLANS and ESTIMATES for a new HOTEL on the site of the present Bell Hotel, Gloucester, and offer the following premiums:—To the first in merit, 20*l.* and to the second, 25*l.* The Plans must be delivered at or before TEN o'clock a.m. on the 20th proximo (instead of the 18th, as originally advertised), to THOMAS TAYNTON, Esq. Solicitor, Ashmeads House, Gloucester, who will, on application, furnish a plan of the site and conditions.

TO ARCHITECTS.—The Local Board of Health for the Hartlepool District are desirous of obtaining Plans, Elevations, Specifications, and Estimates for a COVERED MARKET, POLICE STATION, and OFFICES, to be erected upon a plot of ground in Middlegate-street, Hartlepool. A premium of 25*l.* will be paid by the Local Board for the plan and estimate selected by them, and a further sum of 5*l.* will be paid to the successful competitor, on condition that he furnishes a detailed specification for the proposed works, such plan, estimate, and specification to become the property of the Local Board. The whole expense of the erections not to exceed 3,500*l.* The Board do not bind themselves to employ the architect whose plan may obtain the premium. A plan of the ground and printed particulars can be obtained on application to the Borough Surveyor. All drawings to be on a scale of not less than 8 feet to the inch, and to be sent under motto, with sealed names (carriage free), addressed to the Borough Surveyor, King-street, Hartlepool, and endorsed "Market Plan," on or before the 18th day of JUNE next.—By order,
F. G. MORRIS, Borough Surveyor.
May 13, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to WELL SINKERS and OTHERS.—TENDERS are required for LOWERING DOWN a 6-inch bore PIPE to a depth of 230 feet, if necessary, beyond the bottom of the present 6-inch bore Pipe, in the Well, at the Laundry, at Netley, Hants.
The specification may be seen, and forms of Tender obtained, on application at this Office.
The Secretary of State does not bind himself to accept the lowest or any Tender. (Signed) P. RAVENHILL, Major,
Commanding Royal Engineer, Netley.
Royal Engineers' Office, Netley, 23rd May, 1864

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Penarth, near Cardiff, in the county of Glamorgan, may inspect the Drawings and Specifications at her Majesty's Custom-house at Cardiff or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 19th of MAY, to SATURDAY, the 4th JUNE now next ensuing, and both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon, of MONDAY, the 6th JUNE, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Penarth."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 16th day of May, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACTS.—Such Persons as are desirous of UNDERTAKING the several Works and Repairs to the FORTIFICATIONS, MILITARY STORE BUILDINGS, BARRACK, and other BUILDINGS required by the WAR DEPARTMENT, at the places undermentioned, upon a CONTRACT, to commence on the 29th JUNE, 1864, and terminate on the 31st MARCH, 1865, may be furnished on payment of seven Shillings and Sixpence, with the Printed Schedules of Prices, Conditions of Contract, and every necessary information respecting the same, on personal application at this Office between the hours of ELEVEN and THREE, each day (Sundays excepted), from the 1st to the 9th JUNE, 1864, after which no further issues will be made.
Stations for which separate Tenders will be received:—
Portsmouth, including Portsea, Southsea, and Landport, and within five per cent. thereof, Lumps, Eastney, and Cumberland Forts.
Hilsea, including Tipner.
Fareham and Holland Works thereon, excepting Fort Wallington.
One Contractor only will be accepted for the whole of the Trades for each of the above named Stations, but the rates of per centage at which the parties tender may be different for each trade, at their option, but such rates must be shown in the proper place in each of the Schedules.
The Tenders will require to be delivered, before TWELVE o'clock at Noon on the 11th day of JUNE, 1864, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed "Tenders for Artificers' Work, Portsmouth District," in the left-hand corner of the envelope.
N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
C. FANSHAWE, Colonel, Commg. Royal Engineer,
Royal Engineer Office, Portsmouth District.
Portsmouth, 18th May, 1864

TO BUILDERS.—Builders desirous of CONTRACTING for the ERECTION of PREMISES at Evercreech, near Shepton Mallet, can apply by letter only, for particulars, on which the bills of quantities will be issued, to Mr. HARRY H. NEWTON, Architect and Surveyor, 6, Argyle street, Regent street, London, W.

TO BUILDERS and CONTRACTORS.—The Building Committee of the St. Thomas Lunatic Hospital are desirous of receiving TENDERS for the ERECTION of a new LUNATIC HOSPITAL on a piece of land near the Topsham Barracks, in the parish of Heavitree, Devon, according to plans and specifications which may be seen at my Office. Sealed Tenders are to be delivered to me on or before MONDAY, JUNE 13th, 1864, endorsed "Tender for Lunatic Hospital." The Contractor will be required to provide two sureties for the due and satisfactory performance of the contract. The Committee do not bind themselves to accept the lowest or any Tender, and no payment will be made for estimates.
W. F. CROSS, Architect, Queen-street, Exeter.
May 2nd, 1864.

CONTRACTS.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 30th day of MAY, 1864, at SIX o'clock in the Evening, at the Office, No. 15, Great Alie-street, Whitechapel, to receive TENDERS from persons willing to Contract for the period of One Year for the EXECUTION of the several PAVING WORKS connected with the DISTRICT, described in the specification or schedule of contract prepared by the Board, a copy of which, with the form of Tender, may be obtained at the Office of the Board upon payment of Ten Shillings, which sum will be returned to persons tendering. All Tenders must be delivered at the Office previously to the hour of meeting; and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. Persons tendering, or their representatives, are required to attend the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.
ALFRED TURNER, Clerk to the Board.
15, Great Alie street, Whitechapel, 17th May, 1864.

TO STONE MERCHANTS.—The Council of the Borough of Margate are willing to receive TENDERS for about 5,000 feet superficial of 9-inch MOULD YORK PAVING, to be delivered in the Harbour of Margate, free of all charges, on or before the 30th day of JULY next. Tenders, addressed to the Town Clerk, to be sent in before ELEVEN o'clock on TUESDAY, the 31st instant. The Council do not bind themselves to accept the lowest or any Tender.
WM. BROOKE, Town Clerk.
Margate, 12th May, 1864.

WIGAN LOCAL BOARD of HEALTH.—To SCAVENGERS, NIGHT-SOIL CONTRACTORS, and OTHERS.—The Local Board of Health for the District and Borough of Wigan hereby give notice that they are willing to receive TENDERS from parties desirous of undertaking the following CONTRACT, viz.:—The cleansing of the ashpits and cesspools, and the removal and carting away of the contents of the same, as also the removal and carting away of the sweepings from the markets, streets, lanes, courts, highways, and places within the said district. The contract to be for a term of three or five years, at the option of the Local Board. A specification of the work required to be performed may be seen, and form of Tender had, on application to the Surveyor of the Local Board, at his Office, No. 67, Wallgate, Wigan; and sealed Tenders, endorsed "Tenders for Scavenging," must be delivered at the said Office, addressed to Mr. J. L. HUNTER, the Engineer of the Board, by TWELVE o'clock at noon on WEDNESDAY, the 8th day of JUNE next.
CALEB HILTON, Town Clerk and Clerk to the Local Board.
Wigan, May 18, 1864.

WEAVER NAVIGATION.—To CONTRACTORS.—The Trustees of the River Weaver are prepared to receive TENDERS for the CONSTRUCTION of a SLUICE, at Weston Point, near Runcorn. Plans and specifications may be seen at this Office after the 18th instant. Sealed Tenders to be delivered at the Office of the Trustees, Northwich, on or before the 4th day of JUNE next. The lowest or any Tender not necessarily accepted.
Engineer's Office, Northwich, May 10, 1864

TO CONTRACTORS, ENGINEERS, and OTHERS.—Notice is hereby given, that the Southampton Harbour Board is prepared to receive TENDERS for certain works to be performed in EXTENDING the WOODEN JETTY at the TOWN QUAY, and for the CONSTRUCTION of an additional TRAMWAY thereon.—Also for PROVIDING and FIXING FLOATING IRON PONTOONS, LANDING STAGE, &c. at the ROYAL PIER, and for REPAIRS.—Plans, Specifications, and Form of Tender, and all further information, may be obtained on application to Mr. GEDDES, Surveyor to the Board, at his Office at the Town Quay, on and after the 24th day of May; and separate Tenders for the several Works must be sent to my Office, 3, Lower Bugle street, on or before the 29th day of JUNE next. No pledge is given to accept the lowest or any Tender.—By order of the Board,
WILLIAM FARRAND, Clerk.
Audit House, Southampton, 17th May, 1864.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a new TOWN HALL, Congleton, may see the Plans, Specifications, and Conditions, and obtain a copy of quantities, on application to Mr. MOORHOUSE, the Town-clerk of Congleton, or to the Architect, on or after the 1st day of JUNE next. Sealed Tenders to be delivered to the Architect, on or before the 13th of JUNE next.
Conditions of Tendering:—1. The Town Council do not bind themselves to accept the lowest or any Tender. 2. The Contractor for the building will be required to furnish two sureties for the due performance of the contract. 3. The Council do not guarantee the quantities.
EDWARD W. GODWIN, Architect,
21, Portland-square, Bristol.

PERSONS desiring to TENDER for the ERECTION of a NEW CHURCH at BRITONFERRY, may see the Drawings and Specifications at my Office at Llandaff, on and after the 19th day of MAY. Sealed Tenders are to be sent to the Rev. D. LEWIS, Britonferry, Glamorganshire, by SIX o'clock p.m. on FRIDAY, the 10th of JUNE. The right of rejecting all or any of the Tenders is reserved. JNO. PRICHARD, Diocesan Architect.
Llandaff, May 11th, 1864.

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLYING and LAYING complete about 2,000 feet run of 12-inch by 8-inch DRESSED ABERDEEN FLAT KERB and of about 13,200 feet superficial of 3-inch TOOLED YORK PAVING, in the parish of Battersea. The specification can be seen at the Offices of the Board, as below, between the hours of NINE and FIVE. Tenders are to be sent in, under seal, addressed to the Board, and endorsed "Tender for Paving Batterses," on or before the 14th of JUNE next. Security will be required for the due execution of the contract. The Board do not pledge themselves to accept any Tender.
By order of the Board of Works for the Wandsworth District,
ARTHUR ALEX. CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. May 20, 1864.

[*For remainder of Contracts see next Page.*

CONTRACTS.

CROYDON LOCAL BOARD of HEALTH.—T. IRONFOUNDERS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for supplying, fixing, and delivery of the East Croydon Railway Station, of 3000 yards of 6-inch, and 2000 yards of 4-inch IRON SOCKET PIPES, and a small quantity of light castings, in accordance with the specification prepared by Mr BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board, can inspect the specification and obtain forms of tender at the Board-room, No. 7, Old Town, Croydon, on and after TUESDAY, the 17th day of MAY. Sealed Tenders, endorsed "Tender for Iron Pipes," are to be delivered at the Offices of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock from TUESDAY, the 7th day of JUNE next.

11th May, 1864 HENRY RICHARDS, Clerk to the Board.

TO BUILDERS.—TENDERS WANTED, for the ERECTION of a SEA-WALL, on the estate of Henley Smith, esq. The Priory, St Helen's, Isle of Wight. Plans and specification may be seen after MONDAY, 23th MAY, with Mr. INGRAM, National School House, Nettlestone, Isle of Wight; and Tenders to be forwarded to Messrs. J. & J. GIBDWOOD, 49, Pall Mall, London, S.W. on or before FRIDAY, JUNE 10th, 1864

TO BUILDERS. — The Committee of the HULL CHURCH INSTITUTE are desirous to receive TENDERS for the ERECTION of their New INSTITUTE, to be built in Wright-street, Hull. Drawings and specifications may be seen at my Office, Scarborough, and at Mr. Tweddell's Office, Hull, on and after THURSDAY, 2 JUNE next The Committee do not pledge themselves to accept the lowest or any Tender.

12, Parliament-street, Hull, 24th May, 1864.

TO CONTRACTORS.—The Commissioners of the Hornsey Reservoir are desirous of receiving TENDERS for NEW WORK in accordance with Sheets of the Sewage Reservoir. The Drawings and Specification can be seen, and form of Tender obtained at the Office of Mr. BIDDER, Civil Engineer, Parliament-street, on and after SATURDAY, the 28th instant. Sealed Tenders, addressed "Tenders for Sewage," to be lodged at Harbour Office Limehouse, not later than MONDAY, the 6th JUNE. The Commissioners do not bind themselves to accept the lowest or any Tender.

Limehouse Harbour Office, May 23rd, 1864.

TO BUILDERS.—Persons willing to TENDER for BUILDING a HOUSE in Bower Mount road, Maidstone, may see the plans and specification at the Office of Mr. MARTIN BULMER, Architect, Tonbridge-road, Maidstone between the hours of TEN and FIVE, except on Sunday (Sunday excepted). Tenders for the said House, addressed to Mr. BULMER, Bower Mount road, are to be delivered by TEN o'clock in the forenoon of SATURDAY, the 11th day of JUNE. All Tenders must be in the "Form of Tender" to be obtained at the Office of the Architect. Neither the lowest nor any other Tender will be accepted, unless approved of in all particulars, and security will be required for the due performance of the work.

Maidstone, 20th May, 1864.

TO BUILDERS and OTHERS.—Notice is hereby given, that Plans and Specifications for RESTORING, ALTERING, and ENLARGING the PARISH CHURCH of St. John the Baptist, at Capel, near Dorking, in the county of Surrey, will be open for inspection at the Office of Mr. ARTHUR BLOMFIELD, 54, Great Ormond-street, London, on and after the 31st day of May next ensuing, both inclusive (Sunday excepted). All persons intending to CONTRACT for the Execution of the Works must send in sealed Tenders, directed to the Rev. T. R. O'FLAHERTY, at Capel Rectory, on or before the 23rd day of JUNE next ensuing. Not the lowest nor any Tender will necessarily be accepted. The contract, if approved, to be prepared with the usual and approved clauses, and entered into by the successful party in the usual bond for the due fulfilment of his contract.

Dorking, 24th day of May, 1864.

TO BUILDERS and OTHERS.—Notice is hereby given, that Plans and Specifications for BUILDING a NEW BRIDGE at Capel, near Dorking, in the county of Surrey, will be open for inspection at the Office of Mr. ARTHUR BLOMFIELD, 54, Great Ormond-street, London, on and after the 31st day of May next ensuing, both inclusive (Sunday excepted). All persons intending to CONTRACT for the Execution of the Works must send in sealed Tenders, directed to HENWOOD KING, Esq., at Leases Hall, Dorking, on or before the 18th day of JUNE next. Not the lowest nor any Tender will necessarily be accepted. The Contract, if approved, must be prepared with the usual and approved clauses, and entered into by the successful party in the usual bond for the due fulfilment of his contract.

Dorking, 24th day of May, 1864.

TO BUILDERS and CONTRACTORS.—TENDERS are required for ERECTING a VILLA RESIDENCE, at Tarn-hill, Cullingworth. The specification and plans can be seen at the Office of Mr. BENJAMIN DELAUNE, Architect and Surveyor, 17, Bridge-street, Lambeth, S. on MONDAY next, the 30th instant, and on TUESDAY, JUNE 7, Tenders to be delivered to the Architect, on THURSDAY, JUNE 23rd, at 11 EVEN o'clock a.m.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the WHOLE or a PORTION of the WORKS required in the ERECTION and COMPLETION of a TANNERY, at Skipton-in-Craven, York, for the York Tanning and Currying Company, Limited, can inspect the drawings and specifications at the White Swan Inn, Skipton-in-Craven, on TUESDAY, MAY 31st, and WEDNESDAY, the 1st of JUNE from TWO till FOUR o'clock. The quantities are drawn out and may be copied on application to Mr. TAIT. Tenders must be delivered not later than TWELVE on FRIDAY, the 10th day of JUNE, addressed to JAMES MEEK, Esq. 71, Goodramgate, York.—The proprietors do not pledge themselves to accept of the lowest or any Tender.

York, May 24, 1864.

TO SEWER CONTRACTORS and OTHERS.—The Board of Works for the Westminster District hereby give notice that they are prepared to receive TENDERS for the EXECUTION of General Works and Repairs to the Sewers, Gullies, Drains, &c within the District under the jurisdiction of the said Board, for the term of One Year, commencing from Midsummer next. Printed Conditions of Contract, schedules of Prices, and Forms of Tender may be obtained upon application at the Offices of the Board, Great Smith-street, Westminster, when sealed Tenders are to be delivered by or before FOUR o'clock in the afternoon on WEDNESDAY, the 8th day of JUNE next at which time and place the Tenders will be opened and may be in attendance. No Tenders will be received unless made out on one of the printed forms and strictly in accordance with the conditions. The Board do not bind themselves to accept the lowest Tender.—By order,

W. F. JEBB, Clerk to the Board.

Great Smith-street, Westminster, May 24th, 1864.

THE Directors of the Tottenham and Edmonton Gaslight and Coke Company are desirous of receiving TENDERS for BUILDING a RETORT HOUSE Chimney, and Retort Bench for Retort House. Plans and specifications may be seen on application at the Works, from the 30th MAY to the 2nd JUNE To them for the above to be sent in on or before FRIDAY, the 3rd day of JUNE, endorsed "Tender for Retort House, &c." The Directors do not pledge themselves to accept the lowest Tender.—By order,

DAVID BARCLAY, Engineer.

Gas-house, Tottenham N. Dated 23rd May, 1864

BERMONDSEY VESTRY.—To BUILDERS, SEWER CONTRACTORS and Others.—The Vestry of the Parish of Bermondsey, in Surrey, will meet at the Parish Offices, Spa-road, Bermondsey, on MONDAY, the 6th day of JUNE next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the EXECUTION of GENERAL WORKS and REPAIRS to the SEWERS, GULLIES, DRAINS &c within the Parish for the term of one year from the 25th day of JUNE, inst. to the 24th day of JUNE, 1865. Printed forms of Tender may be obtained, and the draft contract and bond prepared on and after MONDAY, the 30th instant, at the Vestry Offices, Maltby-street, daily, between TEN and FOUR o'clock. The Vestry do not bind themselves to accept the lowest or any Tender. Persons tendering are required to attend the Board meeting, to explain the Tender if necessary.

By order of the Board,
JOHN H. DREW, Clerk.
Vestry Offices, Maltby-street, 23rd May, 1864.

TO BUILDERS.—The Guardians of the Poor of the parish of Lambeth are prepared to receive TENDERS for ERECTING a NEW VAGRANT WARD, at the Workhouse of that Parish, in Princes-road. The plans and specification, with the conditions to be complied with, may be seen at the Office of the Architect, Mr. ROBERT PARRIS, No. 2, Wellington-place, Lambeth, on and after WEDNESDAY, the 1st day of JUNE next, by whom the Tender are to be delivered not later than MONDAY, the 6th JUNE next.—The Guardians do not bind themselves to accept the lowest or any Tender.

TENDERS WANTED for BUILDING a WALL, at Walworth, Surrey.—Specifications may be seen at Messrs. SHACKMAN & SONS' Offices, 19, Goodman street, City.

BERMONDSEY VESTRY.—To DUST CONTRACTORS, BRICKMAKERS, FARMERS, and OTHERS. The Vestry of the parish of Bermondsey, Surrey, will meet at the Parish Offices, Workhouse, Rassell-street, on MONDAY, the 6th day of JUNE next, at SIX o'clock in the Evening precisely, to receive TENDERS from persons willing to purchase all the DUST, ASHES, RUBBISH, GARDEN, and other REFUSE which may be collected from the manufactories, houses, and premises in the said parish, from the 25th day of June, 1864, to the 24th day of June, 1865. The dust and refuse will be collected by the Vestry, and not delivered in the state in which it is collected to the purchaser, at any place of deposit to be named by him within three-quarters of a mile of the boundary of any part of the parish. The dust and refuse will be required to be paid for monthly within seven days after the delivery of each monthly account. A deposit of and to 50 loads will be required to be made by the person whose Tender may be accepted as the one the Vestry may be called upon, and such deposit to remain in the hands of the Vestry during the term of the Contract as a security for the due performance thereof, and on the due performance of the Contract to be refunded by the Vestry in part payment of the last monthly account. The certificate of the Assistant Clerk to the Vestry as to the number of loads delivered shall be binding on the Contractor. The Vestry do not bind themselves to accept the highest or any Tender. Forms of Tender may be had and delivered at the Vestry Office, in Maltby-street, on and after the 30th May inst.

GEO. H. DREW, Clerk.

23rd May, 1864.

BOROUGH of BRIGHTON.—To CONTRACTORS and OTHERS.—Notice is hereby given that the Town Council will receive TENDERS from persons or firms as may be willing to contract for the ERECTION of THREE GROYNES on the Beach in the said Borough, namely, one opposite Charlotte-street, one opposite Paston-place, and one opposite Paston-place, agreeably to Drawings and Specification, which may be inspected at the Office of the Borough Surveyor, at the Town Hall, Brighton, where all other necessary information and forms of Tender may be obtained. Sealed Tenders, addressed to the undersigned "Tender for the Erection of Groynes," must be left at my Office, at the Town Hall, before TEN o'clock on MONDAY, the 30th day of MAY, 1864. Power is reserved to reject the lowest or any Tender

DAVID BLACK, Town Clerk.

Town Hall, Brighton, May 18th, 1864.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 7th day of JUNE next, at half past TWELVE o'clock precisely, to receive TENDERS for RELAYING the GARRETT-STREET PAVEMENT of Bishopsgate-street Within, and Gracechurch-street, agreeably to specifications, which may be seen at the Office. Persons Tendering are required to give the names and address of at least two substantial householders as their Sureties, to enter into bond with the Contractor for the due performance of the contract. The Commissioners do not pledge themselves to accept the lowest Tender or any unless terms satisfactory; and no Tender will be received after TWELVE o'clock on the day of receipt.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 26th May, 1864.

RIXTON and WARBURTON BRIDGE COMPANY.—To CONTRACTORS, IRON-FOUNDERS, and OTHERS.—The Directors of the above Company are prepared to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of a BRIDGE, over the River Mersey, at Rixton and Warburton.—Drawings and specifications may be seen, and bills of quantities obtained, upon payment of £1 2s. at the Office of Mr B. P. LYON, Civil Engineer, 1, Victoria-chambers, Westminster, until the 13th day of MAY until the 13th day of JUNE. Tenders endorsed "Tender Rixton and Warburton Bridge" to be forwarded to us, at our office, on or before the 14th day of JUNE next. The lowest or any Tender not necessarily accepted

NICHOLSON & WHITE, Solicitors to the Company.

Warrington, May, 1864.

TO CONTRACTORS. — PORTHCAWL HARBOUR, GLAMORGANSHIRE.—The Directors of the Llynvi Valley and Ogmore Valley Railway Companies are prepared to receive TENDERS for the CONSTRUCTION of a DOCK and other Works, for the Improvement of the Harbour of Porthcawl. Plans and specifications may be seen at the Office of the Engineer, B. P. BRE LYON, Esq., 1, Victoria-chambers, Westminster, after MONDAY, the 9th MAY, 1864; and the Tenders are to be delivered at the same Office, addressed to the Directors of the Llynvi Valley and Ogmore Valley Railway Companies, before TWELVE o'clock on MONDAY, the 13th JUNE, 1864. The Directors will not be bound to accept the lowest or any Tender.

London, May, 1864.

PERSONS willing to TENDER for BUILDING a CONSERVATORY, &c. can inspect the drawings at the Office of the Architect, who reserves the right of accepting the lowest or any Tender. Tenders to be sent in on FRIDAY, JUNE 3, not later than FOUR p.m.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

TENDERS for a GAS-HOLDER TANK.—The Directors of the Slough Gas and Coke Company are prepared to receive TENDERS for EXCAVATING the GROUND, and BUILDING a BRICK TANK, 41 feet diameter, and 15 feet deep.—Full particulars may be obtained at the Company's Offices, Windsor-road, Slough. Tenders to be sent under seal, addressed "Tender for Gas Holder Tank," on or before the 7th day of JUNE next.—The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors,

JOHN H. HETHERINGTON, Secretary.

Slough, May 28, 1864.

TENDERS for ALTERING and RE-ERECTING a GAS HOLDER, TWO LIFTS 42 feet by 24 feet. The Directors of the Slough Gas and Coke Company are TENDERS for the ALTERATION and RE-ERECTION of a GAS-HOLDER, from a single lift, 40 feet by 22 feet, to a double lift, 42 feet by 24 feet.—Full particulars may be obtained from the Secretary, and the present positions of the holders, with plans &c. may be seen on application.—Tenders to be delivered on or before the 7th day of JUNE next. The Directors reserve the right to reject any or the whole of the Tenders.

By order,

JOHN H. HETHERINGTON, Secretary.

Slough, May 18, 1864

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity, of Rochester, are desirous of receiving TENDERS for the CONSTRUCTION of certain ROADS and other Works, on land near the new Infant Schools in Ordnance-place, in the parish of Chatham, Kent. Plans, sections, and specifications of the proposed works will be deposited at the said Schools, Maidstone, Medway road, Rochester, and will be open to inspection on and after THURSDAY, the 12th instant, and up to the day of Tender, between the hours of TEN and FOUR o'clock. Information respecting the plans and specifications can be obtained of Mr. A. ROBINS, Surveyor, St. Margaret's Banks, Rochester. Tenders are to be sent in to the Office of Messrs. LEWIS & MARSH, High-street, Rochester, on or before SATURDAY, the 11th day of JUNE next (after which day no Tender will be received), sealed up and addressed "To the Trustees of Watts's Charity, at Rochester," and marked "Tender for Roads" The Trustees will not hold themselves bound to accept the lowest or any other Tender; and the contractor will have to enter into sufficient contract (either with or without surety) as the Trustees shall require, for the due execution of the works, such contract to be prepared by the Trustees' Solicitor, at the expense of the Contractor

By order of the Trustees,

Rochester, May 9, 1864.

J. LEWIS, Clerk.

TENDERS for IRON-FRAMED ROOF.—The Directors of the Slough Gas and Coke Company, Limited, are prepared to receive TENDERS for an IRON-FRAMED ROOF 92 feet 6 inches span, and 52 feet in length. Also a Wrought iron Girder, 21 feet in length and 18 inches deep.—Full particulars, with drawing, may be seen at the Office of the Company, Windsor-road, Slough. Tenders to be sent in on or before the 7th day of JUNE next. The Directors do not bind themselves to accept the lowest or any Tender.—By order, JOHN H. HETHERINGTON, Secretary.

Slough, May 28, 1864.

TO ROADMAKERS.—TENDERS are required for FORMING and MAKING about 650 yards of ROAD, at Cattenham park, Wimbledon, Surrey. Plans, specifications, and conditions may be seen at the Offices of Messrs. DEBENHAM, TEWSON, & CHESTERTON, 80, Cheapside; and of Mr. J. A. BONE, Surveyor, 15, Finsbury-street-hill, E.C. to whom Tenders are to be sent, on or before SATURDAY, the 4th of JUNE next. The lowest, or any other Tender, not necessarily accepted.

CONSERVATIVE LAND SOCIETY.—COLCHESTER ESTATE.—TENDERS are invited for the CONSTRUCTION of ROADS, PIPE-SEWERS, GULLIES, &c on the Society's Estates in St. Botolph's Parish, Colchester Essex

The following quantities are stated, in order to indicate approximately the extent of the proposed works; and their accuracy is not guaranteed:—

New Roads, 50 feet wide, including two footpaths	1,115	feet run.
Ditto, about 23 feet wide, including one footpath	273	ditto.
15-inch Pipe-sewer with 24 single 6-inch allotment eyes, to be taken up and relaid to a new gradient for 251 feet of existing ditto, without such eyes	491	do.
12-inch Pipe-sewer with 13 single 6 inch allotment eyes	234	do.
Ditto, with eyes, to be taken up and relaid to a new gradient	110	do.
Ditto with 4 eyes, to be substituted for 6-inch ditto	64	do.
ditto	78	do.
9-inch Pipe-sewer, with 38 single 6-inch allotment eyes	1,230	do.
Ditto with eyes, to be taken up and relaid to a new gradient		
Gully Cesspools, including gratings, in brick	No. 9	
Ditto to be altered in position	No. 4	
Gully Cesspools built dry, with gratings, but no drains	No. 2.	

The earthworks will include cutting and embanking to formations level of roads, trenches for sewers and gully drains, and pits for gully cesspools; also levelling up of low portions of allotments. About 300 cubic yards of sifted gravel for upper stratum of carriageways, is on the ground; and it is believed that the materials for the whole of the road-making will be got therein (as was the case when the existing roads were made); but this is not guaranteed. The plans, sections and specification may be seen on and after WEDNESDAY, JUNE 1st, at the Office of the Society's Surveyor, Mr. JAMES WYLSON, 33, Norfolk-street, Strand. Where Plans are also at the Office of Mr. W. E. HOLLAND, 4, Heyrick-crescent, on the estate. Tenders, sealed, and endorsed "Tender for Works at Colchester," to be sent in to the Surveyor, on or before FRIDAY, JUNE 10th. The Committee do not bind themselves to accept the lowest or any Tender submitted.

33, Norfolk-street, Strand, London, W.C. May 26th, 1864

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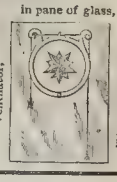


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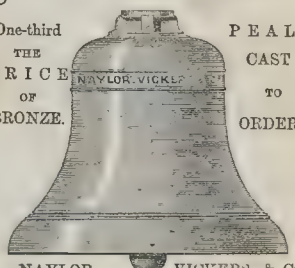
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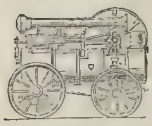
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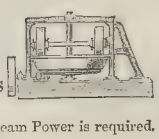
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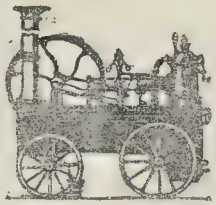
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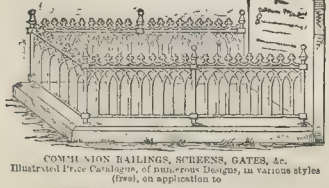
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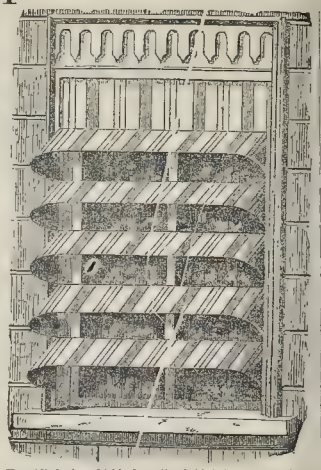
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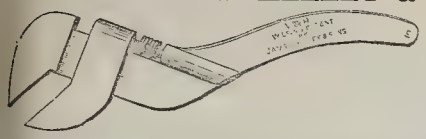
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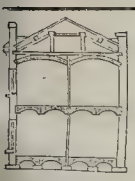
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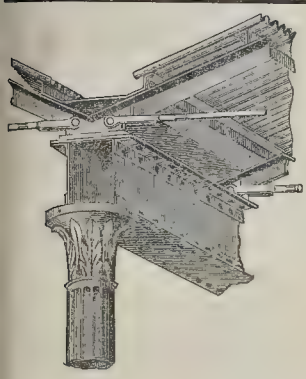
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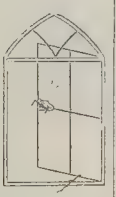
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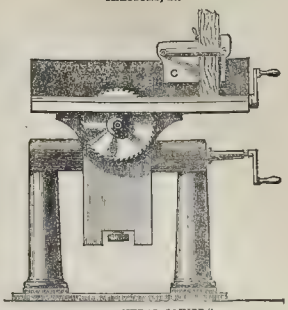
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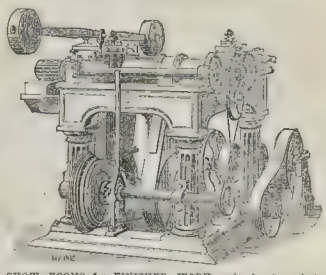
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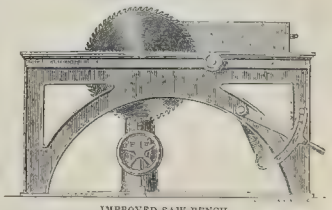
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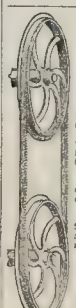
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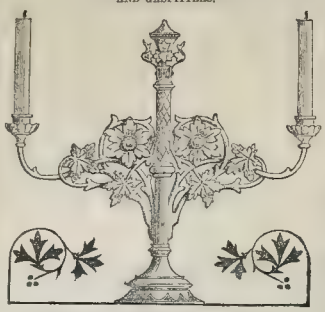
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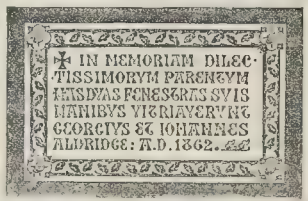
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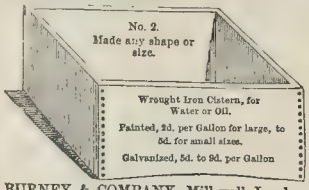


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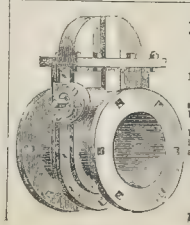


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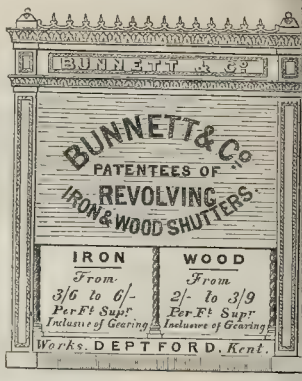
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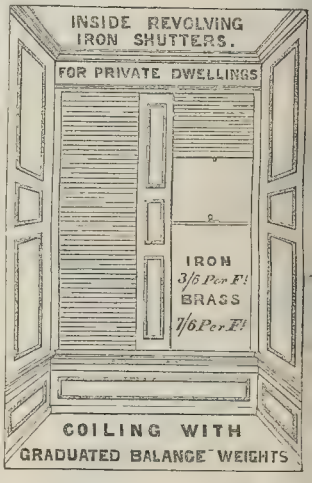


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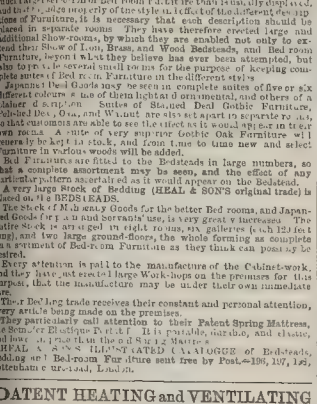
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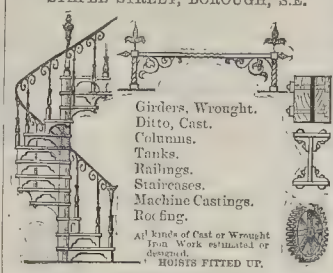
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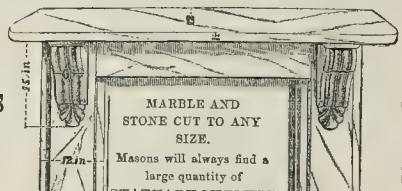
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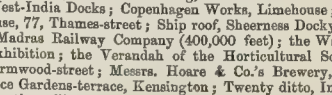
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The Builder.

VOL. XXII.—No. 1112.

The Competition Designs in the Architectural Exhibition.

We have devoted two articles* to the works now exhibited in Conduit-street, but without special notice of the competition designs. These nearly fill the West Gallery: and they extend also into the Great Gallery: though, as usual, the designs from each competition form but a small proportion of the number prepared and submitted originally in the particular case, and scarcely any design is explained by an adequate number of drawings. The omission of information in the catalogue, or in the galleries, as to the nature of the problem which competitors had to solve, remains as it has been. We cannot think there would be much difficulty in procuring the plans of ground, and the particulars issued by committees, and in suspending them with the drawings.

Left to our resources, we are able to call to mind as to the Liverpool Exchange, that the old building enclosed on three sides a large area known as "The Flags," the fourth side being nearly filled by the rear-front of the Town-hall. This area doubtless had associations which it was desired to preserve. In the centre of the quadrangle is Westmacott's great work, the Nelson Monument. Looking from the site of the Town-hall, which building is not shown in any of the drawings, the portion of ground which is to the right, between "the flags" and the next street on that side, is considerably less in breadth than the ground on the opposite side of "the flags" similarly bounded on the left. Opposite the point of observation named, or in the centre of the recessed front, a way through to the street at the back had to be maintained.

The contrast between the breadths of the end-fronts of the wings, has been met very differently in the arrangement decoratively of designs. Some of the competitors make the two ends almost entirely different; others keep the features as much as possible the same, but inserting an additional number of them in the wider front; whilst others, we think rightly, take the narrow front as the datum, and repeating it opposite, then make, on that side, the breadth which is equal to the difference between the wide front and the narrow one, a mere adjunct, very plainly treated. In the broader wing is placed the News-room, in all the designs, so far as we can see.

The drawings exhibited, with some few exceptions, are views of the News-room and of the exterior. Nearly all the latter give curious lessons as to "what to avoid" in perspective, and afford proof of that which we have occasionally had to insist upon, namely that perspective is in several respects unequal to the representation of a building as it is really seen. In every case where the lines of the end-fronts of the wings in the drawings before us, are represented tending to a vanishing point out of the picture, and the lines of the side-fronts to a point in the picture, one wing appears to be obtuse-angled instead of right-angled. In one drawing, where the end of one wing seems to have been treated in parallel perspective, and that of the other with the similar lines vanishing, the defect is even more glaring. We have seen some curious *tours de force*; and he who well understands perspective, may produce a valuable illustrative representation, whilst going against seemingly fundamental laws. We recollect ourselves giving a view of the quadrangle of the Old British Museum, in which all four sides were shown, as they could not be seen with the eye fixed. But generally, several drawings are required to represent according to rules of perspective, the appearance of such a building as the Liverpool Exchange. The only kind of drawing that will suffice singly, is one in parallel perspective; and that one will not convey the real effect from a near point of view, unless it be observed with the eye fixed to a point corresponding with that of the actual station, as indeed properly speaking the eye ought to be in the case of every view. But it is time we spoke of the designs severally.

Mr. T. H. Wyatt's design, "Au bon Droit," to which the first premium was awarded, is represented by a view of the exterior (20) and one of the interior of the News-room (21). Taking the last first, it differs from the view in the Architectural Room of the Royal Academy Exhibition lately noticed by us.* In place of plain shafts of coloured marble, the pilasters are enriched with ornament in the lower portion of the shaft, and fluted in the upper portion; the height of the arches between the pilasters being still divided by a gallery. Greater novelty of effect thus results; though there is a popular feeling which would be in favour of the plain shafts in the case of buildings for commercial uses. The flat, or merely panelled, portion of the ceiling is plain as compared with the decoration of the walls and arcades; thus, the circular lights are somewhat like mere holes cut through the ceiling. In the exterior, the treatment of the wings is not that for which we have expressed preference. But in each, there is an effective combination of dormers with a balustrade. In the wider front, centrally, one of the dormers is expanded in width and finished with a curved pediment. The centre of the recessed front is arranged as a pavilion. The general character is French Italian. Superimposed orders in the principal stories, and good rustication with arch-headed windows in the ground-story, are the chief decorative features.

The design, "Nobis Bene Nemine Male," by Mr. W. Parnell, which received the second premium, is represented by a view of the exterior (35), and one of the News-room (40). The latter drawing shows an interior, with a dome carried by four arches and pendentives, and having the lower part of the vault pierced by lunettes for light. One of the arches in the front of the picture is open, apparently connecting the square part of the plan with some other portion of the News-room: the three others are filled to the springing, with an order; and above this is a semicircular window. The whole is inferior to some other designs making use of a domical vault. Comparison of all these designs is instructive. In the exterior of Mr. Parnell's design, though the wings are not symmetrical, there is clever treatment of large window-surface with narrow piers. The openings are generally square or segmental-headed, or excepting in the attic. The ground story has pilasters to the piers; the two stories next, have one large order and two superimposed orders. In the recessed front, a centre is carried up a fifth story, and is flanked by small pavilions, or turrets, which are finished by domical or ogival roofing. Stone domical cappings, and semicircular pediments charged with sculpture, crown various portions of the wing-fronts.

Messrs. Cunningham & Audsley's design ("Labor et Honor"), to which the third premium was awarded, does not impress us altogether favourably from the drawings (37 & 38). In the News-room, the chief feature is a large square ceiling-space having a domical skylight; and the ends of the beams enclosing the space are carried by Corinthian columns. Beyond this portion of the room are columns, about two-thirds the height of the others, but of precisely the same pattern, repeating a fault now too common. The repetition is mere evidence of poverty in invention: Palladio, who devised a combination of large and small orders, would never have fallen into the error here made; and, by the Romans, even pilasters at the back of columns were made different to the columns; that is to say, the shafts were fluted or plain, just reversely to what the shafts of the columns might happen to be. The decorative features of the exterior in this design, are superimposed clustered columns, windows principally arch-headed, pavilions and curved roofs, the general character being as may be supposed, Italian.

The design by Mr. Thomas Allom, "Labor Omnia vincit," is exhibited in several views and sketches, and one or more other drawings, a plan, however, not included. The view of the News-room shows an effective arrangement of columns, piers, and arches, dividing the length into three bays, and each bay, or the width of the room, into a square top-lighted central space and two narrow sideways. Each central inter-column is spanned by an arch; and the columns of the transverse line, or division of the bays, are coupled in the thickness, so as to get a group of four columns on each side the arch, in addition to a pier at the angle of the square. In the centre of the group, sculpture is placed. In the exterior of the building, the right-hand wing, and a portion of the left-hand wing corresponding in breadth, are repetitions of one another. The general features of the exterior include a basement wherein the piers are treated as shell-headed niches ranging with the windows as an arcade, an order to the second and third stories,—the centre of each front to the quadrangle being arranged as a loggia with the columns coupled at the angles,—a small order to the windows of the second story, and windows in the frieze of the main order.

The question of merit of the result of design of this character, as compared with that from design having greater novelty shown in drawings, is not to be decided by perspective views, or by any drawings such as are prepared for competitions. In these, much of detail and execution which would go to realization of effect, is not shown, and cannot be: the work which seems "out of the beaten track" has more importance credited to it than it may deserve, or in the absence of a known name of an architect as its designer; the design which seems to make the larger use of models, is judged forgettingly of the workmanship not shown, in details that have been arrived at by minute steps of progress after numerous and necessary experiments. We offer these remarks rather for the consideration of those disposed to maintain the competition-system, than as having application to any one design in the Conduit-street Exhibition.

Mr. H. Littler's design, "Absque Labore Nihil" (4 to 6, & No. 39), for the Liverpool building, has an unsymmetrical arrangement of the wings; and the several features of rusticated basement, superimposed orders, French roofs with dormers, and lofty plain tower at one corner of the quadrangle, are not well combined, in the drawings. The News-room is the best

* See pp. 255, 272, *ante*.

* See page 327, *ante*.

part of the design. Its plan is that of "nave and aisles," with the vaulting carried by coupled columns, and arches groining-in, the lighting being through a circle in the centre of each bay.

Mr. R. P. Pullan's design (11 to 13), as the work of one whose name is favourably known, is singularly defective. In considering the News-room designed, the first question would be, could the supports shown, which are mere columns and thin radiating walls, be sufficient for the support of a dome? But the arrangement of the attic and pediments, and that of elliptic arches over semicircular arches; the filling-in of the windows; and all the main proportions and the details, want the requisites of design. In the exterior, there are pilasters enclosing the height of three stories; whilst the only part of the work that could be tolerated, the group of turrets in the centre of the recessed front, is spoiled by the manner of introduction of an arch, which there is to the middle inter-column, below a pediment.

In the design by Mr. J. Johnston (14 to 16), for the News-room, a square space with four recesses and arches, is domed over from pendentives: these carry a gallery; whilst the dome itself has windows at the springing, and is pierced with hexagonal lights. In the exterior of the building, the wings are not symmetrical. Generally, the fronts, which are many-windowed, are of French-Italian character, having pavilion roofs; whilst the details include windows with quadrant corners to the heads, and chamfered lintels, and others with small shafts.

In the design with the motto "Sine Favore Nil" by Mr. W. J. Green (17 to 19) the arrangement of the News-room is also that of the square plan with recesses, arches, pendentives, and dome; but the dome, which is formed with glazed coffers, is carried by an attic or low tambour having pilasters and panels for paintings; and this latter feature is carried by four segmental arches of very slight rise. Thus, the pendentives give peculiar character to the interior; and much contrivance structurally would seem to be required. Below the segmental arch are an order, and a semicircular arch to the central intercolumn: some of the columns are coupled, and the spandrel spaces between the order and the segmental arch are enriched with sculpture. The features of the exterior are excellent, by reason of the solidity of effect, combined with apparently ample provision for lighting, and by the grouping and the variety. Broad, picturesquely-vaned, and turret-crowned angles; a ground story, with arches, columns, and piers, well combined; windows of the second story under arches which themselves enclose semicircular lights; an attic story with triplet windows and dwarf-pilasters; dormers; French roofs; and a central tower, are amongst the features to which we have referred as successfully managed. We mentioned this design in our notice of the Royal Academy Exhibition.

The design by Mr. L. De Ville (22 & 23), "Bursa," has the News-room with the main portion of the ceiling flat, but coffers being inserted, glazed. This space, central, is carried by curved brackets, leaving three bays on each side, whilst an inclined portion of the ceiling at the sides seems to be perforated for ventilation. In each bay are four clerestory lights. This arrangement of clerestory and ceiling is carried by arches, segmental, three on each side. There is much merit in this interior. Externally, the design (which is symmetrical) has not exactly the character which we associate with an Exchange; and it might be called prison-like. The exact cause might be difficult of discovery. There is no prominent order: there are only small columns or pilasters, from which spring the arches of windows, many of which are segmental; whilst the chief decoration of the ground-story is rustication of horizontal lines. Of the four stories, the two upper are of the many-windowed character. The centre of each wing has a low pediment with sculpture, and a high pavilion roof; and in the centre of the recessed front is a tower.

In the design by Messrs. Finch Hill, & Paraire (24, 29, & 30), the drawing of the News-room shows a good interior with Ionic columns, arches, and lunettes, beams and coffers; but the exterior is not pleasing. In the broader wing, a loggia formed with a very small order, is filled in to a recess in the second story; whilst the opposite wing is very different.

The design by Mr. E. Salomons (25 to 28) marked M, has certainly novelty: and it is not all accompanied by the best taste. In the News-room however, as is shown in the drawing, there is merit; which indeed there is elsewhere in the design. The plan of the News-room is that of nave and aisles. The centre division is lighted by a clerestory, and by a lantern-light divided in the length by the principal-ribs. These spring from caryatides, or figures, which are placed between the arches, and rest upon a square entablature which there is to each pier or column. The aisles are ceiled over in quadrant form. So far, description of the design is easy; but it would be more difficult to describe in words the details. In some of these, there are useful hints side-by-side with defects, as for example in the bases of the piers. As to the exterior, where the wings are not symmetrical, it is impossible to describe the details. French-Italian, Gothic and Lombardic, seem to have all contributed something. One prominent feature of the broader wing, as of the News-room, is a large window, semicircular-headed, and filled-in as though with the half of a rose-window in the head, and with three lights under a transom below.

In the design by Messrs. W. & J. Hay (32 & 33) "Dandolo," as to the News-room, a deeply-moulded, heavy, *plafond*, or central ceiling-space, is carried by curved principal-ribs, and these by standards of iron, the whole arrangement forming part of a clerestory and roof combined, and entirely glazed, excepting the *plafond*. The clerestory is carried on arches and columns, separating a low narrow aisle or ambulatory. The exterior, more pleasing than the News-room, is Italian in character, and many-windowed. Superimposed columns to the piers of the two lower stories, carrying a balustrade: above these, a story of arcaded openings; pavilions, and angle-turrets, are the features.

As to the treatment of fronts in which large amount of window-opening is required, there is much to be learned from these Liverpool Exchange designs.

All that is exhibited of Mr. H. B. Garling's design, "Fortiter et Fideliter," is the view (36) of the News-room; so that we should be wrong in coming to any conclusion as to the whole design, from what relates only to a portion of the intended building. However, the view represents not only the finest conception of a domed hall in the Exhibition, but the finest that we are acquainted with. The general arrangement is merely that of the square, with four recesses and semicircular arches and pendentives, carrying a dome with central light; but the manner in which the recesses are filled-in with small arcades and circles, the arch-soffits and the vault are coffered, the main divisions are proportioned, and the ornament is applied and relieved, combines to produce an effect that is worthy of unusual admiration; and of which we regret not to contemplate the immediate realization.

A design by Mr. C. Brodrick, "Fides," for the same building, but not mentioned in the catalogue, will be found in the rooms. The News-room has a ceiling with deep circular coffers, and with a cove into which the arches of the window-heads are groined. The wall-decoration is made up of two tiers of arches, springing from piers, and some of them forming the windows, which are filled in with decorative shafts, and transoms of metal-work. The tiers of arches are separated by a balcony. Externally the design is treaded in two stories; each pier between windows being formed as a cluster of three columns. The angle-blocks and centre are carried up each an additional story, and crowned by roofs of the Louvre character.

The competition for the Albert Memorial is represented by the designs of Mr. M. D. Wyatt and Mr. P. C. Hardwick. Some of the drawings illustrating the latter design, were mentioned by us as in the Exhibition of the Royal Academy. The drawings in the Conduit-street Exhibition (51 to 53), under Mr. Hardwick's name, show several alternatives for the treatment of the statue and pedestal, and that of the terraces. Amongst them appears an equestrian statue. There is much good design in the decorative features of the terraces and the accessories; but the big niches in one of the drawings are less satisfactory to us than those in another, where the niche is the background to a group of sculpture. The fountain, the subject of a separate drawing, with supports of small columns, and figures including personifications of Architecture, Sculpture, and Painting, is beautifully designed. Mr. Wyatt's designs (13 to 19) include one for the Memorial "in a Classic style," a "Mediæval Fountain of National Science and Classical Fountain of National Art," a view of the "A... Institute, Piazza, and surrounding building... a Classic style," &c.; a view of a similar de... but in the Mediæval style; a view showing... Classic design with the *jardinières* and founta... a design for a colossal group to be execute... bronze relieved by gilding; and a view of... Memorial "in a Mediæval style." The "Clas... Memorial is a domed structure with four portic... and in the disposition of the ground, it is flan... by two quandrangular spaces, each of wh... has in the centre a fountain, and at each a... a small structure with tetrastyle portic... Beyond these are columns, somewhat resemb... rostral columns in appearance. The founta... would be decorated with emblematic and ot... sculpture, in correspondence with their nar... In the Classic design for the Albert Instit... the chief feature is a building resembling... Pantheon, but having architectural decoratio... the rotunda. This building is joined to ot... by piazzas, right and left, each broken in one p... by a two-storied structure of columns, carryi... lantern, or dome on columns. In the alterna... design, which is Italian Gothic, the cen... building is replaced by one somewhat a... the model of the baptistery of Pisa. Anot... design, Classic, seems to have the dome s... rounded by columns built upon the walls, ... carrying a sloping roof, the *extrados* of ... vault being seen through the intercolumns. T... design for a colossal group is remarkable chie... for its pedestal, which has rather the form... pedestals of some of the Italian sepulch... monuments, than that of any of the comm... place pedestals to which we are too much acc... tomed. A sedent figure is grouped with t... pedestal on each of its two longer sides. T... Memorial itself, as designed "in a Media... style," is a structure formed of a base of twe... columns (on the plan of an octagon and... square) bearing arches, and gables, and of... superstructure, square below, octagonal abo... surmounted by a cross. The general for... modified by Gothic arches and weatherings, is ... altogether pleasing. The details include mu... elaborate decoration in coloured marbles a... mosaic, and by sculpture with blue backgroun...

With the competition drawings we find a vie... (50) of "Proposed New Club-House in S... James's-street, for the St. James's Club," ... Mr. W. J. Green. It is a four-storied and d... merced structure of Italian character, one of t... peculiar features being the fourth story treat... as a lofty attic, with pilasters, and with thr... arch-headed windows in each inter-pilaster. T... ground-story has segmental-headed windows a... rustication of horizontal lines: the second sto... has arch-headed windows, each having the arch... volt and architrave combined with cluster... pilasters, and has a regular entablature as strin... course, breaking round as cornice to the wi... dows, which are terminated by segmental pe... ments; and the third story has a Corinthia... order, and broad antæ at the angles, carrying... deep entablature, and has arch-headed window... The faces of the piers, in the intercolumns ... this third story are formed as recesses: in oth... words, the columns and antæ correspond wi... the general wall-face instead of being in advan... of it. The front is terminated by the dormer... over the attic-story, and by a blocking-cour... and finials; and the building is covered by ... roof of high pitch.

There are drawings from two or three im... portant competitions not named above, also i... the Exhibition; and in one case, the designs a... not to be duly examined without reference t... questions which are of abiding importance i... architectural art, and of some interest of th... moment.*

SANITARY SHORT-COMINGS IN HOLBOR... AND ISLINGTON.

Just now, as is the case in some other of th... metropolitan parishes, the Holborn district i... suffering from an excessive rate of sickness an... death. At a meeting of the local Board of Work... the medical officer, Dr. Gibbon, reported tha... there had been sixty-three deaths in the distric... during the fortnight preceding, against a... average in the corresponding fortnight for te... years of fifty and a-half. There had been ... hundred and seventy fresh cases of sickness,...

* To be continued.

† It is curious to note the variation of the death rate f... various portions of the metropolis. Now that it is so hig... in some situations, Dr. Letheby remarks on the declin... in this respect in City districts.

against an average of 146. Dr. Gibbon said that the increase was due to an epidemic of measles, the dryness of the weather causing liability to such epidemics. In the course of his remarks, Dr. Gibbon reminded the Board, that some six months ago attention was drawn to the fact, that the poor living down the courts and alleys of Holborn were often entirely without water on Sundays, in consequence of the tanks and water-butts being too small for the supply of so many people as live in those warrens. (We said this a dozen years ago.) The New River Company agreed to give a Saturday evening supply for six months, in order to allow time for larger butts or tanks to be made; and this period being now expired, the supply was withdrawn. Dr. Gibbon said that during the six months many landlords had been prevailed upon to enlarge their tanks. And this was necessary; for the houses which were made for one family were now occupied by from four to ten families, and the water intended for one family could not be made sufficient for so many.

Several of the landlords have expressed their willingness to lessen the number of the lodgers rather than supply larger tanks; but, the doctor added, this decrease would only last perhaps a week, and the misery would then be as great as ever. The chairman and some of the members of the Board expressed their obligations to the New River Company for what had been done, and it was resolved that the company should be solicited to continue the great boon of a Saturday evening supply. If, however, the company should do so, we are sure that if proper receptacles be not provided there will still be a cry for water in the Holborn alleys,—not only on Sundays, but during the week. Again and again we have urged the necessity for active measures in connexion with the water supply of tenemented houses. Our readers know that unless water be constantly at hand for general use in those crowded neighbourhoods, the poor people will fail to obtain what is needful for the purposes of cleanliness and health. The proper supply of water to houses which are let to so many families, is the duty of the landlords, who can be compelled by the parish boards of health to enforce the provision of water in sufficient quantity for the population to whom they let their premises. After all, then, it is the parish authorities who are in a chief measure to blame for not using, with energy, the powers which they at present have.

The excessive overcrowding that prevails might also be lessened by the same means: it is surprising how much this important matter seems to be overlooked. In connexion with this, Dr. Gibbon remarks, that immediate proceedings should be taken against the keeper of a lodging-house in Verulam-street, for over-crowding. The case was, that in a room 10 feet square, there were three beds, and ten persons slept in them. The Chairman expressed his utter disgust that *such things could be*. It was resolved that proceedings should be taken, and indignation was expressed by some of the members of the Board, that the magistrates in cases of conviction did not exact greater penalties than they usually do; and so one class of officials endeavours to cast blame upon others, without each in his way endeavouring to discover the extent of the evil which needs removal, and endeavouring to the utmost of his ability to effect improvement. In the Holborn district alone there will be found a multitude of apartments which are as small and over-populated as that referred to, and the same may be said of other quarters; for instance, a coroner's inquest* has been held on the body of a woman named Mary Fox, aged 43, the wife of a turf-cutter, who lately resided at 3, Mildmay-avenue, near Mildmay-park, Islington. She was admitted into the St. Luke's Lying-in Hospital, to be confined, and died of typhus in eleven days. Dr. Harris, physician to the hospital, said that the deceased had the fever when she entered the hospital, and he was of opinion that over-crowding and impure air had generated the disease. We know well the condition of the place, and had foretold to the landlord what would be the result.

After a long deliberation the jury agreed to the following verdict, "That the deceased died from typhus fever, and the jurors find that very great blame is due to Mr. Smith, the landlord of the house in which she lived, for over-crowding, and the want of ventilation, drainage, and other sanitary arrangements, by which, in the opinion of the said jurors, the death of the deceased was caused."

Some attention is called for in the neighbourhood of Caledonia-crescent, situate near the south end of the Caledonian-road, not far from the Underground Railway station at King's Cross. The houses are substantially built, and are of no great age. They have also a neat external appearance. The pavement of this thoroughfare has the same level as the Caledonian-road, but between the Crescent and North-street, which has the same level, there is an open space, in which there are several large trees, that, before the building operations were commenced here, must have been conspicuous objects. At the time when this ground was first surrounded on all sides by houses the parts behind each were, no doubt, laid out as gardens; but when we find that this back space is about 8 feet or 9 feet below the roadways, and that most of the dwellings which surround it are tall, it is no wonder that the labours of the floriculturist soon ceased to be of use. Now the plots are in some instances turned into poultry-yards; in others tanks have been dug and lined with cement or pottery, in which ducks are kept,—without advantage, by the way, to the night's rest of the neighbours. There are also rabbit-hutches on an extensive scale, dormers for pigeons, and so on. Here in the sharp winter weather stray birds come from the fields and woods; and in the spring time the noise of hundreds of London sparrows is almost deafening. In Caledonia-crescent there is a dense population, and it unfortunately happens that, particularly on the north side, the drainage is imperfect. In certain instances the drains are only sufficient to carry off the surface water from the cesspools, although we believe that the drain in the street is sufficient for every useful purpose. There are untrapped sinks at the backs and fronts of the houses, and in some cases the closet drains pass through or before several houses. In one we could name, there is a meeting of these drains, and in it there has been a large amount of sickness if not death; while generally throughout this place the attendance of medical men is far too much in request, and it would be found that the death-rate is much higher than it ought to be. Nor is the water supply sufficient for the number of people who occupy these premises: this, however, is not the fault of the New River Company, but the consequence of the want of a sufficient supply of cisterns and water-butts, which ought to be provided by the landlords. This street, as we have already said, requires inspection, and each house-drain should be made to communicate with the sewer. The sinks and closets should be properly trapped; indeed, an attempt has been made to carry this out. But it appears that one part of the street is in Clerkenwell, and the other in Islington, and it is not easy to say where one begins and the other ends. This instance of a metropolitan debateable land has even very recently stopped improvement; and besides other troubles in connexion with parish medical attendance, the removal of the dust causes much trouble. As regards the general health of the inhabitants of this part, it is very desirable that the medical officers of the two parishes should hold a meeting, ascertain the exact position of their respective charges, and then each with vigour enforce the sanitary laws in their respective districts. There are some back slums near here, too, which should not be neglected.

* The practice of holding inquests on the bodies of those who have died from fevers, and in consequence of sanitary neglect, is extending, and has already been the means of doing much good; it has led to the public attention being directed to dangerous spots which might otherwise have escaped notice.

LECTURES ON THE SOUTH KENSINGTON MUSEUM. More than once we have expressed desire that lectures should be given in the South Kensington Museum illustrative of its contents. We are of course glad, therefore, to see a series advertised having that object in view. The first, to be given on the 30th of May, is on "Terra-cotta and Luca Della Robbia Ware," by the Rev. Dr. Rock, and will be succeeded by others "On the Specimens of Ancient, Mediæval, and Modern Decorative Sculpture in the Museum," "Objects of Oriental Decoration, and their Application to Modern Uses," "Specimens of Bookbinding," "Architectural Specimens of Coloured and other External Decorations," "The Exhibition of Modern Stained Glass, and its Suggestions," and "The Decorations of Raffaelle's Loggie in the Vatican." The cost of admission is little more than nominal.

GLASS-PAINTING IN CONNEXION WITH ARCHITECTURE.*

SELF-RESPECT, as well as respect for your Society, would forbid my occupying the place of your lecturer for a single hour, if I had not something to say which I hoped might advance a cause in which we are all interested. But how can this be? You do not come to unprofessional lecturers to learn anything of art processes. Of this they have acquired no greater knowledge than is just sufficient to ensure their sympathy with you in the labours of your several callings. But there is a certain kind of knowledge, even of the most mysterious handicrafts, which is equally open to the initiated and to the uninitiated. The power of producing, and the power of appreciating, objects of art, are very separable in theory, and are, in fact, often widely separated. The view from without, the view from within, must necessarily be different, even when both are essentially true; and, perhaps, the view from without may, in some cases, be the most important. To know oneself is proverbially a hard, as well as an important matter; and reasons parallel with those which keep one in ignorance of one's own character and just pretensions may keep producers blind to some defects in their productions which are abundantly apparent to consumers, or even to disinterested observers. And so the most cunning masters of an art may collect valuable hints from the most uninformed.

And perhaps the art of painting glass may be rather more indebted to unprofessional persons than most others. His is not the only name that occurs to me, but it is, even alone, equal to a multitude. The greatest adepts of the art will not hesitate to confess how much it has been indebted, both for what advance it has made in fact, and in public estimation, to the unwearied exertions of Mr. Winston. It is partly through the efforts of unprofessional allies that we are able to look back with some complacency on the time when Sir Joshua Reynolds and Benjamin West submitted to see their designs done on glass by Egginton or Pearson, and when such productions were so carefully tended that the guns on the round tower at Windsor were not allowed to peal their welcome to the union of the crowns of Great Britain and Ireland, lest the new glass in the east window of St. George's Chapel, to which the old tracery had already been sacrificed, should be shaken to pieces—an indulgence which the old window would have spurned, as we may learn from the present state of the glass throughout York Minster, after two fires; one of which swept away every vestige of combustible material from the choir; and the other destroyed the whole of the nave roof, with no damage to the glass but that which is experienced at the hands of the firemen, thrusting their engine pipes through the windows.

And thus I approach the special subject of my lecture, "Glass Painting in connexion with Architecture." And here I must make an explanation which will, I fear, tax your indulgence very largely. My lecture has no reference whatever to the exhibition of painted glass just opened. Indeed, a week ago I did not know of its existence. Had I known of it in time to influence my decision, I should not have been here now; for I should have felt that the existence of such an exhibition would involve the necessity of some critical or descriptive review of its contents, and I should have shrunk from the responsibility of such a notice. This task ought certainly to be undertaken by some one who is *au courant* of the present statistics of the art, and whose acknowledged reputation would give force and value to his criticisms and suggestions. As I cannot aspire to any such knowledge or reputation, I have thought it better to postpone my visit to the exhibition till I have said my say. I must trust to the simple truth of my principles to bear me out substantially, I hope, on the whole, though some separate propositions may be shaken by what are already facts to most of you, but which, at least till to-morrow, must be hidden from me behind the veil of futurity.

So much, by way of apology, about myself. And now, accepting the title of your society as fairly descriptive of its objects and associates, I shall speak as to practical men assembled for practical purposes. And if any of you should be directly and specially interested in any particu-

* By the Rev. G. A. Poole, M.A. Read at the Architectural Museum, as elsewhere mentioned.

lar subject, either as it concerns the making of glass for painted windows, or the painting it, or the employment of it as an architectural decoration, I hope you will not spend an hour with me unprofitably.

Of course you will not come to me for any exposition of the technicalities of glass-making or glass-painting; but you may not object to treat it as a matter for friendly discussion,—how far we have hitherto satisfied, or are on the way to satisfy, the reasonable demands of an educated eye. In doing this you will not sacrifice the higher position which you occupy from your exclusive knowledge of the processes of your handicraft, and from the habit of applying in practice rules of art criticism which to me are in comparison vague and disembodied fancies.

There is, besides, a question,—a most practical, and to you a vital question, which can only be fairly discussed with an "outsider,"—in what estimation is the painted glass of the present day to be held by the public? They, too, may be as ignorant as I am; but, no matter! their judgment is not the less important to you. Take me then, if you please, for this one night as your *foolometer*. Such an instrument would be cheaply purchased at the wages of another skilled workman in every establishment in the kingdom, from the privy council downwards.

And what will you read in the index of that unhonoured but not therefore unimportant instrument? Just this, that, in spite of the enormous demand for painted glass for many years past, there is now a growing dissatisfaction at the quality of painted windows.

I can tell you that a notion is gaining ground that all that has yet been done in this way, and all that is a-doing, will be regretted before long; and that, as we are now destroying without remorse the costly galleries, sounding-boards, high pews, and other churchwarden's work of the last century (all, remember, most admirable in intention), we shall shortly set to work to destroy the painted windows of the present day. You will say that this is not very complimentary, yet there is a sense in which it is not unfriendly. Tindal thanked the bishops for buying up and burning the copies of his first translation of the Bible; but then he knew that he could supply their place with a better article. Is this your case? With what confidence do you look to your power to produce better windows when the present are condemned? If there had been no Wedgwood, we must still have used the atrocious pots and pans of the last generation, because, good or bad, pots and pans we must have; but painted windows are no way essential to our happiness or well-being,—the demand must be kept up by a degree of merit sufficient to arrest even the caprice of each succeeding generation.

Now, although I shall altogether avoid archæological questions, yet, in order to estimate the hold of glass painting on the popular mind, I must show, what indeed will scarcely be denied, that the great favour which painted glass has found of late years has been due to adventitious circumstances. Its use was brought in in a full tide of Mediævalism, together with Gothic architecture and other sister arts; and it has followed Gothic architecture, I fear it must be confessed, with lame and lagging steps.

It was painfully evident from the first, that the effects of our new flaring saints—in large dabs of red and green, and blue and yellow—were not to be compared with that of an old window, even of the most meagre pretensions; and, unhappily the first step that was made to obtain better results was a bad step, for it was a step not of true but of bastard Mediævalism. An attempt was made to imitate the effects of age—the dirty footprints of old Time, and the ugly strokes of his scythe, without the slightest reference to the stuff on which he had operated. Surface smearings of enamel, or even, if I mistake not, of dirty varnish, rubbed on after the glass was executed, were made to imitate the stains upon old glass; and even the "pin-holes" of incipient decay were imitated with brown dots and blots. I suppose that, except in cases of conscious imposition, as with manufacturers of new-old furniture, and coins and paintings, and jaw-bones (where the process is carried to the legitimate or illegitimate extent) no such attempt was ever made, before or since, to mock the effects of age and decay, as if it was nothing but a process of disintegration that gave beauty to antique art.

But let us lay the burden on the right back. It is not the painters so much as the glass itself that is in fault; and if these antiquations have failed to cover the defects of the glass, they have failed because it was impossible that they should succeed. The mistake of the painter was to expend his time and ingenuity on what he ought to have known would never repay him. I venture to say, that if the glazier who put up the gorgeous windows of King's College Chapel had had our modern glass to work with, his labour, together with all the subsequent effects of time and decay, would have utterly failed to produce any tolerable effect. The exuberance of this old window is due to the glass, to the very substance of the glass itself, as it came under the painter's hands, or rather as it came out of the kiln in which he himself had set it: for no doubt in old times the glass was made not merely in the same workshop, but by the very same person who afterwards painted it; and I doubt whether we shall make much progress in the right direction, until this is, at least sometimes, the case again. At all events, we shall look most hopefully for help to those establishments where both processes are carried on under the same general management, though not of course by the same hands; and where the maker can take counsel with the painter of the glass, and (which is more important still) where the prosperity of the whole concern depends on the success of both departments.

I venture to hope that I have given a plain answer to this question at least,—Is the inferiority of new to ancient glass, in the glass itself, or in the pointing of it; in the pot metal, or in the after handling? It is clearly in the pot metal principally, and to such an extent that all the skill in the world would be hopelessly expended in painting on modern glass of ordinary character.

But, if the fault be in the glass itself, is it in its colour, whether purity, or brilliancy, or intensity, or is it in the tone of the glass? I shall make very little way with the rest of my argument if I do not carry you with me in my answer to this question,—that the fatal defect is in the tone, and not in the colour. I am quite aware that the general voice is against me; but so much the more must I insist on the truth of this assertion. The general voice is, "The old glass is so much richer, so much deeper in colour." I deny this entirely. I say that our modern colours are generally far more brilliant, and are often and easily attained of a much more intense hue than was common with old glass. And, paradoxical though it may seem, I say so much the worse. The aim at producing effect by brilliant and deep colours has been absolutely injurious,—fatal. It has filled our windows with patches of rose colour, of painful brightness and intensity. It is not at all uncommon to see a single piece of blue in a modern window, sufficiently fierce in colour to kill the whole painting, if it were ever so good; and where, in old glass, we should probably find a light bluish gray. So, again, with darkness of colour, we have reds, purples, and blues almost black with the abundance of colouring matter. Such depth and darkness may, I admit, be sometimes found in old glass, but not, as a rule, to the same extent as in modern. The depth of old glass is far more depth of tone than depth of colour, and that depth of tone is as much due, in the blues and rubies, to the texture of the glass, as distinguished from its colouring matter, as it is in the whites and grays.

As for positive colour, it would be a great step to reverse the process, which for a while at least was aimed at, and to pitch all the colours and their gradations in a very much lower key, relying on the texture of the glass to give that atmospheric effect which alone is worthy to be called depth and richness.

The superiority of the old glass is, then, in tone, not in colour. But tone, though readily distinguished from colour, may be the result of some cunning blending of colours; as it is, for instance, in a water-colour drawing on smooth white paper; but it may also be due in the drawing to the texture and first tint of the paper, and in glass to the texture of the material itself. And this is, in fact, the case with the tone of old glass. It is due to the texture of the glass, quite distinct from its colour. And what is it in the texture which has this magical effect? This question will be best answered by stating what are the causes of this peculiarity of texture, and these are, to speak broadly, original, imperfect vitrification, and subsequent devitrification, decay in process of time. From these causes result that imperfect transparency, and also that opalesque iridescence, which we now see in old glass, and which we long to see restored.

How imperfect vitrification makes glass less transparent is too obvious to be explained; but how it renders it opalesque and iridescent is another question. Where there is imperfect [illegible] unequal fusion, the light is transmitted through several planes of unequally refracting power, [illegible] is of course at every change of substance which it encounters partially decomposed. It passes in fact, through a succession of prisms; and the result is analogous to that of the greater thickness of atmosphere, and its greater inequality, through which the rays of the sun have to make their way in the morning and evening, to which we owe the beauty of our dawn and sunset. Again, it is too obvious to need explanation how the effects of time diminish the transparency of glass, and why in certain cases they render it altogether opaque. But how glass becomes opalesque and iridescent in the course of ages is another question. The reason is that the surface becomes laminated in the process of decay. Professor Henslow, in describing certain glass vessels discovered in ancient Roman tumuli,* says:—"The manner in which the glass disintegrates is by peeling off in small filmy scales thinner than the finest gold leaf, or even than a soap-bubble; and a puff of the breath scatters them through the air in innumerable spangles glittering with the colours of the rainbow." This process was of course hastened, in the case described by the Professor, by the influences to which the glass was subjected; but it is going on slowly wherever disintegration has commenced on the surface of the glass.

Now, you will observe that neither the imperfect vitrification nor this peculiar disintegration can be said to have been produced by old glass painters consciously and intentionally. Again, the first, I doubt not that the old glaziers struggled, for it was an obvious imperfection in their glass, simply as glass; and as for the iridescence of decay, they scarcely saw it yet in a remarkable degree, for it is a very slow process, and, besides, to produce it was beyond their power.

We have, therefore, no indication of any scientific or artistic process by which the excellence of the old glass was, in fact, attained. But are we directed to the means by which it may now be attained, and ought to be sought? Ought we to resort to imperfect vitrification? ought we, if possible, to hasten the process of decay to gain our own ends? I think not, for these reasons. Imperfect vitrification must diminish the durability of theglass; and, besides, although it gives one very valuable result, it is destructive of the chief characteristic of glass, its translucency. In therefore, we use this means with our glass, we ought to do it with eyes open to the consequences and on a fair balance of losses and gains. In however, no other course were open to us, but either to retain our present miserable materials or to revert to imperfectly vitrified glass, I think there can be no doubt which we ought to choose.

As for the devitrification due to age, even supposing that it could be produced by artificial means, it would be wrong to employ it. It must be wrong on every account to anticipate decay and to hasten its progress. All the highest instincts of our nature rebel against the process of decay and dissolution in ourselves and in our productions and belongings, in all that we are and all that we have and all that we value. But surely we shall none of us admit that the fact that old glass owes part of its beauty to age, and part of it to an actual defect which we will not imitate—we shall none of us admit that fact to be a sufficient apology for not seeking some way of producing the same beauties, or greater, in our modern windows. To attempt to make old glass would be absurd; but to apply all the resources of art, and to call in the assistance of men versed in all science, to the production of a material as good as the old, and better, is a very different thing.

Let us have, if possible (and what is not possible?), let us have glass that shall combine all the good qualities which the old has acquired by age with those which age must always diminish and gradually destroy. It does not much matter whether we call this imitation or not. I should rather call it emulation; but, any way, we set a pattern before us, and are not content till, by some means or other, we have done as well. How is the same principle carried out in painting? No student copies the actual stains and cracks, and injuries of any kind on the face of an ancient canvas; but he does copy as it is—in its more beautiful state—a painting rendered more exquisite by age: he aims at, and in

* Professor Henslow's account of Roman Antiquities found at Ringham, near Bury St. Edmund's.

degree attains, the incommunicable results of antiquity: he feels after them at heart, and in proportion to the measure of his own genius, he grasps them: he works up to the exalted pattern till one may say his own palette has the elements of a tone upon it which represents the beauties of age without its deformity, its ripeness without its wrinkles, and which is thenceforth infused into every work he executes. This is the benefit which an individual artist, or a school of art, acquires from the study of the old masters.

When, therefore, the glass-painter tells me that his window is not, in respect of tone, as good as the old, simply because it is new, I feel entitled to ask, has any effort been made to tone the glass as well as age can tone it, though by a different process? Antiquation, I suppose, we have all learned to despise; but has a mellow tone running through all the colours, the whites and the greys especially, ever been attempted in the making of the glass? And if not, why not? As for any toning on the surface it is not within the reach of art; nor is it attempted, except by means which either defeat the end or stand as a confession of an intolerable defeat. Of attempts to tone with brown enamel I shall speak by and by, and to use a surface varnish which is only asked to do the work of age till it is itself destroyed is, it seems to me, an unworthy device, and a confession of impotence. The required effect must be due to the inherent qualities of the glass itself; and if glass-painting were less of a trade and more of an art—I mean a fine art,—or if, being a trade, it were felt it could hold its own only by mastering this difficulty, pot-metal would not long continue in its present raw state.

I venture to think that there are analogous cases in other arts and sciences to encourage and even to direct our energies. The very words, "crystallization of iron," are full of suggestions, especially if taken in connexion with malleable glass, which may seem to be their correlative and opposite. What difference is there between crude iron, cast iron, soft steel, and soft iron, except in the intimate condition of their several particles? and yet all these are produced out of the same lump by the one process of Bessemer, in its several stages. The elder Brunel gave to tinfoil a beautiful prismatic colouring by means of heat applied to it when closely pressed between metal plates, producing just what we want in glass, a crystallization throughout the substance, resulting in iridescent hues. I find that the lead in flint glass may be revived through the substance of the glass in globules by a certain application of heat; which is at least suggestive of internal changes of texture. In short, the more one studies the history of the application of science to the material of art, and of art processes, the more one becomes persuaded that every dream will some day be realized, except the one dream which has led to the realization of so many dreams—the alchemist's dream of the transmutation of metals.

I am tempted to suggest one or two processes, though I am aware how imperfect my practical knowledge must be. But, taking this fact only as a basis—that different kinds of glass are fusible at different degrees of heat—why might not a glass very difficult of fusion be pounded, and submitted to the kiln, together with the materials of a glass very easily fused? It seems to me that this must produce a granulated texture, and as all the component parts would be perfectly vitrified, the translucency would be very considerable. If this were possible, an additional effect might be given by the pounded glass being a shade lighter or darker than the other, which would give the atmospheric effect of stippling with transparent colour.

Another process by which I should certainly, if I had the means, attempt to give a granulated texture to glass, would be to place it in sheets, still only partially cooled, between plates of metal, and then to pass an electric shock from one metallic plate to the other, through the glass. Of course, I am aware that glass is a non-conductor of electricity; but, just for that very reason, a shock sufficiently severe to find its way from plate to plate through the glass, might, I should suspect, so far disintegrate its texture as to produce the effect of an internal crystallisation.

Or supposing, which, however, I am very loth to believe, that we shall be driven back to some method of producing an effect by a change on the surface only, then I would ask the glass-maker to study attentively the appearance of a leaf of the common ice-plant, and to devise some method of producing just such a surface. If both surfaces of the glass were of this texture I cannot help thinking that a great part of the desired effect would be attained, and yet more effectually if, by a process of coating, the two sides were of glass of different degrees of refractive power.

And let me ask, by the way, has not the refractive power of the glass a good deal to do with its effect? Is it not so in other cases as well as in this? Is it not so, for instance, with the glass used in framing a water-colour drawing? Is it not the refractive power which heightens the effects of the shadows, and makes them in the artistic sense of the word more transparent. May not a picture-glass, may not a painted window, be looked upon in some sort as an optical instrument? and the whole power of most optical instruments is due to refraction.

I throw out my questions, not carelessly, I assure you, however unpractical they may seem. I shall be content if they are but suggestive. Nay, I shall be content if they do but serve to show what I want, though they may fail to lead in any way to the satisfaction of this want. But to revert to the change of the surface only of the glass, to which I just now alluded. This, though it has already, in matted glass, done more, I think, than any other attempt at joining windows, cannot be accepted as final, or on the whole desirable, and that, for this reason among others, that it must certainly very much interfere with the use of the pencil. But, any way, do what else we will, do not let us look for tone in the application of enamel to the surface, or even by the introduction of colours into the glass. Colour it is that we want; but it is prismatic, not fixed colour; colour that we have divers means of producing in other cases, and why not here?—the colour which paints the soap bubble, the colour which tinges the surface of steel marked with infinitely small lines, cut at infinitesimal distances; the colour which it has been a triumph of art to avoid in achromatic glasses. Colouring matter there is none here, and yet there is no such colour, or rather colouring matter; there is, namely, the very light itself dissolved, and held in solution, and therefore there is no such colour. Just so the dew-drops which sparkle many-coloured on the grass, are still the same pure, white, limpid globules, though all the tints of the rainbow are dancing within and around them.

Let us only catch the rays of light, and bend them to our purpose, and all colours will be toned by their own influence, each in its way and degree—the grey or white glass first and most, and all the rest in company and harmony with it. So the light of heaven will be our chief ally, instead of being now our greatest difficulty. Every fresh sunbeam as it comes will dissolve itself in our glass, and diffuse itself through its substance, and thus, carrying through it a new influence, like another and a fairer picture overlying the work of the craftsman, will leave it another, yet the same, neither dimmed nor decayed, but glorified.

One of the most important results of the step which I have indicated—that is, the making of tone *in the substance and texture of the glass*, not *in colouring matter*, nor in *external applications*,—will be the raising of white or grisaille glass to its proper place in the scale of colours. At present it is far less used than it was when the glass-painter was most perfect in his art; viz., in the close of the fifteenth and in the sixteenth century; and where it is used it is disfigured by attempts to destroy its intolerable glare and poverty. And what a picture of toning! You may tone red, yellow, and blue; russet, olive, and green;—that particular reddish yellow-brown of the glass-painters' enamel, never. And again, at how great an expense is this done? Even at the expense of that translucency which is the very soul of glass. But give us such glass as I have described, and we require no toning process, we lose no glimmer of light. Our white glass especially is itself lustrous as a solution of sunbeams; indeed, it *is* literally and absolutely a solution of sunbeams, and yet mild and equable in its radiance as the gray of a winter morning.

Again, a better white glass will bring in a larger use of delicate manipulations. Except on white glass, tender pencilling would be thrown away; but I need not tell you how delicate, how almost microscopic, in their finish are some of the heads in our old windows; and you will call to mind numberless figures of great beauty where the whole effect, even of the drapery, is due to the finish of the pencil, aided only with a little yellow stain, perhaps in the hair and on the diapers of the robes.

Again, let me ask you to realize the effect of a white glass such as I have described, in toning and harmonizing other colours. One of the great miseries of our modern windows is the indecent self-assertion of the colours. Every bit of green, red, blue, and yellow stands out as boldly as if it thought that the whole effect of the window was due to itself alone. Nothing is melted into anything else. The light thrown upon the pavement (which you must remember is just the same as that thrown on our eye) is cut up into as well-defined patches as the glazier's form paper on which he arranged the window. Repose there is none, harmony there is none. A larger portion of white such as I ask for would give both, especially since we must have a similar change in the texture of all the glass.

At present I have spoken of the painted window without reference to anything with which it is necessarily associated. But now let us see whether we do not really need some change in our glass for the sake of our buildings. We have adopted pretty generally the geometrical style of Gothic architecture, in which the windows are neither very large nor very numerous. We want, therefore, the most lustrous glass we can have; and if with rather less colour than usual so much the better. Indeed, it is simply a matter of fact, that there is often a want of light in modern churches even though there is no painted glass at all. It is true that the "dim religious light" is affected by some persons, and they perhaps, as a rule, of the most cultivated tastes: but a healthy robust eye desires a great deal of diffused light, though it turns away with the instinct of self-preservation from a direct transmitted light; and in the matter of churches and other public buildings we ought certainly to consult the profit, and to some extent even the taste, of the many rather than of the few.

Again, the architect will be thankful for such a change in our glass, for the influence that it will have on the effect of his interiors. How is it possible really to appreciate the forms by which we are surrounded, if our eyes are tortured by the glare and gaudy unsubdued colour of our transparent and unmitigated coloured windows? We want a diffused mellowed glow, not streams of stained sunlight. We want

"The soft radiance and collateral light,"

to act like a healing collyrium on the eye tired with the glare of day, and yet not prepared at once for a low degree of illumination.

And when we call in the sculptor, and the artist also, to our consultation, we find the case only strengthened more and more. The cold severe forms and tone of sculpture require, if anything can, a healthy eye to appreciate them aright; and certainly no eye can be in a healthy state which has looked consciously or unconsciously for a few seconds on a modern painted window. Only try it. I suppose all eyes are not in such matters equally sensitive, but some of you at least, if you will shut your eyes after looking for half a minute at such a window, will see it repeated again in its subjective or complementary colours, indicating the violent effect which it has produced on your optic nerve. You will not experience the same on looking at an old window, or at least not till after a much longer and more intense gaze. You would not find it in such glass as I have proposed. Which, then, will best prepare the eye to appreciate the beauties of a marble statue?

And, if possible, still more with the painter. His time, indeed, is hardly yet come, but come it soon will, to decorate our churches, as he has already decorated some of our greater public buildings, with mural painting: but when he does this, how shall he possibly contend against two effects of our raw unmitigated windows;—the most direct effect being the actual projection of flaring colours upon his picture; the other and more indirect, but not less cruel, the utter inability to compete with the brilliancy of actual light and the obstrusiveness of unmodified colour with which he is brought into forcible rivalry? Either he must give up the contest in utter despair, or he must sacrifice what he knows to be real art, that he may outstare and outflare the vitreous saints that are set over against him. If it were the *merits* of the windows that thus placed his art at a disadvantage it would be all right enough: the most beautiful *ought* to receive the greatest attention, and the truest homage; but unfortunately it is the *faults* and

defects of the window that outrage the beauties of the painting.

But I find myself rapidly approaching a branch of my subject which I shall not venture to enter upon without asking your attention to one or two propositions which will seem paradoxical, but which, nevertheless, will commend themselves to you as equally true and important when they have been well considered. I shall not be unreasonably trespassing on your good-nature, if I state these, nearly in the form that I have before done in a paper read not very long ago to a provincial architectural society.

Windows are not intended to be looked at, or even to be looked through, but to admit light. All windows are for this primarily, though secondarily some windows are to be looked through; but *no* windows, not even painted windows, are meant to be looked at: at all events, church-windows, and all windows into which colour is admissible, are *only* and *solely to admit light*. The great question is, therefore, how do they fulfil this end? And if by colour or any other means the natural light is intended to be modified, then the additional question occurs,—How is the light which they admit modified? Again, the light which a window transmits is not for its own sake, but for the sake of those objects which are to be seen by its light. I might almost say, if you would form a fair estimate of the value of a window (that is, how it fulfils its only, or, at all events, its chief purpose), turn your back upon it. A *picture* is meant *to be looked at*; a window is meant *to throw light upon whatever we look at*. Glass transmits light, in whatever condition, for the sake of other things; and, unless it imparts a pleasing hue to them, its colour is so far useless and mischievous; still more so if it arrogates to itself the attention which belongs to those things for the sake of which it is there; worst of all, if it kills the eye, so that it can never turn away from the window to the picture or carving it would admire, or to the space within which it has to attend to other matters with unruffled nerve. You will hardly admit all this till you have thought it well over, and for that reason I enlarge upon it and set it in different points of view; but when you have admitted it, you will see how important are the conclusions to which it will conduct you. Is not this true? Everything that is pleasant to the eye is viewed by reflected not by transmitted light. No man in his senses ever looked at a window if he could help it. He sits with his back to the window and looks at the picture or statue which reflects its light. He even shuts out all the light which is not reflected from the very object that he is studying; and he is best satisfied when even that object reflects no more light than is just sufficient for the actual definition of its form and colour. Even reflected light, so soon as it becomes actually resplendent, dazzling, destroys instead of revealing colour and form. For this reason it is usual to take some means to dull the surface of such figures in silver or other bright metal, as aspire to be judged and admired as works of art. And, indeed, a highly luminous surface actually refuses to be looked at at all. You may as well try to look at the sun as at its reflection from the surface of a still lake: how, then, should we—nay, sometimes, how *can* we look at a window, even if a picture be painted on it, unless the glass be made so dull that the window is a window no longer except in name?

Now it cannot be denied that if the logical deductions from these premises be pressed to their full extent, they will amount to this, that windows should never be fixtures; for as certainly as windows are *not* intended to be looked at, so certainly pictures *are* intended for nothing but to be looked at. And I suspect that if the question had now to be decided for the first time, by a committee of practical common-sense men—say artists,—it would receive the same answer, both in the case of windows and in the parallel case of porcelain, though by no means for the same reasons. But the answer by which we must abide in both cases has, in fact, been furnished by circumstances, and by the usage of several centuries; and we are therefore forced to accept paintings and pictures in our windows and on our Sèvres vases, and can only use our best efforts to make them as good as possible in spite of difficulties, and even of contradictions.

But we must understand the difficulties and contradictions before we profess to grapple with them: so far as windows are concerned, they resolve themselves pretty nearly into this,—that the transparency and even the translucency, without which a window is no window at all, is fatal to the effect of a picture. And you must not be deceived by the use of the *word* transparency, to express one of the greatest beauties of a picture; for it is not only different from the transparency of glass, but actually inconsistent with it. No picture can be transparent in the sense in which every window is transparent: no window can be transparent in the sense in which a good picture is transparent. In a picture the *shadows* are transparent, the lights opaque: in a window the shadows are opaque and the *lights* transparent. You seem to see *into* the shadows of a good picture: you do actually see *through* the lights of a window painted on modern glass; and, even in old windows, the light is more freely *transmitted* through the lights; whereas, to produce a pictorial effect it ought to be more broadly *reflected from* them.

Now, all this being the case, is it not ridiculous to attempt a picture on our modern transparent glass? Fancy a picture through the light of which trees can be seen waving, birds flying, and rosy-faced schoolboys peeping. But, in truth, you need not fancy it, you may see it any day you please. Thus, *viewed as a picture*, the lights are the difficulty,—the absurdity. But, again, *viewed as a window*, you will find the shadow equally impossible to reduce to artistic beauty and to common sense: they are absolutely obstructive of light; and if a considerable degree of pictorial effect be aimed at; if tone and harmony as well as shadow be sought in the use of opaque enamel, a very large portion of the light which ought to be transmitted is absolutely intercepted. Not only are the shadows without the transparency which they would have in a picture, but they are without the translucency without which they cannot honestly perform their allotted part in a window. And now look at an old window. Let the composition and drawing be as bad as it may, you have still, in tone and harmony of colour, a far better picture,—though, I repeat it, a really good picture in a window is impossible. Though less transparent in the primary physical sense, old glass is much more transparent, in the secondary artistic sense of the word. It is with old glass something as it is with a picture: you see not *through* it, but *into* it; into its depths, into its very substance. Light lives and plays in the glass, as in the onyx and the chrysophrage; and, as in them, it is so subdued that it may be looked at without pain. Now I want to teach our glass to intercept the light in like manner, to play with it, and to transmit it so modified as to be seen with pleasure. And instead of despairing of this object being attained as perfectly as in old glass, I hope to see it attained *more perfectly*, and with *fewer attendant drawbacks*; for I hope to see the translucency far more perfectly retained, while the transparency is quite as perfectly destroyed; and so I hope to see windows more lustrous than the old, and yet much more transparent.

The difference of effect may, however, be partly collected from what must of necessity be the great advantages in point of treatment and manipulation. The white glass, elevated by its tone into the dignity of a colour, would be used much more largely. All the colours, equally toned with the white, would bear to be placed in any connexion with one another, without that quantity of stippling which is now necessary to reduce them to harmony: they would, therefore, retain almost all their translucency. With the very large scale of colours in which we excel the resources of any one old glazier, far more of the light and shade would be produced without opaque shadows than has ever been attempted before. No, without distressing the eyes, we should escape the reproach of having—

> "Windows that obstruct the light;"

and we might even attain to some of the qualities of a good picture.

I have said that I do not mean to press the objections against *pictures of glass* to their full extent; but it is surely wise to give them their due place, and to inquire whether some less ambitious designs are not worthy, in comparison, of more favour than they do in fact receive; or, to express at once the conclusion at which I would arrive, I think we do not give its due place to the *pattern window*. There is no fear of any mischief being done by pressing the claims of pattern windows, however strenuously, for they have a heavy load of indifference to overcome. Let me, then, at once say that a grisaille, with a flowing diaper of leaves and flowers, as is in summer, in the Geometrical style, relieved only with medallions or other devices in colour, seems to me best of all to fulfil the purpose of a window in transmitting a pleasant light, and to bring out, without overtasking it, the true characteristics of glass painting. The window, or rather the group of windows, which I look upon as best fulfilling all the purposes of glass, are the five sisters in York Minster. They are earlier in character and design than the geometrical foliage, but the balance of colour and of grisaille seem to me perfect; always on the assumption that windows do not exist for their own sakes, but for the sake of the building which they light, and the objects which are to be illuminated through them. If *gorgeous colouring* be desirable, then the west window—if a *series of pictures* be most to be commended, then the great east window in the same minster—is far before its more modest companions; but for equable, mellow, unoppressive, wholesome light, the five sisters are unsurpassed. Nor can there be any reason why we should be bound to an implicit imitation of any particular style, or why we should be limited to the appliances of any past age. If stippled be better than smeared, or than hatched shading, let us have it by all means, though our general design be borrowed from the thirteenth century. We will not ask whether the glaziers of that date used the yellow stain, but whether, *if they had known it*, they would have used it, before we feel driven to apologise to them for grafting such an improvement on their work. Our only question need be what was the only question to all the true-hearted artificers of old, what is the *best* process within our reach?—for this we will most assuredly employ. And, following this rule, I would venture to combine the Early English method of introducing colour, in large interlaced patterns, with the geometrical running foliage before mentioned. In estimating the effect of this, you must never forget that I suppose one grisaille to be of that lustrous mellowed character, like pearl or aqua merino, which I have all along insisted upon; and the colours also to be no longer raw and self-asserting, but to be modified equally with the grey by a change in the very substance of the glass: with this I think you would have as *fair a modification* of light, together with as *great a quantity* of it, as you can well desire: and again I say these are the conditions which a window ought to fulfil.

Let me suppose, not a great minster,—that is hardly a practical question as matters now stand,—but a really good church of a fair size, and of such costliness of design as may truly represent wealth and devotion combined. Let it have its high roof with open timbers (a matter immensely important to the windows on account of the depth of shadow which it ensures): let it have its carved pulpit and other furniture, its alabaster font, its altar clothed with fair needlework: let its walls be painted,—how shall I say?—as any Scheffer might have painted them. And now let me ask whether the glare of pictures in the windows, as they are now treated, would harmonize with any part of them? Whether it would not actually kill the most refined of all—the mural paintings? I doubt, indeed (though it is difficult to say how far complaisance may go), whether an artist of already recognized power, with real self-respect, and a proper value for his art, would accept a commission to paint the walls of a church which should be lighted with modern picture windows. How would it be possible for him to *paint up* to the surrounding glare, or to adapt the colours to the light which would be thrown upon it? With what patience would he see a dab of green cast upon the fair forehead of the child whom our Saviour blesses; or a crimson brand upon the steadfast face of the mother of Augustine? Fancy Turner, who studied the effect of the surrounding colours on his own canvas so much as to paint almost the whole of a picture on the varnishing day,—fancy him leaving a picture opposite a window to be painted by-and-by!

True, indeed, these distracting accidents would scarcely be of serious consequence to the painter, if the glass were of that feature which I have endeavoured to describe; but then the glass-painter, if he attempted a picture, would be almost equally at fault. No longer able to destroy, neither would he be able to emulate the works of the artist; for glass is still glass, and can never, as the ground for a picture, equal the wall on which it throws its light. Surely it is the true wisdom of both parties to consult the peculiar aptitudes of their respective processes, and to work in harmony and mutual subjection. That the glass-painter's art should be the principal, and the painter the ancillary, I suppose to

be inconceivable: so, if both cannot paint pictures to their mutual advantage, there can be no doubt which must needs give place.

Given a church, therefore, decorated to the utmost, what should we desire but windows, to the aisles and clerestory at least, of the most perfect patterns in grisaille and colour that could be invented and executed? Such as would neither provoke comparison with pictures nor destroy them; but would most indisputably hold their own proper place, and challenge their own appropriate praise. For the great east window, and for the tower window, I would say let the glass-painter do the best he can to vindicate as high a place as possible for his art. They each of them terminate a vista; and, seen as they are from a distance (which you will observe the side windows never are), the very power of transmitted light and of colour heightened by the direct traces of the sun, which are fatal to true artistic refinement, will ensure them a distinctness and vigour suited to their position.

But even here direct competition with mural painting should be avoided. How is it possible in the design to overcome the disadvantage of a plane divided by mullions and transomes, and of transparent lights and opaque shadows *in the execution?* Here, then, let us work not timidly but advisedly; with figures designed after the method (I mean so far as their adaptation to their purpose and place is concerned) of the advanced Decorated style; of the west window of York, for instance, which I mention again to avoid, if to the purpose, the use of many illustrations. I do not mean,—do not draw better, and paint better, and do everything better *if you can*; but *at least as well*. Adapt the style and subject to the space it has to fill and the purpose it has to serve. And now, if you will, paint in gems; now let the very ground be strewed with rubies, and sapphires, and topazes; now let every leaf be an emerald, and every flower a blazing star; and let the first figure of all be clothed with the sun, and these on either hand be bright with all the brightness of heaven. If the glass be really what it ought to be, you will want no smearing with varnish, no smudging with enamel to tone down and harmonize the whole and every part: colour will not kill colour; no, not though you set them between green and purple, or yellow between green and orange; which, by the way, is the very place which they occupy in the peacock's neck, and in the rainbow. Remember what I said before, and I say again: it is no figure, but an absolute literal fact,—every piece of glass that you use will be a collection of sunbeams. You will say, "He is dreaming!" Be it so. I only wish some one else would dream. I wish the painters of glass and the makers of glass, but especially the latter, would dream too. But, alas! there is little chance of this; or, at least, they will not dream *such* dreams at present. It is an old story that dreams that are worth dreaming come to those to whom the realities of life are less cheering; and so, dreams of *glories to be realized with effort* come not to a glass-painter of enormous orders, and acres of glass supplied and to be supplied; but they must come of spare purses, and perhaps an empty stomach. And yet there is a dream, too, that might come of repletion, but it would not be so pleasant; for it would tell of rivalry, and of another success which may eclipse his own. He might dream that he saw some patient, laborious, half-inspired, half-starved Bernard Palissy, aiming earnestly and toilfully to realize in fact what he had already realized in fancy,—a glass better than any of to-day, or of any age that is past, and destined to work a revolution in the whole system of our windows. He might dream that he saw such a one surrounded by his retorts, his sooty face reddened with the glare of the furnace, the refuse of his unsuccessful experiments thrown behind him, and in his hand, just ready to be cast into the crucible, something, but he will not say what it is,—that is *his* secret, and he who would know it must find it out as he has found it out; but in the dream he is successful this time, and joy and triumph beam in his eyes, and there is no more crime upon his forehead, and he who first laboured in contempt and penury is on his way to kings' palaces.

THE STAINED GLASS EXHIBITION, SOUTH KENSINGTON. The various windows sent by London manufacturers and artists have been set up in the corridors of the courts. We have already devoted so much of our present number to the subject of stained glass, that we cannot do more than mention the fact.

THE ROYAL ACADEMY EXHIBITION.*

As soon as Mr. R. S. Stanhope has learnt the distinction between manner and style, there will be a very fair chance of his becoming better known than he can hope to be by assuming the earlier mistaken notions of others, whose greatest excuse lived and died with their novelty. There may be some amount of considerate respect due to those who originate an extravagant hypothesis so long as they can be proved to have been actuated by praiseworthy motive; but none to the plagiarist who perpetuates or attempts to perpetuate admitted error. All that is good in (33) "Rispah, the Daughter of Aiah," and in his better work (476), "Penelope," is marred by affectation and incongruity; and the more the pity, with much to sacrifice.

Mr. Whistler's "Chinese Lady — Die Lange Lizen" (593), is one of the most remarkable specimens of colour in the collection; but why did he spoil his exquisite view of the Thames in (585) "Wapping," painted with such incomparable force and luminousness, by the introduction of meaningless and ugly figures? Both these productions, with all their eccentricity, exhibit very rare appreciation of colour, and though careless to a fault in drawing and execution, are wonderfully suggestive of reality.

Mrs. E. M. Ward, as usual, is foremost of the lady contributors, and has managed to infuse originality where little expectation of it could exist, and with such time-worn materials as "The Children in the Tower" to evoke it. "The Tower, ay, the Tower" (565) is a triumphant response to the natural inquiry, if the artist really imagined it a likely source of fresh inspiration. The precision and taste with which Mrs. Ward describes the old incident carries a conviction of the worth of eloquence in imparting fresh interest to what everybody knows:—

> "She hath prosperous art
> When she will play with reason and discourse,
> And well she can persuade."

To Miss E. Osborn's somewhat too pretty rendering of pathos (555), "For the last Time," we have already alluded, and need only add that it shows a very marked improvement. In manipulative skill, Miss R. Solomon's pleasing illustration of (502) "Harry Esmond's Welcome at Walcote" is distinguished by nice arrangement and appropriate character. But there are so many works of which the most that can be said is, that they are well painted—and to enumerate them would entail most fatiguing repetition,—that in order to avoid appearing unjust, an acknowledgment of their general excellence may be far preferable to making a selection for particular comment.

In the landscape department there is nothing new to chronicle; so, summarily to conclude our notice, as little remains to be said of such monuments to successful achievement as Messrs. Clarkson Stanfield, R.A., and David Roberts, R.A., have long been regarded. And, though Mr. Creswick, R.A., has a larger picture than usual, there are many who will prefer his cool, quiet, and very charming "Early Morning Home in a Welsh Valley" (14) to his very admirably represented spring aspect (470), "Across the Beck in the North Country;" because the former has poetry in its associative ideas, whilst the other depends entirely upon its realistic qualities; and Mr. E. W. Cooke, R.A., continues to delight the initiated with his sea knowledge in (223) "Scheveling 'Pincks' running to Anchor off Yarmouth," and astonish even the least versant with the mysteries of tides and tackle by the impression of abstract truth he conveys;—they simply reassert themselves as favourites of established notoriety.

The Messrs. Linnell have a reputation of their own too, and (37) "Haymakers," by Mr. J. Linnell, sen., (208) "Banks and Braes," by Mr. W. Linnell, and (275) "Cross Roads," and (342) "Driving Sheep," by Mr. J. T. Linnell, would almost prove that they form a distinct school of themselves, so like each other and so unlike all else besides, excepting that nature which they transcribe in a cypher of their own, the whole secret of which lies only in its use—for comprehensible it must be to all.

Mr. V. Cole's (346) "Decline of Day," curiously elaborated through an intricacy of detail; Mr. G. Sant's very forcible and richly-painted (400) "Bishopston Valley, South Wales;" Mr. S. R. Percy's two North Welsh scenes (411) "Llyn-y-Ddinas," and (121) "On the Llygwy;" Mr. A. W. Williams's (11) "Golden Acres," and Mr. T. Danby's poetical combination of sea and sky in (534) "An Escape;" Mr. G. Mason's (253) "Return from Ploughing;" Mr. E. Courtauld's (269) "Twilight;" Mr. J. W. Oakes's (388) "Poachers;" and Mr. B. W. Leader's (575) "Sunny Afternoon, North Wales;" will, upon examination, sufficiently testify that the character of our landscape-painters is not deteriorating, if there is no great evidence of individual improvement.

* See pp. 325, 348, 371, *ante*.

THE SLIDE-RULE.*

THE slide-rule may be said to deserve a better fate than that which has been its ordinary destiny. It has been accepted as a convenient instrument by men who have used its slide for years without in the least understanding its theoretical principles,—men, for instance, such as those whom the immense expansion of mechanical engineering has often called into positions of trust and responsibility. By its aid, very ignorant men have been able to habitually make calculations, or rather carry out rules, without the dimmest perception of the reasons, and even without understanding the instrument, a part of which they so continually slide to and fro. The result is that many people are almost ashamed to be seen using a slide-rule. And yet, we know that the slide-rule, rightly employed, might be of the greatest daily service—more especially to those who have not the talent for quick mental calculations. In any case the slide-rule is an excellent check on any calculation. The work before us is an application of the slide-rule to navigation, by the author of an excellent "*Hand-book of the Slide-rule*," published some time ago. This particular application of the instrument is scarcely likely to be of great interest to our own readers. As, however, we believe that a more general, while, at the same time, rational use of the slide-rule would be of great benefit, we may perhaps return to the subject.

* "Hand-book of the 'Double' Slide-rule, showing its application to Navigation, including some Remarks on Great Circle Sailing and Variation of the Compass, with useful Astronomical Memoranda." By B. H. Bayley, (late) H.M. India Civil Service. London, Bell & Daldy, 1864.

THE BUILDING TRADES MOVEMENT.

Birmingham.—We are glad to learn that, so far as concerns one important branch of the trade, the strike here is virtually at an end. There is a general resumption of work by the carpenters and joiners, who accept wages independently of any scale. Some are receiving the terms offered by the masters, and some are receiving even more than they recently demanded. The consequence is, that many important works, the progress of which has been stopped for the last few weeks, are now once more fairly in hand, so far as this branch of the trade is concerned.

Liverpool.—A letter from the contractor for the new Fever Hospital has been read at a meeting of the local workhouse committee: the following is an extract:—

> "I am sorry to state that nearly all my joiners (about fifty) have left their work to-day, by order of their trade union, not for any advance of wages (which has been agreed to), but for the purpose of inflicting upon me a penalty of 2s. per man, because of my not agreeing to the advance at the time fixed by the resolution of the club.
>
> I believe every man in my employ this morning was satisfied with his position, but they have been so intimidated by the club this day that they have felt compelled to leave their work.
>
> Under these circumstances I must claim the indulgence of the Vestry as regards the church or the hospital. I can so arrange matters that the latter will not seriously be retarded; but under any circumstances I will not, upon any consideration whatever, accede to the demands of the club, with whom I have of late repeatedly had to contend.
>
> P.S. There are now relays of spies watching my premises and each of the contracts I have in hand, for the purpose of inducing or intimidating men to leave my employ."

The contractor was called in, and expressed his determination to complete the work as early as possible.

St. Helen's.—The journeymen plumbers, glaziers, and painters in St. Helen's, gave notice lately to their employers that they should require an advance of 2s. per week after the 6th of June.

Sunderland.—The master builders of Sunderland have formed a union for mutual protection and assistance in resisting the demands of their workmen for an advance of wages or a shortening of the hours of labour.

OYSTER CULTURE.

MR. JAMES LOWE has read a paper on this subject before the Society of Arts. The oyster, he said, was rapidly becoming rarer and rarer, and it seemed not improbable that if some measures were not taken it would gradually disappear. Fifteen years ago the attention of the French Academy of Science was drawn to this; and six years since an eminent pisciculturist, Mr. Coste, reported on the failure of some oyster fisheries to the Government, and under their auspices many of them had been materially restored, and oyster "parks," as they were called, had been established. The author described the mode in which these were formed, and the best kind of apparatus for collecting and preserving the spat or spawn. He urged that this method of culture might be applied to other shell-fish besides the oyster, particularly to the pearl oyster, or mussel rather, the fisheries for which were failing, especially in Ceylon. The Colonial Secretary, Mr. Cardwell, had asked for information from him that might be of service to the Ceylon Government as to this, and had sent him a dispatch from the acting Governor of Ceylon, on the subject. Mr. Lowe said the calamity was due, as he thought, to more than one cause, and that this was a case in which the artificial processes of the oyster-cultivators might be applied, almost with the certainty of success. In this opinion he was supported by Mr. Mitchell, who had studied the subject to as good effect as any one in this country; and he also found that Sir Emerson Tennent, late Governor of Ceylon, was of the same opinion.

In conclusion, Mr. Lowe pointed out how the processes employed by French cultivators might be applied to the oyster fisheries of this country, and answered various objections that had been advanced as to their applicability to English oyster beds. There were upon the Irish coast miles of shore which might be thus cultivated; and, on the shores of England, and especially in the mouths of our great rivers, and on the east coast northward from the mouth of the Thames, there were large tracts equally suitable. Already enterprises of this kind had been undertaken, and a company had been formed under the able management of Mr. Mitchell, which had acquired the use of a portion of the oyster layings on the foreshore to the west of the pier at Southend. Here they had laid down about 1,500 bushels of full-grown oysters, which had been spread over about five acres of space, in such a way as to leave room for the placing of 50,000 of Kemmerer's collecting-tiles. Another company was preparing to commence operations on the opposite side of the estuary, near Herne Bay.

The paper elicited an animated discussion, which was commenced by Mr. Ffennel, commissioner of fisheries, who observed that the cultivation of these now unproductive spots was a matter of national importance, entitling those who promoted it to the gratitude of the country. Mr. F. Buckland spoke of the great productiveness of the oyster, and stated that their spawning depended much on temperature. The company about to cultivate oysters at Southend, and of which the Earl of Somers and Sir Coutts Lindsay are directors, and Mr. F. Buckland their naturalist, was spoken of by Mr. Mitchell, who said that without any appeal to the public they expected shortly to put this matter to the test. He described somewhat of their plans, and said they looked for at least as great success as that which had attended the operations in France. Some account of the breeding-grounds at Baiæ was given by Mr. Bishop, and Mr. T. Ashworth explained the difference between the pares, or breeding-grounds, at Rhe, and the clairs, or feeding-ponds.

SUBSIDENCE OF A STREET IN LIVERPOOL.

AT a recent meeting of the health committee of the town council, the law-clerk read a letter addressed by Mr. J. Davies, mining engineer and surveyor, St. Helen's, to Mr. W. Culshaw, upon the subject of the subsidence of Back Mount-street, behind Sandon-terrace, and the consequent damage to property in that street and in Sandon-terrace. Mr. Davies reported that he had descended the old shaft, which was understood to have collapsed or run in. At 76 feet below the floor of the coach-house adjoining the shaft he found a blind tunnel in the red sandstone, running east and west, on the south side of and almost parallel with the London and North-Western Railway Company's Wapping Tunnel, and connected with the latter by a cross tunnel or driftway. The distance between the Wapping Tunnel and the blind tunnel was about 20 feet, and the latter was 20 feet wide and about 14 feet 5 inches high. On the west side of the shaft it was sound; but on the east side, about 18 feet from the shaft, the whole of the tunnel was blocked up with *débris*, which seemed to be refuse or rubble quarry stone. Upon examination he found that at this point the roof of the tunnel had recently fallen in, not far from the place where it ceased, and where there were evidences that when left, it had been the intention to carry it on. His opinion was, that the tunnel at this point had only been 2 feet below the bottom of a quarry, which had been imperfectly fitted up, and upon which the injured buildings had been built. Water, percolating through the rubbish, had carried a great weight of loose stone upon the weak roof of the tunnel: the tunnel had broken through in consequence of this; and the subsidence of the street and damage of the buildings had been the result of the giving way of the tunnel roof.

Discussion upon the subject was deferred, by consent, until the town-clerk's report should be presented.

STANDON CHURCH, HERTFORDSHIRE.

ST. MARY'S, the ancient parish church of Standon, near Ware, Herts, has fallen into a miserable state of repair, parts of it indeed being ruinous. By the strenuous exertions of the Rev. C. Puller, the vicar, and the cordial and sympathising co-operation of the principal ratepayers, money has been raised, and under the direction of Messrs. G. & H. Godwin, architects, the church is to be restored to something like its original condition. It is a large and has been a very handsome pile of building, with a total length of 110 feet, of which the chancel occupies 40 feet. The width of the nave (which has a clerestory) and aisles is 50 feet. The style of the chancel-arch is very beautiful Early English. The nave and aisles are in the Decorated style, with good windows.

The tower, which touches at one corner the SE. angle of the south aisle, was rebuilt about twenty years ago, when a large portion of it had fallen down from decay. The chancel is peculiar in being raised eight steps above the level of the nave, the rise of the hill having been followed in laying the foundations.

At present the external walls of the whole building are disfigured by plaster, and the flint-work under this is much patched with bricks and other stones. The stonework of the windows and buttresses is decayed, and in many places has been replaced by brickwork. The old roof has been removed, and a modern one of low pitch, screened by a flat plaster ceiling, substituted both in nave and chancel. The internal walls are dirty and ill-faced, and the internal stonework (and in the chancel the woodwork also) is much disfigured with paint and whitewash. It is intended to renew the face of the walls, both outside and inside; to rebuild the porches; to make good all the stonework of windows, strings, copings, and pillars, and remove all paint and whitewash from them; to take down the organ gallery from over the west door; to repew the church in oak; and to place a new plain high-pitched roof in stained fir upon the main nave.

The Duke of Wellington, who is lay rector of the parish, will do what is requisite to make the chancel correspond to the restored condition of the rest of the church.

Tenders were obtained for the execution of the works, and ran thus: — For the nave,—Myers & Sons, London, 3,280*l.*; Ginn, Puckeridge, 2,455*l.*; Gibbons, Buntingford, 2,346*l.*; Dove, Brothers, London, 1,915*l.* For the chancel,—Myers, 945*l.*; Dove, 550*l.*; Ginn, 465*l.*; Gibbons, 464*l.* The works are now being proceeded with.

Standon was anciently held by the abbots of Croyland (who had a good seat here in the eleventh century), the Clares, Astons, and Sadliers. Of the latter the church contains tombs. Last week, in taking the plaster off the walls inside, a handsomely moulded recessed sepulchre was thrown open in the external wall of the south aisle; with a stone coffin below the level of the pavement, the inner form of which (as is not unusual) follows that of the human head and body.

BRADFORD EXCHANGE COMPETITION.

THE competition designs for this proposed building have been on public view for several days of the past week, and have been visited by a large number of persons. They are six in number, and all Gothic in style, excepting that the architect signing "Experientia" sends also a slight sketch of an Italian building. The Bradford *Observer* says:—It is not our purpose to attempt a criticism upon them. All have more or less good points, and almost all, we think, serious defects. More than one it would seem impossible to put up for the money at disposal. The directors had a meeting to discharge the difficult and responsible duty of selection, and they ultimately agreed to request the architects of the plans with the motto "Experientia" (Messrs. Lockwood & Mawson), to offer proof that their design can be carried out for the estimate of 27,000*l.* The style of the design chosen is called, in the description accompanying it, "Venetian Gothic in character, freely treated, and admitting of great picturesqueness of effect and beauty of detail without entailing heavy cost." Over the principal entrance to the Exchange, on the part of the site near "Bartle's Corner," is a lofty tower.

THE NEW FOREIGN OFFICE.

ON the vote of 75,000*l.* for the new buildings, Mr. Augustus Smith complained that the estimate for this particular work had been increased since last year by the sum of 28,000*l.*, and that there was an extra item of 4,899*l.* now brought forward for the first time for abortive designs. He supposed that these designs had been prepared on the sole authority of the Board of Works. Mr. Cowper said that last year, when the estimate for the New Foreign Office was brought forward, he stated to the House that the sum of 200,000*l.* was the total amount which Mr. Scott, the architect, reckoned the erection of the building would cost. Since then, however, tenders had been received, the lowest of which amounted to 223,516*l.* He had stated at the time that the sum he named was the best estimate which Mr. Scott could furnish, but that the only real test would be the tenders. The item of 4,899*l.* charged for "preliminary expenses of designs for a Foreign Office, which were not adopted" was not submitted to Parliament before because Mr. Scott abstained from sending in his claim until a final decision had been come to with regard to the Foreign Office. In that item was included the charge for the designs prepared, by the direction of his predecessor, in the Gothic style, which style the House, after full debate, deliberately determined to reject. Mr. Augustus Smith wished to know whether he was to understand that 5,000*l.* in round numbers had been expended, without any previous sanction from that House, in preparing designs that were not adopted. That mode of bringing forward items of charge incurred four or five years ago was highly objectionable. The House being counted, only twenty-nine members were found present, and the House, therefore, stood adjourned.

THE ARCHITECTURAL MUSEUM.

ON Tuesday evening the Rev. G. Ayliffe Poole read a paper on "Painted Glass in connexion with Architecture." The chair was occupied by Mr. A. Beresford-Hope.

At the conclusion of the paper, which will be found under its own heading,

Mr. Hope, having complimented Mr. Poole on the manner in which he had treated the subject, observed that among the finest specimens of old glass which he could call to mind was that at Merton College, Oxford. He had often recommended painters on glass to keep that splendid example in view, and not overcharge their works with great masses of gaudy colours. Some artists in glass reminded one of people who believed that they looked best when clothed in the brightest and most discordant colours, as, for instance, a lady in grey boots, blue gown, scarlet shawl, yellow bonnet, green gloves, and mauve parasol. He was sorry to say that the present would be the last lecture of the season, as Mr. Parker, who had promised a paper on the Mediæval houses of the city of Wells, was unable, on account of severe illness, to fulfil his promises. The prizes were not yet, however, settled, but an announcement would be made in full time to enable every one to prepare.

ARCHITECTURAL STRICTURES, BY AN AMATEUR.

THE idea that no building can have any pretensions to architectural beauty unless it be profusely ornamented, is the main reason why our streets in general are so atrociously ugly. The architects, or builders rather, finding that the funds at their disposal did not admit of their façades being covered with stone-carving, &c., made them so obtrusively plain as to resemble workhouses or reformatories rather than the houses of gentlemen; or else, which, if possible, was much worse, they covered them, and still cover them, with stucco, in order to mould upon it the scrolls and frets which compo-daubed houses generally exhibit.

A learned writer has given it as his opinion that architecture is ornamental and ornamented construction. I should qualify this a little, and say that architecture was ornamental *or* ornamented construction, or both. Because, if the construction must be ornamented as well as ornamental, no distant view will suffice to show whether a building is architectural or not; so that, to know that Salisbury Cathedral is an architectural building, we must go sufficiently near to see its string-courses, its dripstones, the mouldings of its windows, the crockets of its pinnacles, &c., &c.

But, to return to my subject. I have said that the prevailing idea that abundant ornament is absolutely necessary to architecture is the reason why our streets are so hideous; and also why so many of our buildings exhibit such disgusting vulgarity in their profusion of decoration,—decoration which in some cases means nothing at all, and in others means something that has nothing to do, in any way whatever, with the purposes and uses of the structure that bears it.

Sometimes, too, we find false construction employed as ornament. The church of St. Mary-le-Strand, for instance, built in the early part of the last century, has pediments on its flanks for no other purpose than to break the surface into petty parts, and so, in the architect's opinion, to enhance the beauty of the design.

Until a few years ago nothing was considered worthy of the name of architecture unless its façades were covered with sprawling pilasters, surmounted by huge acanthus leaves (for it would be an insult to classic art to call them Corinthian capitals), and above these an entablature almost completely filled up by lines of square blocks, without which the architects thought that nothing could be perfect.

It is this love for excessive ornament that keeps up the use of stucco. This vile abomination is mixed on the pavement, is carried up in pails and daubed over the brick walls; and, while it is soft, it is moulded by the "artist in compo," into the hateful scrolls and frets which, being easy of execution, are so common; or it is put into moulds to the same effect. And when stone is used, and funds are plentiful, a very large portion of these funds is devoted to superfluous ornament. Some buildings in the city of London have not two square feet together of plain surface; and, very often, most of this ornament is *festoons of fruit and flowers*. Why fruit and flowers are strung together over the front of a mercantile building, I cannot imagine,—except, perhaps, it is that architects never think of designing some ornament more in accordance with their requirements. To show that suitable ornament can be and has been designed, I may instance the London and Westminster Bank. This building has very little ornament, but, what there is, expresses entirely its uses. The arrows bound together are a symbol of the joint-stock company; and the figures at either extremity of the entablature represent the sister cities of London and Westminster.

It may be said that in straight streets ornamental construction is impossible, on account of the impracticability of projections, recesses, &c. But a little taste and skill would easily remedy this, without sacrificing the uniformity of the horizontal lines in any way. I have seen it recommended in the *Builder*, that winding staircases,—which are very generally used in mercantile buildings,—should be shown externally in the form of turrets. I wish that this suggestion was attended to and made use of. It would vary the façade, and render it picturesque without any affectation. It would be perfectly truthful, and far preferable to putting staircases in wells or shafts in the middle of the building, or, as is very often the case, those having no staircase proper at all, but only a flight of wooden stairs between each story.

But to say nothing of the parts of a building; as a whole it can be made ornamental, without ornament, by mere beauty of proportion. We know the exquisite grace of some of Wren's interiors, and when we see them, we often wish that their ornament, scanty as it generally is, were entirely absent. The surpassing elegance of St. Stephen's, Walbrook, cannot be enhanced by plaster mouldings. Height, breadth, length, and their relative proportions form the pure beauty to which all good architects have aspired: ornament is but an accessory, which is usually very desirable, yet still, to good architecture, not indispensable. Messrs. Robarts & Lubbock's bank, in Lombard-street, has very little ornament, yet it is a handsome building, entirely owing to its proportions; and I am glad to see that many other new buildings, though but few in proportion to the total number, have been designed upon the same principles, and with the same happy results.

Besides the proportions of a building, in its various parts, we must consider very carefully the proportion of mass to space, of walls to windows and doors. This is the greatest obstacle to good street architecture. There can be no doubt that the fewer windows there are in a building the better is its general appearance. It is this scarcity of openings which is the principal beauty of classic architecture: its harmony, its unity, almost entirely depend upon it. We have two large public buildings in London which are almost entirely without windows in their external façades. They are the Bank of England and Newgate prison. They have each a centre in their principal front, and this only is pierced with windows, and it is well known that these parts are the worst in the whole of either design. The appearance of each is mean in the extreme, and we could hardly believe that the grimly grand wings of Newgate could have anything to do with their centre, or that the beautiful Lothbury portico and front of the bank could be associated at all with the insignificant centre in Threadneedle-street.

Taste and carefulness will overcome the difficulty in buildings which only require light for ordinary purposes; but what is to be done with our shops? In them every particle of light to be obtained is required, so that their ground floors, which should be the most massive, are nothing but plate-glass; and this plate-glass, which is an architectural vacuum, has to support three or four stories of brick or stone. Cast iron presents all difficulties of construction; but cast iron cannot assist æsthetics. The eye is not satisfied by the slender iron columns so far apart, bearing so vast a weight above them, even though that weight is no more than one-fourth of what might be borne. But how is it to be remedied? One famous writer has recommended tradesmen to return to their casemated windows, low rooms, &c., &c., but I am by no means inclined to agree with him. I think that establishments might be preserved as large and imposing as ever, and more so, and using but a very little more space. By substituting piers of stone or brick for the iron columns, and placing low arches upon them, an appearance of strength might be imparted to the structure, though in no way lessening the reality of it. And what an increase of beauty we should gain! The eye of taste can never rest on a stone entablature, 20 feet or 30 feet long, with no apparent support but plate glass, and be satisfied. I have seen many shops, both in the City and in the west, looking as if they were suspended in the air, from having so transparent a basement. No doubt the architecture of the upper part is very good; but before the whole building can be good, we must have a base to match what it supports.

EX SUPRA.

NATIONAL MUSEUM, SOUTH KENSINGTON.

THE accompanying view and plan illustrate the design submitted by Captain Fowke, to which the committee awarded the first premium. We have already described the design at considerable length, and propose here to add only the views and claims of the designer, leaving untouched any critical observations and objections we may have already made with reference to it, or may hereafter feel it necessary to make.

In the general arrangement of the plan the design prepared by Mr. Hunt, it is maintained, has been followed, in having a series of rooms opening out of a longitudinal corridor, with uninterrupted side light along one side. The arrangement of the different rooms is, however, considerably altered, as the designer conceived that the lighting in the model plan would not be satisfactory, and that it is not sufficiently subdivided by walls as a security from fire.

The object has been to divide the museum into a series of compratively small chambers, as being more suitable for the arrangement of a scientific collection than the large open spaces necessary for more heterogeneous displays or exhibitions.

The principle of lighting adopted is the same that has been employed at the Jermyn-street Museum namely, through the haunches of the roof. A series of small rooms, with direct top light, is shown on the upper floor, and a large amount of side-lighted space is also obtained on each floor, by keeping the corridor of communication open on one side. It is considered that the curator will have at his disposal every possible variety of light, to suit the great variety of objects which he has to display.

This system is much to be preferred to the ordinary hospital-ward system of covering the ground with a series of small two-storied houses, with insufficient side-lighting from the narrow streets, 20 feet or 30 feet wide, between them. The lower floor of a wide building, 70 feet or 80 feet high, cannot be lighted from a street some 30 feet wide.

The communication is simple and straightforward, all the rooms leading directly out of one great corridor on both the ground and upper floors, which corridor is in immediate communication with the principal stairs.

The professors' and microscope rooms are placed in immediate connexion with both floors of the museum by the stairs at the north end of each room: they are also by this means directly connected with the small galleries, which would probably contain objects of interest to the scientific student which it would not then be desirable to show to the general public, for whom a more typical collection would be arranged in the larger rooms.

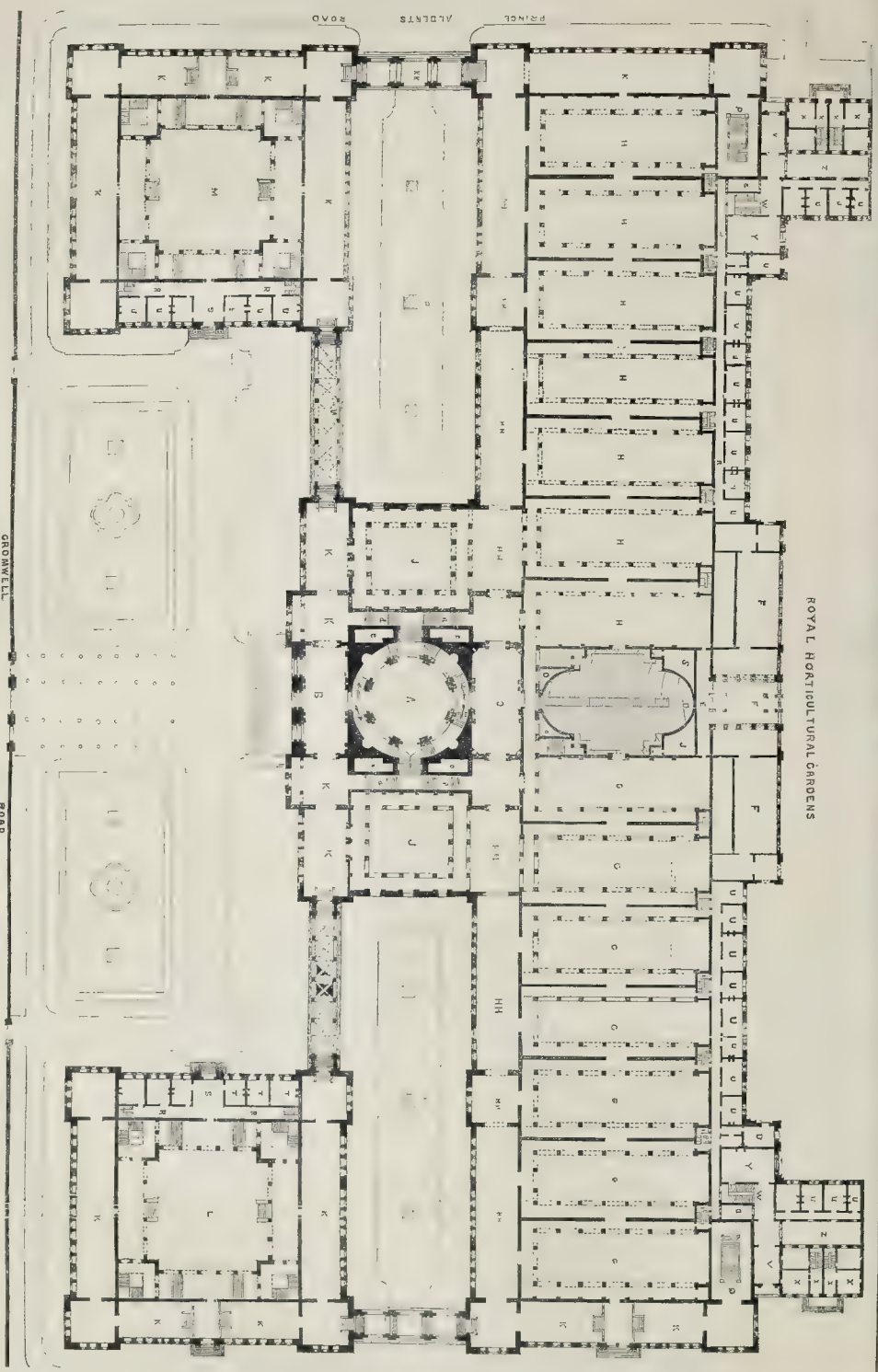
In erecting the Natural History building on the east side, the entrance would be, as shown, in the centre of the east front, with the library immediately over.

A protest has been made against the selection by Professor Kerr, to whom the second premium was awarded, and to which we may refer on some future occasion.

REFERENCE TO GROUND PLAN.

A. Hall and Staircase.
B. Vestibule.
C. Ante-room to Theatre.
D. Lecture Theatre.
E. Possible Entrance from Horticultural Gardens.
F. Buildings belonging to H.M. Commissioners for the Great Exhibition of 1851.
G. Natural History Museum. Rooms lighted from above.
H. Space reserved for other Museums, or for extension. Rooms lighted from above.
HH. Side-lighted Museums. Rooms serving also as principal Corridors of communication.
I. Stairs of communication between the different floors and offices.
J. Glass-covered Courts.
K. Side-lighted rooms.
kK. Museums may be entered here, if required.
L. Museum of Patents.
M. Reserved for other Museums.
N. Open Arcade.
O. Eastern Quadrangle.
P. Western Quadrangle.
Q. Public Staircases.
R. Corridors.
S. Entrance-halls.
T. House of police-officer.
U. Offices.
V. Office-entrances.
W. Office-stairs.
X. Houses for resident officers.
Y. Board-rooms.
Z. Open Areas.
a. Open Yard for w.c.'s.
b. Professors' rooms.
c. Wells.
d. W.c.'s under.
e. Open Wells for w.c.'s.

MORE DISCOVERIES AT POMPEII.—Some interesting discoveries have been made in a house which was being built at the time of the catastrophe. This house contained a large deposit of Egyptian marble, now brought to light, and valued at 50,000f. On the ground floor the remains of a magnificent bed have been found: the woodwork is burnt away, but the bronze ornaments are in perfect preservation, consisting of a lion's claws which formed the legs, and geese's heads which adorned the top. This bed is now to be constructed according to its original design. The blocks of marble are to be used for plinths to the most valuable statues of the museum.



PROPOSED MUSEUMS, SOUTH KENSINGTON.—PLAN OF PRINCIPAL FLOOR, INCLUDING PROPOSED AFTER-APPROPRIATION OF THE WHOLE OF THE AVAILABLE LAND.



DESIGN FOR PROPOSED NATIONAL MUSEUMS, SOUTH KENSINGTON, TO WHICH THE FIRST PREMIUM WAS AWARDED.—CAPT. FOWKE, R.E., ARCHITECT.

THE INTERIOR OF A GOTHIC MINSTER.*

The Aumbries, Lockers, or Cupboards.—There are two large aumbries on the north side of the altar-platform at Chester. Three, formerly behind the reredos, are preserved at Carlisle; two of these of the fifteenth century, and one of earlier date, and carved. At Salisbury there are several good specimens, one retaining its original doors. At Durham there are double aumbries on either side of the altar platform, which held the ewer, books, cruets, chalices, patens, and altar linen. All the keys were locked up by the sacristan at night, in a master aumbry, until early in the morning. Usually the aumbry is provided with a slab. At Selby there are some good specimens of wainscot aumbries.

The Shrine.—The continuous prolongation of churches eastward was productive of many changes in arrangement, but none were perhaps more noteworthy than the formation of the feretory behind the high altar in the place of the bishop's throne, and usually provided with an altar of its own, erected against its western side, as at Bury St. Edmund's and Westminster.

At St. Alban's, in the thirteenth century, the length hitherto assigned to the sanctuary was subdivided, the western portion being still dedicated to divine offices, and the space beyond to the shrine, which was supported on six pillars. At Winchester, St. Swithun's shrine (so it would seem from the dismantled feretory) was mounted upon a platform set against the stone screen, the superb arcade of which adorns the eastern processional path. The shrine was approached on either side by an ascent of steps, and the altar standing in the centre beneath it. At Canterbury the shrine of St. Thomas consisted of a basement of marble and stone, with a wooden superstructure plated with gold and embossed with jewels, which contained the iron chest wherein lay the primate's body. The stain of the metal screen still remains on the floor, and the crescent upon the vault, near which are staples, which probably sustained bouquets of lights at grand exhibitions of the relics. As an additional security in case of fire or popular disturbance, bandogs were employed. In front of the site of its western altar is a fragment of mosaic pavement resembling that of the platform of Westminster. Over St. Anselm's chapel in the south aisle is the watching-chamber, with a grated window, and containing an oven and fireplace used by the sub-sacristan for baking altar breads. At Lichfield the pilgrims were required to cross the Minster pool by the ferry-boat, and then proceed through the south choir aisle to the feretory, where they offered. The St. Chad's pennies, like St. Richard's pence at Chichester, paid at Whitsuntide, were the same as the pentecostals paid to the mother church in other dioceses. When the portable shrine was carried through the diocese to collect alms, all the bells were rung merrily in peal to greet its return. At York, on the north side of the high altar, was the watching gallery of St. William's shrine, which was hung with pious offerings of coral, owches, rings, girdles, slippers, and gilded models of limbs. A small oriel on the north side commanded a view of the aisle, and opposite to it was a loop in the wall which looked into the chamber behind the altar. At Durham the shrine of St. Cuthbert consisted of a basement of stone, supported on nine pillars, but afterwards of alabaster and green marbles limned with gold, on which rested a painted cover of wood, richly crested, which was drawn up, on St. Cuthbert's day and on great festivals, at matins, high mass, and vespers, by means of a rope, to which sweet-sounding bells were attached. The shrine was provided with seats for sick folks, and adorned with precious metals, jewelry, rich hangings, and sumptuous offerings; at the west end was the altar. On the north and south sides were relic aumbries. St. Cuthbert's banner, a captured standard of Scotland, and similar flags, drooped over the aisles, whilst nine cressets, burning in front of the great marygold of the Nine Chapels, threw a soft light over the gold, the jewels, and colours, and threw out the marble reredos with fine effect to the eyes of the pilgrims entering from the nave. At Westminster, Ely, and Chester, the shrines still remain perfect, and at St. Alban's and Oxford the watching lofts of oak. At Ely, in 1378, the triforium was cut through to throw additional light on the shrine, as the aisle windows at Carlisle were enlarged for the benefit of the high altar, and the east windows of the nave at Norwich for giving additional light to the choir.

The basement of Edward the Confessor's shrine is of Purbeck marble, enriched with Roman mosaic, having on the north and south sides three niches for sick folk. Above them are panels filled in with mosaics, porphyry, and serpentine, inclosing the body of the Confessor. At the east end were two twisted pillars, and on the west a large slab, forming the reredos of the altar, and on the sides the sockets for its bankers or curtains, to prevent the access of air to the candles, and the remains of two pillar brackets for the statues of St. Edward and the pilgrim. Above all was a church-like shrine-cover. At Ely the shrine of St. Etheldurga consists of an open lower story and an upper stage of considerable height, decorated with niches, and once containing her body. The silver shrine, before the time of Bishop Nigel, profusely jewelled and covered with statues and crystal, inclosed the actual coffin, which was of marble. The entire structure, which had an altar, was enriched with a rood, a majesty of ivory, and silver tryptych studded with gems. The shrine of St. Werburgh, of the fourteenth century, at Chester, consists of a stone basement, having foliated arches, with canopied open lights above, and effigies in niches. Jocelyn of Brakelond has left on record a minute description of the shrine of St. Edmund and St. Edmund's Bury; and Stukely, in his "*Iter Curiosum*," has done the same work for that of St. Hugh, at Lincoln, where it was pyramidal, and supported a chest plated with gold. Of those of St. William at York, of St. Paulinus at Rochester, of St. John at Bridlington, of St. Chad at Lichfield, St. John at Beverley, St. Ethelbert at Hereford, St. Osmund at Salisbury, or of St. Richard at Chichester, we possess no details, except as regards the lighting, as to which, by an injunction of Stillid II., 1227, ten tapers *quadrate* were to burn round the shrine on great festivals, and on lesser feasts two round tapers at the shrine, a third at the tomb, and nine about the shrine.

In some instances shrines occupied a subordinate position, as at Oxford. St. Frideswide's was adjoining the north choir aisle. At Lincoln, where little St. Hugh's was in the south choir aisle, Alderby's silver shrine, of beaten silver set with diamonds and rubies, stood in the transept. At Durham, Ven. Bede's was in the galilee; at Hereford, that of Cantilupe occupied a transept aisle, like that of St. Amphibalus at St. Alban's, and St. Coradoc at St. David's. The basement is of Purbeck marble and freestone, with effigies of Knights Templar in niches. The upper stage consists of a canopy resting on open arches. At Oxford, the watching loft, of oak, which was attached to St. Frideswide's shrine, is composed of two stories, the lower closed, resting on the founder's stone tomb, and the upper one open. At Rochester, St. William's shrine was in the north arm of the choir transept, which, like the corresponding one on the south, was shut off from the central bay, containing St. Paulinus's shrine, by curtains. At St. David's, the saint's shrine was merely a tomb, with quatrefoiled apertures for offerings on the north side of the choir; and at Gloucester, King Edward II.'s shrine is a superb canopied tomb in the same position, within a chantry. There is a bracket for the reception of offerings (the box or chest used for a similar purpose at Chichester is still preserved). At the entrance of the adjoining aisle is a stone lectern, at which a monk recited the story of the murdered king to the pilgrims. The convent declared that the abbey church might have been rebuilt, so great were the offerings made at the time. At Ripon, the tomb of St. Wilfrid was seen by Leland under the northernmost arch of the choir, next to the altar (his shrine stood in the aisle), and a red chest for offerings by the pilgrims was placed at its foot. Probably, the fridstool stood near it. The so-called tomb of St. Theobald was probably the shrine to contain the bones of the early archbishops of Canterbury; and at Peterborough a Norman coped shrine is preserved. On Scrope's shrine, at York, were hung rings, hands, feet, hearts, and eyes, placed by persons who believed that these parts had been cured by his prayers; and ships and oars offered by seamen; while silver rods served as barriers before the rich cloths on which the ornaments were spread.

Processional Path.—*Spacium vel via processionum a retro altaris* (W. Wyrc., p. 242, *latus pone chorum*; Mon. Anglic., 2nd edition, p. 995). The transverse aisle in square-ended churches is commonly doubled, as at Lichfield, or even tripled, as at Winchester and St. Mary Overy, in order to provide room for chapels, as well as a passage for processions. At Hereford, the aisle resembles a low transept, and the centre bay is elongated into a lady chapel. At Romsey it is single, and opened in a similar manner into a lady chapel, whilst the outer compartment form apsidal chapels. The word chapel is derived from chapelle (*i. e.*, "roofed"), a tent for divine service used by the French kings in their campaigns, in which they carried with them the relics, especially of St. Martin, enclosed in a "cappa" or covering; hence the name of chaplains for the priests who served with the army, and also celebrated in the oratories of the palace in which during time of peace these shrines were deposited (Mayer, 1, § vii. p. 38; Scarfantoni, lib. 1, t. iii. p. 12). The eastern screens at Fountains, the lady chapel of Hexham, and the Nine Altars of Durham, seem to have been further developments of the same idea, which appears also in the longitudinal lady chapel of Peterborough. At Pershore, Tewkesbury, Westminster, Gloucester, and Norwich, there are radiating chapels opening from the circular procession path. At St. David's, by a unique arrangement, where we should expect a shrine we find a Trinity chapel, c. 1509, divided off from the processional path.

The Lady Chapel.—The earliest lady chapel in England was that in the western apse of Canterbury, which was removed to the north aisle of the nave by Lanfranc; and, finally, to the east side of the north arm of the transept, as that of St. Alban's was in the Norman period, on the east side of the south arm, and also later at Worksop. The earliest lady chapel, as a separate building, can, scarcely be dated before the close of the twelfth, or rather the beginning of the thirteenth century. It was in its ordinary position at the extreme east end, as at Lichfield, Hereford, Wells, Exeter, Chichester, Gloucester, Salisbury, being a chapel, or included under the same roof as the presbytery, as at York, Lincoln, Worcester, St. Paul's, Selby, Howden, Hull, Hexham, and Carlisle. But there are exceptions. At Rochester the presbytery absorbed it, and, as at Waltham, it is on the south side of the nave; at Bristol, Canterbury, and Oxford, it lies parallel with the north choir aisle; at Ely, as formerly at Peterborough, it is actually detached on that side; at Ripon, it is over the Chapter-house on the south side of the choir; at Wimborne it was the south arm of the transept. At Bristol, there was, besides the older lady chapel just mentioned, a second later chapel at the east end. At Christchurch there is a chapel of St. Michael above the lady chapel, with stair turrets on either side. At St. Leu there is a chapel above the lady chapel. In the piers on each side of the western arch of the lady chapel at St. John's, Chester, there are indications of staircases to an upper chapel, used for the exhibition of relics on certain festivals, with ascending and descending stairs for the pilgrims. The common type of the Cistercian churches in this country was a square east end, without a projecting lady chapel; but it must be remembered that all were dedicated to St. Mary. At Lichfield, by Bishop Heyworth's statutes, St. Chad's chaplain sang the Matin mass at five a.m. daily in the lady chapel, and by Bishop Hacket's statute, an early service was to be said at six a.m., for the convenience of small tradesmen, labourers, and servants. At Ripon, the lady loft is built in a second story, c. 1480. At Ottery it is entered under a screen and gallery. In the case of an apse the lady chapel was the central of three radiating chapels, as at Norwich, Gloucester, Battle, Reading; or more, as at Westminster, Tewkesbury, Pershore. A curious modification of the additional chapels is found at Norwich, where the smaller chantries were ranged on either side of the presbytery. At Canterbury, the so-called Becket's crown (the name being derived from the peculiar junction of the vault shafts) forms the eastern end. From its octagonal form it probably was intended to form a baptistery: a detached building of this character is known to have stood at an earlier time on the south adjoining the eastern arm. The font of Canterbury was of silver, and usually carried to Westminster on the occasion of royal christenings. In the cathedral of Drontheim there is a somewhat similar octagon, enclosed with screens of stone, c. 1311.

The Crypt was the Christian's burial place without the city (Frances, c. xxvi. p. 447), being a subterranean city of the dead; and serving as a church (p. 448). Cemeteries within the city were made round the church after the reign of

* By the Rev. Mackenzie E. C. Walcott, M.A. See pp 348, 351, *ante*.

Constantine (p. 449), and interments, at first permitted in the outer court itself, were of later introduction within the church. The first lay person buried inside a church was the Emperor Basil (n. 216, p. 458). Special exemptions, by canon law, were made for internal interment in the case of saints, bishops, canons, distinguished clergymen, abbots, monks, and lay patrons and benefactors, and eminently worthy laymen (Mayer, i. 80). The crypt was a development also of the confessio, in which the martyr's relics were enshrined in the basilica, in allusion to Rev. v. 9, and is so called by Eadmer (A.S. ii. 195). The crypts of Canterbury, Winchester, Gloucester, Rochester, Worcester, York, Repton, were all founded before 1085; after that date they were not made, except as a continuation of former crypts, as at Canterbury and Rochester. Probably the construction of upper chapels and treasuries led to their disuse. For some reason unknown many Norman churches, such as Durham, and some, as Chichester, owing to an unfavourable site, have no crypt. Those of Christchurch are little known: they form three of very early date, one being situate under the presbytery and wings of the transept respectively. At St. Paul's the crypt was called the Shrowds; at Canterbury it retains its old name of Undercroft. The exceptional instance of an Early English crypt occurs at Hereford, and at Wimborne there is a crypt open to the choir aisles, which was a Decorated contrivance for creating this adjunct in a church which was never intended to have one. Occasionally we find a crypt under only a chapel, as at Waltham and Exeter; or occupying a portion of a nave aisle, as at Dorchester and Bosham; or beneath the chapter-house, as at Westminster and Wells. But the earliest crypts which we possess are those of Hexham and Ripon. In the former there were three entrances, one used exclusively by the priest serving at the altar, the others for the ascent and descent of the worshippers. On descending the central flight of stairs the pilgrim gained an antechamber, from which a view through a round-headed archway was permitted into a chapel containing the saint's relics and altar. In the wall are three niches, with funnel-headed openings for lamps, a similar niche provided for light to the antechamber: the pilgrim, having performed his devotions, turned northwards into a similar small chamber, and by a vaulted passage on the north side of the chapel returned to the upper church. In the other crypt of St. Wilfrid, at Ripon, the passage on the north leads to the choir, while on the south the passage of the pilgrims conducts into the chapel, which has its altar and relic recesses and lamp niches: one of the latter had been perforated, and forms the well-known Needle, on which Camden is communicative and Fuller witty. At Oxford, in 1856, a small crypt with two recesses was discovered under the crossing. Another has been indicated by Gunter at Peterborough. At Winchester, a low arched doorway below the screen of the feretory led down to the relic chamber, which was in consequence called the Holy Hole. The Norman crypts form large subterranean churches, and ordinarily were apsidal; that of Canterbury, 1096, was filled with altars. In the centre was the altar of St. Mary, below the high altar of the presbytery, and enclosed with perpendicular stone screens. The bracket, image niche, and rings for suspending lamps, still remain, as well as the aumbries, and drains of some other altars. Two flights of stairs on the west, and two additional flights communicating with the transept, gave ample means of access. Besides some interesting paintings in tempera, there is a large recess for the preservation of relics and treasures in times of danger. In this, as in the three other apsidal crypts, Winchester, 1079; Worcester, 1084; Gloucester, 1089, the processional paths round the east end; Worcester has three rows of intermediate pillars (Gloucester and Canterbury having two, Winchester but one) in the central alley, and in each aisle a dividing range. From the central pillar and radiating vault of the eastern apse of the crypt, the idea of the central pillar of the chapter-house has been supposed to have taken its origin. At Canterbury the crypt follows the lines of the eastern limb of the church, at Gloucester the transept and choir foundations. At St. Paul's, in the west end of the Shrowds, was the Jesus Chapel, where the Apostles' mass was sung daily at four or five a.m., and the eastern portion formed St. Faith's Church. The crypt of York is of four aisles, with a transept, and is approached by two staircases; it contains a lavatory and well. At Rochester, the crypt of seven aisles, and not completed until the thirteenth century, was always square ended, and contained nine altars. Some water-drains and wall paintings remain, besides a small groined penitential cell, perfectly dark, and receiving air only from above by a small flue (the only access being by a stair in the thickness of the wall leading to the upper church); and also the so-called "indulgence-chamber," a large apartment reached by a wall-stair, and used to secrete the treasures in times of danger. No one was admitted to this crypt except for mass. At Gloucester there is a cruciform wall-recess of the same design; and the chapels retain in several instances their drains. The entrances were from the transept. The crypt of Winchester contains a well. At Christ Church the crypt below the north wing of the transept was recently found to be full of bones. At Hereford, the crypt under the lady chapel was appropriated as a charnel in the fifteenth century.

Our minsters form a history of the country, of the progress of art and science, the varieties of costume of every class, and galleries of national worthies in the effigies which they contain. The spandrels of the aisle of Lichfield, the angel choir of Lincoln, the corbels of Manchester, and the minstrel gallery of Exeter, illustrate musical instruments; the window framing of Canterbury, and the screens of Salisbury, Canterbury, and Westminster, metal works; the copes of Ely, Durham, Carlisle, Romsey, and Westminster exhibit the embroiderer's art, once known throughout Europe as English work. The weapons at Canterbury of the Black Prince, at Westminster of Edward III.; the portions of armour at Carlisle, York, and Chichester; the clocks of Exeter and Wells; the bishop's rings at Winchester, Chichester, York, and Hereford; the retables of Exeter, Norwich, Westminster, and Ripon; the cope and record chests of Chester, Westminster, and York; the dyptych of Gloucester; the money trunks at Chichester and York; the horns of York and Carlisle; the font covers of Beverley, Selby, and Durham; the *mappa mundi* and portable shrine of Hereford; panel paintings at Llandaff, Ripon, and Romsey; the glass of Dorchester, Lincoln, Lichfield, Bristol, Exeter, York, Wells, Canterbury, Salisbury; relics of St. Cuthbert at Durham; the staffs of York and Winchester; the chalices and maze bowl of York; the old chairs of York, Winchester, Lincoln, and Hereford, are all precious memorials of the past, invaluable to the artist, the architect, and the archæologist, as the true models for imitation. The development of monuments would form a chapter in itself; ranging from the sepulchral cross of Ovin, the incised slab, the coped tomb, to the stellated canopies of Bristol, St. David's, and Tewkesbury; the high tomb with its weepers, the screened tomb, the chantry, the complete chapel and double oratory; and embracing the cadaver, the low relief, the semi-effigies of Lichfield and Worcester, the brasses of Carlisle, St. Alban's, Ely, Dorchester, Manchester, Hereford, Salisbury, and Westminster.

Time will not admit, and deference to the professional architect would forbid, any details with respect to the marvellous transformation of a Norman into a Perpendicular nave at Winchester; to the curious method by which the Norman walls of Gloucester were hung with later work; the remarkable proofs of a permanent body of local masons offered at Wells; the identity between the skeleton vaultings seen in Bristol and St. David's; or the parallel arrangements in the eastern portion of the latter cathedral and Sherborne.

An interesting inquiry might be prosecuted into the determination of the names of the actual designers of our minsters. We can point, indeed, to Wykeham at Winchester, to Elias de Dereham at Salisbury, to Richard of Saxmundham, and Alan de Walsingham at Ely; we are enabled to recover the names of "Walket," custos and procurator fabricæ, in the thirteenth century, at Chichester; and of Horton at Gloucester, as supervisor operis. It is, however, an unpractical study at this period: we can no longer expect the clergy, as the monks of Gloucester, to construct vaulting with their own hands; and it will be our wisest course to delegate our future works of restoration or construction to those eminent men who, by deep study and careful inquiry, and long experience, are no followers of the destructive Wyatt of the last century, or his more recent and less excusable and far less able imitators, but the true and earnest conservators of the sacred trust confided to them. I am quite sure that these are the very persons who would be the first to desire the co-operation, advice, and supervision of the clerical guardians of the fabric as those most familiar with the suitable arrangements.

According to a Parliamentary return recently issued, 500*l.* was granted for the restoration of York Minster in 1841, by the Ecclesiastical Commissioners, and 2,938*l.* 18s. 10d. for Ripon Cathedral in 1842. Under the authority of orders in council of several dates given below, the following chapters transferred to the Ecclesiastical Commissioners their corporate estates in consideration of the annexed sums:—Bristol, June 7, 1862, 6,000*l.*; Canterbury, August 6, 1862, 20,000*l.*; Carlisle, November 10, 1852, 15,000*l.*; Salisbury, October 11, 1861, 10,000*l.*; Winchester, April 16, 1861, 5,000*l.*; and Worcester, November 29, 1859, 15,300*l.*; total, 71,300*l.* With respect to the chapter of Worcester, it is noted that "the commissioners, being possessed of a lease for lives under the chapter, agreed to pay to the chapter for the addition of two lives, in the place of two that had died, a fine of 5,160*l.*, the chapter undertaking that the whole of it should be appropriated towards the repair of the fabric." Rochester, St. David's, St. Asaph's, and Norwich are the only cathedrals still left neglected.

Every accessory is now carefully studied; the recumbent effigy, the inscribed brass, the memorial window, are revivals of the last few years. Still it is to be feared, with too much reason, that very many of our so-called restorations have been merciless reconstructions, and not, what they ought to have been, repairs when indispensable without disturbance of that which could have been and ought to have been reverentially retained.

For the prevention of similar outrages, we must look, I believe, not, as has been supposed, to the appointment of a Government inspector of public monuments, but to the force of popular opinion, and the education of every class in all that relates to art, an office signally belonging to the designs of this museum.

The interiors of our minsters give evidence to that wonderful transition which tentatively, for constructional reasons, at first, and afterwards eagerly, by an improving taste and a noble hardihood, exchanged the Norman flat ceiling of wood, Titanic round arches, and massive pillars, for the pointed arch, the shafted column, the coved vault of later styles. We wonder at the life, the prolific ingenuity, the elevation of devotion, which form the glorious characteristics of these structures; but the solution is, they were built mainly by free-will offerings and free labour, while, as soon as one part was completed, they rose, not as the first temple, in silence, but with the simultaneous sound of the axe and workman's tool, and the almost ceaseless chanting of the service of God. The true reason, I believe, why we can now ascertain few of the names of our architects, is, that the works gradually passed from the hands of ecclesiastics into those of fraternities of artisans—artisans, or artists, I say, for art can never be dissociated from the actual workman—directed by a lay master of the works, the clerical treasurer being still the master of the fabric and its funds. They had but one object,—layman or clerk—to work so as to raise upon earth structures least unworthy of their lofty destination: their work was in common, one and all together; but the glory of its inspiration they gave to God only. With them, *laborare est orare*, or, as the statutes of Hereford say, "No work without devotion, no devotion without work." Their great ideal was yearning towards heaven, towards what is infinite and everlasting; and they have left its impress on the breadth of the vast aisles, the soaring height of vaults, the inexhaustible multiplicity of never-ending and ever-varying views, extending in every direction, and stimulating alike imagination, sacred love, and devotion.

Grand, indeed, are the majestic avenues of the pillars of stone; the tempered hue cast by the stained glass; the glittering lights—grand the results of the taste, hardihood, and skill of architect, carpenter, mason, goldsmith, embroiderer, glass-stainer, worker in iron and brass, simultaneously labouring in unison! Grand are those two great voices of the church—the music of the organs, and the soft thunder of the bells; grand all the exquisite beauty of the solemn worship hallowing the place! but on these points we must be silent here.

Still we may point to the interior of a Gothic minster as being the first exclusively Christian

building which ever gathered under one roof all worshippers; catholic, indeed, and each a true church of the people, as being the joint product of layman and clerk, and the long unbroken work of many generations, so uninterrupted even now; and also of that style which, whatever differences there may be in designating its gradations, or elucidating its origin, is truly the Mediæval style of England—indigenous, national—in which an honest pride at home is centred, and on which our real architectural reputation rests abroad. It has grown with this country's growth, and shall last, I trust, until the great globe itself and its gorgeous temples shall crumble into dust, and they who erected and wrought, and they who worshipped in them, shall pass into that great city wherein there is no other temple but God Himself.

Whilst I advocate the retention of all that is ancient and of worth in the past, and its guardianship by us for the future, let me add the conviction which relates to the present, that our cathedrals are now once more being made available and inviting to the largest congregations which can be accommodated, and so becoming, what they are in constitution and design, not only the ornaments of our cities, but each the central parish and mother-church of the entire diocese (Frances, c. xv., n. 173; xvi., n. 16; xxi., n. 17; Mayer, i. § 3, p. 35). They are no longer regarded as a college-chapel, or church of the close, instead of the church of counties, and the models for parish churches (Mayer, i. 47); but with a ritual celebrated in its highest and most musical form, with open doors for the reception of all comers, with capacity for fulfilling the largest diocesan requirements, and as far as possible enabling every worshipper to see and hear; in one word, they are fulfilling the great want of the period, and being recognised as the free and frequented churches of the people.

THE BRADFORD RESERVOIRS.

THE Waterworks Committee of the Bradford Corporation have before them the report of Mr. Rawlinson, C.E., to Sir George Grey, giving the results of his recent inspection of the various reservoirs belonging to the corporation. The report concludes thus:—"That the Bradford reservoirs, conduits, aqueducts, and other works have been well devised; and, with the exceptions of leakages at Doe-park reservoir and at Barden, appear to be well executed. That the rule as to the bywash space adopted by the engineer in proportion to the area of the several grounds is ample. That outlet culverts and valve wells designed by Mr. Leather on the Bradford reservoirs are very much to be preferred to cast-iron pipes laid through or under the deepest part of the embankment. That reservoir embankments are liable to subside for several years after they have been made. That such subsidence should be immediately attended to, so as to preserve the embankment at the full height above the overflow, as designed by the engineer. That at all reservoirs where water is impounded by the embankment, as at Doe Park and other large reservoirs, there should be a night and day watchman or attendant. Below Doe Park are working colliery shafts within reach of a flood such as occurred at Sheffield. There is much valuable property on the stream below. This reservoir at the time of inspection was in a dangerous state; and the utmost care should be taken to make the work of its embankment secure so as to avoid risk in future. This latter remark applies also to Barden reservoir embankment."

WORKS SELECTED ALREADY BY PRIZE-HOLDERS IN THE ART UNION OF LONDON.

From the Royal Academy.—Symbola Sacra, by E. Mason, 10*l.*; Near the Mouth of the Thames, W. A. Knell, 15*l.*; Bonchurch, Isle of Wight, E. C. Williams, 15*l.*; On the Llugwy, N. Wales, S. R. Percy, 15*l.* 15s.; Farm Yard, J. F. Herring, 15*l.* 15s.; A Calm Night, A. Gilbert, 25*l.*; On the river Lleder, N. Wales, H. J. Boddington, 40*l.*; Bed-time, D. H. Friston, 42*l.*

From the Society of British Artists.—St. Saviour's Church, Jersey, Miss French, 10*l.* 10s.; Departing Day, W. F. Tiffin, 10*l.* 10s.; On a Welsh River, A. Barland, 15*l.*; Anne Page, T. K. Pelham, 15*l.*; Somebody Expected, F. C. Cooper, 17*l.*; The Footbridge at Binstead, Isle of Wight, J. Godet, 17*l.*; The Straw-yard, J. F. Herring, 17*l.* 10s.; The River Mole, Leatherhead, H. B. Gray, 20*l.*; Mont Blanc from Servoz, E. A. Pettitt, 20*l.*; Kenilworth, H. J. Pidding, 20*l.*; A Path thro' a Welsh Wood, H. J. Boddington, 25*l.*; Scotch Collies, G. W. Horlor, 25*l.*; Going to Market, A. F. Rolfe, 25*l.*; Virginia Water, C. Smith, 25*l.*; On the River Tavy, near Bramble Tor, Devon, W. Williams, 26*l.* 10s.; Off the Coast of Berwick, J. Burrell, 35*l.*; The Sempstress, Mrs. C. Gray, 35*l.*; The Head of Loch Ard, A. Panton, 35*l.*; Mountain River View, Merionethshire, J. C. Ward, 35*l.*; The Frozen Ferry, G. A. Williams, 35*l.*; Flowers from Nature, W. Anderson, 36*l.* 15s.; St. Michael's Mount, Penzance, J. J. Wilson, 40*l.*; Dover from the East, J. J. Wilson, 40*l.*; Candebec, on the Seine, W. W. Deane, 42*l.*; Trial Scene, Merchant of Venice, A. B. Donaldson, 50*l.*; Scene on the Coast of Scotland, J. Henzell, 75*l.*; On the Quay at Ambleteuse, East of Boulogne, J. J. Wilson, 75*l.*; The Regatta at Henley-on-Thames, A. Clint, 150*l.*; The Pastor's Visit, W. Crosby, 150*l.*

From the British Institution.—Shipping off Mount's Bay, H. K. Taylor, 20*l.*; In the Pass of St. Gotthard, A. W. Williams, 100*l.*; Stonethwaite Bridge, J. Peel, 50*l.*; An Italian Vine Trellis, F. Dillon, 25*l.*; Am Fenster, L. C. Henley, 25*l.*; Going to the Harvest Field, H. Moore, 25*l.*; View near Tamerton, Devon, W. Pitt, 25*l.*

From the Water Colour Society.—The Time of Roses, F. Smallfield, 100*l.*; Guernsey Peasant Children, O. Oakley, 35*l.*; Grandfather and his Pets, W. Collingwood, 20*l.*; Distant View of Namur, W. Callow, 20*l.*

From the Institute of Painters in Water Colours.—Cockermouth, Cumberland, D. H. McKewan, 65*l.*; La Grande Pêche, E. H. Wehnert, 40*l.*; Mont Orgueil Castle, Jersey, E. Richardson, 40*l.*; The Wreckers, J. G. Philp, 25*l.*; Sophia, J. Absolon, 31*l.* 10s.; Entrance to Tintern Abbey, J. Chase, 21*l.*; At Interlachen, Switzerland, Jas. Fahey, 18*l.* 10s.; Spring Flowers, Mrs. Duffield, 13*l.* 13s.

From the Royal Scottish Academy.—Keirfield on the Allan, W. B. Brown, 35*l.*; Moorland Scene, E. T. Crawford, 20*l.*; A Summer Day at Donne, J. Smart, 20*l.*; The Mill-dam, J. W. Oakes, 14*l.* 14s.

IRELAND.

ON the South Mall, Cork, at the corner of Warren's-place, facing the Corn Exchange and Anglesea Bridge, the Provincial Banking Company are erecting a commodious branch establishment, in the Palladian style, which will present a frontage of 163 feet. The material used on the exterior is the limestone of the district. The chief carved work, however, will be executed in Portland stone. Above a rusticated basement, broken by moderate projections and an arcade with boldly-carved keystones, containing windows, niches, and a central doorway, a Corinthian order of three-quarter columns is carried around the two exposed sides of the building, having a rich entablature with modillion cornice, crowned by a panelled attic over each intercolumniation or bay, a semicircular panel for bas-relief and foliage. The semicircular heads of the first-floor windows, sixteen in all, will be filled with the coats of arms, in cut stone, of the principal commercial towns of Ireland. A pediment surmounts three intercolumniations in the middle of the South Mall front. The course at the level of the capitals will be executed in Portland stone, enriched with carved festoons of flowers, slung from capital to capital.

The interior of the public office will be of a highly decorative character. The lighting is chiefly obtained through a domed light in the ceiling, the first-floor windows of the Mall front affording the remainder. The trimmings of doors, fireplaces, &c., will be of Caen stone, enriched with carving. The ceiling and walls will be decorated in Parian cement, carved. The floor of the space intended for the public will be laid with Minton's encaustic tiles, in pattern specially designed. Two larger fireproof safes adjoin the public office. The cost will be about 15,000*l.* Mr. W. G. Murray, of Dublin, is the architect; Mr. Alexander Deane, the contractor. Mr. Pierce is clerk of works.

Extensive additions are at present being made to the Constabulary Depôt in the Phœnix Park, Dublin. The new works comprise an officer's mess-building, with dwelling apartments for eight sub-inspectors; also dormitories for sixty cavalry men, with stables to accommodate the same number of horses.

The style is of an eclectic character. Considerable freedom is exhibited in the treatment of the details. While the chief of the walling is of yellow bricks, coloured materials, red and black brick, and tiles are introduced.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday (the 13th inst.) at the House in Conduit-street.

The chair was occupied by the President, Mr. T. Roger Smith.

The special business brought under notice had reference to certain alterations in the rules of the Association, and also included the consideration of the report of the delegates appointed to attend the meeting of the Architectural Alliance.

It was proposed that in future the election of members should be decided by show of hands instead of ballot, except in any case in which any member intimated a desire that a ballot should be taken. Some discussion ensued upon the propriety of the alteration, the mover of the resolution in favour of the change asserting that the ballot consumed much valuable time, while no case had ever occurred of a candidate being rejected; and the opponents of the change dwelling upon the desirability of maintaining the ballot as a safeguard to prevent the admission of candidates who might be ineligible. Ultimately, however, the alteration was agreed to without a division, on the understanding that any member was to have the privilege of publicly or privately demanding a ballot.

The next subject introduced was the desirability of altering the time of meeting from eight o'clock to half-past seven; and the time of adjournment from ten to half-past nine. After some discussion, a motion to that effect was put from the Chair and agreed to.

Mr. L. W. Ridge (Hon. Secretary) having brought up the report of the delegates to the Architectural Alliance,

Mr. J. D. Mathews (Hon. Secretary) read the resolution agreed to by a committee of the Association, assisted by some of the senior members, on the scale of architectural charges as proposed by the Alliance at their meeting in July last. It was to the following effect:—

"That the Architectural Association has carefully examined the list of charges proposed by the Alliance, and approves of the introduction of a clause stating the custom of charging a reduced percentage, in certain districts, with reference to mills and other large and simple buildings, though the custom does not obtain in London. They also approve of a revision of the charges mentioned by the Royal Institute of British Architects, for valuations,—a subject, however, which ought not to be omitted from a complete list of charges. They also cordially approve of the clause with reference to quantities, and they do not object to the other variations from the list of the Institute, but they think in each of those cases it would be most injurious to the profession to have two published lists of charges, and they would therefore recommend, that on these subjects a conference be obtained in the Royal Institute of British Architects, in order that both the present provincial practice as regards the first mentioned, and the special importance of the last mentioned subject may be more fully represented in a list of charges available for the protection and use of the whole profession. The Committee have suggested certain modifications in the details of the proposed Alliance scale which are recommended to the consideration of the delegates."

The Chairman in moving the adoption of the foregoing resolution, observed that the charges of the Alliance were substantially those of the Institute with certain modifications. The latter were the points which the Association had now to consider. Many of the delegates attending the last meeting of the Alliance found that the London charges, as laid down by the Institute, were not such as would suit the districts in which their practice lay. London architects did not, for instance, accept less than 5 per cent. commission for any works undertaken by them; while in Manchester and in the north of England the scale of remuneration might be taken at between 2½ and 3 per cent. Again, with respect to valuations, it was considered that the custom in the country differed so much from that which prevailed in town, that certain modifications had been proposed. With respect to taking out quantities, in some parts of the country architects took them out themselves, and in many districts it was held that the "quantities" ought not to be a document which should be kept unknown to the employer. The committee of the Association, to whom these points had been referred, had considered the matter with much care and deliberation, and had agreed to

the resolution now submitted for the approval of the meeting.

After a short discussion, in which Mr. Blashill, Mr. Henry, Mr. Ridge, and other gentlemen took part, the resolution was agreed to *nem. con.*

The following gentlemen were subsequently elected delegates on behalf of the Association to the ensuing meeting of the Alliance:—Mr. T. R. Smith, Mr. Blashill, Mr. Rickman, and Mr. Bunker.

The Chairman announced, that on Saturday, the 28th inst., the members of the Association would be afforded an opportunity of inspecting the works of the new Langham Hotel, in Portland-place.

The next subject for the class of design is a Baptistery; and on the 27th inst. Mr. J. W. Penfold was to read a paper on "Metropolitan Improvements."

LEICESTER SQUARE.

HERE, in the heart's core of London—the habitat of the stranger, and the centre of traffic—a place long noted for exhibitions—where trade, theatres, and taverns are compacted together,—there is an open space which in any other city would be prized and kept neat, if not adorned with plantations, statuary, and fountains; and yet it has been suffered to remain for years a disgrace to the metropolis!

It might be supposed that the recent Act in this respect, empowering vestries and corporate bodies, should save the chief squares from disfigurement, waste, and pollution; still, no attempt has been made by the busy occupiers of valuable abodes and magazines surrounding this square to improve the ravaged condition of the inclosure, which not many years back shone in luxuriant blossom, and was not then an inappropriate *locale* for the equestrian statue in the centre.

The wreck of an iron railing still stands *in frame*, with breaches on all sides for the admission of idle boys; a few of the shrubs survive the dissolution of the Great Globe; and the mutilated statue, with one leg, astride a goblin horse on three legs, propped by stakes, serves as a mockery of royalty!

One is tempted to ask, is the condition of this inclosure of no value to the warm tradesmen and residents who look down upon its disgusting ruin? And would not the repair and ornamentation of the space, at a trifling cost, too, enhance the value of all the surrounding property? Little as the blot may be, it is a *national stigma*. A pleasant visitor of the Sablonnière insists that the effigy is not a wreck of the *Royal George*, but the Cockney boys' idol Guy Fawkes, *en permanence*; and that on every 5th of November the figure winks an eye, and the horse wags his tail. Whatever it may be, the square has truly gone Wylde.

M. A.

AN APOLOGY FOR SHAMS.

SIR,—Of invectiveagainst shams we have more than enough, for the most of it seems to be no other than downright hypocrisy, or else downright stupidity. To speak of all deception, however innocent and agreeable it may be, as being arrant falsehood and lying; to denounce, as some have done, the graining of doors and other imitations of more costly materials, as deserving to be put into the same category with fraudulent impositions—with that of forging bank notes, or, perhaps, a will—betrays a very queer sort of morality—pharisaical scrupulosity greatly overacted—a sort of conscientiousness so exquisitely fine as to be as delicate, consequently as flimsy and fragile, as a veritable cobweb. It is, in short, the very caricature of moral conscientiousness. One thing which cannot possibly be denied by any person of common sense is that good—nay, even very superior—taste may be shown, be the means employed for exhibiting it ever so cheap, just as the reverse may be ostentatiously paraded with the most expensive materials. Where the general effect is not only pleasing, but, perhaps, even captivating, the taking exception to innocent licences, as graining and similar deceptions, seems to me to argue a sad lack of æsthetic sensibility. What would be paltry in a patrician palace may be more than pardonable—even praiseworthy, in an every-day parlour, provided it be done with discreet reserve. "Are we even to have no cakes and ale because thou (John Ruskin) art virtuous (over-much)?" What that writer himself, who has inveighed so grandiloquently against the sin of burying the souls of workmen, says is that at any rate the graining of doors requires on the part of the workman somewhat more of artistic skill, or skilled labour, than does the mere mechanical drudgery of smearing it over with one uniform coat of paint.

Many will dissent from what is here said; but no matter, I am prepared to meet them all, however many, and however formidable, they may be in the columns of the *Builder*.

ART LOVER.

CHURCH-BUILDING NEWS.

Uplowman (Devon).—The parish church, which has been under repair for nearly twelve months, has been re-opened for divine service. The church for some years was in a very dilapidated state, and apprehensions being felt for its stability, Mr. Hayward was called in to examine the structure. He found the piers and arches between the nave and aisle to be considerably out of the upright, partly occasioned by the thrust of the old roof, but still more by that of the chancel-arch, which was in a crippled and even dangerous state. The re-construction of this arch was imperatively necessary, and that of the piers and arches almost as much so. The roof was in a condition which would not admit of its being taken down and put up again; and, in case funds could not be raised for new roofs, the architect advised that tie-rods of iron should be applied to restrain all further thrust, and to wait until money could be obtained for replacing the old with new work. Happily, this has been accomplished without waiting. The chancel was past repair. The church was filled with pews 4 feet high, and disfigured by a heavy gallery at the western end. It being determined to restore the church in a proper manner, a contract was entered into with Mr. Wood, of Lurley, near Tiverton, for rebuilding the piers and arches, new roof to the nave and aisle, new seats, and the restoration of the windows. While this was in progress, the rector determined on rebuilding the chancel. The cost of the resoration has been defrayed partly by rate and partly by gifts, the largest contributor being Mr. Troyte, of Huntsham. The direction of the works was placed in Mr. Hayward's hands. The church is heated by an apparatus of Messrs. Haden's, fixed in a stove-room beneath the vestry. All the windows in the church are filled with stained glass by Messrs. Wailes, of Newcastle. The eastern one is given by a few friends, in memory of the late Mr. Commissioner Bere, the father of the present rector: that on the south is a memorial to the Rev. S. Pidsley, formerly rector, by his widow; and the corresponding one on the north is a gift of old friends and schoolfellows of the present rector.

Plymouth.—The parish church of Charles, still by many called "New Church," has been partially restored and re-opened. The committee placed the restoration or rather improvement, of the church, in the hands of Mr. Hine, architect, under whose direction the north and south porches have been erected, dormer windows of improved character introduced in the roof in place of the former unsightly ones, and the whole interior has undergone a complete change. The most notable features of the interior are the new reredos and communion-rails, and the stained-glass windows of the chancel. The large east window is the workmanship of Mr. Bell, of Bristol: the lower portions are occupied with foliated geometrical patterns, and above in the tracery are the *Salvator Mundi*, and a circle of angels in adoration. The side windows are by Messrs. Clayton & Bell, of London, and are family memorials, representing the Resurrection of Christ, and the parable of the Good Samaritan. Messrs. Call & Pethick were the general contractors. The reredos, which is of Caen stone and marble, was made by Mr. Bovey, and the communion rails by Messrs. Hart & Son, of London. Mr. P. Marshall supplied the gas-fittings, and the painter's work was executed by Mr. Thomas, of Stonehouse.

Eccles (Manchester).—The tender of Mr. W. Huddleston has been accepted in a private competition under Mr. Scott, for the erection of a church and parsonage for Mr. J. Sootle, at the Weaste, Eccles, for upwards of 8,000*l.*, exclusive of boundary walls.

Collyhurst.—We are requested to state that the gas standards, brackets, and cornice in the Albert Memorial Church here were designed and executed by Mr. J. W. Dovey, of Manchester.

Cockermouth.—The new church, the foundation stone of which was laid on the 29th of July, last year, is so far advanced towards completion that the work, as regards the masonry, is finished, and the first timbers have been laid. In order to celebrate this event, the workmen and their friends, to the number of seventy and upwards, met at the Sun Inn, Cockermouth, and partook of a substantial dinner. The chair was taken by the Rev. H. L. Puxley, and the vice-chair by Mr. H. Faithful, of Cockermouth. Mr. Wood proposed the health of Mr. Bruce, the architect of the church; who proposed the health of the contractors, Messrs. Cape & Hepworth. The vice-chairman proposed "The Workmen," coupled with the names of Messrs. Thompson & Archer.

DISSENTING CHURCH-BUILDING NEWS.

Canterbury.—The new Union Chapel in Watling-street is now nearly completed. The building has been erected by Mr. Lancefield, contractor, of this city; the architect being Mr. W. F. Poulton, of Reading. The materials of construction are Kentish rag stone, in courses, and Bath stone dressings, the style being of a mixed order, but with Gothic points and windows. The width of the chapel internally is 38 feet 3 inches, and the length from the front wall to the back of the organ recess, 66 feet. The ceiling is flattened in the centre, with canted sides, the height from the floor being about 28 feet. The inside of the roof is divided into panels by wooden ribs, in which are inserted lights. The walls and ceiling panels are decorated with distemper work, which, together with the other wooden ornaments, are stained. There is accommodation in the chapel for 500 persons. Underneath and occupying the whole are school and class rooms. The total cost of the erection, inclusive of lighting, fencing, schools, &c., is about 2,100*l.*

Levenshulme (Lancashire).—The corner-stone of a new chapel, in connexion with the United Methodist Free Church, has been laid at Levenshulme, by Sir James Watts. The site of the chapel is immediately contiguous to the high road. The chapel will accommodate 300 on the ground-floor, and about thirty in the singers' gallery. Vestries, apparatus room, &c., will be built at the back. The design is Italian, of the thirteenth century; and the leading features are a square brick tower, with splayed pilasters and slated spire, 85 feet high, with open belfry, having a series of pointed arches resting upon cast-iron columns with foliated capitals and stone springers. The front elevation (to Stockport-road) has a two-light traceried stone window, with four-light window underneath, the whole set in a deep recess with splayed jambs and arch. The various window arches are formed with red splayed and blue bricks alternately. The roofs have "lunettes" and bands of green slates. Hartley's diamond embossed glass will be inserted in the windows, which are made to open. There will be a platform and communion, but no pulpit: the pews are without doors: a portion of the roof-timbers will be exposed below the ceiling line, and these, with all other woodwork, will be stained and varnished. The chapel will be built of machine-made bricks, with dressings of Halifax stone. The committee purpose, when the funds permit, to erect detached schools, with class-rooms, land sufficient for the purpose having been secured. The chapel, with its entire fittings, heating apparatus, &c., will cost 1,200*l.* The architects are Messrs. Whyatt & Redford, of Manchester.——The foundation stone of a New Wesleyan Methodist chapel has also been laid at Levenshulme. The site is an open plot of ground, on the right of the Stockport-road, nearly opposite the Mechanics' Institute. The style of the building will be English Gothic, of the geometrical period. The chapel is to be completed and ready for occupation early next spring, and it is intended to add a minister's house and school adjoining, for which purpose land has been secured. The cost of the chapel will be 2,400*l.*, and altogether about 3,000*l.* will be required. The contract has been given to a Stockport firm. The architects are Messrs. Paull & Ayliffe, Manchester.

Stockport.—A new Congregational chapel is to be erected in Wellington-road South, in place of the Orchard-street chapel, which is too small for the congregation, and has become impaired. The Bicentenary Committee are likely to aid in the erection, and 700*l.* have already been subscribed.

Dewsbury.—A new Independent chapel is to be erected at Dewsbury, near Wakefield. Mr. M. Oldroyd gives the land, and his firm have

promised 3,000*l.* towards the erection of the edifice.

Tadcaster.—The foundation-stone of a new Primitive Methodist chapel, with school-room, has been laid. The chapel, &c., is to cost 800*l.* Mr. J. Wright, of Hull, is the architect, and the contractors of the building are Mr. E. Bilbrough, of Tadcaster; Mr. D. Whitfield, and Mr. G. Bailey, of Wetherby.

SCHOOL-BUILDING NEWS.

Henley-on-Thames.—The schools at Kidmore End, Oxon, having been recently enlarged, and a mistress's house, &c., erected, from designs by Mr. Horace Jones, architect to the city of London, at a cost of 600*l.*, have been formally re-opened by the bishop of the diocese.

Balcombe.—In connexion with St. Nicholas's College, a movement is going forward for the erection of new buildings at Ardingly, near Balcombe, to accommodate the third, or Lower Middle Schools, for education after the manner of the great public schools, and at the lowest practicable cost. The portion first to be built, for reception of 200 boys, has been contracted for at 4,600*l.* Earl Granville is expected to lay the first stone.

Weymouth.—The new building for the grammar schools has been commenced on a site near St. John's Church, on the Dorchester-road. The plans are by Mr. Crickmay, of Weymouth, architect.

Kidderminster.—The new schools for the Independents have been opened. The staircase and doorways are wide, affording means for ready exit: the seats are heated by warm-air apparatus. There is one large room for evening lectures, public meetings, and school purposes, on the second floor: the ground floor has six class-rooms, and a larger room, which will hold 120, for prayer and other meetings; a side room for a library; and a minister's vestry, which opens into the chapel, where some slight improvements have also been made. About 2,000*l.* will be required to pay for the rooms, of which more than 1,300*l.* is in hand. The architect was Mr. A. Johnson, of Birmingham; and the contract has been carried out by Mr. Wilkinson, of Derby.

Trecastle (South Wales).—A national school building has been erected here. The building comprises a room 51 feet long by 20 feet broad and 16 feet high, with a class-room 18 feet by 15 feet, of similar height, forming a wing at the east end. Over the entrance a tower is erected, which contains a clock and bell, supplied by Mr. R. Webb, Brecon. There is a house for the schoolmaster, and also a playground attached to the school.

Mellor (Derbyshire).—New parish schools and teachers' house are about to be built here. The site and a liberal contribution have been given by one of the chief landed proprietors in the district. The new schools are shortly to be begun, from designs prepared by Mr. J. Medland Taylor, of Manchester, architect.

Stanley.—New schools have been opened here. The building, designed by Messrs. Hine & Evans, of Nottingham, is in the Gothic style. The entire cost of the building, with needful fittings, is over 300*l.* There is accommodation for 136 children. Mr. Brown was the builder.

Harborne (Staffordshire).—The members of the congregation worshipping in the Baptist chapel, Harborne, have for a length of time felt the need of a suitable building in which the instruction of the children constituting the schools in connexion with it might be carried on. Accordingly, contributions were solicited, and the building fund being speedily guaranteed, Mr. Phipson, architect, was intrusted with the preparation of the design, and Mr. Mathews, builder, with the carrying out of the undertaking. A suitable site was obtained immediately at the rear of the chapel, and the foundations having been put in, the ceremony of laying the corner stone has just taken place. The new school-house will be a building, in red brick, with blue brick dressings, and will accommodate some two hundred. Its cost will be about 220*l.*

Crowle (Lincolnshire).—The new schools recently erected in this parish have been opened. The plans and estimates were obtained from Mr. Hopkins, consulting architect to the Worcester Diocesan Society, and the contract for building sent in by Mr. Shelswell, of Worcester, was accepted. Accommodation is provided for upwards of 100 children, including infants. It is built of brick, with Bath stone dressings, and alternate white and grey stone in the arches of the doors and windows. A band of ornamental brickwork surrounds the school part of the building, a residence for the master and mistress being at the western end, and the whole is enclosed in a brick and stone fence. The principal room is 42 feet long by 18 feet wide, with a steep-pitched roof of open timber, the principals resting upon stone corbels. In the east wall is a Decorated window, and there are square-headed mullioned windows in the side wall. There is also a class-room, with lofty roof, and lighted by a three-light trefoil-headed window, and a cloak-room, entrance-hall and porched doorway. The entire cost was between 700*l.* and 800*l.*

St. Anthony's, Newcastle-upon-Tyne.—The new national schools at this manufacturing village are now nearly completed. The building is in the Elizabethan style, of brick, with stone dressings, plain in external appearance. The school and class-rooms will accommodate 200 scholars, and the total cost will be about 700*l.*, exclusive of the site, which, together with a liberal pecuniary contribution, has been given by Sir Walter and Lady James, the owners of the estate. The buildings consist of a school-room, 65 feet by 18 feet, having a wing or transept on the north, 25½ feet by 18 feet, and a class-room, 18 feet by 13 feet. Two extensive playgrounds, with the usual offices, are attached. The addition of a teacher's residence is contemplated. Mr. S. Oswald is the architect.

PROVINCIAL NEWS.

Luton (Beds).—A meeting has been held in the Town-hall for the purpose of considering the best site for a new Corn-exchange for this town. Four plans were produced, and eventually one for erecting a corn exchange and assembly room, with plait market, &c., at a cost of 8,000*l.* was provisionally adopted.

Chatham.—The erection of the block of buildings in the New-road, forming the new police-court, at Chatham, having been completed by Messrs. Naylar & Son, the work of fitting up the interior is now being carried out under the superintendence of Mr. H. Bulmer, the architect; and the building is expected to be completed, and in all respects ready for the administration of justice, towards the end of the ensuing month, when the whole of the magisterial business connected with this division of the county will be transacted in the new courts. The new buildings, justice-room, police quarters, &c., cover a considerable extent of ground. The principal justice-room is some 40 feet in length, with a breadth of about 25 feet, and is lighted by a lantern-roof. The cells for the prisoners are below the court, with which they communicate. They are all about 10 feet in length by 7 feet in breadth, and accommodation is provided for twenty prisoners. The cells and all the passages are heated by means of hot water pipes. A building has been erected for the residence of the superintendent of police, together with stables, coach-house, &c. The building has a frontage of 150 feet and a depth of about 130 feet.

Brighton.—The proposal to erect a new workhouse for this parish, on the site already purchased for it, has been favourably received by the ratepayers, and a resolution passed approving of the plans prepared by the parish surveyor.

Swansea.—The new Sailors' Home has been opened. The building affords accommodation for 120 inmates. The total cost will be about 3,700*l.*, of which 700*l.* are still awanting.——A new music-hall has also been opened here. The hall is a plain edifice, some 122 feet long, 52 feet wide, and 45 feet high. It affords accommodation for 2,350 persons. Messrs. Thomas, Watkins, & Jenkins were the contractors, and Mr. W. Richards the architect. The committee appear to have been limited to 3,000*l.* for the whole outlay on the building. The hall is lighted by 470 star lights, manufactured by Messrs. Winfield & Son, of Birmingham.

Macclesfield.—The erection of the buildings at the corner of Chestergate and the Market-place, for the Macclesfield Branch of the Metropolitan and Provincial Bank, will be forthwith proceeded with. There were three tenders sent in, viz. by Mr. John Evans, Macclesfield, 3,900*l.*; Messrs. Thackrah & Peirce, Stockport, 3,882*l.*; and Mr. W. H. Brown, of Stockport, 3,800*l.* The last has been accepted. Mr. Stevens, of Macclesfield, is the architect.

Books Received.

Blythe House. London: Virtue, Brothers, & Co., 1864.

From a little pile of reading-books that have reached us, we take one which, if we mistake not, will grow in reputation with the public. "Blythe House" is an interesting story in one volume, which, without intruding any purpose beyond entertaining the reader, is full of excellent teaching, conveyed in a charmingly clear and pure style; and may be placed in the hands of either sex, and of all ages, not merely without fear, but with unquestionable advantage. The *dramatis personæ* are the flesh-and-blood men and women of to-day, such men and women as most of us know; and the story is told so naturally and unaffectedly as to give it the air of a truthful relation, and to fix without artifice the attention of the reader. Sister Milly, Jamie Mackinnon, and good, blunt Mrs. Carron, are henceforward prized acquaintances. Not to trench on the story itself, we quote a detached paragraph, to give an idea of the writer's style. The pain of parting is being spoken of:—

"Whatsoever the Future may have in reserve for us, yet the dear, familiar Past, with which we have grown lovingly intimate, can never be restored; and therefore we cannot fail to feel regret, as we see it receding from our view, how bright soever may be the prospect the coming years spread out before the mind's eye. The scenes through which we are henceforth to travel may be more lovely than those to which we are bidding adieu; but they possess not, as yet, the charm of old association; and, until they have won this endearing characteristic, they may fascinate the eye, but they cannot touch the heart. And how utterly vain is the attempt to reproduce the Past! We may, in our hopeless longing, gather again the selfsame persons in the old, familiar scenes, but yet how hollow and unsatisfactory is the result. We have changed; they have changed; outward nature has changed; the very trees and flowers are no longer exactly as they were; and though apart the alteration may be so trifling as not to be perceptible, yet bring once more together these various component parts of the former stratum of life, and we find they will never again agglomerate as of old. No. No skill or magic can reproduce the Past."

Such of our readers as sometimes ask us to point out a good sound story for them to buy will thank us for telling them of "Blythe House."

VARIORUM.

"Remarks on the defective and inadequate State of the Patent Museum." By J. T. Scott. 1864. As remarked by the author of this pamphlet, a sum of 200,000*l.* having already accumulated from the Patent Office, this fund not only might but ought to be appropriated to the erection of a suitable building in the most central and convenient part of London. At present the Patent Museum consists only of a very small part or corner of the South Kensington Museum; but it is to be hoped that ere long it will stand apart as a museum in itself. There are, no doubt, abundance of curious and interesting objects of a fitting description already in existence—not to speak of future acquisitions—to form an extensive as well as interesting and instructive museum. Already, indeed, there is a good nucleus for such a collection. The author of the pamphlet under notice gives a cursory review of the sources available in the accumulation of such a museum, and instances, among other examples, the original press at which Benjamin Franklin worked, and which Mr. Wyman, of the firm of Cox & Wyman, has kindly presented to the Patent Museum. This press was for many years in their printing-office in Great Queen-street (the printing office of the *Builder*, by the way), and it is even believed that Franklin worked in that office, which is the oldest established printing-house in London. What a multitude of curiosities—not necessarily restricted as they need be to inventions, and models of inventions, in themselves, patented—an extensive patent museum might contain?——A miscellaneous pamphlet has been published by Westerton, of Hyde Park Corner, the title of which will sufficiently indicate its contents: it is called "Hints on National Defence, on Matters connected with Art, and on other Subjects; including one for Trisecting an Angle; together with a Corollary derived therefrom for rectifying the Circumference of the Circle; also a Corollary proposed therefrom for squaring the Area of the Circle. By Sampson Sandys." As to the squaring of the circle, all we need say is that the author admits he is "not a mathematician."——"Practice of employing certain Substitutes for the genuine Ingredients in some Articles of daily Food, considered as it affects the Health of the Community. A Paper read before the Brighton Literary and Scientific In-

stitution; contributed by a Lady." London: Lewis, Gower-street. The chief object of this paper is to expose the tricks played with baking powder, egg powder, &c.——"Expeditions on the Glaciers." By a Member of the Alpine Club. London: Spon, Bucklersbury. This is a readable collection of papers which appeared in *Colburn's New Monthly Magazine*. We find from it that of ninety-eight ascents of Mont Blanc down to 1855, no fewer than sixty-one were by Englishmen.

Miscellanea.

HYDRAULIC TUBE DRAWING AND STEEL ORDNANCE.—Our readers would observe amongst the advertisements of the *Builder* an announcement that a new company is being formed to carry out certain patents for steel tube drawing. The object is an important one, and the patents have already been worked experimentally, in Paris, for nearly two years. If good steel tubes, at practicable prices, can now be formed, as it appears they can, a difficult problem of hardware manufacture has been solved, and a new branch of business of extensive utility will be established. The invention is applicable to tubes of all kinds and in every description of metal, and especially to iron, lead, and tin gas-tubing, boiler tubes, and surface condensers, hollow piston-rods, axles, and shafting; and a large field opens for it in the formation of steel barrels, or iron ones lined with steel, for rifles and other small arms, and also for heavy ordnance. The capital of the company, as will be seen, is 150,000*l.*, in 15,000 shares of 10*l.* each. Mr. J. E. M'Connell, C.E., is the company's consulting engineer, and the temporary offices are at 160, Gresham-house, Old Broad-street, London.

LITERARY FUND DINNER.—The amount subscribed at the recent dinner, whereat the Prince of Wales presided with great success, exceeds very considerably the amount roughly ascertained on the occasion. Several donations have been sent in since;—for example, 100 guineas from Messrs. Coutts & Co.; and many of the stewards have not yet announced their intentions. The total may be safely called 2,400*l.* An alteration was made in the order of the toasts on this occasion which will doubtless be followed elsewhere. It has long been the custom to let the chairman's "health" follow the toast of the evening, which brings the chairman's work all together. At the dinner in question, however, the latter toast was postponed to the end of the evening, and with manifest advantage.

THE NEWSPAPER-PRESS FUND DINNER. — At the inauguration dinner of this association, the donations announced amounted to no less a sum than 1,400*l.* The speaking was exceedingly good, and the musical entertainment unexampled in excellence. The introduction, however, of so much music at a dinner—a complete concert, in truth—was a mistake, and should not be imitated. If it had been given on a separate evening it would have brought the fund 100*l.* at least, and the dinner would have been more manageable. The greatest credit is due to the stewards and the committee for attention to the comfort of their guests. All persons connected with the newspaper press should at once join the association as a matter of prudence, if on no higher ground.

NEW BRIDGE OVER THE MERSEY.—The Rixton and Warburton Bridge Company are about to erect an iron bridge over the Mersey, about seven miles above Warrington. The bridge will be of one span of 130 feet, and approached by 12-yard roads, on the Rixton and Cheshire side of the river. The road will be about 1,000 yards in length, and, on the Lancashire side, about 300 yards. The directors have approved of the plans; and, as will be seen by our advertising columns, tenders are invited for the work. Mr. B. P. Coxon, of Warrington, is the engineer.

A GREAT BLAST.—An enormous blast has been made by the contractors under the Tyne Improvement Commissioners at the Trow Rocks, South Shields. 2,400 lb. of gunpowder were used; and it is estimated that 20,000 tons of rocks were dislodged. Immense fissures were rent in the rock, and huge masses of stone, many tons in weight, were tumbled over in all directions.

SOUTH KENSINGTON MUSEUM.—During Whitsun-week, 16,005 persons visited the museum.

OUTRAGE BY BRICKMAKERS' SOCIETY MEN. At Pendleton Mr. Benjamin Armitage, nephew to Sir Elkanah Armitage, has in course of erection a new mill. When the men left work on Saturday some portions of the building had been erected to the height of nine feet, and other parts to a height of six feet. The bricks used were machine-made. The watchman, named Goodwin, who had been some time in the employ of Mr. Armitage, was taking his ordinary rounds on Saturday night, accompanied by two dogs; and shortly after twelve o'clock about forty or fifty men came up, with blackened faces, and armed with sticks. They accosted the watchman, and three or four of the ringleaders knocked him down with bricks. While he was on the ground in a partial state of insensibility, he was brutally kicked and ill-treated, and was made to lie on his face. One of the men was armed with a loaded stick, with which the watchman was struck repeatedly over the head, while the other men called out several times "Kill him." On hearing these exclamations, the man who first struck Goodwin interposed, and prevented them carrying out their murderous threat. While this scene was being enacted the other men were engaged in the object for which they had come—viz., the demolition of the building. One of the dogs was killed, but the other bit one or more of the men very severely, causing them to shriek with the pain. The six-feet-high walls were knocked down, and damage was done to the extent of nearly 50*l.* Information was given to the police; and after Goodwin had received medical assistance he was able to describe some of his assailants. A reward of 20*l.* has been offered for the apprehension of any of the men.—*Manchester Examiner.*

THE FALL OF A CHIMNEY AT SADDLEWORTH.—The inquest on the ten persons killed at Greenfield, in the Saddleworth valley, by the fall of a factory chimney, has been held. From the evidence given it appeared that the fault was in the foundations of the chimney. A professional architect and builder, who had been called in to assist the jury with his opinion, said the upper part of the chimney was very well put together, but the foundation was defective. It further appeared that the work had been constructed by Jackson, a working mason, under the sole instructions of Mr. J. H. Whitehead, one of the partners of the firm; and that no professional architect's plans or advice had been obtained. The jury returned a verdict censuring Jackson for his negligence in the construction of the chimney; but they did not consider the negligence sufficiently gross to amount to manslaughter. They were also of opinion that Mr. Whitehead ought to have appointed a competent person to superintend the construction of the foundation during his absence.

THE PROPOSED IMPROVEMENT IN PARK-LANE.—At the meeting of the Metropolitan Board of Works on the 20th, Mr. Tite, M.P., brought forward the motion of which he had given notice—"That it be referred to the Streets Committee to consider the steps which have been taken by this Board with reference to the improvement of the south end of Park-lane, and to report to the Board generally thereon." He said plans had been made years ago, when the proposal was to spend 172,000*l.* upon the improvement, which the parish would not assist. He now asked the Board to refer this matter, so as to see what could be done. Major Lyon seconded the proposition. Mr. Legg, Mr. Jeremiah Long, and other members spoke against the proposition, which, on a division, had—for, 13; against, 13. The chairman voted in favour, and the reference was therefore carried.

PNEUMATIC DESPATCH OF PASSENGERS. — The Pneumatic Passenger Railway Company have been constructing an experimental tube, a quarter of a mile long, in the grounds of the Crystal Palace for the conveyance of passengers. The success attending the working of the tube for the despatch of letter-bags from Euston-square to the Post-office has induced the Company thus to experimentalise upon a larger scale.

SURVEYORS.—Mr. Thomas Hicks has been appointed surveyor of the Chippenham Highway district, at a salary of 200*l.* per annum.——At Stockport, the Public Works Committee, subject to the confirmation of the Council, have selected, from sixty-seven candidates, Mr. Alexander Taylor, of Scarborough, to fill the office of surveyor to the corporation, at a salary of 250*l.* per annum.

ARCHITECTURAL EXHIBITION. — On Tuesday evening Mr. Aitchison delivered a lecture "On the use of Iron for Architectural purposes." The lecturer gave a succinct description of the merits of iron for building purposes, and its advantages in many respects over other building materials, such as stone, brickwork, timber, &c.;—firstly, from its greater strength; secondly, economy of space occupied (a very important consideration in cities where space is valuable, and therefore obliged to be economised); and thirdly, additional safety arising from its incombustible character. He combated the opinion that iron was objectionable on account of the difficulty of giving graceful forms to it so as to render it beautiful or pleasing, and contended that, if rightly treated, it might be rendered not only useful, but beautiful also.

PATENTS.—A Berlin letter has the subjoined:—"The Minister of Commerce last year instituted an inquiry to ascertain whether the issue of patents for inventions had not become useless, owing to the progress of industry, and requested the forty-seven Chambers of Commerce in Prussia to give an opinion on the subject. Thirty-one of them have now replied that the abolition of patents would be advantageous in an industrial point of view; while the other sixteen express the opposite opinion. When the same question was submitted to the Chamber of Commerce in 1853, only six were for suppressing patents."

MR. G. H. THOMAS'S PICTURE OF THE MARRIAGE OF THE PRINCE OF WALES.—Mr. Thomas's picture gives a very satisfactory notion of the marriage of the Prince of Wales in St. George's Chapel; and, when reproduced by Messrs. Day in *fac-simile*, will doubtless find a place in many houses of the Queen's loving subjects. It includes nearly 100 portraits. The likeness of the Prince is not so good as are some of the others. The architectural lines on the left of the picture are out of upright, and should be corrected. The arrangement of the numerous figures is well managed.

INDIAN IRON.—The low price at which Indian iron is produced by the rude native process is remarkable. At Tendukera, the price of Kachchà iron is from 3*l.* 3s. to 3*l.* 10s. per ton; and that of Pakka iron from 4*l.* 10s. to 5*l.* 18s. per ton. "It may, therefore, be said," writes Mr. H. Blackwell, "that iron is made here—by the rudest methods and without any machinery beyond the bellows and hammer of the workman—cheaper than it could be made in England, with every mechanical appliance for facilitating the manufacture." Only very small bars, however, are produced by the Hindoos.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—Last week a lecture was delivered by Mr. Halse, on "The Ethics of Sculpture." The lecturer commenced by inquiring into the principles of the art as exemplified in the works of antiquity. Glancing at the origin of sculpture, he urged that, although rude and grotesque, it was grand and impressive, being identified with religion. This was the basis upon which the Greeks, readily embracing the Platonic dogma of a necessary connexion between the beautiful and the good, built up their immortal art. The lecturer insisted upon a return to severe rules.

NEW STYLE OF LAYING CHIEF STONES. — The London Society of German Gymnasts have laid the foundation-stone of their new hall, near the King's Cross Station. A torch-light procession was formed at night, and amid the singing of national songs and flaming of numerous torches the ceremony was performed. The new building, in addition to numerous offices, will contain a hall, about 80 square feet in size, for gymnastic exercises.

ENCOURAGEMENT OF SCIENCE.—The scientific world of France has been frequently rather startled at the learning and novel views displayed in the mathematical works of a Captain Monheim, of the Artillery, who is a very young man. The French Government, in acknowledgment of his ability, have just appointed him to the Professorship of Descriptive Geometry, at the school bearing that name.

THE ROCHDALE RESERVOIRS.—Mr. Cobden has obtained a promise from the Home Secretary that, at the earliest opportunity, a Government surveyor shall be sent down to inspect and report upon the state of the Rochdale reservoirs, including also the reservoir of the Oldham Corporation, at Piethorn, which is said to be in a very unsatisfactory condition.

Machinery for Sawing Irregular Forms of Wood.—An invention has been patented by Mr. Henry Vrooman, of New York, for sawing timber for shipbuilding and other purposes, whether curvilinear, straight, bevilling, or winding. The log or timber, during the process of sawing, says the *Engineer*, receives but one motion, and that is a straight line, as in mills for sawing logs into straight lumber; all the other motions, whether for curves or bevels of any degree, being given to the saw. The saw is strained in a reciprocating gate or sash, so that it can be turned therein to any angle desired relatively to the plane of motion of the log, the motions for so turning the saw being derived from a guide, which is flexible, and which may be bent and set to any form desired. The steam-engine, by which the saw gate is operated by direct connexion, is mounted on the turning frame which carries the ways on which the saw-gate slides, so that the engine and its connexions with the saw-gate follow the change of position of the saw-gate, whether it be moved to the right or left in sawing curves, or turned in a vertical plane to saw bevels. The feeding motion when set is not varied by the change of positions that determine the line of cut, whether curvilinear, bevelling, or winding.

Strawberry-houses.—The want of a house especially adapted to forcing strawberries has long been felt by professional gardeners and amateurs. The strawberry plant is impatient of great heat, and requires abundance of fresh air with plenty of light to the plant and shade to the pot. An improved strawberry-house has been invented by a Mr. Ingram, and is being manufactured by Messrs. Weeks & Co., of Chelsea, the horticultural engineers. It provides for the light and shade required, and is nevertheless of simple construction, rising by glazed steps with pot-shading facings. The construction is described as being on the cast-iron bracket principle, and requiring no permanent fixing; easily erected, disjointed, removed, and readjusted by any intelligent labourer; and requiring small space only. Each of the sloping roof lights is made to open, and the front boards can be readily removed. The whole is secured by bolts, nuts and screws, so as to render the houses moveable buildings, and thereby tenant's fixtures.

The Drainage of Portsmouth.—At a recent meeting of the Town Council a report as to Mr. Angell's scheme by the Local Government Committee was read. It stated that according to this plan the cost of the main drainage for the upper, middle, and lower levels, including the outfall works, engine-house, and steam-power complete, is estimated at 45,000*l.*; the branch sewerage, connecting the several streets in the Borough with the main sewerage, 37,000*l.*; to which is added, as usual, 10 per cent. to meet contingencies, 8,000*l.*; showing a detailed cost of 90,000*l.* While having every confidence in Mr. Angell, the reporters advised that the plan should be submitted to some eminent practical engineer acquainted with works of this nature. The council, after some discussion on a proposed amendment to refer the matter back to the committee for further consideration, approved of and adopted the report.

Insects in Wood.—A Kirkcaldy correspondent, R. D., complains of being annoyed, in a recently-built house, with a number of small red insects, which appear on the inside of the lower sashes of the windows, and run up the glass for a foot or two. They are in size and colour not unlike the grains of cayenne pepper. He wishes to know where they come from, and how to get rid of them. He washed the woodwork with solution of corrosive sublimate, but with no good effect. There is a minute insect which is called the red spider, and infests gardens; but whether this be the same we cannot say. A microscopic examination would show the formation of the insect. Meantime, perhaps some other correspondent may know, and can suggest a remedy.

Scottish National Prince Consort Memorial.—Anticipated Open Competition.—We understand that the committee of advice, nominated by the Queen to aid in the selection of a design for the Scottish National Memorial, have received a further communication from her Majesty, which will shortly enable them to announce that they are ready to receive designs from all who desire to compete.—*Scotsman.*

The Dublin Exhibition of Irish Manufactures.—The Exhibition of Irish Manufactures was to be opened on this Wednesday, the 25th inst.

Ice Manufacture.—We extract the following paragraph from the [*Melbourne*] *Argus* of November 22, says the *Adelaide Observer* of 5th December last:—"His Excellency the Governor and several members of the Legislature visited the vestibule of the Café de Paris yesterday, for the purpose of inspecting the huge block of ice noticed in the *Argus*. The ice was manufactured in Sydney by the New South Wales Ice Company, by a system recently invented and patented in the colonies. One of the great advantages of the system is said to be that no chemical agent is combined with the water used in making the ice, and hence it is as pure and tasteless as the ice produced by natural means. We believe that it is the intention of the patentees to organize a company for manufacturing ice in Melbourne, and they hope to be able to supply it at 1d. per lb.; being less than half the price at which it has hitherto been sold here.

Opening of Northampton Town Hall.—This new edifice, designed by Mr. E. W. Godwin, has been opened with due ceremonial. "There was but one shortcoming which struck us," says the local *Mercury*,—"the want of any due recognition of the architect: of course it was an unintentional oversight, but an oversight it was, and to be regretted." Unintentional or not, this is a sort of oversight which is but too frequent.

Bethnal-Green Churches.—The Bishop of London was to add another to the many new churches of Bethnal-green, on this Thursday, the 26th instant. The new church, which is capable of seating about 900 persons, is situate in a densely populated part of the parish, and has an ecclesiastical district assigned to it out of St. Matthias and St. Thomas. The church has been erected at a cost of about 4,000*l.*, and is dedicated to St. Paul.

Waste Electricity to be used up.—At the last sitting of the Paris Academy of Sciences, a paper by M. Loir was sent in by the Minister of the Interior, in which the author endeavoured to show that a quantity of electricity was produced in large factories, and might be turned to account by means of the straps which generated it by their friction in communicating motion to the machinery.

Petroleum as Fuel.—We are informed that an architect (Mr. C. J. Richardson) has discovered and registered a very simple process, by means of which petroleum, or American rock-oil, can be used as fuel for the steam-engine, or any kind of furnace, in lieu of coal, with safety and economy.

Conference on the Houses of the Labouring Classes.—The conference invited by the Society of Arts was opened on Thursday morning as arranged, Mr. W. Hawes, the Chairman of the Council, in the chair. The speakers were numerous and earnest, and we may hope that good will result.

Working Men's Exhibitions.—With reference to the recent Lambeth Exhibition, we are asked to mention that the idea of the Exhibition originated with the missionary (Mr. G. M. Murphy) connected with Surrey Chapel, and was carried out by him and a committee of working men.

Discovery of Castle Ruins in Dumfriesshire.—A huge green mound belonging to the Duke of Buccleuch, at Dumfries, has been opened, and discovered to be the ruins of Castle Tibber, containing interesting relics.

New Rhine Bridge.—A new bridge across the Rhine at Coblentz has been opened with great rejoicings, the King and Queen of Prussia, the Grand Duchess of Baden, and the Duke of Nassau being present.

The National Albert Memorial.—Several sculptors have received commissions. One of the large groups, "America," has been entrusted to Mr. John Bell; another of them to Mr. Calder Marshall, R.A. Baron Marochetti, too, has a part of the work to do.

A Shilling Church.—The church for the erection of which the wife of the incumbent of Tintwistle has been labouring for the last five years, has been realized, and the opening has just taken place.

The Ancient Wall in Albion-terrace, Southampton.—The Town Council have refused, by a majority of 11 to 6, to give 100*l.* for the purchase and retention of this interesting old relic of past times.

TENDERS.

For certain works to No. 207, Tottenham-court-road, and No. 15½, Chenies-street, for Mr. C. Const. Mr. J. Tolley, architect. Quantities not supplied:—

Simpson	£1,350 0 0
Patman & Fotheringham	1,285 0 0
Selleck	1,188 0 0
Newman & Mann	1,112 0 0
Bangh & Bryant	1,096 0 0
Tracey & Co.	1,087 0 0
Wallon	1,074 0 0
Williams (accepted)	1,073 0 0

For additions to house, Streatham. Mr. J. Tolley, architect:—

Trollope & Sons (accepted)	£360 0 0

For alterations to No. 9, Garden-row, Camberwell, for Mr. E. J. Thompson. Mr. J. Tolley, architect:—

Martin	£161 0 0
Good	142 10 0
Grover (accepted)	97 10 0

For alterations to the Camden's Head, Bethnal-green-road, for Mr. F. Allen. Mr. E. Brown, architect:—

Simmonds (accepted)	£480 0 0
Tolley	290 0 0

For alterations to the Prince Albert, King's-cross, Clerkenwell, for Mr. R. Martin. Mr. Brown, architect:—

Tozer	£530 10 0
Fenner	465 10 0
Archer	440 0 0
Warne	434 15 0
Simmonds	430 0 0
Langmead & Co.	420 0 0
Ennor (accepted)	398 0 0

For the erection of a new warehouse, Southwark-street, for Mr. E. H. Moses. Mr. N. S. Joseph, architect:—

Higgs	£5,350 0 0
Myers & Son	4,888 0 0
Brown & Robinson	4,785 0 0
Coleman	4,775 0 0
Wills	4,750 0 0
Lawrence & Son	4,740 0 0
Axford	4,700 0 0
Conder	4,666 0 0
Piper & Wheeler	4,660 0 0
Hill & Keddell	4,650 0 0
Newman & Mann	4,622 0 0
King & Son	4,590 0 0

For building a small ice-well, for Mr. R. Calcutt. Mr. H. McCalla, architect:—

Amos	£60 10 0
Gaisford	60 0 0
Grey & Co.	59 10 0

For building a conservatory and forcing-pit, 37 feet long, hot-water apparatus, and brickwork, for Mr. P. Freeman. Mr. H. McCalla, architect:—

Grey & Co.	£167 10 0
Freeman	150 0 0
Hill (accepted)	105 0 0

For doing sundry repairs to Kingsbury-green Farmhouse. Mr. H. McCalla, architect:—

	To find Materials.	Labour only.
Grey & Co.	£418 0 0	£286 0 0
Hill (accepted)	288 0 0	210 0 0

For the erection of four residences at Ventnor, Isle of Wight, for Mr. B. Meyers. Mr. Joseph, architect:—

Colnutt	£6,831 0 0
Newnham	6,625 10 0
Davis & Son	6,624 0 0
Sibley	6,521 0 0
Denham	6,070 0 0
Newman & Mann	6,008 0 0
Ward & Co.	4,927 0 0
Langdon (accepted)	4,477 0 0

For the erection of new warehouses in Wood-street, Cheapside, for Messrs. Hugh Jones & Co. Mr. Thomas Burton, architect. Quantities supplied:—

	Gross Amount.	Allowed for Old Materials.
Myers	£6,679	£175
Conder	6,216	180
Axford	6,198	200
Mansfield	5,868	60
Lawrence	5,920	60
Browne & Robinson	5,892	56
Ashby	5,883	50
Little	5,898	71
Brass	5,859	90
Holland	5,800	300
Piper	5,700	100
Downs (accepted)	5,530	160

For the erection of tower and spire of Hagley Church, Worcestershire. Mr. G. E. Street, architect:—

Briggs	£1,480 0 0
Lovatt	1,455 0 0
Loucster	1,350 0 0
Ife	1,250 0 0
Horsman	1,237 0 0
Thornton (accepted)	877 0 0

Accepted for a villa residence, at Ripon, for Mr. J. Bateman. Mr. H. Sharpon, architect:—

Carr (bricklayer and mason)	£491 0 0
Forth (carpenter and joiner)	375 0 0
Fortune (plasterer)	85 0 0
Gowing (plumber and glazier)	130 0 0
Kellett (slater)	44 10 0

For the erection of warehouse, &c., Bell Sauvage-yard, for Messrs. Petter & Galpin. Messrs. Tress & Chambers, architects. Quantities by Mr. Raggett:—

Hawtrey & Sons	£3,470 0 0
Sewell & Sons	3,427 0 0
Brass	3,420 0 0
Browne & Robinson	3,377 0 0
Lawrence & Sons	3,142 0 0
King & Sons	3,090 0 0
Conder	2,997 0 0
Deards	2,945 0 0
Anley	2,888 0 0
Macey	2,877 0 0

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Taylor	1,465	1,365
Perry	1,410	1,230*

* Accepted.

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	Alterations to Houses.	Stable Building.	Total.
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Macey	1,442	1,119	2,561
Downs	1,400	1,085	2,485
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Colls	1,374	1,020	2,394
Ramsey	1,223	1,004	2,227
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TO BUILDERS and OTHERS.—TO BE SOLD, by Private Contract, together or separate, 18 well-made modern Pine glass SHOP FRONTS, with sash doors, 11 feet 4 inches wide by 10 feet 7 inches high.—Apply to Messrs. GLASIER & SONS, Auctioneers, &c. 41, Charing-cross, S.W.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulums, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 30 feet diameter.

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The Village Clock, price 40 guineas.

TO BRICKMAKERS and OTHERS.—WANTED, 500,000 good PLACE, and 250,000 good STOCKS, for cash. Alongside at Vauxhall.—Address, C. KYNOCH, Builder, 2, Angell-road, Brixton, S.

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BRICKS.—BRICKS of this SEASON'S MAKE are NOW READY for DELIVERY, at J. JOHNSON'S Brickfields, viz.—Child's-hill Brickfield, Finchley road, Hampstead, N.W.; Swan Brickfield, Wallwin-green, S.W.; Rosslyn Brickfield, North-end, Fulham, S.W.—Stocks, Grissells, and Place Bricks, of good quality, at very reasonable prices, for cash, or approved bills.

WEDGWOOD MEMORIAL INSTITUTE, BURSLEM.—To BRICKMAKERS. The Committee would be glad to receive from Brickmakers SAMPLES of RED BRICKS suitable for the external portion of the above Building. The samples to be forwarded, carriage paid, to the Architect, stating the price per 1,000 delivered at the Longport Station of the North Staffordshire Railway.

GEORGE BENJAMIN NICHOLS, Architect.
Heath Chambers, West Bromwich, May 17th, 1864.

BRICKS.—1,000,000 Good STOCKS. A Quarter of a mile from railway-station, half a mile from the Watermeads. To be seen in Maxey road, Plumstead.—Address, W. G. DAWSON, Plumstead Common, S.E.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SITTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

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The advantages of this plan are two-fold.

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MESSRS. J. & W. EASTWOOD have a few freights of COWLEY, SHOEBURY, and KENT STOCK BRICKS FOR SALE, for delivery during MAY.
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JOHN KNOWLES,
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Fire Bricks, Tiles, and Lumps of all sizes, or made to order on short notice.
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RED BRICKS, STOCKS, PAVIORS,
PALE and BRIGHT YELLOW CUTTERS. — ROBERT LITTLE, Brickmaker, Slough, begs to inform Builders and the Trade generally that he is now prepared to Supply any quantity of good well-burnt RED BRICKS (either plain, splay, or moulded), suitable for facings. Mr. LITTLE is able to Lend Bricks for London, or any other part, by either the Great or South Western Railways.—The Bricks may be seen, and prices obtained, either at the Field, Slough, on application to R. LITTLE, Great Western Railway, Windsor.

BUILDING GROUND. — TO BE LET, from Michaelmas next, a valuable PLOT of GROUND, adjoining the Lea Bridge Railway Station, with a frontage of 800 feet to the Lea Bridge-road, the total area being 34 acres.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

CITY of LONDON.—FORE STREET and CRIPPLEGATE BUILDINGS.—Valuable PROPERTY TO BE LET by TENDER, on a long Lease or Leases, for rebuilding or other improvements, subject to present unexpired terms: comprising Shops in Fore-street, Nos. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22; in Cripplegate buildings, Nos. 6, 7, 8, 9, and 10, being the Cripplegate Tavern; also the premises known as the White Horse-yard, occupied by Mrs. Scholes. The frontage in Fore-street is 221 feet 8 inches; in Cripplegate-buildings, 103 feet 6 inches. The whole comprises more than half an acre, being about 23,000 square feet. Possession of a small portion can be given at Michaelmas, 1864; of the larger portion at Midsummer, 1865; and of Nos. 12, 13, 14, 15, and 22, Fore-street, in 1871; and of the Cripplegate Tavern, in 1873. The property may be tendered for in whole or in part, to suit the views of the proposers. The estate is in close contiguity with the Manchester and Leeds markets, likewise with the proposed Finsbury Station of the Metropolitan Railway, and with which it might, no doubt, hereafter be placed in direct communication, and with the terminus of the North London Railway. The site is within three minutes' walk of the Bank of England; and by the new railways, ready communication will be had with every part of the metropolis and suburbs, with the whole of the United Kingdom, and with the docks and port of London Possession may be had as before stated, subject to the materials being sold and cleared away. The day fixed for sending in the Tenders is MONDAY, the 20th of JUNE next.—For permission to view, apply to the tenants or occupiers. The conditions and plans, and conditions of letting, may be seen at the Offices of Mr. RICHARD SUTER, Architect and Surveyor, 25, Gracechurch-street, E.C.

A FREEHOLD MANSION TO BE SOLD.
The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coachhouses for four carriages; suitable servants' offices, extensive ornamental pleasure grounds, forcing houses, in all 28 acres; gravelly soil; near Sunninghill Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

BUILDING LAND.—Several PLOTS TO BE LET on LEASE for 99 years, in the Park, Highgate. One of the healthy situations in the vicinity of London, with extensive and beautiful views. A new church and a railway station immediately contiguous. Sewers and roads on the most approved construction are being made. Gas and water can be readily supplied.—For particulars apply to T. H. WYATT, Esq. No 77, Great Russell-street, Bloomsbury, W.C.; or to Mr. WHEELER, Builder, South Grove, Highgate, N.

DEPTFORD, Kent.—To BUILDERS, ENGINEERS, SHIPWRIGHTS, SMITHS, MANUFACTURERS, and Others requiring or desiring commodious Tenements or Residences for their workmen, or to societies or individuals wishing to provide improved Dwellings for the Working Classes.—The Corporation of Trinity House, having otherwise provided for the inmates of their establishment known as the Lower Ground Almshouses, at the Stowage, Deptford, comprising Twenty-six distinct Dwellings, hereby give notice, that they are willing to receive TENDERS for LETTING the said HOUSES on a repairing lease for 21 years, or more, as may be agreed. Each house consists of a basement, ground, and chamber story; five having yards and additional offices; and the others can readily have every necessary accommodation added to them. The whole is approached from the street by a centre gateway, and is inclosed within itself as a distinct precinct. These houses are situated in the centre of the large manufacturing district on the South side of the Thames. They are also, from the cheapness of the crossing at the ferry, very conveniently situated in relation to the large district of the manufactories on the opposite side of the river, from Mill-wall and the Isle of Dogs to the localities adjoining. For permission to view, apply to Mr. NORTHWOOD, No. 1, on the Premises. The whole are to be Let by Tender, in the Lot, and MONDAY, the 30th of MAY next, by the day fixed by the Corporation for receiving the Tenders.—For further particulars apply at the Offices of Mr. RICHARD SUTER, Architect and Surveyor, 25, Gracechurch-street, E.C. and where a plan of the property may be seen. P. H. BERTHON, secretary.
Trinity House, March 28, 1864.

BUILDING LAND at CHITT'S HILL, WOOD GREEN, overlooking three different counties, and fronting the high road, eight minutes walk from the station and Alexandra Park, TO BE LET for the erection of superior Villa Residences, which are in great demand in this beautiful locality. Term, 99 years. Money advanced if required.—A plan may be seen, and particulars obtained, on application to S. HEWITT, Architect and Surveyor, 101, Great Russell-street, Bloomsbury, W.C.

BUILDING LAND, Reading, Berks.—FOR SALE, by PRIVATE CONTRACT, in lots suited for the erection of private Dwelling-houses, a total acres of FREEHOLD BUILDING LAND, forming part of the rapidly improving Western Suburb of the Town. The roads on the Estate are excellent. The property is ornamentally timbered, and several portions of it are well fenced in with hedges, and planted with trees and shrubs of many years' growth. Distance from the centre of the Town and three Railway-stations, about a mile. A second Church is being erected in the immediate neighbourhood. Money advanced if required.—Apply to Mr. W. WEEDON, Solicitor, Reading.

IMPORTANT to COAL PROPRIETORS, CAPITALISTS, and OTHERS.—The owners of valuable MINES of COAL, lying within and under a compact freehold estate of upwards of 150 acres, situate about three miles from the important manufacturing town of Blackburn, Lancashire, are prepared to treat for the absolute SALE of the COAL, or to enter into favourable arrangements for leasing the same for a term of years. Good turnpike roads intersect the estate, and the same is within very easy distance of railway and canal.—For further particulars apply to Messrs. ROBINSON & SON, Solicitors, Blackburn.

TO BUILDERS and OTHERS.—BROMLEY, KENT.—LAND TO BE LET, for Building, on Lease, for ninety-seven years, about half a mile from a railway station and adjoining the town of Bromley. Soil, sand and gravel, with a good supply of water.—For particulars, apply to Messrs. PRESTON & DORMAN, 15, Gresham-street, E.C.

BUILDING LAND TO BE LET, on advantageous terms, for 99 years, situate at Merton, Surrey, within ten minutes' walk of the Wimbledon Station, or 45 minutes of the City. The plan of estate can be seen, and particulars obtained, upon application to Mr EDWIN SHALES, Surveyor's Office, Christ's Hospital, Newgate-street, from TEN till FIVE o'clock.

BUILDING LAND TO BE LET on LEASE, in the Lower Richmond-road, within a mile of Putney and Barnes Railway Stations.—Apply to W. K. WOOD, Timber Merchant, Wandsworth.

EXMOUTH.—To BUILDERS, CAPITALISTS, and OTHERS.—Notice is hereby given, that by a recent order of the Court of Chancery, the restriction against leasing for long terms of years, imposed by the will of the late Lord Rolle, and in consequence of which the extensive and beautiful district, situate in the vicinity of the town of Exmouth, and reaching to the villages of Littleham and Bulle-gh-Salterton, has up to the present time been unavailable for building purposes, has been removed, and the Trustees of the property are now prepared to entertain offers for taking the LAND on LONG LEASES. The advantages of the situation, as regards soil, climate, and beauty of scenery, are well known, and are so fully recognised as to render it needless to refer to them more particularly.—All communications are to be addressed to Messrs FREKE, CHOLMELEY, & FOX-TEE, of No. 28, Lincoln's Inn-fields, London, W.C. Solicitors to the Estate.

ALUM BAY ESTATE, FRESHWATER, ISLE of WIGHT.—BUILDING LAND TO BE LET, for a term of ninety-nine years, land tax redeemed. Rent moderate.—Particulars may be obtained of Mr. AUGUSTUS FREERE, Architect and Surveyor, 22, Henrietta-street, Covent Garden, London; of Mr. WILLIAM RAWLINS, Solicitor, Winchester; of Mr. C. F. FISHER, Solicitor, Ventnor; or of Mr. S. M. BAKER, Solicitor, Ryde, where plans showing the disposition of the estate may be seen.—The journey from London via Lymington and Yarmouth, can be accomplished in about five hours.

TO BUILDERS.—TO BE LET, on leases, direct from the freeholders, several valuable PLOTS of LAND, fronting Stanstead lane, and nearly midway from Forest hill and Catford Bridge stations. The water and gas pipes are laid down, and the sewer is made.—Apply to Mr. DAVENPORT, Estate Agent, 35, Bucklersbury, E.C.

WHARF, at CHARLTON, near Woolwich Dockyard.—TO BE LET on Lease, or the Lease TO BE SOLD, a WHARF 200 feet deep, river frontage 178 feet 6 inches, with dwelling house, out-buildings, gantry, frame, &c.—Apply to the Wharfingers, on the Premises, Messrs. CHURCH & CO. Williamstreet, Woolwich; or Mr. HARVEY, 81, Page-street, Westminster.

GROUND in HIGH STREET, Borough. The Governors of St Thomas's Hospital are prepared to receive TENDERS from parties willing to take on a Building Lease, for a term of 80 years from Christmas next, the valuable and extensive SITE of the premises known as the CATHERINE WHEEL INN, and of 193 and 194 HIGH STREET, BOROUGH. Plans and Particulars, with form of Tender, may be obtained at the counting-house of the Hospital, No. 13, St. Thomas's-street, Borough, or at Mr. HENRY CURREY'S office, No. 4, Lancaster-place, Strand, and the Form of Lease may be seen (if desired) at the office of Messrs. CLAYTON, COOKSON, & WAINEWRIGHT, No. 6, New Square, Lincoln's Inn. The Tenders are to be delivered on or before MONDAY, the 6th JUNE, at 12, St. Thomas's street, where the Governors will meet on TUESDAY, the 7th of JUNE, at half-past TEN o'clock, a.m. to consider the same. The Governor" do not bind themselves to accept the highest or any Tender.
HENRY CURREY.
4, Lancaster-place, Strand, W.C. May, 1864.

FOREST HILL.—BUILDING LAND TO LET on this hill, commanding extensive views.—Apply to A. B. 192 Burnsuodsey-street, S.E.

TAUNTON, SOMERSET.—TO BE SOLD for building First-class Villa Residences, PART of the HOVILANDS ESTATE, in the Parish of Trull, on the road from Taunton to Honiton. This exceedingly desirable property is situated about half a mile from the town of Taunton; it is on an eminence commanding a most extensive view over the far-famed vale of Taunton Dean, and is surrounded by nothing but residences of the best character. Being out of the borough, the rates are very moderate; and gas and water pipes run in front of the land.—For plans and particulars apply to Messrs. LEVERSEDGE & VENN, Surveyors, Upper High-street, Taunton; or, Messrs. JOHN HARE & SON, Estate Agents, North-street, Taunton.

NO. 34, COLEMAN-STREET.—TO BE LET on LEASE for a term of 21 years, from the 24th of JUNE next, a convenient HOUSE, situate in the best part of the street, nearly opposite King's Arms-yard, and in close proximity to the Bank of England. The premises are well adapted for offices or trade purposes, with good lights both in front and at the rear. Tenders to be sent in, in writing, to Mr THOMAS JONES, Vestry Clerk, 1, King's Arms yard, on or before THREE o'clock on WEDNESDAY, the 1st of JUNE next, when the Feoffees of the parish estates will meet in the Vestry-room. Tenders to be sealed, and marked "Tender for 34, Coleman street." The Feoffees do not bind themselves to accept the highest or any Tender.—By request of the Feoffees,
J. King's Arms-yard, Coleman-street, E.C. THOMAS JONES.
21st May, 1864

BUILDING LAND, to LET, 200 feet deep, gravel soil. Delightfully situate, in the best part of Northumberland Park, Tottenham, N.—Apply to Mr. KING, on the Estate.

CORNHILL.—TO BE LET, on a long lease, eligible PREMISES, in the best part of Cornhill, 25 feet frontage, area about 1,000 square feet.—Apply to Messrs. W. H. ALLEN & CO. 13, Waterloo-place, Pall-Mall, S.W.

NEWGATE STREET. — ST. BARTHOLOMEW'S HOSPITAL.—GROUND TO BE LET for Building, with a frontage of about 70 feet, on a lease of Sixty-one years, from Midsummer next, with immediate possession.—For further particulars, apply at Mr. HARDWICK'S Office, 1, Henrietta-street, Cavendish-square.
WILLIAM WILBY, Clerk.
May, 1864

SCULPTOR'S STUDIO.—WANTED, One or more large ROOMS, on the ground-floor, that can be converted into the above. S.W district preferred. The highest references given.—Address, A. B. 18, Bury-street, Eaton square.

NORWOOD.—EIGHT ACRES of FREEHOLD LAND TO BE SOLD, or LET on Building Lease, within two minutes' walk of a station.—Apply to Mr. ABBOTT, Solicitor, 64, King William-street, E.C.

CITY of LONDON.—VALUABLE BUILDING SITE, Bow-lane, Cheapside.—The Court of Assistants of the Worshipful Company of Salters are prepared to receive TENDERS for taking a BUILDING LEASE, for a term of eighty years, of all that valuable PLOT or LAND, containing about 1,100 superficial feet, situate SALTER'S COURT, Bow lane, Cheapside. A plan of the ground may be seen and further particulars obtained on application at the Clerk's Office, at the Hall, in St. Swithin's-lane, Cannon-street, or to the Company's Surveyor, JOHN COLLIER Esq. 26, Philpot-lane, Fenchurch street. Tenders to be addressed to EDW. THOMPSON, Esq. Clerk of the Company, at Salter's Hall, and delivered on or before the 9th of JUNE, next, at TWELVE o'clock at noon.

WHARF TO BE LET or SOLD.—Lea's 61 years. Occupying a valuable position at the Westend, near Victoria Station, having a water frontage of 60 feet, with Office, Crane, and Traveler, enclosed with fishing gates. Well adapted for a Marble or Stone Merchant.—Apply to FULLER, HORNE, & EVERSFIELD, 30, Parliament street, Westminster, or 80, Fore-street, City.

SUNNINGHILL WELLS, near ASCOT, BERKS.—FOR SALE by PRIVATE TENDER, a valuable and picturesque FREEHOLD ESTATE, known as the Wells, Sunninghill, which comprises a dwelling-house which has been used for many years as an Inn, with a large assembly-room, extensive stabling and coach-house, meadows and garden, and pleasure grounds, with ornamental timber and a mineral spring. The property is suitable either for the use for a New Hotel, or for the erection of elegant villa residences, being in the centre of a beautiful district, near to the Race-course, and containing altogether about four acres and a half, with immediate possession. A plan, with full particulars and condition and form of Tender, may be obtained from Messrs DARVILL & SON, & POULTON, of Windsor, the Vendors' Solicitors. The Tender must be sent to Messrs. DARVILL & CO. on or before the 17th of JUNE next, endorsed "Tenders for the Purchase of the Wells, Sunninghill."—The Vendors will not bind themselves to accept the highest or any other Tender.

CHISLEHURST, BROMLEY, and MOTTINGHAM, KENT.—About 500 Acres of FREEHOLD LAND, TO BE SOLD, or LET on building leases, direct from the freeholder, in suitable lots. Most delightfully situated near two railway stations, speedy access to the Crystal Palace, Victoria, London Bridge, and Charing Cross stations.—Apply to Mr. DAVENPORT, 35, Bucklersbury, E.C.

BUILDING LAND TO BE LET, on the East Park Estate, Lower Kennington-lane, S. About five minutes' walk from the Kilpaint and Castle, Newington.—Apply to Mr. SEXBY, 35, Lower Kennington lane, S.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show room, at their Establishment, No. 50, Conduit-street, London, where experienced draught men will be constantly in attendance, to afford all information required.
DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, stoke-upon Trent.
MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.
IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & SON'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benjamin Hall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactures known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION, 1862.
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
The only imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

THE GENERAL CONTRACT COMPANY, LIMITED

Incorporated under the Companies' Act of 1862.
Capital 1,000,000*l.* in 4,000 Shares of 25*l.* each, with power to increase.
FIRST ISSUE 20,000 SHARES.
Deposit on application, 1*l.* per share, and on allotment, 3*l.* per share.
Subsequent calls to be at intervals of not less than three months, and not to exceed 2*l.* 10*s.* each.

DIRECTORS.

CHAIRMAN—Daniel Gooch, esq., C.E. Paddington.
R. N. Fowler, esq. Dunsdale & Co. Bankers, London.
R. Michell, esq. Notting Hill, London, Director of the Great Western Railway.
John Ravenhill, esq. Banker, Ashton, Heytesbury.
T. P. Pocock, esq. (Messrs. Pocock & Rawlings), Lothbury and Chippenham.
Guinness Tyler, esq. Clifton, Bristol, Director of the Bristol and South Wales Union Railway.
John Avery Jones, esq. Merchant and Shipowner, Bristol.
Mark White, I., esq. Merchant and Shipowner, Bristol.

GENERAL MANAGER.
Rowland Brotherhood, esq. Chippenham.

ENGINEER
R. J. Ward, esq. Victoria street, Westminster.

SOLICITORS
Messrs. Tanqueray, Williams, & Hanbury, 34, New Broad-street.
Messrs. Goldney, Keary, & Co. Chippenham.

BANKERS.
Messrs. Dimsdale, Drewett, Fowler, & Barnard, London.
Sir William Miles, bart. and Co. Bristol Bank, Bristol.
The North Wilts Banking Company, Chippenham, with all its complete machinery, stock, and tools, as well as the plant and interest in railway and other contracts now in hand.

Mr. Brotherhood has named a very moderate sum for the goodwill of this business. The works (which are all freehold and very valuable), plant, and contracts, are to be taken at a valuation, to be made by competent parties, one-third of the purchase money to be paid on entry.

With such arrangements and advantages, both as regards the well known ability of the General Manager, and the possession of works in full operation, and able to complete any contracts they may undertake, the Directors feel confident as to the success of the Company, having before them the prospect of a large and highly remunerative business. A large number of shares have already been applied for.

In the event of no allotment being made, the deposits will be returned in full. Should a less number be allotted than are applied for, the deposits will be made available towards payment on allotment, or the balance, if any, returned to the applicant.

Applications to be made to the London Financial Association, Limited, South Sea House, Threadneedle-street; the Imperial Financial Company, Limited, Finch-lane; or to the bankers.

Prospectuses, and forms of application for shares, may also be obtained at the several Banks or the Chambers.

The Memorandum and Articles of Association may be inspected at the offices of the Solicitors to the Company.

FORM OF APPLICATION FOR SHARES.

To the Directors of the General Contract Company, Limited.

Gentlemen,—Having paid (or to pay) Bankers the sum of £ ..... being a deposit of 1*l.* per Share on ..... Shares in the above Company, I hereby request that you will allot me that number; and I hereby agree to accept such Shares, or any less number that may be allotted to me, and I authorize you to pay the same upon the Register of Shareholders for the Shares so allotted.

I am, Gentlemen,
Name in full .....
Residence .....
Profession or Business .....
Date .....

THE FREEHOLD LAND and GENERAL INVESTMENT COMPANY (Limited).

Incorporated under the Companies Act, 1862.
Capital 250,000*l.* in 10,000 shares of 25*l.* each.
With power to increase to 1,000,000*l.*
First issue, 4,000 shares.

(Subscriptions for more than half of which have already been promised.)

Deposit on application 1*l.* per share, and 2*l.* on allotment.
Calls not to exceed 2*l.* per share, with an interval of not less than three months.

It is not intended to call up more than 10*l.* per share, but as more capital can be advantageously employed, further issues of shares will be made, in the allotment of which a preference will be given to the original shareholders.

Should no allotment be made the deposit will be returned in full.

DIRECTORS.

The Right Hon. Lord Nigel Kennedy, Montrose House, Petersham, chairman.
The Right Hon. Lord Viscount Maiden, 39, Lowndes-street, Belgrave-square, and Lowndes House, Bucks.
Charles Schrap Dutens, esq. St. Albans.
Edward Barron, esq. Milk street, Cheapside.
George P. Bidder, esq., Old Broad-street, Director Financial Discount Company (Limited).
Frederick A. Legg, esq., 32, Sackville street, and South Norwood.
William W. Price, esq. Kensington Park Gardens East.
William R. Rogers, M.D. 56, Brecon-street.
William Watson, esq. Bristol, Director of the Bristol and Exeter Railway Company.

BANKERS.
Metropolitan and Provincial Bank Company, 75, Cornhill, and Oxford-street Branch, 96, Oxford-street.

SOLICITORS.
Messrs. Matthews & Greetham 66, Lincoln's-inn-fields.

BROKER.
Alfred Ashton, esq. 75, Old Broad street.

AUDITORS.
Messrs. Harding, Pullein, Whitney, & Gibbons, 3, Bank-buildings, Lothbury, E.C.

SECRETARY (*pro tem.*)
R. N. Collier, Esq.

Temporary Offices: 1, New Broad street court, E.C.

ABRIDGED PROSPECTUS.

The objects of this Company are to purchase, from time to time such freehold or leasehold property in London and its neighbourhood as may present special capabilities for improvement.

The first duty of the Company will be the purchase and development of some first-class freehold properties at the West End, for letting, and the rental to be derived therefrom has been estimated by experienced valuers to produce a sufficient sum to ensure interest and dividend amounting to 15 per cent. and upwards (arising from property ever increasing in value), after making a due deduction for repairs, outgoings, and management; and when these properties are completed and occupied, it is calculated they may be resold at a profit of 50 per cent. to the Company.

Full particulars of the proposed operations of the Company may be obtained at the Offices, No 1, New Broad street court, where the articles of association may be seen; and prospectuses and forms of application for shares may be obtained from the Bankers, Brokers, Solicitors, or at the Offices of the Company.

THE READING IRON WORKS (LIMITED).

LATE MESSRS. BARRETT, EXALL, & ANDREWES.
Incorporated under the Companies Act, 1862.
Capital 240,000*l.* in 12,000 shares of 20*l.* each.
First issue 5,000 shares.
1*l.* per Share to be paid on application, and 3*l.* per Share on Allotment.

Calls not to exceed 2*l.* per Share, at intervals of not less than two months. Interest at the rate of 5 per cent. per annum will be allowed on all Calls paid in advance.

DIRECTORS.

Adolphus Simonds, esq. Ivy Lodge, and Bridge-street, Reading, Chairman.
C. J. Andrewes, esq. Greenfriars House, and Katesgrove, Reading.
Richard Archbould, esq. Whitley Grove, Reading.
Joseph Crockett, esq. Victoria square, Reading, Director of the North Wilts Banking Company.
Wm. Reid, esq. Castle street and Kite's grove, Reading (Civil Engineer).
John Simonds, esq. (J. & C. Simonds & Co.), Newlands, Berks, and Reading (Banker).
James Wm. Waterhouse, esq. 41, Regency square, Brighton.
With power to add to their number.

BANKERS.
READING—Messrs. J. & C. Simonds & Co.
LONDON—Messrs. Fuller, Banbury, & Co. Lombard-street.

SOLICITOR.
Charles P. Preem, esq. Lincoln's-inn fields, London.

BROKERS.
Messrs. Sandeman & Dobree, 2, Royal Exchange-buildings, City.

AUDITOR.
Mr. Stephen Fairbrother, Manager of Messrs. Simonds's Bank, Reading

SECRETARIES.
Mr. Thomas James (Accountant and Financier of the late firm), Katesgrove, Reading.
Mr. Clay Barber (*pro tem.*), 17, Aldermanbury, London, E.C.

OFFICES.
The Works, Katesgrove, Reading.
London: 17, Aldermanbury, City, E.C.

PROSPECTUS.

This Company has been formed for the purpose of purchasing and carrying on the important and well-known business of Engineers, Iron-founders, and Manufacturers of Agricultural Machinery and Implements, which having been established nearly half a century, has been conducted for the last thirty years by Messrs. Barrett, Exall, & Andrewes.

While these gentlemen will realise by this transaction the accumulated profits of many years, they will yet remain large shareholders, and continue to give their active co-operation in connecting the future business of the Company.

The demand for machinery, both at home and abroad, being so extensive, capital to any extent can be profitably employed in its production, and the recent transfer of so many of the first-class engineering firms in the country to companies formed under the Act of 1862, among whom may be named Messrs. Fairbairn & Co. and Messrs. Sharp, Stewart, & Co. of Manchester; Messrs. John Brown & Co. and Messrs. Cammell & Co. of Sheffield; Messrs. Slaughter, Gruning, & Co. of Bristol, &c. is at once proof of the advantageous character of the principle of association.

A provisional agreement, equitable and satisfactory, has been entered into with the Vendors, which secures to the Company, at a valuation, the freehold known as "The Katesgrove Iron Works, Reading," together with other valuable freeholds and leaseholds, the goodwill, stock in trade, plant, machinery, patent rights, &c.

The Freeholds consist of water-side premises, having a river frontage of 440 feet, with a roadway on the other side, and an average depth of 175 feet, on which are erected the large and commodious foundry, smithy, boiler shops, engineers', fitters', and erectors' shops, replete with the necessary hearths and machinery. The engine-house with its horizontal engine of 40-horse power, pair of boilers, baths, gas-works, offices, &c. as well as the lofty and massive store-rooms, pattern stores, &c. A very large and commodious wood machine shop about 120 feet long by 30 feet wide, and a converted timber yard occupy the site of another freehold.

The leasehold property consists of 10 acres of meadow land, separated by the river Kennet from the Katesgrove Freehold, and easily connected at any time by a bridge.

The engine works contain two additional steam-engines of 3-horse power, one a hoisting engine, on which are the saw mills, stables, wood shops, store rooms, iron house, an iron warehouse, smithy, clock, show-rooms, offices, &c. the whole of which are convenient yet regular.

The connexions and agencies established by the retiring firm, both in this country and in the colonies, as well as throughout Europe, combined with the several prizes gained at various exhibitions, and notably at the International Exhibitions in England in 1851 and 1862, and in France in 1855, for the manufacture of machinery of distinguished merit they have taken throughout Europe, cannot fail to secure to this Company a prosperous future.

As a guarantee of the genuine character of the undertaking, the Vendors have agreed that they will not receive any interest on their shares until a minimum dividend of 5 per cent. has been paid on the remainder of the subscribed capital, which engagement is continued over a period of five years—while Mr. William Exall and Mr. Charles J. Andrewes, who have taken respectively the engineering and commercial management in the business, will, as soon as the transfer is complete, take seats at the Board, and bring to bear their extensive and valuable experience.

Whilst the Directors attach much importance to this agreement with the Vendors, they think it right to state that they have been advised by those capable of forming a correct opinion on the subject, that the Shareholders may fully anticipate a safe and remunerative dividend, and will therefore only add, in conclusion, that of the many enterprises now before the public, few can surpass it in the reasonable expectation, inasmuch as the operations will not be suspended for a single day; its connexion is made, the profits will therefore be immediate, and the Directors have every reason to hope that the services of the present executive staff, which has so long and faithfully served the retiring firm, might be secured to their successors.

Prospectuses and Forms of Application for shares may be had of the Bankers, Brokers, Solicitors, and Secretary, at the offices of the Company, in London or Reading. Each application must be accompanied with a deposit of 20*s.* per share. The articles of Association may be inspected at the offices of the Solicitor, 35, Lincoln's-inn fields, London.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.

HEATON, BUTLER, & BAYNE,
New Kang street, Covent Garden, and Retained from Carlington-street, Hampstead road.
Specimens at the Exhibition of Stained Glass Windows, South Kensington Museum.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Cheapside, Soho, W.C.

ALFRED GOODLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be purchased WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS, MOSAIC, WATER GLASS, and other CHURCH MURAL DECORATIONS.

MR. PREEDY,
13, York-place, Baker-street, Portman-square, London, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

STAINED GLASS for WINDOW DECORATION, GLASS MOSAIC and PAINTED OPAQUE GLASS for WALL DECORATION.

J. T. LYON & CO.
13, BERNERS STREET, OXFORD STREET, W.

Price lists, drawings, and estimates sent on application. Work executed on the most moderate terms compatible with excellence of design, material, and workmanship.

PAINTED DECORATION and STAINED GLASS.

CHARLES BLACKMORE,
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Designs and Estimates submitted.

PURE SILVER LOOKING-GLASSES

manufactured by NEW PROCESS.—Unequalled in brilliancy. Not liable to injury from damp, heat, or handling. EMBOSSED, ORNAMENTAL and BENT GLASS, SILVERED, at MODERATE RATES.

PATENT SILVERING COMPANY (LIMITED),
7, LOWER KENNINGTON LANE, S.

THE PATENT CRYSTAL WINDOW

BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, form cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without partitions, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City-road, E.C. Extra strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.

LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and 48, JOHN DALTON STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies

BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—

WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. MEITTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

ASPHALT.—The TRINIDAD ASPHALT

OF IRON SHIPS, BRIDGE PLATFORMS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES

THORN & CO.
GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

CROGGON and COMPANY,

Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INDOROUS FELT,
DOWGATE HILL, London; and 2, COREE PLAZZA, Liverpool.

TO BUILDERS and OTHERS. — For

SALE, the following FRAMES, SASHES, &c. for a Public-house Front:—4 Frames and Sashes, 4 Doors and Shutters, 2 Mahogany-framed Fanlights, and Mahogany Beading for Windows.—Apply at Mr. LEACH'S, Royal George, Tower-street, Westminster-road.

MEDIÆVAL PAPERHANGINGS,

from the Thirteenth to the Sixteenth Centuries. Designed by G. T. ROBINSON, F.R.I.B.A. Manufactured by WM. WOOLLAMS & CO. 105, HIGH STREET, near Manchester-square, London, W. May be obtained of the principal Decorators.

Extracts from notices in the undermentioned publications:—

"Conventionalized patterns, often displaying great beauty of form, characterize the examples sent to us. With a few exceptions, the colouring of the specimens is commendable, in many it is worthy of the highest praise."—*Athenæum.*

"The designs are exceedingly elegant, and the colours good and well arranged. Some of the patterns are of strictly ecclesiastical character, suitable for mission churches and ornaments, or they may be used as accessories in church decoration."—*Church Builder.*

"The majority of the patterns are exceedingly satisfactory, and not expensive."—*Builder.*

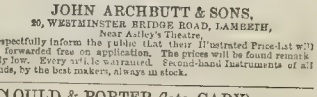
"These designs are infinitely varied, yet always consistent and effective; the colouring is pre-eminently good, both in the selection of tints, and in harmonious combinations; and the quality of the paper is of the highest order."—*Art Journal.*

GUTTA-PERCHA MILL-BANDS.—The

Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Driving Bands for Driving bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump buckets, Firebuckets, Bosses, Union Joints, Bricks, Trowels, Boots, Toilet-trays, Curtain-rings, Galvanic Batteries, Tuborpye Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA PERCHA COMPANY, PATENTEES,
WHARF ROAD, CITY ROAD, LONDON

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

GOULD & PORTER (late CARY) are now

manufacturing their improved 10-inch DUMPY LEVEL, best quality, complete for 9*l.* 10*s.* 0*d.*; with silver ring compass, 10*l.* 15*s.* 0*d.*; 12-inch ditto, ditto, 11*l.* 0*s.* 0*d.* and 12*l.* 12*s.* 0*d.* Best 5-inch THEODOLITES, 22*l.* 0*s.* 0*d.* All other MATHEMATICAL INSTRUMENTS at Revised Prices.—Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century.—181, Strand, London.

THE HYDRAULIC
Tube Drawing and Steel Ordnance Company, Limited.

INCORPORATED UNDER THE COMPANIES' ACT, 1862,
BY WHICH THE LIABILITY OF SHAREHOLDERS IS STRICTLY LIMITED TO THE AMOUNT OF THEIR SHARES.

CAPITAL, £150,000, in 15,000 Shares of £10 each.
FIRST ISSUE, 7,500 SHARES.
DEPOSIT, £1 ON APPLICATION, AND £1 ON ALLOTMENT.
Subsequent Calls not to exceed £1 per Share, and at intervals of not less than Three Months; but not more than £3 per Share in all will be called up unless by consent of a General Meeting.

DIRECTORS.

MAJOR T. HUGH COCKBURN, 60, Pall Mall.
JOHN GLADWYN JEBB, Esq. Naval and Military Club, Hanover-square.
HENRY B. LOCH, Esq. C.B. Travellers' Club, Pall Mall.
W. TREVOR ROPER, Esq. (late of Bombay), Messrs. W. T. Roper & Co. Liverpool and London.
JAMES I. BENNETT (Messrs. James I. Bennett & Wake), 77, Cornhill.
(With power to add to their number).

CONSULTING ENGINEER.
J. E. M'CONNELL, Esq. C.E. Dean's Yard, Westminster.

BROKERS.
Messrs. WALKER & LUMSDEN, 25, Austin Friars.

BANKERS.
THE BANK OF LONDON.

SOLICITORS.
W. & H. P. SHARP, Gresham House, Old Broad-street.

AUDITOR.
E. PULLEIN, Esq. Messrs. Harding, Pullein, Whinney, & Gibbons, 3, Bank Buildings.

SECRETARY (pro tem.)
A. PLATT, Esq.

TEMPORARY OFFICES:—160, GRESHAM HOUSE, OLD BROAD STREET.

ABRIDGED PROSPECTUS.

THIS Company is formed for the purpose of purchasing and developing certain new and valuable Patents for Improvements in the Drawing and Shaping of Metals, and for the Machinery employed therein. By this process Metal Tubes can be produced from the fineness of a needle to the size required for the largest ordnance, and its products may be applied to numberless other uses, with infinitely increased strength and diminished cost.

The Patentees, in order to afford those interested a means of testing the commercial value of their mode of manufacture, have erected a powerful Hydraulic Draw Bench, of 600 tons pressure, at temporary works in London, 67, Willow-walk, Bermondsey, where it has been seen in operation, in consequence of which applications have been received for Licences and Machinery, and from these sources alone a large annual income cannot fail to be derived.

Samples of the manufacture can be seen at the Company's Offices.

Further particulars are given in the detailed prospectus.

Applications for Shares must be made either to the Secretary, or the Brokers of the Company.

DRAWN STEEL TUBES.

FROM "THE TIMES," FEBRUARY 25th, 1864.

"The whole process is neither an invention nor a discovery, but simply a most valuable development of our present means of manufacture, and one which we think will prove as lucrative to its patentees as it will undoubtedly be useful to our steel-producing districts. Just now, however, when our improvements in artillery have taken us to a point at which wrought iron can help us no further, and when artillerists are looking for a steel lining to their guns, this new process is likely to be regarded with unusual interest. If, as the patentees claim, their process can draw homogeneous steel tubes of 8 inches and 10 inches diameter, the long vexed question of trying to make wrought iron guns to stand their rifling would appear to be near its settlement. The perfect ease and immense strength with which the common rifles and fowling-pieces can be lined with steel tubing is shown at the Works at Bermondsey.

The patentees of the machine intend putting up at once a press and dies by which taper steel barrels for the Enfield rifle can be drawn in one piece. More, however, is to be gained by drawing steel tubes for the artillery, though with rifled guns no rifles open, upon a field carriage is likely to be found in the everyday mercantile wants of Sheffield and Birmingham. Steel tubes, badly and expensively as they are now made, are still an everyday want in the hardware districts; and it is only their cost, and the uncertainty of their production, which prevents a hundred-fold their present use. If by this process they can be produced of more than double the strength of the present steel tubes, and at the same price as gas piping, their use in manufacture would seem to be a most endless. For tubing of boilers alone there is enough work to be done to keep all the Lydraulic machinery in England, fitted up to draw steel tubes, going for the next twelve months."

1862.
INTERNATIONAL EXHIBITION.
HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

WILLIAM WHITE,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in
PAPIER MACHE,
COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGNS
FOR THE
DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

DESACHY'S FIBROUS PLASTER.
GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Oiler's, Oxford-street; Mr Hogarth's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

CARTON PIERRE AND PAPIER MACHE WORKS, 49, RATHBONE PLACE, LONDON, W.
(ESTABLISHED IN 1780.)

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour. PAVING TILES in various sizes and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere road, Lambeth, and Kent road, Bridge.

ESTABLISHED 1844.

JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased applications to their works, are enabled to execute orders for the same to almost any extent.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 121, Bishopsgate-street Within, E.C.

BARROW LIME.—JOHN ELLIS & SONS, Leicester, are now prepared to DELIVER the best FRESH BURNT BARROW LIME, at their Private Station of the Midland Railway, direct from the Kilns, at 20s. per ton.—The Barrow Lime is well known as a very superior Hydraulic Lime from the Blue Lias Stone.—March, 1864.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and concreting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 33s. per Load.	
Good Yellow Deals	£16	10	0	per 120, or 2½d. per foot.	
Spruce Deals	15	0	0	,,	2½ ,,
2½-inch Battens	9	0	0	,,	1½ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

J. MILLS,
JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards	from 10s. 6d. per square	FIR TIMBER, 45s. PER LOAD.	
10,000 Dry Pine Plank	from 3s. 6d. each	SPRUCE DEALS, 2s. 6d. each.	
5,000 Yellow Battens	from £10 per 120	Wainscot Oak	from 6d. per foot
4,000 White Battens	from £9 per 120	Oak Sills	from 2½d. per foot
Matched Lining	from 12s. per square	Honduras Mahogany	from 5½d. per foot

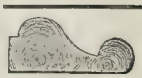
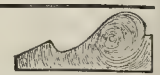
YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.				Per 120 of 12 ft.		
WHITE BATTENS	£8	10		WHITE DEALS	£15	0	0
YELLOW ditto	9	10		¾-FLOORING from per Square	0	10	6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.
T. W. ELLSTON,
No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅝-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.
J. TERRY & SON, 109, BOROUGH ROAD, S.E.


MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

C. B. N. SNEWIN,
MAHOGANY AND TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.


JOHN EMERY,
MANUFACTURING JOINER,
28, GRAY'S INN ROAD, W.C.
Every description of Joiners' Work for
HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.
LISTS OF PRICES AND ESTIMATES ON APPLICATION, ENCLOSING STAMP.


MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

YELLOW FLOORING, WELL PREPARED,

First Quality, ¾ by 6½, at 10s. 6d. per square.
¾ by 6½ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
Spruce £15 per 120.

TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

CHARLES WINN, TIMBER MERCHANT,

NEW CRANE WHF., SHADWELL, E.; and VICTORIA WHF. and SAW MILLS, DEPTFORD, S.E.

TO ARCHITECTS, ENGINEERS,
LIME AND PORTLAND CEMENT MANUFACTURERS AND MERCHANTS,
BUILDERS, RAILWAY CONTRACTORS, AND OTHERS.

WILLIAM PETERS,

GREY STONE LIME BURNER, &c.

WORKS:—WOULDHAM and BURHAM, on the MEDWAY, near ROCHESTER, KENT; MERSTHAM (South-Eastern Railway), near RED HILL, SURREY.

LONDON DEPOTS { 12, WHARF, UPPER GROUND STREET, BLACKFRIARS, S.; 7, NORTH WHARF ROAD, PADDINGTON, W.; 199, OLD KENT ROAD, S.E. (Bricklayers' Arms Station).

WILLIAM PETERS, in addition to his
WOULDHAM HALL, BURHAM COURT, and SNODLAND ESTATES,
of 1,000 acres of the best GREY STONE, CHALK, and CLAY, with
KILNS and RIVER FRONTAGE of Two Miles,
capable of manufacturing an unlimited quantity of
LIME, CEMENT, and OTHER BUILDING MATERIALS,
having secured for the extra accommodation of his friends the
MERSTHAM GREY STONE LIME WORKS, with 100 acres of GREY STONE, &c.,
is prepared to enter into CONTRACTS for the SUPPLY of
3,000 or 4,000 cubic yards of
WOULDHAM, BURHAM, and MERSTHAM GREY STONE LIME per week,
on the lowest terms possible, either in
BARGES of 100 yards, free on board, or in
TRUCKS, of 10 yards, at Works; or delivered alongside
WHARFS, on Medway, Thames, Canals, and Railway Stations.
In quantities of 2 yards, or less, at the Bricklayers' Arms Station and the above Wharfs, and to the Buildings.

Large Grey Stone free on board at Works ..... 1s. 9d. per ton.
Small ditto, the best material for the manufacture of the well-known
Medway Portland Cement ..... 8d. „

BARGES OF 100 TONS LOADED IN A FEW MINUTES.

WILCOCK & CO.

FIRE-BRICK AND SANITARY TUBE WORKS,

LEEDS.

ILLUSTRATED LISTS ON APPLICATION.

BORSTAL PORTLAND CEMENT WORKS,

ON THE MEDWAY, NEAR ROCHESTER, KENT.

MESSRS. BOOTH & CO.

BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF
MESSRS. JOHN HOLLICK & CO.

At the above Works, and are now prepared to supply Cement of the best quality. Their Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
„ „ RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

HOWARD & CO.

MANUFACTURERS OF WOULDHAM PATENT

PORTLAND CEMENT AND GREY STONE LIME.

WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.

OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

FRANCIS, BROTHERS, & POTT,

NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.

ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

MINTON & CO

HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS HAIR, BRICKS, TILES, SLATES CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

W. C. HAWKER,

LIME, CEMENT, & PLASTER MERCHANT,

BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—
OLD JAMAICA WHARF, UPPER GROUND-STREET BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA
LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, HICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRESSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ABERTHAW BLUE LIAS LIME COMPANY.

WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.

The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE Westbourne Grove, Paddington, W.

GREAVES'S BLUE LIAS LIME,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by rail or sea.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Battens, 9l per 120, 12 feet; Yellow ditto, 10l ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d per square; Matched Lining, from 12s; Venetian Blind Laths from 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

DRY WAINSCOT,

At 6d. 7d. and 8d per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,

in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river-side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the River Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic Wharf Pimlico, London, S.W. five minutes' walk from the Victoria Station.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air.

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union street, Borough, London.

FOR CONTRACTORS and RAILWAY COMPANIES.—2,000 BARROWS FOR SALE.—Barrows, Keys, Trenails, Bushes, Sleepers, &c. and all other Contractors' Plant.—Apply to W. P. FRANCE, 20, Bridge Wharf, Paddington.

INDIA-RUBBER MILL BANDS,

WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

NEW TARIFF OF GLASS.

THOMAS MILLINGTON,

GLASS AND COLOUR MERCHANT,

No. 87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF OF SHEET GLASS.

SHEET GLASS.

IN SHEETS FOR CUTTING UP, AVERAGING FROM 6 TO 9 FEET SUPER.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Fourths quality, per 300 feet Case...	...	...	32s. 6d.	or about 1¼d.	per foot super.
Thirds ,, ,, ,, ...			41 0	,, 1¼	,, ,,
Seconds ,, ,, ,, ...			60 0	,, 2½	,, ,,
Best ,, ,, ,, ...			90 0	,, 3¾	,, ,,

AVERAGE THICKNESS, 21 OZ.

Fourths quality, per 200 feet Case ...	...	...	33s. 6d.	or about 2d.	per foot super.
Thirds ,, ,, ,, ...			42 0	,, 2¼	,, ,,
Seconds ,, ,, ,, ...			63 0	,, 3¼	,, ,,
Best ,, ,, ,, ...			89 0	,, 5½	,, ,,

AVERAGE THICKNESS, 26 OZ.

Fourths quality, per 200 feet Case ...	...	...	41s. 6d.	or about 2½d.	per foot super.
Thirds ,, ,, ,, ...			56 0	,, 3½	,, ,,
Seconds ,, ,, ,, ...			84 0	,, 5	,, ,,
Best ,, ,, ,, ...116 0				,, 7	,, ,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

SHEET SQUARES (Cut to Order).

Under 1 ft. Under 2 ft. Under 3 ft. Under 4 ft. Under 5 ft. Under 6 ft. super.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Fourths quality ...	1¼d.	1¾d.	2d.	2½d.	3d.	3½d.
Thirds ,, ...	1½	2	2½	3	3½	4
Seconds ,, ...	2	2½	3	3½	4	4½
Best ,, ...	2½	3	3½	4	4½	5

AVERAGE THICKNESS, 21 OZ.

Fourths quality ...	2½d.	2¾d.	3d.	3½d.	3½d.	3¾d.
Thirds ,, ...	2¾	3½	3¾	4	4½	4¾
Seconds ,, ...	3	3¾	3¾	4½	4½	4¾
Best ,, ...	4	4½	5	5½	6	7

AVERAGE THICKNESS, 26 OZ.

Fourths quality ...	3d.	3¾d.	3¾	4	4½d.	4¾d.
Thirds ,, ...	3¾	4	4½	4½	5	5½
Seconds ,, ...	4½	5	5½	5¾	6	6½
Best ,, ...	5½	6½	7	7½	8	8½

EXTRA WHITE OR CRYSTAL SHEET GLASS,

Very superior, for Pictures and Best Glazing.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Thirds quality, per 200 feet Case ...	...	...	31s. 0d.	or about 2½d.	per foot super.
Seconds ,, ,, ,, ...			56 0	,, 3½	,, ,,
Best ,, ,, ,, ...			77 6	,, 4¾	,, ,,

AVERAGE THICKNESS, 21 OZ.

Thirds quality, per 200 feet Case ...	...	...	51s. 0d.	or about 3½d.	per foot super.
Seconds ,, ,, ,, ...			84 0	,, 5	,, ,,
Best ,, ,, ,, ...			116 0	,, 7	,, ,,

GROUND OR OBSCURED.

15 oz. per 200 feet Case ..... 40s. In Sheets ..... 3d. per foot super.
21 oz. ,, ,, ... 54 ,, ... 4 ,,
If cut to size, 1d. per foot extra.

FLUTED SHEET.

15 oz. per 200 feet Case ... ... 50s. In Sheets ... ... 3½d. per foot super.
21 oz. ,, ,, ... 73 ,, ... 5 ,,
If cut to size, 1d. per foot extra.

MATTED or ENAMELLED (Various Patterns).

IN CASES, per 200 feet, 58s. IN SHEETS, 4½d. per foot super.
If cut to size, 1d. per foot extra.

ORNAMENTAL COLOURED GLASS.

Ruby, in Sheets ...	... 9d. per foot.	Cut to Size, 3d. per foot extra.	
Green do. ...	... 9 do.	Ditto 3 do.	
Blue do. ...	... 7 do.	Ditto 3 do.	
Orange do. ...	... 7 do.	Ditto 3 do.	
Purple do. ...	... 7 do.	Ditto 3 do.	
Ruby Matted, in Sheets	... 1s. 2d. per foot.	Cut to Size, 3d. per foot extra.	
Green do. do.	... 1 2 do.	Ditto 3 do.	
Blue & Yellow do. do.	... 1 0 do.	Ditto 3 do.	
Purple do. do.	... 1 0 do.	Ditto 3 do.	
Cathedral, 15 oz. in Sheets ..	3½d. per foot.	Cut to Size, 1d. per foot extra.	
Ditto 21 do.	... 5 do.	Ditto 1 do.	

Coloured Borders and Rosettes, Cut and Engraved to Various Designs and Patterns.

15 oz. Squares usually kept in Stock in 100 feet and 200 feet Boxes.

Small Stock Squares, per 100 Feet.

in.	in.	in.	in.	in.	in.	in.	in.				
6 by 4	7 by 5	8 by 6	9 by 7	Fourths.	Thirds.	Seconds.	Best.
6¼ — 4¼	7 — 5¼	8¼ — 6¼	9¼ — 7¼	6s. 6d.	10s. 9d.	12s. 6d.	14s. 6d.

Per 100 Feet.

10 by 8	12 by 9	12¼ by 10¼	11½ by 10½								
10¼ — 8¼	12¼ — 9¼	13 — 10	12 — 10	Fourths.							
11 — 9	13 — 9	13¼ — 10¼	13 — 11	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.				
11¼ — 9¼	12 — 10	14 — 10	14 — 11								

Large Stock Squares, per 100 feet.

in.	in.	in.	in.	in.	in.	in.	in.				
15 by 10	14 by 12	17 by 13	24 by 16								
16 — 10	15 — 12	23 — 13	20 — 17	Fourths.							
14½ — 11	15¾ — 12¼	18 — 14	22 — 17	11s. 6d.	Thirds.	Seconds.	Best.				
15 — 11	16 — 12	22 — 14	24 — 17		13s. 6d.	16s. 0d.	18s. 0d.				
15¼ — 11¼	16¾ — 12½	24 — 14	20 — 18								
16 — 11	17 — 12	22 — 15	22 — 18								
21 — 11	18 — 12	24 — 15	24 — 18								
13 — 12	22 — 12	22 — 16									

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

16½ in. by 12¼ in.	AVERAGE THICKNESS, 15 oz to 16 oz.				Per 100 feet.	AVERAGE THICKNESS, 21 oz.					
20 ,, 12 ,,	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.	20 in. by 12 in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
20 ,, 13 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	24s. 0d.	27s. 6d.
20 ,, 14 ,,	20 ,, 17 ,,					20 ,, 14 ,,	20 ,, 17 ,,				

The above Prices are only for the Sizes stated, but if a quantity of any other Size be required, it can be supplied at about Five per Cent. additional, provided time be allowed to manufacture it.

GLASS TILES IN SHEET AND ROUGH PLATE, PLATE GLASS, PATENT PLATE, AND HARTLEY'S IMPROVED ROUGH PLATE.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	30s.	per cwt.	
Seconds ,, ...	28	,,	
Linseed Oil Putty	9	,,	
Fine Oak Varnish ...	10s. to 12s.	per gal.	
,, Carriage Varnish	12 to 14	,,	
,, Crystal or Paper do.	10 to 12	,,	

Ground Patent Dryers	... 3d. to 4½d.	per lb.
,, Oxford Ochre	... 3 to 4½	,,
,, Raw Umber	... 4½ to 6	,,
,, Burnt do.	... 6 to 9	,,
Green paint, all shades	... 28s. to 60s.	per cwt.
Black ditto	... 24 to 36	,,

Linseed Oil	3s. 9d.	per gal.
Boiled Oil	4 3	,,
Turpentine	7 0	,,
Mineral Turpentine	3 6	,,
Prepared Oil for Anti-Corrosion	4 6	,,

Brushes for ditto, &c. &c.

WHITE ZINC PAINT, 34s. per Cwt.

One hundredweight of pure Zinc Paint with three gallons of Linseed Oil, will cover as much as one hundredweight and a half of White Lead and six gallons of Linseed Oil.

Special Dryers for this Paint.

STUCCO PAINT, 24s. per Cwt.

This Paint adheres firmly to the walls, resists the weather, and is free from the glossy appearance of oil paint, resembling a stone surface, and can be made any required shade. It is mixed with rain or pure river water.

IMPROVED ANTI-CORROSION PAINT, 28s. to 34s. per Cwt.

Anti-corrosion paint is extensively used for all kinds of work in exposed situations, on Brick, Stone, Compo, Iron, Iron Bridges, Conservatories, Greenhouses, &c. and is easily laid on by any ordinary workman.

MILLED LEAD, IN SHEETS AND PIPES, OF ALL KINDS. OLD LEAD BOUGHT OR TAKEN IN EXCHANGE.

LIFT PUMPS, WATER CLOSETS, AND PLUMBERS' BRASS WORKS OF ALL KINDS.

NET CASH.

NOTICE TO ARCHITECTS AND THE TRADE.

WEST-END BRANCH, EGYPTIAN HALL, PICCADILLY.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

For Lighting and Ventilating Public and Private Buildings.

J. D. & SONS beg most respectfully to inform Architects and the Trade, that having been selected to open a West-end Branch, they have taken the DUDLEY GALLERY, EGYPTIAN HALL, PICCADILLY, and at an enormous outlay they have made it replete with every description of lighting mediums, including REGISTERED DESIGNS of MEDIÆVAL GAS FITTINGS, CRYSTAL, BRONZED, ORMOLU, and ELECTRO-PLATED Chandeliers, Brackets, Vestibule Lights, Bronzed and Glass Statuettes.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements. Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

The usual trade discount allowed, as at their

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH, CITY.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes street, Leicester-square, London; and SUCH ONLY are WARRANTED

TO BUILDERS AND OTHERS.

WILLIAM SKETCHLEY would call attention to his SAWING, PLANING, and MOULDING TABLE. It is adapted for sawing 12-inch deep and 1 inch thick, and moulding 9-inch wide. It is also fitted with drunken saw and all the cramp for tenoning, &c. &c. The price of this is to prepare 3-inch flooring, 7l. N.B. The table can be applied to any saw table, and will prepare flooring in a first-class manner.—For further particulars apply to WILLIAM SKETCHLEY, Great George-street, Weymouth.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

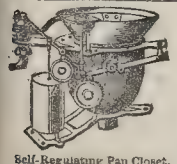
ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

THOMAS LAMBERT & SON,



Self-Regulating Pan Closet.



Lambert's Ball Valve.





High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

KAMPTULICON FLOOR CLOTH.

DURABLE, COMFORTABLE, ECONOMICAL, and ORNAMENTAL, for CHURCHES, PUBLIC BUILDINGS, BILLIARD ROOMS, and PRIVATE HOUSES.

GOUGH & BOYCE,

76, CANNON-STREET WEST, E.C.

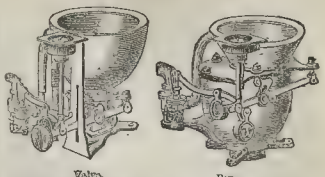
E. TAYLOR, Solid and Veneered HAND-RAIL and STAIRCASE MANUFACTURER,

To the Trade, in town or country,

With Good Seasoned Materials and Workmanship, AT THE LOWEST PRICES FOR CASH.

207, CAMBERWELL NEW ROAD, LONDON.]

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No internal valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues and an application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.

ILLUSTRATED CATALOGUES FREE.



Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.



J. TYLOR & SONS' IMPROVED HYDRANT.

Catalogues free on application to the Manufacturers,

J. TYLOR & SONS,

WARWICK LANE, NEWGATE ST., LONDON.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 11. 18s.



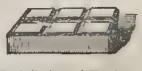
Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s 6d.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c., apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

ST. PANCRAS.—MARBLE SLAB FOR ABSOLUTE SALE

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, 21, King's-road, St. Pancras (near the Workhouse), on MONDAY, MAY 30th, at TWELVE for ONE, about 2,000 feet of VEIN and SICILIAN MARBLE SLAB, of various thicknesses, which will be sold in lots, for cash.—May be viewed on Saturday previous, and Catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

HART-STREET, CRIPPLEGATE.—To Velvet and Trimming Manufacturers, Upholsterers, Paint Dealers, and Others

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, 7, Hart-street, Cripplegate, TUESDAY, MAY 31, at TWELVE for ONE o'clock, the PLANT, STOCK and FITTINGS of a VELVET and TRIMMING MANUFACTORY, consisting of 8 quilting and embossing machines, of various size, with gun-metal rollers; 2 velvet cutting machines, blocking machine, 3 lock stitch sewing machines, by Simpson, of Glasgow; about 4 free wood roll-rs, with the various patterns, a quantity of gun-metal dittos; several hundred yards of silk and cotton velvet, mahogany top counters, library table, mahogany desk, letter-copying press, a Milner's fireproof safe, nests of drawers, office fittings, and other effects.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

IMPORTANT CITY FREEHOLD, comprising the Spread Eagle Hotel, Gracechurch-street, with extensive Premises and Yard, containing an area of nearly 6,000 square feet, adapted advantageously for rebuilding.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, next the Bank of England, on WEDNESDAY, JUNE 22, at TWELVE (unless previously disposed of by private contract), a valuable FREEHOLD PROPERTY, situate in the very heart of the City where all the chief commercial interests of London are now being centred, comprising the principal portion of that well known establishment the Spread Eagle, Gracechurch street, with extensive premises and yard, having a back entrance to Leadenhall Market; the whole covering an area of nearly 6,000 square feet, and forming one of the most important building sites to be found in the City, its advantageous position rendering it admirably adapted for rebuilding as offices, whereby a very large rental may be created, thus offering a desirable opportunity for the employment of capital.—Particulars may be obtained of G. LUCAS, Esq. Solicitor, 20, Fenchurch-street; of Messrs. WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C.; at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo-place, Pall-mall.

GARRICK VILLA, HAMPTON, formerly the residence of the celebrated David Garrick, with its beautiful pleasure-grounds and extensive lawn, fronting the river Thames, kitchen garden and paddocks, containing together between 11 and 12 acres, of which immediate possession may be had; also an Eyot in the river Thames, with a short distance, containing about 1½ acres, let on lease at £7 per annum.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed by the Executors of the late owner Silvanus Phillips, Esq. to SELL by AUCTION, at the MART, on FRIDAY, JUNE 17th, the above very interesting and valuable PROPERTY, which is situate on a beautiful side part of the Thames, known as the Hampton Reach, is great preserve for fish, of se to the pictures que village and church of Hampton, and the ferry to Moulsey. Hurst and Hampton Course, partly bounded by Bushy Park, and is within a mile of the Palace and gardens of Hampton Court, and the railway station, and only a few hundred yards distant from the Thames Valley branch to Hampton, rendering this property most accessible both from the City and west end of the metropolis in three-quarters of an hour. The residence is therefore suitable to any gentleman alone as a family retirement or even as a constant residence in town, and it affords every accommodation for a family, with capital stabling and other offices. The property is intersected by the road (and footpath) leading from Hampton Court to Sunbury, occupying a frontage thereto, on either side of 540 feet and 110 feet respectively, besides frontages in the village, and a frontage of 600 feet to the river Thames, which, combined with its beautiful situation, gravelly soil, proximity to the church, and easy communication with the metropolis, render it worthy the attention of capitalists and builders. In a separate lot will be sold the eyot in the river Thames, also referred to. Cards to view may be obtained of Messrs. HOLLAND & SONS, Upholsterers, 23, Mount-street, Grosvenor-square, W., and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Land Surveyors and Auctioneers, Sackville-st. W. and 13, Change-alley, E.C.; and without which no person will be admitted. Printed Particulars may likewise be had as above, and of Messrs. COTTERILL & SONS, Solicitors, Bridgewater-house, Queen-street, E.C.

FREEHOLD LAND, BATTERSEA, SURREY, close to the New Park, and giving Votes for the County.

GEO. TODD will SELL by AUCTION, on TUESDAY, 7th JUNE, 1864, at the AUCTION MART, opposite the Bank, in Four LOTS, a FREEHOLD BUILDING LAND, situate in the Battersea road and Park road, close to the New Park; FREEHOLD HOUSES in the main road, which might be converted into shops, and a FREEHOLD GROUND-RENT of 42l. per annum. Plans and particulars may be had of Messrs. H. & F. CHESTER, Solicitors, 1, Church-row, Newington Butts, and at the Auctioneer's Office, Battersea Bridge-road, Battersea Park, S.W.

GREENWICH.—Three acres of valuable FREEHOLD BUILDING LAND, with 30 feet of Water Frontage.

MESSRS. GLASIER & SONS will SELL by AUCTION, on WEDNESDAY, JUNE 1st, at GARRAWAY'S, in one lot, three acres of valuable FREEHOLD BUILDING LAND, having a frontage of about 450 feet, on Deptford Creek, slightly situate, with good approaches, from Rotherhithe and Road-streets and the Roman road.—Particulars, with plan, may be had of SAMUEL ARCHBUTT, Esq. 34, Ovington-square; of W. W. POCOCK, Esq. Architect, 35, Craven-street, Strand; at GARRAWAY'S, and of the Auctioneers, 41, Charing Cross, S.W.

CROYDON, SURREY.—First class Freehold Building Land, in a charming and picturesque locality, being part of the Ruling Park Estate.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, JUNE 21 at TWELVE, in 24 lots, 5 highly valuable FREEHOLD BUILDING SITES, of about half an acre each, approved plots, having frontages of 50 feet wide, with lodge entrance, fronting one excellent position, commanding beautiful views, and having a substratum of gravel. The land is admirably adapted for the erection of superior residences, and is under ground against the possibility of the character of the neighbourhood being deteriorated, the purchasers will be restricted from building any other than private houses, to be set back 30 feet from the carriage-drives leading in the road. The Estate is 1½ mile from Croydon Railway Station, and in the course of construction, will be within a few minutes' walk of the Park, and will command fine views of Surrey, Kent, and Sussex within easy distances of it.—Particulars, with plans, may be had fourteen days before the Sale at Garraway's Coffee-house, Change-alley; of Messrs. CURREY & HOLLAND, Solicitors, 9, Old Burlington-street, London; and of Messrs. BLAKE, Croydon.

HORNSEY, near to the Wood-green Railway Station and the Alexandra Park.—The Valuable Freehold Building Estate, called Duck-Ground (tithe free), presenting a good opportunity for investment of capital in the way of freehold ground rents.

MR. BRAY is favoured with instructions to SELL by AUCTION, at the MART, on TUESDAY, the 31st day of MAY, at TWELVE, in three lots, a valuable ESTATE, being part of the Lordship Lodge Estate, and delightfully situate on the Wood-green Railway Station, having 1,127 feet of building frontages to Acacia-road and White Hart lane, and presenting sites for the erection of detached and semi-detached villas, which are now much in demand on account of the proximity to the Alexandra Park. The roads and sewers have been made at a considerable expense.—Particulars and Conditions of Sale may be obtained of Messrs. ROY & CARTWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, Solicitors, 4, Bloomsbury-square, W.C.; of JOSEPH IVIMEY, Esq. Solicitor, 8, Staple's-inn, W.C.; at the Principal Inns in the neighbourhood; at the Mart; and at the Offices of the Auctioneer, No. 164, King's-road, Bedford-row, W.C.

TO IRON BEDSTEAD MAKERS AND OTHERS

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, on MONDAY, the 30th day of MAY, 1864, at TWELVE o'clock, on the PREMISES, No. 55, Turnmill-street, Clerkenwell, the Tools and Stock-in-Trade of an Iron bedstead Maker, including 30 tons bar, angle, rod, and hoop iron; 8 tons new wrought-iron bedstead-work, fly press, 2 fly wheels, stocks and dies, a portable forge, bellows and tools; a circular wrought-iron cupola, a cylinder-blower, patent power tools; a circular wrought-iron cupola, a cylinder-blower, patent power tools; a circular wrought-iron cupola, a cylinder-blower, patent power

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1113. JUNE 4, 1864. PRICE FOURPENCE. By Post, 5d.

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TRUSTEES.

Philip Hardwick, Esq. R.A. | Geo. Gilbert Scott, Esq. R.A.

Treasurer—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary; subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 33, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton street.

BUILDERS' BENEVOLENT INSTITUTION.—An Election of Five Pensioners, three Males and two Females was held on the 26th ult. at the London Tavern

Mr. Alderman Jas. C. Lawrence, President of the Institution, in the chair.

SUCCESSFUL CANDIDATES.

R. Langdell	3,135	Mrs. Ellord	1,110
T. Jenkins	4,0-0	Mrs. Clements	2,966
W. H. Walsham	3,678		

THE OTHERS WERE—

J. Oliver	1,801	J. S. Wilson	323
C. Merlon	1,241	Mrs. Smith	442

June 3, 1864. A. G. HARRIS, Secretary.

INSTITUTE of PAINTERS in WATER COLOURS.—The 20th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE of WALES," and "The Afterglow in Egypt," together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover-street, Regent-street, from NINE till SIX and from SEVEN till TEN.—Admission, during the day, One shilling; in the Evening, Sixpence.

PHOTOGRAPHIC EXHIBITION.—The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

ARCHITECTURAL ASSOCIATION, 9, CONDUIT STREET W.—On FRIDAY Evening, JUNE 10th, a Paper will be read by WM. BURGESS, Esq. F.R.I.B.A. "On Modern Development of Mediæval Art." The chair will be taken at EIGHT o'clock. Gentlemen not being members may obtain admission by presenting their cards.

J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

THE ARCHITECTURAL MUSEUM LECTURES, SESSION 1864.—Those who have received Cards for this Course of Lectures are requested to take notice that in consequence of the serious illness of Mr. J. H. PARKER, F.S.A. his LECTURE on TUESDAY, JUNE 7, CANNOT BE DELIVERED. There will be no Lecture on that Evening.

ARCHITECTURAL EXHIBITION and COLLECTION of BUILDING MATERIALS and MANUFACTURES 9, Conduit street, Regent-street.—Now open, admission One Shilling. Lectures on TUESDAY evenings, at EIGHT o'clock. Sea on Tickets half-a-crown. Will close JUNE 30th. Also in the same Galleries, the EXHIBITION of the SOCIETY of SCULPTORS of ENGLAND

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the great public demand; and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within, November, 1863.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS. The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Article, trusting that by so doing their useful Inventions may be introduced more generally in all new buildings.—For prices, apply at the Manager, Mr TYLER, 12 Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

TO ARCHITECTS.—The Local Board of Health for the Hartlepool District are desirous of obtaining Plans, Elevations, Specifications, and Estimates for a COVERED MARKET, POLICE STATION, and OFFICES, to be erected upon a plot of ground in Middleton-street, Hartlepool. A premium of £25 will be paid by the Local Board for the plan and estimate selected by them, and a further sum of £5 will be paid to the successful competitor, on condition that he furnishes a detailed specification for the proposed works, such plan, estimate, and specification to become the property of the Local Board. The whole expense of the erection not to exceed £5,000. The Board do not bind themselves to employ the architect whose plan may obtain the premium. A plan of the ground and printed particulars can be obtained on application to the Borough Surveyor. All drawings to be on a scale of not less than 8 feet to the inch, and to be sent under cover, with sealed packet (carriage free) addressed to the Borough Surveyor, King-street, Hartlepool, and endorsed "Market Plan," on or before the 18th day of JUNE next.—By order,

F. G. MORRIS, Borough Surveyor.

May 13, 1864.

TO ARCHITECTS.—The Trustees of the Deal Wesleyan Chapel are prepared to receive PLANS and ESTIMATES for the ERECTION of a NEW CHAPEL in Queen-street, Deal.—For plans of site and printed conditions, apply by letter to the Secretary, No. 1, Albert-terrace, Deal

HENRY PAGE, Secretary.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to WELL SINKERS and OTHERS.—TENDERS are required for CARRYING DOWN a 5 inch bore PIPE to a depth of 240 feet, if necessary, beyond the bottom of the present 6-inch bore Pipe, in the Well, at the Laundry, at Netley, Hants.

The specified can may be seen, and forms of Tender obtained, on application at this Office.

The Secretary of State does not bind himself to accept the lowest or any Tender. (Signed) P. RAVENHILL, Major

Commanding Royal Engineer, Netley.

Royal Engineers' Office Netley, 23rd May 1864

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Penarth, near Cardiff, in the county of Glamorgan, may inspect the Drawings and Specifications at her Majesty's Custom house at Cardiff or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 19th of MAY, to SATURDAY, the 4th JUNE (on next evening, and both inclusive Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of MONDAY, the 6th JUNE, sealed and directed to the Commodore Controller-General of Coast Guard, and endorsed "Tender for Penarth."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 10th day of May, 1864, at the Admiralty, Coast-Guard office, 12, Spring gardens, London, S.W.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for ERECTING a WOODEN GYMNASIUM 100 feet by 40 feet, and enclosing a 60 yard, at Weedon-barracks. Parties desiring to Tender for the execution of these Works must leave their names at this Office on or before the 18th day of JUNE, 1864, and pay the sum of 10s. 6d. for the Bills of Quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 1st June, 1864

TO CONTRACTORS.—The Tottenham Local Board of Health are prepared to receive TENDERS for the GETTING OUT, SHOOTING UP, and FILLING IN certain PIPE TRENCHES, forming Contract No 1, for the Wood Green Drainage, plans, sections, and specification may be seen at the Offices of the Board, on and after MONDAY next, the 6th of JUNE. The Tenders shall be sealed, and addressed, "Tenders No. 1 Contract, Wood Green Drainage," and delivered at the office of the Local Board of Health, Tottenham High Cross, N. on or before FRIDAY, the 17th day of JUNE, at TWELVE o'clock. The Board do not bind themselves to accept the lowest or any Tender. Copy of specification and form of Tender, 10s. each.—By order.

CONTRACTS.

TO BUILDERS.—The Committee of the Hull Church Institute are desirous to receive TENDERS for the ERECTION of their New INSTITUTE, in Wright-street. Drawings and specifications may be seen at my Offices. Sealed and endorsed Tenders to be delivered to me on THURSDAY, the 9th JUNE next. The Committee do not pledge themselves to accept the lowest or any Tender. WILLIAM KERBY, Architect and Surveyor.

14, Parliament street, Hull, May 24, 1864.

TO MASONS and PAVIORS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLYING and LAYING complete about 900 feet run of 12 inch by 8 inch IRRESER ABERDEEN FLAT KERB and of about 13,200 feet superficial of 3-inch TOOLED YORK PAVING, in the parish of Battersea. The specimens can be seen at the Offices of the Board, as below, between the hours of NINE and FIVE. Tenders are to be sent in, under seal, addressed to the Board, and endorsed "Tender for Paving Batterses," on or before the 14th of JUNE next. Security will be required for the due execution of the contract. The Board do not pledge themselves to accept any Tender. By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX CORSELLIS, Clerk to the Board.

Battersea-rise, Wandsworth, S.W. May 20, 1864.

TO BUILDERS.—TENDERS WANTED, for the ERECTION of a SEA-WALL, on the estate of Henley Smith, esq. The Priory, St. Helen's, Isle of Wight. Plans and specification may be seen after MONDAY, 9th MAY, with Mr INGRAM, National School House, Nettlestone, Isle of Wight; and Tenders to be forwarded to Messrs. J. & J. GIRDWOOD, 49, Pall Mall, London, S.W. on or before FRIDAY, JUNE 10th, 1864.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall, of the said City, on TUESDAY, the 7th day of JUNE next, at half-past TWELVE o'clock precisely, to receive TENDERS for RELAYING the GRANITE CARRIAGEWAY PAVEMENT of Bishopsgate-street Within, and Grace church-street, agreeably to specifications, which may be seen at this Office. Persons tendering are required to give the names and full addresses of at least two substantial householders as their Sureties, to enter into bond with the Contractor for the due performance of the contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty. JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 28th May, 1864.

TO CONTRACTORS.—PORTHCAWL HARBOUR, GLAMORGANSHIRE.—The Directors of the Llynvi Valley and Ogmore Valley Railway Companies are prepared to receive TENDERS for the CONSTRUCTION of a DOCK and other Works, for the improvement of the Harbour of Porthcawl. Plans and specifications may be seen at the Office of the Engineer, R. P. BRERETON, Esq. 18, Lime-street, Westminster, on and after MONDAY, the 30th MAY, 1864; and the Tenders are to be delivered at the same Office, addressed to the Directors of the Llynvi Valley and Ogmore Valley Railway Companies, before TWELVE o'clock on MONDAY, the 13th JUNE, 1864. The Directors will not be bound to accept the lowest or any Tender.

London, May, 1864

TO CONTRACTORS and BUILDERS.—The Trustees of Watts's Charity, of Rochester, are desirous of receiving TENDERS for the CONSTRUCTION of certain ROADS and other Works, on land near the new Infant School, in Gundulph-place, in the parish of Chatham, Kent. Plans, sections, and specifications of the proposed works will be deposited at the new Almshouses, Maidstone-road, Rochester, and will be open to inspection on and after THURSDAY, the 12th instant, and up to the day of Tender, between the hours of TEN and FOUR o'clock. Information respecting the Land and Specifications can be obtained of Mr. A. ROBINS, Surveyor, St. Margaret's Banks, Rochester. Tenders are to be sent in to the Office of Messrs. LEWIS & MARSH, High-street, Rochester, on or before SATURDAY, the 11th day of JUNE next (after which day no Tender will be received), sealed up and addressed "To the Trustees of Watts's Charity, at Rochester," and marked "Tender for Roads." The Trustees will not be themselves bound to accept the lowest or any other Tender; and the contractor will have to enter into sufficient contract (or bond with or without sureties) as the Trustees shall require, for the due execution of the works, and copies of the same will be prepared by the Trustees' solicitor, at the expense of the Contractor.

By order of the Trustees,

J. LEWIS, Clerk.

Rochester, May 9, 1864.

CORPORATION of MANCHESTER.—To EXCAVATORS and CONTRACTORS.—The Waterworks Committee is prepared to receive TENDERS for EXCAVATING a PIPE TRENCH for the New 30 inch MAIN from the Compensation Reservoir at Godley, to the intended Reservoir on Prestwich Hills. The work will be divided into three Contracts, of a length of about five miles each; and parties are at liberty to Tender for one or all of such Contracts. Plans may be seen, and copies of the specification obtained, on application at the City Surveyor's Office, in the Town-hall, Manchester, on and after MONDAY next, the 30th inst. Trial holes are to be made in the line of trench, and may be inspected on WEDNESDAY and THURSDAY, the 8th and 9th of JUNE next, for which purpose the Engineer will attend at the Waterworks Office, Gorton. Tenders for "Pipe Trench," must be delivered at the Townhall, Manchester, before TEN o'clock in the forenoon of WEDNESDAY, the 15th JUNE next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH HELON, Town Clerk.

Town-hall, Manchester, 26th May, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of THREE HOUSES, at Stockwell, by Messrs. Green & Harris, who do not bind themselves to accept the lowest Tender. The Plans and specifications to be seen at Messrs. ARCHER & CHAMBERS'S, 27, Queen-street, City, to whom Tenders are to be sent, on or before TWELVE o'clock on MONDAY, the 13th instant.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS, &c.—Notice is hereby given, that Plans and Specifications for REBUILDING CHANCEL and Vestry walls to the PARISH CHURCH of St. Stephen, at Compton Basset, near Calne, in the county of Wilts, will be open at the Schools, near Compton Basset, from the 6th of JUNE next to the 13th inclusive; and all persons desiring to CONTRACT for the execution of the work must send in sealed TENDERS directed to the Rev. JOHN WM. CLARKE, the Rector, Compton Bassett, on or before the 23rd instant. Not the lowest, nor any, Tender will necessarily be accepted. The Contractor, if required, must be prepared with two good approved sureties to enter into the usual legal half-penalties for the due performance of his contract.

TO BUILDERS. — Builders desirous of TENDERING for certain WORKS required to be done at Portchester Castle, Hants, may see the plans and specification at Major JERVIS COOKE'S, Portchester, on and after the 25th day of JUNE next. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, St. Swithin-street, Winchester, by the 18th day of JUNE next. No pledge is given to accept the lowest or any Tender.

June 4th, 1864.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—WAGGON BUILDERS.—The Committee are prepared to take in TENDERS for 300 MINERAL TRUCKS, according to plans, specifications and pattern waggon, which may be seen on application to Mr. BOUCH, at the Company's Works, North road. The Tenders to be delivered at the Secretary's Office by TUESDAY, the 21st day of JUNE, 1864. The Committee will not pledge itself to the acceptance of any of the Tenders.

By order, THOS. MACNAY, Secretary.

Railway Office, Darlington, May 24, 1864.

BUILDERS wishing to TENDER for the RESTORATION of the NAVE and AISLE of St. John the Baptist's CHURCH, Westbourne, Sussex, in accordance with the plans prepared by B. FERREY, Esq. Architect, may see the plans, specifications, &c. at Westbourne Church, on and after MONDAY, JUNE 6th. Sealed Tenders to be delivered at Westbourne Rectory on SATURDAY, JUNE 18th. The Rector and Churchwardens do not pledge themselves to accept the lowest or any Tender.

Westbourne Rectory, June 1, 1864. JOHN H SPERLING.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION.—The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT, at Watton-under-Edge. The Works may be viewed (previous to tendering) on the 8th instant, at which time the Drawings and Specification, and obtain form of Tender, and any further information may be had of Mr. ROBERT ROBINSON, the Clerk to the Justices, Wotton-under-Edge, to be sent under cover to the Clerk of the Peace, Gloucester, on or before SATURDAY, the 25th of JUNE inst. The lowest or any Tender will not necessarily be accepted.

Clarence-street, Gloucester, May 31, 1864.

TO SEWER CONTRACTORS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parochial Offices, Rose Hill-street, on MONDAY, the 20th JUNE, inst., at SIX o'clock in the evening precisely, to receive sealed TENDERS, for the CONSTRUCTION of about 2,70 feet in length of BRICK SEWER, 4 feet 6 inches by 3 feet, and of about 1,740 feet in length of BRICK SEWER, 3 feet 6 inches by 2 feet 6 inches, and other works connected therewith, in the Rose Anchor road, St. James's-road, and Drummond-road, Bermondsey. The plans and specification of the proposed works, with the Conditions of Contract, may be inspected and any particulars obtained, on application to Mr. GEORGE PLATING-TON, Surveyor to the Vestry, at the Vestry Offices in Maltby-street, Bermondsey, after the 6th instant, between 9 and 4 o'clock. The person whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties, for the due performance thereof. The Vestry do not bind themselves to accept the lowest or any Tender. GEO. H. DREW, Clerk.

Vestry Office, Maltby-street, S E June 1, 18 4

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE.—METROPOLIS NORTHERN LOW-LEVEL SEWER.—For BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office, No. 76, Great George-street, on FRIDAY, the 24th day of JUNE, 1864, at TWELVE o'clock at noon precisely, and will then proceed to open TENDERS for parties who may be willing to CONTRACT for the NORTH LOW-LEVEL SEWER, about 4 miles 4 330 feet in length, or thereabouts, with other works in connection therewith, chiefly together of the sewer of the proposed pumping station on the Northern Bank of the River Thames, at Bell Wharf, square, Great Tower hill, with a Branch to commence at Basil Leonard Street, Bromley, and to end near to Old Ford, in the Counties of Essex and Middlesex. Printed forms of Tenders may be had, upon payment of 2? (for each, plans, sections, specification, form of Tender, and other particulars, on application to Mr J W BAZALGETTE, Engineer of the Board, at the Offices, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 23rd day of JUNE, 1864, inclusive, and not afterwards. Sealed Tenders only, addressed to the Chairman and Members of the Board, at the Office before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The lowest or any Tender will not necessarily be accepted. The Board will not bind themselves to accept the lowest or any Tender, and the party whose tender shall be accepted will be required to produce two sufficient sureties for the due and satisfactory performance of the works. JOHN HOLLAND, Clerk of the Board.

Spring gardens, S W May 27, 1864.

TO BUILDERS, IRONFOUNDERS, and OTHERS.—Persons willing to TENDER for certain WORKS required to be done at the KENT COUNTY LUNATIC ASYLUM, near Maidstone, may see the Plans and Specifications at the Office of Mr. MARTIN BULMER, Surveyor to the Asylum, Tonbridge-road, Maidstone, between the hours of TEN and FIVE. All Tenders are to be in the form of Tender to be obtained at the Surveyor's Office, where they must be delivered by TEN o'clock in the forenoon of SATURDAY, the 25th day of JUNE, 1864. The works to be tendered for are the following:—

Contract No. 1. The Enlargement of the Chapel.
Contract No. 2. The Building of a Water-tower.
Contract No. 3. Preparing and Laying the Communication Tanks and iron Pipes, and fixing Cisterns, each of 1,000 gallons.

Neither the lowest nor any Tenders will be accepted unless approved in all its details, and a security will be required for the proper performance of the several Contracts.

BEALE & HOARE,
Maidstone, 30th May, 1864. Clerks to the Visitors of the Asylum.

ROTHERHAM and KIMBERWORTH LOCAL BOARD of HEALTH.—WATER-WORKS.—To Iron-founders, Lattin-workers, Plumbers, Pipe-makers, and others.—The Local Board of Health for the District of Rotherham and Kimberworth, in the West Riding of the county of York, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

CONTRACT No. 1.—For the Supply of Cast-iron Water pipes, and other Castings.

CONTRACT No. 2.—For Excavating Trenches, and Laying and Jointing the Pipes in Contract No. 1.

CONTRACT No. 3.—For Excavating Trenches, Laying and Jointing Earthenware and Cast-iron Water Pipes in Contracts Nos. 1 and 2, and Constructing Reservoirs, Lifting Shafts, and other Works.

Plans, Sections, Details, Drawings, and Specifications may be seen, and Printed forms of tender, Bills of Quantities, and Schedules for Prices may be obtained on and after MONDAY, the 6th INSTANT, on payment of 5s. for each Contract, at the Office of the Clerk to the Local Board, in Rotherham; or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Waterworks," must be delivered at the Office of the Local Board, in Rotherham, not later than TWELVE o'clock, on the 21st day of JUNE instant. The Local Board do not bind themselves to accept the lowest or any Tender.

WM. WHITFIELD, Clerk to the Local Board.

Rotherham, June 1, 1864.

MONAGHAN and CAVAN LUNATIC ASYLUM.—NOTICE to BUILDERS.—BUILDERS are invited to TENDER for the ERECTION of a LUNATIC ASYLUM at MONAGHAN, according to the plans and specifications, which can be seen at the Office of the Architect, Mr. JOHN M'CURDY, No. 1, Harcourt-place, Lower Merrion-street, Dublin. The Tenders are lodged with the Secretary of the Board of Control Lunatic Asylums, Dublin Castle, endorsed, "Tender for Monaghan and Cavan Lunatic Asylum," on or before NOON of the 20th day of JUNE next. The Board of Control do not bind themselves to accept the lowest nor any of the Tenders. The work to be commenced immediately after the acceptance of the Tender. Security will be required for the due performance of contract.

Office of Control Lunatic Asylums, Dublin Castle,
2nd April, 1864.

TO BUILDERS and CONTRACTORS.—KNIGHTON HOTEL COMPANY (Limited).—Persons desirous of TENDERING for BUILDING a new HOTEL, STABLE, BUILDINGS, &c. at Knighton, Radnorshire, can inspect the Plans and Specifications, at the Office of the Company, at Knighton, and at the Offices of the Architect, in Hereford. The Tenders are to be delivered to the Architect, on the 24th INSTANT, and no pledge is given that the lowest will be accepted

THOS. NICHOLSON, F.I.B.A. Architect.

Hereford, 1st June, 1864.

CONTRACT for BALTIC RED SLEEPERS. 6,666—8 feet 7 inches by 11½ inches by 5½ inches rectangular.
33 336—8 feet 7 inches by 11½ inches by 5½ inches semicircular.

The undersigned are in the receipt of Delivery Orders for the Quarter at Tables D'Oleme, Bay of Biscay, France. Tenders to state period of delivery, one-fourth of the total quantity required at the earliest convenient time per week, endorsed "Tenders for Sleepers," to be delivered to BENJAMIN PIERCY, Esq. C.E. 28, Great George-street, Westminster, not later than the morning of JUNE 11th.

BOROUGH of BRADFORD.—The Corporation of this borough require the SERVICES of a Person who is thoroughly understands the MAKING and MAINTAINING of MACADAMISED ROADS. The person appointed must be able to keep an account of materials and labour, to understand the quality of the materials, and be thoroughly competent to undertake, under the direction of the Borough Surveyor, the entire management of the roads. The salary about forty pounds per annum in the borough, on some of which the trade is very heavy. No person who has not held an office of the same kind can be elected unless he dispenses of similar work need apply. Applicants are to forward their testimonials and state their age and present employment, to me, on or before THURSDAY, the 16th of JUNE next.

CHARLES GOTT, Borough Surveyor.

Swaine street, Bradford, May 31, 1864.

MACHYNLLETH, NORTH WALES.—TO BUILDERS, CONTRACTORS, MASONS, and OTHERS.—ALTERATIONS to the MACHYNLLETH PARISH CHURCH. TO BE LET, a CONTRACT, for REMOVING the present PEWS, and Preparing and Laying the Floor of the Nave with New Seats in the Church. Tenders to be sent to the Churchwardens, at Machynlleth on or before the 15th JUNE, 1864, where the plans and specifications may be inspected. The Committee do not bind themselves to accept the lowest or any Tender.

MACHYNLLETH, NORTH WALES.—NEW SEATS for the MACHYNLLETH PARISH CHURCH. TO BE LET, a CONTRACT, for ERECTING and SEPPLYING about 830 New SEATS, in the Machynlleth Church, about 11 feet wide. Separate Tenders to be sent in for the above, either in deals or oak timber to the Church Wardens, at the Office of JOHN NASON, Esq., 8 Leiter, 75, Castle-street, Carlisle; or at the Offices of the Architects, Messrs. Banister, Nottingham—Plans, &c. may be seen and after MONDAY, JUNE 6th, Carlisle; and delivered at the Vestry Office, in Carlisle, endorsed "Tenders for St. John's Church, Carlisle," on or before NOON, 22nd inst. The Committee do not bind themselves to accept the lowest Tender

ROBT CLARKE, Architect, Nottingham.

SAINT MARY, ISLINGTON.—To DUSTMEN, CONTRACTORS, and OTHERS. Notice is hereby given, that the Sanitary Committee will meet the Vestry Offices, on MONDAY, the 13th day of JUNE, 1864, at SEVEN o'clock in the evening precisely, to receive TENDERS and to CONTRACT for the REMOVAL of the HOUSEHOLD ASHES, and RUBBISH from the Houses of the inhabitants of the said parish, for the 24th day of JUNE, 1864, to the 29th day of JUNE, 18 5. Separate Tenders may be sent in for each of the districts, or the whole may be included in one Tender. The form of Tender may be obtained at the Vestry Offices. Persons proposing to contract must attend at the time and place named, and the Tenders sealed and endorsed, "Tender for Removal of Dust." No Tender will be received after SEVEN o'clock, nor will any Tender be received unless it contains a full Back to the Tender, and be made upon the printed forms. In no case will the Tenders be entered until the contracts are executed, and in default of the contractor duly executing the same, deposited shall be forfeited to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender. The draft contract may be inspected and further particulars obtained at the Vestry Offices.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper street, May 31, 1864.

SAINT MARY, ISLINGTON.—To GAS FITTERS.—Notice is hereby given, that the Lighting Committee will meet at the Vestry Offices, on WEDNESDAY, the 15th day of JUNE, 1864, at SEVEN o'clock in the evening precisely, to receive TENDERS and to CONTRACT for the PAINTING, and KEEPING the LAMPS and FITTINGS of the several GAS LAMPS in the said parish in REPAIR, from the 24th JUNE, 1864 to the 29 JUNE 1865. And also for PAINTING LAMP POSTS and COLUMNS. The form of Tender and Balance will be sent may be had, and parti ulars of the Works to be done, as also of the Contract, may be seen at the Vestry Offices. Persons proposing to Contract must attend at the time and place above stated, with their Tenders sealed, and endorsed, "Tender for Gas lamps." No Tender will be received after SEVEN o'clock, nor will any Tender or required Bail be entertained. A Bond of England note, which will be immediately returned to those persons whose Tenders are not accepted, will be required at the time the contract is executed; and, in default of the Contract being duly executed, the said deposit will be forfeited to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper street, 31st May, 1864.

TO BUILDERS.—Persons willing to TENDER for the ADDITIONS and COMPLETION of EIGHT CARCASES, situate at Forest-gate, Stratford, for John Drew, esq. may see the plans and specifications, on and after WEDNESDAY, the 8th inst. at the Office of M. FREDERICK CHADWICK, Surveyor, 11, Crooked-lane, Cannon-street

CITY of LONDON.—VALUABLE BUILDING SITE, Bow-lane, Cheapside.—The Court of Assistants of the Worshipful Company of Coopers are prepared to receive TENDERS for the BUILDING PURPOSES, on a term of eighty years, of all that valuable PLOT of LAND, containing about 1,100 superficial feet, situate SALTER'S COURT, Bow lane, Cheapside. A plan of the ground may be seen, and further particulars obtained on application at the Clerk's Office, at the Hall, in St. Swithin's lane, Cannon-street, or to the Company's Surveyor, JOHN COLLING, Esq. 29, Finsbury-place, Finsbury-circus. Tenders to be addressed to Edward Cook, Esq. Clerk of the Company, at Salter's Hall, and delivered on or before the 23rd of JUNE, inst, at TWELVE o'clock at noon. The Company do not bind themselves to accept the highest or any Tender.

PARISH of ST. MARY ABBOTTS KENSINGTON, in the County of Middlesex.—To SCAVENGERS, CARTERS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish aforesaid, will meet at the Vestry Hall, Kensington, on FRIDAY, the 10th day of JUNE instant, at SEVEN o'clock in the Evening, to receive TENDERS and to Contract for CARTING and CARRYING AWAY daily, from all the Metropolis Turnpike Roads situate in this Parish, all the DUST, Dirt, Filth, Road Scrapings, Sweepings, Slops, Mud, Snow, and Ice that may from time to time be collected together by the servants of the said Vestry, and as may be directed by Mr. JAMES BROADBRIDGE, the Vestry's Surveyor, commencing on the 1st day of July and ending on the 29th day of September, 1864, both days inclusive. Printed forms of tender and other particulars may be obtained on application at the Vestry Hall aforesaid. No Tender will be received unless upon one of the said printed forms. Tenders to be sealed and endorsed "Tender for Scavengering," or "Tender for Carting," as the case may be, and to be delivered at my Office by or before FOUR o'clock in the afternoon of the 10th instant. The Vestry do not bind themselves to accept the lowest or any Tender. The expenses of the Contract to be paid by the Contractor—By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 2nd June, 1864.

The Vestry have divided the Parish into two Districts, called "North and South Districts," the parties tendering to be at liberty to tender for the Districts jointly or separately.

PARISH of ST. MARY ABBOTTS, KENSINGTON, in the County of Middlesex.—CONTRACT for BROKEN FLINTS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish aforesaid will meet at the Vestry Hall, Kensington, on FRIDAY, the 10th day of JUNE, instant, at SEVEN o'clock in the evening, to receive TENDERS for the SUPPLY of 2000 yards of BROKEN FLINTS, to be delivered at or near the Draw dock, Kensington, free of all tolls and other charges, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the Vestry Surveyor, the whole quantity to be delivered by the 29th day of JULY next. Form of Tender and further particulars may be obtained on application at the Surveyor's Office, Vestry Hall aforesaid. Tenders to be sealed and endorsed, "Tender for Flints," to be delivered at my Office, by or before FOUR o'clock in the afternoon of the 10th instant. No Tender will be received unless made upon one of the said printed forms. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor to enter into a written Contract and to pay the expense thereof.—By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall Kensington, 1st June, 1864.

PARISH of ST. MARY ABBOTTS, KENSINGTON, in the County of Middlesex.—WATERING of ROADS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish aforesaid will meet at the Vestry Hall, Kensington, on FRIDAY, the 10th day of JUNE instant, at SEVEN o'clock in the evening, to receive TENDERS for the SUPPLY of CARTS, HORSES, and MEN for WATERING the METROPOLITAN TURNPIKE ROADS situate in this Parish, for Four Consecutive Months, commencing on the 1st day of JULY next. Form of Tender and Schedule of Roads can be obtained on application to Mr. JAMES BROADBRIDGE, the Vestry's Surveyor, at the Office Vestry Hall aforesaid. Tenders to be sealed and endorsed "Tender for Road Watering," and to be delivered at my Office by or before FOUR o'clock in the afternoon of the 10th instant. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor will be required to enter into a written Contract, and to provide two good and sufficient sureties in a bond of 25 ? The Contractor to pay the expenses of contract and bond.—By order.

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 2nd June, 18.4

The Vestry have divided the Parish into two Districts, called the "North and South Districts;" the parties Tendering to be at liberty to Tender for the Districts jointly or separately.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a MANSION HOUSE at Newent, near Gloucester, for RICHARD FOLEY ONSLOW, Esq. may see the plans and specification at the King's Head, Gloucester, from TUESDAY, the 14th of JUNE, to MONDAY, the 20th; and at the Bridge, Newent, from TUESDAY, the 21st, to SATURDAY, the 25th inst.

J. MIDDLETON, Architect.

Cheltenham, June 1, 1864.

TO CONTRACTORS and OTHERS.—SCARBOROUGH VALLEY BRIDGE.—The Directors of the Scarborough Valley Bridge Company are prepared to receive TENDERS for the ERECTION of an IRON BRIDGE, over the Roundale Valley, at Scarborough. Drawings and Specification may be seen at the Office of EDWIN CLARK, Esq. C.E. 24, Great George-street, Westminster, at the Office of Messrs. HEAD, WOODY, & TURNBULL, Scarborough, on the 13th, 14th, and 15th INSTANT. Sealed Tenders, marked "Scarborough Valley Bridge," and addressed "JOHN CLEGHORN, Esq. Secretary," must be delivered at Messrs. HEAD & CO.'s Office, in Scarborough, before TWELVE o'clock on the 22nd INSTANT.

24, Great George-street, Westminster, 1st June, 1864.

TO STAINED-GLASS MANUFACTURERS.—To BE DISPOSED OF, in consequence of death, an old-established BUSINESS in a large town above Hull. In a country town.—For further particulars, apply to Messrs. STOCK, BROTHERS, & TAYLOR, Glass Merchants, Cannon-street, Birmingham.

TO CARPENTERS, BUILDERS, UNDERTAKERS, and OTHERS.—GUILDFORD, SURREY.—TO BE LET, with immediate possession, a genuine, good, old-established CARPENTER'S and BUILDER'S BUSINESS, doing a good respectable trade, and very convenient premises, with every facility for extending the business. The present owner's health is the sole reason of his now putting the business.—For particulars, inquire of Mr. DRURY, Auctioneer, &c. Guildford.

TO MARBLE and CEMETERY MASONS. TO BE DISPOSED OF, in consequence of the proprietor being fully engaged in another business, a well established CONCERN, in full work, and with a large number of lucrative orders on hand, situated near a popular cemetery. For parti ulars, address H. F. Box A. Office of "The City Circular and Diary," 12, Bucklersbury, E.C.

TO COMPOSITION ORNAMENT MAKERS, DECORATORS, BUILDERS, &c.—TO BE SOLD, a great bargain, the entire STOCK and GOODWILL of ORNAMENTS of a late French Company, manufactured under a patent, and consisting of about Five Million Pieces of almost infinite variety and pattern, adapted for churches, theatres, public buildings, and private mansions and houses. The composition is peculiar, impervious to water or damp, uninflammable, and very durable. The materials cost upwards of 2000 francs, and would, if sold retail, realise the sum asked for the entire stock. These beautiful specimens of Company "for 100,000 have been broken up and sold for the value of the decorative art contained in the moulds. The moulds, which cost the original "specimens can be seen, and particulars ascertained at Mr. S. SLATER'S, Accountant and Valuer, 36a, Moorgate-street, E.C.

TO PLUMBERS, PAINTERS, &c.—A very OLD ESTABLISHED BUSINESS—A most genuine concern—within 9 miles of London—presents an unusual offer to any business person with about 200 capital, or could give approved security.—Address, A. B. C. Office of "The Builder."

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76, CANNON-STREET WEST, E.C.

ST. PANCRAS IRON WORK COMPANY,

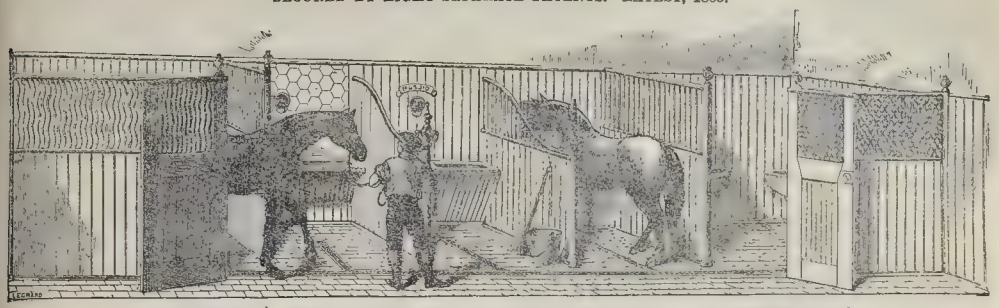
OLD SAINT PANCRAS ROAD, LONDON, N.W.

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THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
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Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.

ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of



ROLLED GIRDERS AND JOISTS,
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CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

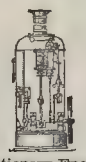


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

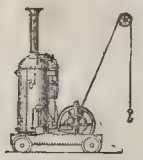
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Orders requiring Despatch and Punctuality can be executed in a few days.

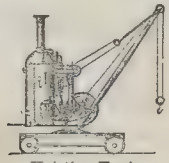
NEW PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine.



Steam Crane.



Hoisting Engine.

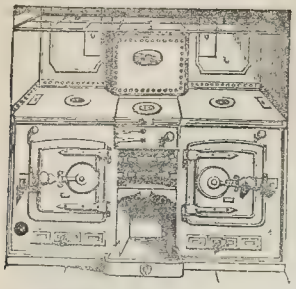
PRICES OF ENGINES AND BOILERS COMPLETE, DELIVERED FREE IN LONDON.

Description of Engine as shown above.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.
Stationary	1-horse	£45	2-horse	£65	3-horse	£85	4-horse	£105	5-horse	£125	7-horse	£150
Steam Crane.....	To hoist 35 cwt.	190	To hoist 50 cwt.	235	To hoist 70 cwt.	285	To hoist 6 tons.	380				
Hoisting Engine	To hoist 12 cwt.	95	To hoist 17 cwt.	120	To hoist 23 cwt.	135	To hoist 34 cwt.	165	To hoist 40 cwt.	195		

The STATIONARY ENGINES require no chimney-shaft or building whatever, a cast-iron ash-pit forming the sole-plate, and they may be set up anywhere and started at once. The STEAM CRANES are mounted on carriage and wheels. The Engine and Boiler swing round and counterbalance the Load.

*** *Every Engine is guaranteed to be of best materials and workmanship, and to perform its work satisfactorily.*

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FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 6*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

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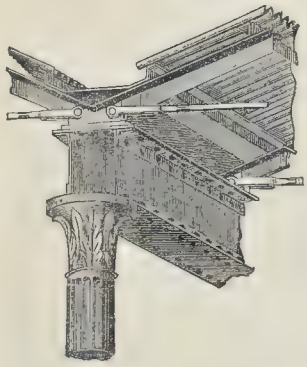
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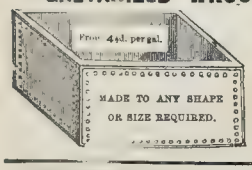
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CISTERNS, FROM 30 TO 150 GALLONS,

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DEANE & CO.'S improved Town-made Cooking Stove, manufactured on their own premises, is strongly recommended for economy, durability, simplicity, and cleanliness, and is manufactured in sizes suitable for large or small families.

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Steam-boats from London Bridge call near the Factory.

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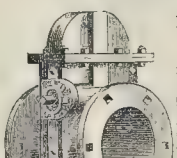
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IMPROVED GAS VALVES,

With Wrought-iron Pinions.

From 2 in. to 18 in. price 9*s.* 6*d.* to 12*s.* per in. diameter.

List of prices, with full dimensions of all sizes up to 36 in. to be had on application.

These Valves are all proved on both sides to 30lb. on the square inch before leaving the works and are always kept in stock.

Valves made with outside racks to order.

Also Screw Water Valves, with gun metal faces.

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Near Grange-road, Bermondsey

RAIN WATER PIPES, GUTTERS, &c.

Rain Water Pipes....	2½-in. 10d.	3-in. 1*s.* 0*d*	per yard.
Eaves Gutter.....	3½-in. 6½d.	4-in. 0*s.* 6½d.	„
O G Gutter.....	4-in. 11d.	4½-in. 1*s.* 0*d.*	„
Sash Weights	5*s.* 0*d.* per cwt.		

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, AND YORK ROAD, KING'S CROSS.

BROWN & GREEN'S
PATENT KITCHEN RANGES.

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These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

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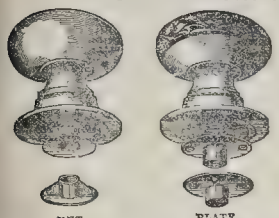
these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c. they form the most complete appointment for good establishments. Designs, &c. may be had on application at THE LONDON WAREHOUSE,

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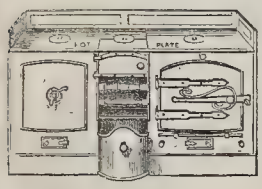
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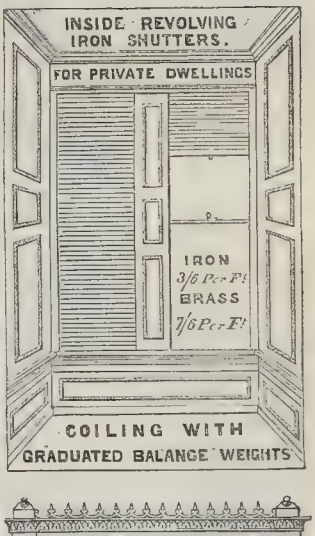
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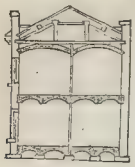








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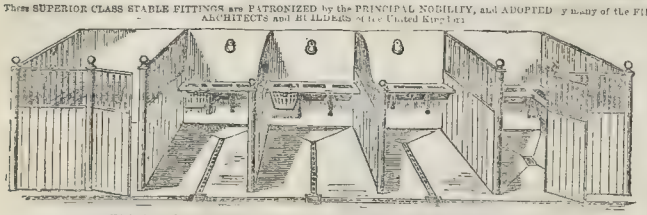
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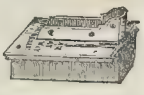
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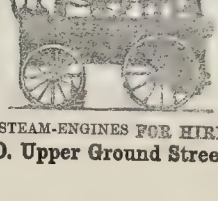
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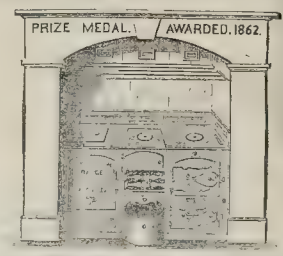
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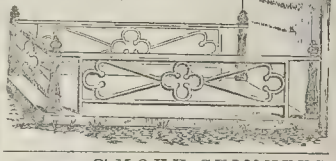


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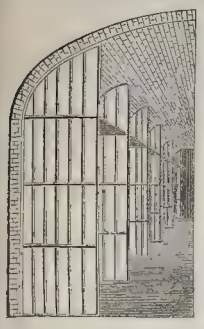
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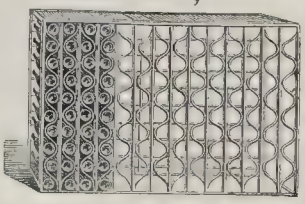
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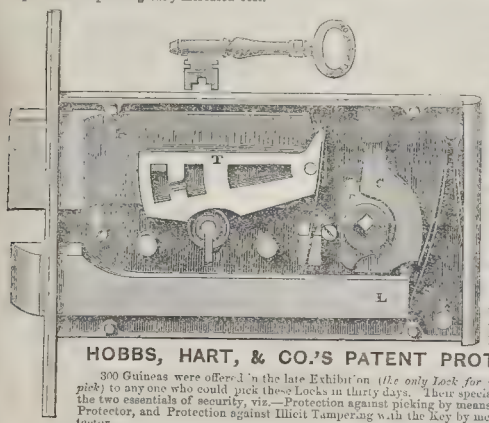
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This Illustration represents the Two-bolt Four-lever Mortise, with Hobbs & Co.'s Patent Follower, price 8s.

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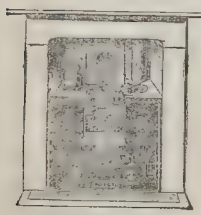
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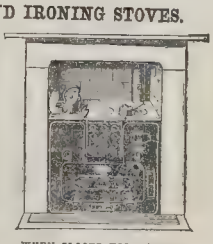
These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

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Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-close Range, also CUNDY's Patent Original FIRE-BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the

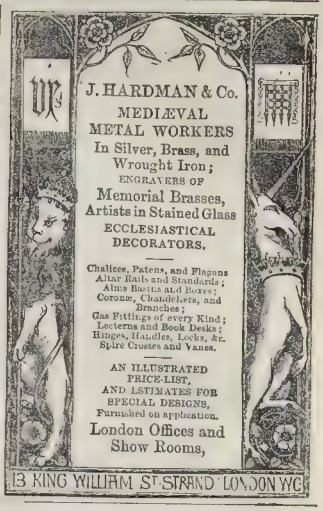
SHOW-ROOMS of the

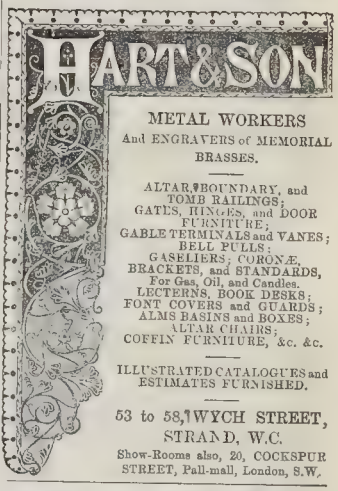


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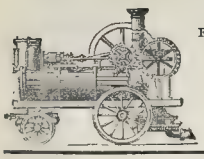
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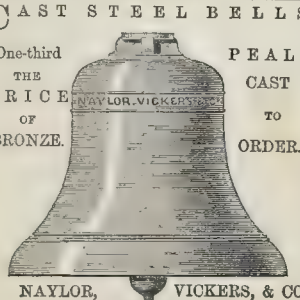
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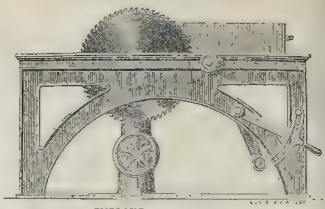
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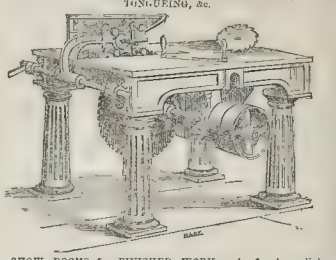
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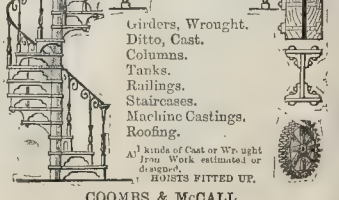
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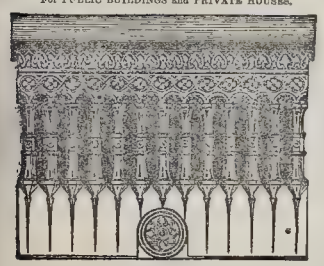


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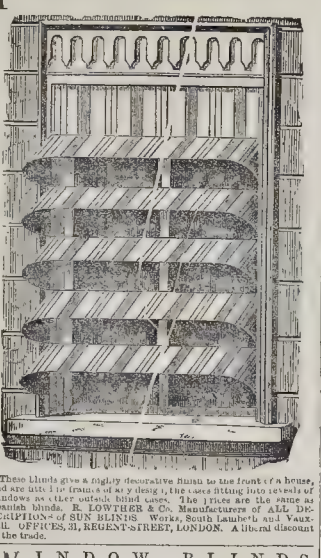
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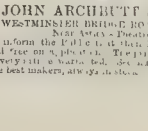
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VOL. XXII.—No. 1113.

The Towers of Rome.

THE Mediæval towers of Rome, for the most part mere truncate fragments of more or less extensive fortresses in dusky brick-work, or the masonry of small squared stones, called by Italian writers *Saracenesque*, form, in their grim decay, a characteristic feature in many of the scenes to be admired within the circuit of this city's walls; where town and country, classic ruins, olden churches, solitary villas, gardens and orchards, are blended with such unique effect. Some of these towers are now inclosed by impenetrable convent-walls; others converted into granaries or hay-lofts. One is built up within the premises of a large glass-factory: another serves as an asylum for aged women. The fortifications of the Savelli, on the Aventine, now inclose the peaceful and pleasant gardens of a Dominican convent: the proud castle of the Conti (built by Innocent III.), in part destroyed by earthquake, serves as a granary, with the shop of a greengrocer hollowed out in the thickness of its stupendous walls on one side; this huge ungainly pile being now shut up and impenetrable on its other fronts. The audaciously intruded fortresses of the Frangipani in the midst of and appropriating some of the finest antique monuments within and around the Forum, are now represented only by a substructure of massive stonework near the Arch of Titus, which had been converted into the donjon-keep of their castle on this spot, finally demolished in 1822. A single one of Rome's fortresses, and that not among the more mighty or noted ones, is described as it stood in the twelfth century, with not fewer than sixteen towers on its premises! In 1121, Pope Calixtus II. ordered the destruction of all the castles of the turbulent Cencius (or Cenci); and in 1149 those of the Frangipani and the Senator Pier Leone, even while the latter held the Mausoleum of Hadrian, as still master over Rome, were seized, to be eventually demolished, or defended against the aristocratic by the popular party. In the first years of the thirteenth century all the classic ruins on the Quirinal overlooking Trajan's Forum were fortified by Pandulfo da Suburra, Riccardo Conti (nephew to Innocent III.) and by the sons of the powerful Baron, Pietro Alessio, some of whose structures on this height were of wood, others in enduring material, such as that still erect, one of the most massive and conspicuous brick towers in Rome, now rising above the buildings of a nunnery, popularly called "Torre delle Milizie," and still popularly believed to be the edifice from which Nero contemplated the conflagration, whilst he played on his lute, delighted at that spectacle! In 1258 the energetic senator, Brancaleone, who had been overthrown and imprisoned by the nobles, but afterwards liberated and re-installed by the people, ordered the dismantling or demolition of 140 castles in this city,—an extreme measure directed to checking the turbulent insolence of the baronial families; yet, before the close of the same year Brancaleone was put to death by the still powerful faction, and his head placed in a precious vase at the summit of a column (*vide* Muratori, *Annali*). About the close of the thirteenth century, all those fortresses near Trajan's Forum were purchased, together with the mausoleum of Cecilia Metella, by Boniface VIII., to become strongholds of the Gaetani family. Seeing how comparatively few are the Mediæval towers still extant within this city, we are led to conclude that the work of demolition must have been rapid, wide-spreading, unsparing, even since a date so modern as the middle of the fifteenth century. We read of the existence of no fewer than *forty-four* in a single area of this city's fourteen *Rioni* (regionary quarters), under the pontificate of Martin V. (Muratori, *Antich. Ital.*, diss. xxvi.). Happily all those on the Forum, on the esplanade of the Capitol, on the Bridge of St. Angelo, and elsewhere encumbering the ruins of classic antiquity, have long since vanished. Of those included in the fortifications of the Leonine city remain but four, now of most picturesque aspect in ruins. Many others, especially in Trastevere, have been so cut down from their original altitudes, that they scarce rise above the lines of the other brick buildings in the quaint narrow streets where the greater number are now half concealed.

The Mediæval characteristics in art, of whatever form, have hitherto proved rather a mark for outrage and byword of contempt, than a title to interest or respect, among authorities and umpires of taste in this city. There was, therefore, matter for surprise, even more than pleasure, in the announcement made by the Chev. Visconti, on the 25th of February last, to the Archæologic Academy, assembled at the university, of the decision of Government, conformably with the desire of the Pope, to purchase, with intent of restoring, the singular old edifice, long used as a stable and hayloft, popularly called "House of Rienzo," and once supposed the palace of Pontius Pilate, but in reality of far remoter origin than assumed in the *former* theory, being undoubtedly a work of the eleventh century, raised by Nicholas, son of the Crescentius and Theodora who exercised absolute dominion over Rome in the tenth century, and given by that Nicholas to his son David. Some writers, indeed, assume that the *latter* was the celebrated Crescentius who domineered from the Castle of St. Angelo with his masculine lady; and others state that the first of the Crescentii known to history (by name afterwards modernized into Cenci) was Johannes, who held the prefectship of this city from 1002 to 1012. The extant edifice, close to the Tiber and to the suspension-bridge here crossing it, is but the remnant of a castle, demolished in all but one square tower above an ample basement story, by Arlotto degli Stefaneschi, in 1313, in order to check the influence of the Orsini, its then owners. In glowing isolation, and strangely contrasting with the Classic antiquities immediately opposite, known as the Temples of Vesta and Fortuna Virilis, this most bizarre structure seems a very abstract of the "dark ages," at their lowest decline as to science, good sense, and taste: it impresses us rather as a work of sorcery than of true art; and the utter bewilderment of ideas respecting the dignified and beautiful, peculiar to that fiercely turbulent period, could not be more strikingly represented in brick and stone. We see here, indeed, a silently eloquent monument of that deplorable degradation in the church and state of Rome, amidst whose baleful atmosphere could flourish such evil weeds as the infamous Marozia and Theodora, or the profligate boy-pope, John XII. of the same race. A description of such architecture could scarcely give, to those who have not seen it, anything but a vague notion of the whimsical reality. Its basement-story is in good regular brickwork, like that of the better ancient Roman period, with very little cement; the whole upper part, two stories, in a sort of rubble-work with unhewn stones and brick mixed in barbaric disorder. Along the best-preserved front of the basement story are brick pilasters, alternately flat and rounded, with terra-cotta capitals adorned by rude mouldings: above the rounded pilasters are marble mausolea with reliefs of winged children whose bodies terminate in foliage; two such figures, at the central mausolea, being male and female, in act of embracing,—probably Cupid and Psyche. Between these projections runs a marble frieze, chiselled with foliage. At the upper story this front is crossed by another frieze of marble fragments arbitrarily pieced together, chiselled with various ornamental figures, griffins, children, candelabra, and different animals amidst a maze of foliage, the latter of much smaller scale than the former designs. Above this runs a brick cornice, quite plain, and a series of marble brackets with folial designs chiselled on each (not, however, similar), supporting a projection like a balcony, along whose basement runs another marble frieze with gracefully-designed ornaments, alternating in rosettes and diamond-shaped compartments. Behind the ruinous curtain-wall of the projecting balcony are three arched recesses, probably windows now built up; and above them is carried a string course of dental moulding in terra-cotta. Higher rises the last story, a pile of rude brickwork without any noticeable detail. On the narrower side, towards the river, is an ample arched entrance, now walled up; and near this, the only ingress still open, with a common stable door, at one side of which a block of ruined brickwork advances slightly forward, evidently the remnant of a limb lopped off from this broken body. On the corresponding narrow side, within an obscure lane, is another wide arched portal, also built up, surmounted by a broad lintel of marble, on which is a long inscription in rhymed Latin verse; above this, another archway in terra-cotta; and below, within the archivolt of the portal, may be caught a glimpse of marble mouldings, for the most part hidden by the brick wall that closes up this ingress. At a short distance, is another archway,—once, no doubt, a window, but now alike closed,—the sill adorned by a fragment of marble with a rosette in the centre, and a band of egg-moulding along the lower part. On this side, also, are marble mausolea, with winged figures of children, and another group of Cupid and Psyche embracing (the best preserved), one of these children holding in his arms an animal, either dog or lamb; and on the highest story, at the same (the building's eastern) side, opens the only window still serving as such, without glass or shutters.

The long rhymed inscription begins with lines that singularly evince the ascendency of the religious sentiment even at the darkest period of Mediæval barbarism.

At the head of the inscription are nineteen initial letters, of no intelligible meaning, but which one antiquary, Padre Gabrini, has ingeniously interpreted into a string of names and high titles referring to Cola di Rienzo; while others ascribe the epigraph on the archway over the window near the closed portal, to Petrarch, led by the same idea of the celebrated tribune of the fourteenth century, in association with this building,—*adsu Romanis grandis honor populis*. The interior, or the ground-floor story, is only remarkable for the compact and regular brick-work of its walls, and the groined vaulting over a long quadrangular chamber occupying the entire area; that vaulting partly covered by stucco; and, on one side, those walls opening into two arched niches of different height. A ruinous staircase reaches to the upper story, hitherto used as a hay-loft, and so filled up that our attempts to inspect this part of the gloomy penetralia have been unsuccessful. What is the style of *restoration* projected for this building, Visconti did not indicate to the archæologic

reunion; but local precedents do not allow us to entertain much hope respecting either its animating conception, or style in execution.

THE ARCHITECTURE OF PARIS UNDER NAPOLEON III.*

We have already devoted three articles to the subject of the domestic architecture of Paris, in connexion with a notice of Mons. César Daly's admirable work; and we have not given all particulars that we had collected during long and careful examination of the buildings themselves, and that are essential to knowledge of the general character of the art, and of what are peculiarities of the details. Adequate description indeed would be the office not of the language of words, but of that of drawings; and not of one elaborate publication of some 250 plates, but of many such collections, as much superior to previous works as we have said is this publication by Mons. Daly. Numerous works indeed have appeared, illustrative of the architecture of Paris; but, whilst none of them do the same justice as Mons. Daly's work to their subjects, several of them, by their mere elevations engraved in outline, teach nothing; or, rather, they convey erroneous impressions. Mons. Daly gives few perspective views; but the want of these is less felt than might have been expected.—so thoroughly detailed are the selected examples, and so clear and beautiful are the drawing and engraving.

Although there are symptoms of a time when the practice or pursuit of style will have been exchanged for the pursuit of art, and when writers will have greater difficulty than now, in fitting the character of a building with a name, and in making words serve for description of architectural treatment and details, the question still will not fail to be asked,—What is the *style* of the architecture of new Paris? Now, with the difficulty that there is in answering the question, resides the particular attribute, which we believe to be *art*, of the works of the French architects. For, in proportion to the aptness of application to the new thing, of a term previously recognized for an old form, must be the resemblance of the forms, and consequently the deficiency of invention. It is true that, as we have repeatedly had occasion to say, novelty alone is not *art*. Mere novelty may be realised at any time: whilst novelty, utility with structural sufficiency, and ever gratifying attributes of beauty, *combined*, must form the work of art; and this combination may not be fairly realized once in a generation. The pursuit, then, of novelty, may be regarded, almost as a snare. A slight infusion of it even, is to be counselled, rather than a great one, subversive of old models and their teaching, and endangering accumulated and invaluable results and precepts. Real progress is ever a gradual building up of discovery: the labour of many contributing minds and hands is the essential to it. By no one has this fact, and the danger of impatience in the pursuit of progress, been better recognised, than by one of the best friends to progress, Lord Brougham, as in several of his addresses before the National Association for the Promotion of Social Science. What is true of progress in general, is true in the special case of art-progress. In a subject so vast as that of architecture, some deference must be paid to precedent; or steps will be repeatedly lost; and the same discoveries and conclusions will have to be made and arrived at, over and over again: only, similar conscientious regard should be had in making precedents, to that which prevails in the profession of the law. This is very far from saying that novelty or invention is not an essential quality of art.

English architects have erred in many ways; and so indeed have the French. We have works of which, the common newspaper description,—that the style "is that of" a certain century, or "is that which prevailed" at a specified date,—gives the picture, and does not leave an inducement to visit the structure itself: we have works, and of designs a multitude, that are chiefly novel, or *bizarre*, in the details of form or colour: we have other works that are only copied from a source that had not before been resorted to. In none of the productions to be thus described, can it be asserted that *art* proper, which at the same time demands invention, and is not content with that one of its attributes, has any place.

It has been lately said of inventors, as for example in mechanics, that the true specimens of the class must be busy inventing,—that the utilization and profitable application of their discoveries are secondary with such men. Something of this ascribed characteristic pertains to the French exercise of invention in architecture and the subsidiary arts. The pursuit of novelty is incessant with the French; and fertility in art of one kind or another, is the first attribute to be noted of their decorative artists of every kind. There are other national predilections contributing to the intensification or repression of the one. There is the prevalence of fashion. A thing invented will become the *mode*, and will be then laid aside, without apparent question of its intrinsic beauty. We may admit, there is a similar prevalence with us; and it may be said, as it has been, that this *fashion*, and the true exercise and appreciation of art, are opponents of one another. But it is difficult without observation of French art, to conceive the extent to which fashion can prevail, and to have an idea of the anomaly of the prevalence where the real art-work is at the same time deserving of admiration. Another predisposition is that towards quantity and elaboration of ornament. This may be remarked in the French art for centuries past; and love of show, and a taste for luxury, are affirmed to have greatly increased under the present Empire.

Besides the disposition towards novelty in decoration, there is the same disposition towards contrivance, the elaboration of it merely, as in planning and in mechanism. Also, there is great predisposition to systematizing, and seemingly a perfect readiness to sweep the system away in favour of a new one, pointed to as theoretically better. All that has become recognised as characteristic of France politically, will be found to extend to its architecture.

In the branches of art belonging to the decoration and furnishing of rooms, besides the regard for novelty, ornamentation, and fashion, there is a wonderful power of reproducing with fidelity many different styles. This reproduction is not much observable in the general street-architecture: it may be found in private *hôtels*, and suburban villas; but none of these works would aim so closely at reproduction, as does the villa of Prince Napoleon; for, that is little different from the true Pompeian house. As regards furniture, however, the chief Parisian manufacturers of it are able to fit up any house with every appliance, from chairs to candlesticks, in Greek, Roman, Late Italian, François Premier, Louis Quatorze, Louis Quinze, Louis Seize, or any one of several other styles. The particular productions may not be all that is desired in our theory of art; but wide and accurate study of examples, and the greatest facility with the pencil, are essential for them.

Whatever be the case of the interiors of houses, the external architecture, as we have said, is not characterized to anything like the same extent by reproduction either of one old style or of many such styles. In the exception afforded by a certain number of the private *hôtels*, as well as of the *villas*, the details of trusses and consoles, and the dormer-windows, show the influence of the many remaining examples of the Louis XIV., Louis XV., and Louis XVI. periods.

Much has been written concerning the Louis XV. decorative art, and of want of judgment shown in this country, in going to any such style for models; but much has been left undescribed of the characteristics of the style itself. Some of these are not to be learned from English books; and they are nowhere to be studied so well as in examples which yet remain, and indeed abound, in Paris. The Louis XV. style has been truly enough spoken of as one of internal decoration and furniture, inasmuch as its distinctive scrolls and curves, adopted for such structural members of furniture as the legs of chairs, could not well be substituted for the right lines of the essential parts of buildings, as coins, openings, and mouldings, and since moreover there was a modified Roman style contemporary with it, as seen in the most important works, the churches and other public buildings. In many of these even, the style of decoration prevailed in the interior of the building. But, in the *hôtels*, the manner of the internal decoration flowed over the exterior, and constituted a distinctive character of ornamentation. Trusses to a window-sill, or the springing of an archivolt, were no longer bounded by right lines, as seen in front elevation; the symmetry of corresponding halves separated by an imagined central line, was departed from, as it had been once before in *flamboyant* tracery. The head of the truss was bent to one side, and a twist was given to the foot; whilst in profile, the upper portion was flattened against the wall, and the foot of the truss was made to project more than the head. Thus, all weight-sustaining character in the feature, was taken away from it; indeed many of these trusses seem as though turned upside down. Still, there is in many of the trusses of this period, great elaboration of carving; and some of them are well deserving of intelligent study. Besides the scroll forms, there are several examples of the forms of animals; and these have considerable beauty. The *porte-cochère* forming the entrance to the *hôtel* in which is the office of the *Moniteur*, on the Quai Voltaire, may be instanced. For the key-stone of the arch, there was in place of a head, or of a *console* proper, very generally a circular space or escutcheon supported by branches and leaves. The heads of the windows were commonly segmental, exactly like those in London houses of the same date, of which, perhaps, the best examples are in George-street, Hanover-square. Balconies over *porte-cochères*, with their railings, were gracefully curved on plan; whilst the two cantilevers or trusses supporting the ends, were set obliquely instead of at right angles with the wall. In Paris, numerous examples of the Louis XV. ornamentation of the character described, may be found in the Rue de Grenelle, the Rue de Varennes, and most of the other streets in the Faubourg St. Germain, and about the Sorbonne, as well as in the Rue St. Honoré, and in the district bounded by the Rue St. Martin and the Rue St. Antoine.

It was to be expected that the present French architects taxed by an extraordinary demand upon them, should look to these examples which there are in profusion, and endeavour to glean from them hints. In using them, as they have for a portion of the architecture of new Paris, they have reproduced some of the defects. Throughout the new buildings, indeed, even where the architecture is not of the Louis XV. sort, a truss well profiled is an exception. Generally however, in new works, where resemblance to the character of the old *hôtels* is apparent, it is comprised in an arrangement *cut, cour et jardin*, and of the gateway between low front buildings next the street, or in Mansard roofs with very prominent dormer-windows, and in the form of window-heads. In external steps, no consideration of extra expense of "circular work," seems to prevail for a moment; and in many of the villas, the result is beauty of effect in the whole building, from the treatment of the basement and entrance. The stables are often placed as two front buildings separated by iron gates; the villa itself being seen in the rear. This arrangement is found in one case even in the Champs-Elysées, where the front buildings are of brick. The plan is in Mons. Daly's work.

In the villas, much greater diversity of character is permitted than generally in the town *hôtels*. The showy French books of designs for structures of the class, and addressed probably to builders,—and which it is to be regretted are almost the only works that get displayed in London,—profess to give designs in every style, including even varieties of the Gothic, and what is called English Gothic amongst the number. Amongst the designs, actually employed, in suburban villas, different sorts of Gothic may be found: but they do not seem to us to adhere more exactly to the details of old French Gothic than to those of English. The features chiefly favoured are a hipped roof of very high pitch, and altogether more prominent than the roof in the English Gothic; turrets, round, or square (set diagonally,) at angles, and covered with conical capping or spirelets; and mullions to windows. But although details would not be considered correct, and are in fact sometimes offensive from their appearing to caricature the style, there is occasionally taste and real art along with them in the building. This is the case in Mons. Manguin's villa at St. Maur, already mentioned by us as in Mons. Daly's work. Mons. Manguin is one of those who have great facility in different styles, whilst preserving unity in each subject. He is also a skilful designer of furniture and decoration. His Renaissance villa in the Champs Elysées, not in Mons. Daly's work, is the most remarkable modern house that we are acquainted with, for the profusion and beauty of its external carving, and the richness internally of its decorations and furniture. In Paris itself, we cannot remember more than two or three *hôtels* of the Gothic character. One of them, however,

* See pp. 199 & 218, *ante*; and p. 353, "The Gutter in Modern French Architecture," with illustration, p. 355.

which may be called a villa, is rather remarkable from its merit, and its position next to the villa of Prince Napoleon. A large *hôtel* or villa, somewhat in the style of the time of Louis XIII., has been lately built near the Russian church. Even Mons. Viollet-le-Duc has not adopted Gothic in his villa at Pierrefonds illustrated by Mons. Daly, but a manner bearing about the same relation to French Gothic as the later Jacobean does to English Gothic; whilst his internal decorations are of the Henry II. character.

Of the general street-architecture of Paris, as of the boulevards, where the many-storied, and often long, ranges of building, classed by Mons. Daly as "*maisons à loyer*," are the ruling structures, it is easier to say what it is not, than what it is. We can note some of the general features, and some of the features of detail; but for the buildings in question, the assertion as to the insufficiency of language is applicable.

First of all then, be it observed that the style is not Gothic. In many of the details of the masonry, as in the introduction of chamfers, and in the ironwork, however, the results of study of the Gothic are observable. Secondly, the style is not Greek; nor is it Italian. Columns of the Parthenon Doric, or of the Ionic of the Erectheion, might be looked for in vain; and the cornice of the Reform Club is of a character completely different from what is now used in Paris. Though the older portion of the École des Beaux Arts, by Mons. Duban, is near to the same style as that introduced here by Sir Charles Barry, the recent addition by Mons. Duban, has a front to the quay completely different. Thirdly, the style is not a continuation of the Roman taste of the Napoleon, and Percier and Fontaine, period; and it is not old French of the reigns of the kings who immediately preceded the republic, excepting in the case of such *hôtels* and *villas* as have been alluded to. It has not been lately, the French Renaissance, as it was so much in the time of Louis Philippe: neither the naturalistic ornament, nor the reproduction of arabesque, can be said to prevail now, as then. In the *hôtels*, the style, from the use of stone in place of our red brick, is not the Franco-Dutch manner as we long had it; two groups of houses in the Champs Elysées, where red brick is used, being the only exceptions that call for notice.

But, comparing many of the buildings of Paris with the Greco-Italian of Klenze, we find points of resemblance with it. However, this character will be found in public buildings, such as the Mairies (illustrated in the *Revue Générale de l'Architecture* and our own volumes), or the railway stations, more markedly than in the domestic architecture. It is seen for instance in the Hôtel des Ventes Mobilières lately illustrated by Mons. Daly in his "*Revue*," and in details which we reproduced when explaining forms of the gutter. We are treating of the general street-architecture, rather than of the architecture of public buildings. Were we giving a complete description of the architecture of Paris, we should have to allude to the new churches, of which there might be a dozen or more calling for notice,—some of them being in Gothic, not always satisfactorily treated, some of them having an Italian character, and others a Romanesque.

The style of the general street-architecture may be said to be variously founded upon the old French,—as Louis XIV. or Louis XVI.,—upon the revived Franco-Italian Renaissance of Louis Philippe's time, and upon the German Greco-Italian.

The *porte-cochère* successfully treated, as we described in a former article; the ground-story deficient in footing of base-moulding, and in emphasis, — or, as Mr. Fergusson has the term, *accentuation*; the *entresol* above it; the low stories, equal to one another in height, and mostly having balconies with iron-work; the top or attic-story set back, and the continuous railing along the main cornice, and perhaps along another cornice above or below; the height of the buildings, and the general equality of heights; the Mansard roof and its dormers and lucarne-windows prominent in the *hôtel*, less prominent (or one with the attic) in the *maison à loyer*; and ornamentation far exceeding what would be allowed in London; all these may be set down as universal.

After them the most prominent feature of the architecture of Paris is the panelling. Some idea of the manner of its introduction will be afforded by one of the subjects in our illustration to which we have already referred. The English architect generally considers that to introduce panels on the piers between windows, is to adopt a system that is more suited to joiner's work than to masonry. The French architect positively cannot leave bare space. His system may be compared with that of the Perpendicular Gothic, wherein the wall or side of a building might be regarded as an arrangement of mouldings forming spaces, open where the way for light was wanted, closed elsewhere. The French casement, however, takes the place of mullions; and elegantly designed as it sometimes is, it is certainly more favourable to architectural effect than are our sashes, which, when glazed with single panes of plate-glass, are in some respects even more objectionable than when they have the ordinary panes.

The panels are often formed with raised mouldings richly ornamented.

String-courses designed in continuation of the window-cornices, nearly always run across the piers.

The architraves and cornices of the windows, and any pilasters that may be introduced in the front, have the slightest possible projection. No respect would be paid to the dictum of Sir William Chambers, that pilasters should project one-fourth of their diameter to allow of mouldings of what he might have considered proper projection being stopped against them: the French system is much nearer to that of Soane than of Chambers.

Another feature, which is well-nigh universal, is that of outside shutter-blinds. These are found even in courts, and where the sun's rays would seem never liable to fall; and they are certainly a convenient means of closing the opening and preserving ventilation, when the heat is not so great as to lead to adoption of the Italian method of attempting to keep it out altogether by closing both shutter and window. These shutters are generally ruthlessly placed to fold over no matter what elaborately ornamented architrave. In the Boulevard de Sebastopol, however, they are folded into reveals which become a considerable addition to the effect from depth. The front walls of Paris houses are always very thick, and of massive stones properly bonded: the party walls are less substantial, and are sometimes a mixture of brick and little more than rubble-stone.

The window has frequently a deep frieze for rosettes, or other ornament, or one into which the console rises. Very narrow architraves often contrast with the importance given to the head of the window. In the system of mouldings continued as string-course, a space corresponding to the window-frieze is generally preserved. Sometimes, however, where there is a projection of the balcony of the window above, as cornice to the lower window, and there are cantilevers, the head of the window will be carried up, cutting the line of frieze as marked on the adjacent piers. These cantilevers, as we have said, are not always elegant: there is generally a length of straight line in place of harmonious junction of curves of contrary flexure. In these cantilevers, as in those of cornices, and in the treatment of pilaster-formed projections, it is very common to see mouldings which are only upon the front, not returned at the two sides, or which are at the sides and not returned across the front. In the latter instance the plain space may be decorated with incised ornament. Incised ornament is very common elsewhere; and often it has much beauty of effect.

The lower arris of the corona is often cut off by a chamfer. Of the marked feature of the cornice, the *chêneau*, or gutter with decorative blocking-course, we have sufficiently spoken.

It will have been already understood that sculpture of a high class contributes to the architecture, as in the window-heads, and the supports to the principal balcony.

We have now concluded our account of so much of the decorative architecture of Paris, as belongs to the domestic buildings. We have not refrained from the endeavour to supply something more than a notice of the plates in Mons. Daly's work, although we cannot hope to have rendered unnecessary the text which is in preparation. The latter part of the work, owing to Mons. Daly's state of health, has been delayed. Every member of the profession in this country, who knows the value of Mons. Daly's services, both to art-advancement in France, and for the appreciation of the people of the two countries by one another, should join in our earnest hope that our friend may be soon restored to the health which he has taxed by his exertions. His present work, no less than the volumes of his "*Revue*," should be possessed by every English architect: to any one who is not narrow-minded or imbedded in the prejudice of style, the architecture of our French contemporaries, even taking it to have defects, should afford a world of suggestions.

ON TERRA COTTA.

A LECTURE was delivered on Monday evening last, at the South Kensington Museum, by the Rev. Dr. Brock, on "Terra Cotta and Luca Della Robbia Ware."

The lecturer said, that about thirty-five years ago, when he resided in Staffordshire, not far from the Potteries, it was his good fortune to make the acquaintance of that excellent man Herbert Minton. He frequently conversed with him upon the subject to which he was so very much attached, and on one occasion suggested to him that it would be a good thing to revive the use of those glazed and coloured tiles that were to be found in some old churches. Mr. Minton replied, that he would think of it, but that, he regretted to say, there did not exist a specimen of these tiles in his neighbourhood; and that it was necessary for the workmen to have the specimens before them to examine and to handle, before they could be successfully imitated. The fact was, that at that time no collection of such specimens existed in this country. Even at Naples, there was then no collection of terra cotta glazed ware. At Rome, the most exquisite specimens of art that the pencil or the chisel could accomplish were to be found; but if the history of terra cotta ware were sought for in its different forms, there was nothing to be found that could illustrate it. In Florence and Rome, beautiful specimens were to be discovered here and there in churches; but there was no collection of specimens which might be made use of in an educational point of view. Of Vienna, of Belgium, even of Dresden, the city of china, the same thing was to be said. In Paris, with its Tuileries, where such a collection might from its title be looked for, there was not a series of hardware which could be resorted to by the student. In the British Museum, thirty-five years ago, the magnificent vases collected by Sir Wm. Hamilton, when he was at Naples, were to be found, together with a few specimens brought from Mexico; but there was no specimen of terra-cotta ware worth speaking of. So things remained until that great and good man —great and good in private and in public life— who was wedded to our beloved sovereign, determined that the deficiency should be supplied; and, at his suggestion, and by his exertions, the gathering with which they were all acquainted, and which they all so much admired, was commenced at Marlborough House. Like a little boy outgrowing his clothes, the collection soon outgrew the place of exhibition, and it was transported to the South Kensington Museum. By degrees one and another department had since increased, until the present unequalled collection was secured. He could say, without fear of contradiction, that neither in France, in Germany, nor in Italy, was there such a collection as was contained under the roof of that museum. True, it was not altogether perfect, but it was approaching completion. There were various links in the chain still required, but they were being supplied. The subject of the ceramic art was too extensive to be treated of on that occasion, and he could only touch upon that branch of it which was confined to terra cotta and Luca Della Robbia ware. Terra cotta, as they all knew, meant nothing more than baked earth, or, in other words, burnt clay. It was the material in which the first attempts at decorative art were made, and specimens of it were to be found all over the world. In Egypt they were discovered of the most ancient character, and around the basin of the Mediterranean and in Italy they were constantly being dug up, of varied form, and of most beautiful character. He hoped that a few of the valuable specimens which were discovered in Southern Spain, would be secured with a view to the completion as far as possible of the South Kensington collection. In Mediæval times terra cotta was treated in Italy in the most marvellous way, and applied in various ways to the decorations of churches, whether in Greek, Renaissance, or Gothic. It made his heart glad to think that Englishmen were at length becoming alive to these things, and that in this country such beautiful works of art in burnt clay were made. In the collec-

tion in that Museum they would find objects of the highest plastic art. To one magnificent group he would direct their attention, namely, to that in which the Blessed Virgin is seen weeping over the dead body of our Lord. It was worthy of their careful study, as was also a sweet group, the Virgin with our Lord in her lap. They would also find a "Crucifixion" amongst the basso-relivos, which was a study for an artist. Near it they would find another beautiful specimen, namely, the Birth of St. John the Baptist. Another specimen which deserved their best attention was not only beautiful, but useful, as teaching them a great deal by which they might profit: it was surrounded by a frame divided into three compartments, covered with coarse canvass, which was primed with plaster of Paris, moulded in the most artistic manner. In the panels were exquisite specimens of work in burnt clay, glazed and fixed in. Near it would be found a basso-relievo, representing a man reading at a desk, and looking with the greatest anxiety at the book before him. Nothing in ancient or modern art could be found to surpass that specimen of terra-cotta work. It would be worthy the study of an artist, and of his travelling from a foreign country to inspect it; and it would serve to show to what beautiful purposes the material was capable of being turned. Above it was a beautiful crucifix, the finish of which demonstrated the facility with which burnt clay could be adapted to such a subject. They would also find a large number of busts, all marvellously well modelled. The Florentine artists, by whom some of them had been modelled, where certainly very truthful, as they did not attempt flattery. The physiognomies of some of the subjects were not the most beautiful specimens of humanity; but there was a life-likeness about them which stamped them as works of genius. The study of terra cotta was of great practical importance now, and was likely to be of increasing importance as the love of art spread among the people. The artist and the architect should never forget the climate they had to deal with; the fog, the damp, the smoke, the gas, against which they had to contend. Many persons whose means were small wished to have their houses adorned. Decorations in marble were out of the question, owing to their costliness, and there should even then be the model in clay; but, in the case of terra cotta, they had the model in the first instance,—and a model capable of the greatest expression and of the highest finish and beauty. Family busts might also be obtained, and brackets on which they might be placed; and the passages and halls of houses might be adorned at comparatively little cost. By using red and white clay diversity of colour could be procured. Cornices of a beautiful pattern could be moulded in burnt clay, and used for interior decoration. The material could also be applied to external decoration. The painting of hall doors was very expensive, and it had to be repeated periodically. Why should not the fashion which prevailed in Munich and Bavaria be adopted here? There the panels were formed of burnt clay, beautifully figured and glazed, so that a shower of rain cleansed them thoroughly; and it was so lasting that in a few years the saving in the cost of painting more than equalled the expense of the panelling in baked earth. We might also adopt terra-cotta decoration in public institutions, such as theatres and concert-rooms, with great advantage and at little comparative outlay, and it would remain and be admired for many generations. Clubs also might be adorned in the same way with the characters that they took an interest in, political, military, artistic, or literary. We would also suggest that the same idea might be carried out in public schools, where the children should have before their eyes, not dull walls, but objects of beauty, by which their tastes would be educated and cultivated. Churches, too, might be inexpensively decorated. The cost, as he had stated, would be small, and the material would be what it professed to be and not pretend to be that which it was not. Public fountains might be beautified in the same way—as might also shop fronts. In this age of advertising, why should not the proprietors of establishments let it be known, when the shop is shut, morning and evening, Sunday and holiday, what wares he dealt in, by decorations in terra-cotta, which would be at once beautiful and useful? At railway stations, and on railway bridges, now so unsightly, a great deal might be done, at a very trifling outlay, to please the eye, by the artist in burnt clay. There was also great scope for the employment of the material in our churchyards, in expressing, in a touching and enduring form, the love of the living and the hope of the dead. So far, he had dealt with the application of terra cotta to the purposes of decorative art. He would now proceed to make a few observations with respect to Della Robbia ware. It was nothing more than the process of burnt clay, carried a little further. On the baked earth was placed a metallic colour fixed in by the action of fire. Luca Della Robbia, by whom the art was not originated, but revived, lived in the fifteenth century, and, at an early period, turned his attention to moulding in clay. The Egyptians were well acquainted with the art which he practised with such success, and the secret of which he only confided to members of his own family. At first he moulded white statuary on a blue ground: not content with that, he added more colouring, particularly in the drapery of his figures; and at a subsequent period he introduced perspective. The wreaths of fruit and flowers which surrounded the panels, in some of the specimens in the Museum, were marvels of art, and deserved the most careful examination. How, he might be asked, was the Della Robbia ware to be applied. He answered, amongst other ways in the decoration of our churches and of our houses. If it were so used, the ornamental work on ceilings, which now refused to be painted, frequently owing to the smoke from gas, could be cleaned by a housemaid from a pair of steps without any trouble. There was nothing worse in London architecture than the chimneys—the tall hollow cylinders which topped our houses. At very little expense colouring could be introduced, and that which was now hideous made sightly. Without being extravagant, or procuring anything gaudy, a person of limited means could have his house made beautiful by means of panels and other decorations in this ware. Such of the audience as had looked, on a clear day, from Highgate towards London would recollect the enormous number of dull unsightly roofs that met their gaze. By adopting the Della Robbia ware, beautiful coloured and glazed tiles could be used, which would have a most picturesque appearance—at once relieving the eye, and being in a high degree ornamental. This was a case in which not England alone, but the entire kingdom, expected every man, and every woman, too, to do their duty: and if they did it, they would, at a small cost, render London a city of loveliness and splendour—a city not merely beautiful in its streets and avenues, but in the material of which they were composed;—a city, too, that would have its teachings—not the lascivious teachings of ancient times, but teachings better and purer in every regard. He heartily commended this subject to the attention of all who took an interest in the great city in which their lot was cast.

EXHIBITION OF WORKS OF DECORATION IN PAINTERS' HALL.

THE commendable effort made by the Worshipful Company of Painters, otherwise Painter Stainers, to improve the manner of execution of painting and decorative work, and to revive the practical utility of their ancient Guild, is continued this year; and their fourth exhibition has just been opened at Painters' Hall, Little Trinity-lane. Including awards to exhibitors at the International Exhibition of 1862, there have been five occasions on which prizes have been conferred, the first exhibition in the Hall having taken place in 1860. In our volume for that year,* with a notice of the exhibition, will be found some particulars of the history of the Company, and of paintings and other works of art in the Hall, along with certain suggestions which we ventured to offer, for the extension of the efforts of the Company in directions where there was much opportunity for serving all persons interested in the trade, and for benefiting workmen and improving work. These suggestions do not appear to have received exactly the attention that we are disposed to think they deserved, or that would have been within the means of the Company. The exhibition at present, "is instituted to stimulate the exertions" of persons in the trade, and includes specimens of four kinds of work, viz.—decoration, graining, marbling, and writing; but except in marbling and graining, this year it affords little evidence of success in the one department of the efforts desired, that relating to execution of work: it includes but little diapering or stencilling, or scarcely anything to show steadiness of hand, as in drawing an even line, and in keeping prescribed breadths and edges, which we originally remarked upon as deficient. Good work of the kind that each workman ought to be able to execute, is even now more needed than skill in graining, or than the sort of artist-work to which arabesque decoration may be said to belong. The history of the Company shows that painters, artists,—though, perhaps, more especially decorators, called "Tinctores,"—were of the fraternity that became incorporated under Queen Elizabeth, at a date hitherto given variously, and now stated as 1581; and it shows that in modern times, the relationship with artists was maintained, Sir Joshua Reynolds and others having belonged to the Company, as had Verrio and Kneller in the seventeenth century; whilst living members of the Company are excusably proud of its antecedence of the Royal Academy. But, the present mission of the Company is only subservient in a secondary and subordinate degree, though in an important and necessary manner, to *art*, and we are inclined to urge upon the members (including fewer representatives of the trade than we should wish to see interesting themselves in the efforts), the desirableness of aiming at the perfection of what might seem a lower class of work, and the improvement of ordinary workmen, as much as at the matters which now absorb attention. We may here observe that there is much fallacy in speaking, as did even a Royal Academician on the day of private view at Painters' Hall, of the work which is imitative, graining, or marbling, as art, because of its closeness of imitation: this sort of view of what constitutes art, would degrade the calling of the painter and the office of painting, and ascribe to mere handicraft a character which it could not claim. Art higher than the common house-painter's work, may be within the scope of the Company's efforts; but, then, it will be such decoration as arabesque, or subject-painting in medallions: graining and marbling belong to work of a lower class. Sir Morton Peto, on the same occasion, was equally unfortunate, as in his attempt to prove that what could be done by Frenchmen was already done in England: his purchase of the same silk in Paris, as he had procured in Regent-street, obviously is consistent with an opposite conclusion to that at which he arrived.

The prizes offered this year, consisted of four silver medals, four bronze medals, four certificates of merit, and the freedom of the company, with the addition of two extra prizes from a donation by the Past Master, Mr. D. G. Laing, viz.—one of five pounds for the best specimen of arabesque decoration, and one of the same amount for the best specimen of decoration of the period of Louis Seize. One of these two prizes has been given to Mr. W. Homann, for a decorative panel (No. 22), and designs. The designs, which are to a small scale, and are for ceilings and sides of rooms, though not all on good principles, well deserved to be rewarded. For the painted work of the panel, paper-stained work could be substituted with advantage, and generally would be found better executed. There should be art-merit in work of hand, peculiar to it; or the more mechanically executed work would deserve to be preferred. There is some good arabesque work in the two "decorative panels" (20), by Mr. S. Burnby, which have received a bronze medal. Those by Mr. F. W. Burford (28), three in number, which have received a certificate of merit, are good, excepting in the pictorial portions. There is excellent work in the wall-and-ceiling decoration (25), by Mr. J. J. Lovegrove, which was considered not within the terms of the competition. A "decorative cabinet" by Mr. J. Rodgers, of Sheffield (15), has received a silver medal. Capital specimens of marbling (3) are exhibited by Mr. W. J. Hoodless, and have received a silver medal; and a bronze medal for inlaid marbling has been given to Mr. W. J. Cloake. A certificate of merit for graining has been given to Mr. G. Croker, and one for marbling to Mr. A. Coggan. The writing, much of it, and even some of that which has been rewarded, seems to us irregular, and generally inferior to what has been exhibited previously.

There are 29 numbers in the list, but several of them relate to as many as nine specimens. The exhibition will remain open to the 30th of this month, between the hours of 10 and 7; and admission is gratis. Mr. F. G. Tomlins, who is

* Vol. xviii., p. 357.

the Clerk to the Company, conducts the arrangements of the exhibition, which were originally in the hands of Mr. P. N. Tomlins.

THE CONDITION OF THE METROPOLITAN DRINKING FOUNTAINS.

IT is unfortunately the case that the street-fountain movement has not, upon the whole, been creditable to the taste or skill in design of the present generation: there are a few exceptions; but, if the chief part of the fountains are not pleasant to the view, their great utility is undeniable; and if the objects are in some cases unsightly, there is no reason why matters should be made worse by allowing them to fall into a state of dirt and decay. In some instances the water-supply seems to be irregular; in some stopped altogether: in certain cases the cups look rusty, and not likely to tempt passengers to use them: unpleasant matters are left to lie about, and from one cause or another several of the fountains are anything but pleasing to the view or ornamental.

The permanent upholding and keeping in order of the drinking-fountains is a matter which should be settled; and it becomes a question whether it would be best for the care of them to be left with the Association which has been instrumental in the erection of so many of them, or for some plan to be devised by which the cost of keeping up the fountains should come out of the rates like the maintenance of the foot-paths, the public urinals, and the street-lighting. The entire cost of the fountains each year in even a large parish would amount to a very trifling sum.

ALEXANDRA PARK.

THE works here are progressing very rapidly, and tend to the belief that it will not be long before the directors will be able to utilise their land and recreate the public. A race-course and cricket-ground are being prepared, and the races already arranged for show the favour which this part of the scheme is likely to meet with. Two wooden pavilions are being erected for the use of the cricketers, under the direction of Mr. Giles. On the the top of the hill, commanding most charming views, Messrs. Kelk & Lucas are using up some of the materials of the International Exhibition building in carrying out a design made by Mr. Johnson, architect, the features of which include a nave 900 feet long and 85 feet wide, a centre transept 430 feet long and the same width as the nave, and two shorter transepts, each 320 feet long, the same width also as the nave; and intersecting at a short distance from each end. The centre will have erected over it one of the great domes, which will be 170 feet in diameter and 220 feet high in the interior, but, unlike the late Exhibition, will be for the most part solid, panelled, and decorated; a subdued light being admitted near the top and by lunette windows at the sides. On each side of the nave and transept will be erected buildings about 50 feet wide and two stories in height: these will have brick external walls, with arcaded openings and windows, and will form galleries next the nave and transept, as in the Exhibition building.

The general character of the architecture of the exterior will be made as much Italian as the nature and dimensions of the old materials will permit, and will consist principally of brickwork in two colours, with stone dressing and ornamentation. The dome, as also the octagon cupolas at the smaller intersections, will be covered with Muntz's brass-coloured metal, with moulded ribs and panelling in bold relief.

The terrace on the north-west side, which will be 1,000 feet long and 160 feet wide, supported by Italian arcades, will cover a railway station, from which access will be had directly to the building at the ends of the three transepts, and to which station all the railways of London will ultimately be brought.

The estate consists of 480 acres of well timbered and beautifully undulating land, adjoining the Wood Green Station on the Great Northern Railway. The Park proper will consist of about 200 acres, and the remainder of the estate will be laid out for building purposes.

At a short distance from the main building, a large structure, chiefly of wood, is being erected capable of holding 10,000 persons, and intended to be used before the other is completed: it is making rapid progress. Of this, also, Mr. Giles is the architect. The cost of it will be about 10,000*l*. We do not ourselves clearly see the wisdom of this expenditure, notwithstanding the statement that the building will hereafter be used as a large gymnasium. The directors, however, doubtless see their way.

A large number of brick-making machines are being set up on the ground, and the greatest activity everywhere prevails.

The gardens around the old residence, which forms part of the estate, are in admirable condition just now. The red chestnuts, and the Oak Avenue, with peeps of Hornsey and adjacent villages, are some of the features. Near this end of the estate is the well which gave the place its name—Mus-well Hill. There was a "cell" here that belonged to the Clerkenwell priory.

A certain portion of the land will be let, as we have said, for building purposes, so that we may expect before long to see here, as around the Crystal Palace at Sydenham, a town of villa residences spring up. There is no fear of interfering with the Crystal Palace: there is plenty of room for both. For anything good Manchester, Leeds, and Birmingham will send visitors, besides the metropolis. Nothing but good and enlightened management is required to make Alexandra Park a success.

DOUBLE ACROSTIC.

THE LETTERS.

1. O'ER the waters gliding
   In the race it flies:
2. At the goal presiding
   He awards the prize.
3. To the trav'ller weary
   Glad and welcome view:
4. Sight as glad as cheery
   To the wave-tost crew.
5. Lo! where youth and beauty
   Mingle hand in hand:
6. Thousands owe him duty—
   Bow to his command.
7. From a toil unblessèd,
   From a fate unkind,
   Oft the poor oppressèd
   Seek it, not to find.

THE WORDS.

When my Firsts have reckon'd
Each due estimate,
Then they send my Second
Forth to learn their fate.
Many are rejected:
Still the lowest win:
Then my First selected,
Sees his work begin.

KEY.—THE LETTERS.

1. Boa T.
2. Umpir E.
3. In N.
4. Lan D.
5. Danc E.
6. Empero R.
7. Redres S.

THE WORDS.

Builder.
Tenders.

THE LATE MR. JOHN WYKEHAM ARCHER.

IT is with extreme regret that we have to notice the death, at the age of fifty-eight, of this able artist and industrious and well-informed antiquary, whose career deserves attention.

Mr. Archer was born at Newcastle-on-Tyne, in the year 1808, and was the eldest son of a respectable and prosperous tradesman of that town. His father had considerable antiquarian and artistic taste, and delighted in the collection of prints, old china, rare violins, and other curiosities. At a very early age John showed skill in drawing, and copied in a vigorous manner some of the designs of the Bewicks and other artists. Having received a very good general education, it was determined to apprentice him to John Scott, who was a fellow townsman, then practising in London, with repute, as an animal engraver.

At the time of the arrival of the young artist in the great city, the antiquities of which he was destined in after years so extensively to investigate and illustrate, Scott lived in one of the houses on the east side of Coppice-row, Clerkenwell, not far from the workhouse, and one of the duties of the apprentice was to go at certain times of the day to the Clerks' Well, not far off, for drinking-water for his master's use.

In many respects the studio of Mr. Scott proved a good school. Cousens, the engraver of some of the best plates after Turner and other well-known artists, was a fellow-student with Mr. Archer, and the master encouraged the youths to practise drawing and sketching, not only from models but from nature; then there were plenty of picturesque materials close by Coppice-row, where multitudes of houses now stand.

The last part of the engagement of Mr. Archer with Mr. Scott was spent in little comfort, for the mind of the master gave way, and the days were passed in trouble and confusion. Mr. Archer then returned home, taking a passage from the Thames to the Tyne in a collier, a very common means of transit for the few travellers who wandered from the north to the south. The voyage lasted three weeks. Arrived at Newcastle, he found that a small artistic community had sprung up in the town, amongst the members of which may be mentioned the elder Richardson, his son George, and Thomas Myles, Carmichael, Balmer the marine painter, David Dunbar the sculptor, and a few others, who became closely associated together. There was also a literary circle of "clubable men," who much assisted each other in mutual mental improvement. In both these little societies Mr. Archer distinguished himself by the skilful use of both the pen and pencil. About this time the subject of our memoir, in conjunction with Mr. William Collard, a local engraver, produced a series of large views of Fountains Abbey, in Yorkshire, from drawings by Mr. Carmichael. These etchings are remarkable for their bold artistic style, and for the original manner of their execution. During the visit to Yorkshire Mr. Archer engraved several plates for Mackenzie's History of Durham, and spent the time pleasantly enough in sketching along the coast, and rambling to places of interest in the neighbourhood.

In the year 1830-31, Mr. Archer returned to London. At this time, Mr. Heath and the brothers William and Edward Finden had large engraving establishments, where artists of ability were engaged in manufacturing the plates for annuals and other elaborately-illustrated books. In the Messrs. Finden's studio, Mr. Archer readily obtained an engagement, but at a small salary; such however was the success of his first etching from a picture by Calcott, that the amount of income was at once doubled. The Findens were then engaged with the illustrations of the Bible, "The Ports and Harbours of Great Britain," and some other important works; but in 1836, 1837, 1838, a change took place in the system of book illustration, and eventually the once crowded studios of the Messrs. Finden & Heath became deserted, and many engravers were thrown out of employment, especially those who had only been accustomed to engrave parts of pictures. Those who had artistic ability and were able to begin and complete an engraving could, for some time after this period, find plenty of remunerative employment from various publishers, and in this way Mr. Archer continued to follow his professional pursuits, with some little assistance at his own residence; and in 1838 he took his chance in one of the most important lotteries in life, and drew as a prize an affectionate wife, who was well fitted to help and encourage an artist in those passages of his life which cause trouble and despondency. This lady was sister to Mrs. Lance, the wife of the well-known painter.

During the next few years Mr. Archer engraved many plates for the new sporting magazine, from pictures by A. Cooper, R.A., Lance, and others. Some of these are remarkable for the richness and variety of the tints, and for dexterous skill in imitating various textures by means of etching and the graver. Numerous other plates might be mentioned, but eventually the introduction of lithography and engraving on wood, especially the latter, almost entirely superseded the old-fashioned plates as a means of book-illustration. In consequence, several engravers, who continued to follow this now profitless work, fell into poverty and distress. Instead, however, of continuing without advantage a pursuit which he had so long followed, Mr. Archer began to look in other directions for a market for his talent, and turned his attention to painting in water-colours. It happened that, while waiting for pictures to be engraved in the old way, the spare time had been filled up by

visits paid by Mr. Archer and his pupil to places of ancient fame, which then remained within the bounds of the metropolis; and on these occasions a series of sketches were made of St. Saviour's, Southwark, Lambeth Palace, and of many miscellaneous subjects. In time these illustrations numbered upwards of one hundred, which were offered, but without meeting with a purchaser, to the late keeper of the prints in the British Museum. These works were, however, brought under the notice of Mr. W. Twopenny, of the Temple, who became a purchaser, and commissioned Mr. Archer to produce twenty drawings each year of the relics of bygone days which were to be found scattered about in the highways and byways of this bustling city.

Up to the close of the artist's life this work was carried regularly forward, and the result is that Mr. Twopenny has a collection of the greatest value illustrative of the various aspects of London. In these sketches there is a happy combination of cleverly drawn figures with the architectural features: for instance, in a view of Temple Bar of twenty years ago, we find the groups delineated with fidelity, and we see the bulk-head shell-fish shop which must have been familiar to Dr. Johnson and his friends, the placards of the day, and so forth. A glance at this sketch and a comparison with the scene at present shows the changes which have been made there since these pencillings were made. In other subjects we find the same attention to truth and matter-of-fact: on the walls of old houses which have a literary or historic interest, the bills of the theatres and other announcements are drawn exactly as they appeared at the time, and show as much character as the figures in front of Sir Paul Pindar's house in Bishopsgate-street, and other parts of East London, or those in connexion with the few bits of antiquarian interest which have been drawn at the West-end.

In years to come, these illustrations will be of importance to persons who are making inquiry into the progress of the metropolis. And this worth is greatly enhanced by careful and copious notes made by the artist, showing the sites, and giving other particulars of many objects which are represented, and have now passed away from the view. Besides, these sketches have much artistic merit.

All who have had the advantage of acquaintance with Mr. Archer, and have at times had opportunities of accompanying him on his rambles amongst old-world matters, will remember the perseverance with which he wandered into dark alleys, amongst ruined tenements, and rookeries; by the margin of unwholesome ditches; and amongst people who required management to prevent them from becoming dangerous to intruders, in search of even the most minute fragment which would illustrate the pages of London historians. The ability of our artist in this way was extraordinary, for no fox-hunter ever entered with more zest on the chase than did he in search of some old stone or other feature which would serve to prove the former existence of more important structures. We must, however, hurry on, and note that, at the time of the decline of steel-plate engraving, Mr. Archer began to draw on wood. Some of the earliest specimens of his work are to be found in the first parts of Mr. Charles Knight's "London." Limited space prevents us from giving any detailed account of the numerous examples of this kind, which form but a limited portion of this artist's works; and must therefore be content with the mention of "Choosing the Wedding Gown," after Mulready; several of the beautiful wood engravings after Mr. George Lance, which have appeared in the pages of the *Illustrated London News*; and the illustrations to "Blackie's Comprehensive History of England," an impression of which was edited by the artist.

Amongst the miscellaneous works of Mr. Archer were several monumental brasses: one of the most remarkable was a large bronze tablet—ordered for India by Lord Hardinge—to the memory of the distinguished officers who fell in the battles of the Punjaub. This was a very elaborate work, the ornamentation surrounding the inscription being of Eastern pattern, and consisting of flowers, elephants, lions, &c., the whole being inlaid with colours. The colouring was a difficult matter, and required unusual means; for tinted wax—or sealing-wax, as it is called,—prepared with shellac, or pigments mixed with oils or varnishes, would speedily have perished in the heat of the Indian climate. To meet the necessity, Mr. Archer prepared a filling-in substance, including silica as a medium, which after a season became as hard as flint, and which but little deadened the brilliancy of the hues. This memorial was exhibited in the Great Exhibition of 1851. In the execution of this and other monumental brasses, the artist used a process of outlining the letters and devices with the graver, and coating over with a wax preparation, which was of sufficient strength to resist the acid which was applied to reduce the sunken parts.

Amongst the other labours of Mr. Archer, we may mention a handsome folio volume of etchings (vestiges of old London) of subjects selected from the sketches in Mr. Twopenny's collection (this was published by the late Mr. Bogue); a series of very able and amusing illustrated papers, called, "The Recreations of Mr. Zigzag the Elder," which might well be reproduced; and some pleasant articles and sketches, illustrating a ramble along the Roman wall; he also contributed extensively to the *Gentleman's Magazine*, the *Illustrated London News*, and many other well-known periodicals. Chiefly, we believe, in consequence of an inspection of the drawings in Mr. Twopenny's possession, the Duke of Northumberland gave a commission, the execution of which afforded Mr. Archer the greatest pleasure: this was, in the course of each summer, to make sketches of the interesting antiquities which are so thickly scattered over his grace's extensive estates. Sometimes, when no other lodging but a shepherd's hut, amongst the wilds of the Cheviots, was to be had, the artist, with a most praiseworthy degree of care, spent long intervals in drawing the singular remains of a people who have been long since forgotten; and at other times the farm in Holy Island, old castles and churches, and many a time-honoured spot, occupied Mr. Archer's attention during these, to him, delightful rambles. Already his grace is in possion of a large number of these drawings, which are as remarkable for their artistic qualities as they are for being faithful transcripts of nature; and it is worthy of notice, that as the experience of this artist advanced, his attention to detail increased also; but this was managed without interfering with the breadth or boldness of his works.

Mr. Archer has been for long an associate of the new Society of Painters in Watercolours; but his varied occupations prevented him from being a very prominent exhibitor. During many years the subject of our brief memoir had collected extensive and valuable materials, with a view towards corrected histories of London and Northumberland; and the last time the writer met Mr. Archer, he spoke hopefully of making those matters the quiet labour of his age. Unfortunately this idea has not been realized. About three months ago, Mrs. Archer, to whom her husband was greatly attached, died somewhat unexpectedly, although after a long illness. This bereavement was seen by his friends to have been Mr. Archer's death-blow. He declined in health, but immediate anger had not been apprehended, when he expired on the morning of the 25th ultimo, to the grief of his family and a large circle of friends. The life of the deceased did not pass without trials, but these he vigorously battled with, and, by honesty and earnest industry, eventually overcame. His pleasing, gentlemanly manner and amusing conversation will be remembered by many; but those who had been most closely connected with him will most deplore his loss.

COMPENSATION CASE UNDER THE THAMES EMBANKMENT ACT.

On the 27th ult. the first case under the Thames Embankment Act came on for hearing at the Sheriff's Court, Red Lion square, before a special jury, under the presidency of Mr. C. Pollock, in the case "Gwynne *v.* The Metropolitan Board of Works," where a claim was made for 30,000*l.*, in respect of premises at the bottom of Essex street, near Temple-pier, where the business of an hydraulic and mechanical engineer was carried on. The case involved an important question, and was likely to affect the cases arising out of the Thames Embankment. It was whether the supply of water from the Thames, which was necessary for the business, could be cut off without compensation. Mr. Gwynne alleged that he should be obliged to remove, and had taken premises at Battersea, for which he had paid 7,000*l.* He proved that he was supplying hydraulic pumps, as shown at the Great Exhibition, and was turning 50,000*l.* a-year. His net profits last year were 10,000*l.* and upwards. On the other hand, it was stated that the premises were not required. Mr. Lloyd, Q.C., with whom was Mr. Horace Lloyd, appeared for the claimant; Mr. Lush, Q.C., Mr. Karslake, Q.C., and Mr Raymond, for the Board of Works. At nearly five o'clock the further hearing of the case was adjourned to the 6th of June.

THE MONUMENTAL ARCHITECTURE AND SCULPTURE OF THIS COUNTRY DURING THE MIDDLE AGES.*

I NOW proceed to the consideration of the principal of the sepulchral monuments of the thirteenth century, when both the architecture and sculpture of this country are deserving of deep attention and study. Recumbent effigies of life-size on tombs are now common: the tombs themselves are generally low,—perhaps, with the effigy, consisting of a single slab; if covered on the sides with architectural detail, not more than a foot or two in height. The effigies are in relief,—of higher relief indeed than those of the twelfth century, but still in relief. There are some tombs of this period with canopies over them, profusely covered with architectural detail, but they are not many in number. The canopied monument in Salisbury Cathedral of Bishop Bingham, who died A.D. 1246, with his recumbent effigy beneath; and that in York Cathedral of Archbishop Walter de Gray, who died A.D. 1255, with his recumbent effigy beneath; and the monuments in the same cathedral of Archbishop Sewal de Bovil, who died A.D. 1258, and of Archbishop Godfrey de Kineton, who died A.D. 1264, are architectural compositions worthy of study. These canopied monuments probably took their origin from the ancient herse under which the body was placed in the church prior to interment. The monument in Exeter Cathedral, ascribed to Bishop Marshall, who died A.D. 1206, consists of a tomb nearly 3 feet high, on which lies the recumbent effigy of the bishop. The sides are covered with quatrefoils inclosing sculptured figures and heads, and the spandrels are filled with a profusion of stiff-leaved foliage. It appears one of the richest tombs of this century. The tombs of this period were generally low and plain, though in some instances covered with quatrefoils, as the tomb in Peterborough Cathedral of Abbot Alexander, who died A.D. 1226. The sculptured recumbent effigies of this century are generally confined to those of regal rank, those of the higher orders in the church, bishops, and priors, and the armed effigies of knights. We have the Royal effigy in Worcester Cathedral of King John, who died A.D. 1216; in Westminster Abbey, of Henry III., who died A.D. 1272; and of Eleanor, Queen of Edward I., who died A.D. 1290. The effigy of King John is sculptured in high relief from a coffin-shaped slab which originally covered the stone coffin in which his body was placed: it is now set on a high tomb of much later date than the effigy, and this was probably erected soon after the burial of Prince Arthur, son of Henry VII. The effigies of Henry III. and Queen Eleanor are of copper, but admirably designed: the folds of the drapery are few and well disposed, with great breadth and taste. One or both of these effigies are considered to have been executed by Italian artists. Henry III. was partial to the fine arts; and, notwithstanding his tumultuous reign, a school of art sprang up under the auspices of his example, which surpassed any previous native school, and is even at the present day worthy of elaborate study.

The materials out of which the effigies of the thirteenth century were chiefly sculptured consisted of blocks of dark-coloured marble, destined to be the covers of stone coffins. When ecclesiastics were represented, which they were at this period always in the vestments worn in the performance of the most solemn rites of religion, their heads were often surmounted by elaborate canopies, sculptured horizontally on the slab, with slender shafts on each side of the body, supporting, as it were, the canopy. At the feet of the ecclesiastics of this period a dragon was often represented, in allusion to the verse in the Psalms, "Thou shalt tread upon the lion and adder, the young lion and dragon shalt thou trample under foot." Episcopal effigies are generally represented with a low mitre, holding the pastoral staff in the left hand, whilst the right hand is upheld in the act of benediction. The sepulchral effigy of a bishop in the Temple Church, London, is of this age, and thus represented. The interesting series of recumbent effigies of abbots in Peterborough cathedral are represented bareheaded, with the pastoral staff in one hand, and a book in the other. But, although a very durable material, this dark-coloured marble was difficult to work, and there is consequently a degree of stiffness observable

* By Mr. M. H. Bloxam. See p. 369, *ante*.

in these marble effigies which for the most part disappeared when the material was of a softer and more pliable nature.

There is one sepulchral effigy of an ecclesiastic of this period I should notice, because it is of a singular description. It is the effigy in dark-coloured marble of a deacon, holding in one hand a scroll hanging down, which no doubt was formerly inscribed. It is in the little out-of-the way church of Avon Dassett, Warwickshire, and is placed under an ogee-shaped sepulchral arch of at least a century later than the effigy, clearly indicating a rebuilding of the chancel subsequent to the effigy being placed there. But this curious effigy, though nameless, has an historic value: it points to a period when the lower grades of ecclesiastics, deacons, sub-deacons, and even acolites, were allowed to be presented to churches as incumbents. This practice, once common, was in a great measure put a stop to by a decree of the Council of Lyons, A.D. 1274. The scroll hanging down from one of the hands is found with a few other sepulchral effigies of this period, as with the effigy of a lady in Tilton Church, Leicestershire; the effigies of a lady and child in Scarcliffe Church, Derbyshire; and the effigy of a lady of the Fitzalan family in Bedale Church, Yorkshire.

The armed effigies of the early part of the thirteenth century are generally sculptured in dark marble: most of the effigies in the Temple church, London, are of this period. They are distinguishable from the effigies of the fourteenth century not so much by the details of armour, as by the greater length of the surcoat, and also the greater length of the shield. Armorial bearings now appear on the shield, which is heater shaped, and fastened to the left arm. The effigies of ladies are stiffly designed, especially if executed in marble. There is a somewhat gigantic effigy of a lady of this period in Worcester Cathedral. On the whole, then, during the thirteenth century we may trace a considerable advance in art, both in sculpture and architecture. The patronage of the crown tending, no doubt, to foster native talent, was emulated by the nobles and the prelates of the church; whilst many of the sepulchral effigies and monuments of this age were sculptured and prepared during the lives of the persons whom they commemorate. This is very evident from the minutiæ of detail and the elaborate manner in which many monuments sculptured in dark marble have been executed. The effigy of Bishop Walter de Cantilupe in Worcester Cathedral, which fits the stone coffin in which his remains were two years ago discovered, was evidently executed in his lifetime, and by his order. In Rochester Cathedral there are monuments of dark marble of this age too elaborately worked to have been, in my opinion, executed otherwise than in the lifetime of the prelate commemorative.

Throughout the thirteenth century we may observe a gradual development of composition, taste, and feeling in the arts of architecture and sculpture. This development continued through the greater part of the fourteenth century. The native school of art never attained such perfection in this country during the Middle Ages as in that period, comprising the reigns of the three first Edwards. The exquisite sepulchral monuments then erected are described by a writer of the fourteenth century, the author of "Piers Plowman's Crede and Vision," as,—

> "Tombes upon Tabernacles, tyled opon lofte,
> Housed in hornes, harde set abouten,
> Of Armede alabaustre, clad for the nones,
> Maad opon martel in many manner wyse,
> Knyghtes in ther conisante, clad for the nones,
> All it semed seyntes, ysacred opon erthe,
> And lovely ladies ywrought, leyen by her sydes.
> In manye gay garnemens, that weren gold beten."

When these tombs stood insulated in the midst of a choir, chancel, aisle, or chantry chapel, for numerous annexations were at this period made to our churches to serve as sepulchral and chantry chapels, the tomb erected was, what was subsequently called by Leland, "A high tomb," adorned on the sides with sunk quatrefoils inclosing shields, or deeply-sunk panel-work, or housings, that is, small recesses, with tabernacle work richly carved, inclosing small statuettes representing the relatives of the person to whom the monument was erected; whilst on the top of the tomb reposed the recumbent effigy of the knight or other personage as it might be, with, ofttimes, the effigy of his lady by his side. Sometimes a gorgeous canopy of tabernacle-work surmounts the tomb. Many sepulchral effigies of this era are, however, often placed on low tombs, within arches in the walls of churches, and on the foundation and construction of a chantry chapel we find these arches formed in the walls for the purpose of sepulture. Sometimes these arches are plain obtusely pointed arches with simple architrave mouldings and projecting hoods over them. Sometimes these arches have bold ogee-shaped sweeps, the hood is richly crocketed and terminates in a finial, whilst the interior of the arch is sometimes cusped with hanging tracery. These arches are often flanked on the sides by buttresses, with triangular crocketed heads. In some instances these arched tombs have rich pedimental canopies over them, of which that over the tomb of Aymer de Valence, Earl of Pembroke, in Westminster Abbey, may be taken as an example. Though there is a diversity of design in these monuments, the general composition is decorative, bold, and good. We next come to the sculpture. As stone, varying indeed in quality according to the material of the particular part of the country, was now generally used rather than the dark-coloured marble, the facility of working it was much greater, and a greater degree of freedom and breadth may be observed in the sculptured recumbent effigies.

Up to the middle of the fourteenth century the ordinary dress, whether of civilians or ladies, the warlike habiliments of knights, the robes of monarchs, and the vestments of the clergy of different grades, from their comparative loose arrangement, and from the manner in which a judicious disposition of the folds of drapery might and were carried out, were well adapted for a display of breadth and taste in the execution of the principal effigy. The armour of the knight still consisted of mail, with a small admixture of plate to protect the knees and elbows. The loose surcoat girded about the waist with a narrow belt, and open in front of the skirts, was still worn. The cross-legged attitude which, up to this time, more or less prevailed, gave full scope for freedom in the arrangement of the drapery. These cross-legged effigies have been generally supposed to be those of knights templars, but for this conjecture there is no foundation. I think it, however, probable that the cross-legged attitude may have distinguished those called "*cruce signati*," who took the badge of the cross on contributing to others, or themselves, journeying in pilgrimage to the Holy Land, as we find occasionally effigies of laymen in this century in civil costume represented cross-legged. There is an effigy of this kind in Much Marckle Church, Herefordshire.

Sometimes sepulchral memorials were erected to many who had been long before dead. In Hereford Cathedral there is a series of recumbent effigies of bishops evidently executed during this century, at the same period, and by the same artist. A like instance also occurs in Aldworth Church, Berkshire, where we find a very curious and interesting series of monumental effigies designed and executed by the same artist. The Lumley effigies, in the church of Haughton le Spring, in the county of Durham, though not executed till the sixteenth century constitute also another instance of this practice.

Painting was much lavished at this period on tombs and effigies. One of the most valuable examples of polychrome thus applied in the fourteenth century occurs in the sepulchral effigy, in Rochester Cathedral, of John de Shepy, Bishop of Rochester, who died A.D. 1360, and whose tomb, having been long concealed, walled up on the north side of the choir, was discovered in the year 1825. The painting on this effigy, partly diapered, has been executed with great delicacy and taste. In Oxford Cathedral, the tomb with statuettes round it, and the recumbent effigy of Elizabeth Lady Montacute, who died A.D. 1352, has been richly painted. On many other monuments of this period we find, more or less, remains of painting.

From the thirteenth to the middle of the seventeenth century inclusive, painting, architecture, and sculpture, in relation to monumental effigies, have gone hand in hand. Ecclesiastical effigies of this, the fourteenth century, period, are numerous, and the vestments are gracefully disposed; so are those of ladies of rank, whose robes during the early half of the century, not conforming, as subsequently, to the shape of the body, were arranged with great simplicity, breadth, taste, and skill. There is an effigy of a lady of this period, in Worcester Cathedral, which is well worthy of study. The regal effigies we possess of this century are those of Edward II., in Gloucester Cathedral, and of Edward III. and his queen, and of Richard II. and his queen, in Westminster Abbey, all of which are well deserving of study.

In the latter half of this century the gradual change from mail armour to armour of plate, led to the disuse of the loose flowing surcoat, and the adoption in its stead, first of the cyclas, a shorter kind of surcoat, without any skirt in front, and subsequently to the *jupon*, a close-fitting vest, of silk or other material, worn over the breast-plate, as exemplified in the effigy of the Black Prince, in Canterbury Cathedral. The dress of the ladies also changed in fashion, and in lieu of the loose flowing robe, wimple, and veil, capable of such graceful arrangement, a variety of head-dresses, more or less formal, was introduced; and in the body dress the upper part of the outer robe or gown conformed to the shape of the body, whilst the sleeves were close fitting, so that though more elaborate in detail and valuable as examples of costume, the sepulchral effigies at this period, become less and less pleasing as works of art.

In the fifteenth century monumental architecture attained its greatest degree of richness and exuberance of detail. This is exemplified in the splendid sepulchral chantries in Winchester Cathedral, containing severally the tombs of Bishop William de Wyckham, who died A.D. 1404; of Cardinal Beaufort, who died A.D. 1447; and of Bishop Waynflete, who died A.D. 1486. These are not annexations to the building itself, but shrine-like structures of open screen work, and elaborate ornamentation in accessories, vaulted with stone, and erected within the cathedral, containing, in the midst, a tomb, with a recumbent effigy of the prelate whose remains it contained.

The chapel of Henry VII., in Westminster Abbey, and the Beauchamp chapel, St. Mary's Church, Warwick, are sepulchral chapels, annexations to, but not included within, the minster or church to which they are attached. The numerous details in these structures consist to a great extent of a repetition of panel-work and other sculptured accessories. The richness thus attainable is, however, at the sacrifice of taste and beauty: the effect is meretricious rather than grand or striking. It is obvious that our native Mediæval school of architecture was now in its decline.

The sepulchral monuments of the fifteenth century are very numerous: those which are canopied, but open in front, have their canopies carried horizontally, and not vertically, as in the fourteenth century: an embattled moulding, or row of that peculiar style of ornamentation called the Tudor flower, surmounts, as a crest, the horizontal cornice. The mouldings of this age may be considered angularly disposed as to their general contour: a bold cavetto or hollow moulding is, however, almost always met with. The tombs, whether under canopies or without canopies, are generally charged on the sides with armorial escutcheons or shields, the quarterings on which are sometimes numerous.

These shields are set in panels, or more frequently in square divisions foliated all round, or within a quatrefoil with numerous cuspings. These foliations, far more numerous than those in the preceding century, exhibit a greater degree of richness, and more of minute and elaborate detail, but are neither so tasty nor so beautiful as the earlier designs of the fourteenth century. Sometimes images or half images of angels bearing shields surround the sides of the tomb: sometimes the tomb is encircled with housings or small rich canopied recesses, including statuettes, or small sculptured figures, called weepers.

The effigies recumbent on these tombs are simply passive, with little variation of attitude. Two effigies, that of a warrior, or civilian, and his wife, often repose on the same tomb. Sometimes three effigies are thus placed, betokening a second marriage.

The change of armour during this century was continually progressing, and we have a great variety of detail and elaborate sculpture; but in the armed effigies, from want of drapery, there is a sameness and want of breadth in the design. In some few instances we may observe over the body armour the heraldic tabard, or cote armour, as it was called, borne in procession in splendid funerals. The heads of the recumbent effigies in armour are now for the most part represented bare, resting on the tilting helme on which we often find a large and heavy crest. The disuse of the shield on sepulchral effigies is now apparent.

The ladies are represented with wonderful head-dresses, stretched out by means of wires on either side, in a variety of fashions. Towards the close of this century the pedimental head-dress was introduced. The lady's dress con-

formed to the shape of the body down to the hips: the skirts of the gown are sometimes tastefully disposed, and the mantle, hanging down behind and fastened by a cordon in front of the breast, is often found. The vestments of ecclesiastics were the same as those previously worn, though the cut or fashion was somewhat modernized. The effigies were frequently painted, and we have many instances of polychrome applied to the tombs of this century; but the native style of art was about to disappear, and be superseded by a mixed and foreign school of art.

In the early part of the sixteenth century we have a continuation of the costly designs of the preceding century for sepulchral chapels, in the erection of the tomb-house connected with St. George's Chapel, Windsor Castle, by Cardinal Wolsey, and intended by him as a place of sepulture for his own remains. His tomb, intended to be placed therein, commenced A.D. 1524, but never finished, was designed and partly executed by one Benedetto, a statuary of Florence.

In Winchester Cathedral we have the rich chantry chapel of Richard Fox, who died A.D. 1528, and that of Bishop Gardiner, who died A.D. 1555. The latter is perhaps the latest of this class of sepulchral memorials. It exhibits, however, the change of style in architectural composition. The sepulchral chantry chapel in Worcester Cathedral of Prince Arthur, who died A.D. 1502, is a late instance of our native school of Gothic art.

The Italian school of the Renaissance as applied to sculpture appears to have preceded the change of style in architecture in this country. The magnificent tomb of Henry VII. in Westminster Abbey, by Torregiano, shows a complete change of style in both. It has no particular distinctive architectural features, and the effigy is designed after the Italian school. In the Rolls Chapel, London, we have another fine and graceful recumbent effigy, by the same artist. We also find marks of his school in the statuettes, now much mutilated, ornamenting the rich reredos of Prince Arthur's sepulchral chapel at Worcester, and in some small statuettes on the side of a tomb in St. Michael's Church, Coventry. From an early period in this century, details of semi-classic design began to creep in, and to alter, in no slight degree, the appearance of our sepulchral monuments. In the latter part of this century we perceive a total change to have taken place. Costly monuments now appear beneath coved or canopied recesses, with horizontal entablatures above, and a multiplicity of detail in the semi-classic style, comprising columns of the different orders, obelisks, escutcheons, scrollwork, and other devices, the whole painted with different colours, but with little taste, and resembling huge masses of confectionary. There are monuments of this description in Westminster Abbey. The monuments in Croydon Church, Surrey, of Archbishop Grindal, who died A.D. 1583, and of Archbishop Whitgift, who died A.D. 1604, are also good representations of the costly monuments of this era.

Amongst these, the canopied monuments of Queen Elizabeth and of Mary, Queen of Scots, though executed early in the seventeenth century, exemplify the general style of design,—huge, cumbrous, and tasteless, but costly. The monument, in one of the Stamford churches, of Cecil Lord Burleigh, is another coved or canopied monument of this description. The monument in the Beauchamp Chapel, Warwick, of Dudley, Earl of Leicester, is a specimen of costly design, but of questionable taste; not placed detached, but against the wall. Monuments of this age are sometimes placed at the east end of an aisle, where an altar had anciently been; thus blocking up the window, and defacing the architectural features of the building.

The tombs on which effigies are recumbent are divided on the sides into compartments, each containing an escutcheon surrounded with scrollwork or other accessories, and charged with numerous quarterings. A complete revolution with regard to the fashion of sepulchral memorials had, indeed, now taken place.

Hardly any of the clergy but bishops and deans were now represented in recumbent effigies. In lieu of the ancient vestments in which the most solemn offices of the church, before the change of ritual, were performed, the rochet and chimere, with the square cap and tippet, were worn, and sometimes the cope. In some instances, in lieu of these habits, the academical doctor's gown is worn, as in the effigy of Archbishop Grindal in Croydon church, Surrey. In this diversity of apparel we may see traces of historical import, of that bitter controversy on the vestments and church discipline which broke out in 1554, and continued to the close of the civil wars in the seventeeth century.

We have during this century few sculptors of note, or of those whose works we hold in estimation. The majority of sepulchral effigies are simply correct, some indeed executed coarsely, others in more workmanlike style. Many effigies are sculptured in alabaster, a material introduced in the fourteenth century. These we often find in a mutilated condition, whilst effigies of freestone of an earlier period are perfect. This state of mutilation I rather attribute to the effigies having been sculptured in different pieces, fastened together by cement or plaster, and become loosened. We have now numerous small kneeling figures of children, one behind another in gradation of size, the males on one side the females on the other, facing them. In a compartment above these we have the father and mother, represented of a larger size, and kneeling opposite to one another before a double faldstool or prie-Dieu. On the sides of tombs also, we find, not unfrequently, these small kneeling figures. Mural monuments with kneeling figures came into fashion during the latter part of this century: we meet, indeed, with a few mural monuments of an earlier period, but they are of very rare occurrence.

Recumbent effigies of males not ecclesiastics are generally, as before, represented in armour; ladies in ruffs and open gowns or fardingales —the crinoline habit of the period—worn over richly worked petticoats.

The effigy of Henry VII., and the effigies of Queen Elizabeth and Mary Queen of Scots are the only recumbent effigies of monarchs that pertain to this period: that, indeed, of Queen Elizabeth is the latest recumbent effigy we have of a monarch represented on a tomb. Since the commencement of the seventeenth century no sculptured sepulchral memorial exists over the remains of any sovereign of this country.

The suppression of the monasteries in the early part of the sixteenth century was followed by a very general, though not total, destruction of the monuments contained in the churches belonging to them: where, however, the monastic church, or a portion of it, as was frequently the case in towns and cities, was preserved for parochial worship, the monuments were preserved: still the minds of many were averse to them from their reputed connexion with the old worship, and an indiscriminate destruction of many might have taken place but for a royal proclamation, which was found necessary, against the defacers of sepulchral monuments.

We sometimes find represented skeletons, the lively pictures of death, and emaciated corpses, beneath the recumbent effigies of persons of note, ecclesiastics or otherwise. This practice originated in the fifteenth century, and lasted to the middle of the seventeenth.

The large canopied monuments of the seventeenth century were plainer, more devoid of ornament, and yet more cumbrous than those of the sixteenth century. A huge square-shaped tester, supported by columns of various coloured marbles or alabaster, and of different orders, with a wide valance, formed the canopy over a tomb, either plain, or on which one or more effigies reposed. This tester-like canopy appears to have been in imitation of the funeral hearse, —not a carriage, but a temporary erection of wood and black cloth, profusely decorated with escutcheons, set up in the church, beneath which the coffin of a person of note, whose funeral was marshalled by the heralds, in due accordance with precedent, was placed; for not only religious services were here performed, but heraldic observances exemplified in the carrying, in procession, not the real but the supposed armour of the deceased,—the helmet with its crest, the targe or shield, the sword, the spur, and the tabard, or what was called "the cote armour," together with divers banners, banner rolls, and pennons; and these were first offered at the altar or communion table, in a certain prescribed form, and were then set up against the wall over or near the grave of the deceased. This custom has fallen into disuse; but thus it is we often find in churches tattered flags and remains of armour fixed up against the walls. These are no other than the remains of the old funeral achievement which was thus carried in procession, but has now degenerated into the lozenge-shaped escutcheon, many of which escutcheons we sometimes find placed against the walls of our churches.

Having thus explained what I believe to have been the origin of these tester-like canopies; I may adduce an example. Such a tester-like canopy, with a valance on each side, appears over the tomb in the chapter-house adjoining the church, once collegiate, of St. Mary, at Warwick, of Fulke Greville, the friend of Sir Philip Sidney. The tomb beneath this canopy is shaped like a sarcophagus.

Other high tombs of the early part of this century have escutcheons or shields, sometimes with supporters, on the sides and ends, and sometimes kneeling figures of children. The position of effigies on tombs at this period was not always recumbent, a very usual position was now that of one reclining on his side, with his head supported by his right or left hand, the elbow leaning on a cushion, as in the monument in Croydon church of Archbishop Sheldon, who died A.D. 1677. Sometimes, but not often, we find a monumental effigy, in a sitting attitude, as that in Canterbury Cathedral of Dr. Boys, Dean of Canterbury, who died A.D. 1625, and that fine and interesting monumental effigy, in St. Michael's Church, St. Alban's, of Francis Bacon Lord Verulam, who died A.D. 1626. This statue represents him sitting in his chair, clad in his ordinary habit, doublet, trunk hose, and broad toed shoes, with his hat on his head, in the attitude of meditation, and as the inscription beneath tells us, "*Sic sedebat.*" I know not the name of the artist by whom this monument was designed and executed, but it is one by no common hand. My ideal of a memorial statue to Shakspeare would be such a one as that erected to the great Lord Verulam: the treatment of the somewhat uncouth costume is exceedingly well managed. Lord Verulam died only ten years after the death of Shakspeare, and the ordinary habit of both would, in fashion, be the same or nearly the same.

Sir Francis Chantrey, before modelling his design for those exquisite monumental sculptures of the two sleeping children in Lichfield Cathedral, is said to have gone to Ashbourne, and studied there the admirable sleeping figure, by Banks, of Miss Penelope Boothby. Why should not one intending to design a monumental statue of Shakspeare study that of his contemporary, the greatest philosopher of his age?

We have numerous cumbent, kneeling, or reclining effigies of this period, many interesting from the variety of costume. There is a class of effigies nearly confined, I think, to this century, representing the body in grave-clothes, tied at the head and feet. Dr. Donne's effigy was of this class, a mutilated fragment of which is preserved in the crypt of St. Paul's Cathedral. A monument of no less than four erect figures, in winding sheets, is set up in Maidstone Church, Kent, and a monument of two erect effigies thus draped, in East Carlton Church, Northamptonshire. In Bentley Church, Derbyshire, on a high tomb, is a recumbent effigy thus draped, and round this tomb is a singular series of smaller effigies, all represented in grave-clothes. The recumbent effigy of the Duchess Dudley, in Stoneleigh Church, Warwickshire, and that of her second daughter Frances Kniveton, in the church of St. Giles-in-the-Fields, Westminster, are also of this class. In East Barsham Church, Norfolk, is the effigy of Mrs. Mary Calthorpe, who died in 1640. She is represented in a winding-sheet.

In the latter half of the seventeenth century we find the practice of erecting upright effigies on the increase. Many of these, representing members of the nobility, are sculptured in their robes of state: others are represented in classical or Roman costume. In Yarmouth Church, in the Isle of Wight, is a fine statue of Italian or Sicilian marble, evidently of foreign execution, of one in the garb of a Roman warrior. This is a memorial of Sir Robert Holmes, governor of the Isle of Wight, who died A.D. 1692. The profile of the head of this statue appeared to me, when I saw it, now many years ago, to be excessively like the well-known profile of Louis XIV., king of France, known also as "Louis le Grand." Now, putting a question to the cicerone, a woman, who showed me the church, she told me a story about this statue having been a prize and taken with a ship during war time. If this be true, it may turn out that this statue is no other than one of Louis le Grand, but here set up as a memorial to another.

Mural monuments containing sculptured busts, were of a numerous class during this century. One of the earliest and perhaps the most interesting of these is the rude old bust of Shak-

speare in the church of Stratford-upon-Avon, rude as regards artistic execution: it was executed by one Gerard Johnson, who also executed the full-length recumbent effigy near it of John Combe; but it has, in the opinion of eminent judges, the late Sir Francis Chantrey and others, been evidently sculptured from a cast. It therefore presents the *vera effigies*, the only true resemblance we have of that most remarkable man, to whose undying memory we have lately paid all homage. We have also the full-faced bust shaped effigy in relief of the venerable and learned divine, Hooker, in Bishopsbourne Church, Kent. He died A.D. 1600. And in Upper Shuckborough Church, Warwickshire, we have the very image of an old cavalier, in the bust of Sir Richard Shuckborough, who, in the civil wars of the seventeenth century, being personally appealed to by his sovereign, raised and armed his tenants, and fought manfully, though unsuccessfully, on behalf of the Crown. The face, with the moustache over the upper lip, and peaked beard, is not unlike the head and bust of Charles I.

Many tombs of this period, both with and without effigies, are backed by a kind of architectural composition, consisting of Corinthian or Doric columns sustaining a divided pediment. Within this composition is a panel containing the inscription. The Lee Warner Chapel, in Rochester Cathedral, contains three monuments of this class, which is a sufficiently numerous one. They were executed by an artist of the name of Marshall. These monuments are generally composed of black and white marble, and the opposition of colour adds greatly to the relief. We sometimes find fine sculptured effigies of Italian marble, designed and executed in a superior style. Such are to be found in Campden Church, Gloucestershire, in Gloucester Cathedral, in Ludlow Church, Salop, and in a private chapel near to Ludlow. These works of art are to be considered the production of either Herbert le Sœur, a Frenchman, of Francesco Fanelli, a Florentine, or of Bernini. A fine monument by the latter, with the reclining effigy of Sir Thomas Lucy, who died A.D. 1640, and sculptured accessories in relief, is in the church of Charlecote, near Stratford-upon-Avon.

To Nicholas Stone, a sculptor of no mean eminence during the early part of this century, we are indebted for some noble memorials worthy of admiration. Though we have not a complete list of his works, we have notices of several, as that fine specimen of the Lady Latimer in Stow Church, Northamptonshire; sepulchral effigies at Watford, in Hertfordshire; at Cottesbrooke, and at Brington, Northamptonshire. In his arrangement of the figure, Stone appears to have broken through the monotonous, stiff, and stereotyped ideas of the age preceding him.

Indeed, it is to Nicholas Stone, Le Sœur, Fanelli, and Bernini, that we may trace the foundation perhaps of the school of modern sculpture; not but that much was owing to the collection of antique marbles acquired by Thomas Howard, Earl of Arundel, who died A.D. 1646, which collection was, I believe, the first introduced into this country.

I must not omit to state that Grinling Gibbons, the inimitable carver in wood, who flourished during the latter part of the seventeenth and early part of the eighteenth centuries, was also a sculptor, executed a splendid tomb in Easton Church, Rutlandshire, for Baptist Noel, Viscount Campden, with the effigies of him and his lady, and bas-reliefs of their children.

At the commencement of my remarks, I adverted to the ancient sepulchral monuments of this country in the ancient cemeteries and burial-grounds, which must be distinguished from those contained in our churches; and I brought my remarks upon these monuments down to the close of the twelfth century.

Now, although, in by far the greater number of the ancient graveyards surrounding our churches, we find no memorials of an earlier date than the seventeenth century; and we also find churchyard monuments, even of that century, not so common as we might imagine, except in districts abounding in stone; there are yet to be found, scattered over the churchyards of this kingdom, a considerable quantity of sepulchral memorials of earlier date, many of which may be ascribed to the thirteenth, fourteenth, and fifteenth centuries: some of these consist of sepulchral effigies: others are more or less covered with architectural detail.

In some churchyards, especially in Kent, we find circular head-stone sepulchral crosses, nine or ten inches in diameter, about three or four inches thick, on a plain stem about four inches wide, and the same height above the level of the ground. On some of these, the most simple form of cross is incised by plain vertical and transverse straight lines, on each side of the face or circle. On other circular head-stones, foliated and globular *pattée* crosses appear in relief in many a varied design. These sepulchral crosses I should ascribe, some to the thirteenth, some to the fourteenth century. We often find fragments of ancient crosses of this description, in the demolition of old churches, in the walls or foundations of which they were built up or imbedded.

A number of ridge-shaped coffin-stones, wider at one end than the other, with crosses and other emblems raised in relief, are to be found in many of our churchyards, especially in those parts of Huntingdonshire, Northamptonshire, and Rutlandshire, lying contiguous to each other; for even in churchyard monuments we find a provincialism to prevail: that is to say, one peculiar style of ancient churchyard monument, though it may be found elsewhere, prevails more or less in one district; another kind in another district.

We also find flat slabs, or coffin stones, wider at the one end than the other; and this is an indication of antiquity. Ancient sepulchral slabs in the form of parallelograms, or of equal width throughout, bearing crosses raised in relief, or incised upon them in many a varied fashion, may be ascribed to the fifteenth century; and sometimes by the sides of the stem of the cross are incised other devices, as a sword, a shield, a horn, a pair of shears, and so forth, emblematic of the calling of the person commemorated. Many of these incised sepulchral slabs are found in the north, as in Cumberland. Some are worked up into the walls of the churches there.

In the fourteenth century it was by no means a rare practice for sculptured recumbent effigies to be placed as sepulchral memorials in churchyards, as well as in churches. These effigies we generally find much abrased from exposure and the effect of the weather. When I first commenced my study of this subject, I thought that these monumental effigies had been removed from churches. I am no longer of that opinion. I will not relate to you in a tedious detail the different churchyards in which these effigies are to be found. In the churchyard of Brailes, Warwickshire, is the sculptured recumbent effigy, in stone, of a priest, on a high tomb, panelled at the sides, of about the latter part of the fourteenth century.

In the churchyard of Loverscal, near Doncaster, South Yorkshire, is a curious high tomb, evidently erected in the latter part of the thirteenth century, or early in the fourteenth century. The covering slab, flat on the surface, bears a foliated cross and sword, raised in relief. The sides of this tomb present a very singular appearance. They are worked in sunk panel-work, in imitation of a series of windows in the Transition style, from Early English to Decorated. Each window is designed differently. We sometimes find the sides of fonts thus decorated, but this is the only instance of a tomb I have found so adorned.

In Astbury Churchyard, Cheshire, is a tomb of the fourteenth century, with a pedimental-shaped canopy over it, with hanging tracery. This is a design which, though much defaced and weather-worn, is deserving of considerable study.

In the external walls of churches we sometimes meet with sepulchral arches of the thirteenth or fourteenth centuries, mostly plain in design. Sometimes beneath this arch is a sepulchral effigy, as that of a priest at Brington, Northamptonshire; sometimes a plain sepulchral slab, or one bearing a cross.

Of churchyard monuments of the fifteenth century I may notice a fine engrailed headstone cross in the churchyard of Detling, Kent. The fragment of a sepulchral cross, nearly similar in design to that at Detling, but with an inscription within a hollow moulding along the transverse, was, some years ago, preserved in St. Martin's Church, Canterbury. This last description of sepulchral cross, with an addition beneath to carry an inscription, has been very appropriately adopted in several churchyards in my neighbourhood.

In the churchyard of Church Handborough, Oxfordshire, are two small plain gable-headed sepulchral crosses, one standing 14 inches the other 16 inches in height. These are very similar to the sepulchral crosses we find delineated in illuminated manuscripts in illustration of the burial rites of the Middle Ages. They were, however, most frequently made of wood, and have consequently thus perished; and in the will of John Coote, dated A.D. 1502, and preserved in the registry of Bury St. Edmunds, is the following entry:—"Also I wole so aft my decesse to have ij crosses goodly of tymber, on at my hede the tother at my feete, wyth my armys y' vpon, and also a wrytyng to p^ay people of ther charite to p^ay for my soule."

We find many high tombs—the term "high tomb" is given by Leland to signify the table or altar-shaped monuments of and prior to his time—of the fifteenth century in our churchyards, especially in those in Oxfordshire and Somersetshire. The sides of these tombs are filled with quatrefoils boldly sunk. These are sometimes placed within circles, and the quatrefoil contains a four-leaved flower in relief. Sometimes the quatrefoils inclose shields, and the spandrels are cusped or sunk. The sepulchral monuments of this description in our churchyards, though in one sense rare, are, in another sense, too many for particular enumeration.

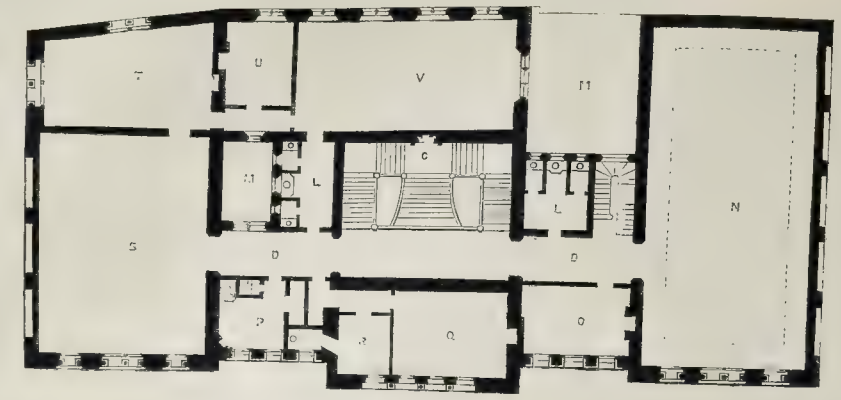
One of the latest monuments or high tombs of this class is in the churchyard of Mutchingly, Somersetshire: it is one, apparently, of the early part of the sixteenth century, erected, either immediately before or just after the suppression. The sides of this tomb are covered with ogee-headed panels, the heads of which are cinque-foiled within, and in the spandrel of each panel is a circle inclosing a trefoil. There are many other details of which I cannot now speak; but I think it not improbable that this may have been the tomb of one of the last of the heads of the conventual establishment at Mutchingly, remains of which religious house are still existing near or contiguous to the churchyard on the south side.

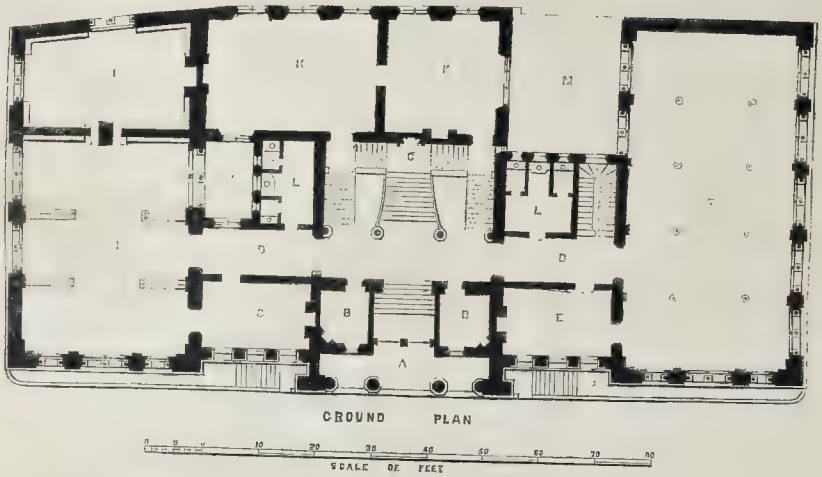
Panelled church-yard monuments came down to the seventeenth century. I could say much more on this branch of my subject, but time will not allow.

Sculptured effigies of the seventeenth century have also been erected in our churchyards. I will only mention one: it is the effigy, in a reclining position, of a Captain Kingsmill, who, fighting as a Royalist at the battle of Edge-hill, A.D. 1642, was slain, and his body buried in the churchyard of Radway-under-the-Edgehills. Nearly forty years after his death a monumental effigy was set up over his grave. This, however, represented him not in the costume, the military accoutrements, worn at the battle of Edge-hill, but those worn at the time this effigy was executed, in the latter part of the reign of Charles II.; for in lieu of the plain falling collar, or elaborately worked vandyke collar of the reign of Charles I., he is represented in the laced flowing cravat of the close of the reign of Charles II.: the other details of his dress differ accordingly. This effigy, a remarkable and most interesting one, now much mutilated, has been removed from the churchyard into the church. It is interesting in a general view in this way: it represents him, as the stereotyped expression of old topographical works tells us, "in the dress of the times," not of those times in which he lived, but of those times in which this effigy was sculptured and set up.

For reasons I will not now dwell on, I have not ventured to bring down my subject to a later period than the close of the seventeenth century.

In conclusion, it is difficult in the space allotted, to do more than give, and that but imperfectly, a very short and succinct account of the most interesting of all our national antiquities,—for so they may well be considered,—our ancient sepulchral monuments. Diversified in form, style, and execution, in each succeeding age; as memorials of the past, they convey to the mind the customs, the practices, the attire, regal, military, civil, and religious, changes in rites and ceremonies, even the controversies, of former times. They are evidences of the affectionate remembrances of friends, of the posthumous honours paid to those who had done good service to their country. They exhibit the germs, rise, and progress of art, its decadence and subsequent revival. In whatever aspect we view them, they are worthy of our deep attention: there is much in every way to be learnt from their study. Lastly, they point to the future: they remind us that we are beings endued with reason; that we are not as the beasts which perish.





MUSEUM AND ALBERT MEMORIAL, EXETER.

MONUMENT TO BISHOP BLOMFIELD IN ST. PAUL'S CATHEDRAL.

WHAT has become of the plan, which seemed cordially received at the time, for erecting such a monument to this distinguished and useful prelate, which seems to have been long in abeyance? He assuredly well deserves it at the hands of the clergy and attached laity of the metropolis, and, by reflection, of the country; and willing contributors might yet occur in his former diocese of Chester. The neglect is, of course, not toolate for remedying. The following idea, or its substance, was suggested some years back, as part of an inscription:—"The Prince of Church-building Bishops since the Reformation. He desired the erection of fifty new churches for London and its suburbs. He lived to see nearly one hundred completed."

THE PROPOSED EXETER ALBERT MEMORIAL.

THE building is to contain a museum, school of art, and free library. The walls are to be built of brick, relieved by quoins and bands, and limestone, which material is also to be used for the walls up to the ground-floor level. The windows are to be of freestone, with detached shafts of marble, the glass being set back in wooden framework on the inside of the walls. The principal internal feature will be the great staircase 30 feet by 24 feet, common to the whole building, and lighted by a lantern. It is proposed to place a full-length statue of the Prince Consort in a niche at the top of the central flight, and to employ mural decoration both here and, as far as possible, throughout the building. The corridors, to the right and left on both ground and upper floors, will be vaulted in stone, and paved with encaustic tiles.

The museum for antiquities, and the free library, are to be on the ground floor, as well as two rooms for classes of scientific study. On the upper floor will be the museum of natural history and the school of art,—the various rooms of the latter being all connected together.

The principal portions of the building will be warmed by hot-air apparatus contained in the basement, and the smaller rooms by open fireplaces. Ventilation will be effected by means of extraction flues, from the whole building, carried into the tower. Provision is made in the basement for a laboratory in connexion with the scientific class-rooms on the ground-floor, for the hot-air apparatus, and various store-rooms for the several parts of the building. It will also contain two large cellars with external access, which might, if thought desirable, be let at a good rental. Apartments for the attendants are provided in the roof.

Twenty-three designs were submitted in competition for this building, from which that by Mr. Hayward, of Exeter, here described and illustrated by a perspective view and plans, was selected for the first premium.

Ground Plan.

A. Arcade.
BB. Porter's room.
C. Staircase.
DD. Corridors.
E. Curator's rooms.
F. Museum of Antiquities.
G. Librarian's room.
H. Free library.
I. Reading-room.
KK. Rooms for scientific classes in connexion with the laboratory, in the basement.
L. Lavatories, &c.
M. Courts.

Upper Plan.

C. Staircase.
DD. Corridors.
L. Lavatories, &c.
M. Courts.
N. Museum of Natural History, with gallery on four sides.
O. Museum of Numismatics.
P. Attendants' room.
Q. Ladies' class-room.
R. Retiring-room.
S. Elementary class-room.
T. Painting-room.
U. Master's room.
V. Room for casts.

(P, Q, R, S, T, U, V: School of Art.)



SELECTED DESIGN FOR THE EXETER ALBERT MEMORIAL MUSEUM.—Mr. Hayward, Architect.

CONDITION OF THE SOLDIER.

A CONSIDERABLE improvement has taken place in the men who compose the British army and navy: barracks have been made more wholesome, and the new ones which have been reared are of better construction: schools for the soldiers and their children have been opened at the various military depôts, and elsewhere: the medical inspection of the men, both in time of sickness and in health, is extensively practised; and gymnastics are made a part of the drill of the soldier: the costume also has been changed; and all these introductions have already been of marked advantage. Persons complain of the increased cost, and compare the charge of our army with that of France. In connexion with this matter Major O'Reilly lately remarked in the House of Commons, that the French army, which now consisted of 400,000 men, cost seventeen millions sterling; but if the men were as highly paid, as well pensioned, and had as costly medical attendance as English troops, and were recruited to and from the colonies at so great an expense as in our army, the additional cost wouldbe 34*l.* per man, or 30,000,000*l.* altogether. But if, in addition, the French adopted the English system of clothing, paying for military law, stores, education, and administration, the total would be increased by 5,000,000*l.* On the other hand, if our expenditure were pruned down in the last-mentioned items, the difference in our army, which does not consist of nearly half the number of the French, would be about 2,000,000*l.* Savings might, doubtless, be effected in some departments; but, in making seemingly economical changes, we must not lose the evident advantages of those social and sanitary reforms which have been with so much difficulty forced upon the Parliament and the Government. Furious battles have been fought by earnest persons for the salvation of life and increase of comfort amongst the men who compose our army; and the result is evident; for in 1850, 1851, 1852 the number of deaths in the army was 29 per 1,000; while the returns of ten years later showed a death-rate of only 18 per 1,000; and we have faith that, as new and well-arranged barracks come into use, the old ones altered or removed, and the proposed changes carried out, this rate will be materially decreased; but, as it is, the saving in our army is equal to about 2,200 men's lives in the year.

Any one who has been in Charles-street, Westminster, or in other recruiting neighbourhoods, or who has seen the bands of recruits in and near Woolwich, passing through the London streets, waiting at the railway-stations, or marching through Liverpool and other large towns, may readily form an idea of the raw material of the British army, and judge of the large extent to which they require working up in their social condition.

Wonder is sometimes expressed that, when so much distress exists in Bethnal-green, especially amongst the Spitalfields weavers, more of the young men from that district have not entered the service of the Queen; but, for the most part, they are physically incapacitated, either by the want of sufficient height in proportion to the age, or of sufficient width across the chest. The physician and surgeon must report that the intended soldier is free from any disease: he must be perfect and without blemish in every limb: his teeth must be complete; his voice clear and distinct; and his eyesight of more than usual clearness and length of range.

We refer to the above facts in order to show that, with so much care in selection—for, besides passing the medical examination at the recruiting depôt, the young soldier has also to pass the scrutiny of the regimental surgeon,—and as the men of the army when they join are in the flower of health and strength, of the proportions which should insure a long life, and of ages ranging from eighteen to twenty-five years, with the general term of enlistment limited to ten years,—it is very clear that in time of peace 15 deaths in 1,000 is very greatly in excess. It would be a most unwise policy to suspend our sanitary exertions, or, in order to seem to save money, fall again into those conditions which have caused such known loss of human life.

THE DUBLIN EXHIBITION OF 1864.—The Exhibition was opened on the 25th ult. The Lord Lieutenant was unfortunately absent through indisposition. A collection of pictures is included, and some other works of art.

NEW MATERIALS FOR THE LIFE OF PAUL VANSOMER.

IN the Privy Council Register of the Crown, under the 30th of June, 1621, is the entry of a warrant to "The Treasurer of the Chamber" for the payment of *sixty pounds* to Paul Vansomer for two full-length portraits of King James I. and the Prince of Wales, afterwards Charles I.: the entry adds,—"To be delivered to the Polish ambassador." For the knowledge of this interesting payment to Vansomer (now first published) I am again indebted to the varied reading and courtesy of Mrs. Everett Green.

The Polish ambassador was Osalinskie Count Palatine of Sindomerskie, who came to London in great state, and was lodged and dieted, at the king's expense, in the Crutched Friars. He left in equal state. "The Polonian ambassador," says the master of the ceremonies at that time —Sir John Finett,—"not long after departed, having obtained of his Majesty (by the cunning assistance of the Count de Gondomar), the loan (I may say the gift, as never to be restored) of ten thousand pounds sterling." The master does not add that the count carried with him as well full-length portraits, price 30*l.* a-piece, of King James and baby Charles, from the pencil of Vansomer.

Queen Anne of Denmark encouraged Vansomer, and at her death was in the painter's debt: witness the following posthumous payment,—170*l.* for "pictures:" 1,000*l.* at least of our present money:—

"To Paul Vansomer upon the Counsells Warr^t. dated at Whitehall iiij^to ffebr 1619 for diverse pictures by him made for the late Quene's Matie as appear'th by a bill of p'rticulers anexed to the warr^t,—clxx^li."

I hunted in vain for the "bill of particulars."

Surely some Scottish antiquary, William Stirling, esq., of Keir, M.P.; or Mr. David Laing, of the Signet Library, can name the whereabouts of the pictures referred to in the following entry:—

"To Paull Vansomer upon the Counsells warr^t dated at Whitehall iij^o November 1619 for making by comandem^t his Maties picture and the late Quenes delivered to Sr Robert Anstrother,—lx^li."

Thirty pounds a piece,—that is, some 150*l.* of the money of Queen Victoria.

"To Cornelia Vanzomer executrix to Paull Vanzom^r upon the Counsells Warr^t dated x^mo Octob^r 1621 for two whole pictures of his Matie and one of Prince Henry made by his Maties speciall comaund,—xx
iiij x^li."

"To Cornelia Vanzomer wyfe of Paull Vanzomer picture drawer upon the Counsells warr^t dated decimo Januarij 1622 for drawinge his Maties picture at length given to the Erle of Holdernes,—xxx^li."

"To Cornelia Vanzomer wife to Paull Vanzomer picter drawer upon the Counsells warr^t dated at Windsour viij^mo Julij 1622 for his Maties picture by him drawen and given to Mr. Gibb,—xxx^li."

Vansomer lived in the Strand, in London, on "the waterside," next door to Sir Edward Dymock, the Champion of England. In the Rate Books of St. Martin's-in-the-Fields he is described as "Mr. Vansomer." He was of good standing in the parish. A daughter, Lucy Elizabeth Vansomer, was baptized in St. Martin's on the 23rd of September, 1618, and buried the 6th of October following.

In "A list * of His Majesty's Pictures as they are now (1697) placed at Kensington House," I observe the following:—

In the Great Bed Chamber—

"Vanzomer.—King Charles ye 1st (at length) in Coats'
Vanzomer.—Prince Henry in Armour to the Waste."

Are these traceable? King Charles "in coats" would, indeed be a curiosity.

A very fine original by Vansomer may be seen in the Painted Hall at Greenwich, a full-length of Lord Charles Howard of Effingham, the Armada Earl of Nottingham. He is in his robes, with a stick in his right hand.

Vansomer "walked" at the funeral, in Westminster Abbey, of Anne of Denmark, Queen of James I.: the accounts of Sir Lionel Cranfield, afterwards Earl of Middlesex, recording an allowance on the occasion of four yards of black cloth to — "Paul Vansomer, picture maker."

I will now mention *two* uncatalogued portraits by this great painter:—Three-quarter of Chief Justice Hobart, at Blickling, in Norfolk (very fine); three-quarter of Lord Abergavenny, at Cassiobury, Herts (fine).

The following catalogue of portraits, painted in England by Vansomer, with the names of the places where they are still to be seen, will be found more ample and accurate than any hitherto compiled. The labour of collecting, comparing, and adjusting minute facts, on which points of importance so frequently turn, can alone be fully understood by those who have made such a study a labour of love.

Male Portraits.

King James I.—Full-length in a black suit, holding the George and Ribbon: at Hampton Court. The head engraved by Vertue. This, to my thinking, is by far the most valuable portrait we have of the king.

The same king.—Full-length, among the sovereigns of Great Britain, in St. George's Hall, Windsor Castle. Same king at National Portrait Gallery.—only the date 1622. Mr. Scharf is a little unfortunate.

Christian IV., King of Denmark.—Full-length, leaning on a stick, at Hampton Court: very fine, and rich in colouring.

Henry, Prince of Wales (died 1612).—Full-length, in rich armour, holding a truncheon.

Henry, Prince of Wales (died 1612), and Robert Devereux, Earl of Essex, the Parliamentary general, about the age of twelve: at Hampton Court.

Charles Prince of Wales (King Charles I.), in coats, as a child, with a hat and feather by him. This is mentioned in Vanderdort's printed catalogue of King Charles's collection.

Lodowick Stuart, Duke of Richmond and Lenox, died 1623.

James Hamilton, Marquis of Hamilton (died 1625). Lord Steward of the Household to James I. —A fine full-length, over the fireplace in the first presence-chamber at Hampton Court. He holds the white staff of office as Lord Steward. Mrs. Jameson (p. 295) ascribes it to Mytens.

William Herbert, Earl of Pembroke, Lord Chamberlain (Shakspeare's Earl).—Full-length, in the Queen's drawing-room, at Windsor.

William Cavendish, 1st Earl of Devonshire.

Henry Wrothesley, Earl of Southampton (Shakspeare's patron).

Charles Howard, Earl of Nottingham (the Armada earl), died 1624; buried with monument at Reigate, in Surrey.

Henry Howard, Earl of Northampton, son of the poet Earl of Surrey.

Thomas Howard, Earl of Arundel, the collector.—Whole-length, at Arundel Castle: engraved for Dallaway's edition of Walpole's Anecdotes.

Thomas Howard, Earl of Suffolk, father of the Sir Thomas Overbury Countess of Essex.

Henry Hastings, Earl of Huntingdon.

Charles Blount, Earl of Newport.

Francis Bacon, Baron Verulam, Viscount St. Alban's, and Lord High Chancellor (died 1626).—Three-quarters, at Gorhambury, Herts. The viper-eyes of the great Lord Chancellor of human nature are intently visible in this picture.

Henry Cary Viscount Falkland and Lord Deputy of Ireland.—Purchased 1842, at the Strawberry-hill sale, for seventy guineas, by John Tollemache, esq., M.P., and now at Pickforton Castle, his seat in Cheshire.

Female Portraits.

At Hampton Court, Anne of Denmark, Queen of James I., with a prospect of the west-end of old St. Paul's.

At Windsor and Combe Abbey, Elizabeth Stuart, Queen of Bohemia.

At Longleat and Welbeck, the Lady Arabella Stuart.

At Longleat, Frances Howard Duchess of Richmond and Lenox, in mourning, with a miniature of the duke, at her breast.

At Arundel Castle, Alathea Talbot, Countess of Arundel, wife of the Arundelian Marble Earl—whole-length and fine: engraved for Dallaway's edition of Walpole's Anecdotes.

In the burial register of St. Paul's, Covent Garden, I found the following entry:—"1683 July 20, Susana, wife of Paul Vansomer."

To which I have to add, that I saw in the hands of the late Mr. John Sheepshanks, the collector and public benefactor, a printed paper of the year 1689, in which "Jo. Vansomer, painter," is—in that year—catalogued as an inhabitant "lodger" in James-street, Westminster.

PETER CUNNINGHAM.

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* Harleian MS. in British Museum, No. 7,025.

CHURCH-BUILDING NEWS.

West Retford.—The church of St. Michael, West Retford, has been re-opened after having been restored from designs by Mr. Fowler, of Louth. There is now a north aisle, separated from the nave by an arcade of five bays: it has clustered shafts, with carved capitals and chamfered arches of two orders, with a hood mould on the side facing the nave. In the second bay from the west is a porch, with an acutely pointed moulded arch and high pitched roof. The new chancel stands upon the site of the old one, but with new foundations. In the east gable is a traceried window with three lights, with serpentine shafts internally. On the south side are two windows of two lights each, and, being memorial windows, filled with stained glass by Messrs. J. Hardman & Co., of Birmingham. In the western bay on the north side is an arch of two orders, opening to the organ-chamber and vestry. The interior of the walls of the chancel is faced with red brick, with terra-cotta, embossed tile, and stone bands. The roofs are all new, and of deal. The seats are low and open: those in the chancel are of English oak, enriched with carvings, as are also the prayer-desk and lectern.

Hitchin.—For some years past the want of church accommodation has been much felt at this town. The Rev. George Gainsford, formerly a curate, and now a resident, has offered to build a church at his own expense, on a site in the Dacre-road, about midway between the railway station and the town. The church is to be of mixed style of architecture, with a bell turret. The edifice will be 110 feet long, 44 feet wide, and will contain seats for 400 persons. The seats are to be open,—those in the nave of stained deal, and those in the chancel of oak. The roof will be open, and of stained deal. The brickwork of the walls is to be faced inside; and externally it will be ornamented with bands and diaper work, with Bath stone dressings. The tenders were as under:—Myers, London, 4,250*l.*; King, Shefford, 3,768*l.*; Warren & Son, Hitchin, 3,285*l.*; Butterfield, Hitchin, 2,839*l.* 15s. 1d. Messrs. Butterfield's contract, being the lowest, was accepted.

Marsworth (*Bucks*).—The restoration of the ancient church here, for several years in progress, has been at length completed, and the re-opening services have taken place. The chief feature in the external restoration is the opening of an old door in the south side, which has long been blocked up, with the addition of an ornamental oak porch. The roof of the chancel has been made good, and a new coping and cross have been added. A parclose separates the chancel from the old chapel, which forms a continuation of the south aisle; and oak stalls have been placed in the chancel. The chancel has been paved with encaustic tiles. In the body of the church various improvements have been made. The ancient door leading to the rood-loft has been re-opened. The pulpit has been removed from its former situation to the north side of the church, and placed on a stone pedestal. The font has been removed to the south side, and placed on a new stone base. The seating of the church has been entirely re-arranged, and the aisles have been re-paved with Maw's Broseley tiles. The architect employed in the restoration was Mr. Slater; and the work, including the oak screens, sedilia stalls, and the porch, have been executed by Mr. G. Cooper, builder, Aylesbury.

Cambridge.—All Saints' New Church is progressing. The original estimates have been exceeded by about 350*l.*, and it will require 500*l.* to seat the church. Subscriptions are also required towards an additional fund for completing the tower and spire, &c.

Little Compton.—The new church at Little Compton has been consecrated by the Bishop of Gloucester and Bristol. The old structure had long been in a very dilapidated state, besides being of limited size. In July last the work was commenced, Mr. Bruton, of Oxford, furnishing the design, and the contract being taken by Mr. T. Cowley, builder, Oxford. The greater portion of the cost has been raised, and by the re-use of the old material and other means the expense was brought within the sum of 1,000*l.* The new church extends eastward about 30 feet farther than the old one, the nave being lengthened to that extent, and about 20 inches wider. It now consists of nave, chancel, tower, south aisle, and vestry, and is of fourteenth century character throughout. The south aisle is two bays in length, and has two arches, with stone column and responds, dividing it from the nave, with the increased length of which it corresponds. The roofs are all open timbered, and of high pitch, covered with Staffordshire tiles. The floors of the passages are of tiles, Maw's being used in the chancel, and encaustic tiles in the sanctuary. The whole of the masonry is of local stone. The church is seated with open timber benches, varnished: those in the chancel are of pitch-pine.

Ottershaw.—The Bishop of Winchester has consecrated Christ Church here, designed by Mr. Gilbert Scott, and erected and endowed at the sole expense of Sir Edward Colebrooke, of Ottershaw Park, for the use of the inhabitants of the village of Ottershaw and its adjacent hamlets. The design is Early English, and the material brickwork, with stone facings. The windows are of stained glass. The structure consists of a nave divided into four bays, and an apsidal chancel, and is calculated to accommodate 220 persons. It is fitted with open seats and surmounted by a spire 60 feet high, covered with shingle. The cost of the building will be about 4,000*l.*

West Gorton (*Lancashire*). The foundation-stone of a new church has been laid at West Gorton. The edifice is to be dedicated to St. Mark. The church-work of the district has been mainly kept up by Mr. C. F. Beyer, of Gorton Foundry, whose firm employs a large proportion of the workpeople in the locality. Mr. Beyer has given 1,000*l.* towards the church building fund, and is about to build new schools for 400 children at his own cost. Mr. Robertson, who is a member of the same firm, has given the 1,000*l.* required by law for endowment. The total cost of the church, churchyard, and fittings will probably be between 3,000*l.* and 4,000*l.*, the estimate for the building, irrespective of the approaches, heating, and lighting, being 2,800*l.* The church is to be built of common bricks, with coloured banding and stone dressing; and it will consist of a nave, 65 feet 7 inches by 24 feet 2 inches; north and south aisles, each 67 feet 7 inches by 13 feet 9 inches; and chancel, 21 feet by 19 feet 2 inches. There will be a western porch and door, and a north door projecting slightly from the wall. The building will be in the later Early English style. The building will accommodate 510 persons; and 260 seats will be free. The architect is Mr. Holden, of Manchester. The builder is Mr. R. M. Neill, of Manchester.

Harrogate.—The new cemetery here is nearly completed. It is reached from High Harrogate by a new road which diverges from the high road a little below the Dragon Hotel, and runs past the cemetery gates into Baker-lane, which forms the approach from Low Harrogate. The cemetery is entered through a pair of low iron gates which, together with the adjoining piers and railings, are of simple design. At the right hand side, within a few yards of the entrance, is placed the lodge, constructed of stone with high pointed roofs covered with slate. The cemetery covers an area of about four acres, and is divided into two nearly equal parts by a broad central carriage drive as far as the chapels. The western half is set apart for the interment of members of the Church of England, the remainder for Non-conformists. The chapels, which are identical in plan design, and with the exception of the cross on the gables of the Episcopal chapel, are placed on either side of the avenue fifteen yards apart, at a distance of fifty yards from the entrance gates. A dwarf stone wall, railing, and ornamental piers serve to group together the two buildings, and to terminate the central carriage drive and relieve an otherwise formal straight line of path. The Episcopal chapel, on the right, is entered through a moulded doorway with cusped head enriched with carving, giving access through the porch to the chapel and vestry. The chapels are placed north and south. The porch occupies the lower part of the north gable: the tower, the ground-floor of which is the vestry, forms the western side of the porch. Internally the chapel is 33 feet long by 19 feet wide, with a plain open timber roof plastered between the rafters, the timber being stained dark oak and the plaster a French gray. Three small two-light windows on either side, and a slight traceried window at the south end, give the chapels a more cheerful appearance, rather than the general charnel-house effect. The material of the chapels is Birk Crag stone, roughly dressed. When plans and estimates for the buildings were advertised for and premiums of 20*l.* and 15*l.* offered as first and second prizes to be awarded to the two best designs, upwards of forty were sent in, and finally the first prize was awarded to Mr. T. C. Sorby, of London, who was appointed to carry out his design; and the second prize to Messrs. Bellamy & Co., of Lincoln. The contractors were,—Masons, Messrs. Wood, Brothers, of Pickering; joiner, Mr. H. Horner, High Harrogate; plasterer, Mr. R. Fortune, High Harrogate; plumber, Mr. J. H. Place, Low Harrogate; ironwork, Mr. James England, Low Harrogate. The total cost of the two chapels and the lodge, including boundary walls and entrance gates, will be about 4,000*l.* An estate at Ripon has recently been laid out by the same architect, whose design for the general arrangements and for suitable houses to be erected thereon, was selected out of a considerable number, submitted in public competition by some of the principal surveyors and architects of the county.

Rainton (*Durhamshire*). The new church of St. Mary, Rainton, has been consecrated by the Bishop of Durham. This church, which replaces one of a very mean and debased character, has been built under the direction of Mr. E. R. Robson, of Durham, and contains accommodation for 500 persons. The whole of the seats are free and unappropriated. Owing to the want of funds, the tower has not yet been added. The edifice consists of nave, aisles, chancel, organ-chamber, vestry, &c. The aisles are remarkably low, while the clerestory and chancel are very lofty, a treatment which conceals the unavoidable shortness of the church. The style is an early and severe form of Decorated Gothic. The cost has been 2,300*l.*

DISSENTING CHURCH-BUILDING NEWS.

Melbourne. The new Jerusalem Church is now completed. It is situate in the Derby-road. The style adopted is Gothic. The gable end is placed back about 12 feet from the street, and is of stone, flanked with buttresses, and having in the centre a large four-light equilateral window, filled with tracery, and above is a trefoil ventilation opening; the whole surmounted with an ornamental finial and apex stone. The floor of the chapel is upwards of 5 feet higher than the level of the adjoining street, and the entrance at the side is approached through an iron gate, hung to stone pillars, with moulded Gothic heads, the latter to be surmounted with ornamented lamps. The chapel is 50 feet by 25 feet, and rises to a height of 30 feet to the square, and 63 feet from the floor to the top of the roof. The latter is open-timbered, with arched ribs springing from moulded stone corbels. The spandrels are filled in with light ornamental ironwork, and varnished. The ironwork in the roof is picked out with bright blue, relieved with gold. The seats are open-framed. The building will be lighted by ornamental coronas, suspended from the ribs of the roof, and coloured blue and gold. The whole has been designed by Mr. B. Wilson, of Derby, and erected by the contractors, Messrs. Bullock & Barton, of Melbourne.

Nottingham.—The foundation-stone of a new chapel and schools in connexion with the Wesleyan Methodists worshipping in Halifax-place Chapel has been laid. The building is situate in Arkwright-street, Nottingham, a large and rapidly-increasing district. The cost is being wholly defrayed by voluntary contribution. The building will comprise a chapel to seat 700, and school-rooms, with class-rooms in connexion, for 500 children. Vestry accommodation will be provided behind the chapel. The style of the building will be Gothic. The chapel, having galleries, is regarded as a two-story building, and there will be, accordingly, upper and lower windows. The internal length of the chapel (exclusive of the orchestra, which will be provided behind the pulpit) is 70 feet, and the width 41 feet. The roof will be in span, and ceiled at the level of the collar-beams, which, together with the principals, will be exposed. The cost of the whole of the buildings (not including the site) and work in connexion will probably be about 2,500*l.* Mr. T. H. Lomas, of this town, is the architect; and Mr. William Ellis the contractor. Mr. Slim contracted for the brickwork.

Hull.—The Primitive Methodist Jubilee Chapel here has been opened. The dimensions of the edifice are,—length, 79 feet; breadth, 50 feet 6 inches; Spring-bank front, 90 feet. Seat room has been provided for 1,030 persons. The exterior of the building is for the most part in the Italian style. At the east and west corner of the principal façade there are towers which are carried to a few feet above the rest of the build-

ing, and serve for staircases to galleries, and also for ventilation. They are surmounted by cast-iron cresting and finials. The principal portion of the building is of red and white brick, with a large admixture of stonework in the south front, and at the east and west corners. On the floor, which is level with the chapel, there is a preacher's vestry, committee-room, and a steward's-room. On the basement floor there is a large school-room, 50 feet by 30 feet, besides an infant school-room, seven class-rooms, kitchen, and boiler-house. The galleries are supported by nine light cast-iron columns, with Corinthian capitals. These will be decorated in white and gold. The front af the gallery is in iron scroll-work panels. The entire front is white enamel, backed by a scarlet ground. The pulpit or platform is supported on two fluted cast-iron columns, with Corinthian capitals, and is surrounded by a cast-iron balustrade, with mahogany rail. The chapel will be heated by hot-water apparatus, which has been fixed by Messrs. Longbottom, of Leeds. Mr. Wright has been the architect; Mr. R. Bailey, the contractor for the excavations, bricklaying, and plastering. The carpenter's, joiner's, plumber's, glazier's, and painter's work has been done by Mr. A. Stamp, of Barton; and Messrs. Wallis & Tadman have had the carrying out of the stonework. The gas-fitting has been done by Messrs. Stones, Settle, & Wilkinson. The new building it is estimated will cost about 5,000*l.*, and between 1,000*l.* and 2,000*l.* have been raised.

FROM SCOTLAND.

Edinburgh.—A large company recently assembled at the foundry of Mr. John Steell R.S.A., her Majesty's Sculptor for Scotland, to witness the casting of the bronze statue of Professor John Wilson, which is to be placed in East Princes'-street Gardens. The operation was completely successful. The height of the statue, which has been cast in two pieces, is 11 feet 6 inches, and it weighs 5 tons 6 cwt.——A proposal, which has often been mooted, to establish in Edinburgh a College-hall in connexion with the University, is now made in practical form. A joint-stock company, on the limited liability principle, has been formed, and shares to the amount of 7,600*l.* subscribed in furtherance of the undertaking. The document says:—"The accommodation contemplated, in the first instance, comprises a common dining-hall for students in general, bed-rooms for from fifty to sixty students, a library for resident students, reading-rooms common to several, and separate sitting-rooms for those who may desire them." It is not proposed to imitate, in every particular, the collegiate arrangements and discipline of the English universities. Mr. Stirling, of Keir, M.P., is chairman, and the council of the company is composed of influential gentlemen, professors, and others. The sum required to carry out their plans is estimated at 15,000*l.*

Gilmerton (near Edinburgh).—A clock has been supplied by Mr. Benson to Miss H. Kinloch, of Gilmerton, East Lothian, for schools at that place. The clock shows time on a dial 2 feet 6 inches diameter, and strikes on a bell weighing 56 lb.

Munraw (Haddingtonshire).—In making alterations on a mansion here which was a nunnery in the Middle Ages, a painted Mediæval ceiling has been discovered. There are innumerable figures, but the most prominent are armorial bearings of the monarchs who flourished at the time. The apartment measures 30 feet by 18, and is 16 feet in height. The side-wall of the old refectory still also bears traces of paintings.

Kelso.—The foundation stone of the new Mansion-house of Stickill has been laid by a son of Mr. Baird, the proprietor, in presence of the Duchess of Roxburgh and other local celebrities. The masons and labourers, nearly 100 in number, were afterwards provided with a substantial dinner in a tent fronting the house.

Galloway.—We learn that the granite needed for embanking the north side of the Thames, first section, has been contracted for by the lessees of the granite quarries of Kirkconnell, and of Old Lands, on the Urr. The quantity of stone required is immense; and, whilst the demand for it will develop the resources of the recently-discovered quarry at Kirkconnell, the River Nith Commissioners will share in the benefit, as the whole of the granite taken from that quarry will be sent to London by sea.

Cowpar-Angus.—The estimates for a new United Presbyterian church have now been settled, the following being the successful competitors:—Mr. T. Reid for the mason work; Mr. R. Reid, Blairgowrie, for the wright work; Messrs. M'Ritchie & Donaldson, for the plaster work; Mr. Templeman, Blairgowrie, for the plumber work; and Messrs. A. Butter & Son, for the slater work.

Stirling.—Excavations are now being made at Cambuskenneth Abbey, under the inspection of the provost and magistrates of Stirling and the Royal Society of Scottish Antiquaries. The foundations of what must have been an extensive edifice have been already exposed. A slab of black mountain marble stands in a slanting position before what formed the high altar. Broken shafts or pillars of freestone and parts of capitals finely cut, as well as portions of stained glass, interesting to the antiquary, have also been found. The building must have covered nearly two acres of ground.

Dundee.—The Caird Fountain Committee have requested the Corporation to grant a site for the fountain at the Old Tron, in the High-street, opposite Crichton-street; but as an interdict had been obtained against the erection of the fountain in the High-street, the matter was referred to the Property Committee. Mr. Caird is only willing to give the fountain on condition of its erection on the site applied for, and refuses to allow the Corporation to erect it elsewhere.

Perth.—The viaduct over the Tay at Perth, in connexion with the Dundee Branch of the Scottish Central Railway, has been opened for general traffic. The strength of the structure was tested by an engine and tender, weighing together nearly 56 tons, being run over it at the rate of twenty miles an hour. The cost will be upwards of 28,000*l.*, including the removal of the old timber bridge.

PROVINCIAL NEWS.

Wolverton.—The new Science and Art Institute has been opened at Wolverton with great ceremony. Three years since the foundation stone was laid by the Duke of Sutherland, who would also have been present at the opening had it not been for his absence from England with Garibaldi. The new building was erected by Mr. Dunkley, of Blisworth, from the plan of Mr. G. E. Street, of London. The rooms in it are, an exhibition and lecture hall, 60 feet by 39 feet; an elementary room, 39 feet by 30 feet; a reading-room, 34 feet by 16 feet; a library, 34 feet by 16 feet; two class-rooms, 24 feet by 16 feet; a modelling-room, head master's rooms, committee rooms, &c., &c. The principal room (the exhibition room) has an open timbered roof, the tie-rods of which, with all the other wrought-iron, has been supplied by Mr. Roberts, of Northampton, ironfounder. The walls of the room are of uncovered brickwork, the bricks of the commonest and most unfinished kind. The cost of the building has been between 2,500*l.* and 3,000*l.*, the amount having been principally raised by the workmen themselves. The contractor was Mr. Dunkley; foreman, Mr. Thomas Martin. Mr. C. Aveline was clerk of the works.

Bath.—The foundation-stone of the new Militia stores has been laid. The stores are for the 2nd regiment of Somerset Militia, and are now in course of erection in a field adjoining the cemetery, in the Lower Bristol-road. The new structure has a frontage of 236 feet, and stands on a raised terrace. The centre part, which projects, and is raised much higher than the wings, is devoted entirely to the stores. The style of the elevation will be Italian Romanesque. The architect is Mr. C. J. Phipps. The contractors are Messrs. Bladwell & Ambrose. Clerk of works, Mr. J. Grant.

Liverpool.—The Raffles Memorial Mission-room, Greenland-street, has been opened. The rooms are to be used as ragged schools, workingmen's hall, preaching-room, &c. The ground floor is principally devoted to a large school-room and class-room,—the latter, on Sunday, being filled by upwards of 540 children. The dimensions of the school-room are 70 feet by 45 feet. The middle or second story is divided into a workmen's hall (52 feet by 45 feet) and two smaller rooms. The latter are intended for the convenience of those who wish to possess more quiet and retirement than that afforded by the hall, which is furnished with a bagatelle-table. Arrangements are being made for the introduction of harmless games. The walls are embellished with maps and engravings. Immediately in the rear is another room in which it is intended mothers' meetings will be held and winter lectures delivered. The lecture-hall is furnished with a piano. The next or upper story is chiefly taken up with what is termed a preaching-room, the dimensions being 70 feet by 45 feet, and sufficient to seat 700 people. The committee-rooms are attached; and semi-detached are the keeper's apartments. The edifice is situate about midway in Greenland-street. Mr. W. J. Mason was the architect, and Mr. Thomas the contractor. The total expenses incurred in the erection of the rooms amounted to 5,000*l.*, 3,000*l.* of which have already been subscribed.——At a recent meeting of the Markets Committee the surveyor submitted a long report and plans on the proposed alterations of St. John's Market—namely, the erection of shops at each end, and the replacing of the present roof with one of a lighter character. The total expenditure was estimated at 16,200*l.* The adoption of the report and plans was agreed to. The report of the surveyor on the wholesale market scheme was also read. It is proposed to remove all the buildings between Queen-square and Williamson-square, bounded by Murray-street and Roe-street on the east, and by Marble-street and Hood-street on the west, with the exception of the shops and publichouses on the north-west side of Roe-street, facing the north end of the market; and, with the exception of the Weights and Measures Offices in Hood-street and Murray-street, using the area thus obtained as a wholesale market. This area will be 8,000 yards. This scheme would afford an opportunity to widen Murray-street, at present inconveniently narrow, although one of the principal thoroughfares from the southward and westward to the markets, the assize courts, and the London and North-Western Railway: the street would be made 16 yards wide. It is also proposed to widen Marble-street and Hood-street, the portion of which between Marble-street and Roe-street being made also 16 yards wide, forming an improved access to that extent between the north-eastern portion of the borough and the intended new public offices. The total cost is estimated at 53,300*l.* The approval of the plans and a recommendation for their adoption to the Council, were unanimously agreed to.

Hereford.—The Archdeacon of Hereford (Lord Say and Sele), who a few years ago restored the basement of the ancient monument erected by the second of the two Bishops Charlton, *temp.* Edward III., known as the White Cross, one mile west of this city, on the Hay-road, is about to supplement that good work, according to the local *Times*, by a complete restoration of the shaft and cross. Mr. Scott has been entrusted with the work. It is said that there are sufficient remains to determine the form and character of the original cross. Mr. Arkwright, of Hampton Court, is also, we understand, about to undertake the restoration of the Preaching Cross (also *temp.* Edward III.) at the Blackfriars Monastery, in Widemarsh-street, to the decayed condition of which attention has been frequently called.

LOCAL AND GENERAL ACTS.

BRISTOL.

MORGAN *v.* POPE.—This was one of those cases which are now constantly occurring, in which there is a complication, if not a conflict of law, created by the many Acts passed of late for the general regulation of various objects of local improvement or government, in connexion with the previously existing local Acts passed for similar purposes. The present case came by appeal from Bristol, and involved an apparent confusion or conflict between the local Building and Improvement Acts of that city, the Public Health Act (1847), extended to the city by order in council in 1851, and the Local Government Act (1858), which also applied to the city. The matter arose thus: The appellant, Morgan, a builder in Bristol, had erected a house, without paying to the district surveyor, Mr. Pope, the fee of three guineas, to which he claimed to be entitled, under the local Acts, by which the town council were empowered to appoint such functionaries. They had appointed Mr. Pope as one of the district surveyors, and had done so in the usual way—by resolution, entered in the books of the council. The surveyor summoned the builder before the magistrates for non-payment of the fee; and the latter disputed the validity of the appointment—as not being under the seal of the corporation—and also the application of the provisions as to fees, &c.; contending that, though the local Acts were not expressly repealed by the general Acts, they were virtually displaced by provisions of a similar character in those general Acts which ought to do away with the provisions of merely local Acts. The magistrates, however, thought otherwise; and it was admitted that, if the local Acts were still in force, there was nothing in either point.

Mr. Karslake, Q.C., argued that they were in force.

Mr. Coleridge, Q.C. (with him Mr. Prideaux), argued that they were not.

The Court were clear that they were, and so gave judgment in favour of the surveyor.

PROGRESS AT BRISBANE, IN EASTERN AUSTRALIA.

THE principal event of importance, in connexion with the public works of Queensland, by last despatches, of date 18th March last, was the cutting of the first sod of the Southern and Western Railway, which ceremony was performed by Lady Bowen, at Ipswich, on the 25th of February. There were about 3,500 persons present, who came from all directions within an area of 150 miles to take part in the demonstration. The work has since been proceeded with, the contractors, Messrs. Peto, Brassey, & Betts, having imported a number of navvies, who are making rapid progress. Mr. Fitzgibbon, the Government Engineer, states according to the *Brisbane Courier*, that at the end of fifteen months from the day on which the first sod was cut, the first railway train will run in Queensland.

In Brisbane, building operations are still increasing, and every portion of the town is being improved. In Queen-street, low ill-constructed little wooden buildings are rapidly being converted into large, commodious, and shapely shops and stores; and in the suburbs, works of a similar nature are going on. The town-hall has been commenced, and the tender of the same contractor has been accepted for building the bridge. The foundation of a Roman Catholic Cathedral is nearly finished by the contractor, Mr. Teevan. A quarantine station and hospital have been erected, and a new school of art and a temperance hall are spoken of. Roads still form an important item of works in progress.

Among works throughout the colony in progress under charge of the colonial architect are military barracks at Brisbane, contractor Mr. R. Hope; cost 6,820*l.*;—a lunatic asylum at Woogaroo, nearly completed;—a jail at Toowoomba, well forward, and another at Rockhampton now finished; also a lock-up at Mackay, in course of erection, along with others in various parts of the colony. A design has been prepared for a new hospital at Brisbane to accommodate 400 patients.

The competition designs for the new Houses of Parliament were to be sent in by the end of March.

THE BUILDERS' BENEVOLENT INSTITUTION.

ELECTION OF PENSIONERS.

A GENERAL MEETING of the subscribers to this Institution was held on Tuesday, the 26th ult., at the London Tavern, for the purpose of electing five pensioners on the funds,—three males and two females,—from a list of nine candidates. Mr. Alderman James C. Lawrence (president) occupied the chair.

The Chairman, in commencing the proceedings, said the meeting was aware that this Institution was one of a very peculiar character, it being established for the purpose of giving relief and granting pensions to all the various branches of the building trade; and further, for affording temporary relief to workmen in cases of accident to which the trade was liable. He found the number of pensioners, including those to be elected on that occasion, would be thirty-four,—sixteen males and eighteen females. The amount of stock in the Three per Cent. Consols was 9,370*l.* 5s. 10d.; 6,930*l.* 15s. 2d. for the relief fund; and 2,439*l.* 10s. 8d. for the building fund. By the last report of the treasurer, there was a balance at the bankers' of 546*l.* 11s., part of which would be funded this month. The last published report, ending July, 1863, showed an increase of annual subscriptions amounting to 49*l.* 17s. 6d., and donations, 45*l.* 13s. 6d. That would show they were progressing, but there was still much to be done. They, however, confidently looked forward to a further increase of their means of doing good, seeing that there were still a large number of persons engaged as builders, and the trades connected with them, who had not yet subscribed, but who, they hoped, would, when applied to for their support, perceive the necessity of aiding a charity which relieves and soothes the declining years of those who have not been so prosperous as themselves in a business which perhaps was more frequently subject to losses and fluctuations than any other. The object of this charity was to relieve those who were no longer able to sustain their positions, and who had perhaps outlived their friends, and were left destitute and helpless. By its means, and the generosity of its supporters, many very industrious but decayed and aged tradesmen had been enabled to end their days contented. In November next there would be another election, and there was every confident hope that the unfortunates at the present time would then receive the return of their anxious desire.

The poll was then declared open; and during the contest the candidates were supplied with a substantial dinner provided by the Institution.

On the return of the scrutineers, the following were announced as being successful: W. H. Walsham, aged 69, bricklayer, &c. (suffering from old age and losses in business); John Jenkins, aged 68, builder, &c. (loss of business and an accident); Robert Longstaff, Lincolnshire, aged 74, plumber, &c. (losses, and infirmity of age). The females were Sarah Clements and Elizabeth Efford, the husband of each having been on the funds of the Institution.

Mr. Joseph Bird said a great number of votes had been unrecorded; but, notwithstanding, the total far exceeded that of any former occasion. He proposed a vote of thanks to the scrutineers, whose labours had been so quickly and correctly performed.

Mr. Thorne replied, and said, he and his brother scrutineer now so well understood the business that it was with much pleasure they performed the duty, no matter how extensive might be the number of the votes to go over.

The successful candidates then returned thanks, through Mr. Bird; and, after the usual compliment to the chairmain, the proceedings terminated.

THE DWELLINGS OF THE WORKING CLASSES.

ON the first meeting of the conference invited by the Society of Arts, the following resolutions were passed:

"That in the opinion of the meeting there is at present in town and country a very insufficient number of dwellings for the labouring classes, and that the accommodation is bad and unsuitable for the classes who occupy them."

"That the evil effects arising from this state of things in a religious, moral, social, sanitary, and economic point of view, in the opinion of this meeting, demand the instant and serious attention of the country."

"That in the opinion of this meeting, the present lamentable state of the dwellings of the labouring classes is materially induced by the law of settlement and the limited area of Poor-law rating."

"That the tenure of property and the legal difficulties attending its transfer, and the obstacles they interpose in obtaining sites, impede the labouring classes from becoming possessors of suitable dwellings, either separately or as portions of detached buildings."

"That by proper attention to economy, by building to the extent only required by each district, and by the utmost care in avoiding unnecessary outlay in preliminary expenses, proper dwellings for the labouring classes can be provided which will realize in towns a fair dividend on the capital expended; and that although in rural districts, commonly speaking, the pecuniary return for capital invested in labourers' dwellings, considering the rates of their wages and their general circumstances, and the cost of repairs, can only be moderate, yet it may be regarded as satisfactory when the consequent improvement of the character of the occupants, their comfort, their health, and the additional value of their labour are taken into account."

On the second day the following comprehensive resolution was come to at the close of it:—

"That the Legislature can promote the erection of proper and sufficient dwellings for the labouring classes. 1. By loans at a low rate of interest, repayable within a limited time and under proper security and conditions, for building dwellings and cottages upon the precedent of the Dwellings of Labouring Classes (Ireland) Act, 1860, 23 Vic., c. 19, and other similar Acts of the Legislature. 2. By assimilating the law of this country with that of Ireland and Scotland (Tenure and Improvement of Land (Ireland) Act, 1860, 23 & 24 Vic., c. 153), (Act for Facilitating the Building of Labourers' Cottages, 1860), and giving facilities for obtaining advances on the securities of settled estates. 3. By throwing upon public companies requiring houses inhabited by the working classes for their own commercial purposes the obligation of erecting an equal number to those destroyed. 4. Improvement of the Lodging-house Act as regards provision for sanitary purposes, and giving greater power to inspecting officers. 5. By giving facilities to owners of property under disabilities (such as tenants for life, minors, &c.), for conveying sites for building cottages upon the principle of the Montgomery Act in Scotland (10 George III., cap. 31), and the Tenure and Improvement of Land in Ireland Act (23 & 24 Vic., c. 153). 6. By cheapening the cost of title and transfer of property, as far as respects cottage property. 7. By enabling cottage property and labourers' houses in towns, and the sites of such property, to be registered, under local authorities, as personal property transferable in the local registry alone, in the same manner as Government stocks and railway shares. 8. By abolishing the law of settlement and extending the present limited area of assessment for local taxation, so as to equalize the payments of all classes."

It was further resolved, that the council be requested to take such steps as might appear desirable, in accordance with the former resolutions.

Mr. W. Hawes presided on both occasions, and the discussion, which was opened by Mr. Godwin, was vigorously sustained by Mr. Lowe, the Rev. L. Tugwell, Mr. White, the Rev. Thomas Pyne, Mr. Westgarth, Mr. Hare, Mr. Bodkin (Assistant-Judge), Mr. Whalley, M.P., Lord Berners, Lord Lyttelton, Sir C. Rawlinson, Mr. Murphy, Mr. Maynard, Mr. Hickson, Mr. Kime, the Rev. Mr. Moss, Mr. Gregson, Mr. Sparke, the Rev. Harvey Brooks, Mr. Redgrave, the Rev. J. B. Owen, Mr. E. Ackroyd, Mr. Marsh, Mr. Harrold, Mr. Goldsmid, Alderman Waterlow, Mr. Bowkett, the Rev. Mr. Robinson, Mr. Hoskyns, Mr. Brooke, Mr. Dillon, Mr. Ireland, Rev. Mr. Thorold, Dr. Greenhill, Mr. Mortimer, Mr. Gatliff, &c.

ST. MARTIN'S SCHOOL OF ART.

THE eighth annual *conversazione* of this school was held on the evening of the 19th of May in Castle-street, Long Acre. Lord Elcho, M.P. presided. The room, which was decorated by the ladies of the committee, was further adorned by various works of art,—an exhibition of the students' drawings.

The proceedings commenced by the distribution of prizes and medals to the successful students; after which an appropriate address was delivered by the chairman.

The next feature of the evening was the presentation of a testimonial, consisting of a bronze statuette, to the late assistant master, Mr. E. T. Burchett,—which having been accepted by him, and votes of thanks passed to the present masters, and acknowledged by Mr. W. L. Carey and Mr. Stopford, the evening concluded with a vocal and instrumental performance by the students of the school.

THE ARCHITECTURAL MUSEUM.

THE Council have issued a report of their proceedings, with most of which our readers are acquainted. We quote the following passages:—

"The President's lecture was published by request, and circulated among the subscribers and friends of the Architectural Museum.*

The cause of the Art-workman, to which it referred, was again taken up by the president in his evidence before the commission appointed by Her Majesty to inquire and report to both Houses of Parliament respecting the present position of the Royal Academy in relation to the Fine Arts, and it is the pleasing duty of the Council of the Architectural Museum to announce that the suggestions thrown out by their president have been mainly adopted by the Commission in their report, in the following terms:—

'We also recognise great value in the suggestion first made to us in the evidence of Mr. A. J. Beresford Hope, that there should be a class of art-workmen connected with the Royal Academy. Looking at the intimate connexion between the fine arts and those of a more mechanical character, and the great importance of extending the influence of the former over the latter, we think that workmen of great excellence in metal, stone, wood, and other materials might be properly distinguished by some medal or certificate of honour conferred by the Royal Academy, and in certain special cases become members of the Academy, at least as associates: each of these art-workmen might properly receive a bronze medal, and the appellation of "Royal Academy Medallist."'

This acknowledgment of the Art-workman's value and importance by such a commission is a signal mark of success. It is not too much to say that it is mainly owing to the efforts of the Museum in behalf of that gifted though humbler class of artists, and to the teaching it has provided for them.

The Council have already made known, by the published correspondence on the subject, their opinions as to the formation of a National Museum of Architecture, of which their own collection forms the nucleus. Although a more central position for such a museum might have been desirable, the counterbalancing advantages of South Kensington should be borne in mind. The Government art collections which it contains, and which are every day growing more extensive, and of greater value to architectural and other art-students, afford materials for study in connexion with the simpler models of the Architectural Museum, whose sterling value is independent of the question of site, while the presence of our own unrivalled collection makes the advantage reciprocal. The casts, with the exception of a few of the heavier objects, have been provisionally arranged in the ground-floor of the South Kensington Museum, underneath the west gallery, and also along the spacious and well-lighted corridors leading therefrom to the

* This and Cardinal Wiseman's lecture are published by Mr. Murray, and may be obtained by the public.—ED.

extreme west entrance opposite the Exhibition building of 1862.

At the southern end of the space under the west gallery will be found that curious and interesting collection of Hindoo sculptures, presented by Sir Bartle Frere, and referred to in more than one of the Council's reports. At the western end of the corridor are displayed the larger casts of the collection of Perpendicular work, formed by the late Sir Charles Barry for the guidance of the workmen at the Houses of Parliament.

The casts belonging to the Architectural Museum will need cataloguing afresh. For this purpose arrangements will be made, and also for placing a descriptive label on each cast or set of casts."

The Council of the Architectural Museum having been invited by the Royal Institute of British Architects to select four of their members as representatives of the Museum on the general committee formed to take into consideration the subject of architectural education, Mr. Beresford Hope, Mr. Ruskin, Mr. Ferrey, and Mr. Joseph Clarke have been nominated.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday, the 27th ult., at the House, in Conduit-street.

The chair was taken by the president, Mr. Roger Smith.

Mr. W. G. Wallis, 139, St. George's-road, Holloway, was, on ballot, elected a member of the Association.

The chairman announced that, on Saturday, the 5th of June, the members would be enabled to pay a visit to the bank buildings now in course of construction for Messrs. Barclay, Bevan, & Co., of Lombard-street.

Mr. J. D. Mathews (honorary secretary) read a letter from the secretary of the Society of Arts, announcing the result of the judges' award for the best drawings, &c., for the Denton prize for dwellings for the labouring classes, and stating that the designs were now on view at the rooms of the Society of Arts.

The chairman observed, in reference to the award, that certain members of the Association who had sent in designs, being of opinion that, as the judges had given the prize to an exhibitor (No. 23) who had not strictly complied with the conditions which were to regulate the competition, they had remonstrated with the Society of Arts, setting forth that, in their opinion, the designs submitted by them were quite as worthy of consideration as that to which the judges had awarded the prize. He requested that the letter might be read.

Mr. L. N. Ridge read the letter in question, which asked for certain details in reference to the cost, &c., of the proposed cottages, and contained a request on behalf of the signatories that the subject might be reconsidered.

The chairman said that the Patent Concrete Stone Company had offered for competition among the members of the Association four prizes of the value of 21*l.*, to be divided into one of 10*l.* 10s., one of 5*l.* 5s., and two of 2*l.* 12s. 6d. respectively, for the most approved sets of designs for portions of buildings, or accessories to buildings, suitable for execution in their patent concrete stone. The drawings were to be delivered by the 1st of July next, and the judges were to consist of three members of the Association not competitors, to be nominated by the committee of the Association, and three gentlemen to be nominated by the company; and the judges, equally with the competitors, were to be bound by these conditions. The chief points to be regarded by the competitors were to be novelty of design and application, artistic merit, and suitability to the properties of the material. The designs after the award to become the absolute property of the company.

Mr. Thomas Piper, the secretary to the Patent Concrete Stone Company, explained the properties of the material used by them, and stated that, although the primary object of the company in offering the prizes was one of self-interest, still they hoped some impetus might be given to the art of design by the proposal which they had made.

In reply to a question, Mr. Piper said, that in case of "a tie" between the judges as to the relative merit of any design, the company would be satisfied to leave the point in dispute to the decision of Professor Donaldson.

The chairman recommended the class of design especially to consider the subject, as now-a-days detail appeared to be more considered in architecture than design.

Mr. Penfold being unable to read his paper on "Metropolitan Improvements,"

Some short discussion ensued, and at the conclusion it was announced that the next subject for the class of design would be a boat-house, and that on the 10th instant the members would be invited to nominate their president and office bearers for the session of 1864-5.

The delegates appointed by the Association as their representatives at the Committee on Art Education are, Mr. J. H. Christian, Mr. Blashill, Mr. R. M. Ede, and Mr. J. D. Mathews (Hon. Secretary).

VOTES FOR BUILDINGS AND DESIGNS.

New Foreign Office.—On the sum necessary for completing the vote of 75,000*l.* for the new Foreign Office, Mr. Augustus Smith complained of the enormous cost of the new building, and called attention to the item of 4,899*l.* for preliminary expenses of designs which were not adopted. He found, when he added this item to the sums of a similar nature voted in previous years, that upwards of 10,000*l.* had been paid for designs not used. He moved the omission of the item. Mr. Cowper said, the estimate of 200,000*l.* for the new Foreign-office was based upon the original tenders made in 1860. Since that time the price of labour and materials had risen about 10 per cent., and now the amended estimate for the work was 228,415*l.* He reminded the committee, that in July, 1861, he stated that the Government could not bind themselves to the estimate of 200,000*l.* The item of 4,899*l.* was made up of various sums paid for drawings and plans. First, there was a sum of 500*l.* due to Mr. Scott, for work done between November, 1858, and March, 1859; next, there was a further sum of 2,000*l.* payable to Mr. Scott, for working drawings and specifications for tenders, in 1859; then, the model exhibited to members of the House cost 300*l.*, and 1,500*l.* were paid to surveyors for preparing bills of quantities. The vote was agreed to.

Architectural Designs.—On the vote of 3,260*l.* for architectural designs and estimates of public buildings, questions were asked, and Mr. Cowper said, the present vote was confined entirely to the claims of Mr. Pennethorne, which were not sent in until the question of the Foreign-office was finally decided, because Mr. Pennethorne was not sure until then that he would not be employed himself. Mr. Kinnaird asked whether Mr. Pennethorne was not a permanent servant of some department, and whether his whole time was at its service. Mr. Cowper said that under the present arrangement Mr. Pennethorne had a salary of 1,500*l.* a year as surveyor and architectural adviser to the Board of Works. In both these capacities he had rendered great services to the department, for which he would have received a larger remuneration had he been paid in the ordinary way. With respect to plans for new buildings, Mr. Pennethorne was in the position of any other architect, and entitled to his commission.

The Exhibition Building.—A vote of 53,000*l.* to complete the purchase of the land occupied by the exhibition building, and of the arcades which were used as refreshment-rooms, was agreed to.

THE PATENT ENDLESS LADDER.

IN one of your earlier numbers you gave a description of my patent endless ladder as applicable to building purposes.

The Messrs. Cubitt adopted it simply on permission, without any pecuniary consideration: by its help they raised many of their most notable structures and loftiest in this metropolis.

Mr. W. Cubitt, nevertheless, dissuaded me from renewing the patent on the ground of its success, referring more to the ease of the labourer, and the quietness and safety of his labour, than to any pecuniary advantage that could devolve to me as the patentee. Notwithstanding my sacrifice of several hundred pounds, I suffered the invention to pass away from patent protection into beneficial chances for the public, content to be a benefactor thereto to some extent.

This boon has, however, been subsequently intercepted by a private party taking out a fresh patent for the very same idea and plan, differing in no solid or positive respect, that I can discover, from the specification which was the ground whereon my patent was legally conceded.

What the new ground was which induced the authorities, to whom the law of patent rights is entrusted, to grant a new patent upon the prior basis of their own sanctioning, I cannot imagine.

To my eye, it would have been a generous proceeding on the part of the new patentee to have apprised me of his purpose. As matters stand, he is reaping a harvest from the costly seed of my sowing; and in this consists the unjust operation of our Patent Laws, to say nothing of their suffering the originator of a useful invention to be a loser, in common with the public, by the step he has supplied towards the gains of the imitator who succeeds him.

JOHN STURGIN.

Great Cumberland-street.

SHAMS.

SIR,—I was much surprised, on reading your last impression, at seeing "Art Lover" openly announcing his predilections for shams. I did not know before that "Art Lover" was a lover of art in its sense of fraud and deceit. But such it seems to be; and he has thrown down the glove to all your readers. And this is all,—a bare assertion, and no supporting arguments. He says one thing, which, as he thinks, will be disputed by no one; namely, "that good—nay, even very superior—taste may be shown, be the means employed for exhibiting it ever so cheap." Of course, no one would ever dream of denying this. But then comes the assertion, that we should not object to "innocent licences, such as graining and other deceptions," if the general effect is pleasing or captivating. We are to do evil that good may come. Art must be very circumscribed indeed, if all it can afford is either costly, or imitation of what is costly. Does "Art Lover" deny that good effects can be produced without apparent expense? It would be a pity indeed if a door could be decorated in no other way than by imitative graining; and there are other alternatives than "smearing it over with one uniform coat of paint."

But, having accepted "Art Lover's" challenge, I will say no more, but will leave him to bring forward some proofs to support his case.

EX STIRPE.

OUR STATUES AND STREETS.

WILL you allow me to call the attention of those whom it may concern, to the disgraceful, dirty condition of the Queen's statue, in the quadrangle of the Royal Exchange. The face looks as if a tar-brush had been passed over it, and both eyes are of an unmistakable jet black. It appears very strange that day after day the "merchant princes" assemble under the very shadow of this statue, and yet do not try to remedy this blot upon their loyalty. Surely times are not so bad but that a few pounds might be expended occasionally in cleaning with soap and water the profile of the "beloved of her people." What must foreign visitors think of our loyalty, let alone our want of taste? Why not have a few hardy plants, in tubs, placed around the base of the statue—during the summer months especially?

Travelling westward last week, I was much pleased to observe that the Board of Works are waking up to a proper sense of their duty towards the statues of our worthies, at that end of the town. The statue of George III., at Cockspur-street, has been thoroughly cleaned, and looks as good as new, and I find preparations are making at Trafalgar-square to take off some of the grime attaching to George IV.* This is a step in the right direction, and deserving of public thanks. The alterations effected in the fountains are a decided improvement, although the centre jet does not reach high enough to give it just proportion with the other streams. Why not finish this good work by placing a few orange-trees round the basins, and thus relieve the stony aspect of the place? A few orange-trees on the terrace above would also have a capital effect. How grateful to the eye to fall upon the beautiful green colour of the leaves after wearying of the stone and brick composing

* They appear to have been treated after the new French process.

our street thoroughfares. In such matters as these we are sadly behind our foreign friends.

While the pen is in my hands I would beg to call attention to the state of the grass in Hyde and other parks, the pathways being allowed gradually to encroach upon the sward, and no system of enclosure appearing to be adopted to prevent the public passing over the affected parts, so that the growth of the grass again is rendered an impossibility, unless promptly seen to.

One word more and I have done. Why do the police seem to ignore the existence and utility of our public drinking-fountains?—is that part of their instructions? They seem to relish the idea of our British youth, of both sexes, giving one another shower baths, in which the public are often unwilling participators; or trying their skill in bending the cups, or breaking the chains to which they are attached. Sometimes they vary the amusement of Policeman X by wetting the pavement, so that ladies are obliged to raise their dresses higher than delicacy would prescribe. But surely the police must have strange notions of their duty when they permit our *gamins* to play such fantastic tricks; and I hope this notice may cause them to look sharper after the public property vested in drinking-fountains. EAGLE EYE.

OUR STREETS AND ROADS.

IN the road, "Dulwich-lane" I think it is called, that goes from the "George Canning," Tulse-hill, to the Lower Norwood-road, three new roads have been opened out, running Londonwards. They are named "Spenser-road," "Shakspeare-road," and "Milton-road." "Very good names, too," you will say. True; but what think you of disgnising them with this orthography,—"Spencer," "Shakspere"?*

Fortunately, at present, the names are only painted up on large fingerpost sort of things; but pray do get them corrected before the mistakes become indelibly fixed on people's minds.

I have another grievance in a drive I constantly am compelled to take. It is a hideous caricature, bronzed, of our beloved Queen, which stands before a public-house on the right hand going from Battersea Bridge to the Wandsworth-road. Recently, the eyebrows and parts of the hair have been gilded, making it more frightful than ever. Really the taste of passers-by† ought to be preserved from such outrages. Reformer of abuses! go and look at it, and do have it demolished forthwith. VIATOR.

CHURCHES FOR MECHANICS.

SIR,—About twelve months ago, you were good enough to insert a letter from me commenting on the sad want of church room for mechanics in the suburbs.

About that time, a friend of mine, struck with the same want, built an iron church, and the result was disappointing. He found that the working classes would not attend it. Having built his church, he is now compelled to use every means in his power to get it filled, and that with indifferent success. Among my own men, I find that scarcely one per cent. ever goes to church of any kind. There is a large Wesleyan chapel now built near my place, and it is nearly empty. I now tell my men, that in a money point of view it is my interest to employ men who are influenced, while working, by a higher motive than the hope of their Saturday night being favourable, and that by going to church they have the best chance of gaining those motives; and that therefore I would in future give the preference, between two equally good men, to him who went to church; and as a beginning, I paid the pew-rents for a few of them,—only a few shillings for a year, each. I am glad to say this seems to promise well: some of them go, and if it be only to please me they may continue for better reasons. Indirectly, also, good seems to come of it, as I have not for months heard a bad word among them, and I fancy that it must be some encouragement for a man to feel that his employer interests himself in his welfare, recognising his rights in the great brotherhood of Christianity. On the whole, I find my efforts are a good investment even in a money point of view.

My experience in this affair bears out the wisdom of the provision in the Bishop of London's Fund management for employing lay agents. If when churches were built the working classes would go, clergymen alone might almost be enough; but the main difficulty is to persuade the people to go to church: therefore visitation from house to house by laymen is essential.

Now, why should not employers of labour help in this matter? Every man is the centre from which radiates good or evil influences to those among whom he moves. Every man is, to an extent, his brother's keeper: employers of labour are thus responsible for the use of the influence they have over their men, and most powerful that is.

Messrs. Peto & Betts, and the Messrs. Silver, of North Woolwich, seem to recognise this responsibility fully: the former keep a teacher or preacher at all their large contracts: the latter do the same at their establishment.

If the majority of the City builders and contractors, without naming any other large labour employers, were personally to use all their endeavours to induce their people to go to church, there would be very little talk of the City churches being empty. If the men say they cannot afford to pay seat rents, it would be easy to make some arrangements with the clergymen which would make the burden easier. J. P. W.

* Mr. Charles Knight spells Shak*spere*, and tries to prove it correct. This spelling is not unfrequently adopted. Did not Shakspeare vary his own spelling?

† I was going to say the taste of the "public;" but *that* evidently has no taste. I wonder *if its beer has!*

BASILICA OF CONSTANTINE AND MAXENTIUS.

IN reply to your query I beg to say that the authority for the peculiar arrangements of the coffers at the insertion of the groins of the vaulted ceiling is from the late celebrated Luigi Canina. That gentleman discovered some fragments among the *débris* removed some years ago, which clearly showed this to have been the original design.

The arrangement is peculiar, and I do not think very pleasing; but with such an authority before me I had no alternative.

ARTHUR ASHPITEL.

STABLE ARCHITECTURE.

I OBSERVE Mr. Mayhew advises a bed of flints, broken, to be below the paving or flagging of the floors of stables. Permit me to observe that there is nothing so liable to cause *damp* as a bed of broken flints: they "sweat" so. The best bed is quarry sand mixed with cinders; or, better still, bricklayer's rubbish. I should also floor my verandah with saw-dust and tan, on a good hard bed of clay, well puddled; or, what is better, concrete. All heads of doors ought to be circular. There are several excellent remarks, but with the size of loose boxes suggested, a stud of fifteen horses would take up a large space. All mangers ought to be long and narrow, as horses eat from side to side. EBORACUM.

COMPETITIONS.

Chester Town-hall.—The plans have been opened to public view, and visited by considerable numbers of citizens and also strangers. The committee have determined to apply to the council for professional assistance in respect to adjudicating upon the plans, as they feel considerable difficulty in the matter. Some of the most imposing of the designs as to external details are disqualified, according to the local *Chronicle*, in consequence of a very material departure from the requirements of the council. Whether or not they will be allowed to compete rests with the council.

The Hawks Monument, at Gateshead.—In the council chamber of the Town-hall, Gateshead, the designs for the late Alderman Hawks's monument, to be placed in the chancel of St. Mary's Church, Gateshead, have been exhibited. Few of them differ from the ordinary run of mural monuments, and nearly all include a medallion portrait of the deceased. Coloured marbles are employed in some.

Bradford Exchange.—Objections to the selection have reached us as being opposed to the report by the professional referee, on the six designs sent in.

Wyggeston Hospital, Leicester.—The designs have been sent in, and are to be exhibited this Friday, Saturday, and Monday. Five months were allowed for their preparation, and the contemplated outlay is 15,000*l.* The subject is extremely interesting, viz., the rebuilding of a structure for an old foundation similar to Leicester Hospital at Warwick, and Fords at Coventry.

STAINED GLASS.

Peartree Church, Itchen.—This church has just received the addition of a painted glass memorial window, which has been placed in the eastern gable. The stone work of the gable and the old window have been taken down, and a new Portland stone Gothic window in the style of the fifteenth century inserted. It contains three lights with a traceried head, which has been designed and adapted by Messrs. Guillaume, Parmenter, & Guillaume, of Southampton, architects, under whose superintendence the whole of the works have been carried out. The painted glass was executed by Messrs. Ward & Hughes, of London, and the contract for the stone work was taken by Mr. James Brown, of Northam; the carving, &c., by Mr. Brain, of Shirley. The centre light, which is the largest, contains the principal subject, viz.—"The Ascension." Underneath is a medallion of "The Last Supper." The side lights are occupied by the following subjects in medallion:—Commencing at the top on the left hand are, "Our Lord's Baptism," "The Flight into Egypt," "The Adoration of the Magi," "The Apparition to the Shepherds," "Washing the Disciples' Feet," "The Crucifixion," "The Appearance to Mary in the Garden," "The Walk to Emmaus," "Christ blessing little Children," "Our Lord disputing with the Doctors." The last is contained in the centre quatrefoil of the tracery, the smaller openings being filled in with angelic forms.

St. Stephen's, Kirkstall.—A painted glass memorial window has been placed in the north transept of this church, to the memory of the late Mr. William Beckett, of Kirkstall Grange, by his widow. The following subjects, arranged on a blue ground, beneath canopies, occur in the window, which is of four lights:—Our Lord blessing little Children; the Good Shepherd; the Good Samaritan; Sermon on the Mount; Raising of Lazarus; Our Lord washing Disciples' Feet; Healing the Cripple at the Pool of Bethesda; the Son of the Widow of Nain raised to Life. In the tracery of the window the subject is—Our Lord in Glory, with Angels giving Praise. The artist employed was Mr. F. Preedy, of London.

St. Mary's, Taunton.—A new stained-glass window is about to be placed in the west end of St. Mary's Church. The money required to defray the expense has been collected by Mr. P. Taylor.

Trinity Church, Gainsborough.—The subject of the stained glass window, the gift of Mr. H. Capes, which has just been placed in this church, is "The Transfiguration of our Lord." In the upper part of the tableau Jesus is represented "with His face shining as the sun, and His raiment white as the light," accompanied on His left by Moses, bearing a copy of the law, and on His right by Elias. The three favoured disciples, Peter, James, and John, are lying on the summit of the mountain, prostrate with fear, and "heavy with sleep." In the lower panel is a group of nine figures representing the bringing of the lunatic demoniac child to the disciples at the foot of the mountain, and their inability, in the absence of their Lord, to cast the devil out. Owing to its being placed on the north side of the aisle, in a dark angle formed by the aisle and the north transept, the glass is not seen to the best advantage. This is the seventh window we understand, which has been placed in Holy Trinity Church by the same liberal donor. The artist was Mr. Clutterbuck, of London.

Trinity Church, Ayr.—One of the transept windows of this church has recently been filled with stained glass by Messrs. J. T. Lyon & Co. of London. This window consists of two large lancet-lights, and a vesica-shaped light above. The three subjects chosen are intended to represent the three persons in the Trinity. They are taken from parables contained in the 15th chap. of St. Luke's gospel;—the lost son,—"His father fell upon his neck;" the lost sheep,—"I give unto them eternal life;" and the lost silver,—"There is joy over one sinner that repenteth." The field portion of this window consists of grisaille pattern in the Early English style, of different tints of cathedral glass, with coloured lines showing the geometric forms. A coloured border of Early English ornament surrounds the whole.

THE BUILDING TRADES MOVEMENT.

Birmingham.—Nothing has occurred here as yet to alter the conclusion that the differences between masters and men are coming to an end. Some few operatives still stand out on minor points, but not so as to lead to a continued suspension of building operations. The local *Gazette* takes a view of such disputes which we have often urged; and it is well to quote this view as that of a disinterested public authority. "In future building operations," says the *Gazette*, "the advance of wages will go to increase the costs to the proprietors of buildings; and it is far from improbable that this advance will materially lessen the amount of work to be done. If this should be the case, the reduced amount of employment required will inevitably bring about a fall in wages. Considerations such as these should be present to the minds of the men as much as the advantage of the moment. These, in fact, are the justification of the statement, made by those who are not immediately connected with the dispute, that the interests of master and men are identical. It is to this extent only that the general public are concerned in the settlement of the late dispute."

Wolverhampton.—A strike has commenced in Wolverhampton. The masters had just settled a difference that had sprung up between themselves and the bricklayers and others, by conceding one hour a week; and they are paying them now at four every Saturday afternoon instead of five as hitherto. Now, however, the labourers are moving for a rise in their wages of 3s. a week during the three winter months, and 1s. a week during the remaining nine months of the year, so that their payment may be 18s. a week all the year round. Six firms have been selected for notice. Five are resisting the demand, and the sixth has given it on condition that the other masters do the same. The men say that they can stand out three months, and receive 12s. a week as strike money during that time.

Leeds.—We regret to learn that the trade is showing tokens of a disagreeable conflict here also. It began with a strike of the joiners working for Mr. Thorpe in fitting up the civil court at the Town-hall; and it afterwards became quite apparent that a general movement was taking place among the operatives for reducing the week's work from 58½ hours to 56 hours. Consequently the employers held a meeting, when it was resolved that the men should be offered payment at the rate of 5½d. per hour. This offer was refused, and the masters therefore determined that the whole of the joiners' shops represented at the meeting should be closed, unless the proposition of payment by the hour were previously accepted. This led to a crowded meeting of the men, who objected to work by the hour, and passed a resolution pledging the meeting not to work by the hour system. Attention was called at this meeting to the fact that whilst numbers were locked out because the masters refused to employ them unless they agreed to the hour system, there were others whose masters were willing to allow their men to work according to the old rules, namely, 58½ hours a week. Those men would be in doubt what they ought to do. It was resolved, therefore, that liberty be given them to remain at work on these terms. The masters also had a meeting, when payment by the hour was adhered to. An effort, however, is being made to effect an arrangement, and the joiners have been allowed by the unionists to return to their work at the town-hall; but men had already been got to replace them.

Leicester.—The bricklayers, slaters, plasterers, and stonemasons' labourers, employed at Leicester, have struck work in consequence of the masters having refused to comply with an application made to them by their labourers for an advance from 2s. 6d. to 2s. 9d. a day. It is the intention of the bricklayers in the town to strike, in the course of a few weeks, for an advance of 4d. a day, and the carpenters, joiners, and painters for an increase of 6d. per day. Their average wages at present are from 3s. 10d. to 4s. a day.

Hull.—The master joiners of this town have held a meeting, at which they unanimously resolved to accede to the request of their men for an advance of 2s. per week.

Middlesborough.—The builders here have had a second demand made upon them for an advance of wages. A few weeks ago the men in their employ had their wages raised from 26s. to 27s. per week. They now ask for a further advance of 3s., making their wages 30s. per week. There is every probability, it is said, that this will be granted, as the masters are just now in such a strait as to be unable to refuse what is asked.

Sheffield.—The edge-tool forgers of Sheffield have struck, and their strikers here are also idle: it is feared, too, that the grinders will also be soon out of employment. The advance demanded by the forgers is larger on some descriptions of tools than on others. The average advance demanded is said to be about twenty per cent. The men, however, say it does not exceed 12½ per cent. They complain that their wages are at present too low to maintain a family upon. The masters, on the other hand, say that the wages of a forger and his striker amount to from 3*l.* to 4*l.* a week for the two, and that it is impossible to concede the advance demanded without driving the trade from the town. The Continental manufacturers, they say, have made such progress of late in the manufacture of edge tools, and from the lowness of wages can sell them at such low prices, that already they are running the Sheffield manufacturers very hard in the race of competition. It is also urged that the competing houses in the Birmingham district have become formidable rivals, owing to the smaller amount of wages paid there, thus adding to the difficulty of conceding increased wages here.

Miscellanea.

MONT STORM'S BREECH-LOADING RIFLE.—In this ingenious and simple invention, the cartridge-chamber turns back on a hinge on the upper part of the barrel, so that when it is in this position the cartridge is inserted from the rear, the powder forward, and the ball towards the stock. Then, by closing down the chamber, the powder comes in the reverse position and the ball forward, the front of the moveable chamber thus forming a joint with the barrel round the ball, and the rear fitting firmly against the breech part of the connexion between barrel and butt. In order to prevent the escape of gas usual in breechloading arms, a steel valve of peculiar construction is inserted into the chamber, so as to enter the place where it joins the barrel. The action of cocking the gun gives the crank a reverse motion, which at once unlocks the chamber from the breech, and allows it to be raised by a force only sufficient to overcome the resistance of the spring which holds the chamber down under ordinary circumstances. The chamber can be raised when the gun is at half-cock, if required, an advantage which materially increases the security from accident. On opening the chamber after firing, by throwing it back, by means of its handle, to the top of the barrel, the exploded cap separates and falls from the cone, and the spring of the hinge striking on the barrel relieves the shock on the chamber, which may be loaded with powder and ball without changing the horizontal position of the barrel. Perfect solidity, combined with complete freedom in use, seem to be attained by the most simple means in this beautiful invention.

THE EFFECT OF VEGETATION ON THE RAIN FALL.—In the notes of the month's science and art in *Chambers's Journal*, it is remarked that the news of the cinchona plantations is most encouraging. There are nearly 360,000 plants in the Neilgherries, 8,000 in the slopes of the Himalaya, and 22,000 in Ceylon; all yielding a satisfactory quantity of bark. As is well known, Kew had a share in the work of transplanting the cinchona from Peru to India. It has been lately raising young cork-trees, which are to be sent in glazed cases to South Australia, where the Colonial Government intends to form plantations of that useful tree. The island of Ascension, once bare and desert, has been planted from Kew with trees, shrubs, and grass, all of which thrive,—and under the influence of which the climate of the island is much ameliorated. This reminds us that, since the growth of the trees planted in Lower Egypt, light showers of rain have fallen—a phenomenon never before witnessed in that country, by even the oldest inhabitant.

ST. PAUL'S CATHEDRAL. — A correspondent complains of the dirty state of the exterior of St. Paul's.

ARCHITECTURAL PUBLICATION SOCIETY. — The general meeting was held on Friday last. We will speak of the proceedings in our next.

CLOCKS.—A musical clock has been ordered by Mr. Guinness, for St. Patrick's Cathedral, Dublin. The dials are of copper, and are each 8 feet in diameter, and the main wheels are each 18 inches in diameter. The hours will be struck on a bell weighing one ton and a half, and the tunes played on nine other bells, varying in weight from 5 cwt. to 25 cwt. The pendulum measures upwards of 15 feet in length, oscillates once in two seconds, and has a weight or "bob" at its end of upwards of 2 cwt. Its present repertoire consists of four tunes, which will be performed at intervals of three hours, day and night; that is to say, at three o'clock a.m., and at three o'clock p.m., the clock, having struck the hour, will play "Adeste Fidelis" twice, with an interval of one bar between the parts: at noon and at midnight it will play the air "Martyrdom" twice, with two bars interval: at nine o'clock, morning and evening, it will play the "Sicilian Mariner's Hymn;" and at six a.m. and six p.m., "Rosseau's Dream," both airs, as in the former instances, being repeated.——The Rev. A. M. Wilson, Ainstable Vicarage, Penrith, has been supplied by Mr. Benson, of London, with a clock which shows time on a dial 3 feet 6 inches in diameter, and strikes on a bell weighing 1¼ cwt. The same clockmaker has sent one to Burbage, Derbyshire, which shows time on a 3-feet illuminated dial, and strikes on a bell of 10 cwt. This clock has been erected by order of Mr. E. W. Wilmot.

UTILIZATION OF METROPOLITAN SEWAGE.—The select committee appointed by the House of Commons to inquire into the best means of utilizing the sewage of the metropolis, have had several meetings, at which various gentlemen have been examined as to their respective schemes. Mr. G. Hopkins, C.E., was examined as to the scheme of Messrs. Napier & Hope, for conveying the sewage to the Maplin sands; Mr. James Moore as to his scheme for utilizing the liquid sewage; Mr. G. Townsend, secretary of the London Sewage Utilization Company, and Mr. Roberts, director of that company, as to their scheme for utilizing the liquid sewage; Sir C. Fox and Mr. Richard Smith as to their scheme for distributing the liquid sewage over 30,000 to 40,000 acres of land; Mr. G. Shepherd, C.E., as to his plan of dealing with the liquid sewage; and Mr. Thomas Ellis as to his project for spreading the liquid sewage over something like 500,000 acres of land, retailing it to farmers, and retaining the sewage in his own hands. Mr. Ellis complains of inaccuracies in the committee's printed proofs of his evidence.

DISCOVERY OF ANCIENT BRICKKILNS IN FRANCE. At the last sitting of the Academy of Sciences, a paper was received from M. Vionnois, describing six brick-kilns of the Gallo-Roman period discovered at La Roche-du-Thay, in the department of Ille-et-Vilaine. The fragments of tiles lying about sufficiently prove their origin, their shape being Gallo-Roman, and some of them even bearing the trade-mark of the brickmaker, which, however, it has been impossible to decipher. The tiles are flat, 40 centimetres in breadth and 2 in thickness, with lateral rims. The kilns were all alike, and one of them is still in good preservation. It is rectangular, 2·08 metres long by 1·70 in breadth. Its walls are vertical. The fireplace is 10 centimetres deeper than the kiln itself, and separated from it by a floor resting on three supports, and pierced with holes through which the flame penetrated between the tiles placed vertically in rows. The holes near the perimeter are wider below than above, while the contrary is the case with those near the centre. From all this it appears that bricks used to be burnt in kilns similar to those now used for earthenware.

LONDON LABOURERS'-DWELLING SOCIETY.—The objects of this society, as we have before intimated, are to purchase and put into decent condition houses for the residence of the labouring classes; and let them at rents which, after paying all expenses, will give a fair interest to the members. The society already possesses house property to the extent of more than 10,000*l.* The directors state that for the three years during which the society has been in existence the members have received equal to 5*l.* 3s. 6d. per annum on their investments (*i. e.* 5 per cent., the society paying the income tax); and that there is every reason to expect that this rate of dividend will be maintained. They are now extending their operations, and are receiving applications for a new issue of shares to the extent of 10,000*l.* The secretary resides at No. 2, Carlisle-parade, Hastings.

CHURCH STRUCK BY LIGHTNING. During a recent thunderstorm, the lightning entered Llanelian Church, Denbighshire, at the top of two of the arches of a three-light window in the north chancel, having burnt two holes through the lead at the apex of the arches. It knocked out some of the oak panelling of the chancel, scattering it about; then passed to the roof, scorching and blackening the gilding of the chancel arch; and out at the top of the gable, shattering the wall, here about a yard thick, and raising some of the coping. The lightning struck the outer wall in several places about the window, without breaking a single pane. It forced a passage for itself only through a small hole in the leads, but at the same time divided and separated the strong stone mullioned arch at the top, and some stout stonework inside above the glass. The hail which fell at the time was very large, and the thunder-cloud very near, the sound having a peculiar crashing, cracking effect. St. Elian's Church is very high, and in an exposed situation.

THE LATE INUNDATION NEAR SHEFFIELD.—A Bill is now under the consideration of the examiners of the Houses of Lords and Commons on standing orders, Messrs. Smith & Frere, prior to its coming before committee, to make provision for the assessment of damages claimed against the Sheffield Waterworks Company, arising out of the late inundation. For this purpose it is proposed to appoint three commissioners to assess the amount of damages, compensation, and purchase-money, the chief commissioner to be a barrister of not less than seven years' standing, to be nominated by the Board of Trade, unless otherwise agreed upon; the other two to be justices of the peace for the West Riding; the chief commissioner to receive 1,500*l.*, the two other commissioners 750*l.* each, and the clerk 500*l.* for their services, during the whole period of the duration of the commission, or a proportionate part, according to the duration of their services, the expenses to be paid by the Sheffield Water Company, and the sittings of the Court to be open.

THE WEST LONDON UNION WORKHOUSE.—The first stone of the new West London Union Workhouse has been laid by the Chairman of the Board of Guardians. The site selected is in the Cornwallis-road, near the Hanley Arms, Upper Holloway. At the present time the workhouse of the union is situate in West-street, West Smithfield, in the city of London, and it has been required by the Corporation of the city to be given up to them, under the compulsory clauses of an Act of Parliament which they had obtained for the erection of a new metropolitan meat and poultry market in Smithfield. The population of the West London Union, as taken in 1861, was 27,142: as taken in 1831, it was 27,929. The architects are Messrs. Searle, Son, & Yelf, of Bloomsbury; and the builder, Mr. Hart, of Great Dover-street.

CLIFTON SUSPENSION BRIDGE.—The construction of the roadway has been commenced. Some lengths of the longitudinal girder have already been fixed in their permanent positions on each side of the river. These lengths are 16 feet long, and weigh about a ton each, and the two girders which enclose the carriageway from pier to pier will each be formed of 40 lengths.

ARTIFICIAL DIAMONDS.—A correspondent, in reference to our remarks on this subject, suggests that even from carbon mixed with other matter, and thus dissolved, perhaps diamonds could be formed by galvanism, or electro deposit. As we have thrown out the suggestion as to the formation of diamonds, he thinks, the consideration of the subject may lead to some results.

TELEGRAPHIC.—A letter from St. Petersburg states that the telegraph intended to place the Old and New Worlds in communication by way of Behring's Straits, separating Russia from America, is not only decided on, but is actually in course of execution.

ELECTRIC LIGHT IN FISHING.—A stranger, from Paris, has been making experiments recently at Honfleur with electric light in fishing. The fish, attracted by the light, arrive in shoals at the surface of the water, and are taken without any difficulty with a net.

LONDON HOSPITAL.—The foundation stone to the new west wing is to be laid by His Royal Highness the Prince of Wales, on the 4th of July next.

OPENING OF THE ALBERT WING OF BATH HOSPITAL. The first stone of the Albert wing of the Bath United Hospital has been laid by Major A. W. Adair, Provincial Grand Master of the Masons in Somerset, the ceremony being observed as a grand masonic festival. The erection of this wing is not so much to increase the number of beds for patients as to provide them with better accommodation, particularly as regards light and air, and to supply many improvements. A colossal bust of the Prince, executed by Mr. Noble, and which received the approval of Her Majesty, will be placed in the entrance-hall of the wing.

ROYAL HOSPITAL FOR INCURABLES.—The first stone of a new wing to the mansion recently purchased for this charity at West Hill, Putney Heath, and known as Melrose Hall, has been laid by Mrs. Henry Huth, wife of the treasurer of the institution. The stone bears the following inscription:—"Founder, Andrew Reed, D.D., 1854; Treasurer, Henry Huth, Esq., 1861. This stone was laid by Mrs. Henry Huth, 11th May, 1864." Mr. W. P. Griffith, London, is the architect of the new wing; and Mr. William Bird, of Kensington, is the builder. The works are in rapid progress, and the building will be opened before the autumn.

DESTRUCTION OF MILTON'S HOUSE IN LONDON. Another of the ancient buildings in the City will, in the course of a few days, be razed to the ground—namely, the dwelling which was built for, and for some time occupied by, John Milton, situate in Barbican, near to Albion Chapel, and exactly opposite Dixon's repository. This house, and several others contiguous thereto, have been for some time scheduled by the directors of the Metropolitan (Extension to Finsbury) Railway.

INDUSTRIAL ART EDUCATION IN FRANCE.—With reference to improved art education in France, several associations have been founded. One of these, "*La Société du Progrès de l'Art Industriel*," which has for its president M. Viollet-le-Duc, the architect, has just appointed a commission to draw up a working plan for a Museum of Industrial Art, with galleries for permanent exhibition, sale-rooms, lecture-theatres, and library in the centre of Paris, and has issued an appeal to those interested in such matters for aid and advice.

CRYSTAL PALACE.—A very interesting collection of modern pictures, the property of a private gentleman, has been added to the attractions of the Crystal Palace.

ARCHITECTURAL ASSOCIATION: VOLUNTARY EXAMINATION CLASS.—The meeting of the class will be held as usual on Monday next, the 5th inst. Subject, "Masonry," by Mr. E. J. Tarver; commencing at 7·30 p.m.

TENDERS.

For taking down four cottages, and erecting warehouse and machine-room, in Lambeth Marsh, for Mr. Edward Grove. Mr. Robert Parriss, architect. Quantities supplied:—

Stevens	£678	15	0
Mann	630	0	0
Lathey Brothers	627	0	0
Shelton	583	0	0
Wayman	580	0	0
Green & Pearce	577	0	0
George	509	0	0

For alterations and additions to house and premises, Finsbury-place South. Mr. H. H. Collins, architect:—

Pritchard	£1,397	0	0
Ennor	879	0	0
Macey	865	0	0
Newman & Mann	856	0	0

For the erection of a dwelling-house, at Acton, Middlesex, for Mr. Raefelle. Mr. H. Phillips, architect:—

Wills	£407	0	0
Preston	400	8	0
Kent	395	0	0
Marsland	390	0	0
Adamson	390	0	0

For alterations and improvements to No. 473, Old Kent-road, for Mr. W. G. Jackson. Mr. Phillips, architect:—

Preston	£571	0	0
Wills	567	0	0
Kent	559	0	0

For works at Littlebourne Church, Kent:—

Tagg	£407	10	0
Cox & Son	440	0	0
Phillips	404	10	0
Wilson	415	0	0
Bonnett	357	6	0
Cozens, Brothers (accepted)	347	4	0
Jarvis & Co.	309	0	0

For taking down and rebuilding top portion of spire, St. Mark's, Hull. Mr. William Kerby, architect:—

Hall	£95	0	0
Haswell (accepted)	80	0	0

For a parsonage at Airmyn, near Howden. Mr. Willi Kerby, architect:—

Kassell	£968	0	0
Wilson	954	9	0
Richardson	904	0	0
Sinclair	890	0	0
Taylor	870	0	0
Richardson & Elliot (accepted)	867	0	0

For the erection of a Protestant institute, in Kingsto square, Hull. Mr. William Kerby, architect:—

Barrett	£2,172	14	0
Holmes	2,099	0	0
Foster	2,045	0	0
Jackson	2,040	0	0
Haswell	2,010	0	0
Musgrave*	1,960	0	0

* Accepted, subject to certain reductions.

For a parsonage, at Ulrome, near Burlington. M William Kerby, architect:—

Holderness	£340	0	0
Sergeant	323	0	0
Bennard (accepted)	609	1	6

For making roads and footpaths on the Essex Freeho Land Company's estate, Leytonstone. Mr. John Dean, Surveyor:—

Harrison	£347	0	0
Birt	300	0	0
Green	298	0	0
Pound	281	0	0
Porter	272	0	0
Horn	261	0	0
Ingham	250	0	9
Banker	249	0	0
Hill	249	0	0
Hubbard	245	0	0
Pizzey	242	0	0
Harris (accepted)	229	0	0

For the sewerage works of the Local Board of Healt district of Jarrow, near South Shields, county of Durha Mr. T. M. Clemence, C.E.:—

Robson & Hall	£5,934	4	8
Eden	5,453	0	0
Wood	5,400	0	0
Hall	5,250	14	0
Craig	5,054	10	9
Kennedy & Armstrong	5,000	0	0
Nixon	4,800	0	0
Thane	4,354	0	0
Wells, Lough, & Thomson	4,345	7	1
Hudspith (accepted)	4,305	1	0

For adaptation of ground-floor of No. 3, Victori street, Westminster, to a new branch of the London an County Bank. Mr. C. Octavius Parnell, architec Quantities supplied by Mr. C. Balam:—

Higgs	£1,950	0	0
Myers	1,939	0	0
Carter	1,875	0	0
Hill	1,875	0	0
Fist	1,788	0	0

For the North End sewer, Fulham:—

Hill & Keddle	£13,297	0	0
Reddin	12,899	0	0
Bird	12,699	0	0
Lavers	12,500	0	0
Thirst	12,295	0	0
Moxon	10,960	0	0
Mann	9,745	0	0
Nowel & Docwra	9,725	0	0
Wigmore & Wittick	9,500	0	0

For new west wing, London Hospital. Mr. Cha Barry, architect. Quantities supplied by Messrs. Strud wick & Co:—

Hill & Keddell (accepted)	£22,966	0	0

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Pallas.—H. W. F. (we cannot attempt to "decide an arbitratio case" on *ex parte* evidence).—Cap.. T.—A Subscriber (not our pro vince to value B.'s land).—P. A. P. (we are not able to advise).—M. C —*μ*.—C. J. H. (send sequel).—C. H. W.—R. K.—M. E. R.—C. B.— P. B. L.

Various correspondents must excuse us till next week.

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May, 1864

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rail, or cart, and to every part of the kingdom by canal or rail

ROMAN, PORTLAND, PARIAN, a
KERNE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Co
Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &
No. 1, SOUTH WHARF, PRADD-STREET, PADDINGTON.

NEW TARIFF OF GLASS.

THOMAS MILLINGTON,

GLASS AND COLOUR MERCHANT,

No. 87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF OF SHEET GLASS.

SHEET GLASS.

In Sheets for Cutting up, averaging from 6 to 9 Feet Super.

Average Thickness, 15 oz. to 16 oz.

Fourths quality, per 300 feet Case... ... ... 32s. 6d. or about 1¼d. per foot super.
Thirds ,, ,, ,, ... 41 0 ,, 1⅜ ,, ,,
Seconds ,, ,, ,, ... 60 0 ,, 2 ,, ,,
Best ,, ,, ,, ... 90 0 ,, 3 ,, ,,

Average Thickness, 21 oz.

Fourths quality, per 200 feet Case ... ... 33s. 6d. or about 2d. per foot super.
Thirds ,, ,, ,, ... 42 0 ,, 2⅛ ,, ,,
Seconds ,, ,, ,, ... 63 0 ,, 3¼ ,, ,,
Best ,, ,, ,, ... 89 0 ,, 5 ,, ,,

Average Thickness, 26 oz.

Fourths quality, per 200 feet Case ... ... 41s. 6d. or about 2½d. per foot super.
Thirds ,, ,, ,, ... 56 0 ,, 3⅛ ,, ,,
Seconds ,, ,, ,, ... 84 0 ,, 5 ,, ,,
Best ,, ,, ,, ...116 0 ,, 7 ,, ,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

SHEET SQUARES (Cut to Order).

	Under 1 ft. super.	Under 2 ft.	Under 3 ft.	Under 4 ft.	Under 5 ft.	Under 6 ft.
	Average Thickness, 15 oz. to 16 oz.					
Fourths quality ...	1¼d.	1¾d.	2d.	2¼d.	2½d.	2¾d.
Thirds ,, ...	1⅜	2	2½	2¾	3	3¼
Seconds ,, ...	2	2½	2¾	3	3½	4
Best ,, ...	2½	3	3⅜	4	4½	5
	Average Thickness, 21 oz.					
Fourths quality ...	2¼d.	2¾d.	3d.	3½d.	3¾d.	3¾d.
Thirds ,, ...	2⅝	3¼	3⅝	4	4⅜	4⅝
Seconds ,, ...	3	3½	3¾	4⅜	4¾	4⅝
Best ,, ...	4	4⅝	5	5⅝	6	7
	Average Thickness, 26 oz.					
Fourths quality ...	3¼d.	3¾	4	4½d.	4⅝d.	
Thirds ,, ...	3¾	4	4⅜	4¾	5	
Seconds ,, ...	4⅛	5	5⅜	5¾	6	
Best ,, ...	5⅛	6½	7	7⅝	8	

EXTRA WHITE OR CRYSTAL SHEET GLASS,

Very superior, for Pictures and Best Glazing.

Average Thickness, 15 oz. to 16 oz.

Thirds quality, per 200 feet Case ... ... 31s. 0d. or about 2½d per foot super.
Seconds ,, ,, ,, ... 56 0 ,, 3⅝ ,, ,,
Best ,, ,, ,, ... 77 6 ,, 4⅞ ,, ,,

Average Thickness, 21 oz.

Thirds quality, per 200 feet Case ... ... 61s. 0d. or about 3½d. per foot super.
Seconds ,, ,, ,, ... 84 0 ,, 5 ,, ,,
Best ,, ,, ,, ... 116 0 ,, 7 ,, ,,

GROUND OR OBSCURED.

15 oz. per 200 feet Case ..... 40s. In Sheets ..... 3d. per foot super.
21 oz. ,, ,, ... 54 ,, ... 4 ,,
If cut to size, 1d. per foot extra.

FLUTED SHEET.

15 oz. per 200 feet Case ... ... 50s. In Sheets ... ... 3½d. per foot super.
21 oz. ,, ,, ... 75 ,, ... 5 ,,
If cut to size, 1d. per foot extra.

MATTED or ENAMELLED (Various Patterns).

In Cases, per 200 feet, 58s. In Sheets, 4½d. per foot super.
If cut to size, 1d. per foot extra.

ORNAMENTAL COLOURED GLASS.

Ruby, in Sheets ...	... 9d. per foot.	Cut to Size, 3d. per foot extra.
Green do. ...	... 9 do.	Ditto 3 do.
Blue do. ...	... 7 do.	Ditto 3 do.
Orange do. ...	... 7 do.	Ditto 3 do.
Purple do. ...	... 7 do.	Ditto 3 do.
Ruby Matted, in Sheets	... 1s. 2d. per foot.	Cut to Size, 3d. per foot extra.
Green do. do.	... 1 2 do.	Ditto 3 do.
Blue & Yellow do. do.	... 1 0 do.	Ditto 3 do.
Purple do. do.	... 1 0 do.	Ditto 3 do.
Cathedral, 15 oz. in Sheets .	3½d. per foot.	Cut to Size, 1d. per foot extra.
Ditto 21 do. .	5 do.	Ditto 1 do.

Coloured Borders and Rosettes, Cut and Engraved to Various Designs and Patterns.

15 oz. Squares usually kept in Stock in 100 feet and 200 feet Boxes.

Stock Squares, per 100 Feet.

in. in.	in. in.	in. in.	in. in.					
6 by 4	7 by 5	8 by 6	9 by 7	Fourths.	Thirds.	Seconds.	Best.
6¼ — 4½	7½ — 5½	8½ — 6½	9½ — 7½	9s. 6d.	10s. 9d.	12s. 6d.	14s. 8d.
10 — 8	12 — 9	12½ — 10	14½ — 10½				
10½ — 8½	12½ — 9½	13 — 10½	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10	13 — 11				
11½ — 9½	12 — 10	14 — 10½	14 — 11				
15½ — 10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.

Stock Squares, per 100 feet.

in. in.	in. in.	in. in.	in. in.				
15½ by 11½	16 by 12	18 by 14	20 by 17	Fourths.	Thirds.	Seconds.	Best.
16 — 11	16½ — 12½	22 — 14	22 — 17				
21 — 11	17 — 12	24 — 14	24 — 17				
13 — 12	18 — 12	22 — 15	20 — 18	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.
14 — 12	22 — 12	24 — 15	22 — 18				
15 — 12	17 — 13	22 — 16	24 — 18				
15½ — 12½	23 — 13	24 — 16					

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

Per 100 feet.

Average Thickness, 15 oz. to 16 oz.				Average Thickness, 21 oz.			
16½ in. by 12½ in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.	20 in. by 12 in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
20 ,, 12 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	21s. 0d.	27s. 6d.
20 ,, 13 ,,	20 ,, 17 ,,					20 ,, 14 ,,	20 ,, 17 ,,				
20 ,, 14 ,,											

The above Prices are only for the Sizes stated, but if a quantity of any other Size be required, it can be supplied at about Five per Cent. additional, provided time be allowed to manufacture it.

GLASS TILES IN SHEET AND ROUGH PLATE, PLATE GLASS, PATENT PLATE, AND HARTLEY'S IMPROVED ROUGH PLATE.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ...	... 30s.	per cwt.	
Seconds ,, ,, ...	... 28	,,	
Linseed Oil Putty ...	... 9	,,	
Fine Oak Varnish ...	10s. to 12s.	per gal.	
,, Carriage Varnish	12 to 14	,,	
,, Crystal or Paper do.	10 to 12	,,	
Ground Patent Dryers	... 3d. to 4½d.	per lb.	
,, Oxford Ochre	... 3 to 4½	,,	
,, Raw Umber	... 4½ to 6	,,	
,, Burnt do.	... 6 to 9	,,	
Green paint, all shades	... 28s. to 60s.	per cwt.	
Black ditto	... 24 to 36	,,	
Linseed Oil	... 3s. 9d.	per gal.	
Boiled Oil	... 4 3	,,	
Turpentine	... 7 0	,,	
Mineral Turpentine ...	... 3 6	,,	
Prepared Oil for Anti-Corrosion	4 6	,,	
Brushes for ditto, &c. &c.			

WHITE ZINC PAINT, 34s. per Cwt.

One hundredweight of pure Zinc Paint with three gallons of Linseed Oil, will cover as much as one hundredweight and a half of White Lead and six gallons of Linseed Oil.

Special Dryers for this Paint.

STUCCO PAINT, 24s. per Cwt.

This Paint adheres firmly to the walls, resists the weather, and is free from the glossy appearance of oil paint, resembling a stone surface, and can be made any required shade. It is mixed with rain or pure river water.

IMPROVED ANTI-CORROSION PAINT, 28s. to 34s. per Cwt.

Anti-corrosion paint is extensively used for all kinds of work in exposed situations, on Brick, Stone, Compo, Iron, Iron Bridges, Conservatories, Greenhouses, &c. and is easily laid on by any ordinary workman.

MILLED LEAD, IN SHEETS AND PIPES, OF ALL KINDS. OLD LEAD BOUGHT OR TAKEN IN EXCHANGE.

LIFT PUMPS, WATER CLOSETS, AND PLUMBERS' BRASS WORKS OF ALL KINDS.

NET CASH.

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J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

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For Lighting and Ventilating Public and Private Buildings.

J. D. & SONS beg most respectfully to inform Architects and the Trade, that having been solicited to open a West-end Branch, they have taken the DUDLEY GALLERY, EGYPTIAN HALL, PICCADILLY, and at an enormous outlay they have made it replete with every description of lighting medium, including REGISTERED DESIGNS of MEDIÆVAL GAS-FITTINGS, CRYSTAL, BRONZED, ORMOLU, and ELECTRO-PLATED Chandeliers, Brackets, Vestibule Lights, Bronzed and Gilt statuettes.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements. Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

The usual trade discount allowed, as at their

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH, CITY.

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The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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WILLIAM SKETCHLEY would call attention to his SAWING, PLANING, and MOULDING TABLE. It is adapted for sawing 12-inch deep and planing 11 inch deep, and moulding 5 inch wide. It is also fitted with drunk to saw and all a cramp for tenoning, &c. &c. The price of disc to prepare 9-inch flooring, 7£. N.B. The disc can be applied to any saw table, and will prepare flooring in a first-class manner.—For further particulars apply to WILLIAM SKETCHLEY, Great George-street, Weymouth.

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BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
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LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
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Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also RENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
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WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
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WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
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TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
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PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
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MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms either for strecwing, brickwork, or for tuba works, or either, at home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
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MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
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FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER OF PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
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PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
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RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities
Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 3s. per Load.
Good Yellow Deals ..... £16 10 0 per 120, or 2¾d. per foot.
Spruce Deals ..... 15 0 0 „ 2½ „
2½-inch Battens ..... 9 0 0 „ 1½ „
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.

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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
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5,000 Yellow Battens ..... from £10 per 120
4,000 White Battens ..... from £9 per 120
Matched Lining ..... from 12s. per square
FIR TIMBER, 45s. PER LOAD.
SPRUCE DEALS, 2s. 6d. each.
Wainscot Oak ..... from 6d per foot
Oak Sills ..... from 2½d. per foot
Honduras Mahogany ..... from 6½d. per foot
YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.
Per 120 of 12 ft. | Per 120 of 1
WHITE BATTENS .. .. £8 10 | WHITE DEALS.. .. £15 0
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SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.
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No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEA

FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅝-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.
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SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased th Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every descript or WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, fr whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDO
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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed


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MANUFACTURING JOINER,
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Every description of Joiners' Work for
HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.
LISTS OF PRICES AND ESTIMATES ON APPLICATION, ENCLOSING STAMP.


FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.
	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅝ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
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YELLOW FLOORING, WELL PREPARED,

First Quality, ¼ by 6½, at 10s. 6d. per square.
" ½ by 6½ at 11s. 6d. per square.
Yellow Deals, £16 per 120.
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TIMBER AND ALL OTHER GOODS EQUALLY CHEAP.

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7, NORTH WHARF ROAD, PADDINGTON, W.;
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WILLIAM PETERS, in addition to his
WOULDHAM HALL, BURHAM COURT, and SNODLAND ESTATES,
of 1,000 acres of the best GREY STONE, CHALK, and CLAY, with
KILNS and RIVER FRONTAGE of Two Miles,
capable of manufacturing an unlimited quantity of
LIME, CEMENT, and OTHER BUILDING MATERIALS,
having secured for the extra accommodation of his friends the
MERSTHAM GREY STONE LIME WORKS, with 100 acres of GREY STONE, &c.,
is prepared to enter into CONTRACTS for the SUPPLY of
3,000 or 4,000 cubic yards of
WOULDHAM, BURHAM, and MERSTHAM GREY STONE LIME per week,
on the lowest terms possible, either in
BARGES of 100 yards, free on board, or in
TRUCKS, of 10 yards, at Works; or delivered alongside
WHARFS, on Medway, Thames, Canals, and Railway Stations.
In quantities of 2 yards, or less, at the Bricklayers' Arms Station and the above Wharfs, and to the Buildings.

Large Grey Stone free on board at Works ..... 1s. 9d. per ton.
Small ditto, the best material for the manufacture of the well-known
Medway Portland Cement..... 8d. "

BARGES OF 100 TONS LOADED IN A FEW MINUTES.

HOWARD & CO.

MANUFACTURERS OF WOULDHAM PATENT

PORTLAND CEMENT AND GREY STONE LIME.

WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.

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PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

FRANCIS, BROTHERS, & POTT,

NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.

ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

BORSTAL PORTLAND CEMENT WORKS,

ON THE MEDWAY, NEAR ROCHESTER, KENT.

MESSRS. BOOTH & CO.

BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF
MESSRS. JOHN HOLLICK & CO.
At the above Works, and are now prepared to supply Cement of the best quality. The Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

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KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

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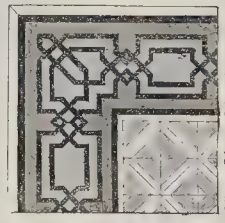
FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised. White Batten, 9l. per 120, 12 feet; Yellow ditto, 10l. ditto ditto; ¼ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 8s 6d per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
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At 6d. 7d. and 8d. per foot, at
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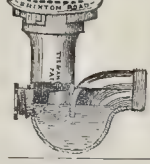
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Reference to numerous Works as executed during the last ten years, for the eminent architects, Messrs. W. Burn, D. Brandon, P. C. Hardwick, A. Salvin, Sydney Smirke, G. G. Scott, and others.

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PARQUET FLOORING.
TO ARCHITECTS AND BUILDERS
JACKSON & GRAHAM
Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Books of designs sent free by post. No charge for taking plans and giving estimates.
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TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Woolwich Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.
SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.
Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.
TO ARCHITECTS, BUILDERS, PLUMBERS, &c.
F. G. UNDERHAY
now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the premises,
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REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL

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2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete fr 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.
ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

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By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
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ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at which it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, and used for Model Farms at the Royal Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, cleanliness, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the best mode of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works were the above roofing is made are F. McNEILL & Co.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

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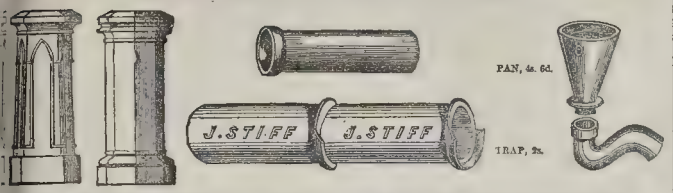
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

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LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



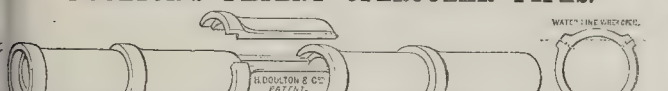
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

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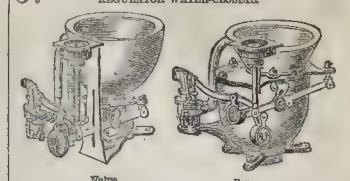
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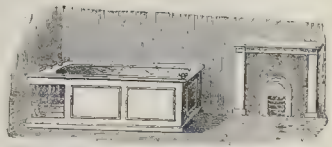
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The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is assured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

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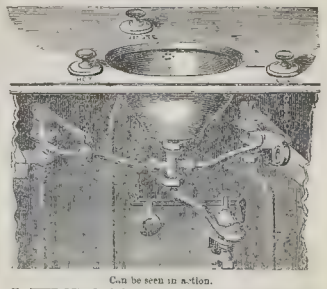
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

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PAN CLOSET,

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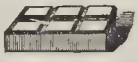
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Any number can be supplied from one pipe.

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A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12*s.* 6*d.*

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ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

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PULLEN, HORNE, & EVERSFIELD are instructed by Messrs Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JUNE 22 at EIGHT for NINE precisely, the ASSORTED LOT of MARBLE BLOCKS of recent importation, the using stationary of fine quality for sculptors, with first and second class stationary, vein, and Sicilian, and a variety of coloured marbles for manufacturing purposes. Also several thousand feet of Siemian, vein, stationary, and coloured slabs, paddan vases figures, &c. Approved bills at four and six months.—May be viewed two days prior to the sale, and catalogues had at Carrara Wharf; and of PULLEN, HORNE, & EVERSFIELD, 80, Foregate-street, City, and 140, Parliament-street, Westminster.

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PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by TENDER, several Hundred Feet run of IRON RAILING (partly taken down) forming the enclosure adjoining the new Lincoln Office.—Forms of Tender may be had at the Office of Messrs PULLEN, HORNE, & EVERSFIELD, 80, Parliament-street, Westminster, where Tenders are to be delivered on TUESDAY, JUNE 7th, 1864

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MESSRS. NORTON, HOGGART, & TRIST have received instructions from the London and Suburban Land and Building Company (Limited), to offer for SALE, at the MART on TUESDAY, 7th JUNE, at TWELVE, in lots, TWO valuable PLOTS of FREEHOLD BUILDING LAND, situate in Church-road, Hackney-road-row, Lower Clapton, near the high road and within ten minutes' walk of the railway station, nine plots situate in Edinburgh-road, Verdun-road, Sutherland-road, Staffordroad, Church Row-road, and Tredegar-road North Bow, near St. Stephen's Church about ten minutes' walk from the Bow Station on the North London Railway; and six plots situate in Brunswick, St. Leonard's-road, Edgar-road, Bromley, only a few minutes' walk from the station on the London and Tilbury Railway. The whole immediately available for building purposes. May be viewed, and particulars had at the White Hart, Lower Clapton; at the Lord Carlingford Tavern, North Bow; of ROGERS, Esq. solicitor, 70, Fenchurch-street, E.C.; at the Offices of Messrs. HAMMACK & LAMBERT, Surveyors, 59, Bishopsgate-street, within, E.C.; and of the Auctioneers, NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

PLAISTOW AND NORTH WOOLWICH.—Valuable Freehold Building Land.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the London and Suburban Land and Building Company (Limited), to offer for SALE, at the MART on TUESDAY, JUNE 7, at TWELVE, in lots, TWENTY ONE valuable PLOTS of FREEHOLD BUILDING LAND, situate in Howard-road, Plaistow, about five minutes' walk from the station on the London and Tilbury Railway, and 12 plots, situate in Albert-road, Claremont-street, North Woolwich, near the station on the Eastern and Woolwich Railway, and the Royal Pavilion Gardens; immediately available for building purposes. May be viewed, and particulars had at the Coach and Horses Inn, Plaistow; the Royal Standard, North Woolwich; of ROGERS, Esq. Solicitor, 70, Fenchurch-street, E.C.; of Messrs. HAMMACK & LAMBERT, Surveyors, 59, Bishopsgate street, E.C.; at the Offices of the Company, 70, Fenchurch-street, E.C.; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

AMWELL HOUSE, situate close to the Town of Ware, in the County of Herts

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE at the MART, on FRIDAY, JUNE 17, at TWELVE, a very valuable FREEHOLD FROTEHOLD Land Investment, situate in the parish of Great Amwell, close to the town of Ware and the railway station, in a picturesque part of the county of Herts. It comprises Amwell-House, a roomy commodious residence of the Elizabethan Amwell period, replete with every convenience for a large family or public establishment; coach houses, stabling, and offices; beautiful pleasure grounds, kitchen garden, and orchard, well stocked with fine old timber, and intersected by dry gravelled shrubbery walks, leading to an exceeding various grotto, constructed in the year 1763, with subterraneous passages, and a cascade under the plantation, the walls decorated with choice specimens of shells and stones, forming an object of rural resort interest for many miles round, and to an unrivalled summit on one place on high ground, commanding beautiful and extensive views of the surrounding country; fishpond, and rich park-like meadow land, of an undulating character, offering eligible sites for erection of villa residences, the whole containing about 29 acres, and presenting an unusually favourable opportunity for a profitable building speculation, independent of the occupation of the mansion and ornamental pleasure ground. In hand, and possession will be given on completion of the purchase. To be viewed by cards only. Particulars, with plans, may shortly be had at the Saracen's Head Inn, Ware; Buttress of Messrs. NORTON, HOGGART, & ROBERT TOLLER, Land Agent, Totteridge; Messrs JONES, FRANCIS, & BOSANQUET Solicitors, 22, Austinfriars, E.C.; at the MART; and [as] [a] cards to view of Messrs. NORTON, HOGGART, & TRIST, 62, O d Broad-street, Royal Exchange, E.C.

PIMLICO.—To Builders, Material Buyers, and Others. Important Sale of Super or Building Materials, to be cleared away for the projected Improvements of the Estate.

MR. GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on WEDNESDAY, THURSDAY, and MONDAY, JUNE 15th, 16th, and 20th, at TWELVE o'clock, all the very excellent MATERIALS of Nine Spacious Family Residences, with back buildings, Nos. 1 to 9, Lower Belgrave-place, facing the Royal Barracks, comprising 2,000 0 of prime stock bricks, several tons of lead, verandahs, glazed and other roofs; sound internal fittings of the numerous large rooms with internal shutters, doors, and sashes, and many stained and moulded cornices, stone staircases, and pavement of halls; fixtures and appendages.—May be viewed. Catalogues of Messrs HAINES & SON, Montpelier-street, City; and at the Auction Offices, Grosvenor street West; and No. 12, High-street Kensington

CITY IMPROVEMENTS.—To Paperstainers, Plant-brokers, Builders Slaters, and Others. Private unreserved Sale in consequence of the Premises being required for the Great Broad Street Station

MR EDWIN WHITE is directed by Messrs. Williams Coopers, & Co. (who are relinquishing the business) to SELL by AUCTION, without reserve, at the FACTORY, No. 85, Wardour-street, on WEDNESDAY, JUNE 8, and two following days, at TWELVE each day, the excellent PAPERSTAINING PLANT and STOCK IN TRADE of PAPERHANGINGS, comprising printing, cutting, sticking, grinding, and other machinery, 7,000 printing-blocks, 40 reels for paper, and decorations of latest large elephant folios and sizes, satin and body grounds, two useful horses, harness, 15,000 pieces of paper, including decorations, borders, and corners, block, gable, satin, grounds, lincs, friezes, and sundries.—May be viewed on TUESDAY and morning of sale, when catalogues may be had on the Premises, 85, London-wall, and of the Auctioneer, 12 Holborn-bars and 1, Castle-street, Holborn, E.C.

NEW SOUTHSEA, HANTS.—Valuable Freehold Estate, with Building Ground, close to Havelock Park.

MESSRS. PRICE & CLARK are instructed to SELL by AUCTION, at GARRAWAY'S Coffee House, Change-alley, Cornhill, on TUESDAY, JULY 5, at TWELVE for ONE o'clock, the important FREEHOLD ESTATE known as Frodsington, New Southsea, comprising a capital and substantially-built family residence, with lofty entrance hall, gardener's lodge, and grounds, the whole extending about eight acres, and well adapted for the formation of a public institution, or for a good building site. The property adjoins Havelock Park, and is near to St. Bartholomew's Church and the newly erected beautiful residences in that locality. The surrounding property is rapidly rising in value and the capabilities of this portion of estate as a building site are highly favorable, offering an advantageous opportunity to capitalists, builders, and others to form a good and profitable investment. The property may be viewed, and the sale by application to Mr. CARLILE, 7, Union street, Portsea; and particulars with plans may be had 14 days preceding the Sale of Messrs. HELIARD & SON, Solicitors Portsmouth; and in London at GARRAWAY'S, and the Offices of PRICE & CLARK, 48, Chancery-lane.

CANADIAN MANUFACTURES from the Paris Exhibition of 1855 and the International Exhibition of 1862, and now exhibited at the Crystal Palace, Sydenham

MESSRS. FULLER & HORSEY are instructed by the Directors of the Crystal Palace Company, on behalf of the Canadian Government, to SELL by AUCTION, on WEDNESDAY, JUNE 22, 1864, at TWELVE o'clock, in the WEST GALLERY of the Crystal Palace, the COLLECTION of MANUFACTURES exhibited by Canada in the Paris Exhibition of 1855, and since removed to the Crystal Palace, at Sydenham; comprising a carved drawing room suite, in walnut, of centre and card tables, couch, six chairs, easy and prie dieu ditto, and fire screens, a handsomely-carved 6-feet walnut sideboard, a 5-octave square grand piano forte, by Hood, Montreal, in rosewood case; a planing, tenoning, and grooving machine, to take in plank 14 inches wide; boring and moulding machines, a patent finishing machine, reaping ditto, a flour mill, a webbing machine, capable to 2,000 lb; a dressing machine, with 5 inch barrels, and an 8 inch brush; portable forge and bellows, pair of regular bellows, steel edge tools, agricultural implements, a large signal lamp with reflector, a refrigerator, a canoe, boated 18 feet, trotting sulky cart, a well made sledge for five persons, phaeton, trotting sulky cart, a well made sledge for five persons and driver, quantity of models, including the Victoria-bridge, over the river Saint Lawrence, the Houses of Representatives, now part and harbour of Montreal, mahogany and plate glass up right and horizontal show cases, saddlery and harness, axle arms, spokes and shoes, felloes, and fifty 5 bar-skin rugs, woollen fabrics, blankets, specimens of hair wool, fibre, isinglass, glue, &c new iron bound and wood casks, specimens of sashes and doors, large timber planks, an ash boll 12 feet 8 inches by 4 feet 9 inches in diameter, a bass ditto, 12 feet by 4 feet 5 inches in diameter, a walnut ditto 10 feet 4 inches by 3 feet 5 inches in diameter, specimens of marble, granite, minerals, and ores, 5,000 pamphlets on Canada, a quantity of packing-cases, and a variety of other articles.—May be viewed the day preceding, when Catalogues may be had at the Place of Sale; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

RAILWAY CONTRACTOR'S PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JUNE 30th, 1864, and following day, at EIGHT for NINE o'clock precisely, on ground adjoining the Railway Stations at Hungerford and Devizes, CONTRACTOR'S PLANT and IMPLEMENTS used in the Construction of the Reach and Hanis Railway, including 100 capital earth waggons, side and end tip, 50 tons contractor's rails, 5,000 sleepers, 100 navvy-barrows, 500 wheels-planks, 150 loads sound timber, 120 loads ash and elm, 6 dobbin-carts, 6 timber carts, 1 timber carriage, 1 light cart, dog cart, phaeton harness, 100 large wood centres, 30 strong bottens, 3 tons new bar and rod iron, 10 tons scrap iron, Foster's weighing machine, 2 powerful crabs, 2 travelling cranes, 1 timber-saw, 2 smiths' tools, screw-jack, new wire lines, 5 fan-paulings, pug-mill, the erection of stabling and workshops, portable office, new waggon-wheels and axles, 2 trolleys, quantity of stone, 1,000 yards gravel, 1 bar-crank, 2 horse-power chaff-cutting machines, 1 hand-power ditto, quantity of fire-wood, and numerous other effects. To be viewed on Wednesday previous and morning of Sale, when catalogues may be had on the Works, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

WINCHMORE HILL, NEAR SOUTHGATE.—ANNUAL SALE.

MR. A. RICHARDS will SELL by AUCTION, in the WOOD, on WEDNESDAY, JUNE 8, at ONE about 250 OAK TREES of good quality, 4) Beech and Elm do 4,500 Oak Poles, 500 Larch Poles, 3,000 Faggots, &c.—May be viewed. Catalogues next day at the Cottage in the Wood, and of the Auctioneer, Tottenham.

WILTS.—Residence, with 18 acres of Land, Valuable Freestone Quarry, and Extensive Buildings, at Rudloe Firs, in the Parish of Corsham, two miles from the Box and Corsham Stations on the Great Western Railway

MESSRS. DARLEY & SONS will offer for SALE by AUCTION, at the ANGEL HOTEL CHIPPENHAM on FRIDAY, the 24th day of JUNE, 1864, at FOUR o'clock in the afternoon (unless previously disposed of by private contract), a commodious Residence, situate in the parish of Box, in the Parish of Corsham, near the entrance to Hartham Park; and a valuable Freestone Quarry, with masons' and smiths' shops, sheds, stables, and requisite buildings thereunto belonging, which underlies the estate. Also two closes of very fertile Arable Land, containing 14a. 3r. 4p. with large yard, stables, barn, granary, and other buildings, in the occupation of Mr. Charles Hall, held by grant for 1,000 years, from 31st day of January, 1857, at a peppercorn rent, and are Copyhold of Inheritance of the Manor of Corsham. The above property runs in the midst of a desirable investment for a capitalist wishing to embark in the stone trade; the increasing demand for Box stone being greater than the supply.—Particulars may be obtained of the Auctioneers, and of Mr. T. ABDY FELLOWES, Solicitor, Chippenham

EARLY SALE, CAMDEN TOWN.—To Builders Carpenters, Cabinet and Pianoforte Makers, and Others

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden Town, on MONDAY, JUNE 13th, at TWELVE precisely, 1,850 Yards White and Pine PLANKS, DEALS, and BATTENS; 3,500 feet wide Pine Board, 180 squares prepared Flooring, 12,000 feet seantling, quantity of dry cut stuff, mouldings, mahogany, birch, cedar; 130 deals pipes, paving, 25 marble chimney-pieces, 16 ladders, 24 doors, and useful materials.—Auction Offices, 2, Cardington-street, Hampstead-road, N.W.

STRATFORD.—WARD'S WHARF, NARROW BRIDGE To Contractors, Builders, Manufacturing Chemists, and Others, without the least reserve

J. G. PREVOST & CO. will SELL by AUCTION, on WEDNESDAY next, JUNE 8, 1864, at TWO o'clock precisely, on the PREMISES as above (by order of the Proprietor, retiring from business), the STOCK of a TILE and DRAIN-PIPE MAKER comprising terra-cotta chimney-pots, gas lamps, traps, drain pipes, bends, junctions, and syphons, garden tiles, chest traps and pans, receivers, stilt-bevels and connexions carbury stoppers, and useful effects.—On view the day previous to sale; and catalogues of the Auctioneers, 176, Mile-end road.

NORWOOD JUNCTION.—Eligible Plot of Freehold Building Land.

MESSRS. EDWIN FOX & BOUSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, JUNE 8, at TWELVE for ONE o'clock, a valuable PLOT of FREEHOLD BUILDING LAND, with a commanding frontage of 160 feet to the Selhurst-road and extending to a depth of about 300 feet, within an easy distance of Norwood Junction and East and West Croydon Stations, available for the erection of eight villa residences. May be viewed, and particulars had of E. MOIE, Esq. Solicitor, 13, Warwick-court, Gray's-inn; at the Mart; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, E.C.

Various Plots of FREEHOLD BUILDING LAND, at Camberwell Surrey.—By

MR. VIGERS, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, on TUESDAY, JUNE 14, at TWELVE for ONE precisely, in lots, by order of the Directors of the London, Chatham, and Dover Railway Company, viz., a PLOT of FREEHOLD BUILDING LAND, in the Denmark road, close to the Camberwell Station, with frontage of 200 feet, and an average depth of 200 feet; a Piece of Freehold Building Land, with a frontage to the Camberwell road of 26 feet, and a depth of 198 feet; also a very valuable Enclosure of Freehold Land, in the rear of Grosvenor place, Camberwell, containing 42,220 feet superficial, suitable for the erection of an extensive factory, or for small houses, which are much required in the locality.—Particulars and conditions of sale may be obtained of Messrs. FRESHFIELD & NEWMAN, 5, Bank buildings; or of Mr. VIGERS, Land Agent and Surveyor, 3, Frederick's-place, Old Jewry, E.C.

WITHOUT RESERVE.—FREEHOLD.—A really sound Family Built, well fitted semi-detached DWELLING-HOUSE, with nine rooms, good garden, rent 36l. with possession.—No. 2, Alpha Cottages, James-street, Old Kent-road; also a PLOT of GROUND, 18l. by 70 feet, adjoining, suited for a builder or trausesman desiring a group of factory or workshops.

MESSRS. TEBB, BROTHERS, will SELL at the above at the AUCTION MART, on WEDNESDAY, JUNE 8th, at ONE o'clock, in TWO LOTS.—Particulars on the premises; at the Mart; and of the Auctioneers, No. 3, Adelaide-place, London, E.C.

IMPORTANT CITY FREEHOLD, comprising the Spread Eagle Hotel, Gracechurch-street, with extensive Premises and Yard, containing an area of nearly 6,000 square feet, adapted for any tavern resorting

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, JUNE 29, at TWELVE (unless previously disposed of by private contract), valuable FREEHOLD PROPERTY, situate in the very heart of the City, where all the chief commercial interests of London now being centered: comprising the principal portion of the well-known establishment the Spread Eagle, Gracechurch-street, with extensive premises and yard, having a back entrance to Leadenhall Market; the whole containing an area of nearly 6,000 square feet, and forming one of the most important building sites to be found in the City, its admirable position rendering it admirably adapted for rebuilding as offices, whereby a very large rental may be created, thus offering a desirable opportunity to the employer. Particulars may be obtained of CLARKE, WOOD, & LUCAS, Esqs. Solicitor, 59, Fenchurch-street; of Messrs WALES & SPARKS, Surveyors, 8, Great St. Helen's, E.C.; at the Mart; and Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo-place, Pall-mall

GARRICK VILLA, HAMPTON, formerly the residence of the celebrated David Garrick, with its beautiful pleasure-grounds and extensive lawn, terracing the river Thames, kitchen-garden and paddock, altogether between 11 and 12 acres of which immediate possession may be had; also an Eyot in the river Thames, within a short distance, containing about 4½ acres, let to Mr. Tagg at 25l. per annum

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed by the Executors of the late owner Silvanus Phillips, Esq. to SELL by AUCTION, at the MART, on FRIDAY, JUNE 17th, the above very interesting and valuable FREEHOLD ESTATE, which is situate on a beautiful wide part of the Thames known as the Hampton Deeps (a great preserve for fish), close to the picturesque village and church of Hampton, and the Surrey to Montserrat and Hampton race course, partly bounded by Bushy Park, and is within a mile of the Palace and gardens of Hampton Court, and the railway station, and only a few hundred yards distant from the Thames Valley branch line to Hampton, rendering the property accessible both from the City and west end of the metropolis in three-quarters of an hour. The residence is therefore suitable for any gentleman whose avocations require frequent or even daily attendance in town, and it affords every accommodation for a family, with capital stabling and other offices. The property is intersected by the main road leading from Hampton Court to Sunbury, occupying a frontage thereto, on either side, of 530 feet and 500 feet respectively, besides frontages in the villages, and a frontage of 350 feet to the river Thames; which combined with its beautiful situation, great variety of soil, picturesque church, and easy communication with the metropolis renders worthy the attention of capitalists and builders. Possession will be sold the eyot in the river Thames, above referred to. Cards of view may be obtained of Messrs. HOLLAND & SONS, Upholsterers, 31, Mount-street, Grosvenor-square, W.; and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Land Surveyors and Auctioneers, Saville-row, W and 13, Change-alley, E.C.; and without which no person will be admitted. Printed Particulars may likewise be had as above, and of Messrs. COTTERILL & SONS, Solicitors, Throgmorton street, E.C.

FREEHOLD LAND, BATTERSEA, SURREY, close to the New Park, and giving Votes for the County.

GEO. TODD will SELL by AUCTION, on TUESDAY, 7th JUNE, 1864 at the AUCTION MART, opposite the Bank of England, at TWELVE o'clock precisely, in EIGHT LOTS, a valuable PLOT of FREEHOLD BUILDING LAND, situate in the Bridge road and Park-road, close to the New Park. Also FREEHOLD HOUSES in the main road, which might be converted into shops. The GROUND-RENT of 45l. per week.—Plans and particulars may be had of Messrs. H. & F. CHESTER, Solicitors, 1, Church-row, Newington Butts, and at the Auctioneer's Office, Battersea Bridge-road, Battersea Park, S.W.

CROYDON, SURREY.—First class Freehold Building Land in charming and picturesque locality, being part of the Haling-park Estate

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEEHOUSE, Change-alley, Cornhill, on TUESDAY, JUNE 21, at TWELVE o'clock, highly valuable FREEHOLD SITES, of about half an acre each, having a frontage approached by a capital private road, 50 feet wide, with lodge entrance, lying in an elevated position, commanding beautiful views, and forming one of the most desirable sites that could be found in the neighbourhood for the erection of superior residences, and in order to secure a greater possibility of the character of the neighbourhood being preserved, the purchaser will be restricted from building more than two private houses. Gas and water mains and sewers are already laid in the road. The terminus of the South Croydon Railway, which is now in course of construction, will be within a few minutes' walk of the land, and the Waddon and East and West Croydon Stations are within easy distances of it.—Particulars, with plans, may be had four weeks previous to the Sale at Garraway's Coffee-house, Change-alley; of Messrs CURREY & HOLLAND, Solicitors, 9, Old Bullstrake, London; and of Messrs. BLAKE, Croydon.

ROYAL POLYTECHNIC.—Patron H.R.H. the PRINCE of WALES.—The Christian Allegory of "The Spirit of Peace"—The Ghost of the Diving Bell, Henke's patent diving dress—The Lilliputian Ghost, a few inches high, in Professor Pepper's New Ghost Lecture Entertainment, JOHN HENRY PEPPER and HENRY DIRCK (joint inventors). Lecture by J. L KING Esq on "Scenes of the Aquatic Insects, and their Transformations." Mr. G. JESTER'S Vocal Entertainment. Mr. GEORGE MEI LAND'S new Romantic and Musical Entertainment daily at 4 and 9, open 12 to 5, and 7 to 10. Admission to the whole 1s. Saturday mornings 2s. 6d.

ASPHALTE—GERVASE FOOTTIT & CO. TRINIDAD ASPHALTE WORKS, Rotherhithe, London, E. Established 1838. Manufacturers of GERVASE'S PATENT ASPHALTE manufactured by steam power, laid down in the best manner, and supplied in any quantity. Information for using forwarded when desired. Post Office orders or references on London promptly attended to. Estimates given for every kind of the above work.

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CONTRACT to MANUFACTURE and LAY WOOD PAVING of every description, which is confidently adopted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.
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Asphalte for Railway Arches and Iron Bridges.

TO ARCHITECTS AND SURVEYORS.
BILLS of QUANTITIES, SPECIFICATIONS, DRAWINGS, &c. neatly and expeditiously Lithographed and Copied. A numerous staff of hands always engaged. Prompt attention to Country orders. Specimens and Price lists post free.
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London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields, and published in the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 4, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1114. JUNE 11, 1864. PRICE FOURPENCE. By Post, 5d.

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INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION. — The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 66, Pall Mall. Admission 1s; Catalogue 6d.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt," together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover street, Regent street, from NINE till SIX and from SEVEN till TEN.—Admission, during the day, One shilling; in the Evening, Sixpence

NATIONAL COMPETITION of LOCAL SCHOOLS of ART.—The ANNUAL EXHIBITION of the WORKS sent up in competition for National Medallions by the Ninety Local Schools of Art is NOW OPEN in the New Galleries of the South Kensington Museum.
By order of the Lords of the Committee of Council on Education.

FIRST ANNUAL EXHIBITION of STAINED GLASS, SOUTH KENSINGTON MUSEUM, is NOW OPEN. By order of the Lords of the Committee of Council on Education.
The Museum is open Free on Mondays, Tuesdays, and Saturdays, from 10 a.m. to 10 p.m. The Students' days are Wednesdays, Thursdays, and Fridays, from 10 a.m. to 6 p.m. Admission 6d. each.

ARCHITECTURAL ASSOCIATION. Members are informed, that G. GILBERT SCOTT, Esq. R.A. has kindly promised to accompany them over WESTMINSTER ABBEY, on SATURDAY Afternoon, JUNE 18th. The Assembly to be in the Cloisters, at THREE o'clock p.m.
J. DOUGLASS MATHEWS, } Hon Secs.
LACY W. RIDGE, }

ARCHITECTURAL EXHIBITION and COLLECTION of BUILDING MATERIALS and MANUFACTURES, 9, Conduit street, Regent street.—Now open, admission One Shilling. Lectures on TUESDAY evenings, at EIGHT o'clock. Season Tickets half-a-crown. Will close JUNE 30th. Also in the same Galleries, the EXHIBITION of the SOCIETY of SCULPTORS of ENGLAND.

SALE of REGISTER GRATES.—In consequence of the great demand for Messrs. BROWN & GREEN'S PRIZE MEDAL KITCHEN RANGES, and the HOT-WATER BATH, and STEAM APPARATUS, in connexion with them, it is found impossible any longer to devote space for a Stock of Register Grates at the London warehouse. These now on hand have therefore been marked off at or below cost price, in order to effect an immediate clearance. FREDERICK THOMAS.
72-74, Bishopsgate-street Within, June 2, 1864.

COMPETITIONS.

TO ARCHITECTS.—The Local Board of Health for the Hartlepool District are desirous of obtaining Plans, Elevations, Specifications, and Estimates for a COVERED MARKET, POLICE STATION, and OFFICES, to be erected upon a plot of ground in Middleton-street, Hartlepool. A premium of £25 will be paid by the Local Board for the plan and estimate selected by them, and a further sum of £5 will be paid to the successful competitor, on condition that he furnishes a detailed specification for the proposed works, such plan, estimate, and specification to become the property of the Local Board. The whole expense of the erections not to exceed 3,500l. The Board do not bind themselves to employ the architect whose plan may obtain the premium. A plan of the ground and printed particulars can be obtained on application to the Borough Surveyor. All drawings to be on a scale of not less than 8 feet to the inch, and to be sent under motto, with sealed names (carriage free), addressed to the Borough Surveyor, King-street, Hartlepool, and endorsed "Market Plan," on or before the 18th day of JUNE next.—By order, F. G. MORRIS, Borough Surveyor.
May 13, 1864.

TO ARCHITECTS.—The Trustees of the Deal Wesleyan Chapel are prepared to receive PLANS and ESTIMATES for the ERECTION of a New CHAPEL, in Queen-street, Deal.—For plans of site and printed conditions, apply by letter to the Secretary, No. 1, Albert-terrace, Deal
HENRY PAGE, Secretary.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for ERECTING a WOODEN GYMNASIUM 100 feet by 40 feet, and Removing a Coal-yard, at Winchester-barracks. Parties desiring to Tender for the execution of these Works must leave their names at this Office on or before the 14th day of JUNE, 1864, and pay the sum of 10s. 6d. for the Bills of Quantities.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 1st June, 1864.

TO CONTRACTORS. — The Tottenham Local Board of Health are prepared to receive TENDERS for the GETTING OUT, SHORING UP, and FILLING IN certain PIPE TRENCHES, forming Contract No. 1, for the Wood Green Drainage. Plans, sections, and specification may be seen at the Offices of the Board, on and after MONDAY next, the 6th of JUNE. The Tenders shall be sealed, and addressed, "Tenders No. 1 Contract, Wood Green Drainage," and delivered at the Offices of the Local Board of Health, Tottenham High Cross, N. on or before FRIDAY, the 17th day of JUNE, at TWELVE o'clock. The Board do not bind themselves to accept the lowest or any Tender. Copy of specification and form of Tender, 10s. each.—By order.

CORPORATION of MANCHESTER.—To EXCAVATORS and CONTRACTORS.—The Waterworks Committee is prepared to receive TENDERS for EXCAVATING a PIPE TRENCH for the New 30-inch MAIN from the Corporation Reservoir at Godley, to the intended Reservoir on Prestwich Hills. The work will be divided into three Contracts, of a length of about five miles each; and parties are at liberty to Tender for one or all of such Contracts.—Plans may be seen, and copies of the specification obtained, on application at the City Surveyor's Office, in the Town-hall, Manchester, on and after MONDAY next, the 30th inst. Trial holes will be made on the line of trench, and may be inspected on WEDNESDAY and THURSDAY, the 8th and 9th of JUNE next. Tenders addressed to the Chairman of the Waterworks Committee, endorsed "Tender for Pipe Trench," must be delivered at the Town hall, Manchester, before TEN o'clock in the forenoon of WEDNESDAY, the 15th JUNE next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,
JOSEPH HERON, Town Clerk.
Town-hall, Manchester, 26th May, 1864.

TO SEWER CONTRACTORS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parochial Offices, Russell street, on MONDAY, the 20th JUNE, 1864, at SIX o'clock in the evening precisely, to receive sealed TENDERS, for the CONSTRUCTION of about 3,070 feet in length of BRICK SEWERS, 4 feet 6 inches by 3 feet, and of about 1,740 feet in length of BRICK SEWER, 3 feet 9 inches by 2 feet 6 inches, and other works connected therewith, in the Blue Anchor-road, St James's road, and Drummond road, Bermondsey. The plans and specification of the proposed works, with the draft contract and bond, may be inspected and particulars obtained, on application to Mr. GEORGE ELKINGTON, Surveyor to the Vestry, at the Vestry Offices in Maltby-street, daily, after the 6th instant, between TEN and FOUR o'clock.—The person whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties, for the due performance of the works. The Vestry do not bind themselves to accept the lowest or any Tender. GEO. H. DREW, Clerk.
Vestry Office, Maltby-street, S.E. June 1, 1864.

TO BUILDERS. — Parties desirous of CONTRACTING for the ERECTION and COMPLETION of ST JOHN'S CHURCH, Carlisle, may see the plans and specifications, and obtain bills of quantities, at the Office of JOHN NANSON, Esq. Solicitor, 75, Castle-street, Carlisle; or at the Offices of the Architect, Journal-chambers, Nottingham.—Plans, &c. may be seen on and after MONDAY, JUNE 6th. Contracts to be delivered at the above Office, in Carlisle, endorsed "Tenders for St. John's Church, Carlisle," on or before JUNE 22nd inst. The Committee do not bind themselves to accept the lowest Tender.
ROBT. CLARKE, Architect, Nottingham

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a MANSION HOUSE at Newent, near Gloucester, for RICHARD FOLEY ONSLOW, Esq. may see the plans and specifications at the King's Head, Gloucester, from TUESDAY, the 14th of JUNE, to MONDAY, the 20th; and at the Standen, Newent, from TUESDAY, the 21st, to SATURDAY, the 25th instant.
J. MIDDLETON, Architect
Cheltenham, June 1, 1864.

CONTRACTS.

TO BUILDERS.—Builders desirous of TENDERING for certain WORKS required to be done at Portchester Church, Hants, may see the plans and specification at Major DERVIS COOKE'S, Portchester, on and after the 6th day of JUNE next. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, St. Swithin street, Winchester, by the 16th day of JUNE next. No pledge is given to accept the lowest or any Tender.
June 4th, 1864.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—To WAGGON BUILDERS, &c.—The Committee are prepared to take in TENDERS for 300 MINERAL TRUCKS, according to plans, specification, and pattern waggon, which may be seen on application to Mr. BOUCH, at the Company's Works, North-road, Darlington. Tenders to be delivered at this Office by TUESDAY, the 21st day of JUNE, 1864. The Committee will not pledge itself to the acceptance of any of the Tenders
THOS. MACNAY, Secretary.
Railway Office, Darlington, May 24, 1864.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION.—The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT, at Wotton under Edge. Persons desirous of contracting for the works may see the drawings and specification, and obtain form of Tender, and any further information, after TUESDAY, the 14th of JUNE, on application at the Offices of Mr. J. MEDLAND, County Surveyor Clarence-street, Gloucester. Tenders sealed, and endorsed "Tender for Police Station, Wotton under-Edge," to be sent under cover to the Clerk of the Peace, Shirehall, Gloucester, on or before SATURDAY, the 25th of JUNE next.—The lowest or any Tender will not necessarily be accepted.
Clarence-street, Gloucester, May 31, 1864.

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE.—METROPOLIS NORTHERN LOW-LEVEL SEWER.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Offices of the Board, Spring-gardens, S.W. on FRIDAY, the 24th day of JUNE, 1864, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 4 miles 4,855 feet in length, or thereabouts, with other works in connexion therewith, commencing near the site of the proposed pumping station by Abbey Mills, West Ham, and terminating at Trinity-square, Great Tower-hill, with a Branch to commence at Saint Leonard-street, Bromley, and terminating at Old Ford, in the counties of Essex and Middlesex. Parties desiring to submit Tenders may, upon payment of 5l. obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 23rd day of JUNE, 1864. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works. JOHN POLLARD, Clerk of the Board.
Spring gardens, S.W. May 27, 1864.

MONAGHAN and CAVAN LUNATIC ASYLUM.—NOTICE to BUILDERS.—BUILDERS are invited to TENDER for the ERECTION of a LUNATIC ASYLUM at MONAGHAN, according to the plans and specifications which can be seen at the Office of the Architect, Mr. JOHN MCCURDY, No. 1, Harcourt-place, Lower Merrion street, Dublin. The Tenders to be lodged with the Secretary of the Board of Control Lunatic Asylums, Dublin Castle, endorsed, "Tender for Monaghan and Cavan Lunatic Asylum," on or before NOON of the 30th day of JUNE next. The Board of Control do not bind themselves to accept the lowest nor any of the Tenders. The work to be commenced immediately after the acceptance of the Tender. Security will be required for the due performance of contracts
Office of Control Lunatic Asylums, Dublin Castle,
2nd April, 1864.

BOROUGH of BRADFORD.—The Corporation of this borough require the SERVICES of a Person who thoroughly understands the MAKING and MAINTAINING of MACADAMISED ROADS. The person appointed must be able to keep all accounts of materials and labour, to understand the quality of the materials, and be thoroughly competent to undertake, under the direction of the Borough Surveyor, the entire management of the roads. There are about forty miles of roads in the borough, on some of which the traffic is very heavy. No person who has not held an appointment in which he has had considerable experience of similar work need apply.—Applicants are to forward their testimonials, and state their age and present employment, to me, on or before THURSDAY, the 16th of JUNE next.
CHARLES GOTT, Borough Surveyor.
Swaine street, Bradford, May 21, 1864.

TO CONTRACTORS and OTHERS.—SCARBOROUGH VALLEY BRIDGE.—The Directors of the Scarborough Valley Bridge Company are prepared to receive TENDERS for the CONSTRUCTION of an IRON BRIDGE, over the Lamsdale Valley, at Scarborough. Drawings and Specifications may be seen at the office of EDWIN CLARK, Esq. C.E. 24, Great George-street, Westminster, at any time previous to the 13th INSTANT; or at the Offices of Messrs. HESP, MOODY, & TURNBULL, Solicitors, Scarborough, on the 11th, 12th, and 13th INSTANT. Scaled Tenders, marked "Scarborough Valley Bridge," and addressed "JOHN CRICHTON, Esq., Secretary," to be delivered at Messrs. HESP & CO.'S Office, in Scarborough, before TWELVE o'clock on the 22nd INSTANT
24, Great George street, Westminster, 1st June, 1864.

[For remainder of Contracts see next Page.

CONTRACTS.

ROTHERHAM and KIMBERWORTH LOCAL BOARD of HEALTH.—WATERWORKS.—To Ironfounders, Earth nware Pipe Manufactures, Contractors, and Others. The Local Board of Health for the District of Rotherham and Kimberworth, in the West Riding of the County of York, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake any of the following CONTRACTS, namely:—

CONTRACT No. 1.—For the Supply of Cast-iron Water-pipes, and other Castings.

CONTRACT No. 2.—For Excavating Trenches, and Laying and Jointing Cast-iron Pipes in Contracts Nos 1 and 2.

CONTRACT No. 3.—For Excavating Trenches, Laying and Jointing Earthenware and Cast-iron Water-pipes, in Contracts Nos 1 and 3, and Constructing Reservoirs, Pit-wells, and other Works.

Plans, Sections, Details, Drawings, and Specifications may be seen, and duplicate Forms of Tender, Bills of Quantities, and Schedules for Prices may be obtained on and after MONDAY, the 6th INSTANT, on payment of 10s. for each Contract, on application at the Office of the Local Board, in Rotherham; or at the Office of JOHN LAWSON, Civil Engineer, 14, Parliament-street, Westminster. Sealed Tenders endorsed "Tender for Waterworks," must be delivered at the Office of the Local Board, in Rotherham, on or before TUESDAY, the 21st day of JUNE inst. at. The Local Board do not bind themselves to accept the lowest or any Tender.

WM. WHITFIELD, Clerk to the Local Board.

Rotherham, June 1, 1864.

TO BUILDERS and CONTRACTORS.—KNIGHTON HOTEL COMPANY (Limited).—Persons desirous of TENDERING for BUILDING a new HOTEL, STABLE, BUILDINGS, &c. at Knighton, Radnorshire, can inspect the Plans and Specifications at the Offices of the Company, at Knighton, and at the Offices of the Architect, in Hereford. Tenders are to be delivered to the Architect, on the 24th INSTANT, and no higher is to be sent that the Lowest will be accepted.

THOS. NICHOLSON, F.I.B.A. Architect.

Hereford, 1st June, 1864.

TO PLASTERERS.—TENDERS are required for the PLASTERING to THREE HOUSES at Deptford. The specification may be seen, and other particulars obtained, on application to Mr DIN WIDDY, Architect and Surveyor, No. 10 London street, Greenwich, to whom the Tenders are to be delivered on the 17th instant.

TO BUILDERS.—TENDERS are required by the Trustees of the Estate of the late Thomas Millson, esq. for REBUILDING 24, Bigg-street, Gravesend. The drawings and specification to be seen at the office of Mr G. J. DODD, No. 5, Fredrick-place, Gray's Inn-road, to whom Tenders are to be sent on or before TWELVE o'clock on THURSDAY, the 23rd instant. The Trustees do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a BARRACK BUILDING and DWELLING HOUSE, at the Civil Quarters Station of the Kent County Constabulary, at Wren's Cross, Maidstone, may see the plans and specifications at the Office of the County Surveyor, Maidstone, between the hours of TEN and FIVE. The work is to be Tendered for by reference to the form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Works at Wren's Cross," must be delivered by TEN o'clock in the forenoon of THURSDAY, the 23rd inst., and persons Tendering are to be in attendance at the Courts of Justice, Maidstone, at Half-past TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted, unless approved of in all particulars; and security will be required for the performance of the contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, June 6, 1864.

TO BUILDERS.—TENDERS are required for ERECTING a FARMSTEAD at Sevenoaks. The plans and specification to be for inspection at Mount Court Farm. Builders intending to Tender for the above are requested to send their names to Mr. WM. SHEARBURN, Architect, Dorking. Tenders to be delivered and opened at TWELVE o'clock on SATURDAY, the 18th JUNE, addressed to W. J. TONGE, Esq. Oxford House, Sevenoaks, who does not bind himself to accept the lowest or any Tender.

EALING SEWERAGE WORKS.—MANURE TANKS.—The Local Board are prepared to receive TENDERS for the CONSTRUCTION of certain MANURE TANKS, FILTER BEDS, and other Works connected therewith. The plans and specifications, together with other information, may be obtained, on and after TUESDAY, the 14th JUNE next, at the Office of Mr. CHARLES JONES, 2 Church terrace, Ealing, Surveyor to the Board. Sealed Tenders to be delivered to the Surveyor, on or before NOON on FRIDAY, the 24th JUNE 1864 By order,

(Signed) ALEXANDER HEMSLEY, Clerk to the Board.

Ealing, 8th June, 1864.

TO BUILDERS.—Persons desirous of TENDERING for PULLING DOWN and REBUILDING a PUBLIC HOUSE at Toddington, in the occupation of William Shaw, the property of Messrs Wells & Co. of Biggleswade, in the county of Bedford, may see the plans and specifications by applying to Mr SHAW, who will show them from MONDAY, the 13th, till FRIDAY, the 24th of JUNE, inclusive. Tenders to be sent in on or before TWELVE o'clock on SATURDAY, the 25th JUNE, 1864, to WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, 7th June, 1864.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Directors of the West Worthing Investment Company, Limited, are desirous of receiving TENDERS for the ERECTION of a TERRACE, consisting of TWENTY FIRST CLASS RESIDENCES, upon the Company's property at West Worthing, in the county of Sussex. Plans, sections, and specifications may be seen at the Office of the Architect, G. A. DEAN, Esq. 1, Lancaster-place, Strand, London, W.C. on and after WEDNESDAY, the 15th instant. Quantities will be supplied to the Tenderers on the 30th instant. Tenders, addressed to the Secretary, and endorsed "Tender for Terrace," must be delivered at the Company's Offices, at or before ONE o'clock on TUESDAY, the 26th instant, at which time the Tenders for the due performance of the contract, and the Directors do not pledge themselves to accept the lowest or any Tender.—By order.

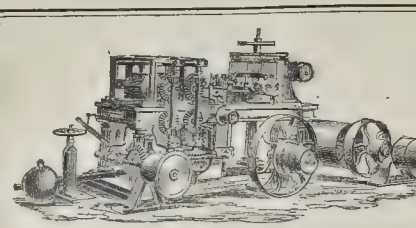
Offices, 27, Great George street, Westminster, S.W.

CARVING.—TENDERS are required for FINISHING the CARVING inside the Church of St. Andrew, Ashley-place, S.W. Workmanship to be equal to that of wall folding, and generally the whole of the woodwork of the pews. They must also state the time in which he is required to finish the work. The Church is to be open for the service on St Mary's, New ing in Work to commence the second week in August. No statement to accept the lowest Tender. A separate Estimate may be required for Cleaning the Walls.—Address, the Rev. H. WALKER, 23, Shaftesbury-crescent, London, S.W.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of DOCK OFFICES, CUSTOM HOUSE and DOCK MASTER'S RESIDENCE, at Penarth, for the Penarth Dock and Railway Company, may inspect the plans and specifications at the Company's Offices, Penarth Docks, on and after THURSDAY, the 26th instant. Sealed Tenders to be sent in addressed to BOOTH BAKER, Esq. Secretary, Penarth Dock and Railway Company, Cardiff, not later than FRIDAY, the 24th instant, endorsed "Tender for Offices." Parties Tendering will be required to deposit the sum of two guineas for copy of the plans, &c., which shall be returned if the Tender be approved of by the Tenderers. The Directors do not bind themselves to accept the lowest or any Tender. GEO. E. ROBINSON, Architect.

Cardiff, 7th June, 1864

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of New NATIONAL SCHOOLS and Master's HOUSE, in the Parish of Leyburn, Gloucestershire, are informed that the plans may be seen at the Office of Mr. KEEN-ING, Leyburn, on and after TUESDAY next the 14th inst.—Tenders to be sent to the Architect, Mr. CHRISTIAN, 84, Whitehall, place, London, on or before TUESDAY, the 28th inst. The Committee do not bind themselves to accept the lowest Tender.



Combined Machine, for Planing, Edging, Tonguing, Grooving, Thicknessing, and Moulding.

TO IRONFOUNDERS.—The Saint Bees Gas Company, Limited, are prepared to receive TENDERS for making and delivering CAST-IRON PIPES, RETORTS, GIRDERS, and Other Castings, in all about 50 Tons The plans and specifications may be seen at the Office of Mr. J. FOX, Solicitor, Whitehaven, on and after MONDAY, the 13th day of JUNE. Printed schedules of quantities can be had by forwarding 2s. 6d. in postage stamps to Mr FOX. Tenders to be delivered at the Office of Mr FOX, Solicitor, Whitehaven, on or before the 20th day of JUNE, 1864

TO GAS-HOLDER MAKERS.—The Saint Bees Gas Company, Limited, are prepared to receive TENDERS for the delivery and ERECTION of a GAS-HOLDER, 25 feet diameter by 12 feet deep. The drawings and specifications may be seen at the Office of Mr J FOX, Solicitor, Whitehaven, on and after MONDAY, the 13th day of JUNE. Tenders to be delivered at the Office of Mr. J. FOX, Solicitor, Lowther-street, Whitehaven, on or before SATURDAY, 25th JUNE, 1864.

TO BUILDERS and CONTRACTORS.—ENGLISH INDEPENDENT CHAPEL.—Persons desirous of Contracting for the ERECTION of a CHAPEL, at Llanelly, in the County of Carmarthen, may see the drawings, specifications, and form of contract for the same by applying to the Secretary of the Committee, or at the Architects' Office Tenders to be delivered by TUESDAY, the 21st day of JUNE, 1864, at FOUR o'clock, endorsed, "Tender for Works, New Chapel, Llanelly," and enclosed to H. J. HOWELL, Esq. Llanelly, Secretary. The Committee do not bind themselves to accept the lowest or any Tender Quantities not supplied. LANDER & BEDELLS, Architects.

4, Great James-street, Bedford-row, London, W.C.

TO BUILDERS.—Persons desirous of TENDERING for NEW STABLING and OFFICES, to be erected at Wroughton, near Swindon, Wilts, for W. S. Cartwright, esq. may see the plans and specification of the work, at Mr THOS. OLIVER'S, Wroughton Tenders to be delivered on or before MONDAY, the 20th of JUNE next, to Messrs CLARK & HOLLAND, Architects, Newmarket. The lowest or any Tender will not necessarily be accepted

TO CONTRACTORS.—Limehouse, London. The Proprietors of the Limekiln Dock Yard are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK, and other Works. Plans, specifications, &c. may be seen, and bills of quantities had, at the Office of the Engineer, Mr. WALTER R. KINIPPLE, Parliament Chambers, Canon-row, Westminster, on and after WEDNESDAY, the 15th day of JUNE, 1864. Tenders, indorsed "Tenders for the Limekiln New Graving Dock," are to be forwarded to the Proprietors at the Dock, on or before the 27th day of JUNE, 1864 The Proprietors will not be bound to accept the lowest or any Tender.

London, June, 1864.

TO BUILDERS and OTHERS. — Persons desirous of TENDERING for the ERECTION of a NEW JUSTICES' ROOM, LOCK UP, and POLICEMAN'S HOUSE at LLANGOLLEN, may see the plans, specifications, &c at the Office of the County Surveyor for Denbigh, at Denbigh, from the 15th to the 24th inst. The Tenders to be sent in on or before the 25th, addressed R. LLOYD WILLIAMS, County Surveyor's Office, Denbigh, endorsed "Tender for Llangollen Lock-up." The lowest Tender will not necessarily be accepted

TO BUILDERS and CONTRACTORS.—The Joint Burial Boards of the Parishes of St. Pancras and St. Mary, Islington, will meet on THURSDAY, JUNE 30th, 1864, at FOUR o'clock in the afternoon, to receive TENDERS for the ENLARGEMENT of the NON-CONFORMIST CHAPEL, at Pinchley Cemetery The plans and specification may be seen at the Office of the Architect, Mr. ALLOM, 24, Haymarket, London, on and after the 23rd instant. The sealed Tenders must be delivered at the Vestry Hall, St Pancras, on or before FOUR o'clock, of the 30th instant. The Boards do not bind themselves to accept the lowest Tender.

CHAS. GREENE, } Clerks to the respective Boards.
JAMES TAYLOR, }

TO IRON CHURCH BUILDERS. — TENDERS are invited for the CONSTRUCTION of an IRON CHURCH at Richmond, Surrey, to accommodate fifty people. Communications to be addressed P.O. B. A. 2, Rosslyn-terrace, Hampstead, N.W.

SLIGO TOWN-HALL.—To ARCHITECTS. The Corporation of Sligo is prepared to receive PLANS, accompanied with Sections, Elevations, Specification, and Estimates for the ERECTION of a TOWN-HALL on the Fort Plot, Sligo, the cost to be about £5000. The Architect's Fees to be 5 per cent on the outlay including plans and all extras, if employed. Two sums of £20, each will be given for the two Plans esteemed by the Corporation next in order of merit to the one Chosen, and of £10 will be given for the Plan most approved, in case the designer be not employed to carry out the undertaking.—Further particulars may be a certain, free of expense, on application to the Mayor of Sligo, or the Town Clerk, until be 15th of JUNE next. The Plans selected, as well as those for which premiums may be given, to be the property of the Corporation. The Plans to be deposited at the Office of the Town Clerk of Sligo, not later than the 1st JULY, 1864 Each Plan to bear a motto, and to be accompanied with a sealed envelope, corresponding with such motto, and containing the name of the Architect The Corporation does not bind itself to accept any of the designs sent in, or to pay the expenses of their preparation.

CHARLES WEDLEY, Mayor.
GEORGE WHITAKER, Town Clerk.

Council-rooms, Sligo, 27th May, 1864.

BOROUGH of BURNLEY. — To CONTRACTORS, MASONS, and OTHERS.—LYE GREEN COMPENSATION RESERVOIR TO BE LET by TENDER, the EXCAVATING, EMBANKING, PUDDLING, MASONS' WORK, ROAD MAKING, &c. pointed in the Contractors' of a COMPENSATION RESERVOIR, intended to be made at Lee Green, in the township of Briercliffe with Extwistle and Worsthorne-with-Hurstwood, in the county of Lancaster. Plans and specifications may be seen, and other information obtained, by applying at the Office of Mr. JAMES EMMETT, Waterworks Manager, Carlisle street Burnley. Sealed Tenders, indorsed "Tender for Lee Green Reservoir," addressed to the Chairman of the Water Committee, is not be delivered at the Manager's Office not later than MONDAY, the 27th instant The lowest or any Tender will not necessarily be accepted.—By order

Burnley, 2nd June, 1864. A. B. CREEKE, Town Clerk.

TO BUILDERS. — Parties wishing to TENDER for the ERECTION of FORTY SIX MODEL DWELLINGS, at Wimbledon, can obtain forms and further particulars at the offices of the Architect, Mr. JAMES G SMITHER, Tavern court, Fleet street, EC. up to noon on Saturday next, the 18th inst. The lowest or any Tender will not necessarily be accepted, and parties tendering must be prepared to give security, by bond or otherwise, to the satisfaction of the owner of the property for the due performance of the Contract.

POWIS, JAMES, & CO

SAW MILL ENGINEERS,

Victoria Works, Blackfriars-road, London

PRIZE MEDAL,

INTERNATIONAL EXHIBITION, 1862.

Awarded for a C Bertion of FIRST CLASS MACHINERY for WORKING WOOD, being the "HIGHEST COMMENDATION" awarded to any model in this class.

SHOW ROOMS for FINISHED WORK ready for immediate delivery, consisting of Horizontal Engines from Four to Four Horse Power, Circular Saw Benches, Dovetail Frames, Moulding Planing, Mortising, Tenoning, and other Machines.

Entrance, No. 115, BLACKFRIARS ROAD

Letters to Chief Office,

No. 26, WATLING STREET, CITY, E.C.

TO STONE MERCHANTS.—The Hastings Local Board of Health are ready to receive TENDERS for the purchase of about 12,000 feet, superficial, of the best Tooled Rag YORK PAVING, to be delivered into carts over the sides of the vessel, at the Fish Market, or Priory, Hastings, as the Surveyor may direct, free of all freightage or charges whatever; the carts to be provided by the Local Board; and the Board will not take any responsibility until the stone is delivered, sound and in good condition, into the carts. The contractor to state a price per foot, superficial, for inch, strong 3½ inch, and 4 inch. Also for Inch Tooled York Landings and Solid Steps, 12 inches by 6 inches, tooled on the top and edge. The first cargo to be delivered within three weeks from the date of signing the contract, and the second within two months from the same date, and the third within four months. The greater portion can be delivered before the winter, and the whole before the 1st day of May, 1865, or at any time within one month from the date of receiving a written order from the Surveyor. The Local Board also have full power to order either more or less than the quantity named at the price per foot named by the contractor. Payments will be made as follows: 75 per cent. will be paid within two months from the date of the delivery of each cargo, on receiving the certificate of the Surveyor, and the remainder within two months after the completion of the contract The Local Board do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at my Office, No. 80, High-street, Hastings, on or before TEN a.m. on the 27th of JUNE instant. ROBERT GROUSE, Town clerk.

BOWDON LOCAL GOVERNMENT BOARD.—SEWERAGE WORKS The Local Board are prepared to receive TENDERS from Parties who may be willing to UNDERTAKE the following CONTRACTS:—

Contract No. 1.—The Supply and Delivery of Glazed Earthenware Pipes, Inverts, and Junction Blocks, with the necessary Junction Pipes, Bends, &c.

Contract No. 2.—The Excavation, Construction, Laying down, and Completion of Brick and Pipe Sewers, and the Construction of Manure Tanks, Manholes, Ventilators, Street Gullies, and other Works.

Plans and specifications may be seen, and forms of Tender had, on application to Mr. HENRY SERVICE, of Bowdon, or to Mr. JOHN NEWTON, C.E. Preston. Sealed Tenders, addressed to GEORGE ROBINSON, Esq. Chairman of the Board, will be received up to SIX o'clock on FRIDAY, the 24th instant.

BOROUGH of SWANSEA.—CONTRACTS for the ERECTION of a NEW CATTLE MARKET.—To CONTRACTORS and BUILDERS. The Corporation of the Borough of Swansea are prepared to receive TENDERS for the CONSTRUCTION of CATTLE SHEDS, SHEEP PENS, KEEPER'S RESIDENCE, RAILING WALLS, &c. &c. for a Public Cattle Market, on land adjoining Dynevor-street, Swansea.—Plans, specifications, bill of quantities, and schedule for prices may be seen at the Office of Mr. F. CUSHING, Guildhall, Swansea. Sealed Tenders to be delivered at the Town Clerk's Office, Guildhall, on or before MONDAY, the 4th JULY next, endorsed "Tender for Cattle Market." The Corporation do not bind themselves to accept the lowest or any Tender in order.

C. B. MANSFIELD, Town Clerk.

Guildhall Offices, 6th June, 1864.

CHUBB'S LOCKS with all the recent improvements.
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on application at
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28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—TO BE SOLD, SIX STATIONARY ENGINES, lately in use on inclined planes, &c. upon the Stockton and Darlington Railway, viz.:—

MEETING HOUSE ENGINE, 30-horse power, nominal; cylinder 28½ inches diameter; stroke, 5 feet long; flywheel, 18 feet 1½ inches diameter; 3 rope-rolls, each 6 feet diameter, with shafting and spur gear.

HOWNES GILL ENGINE, 30-horse power, nominal; cylinder, 28½ inches diameter; stroke, 5 feet 11½ inches long; flywheel 16 feet diameter; 2 sets of rope-rolls, 10 feet diameter, with shafting and spur gear.

CARR HOUSE ENGINE, 50-horse power, nominal; cylinder, 40 inches diameter; stroke, 5 feet 3-inch long; flywheel, 20 feet diameter; 3 rope rolls, one 9 feet 7 inches, and two 6 feet diameter with shafting and spur gear.

BRUSSELTON ENGINE, 80-horse power, nominal; cylinder 3 feet diameter; stroke, 5 feet long, flywheel, 21 feet 10 inches diameter; flywheel shaft, 22 feet 11 inches long by 13 inches diameter; 2 rope rolls on ditto, one 13 feet 4 inches diameter, the other 6 feet 2 inches diameter.

BLACK BOY OLD INCLINE ENGINE 50 horse power, nominal; cylinder, 27 inches diameter; stroke 6 feet long; flywheel, 18 feet 2 inches diameter; 1 boiler, 30 feet long by 5 feet 6 inches diameter; 1 rope roll, 5 feet diameter, with shafting and spur gear.

MIDDLESBRO' MEETING HOUSE ENGINE, 6-horse power, nominal; cylinder, 9 inches diameter; stroke, 2 feet 4-inch long; flywheel, 6 feet 2 inches diameter; 1 boiler, 13 feet 9 inches long by 3 feet 9 inches diameter.

Further information may be obtained on application to Mr. WILBOUCH, Engine Works, North-road, Darlington. Parties wishing to purchase the same must send their offers to this Office, not later than TUESDAY, the 21 t day of JUNE, 1864, stating the price or prices which they propose to give, for the whole or any such engines as they now stand The engines will have to be removed by the purchaser or purchasers at their own expense.

THOS MAC NAY, Secretary.

Railway Office, Darlington, May 25th, 1864.

A TWENTY-FIVE TON CRANE for SALE for 80?. Also a TIMBER CARRIAGE.—Apply to ANTHONY, Abingdon Wharf, Westminster, S.W.

TO ZINC WORKERS and BUILDERS.—SIX TONS, say of 3 feet Nos. 7 and 8 SHEET ZINC, TO BE SOLD at ONE LOT, at 23l. per ton. Five per cent. cash on delivery. It has been a little wet with water, but not much.—Apply to R. CHATTOCK, 201a, Upper Thames-street, City.

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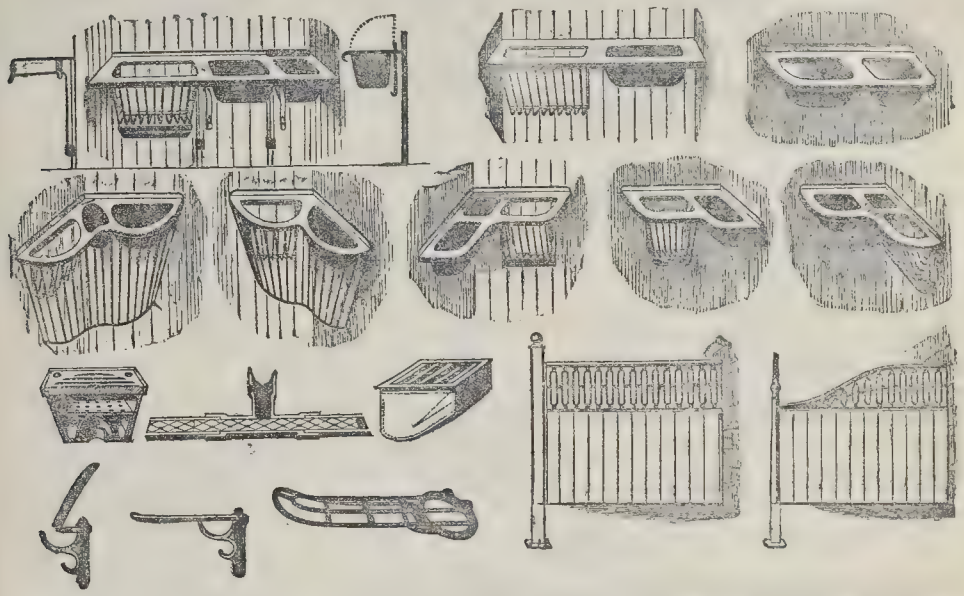
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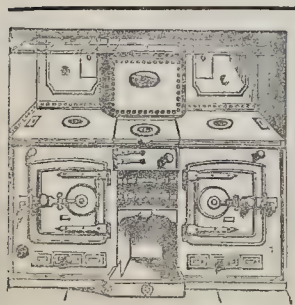
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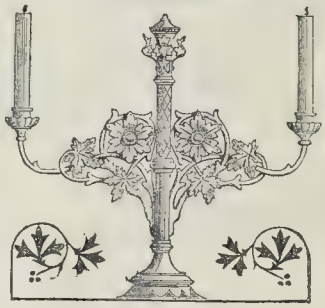
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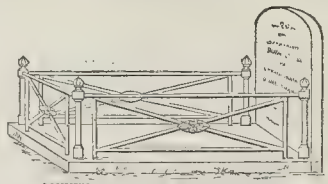
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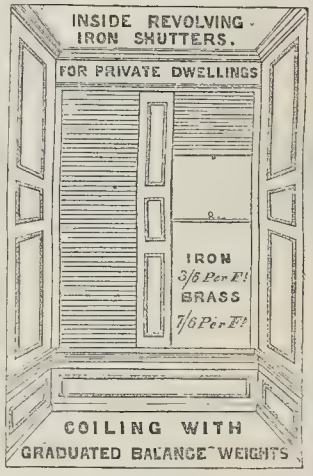
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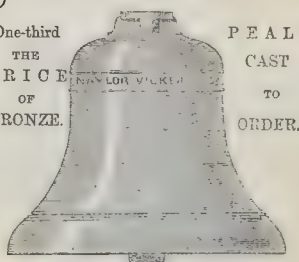
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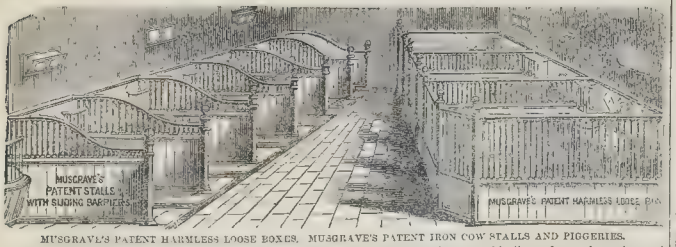
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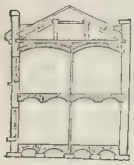
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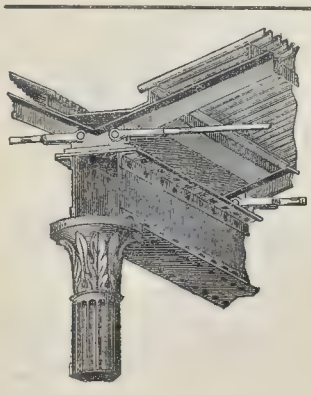
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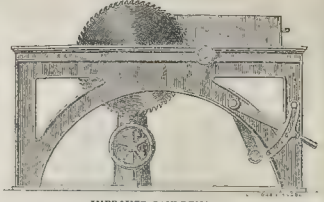
PRIZE MEDAL, LONDON, 1862.

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London Office, 5, Adam-street, Adelphi, W.C.



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HEAL & SON

have observed for some time that it would be advantageous to their Customers to see a much larger selection of Bed room Furniture than is usually displayed, and that to judge properly of the style and effect of the different descriptions of Furniture, it is necessary that each description should be placed in separate rooms. They have therefore erected large and additional Show rooms, by which they are enabled not only to extend their Show of Iron, Brass, and Wood Bedsteads, and Bed-room Furniture, beyond what they believe has ever been attempted, but also to provide several small rooms for the purpose of keeping complete suites of Bed-room Furniture in the different styles.

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A very large Stock of Bedding (HEAL & SON'S original trade) is placed on the BEDSTEADS.

The Stock of Mahogany Goods for the better Bed-rooms, and Japanned Goods for plain and Servants' use, is very greatly increased. The entire Stock is arranged in eight rooms, six galleries (each 120 feet long), and two large ground-floors, the whole forming as complete an assortment of Bed-room Furniture as they think can possibly be desired.

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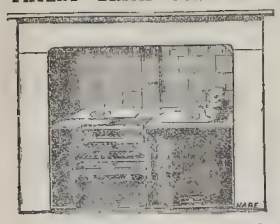
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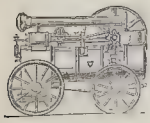


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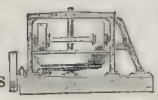
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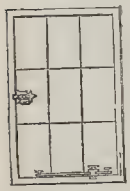
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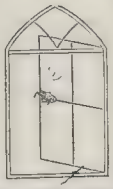
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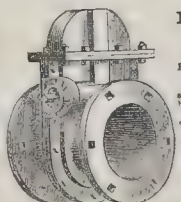
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Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

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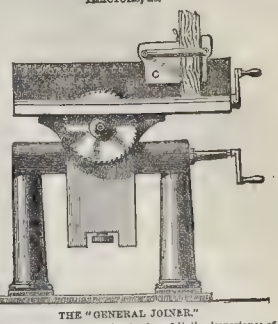
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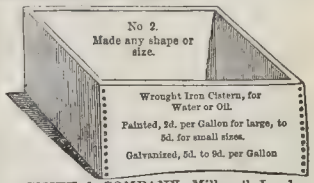
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They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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BOX STONE CHIMNEY PIECES
for 5s. 6d.
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MASONS' WORK OF ALL KINDS CONTRACTED FOR,
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Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
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N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

DESACHY'S FIBROUS PLASTER.

GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

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DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

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(ESTABLISHED IN 1780.)

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1862.
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49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in

PAPIER MACHE,

COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGNS
FOR THE
DECORATION OF
PUBLIC AND PRIVATE
BUILDINGS
SUPPLIED WITHOUT CHARGE.

The Builder.

VOL. XXII.—No. 1114.

Stained Glass and Painted Windows: Glasgow and London.

ANY comments have been made in England from time to time on the proceedings of the committee who undertook the task of filling the windows of Glasgow Cathedral with stained and painted glass, and on the results which have gradually become evident, — comments, for the most part, depreciatory. Very few persons, however, seem to know the magnitude of this remarkable undertaking, or rightly to understand the feelings which influence people in Scotland in such matters, and the consequent position of the committee who are carying it out.

This is the first time since the Reformation and the destruction of all works of art in ecclesiastical buildings, that art has been admitted within a Scottish church on any but a very trifling scale. The committee, therefore, had a task to perform of a very delicate nature. Anything resembling the imitations of Mediæval modes of representation in glass-painting usual in England would have been regarded either as intolerable or as ridiculous, and would not have been endured. Those, and there are now many, friendly to the introduction of art into Scottish churches could only be conciliated by the erection of works beautiful in themselves; and, to obtain such at a cost within their means, was the task set the committee.

Mr. Charles Heath Wilson, who has acted with the committee from the commencement of the work, now about eight years ago, has recently published a Memoir showing how conscientiously the committee, whether right or wrong in its views, set about its duties, and that it spared neither labour nor expense in its endeavours to perform those duties satisfactorily. As we glean from the Memoir, the principal duty imposed upon the members of the committee was to expend the funds placed in their hands, after due inquiry, in selecting the finest works of art procurable. They could not, in the exercise of the functions with which they were entrusted, make novel experiments, and endeavour to promote a union between the eminent artist of this country and the practical glass-painter which does not at present exist. After a careful examination of numerous works by practical glass-painters in many churches, having decided against the choice of similar works, and having searched in vain for instances of windows of modern date in which the desired union existed, they were compelled to look elsewhere. There was at that time only one example in Great Britain of a really fine work of art in glass designed expressly by a modern British artist of distinction. This window was carefully examined and admired, as it deserves; but whilst it was designed in England, it was executed on glass at Munich. It therefore could not be considered an example of British art for the guidance of the committee of the Glasgow windows. It was also ascertained that the cartoon of that window cost 500*l.*, altogether apart from the glass, which was separately contracted for. It was out of the question to contemplate such a scale of price as this: it would have doubled the cost of the cathedral windows. Further, the window in question was a solitary instance of so great a work on which a distinguished British artist had been employed; but if the Glasgow windows were to be executed within a reasonable time, not one, but many, artists were required: ten artists have actually been employed, of whom six at least enjoy a European reputation. But, besides the advantage of obtaining the aid of so many artists of eminence (we are still using the arguments of the committee, and they are not weak ones), there existed at Munich a great organization by which they and the executants of their designs, the glass-painters, could be brought into complete and harmonious relationship. The advantages of this state of things must be obvious. Could the committee undertake to bring into such an intimate relationship artists and executants in this country for the first time, dealing of necessity separately with each? Had such a combination been possible, it is obvious that they must have delegated their functions to some one as practical director, capable of organizing and directing such a scheme. In fact, they could hardly have stopped short of organizing a great glass-painting establishment on the same principles as those carried out in practice at Munich,—with its Director, the Professor of Fine Art in the Royal Academy; its Inspector, the Chevalier Maximilian Ainmiller, Architectural Painter; and its Instructor in Technical Processes, the artist Leonhard Faustner.

The three most eminent artists employed in designing for the Glasgow Cathedral windows are Heinrich Von Hess, from whose cartoons the north transept window was executed; Moritz Von Schwinde, who prepared the designs for the great west window and the great south window; and Johann Von Schraudolph, who is the author of the east window. Several windows of the aisles have been designed by George Fortner, an artist of experience as a designer for glass-painting, and author of several windows for the Cathedrals of Cologne, Ratisbon, and Basle. Alexander Strähuber, a designer of religious subjects, is the author of some of the best windows in the cathedral. The Professor Siebertz, Franz Fries, a pupil and follower of the artist Kaulback, and Henry Ainmiller, have also contributed important designs. The Chevalier Maximilian Ainmiller, Inspector of the Glass-painting Establishment at Munich, and an architectural painter of some note, acted as the practical chief of this staff of designers, and watched over the production of their designs on glass by the three artists and glass-painters, Leonhard Faustner, Heinrich Burkhardt, and Theodosius Mayr, who are not glass-painters only: they are all educated artists, and the two first are known as enamel-painters. The business part of the Glasgow committee's duties, we learn, has all been transacted with one of these gentlemen; it has been unnecessary to enter into correspondence with the different artists, or to enter into any transactions except with one person, the Chevalier Maximilian Ainmiller. Men of business will, of course, estimate the value of this fact. It is but just to add that all has been transacted with a regularity, a correctness, and a promptitude beyond all praise: not a difficulty having occurred.

The works in Glasgow Cathedral, whether right or wrong in principle, and admitting them in some cases to be weak and sickly in colour, as we are forced to do, are emphatically works of fine art. Such men as Von Hess, Von Schraudolph, and Von Schwinde could produce no other; and the Prophets, by Hess, in this cathedral, are amongst his noblest designs. The windows have the defects which arise from the use of the modern too pellucid glass, too positive in its colour; but the unprejudiced judge of glass-painting must recognise the skill with which these colours are harmonized, and the knowledge of the resources of the art which the windows display.

It is intended to carry out the clerestory windows on the same plan, and by the same artists, when the entire number will be as follows:—

Nave.

The Great West Window	Von Schwinde.	
The Great North Window	Von Hess.	
The Great South Window	Von Schwinde.	
North side—Triplets	7	in number.
,, Couplets	3	,,
South side—Triplets	7	,,
,, Couplets	2	,,
West end—Couplets	2	,,

Choir.

North side—Triplets	5	,,
,, Couplet	1	,,
South side—Triplets	5	,,
,, Couplets	2	,,
East end—Great Window ...	Von Schraudolph.	
,, Lancets	8	in number.

Giving a total of 46.

The Clerestory will comprise—

Nave—Couplets	32	in number.
Transepts—Triplets	4	,,
The Choir—Triplets	10	,,

Making 46, and in all 92. Of these, 46 are completed, but 3 of them are not yet erected. Of the upper 46, 6 are ordered.

The total expenditure will be about 19,000*l.*, if all are finished. The present expenditure has not, however, yet been made up, and the above sum is only to be regarded as a general statement.

We have examined these windows with care during their progress, and are willing to say that, looked at from their own point of view, no such work, so skilful and conscientious, has been produced in modern times in this country. We should be very sorry to see all our buildings filled with Munich glass; but we are glad indeed to have in this country such a complete exposition of what the school can do,—the productions of working artists, and not mere products of imitative manufacturers. In a country where such a scheme as this had not been thought of for centuries, it is a most liberal beginning, and is not without magnificence as contrasted with even English restorations. Let us give all due credit to those who have been concerned in it, which will certainly include Mr. C. H. Wilson.

For the English metropolitan cathedral the glass, as our readers know, is to be executed in Munich. We hear that two designs,—one for the east window (the central of the lower range), the other for the west window, the gifts respectively of the Drapers' Company and Mr. Brown,—have been received by the committee from Mr. Julius Schnorr, Dresden, and have been approved. The subjects are,—"The Crucifixion," and "The Conversion of St. Paul." The figures, when executed, will measure 6 feet in height, thus giving a scale for measuring the proportions of the edifice. In both windows full-length portraits of the donors are introduced kneeling reverentially. The architectural accessories and ornaments of these windows have been designed by the surveyor of the cathedral.

The proposed annual exhibition of modern stained glass in the South Kensington Museum is calculated to produce good effects, by enabling artists and manufacturers to compare their works, making deficiencies and errors obvious, and leading to a generous competition. The collection now on view includes specimens from nearly all who are at this time supplying the demand,—Messrs. O'Connor & Son; Clayton & Bell; Morris, Marshall, & Co.; Powell & Sons; Hardman & Co.; Ward & Hughes; Butler, Heaton, & Bayne (several); Chance; Edmundson & Co.; Holland & Son; Bell, Bristol; W. Connell; Field & Allan; J. T. Lyon; Forest, Liverpool; Lavers

& Barraud, &c. We observed nothing, however, from Mr. Wailes or Mr. Willement.

We are not able to confess to any great pleasure derived from an examination of the specimens, though the examination has been made several times, under different circumstances as to light; and we abandon the intention we had of bringing forward each work in review. The mass of the work is of the merest imitative manufacture, and would provoke expressions that might, in our pages, damage commercially to an extent of which we are unwilling to take the responsibility.

There is less of *purposely* bad drawing than would have been apparent a few years ago (Messrs. Hardman, however, appear to be still persistent in this mistaken course); and the improvements made by Messrs. Powell in the *manufacture* of glass for the purpose are evident in more than their own specimen, though not made available to the extent they might be. The great fault in some of the works, which might be praised in other respects, is the heaviness and garishness of the colours. Reds, blues, and greens, in unmitigated brilliancy, and most violent contrast, fill the whole opening: there is a want of toning, a *want of white*. One natural result is, that the corridors in which the windows are fitted up are made so dark that the other objects they contain can only be insufficiently seen. We must except from this particular objection, or we should be unjust, the works sent by Messrs. Clayton & Bell, and Messrs. Morris, Marshall, & Co., which prove in a most conclusive manner the value of a contrary course.

THE WEDGWOOD MEMORIAL INSTITUTE AND "CERAMIC ARCHITECTURE."

THE ARCHITECTURAL EXHIBITION.

ABOUT twelve months ago, Messrs. Beresford Hope, J. E. Heathcote, and J. Edge, and the Rev. Dr. Armstrong, placed in the hands of the committee of the Wedgwood Memorial Institute, then about to be erected at Burslem, from the design of Mr. G. B. Nichols, donations of 25*l.*, 15*l.*, 10*l.*, and 5*l.* respectively, to be offered as premiums for designs "for the ceramic treatment and decoration of the block façade" of the building. A competition was resolved upon, as the preliminary announcement of Messrs. Hope, M. D. Wyatt, and J. C. Robinson, the judges appointed, states, with the view not only "of enhancing the beauty of the structure itself," but also "creating a systematic interest in ceramic architecture in its artistic and its practical aspect, by directing the attention both of artists and manufacturers to the subject." A "block elevation" was supplied; and the forms of the windows, and the positions of many of them, with constructional arrangements connected with the decorations, were left to the competitor's discretion. Allusion was made to the vehicles of decoration, as ceramic ware, coloured bricks, mosaics, and terra-cotta, "calculated to resist the climate of England." The designs were to be sent in on or before November 2nd in last year; and, after the awards, they were to be exhibited at Burslem, and in Conduit-street. Competitors were to acquiesce in the exhibition, and in the publication of their names. Somehow, the latter part of the condition has not been wholly carried into effect. Ten designs are shown in the Conduit-street Exhibition; but several of them, which did not receive premiums or honourable mention, have not the names attached. The committee of the Institute did not pledge themselves to the actual carrying out of the decoration, but expressed their desire to engage the services of one or more of the prize-men in the preparation of working drawings for the decorations should they be required, the structural arrangements remaining in the hands of the architect of the building.

We must say, first, of this competition, that it is no exception to the general issue of such announcements. The talent and work represented in several, and these the majority, of the drawings, is far in excess of the amounts offered as premiums, and of the value of the chance of benefit to the competitor. Moreover, as might have been expected, it does not now appear that any one of the designs for "ceramic decoration" will harmonize with the work as designed by Mr. Nichols. The general character of the present building, as we understand, is shown by a view which is in the Exhibition; and although we learn that some additions will be made to the architect's work, it is not easy to see how the designs themselves, which have been premiated, will contribute, excepting in suggestions which the architect of the building himself must be trusted to take and apply.

But this is not all that should be said of the effort to enhance the beauty of structures by the use of ceramic ware and other durable materials and vehicles of decoration. We must observe that the question apparently raised by the promoters of the competition, is not simply the substitution of terra-cotta for stone,—with required modification that might be involved, of mouldings and ornamentation,—which deserves independent consideration; but, it is that of a substitution of the polychromatic treatment for the generally monochromatic, as best suited to the circumstances of our climate and our smoke-production. In face of the fact that subsequent to the time of the Greeks, the greater number of the examples of good architecture have confined their coloured decoration to the interiors, or have used it only occasionally as background, or as enrichment set in the manner of jewels, it is desirable that change should not be made from the present system,—or that which leaves the colouring to nature, and wars with none of the effects of light and shade,—unless after due consideration.

Certainly, a material calculated to resist the smoke of our towns is a desideratum, so long as we are content to produce the smoke. Whether "the climate of England" be so much in fault as supposed, we hold to be not decided: for, there are numerous kinds of stone that have a character of centuries as used in buildings in the country, where we would not exchange the effect, only more beautiful from time, for that of any mosaic and pattern-work in bricks or porcelain. Evidence in favour of terra-cotta is better than that in favour of artificial stone; but the decorative advantages of glazed and coloured materials, in a smoke-laden atmosphere, are by no means evident, as they were deemed to be some few years since. There are now opportunities of judging of the effect of buildings which have been exposed to the atmosphere of London during several years. In these cases, coloured bricks and ceramic ware were used, no doubt, on such arguments as were present with the promoters of the competition for the decoration of the Wedgwood Institute. In those instances in which glazed tiles form one of the vehicles, the tiles retain their effect, whilst the remainder of the surface has become discoloured; and the present result is one that the architect never intended. Such is the case with the front of the Alhambra, in Leicester-square, where the cement has the usual dirty appearance of that material: such also is the case with the building at the corner of Buckingham-street and Duke-street, Adelphi, where the original contrasts in the coloured brickwork have been toned to a general blackness, whilst the tile-facings of the strings, originally prominentt, strike the eye more than ever, and now obtrusively. Passing to a case where the first effect was produced chiefly by the brickwork and stonework, the building in Southampton-street, Strand, by the architect of that named just before it, is losing much of that for which it attracted attention, and deserved praise; for, the original design, of which the coloured brickwork formed an important part, is undergoing rapid obscuration. Where architectural effect is based on the permanence of only one tributory to the effect, the result must be ultimately unsatisfactory, as has been shown; and we apprehend that it would be scarcely possible to make the design allowing for difference in the discoloration, and for opposite results at different times.

Of combination of an entire glazed surface of a façade, with decorative treatment, we are deficient of examples. The glazed bricks shown in former years with the materials in the Conduit-street Galleries, do not seem to have been largely used. Glazed bricks of some kind there are, however, in an entire front in Newgate-street. The appearance there is too much as if the front had been oiled.

Thus, some of the chief decorative, combined with structural, advantages predicted of the use of tiles and coloured bricks, must be considered as not proven. As to terra cotta, seeing the great steps that are made in manufacture of that material, we are disposed to suspend opinion concerning its successful application in lieu of stone. But this we do assert: the manufacture must be different to what it is shown to be in certain cases; we allude to several recent buildings, including railway-stations, where, though there is good distant effect, the near approach,—which in the case of a work of architecture always should disclose some fresh beauty,—only makes apparent the variations from rectiliniarity in the vertical joints of strings, or at the butting-ends of two blocks; or, failing the perfection of the manufacture, and probably as the most judicious course altogether for adoption, an entirely new system of design must be thought out, suited to the material, which even the Italian terra-cotta system cannot entirely be said to be. In the buildings to which we have alluded, there is another defect, the usual one where details that have been cast have been employed: that is to say, the same mouldings are repeated in different positions; thus a pretentious appearance is combined with one which is not that of art-work. It would be better to spare the mouldings in some of the cases: quantity of ornament challenges attention; and disappointment should not be the result.

It must, however, be admitted that what has been done by the Department of Art, at South Kensington, in the front of a building not yet seen by the public, is very important. There, where mouldings are made up of short lengths of terra-cotta, the objection as regards the butting ends of pieces, seems to be got over; whilst it is evident that the mouldings in stone have all the disadvantage of discolouration, those in terra-cotta retaining their original appearance.

The aim of this article is to suggest points for consideration.

As regards "ceramic ware," if understood to mean tiles and slabs of porcelain with minute ornamentation, these we suspect cannot be introduced largely, or with advantages including economy, on the exteriors of buildings. The ornamentation will contribute little more than plain tiles, to the general effect of the structure seen from ordinary distance; and surface ornamentation, modified by glaze, must in this respect be very inferior in force to the carved ornamentation of mouldings. Such decoration, with mosaic, for exteriors of buildings, had perhaps best be confined to semi-internal places, as insides of porches, and the ceilings of porticoes, to which we are by no means clear that mainly the Greek polychromy was not applied. In the use of coloured bricks, the power of colour to attract the eye and lead it away from mere forms, must not be forgotten, as it has too often been of late. Carved ornamentation may be not improved by the juxtaposition of striped brickwork: the effect of the colour in this, may be merely to distract the eye.

For the production of good architecture, resources in materials of the district in which the building is to be erected, should be examined and turned to consistent account. But the object is not the exhibition of such materials: these may even have to be rejected in favour of others more conducive to the art-result. The materials and processes must be subservient to the architecture, not the architecture to the exhibition of materials. How far colour, and ceramic manufactures, will go to render unnecessary a suppression of the smoke-nuisance, is we say not proven; whilst, whatever durable decorative work we provide, there must be an atmosphere through which it can be seen.

In the drawings exhibited in Conduit-street, we are able to see a great amount of design, and much that is suggestive, without evidence that the question has been looked at in any of the lights in which we have sought to place it. Most of the competitors have been induced by the announcement, to make colour and porcelain more prominent than we can as yet recognise they should be in the architecture of the exterior of a building, even one named after Wedgwood and to be erected in Burslem. The whole subject of "ceramic architecture" as supposed complementary of that of coloured brickwork, however, is novel; and considerable study of such designs as those before us, might be necessary precedent to absolute conclusions upon it. The mere division, coloured brickwork, of the question, we have often entered upon in notices of the Conduit-street Exhibition.

The design by Messrs. Edgar & Kipling (63 to 65) which received the first premium, uses red brick, with some dark-coloured bands, as the chief material, and introduces porcelain in panels, friezes and medallions; mosaic; and terra cotta in *voussoirs* of arches, window-shafts, impost and

cornice-mouldings, and string-courses. The most elaborately-painted porcelain is in spandrels to the porch, and in tympana to the upper windows. All the windows are arch-headed; those of the lower story having porcelain medallions in the head, with portraits. The front is divided by brick-pilasters which carry sedent figures in niches. The panels in the frieze have figures in white, on blue ground, representing various processes of the manufacture of porcelain, such as "Throwing." This design bears the motto:—

"What's *done* we partly may compute,
But know not what's *resisted*."

The design to which the second premium was awarded, "Sub Spe" (68), by Mr. L. de Ville, consists of a basement formed of an elaborate mosaic of brickwork, and generally of arch-headed openings and panels, some of which last contain pictorial representations of antique vases, whilst the centre panel has a portrait of Wedgwood. The cornice seems to be designed with appreciation of the difficulty of producing right lines in terra cotta, the corona being modified by indents, and supported by corbelling of arches. There is, however, more than the usual difficulty in fulfilling what is the office of a drawing, by our verbal description.

The third premium was awarded to Mr. John Ladds for a design (71), in which some of the more prominent features are pictorial subjects connected with the potter's art, represented by black outline, in the lower part of a tympanum to each pointed arch of the ground-story windows. The doorway is round-arched, of Early English character, with shafts of parti-coloured voussoirs. In the upper story are small pointed-arched windows, and panels and medallions with portrait-heads in colour.

The fourth premium was awarded to Mr. E. Power, for a design of what might be called Semi-Norman character (74 & 75). It is impossible without drawings to do justice to the details of each of the designs. The other designs include one (66) with the motto "Never Despair," having the channels of rustication in the ground story, coloured blue, and a long panel in the upper part of the front, with a subject in relief on a blue background, the whole being terminated by a Vignola cornice, wherein the spaces between the cantilevers are filled with rosettes in colour. The design with the motto "In Hope I Byde" (67) is remarkable from the general material being a neutral, or slate colour, which forms a background to the panelling. This last, with some other members of the architecture, is most elaborately enriched with patterns of various kinds, in colour, and displaying much design. The drawing is the result of considerable labour. The design with the motto "Monitor" (70) is not attractive from its details of form, including the pointed arches; but in treatment of colour it has some merit. The chromatic effect is given chiefly by red brick jambs, and red and white voussoirs, and a general grouping. In the centre of the upper story is a range of pointed arches, enclosing portraits in colour. Some of the piers have floral decoration in panels; and parti-colour is effectively introduced in some of the string-courses.

The whole of the ten designs deserve patient examination.

The chief competitions not mentioned here or in a former number, from which drawings are contributed to the Architectural Exhibition, are those for the Holborn Valley Improvement, and Freemasons' Hall & Tavern. The few designs which there are for Blackfriars Bridge were mentioned in one of our first articles. The designs for the Holborn Valley Improvement are by Mr. F. Marrable (81, & 86 to 88), Mr. F. Wallen (82 & 83), and Mr. J. W. Papworth (92), the bridge only,—an architect's treatment of the class of structure; and, we may be allowed perhaps to say, therefore, effective. The designs for Freemasons' Hall are those by Messrs. C. H. Cooke, L. de Ville, F. P. Cockerell, W. J. Green, J. W. Papworth, and Wyatt Papworth. But this competition was noticed in our pages at the time. Mr. Cockerell's plan does not seem to have undergone modification in details wherein it seemed defective.

In the department of building materials, in the Exhibition, we will not say there is nothing deserving our attention; but there is little that we have not noticed on previous occasions.

NEW THEATRE.—In Bradford a theatre is about to be established by a joint-stock company, under the management of Mr. Buckstone.

THE PATENT OFFICE.

NEVER since the famous debates on the "Act concerning Monopolies" passed 241 years ago, has there been so much legislative preparation for reform of the patent law, and of the means for carrying out that law. A Patent Commission appointed by Parliament has been sitting since the spring of the year 1862, and Lord Stanley, one of its members, lately promised, from his seat in Parliament, that the report should be published at Whitsuntide. This hope has not been fulfilled, but we understand that the report is in type and will soon be issued in one of Mr. Hansard's blue wrappers. The distinguished names of Mr. Grove, Q.C., and Dr. Fairbairn are to be met on the list of the commission; but the fact that the majority are lawyers raises a doubt in the cynical mind whether patent legislation will be much cheapened; whether the delightful intricacy of the labyrinthine mazes of patent litigation will be narrowed into that straight line which is supposed to be the shortest distance between two points; and whether the able and eloquent gentlemen who are the well-paid guides of this interesting labyrinth, will find it worth their while to cut down the hedges, fill up the ditches, straighten the paths, and set up a simple sign-post for guidance or warning, or both.

In the next place, as we lately mentioned, a Parliamentary Select Committee, moved by Mr. Dilwynn, is now sitting to investigate, for future reform, the present condition of the Patent Office Library at Southampton-buildings, and of the Patent Museum at Kensington. And lastly, two barristers, one of whom is the veteran patent barrister, Mr. Hindmarch, Q.C., have been appointed by the Patent Commissioners to sit and examine into some complaints, apparently about the official conduct of Mr. L. Edmunds, the Clerk of the Commissioners. We may here remind ourselves that what is termed by courtesy the British Patent "administration" consists, firstly, of the three Patent Commissioners, viz., the Lord Chancellor, the Attorney General, and the Master of the Rolls for the time being. Then come the Superintendent of Specifications, Mr. Bennet Woodcroft, C.E., and the Clerk of the Patent Commissioners, Mr. Lennard Edmunds. The great law officers of the Crown are too busied by their onerous duties to give much attention to the Patent Office, its Library and Museum. Their time is too much taken up in helping to administer the enormous revenues of this country. True it is that these revenues and this prosperity have been mainly derived from Dudley's blast furnace, Cort's rolling-mill, Neilson's hot-blast, and Bessemer's cupola; from Newcomen's engine, Watt's condenser, Stephenson's locomotive, and Symmington's marine engine; from the spinning and weaving machinery of Arkwright, Crompton, and Roberts; from Bennet Woodcroft and F. P. Smith's screw propeller; from Bramah's hydraulic press; from the electric telegraph; from the steam hammer; from Howe's sewing-machine, from M'Cormick's reaper, Fowler's steam plough, and Meikle's thrashing-machine. . . . . No less true is it that every one of these great inventions, with some 40,000 minor, but connected and connecting, discoveries, have been patented; that the original and often rude descriptions and drawings of all these inventions may be seen in a dingy and ill-lighted room in Chancery-lane. But then the administration only treats these things, and these laws, and these patentees, as the mighty river close by is treated by the millions who cross its splendid bridges, or who navigate its stream. How many amongst Londoners have been to see the source of the Thames? How many of us even know where the Thames takes its rise? We sully its stream by our negligence, we make all we can out of it, and we neglect and ignore its source. The three great law officers of the Crown receive nearly 10,000*l.* per annum for issuing and stamping patent warrants. It is perhaps fortunate that this sum is not despicable in amount, or these eminent men might otherwise forget to draw the money.

It has been often the case in England that one man has devoted himself, with true English pluck, to the reform of a particular abuse; that one unaided Englishman has devoted his life to a victory over English obstructiveness. Some of our most valuable institutions have been originated by such means. It is scarcely necessary to remind our readers that this has been the case with the Patent Office Library, with its specifications, its indexes of specifications, its abridgments of specifications, and its valuable collection of books; with the Patent Museum of Kensington, and its inestimable and unreplaceable collection of historical machines, portraits, models, and specimens. The greater portion of the models at South Kensington, and a goodly number of the works at Southampton-buildings, are indeed the private property of the principal founder of both institutions. Complete, and yet incomplete, as they are, the foundation of these invaluable public establishments is mainly due to Mr. Bennet Woodcroft, C.E. Himself a successful inventor and discoverer, he knew by hard personal experience the danger of patenting an apparently new thing without a previous search, and the difficulty of making that search without the aid afforded by the accumulated labour of indexes. His claims to gratitude are well known to all inventors and patentees, not merely in England, but in every civilized country;—for, with praiseworthy openness and liberality, complete sets of all the English specifications taken out since 1610 have been sent to every civilized capital of the world. As Superintendent of the Specifications, Mr. Bennet Woodcroft receives 1,000*l.* per annum; and he is the *honorary* Superintendent of the Patent Museum at South Kensington.

We do not exactly know in what consist the duties of Mr. Edmunds, the clerk of the Commissioners. We suppose that they are highly important, as, according to the Civil Service estimates, this gentleman receives a total of about 2,000*l.* per annum of the nation's money. On the other hand, the fact that Mr. Edmunds spends his time during the five months' recess of Parliament in the healthy and invigorating search for fresh air (and, some say, for business) in the North, would seem to militate against the supposition that his presence is indispensable to the purposes of the Patent Office and Library. Not that Mr. Edmunds's duties are confined to Southampton-buildings. He is also, we believe, Reader in the House of Lords. Some irreverent radical has compared the House of Lords to a brake on the carriage of the State. Of course, a brake is very useful: it often saves the neck of the driver; and we not merely wish that our constitution may always have a good brake, but that Mr. Edmunds may be Reader to the House of Lords for the next thousand years. At the same time, and we speak from experience, we must say that Mr. Edmunds imports rather too much of the braking element into the Patent Office Library. Some time ago he reduced the number of attendants in the Patent Office Library to a single individual,—we are, however, glad to say that he has since restored a portion of the assistance. For "want of room," he ordered the discontinuance of about half the foreign publications. This order he has since rescinded, but no purchase of new scientific books has been made for a long time; and in this way the first volumes of important works are there (such, for instance, as the first volume of Dr. Percy's "Metallurgy"), but not the subsequent volumes. About three weeks ago Mr. Edmunds directed that certain papers should be presented for each "reader to fill in date, and to write his name and address;" and "to write the title of *each* book, periodical, or specification he may require."

No complaints have ever been made as to any loss of books. These arrangements greatly affect the efficiency of the library, and, indeed, a strict adherence to them would defeat its purposes. We, and doubtless many others, have had occasionally to go through several hundreds of specifications; and to write each heading down would be a great obstruction and loss of time. We believe, however, that this order, also, has been partly modified; but the continual annoyance and derangement of business caused by the putting forth, the alteration, and the rescinding of these orders, give one the idea of an establishment ruled by the fitful vagaries of disease. Another complaint against the Clerk of the Commissioners is that he has refused to allow the Abridgments of Specifications to be proceeded with. This is a theme of continual grumbling amongst all connected with invention and patenting. The reason of the diminution of attendance, of the cessation of the purchases of the scientific works, of the total stoppage of the work of abridging the specifications, has been, we believe, publicly stated by Mr. Edmunds to proceed from motives of economy on the part of the Treasury. This is in the face of the facts that there is an annual surplus of 10,000*l.*, after deducting all the enormous expenses for chaff

wax and red tape, and an accumulated surplus of 220,000*l*. Why, 2,000*l*. would go a long way in purchasing scientific works, and in continuing the Abridgments.

Quietly and calmly looking at the question, it will be seen that in patents or no patents, in a good patent law or a bad patent law, are involved most of the foremost interests of the day. Even a Chancellor of the Exchequer would not despise the annual surplus of 40,000*l*. derived solely from the pockets of patentees, and still less the accumulated surplus of 222,000*l*. At least the great law officers of the Crown can scarcely look with disfavour on the eight or ten thousand pounds annually flowing into their pockets from the dingy purlieus of Southampton-buildings. If Bessemer's patents for making steel were to-morrow put up for auction in the City, they would probably fetch more than a million; and, amongst numberless other instances, the English patent for the little apparatus of Giffard for feeding boilers, will probably bring in, from first to last, at least 100,000*l*. Undeterred by the skeletons of ill success that strew the way, an eager crowd of inventors will always push, even through a Sahara-like desert of disappointment, towards such an oasis "of golden joys." Crowds of vultures and jackals, in the shape of patent agents, will never cease to flock round the annual caravan, from three to four thousand strong, of patentees. Nor does the analogy stop here. The stately lion is said to be led to his prey by the sagacity of the jackal. The blatant ignorance and the barefaced cupidity of some of the existing patent agents will, in a different way, perform a similar function; and the thus favoured nobler carnivora, in the shape of patent solicitors and barristers, will carefully save the perennial supply of such fat prey from total destruction. When 30,000*l*. or 40,000*l*. continue to be spent on such patent cases as those of Betts *v.* Menzies, it is not likely that lawyers—the best represented class in Parliament—will abolish the patent laws. In spite of Sir William Armstrong—in spite even of a whole battery of his guns—patents, patentees, patent agents, patent solicitors, and patent barristers will continue to flourish. Even the *Times* once stated that "it was the discovery of Arkwright that enabled England to bring to a successful conclusion the wars against France." The same merit was ascribed by Jeffries to Watt's invention, and probably the truth lies between both. Is it not, therefore, suicidal to allow the stream, bearing such great interests, to be hemmed in by paltry obstructiveness?

THE ARCHITECTURAL PUBLICATION SOCIETY.

THE annual general meeting of the subscribers to this society was held at the Galleries, No. 9, Conduit-street, on Friday evening, May 27th, the chair being taken by Professor Kerr.

Mr. Arthur Cates, the hon. sec., read the minutes of the last meeting, and the report and audited balance sheet, from which the following are extracts:—

"The expectation that the second part of the plates for 1861 would have been issued shortly after the last annual general meeting, was from many causes frustrated, and the delivery of that part has only been completed within the last few days. The delay, however vexatious, has not been without good results, for, while the subjects selected to form this part were in progress of arrangement, an opportunity occurred of greatly increasing their interest and importance. The article 'Grisaille' being in preparation for the text, Mr. J. W. Papworth kindly obtained for the two illustrations just issued the co-operation of Mr. Charles Winston, who, after an examination of the parts already issued, was so obliging as to prepare, for this special purpose, drawings from examples in Salisbury Cathedral. Mr. Winston executed these drawings in the most brilliant manner, and also watched over their reproduction in chromo-lithography with earnest attention. The care devoted to these plates by the lithographer and printer has occasioned the greater portion of the delay, but the Committee hope that the result will fully counterbalance the inconvenience.

The subjects for the plates forming the remainder of the part, viz., Fortress, Girder, Girder Bridge, Granary, Half-timber House, Lantern, Loggia, Metal Work, and Staircase, have been selected from the portfolios of Messrs. Edward Adams, G. R. Burnell, J. T. Christopher, Octavius Hansard, Thomas Vaughan, J. B. Waring, J. W. Walton, and Alfred Waterhouse, to whom the best thanks of the society are due for their liberality in permitting the reproduction of their drawings for the advantage of their fellow-subscribers."

"The Committee much regret that no adequate response has been received to the invitation for contributions and suggestions prefixed, with a 'List of Terms' to the last part issued. They had hoped, that by thus directing the attention of the subscribers to the actual portion of the work in hand, they would have aroused fresh interest, and opened up fresh sources of information. In the forthcoming part they will renew the experiment, and they earnestly hope that this, together with the list of subjects for illustration, will receive the attention and elicit the active assistance of every member.

The accounts show that the total receipt for the fourteenth year, 1861, has been 535*l*. 6s. 2d., and the total expenditure 452*l*. 17s. 1d., leaving a balance of 82*l*. 7s. 10d. to be carried forward to the credit of the following year, 1862, on account of which 41*l*. 10s. 4d. have up to the present time been received, and 6*l*. 1s. 9d. expended, leaving 34*l*. 8s. 7d. available for the production of the issue for that year. On account of the sixteenth year (to be extended to end December 31, 1865), 211*l*. 16s. 1d. have been received, and 48*l*. 14s. 3d. expended, leaving a balance of 163*l*. 1s. 10d. available."

The Chairman in moving the adoption of the report remarked on its being somewhat more apologetical than is usual in reports, but not so as to awaken any feeling of dissatisfaction in the minds of the subscribers. He then entered on the value of the Architectural Publication Society to the architectural profession, and defined the purposes which its existence serves as two-fold;—firstly, the production of literary and graphic matter, year by year, from novel and valuable materials; and secondly, the consolidation of professional union upon the best of all grounds, namely, that of substantial scientific learning. To those who might be inclined to say, looking at the publications collected as they now are in the bulk, that the Society had not done much, he would answer that although, looking at the volumes, one might be inclined to agree with this opinion at first sight, yet looking not merely *at* the volumes but *into* them, the conclusion was forced that the Society had done a very great deal. The committee of this society were entitled to the credit of having, with persevering tact and skill, selected only such matter for publication as would be of enduring interest and value; and he was decidedly of opinion that, many years hence, the publications of this society would be quoted for their solid practical weight. As regarded his own personal experience, when he had occasion to look into delineations, engravings, photographs, or whatever it might be, he found the illustrations published by this Society the best that he could obtain. Those illustrations were not selected upon any fashionable or transitory merits, but upon those which, to a man who looks for thoughtful materials in architectural design alone, afford him what he could wish. Then, as regarded the Dictionary, the great literary work of the Society, he could also speak from his own experience, that having had occasion during the last two or three years to read up scientific matter upon a great variety of professional topics, he had found the "Dictionary of the Architectural Publication Society" to be the best work of its class that he could look to. The characteristic beyond all others which the publication of this Society possessed, although a negative one, was most important: he meant the total absence of *book-making*. Using the term in a sense thoroughly well understood, book-making was the curse of literature at the present day: authority after authority might be consulted—new book after new book looked into, in an endeavour to find some variety of reliable information; and ninety-nine books out of a hundred gave you the same facts hashed up in different form to cover paper, until it became a mere weariness to the flesh to go farther than the first search. The elaborate system of checking the manuscript, which was the rule of the committee, was the cause. Every gentleman who contributed matter to the "Dictionary" did so upon the distinct understanding, to which he honourably submitted, that his work must be subjected to the criticism of his colleagues; and so well had this been carried out, that no disagreement of any magnitude has ever occurred, which was a very great thing to say. This system necessarily occupied time.

If any gentleman wished quantity rather than quality, he must go elsewhere: if he wished quality rather than quantity, he had it in this Society, whose maxim was not to measure their work "super.," but "solid;" not to look how many yards of paper it covered, but to put it in the balance of knowledge, and see what it really weighed. But there was another accident, so to call it, that was incidental to administration of this kind, and that was the risk of our writers and administrators breaking down. This was just the sort of work to make men break down; and it appeared that the progress of the work had suffered during the last two years on account of the ill-health of some of the most valuable workers, which was just what might be expected; and great allowance must be made as to the question of progress. A work of this kind could not be carried on except by determined perseverance, involving discreet and intelligent patience. As regarded the financial position of the society, it was decidedly good: in fact, the funds were obviously able to keep in advance of the rate of literary progress; and, indeed, so much so as to require a special act of adjustment. The proposal which the committee made to drop two years by turning three years into one, seemed to him an exceedingly sensible and business-like proposal, serving to cure all difficulties as regarded arrears.

Mr. H. R. Newton said he had great pleasure in seconding the chairman's proposition, that the report should be adopted; and though he could not add much to the subject, which the chairman had so ably handled, yet he might say that he did not agree with him in thinking that the statement was at all an apologetical one. It was thoroughly explanatory, and he did not believe that any society could ever get on prosperously, at all events not one which looked to the work it produced, without thoroughly explaining to its members what its difficulties were. The chairman had gone fully into the matter, and therefore he would only say that the statement concerning the "Dictionary" was a most satisfactory one. Taking the assurance of the secretary that the publication would be accelerated during the next year, and the proposal to condense the three years' subscription into one, he felt that the report was the most satisfactory one they had had, because it fairly stated their difficulties, and showed that they were pushing on the publication of the "Dictionary," with due regard to the quality of the standard work which they were producing.

Professor Donaldson, in moving a vote of thanks to Mr. W. Papworth and Mr. Cates, the honorary secretaries, said they all knew the services of Mr. Wyatt Papworth; how earnest he had been throughout; the very business-like manner in which he had conducted their proceedings; and the intelligence which he brought to every matter in which he was concerned. As to Mr. Cates, they all knew that he was a thorough man of business, and worked with a great deal of earnestness for the good of the Society. As to the publication, he thought they would gain a great deal if they could introduce a few more illustrations. In an art like theirs, he thought that illustrations were exceedingly necessary. There was much which could not be explained in words, but which one or two lines would thoroughly bring home to the conviction of any person acquainted with the subject: there was much in architecture which was obscure if left to be described; and he believed it would do them a great deal of good to have more illustrations.

Mr. Wyatt Papworth, in thanking the meeting for the warm expression of their feelings towards himself, said that with regard to the woodcuts, he could only say that, if the committee said it should be done, they of course would only be too happy to do it: but it must be recollected that they would add a very great expense to the work. He had no doubt, however, that the committee would take the subject of Mr. Donaldson's suggestion into their consideration.

Mr. St. Aubyn, in moving a vote of thanks to the contributors of sketches, said that all those who had seen the beautiful plates which had been contributed by Mr. Charles Winston, would readily agree in awarding him the praise which had been mentioned in the report. He understood that Mr. Winston had by his own hand copied the illustrations from Salisbury Cathedral, and had reduced them to the size in which they were seen in the work. He thought, too, their best thanks were due to Mr. John Papworth, who had been instrumental in inducing Mr. Winston to give them the advantage of his great skill in drawings of that kind.

Mr. John Papworth, in seconding the resolution, disclaimed that portion of the praise which had been passed upon him, and described the readiness with which Mr. Winston gave his assistance. This vote and a vote of thanks to the chairman being carried, the meeting separated.

BELFRIES AND BELL-RINGERS.

WE have received a communication, signed "George Morris, Steeple-keeper of St. Martin's-in-the-Fields," from which we condense and arrange the following article.

It is to be regretted that the ministers and churchwardens of most of the principal mother churches of London so greatly neglect the interiors of the towers and spires of these edifices. The interior walls are, in general, covered with dust and cobwebs, accumulated for many years past. It is often difficult to get a proper set of ringers, especially for Sundays, at many of our churches, on account of the dirt, which spoils their Sunday clothes, and compels them to return home at the end of the peal instead of going to church. Even when churches have been repaired and beautified, their belfries are but too generally forgotten, and re-opened dirty as they were, although here and there a few parishes do clean and renovate their belfries a little. The rector or vicar and churchwardens really ought to visit these places once or twice a year, and see that all is kept in good order, and the ringing-rooms clean and comfortable for the ringers. Why are not the bells in the towers as much cared for as the organs in the churches? asks Mr. Morris, in the pride of his profession. Some time ago, in the *Builder*, he continues, it was asked why young men attending church did not go up and assist in the chiming of the bells for service, so as to let the worshippers hear something more than three bells in a steeple where there are eight bells or more. The young men are clean, and the bells and belfries are dirty: that is the reason; and were boards of health to see the inside of a great many belfries, they would be surprised to find that there, at least, cleanliness was not *next* to godliness. Here is a black list of some of the churches alluded

to:—St. Andrew's, Holborn-hill, with a tenor and eight bells only 300 years old; St. Giles's, Cripplegate, a tenor and twelve bells; St. Leonard's, Shoreditch, twelve bells—great bell cracked; St. Mary-le-Bow, Cheapside, commonly called Bow Bells—houses left in Bow-lane to keep Bow Bells in repair, and, I should think, the steeple clean too; St. Saviour's, Southwark, very beautiful tenor and twelve large bells, a large ringing-room with a great many marble tablets, which cost the various societies of ringers in London a good deal of money—one or two as much as 20*l.* each,—and yet the walls are so dirty that the steeple spoils the look of them, handsome as they are. Nearly all the other steeples after we pass St. Michael's, Cornhill, are in as neglected a state as those above mentioned. How is this to be accounted for? Awake, I say, from your slumber, and arouse the noble-minded men of our parish churches, and let us have them all clean and comfortable. I am sure there are many poor whitewashers and painters in most of our parishes who would be glad of a day or two's work; and, at a mere trifling expense, all the evil could soon be remedied. Most of the east-end of London church bells are also out of order, and hardly ever ring for any joyous occasion.

Why should not one church ring its bells as well as another? Besides, they get out of order more by standing still than by constant ringing. The pretty peal of eight bells of St. Paul's, Shadwell, has been out of order for twenty years; and about twelve years ago they could have been put in order for about 10*l.*; now, through the twelve years more neglect, it will cost 30*l.* or more to get them in good ringing order; and this peal of bells is not above forty years old.

As to ringing and ringers, hardly any one knows their origin, or how the ringing societies are carried on. In 1620, a small company of gentlemen used to meet for practice of ringing in a little parish church at the corner of College-street, College-hill, Thames-street. The tower contained six bells, although now it has only two. On November 5th, 1637, the gentlemen referred to formed the present Ancient Society of College Youths, which has been carried on with great success to the present time. Intricate as the science of bell-ringing is, noble-minded men of this society, so far back as 150 years ago, went to work and pricked out in figures many touches in grandsire triples for eight bells, quatres for ten bells, cinques for twelve bells, and Steadman and triple-bob-major methods. Also, 100 years back, the society, at their own expense, placed the two small bells in St. Bride's tower, Fleet-street, to make the present peal of twelve bells; and after that, about the year 1730, twelve members of the society rang the first peal of triple-bob-maximus that ever was known to have been rung on twelve bells. Rear-Admiral Sir Francis Grey and Lord Chief Justice Hale were members of the society and rang in the above peal. There is still a record of this in St. Bride's ringing-room. The gentlemen of the Ancient Society now living have followed in the footsteps of their forefathers, and have rung many a peal of three, four, six, and even seven hours at a time, on most of our peals of beautiful bells, at various churches in town and country; and tablets, written in gold, as to their doings, can still be seen and read in all our principal ringing-rooms in London and its suburbs.

The Ancient Society of Bell-Ringers consists of a master, treasurer, secretary, and stewards, elected once a year. The head-quarters of the society are in St. Saviour's Church, Southwark; and at the Yorkshire Grey, Borough Market, there is upwards of two hundred pounds worth of property belonging to the society, and this house is the society's meeting-house. The society are parochial ringers at the churches of St Mary-le-Bow; St. Michael; St. Magnus-the-Martyr; All Hallows, near Tower Hill; St. Saviour, over London Bridge; Trinity, Trinity-square, Borough; St. Peter, Walworth; St. Giles, Camberwell; also St. Giles, Cripplegate. There is another society, called the London Society of Cumberland, established in 1745, at St. Leonard's, Shoreditch. It takes its name from His Royal Highness the Duke of Cumberland, who, on his arrival in London after the battle of Culloden, heard St. Leonard's bells, the first that reached his ears after some hundreds of miles of travel, and sent a handsome present in money, together with a gold medal with his medallion portrait in the centre. This medal is worn by the master of the above society to the present time. The greatest achievement of this society in olden times was a peal of 12,000 changes of triple-bob royals, in St. Leonard's, Shoreditch, which took nine hours and five minutes, on ten bells, on Saturday, March 27th, 1784. There is a record of it in the Tower, written on copper. Since that time noble work has been done by the present members;—in 1837, a grand peal of Steadman quatres on Bow bells; also, in 1840, a peal of triple ten in, at the same church. Mr. W. H. Burwash, the present sexton of St. James's, Clerkenwell, rang the triple to both peals, and conducted them; and Mr. A. C. Frost rang the tenor to both: her weight is 2 tons 13 cwt. 22 lb., the greatest bell rung by a single man in England. The society, in 1820, added two new small bells to St. Leonard's, Shoreditch, to make a peal of twelve bells, at their own cost,—over 100*l.*; but it is to be regretted that the great bell of the peal was accidentally cracked two years ago: the parish ought to replace it. Many grand peals by this society have been rung, and recorded in most of our ringing-rooms. One in St. Saviour's, Southwark, by the London Society of Cumberland, cost twenty guineas. The last peal of any note was rung by this society at St. Martin's-in-the-Fields, on November 10th, 1862,—a 5,050 changes of Steadman quatres, in three hours and twenty-eight minutes, in honour of his Royal Highness the Prince of Wales attaining his majority. The peal was composed and conducted by Mr. John Nelms, who rang the triple, and I rang the tenor: her weight is 1 ton 14 cwt.

This society is conducted also by a master, treasurer, secretary, and stewards, elected every September. The head-quarters meeting-house is "The Green Man," St. Martin's-lane. The parochial ringing churches of this society are at St. Martin's-in-the-Fields and St. James's, Clerkenwell.

We have another society in London, called the St. James's Youths, which was established on St. James's-day, 25th July, 1824, at St. James's Church, Clerkenwell. The grandsire-ringing principally belongs to this society, as it is the first rudiment of the half-pull ringing. This society has done much for the advancement of the bell-ringing science. About twenty-three years ago the society rang a peal of 12,000 changes of grandsire quatres at All Saints Church, Fulham; also 7,325 of grandsire cinques at St. Martin's-in-the-Fields, in 1837; and many other peals besides, as recorded in London church-belfries. This society is conducted also in the same way as the other two. Their head-quarters are at St. Clement Danes, Strand. Mr. George Stockham is the bob-caller and conductor of the society, and also steeple-keeper of the church. The parochial ringing churches of the society are St. Andrew's, St. Sepulchre's, St. Dunstan's in the West, St. Clement's, Westminster Abbey, St. John's, Waterloo, and St. Mary's, Lambeth.

A great many of the out-post church bells are rung by different companies of so-called change-ringers. The ringing of these companies is commonly called, in the country, churchyard bob: it is the first step to the art of ringing.

Church bell-ringing is one of the best exercises any young man can aspire to: it expands the chest and exhilarates the mind, and I am sure it is far before any other exercise in the world. The respectability of the ringers in our three societies in London has very much improved of late years; in fact, I think the art of ringing was never carried on more satisfactorily than it is at the present time. The parochial ringers of our three societies in London now consist of a great many independent gentlemen, tradesmen, artisans, and mechanics; also a surprising number of respectable young men have lately come into the exercise. And if our church-wardens will only give us cleanliness and a little encouragement, the inhabitants, I am sure, will soon have more and better musical chiming for Divine service on Sundays, and also the joy bells on fitting days.

Great encouragement has been afforded to the science of bell-ringing by the peals of bells given by Miss Burdett Coutts to several churches, as at Rochester-row, Westminster, in the tower of which, there is a fine peal of eight bells, with a tenor of 1 ton 5 cwt.; at St. Ann's, Highgate-rise, where there is also a peal of eight bells; and at Carlisle, where a fine peal of bells is to be placed in the tower of a new church, of which Miss Coutts has laid the foundation stone. Our Church of England ministers have good reason to be proud of such gifts.

We have now in London and different parts of the United Kingdom about 14 peals of twelve bells; 50 peals of ten bells; 600 peals of eight bells; 700 peals of six bells; and about 400 peals of five bells; and a great number from one bell to a chime of four bells; and all these peals of five to peals of twelve bells cost each from 300*l.* to upwards of 2,500*l.* So you see what a merry ringing island England is; and a melodious peal of bells is perhaps not less captivating than the finest toned instrument ever yet invented. The late Mr. H. E. Powell, of Quick's Park, Isle of Thanet, was a very good ringer and fond of bells: he built, at his own expense, the tower and spire standing in the above park, and it contains a pretty peal of twelve bells: the treble is about 3 cwt. and the tenor is 1 ton. Mr. Powell was a member of the College Youths, and used often to ring with the societies in London, and also entertain them at his mansion, where they rang in the summer-time. The gentleman who occupies the mansion at the present time does the same. Mr. Leonard Proctor, of Bedington, Herts, has also a pretty church on his estate; the tower has a fine peal of bells. Mr. Proctor is a member of the London Society of Cumberland, and is a very good ringer; in fact, he can ring on any method in the ringing books on eight bells. He very often rings with us in London, and frequently entertains the London Society at his estate: he has also a complete company of ringers in his employ there.

ARTESIAN WELLS.

INSTITUTION OF CIVIL ENGINEERS.

THE paper read May 24 was "On the Machinery employed in sinking Artesian Wells on the Continent," by Mr. G. R. Burnell.

It was stated that the extraordinary depth of some borings lately made for the purpose of obtaining an artesian supply of water, had led to great changes in the well-borer's art, and to the introduction of various mechanical processes, and of modifications of machinery, into the merits of which it was desirable to inquire.

The first well of this kind was that at the Abattoir of Grenelle. This was sunk, after eight years' incessant labour, a total depth of 1,797¼ feet (English), and gave rise to many inventions for the purpose of facilitating the progress of the works, for removing the broken tools, for the introduction of the pipes, and for carrying on observations at various depths from the surface. Subsequently, many similar wells were sunk on the Continent, particularly in the Rhine provinces, but they were all of small diameter. The German engineers introduced important modifications in the tools. Ænyenhausen made the striking part, used for comminuting the rock, to slide, so as to fall always through a certain distance, and thus avoid a jar. Kind had already applied his system to large excavations for winning coal-mines, when he was intrusted by the Municipal Council of Paris, with the execution of the well at Passy. This was to have a diameter of 1 metre (3 feet 3$\frac{7}{8}$ inches), that of Grenelle being only 20 centimetres (about 8 inches). The difficulties encountered in carrying the excavation through the clays of the upper series were so serious, that six years and nine months were occupied in reaching the water-bearing stratum, which was ultimately attained at a depth of 1,913 feet 10 inches from the surface, when the yield was 3,349,200 gallons per day of twenty-four hours, subsequently increased to 5,582,000 gallons, and then continued at 3,795,000 gallons per day. The total cost of the well was 40,000*l.* It was lined with solid masonry for a depth of 150 feet; then wood and iron tubing was introduced to 1,804 feet from the surface, and below that there was a length of copper pipe pierced with holes.

The results of this well had been so satisfactory, as regarded the quantity of water, that the authorities had decided to execute at once two additional artesian wells, and there were rumours that two others were contemplated.

There were three different systems of well-boring, mostly dependent on the nature of the tools; the Chinese, or M. Fauvelle's; the French, or rather the usual well-borers' plan; and M. Kind's. In the first, the motion given to the tool in rotation was simply derived from the resistance that a rope would exercise to an effort of torsion, and therefore the limits of application of the system were only such as would allow the tool to be safely acted upon. Besides, a considerable quantity of water was required to clear out the boring,

so that this plan had been almost universally abandoned. In the ordinary system of well-boring, the weight of the tools and of the solid-iron rods became so great, when the excavation was deep, that there was considerable difficulty in transmitting the blow of the tool, in consequence of the vibration produced in the long rod, or in consequence of the torsion. Hollow rods, filled with cork, and M. Ænyenhausen's joint, which permitted the tool to fall freely, and through the same height, every time it was released, were now employed. M. Kind adopted both these modifications, and in the well of Passy, he substituted oak rods for iron ones, as being lighter, and more easily counterbalanced in water. The products of the excavation were still most frequently removed by augers and chisels; and all the processes hitherto practised were considered to be more or less defective, as in every case the comminuting tool had to be withdrawn.

In the well at Passy, M. Kind employed a trepan to comminute the rock: it weighed 1 ton 16 cwt., and fell through 2 feet. This tool was composed of two principal pieces—the frame and the arms—both of wrought-iron, but the teeth of the cutting part were of cast-steel. The frame had at the bottom a series of holes, slightly conical, into which the teeth were inserted, and were tightly wedged up. These teeth were placed with their cutting edge on the longitudinal axis of the frame that received them; and at the extremity of the latter, there were formed two heads, forged out of the same piece with the body of the tool, which also carried two teeth, placed in the same direction as the others, but which were made of double the width of the latter, in order to render this part of the tool more powerful. It was by increasing the dimensions of these end teeth, that the diameter of the boring could be augmented, so as to compensate for the diminution of the clear space by the tubing that it might be necessary to introduce in traversing strata disposed to fall in, or to allow the waters from below to escape at an intermediate level. Above the lower part of the frame of the trepan was a second piece, composed of two parts bolted together, and made to support the lower portion of the frame. This part of the machinery also carried two teeth at its extremities, which served to guide the tool in its descent, and to work off the asperities that might be left by the lower portion of the trepan. Above this again were the guides of the machinery properly speaking, consisting of two pieces of wrought iron arranged in the form of a cross, with the ends turned up, so as to preserve the machinery perfectly vertical in its movements, by pressing against the sides of the boring already executed. These pieces were independent of the blades of the trepan, and might be moved closer to it, or further away from it, as might be desired. The stem and the arms were, lastly, terminated by a single piece of wrought iron, which was joined to the frame by a kind of saddle joint, and was kept in its place by means of keys and wedges. The whole of the trepan was finally jointed to the great rods, that communicated the motion from the surface, by means of a screwed coupling, formed below the part of the tool that bore the joint, which permitted the free fall of the cutting part, and united the top of the arms and frame and the rod.

SIGNS ON OLD LONDON INNS AND SHOPS.

THE jovial "bully rook" host of Queen Elizabeth's days has long since vanished, and there is much less familiarity now between the innkeeper and the traveller than was generally the case, even half a century ago. True, any one may still say, I can "take mine ease at mine inn;" but it is mostly in a more stately and solitary manner than formerly. The stage-coaches first much changed the primitive habits and conditions; but still greater alterations have been made since the introduction of railways. With the general change of manners, the style of the signs has been greatly altered; and, instead of pictorial representation, we have mere words, such as, "The Locomotive, Commercial, and Railway Inn and Tavern," "The Victoria Railway Inn," &c. The quirks and quiddities of the old English Boniface, often displayed on the inn signs, are disused, and the examples which remain are scarce.

In a poem of Queen Elizabeth's reign, mention is made of the Salutation, at Billingsgate, the Boar's Head, near London Stone, the Swan, at Dowgate, a tavern well known:—

> "The Mitre, in Cheape,—and then the Bull Head,
> And many like places, that make noses red."

There are also notes of the Boar's Head, in Old Fish-street; Three Crowns, in the Vintry; the Windmill, in Lothbury; the Ship, at the Exchange; the King's Head, in New Fish-street, "where roysters do range;" the Mermaid, in Cornhill; Red Lion, in the Strand; Three Tuns, in Newgate Market; and the Swan, at Old Fish-street.

In various quarters many old London taverns are mentioned. Amongst them are several Saracen's Heads: two of these have been more famous than the others. One of them was in Aldgate, and in Strype's time had a considerable trade: this has been swept away; but the Saracen's Head,—the once well-known stage-coaching house which, although the coaches do not frequent it now, will be long known by Mr. Charles Dickens's account of it,—still remains near St. Sepulchre's Church, Skinner-street, Snow-hill. In Water-lane, Tower-hill, there was, until lately, a well-known hostelry, called the Ship. In Leadenhall-street, on the north side, was the King's Head Tavern, where a meeting was held, in William III.'s reign, for the purpose of attempting to restore the Stuart dynasty. In the same street was the old galleried inn, called the Bull; also the Black Boy and Camel There were several signs in Old London, of the Three Tuns: one of these, in Aldgate, High-street, is mentioned by De Foe, in his "History of the Great Plague." In Bishopsgate-street, the most noted inns were the Sir Paul Pindar, the Old Catherine Wheel, the Swan, the Four Swans, the Vine, the Green Dragon, &c. The Sir Paul Pindar and the Four Swans still retain many of their original features, and the Green Dragon, although altered, is still a place of note. The Belle Sauvage would seem to have an origin different from that usually ascribed. Fuller tells us it was given originally by one Isabel Savage to the Company of Cutlers.

The Spread Eagle, the Tabard, near the conduit, and the Cross Keys, in Gracechurch-street, were long celebrated taverns.

The Ship Tavern, already mentioned, was a place of great resort amongst the captains of ships, for the transaction of business.

Respecting the King's Head, in Fenchurch-street, which has been enlarged and greatly altered, and is still much frequented, the *Gentleman's Magazine*, of 1790, says, "When the Princess [Queen Elizabeth] came from her confinement in the Tower, she went into the church of All Hallows Staining, the first church she found open, to return thanks for her deliverance from prison. As soon as that pious work was concluded, and the thanksgiving finished, the Princess and her attendants retired to the King's Head, in Fenchurch-street, to take some refreshment, and her royal highness was plentifully regaled with pork and peas." It is not unusual, even at the present time, for antiquaries to visit the King's Head Tavern, and partake of the same fare which tradition says was served for the refection of the princess. There are still preserved here some much-worn dish-covers, which are as old as the time of Queen Elizabeth. The interior of this inn is now fitted up in rather a common theatrically ancient style, which, although to a certain extent contrary to good taste, still shows a wish to preserve the memories connected with the tavern,—a place in existence as far back as 1504, and probably much earlier.

Many of the sites of the Old London taverns are still known, and the names of the original signs preserved: few of the devices, however, now remain. The Rainbow Tavern, in Fleet-street, so famous in connexion with Johnson, Reynolds, and Goldsmith, dates as far back as 1640. It was rebuilt in 1860. The Devil, and the Devil on Two Sticks, were inns of note in the City.

Some of the signs of old London—used not only by tavern-keepers, but by persons of all trades—are curious combinations; for instance,—the Magpie and Crown, the Magpie and Stump, the Magpie and Horseshoe, the Whale and the Hen, the Razor and the Hen, the Leg and Seven Stars, the Axe and the Bible, the Tun and the Tub, the Eagle and Child (armorial bearings of the Stanleys).

Bernard Lintot issued Pope's works at the Cross Keys, between the Temple gates; and not far off were the well-known signs of the Seven Stars and the Addison's Head. The Half Moon, a projecting sign still remaining on the south side of Holywell-street, was formerly over the shop of a fashionable stay-maker: at that time stays and corsets were almost entirely made by men.

Some of the best known of the Old London signs were the Queen's Head (a most popular device, especially in the reigns of Queen Elizabeth and Queen Anne), the Boulogne Mouth (afterwards corrupted into the Bull and Mouth), the Boulogne Gate, the Bolt and Tun, the Golden Fleece, the Flying Horse, the Spread Eagle. In Oxford-street, nearly opposite Rathbone-place, there still remains a sign which is said to have been painted by Hogarth: the picture has considerable merit as a work of art;—in it are represented a woman and her husband, crying children, and a magpie. The Good Woman was sarcastically represented as a woman without a head. Other old signs were the Catherine Wheel, the Hercules Pillars, the Bacchus and Tun, the Bag o' Nails (a corruption of the Bacchanals), the Blue and other coloured Posts, the Chequers, the Three Compasses, the Goat and Compasses (which some writers say is a corruption of "God encompasses us," but more likely a compound of two signs, that of the Goat and that of the Compasses, in the same way that the Magpie and Crown, the Goose and Gridiron, &c., were combined.)* The Swan with Two Necks (Nicks ?), the famous stage-coach house, has not long since been removed; but the large new building on the site is the centre, as was the old one, of a great traffic.

The Dukes of Cumberland, Dukes of Marlborough, Princess Charlottes, Dukes of Wellington, Marquises of Cornwallis, and many other signs in the metropolis of a similar character, mark, as do the names of streets, particular periods and historical occurrences.

The following may be mentioned as among known London signs:—the Cheshire Cheese; the Hole-in-the-Wall; the Star and Garter; the Yorkshire Grey; the arms of various crafts; the Sun; the Moon, in various phases; the Man in the Moon; Lions—Red, White, and Blue; Bears of various colours; the Bear and Ragged Staff; the Blue Boar; the Boar's Head, of famous memory; the Spotted Dog; the Elephant and Castle;† the Talbot; the Lamb; the Lamb and Flag; the Dun Cow, a very ancient sign, which probably originated with the traditionary "dun cow" of Guy Earl of Warwick; the Pig and Whistle; the Fox and Hounds; the Hare and Hounds, in the remaining portion of the Rookery of St. Giles's, which is a memorial of the days when the citizens, while inspecting the conduits, enjoyed hunting in this neighbourhood; the Fox under the Hill, in the Borough; the White Hart, the badge of an English king; the Roebuck; the Hen and Chickens; and the Angel. The Cock, which is very often found near to the Cross Keys of St. Peter; the Falcon, and many other birds and beasts might be mentioned, as London signs; but fishes, with the exception of the Dolphin, seem to have been brought but little into request. The Mermaid; the Green Dragon; the Coach and Horses; the Baptist's Head; the Noah's Ark; the Load of Hay; the Good Samaritan; the Vine; the Laurel Tree; the Wheat-sheaf; the Blue Bell; the Five Bells; the Roses, Red and White, having reference to the wars of the houses of York and Lancaster; the Artichoke; the Royal Oak; the Mitre; the Gun; the Comus; Albion; Britannia; the White Conduit; the Sutton Arms; and some hundreds of other London signs, have all obvious significance; and in the list given in the dry pages of the "Post-office Directory," a person who has thought of things of the past will find both amusement and instruction.

* On the subject of sign combinations, a writer in *Notes and Queries* says:—"This subject has been taken up by a literary contemporary, and some ingenious but far-fetched attempts at explanation have been made, deduced from languages the publican is not likely to have heard of. The following seem at least to be undoubtedly English;—'The Sun and Whalebone,' 'Cock and Bell,' 'Ram and Teazle,' 'Cow and Snuffers,' 'Crow and Horseshoe,' 'Hoop and Pie,'—*cum multis aliis*. I have some remembrance of a very simple solution of the cause of the incongruity, which was this: The lease being out of (say) the sign of 'The Ram,' or the tenant had left for some cause, and gone to the sign of 'The Teazle;' wishing to be known, and followed by as many of his old connexion as possible, and also to secure the new, he took his old sign with him, and set it up beside the other, and the house soon became known as 'The Ram and Teazle.' After some time the signs required repainting or renewing, and as one board was more convenient than two, the 'emblems,' as poor Dick Tinto calls them, were depicted together, and hence rose the puzzle."

† Amongst the inns recently discovered in Pompeii, one has the sign of the Elephant rudely painted on the pilaster which divides two doors. The animal is in the folds of a serpent and is led by a pigmy.

THE NATIONAL GALLERY QUESTION.

In the Committee of Supply, on the proposed vote of 10,000*l.*, for the year 1865, towards the erection of a new National Gallery at Burlington House, Mr. Cowper explained the altered views of the Government, and reviewed what had taken place in former years in the vain endeavour to settle this question. As to the proposed new building behind Burlington House, he said it was proposed that the building should be all on one floor; that it should be lighted from the top; that there should be three spacious galleries, of 200 feet in length and 40 feet in width, running parallel; that they should be crossed by three other galleries, of the same dimensions; and that there should be in the interstices galleries of smaller size and height, in which the smaller pictures could be placed. The estimated cost was 152,000*l.* If the question were not now settled they would probably go back to commissions and committees again for the next twenty years or so; and gifts would be lost to the country, as before, from want of space for pictures.

Lord John Manners moved an amendment for the rejection of this supplementary vote altogether. He thought the National Gallery ought to remain where it was; and it might be extended behind, either by removal of the barracks, or by carrying the gallery on columns over the drill-ground.

Mr. Cowper deprecated such an arrangement, and remarked that the workhouse would require to be removed as well as the barracks, and new buildings for them both erected elsewhere; and a new workhouse would cost 75,000*l.*, and new barracks 140,000*l.* He acknowledged that it might be best to hand over the present National Gallery to the Royal Academy.

Lord Palmerston explained his own change of views on this question, and admitted that he contemplated giving the use—not the property—of the present building to the Academy. Economy of expenditure and suitability of arrangement were his chief considerations. The present building would not only require to be enlarged, at great cost, behind, but must be rebuilt in front also; and the cost might be half a million, or it might be a million sterling: it was hard to say how much.

Mr. B. Osborne, Lord Elcho, and others, also spoke; and, on a division, Lord John Manners's amendment was carried by 174 to 122.

The Government seem to have mismanaged their own scheme. Members knew little or nothing of the building that was to have been erected behind Burlington House; and the supposed intention to hand over the present building to the Academy secured to the amendment all the votes of those inimical to the Academy or its continuance in the present building.

PROGRESS OF THE MAIN DRAINAGE AND EMBANKMENT WORKS.

At the last week's meeting of the Metropolitan Board of Works, their chief engineer (Mr. Bazalgette) presented his monthly report of the progress of the Main Drainage and Northern Thames Embankment works up to the present time, of which the following is a summary:—Twelve miles of connecting sewers had been constructed on the Middle-level sewer contract, at the estimated cost of 309,000*l.* Nearly 4 miles of the sewers intended for the interception of the western district drainage had been completed at a cost of about 53,000*l.* Three out of four of the compartments of the northern outfall reservoir were now completed, and constantly received the sewage brought down from the High and Middle-level sewers, and discharged such sewage into the Thames at Barking, at ebb tides only. The fourth compartment, the embankment over the whole reservoir, and the sluice-house, would shortly be completed. The value of the work here executed amounted to about 164,500*l.* About four miles of the southern low sewer had been completed, at the estimated cost of 121,000*l.*, and, under the contract for the works at Crossness, work to the amount of 225,000*l.* had been executed. On the first contract for the Thames Embankment (between Westminster and Waterloo bridges) work to the amount of 33,000*l.* had been executed; but on the second contract (from Waterloo Bridge to the eastern end of Temple Gardens) the work had not been altogether of so satisfactory a nature, and it would be necessary in some respects to adopt a new system in carrying out the work.

THE MASTERS AND WORKMEN'S ACT.

A CONFERENCE of delegates from the various trades' councils and other organised bodies of workmen throughout the country, called together at the instance of the United Trades' Societies of Glasgow, for the purpose of procuring an amendment of the statute law relating to contracts between masters and workmen, has been held in the rooms of "The Universal League," 18, Greek-street, Soho. Delegates were in attendance representing, in the aggregate, it is said, upwards of 200,000 members of trades' societies. A series of resolutions were adopted, declaring that the unequal state of the law as to questions arising under contracts of service between masters and workmen is most unjust and oppressive as against the workmen, and ought to be repealed or amended; and giving the heads of a Bill which the conference considered ought, with as little delay as possible, to be introduced into Parliament with the view of effecting an alteration of the law. Copies of resolutions were ordered to be forwarded to every member of the House of Commons.

The meetings were brought to a close by a conference with several members of the House of Commons more or less favourable to an alteration of the law. The conference was held in one of the committee-rooms of the House, and was attended by about thirty members of Parliament, who recommended that the delegates should instruct their solicitor to draw up a Bill embodying their wishes, and to place it in the hands of Mr. Cobbett, M.P. for Oldham, who had consented to take charge of it; and that a select committee should be obtained, before whom evidence should be given in its favour, it not being thought likely that the Government would offer any opposition to such a course.

STRIKES AND WAGES.

THE numerous strikes which have already taken place, and which are threatened, more especially amongst those connected with the building trades, require more especial notice than has yet been directed to the subject. The accounts of these disputes come from many parts of the country; and it is to be remarked that, in a majority of instances, the men have obtained either all or part of what they claimed.

The difference in the price of labour in the same trades in the various towns and districts throughout England is greater than is generally supposed. In some cases there is a difference of 7s. or 8s., and upwards, between the weekly wages paid to bricklayers in the metropolis and in places at a distance. It is to be taken into account that, in most parts of the provinces, house-rent and some of the necessaries of life are to be had at a less cost; but this is not sufficient to account for the considerable difference. We must, therefore, look for other causes which are affecting the labour market of bricklayers, masons, labourers, and many others. The first and chief are the wonderful demand which there is in all directions for houses ,shops, warehouses, and factories of an increased size and better construction; the extension of railways; the construction of docks, and the enlargement of those which have been for some time in existence; the building of new churches in almost every town and throughout the country; the laying out of new cemeteries; the making of great harbours; the improvement of our ports; and other vast works; while the extension of trade and the increase of the national prosperity and wealth have caused such a demand for useful labour as we have no account of in our English history. Nevertheless, there is a lamentable extent of labour which is of little or no value. It may be hoped, however, that, as time rolls on, we shall find some of the sunshine entering places which are now in shadow.

The demand for labour is showing itself in various ways and as affecting various classes. The general cost of the food and clothing of the workman's family has advanced; and it is likely that house-rent will also rise considerably. Nor can this be wondered at, when the advance in the price of building materials and of labour is taken into account. Difficulty is experienced in getting men for the army. So much is this the case that the standard of the height of the soldier has been reduced. But even under these circumstances, some advantages which have been offered fail to bring the requisite number of men who can pass the medical examination to which we referred in a recent article on the condition of the soldier. Notwithstanding all this, strange to say, wholesale emigration continues to flow, from Ireland chiefly, towards America.

Besides the causes referred to, the immense influx of gold into this country has necessarily tended to raise the price of other commodities.

THE BUILDING TRADES MOVEMENT.

Leeds.—At a conference between the master-builders and the operative carpenters and joiners of Leeds, an arrangement has been come to, under which the lock-out ceases. The men agree to accept payment by the hour, at the rate proposed by the masters—5½d. per hour, and the masters agree to reckon 56 hours as a week, instead of 58½, as was previously the case.

Sheffield.—We understand, that at a meeting of carpenters it has been resolved to ask for an advance of 2s. per week upon the present rate of wages, and also to have the working hours regulated by the other branches of the building trades. Alterations were also resolved upon in several minor particulars. Seven days' notice of these resolutions was ordered to be forwarded to the employers.

Malton.—The masons and Bricklayers of Malton, Old Malton, and Norton, are on strike. A few old hands, however, remain at work. It is understood the men demand an advance of 6d. per day and shorter working hours (some a Saturday half-holiday), to which the masters will not accede. Some are taking means to find fresh hands. The strike has caused much inconvenience, as there are many buildings about the towns in an incomplete state.

Newcastle-upon-Tyne.—The house-painters have resolved to give the masters a week's notice for an advance from 24s. to 27s. per week.

Leicester.—Some of the men have resumed their work without the increased demand having been granted. The union men have, however, held meetings and come to the determination not to go in without the advance. A meeting of masters was held and adjourned. The local *Advertiser* says that when the masters find holding out useless, they will give the advance sought for. It is the intention of the bricklayers in the town to strike for an advance of 4d. a day; and the joiners, carpenters, and painters, for an increase of 6d. per day. Their average wages at present are from 3s. 10d. to 4s. per day. The master bricklayers have recently held a meeting, and decided to let the question stand over till the first Saturday in July, when the advance asked by the bricklayers' labourers will be granted on the condition that union men do not intimidate workmen who are non-unionists. The painters have struck for an advance.

Exeter.—A strike among the operatives in the building trade has occurred here, the carpenters and joiners and plasterers demanding increased wages. The latter state that the rate of wages is lower than in any other part of the country, and that it is not sufficient to enable them to maintain themselves and families. Strikes in other towns of the west have also taken place.

PROVINCIAL NEWS.

Luton.—A meeting of persons interested in the establishment of a corn exchange, plait market, and other accommodation for the town, has been held in the Town-hall here. The committee appointed some time ago to consider the matter, submitted several plans, which were discussed. The meeting seemed to be in favour of a site on the market hill; but it was understood that the subject should have further consideration.

St. Ives (Cornwall).—A new pier is to be erected here. It will be 615 feet long, 540 feet being below high-water mark. It will commence at the root of the old pier, and run in a south-south-easterly direction into a depth at spring tides of 30 feet at high water, and 6 feet at low water. At its root the new pier will be curved; but the outer and greater portion will form an angle of 67 degrees with Smeaton's erection. Thus between the two a triangular space of water will be enclosed, which may very readily and at comparatively small expense be converted into a floating dock. The pier works will consist mainly of two parts,—a sea wall next the shore, formed wholly of stone; and a breakwater, similarly constructed to that at Falmouth, consisting of stone and timber. The sea-wall will be 191 feet long. The engineer of the works is Mr. Michael Scott, of London; and

the contractor, Mr. Robertson, also of London. The contract has been taken at 15,500*l.*, and is to be completed by the end of September, 1865. A yard has been enclosed for the erection of creosoting apparatus; and the excavation for the sea-wall has been commenced.

Falmouth.—The erection of a building at Falmouth to fulfil the purposes of a town-hall and accommodate the county court, which has been so long deferred, will be commenced forthwith. The contracts and plans have been signed by Messrs. Olver & Sons, the contractors, and by Mr. Mules, the treasurer of the county court, on behalf of the Treasury. The entire cost of these buildings will be from 3,000*l.* to 3,500*l.* The site selected is in the Moor, or Market-square, in the centre of the town. The structure will have a frontage in the square of 72 feet, and one of 67 feet in Killigrew-road. The architect is Mr. C. Reeves, of London.

Bradford.—A public meeting has been held here to devise measures to keep open the intended site (laid bare by the removal of buildings) for the new Exchange. The meeting was numerously and influentially attended, and the Mayor presided. The sum required to place the Exchange Company in possession of another site in lieu of the present one was computed at 25,000*l.*, and it is intended to make an effort to obtain a large proportion of it (if not the whole) by public subscription. A resolution was unanimously passed expressive of the desirability of keeping open the site, and a committee of gentlemen was appointed to canvass the inhabitants in aid of the subscription.

Hull.—The foundation-stone of the new West Dock has been laid. This dock is to be constructed along the west foreshore of the Humber, on a line parallel to it, being in this respect unlike the other docks at Hull, as they run into the heart of the town. At the present time, the dock accommodation amounts to 85 acres, and the making of the new dock will raise the extent to 102 acres. The construction is entrusted to Mr. McCormack, M.P., and is expected to be completed by the stipulated time, June, 1866, at a cost of 500,000*l.* The consulting engineer of the company is Mr. Hawkshaw, under whose direction the works are carried on.

The Hartlepools.—The corporation of Hartlepool have serious thoughts (indeed, the committee are inviting plans, &c.) of erecting a covered market for the borough, at a cost not to exceed 3,500*l.* At West Hartlepool, also, it has been determined to establish a chamber of commerce.

Whitehaven.—Mr. Hawkshaw, C.E., has been at Whitehaven, to make inquiry on the part of the Public Works Loans Commissioners into Mr. Rendel's scheme for a wet dock on the north shore. Subject to Mr. Hawkshaw's approval of Mr. Rendel's plan, it is said, the Loans Commissioners are prepared to advance, on security of the harbour dues, 100,000*l.* at 3¼ per cent., and 15,000*l.* at 5 per cent.; and should more money be needed for completion of the works, it will be advanced by the Earl of Lonsdale, the lord of the manor.

Darlington.—In this town 12,400 square yards of land have been sold by auction in one lot, and realized 4,310*l.* In 1704 this land was purchased for 100*l.* It is charity property, and has been producing a rent of only 25*l.* a year.

FROM SCOTLAND.

Glasgow.—The authorities of the University have entered into arrangements with the promoters of the City of Glasgow Union Railway, by which, in the event of the Bill for that railway passing into an Act, the grounds of the present College will be acquired by the railway company for the purpose of being converted into a general goods station. This sale is, of course, connected with a project for the removal of the University to a more eligible site. The new University is to be erected in the west part of the city, and negotiations, it is said, are far advanced for acquiring Gilmorehill for the site of the new buildings.

Dumfries.—The erection of the new Courthouse is proceeding. The building has attained a height of two stories, though only one is above the level of Buccleuch-street. The building is in the old Scottish baronial style. The material is the red sandstone of the district. The dressings are not polished, but drove hewn; and the other masonry is of hammered dressed stones, in regular courses. The main entrance has a cable moulding over the doorway, terminating in knots, forming trusses on each side of the doorway. A turret projects from the centre of the front elevation, above the main doorway, the base of the mouldings of which has been laid.

Borthwick.—A new parish church, recently opened, has been presented to Borthwick by Mr. David Kidd, of London, wholesale stationer, who is a native of the town. The church is cruciform. A portion of the nave wall is supported on stone pillars and arches. The roof is of open timber-work, and the windows are filled in with tracery. The apse, which is divided from the church by an ornamental screen, had long been the burying-place of the Arniston family; and Mr. Dundas, of Arniston, has put up a stone monument on the wall of the church recording the fact. Several other monuments have also been affixed to the new church. The old chapel to the south is in the meantime to be used as a vestry. An ornamental circular tablet above the arch of the apse records that "This site was occupied by a church destroyed by fire in 1775." There are three entrances to the church, the principal of which is through the base of the spire. The spire is about 120 feet in height, and springs from a tower with two buttresses at each angle. In the west gable there is a large circular window, and in the north gable a shafted window 10 feet wide by 20 feet high, divided in the lower part by three mullions, and filled in above with tracery. The points of the gables are all surmounted by ornamental crosses. The church is without a gallery, and seated for 600 persons. Mr. Kidd's gift has cost nearly 4,000*l.*

Forres.—The "hotel movement" is ranging far north; and we should not wonder to hear at last of those "hotels in Lapland" as to the "accommodation" in which the Cantab inquired of the traveller. A large hotel is to be built in Forres, on the ground lying between the Nairn-road and the road leading to the railway station. The architect is Mr. Petrie, of Elgin, who is to superintend the works, for which the following tradesmen have been the successful contractors:—Mason work, Messrs. Humphrey & Rennie, Elgin; carpenter, Mr. P. M'Leod, Forres; slater, Mr. Desson, Forres; plasterer, Messrs. Duffus & Ross, Forres; plumber, Mr. Gordon, Elgin. The building is to be three stories high, with commercial rooms on the ground floor; and the construction of the house will be such as to make it suitable for a family hotel as well as for a common one. The front is to be in the Elizabethan style, with oriel windows rising to the second story.

Elgin.—The time for taking in estimates for the erection of the new Court-house in Elgin has expired, but it will be some time before the successful candidates can be known. The committee send the estimates to the Treasury for their approval.

Aberdeen.—The prevalence of typhus fever in the district of the town, between Virginia-street and the Quays, has led to an inquiry as to the state of the sewerage in that locality. At a recent meeting of the Police Board, a report by Mr. Robert Anderson was submitted, which stated that the drainage of the locality was in a very bad state, the levels and situations being very unfavourable, and the foundations of the houses subject to infiltration of water from the river and docks. The drainage of this district can only discharge its contents at low water, the sewage being in many tides pent up for nine hours out of the twelve, and the sewage from the higher parts of the town falling into it, the space for accumulation in the Quay Sewer is soon filled up, and the sewage flows back through the Shorelands and other drains, into the cellars and foundations of the houses, and sometimes over the surface of the streets and floors of the dwelling-houses. As a remedy for this, Mr. Anderson suggested two plans, one of which has been adopted. The total cost will be about 975*l.* The Board, until now, has never possessed power to deal with the sewerage of the town, but arrangements are in progress for laying it out into drainage districts according to the Act.

Inverness.—This is now the head-quarters of the Sappers and Miners engaged upon the Government trigonometrical survey of the North, and will, in all probability, continue so for the next ten years. They are working in a north-easterly direction, towards the mountainous districts of Inverness-shire.

CHRIST CHURCH, MARYLEBONE.—Mr. Cave Thomas is making progress with the largest of the altar pictures for Christ Church, Marylebone, "The Exodus of the Gifts of the Spirit," the canvas of which is 36 feet in length.

WRONG TO POOR BOYS AT SEVENOAKS

WE are glad to find that the remarks made a to the Boswell Charity, Sevenoaks, in our recen paper on Knole, have awakened attention, an are leading to discussion. The *South Eastern Gazette*, after quoting our observations, an giving a brief account of the foundation of th charity (instituted, by the way, by *Lady* Bos well, though the recipients were to be called Si William Boswell's scholars), says;—

"Some years ago the funds had accumulated to ove 2,000*l.*, and the then trustees expended that money in th erection of a large building containing two school-room for boys and girls, and teachers' residences, and *both* schools are maintained by the charity, so that it is not want of means which has caused 'the wrong to poor boy at Sevenoaks,' but a perversion of the funds; and th amount expended in supporting the girls' school alone, about 60*l.* a year, would almost be a sufficient sum to ap prentice the boys. The charity accounts also show that the sum of 10*l.* is given to each of the schools at Riverhead and the Weald. The intention of the trustees is rather to educate the whole poor children of the parish than to carry out Lady Boswell's expressed intention. No one would object to Lady Boswell's endowment being extended as much as possible, but the first duty of those who have charge of it is clear. The yearly rent of the estate is now 430*l.*; and the accounts show that on the 28th December, 1863, there remained in the treasurer's hands, 283*l.* 3*s.*, in addition to 265*l.* 19*s.* 8*d.* in 3 per cent. Consols. We think the time has now arrived for some movement on the part of the parish officers. We have on more than one occasion called attention to the state of this excellent endowment; the next step should be, if necessary, an appeal to the Charity Commissioners, who, in the face of Lady Boswell's will, would be compelled to order that the funds entrusted to them should be administered in accordance with that benevolent lady's intention, so that 'the wrong to poor boys at Sevenoaks' should no longer exist, and that there should be such an extension of the endowment as might be considered most advantageous for the parish."

If this be brought about, as we hope will be the case, we shall have additional reason to be pleased with our visit to Knole and Sevenoaks.

BRISTOL SOCIETY OF ARCHITECTS.

At the monthly meeting held June 1st, Mr. S. B. Gabriel in the chair, the following gentlemen were elected student members:—E. Barnes, C. Taylor, R. M. Hughes, E. Hansom, A. Harford, and F. Martin.

Mr. S. C. Fripp (vice-president), Mr. E. W. Godwin, and Mr. C. J. Phipps (secretary), were appointed delegates to represent this society at the next meeting of the Architectural Alliance.

Mr. C. Underwood read a paper upon "The Bristol and West of England System of Measuring and Valuing Artificers' Work," which elicited a long discussion.

THE FEMALE SCHOOL OF ART.

THERE was a large assemblage of ladies at Burlington House to witness the distribution of prizes to the successful competitors amongst the pupils of the Female School of Art, which is under the special patronage of her Majesty and the Princess of Wales. Lord Houghton took the chair, and Professor Donaldson read a statement and report, which showed that the school was progressing in a satisfactory manner, and that the ability displayed by some of the students was of a high order. The chairman then distributed a very long list of prizes, the chief of which were the national medallions, seven having been granted. One young lady, Miss Sarah M'Gregor, took two national medallions, which marked rare talents. Lord Houghton, in addressing the meeting on the pleasing nature of the business, said he was delighted to see, by the specimens in an adjoining room, and still more by those at South Kensington, that the pupils had shown such devotion to nature. He was particularly gratified by the success of this institution, because it proved that the female sex of this country was more and more acquiring that independent position which he believed it was most advantageous for civilization they should occupy. Women who were succeeding in thus educating themselves were not only laying the foundation for obtaining their own means of living, but also laying the foundation for the happiness of their future homes, for the benefit of the children whom they might have to educate, and for the gratification of the husbands whom they might wish to please. In this country there was not only a deficiency of employment for women, but he was ashamed to say there was, on the part of the men of this country, a great unwillingness to let them compete on equal terms. On this public occasion he protested against such a course. The Rev. Mr. Thorold said it was very necessary that the school should receive such assistance that it could be made self-supporting.

ROYAL HORTICULTURAL SOCIETY.

THE flower show last week was very successful, whether as regards the display or the number of persons present. The azaleas were superb. The groups of fruits and flowers for the decoration of dinner-tables, for prizes offered by Sir C. Wentworth Dilke, excited much interest. The award ran thus:—1st prize, Mrs. Worthington Bliss, Eccleston-square; 2nd, Miss March, St. James's Palace; 3rd, Miss Wint, 1, Kensington-gate. Highly commended,—Lady Holmesdale; Mrs. Cutbush, Highgate. Highly commended for the side groups only,—Viscountess Combermere; Lady Emily Peel. For the Ladies' prizes, offered for single plants grown in a drawing-room for drawing-room decoration, Mrs. Dombrian, of Deal, was the successful competitor.

The great tent, which has been erected under the direction of Capt. Fowke, presented a glorious show of rhododendrons, and was a fine sight. This will remain open for some time. Some claims made for the constructor of the tent by his friends have brought down disputing letters; one, notably, from Major Rhodes, who has patented the "suspension system of tent-architecture," and asserts that in this tent all his details are copied.

This immense structure is 300 feet long, 120 feet wide, and 55 feet in height. It is supported by two enormous masts, 6 feet in diameter at the base, with iron wire ropes two-thirds of a foot in circumference, tightened by screws to anchors weighing a ton each, buried 10 feet deep in the earth, and held there by baulks of timber 10 feet long and 1 foot square, fixed across the flukes.

ARCHITECTURAL EXHIBITION LECTURES.

ON the 31st ult., Mr. J. Beavington Atkinson delivered a lecture on "Fresco Painting, as applied to the Decoration of Architecture." The lecturer discussed the question from three points of view;—firstly, as to the subjects best suited for mural paintings, whether sacred for churches, historic for national buildings and halls of legislation, or poetic and mythologic for palaces or private dwellings;—secondly, he considered the special styles of pictorial composition, which, by their prescribed severity, symmetry, and dignity, may best comport with architecture;—thirdly, mural painting was treated as a medium of colour, as a means by which construction, without the surrender of its distinctive lines or the confusion of its proportions, may be enhanced in beauty and rendered more emphatic in expression. He suggested that leading academicians might make designs, which should be executed by inferior hands, at a cheap rate, as decorations to churches and public buildings. It was also proposed that Raffaelle's cartoons might be executed in fresco along the naves of country churches: the designs of Flaxman might in like manner be reproduced in fresco on an enlarged scale, and at a comparatively small cost, for concert-rooms and municipal halls.

On Tuesday, the 7th inst., Mr. W. Page Smith delivered a lecture on "Michelangelo, the Artist and the Man." After giving a short sketch of the history of the period in which the great artist flourished, the lecturer proceeded to describe his life and actions, showing what an influence his powerful genius exercised upon the art not only of the time in which he lived, but also of the succeeding periods. The lecture was illustrated by some autographs of Michelangelo. This was the last lecture of the session.

ENGLISH ART IN THE DAYS OF SHAKSPEARE.

PROFESSOR CHAMBERLAIN delivered a lecture on this subject at the Midland Institute, Birmingham, last week. He said there was a national style of architecture in the days of Shakspeare—a style which the whole nation accepted, delighted in, and followed—a style which was not confined to the rich nor to the poor, but one which prevailed in palace building, church building, farm houses, cottages, and so on. Up to that time there always had been a national style of architecture in England: since that period there had been none. This art, as was the case with all art, was distinctly historical,—it expressed certain things in the history of the nation which were not so clearly expressed in any other manner; and by its study it was possible to arrive at a knowledge of the men of that era which could not be gained in any other way. The style itself, as a matter of art, was not perhaps particularly worthy of admiration. It had very many meritorious points, but in itself was a grotesque and semi-barbarous style. In fact, it was a transition style—standing halfway between the abandonment of the old Gothic and the full acceptance of the new Classic, which a very few years afterwards generally prevailed in England, in the houses of the nobility. Elizabethan architecture was an intensified expression of Elizabethan thought, and was entirely unlike anything the world had seen before or since. One of the first things he found in Elizabethan art was its intense individuality. While it thought it was copying it was doing nothing of the kind; and when it thought it was reproducing the vaunted works of the ancients, it was producing something which was then seen in the world for the first time. He thought if we knew nothing about their art, but were only acquainted with their literature, we should say that these Elizabethan men were not likely to be copyists, but to have a will of their own, and to express it in their own way; whilst, if we were without their literature, and had but their art, we should say here were great original thinkers, who, although they thought they were bound to follow out certain forms and figures, yet interspersed them freely with ideas of their own, and in nothing at all would submit patiently to be copyists. While they were attempting throughout their lives to be highly classical—twisting even their language into the classic garb—their real nature was constantly forcing itself through, and the effect was exceedingly grotesque.

COMPETITIONS.

Ipswich Town-hall.—We understand twenty-eight designs have been sent in for the new town-hall, and that the committee have selected one to recommend for adoption by the council.

Chester Town-hall.—The town council have determined on calling in an architect to report on the designs submitted in competition.

HEALTH REPORTS.

THE report on the sanitary condition of Margate, from 1837 to 1862, by Mr. Edward Mottley, is, for various reasons, worthy of careful consideration. The author has gathered together many useful facts in connexion with this town: for instance, the death-rate is compared with that of several other places. In the principal Italian cities, on a seventeen years' average, it is said to be 34 per 1,000 per year, while in Margate the yearly average of deaths during thirteen years 1850 to 1862, including visitors and strangers, many of them invalids, is 21 per 1,000 per annum; but it is said that, deducting the visitors and those residing in hospitals, on fifty years average, the death-rate in Margate, of the residents, is only 16 in the 1,000 per annum, and no doubt this low death-rate may be still further reduced. It appears that in the course of this inquiry the investigators have had ready access to death reports, and other facilities, afforded at the office of the Registrar-General, in Somerset House. The value of these local statistics of life and health is great, and it would be well if many other towns were to follow the example of Margate, and give a correct account of the number of deaths of those who may be fairly considered residents of the localities, and of those who in the search for health have died, and whose name and number stand in the black books at Somerset House, against particular places. No doubt an inquiry of this kind requires very great care, and there is the risk of the desire to make the towns which are reported upon by certain of the inhabitants look as favourable as possible. We do not say that it is so in this instance, but it would be well generally if these local reports could be in some way certified by an unbiassed and undoubted authority connected with the Somerset House registration department.

The value of these local reports on life and health is great, and might with advantage be made in all directions; but at present there is sad want of some system of keeping these so that they can be readily accessible. Take, for instance, the able reports which are issued year after year by the medical officers of the London districts. These ought to be arranged and made easy for the use of persons who desire information on this most important subject; but, when inquiring, not long ago, we found that neither at the Registrar General's office nor in the library of the British Museum is there any compilation or arrangement of publications of this description. Many of these reports, although they contain matter of vast import, are of small size,—thin pamphlets, of two, three, or four pages. At present, if we require a dozen or more of these reports in the British Museum, it is necessary to have the names of the authors, and to write a distinct ticket for each publication. It would be far better to collect these pamphlets, bind them in volumes, and in the catalogue, under the heading of "The Public Health of Great Britain," to let us find "Medical and Sanitary Reports, London;" "Medical and Sanitary Reports, Lancashire," Northumberland, Yorkshire, &c. If this were done it would be of much use, and need not prevent the names of authors from appearing in the usual way; while at the office of the Registrar General there ought to be a classified library available to the use of persons seeking information. Very often this would be of great service, particularly to persons who come from the country for the purpose of obtaining knowledge of these matters.

At Manchester, both in the Free Library and the Mechanic's Institute, care has been taken to arrange the sanitary and health statistics of the town and county; and the same should be done in every important provincial town.

But it is to the general preparation of health reports of towns and particular localities that we would now chiefly direct attention. Generally, the advantage of this would be great, and it would, moreover, be a means of stimulating various towns to renewed sanitary exertions: to places which depend in chief measure on strangers who visit them in the search of health or recreation, it is a matter of pressing consequence; and, when the system of publishing reports such as those referred to becomes customary, Margate will vie with Ramsgate, Brighton with Scarborough, and so on, as to which can show the lowest death-rate; and great will be the satisfaction in those towns which every ten years can effect by right sanitary measures the reduction of deaths per annum in the 1,000.

HALF-TIMBERED HOUSES.

SOME of the half-timbered houses of Old England have been said to resemble specimens of the architecture of the seas. Stage upon stage overlapping the other, they, indeed, seem but to want decks, instead of roofs, to resemble the hulls of ancient ships. There are, however, varieties in their construction which could not bear any such comparison.

As in primitive times, the use of timber in domestic architecture was, of course, due to its abundance. The forests of old, like our present coal-fields, then appeared inexhaustible; and wood was used for every available purpose, including firing. But the day came, as it is heralded in the case of coal, when the scarcity of timber called for substitutes; and new building materials and new fuel were adopted. So plentiful had timber been hitherto, that haybote or heybote, housebote and firebote, were matters taken for granted between a lord and his tenant, although they were terms which conveyed permission to cut in the lord's wood as much timber as the tenant required for firing, to keep his fences in repair, and to uphold his house or tenement. Queen Elizabeth, "of blessed memory," passed a statute forbidding the unnecessary consumption of wood, which, by her time, was beginning to get so scarce as to be sold by the pound in some districts; and the same sign of coming scarcity may be read in the complaint of the Commissioners of Henry VIII. against the Scots, who, they deponed, both by day and night, carried away timber out of Cheviot forest, which was to them "a greate profitte for the maynteinance of their houses and buildynge," and a corresponding loss to the Crown.

We may ascribe the erection of most of our half-timbered houses to the fourteenth, fifteenth, and sixteenth centuries. That this fashion of building was in vogue even before the first-mentioned date we have evidence in the existence of an Early English church in Cheshire, built in the half-timbered manner; and that it extended into the Elizabethan age, despite the growing scarcity of wood, we have an example in the date of the renovations of Little Moreton Hall, in the same county, where, over the great window of



HALF-TIMBERED HOUSES IN MANCHESTER.

the hall, may be read.—"This windows whire made by William Moreton in the year of our Lorde MDLIX.—Richard Dale, carpeder, made this window by the grac' of God." There are few towns that possess more than two or three specimens of this once favourite and always picturesque mode of building; and there are many that cannot point to one. Some counties are richer than others; but none so rich as to be able to afford the loss of these curious relics of the Plantagenet and Lancasterian eras. The resemblance to naval architecture in half-timber houses might be attributed to our insular situation, which might have been expected to have obliged our forefathers to have concentrated much of their energies on ship-building, if our continental neighbours had not also built largely in the same style. Not only France, but Germany and Switzerland, possess numerous and choice examples of ancient half-timbered houses.

In analysing the construction of these edifices we must own the skill with which so much diversity is effected with limited means,—the Saint Andrew's Cross and the lozenge in combination with horizontal and perpendicular lines, arranged in panels and otherwise, being the most varied disposition of the timbers available. The framework, thus composed of solid beams of timber and short joists arranged in the modes indicated, is either filled up with masonry, brick noggings, or plaster. Owing to the narrowness of the thoroughfares, which in its turn was caused by the necessity of economising space in walled towns, the houses would have been very dark if no extra provision had been made to obviate this; but the difficulty was met by glazing as much as possible of the fronts. Hence the front elevation of some of these houses consists of little more than glazed panels. We must also attribute the overhanging floors to the necessity of occupying as little ground-space as possible. Foreign archæologists assign as a reason for their construction the convenience they held out for secret meetings of the burgesses. In the narrow streets, lined on each side with projecting gables, the upper floors nearly touched, and by merely opening the windows meetings could be held by the inhabitants without descending into the thoroughfares. That they were occasionally made use of for such purposes we can easily imagine; but that they were built with that end in view it would be vain to suppose. The small plot of ground originally built upon could by these means be made to afford nearly double the amount of house-room; and as the citizens became opulent we may be sure extra space became a necessity, and they ingeniously availed themselves of the best method of adding to their dignity and comfort. Occasionally the ground-story is found built either of stone or brick, and the superstructure only of half-timber projecting over it. The roofs are found to overhang the façades very much, with the aim of keeping rain and snow from the foundations, and the projection of the stories has the same effect. The materials used for roofing were various: thatch, shingles, slates, lead, and tiles. The latter appear to have been in most favour about the period of Richard I., when the houses in London were ordered to be covered with "brent tile" instead of straw. When not occupying a corner site the sides of the houses consisted of the framework of timbers filled in with rubble to form party-walls. The metropolis, Salisbury, Chester, Worcester, Bristol, Coventry, Shrewsbury, Gloucester, Hereford, Wakefield (in Yorkshire), and Newcastle-upon-Tyne, possess our choicest examples.

Our illustrations of some half-timbered houses of Manchester here given show several peculiarities of the style. One of them suffers considerably from the display of the signs and placards of its tenants; but, divested of these, it will be seen to consist of a quaint gabled structure two stories high, having an intersecting gable end on the return side. But few of these erections are straight, owing to the settling, warping, shrinking, and swelling of the materials; and the cuttings to insert shop fronts and make other modern alterations, do not improve their chances of stability. The more ornamental structure has two large gables and a tower facing the street. The pediments of these gables are filled with quatrefoils, and are surmounted with finials. The two upper stories are treated regularly with an alternate arrangement of panel and window, each panel having two lozenges in it, one above the other, with the exception of that at the left-hand corner, which has a sort of herring-bone disposition of the timbers on both tiers. The ground-floor has been metamorphosed. The barge boards in these examples are not so fully ornamented as in some instances: in Coventry some of them are pierced like lace-work. Neither are there any projecting oriels or wooden brackets, features that are also freely used.

THE FREE CHURCH, KELVINSIDE, GLASGOW.

THE church of which we here give an engraving has recently been erected in the west end of Glasgow, and close to the Botanical Garden, from which spot our view is taken. Its extreme length is 91 feet, its width 57 feet, and the height from floor to ceiling 57 feet. The tower and spire, which form so conspicuous a feature in the side elevation, rise to a height of 180 feet.

The treatment of the design generally is consistent with the locality; and the spire, it will be observed, is square on plan.

From the nature of the site a very extensive underbuilding was required, so that the basement story is as large as the area of the church itself; and one-half has been appropriated as a hall, accommodating from 300 to 400 persons, and allowing of due regard to height and ventilation.

Connected with the church there is also a small hall or sessions-house 27 feet by 17 feet, a vestry, and other apartments. The tower is founded below the level of an old coal waste, which runs under it, by means of iron pillars 40 feet long, resting on the rock below the coal working, being in all about 60 feet below the surface of the ground.

Internally, besides the accommodation afforded by the ground-floor, there are galleries running along the blank space in the aisle walls between the lancets and the wheel windows. The clerestory, which is of Parpend ashlar, is carried on stone arches springing from strong iron columns with foliated capitals. This construction, which has the advantage of interfering but little with the view in any direction, gives an appearance of lightness and airiness to the interior; and at the same time (the nature of the materials being in no way concealed) of perfect stability.

The cost of the whole building, exclusive of tower foundations, was about 7,500*l*. This includes all expenses connected with heating and ventilation; also the encaustic tiles, stained glass, iron and brass work, and the ordinary fittings.

The architects were Messrs. Douglas & Stevenson, of Glasgow; the masons' work having been done by Mr. J. Millingen, and the joiners' work by Mr. T. Nisbet, both also of Glasgow.



THE FREE CHURCH, KELVINSIDE, GLASGOW.—MESSRS. DOUGLAS & STEVENSON, ARCHITECTS.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting on May 25th, Mr. T. J. Pettigrew, F.R.S., in the chair, the chairman called attention to a threatened demolition, already alluded to in the *Builder*, of the walls of the ancient castle of Southampton, visited by the Association in 1855. The property has been purchased by a builder, who has expressed his intention of pulling the walls down for building purposes. He is, however, willing, upon the payment of 100*l.*, to allow these ancient historical remains to stand; but the town council, by a letter from the town clerk, addressed to the Association, upon receipt of a remonstrance upon the subject, state that they do not possess any funds which can legally be appropriated to such an object. The mayor and others are disposed to enter into a subscription for the preservation of the walls, if the corporation do not take them under their protection.

Mr. Stevens, of Salisbury, communicated to the treasurer an account of the discovery by Mr. Brown, of flint implements in the drift at Hillhead, near Fareham. There are examples of nearly all the known types, and they are deposited in the Salisbury Museum, where they have been seen by Mr. Evans, Mr. Prestwich, and Sir Charles Lyell. They were all found by Mr. Brown, not purchased of any dealers; so there is no risk of a forgery among them.

Mr. S. Wood exhibited a Roman lamp of the commencement of the Christian era, representing a lion *sejant*. The potter's name reads C. IVNDRA. F. Mr. Wood also exhibited a quart Bellarmine of about A.D. 1600, with the arms of Amsterdam, found in the Thames at All Hallows wharf, in April last. Mr. Wood also exhibited a *Kasher Chotam*, or Seal of Purity, formed of lead, and used to be affixed to animals killed for food for the Jews. The die is stamped with Hebrew characters, the common formulæ of which are, "Sanction of the Ecclesiastical Board of the Holy Congregation" and "Pure for the Zebi," or hart, *i. e.* Israel.

Mr. Irvine exhibited some specimens of early English binding.

The Rev. Mr. Cardew occupied the remainder of the evening by a minute detail of the discovery of an extensive cemetery, generally conceived to be of the Romano-British period, at Helmingham, in Suffolk. The excavations are being continued, and will be visited by the Association at the Ipswich congress, in August next.

WORKING CLASS INDUSTRIAL EXHIBITION.

IT is satisfactory to find that the good example shown at Lambeth in opening an exhibition for the display of the handywork of the industrial classes, is likely to be followed in other parts of the metropolis. As we have already stated, means are being taken for the purpose of opening a working-class industrial exhibition for North London; and we earnestly hope that the experiment will be fairly tried with successful results. But in order to insure this, it is needful that the rules, objects, and other particulars respecting the proposed exhibition, should be extensively made known throughout the district to the class who are likely to become exhibitors. Supposing that an efficient committee, composed of persons anxious to promote the exhibition and intelligent workmen, has been appointed, it would be necessary that on stated evenings, either in one of the school-rooms, or in some other convenient place, there should be attendance given, whereby any one interested may receive information respecting the time and manner of admitting articles, &c. A great difficulty to be dealt with in the first establishment of these exhibitions, is the circulation of a knowledge of the objects in view amongst the immense populations which throng the metropolitan districts, without the expenditure of large sums for advertising. To a certain extent, the difficulties to which we refer might be overcome by the delivery of free lectures given in the National School-rooms on subjects immediately connected with such exhibitions, and showing the advantages of combination amongst workmen for the purpose of mutual information and instruction. In the large manufactories and workshops, by a little good management and without much trouble, the needful information might be communicated to large numbers. The same may be said respecting friendly and other societies, in which many mechanics of various pursuits meet together. Every workman may, by his own exertions, inform many others, and good could be done by those who visit the homes of the industrious community, if they were, when opportunities occurred, to mention the uses of industrial exhibitions.

This is a movement which may not only be the means of improving large numbers of workmen, but also a source of much pleasure to them. The time spent in preparing for the exhibition will keep many a one at home who would otherwise be in a worse place.

To ensure success, we would urge that publicity is essential. If the matter had been more generally known at Lambeth, the number of visitors and exhibitors would have been tenfold.

CIVIL ENGINEERING IN INDIA.

HAVING seen in the *Builder* for April 23rd a letter signed "One of the Victims," complaining of the treatment which the civil engineers sent out by the Court of Directors of the late East-India Company in 1855, have met with from the Madras Government, I think it right, as one of those sent out to the Bombay presidency in the same year, to state my belief that, whatever may have been the case in Madras, the civil engineers sent out to Bengal and Bombay have been fairly treated. They, as well as the Madras men, went out under covenant; and if the conditions of their engagement had not been fulfilled, they would have had their legal remedy; but, so far as I am aware, no disposition was shown to interpret their covenants in an unfair spirit; and I believe I am warranted in stating that those of their number who remain in the service are in the receipt of salaries varying from 50 per cent. to 100 per cent. and more, in excess of the amounts secured to them by their agreement; and several, if not all of them, are in positions of high trust and responsibility. I have had no personal experience of the Madras service, but it is evident that many of the circumstances enumerated by "One of the Victims" as grievances, are no more than any man taking service in India ought to have been prepared to encounter; while the rest are of such a nature, that a temperate and firm representation of them would most likely have obtained their redress at the hands of the Government, unless matters are managed at Madras very differently from other parts of India. But such complaints, circulated without reply, in a journal so influential as the *Builder*, may do harm by deterring young civil engineers of promise from seeking service in India; a country which all who know it must admit to present a large and fair field for the profession. It is the want of skilled agency which in a great measure cramps the Indian Government in the prosecution of public works; and as the resources of the country are developed, the channels of employment for civil engineers will expand.

That the demand is great may be judged from your correspondent's statement as to the employment of corporals of sappers and others without European experience. Such men would not be admitted if others better qualified could be obtained; and surely "One of the Victims" cannot expect to improve his position by lowering his service in the public estimation, and thus keeping out men of a superior class.

A BOMBAY CIVIL ENGINEER.

*** It is right we should state that the complaints made by "One of the Victims" were reiterated by other correspondents.

THE INIQUITY OF SHAMS.

IT has happened as I rather expected, and just as I wished. My "Apology for Shams" (translated into predilection for shams) has brought down upon me the ultra-moral indignation and over-acted morality of "*Ex Stirpe*,"—for whom, by the bye, I have felt what is called a sneaking liking, and have given him credit. I am, it seems, not only apologist, but an advocate for fraud and deceit in art. But surely *fraud* is not exactly the word to be applied to what defrauds no one, and which, if it cheat at all, cheats us of no more than a little pleasurable admiration, when

> "The pleasure surely is as great
> Of being cheated as to cheat."

Scrupulosity in such matters may be carried to a morbid and even ridiculous excess. No one out of a lunatic asylum would speak of another as having his mouth constantly filled with arrant falsehood and lies because he wore false teeth. Should my deception-abominating opponent ever be reduced to the necessity of mounting a wig, it is to be hoped that he will adopt either an episcopal or judicial one, and not a mendacious one *au naturel*;—or, perhaps, he has a wreath of laurels laid up in lavender wherewith to screen out baldness. But it is time to drop this very cheap sort of jocularity.

Materiam superat opus has ever been considered a merit in productions of art: excellence of design, skilfulness of execution, combined with the ineffable witchery of æsthetic effect, can impart a value far exceeding that of the mere money-worth of materials, which may, perhaps, be almost *nil*.

A Greek pickle-vase, which, for its pure eumorphic beauty, seems to have been fashioned by the fingers of the Graces, far surpasses as an embodiment of artistic skill and refined artistic feeling the most costly productions of Sèvres, which latter, supremely costly as they are, are at the same time apt to be more or less at variance with pure and unsophisticated æsthetic feeling.

As one most triumphant instance of what may be done in architecture, though the material employed be no more than stucco in imitation of stone, I may point to that most charming of Barry's structures, replete with genuine artistic originality, and in whose design every touch is grace, namely, the Travellers' Club-house, which, in addition to its æsthetic merits, completely refutes the vulgar notion that buildings which are Italian in character cannot be at all suited to our English climate; which is, by the bye, not a little grossly slandered. One species of Italianism in architecture, indeed, there is, I would strongly deprecate, which is Italian Gothic, and which, as compared with our own, may be called *emasculated*,—an epithet quite as decent as that of *lascivious*, bestowed by Ruskin upon Renaissance.

Returning from these somewhat extraneous and parenthetical remarks, I would humbly submit that there is a very great difference between stucco and stucco,—between materials which, though they go by the same name, are very unlike in quality. Of course, if people will pay only Brummagem price, they cannot reasonably expect the article to be of more than Brummagem quality; but stucco can be produced that shall be quite as sightly and as durable as stone; in fact, more durable than some kinds of stone.

If all that goes by the name of stucco is to be denounced as base imposition, *scagliola* must, I suppose, be put under the same ban. And, again, as to *ashlar*, ought not that to be reprobated as no better than trumpery deceptive veneering of stone,—a sort of enamelling *à la* Madame Rachel, of what, unless so tricked out, would show itself as honest, unsophisticated brickwork?

Here I stop, for the present, with a prayer for "*Ex Stirpe*," that, with his abhorrence of all shams and mockeries, he may never be seduced into the iniquity of not only tolerating, but actually patronizing mock turtle, even when comprised of the most delicious ingredients, and prepared by a most accomplished culinary *artiste*.

ART LOVER.

METROPOLITAN RAILWAYS AND THOROUGHFARES.

As the railway system is being extended in the metropolis, and a great number of Bills for that purpose are before the House of Commons, an opportunity offers itself, which should not be lost sight of, for forming new streets and roads.

The committee of the House has taken a step in the right direction with respect to the proposed railway which is to pass under the Hampstead and Tottenham-court Roads to Charing-cross, and the Thames Embankment, by requiring that a new street be formed over the railway.

This new street will prove an immense boon to the public, and pass through a class of property of a very inferior description, some of it being scarcely fit for habitation.

I doubt not great improvements might be made by the proposed extension of the Metropolitan Railway, now before the committee, towards Tower-hill. The extension westward has passed the committee of the Commons, from Praed-street, in front of the Great Western Hotel, on to Notting-hill, Kensington, and Brompton, as far as Alfred-place, adjoining the Exhibition-road, which road is to be extended to

join the station at Alfred-place. A new road over the railway is to be continued from the end of Prince Albert's-road to the same station; but what are the Kensington vestry about not to try to get a road over the railway from Notting-hill to Brompton, so as to relieve the narrowness and inconvenience of Church-street, &c.?

We have heard much of the want of direct communication between the north and south of Hyde Park and Kensington Gardens; and the discussion in the House of Lords on Monday evening must be for good respecting Park-lane, as something must be done to relieve the traffic there. The subject was taken up by a spirited leader in the *Times* of the 7th inst.; and the proprietors of Hamilton-place must yield to the public necessity, as has been done by the Crown lessees adjoining the Thames Embankment, near Westminster Bridge. The expense of continuing the road from Hamilton-place through the gardens to Park-lane, would be small as compared to the immense advantage to the public.

The nearest accommodation for the public west of Park-lane from north to south is Church-street, Kensington, except that cabs are temporarily allowed across Hyde Park, in the day time, from Queen's Gate to Victoria Gate.

Now, sir, a good road could be formed over the railway, from Notting-hill to High-street, Kensington, and onward to Brompton; and thus the public would be accommodated by road as well as rail, and the railway company would have much better approaches to their stations.

There is a Bill (or Bills) now before the House which is expected to be before the committee in a few days, as it stands in the list with a * before it. By this Bill it is proposed to continue the railway from Brompton across Chelsea and Pimlico, to the Victoria Station, and along the Thames Embankment to the City, so as to complete the inner circle, as recommended by the joint committee of Lords and Commons. The whole of the line is to be underground, so as to leave the level of streets unaltered. This is a good opportunity to effect a great public improvement, as there is now no direct communication from Brompton and South Kensington to Eaton-square and Pimlico.

The proposed noble road from Belgravia direct to South Kensington has been withdrawn from the committee of the House. This road, if carried out, would have been one of the greatest public improvements ever made in the west end of London, as the new road would have been about 120 feet wide, and noble mansions of from 300*l.* to 600*l.* yearly value would have been erected on either side, and there would have been very little house property interfered with, as the road would have passed through the Pavilion and Smith's Charity grounds, the latter being only used as a nursery garden. It is to be hoped this Bill will be re-committed.

Now, sir, by the proposed railway from Brompton through Chelsea and Pimlico an opportunity offers such as never presented itself for making a public road from Alfred-place, where the Brompton station is to be placed, so as to connect South Kensington and Brompton with Sloane-square, Eaton-square, and Pimlico. At present, any one going from Eaton-square towards South Kensington can only do so by a very roundabout way; whereas, a road over the proposed railway would open up the whole district, and greatly improve the property along the line. It would be a great advantage to continue the road on towards Pimlico, but that portion of the road is not so much required, as the streets in that district are more open and direct; but across Chelsea, and from Kensington to Notting-hill, the road accommodation is very indirect and inconvenient. I do hope, sir, some effort will even yet be made to form these roads.

Wherever railways are carried through very thickly-populated districts in London, and the street accommodation is deficient, these roads and streets ought to be formed or widened. Should the proposed road not be formed where the railways pass underground they can never be formed, as the expense would be so very great; but as property must be purchased for the railways to a width of about 40 feet, it would no doubt pay the railway company to purchase the extra land, and let the frontages for building, while a great public good would arise.

I hope I have not taken up your space unnecessarily by the propositions contained in this letter. The matter is somewhat urgent as the bill is expected to be under the consideration of the Committee of the House of Commons immediately.

OCTAVIUS.

A LETTER TO A STUDENT.

* * * * * *

Art thou quite weary? Hath all music fled?
Have art-love's traces perish'd from thy soul?
All voices silent? From the mighty dead
Past triumphs speak not and no echoes roll
To cheer thy faint heart as thy footsteps tread
The narrow path straight leading to the goal.
The path the masters hough'd in times of yore,
When saints and martyrs for their causes shed,
With joy unequall'd but in saintly lore,
The blood which hallow'd them awhilst they bled;
Leaving their mem'ries bright, for evermore
To echo like sweet music, spirit-led,
From heart to heart and blissful shore to shore;
Bidding its pow'r restore each dimmèd eye and throbbing head.

"I'm sad and weary." Well, I doubt it not,
How many aching hearts live like to thee!
Who ache and yearn for that they know not what,
Or ache because of immortality:
Which some men mock at, since it is not got
Like grapes from vines, or berries from a tree;
Whose coarser natures will not daily fight
Existing elements that disagree;—
The word of wrong—the heav'n of holy right;
Man's smallness and immensity;
The world of darkness and the world of light;
The moral slave and the immoral free;
The careless blind, and those who, bless'd with sight,
Have minds that cannot, or that will not, see!

I say 'tis well, and wert thou thrice as sad
I'd deem it not a sadness earnèd ill
So it but tend to make the future glad,
And prove thy soul the master of thy will!
For well I know the time is drawing near
When, in the magic of a moment's breath,
The rolling world shall glide without its sphere,
And rosy Life from all decaying death
Claim from each soul the actions of its will,
To smile on those that save—to weep o'er those that kill!
So if thy sadness doth but make thee wise,
To hate all else and hold to ev'ry good,
A burst of song shall herald out thy sighs,
Teaching thee things to prize which thou once misunderstood!

I do believe thy sadness rather comes
From pale humility than envy's rank disgust.
"For I have fail'd!"—ay, all essayists must;
And failure, making humble, oft benumbs
A mind with true and genuine feeling in it,
Until it gains its strength to stand, alone,
And, in its fight for an imperial throne,
Calm, in its power to enter in and win it;
Engaging steel-clad enemies at odds,
Despite meu's malice or malignant gods!
Give me the man who, in his calm of mind,
Survives defeat and smiles on Fortune's frown;
Who, great, can weep; severe, be ever kind;
Rocks may dissolve, but never his renown.

"Others have wrought—and won; but I shall not."
Here follows such a blot
Upon the crumpled mis-directed letter,
Fame gain'd so blacken'd would be ill begot.
Mend up an old pen, or else buy a better.
Show me such heedlessness to brush or pen,
And I'll discern an index to thy life;
For carelessness is not the fault of men
Who buckle on their armour for a strife
When Honour,—Fortune the result abide;
They'll have their corslets and their spear-shafts tried
Most carefully by an approvèd test,
Holding, as warriors should, to what is best;
And deeming Fortune kindest when the beldame is caress'd!

"But I shall not." I pray thee always say so,
But working, striving, working, for to win;
And working quick, not slow and void of spirit,
Upon the circumstance thou once begin.
Yet working humbly, very humbly, too; as though
Thou durst not hope for praise on score of merit,
Or that each figure has a certain price,
Like some tame pack of white performing mice.
I'd have thee work, like shepherds in a grove,
Sung of by Virgil in his past'ral lays,
Who deem'd their fates were but to live and love,
And, loving, end their troubles and their days!
Content, in gaining approbation stately
From one, or two, or three, they valued greatly.

"I'm sad; I'm tired." Why so have others been,
And wouldst thou sleep? Perchance the time is nigh
When we should rise to gaze upon a scene
Ungiven yet to any mortal eye.
I do not mean, precisely, we may die;
But by due exercise the mind can make
A world its own, where it may revel in
Untainted by the venal'ties of sin.
All tire at night, yet, ere the morning break,
We must be strong and ready to awake,
And seize the light and crush the day our own,
Without a sigh, much less a thorough groan.
Take exercise, and cheerfully,—thy sadness
Will yield to ruddy mirth like clouds to Sol's soft gladness!

I tell thee there are secrets by which life
Were robb'd of many a pang if all but knew
How to form angels from each shrewish wife,
Or raise rose-gardens where the thistles grew.
Untie thy knots—I pray thee save that knife,—
Let many precepts rule thee, not a few;
Use calm persuasion, not immoral steel,
To bring thy difficulties to an end.
If pride fret stubborn for a place, go kneel,
And rise not mindless,—unresolved. Amend:
Seek not two meanings or a double end:
Straightforward be and pure in thy intents,
And let Philosophy mean this,—"Be true;
Prepared for any, firmly meet events."

C. G. S.

CHURCH-BUILDING NEWS.

Great Hautbois (*Norfolk*).—The new church at Great Hautbois has been consecrated. The necessity for the erection of the new edifice arose from the dilapidated and even dangerous condition of the old church. The new edifice is built on a plot of ground immediately adjoining the house of the rector of the parish, and only a short distance from the schools. The architectural character of the edifice is derived from the style prevalent at the latter part of the thirteenth century. The architect was Mr. Jeckyll the designer of the Norwich gates. The church consists of a nave, north and south aisles, and chancel, opening into which is an organ chamber and vestry. Accommodation is provided on open benches, for 250 adults and children; but an additional number of fifty can be seated on chairs when required. The nave is without clerestory, being lighted from the west end only, and the roof is formed after the waggon-head principle, and panelled. The chancel roof is boarded and panelled; and, with the rest of the roofs, is, as soon as the work is sufficiently set, to be painted gray and diapered. The plastering of all the walls is also prepared for polychromatic decoration. The church is constructed in a similar manner to the old one, with freestone doorways, windows, and columns, and with brick arches in the arcades and openings; the whole of the brickwork being plastered over. The floors are laid with Staffordshire tiles and the chancel with Minton's tiles. The glazing of the church is of thick rough glass bands of two tints, and in small square panes. The east windows are already filled with stained glass. Provision is made for heating the church by one of Gidney's underground stoves. The cost of the church, seated with chairs, amounts to upwards of 800*l.*

Sunninghill.—All Saints' Church, Ascot Heath, has been consecrated by the Bishop of Oxford. The church is situate in the consolidated chapelry of Cranbourne St. Peter. The site is on land given by the Crown, adjoining the turnpike-road leading from Staines to Wokingham, and close to the new Royal Hotel, on Ascot Heath. It has been erected from designs by Mr. T. H. Rushforth, of London, by Mr. J. Norris, of Winkfield. The building is a remarkably plain and unpretending structure, of dark red brick, with Bath stone dressings. It consists essentially of a nave and chancel with south aisle, and is fitted throughout with open benches of varnished pine. The church has no spire or tower, but simply a bell-turret. The building will hold about 260 persons, and 190 sittings will be free. There is a three-light east window of stained glass, put up by the Misses Greville, of Inglemere Wood, and executed by Messrs. Lavers & Barraud. The cost has been about 2,100*l.*

Milton Abbas.—The ancient church of Milton Abbas is in course of restoration under the direction of Mr. Scott. The tenders were limited to a few firms, and the contract was obtained by Mr. Wellspring, of Dorchester, builder, who is carrying out the works under the personal superintendence of Mr. Yeoman, as clerk of the works, from the establishment of Mr. Scott. The stonework is already in a forward state, though considerable difficulty has been experienced, from its having been found necessary to underpin many of the exterior buttresses, and one of the principal tower piers, where there had been a settlement, owing, it is said, to the construction of the vault of the Damers, who lie here in the north transept. The exterior roofs have been thoroughly restored and re-covered with milled lead. There are evidences of where the cloisters communicated with the domestic portions of the abbey, and also with the lady chapel immediately behind the chancel. At the western end, just under the tower, a porch is being erected, in keeping with the other parts of the building; and several of the traceried windows which had been blocked up are now again opened. The groined roof of the whole building is nearly completed. It is composed of rock chalk, with ribs of Ham Hill stone.

Worcester.—Sir E. A. H. Lechmere, Bart., in addition to his former donation of 100*l.* for the general restoration, has given 150*l.* towards restoring the Norman arch lately discovered at the west end of the Cathedral, and supposed to belong to Bishop Wulstan's structure. The subscriptions, including 509*l.* recently contributed at the Warwick meeting, now amount to 14,978*l.* 14*s.*

Emery Down (*New Forest*).—A new church has been opened here, in the very heart of the New Forest. Admiral Boultbee has built this

church at a cost of about 1,300*l.*, and endowed with with 1,700*l.* The church, which has been built by Messrs. Hillary, of Andover, from designs by Mr. Butterfield, of London, consists of a nave, organ-chamber, vestry, and north porch. A bell-cot terminates the western gable; and the roof, which is high pitched, is open arched, with stained deals. The sittings, in open stained deal benches, number about 170. Forest bricks have been employed, with Bath stone dressings. The walls internally are stuccoed, but in the chancel above the stone the bricks are worked in diapered patterns, banded by coloured bricks. The pavement of the nave is of red and black square tiles, but in the chancel Minton's encaustic tiles, interspersed with ecclesiastic patterns, have been used, and these have also been employed, with Bath stone, in the communion recess and the reredos.

Preston.—The chief stone of Christ Church, Fulwood, Preston, has been laid. The new edifice will cost about 2,200*l.*; and already 1,750*l.* have been subscribed and promised. The edifice will be built entirely of stone; and will be capable of accommodating 430 persons, 140 of the sittings free. The architects are Messrs. Myres & Veevers, of Preston. The new edifice will be constructed entirely of stone, that for the walls from the Roddlesworth quarries, and the dressings from Longridge. The church has a spire, on the northern side, 102 feet high to the top of the masonry. In this there is a large single bell turret, octagonal in shape, and standing over the principal entrance, and the spot to be set apart as the staircase of the gallery. This gallery, however, will not be erected until all the other complements are provided. The church will consist of a main building, 70 feet long, 36 feet wide, and 46 feet high to the pitch of the roof, the seats being approached by a nave and two side aisles. There will be no pillars in the building. The chancel and choir will measure 23 feet by 18 feet, on the north side of which will be the vestry, and on the south an organ chamber. The floor of the chancel will be paved with 6-inch quarries and encaustic tiles. The side windows have each two lights, and the eastern and western ends have each five lights, surmounted by a circular light, with circular perforations. The roof will be open to the slating, and the principals will be filled in with light iron tracery between the spandrels, this being relieved with gold and colours, which will somewhat lighten and give effect to what otherwise would have been a sombre and dark roof. Inside the walls will be plastered, and stone finished, the arches joining the chancel with the church being of mouldings sunk in Bath stone.

STAINED GLASS.

Worcester College Chapel, Oxford.—Six of seven windows to be restored have been given by special donations. These windows will cost 115*l.* each, and one of them is the gift of the Rev. Dr. Collis, in addition to a donation of 100*l.*, which he subscribes towards the general restoration. The designs for the windows will be furnished by Mr. G. E. Millais, R.A., to be executed by Messrs. Lavers & Barraud.

St. George's, Kidderminster.—Some time ago the congregation of St. George's Church determined to fill the east window with stained glass; and, subscriptions having been obtained, Messrs. O'Connor, of London, produced designs, and the work is now completed. The window is a rose, and the treatment of the design presented considerable difficulty, the artists having to work out an idea in connexion with the dedication of the church rather than to produce a mere kaleidoscopic effect. The leading feature embodied is the Cross receiving the veneration of the angelic host. It springs from the centre point of the rose, where it is embraced by the Latin title of the Crucifixion and by the crown of thorns. It is then carried through to the extreme of the circle in all the openings, and occupies eight out of sixteen main lights. Between the four limbs of the Cross, the design is formed of lilies springing from the crown of thorns and winding up to the angels of the heavenly choir, holding scrolls and playing upon musical instruments. The whole wheel consists of 128 separate openings, and is about 48 feet in circumference, its diameter being a trifle over 15 feet, and its contents about 180 square feet of glass.

Gloucester Cathedral.—Some months ago the ancient stained glass of the clerestory of the south transept of this cathedral was removed, preparatory to its being cleaned and re-arranged by Messrs. Hardman, of Birmingham. It has now been replaced, the stonework of the windows having in the interval also been repaired. The upper lights are filled with a design representing the vine, in white and yellow, on a ruby ground; and the lower lights are composed of the ancient quarries, with coloured borders. Workmen have been engaged in taking the measurement of the two large windows at the west end of the south aisle, preparatory to the erection of the Jenner and Elliott memorials, which, it is expected, will be completed by the end of October. The execution of the Elliott memorial has been entrusted to Messrs. Hardman, and the glass for the Jenner window to Messrs. Clayton & Bell.

Gwennap Church.—Some ladies bearing the name of "Mary," undertook last year to collect donations from or in memory of their friends of the same name (under its various forms) for the purpose of restoring one of the windows in Gwennap parish church. So successful have they been that the unsightly framed window at the east end of the south aisle has been replaced by a perpendicular window executed in granite by Messrs. Freeman, after designs by Mr. James Piers St. Aubyn. The central light and tracery openings are filled with painted glass, by Messrs. Lavers & Barraud, representing in the former Our Saviour addressing from the Cross His last words to His mother. The upper lights are filled with angels, Mary the wife of Cleophas, and Mary the sister of Lazarus. The whole cost, including fixing, has amounted to 42*l.* 9s. 7d. It is hoped that the side lights may through further offerings be filled with suitable subjects to correspond with the central light.

RAILWAY COMPANIES TAKING PORTIONS OF PREMISES.

In the Court of Chancery, before Vice-Chancellor Wood, the case of Medland *v.* Horsham and Guildford Direct Railway Company has been decided. Defendants having served notice upon plaintiff, a manufacturing chemist, that they required a portion of the land occupied by his manufactory, he served them with a counter-notice that they must take either the whole or none of his land and buildings. His land is 2½ acres in extent, and part of it is agricultural land. The defendants refused to take the whole of the premises; and as they continued to insist on taking only such portion as they wanted, the plaintiff instituted this suit to restrain them from doing so, and to obtain a declaration that if they took any portion they were bound under the Lands Clauses Consolidation Act to take the whole.

The Vice-chancellor made a decree to the effect that the defendants were not entitled to require the plaintiff to sell that portion of his property which was described in their notice without at the same time taking the whole of his manufactory; that such buildings and land as were essential to the carrying on of his manufacture formed part of the manufactory, and ought to be taken by the defendants; but that the dwelling-house of the overseer and the gardens and clay bank did not form part of the manufactory.

THE STAGE.

Royal Italian Opera.—The critics of the daily press have been pretty unanimous in speaking ill of the music of "Stradella," and in the warmest terms of praise of the scenery and stage arrangements. In the latter part of their verdict we go with them fully: the scenery, in Venice and Rome, is charming; the groupings are excellent. But in respect of the music we plead guilty to finding it very fresh and agreeable: though it may not be quite up to the Covent Garden standard. As sung on Monday night by Mdlle. Battu and Messrs. Naudin, Ronconi, and Ciampi, it fully held the attention of the house from beginning to end. On Tuesday evening Mdlle. Patti achieved a great success in the part of *Margherita* in "Faust," the acting and singing being equally irreproachable. The scenery is amongst the best efforts of Mr. W. Beverley.

Princess's Theatre.—Some short time ago, under the heading "The Drama in the Drawing-room," we mentioned an original play by Mr. Angiolo Slous, entitled "Light and Shadow," and commended it to the attention of theatrical managers. *Post hoc* if not *propter hoc*, Mr. George Vining has produced it at his theatre, where, with less aid, on the score of acting, than it might have had, it has achieved great success. Mr. Dominick Murray, who acts the principal character, the hunchback *Pierre la Croche*, displayed great discrimination and intelligence, and has advanced himself considerably in estimation by the personation; and Mr. David Fisher in the part of *Jacques Sabot, Pierre's* attached friend, and not deserted by him in his after-prosperity, has a part that suits him well, and plays it vigorously. Nevertheless, the play is under-acted. The piece is exceedingly well written,—has not a bad part in it,—and excites the genuine interest of the house.

Books Received.

A Shakspeare Memorial. Beeton, Strand.

THIS is an extraordinary eighteen-pennyworth, comprising forty-eight large folio pages, and no less than sixty-eight engravings, many of them full-page (one chromo-lithographed) and half-page ones, and not a few of them of original design by known and competent artists. The letter-press, we see no reason to avoid saying, is by Miss Rogers, whose interesting and gracefully-written work on her personal experiences in Syria we have already noticed in the *Builder*. The last seven pages were written by a friend of hers, the daughter of a man of well-known name. Many of the drawings were sketched at Stratford by Mr. Danby. The frontispiece is an ornamental composition by Mr. W. H. Rogers, containing copies of all the more celebrated portraits of Shakspeare; and there is a folio page of portraits of the sovereigns, contemporaries, biographers, editors, commentators, players, and illustrators of Shakspeare. Several of the engravings are very well executed by Mr. Sheeres. Altogether the work is a good one. The letter-press, of course, tells us of Shakspeare and his times, his associates and contemporaries, his works and their various issues, his imaginative characters, &c., &c.; the whole woven together into a pleasant narrative.

Miss Rogers speaks very decidedly, in an adverse sense, as to Mr. Collier's much talked-of book, which he purchased from the deceased Mr. Thomas Rodd, a zealous illustrator of Shakspeare, for thirty shillings,—a very unlikely price to be put upon it by Mr. Rodd, as Miss Rogers thinks, if it were *then* full of the manuscript corrections which have since excited so much criticism. Miss Rogers is of opinion that in that case Mr. Rodd would have rather passed it to the national library. The "true copies" of documents "discovered" by Mr. Collier in the Bridgewater House library, and introduced into his "Life of Shakspeare," Miss Rogers speaks of "as undoubtedly utterly fictitious, but very ingenious."

VARIORUM.

"THE Patent Question under Free Trade; with Translations of Contributions to Patent Reform by M. Chevalier and other Continental Economists. Johnson, Fleet-street." This pamphlet consists chiefly of a paper submitted to the Social Science Association, at Edinburgh, by Mr. R. A. Macfie, president of the Liverpool Chamber of Commerce. It proposes a solution of difficulties by abolishing or shortening the inventors' monopoly, and instituting national recompenses.——"A Chapter on Street Nuisances. By Charles Babbage, Esq. Murray, Albemarle-street." Mr. Babbage, according to his own account of it, lives in a low neighbourhood, amongst "the lowest mob," who love street music, which he has for many years determined they shall not quietly enjoy, because it disturbs him in his interminable labours at the long-looked-for calculating-machine, of which the last generation of Englishmen heard so much at the time, but at length lost sight of, and entirely forgot, until the organ-grinders revived a recollection of it from the limbo of Mr. Babbage's low neighbourhood. Why does not Mr. Babbage remove out of such a neighbourhood rather than submit for years to the vulgar but very natural retaliation to which his persistent annoyance of his music-loving neighbours has so long exposed him? Street music is very much disliked and run down by many; but it could scarcely be so greatly on the increase as Mr. Babbage alleges it is, unless a large proportion of the public in the neighbourhoods where it prevails were favourable to it and enjoyed it.——The current number of the *Social Science Review* is a good one. The chapter on "Diseases of Overworked Men" relates to what the writer considers the evils of too early artificial education, and is a strongly-written protest against the injury thus done to the rising generation. The poor little bright things become incapable men and women, or die off in their youth; the consolation being the expression—"Whom the Gods love die young."

"If there is one thing more than another," says the writer, "for which I would like to go back into antiquity, it would be to drag out by the throat, for public scorn, that miscreant who wrote the poetical falsehood "Whom the gods love die young." Fool! defiant of all human interests, thou hast lied, whoever thou art; lied in the teeth of living daily evidence; for whom the gods love die *old*; neither know they aught of the bitterness of death.

They do not die; they are the true beloved; and he who loveth them giveth them *sleep*."

——*Fraser's Magazine* reviews in the right tone the "Commissioners' Report on the Sanitary State of the Army in India." This cannot be too often done. The evils of the Indian barracks still existing cannot be too often pointed to and denounced until further improvements have been effected. —— The *Art-Journal* contains, with its usual numerous illustrations and essays, long notices of the Royal Academy Exhibition, those of the two Water-Colour Societies, and at the Flemish and French Gallery. The writer of the Royal Academy notice agrees with the other critics who think the Exhibition above the average. We adhere, however, to our already expressed opinion that it is not so; and would prove the correctness of it by comparing what each leading man who exhibits in it has there, with what he had sent on another year. In "Art-Work in June," the Rev. J. G. Wood points out some of the absurd mistakes made by even eminent artists in the delineation of insects and other natural objects.

Miscellanea.

EARL GROSVENOR'S ESTATE.—Lord Grosvenor, with the view of obtaining the best design for houses intended to be erected in Grosvenor-place, and otherwise improving the estate, invited a certain number of architects to submit such designs in competition, giving each a fee of 100*l*. Designs have accordingly been sent in by Messrs. E. Barry, Cundy, Garling, R. Kerr, and Street.

BRITISH INSTITUTION.—The collections here of works of old masters and deceased British masters are always interesting and delightful, but necessarily differ in degree. On the present occasion, the exhibition is less rich in supereminently fine foreign pictures than is sometimes the case; but Reynolds, Romney, and Gainsborough make up for the want of them in the department of portraiture.

TRAFALGAR SQUARE.—Several of the newspapers have announced that a new equestrian statue of King George IV. has just been placed on the pedestal at the north-east corner of Trafalgar-square. It is being bronzed, they go on to say, and will be ready for uncovering in the course of a few days. Every Londoner should know that the statue has been there many years. It has simply been treated with the new bronzing process; which, by the way, is not quite so satisfactory to us as it seems to be to the "authorities."

PHOTOGRAPHIC SOCIETY.—The exhibition made by this society, now open in the Gallery of the Society of Female Artists, Pall-mall, is less striking than former displays have been; chiefly because advances in the art are now made more slowly than was the case at first. It consists of 267 specimens, and many of them are of great beauty. Mr. H. P. Robinson, Major Gresley, Mr. T. Annan, and Viscountess Hawarden, send some of the best. Messrs. Hennah & Kent, whom, according to their own statement, three lines in the *Builder* years ago first brought into profitable prominence, still keep ahead in portraiture of many of their contemporaries.

MR. S. C. HALL ON THE ILLUSTRIOUS MEN AND WOMEN OF THE AGE.—On Saturday, the 4th, Mr. S. C. Hall delivered his lecture, entitled "Memories from Personal Acquaintance of the most Illustrious Men and Women of the Age," at the Vestry Hall, High-street, Kensington, for the benefit of the Kensington Industrial School for Teaching and Preparing Young Girls for Service. A crowded and fashionable audience attended on the occasion. The Venerable Archdeacon Sinclair, vicar, presided, and in a few appropriate remarks introduced Mr. Hall, who was received with much applause. Mr. Hall's lecture, and the happy, entertaining vein in which it was delivered, are already favourably known, it having been given on a few occasions in London and elsewhere, and having elicited very flattering comments from the London press. Last Saturday, Mr. Hall seemed to enter into his subject with even more than his usual ardour, and was evidently much at home amongst the attentive and appreciative company by whom he was surrounded. An enthusiastic vote of thanks rewarded the lecturer for the literary feast he had laid before his audience. He was never more successful.

CHELTENHAM WATER-WORKS.—Mr. W. M'Landsborough, Assoc. Inst. C.E., Gloucester, has been appointed manager to the Cheltenham Water Works Company. There were about sixty candidates. The salary is 400*l*. per annum.

ECCLESIOLOGICAL SOCIETY.—At the twenty-fifth anniversary meeting, to be held on June 22nd, in the Lecture Theatre of the South Kensington Museum, a discussion will be held on the plan and construction of town churches both artistically and practically considered.

LARGE FIREPROOF SAFE.—One of the largest safes constructed has just been completed by Messrs. Chubb & Son, of St. Paul's Churchyard, for an Indian bank. It is 14 feet long, 10 feet deep, and 8 feet high, and is of the enormous weight of 17 tons. Small cash safes, secured by detector locks, are fitted to the interior, and the outer doors are fastened by four locks, throwing twenty-seven bolts.

THE GREEN AT WEST COWES. — A favourite promenade at West Cowes, called the Green, has been purchased for the town by Mr. George Robt. Stephenson, the nephew of the late George Stephenson, at a cost of 300*l*.; and has been opened as a place of recreation after a further expenditure on it of several hundred pounds by the same gentleman, who also employed his yacht's crew during the winter in levelling the ground and making paths. A sea-wall has been constructed with a tooled Purbeck coping, and a drinking-fountain and band-stand erected. The Green has now been opened with local rejoicings.

GREAT CROSBY LOCAL BOARD. — Mr. Alfred Taylor, C.E., surveyor to the Board, having delivered to the Board the plans of the district, comprising one general map on the scale of 2 feet to the mile, containing some 2,000 acres, also detail plans of the built portion on the scale of 10 feet to the mile, the following resolution was proposed by Mr. James Heyes, seconded by Mr. Barnes, and resolved unanimously: "That a minute be entered on the books acknowledging the receipt of the plans of the district, completed by Mr. Alfred Taylor, and that the Board record their appreciation of the perfect and finished manner in which the plans have been executed, reflecting the highest credit on the surveyor."

THE METROPOLITAN SUBWAY BILL.—At the usual weekly meeting of the Metropolitan Board of Works, the chairman informed the Board that the committee of the House of Commons had struck out of the Subways Bill the clause giving the Board those compulsory powers it had sought over the gas companies, and he wished to know whether or not the bill should now be proceeded with. He said the committee had agreed to give the Board power over the water and telegraph companies; but, as the gas companies obstructed the streets more than the others, the great purpose of the Bill would be lost, and it would be better, in his opinion, to withdraw the measure and wait for public opinion to ripen upon the subject than to proceed further this session. After some discussion it was resolved to withdraw the bill. The gas companies, it seems, did not so much object to putting their pipes in the subways as they did to paying for the accommodation. The majority for withdrawal was 24 to 5.

GAS.—The Rugby Gas Company's directors propose a dividend for the year on shares of the different classes amounting to 15 per cent., and that 200*l*. stock be added to the reserve fund; also that the price of gas be reduced to private consumers from 4s. 7d. to 4s. 2d. per thousand feet, with a discount of 5 per cent. for payment within a month from quarter-day; that the price for lighting the public lamps after September next be reduced from 58s. to 54s.; and that the price of gas to the railway companies be reduced from 3s. 6d. to 3s. 3d. per thousand feet.——The town of Wilna is to be lighted with gas from pine-wood. The basins will contain 60,000 cubic feet of water. The gasometer, of cast iron, will be of the same capacity. The plan exhibits three distinct edifices for the distillation of gas, its purification, and distribution. Forty-nine towns in Germany, Hungary, Italy, and Switzerland, and quite lately Helsingfors, owe their lighting to gas distilled from wood or jutesal.——Near Scranton, Pennsylvania, there is said to be a place where natural gas, in large quantities, exudes from the rocks. It has been proposed to gather this gas in holders, and supply the town. The town of Fredonia, N.Y., derives its entire supply of gas from this source, and it is said to give great satisfaction.

NOTRE DAME.—This famous old cathedral, t metropolitan church of Paris, has at last be consecrated. Its foundation-stone was laid 5 years ago, upon the site of an old chapel sa to have been founded by Chilperic, but, as ma of our readers must know, it has never been ar is not even yet finished.

MINSTER CHURCH (THANET).—When the r storations and alterations were completed, bulging of the walls and buttresses of the churc was noticed, and statements were made of the unsafe condition. Props have been placed again both sides of the walls. The chancel belongs t the Dean and Chapter of Canterbury, or rathe the authorities took Alland Grange and its tith about 764 years ago, with the conditions c keeping and maintaining the chancel in a fit an proper state. The value now is about 1,200*l*. pe annum.

BRIDGWATER NEW TOWN HALL.—A difficult has arisen between the builder, Mr. Shewbrooks of Taunton, and the authorities, which ha checked the progress of this building. It appear that before Mr. Shewbrooks tendered he engaged Mr. Knowles, the borough architect, to give hin the measurements, &c., of the plans; and in the tender which Mr. Shewbrooks sent in he relied upon, and calculated according to, the figures supplied him by Mr. Knowles. It turns out however, it is said, that there is a great quantity more masonry in the walls than Mr. Knowles stated there would be; the value of the differ ence being 116*l*. odd; and Mr. Shewbrooks ex pressed his intention of not proceeding until he should know who was to pay him this sum. The Building Committee of the town council resolved to forward the work at Mr. Shewbrooks's cost if he did not proceed with it. Mr. Shewbrooks threw up his contract, and the Corporation will have to invite fresh tenders for the completion of the work.

RE-OPENING OF THE BLACK-ABBEY CHURCH, KILKENNY.—After a lapse of three centuries, this church has been again brought into use. It was built in the year 1225 by William Marshall, Earl of Pembroke, the grandson of Strongbow. Of this monastic institution nothing remained a few years since but the transept and west aisle, the west tower, and the arcade which formerly separated the nave from the southern aisle: the choir and convent buildings had altogether disappeared. Five years ago it was determined to restore the nave, which has accordingly been done by Mr. J. J. M'Carthy, to whom the work of restoration was confided. On excavating the foundation the ancient walls were discovered, and on them the new walls were built. The north side of the nave now contains four decorated tracery windows in keeping with those of the south transept. The south aisle is lighted by two two-light windows. The roof of the restored nave and aisle is of open timber-work. These restorations were effected by the Brothers of St. Dominick, who, for the last fifty years, contrived to celebrate the offices of religion in the old transept.

THE JUNCTION-ROAD OUT-FALL AT BRIGHTON.—The Junction-road Outfall, which receives the main sewage of the town, has been lengthened by 300 feet. This length of piping had been previously joined together on the higher part of the beach in front of the Chain Pier Esplanade. The piping weighed 60 tons. Messrs. Aird & Son, the contractors, and Mr. Lockwood, the borough surveyor, were, of course, upon the spot, with a large force of workmen. The beach being an inclined plane down to the sea, the huge mass would have descended by its own weight over the planking prepared for its passage to the sea. But it was necessary to regulate and guide its descent; and this was effected by means of several windlasses fixed on the beach, and which held the piping by strong ropes. No joint of the 300 feet, it is said, was strained. It was then towed to the bed prepared for it at the extremity of the piping laid last year, and sunk to its destined resting-place. Divers were employed in this. An escape had to be found for the air in the piping, and this was effected by means of tubes coming to the surface, whilst the water was let in by the removal of screw-plugs. The piping was thus safely lowered into its exact position, without a flaw, and joined to the end of the out-fall. There are now 900 feet of the out-fall laid down, and 850 feet remain to be laid. This, we understand, will be done in three more lengths. So far as can be ascertained by a partial operation, the experiment of this out-fall, in taking the sewage of the town out into deep water, is said to have been quite successful.

ANCHESTER CITY CROSS.—The restoration and
ir of this ancient "High Cross" seem to be
mpletely forgotten affair, says a Hampshire
r, for many months have now elapsed since
caffolding was put up round it, and there
o appearances of a commencement of opera-
. It recommends that the scaffolding should
ainted and the fastenings renewed.

LL OF A HOUSE FRONT IN MANCHESTER.—
ome time the upper part of the frontage of
ises in St. Ann's-square, has been observed
in a very dangerous condition, and it was
ved a few weeks ago to take down the
and rebuild it. It was shored up and
olding erected by Mr. Robert Neill, builder,
ngeways. The wall, however, has fallen;
o one was hurt.

LL OF AN AUCTION ROOM.—A serious acci-
lately occurred during the holding of an
ion sale, on the premises of a builder, at
on, near Hull. The floor gave way, pre-
ating the company, about sixty in number,
e lowest story, a distance of 9 feet. Seven-
persons were more or less injured. The
rs, which were very thick, were riven in two
match-wood, and three heavy tool-chests,
with the floor, but fortunately without
ing any one.

E ARTISTS' BENEVOLENT FUND.—The annual
er of this institution was held on Saturday
t, at the Freemasons' Tavern, under the
idency of Lord Fermoy. The company in-
ed Sir C. Eastlake, president of the Royal
demy, and about 100 artists, supporters and
ds of the association. During the past year
society has paid to fifty widows 750*l.*, and
orphans have received 45*l.* The income
g the year was nearly 1,400*l.*, and the ex-
iture about 1,000*l.* Since the formation of
fund, the sum of 25,516*l.* has been dis-
ted in relieving the widows and orphans of
sh artists.

PENING OF A NEW RAILWAY AT LIVERPOOL.
r a long delay, all obstacles to a continuous
ic on the new railway between Liverpool
Garston have been removed, and the line
been opened. It runs from the bottom of
humberland-street, Brunswick Dock, to Gar-
, and serves as a connecting link between
south end of Liverpool and the Manchester,
ffield, and Great Northern route to London.
three miles and three quarters in length.
Liverpool extremity terminates in a goods
on, 400 feet in length and 300 feet in breadth.
several platforms are free from the usual
umbrances of machinery, as the traffic is
nged by steam cranes worked by shafting in
els underneath the ground-floor of the sta-
. Mr. Brydone, the engineer of the line, has
ontrived, that the circular cranes shall be
ended from the warehouse ceiling. Thus
cranes have no pillar.

TATION IMPROVEMENTS AT MANCHESTER.—Ex-
ive alterations are in progress at the Victoria
en, Manchester, involving an outlay of
000*l.* The improvements comprise a series
t girders across the Irwell, by the south side
he present bridge, and a continuance of the
form along them to the Salford side of the
. The length of this platform, which will be
red, will be about 300 feet, and its average
h about 18 feet. The whole platform will
be more than 1,000 feet in length. The
ractors are, for girder-bridges, Fairbairn's
ineering Company; Messrs. Walter Mabon
). for new roofs of Lancashire and Yorkshire
pany; and for the remainder of the work,
ading fish market, Mr. R. Neill, Strangeways.

TILIZATION OF THE METROPOLITAN SEWAGE.—
Select Committee of the Commons has had
ier evidence brought before it on this subject.
West, of the firm of West & Sons, engineers,
examined as to cost of pumping sewage,
mud, or clay. Mr. Cuthbert Johnson, chair-
of the local board at Croydon, gave evidence
o the advantage of irrigation. He stated
when the sewage ran into the river they
ained a loss of 10,000*l.* in legal expenses, and
it was passed over the land they were at no
nse, and received a sum of 240*l.* a year in
nution of the rates. They were unfortunately
down to a fixed price, or the ratepayers
ld have a still greater advantage. Mr.
kins, of Redruth, in Cornwall, engineer, was
mined as to pumping-engines, and Mr.
nas Ellis was re-examined. He estimated
total value of the metropolitan sewage at
a ton, or upwards of 2,100,000*l.* in all.

PUBLIC PARKS FOR LIVERPOOL.—The Liverpool town council have before them three proposals for the formation of a public park for the borough. The cost of the first is put down at 58,000*l.*, of the second 117,000*l.*, and of the last 230,000*l.* The general opinion is said to be in favour of the most costly.

NEW SCHOOLS, HOLY TRINITY DISTRICT, HOXTON.—These schools, of which we gave a view not long since, were opened a few days ago by the Bishop of London. The schools contain 640 children according to the council regulations, but on an emergency 700 might be accommodated. The architect was Mr. Ashpitel. When the bishop was about to leave the building the architect pointed out to his lordship the drinking-fountain, the tabernacle enclosing which formed part of the original design, the fountain itself being of polished serpentine marble, with an inscription. The bishop drank of the water, and was well pleased.

JARROW SEWERAGE WORKS.—The Local Board, on opening the tenders for the sewerage works to be constructed in that district, found that that there were ten tenders sent in, varying in amount from 5,984*l.* 4s. 8d. to 4,305*l.* 1s. The tender of Mr. H. Hudspeth, of Alnwick, was accepted, at the sum of 4,305*l.* 1s. The plans have been prepared by Mr. Clemence, borough surveyor, South Shields, under whose superintendence the works will be carried out. A commencement will be made at once with the works.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 21st of May, on 11,198 miles, to 676,090*l.*, and for the corresponding week of last year, on 10,805 miles, to 589,087*l.*, showing an increase of 393 miles, and of 87,003*l.* in the receipts. The increase on the Great Eastern amounted to 3,627*l.*; on the Great Southern and Western to 915*l.*; on the Great Western to 3,313*l.*; on the Lancashire and Yorkshire to 18,872*l.*; on the London and North-Western to 15,700*l.*; on the Midland to 8,105*l.*; on the North-Eastern to 10,592*l.*; and on the South-Eastern to 4,435*l.*

SANITARY CONDITION OF DERBY.—The local Board of Health have sent a letter to the Board of Highways for the Township of Litchurch, a hamlet in the neighbourhood of the city, pointing out the necessity for drainage other than at present into open water-courses and offensive ditches, and urgently recommending them to lose no time in effectually draining the township, as the rate of mortality was high, and should infectious fever break out in the township, Derby would suffer. The local Board of Guardians at Litchurch have the subject also under consideration.

LONDON IMPROVEMENTS.—The public will be glad to hear that four more of the houses in Newgate-street are to be taken down forthwith, for the purpose of widening the thoroughfare. They are situate at the eastern end, near the Post-office, and their removal, increasing the width of the street to 50 or 55 feet, will be a great boon. We observe that two houses in Holborn are already razed for the purpose of rebuilding, abutting at the back upon Little Turnstile; and as it happens that there are also at this time two vacant pieces of ground in Turnstile, it affords an unusually favourable opportunity to open out the thoroughfare here into Gate-street and Lincoln's-inn-fields,—an improvement much wanted.

ARTESIAN WELL, DONCASTER.—For some two or three years the corporation of Doncaster have been endeavouring to gain for the town an adequate supply of water by means of an artesian well. With this object in view, an experimental boring has been carried to the extent of 817 feet without any satisfactory result, beyond the fact that for some distance coal has appeared far more likely to turn up than water. However, the boring operations have come to a sudden termination, by the breaking of the rods in the borehole about 200 feet from the bottom. The contractors, Messrs. Clark, and Mr. Dale, of Hull, the consulting engineer, have exhausted their ingenuity and lost many instruments in endeavouring to recover the 200 feet of rod without any effect, and the latter gentleman has advised the corporation to abandon the present operation altogether, and to await his report as to what shall be done hereafter. The corporation have taken his advice, and after expending upwards of 1,000*l.* they have determined that the matter shall for the present remain in abeyance.

SOUTHWARK BRIDGE.—The chairman of the Southwark Bridge Company has lately addressed a letter to the Lord Mayor, offering to open the bridge to the public for a limited period on terms to be agreed upon, or to effect a sale for 200,000*l.* The proposal has been referred to the Bridge-house Estate Committee for consideration and report.

BURSTING OF THE BARNSLEY CANAL.—Near Old Mill, the aqueduct of the Barnsley and Wakefield canal has been leaking through a rocky portion of the embankment. Attempts were made to stop the rush of water, which was flooding all the valley below. After some difficulty, and by damming up two of the bridges with boardings, always ready for the purpose, the force of the leakage was broken, disclosing an opening of two yards, or nearly so, in diameter. The navigation of this part was, of course, temporarily stopped.

DEATH OF SIR JOHN WATSON GORDON.—The President of the Royal Scottish Academy, who was also a member of the Royal Academy, has lately died. He was born in Edinburgh some seventy-four years ago. He early turned his attention to that branch of his art,—portrait-painting,—in which he has achieved so high a reputation. He first exhibited in the Royal Academy in 1827, continuing to do so up to the present exhibition. In 1841 he was elected associate, and in 1851 member, of the Royal Academy. In 1850, he was appointed limner to her Majesty in Scotland, on which occasion he received the honour of knighthood.

THE PARISIAN CEMETERIES.—The question of closing the cemeteries of Paris, and forming a large one beyond the boundaries of the city, is now in course of discussion. Notwithstanding a regulation to the contrary, private buildings have been erected in close proximity to the existing cemeteries, the noisome exhalations from which, more especially after rain, affect injuriously the health of the inhabitants. In case of extra-mural burials being enforced, the present cemeteries will probably be levelled and covered with asphalte, trees being thickly planted around, so as to absorb the decomposing matter.

NEW BLASTING POWDER.—Dr. Field, of Wilmington, Delaware, has invented an improved powder for blasting and other purposes, the chief peculiarity of which consists in its being made up in two separate ingredients, one black and one white, which are mixed upon the spot just before using. The ingredients are non-combustible when separate, but highly explosive when mixed in equal proportions. The powder, placed in a hole 4 feet deep, put in and tamped in the usual way, was found, it is said, to be twice as powerful as ordinary gunpowder. The new powder can be manufactured very cheaply, and made of various strengths, according to the purpose for which it is intended.

OPENING OF NEW CHURCH AT BRYNMAWR.—The new Mission church, erected on a piece of land given by the Duke of Beaufort, at the top of Queen-street, Brynmawr, has been opened. The Mission church is a little wood building, for about 360 people. It is from a design by Mr. G. T. Robinson, archidiaconal architect, Leamington; and was built by Messrs. Hardwick & Sons, Birmingham, at their own establishment, and then taken to pieces, brought down to Brynmawr, and re-erected. It is fastened to the ground, and composed entirely of wood up to the roof, which is slated. It is somewhat in the shape of the letter T up to the altar, which is semi-circular in form; and in the three window-lights at the end are several small monograms "I. H. S." On the left is a small room, to be used as the vestry. The whole cost was 355*l.*, or about 1*l.* a head.

THE HOTEL MOVEMENT AT BRIGHTON.—The Norfolk Hotel, situate in King's-road, has passed into the hands of a company, and is about to be rebuilt. The contracts for a portion of the entire design have recently been opened, and the result was as follows:—

Fabian	£8,248	0	0
Patching & Son	8,111	0	0
Fatman & Fotheringham	7,887	0	0
Sawyer	7,723	0	0
Chappell	6,932	0	0
Reynolds (accepted)	6,825	0	0

The works connected with the re-building and enlarging the hotel, have been commenced by the contractor, Mr. Jabez Reynolds, of Brighton, under the superintendence and from the designs of Mr. H. N. Goulty, architect.

SOAP MINE.—A veritable soap-mine has been discovered in Esmeralda, California. The vein is 10 feet wide, 600 feet long, and runs very deep. The soap, when taken from the mine, is as soft as putty, but hardens on exposure to the air.

FLOATING TELEGRAPH STATIONS.—Some years since Prince Albert, who was then an Elder Brother of the Trinity House, suggested that the lightships round our coast should be connected with the shore by means of electric cables. The question was considered, but no means had then been thought of by which a ship swinging at her moorings could be permanently connected with the cable, and the far-sighted proposal was not carried out. A company now forming proposes to do that which Prince Albert suggested should be done. The first ships to which this novel extension of the present network of telegraphs will be applied are to be stationed off Scilly and Cape Race.

THE RAILWAY LINE BENEATH SKINNER-STREET AND SNOW-HILL.—Messrs. Mowlem, Burt, & Co. having completed the new sewer below the roadway in Skinner-street, Snow-hill, the contractors for the City Extension of the London, Chatham, and Dover line have commenced excavations for the piers of the arches to be erected underneath the carriageway and across the street to the bottom of King-street, Snow-hill. Until these works are completed, the new iron viaduct across Ludgate-hill will not be proceeded with, as both of these important thoroughfares cannot be closed at one and the same time. The works at Skinner-street and Snow-hill, however, will be pushed forward as rapidly as possible.

THE SHILLING CHURCH.—Since our notice of the opening of this church, at Hollingsworth, near Mottram, in Cheshire, we have obtained the following particulars. Messrs. Clegg & Knowles, of Manchester, were the architects. It was designed in the Early English style, and the church will accommodate 450 persons. The contract for the building was taken by Messrs. Warhurst & Sidebottom, of Hadfield. The total cost, it is believed, will be about 1,700*l.* The church is built of mill-grit stone, and there is a turret over the main entrance. The seats are of stained wood, and the roof of open timber work. There is a nave and chancel, but no galleries. The site was given by Mr. Taylor, of Booth Hall, Blackley.

A LARGE STORE.—The largest elevator in the world is being built at Milwaukee. Its storage capacity is to be 1,500,000 bushels. It is to have nine receiving and five shipping elevators, capable of taking in 45,000 bushels, and giving out 25,000 bushels of grain in an hour.—*New York Sun.*

FORMATION OF IRON BY METALLURGICAL INSECTS.—A Swedish naturalist, M. Sjogreen, has recently published a curious memoir on an iron mineral which is, he contends, the direct work of infusorial animalculæ, living in the midst of sweet water. This ferruginous mineral, known under the name of lake-ore, is sufficiently abundant in certain Swedish water-courses to be submitted to treatment in ironworks. The memoir of M. Sjogreen was composed with more especial reference to certain specimens of minerals shown in the International Exhibition in London in 1862. A lake in his neighbourhood had fallen much below the ordinary level, and enabled him to follow the evolution of the mineral. The bottom of the lake was in part laid bare, from the extreme lowness of the water, but there still existed depressions, filled by water and occupied by insects or infusorial metallurgists. These depressions presented a strange and marvellous spectacle. At the bottom of one, which was somewhere about 3 feet in diameter, small creatures of different sizes agitated themselves on the mineral, some being visible to the naked eye, while the others were so small that without a magnifying-glass it would have been impossible to discern them. All were actively engaged in inclosing themselves in a metallic envelope, just as the caterpillar encases itself in a cocoon; and the work seemed to the spectator to be effected in a systematic manner. The iron exists in the waters in a soluble state—or, rather, the waters borrow it from the surrounding lands. Lake mineral is produced with considerable rapidity: in certain lakes from which there had been extracted twenty-six years previously all the metallurgical crop, there was again found after this yield a fresh harvest of almost equal abundance.

SITE OF THE FLEET PRISON.—The Court of Common Council have entered into an agreement with the London, Chatham, and Dover Railway Company for the sale to them of the site of the late Fleet Prison for the sum of 60,000*l.*; and upon that large piece of ground, which has lain waste for the last twenty years or more, the committee intend forthwith to erect their London terminus, with convenient approaches.

TYNEMOUTH PIERS.—The Tyne Improvement Commissioners and Mr. Lawton, the contractor for the piers at Tynemouth, have had a serious dispute, it appears, on matters of account, which have been recently referred to arbitration; Mr. Lawton claiming, it is said, 80,000*l.* for extras, and the commissioners, in the evidence of Mr. Missent, contending that he is only entitled to 1,300*l.* Mr. Bidder is arbitrator for Mr. Lawton, Mr. Leslie, of Edinburgh, for the commissioners; and Sir John Rennie is the umpire.

PUMPING TO NO PURPOSE.—"Suppose," said an examiner to a competitive in engineering, "you had built an engine yourself, performed every part of the work without assistance, and knew that it was in complete order, but when put into a vessel the pump would not draw water, what would you do?"—"I would go to the side of the vessel and ascertain if there was any water to draw," replied the competitive. So smart a fellow, one would think, would first ascertain if there were "any water to draw" before he set his pump agoing; but we must remember that the examiner was pumping him, not he the examiner.

SIR THOMAS GRESHAM.—Honest and enterprising in the path he had marked out for himself, steadfast in the service of his queen and his country, and zealous for the dignity of both, he had little in common with the new generation of men just appearing in the prime of life. He had done his work in raising to an elevation never before attained, the old-fashioned sort of English commerce, within the narrow limits of European civilization, which he had learnt from his forerunners. In no unfriendly spirit, as we see from the numerous entries of his name as a subscriber to the exploring expeditions of Frobisher and others, but doubtless with the thought that he at any rate had no need to go out of the beaten track in which he had walked so well, he left the chivalrous company of Hawkinses and Raleighs, Drakes and Cavendishes, to extend the empire of commerce to far-off regions, and to open up new and boundless sources of trade. And he was wise in doing so. He died in harness. "On Saturday, the 21st of November, between six and seven of the clock in the evening," says Holinshed, "coming from the Exchange to his house, which he had sumptuously builded, in Bishopsgate-street, he suddenly fell down in his kitchen, and being taken up was found speechless, and presently died." On the 15th of December he was buried solemnly and splendidly, at a cost of 800*l.*, in St. Helen's church, hard by, a hundred poor men and a hundred poor women following him to the grave. His greedy wife and her greedy son, born of a former husband, his own son and daughter being already dead, inherited his immense wealth; and the indolence of the Mercers' Company, in the course of generations, robbed of nearly all its good effect the noble bequest, by which he intended to have converted his famous house into a yet more famous college for educating young merchants in those parts of knowledge best fitted to adorn and to improve their positions. But neither avarice nor apathy has been able to deprive the noblest name in the history of Tudor commerce of its place in the heart of every Englishman, or to undo the work of its greatest owner in forwarding the interests of trade and giving dignity to the merchant's calling.—*London Society.*

ARCHITECTURAL ASSOCIATION.—VOLUNTARY EXAMINATION CLASS.—The usual meeting will be held on Monday next, the 13th inst., when the subjects of the previous meetings will be recapitulated by the members generally. Subjects: Perspective, Timber-joiner, Mensuration, Excavator and Bricklayer, *&c. &c.*

TENDERS.

For brewery, at Stoke-on-Trent, for Mr. J. Mountford. Messrs. Scrivener, architects. Quantities supplied:—

Oakley & Minx	£1,760	0	0
Collis & Hudson	1,665	0	0
Barlow	1,569	0	0
Matthews	1,554	0	0
Steele (accepted)	1,495	0	0
Moss, Brothers	1,408	0	0

For rebuilding Nos. 20 and 21, Basinghall-str Messrs. Bates, Brothers. Messrs. Wimble & architects. After deducting value of old materials

Kirke	£4,470	0	
Thompson	4,060	0	
Brass	3,903	0	
Adamson	3,856	0	
Downs	3,784	0	
Ashby & Son	3,724	0	
Piper & Wheeler	3,698	0	
Colls & Co.	3,624	0	

For workshops for the North Stafford Coal, Ir Steel Company. Messrs. Scrivener, architects. tities supplied:—

Moss, Brothers	£525	0	
Steele	520	0	
Hummersley	515	0	
Watkin	512	10	
Cope (accepted)	470	0	

For St. James's Parsonage, Hampton-hill, S.W clusive of bricks). Mr. W. Wigginton, architect:—

Nye	£1,099	0	
Killby (accepted by lot)	1,099	0	

For houses to be erected at St. Ann's-hill, Wands Mr. G. H. Page, architect:—

Champion	£9,240	0	

For additions and alterations to house, East road, Poplar. Mr. J. Harris, architect:—

Dunk	£390	0	
Forrest (accepted)	345	0	

For drainage of the Orphan Working School, land Park, Haverstock-hill. Mr. J. Harrison, archit

Crockett	£240	0	
Dethick	220	0	
Hill & Keddell	183	0	
Abbott & Hopwood (accepted)	165	0	

For two villas, with stables, &c., at Bickle Messrs. J. & J. Batten. Messrs. Newman & architects. Quantities supplied by Mr. Edsall:—

Rawlins	£5,748	0	
Downs	5,309	0	
Brass & Son	5,199	0	
Jerrard	5,199	0	
Carter & Son	5,112	0	
Thompson	5,094	0	
Smith	5,040	0	
Newman & Mann	5,025	0	
Hoadley	4,971	0	
J. J. & F. Coleman	4,919	0	
Dove, Brothers	4,790	0	
Simpson	4,788	0	
Wells	4,470	0	

For erecting an ornamental high-draught chimne boiler-house, at Lomond Dye Works, Paisley, for A C. Macgregor. Mr. J. J. Lamb, architect. Quan supplied:—

Galt	£1,270	0	
McKaig	1,267	4	
Rankin & Co.	1,208	6	
Allan & Mann	1,014	17	
Brown	1,010	10	
Pollock (accepted)	917	12	

For new Congregational Chapel, Pole Elm, Worc shire. Mr. G. Johnson, architect:—

Heming & Son	£850	0	
Wilson	588	0	
Wood & Son	515	0	
Holland, Brothers	463	10	

For erecting and finishing a Grammar School, at ford. Mr. A. W. Blomfield, architect. Quantities plied by Mr. J. A. Bunker:—

Melton	£1,821	17	
Browne & Robinson	1,676	0	
Wood	1,666	0	
Turner & Sons	1,657	0	
Sanham	1,655	0	
Child & Son	1,449	0	
Anscombe (accepted)	1,343	0	

For New Parsonage, at Crouch-end. Mr. E. Chri architect:—

Rhodes & Roberts	£1,913	0	
Sharpington & Cole	1,726	0	
Wells	1,699	0	
Dove, Brothers	1,685	0	
Jackson & Shaw	1,681	0	
Maers	1,673	0	

For St. Philip's Church, Sydenham. Mr. Nash, tect:—

Brown & Robinson	£7,694	0	
Longmire & Burge	7,663	0	
Gammon	7,583	0	
Downes	7,548	0	
Myers	7,467	0	
Sharpington & Cole	7,352	0	
Colls & Co.	7,323	0	
Axford & Co.	7,270	0	
Jackson & Shaw	7,222	0	
Carruthers	7,144	0	
Dove, Brothers	7,090	0	
Tarrant	7,032	0	

For the erection of three dwelling-houses, in S ampton-street, Camberwell, for Mr. E. C. Little. Nicholas Lake, architect:—

Wills	£839	0	
Sharp	834	0	
Wood & Munn	826	0	
Lugg	820	0	
Kent	815	0	
Chandler	535	0	

For the erection of dwelling-house and stable, in chester-street, Borough Market, for Mr. T. W. Mr. N. Lake, architect:—

Piper & Wheeler	£1,821	0	
Carter & Son	1,497	0	
Wells	1,420	0	
Wills	1,418	0	
Wood & Munn	1,359	0	

second portion of Lombard House, George-yard, rd-street, for Messrs. Vallance & Vallance. Mr. Sowler, architect. Quantities supplied:—

Nixon	£2,240	0	0
Thorne	2,222	0	0
Saunders	2,210	0	0
Jackson	2,198	0	0
Jackson & Shaw	2,183	0	0
Longmire & Burge	2,175	0	0
Duncanson & Moultrie	2,150	0	0

epted for alterations and additions to the Grundy Grundy-street, Poplar, for Mr. Batts. Messrs. ughey & Calder, architects:—

Curtis (builder)	£377	13	0
Warne (pewterer)	75	0	0
Young, Ching, & Co. (gasfitters and bellhangers)	65	0	0

TO CORRESPONDENTS.

S.—Inquirer (leave the wood the natural colour it might r varnished).—R. C.—H. R & B.—W. W.—H. M.—E. O. S.—H.—E. H.—C. J. P.

&c.—In list of members selected by Architectural Association mittee on Art-Education, for "Mr. R. M. Ede," read *R. W.*

As to notice of Alexandra Park, we are asked to join the name dresson to that of Mr. Johnson, as joint architects.

are compelled to decline pointing out books and giving es.

tatements of facts, lists of tenders, &c., must be accompanied by ne and address of the sender; not necessarily for publication.

TE.—*The responsibility of signed articles, and rs read at public meetings, rests, of course, the authors.*

e Publisher cannot be responsible for ORIAL TESTIMONIALS *left at the Office in reply to rtisements, and strongly recommends that ers* ONLY *should be sent.*

dvertisements cannot be received for the current 's issue later than **FIVE o'clock, p.m.,** *on rsday.*

[ADVERTISEMENT.]

CHURCH, TURRET, and STABLE CLOCKS. W. BENSON, having erected steam-power and improved machinery for clock-making, at his manufactory, Ludgate-hill, will be glad to wish to clergymen, architects, and committees, estimates and Specifications of every description of Horological Machine, especially cathedral and public clocks, chiming tunes on any number of bells. A descriptive pamphlet on Church Clocks post free for one stamp. Watch and Clock Maker by Warrant of Appointment to H.R.H. the Prince of Wales, and maker of the Great clock for the Exhibition, 1862. 33 & 34, Ludgate-hill, E.C. Established 1749.

Now ready, in Seven Parts, price 8d. each,
ELEMENTARY DRAWING COPY-BOOKS, for the use of Children, from four years old and up wards, in Schools and Families.
Compiled by a Student certificated by the Science and Art Department as an Art Teacher.
CHAPMAN & HALL, 193, Piccadilly.
Agents to the Science and Art Department.

MILLWRIGHTS, ENGINEERS, and IRONFOUNDERS.—The PLANT, including 16-horse power Horizontal Steam engine, two lathes, Saw mill, Drilling Machine, Lathes, and other Effects, of the Millbank Iron Works, Speedwell street, Oxford, TO BE SOLD BY AUCTION, by
MR. R. PIKE, upon the PREMISES, on TUESDAY and WEDNESDAY next, JUNE 14 and 15, 1864, commencing at TWELVE o'clock each day (by direction of the Proprietor, Mr. Lee, of the Iron Works, High Wycombe, Bucks); comprising a 16-horse-power high-pressure horizontal steam-engine, steam mill, drilling-machine, lathes, smiths' forges, bellows, anvils, &c.; about 50 tons of prepared foundry sand, several tons of cast, and wrought iron, and a large quantity of valuable cast-iron patterns, and other effects.—The whole particularized in catalogues to be had upon the Premises; of Mr. J. LESTER CLARK, 2, Sambrook-court, Basinghall street, London; the Office of the *Daily Post*, Birmingham; and at the Auctioneer's Offices, adjoining the Town Hall, Oxford.

IN BANKRUPTCY.—To Timber Merchants, Builders, Yard Keepers, and Others.—Spa-road, Bermondsey.
MR. PEAKE is ordered by the Assignees of Mr. Thomas Freeman, bankrupt, to SELL by AUCTION, on the PREMISES, on TUESDAY and WEDNESDAY, JUNE 14 and 15, at TWELVE, in lots, the STOCK-IN-TRADE: comprising 8,000 yellow and white planks, 7,000 yellow and white deals, 1,000 yellow and white battens, 100 loads of timber, 1,375 square of flooring, two timber carriages, one timber truck, a valuable counting-house fittings, and numerous other effects.—May be viewed the day previous and in morning of sale, and catalogues obtained upon the Premises; of EDWARD EDWARDS, Esq., Official Assignee, 22, Basinghall-street; of Messrs. WILD & BARBER, Solicitors, 109, Ironmonger-lane, Cheapside, E.C.; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

IN BANKRUPTCY.—To Timber Merchants, Manufacturers, Builders, and Others.—Spa-road, Bermondsey
MR. PEAKE is directed by the Assignees of Mr. Thomas Freeman, a bankrupt, to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 14, at TWELVE for ONE, in one lot, the valuable LEASE, for a long term, at a very low rent, of the spacious premises, standing on a great area of ground. Erected upon it a most commodious dwelling-house, with foreman's residence in the rear, sheds, saw-pit, &c. the whole of the estimated rent of £60 per annum. The property may be viewed prior to the Sale.—Particulars with conditions, obtained of Messrs. WILD & BARBER, Solicitors, 109, Ironmonger-lane, Cheapside, on the Premises; and at Mr. PEAKE'S Estate Offices, 44, Tooley-street, South-wark, S.E.

50, CUMBERLAND STREET, SOMERS TOWN.—Timber Merchant's Stock by order of the Proprietor, retiring from the retail trade. First Portion.
MESSRS. LEREW & LEREW will SELL by AUCTION, on the above PREMISES, on MONDAY, JUNE 13th, at TWELVE, the STOCK: comprising mahogany cedar, walnut, wainscot, beech, birch, Swiss pine, 10,000 feet of veneers, deals, yellow, and spruce planks, deals and battens, whole and cut; paved flooring, quartering, slating battens, truck, &c.—Auction Rooms, 2, Carlington-street Hampstead-road, N.W.

SURREY HILLS.—Beautiful Building Sites, forming the first portion of the Kenley Park Estate, adjoining the Kenley Station, only a mile from the Caterham Junction Station on the main line of the London and Brighton and South-Eastern Railways, four miles from Croydon.
MESSRS. DEBENHAM & TEWSON have received instructions to offer for SALE, at the MART, on TUESDAY, JUNE 21st, in lots, varying from one to eight acres and a half, the FIRST PORTION of the KENLEY PARK ESTATE, comprising about 110 acres, offering some of the most attractive sites for building within fourteen miles of London, the situation being one of the most healthy on the range of the Surrey hills, the soil and climate remarkably dry, the air pure and invigorating, and the surrounding scenery of singular beauty. The land will be divided into lots to suit the requirements of gentlemen desirous of building detached houses for their own occupation, with sufficient land to enable them to enjoy the retirement of the country, combined with the advantages of ready access to the metropolis. A few lots fronting the main road are suitable for shops, and one has been especially reserved for an hotel. The whole is freehold and land-tax redeemed.—Particulars with plans (now ready), of Messrs. JOHNSTONE, FARQUHAR, & LEECH, Solicitors, 65, Moorgate-street; and of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

PADDOCK-WOOD, KENT, immediately adjoining this important junction station on the South-Eastern Railway.—Plots of Land, with a registered and indefeasible title under the new Act.
MESSRS. DEBENHAM & TEWSON will SELL at the MAIDSTONE-ROAD INN, Paddock-wood, on WEDNESDAY, JUNE 29, at TWO for THREE, in lots varying from a quarter of an acre to three acres in extent, about 22 acres of FREEHOLD LAND (land-tax redeemed), immediately adjoining the Paddock Wood Station, having extensive frontages to three roads, and very valuable for building purposes, nursery and garden grounds, and accommodation land. One plot, facing the station, is especially designed for a public-house. Every lot will be sold with a registered title under the new Act, affording a clear, simple, and indisputable title, at an almost nominal cost. Two-thirds of the purchase-money on each lot can remain on mortgage at 5 per cent and be paid by instalments.—Particulars and plans of T. G. BULLEN, Esq. Solicitor, 19, Cannon street West; and of the Auctioneers, No. 80, Cheapside.

BEULAH HILL, NORWOOD.—Twenty four Acres of valuable Freehold Building Land, within about a mile of the Norwood Junction, Crystal Palace, and Lower Norwood Station, and about five minutes' walk from the Thornton Heath Station, affording access to London Bridge, Victoria, and Charing Cross, at frequent intervals throughout the day.
MESSRS. DEBENHAM & TEWSON will SELL at the GUILDHALL COFFEE HOUSE, near Guildhall, on WEDNESDAY, JULY 6, at ONE, punctually, in one lot, 24a. 1r. 7p. of very valuable and nearly all FREEHOLD BUILDING LAND, situate on the western slope of Beulah Hill, about three minutes' walk from the church. The land possesses considerable frontages to the Grange-road and Osborne-road. It commands extensive and beautiful views, is surrounded by a rapidly increasing neighbourhood, and offers eligible sites for villas or cottage residences. The whole is Freehold with the exception of 1a. 3r. 27p which is Copyhold of the Manor of Croydon.—Particulars of Messrs. THOMAS & HOLLAMS, Solicitors, Commercial Sale Rooms, Mincing-lane; and of the Auctioneers, 80, Cheapside.

Very important first-class Freehold Building Estate, at West Brompton, within six or seven minutes' walk of the Exhibition Building.
MESSRS. DEBENHAM & TEWSON will SELL at the GUILDHALL COFFEE HOUSE near the Guildhall, on WEDNESDAY, JULY 6, at ONE punctually, the Right of Purchase, at an agreed price, any time previous to 25th MARCH, 1866, of about eight acres and a quarter of very valuable FREEHOLD BUILDING LAND, situate immediately adjoining The Boltons, at Brompton, together with the Two Residences known as Hereford House and Colebrne Court, now on the property. The Estate possesses frontages on three sides, and, being within a few minutes' walk of Hyde Park and the most fashionable precincts of the Westend, offers an unusually fine opportunity for an important building operation in first-class residences. The soil is a deep gravel, and there is an abundant supply of spring water.—Particulars, with plans, of Messrs. BENHAM & TINDALL, Solicitors, 13, Essex-street, Strand; and of the Auctioneers, 80, Cheapside.

TO BUILDERS AND CONTRACTORS.
MR. TINDALE has been favoured with instructions from the Trustees to SELL by AUCTION, on the PREMISES, 28, Brook street, Ratcliff, and Dorset-street, Commercial-road, Stepney, without reserve, on WEDNESDAY, the 22nd JUNE, 1864, at ELEVEN o'clock, the STOCK-IN-TRADE of a BUILDER and CONTRACTOR: comprising yellow and Dantzic timber, dry cut stuff, scantling, Portland and York stone, scaffold-poles, boards, cords, pulleys, ladders, force-pump, white lead, turps, oils, varnish, bricks, few bricks, plate and street glass, builders' ironmongery, useful horse, two brick-carts, chaise-cart, harness, carpenters' benches, moortomachine, grindstone, six capital iron columns, and other effects.—Catalogues may be had on the Premises, and of the Auctioneer, 1, Portland-place, Commercial-road, Stepney, and 29, Ironmonger-lane, City, E.C.

SURREY.—An eligible FREEHOLD ESTATE, consisting of about 63 acres of superior land, possessing beautiful sites for building purposes, forming part of the Hall Mead Estate, in the important village of Sutton, about a mile from the station, with City and West-end termini.
MESSRS. RUSHWORTH, JARVIS, & ABBOTT will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, on FRIDAY, JULY 8th, the very valuable ESTATE, above referred to, which restores in the rural and favourite village of Sutton, about a mile from the railway station, and little more than half-an-hour's journey from London, and, on completion of the lines now making, the distance to London will not only be greatly reduced, but the additional facility of the terminus in Farringdon-street of the Chatham and Dover Railway will be afforded. The whole is freehold, and (except on a small portion) the land-tax is redeemed. The land is undulated, and the elevated parts command most pleasing and picturesque views, extending far over this favourite county, and offer tempting sites for the erection of gentlemen's villas on a large or moderate scale. The Estate will be sold in lots suitable for capitalists, private gentlemen desirous of erecting their own residences, and speculative builders; and it possesses good brick earth.—Printed particulars and plans are preparing, and may be obtained fourteen days before the Sale, of CHARLES MORGAN, Esq. Solicitor, 15, Old Jewry Chambers, Cheapside, E.C.; and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Battle-row, W. and 19, Change-alley, E.C.

HORNSEY RISE.—Piece of Freehold Building Land
MESSRS. GADSDEN & ELLIS will SELL by AUCTION at the MART, on TUESDAY, JUNE 21st, at TWELVE o'clock, a PIECE of very valuable FREEHOLD BUILDING LAND, on the south side of Shaftesbury-road, Hornsey Rise, near the Shaftesbury Tavern, having a frontage of about 177 feet by a depth of about 150 feet. Roads and sewers made. There is a great demand in the vicinity for houses of the a mual value of £35 and £40.—Particulars may be had of Messrs. WAILE & WESTALL, Solicitors, 1, Copthall court, Throgmorton-street; at the Mart; at the Shaftesbury Tavern; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street, City.

No. 62, COLEMAN-STREET, CITY.—28 Sicilian and other marble chimney-pieces, 15 tons white lead, dryers, green and other paints, Prussian blue, varnish, and effects, being the remaining STOCK of a manufacturer. Also four Holloway Ironmongery stoves, nails, screws, bolts, pans, and other useful goods suited to builders.
MR. KEMP will SELL the above STOCK with thout reserve, on MONDAY next, at ONE for TWO, at the Rooms as above. View and Catalogues had.

LOMBARD STREET.—Building Materials of Two Large Houses
MR. MURRELL will SELL by AUCTION, on the PREMISES, 4 and 5, George-yard, Lombard street, on TUESDAY, JUNE 28, at TWELVE for ONE, the valuable BUILDING MATERIALS: comprising several rods of excellent brickwork, lead cisterns, gutters, and pipes, oak and fir timbers, roofing, plate glass and other sashes, doors, marble mantles, flooring boards, bevelled, and the internal fittings, register stoves, ranges, safes and the general fixtures, &c.—May be viewed the day prior and morning of sale, and catalogues had on the Premises, and of Mr. MURRELL, Auctioneer, 1, Walbrook, Mansion House.

MESSRS. LAKE & HOPKINSON, ARCHITECTS and CONSULTING SURVEYORS.
Quantities of Artificers' Work accurately taken.
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PERSPECTIVES, GEOMETRICAL and other DRAWINGS,
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PARTNER WANTED, with about 250*l.* to join the Advertiser in a first-class established JOBBING BUSINESS. Must be a Carpenter or Joiner.—Address, M. S. No. 10 Long-acre, W.C.

TO PARENTS AND GUARDIANS
A FELLOW of the ROYAL INSTITUTE of BRITISH ARCHITECTS, residing in a rapidly-increasing town, and enjoying an extensive practice in public and private works, has a VACANCY in his office for an Out-door PUPIL. For one anxious to get on this is a highly favourable opening.—Address, F. D. Office of "The Builder."

TO PARENTS AND GUARDIANS.
AN Opportunity offers for placing a respectable YOUTH, of about 16 years of age, in a SURVEYOR'S OFFICE, at a small salary. Must write a good hand, and understand arithmetic.—Address, Mr. BAILEY, Chemist, 1, Old Dorset-place, Clapham road.

A COLLECTOR WANTED, for the purpose of COLLECTING the SUBSCRIPTIONS and DONATIONS to the Provident Institution of Builders' Foremen and Clerks of Works.—Apply, by letter, to the Secretary, Mr. J. KAY, 9, Conduit-street, Hanover-square, W.

TO SONS OF GENTLEMEN.
AN ARCHITECT and SURVEYOR, London, within a short distance of the Kensington Museum, can RECEIVE Articled Pupils into his OFFICE (resident if preferred), where they will have the advantage of personal direction in their Studies, aided by extensive practical experience.—For terms and reference address, BETA, Office of "The Builder."

CLERK WANTED, from 20 to 30 years of age, who has been accustomed to the Lead, Glass and Colour Trade.—Apply by letter, stating where last employed and salary expected, to G. FARMILOE & SONS, 118, St. John-street, E.C.

TO PAINTERS.
EIGHT GOOD WORKMEN WANTED, for about three months.—Apply at Messrs. JOHN FOORD & SONS' Office, 12, Beech-street, Mile Town, Sheerness.

TO CARPENTERS AND JOINERS.
GOOD WORKMEN will find immediate EMPLOY on application to J. HALES, Marlowes, Hemel Hempstead, Herts. Liberal wages given.

TO PARENTS AND GUARDIANS.
MR. J. S. WYON has a VACANCY for a PUPIL in Medal Die Engraving, &c. Also for an Apprentice in General Die Sinking.—Address, 3, Langham Chambers, Langham-place, W.

TIMBER TRADE.—WANTED, a CLERK, with a thorough knowledge of the Timber Trade, and the Management of a Retail Yard. Must be a good salesman, and have filled a similar position before.—Apply by letter, with full particulars, salary expected, &c. to M. A. care of Mr. F. D. Wrangham, 132, London Wall, City, E.C.

WANTED, a FOREMAN, capable of taking the general management of a Timber-yard, and of directing or working a Saw-mill and Planing and Moulding Machine. None need apply without satisfactory references.—Address, CREIGHTON & HENDERSON, Alexandra Steam Saw-mills, Carlisle.

WANTED, a FOREMAN and SALESMAN in a Retail Timber-yard.—Address, B. C. R. Office of "The Builder."

WANTED, in a Builder's and Contractor's Office, a YARD CLERK, one well up in accounts and disposed to make himself generally useful. Some knowledge of construction preferred.—Address, stating salary required, where last engaged, &c. to W. V. at Mr Grebell's, Cutler, Walworth road.

WANTED, in a Builder's and Contractor's Office, a thoroughly practical Man, as MANAGER.—Address, stating age, salary required, and where last engaged, to H. R. B. Office of "The Builder."

WANTED, in a London Architect's Office, a DRAUGHTSMAN, whose duties will be the general preparation of working and detail drawings with rapidity and accuracy. Salary, for first year, 70*l.*—Apply, by letter only, stating age, former employers, and references, to ALPHA, care of Mr. Wilson, No. 12, Alscot road, Grange-road, S.E.

WANTED, an experienced SURVEYOR'S CLERK and ACCOUNTANT, as GENERAL ASSISTANT, to take charge of books and accounts in the office, and to receive plans deposited by builders and others under the Local Government Act, &c. He must be a good writer and correspondent, able to prepare estimates, measure up work, and check builders' accounts.—Apply, by letter, stating age, previous occupation, references, and salary required, to Mr. F. C. LUCKWOOD, Borough Surveyor, Brighton.

WANTED, a WORKING SHOP FOREMAN of JOINERS. Must be an energetic man, have filled a similar situation, used to the modern system of joinery, a fair draughtsman, and capable of setting out work.—Address, stating age, wages, and reference to last employer, A. B. Stone & Hartley's Library, Banbury, Oxfordshire.

WANTED, a PORTER, for a Timber-yard. He must have been in a similar situation, and be fully competent to keep the yard in order.—Apply to B. MOSS & CO. 45, Leman street, Whitechapel, E.

TO ARCHITECTS AND SURVEYORS' ASSISTANTS.
WANTED, a first-class ASSISTANT, in a county town, to take charge of the Office during the principal's absence. To a suitable and thoroughly qualified person the engagement would be permanent.—Address, with terms and other particulars, F. F. O. Office of "The Builder."

TO CARPENTERS AND JOINERS.
WANTED, SEVERAL GOOD HANDS in the above Branch of Trade.—Apply to Messrs. COZENS, BROTHERS, Love lane, Canterbury.

TO BUILDERS' CLERKS, &c.
WANTED, an Efficient CLERK, experienced in builders' accounts, &c.—Apply, stating terms, to A. Z. Post-office, Darlington.

WANTED, in the Surveyor's Office of the Local Board, Bedford, a competent CLERK and TIME-KEEPER, capable of preparing working drawings. Hours from Six to Six; salary, 65*l.* per annum, with a six-roomed house to live in (a practical bricklayer would be preferred).—Address as above, stating age, references, and where last employed.

TO STONE MASONS.

WANTED, immediately, a good WORKING FOREMAN.—Address, stating wages required, to CHARLES CLARIDGE, Builder, 40, High-street, Banbury.

TO LAND SURVEYORS.

WANTED, in a Surveyor's Office, in the Country, an ASSISTANT. Must be a fair draughtsman, and a good surveyor and leveller. One accustomed to the management of building land preferred. A competent person will find a permanent situation and a liberal salary.—Address, giving references, and terms, BOX 94, Post-office, Blackburn, Lancashire.

TO PLUMBERS.

WANTED, for a Constancy, in London, a THREE-BRANCH HAND; one that can do Zinc-work and Gas-fitting preferred. None but good workmen need apply.—Address, with references as to sobriety, honesty, and wages required, to B. C. N 80, Princes street, Lambeth, S.

TO ARCHITECTS AND SURVEYORS.

WANTED, to PLACE an intelligent YOUTH, of sixteen years of age, with an Architect and Surveyor, as ARTICLED PUPIL, for a period of four years. A moderate premium will be given, and a residence with the principal is desired. A country firm of some standing would be preferred.—Letters, with full particulars, to be addressed Mr. D. 52, Thornton Heath, Croydon, Surrey.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, a constant SITUATION as PLUMBER, GASFITTER, and LEAD-LIGHT GLAZIER. Good experience in deep well work.—A. M. 2, Osborne cottages, Clapham road, London.

WANTED, a SITUATION, as BUILDER'S OUT-DOOR FOREMAN. Carpenter by trade. Six years' reference.—Address, J. P. 16, Ponsonby-terrace, Vauxhall Bridge-road, S.W.

TO BUILDERS.

WANTED, by a Young Man, thoroughly acquainted with the Mason's Trade in all its Branches, a SITUATION as FOREMAN. Highest testimonials.—Address, F. B at Mr Law's, Hasworth, Hounslow.

WANTED, by an experienced Builder's Clerk, Estimator, and Draughtsman, an ENGAGEMENT. A Joiner, acquainted with all branches, experienced in superintending Works, the last seven years with London builders; is competent to manage a business under the Principal, or as Clerk of Works.—Address, H. H. Office of "The Builder."

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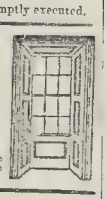


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„ „ RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

WILCOCK & CO.
FIRE-BRICK AND SANITARY TUBE WORKS,
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ILLUSTRATED LISTS ON APPLICATION.

NEW TARIFF FOR JUNE, 1864.
THOMAS MILLINGTON'S
NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
See Advertisement first Saturday in the Month, or on application.
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

ESTABLISHED 1844.
JOHN BOARD & Co.'s CEMENT and LIAS LIME WORKS, Dunball (near Bridgwater); Office, Queen-street, Bridgwater. JOHN BOARD & Co. beg to inform Builders, Contractors, and Merchants that they continue to manufacture CEMENTS and BLUE LIAS LIME, at Dunball, near Bridgwater, and from increased appliances to their works, are enabled to execute orders for the same to almost any extent.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent road Bridge.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lumps (forest), or ground, and in barrels and bags. The limestone can be had in full cargoes, also their cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or of E. & W. AARON, Agents, 66, South John-street, Liverpool.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

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GARDEN EDGINGS of various Patterns.
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Contracts entered into to set Retorts, erect Furnaces, &c.
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SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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DRY WAINSCOT,
At 5d. 7d. and 8d. per foot, at
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GEORGE ANGOLD'S,
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MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851. Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

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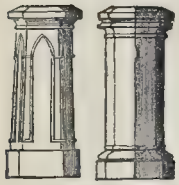
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

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The only MEDAL for "STONEWARE PIPES" has been awarded to

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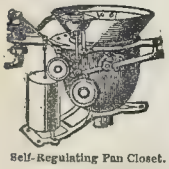
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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

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THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

3s. 9d.



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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

TURRET CLOCKS, designed and constructed upon the most approved plans and of the very best workmanship and materials, at the lowest possible prices, for Cathedrals, Churches, Public Buildings, and Gentlemen's Mansions, Stables, &c., comprising Turret Timepieces, Striking, Quarter, and Chime Clocks, Windials inside and fixed. Also Clock-dials adapted to the various orders of Architecture.



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188, St. George-street, East, London, By Special Appointment to the Queen and to his late Royal Highness the Prince Consort, her Majesty's War Department, &c.

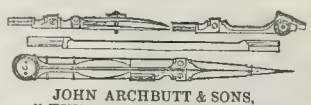
Maker of the Great Clock of the Tower of London. The Village Clock, price 40 guineas.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 30 feet diameter.

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Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



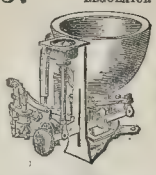
for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

J. TYLOR & SONS' PATE

REGULATOR WATER-CLOSETS.



Valve.

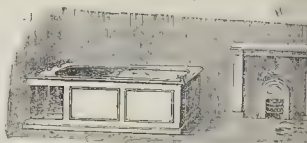


Pan.

The Regulator Valve gives perfect control over the supply of to each closet, so that, however small the fall of water, perfect ing is insured. Any number can be worked by one supply-pipe cistern-valves, cranks, or wires required. The Closets can be se action at the Manufactory, and Illustrated Catalogues had on a cation to the Manufacturers, J. TYLOR & SONS, Warwick-Newgate-street, London.

J. TYLOR & SONS' PATENT BA

APPARATUS.



The bath and boiler may be fixed in the same or separate ro anywhere below the level of cold-water cistern. Open or close f pleasure. No brickwork setting for boiler required.

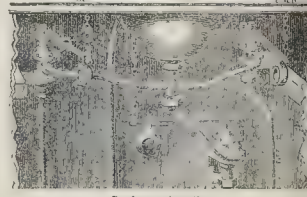
Estimates given from architects' drawings, or by inspectio buildings.

Catalogues, containing Nine Illustrations of different metho heating baths, sent on application to the Manufacturers, J. TY & SONS, Warwick-lane, Newgate-street, London.

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ILLUSTRATED CATALOGUES FREE.

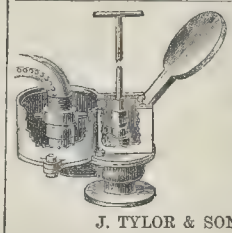




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J. TYLOR & SONS,

WARWICK LANE, NEWGATE ST., LONDO

PAN CLOSE

and HYDRAULIC REGULATOR.

COMPLETE, 11. 18s.



Dispensing wi Cranks, Wire Rod, Lever, Service-box, &c.

Any number can be supplied fo one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, Londo

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

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ASPHALTE.

ESTABLISHED



1838

For covering Flat Roofs, Paving and Flooring of every descripti especially in places subject to damp and vermin. This Asphalte now extensively used for paving Stables (as shown above), the absen of joints preventing the generation of ammonia. For Estimates a Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-h London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

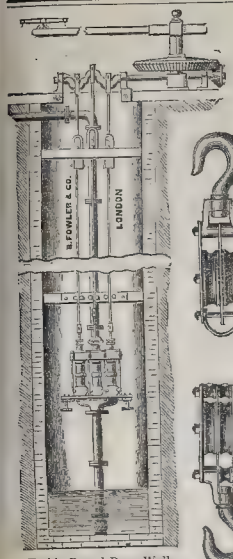
CLINTON & OWENS

(LATE FOWLER & CO.),
WHITEFRIARS STREET, FLEET STREET, LONDON,
MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

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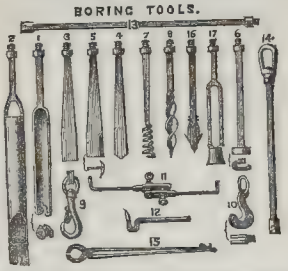
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Treble Barrel Deep Well Pumps, with Horse Gear.







BORING TOOLS OF EVERY DESCRIPTION,
For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

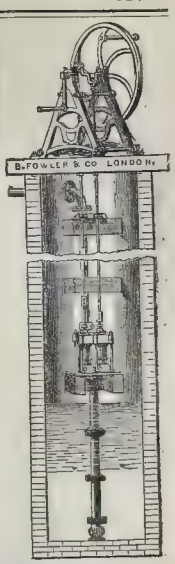
THESE TOOLS MAY ALSO BE HAD ON HIRE.

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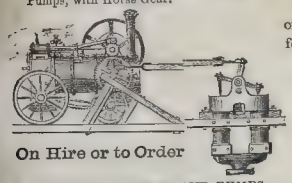
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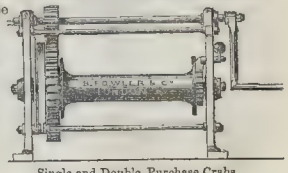


Double Barrel Deep Well Pumps, with Hand Gear.



On Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

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BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 36½.

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 23 feet in depth,

From 12s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cross-brace carriage and expensive stays and adjuncts necessary, requiring to be fixed, are dispensed with, thereby reducing the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 "	5 5 0	
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Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 8

Further Description, with Sectional Drawings will be sent on application.



No. 143½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
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The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Prices, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

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BISHOPSGATE STREET WITHOUT.—Building Materials of several Houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY NEXT, the 17th, at TWELVE, in Lots, all the VALUABLE BUILDING MATERIALS and FITTINGS-UP of the Block of Houses, Nos. 36, 37, 38, and 39, Bishopsgate-street Without, and several Tenements in the rear, extending to Rose-Alley: comprising good sound brick-work, at all rafters, joists, and other useful timber, plain and jam tiles and slates, glazed sashes, doors, pane led jambs, wainscoting, fittings, marble and other chimney-pieces and interior fittings, plate glass and other shop-fronts, sound floor boards, lead gutters, waterpipes, iron columns, paving, coping and cills, stoves, and various useful Stranger up.—May be viewed the day previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CARRARA WHARF, GROSVENOR ROAD, THAMES BANK, PIMLICO.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JUNE 22, at ELEVEN for TWELVE, a large Assortment of MARBLE BLOCKS, of recent importation, including statuary of fine quality for sculpture, w th first and second class statuary, vein, and Sicilian, and a variety of coloured marbles for manufacturing purposes. Also several thousand feet of Sicilian, vein, statuary, and coloured slabs, garden vases, figures, &c. Approved bills at four and six months.—May be viewed two days prior to the sale, and catalogues had at Carrara Wharf; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

NEW SOUTHSEA, HANTS Valuable Freehold Estate, with Building Ground, close to Havelock Park.

MESSRS. PRICE & CLARK are instructed to SELL by AUCTION, at GARRAWAY'S Coffee House, Change Alley, Cornhill, on TUESDAY, JULY 5, at TWELVE for ONE o'clock, the important FREEHOLD ESTATE known as Freddington, New Southsea, comprising a capital and substantially-built Family Residence, with stables, outhouses, garden, orchard, and grounds; the whole containing about eight acres, and is well adapted for the formation of a public institution, or for a general building site. The property adjoins Havelock Park, and is near St. Barbholomew's Church and the newly erected beautiful residences in that locality. The surrounding property is rapidly rising in value, and the capabilities of this particular estate as a building site are highly favourable, offering an advantageous opportunity to capitalists, builders, and others to form a good sound profitable investment. The property may be viewed until the day prior to the sale by application to Mr. CARTER, 7, Up on street, Portsea; and particulars with plans may be had 14 days preceding the Sale of Messrs. HELLARD & SON, Solicitors, Portsmouth; and in London at GARRAWAY'S, and the Offices of PRICE & CLARK, 48, Chancery lane.

PIMLICO.—To Builders, Material Buyers, and Others.—Important Sale of Superior Building Materials, to be cleared away for the prompt Improvement of the Estate.

MR. GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on WEDNESDAY, THURSDAY, and MONDAY, JUNE 15th, 16th, and 20th, at TWELVE each day, all the very excellent MATERIALS of the Spacious Family Residences, with back buildings, Nos. 1 to 9 Lower Grosvenor place, facing the Royal mews, comprising 200,000 of prime stock bricks, several tons of lead, ventilated slates, glazed and other roofs; sound internal fittings of the numerous large rooms with batten floors, stout joists and girders, statuary and vein marble chimney-pieces, stone staircases, and pavement of halls; fixtures and appendages May be viewed. Catalogues of Messrs HAINES & SON, Moorgate-street, City; and at the Auction Offices, Grosvenor-street West, and 264, High-street, Kensington

IMPORTANT CITY FREEHOLD, comprising the spacious Eagle Hotel, Gracechurch street, with extensive Premises and Yard, containing an area of 6,400 square feet, adapted for advantageous building

CHINNOCK, GALSWORTHY & CHINNOCK are instructed to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, near the Bank of England, on THURSDAY, JULY 14, at TWELVE (unless previously disposed of by private contract), a valuable FREEHOLD INVESTMENT, situate in the very heart of the City, where all the chief commercial interests of London are now being centred: comprising the principal portion of that well-known establishment the Spread Eagle, Gracechurch-street, with extensive premises and yard, having a back entrance to Leadenhall Market; the whole containing an area of nearly 6,400 square feet, and forming one of the most important building sites to be found in the City, its advantageous position rendering it admirably adapted for rebuilding as offices, whereby a very large rental may be obtained, thus offering a rare opportunity for the employment of capital.—Particulars may be obtained of DUCK, Esq. Solicitor, 75, Fenchurch-street, of Messrs WALES & SPARKS, Solicitors, 7, Great Swan Alley, Moorgate-street; at the Mart; and of Messrs. CHINNOCK, GALSWORTHY, & CHINNOCK, Land Agents and Surveyors, 11, Waterloo-place, Pall-mall.

Various Plots of FREEHOLD BUILDING LAND, at Camberwell New-road, Surrey.—By

MR. VIGERS' GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, on TUESDAY, JUNE 14, at TWELVE for ONE, by order of the Directors of the London, Chatham, and Dover Railway Company, viz., a PLOT of FREEHOLD BUILDING LAND, in the Denmark road, close to the Camberwell Station, with frontage of 166 feet, and an average depth of 200 feet; a Piece of Freehold Building Land, with a frontage to the Camberwell-road of 26 feet, and a depth of 108 feet; also a very valuable Enclosure of Freehold Land, in the rear of Grosvenor Place, Camberwell, containing 47,250 feet superficial, suitable for the erection of an extensive factory, or for small houses, which are much required in the locality.—Particulars and conditions of sale may be obtained of Messrs. FRESHFIELD & NEWMAN, 5, Bank-buildings; at Garraway's; and the Estate Exchange, Change-alley, Cornhill; or of Mr. VIGERS, Land Agent and Surveyor, 7, Frederick's-place, Old Jewry, E.C.

WILTS.—Residence, with 18 acres of Land, Valuable Freestone Quarry, and Extensive Buildings, at Rudloe Firs, in the Parish of Corsham, two miles from the Box and Corsham Stations on the Great Western Railway.

MESSRS. DARLEY & SONS will offer for SALE by AUCTION, at the ANGEL HOTEL, CHIPPENHAM, on FRIDAY, the 24th day of JUNE, 1864, at FOUR o'clock in the afternoon (unless previously disposed of by private contract), a Residence, with large garden, situate at Rudloe, in the Parish of Corsham, near the entrance to Hartham Park, and a valuable Freestone Quarry, with masons' and sawing sheds, stables, and every convenience for working the valuable stone which underlies the estate. Also two closes of very fertile Arable Land, containing 14a. 2r. 3p. with large yard, stone quarry, sheds, and other buildings. These lands are free of great tithes, and held by grant for 1,000 years. Rent only 2l. 2s. 6d. per annum, land tax, rent, and one-fifth part of Inheritance of the Manor of Corsham. The above property forms a most desirable investment for a capitalist wishing to embark in the stone trade; the increasing demand for Box stone being greater than the supply.—Particulars may be obtained of the Auctioneers, and of Mr. T. ABDY FELLOWES, Solicitor, Chippenham.

CROYDON, SURREY.—First-class Freehold Building Land, in a charming and picturesque locality, being part of the Haling park Estate.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, on TUESDAY, JUNE 21, at TWELVE o'clock, highly valuable FREEHOLD BUILDING LAND, in lots of about half an acre each, approached by a capital private road, 30 feet wide, with lodge entrance, in an open elevated position, commanding beautiful views, and having a subsoil basis of gravel. The Estate is admirably adapted for the erection of superior residences, and in order to guard against the possibility of the character of the neighbourhood being deteriorated, the purchasers will be restricted from building any other than private houses. Gas and water mains and sewers are already laid in the road. The terminus of the South Croydon Railway, which is now in the course of construction, will be within a few minutes' walk of the land, and the Waddon and East and West Croydon Stations are within easy distance of it. Particulars, with plans, may be had fourteen days before the Sale at Garraway's Coffee-house, Change alley; of Messrs CURREY & HOLLAND, Solicitors, 9, Old Burlington-street, London; and of Messrs. BLAKE, Croydon.

MARINE RESIDENCE, with upwards of 21 acres of Land, distinguished as Appley House an important Freehold Property on the Coast at Ryde, Isle of Wight. With immediate possession.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, at the MART, London, on WEDNESDAY, JUNE 15, 1864, at TWELVE o'clock, in one lot, APPLEY HOUSE and ESTATE, an important freehold property, situate within a few minutes' walk of the pier, at Ryde, Isle of Wight, possessing singular natural attractions as a residential estate, with numerous sites for the erection of villas, so greatly in demand in this much-admired watering-place. Appley being now the only land available for such a purpose with a sea view, in close proximity to the seashore, near the town of Ryde. The estate is literally within a ring fence, the northern boundary being girt by the sea, and secured by a stone wall, forming an esplanade in a line with the principal esplanade of Ryde, leading to the pier. The land here, which rises precipitously, is covered with a thicket-wooded plan adopted, the result of which would (if desired) enable the owner to build a terrace of houses on the esplanade, without at all interfering with the privacy or views of the higher portion of the property. The surface of the land is undulating, rising to the house on the south side, sloping towards the south, and then rising again to a considerable elevation, commanding very extensive and uninterrupted views from far beyond Spithead, on the east, extending to Southampton water on the west. The residence, which was enlarged and improved by the late owner, is approached by a carriage-drive through parklike grounds, with two lodge entrances from the Appley-road, and from the St. Helen's turnpike-road, near St. John's Church.

The internal arrangements comprise a suite of three reception-rooms, well-proportioned dining-room and gentleman's room, numerous principal and secondary bed chambers and dressing rooms, bath-room, work-room, nursery, very complete domestic offices, and capital arched cellarage, with ample supply of spring water from a deep well, and large underground tanks for soft water. In the front and rear of the house are the north and south lawns, noted for the luxuriance of the myrtles, and other choice shrubs and trees; the whole encircled by rich park-like land, studded with stately timber, including many very fine oaks, chestnuts, limes, and elms; the latter towering high and forming, with wood and gentleman's rooms, numerous principal and secondary bed chambers and dressing rooms, bath-room, work-room, nursery, very complete domestic offices, and capital arched cellarage, with ample supply of spring water from a deep well, and large underground tanks for soft water. In the front and rear of the house are the north and south lawns, noted for the luxuriance of the myrtles, and other choice shrubs and trees; the whole encircled by rich park-like land, studded with stately timber, including many very fine oaks, chestnuts, limes, and elms; the latter towering high and forming, with their magnificent branches, a conspicuous object from Ryde Pier. At a short distance from the house are modern stables and farm-buildings, including a dwelling-house for the gardener, stabling for four horses, double coach house, cow house, cart house, laundries, potting and fruit rooms, a range of forcing and succession houses, large walled kitchen garden, with choice wall-fruit trees and espaliers, and a well-stocked orchard. The Appley-road forms the southern and western boundary of the estate, and affords a large available frontage, while the land itself contains ample stone for building and brick earth, and the remarkable and at present complete seclusion of Appley House need be but little (if at all) interfered with, by judicious building operations under the control of the proprietor. The increasing value of building land at Ryde, abundantly confirmed by the fact that all marketable land has within the last few years been let at high rents for building purposes; the singular natural advantages possessed by this property, its sea frontage, and proximity to the pier, combine to render this estate deserving attention, either as a building speculation alone or combined with the possession of one of the most charming marine residential properties in the Isle of Wight. Printed particulars, with plans, are now ready, and may be had of Messrs. WALLIS, House Agents, and at the Pier Hotel, Ryde, at the Portland Hotel, Southsea; the George Hotel, Portsmouth; of Messrs. THOMAS & HOLLAMS, Solicitors, Commercial Sale Rooms, Mincing-lane, London, E.C.; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C. to whom all applications to view the property must be addressed.

CANADIAN MANUFACTURES from the Paris Exhibition of 1855, and the International Exhibition of 1862, and now exhibited at the Crystal Palace, Sydenham

MESSRS. FULLER & HORSEY are instructed by the Directors of the Crystal Palace Company, on behalf of the Canadian Government, to SELL by AUCTION, on WEDNESDAY, JUNE 22, at TWELVE o'clock, in the WEST GALLERY of the Crystal Palace, the COLLECTION of MANUFACTURES exhibited by Canada in the Paris Exhibition of 1855, and now removed to the Crystal Palace, at Sydenham: comprising a carved drawing-room suite, in walnut, of centre and card tables, couch, six chairs, easy and pris dieu ditto, and fire-screens, a handsomely-carved 6-foot walnut sideboard, with 7-octave square grand pianoforte, by Hood, Montreal, in rosewood case in a plain, tasteful, and good-grouping machine, to take in plank 14 inches wide; boring and moulding machines, a portable steam engine, reaping ditto, a four-mill, a weighing machine, capable to 5,000 lb., a fire-engine, with 5-inch barrels, suction and branch; portable forge and bellows, pair of grind-stones, a large collection of agricultural implements, a large signal-lamp with reflector, a refrigerator, canoes, hooded phaeton, trotting match cart, a well-made sledge for five persons and driver, quantity of Canadian rope, a Victoria-bridge, over the river Saint Lawrence, the House of Representatives and port and harbour of Montreal, mahogany and plate glass upright show-cases, 6-feet ditto, harness, gear and harness, axle arms, tools and shoes, sables, and furs, 9 beautiful rugs, woollen fabrics, blankets, specimens of hair, wool, fibre, isinglass, glue, &c. new iron-bound 4-wheel cart, a quantity of sashes and doors, large timber planks, an ash bole 12 feet 8 inches by 4 feet 7 inches in diameter, a bass-wood bole, 12 feet by 4 feet 9 inches in diameter, a walnut ditto 10 feet 4 inches by 3 feet 7, specimens of timber, specimens of marble, granite, minerals, and ores, 5,000 pamphlets on Canada, a quantity of packing-cases, and a variety of other effects.—May be viewed the day prior to, when Catalogues may be had at the Place of Sale; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

RAILWAY CONTRACTORS' PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, JULY 6, 1864, and following days, at ELEVEN for TWELVE o'clock precisely, on ground adjoining the Railway Stations at Hungerford and Devizes, CONTRACTORS' PLANT and IMPLEMENTS used in the Construction of the Berks and Hants Railway, including 100 capital earth waggons, side and end tip, 50 tons contractors' rails, 3 double-geared heavy 4-wheel trucks, 500 wheelbarrows, 150 planks, 150 loads sound fir timber, 30 loads ash and elm, 6 lots of sashes and doors, 1 timber carriage, 1 light cart, dog cart, 2 phaetons, harness, 100 large iron pipes, 5 to 6 tarpaulins, battens, 3 tons new bar and rod iron, 10 tons scrap iron, weighing machine, scales and weights, stocks and dies, smiths' tools, screw jack, leather bands, 12 circular saws, office furniture, iron safe, new wire lines, 3 tarpaulings, pug-mill, the erection of stabling and workshops, portable office, new 4-inch bolts and nuts, 2 trolleys, quantity of stone, 1,500 yards gravel, 4 water-tanks, 2-horse power chaff cutting machines, 1-hand-power ditto, quantity of fire-wood, and numerous other effects now in use and viewed on Tuesday previous and mornings of Sale, when catalogues may be had on the Works, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

FOR SALE, by PUBLIC AUCTION, in the SALE ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 22nd day of JUNE, 1864, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers.

- 8,000 Spruce Deals, Battens, and Ends
- 8,000 Quebec Pine and Spruce Deals
- 1,500 St Petersburg Red and White wood Deals
- 10,000 Odessa Red Deals, Battens, and Boards
- 1,500 4 by 11-inch Fresh Redwood Memel Deals, expected to arrive per "Minerva"

- 1,000 Archangel Redwood Deals
- 4,000 4 by 9 inch Sandarne Red Deals
- 2,000 2 by 9-inch Sandarne Redwood Deals
- 6,000 Swedish Red Deals, Battens, and Ends
- 16,000 Fresh Norway Redwood and Whitewood Battens
- 4 of Loads Quebec Board Yellow Pine
- 13 Logs Quebec Red Pine
- 200 Loads Quebec Red Pine
- 200 Loads Quebec Pine
- 10 Loads Fresh Quebec Elm
- 200 Loads Dantzic Redwood Timber
- 250 Loads Swedish Timber
- 200 Fresh Norway Spars

- 600 Fresh 4 by 6-inch spars } Cargo per "Admiral Peter
- 300 Fresh 4-inch ditto } Tordenskjold," from Christiana.
- 500 Rickers

- 1,700 Memel Pipe Staves
- 144 English Ash Plank
- Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

Canons' Marsh, Bristol, June 7th, 1864.

F. K. BARNES & SONS, Brokers.

TO TIMBER MERCHANTS, CABINET AND PIANOFORTE MAKERS, AND OTHERS.

MR. EDMONDS will SELL by AUCTION, on the PREMISES, 212 and 214, Hackney-road, on WEDNESDAY, JUNE 15, at ELEVEN for TWELVE, the well-seasoned STOCK in TRADE of a Timber Merchant, comprising 20,000 feet Spanish Mahogany, 30,000 feet Honduras, 10,000 feet Walnut, in planks and boards; 50,000 feet Spanish Veneers, large Quantity of Rosewood, Walnut, Honduras, Maple, and Birch Veneers; 2,000 dry cut Pine Plank, Deals, and Battens, and a Quantity of useful Stuff.—May be viewed the day prior. Catalogues to be had on the Premises; and at the Auctioneer's Offices, 23, New North road, N.

SURBITON-HILL, in the parish of Kingston-on-Thames, Surrey.—An ESTATE comprising a Gentleman's Residence and upwards of Six Acres of very valuable Building Land thereto adjoining, situate at Surbiton-hill, in the parish of Kingston-on-Thames, within two minutes' walk of the Surbiton Station, on the South-Western Railway, and now in the occupation of W. J. CARR, Esq. The proximity of this estate to the Surbiton Station, on the South-Western Railway (at which twenty-five up and twenty-four down trains stop daily) renders it most eligible for purchase by gentlemen engaged in business in London during the day, and the opportunity afforded by this sale of purchasing beautifully and pleasantly located building sites in one that rarely occurs. And also of a Freehold Garden, with Stables and Sheds, in Kingston-on-Thames, in the occupation of Mr. DANIEL WELLS, basket maker.—TO BE SOLD by AUCTION by

DANBY & CALESS, on TUESDAY, the 14th day of JUNE, 1864, at the SUN HOTEL, Kingston-on-Thames, at SIX for SEVEN o'clock in the afternoon, subject to conditions to be then and there produced, unless previously disposed of by private contract, of which due notice will be given.—Notice, the Residence and six acres of Land above described (being Lots 1 to 12, both inclusive) will be offered in one lot; but if no satisfactory bidding be made, it will be immediately withdrawn and disposed of in lots, as hereafter described. There is a land-tax on the Estate of 3l. 8s. 6d., which will, if necessary, be apportioned at the time of sale. For a view, cards of admission can be obtained at the Sun Hotel, Kingston; at the Office of the "Surrey Comet;" and of Mr. Danby, Land Surveyor, Hampton Wick.—Particulars and plans may be had at the Place of Sale; of Messrs. R. M. & P. LOWE, 2, Tanfield court, Temple, London; and of Messrs. ROLLS & PELLATT, Solicitors, or the Auctioneers, all of Banbury; at the Sun Hotel, and the "Comet" Office, Kingston; and of Mr. WALKER, Surveyor, Hampton Wick.

CLAPTON.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, the 20th of JUNE, 1864, at TWELVE for ONE o'clock, a further portion of this eligible FREEHOLD BUILDING LAND, free of tithe and land-tax, situate on the Rendlesham-road, leading from Downs-road to Upper Clapton, close to the Hackney Downs, and within half an hour's ride of the City. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. to be paid in nine years, by half yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained any day before the sale, at the Old King's Head, Upper Clapton; of Messrs. RUSSELL & DAVIES, 39, Coleman-street, London, E.C.; the Auctioneer, 14, Moorgate-street, London, E.C.; or the Foreman on the Estate; and at the Place of Sale.

TO BUILDERS AND OTHERS.—Sawing, Planing, and Moulding Factory, 15, Great Swan Alley, Moorgate-street, Cancery Lane

MR. JAMES BEAL, having sold the leases, will SELL by AUCTION, on the PREMISES, as above, on FRIDAY, JUNE 17, at ELEVEN for TWELVE o'clock (without reserve), by direction of Mr Sands, who is retiring from business (without limit), the entire of the CONVENIENT dry pine, yellow and white planks, deals, battens, and quarter sq. in mahogany planks, birch and beech, planed and matched floor and lining boards, fourcased and other door frames, oak cills and posts, a quantity of scaffold poles and boards, barrows, rubbers, patent weighing machine, builder's spring van, carts, and pharetry, two useful horses, shafted cart, 6 inches, with circular saw, circular saw bench, moulding and mortising machines, and numerous useful effects.—On view two days prior to sale. Catalogues may be had on the Premises; and of the Auctioneer, 209, Piccadilly, W.—Good will of Business for Sale.

YORKSHIRE, adjoining a Railway Station.—To Manufacturers and Others requiring cheap Coal and Railway and Water Transit, and to Brewers.—TO BE SOLD by AUCTION, by

DIXON & BUSH, at the CROWN INN, Rotherham, Yorkshire, on WEDNESDAY, the 22nd day of JUNE, at FIVE p.m., LOT 1, FREEHOLD LAND, with Warehouse, Cottage, and Buildings thereon, adjoining, and having a frontage of about 250 feet to the Masborough station of the Midland Railway, Rotherham, comprising 2,830 square yards or thereabouts, and the means of water communication with the sea, are with in a few hundred yards. Lot 2. Freehold Hotel, called the "Red Lion," and the yard, stables, loose boxes, and premises, comprising a very large site, in Bridgate, being in the middle of the town of Rotherham, and close to the Court-house.—For plans and further particulars apply to Mr JOSEPH BADGER, Solicitor, Rotherham.

LIVERPOOL.—Valuable Steam Saw-mill, Planing and Moulding Machinery, &c.—Harrington street and Grafton-street (with accommodation land adjoining).—By

MR. EDWARD CHALONER, on FRIDAY, JUNE 17, at TWELVE o'clock precisely, on the PREMISES, in Harrington-street, subject to such conditions as shall be then and there produced.

LOT 1. All that Piece of FREEHOLD LAND, situate on the west side of Grafton-street and east side of Harrington street, in Toxteth Park, in Liverpool, with a frontage of 80 yards to each of the said streets, and being 100 yards in depth, and containing 8,000 square yards; together with the Steam Saw-mills and other Buildings thereon erected, which are now in many years as the "Brunswick Steam Saw mills," with the boilers, steam engine, and sawing, planing, and moulding machinery, fixtures, and tools, as they now stand, in full working order. A detailed descriptive catalogue of all the machinery, tools, &c. will be ready in a few days.

2. All that Piece of FREEHOLD LAND situate on the east side of Grafton-street aforesaid, and on the west side of Mann-street, with a frontage to each of such streets of 100 yards, and bounded on the north by Northumberland-street, with a frontage thereto of 45 yards, and containing altogether 4,500 square yards. Both of these properties are close to the new goods station of the Liverpool and Garston Railway Company, and to the Brunswick Dock. The mills may be viewed, and copies of the Plan and Particulars obtained, on the Premises.—For further particulars, apply to Mr. WILLIAM FOSTER, Solicitor, 23, Cannon-street, London; to Messrs LOWNDES & CO Solicitors, 3, Brunswick-street, Liverpool; to Mr. EDWARD WHITLEY, Solicitor, 6, Water-street, Liverpool; Mr. CROPPER, Solicitor, Pelican-buildings, Harrington-street, Liverpool; or to Mr. EDWARD CHALONER, Estate Office, Queen's Dock, Liverpool.

Immediately after the above WILL BE SOLD the STOCK of TIMBER, &c. Catalogues, containing full particulars, may be had at the Office of "The Builder"; or had on application to the Broker.

ST. JUDE'S (LATE) TEMPORARY CHURCH, GRAY'S INN ROAD.

MR. BULLOCK respectfully announces that he is directed by the Incumbent and Committee to SELL by AUCTION, upon the PREMISES, in Britannia-street, near the Metropolitan Railway, King's cross, on TUESDAY, JUNE 21, 1864, at TWELVE for ONE o'clock, the CHURCH FURNITURE and FITTINGS: comprising an Early English Communion Table, on pierced sunk panels; oak reredos, with slate tables of Ten Commandments, and carved communion table cover, the very beautiful old carved oak pulpit, reading desk, and seats from St. Bartholomew's, Royal Exchange (pulled down many years ago for City improvements), open bench seats for 300, with raised flooring; gas and patent fuel stoves, coco-nut matting, &c. May be viewed the day prior. Catalogues had six days prior, at Mr. BULLOCK'S Offices, No. 311, High Holborn, W.C.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 11, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1115. JUNE 18, 1864. PRICE FOURPENCE. By Post, 5d.

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ROYAL ACADEMY of ARTS. — The EVENING EXHIBITION will commence on MONDAY next, the 20th instant, and continue open every evening. Admission, from Half-past Seven till Half-past Ten, Sixpence. Catalogue, Sixpence.
JOHN PRESCOTT KNIGHT, R.A. Secretary.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION. — The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 5, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

NATIONAL COMPETITION of LOCAL SCHOOLS of ART.—The ANNUAL EXHIBITION of the WORKS sent up in competition for National Medallions by the Ninety Local Schools of Art is NOW OPEN in the New Galleries of the South Kensington Museum.
By order of the Lords of the Committee of Council on Education.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt;" together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover-street, Regent-street, from Nine in the morning till Ten at night.—Admission, during the day, from Nine till Seven, One shilling; and in the Evening, from Seven till Ten, Sixpence.

TO SCULPTORS, ARCHITECTS, and BUILDERS.
The above gentlemen are respectfully requested to address all future correspondence with the Ornamental Sculptors' Society to 117, Page-street,
Westminster, S.W.
Lately known as No. 9, Holywell-street.
JAMES GOUDGE, Hon. Sec.

FIRE INSURANCE.—REDUCTION OF DUTY.
ALBERT INSURANCE COMPANY, LIMITED (Fire and Marine), undertakes FIRE RISKS from the 24th JUNE, at the Full Reduction of Duty.
The Premiums charged will be estimated by the individual risk; and the utmost liberality will be maintained in every transaction.
Professional men introducing business, will be liberally treated with.
For prospectus and every information, apply at the Offices, 8, Pinch lane, or 7, Water-co-place, Pall-mall; or throughout the Kingdom of any of the Agents of the Albert Life Office.
MORELL THEOBALD, Secretary, Fire Department.

ARCHITECTURAL EXHIBITION and COLLECTION of BUILDING MATERIALS and MANUFACTURES, 9, Conduit-street, Regent-street. — Now open, admission One Shilling. Lectures on TUESDAY evenings, at EIGHT o'clock. Season Tickets half-a-crown. Will close JUNE 30th. Also, in the same Gallerier, the EXHIBITION of the SOCIETY of SCULPTORS of ENGLAND.

ECCLESIOLOGICAL SOCIETY, 78, New Bond street, London, W. The TWENTY FIFTH ANNIVERSARY MEETING of the ECCLESIOLOGICAL SOCIETY will be held on WEDNESDAY, JUNE 22nd, at EIGHT o'clock, p.m. at the Lecture Theatre of the South Kensington Museum. A Discussion will be held on the Plan and Construction of Town Churches both artistically and practically considered. Ladies are invited to the Meeting.

(Rev.) BENJAMIN WEBB, 3, Chandos-street, W.
(Rev.) H. L. JENNER, Preston, Sandwich,
Honorary Secretaries.

SCOTTISH NATIONAL MEMORIAL to HIS ROYAL HIGHNESS the late PRINCE CONSORT.—The Committee of Advice, nominated by her Majesty, prior to inviting Designs for the Scottish National Memorial to the Prince Consort, will be willing to receive SUGGESTIONS as to SITES that may be considered eligible in Edinburgh or its immediate neighbourhood. No Suggestions can be received after the 1st JULY.
W. S. WALKER, Honorary Secretary.
125, George street, Edinburgh, 9th June, 1864.

AQUEDUCT for the ISLAND of PORTO RICO.—The Execution of the Surveys for the Construction of the said Work will be permitted (without any subvention) by the Municipality of the City of Porto Rico, to all parties applying for the same prior to the 16th of SEPTEMBER next, subject to the condition which is for inspection at the Spanish Consulate General's as under. The surveys, &c. to be presented terminated by the 16th of MARCH, 1865.—By order of H. C. M.'s Consul General,
The Chancellor GMO. R. STEET.
5, Jeffrey's-square, 13th June, 1864.

BILLING'S PATENTS. —CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings. For prices, apply to the Manager, Mr TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Register Grates, and Cooking Utensils, to meet the growing public demand, and also for the consequent more extensive execution, by the manufacturers themselves, of all descriptions of hot water, bath, laundry, and steam work.
72—74, Bishopsgate street Within, November, 1863.

COMPETITIONS.

TO ARCHITECTS. — The Corporation of East Retford are desirous of being furnished with DESIGNS and ESTIMATES for the ERECTION of a NEW TOWN HALL, with covered Corn Exchange and Markets in connexion therewith. A Premium of £20 will be given for the Design adopted, such Design and Estimates to be the property of the Corporation. The whole expense of the buildings not to exceed £6000. The Corporation to not bind themselves to employ the architect whose design may obtain the premium; but if they do, then he shall not be entitled to the premium. A plan of the land and further particulars may be obtained on application to me,
NEWTON & JONES, Solicitors.
Town Clerk's Office, East Retford.

CONTRACTS.

TO CONTRACTORS.—Limehouse, London. The Proprietors of the Limekiln Dock Yard are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK, 333 feet in length, and other Works. Plans, specifications, &c. may be seen, and time of quantities had, at the Office of the Engineer, Mr. WALTER R. KINIPPLE, Parliament Chambers, Cannon-row, Westminster, on and after WEDNESDAY, the 15th day of JUNE 1864. Tenders, indorsed "Tenders for the Limekiln New Graving Dock," are to be forwarded to the Proprietors, at the Dock, on or before the 27th day of JUNE, 1864. The Proprietors will not be bound to accept the lowest or any Tender.
London, June, 1864.

NOTICE to CONTRACTORS.—TENDERS are required for PROVIDING and LAYING CAST-IRON OUTLET PIPE from No 1 Sluice to the Level of Low Water, in the River Medway, at Sheerness. A plan, showing the position and levels of the pipe, &c. may be seen, and a specification, with all necessary information, obtained, on application at this Office, between the hours of TEN and FOUR, Sundays and 28th June excepted, from 20 h to 30th JUNE instant. Tenders will not be received later than 4h JULY next. The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Sheerness, 13th June, 1864.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.
TENDERS are required for RENEWING COOKHOUSE, ABLUTION, and BATH ROOMS, at the West Wing of Hounslow Barracks, in the county of Middlesex.
Parties desiring to Tender for the erection of these Works must leave their names at this Office from the 20th to 25th JUNE, 1864, both days inclusive, between the hours of ELEVEN o'clock a.m. and THREE o'clock p.m. and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District,
11, James-street, Buckingham-gate, London, S.W.
June 14, 1864.

CONTRACTS.

NOTICE is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall Mall, London, S.W. on or before the 30th JUNE, 1864 for the SUPPLY of the following description of MATERIALS for Artificers' Work, to be delivered into store at Brompton Barracks, from time to time, for a period of Three Years, from the 1st of APRIL, 1864, determinable at any period after one year, on either party giving to the other three months' notice in writing, viz —

Bricklayers' Materials.	Paviours' Materials.
Carpenters' do.	Plasterers' do.
Masons' do.	Plumbers' do.
Painters', Glaziers', and Paperhangers' do.	Slaters' do.
	Smiths' do.

The probable quantities of Materials required for the present year are:—

1,000 feet cube of Fir, in bank.
1,700 feet super. (in total) of 3-inch Deal, Ash, Beech, Elm, and Oak.
460 lb. of Nails.
1 cwt. of Glue.
28 cwt. of Tarred Rope.
27 cwt. of Iron.

The Secretary of State reserves to himself the right of rejecting any or all Tenders that may be presented.
Further information and printed forms of Tender may be obtained, and schedules of Contract may be seen, on application at the Royal Engineer Establishment, Brompton Barracks, from the 18th JUNE to the 27th JUNE, and no Tender can be admitted after the said 30th JUNE, 1864
Royal Engineer Establishment, Chatham, June 14th, 1864

TO BUILDERS. — Parties desirous of CONTRACTING for the ERECTION and COMPLETION of ST. JOHN'S CHURCH, Carlisle, may see the plans and specifications, and obtain bills of quantities, at the Office of JOHN NANSON, Esq. Solicitor, 75, Castle-street, Carlisle; or at the Office of the Architect, Journal Chambers, Nottingham.—Plans, &c. may be seen on and after MONDAY, JUNE 6th. Contracts to be delivered at the above Office, in Carlisle, endorsed "Tenders for St. John's Church," on or before JUNE 22nd inst. The Committee do not bind themselves to accept the lowest Tender.
ROBT. CLARKE, Architect, Nottingham.

GLOUCESTERSHIRE.—To BUILDERS. COUNTY POLICE STATION. — The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT, at Wotton-under-Edge. Persons desirous of contracting for the works must pay a deposit of £1 for the Specification, Plans, Form of Tender, and any further information, after THURSDAY, the 16th of JUNE, on application at the Offices of Mr. J. MEDLAND, County Surveyor Clarence-street, Gloucester. Tenders sealed, and endorsed "Tender for Police Station, Wotton-under-Edge," to be sent under cover to the Clerk of the Peace, Shirehall, Gloucester, on or before SATURDAY, the 25th of JUNE next.—The lowest or any Tender will not necessarily be accepted.
Clarence-street, Gloucester, May 31, 1864

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE.—METROPOLIS NORTHERN LOW-LEVEL SEWER. To BUILDERS, CONTRACTORS and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 24th day of JUNE, 1864, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 4 miles 1 855 feet in length, or thereabouts, with other works in connexion therewith, commencing near the site of the proposed pumping station by Abbey Mills, West Ham, and terminating at Trinity-square, Great Tower hill, with a Branch to commence at Saint Leonard-street, Bromley, and terminating at Old Ford, in the counties of Essex and Middlesex. Parties desiring to submit Tenders may, upon payment of £5, obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 23rd day of JUNE, 1864. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received later than that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. May 27, 1864.

EALING SEWERAGE WORKS.—MANURE TANKS.—The Local Board are prepared to receive TENDERS for the CONSTRUCTION of certain MANURE TANKS, FILTER BEDS, and other Works connected therewith. The plans and specifications, together with any other information, may be obtained, and after TUESDAY, the 14th JUNE next, at the Office of Mr. CHARLES JONES, 2, Church terrace, Ealing, Surveyor to the Board. Sealed Tenders to be delivered to the Surveyor, on or before NOON on FRIDAY, the 24th JUNE, 1864.—By order,
(Signed) ALEXANDER REMSLEY, Clerk to the Board.
Ealing, 8th June, 1864.

TO BUILDERS and CONTRACTORS.—The Joint Burial Boards of the Parishes of St. Pancras and St. Mary Islington, will meet on THURSDAY, JUNE 30th, 1864, at FOUR o'clock in the afternoon, to receive TENDERS for the ENLARGEMENT of the NON-CONFORMIST CHAPEL at Finchley Cemetery. The plans at the specification may be seen, and the quantities obtained, at the Offices of the Architect, Mr ALLOM, No. 24, Haymarket, London, on and after the 23rd instant. The sealed Tenders must be delivered at the Vestry Hall, St Pancras, on or before FOUR o'clock, of the 30th instant. The Boards do not bind themselves to accept the lowest Tender.
CHAS. GREENE, } Clerks to the respective Boards.
JAMES TAYLOR, }

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of DOCK OFFICES, CUSTOM HOUSE and DOCK MASTER'S RESIDENCE, at Penarth, for the Penarth Dock and Railway Company, may inspect the plans and specifications and obtain copies of the quantities at my Offices, on and after THURSDAY the 16th instant. Sealed Tenders to be sent in addressed to ROOTH BACON, Esq Secretary, Penarth Dock and Railway Company, Cardiff not later than FRIDAY, the 31st instant, endorsed "Tender for Offices" Parties Tendering will be required to deposit the sum of two guineas for each copy of the quantities, which shall be returned to them after the approval of the Tenders The Directors do not bind themselves to accept the lowest or any Tender. GEO. E. ROBINSON, Architect.

Cardiff, 7th June, 1864

TO BUILDERS and others. — Persons desirous of TENDERING for the ERECTION of a NEW JUSTICES' ROOM, LOCK-UP, and POLICEMAN'S HOUSE, at LLANGOLLEN may see the plans, specifications, &c at the Office of the County Surveyor for Denbigh, at Denbigh, from the 12th to the 24th inst The Tenders to be sent in on or before the 27th, addressed R. LLOYD WILLIAMS County Surveyor's Office, Denbigh, and marked "Tender for Llangollen Lock-up." The lowest Tender will not necessarily be accepted

BOROUGH of SWANSEA.—CONTRACT for the ERECTION of a NEW CATTLE MARKET—To CONTRACTORS and BUILDERS.—The Corporation of the Borough of Swansea are prepared to receive TENDERS for the CONSTRUCTION of CATTLE SHEDS SHEEP PENS, KEEPER'S RESIDENCE, RETAINING WALLS, &. &. for a Public Cattle Market, on land adjoining Dyvatty-street, Swansea. Plans, specifications, bill of quantities, and suitable forms may be seen at the Office of Mr T. COUSINS, Gt. Hill st, Swansea, Sealed Tenders to be delivered at the Town Clerk's Office, Guildhall, on or before MONDAY the 11 JULY next, endorsed "Tender for Cattle Market" The Corporation do not bind themselves to accept the lowest or any Tender.—By order, C. B. MANSFIELD, Town Clerk.

Guildhall Offices, 6th June, 1864

TO BUILDERS.—Persons desirous of TENDERING for PULLING DOWN and REBUILDING a FURNITURE Establishment in the occupation of William Shaw, the property of Messrs Wells & Co. of Biggleswade, in the county of Bedford, may see the plans and specifications by applying to Mr. SHAW, who will deliver them from MONDAY the 13th, till FRIDAY, the 24th of JUNE, inclusive Tenders to be sent in on or before TWELVE o'clock on SATURDAY, the 25th JUNE, 1864, to WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, 7th June, 1864

BOROUGH of BURNLEY. — To CONTRACTORS, MASONS, and OTHERS.—LEE GREEN COMPENSATION RESERVOIR. TO BE LET by TENDER, the EXCAVATING, EMBANKING, PUDDLING, MASONS' WORK, ROAD MAKING, &c. required in the Construction of a COMPENSATION RESERVOIR intended to be made at Lee Green in the Township of Barnefield-with-Worsthorne-with-Cliviger, and Parish of Burnley in the county of Lancaster. Plans and specifications may be seen, and further information obtained, by applying at the Office of Mr. JAMES EMMETT, Waterworks Engineer, Burnley. Sealed Tenders, endorsed Tenders for Lee Green Reservoir," addressed to the Chairman of the Waterworks Committee, to be delivered at the Manager's Office under the Town Hall, Burnley, the 1st day of July next. The lowest or any Tender will not necessarily be accepted. By order,

Burnley, 2nd June, 1864. A. B CREEKE, Town Clerk.

TO STONE MERCHANTS.—The Hastings Local Board of Health are ready to receive TENDERS for the purchase of about 12,000 feet, superficial, of the best Tooled Hard YORK PAVING, to be delivered into carts over the sides of the wood, at the Public Wharf, under the Direction of the Surveyor may direct, free of all freightage or charges whatever; the carts to be provided by the Local Board; and the Board will not take any responsibility until the stone is delivered, sound and in good condition, into the carts. The contractor to state a price per foot, superficial, for 3 inch, 4 inch, and 12 inch Also for 6 inch Tooled York Landings and add 6 Steps 12 inches by 6 inches, tooled on the top and one edge. The first cargo to be delivered within three weeks from the date of notice to contract, and the second within two months from the same date, and the third within four months. The purchaser portion can be delivered before the winter, and the whole before the 1st day of MAY, 1865, but any time within one month from the date of receiving written order from the Surveyor. The Local Board shall have full power to or or either more or less than the quantity named, at the price per foot named by the Contractor Payments will be made to the Contractor will be allowed within two months from the date of the delivery of each cargo, on receiving the certificate of the Surveyor; and the remainder within two months after the completion of the contract. The Local Board do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at my Office, No. 81 High street, Hastings, on or before TEN a.m. on the 27th of JUNE instant ROBERT GROUSE, Town Clerk

WEAR NAVIGATION and SUNDERLAND DOCK ACTS—HENDON DOCK WORKS—DOCK GATES, SWING BRIDGE, and other IRON WORK The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION, ERECTION and COMPLETION of the DOCK GATES, SWING BRIDGE, and other IRON WORK of the Junction Entrance of the intended new Docks at the South Docks, Sunderland, in conformity with drawings, specifications and conditions, which may be seen, and further particulars obtained upon application to THOMAS MEIK, Esq C.E. Engineer, Fen Purchase and Dock Works, Sunderland, after JUNE 15th 1864 Tenders, on printed forms, which only will be received, and indorsed under printed covers, addressed to the "Chairman of the Harbour Committee, River Wear Commissioners," to be delivered at Dock Office, Sunderland, not later than NOON on the 25th JUNE, 1864 The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S ROBINSON, Clerk to the Commissioners.

Sunderland, June 1st, 1864

TO BUILDERS.—TENDERS are required for the ERECTION of HOLY TRINITY SCHOOLS, at Marsh, near Huddersfield.

E. WYNDHAM TARN, M.R.I.B.A. Architect.

10, Guildford street, W.C.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a Pair of Semi-detached VILLA RESIDENCES, in Lancaster, on the East Cable, may see plans and specification at the Office of the Architect Adelaide Lodge, Penrith, on and after the 15th inst., and Tenders Ramsgate, not later FRIDAY, 17th JUNE—Sealed Tenders to be sent in addressed to the Architect, Mr R J WOODCOCK, Modena House, Ramsgate, within 7 fourteen days from above date, who does not bind himself to accept the lowest or any Tender.

TO WELL-DIGGERS, and OTHERS.— Parties willing to CONTRACT for DIGGING a WELL 8 feet in diameter, and about 30 feet in depth at Hersham, Surrey, are requested to send in their Tenders on or before the 25th of JULY to Mr PRICE, Boarded W ttrest, Hersham, where particulars and specifications may be seen, on and after JUNE 20th

TO BUILDERS.—TENDERS are required for the ERECTION of a PAIR of VILLAS, at Merton.—For particulars, apply to the Architect, Mr. WM PARE, 11, Great James street, Bedford-row, W.C. on and after the 22nd.

TO BUILDERS.—CROYDON UNION.—NEW WORKHOUSE.—Persons desirous of TENDERING for the ERECTION of a BRICK WALL, about 600 feet in length, can see the specification and obtain particulars by applying to the Architect, Mr. JOHN BERNEY, at his Office, 81, North-end, Croydon. Sealed Tenders, indorsed "Tender for Walling," to be delivered at the Boardroom, in the Workhouse, at or before TEN o'clock in the forenoon of the 28 instant The Guardians do not bind themselves to accept the lowest or any Tender — By order,

ALFRED G. BLAKE, Clerk.

No. 23, George-street, Croydon, June, 1864.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a WING BUILDING with sundry other Alterations and Additions to the House, Eldership, King's-road, Clapham Park, S. for F. M. Merriam, esq. are informed that a copy of the plans and specification is now at the premises for their use, between the hours of TEN and FIVE The same to be delivered at the Office of the Architect, Mr ROBT M SHAW, 3 Crooked lane, King William street, City, on the 28th instant, at THREE o'clock. The lowest or any Tender will not necessarily be accepted.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite, in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and curved caps. Apply to Messrs. THORN & CO Contractors, on the Bridge.

TIMBER MERCHANTS, &c. are invited to TENDER for the SUPPLY of about 267 Loads of FIR TIMBER, of the following scantlings, viz Lots of 14 inches square—No. 33, 30 feets; No. 13 31 feets; No. 14, 34 feets; No. 6, pieces of 16 feet, 9 inches by 9 inches; 624 feet run, 6 inches by 6 inches; 138 feet run, 9 inches by 5 inches; 2 400 feet run, 7 inches by 4 inches; No. 5 29, 11 feets, 7 inches by 7 inches, Battens—No. 925 18 feets, 9 inches by 3 inches. Deals—No 300, 22 feets, 11 inches by 3 inches; No 110 2 feets, 12 inches by 6 inches. Quartering—5 832 feet run, 3 inches by 2½ inches; 3 288 feet run, 4 inches by 3 inches; 1,040 feet run, 4 inches by 3 inches; 1,040 feet run, 7 inches by 3 inches; 184 squares, 1 inch 11 inch thick; 16 squares 1 inch weatherboarding. The whole of the above to be the best Memel, Riga, or Dantzic, free from any or large dead knots, and sawn die square The above will be rejected if not strictly in accordance with the above description To be delivered alongside Wharf in the river Thames, and so fixed within a fortnight. Tenders to be addressed, "Contract for Timber," to Mr HORROCKS, Howford-n Lodge, Fenchurch-street, and sent in on or before the 22n d of JUNE, 1864

MONAGHAN and CAVAN NEW LUNATIC ASYLUM.—EXTENSION of TIME.—NOTICE to BUILDERS who have signified in due form their intention of tendering for this Asylum.—The TIME for lodging TENDERS for the above building has been EXTENDED to the 9th AUGUST The Tenders to be opened with R MARDAGH, Esq Office of Control, Lunatic Asylum Dublin Castle, endorsed "Tender for Monaghan and Cavan Lunatic Asylum," on or before ONE o'clock on that day The work to be commenced immediately after the acceptance of the Tender Security will be required for the due performance of the contract The lowest or any Tender will not necessarily be accepted.—By order of the Committee, THOMAS SMITH, Architect.

Mountbridge, 15th June, 1864.

TO BUILDERS.—Persons desirous of TENDERING for THREE LARGE SHOPS and HOUSES, proposed to be erected in the Market-place of Thirsk, may see the plans and specifications at my Office, from the 20th to the 27th, inclusive. Tenders to be sent to me sealed, and endorsed, "Tender for Shops," not later than the 30th inst. The lowest or any other Tender will not necessarily be accepted.

Thirsk, June 1864 W A BOURNE, Architect and Surveyor.

TO BUILDERS, CONTRACTORS, and OTHERS.—EXTENSION of TIME for RECEIVING TENDERS The Directors of the West Wycombe Investment Company (Limited), are desirous of receiving TENDERS for the ERECTION of a TERRACE, consisting of Twenty first class Residences upon the Company's premises at West Wycombe, in the county Bucks Plans, Sections, and Specifications, may be seen at the Office of the Architect, G A DRANE, Esq, 1, Lancaster-place, Strand, London, W.C. on and after WEDNESDAY, the 15th instant Quantities will be ready to be furnished on the 20th instant. Tenders, addressed to the Secretary, and endorsed "Tender for Terrace," must be delivered at the Company's Office at or before ONE o'clock, on TUESDAY, the 12th JULY next. Security will be required for the due performance of the Contract, and the Directors do not pledge themselves to accept the lowest or any Tender.

By order,

Offices, 27, Great George-street, Westminster, S.W. JOHN TS. HALL.

June 15, 1864.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a RESIDENCE and STABLING at Sidmouth, may see the plans, &c. at Mr. Carter's and see the drawings and specification at the Office of Mr. CHARLES F. CRAPP Architect and Surveyor, 70, Camberwell New-road, S. to whom Tenders are to be sent on or before the 1st of JULY, the lowest or any Tender not necessarily accepted.

TO BUILDERS.—WORLE NATIONAL SCHOOLS Builders are invited to TENDER for CONVERTING the ancient TITHE BARN, at Worle, near Weston-super Mare, into a NATIONAL SCHOOL The plans and specifications can be seen on application to the Rev. N. WOODHOUSE, at the Vicarage, Worle, and after the 20th inst. at the Architect's Offices, Wells Tenders not later than the 30th inst. to the Architect, Mr. NORTON, 24, Old Bond street, London, W

TO BUILDERS.—The Directors of the Staffordshire Joint Stock Banking Company (Limited) require TENDERS for the ERECTION of NEW PREMISES, Wallis Plans may be seen at the Offices of the Architects, Messrs. EDELSTON & BIDLAKE, Wolverhampton, after MONDAY next, the 20th inst Tenders to be sent in on or before NINE o'clock, on MONDAY, the 27th inst. endorsed and addressed to W HATTON, Esq, the Bank, Bilston, Staffordshire The Directors do not bind themselves to accept the lowest or any Tender

TO SEWER CONTRACTORS, BUILDERS, &c—ST MARYLEBONE, JUNE 9th, 1864—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, will meet in the Board-room of the Court-house of the said parish, on THURSDAY, the 23rd day of JUNE, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of New SEWERS in Great Mary ebone-street, Marylebone-street, Great Chesterfield-street, St. Chesterfield-street, and Marylebone-court, in the said Parish of St. Marylebone.—Further particulars may be known, and drawings, specifications, and forms of tender seen, on application to the Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, during TWELVE and ONE o'clock. The Tenders to be delivered to the Vestry Clerk at the Court-house, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 23rd day of JUNE, sealed and endorsed Tender for "New Sewerage Works," and no Tender will be received after that hour The Contractor to enter into sufficient securities for the performance of the Works, and to pay the expenses of the Bond and Contract The Vestry will expect the parties Tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tender —By order,

W. E. GREENWELL, Vestry Clerk.

TO BUILDERS.—Persons desirous of TENDERING for the PULLING DOWN of present BUILDINGS and the ERECTION of NEW SEED STORES, in the Kings Road, Reading, for Messrs SUTTON, may see the plans at the Office tion at my Offices. The lowest or any Tender not necessarily accepted.

WILLIAM BROWN, Architect.

154, Friar street, Reading, June 14th, 1864.

PUBLIC BATHS, CROYDON.—To BUILDERS and CONTRACTORS.—TENDERS are invited for the ERECTION of the above and of the BOUNDARY WALLS of the Site.—The drawings and specification will lie for inspection at the Office of the Croydon Local Board of Health, on and after TUESDAY, the 21st inst. between the hours of TEN a.m. and FIVE p.m. sealed Tenders, endorsed "Tender for Public Baths and Boundary Walls" addressed to H RICHARDS, Esq. must be delivered at the Board's Office, at or before FOUR p.m on TUESDAY, the 5th JULY next. The Board does not pledge itself to accept the lowest or any Tender

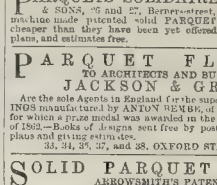
WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for MAKING a SEWER, in Forty Acre lane, Barking-road, West Ham, within the district, according to plans, sections, specifications, and conditions prepared by Mr MARSHALL, the Surveyor of the Board, and which may be seen at his Office, at Rokeby House, in Stratford, where also forms of Tender may be obtained, together with any further information required Tenders, endorsed "Tender for Sewer," are to be sent to me, on or before MONDAY, the 27th inst.—By order of the Board, CHAS. WILSON, Clerk.

Rokeby House, Stratford, June 13, 1864.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply machine made patented solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

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SHOW ROOMS—89, NEW BOND ST. W.
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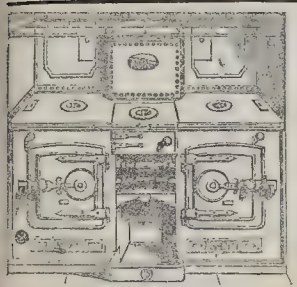


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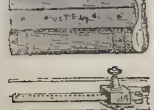
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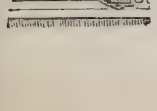


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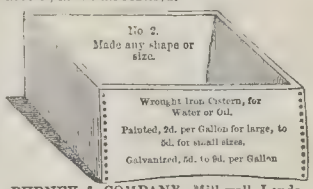
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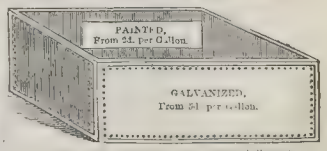
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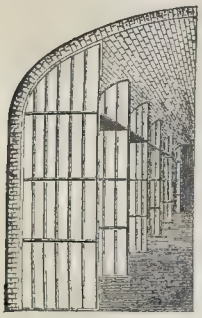
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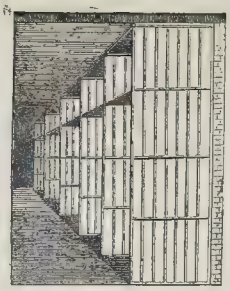


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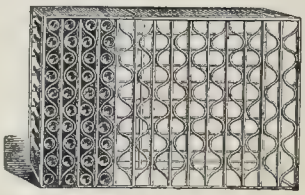
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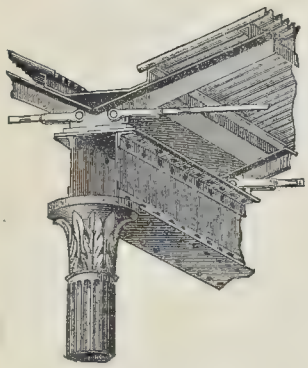
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THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

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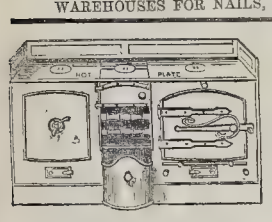
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MUSGRAVE'S PATENT HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW STALLS and PIGGERIES.



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They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under direction of London architects, noted for employing only what is the best of its kind.

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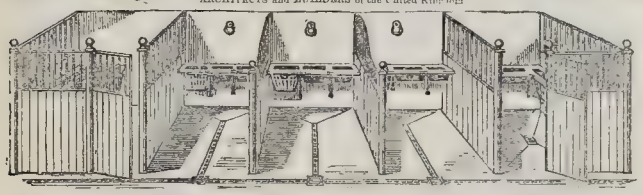
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BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES.

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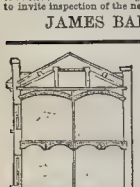
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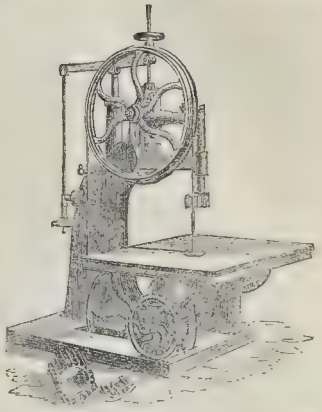
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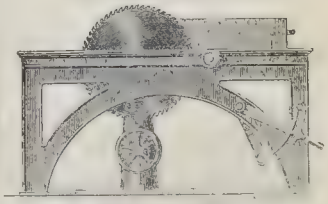
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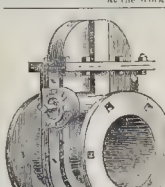


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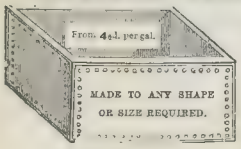
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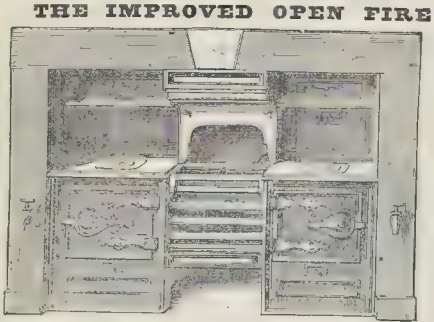
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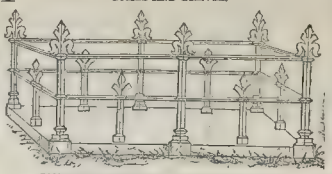
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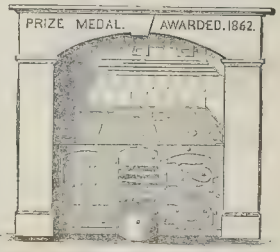
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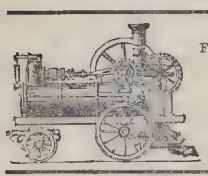
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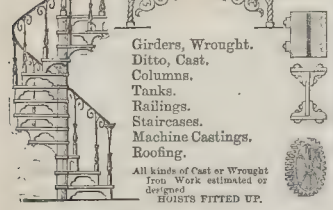
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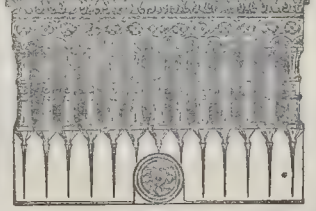
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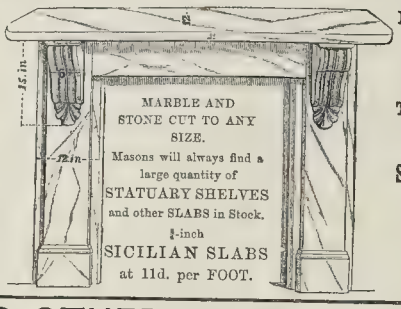
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The Builder.

VOL. XXII.—No. 1115.

Northumbrian Castles.

THE sturdy castles on the Northumbrian border must be studied as Mediæval fortresses; if we look at them in any other light, either as residences or ruins, we view them from a disadvantageous point of view. But, for the sake of a chronological arrangement of Northumbrian architecture from the earliest ages of which we have any evidence, we will approach them by a nearly obliterated trackway through Celtic times in their secondary character as habitations. The term castell is of late Celtic origin; of which castle, bastell, bastile, and pele, are the variations of successive races and periods applied to various forms of fortified buildings.

Architecture placed her foot in Northumberland at least some scores of years before History. Bede, the Saxon historian, who had access to the works of Pliny, Solinus, Orosius, and Gildas, deposes of Britain, generally, that "the island was formerly embellished with twenty-eight noble cities, besides innumerable castles, which were all strongly secured with walls, towers, gates, and locks:" but as this assertion may have been intended to indicate the days of the Roman occupation, we could come to no certain conclusion if written testimony were our only evidence of this fact; but in Northumberland there are the actual remains of Celtic towns and fortresses to be seen at the present day. It is sufficient for our purpose here to note that these early structures appear to have had but two forms, circular and oval. The Romans introduced the square or angular form of building, and the Saxons adopted their mode: for, when King Edwin built the church of St. Peter, at York, he built it square, as is especially mentioned in the Anglo-Saxon Chronicle.

The first Saxon building in Northumberland of which we have any written testimony is Bamborough. Against the date 547 it is written in the Anglo-Saxon Chronicle:—"This year Ida began to reign, from whom arose the royal race of Northumbria; and he reigned twelve years, and built Bamborough, which was at first enclosed by a hedge, and afterwards by a wall." After this there is frequent mention of the Saxon country-seats of the Northumbrian monarchs. Bishop Aidan was at the king's country-house, not far from the city of Bamborough, when he was seized with death. Mention is made of his having a church and chamber there, and of his frequent custom to visit other country-seats of the king for the purpose of preaching. The site of another Northumbrian regal seat is given in an account of the numerous baptisms performed by Paulinus. This prelate is described to have accompanied King Edwin and Queen Ethelberga to their country-seat at Adgefrin (identified as Yeavering, near Wooler), and to have stayed with them thirty-six days, baptizing their subjects. The Saxon narrative further states that this town was abandoned under the following kings, and another built instead of it at the place called Melmin (identified as Milfield, not far from the site of the battle of Flodden Field). At Adgefrin, which is at the base of the slope of Yeavering Bell, one of the Cheviot range of hills, there is a long low stone building of an oblong form, the walls of which are about 5 feet thick; this is supposed to be part of King Edwin's house, but beyond the rudeness of the masonry and thickness of the walls there is no clue to its identity. Scattered about, higher up on the hill-side, are various remains of circular stone-huts, which might, perhaps, with equal propriety be regarded as portions of the deserted town mentioned in the chronicle; but in neither buildings is the long and short work distinguished as Saxon apparent. This is the more important as a matter of architectural evidence, because the long and short work may be seen in the base of the tower of Whittingham Church, in the same part of the country. The extent of the population of a Saxon town may be approximated from the following figures:—"When King Oswy engaged in a war with the Mercians he vowed he would, if victorious, give twelve farms to the church, on which to build monasteries, as well as to devote his infant daughter to a religious life; and being successful he fulfilled his obligations. Six of these farms were situate between the Tyne and the Tweed, and each possession contained ten families. At the same time Bede estimates the population of the whole of the kingdom of Southern Mercians at 5,000 families, and states that the kingdom of Northern Mercians contained 7,000 families. We may strain our eyes and see a further faint indication of the nature of Saxon homes in the life of St. Chad, who, it is recorded, was accustomed to travel about on foot, after the manner of the apostles, and preach the Gospel in *towns*, *cottages*, *villages*, and *castles*; these, with the countless churches and monasteries founded in the Saxon heptarchy, give us an impression of extensive building operations singularly at variance with the limited number of workers.

Thus trudging slowly on through these distant ages, stirred with long seasons of wars with South Humbrians, and flecked with ravages and burnings by the Danes, we come upon the dawn of the energetic era of castle-building in Northumberland. The Danes appear to have come and gone without leaving any buildings to mark their occupation; they simply destroyed. Mr. Ralph Carr, writing of the Northumbrian dialect, states that they left no memorial of their presence even in the hypothetical nomenclature. But it is doubtless due to the Danes that we have so few remains of Saxon buildings in Northumberland. Bamborough and Lindisfarne suffered especially at their hands. With the Norman occupation, however, building occupations were renewed.

The writer of the latter portion of the Anglo-Saxon Chronicle, who says he had looked upon William the Conqueror and lived in his court, speaks of the number of castles he built. In his son's reign the nobles possessed many similar fortresses, and upon the occurrence of a conspiracy are reported to have gone each "unto his own castle, and manned it and victualled it as best he might." We hear of Bamborough again in 1095. This year, distinguished by the spectacle of a great number of falling stars, the Earl of Northumberland refused to journey to the court of King William Rufus, because that monarch would neither give a hostage nor pledge his troth that he should come and go in security as requested. To punish this contumacy, William marched into Northumberland and seized most of the earl's chief supporters, who were gathered together in a certain fortress, the name of which is not given. From this he proceeded to Tynemouth, where he invested the castle: this fell into his hands with its garrison, in which was the earl's brother. From Tynemouth Castle he proceeded to Bamborough Castle, which the earl defended in person. The chronicler says: "When the king found that he could not reduce him, he caused a castle to be built over against Bamborough, and called it in his speech *Malveisin*, which is in English 'the evil neighbour,' and he garrisoned it strongly, and afterwards he departed southwards. Then one night, soon after the king's return to the south, the earl went out of Bamborough towards Tynemouth; but those in the new castle, being aware of his design, pursued and attacked him, and they wounded him, and afterwards took him prisoner, and some of his followers were slain and some taken alive." Meanwhile, William had turned his steps to Wales, having heard that the Welsh had stormed a castle called Montgomery, and slain the defenders of it; but when he returned he ordered the Northumbrian earl to be taken back again to Bamborough, and there to have both his eyes put out unless his wife and steward would give up the castle. Upon this they surrendered, and the earl was carried back to Windsor Castle, to await the king's pleasure, where the chronicler left him without further mention. William Rufus built the fine Norman castle at Newcastle; but whether this was the Malveisin mentioned above is not likely to be ascertained. There are several sites of castles much nearer Bamborough, as at Holy Island and Belford, and the term is likely to have been applied to a more temporary structure.

Warfare appears to have been the inheritance of the borderers. The fact of the Scottish king having married a Saxon princess made the Anglo-Saxons ever turn their eyes towards Scotland as towards a possible rescue from their oppressors; and in later times, when the Anglo-Norman rule was accepted as an indisputable condition, and the Anglo-Norman nobles had built castles in Northumberland, the approaches of the Scots were as tenaciously resented. Sometimes the Scots made incursions as far southwards as the midland counties, burning and laying all waste before them, and, as we may be certain that the ravages were always repaid with interest, it will be seen that Northumberland stood in need of the strong fortresses with which the country is so thickly studded.

By the time that the youngest son of the Conqueror sat upon the throne, a great number of castles must have been erected, for the nobles were constantly shutting themselves up in them and defying their king; but it was in the reign of his grandson that the practice of castle building reached its height. The old chroniclers tell that every rich man built himself a castle and defended it against Stephen, "and they filled the land full of castles." They turned the whole population into masons and labourers, and when the edifices were completed with their compulsory labour, they imprisoned every one in them whom they deemed possessed of any valuable till it was given up. The gloomy tale of the chronicler, copied by monk after monk as the manuscript was borrowed by convent after convent, has been often quoted by historians, but it always reads as though told afresh by a horror-stricken witness. "Never were any martyrs tormented as these were. They hung some up by their feet and smoked them with foul smoke; some by their thumbs, or by the head, and they hung burning things on their feet. They put a knotted string about their heads, and twisted it till it went into their brain. They put them into dungeons wherein were adders, and snakes, and toads, and thus wore them out. Some they put into a crucet-house,—that is, into a chest that was short and narrow, and not deep,—and they put sharp stones into it, and crushed the man therein so that they broke all his limbs. There were hateful and grim things, called sachenteges, in many of the castles, and which two or three men had enough to do to carry. The sachentege was made thus: it was fastened to a beam, having a sharp iron to go round a man's throat and neck, so that he might no ways sit, nor lie, nor sleep, but that he must bear all the iron. Many thousands they exhausted with hunger. I cannot, and I may not, tell of all the wounds and

all the tortures that they inflicted upon the wretched men of this land; and this state of things lasted the nineteen years that Stephen was king, and ever grew worse and worse." One of the stipulations recorded by some authorities to have been made in the agreement between Stephen and his successor, was that the hundreds of castles built in his reign should be destroyed. It is this clue to a general razing and a more gradual rebuilding of castellated edifices in subsequent times, that induces amateur archæologists to assign the reign of Henry II. as the period of the erection of the most ancient existing castles; but with little reason. Northumbrian castles suffered severely in the contests between Stephen and his cousin Matilda, the daughter of his predecessor; for the first to draw sword in her favour was David, King of Scotland. He crossed the borders and reduced Carlisle, Norham, Alnwick, and Newcastle, in rapid succession.

There is documentary evidence of the existence of thirty-seven castles in Northumberland, at the date of the civil wars between the houses of York and Lancaster, and architectural evidence of the existence of others not mentioned in the document referred to, of which Widdrington, Nafferton, Cartington, and Holy Island are examples. Of this large number a few must be attributed to the Norman era, and several to the earliest transitional period, but most to the Edwardian age. All of them bear marks of continual reparations, proving the rough service they were accustomed to see. We may gather from the writings of Richard of Hexham, Jordan Fantosme, Froissart, and Barbour, that the most important of them stood several sieges.

In 1095 William Rufus besieged Tynemouth castle, and then proceeded to Bamborough, which he was not able to subdue, as we have seen.

In 1173 William King of Scotland besieged Harbottle, and in 1174 Prudhoe and Alnwick castles.

In 1215 King John set fire to Wark, Alnwick, Mitford, and Morpeth castles.

In 1216 the town and castle of Berwick were besieged.

In 1217 Alexander of Scotland besieged Mitford Castle for seven days.

In 1244 the Scots besieged Prudhoe Castle, but were compelled to raise the siege.

In 1296 Harbottle castle sustained desperate, reiterated, but unavailing attacks from numerous armies of Scots.

In 1315 Dunstanborough Castle was besieged by Lords Wenlock and Hastings, and left a ruin.

In 1385 the Scots besieged the castles at Ford, Wark, and Cornhill.

On the 1st of July Henry IV. besieged Warkworth Castle, which held out till the king's artillery was brought to fire upon it, and then, at the seventh discharge, yielded.

In 1462 Alnwick Castle, defended by Peter de Brezé, for Queen Margaret, was besieged by Sir Ralph Gray, Lord Hastings, and Sir John Howard.

Within a few months from this date Warkworth was besieged by the Earl of Warwick; Dunstanborough by Lord Fitzhugh, Lord Scroop, Lord Greystocke, and Lord Powis; and Alnwick castle by "my Lord of Kent, my Lord Harry, my Lord Scalys, and many other knights and squires," says a document printed in the *Excerpta Historica*, and Bamborough castle by the Earl of Worcester and the Lords Montague, Strange, Say, Grey of Wilton, Lumley, and Ogle. Bamborough surrendered on Christmas-day, 1462, and Alnwick twelve days afterwards. And, finally, not to needlessly multiply instances, James IV. of Scotland besieged Norham Wark, Ford, and Etal, on his march southwards, before the battle of Flodden. If we add to this list that the county likewise witnessed nineteen battles in the course of five centuries, besides the minor frays that were of every-day occurrence, we shall realize somewhat of the nature of the services performed by these stalwart fortresses, and of the military pomp and pageantry they saw and heard,—the flutterings of pennons, glistening of arms, clattering of horses' hoofs, clinking of horses' trappings, resonance of warcries,—in the days of their pride.

The castles of Bamborough, Berwick, and Newcastle, subject to the fortunes of war, were held by the Crown. Of these, Berwick has been razed to the ground to make room for a railway station; Newcastle, after doing duty as a county jail for some years, now holds the collection of the Newcastle Society of Antiquaries; and Bamborough is the seat of what is locally known as Lord Crewe's Charity. (Nathaniel Lord Crewe, Bishop of Durham, by his will, dated June 24th, 1720, left the manors of Bamborough and Blanchland to certain trustees and their heirs for charitable purposes; and these trustees make the castle their official residence for the purpose of carrying out the good prelate's injunctions.) In the reign of Henry II. the Crown held the manors of Bamborough, Corbridge, Newburn, Rothbury, Warkworth, and Tividale; but so uncertain and short-lived was the regal tenure from various causes, that King John could only boast the ownership of Bamborough. Henry VIII., rich in confiscations, caused a survey to be made of the castles of which he counted himself lord. They were Harbottle, Bamborough, Dunstanborough, Alnwick, and Warkworth. This survey was made by Robert Collingwood and John Horslye, esquires, "with dyners artificiers with them."

The amber-grey castles at Alnwick, Warkworth, and Prudhoe, with their ever-changing aspects as they are lit up with sunshine or darkened with cloud shadows, the grand, rugged, jagged, veritable storm-eaten fossils of romance and history, are in the hands of the present representative of the ancient Percies, the Duke of Northumberland. Of the extensive alterations at Alnwick, and the partial repairs at Warkworth, our readers have been carefully informed. Of Prudhoe Castle there are considerable remains. A portion of the keep, with the surrounding curtain-wall, and the entire gatehouse, with its chapel on the upper floor, are still standing.

Earl Tankerville possesses Chillingham and Dunstanborough castles. The former of these was transformed into a residence in Jacobean times, and is now chiefly noticeable as a specimen of the architecture of that period; the latter is a bold fragment of Transitional character, standing, all rent and riven, on a high rock on the north-eastern shore. A crevice in the rock on which it is built admits the sea within the very precincts of the castle, and there it ebbs and flows, and the spray splashes, and the foam leaves white wreaths upon the dark fringes of seaweeds night and day.

Traces of Twisell Castle may be picked out enclosed in the pretentious modern shell commenced, but abandoned before completion, on its site. Of Norham Castle there are more important remains. The keep is standing, though in ruins; and much of the curtain is *in situ*. A portion of the keep of Etal Castle is standing, as well as the principal gateway. A ragged fragment of the keep of Edlingham is all that is left. The site of Wark Castle is known only by the green mounds covering up the fallen masonry. Of Mitford Castle a small portion of the keep and two posterns are standing. They are of the earliest transitional period. The materials of the ancient castle at Widdrington were used to build the modern imitation castle, built near its site, some half century ago. (The Mediæval men set this example by building their castles out of Roman remains. Thirlwall Castle is built, principally, of Roman materials furnished by the great Roman wall. And Philip de Ulecote's Castle at Nafferton, now but a broken shell, was built with stones taken from the same quarry. But the use of Mediæval remains for modern house building is, of course, none the less reprehensible.)

Ford Castle, another of the strongholds of border romance, has suffered much by fire as well as war; and has very recently been once more in jeopardy. We shall be understood when we remind our readers that it was at Ford Castle that Dame Heron is recorded to have fascinated James IV. of Scotland, and delayed him by her arts from the prosecution of hostilities till Surrey gained time to march his army into the field, with the fatal result that took place at the battle of Flodden. It is, essentially, an English castle with a pedigree as satisfactorily made out as that of an English nobleman. Sir William Heron obtained leave to crenelate in the twelfth year of the reign of Edward III.; and, after the battle of Flodden some of the damages were made good, as appears by a survey dated 1542. It was subsequently, and accidently, set on fire; but about a century since was rebuilt in the form of a centre with advancing wings, in which were incorporated two of the ancient towers. With these thoroughly and distinctively English antecedents, the present owner, the Marchioness of Waterford, recently placed the structure in the hands of a Scottish architect for improvements. With an almost pardonable national preference, the way to beautify an English castle appeared to be to transform it into a Scottish one; and, accordingly, certain turrets of a Scottish type were soon in course of construction, to the great consternation of the county archæologists. It is with pleasure that we add that the noble owner subsequently acquiesced in the removal of ornamentation so antagonistic to the character of this peculiarly interesting edifice.

It is, as we first mentioned, as fortresses that these border strongholds should be studied; the contrivances resorted to by besieged and besiegers producing most of their essential features. The minor details of defence should be sought out. At Warkworth, for instance, where the old Earl of Northumberland is represented by Shakspeare to have lain "crafty sick," we may see in a portion of a curtain wall the spaces through which were threaded the beams that supported the wooden galleries temporarily erected on the parapets to enable the besieged to prevent the besiegers from approaching the walls. In the abbey-gate at Alnwick we may see the machicolations through which the besieged threw stones or swung chains of burning flax dipped in sulphur to stifle the assailants; and in various parts of Alnwick castle the crenelles show the hole and groove worked in their sides to support the wooden flap or shutter with which each embrasure was furnished. On the Lilburne tower at Dunstanborough Castle there are curious corbelled machicolated projections for harassing assailants. And in all of them we are met unexpectedly with contrivances of unsurpassed ingenuity, details of quaintest severity, mouldings, corbellings, carvings, groinings worth sketching.

Grievous it is that the shadows of Northumbrian castles should ever be less. But, in truth, there are many of these picturesque and suggestive relics that are fading from the landscape; some for want of a few bonding stones, others through mere wantonness. Their rise and fall is, however, a fate that has been shared by empires. May sea-green lichens ensbroud them lovingly.

SERJEANT PAINTERS TO THE CROWN.

A LIST or catalogue of "Serjeant Painters to the Crown" has long been needed by all who take an interest in English art. I am not aware that the task I undertake has hitherto been attempted; but the labour has had its reward, and my catalogue of Serjeant Painters to the Crown will be found to contain names of note among British Artists.

The first of whom I read bears a poetic name—George Gower,—to whom, as "Serjeaunte Painter," a payment was made, in 1575, for—

"Painting the great diall at Hampton Court, containing the howres of the day and night, the course of the sonne and moone, the xij signes with the caracters of the vij planetes, environed into a circle, the sea, shippes and territories, and on the other side certain badges of the croune, all wrought in oil colours, as vermilion, &c., and guilded with fine goulde; for clensinge the sconce diall conteyninge the howers of the daie, half howers, and q^rters, and in divers places her Mat^ties of name, and sondrie her Mat^ties badges, wrought likewise in oyle colours and guilded with fine goulde."

A further payment in the same year embraces all my remaining knowledge of Serjeant Painter Gower:—

"To George Gower, for stopping, priminge, and paintinge with sondrie colours in oyle, as white leade, vermilion, blew and green, xxiiij timber beastes carved with escutchons cont sondrie badges gilded with fine goulde, viz., viij of them for the greate garden, and xvj for the mounte garden, with xxiiij postes to them at xxx^s the beaste.

And more to him for paintinge one ende of the roof of the grene court with a frette of masonrie, cont sondrie badges in fine coulours, as vermilion, blewe, and grene."*

The next, in point of time, of whom I have been able to learn the name and something more, was Leonard Fryer, Serjeant Painter to the Crown, at Queen Elizabeth's death, in 1603, and until his own death, in 1606. Fryer was more than a house-painter,—he could repair and touch and cleanse as well as any Seguier or Farrer among us. The payments he received will best explain the nature of his employment:—

"To Leonard Fryer for altering a picture in the chapel at Whitehall, and made it [*sic*] Joseph with a subscription to it,—xl^s."

"To Leonard Fryer for touching and cleansing of the picture of O^r Ladie in the chapple,—v^s."

"To Leonard Fryer for laying upon canvas in the ceiling of the great Banquetting House

* These payments were first printed in the edition of the "Hampton Court Guide" carrying Mr. Edward Jesse's name under an Owen Jones cover. The latest editions of Mr. Jesse's "Hampton Court" and Mr. Jesse's "Windsor and Eton" (in which these payments were first printed) were *wholly* rewritten by the writer of this note.—P. C.

532 yards square of worke called the clowdes in distemper, at x^{d} the yarde square."

The clouds were required for a masque at court, —one of those truly royal entertainments, in which King James and his queen, and his son, Prince Henry, employed the united talents of Inigo Jones and Ben Jonson.

Serjeant Painter Fryer made his will on the 27th September, 1605. He describes himself as of "St. Botolph's without Aldgate;" mentions his two sons, Perceval and Leonard, and his married daughter Alice. His wife, Catherine, he leaves his sole executrix.

Fryer was succeeded by his deputy, John de Creetz, a well-known Walpolean name. The following payment to De Creetz will explain the varied nature of his duties as Serjeant Painter to the Crown.

In the Works Accounts of the Crown for 1622-30, I found the following entry:—

"To John De Creetz, for paynting the chimney-piece in Mr. Carey's bedchamber wth fayre white in distemper, and paynting uppon the fronte thereof the storye of Æneas carrying Anchises out of Troy, wth the scroules on each side of the front paynted to expresse them as they were carved,—xl^{s}."

The Carey of this poetic chimney-piece was Thomas Carew, the poet, one of Vandyck's sitters,—the same Tom Carew who is poetically taxed by Sir William Davenant with bringing, by the charms of his society and song, common faces into poetic and court repute.*

The Accounts for a previous year (1628-9), contain the following entry:—

"To John Decreetz, Serjeant Painter, for drawing several draughts of the designe of painted glass for the Great Window in the Chappell at Greenwich,—iiij^{li}."

In the Accounts for 1632-3, we find him "repairing" and "mending," and doubtless with a loving and careful hand:—

"To John De Critz, for repayring and mending two great pieces of paynted woorke that were done by Palma, th' one being the story of David and Goliah, th' other of Sawles coversion, which were much defaced,—c^{s}.

To the same for repayring, mending, and new varnishing vij^{ten} of the Great Emperours heads that were done by Titian, being likewyse much defaced,—lxx^{s}."

It was for this set of Titian's Cæsars that Vandyck painted a twelfth Emperor to complete the set in the room of one which was spoiled and left at Mantua.†

Titian's many admirers will not dislike to hear more about the famous twelve Cæsars of the great Venetian. Under the year 1632 the Serjeant Painter was paid as follows:—

"To John Decritz, Serjeant Painter, for paynting xij picture frames being vj feet one way and iiij feet th' other way, for pieces or pictures of Emperours Heades that were done by Titiano, paynted over in a sad wallnutt tree cullour, and guilding over those fframes in divers places wth fyne gold in oyle, and one broad carved edge next all above the picture, together wth the maske heades, festons, draperyes, the greater flowers and the lesser flowres, the greater and lesser scrowles, and the edges betwixt the flintes, all guilt with fyne gold, and varnished with the best varnishe, at lx^{s}. the piece,—xxxvj^{li}."

Many of the frames of King Charles's pictures were of a sad lute colour, and of walnut-tree colour, varnished with an interior moulding of broad plain gold. These minute but interesting particulars I learn from the Crown Accounts of the time, and their publicity may assist in identifying more than one lost picture known to have belonged to the collection of the Royal Martyr.

John de Creetz, Serjeant Painter, made his will in the year 1641, and died "full of years" in 1642. I have seen his will. He leaves three pounds to the poor of St. Andrew's, in Holborn, the parish in which he records he had lived for thirty years. He had been twice married, and had children by both marriages. His wife Grace he leaves his sole executrix, and desires to be buried in the church of St. Martin's-in-the-Fields, the church of the parish in which he was living when he made his will. For his eldest son, John, he had obtained, he tells us, the reversion of the office of Serjeant Painter. The state of England, however, between 1642 and 1660 offered little employment for the fine arts, and the name of John de Creetz, the second, is unrolled in records.*

That arrears of money were due from the Crown to De Creetz at his death, no one conversant with the history of England under King Charles I. will be surprised to learn. Here is ample evidence, were other wanting, transcribed direct from the original warrant. Need I add, that it it published for the first time?—

"By Vertue of an Ordinance of both Houses of Parliam^{t} of ye xxj day of September, 1648: Theis are to will and require you Out of such Threasure as now is, or shall be remaining in your hands, to pay unto Mrs Frances Decritz daughter of Mrs Grace Decritz deceased Relict and Executrix of John Decritz late his Maties Seriant Painter the some of Tenne pounds in prte of what moneys are due from ye King to her said Mother; and to be disposed off for ye burying of her. And for so doing This togeather with her Acquittance for ye Receipt thereof shall be your warrant and discharge; And also to ye Auditor Generall to allow ye same in your Accompt. Dated at the Committee of Lords and Commons for his Maties Revenew sitting at Westminster ye xxviijth day of November 1648.

"P. WHARTON

HEN: MILDMAY
DENIS BOND
JOHN TRENCHARD
W. ASHURST
COR. HOLLAND.

To our very loving ffriend
Thomas ffanconbridge, Esqr
Recevor Generall of the Revenew."

On the reverse side of the paper is the following receipt:—

"Vicesomo octauo die Novembr 1648.

"Receved by mee ffrances Decritz of Thomas ffanconbridge, Esq. Receuor Gen'all of the Revenue the some of tenne pounds According to warr^{t} within wrytten I say Rec^{d}.—x^{li}.

"FRANCES DECRIEZ."

That De Creetz was succeeded by his son I learn from Aubrey, and from no other source. Aubrey's anecdote is worth quoting:—

"Mem. Mr. Emanuel Decretz (Serjeant Painter to King Charles I.) told me in 1649, that the catafalco of King James at his funerall (wch is a kind of bed of state) was very ingeniously designed by Mr. Inigo Jones, and that he made the 4 heads of the Cariatides (wch bore up ye canopie) of playster of Paris, and made the drapery of them of white callico, wch was very handsome and very cheap, and shewed as well as if they had been cut out of white marble."†

There is an engraving of this "catafalco." It has Inigo's touch—no common touch—about it.

The Restoration witnessed the revival of the office of Serjeant Painter in the person of Sir Robert Howard, son of the Earl of Berkshire and brother-in-law of Dryden. Sir Robert resigned the office for the far more lucrative appointment of Auditor of the Exchequer; and Robert Streater succeeded, by patent dated 15th April, 1663, and, as I presume, by purchase, from Sir Robert. In the "Works Accounts of the Crown," at Greenwich, in 1661-2, when Sir John Denham, the poet, was Crown Surveyor, and Christopher Wren, aged 30, his attendant, afterwards successor, is the following entry:—

"To Robert Streater for mending the ceiling piece which came from St. James's House, being xj^{ten} foote diameter, —lxx^{s}."

Mr. Jay, who has been long successfully engaged in compiling a history of Greenwich, can possibly identify this ceiling-piece picture. Perhaps it is known to Mr. Bolton Corney, who passed so many of his "summer" days in the service of the Royal Hospital; or failing either of these gentlemen, perhaps my old friend and master, and now a commissioner of the Hospital, Sir Richard Madox Bromley, K.C.B., will have the books of the Commissioners examined for a purpose at once historical and artistic.

"Serjeant Streater," as he was called, died at his house in Long-acre,—among the coach-painters,—in the year 1680, and was succeeded as "Serjeant" by his son; who was again succeeded, first by Thomas Highmore, the "Serjeant Highmore" of Walpole (note to Walpole by Wornum, p. 706), then by John Thornhill,‡ son of Sir James.

The office has long been extinct. In another communication I shall have something to say about "Limners in Ordinary to the Crown," and "Principal Painters Extraordinary to the Crown."

PETER CUNNINGHAM.

* More than one reader of "Notes and Queries" should surely be able to tell us when Carew died! I have not been idle (commencing twenty years ago), but I have been unsuccessful.

† Walpole, ed. Wornum, p. 324.

* Walpole says (Wornum, p. 351), that Dobson was appointed Serjeant Painter on the death of Vandyck. Mr. Wornum does not notice the double mistake of his author.

† Aubrey's Lives, iii. 412.

‡ Walpole, ed. Wornum, p. 665, calls him "James." Walpole's editor has failed to make the required correction.

THE IRISH INDUSTRIAL EXHIBITION, 1864.

ABOUT twelve months since a project was set on foot by the Committee of Manufactures in connexion with the Royal Dublin Society,—an institution endowed by Government, and having for its ostensible object the development of Ireland's resources; more, in fact, than its title signifies. With the object of testing and comparing the progress made by the different parts of the country in their respective manufactures, it was their intention that work solely of Irish production should be introduced: this they have failed to effect, as in many departments may be observed works of across-Channel parentage: even France is not unrepresented. This may be attributed, in a great degree, to the fact that it is intended to hold an international exhibition, —consequently on a larger scale, -in 1865, for which, may hap, the principal Irish manufacturers, few of whom are now properly represented, are reserving their more important improvements. It has been considered not advantageous to have international exhibitions too frequently: to such fault the Royal Dublin Society cannot be considered open: the last Exhibition held was in 1853, and far eclipsed all others in Ireland before or since. That event, however, was not owing solely to the exertions of the Royal Dublin Society; for although they may have had the will, they did not possess the means. It remained for a man, now well known, and who for many years will be remembered as a benefactor to his country, to undertake the burden of the expense, and give rise to an Exhibition which has proved so productive of good results. Previously to that occasion, for some time it was customary to hold triennial exhibitions of manufactures; but after the comparative magnificence of the Great Exhibition of 1853, it was not thought advisable, at least for some years, to revive them. In 1861, was held the first of a new series,—and it appears to be the general wish to continue henceforward to hold them,—a permanent exhibition place; that, in connexion with the Winter Gardens, now in course of erection, having been devised with this object in view.

The present Exhibition, although somewhat poor when compared with that of 1861, yet shows considerable progress in many branches of manufactures. It is also in some respects one to be remembered in connexion with the introduction of new and improved manufactures in this country,—among them cotton weaving and printing, linen-printing, the manufacture of porcelain and other earthenwares; its mining productions; also for its show of new and improved machinery, of Irish manufacture.

The building occupied by the Exhibition is that originally erected for the purposes of the Agricultural Museum, where annual exhibitions of agricultural implements and produce are held. This was found rather small for the accommodation required by all the applicants for space, who swelled to so large a number, that it was found necessary to cover in a large yard, called the Shelbourne-yard, at a cost of about 1,400$l.$, and which is now appropriated to the display of machinery chiefly in motion. The whole has been re-decorated for the purposes of the Exhibition, and proves very suitable to its purpose. It consists of a central hall, 235 feet by 110 feet, divided into three distinct galleries,—or, more properly, a nave and two aisles,—the aisles separated from the centre by two rows of columns, enclosing sufficient space to give good courts below, and a commodious gallery above. Thence, at a higher level, spring the curbed or arched ribs of the roof,—the centre of which is decorated in red, blue, and white.

The aisle to the south is set apart for the picture-gallery, and is well lighted and otherwise suitable. Farther south is a wide corridor, converted to the purposes of a first-class refreshment-room, in which also are some exhibited manufactures. Through this, also, is reached an open enclosure, containing some articles,—such as a portable house,—suitable for Australia, cars, and agricultural implements; and one or two monuments and memorial crosses.

The Exhibition will be open for six months, and good results are anticipated.

Of building materials, or any matters immediately connected with building, the show is

poor, if we except some excellent ranges and stable-fittings; slates from Killaloe, Carnew, and other Irish quarries; roofing and flooring tiles of improved design and manufacture; and a tolerable display of the beautiful polished marbles that Ireland can with confidence boast.

There are exhibited some commendable specimens of carving in wood and stone. We may mention among them some chimney-pieces, by Sheppard, Hibson, and Brooks. But with regret we must note that the absence, too often found in such matters, is apparent, we do not say in all cases, of a directing mind to arrange tastefully, and know where to stop. It is greatly to be regretted that good workmanship should be as it were thrown together, where part ought to be made to suit part. The same remarks may be applied to the display of carved oak furniture, of which Messrs. Arthur Jones & Sons, amongst others, contribute some good examples. In this department we think we detect the hand of the French artist: perhaps we unwittingly pass a high compliment on some unknown Irish workman, and hope it may be so.

There are some specimens of carpentry, machine-made, and a few samples of church furniture, of so-called Gothic design, where it is to be feared that Peter Nicholson or other such authority in architecture has been the oracle consulted. On the characteristics of Gothic architecture it is all through very observable that manufacturers shrink from the employment of the educated artist or architect as the designer of their wares, as though these were matters too trifling to require his aid, or were beneath his notice. It is no wonder, then, that in these matters they are far behind the London manufacturers, whence, in consequence, are necessarily brought all articles of furniture of really good design. Here we have no such excellent designs or workmanship as those of Hart or Skidmore, except such as are had direct from these firms, and incorporated with productions honestly Irish. There is no church furniture like that of Peard & Jackson, and other London makers. An excellent organ by Telford, of Dublin, is placed on a gallery of somewhat small size, arranged as an orchestra, at the east end of the main hall, where room also may be found for suitable decoration.

Of stained glass a few specimens are sent (of which we may not inquire the nationality), in some instances of good design.

There are a few specimens also of parquetry.

Nothing shows any progress in design or excellence of paper-hangings or painting.

In the southern aisle, which, at each side is arranged into small courts or stalls, we meet with some good specimens of ironwork applied to domestic purposes. In the stall of Messrs. Edmundson, are a range, with cooking apparatus complete; portable gas apparatus, wash-stands of iron, a well-executed chimney-piece, iron and brass work. This firm also exhibits one of those objects of most unusual interest in an Irish exhibition. Heretofore, lighthouses have had to be supplied with their light-rooms by English manufacturers. In this exhibited article, — which, by the way, takes up considerable room close to the entrance to the building,—we have one of three which are the first wholly manufactured in Ireland. The frame is of iron, brass-mounted. The inside of the lower compartment will be lined with polished mahogany.

Messrs. Perrot & Sons, of Cork, exhibit some good ranges, combining improvements, for which they hold a patent. A peculiar device is their hot-air roasting-jack, by the use of which there is no need of winding up, the spit being turned by the action of the air playing on a fan, and is regulated by the opening of a register, immediately above an inclosed or roasting space, where the meat may be cooked by the hot-air circulating around it, the roaster having large ventilators directly into the fire itself, and through the same aperture the fire radiates at once into the roaster, securing thereby two advantages, viz., a perfect rosster and a kitchen free from smother. A material amount of superiority is claimed in its economy of fuel, the fire not having to operate through a casing of brickwork, being close to its work.

The Messrs. Musgrave, Brothers, of Belfast, have sent a display of their own patented stable and other fittings; among them their slow-combustion stoves, now much used for heating churches, schools, and conservatories, for which they are well adapted, they at the same time being recommended for their economy. Their stable-fittings are amongst the most complete seen in Ireland. We have, indeed, reason to believe that they will come into general use where the health and comfort of the horse are studied.

The Messrs. Riddel, of the same prosperous town, have also sent stable and cowhouse fittings, which, for completeness and economy, challenge competition. Here, also, are ranges suitable for houses of all sizes.

The Messrs. Hodges have, in the south aisle, a complete kitchen, with fittings. Exhibited by this firm, also, are some good vesta-register-grates, with chimney-pieces to match.

Mr. Maguire also contributes some kitchen-ranges of neat and economical construction.

The Mining Company of Ireland exhibit a large case of lead in its various stages of manufacture, from the ore to lead pipes, with models of the machinery used in the operation.

The Killaloe, Carnew, Ormonde, and Gounadoo Slate Quarries send specimens of slate of all the usual sizes, which, if we except a tendency to brittleness, bid fairly to injure the prospects of the Bangor quarries, whence till recently most buildings in this country obtained their covering.

Some good examples of roofing and flooring tiles, coloured bricks, black, red, and buff tiles, ornamental crested ridge tiles, stable gutters, and flooring tiles, moulded and chamfered bricks, are sent by the proprietor of the Gardenmorris Tileries, county of Waterford. There are also from the same place some pretty vases, of unusually good design, very suitable for decoration of ornamental gardens.

Specimens of draining tiles and other similar earthenware appliances, with perforated and compressed bricks of a pleasing red colour, and recommended for durability and as a good facing brick, are contributed by Fraser & Co., of Belfast.

S. Vincent & Son, ironfounders, Church-street, Dublin, exhibit some iron appliances for buildings, in the form of geometrical staircases and ornamental balustrades, which deserve notice.

We may return to the examination of a few of the more important manufactures; but as a suitable channel through which to approach the Fine Arts Department, we must first mention the few, very few, architectural drawings that are hung, one here, one there, as though they were matters of little moment. Such however, as are exhibited show advances in the right direction. It is a matter for surprise, as well as regret, that there is not a better show; for it is now well known that Dublin at least can at short notice call together a collection not at all contemptible.

Amongst those here exhibited, there are an elevation and a plan of Cork Cathedral, now being carried out from the design and under the superintendence of Mr. W. Burges, of London. Mr. J. J. M'Carthy also sends some well-coloured views of ecclesiastical and other buildings erected by him; and Mr. W. Fogerty some drawings in perspective and isometric projection, to illustrate his design submitted in competition for a County Lunatic Asylum. Mr. Jones also sends three views of the Winter Garden now in course of construction. These exhaust the works of this kind of which mention need be made.

A fine-arts gallery was indeed an afterthought of the committee; and he who enters this gallery with the hope of being truly informed of the position of the fine arts in Ireland, will meet with disappointment, for two reasons: some of the best works are contributed by Belgian and Dutch artists, with a few lent from the collection at the South Kensington Museum; while Irish artists send few good works except those which have been exhibited frequently before. This we may not be wrong in attributing to the commendable disposition to support more especially the national Exhibition annually held at the Royal Hibernian Academy, now shortly to open.

The collection of paintings is limited, and may not exceed 400 in number.

Application was made for a few specimens from the Sheepshanks and Vernon collections, but these were, it is stated, somewhat ungraciously refused. It may have been with the hope of testing what will arise out of the experiment of throwing on their own resources the Irish artists, who, indeed, ought not to require any such help in the formation of a collection.

Sculpture is totally neglected, if we except what we may find in the shape of foliage and birds on some of the chimney-pieces, sent by Hibson and others, and those specimens which the founder and silversmith have enlisted for the display of their wares.

Amongst a number of works by such men as Gainsborough, Reynolds, Callcott, Leslie, Ross, Cope, Landseer, Eastlake, &c., notwithstanding the drawbacks that exist at present, some Irish artists have secured a respectable place in this Exhibition. There are a few landscapes by J. B. Marquis, W. M'Evoy, Watkins, Duffy, and some others, whose handiwork is well known by those who, year after year, frequent the exhibition of the Royal Hibernian Academy.

T. Bridgford has some excellent pieces of drawing and colour. These amongst many others are unmentioned in the catalogue, which, with one or two exceptions, is very well got up. Catterson Smith exhibits some good portraits, in the clear colouring that is admired in the portraits of this master. M. Angelo Hayes exhibits a few of his recent pictures, in which he gives good evidence of his power in animal portraiture, especially two companion pictures of circular form, situate in the compartment allotted to water-colour drawings.

THE MODERN DEVELOPMENT OF MEDIÆVAL ART.*

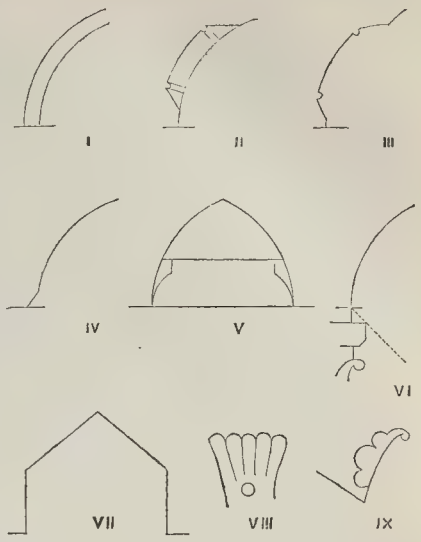
SOME short time since, my friend Mr. Seddon, the secretary of the Royal Institute of British Architects, wrote a paper which was read at that Institution, and which caused no end of an outcry. The subject of the paper was essentially the same as mine and the ostensible cause of the outcry was the cutting and humorous names he gave to certain modern developments of Mediævalism, to say nothing of sundry hard hits at what is generally, and perhaps facetiously, called Classic art. But, although much decried, Mr. Seddon's remarks were perfectly just, and the terms employed in his paper were probably far too amusing to fall into oblivion. I have not the least doubt, however, but that his remarks will do a very great deal of good; for there are many persons who are perfectly proof against any amount of good advice, but who quail before ridicule. Mr. E. Godwin, of Bristol, has also made some very true observations about the present state of Mediæval art, in a paper lately printed, which was read before the Bristol Society of Architects. He also has treated the subject in a humorous manner. But the fact is that the matter is an extremely serious one, and as I by no means wish to pay you the poor compliment of supposing that you are only to be convinced by ridicule, I propose to consider the matter in a serious manner; for, after all, the Association is the future life-blood of the profession, and if you do not correct your errors, or if you get into a bad way, what hope can there be for our future architecture?

It will be observed that I confine my remarks to the modern development of Mediæval art. By this I by no means wish to imply that the so-called Classic development is more perfect. On the contrary, it contains just as many if not more faults than our modern Mediæval art does, and, if I do not speak of it, it is simply that I really do not care what becomes of it. The architecture of Greece was most exquisite; that of Rome was coarse, but magnificent: both glowed with colour, but both are unfitted for our climate. What is called Italian appears to me to be simply a grouping together of Roman details, often very much misapplied, and utterly unlike anything imagined by an ancient Greek or Roman. But I need scarcely enlarge on this point, for it seems now to be almost generally recognised that some architecture founded upon that of the Middle Ages is the most suitable for our climate, and it consequently attracts the attention of the younger members of the profession, so much so that all the designs for the prizes of the Institute on the last occasion were Mediæval.

The story of the revival of Mediæval art has been so often and so well told that it is almost superfluous to go into it on the present occasion, so that a very few words will suffice. It might almost be doubted whether Mediæval art has ever been thoroughly disused in England; thus we have the chapel in Lincoln's-inn by Inigo Jones, in which an attempt was made to go back to the Geometrical Decorated style. The piers of one of the arches of old London-bridge were rebuilt in what was then called the Gothic taste. Batty Langley and Horace Walpole did their very worst with the art, inasmuch that their works have become by-words. The curious part of the matter is, that they have some grotesque resemblance to late Italian Mediæval art, or, rather, the latter is the only thing that they at all approach. Nor did Sir Christopher Wren

* By Mr. W. Burges, read at the Architectural Association.

snoceed much better. Witness his western towers of Westminster Abbey, and his wretched restoration of the great portal of the northern transept, which latter I most sincerely hope to see in the hands of my friend Mr. Scott, it being a far more crying deformity than anything inside. Indeed, had I the honour of being the architect to the dean and chapter, I should certainly give my clients no peace until they allowed me to remove so great an eyesore in one of the most conspicuous places of our metropolis. To resume our subject, Mediæval art owes its present revival to the labours of three individuals, viz.—Rickman, Blore, and, above all, Augustus Welby Pugin. The first did us the great service of distinguishing the various styles, and publishing books to guide our researches.* The second, who is one of the most minute and beautiful architectural draughtsmen the world has ever beheld, throughout a long and active practice erected numerous buildings with correct detail. But it was reserved to A. W. Pugin to wake us up by his enunciation of true principles; and although his sharp satire doubtless hurt many people's feelings, it did immeasurable good to everybody in the profession. But Pugin was only one man, and the most gifted of us can only do a certain amount of work. It was, therefore, lucky that about this period the subject was taken up by the much-abused Cambridge Camden Society, and right well they did their work: by means of patient investigations of our parish churches, and by means of most unsparing sarcasm, they at last drilled architects into building churches by recipe. No one at the present day does build a bad church,—I mean such a church as we but too often saw some twenty years ago; and, therefore, let all honour be given to the Camden, now the Ecclesiological Society. A few words ought to be said as to the different styles of Mediæval art in which all these different teachers worked. Thus we have seen Inigo Jones leaning towards Geometrical Decorated and Rickman and Blore went in for the Perpendicular. The majority of the Peel churches was built in Early English, because, as Mr. Hope most truly observes, that style was supposed to survive more starvation than any other. Pugin practised in many styles, but his *forte* was in French Flamboyant, although converted from it by my esteemed friend Dr. Rock. The Ecclesiological Society enjoined Decorated. Now, all this was mere architecture, or, rather, the bones of the building without the flesh. Mr. Ruskin arrived to supply the deficiency, and to point out the intimate connexion between good sculpture and good architecture; he also directed people's attention to the beauties of Early French Gothic, and afterwards to that of Italy, although I am afraid that his lessons in the latter have hardly been understood as they should have been. Much, very much, is to be learnt from Italian Mediæval architecture, but its details by no means suit it, either for our climate or materials; and although certain things may look exceedingly well executed in marble in the half-Oriental town of Venice, it hardly follows that they should do so executed in soft stone, and placed in a street of some provincial town. So much is this the case, that I am half afraid that nearly all our faults in modern architecture may be traced to the misuse of Italian examples. Of course Italy is a delightful country to study in, and replete with all sorts of associations, and it is far more pleasant to make a tour which shall include Florence, Venice, and Rome, than to spend week after week in a dull town like Chartres. When, therefore, it was found that Mediæval art could be studied in Italy, students of the new school flocked thither, and, wishing to bring back telling sketches (the curse of architecture), copied the details which ought not to have been copied at all, forgetting to study the great broad masses, the strong unchamfered angles, the beautiful figure sculpture, or the wonderful frescoes. It may be asked, What has an architect to do with sculpture or frescoes? I repeat, that unless he can give small drawings sufficient to show what groups or figures he wants, and what those figures are to do, he only knows one-half of his profession, and has only half a claim to be considered an artist. The same with regard to the frescoes: he should know how to dispose of them in the building; how to separate them by bands; how to allow for height of situation; and, in fact, be able to give every assistance to the painter actually employed in their execution, and for all this he must know how to draw the figure tolerably; but if he has studied these things, and can draw the figure tolerably, he will be able to make the building interest the spectator, and tell wondrous stories, without a moulding or piece of foliage in his architecture. It was to this that Mr. Ruskin alluded when he said that a square yard of stone was sufficient for any man to show what was in him, and, so far as I may be permitted to say so to such an authority, I consider Mr. Ruskin to be thoroughly in the right. If a man cannot do the things above enumerated he takes refuge in foliage, notches, chamfers, and other specimens of misapplied ingenuity, and when the work is done it is never satisfactory: it tells no story, and the beholder grieves that the same ingenuity had not been more artistically or more practically directed.



I now propose going through a few of what strike not only myself, but many others of my *confrères*, as some of the more crying defects of the modern development of Mediæval art; and, as I bear malice against none, and wish to hurt nobody's feelings, I shall mention the names of no persons and of no buildings. I am aware that the subject is unpleasant, and one which it is rather dangerous to take up; but the Mediæval school has made so much progress, not only in ecclesiastical buildings, but, what is more, in domestic ones, that I feel that it is hardly the time to keep silence, and, in fact, as the rising school, we cannot afford to do so. Again, did I not feel that my views are, to a great extent, shared by others in the profession, I should hardly set them forth in this public manner; but both Mr. Seddon and Mr. Godwin having done so before me, I feel less diffidence, more especially as I hope I shall not be left the last to raise my voice against what appear to me to be crying evils.

And, first, as to what may be called rhythm in building (1). If we look at the façade of any large building of the Middle Ages, we shall find nearly as much regularity as in a Classic building; *i.e.*, the various parts all balance; if they do not, there is always some good reason for it. Thus, the tower of the Palazzo Publico, at Florence, is not in the centre of the building. Doubtless, Arnolfo would have placed it either at the centre or at one end; but then it was wanted to command a certain street; and, accordingly, it was placed to command the said street, and is much out of the centre. Modern buildings look very much as if they had been shaken about in a hat, and that the windows were shoved out just where they were wanted. Now, in a little country town, or in the back of even a large building, this is to a certain degree allowable, and conduces to the picturesque; but it would not do for the front. There the architect must take more pains, and try to bring in his windows so as to balance in the general composition. Of course, this is much more difficult to do than letting them crop out where they may be most convenient; but it can be done with care, and, in fact, it is simply an affair of trouble and ingenuity. Another thing is, to get the building broad and uncut up at the base,—to get the same strings running uninterruptedly through, and to increase the decoration towards the top, and to cut up the sky-line, as recommended by Mr. Hope.

There is one great thing to praise in that not very satisfactory building, the New Houses of Parliament, and that is its rhythm. Each part balances the other, and you can see at once that the man who designed it was, at all events, master of the great principles of his art.

2. The next point is the colour. No one is satisfied unless the building presents a most piebald appearance: red bricks, yellow bricks, black bricks, and even tiles, are all pressed into the service. Now it is undeniable that in certain cases in a brick building, a band of differently coloured bricks may do good service as a string or label to unite the various parts; but that is no reason why it should be repeated all over the building. The Italian walls of stone and brick are purely constructive; at least one I saw at Verona was; the stone courses being connected together and forming coffers, which were filled with rough brickwork. Some buildings have courses of tiles, of the most sickly colours if glazed, or if unglazed of washed-out red and buff—the latter a colour very fashionable with decorators, and which it might be hoped Mr. Ruskin had entirely demolished, for he says that it is like nothing in nature. If brick must be used, I would suggest a much more sparing application of colour, although it is impossible to conceive anything more melancholy than a London brick house after it has been erected fifty years, and it becomes a most serious thing to suggest with what material our modern London buildings are to be faced! So corroding, and so black is the smoke, that positively nothing will resist it but polished granite or glazed earthenware. The latter would offer an immense field for art in the shape of tiles of good colour, or of painted majolica; but I question whether such buildings would look well in a side-view, when the glaze would reflect the light.

3. The use of marble is another of our eccentricities. Employed as the shafts of columns, or in large slabs, nothing can be better, but somehow or other, unless as shafts, it seldom looks well in connexion with stone. Thus I venture to dissent from those elaborate works in Caen stone, where marble is introduced in the shape of half-spheres or of inlays. The polished surface of the marble does not harmonise with the coarse and unpolished surface of the stone; and the eye is likewise attracted to the marble, to the neglect of the sculpture or architecture. If marble really be used in conjunction with stone, I would suggest that it be unpolished.

4. Another point is the abuse of tiles. One sees them everywhere, even on walls, and the same thing may be said of incised stone. Nothing can be better than the latter for pavements, as it affords room for any amount of art; but walls should be painted, for that is their legitimate mode of treatment, and putting incised stones into a wall appears to me to be going to double the expense for no particular good. It is true that it is more durable than painting, but then you lose all shading and all colour, except in your outline, and what is painting without shading and outline? As to tiles, even the best of them quickly wear out, and at the present time there are few to be got—if any—that have any claims to art, say like those discovered at Chertsey.

5. But the great delight of the modern architect is in his chamfers: he chamfers everything he can possibly get hold of whether there is any necessity for the process or not. Sometimes he makes very curious mistakes. Thus nothing is more lovely than the curves of a pointed arch

* Mr. Rickman's successor, Mr. J. H. Parker, has worthily continued this part of the work by means of the Oxford Glossary, the enlarged edition of Rickman, and other similar works on English Mediæval architecture.—W. B.

(No. 1). You get the two lines of the chamfer and the surface between in perspective as you move about it: every view you take varies its perspective, but it is always pleasant because the lines are unbroken and run round; but now apply the chamfer in the middle of either side of the arch (No. 2), and stop it, and see how bad and broken the lines at once become as they get into perspective (No. 3). Or, suppose you want to bring a square archivolt on to an octagonal or circular column, and instead of making the transition by means of the bell, or of the abacus, you do so by cutting away the angles of your archivolt, see how very weak you render the whole affair (No. 4). Chamfers are very good things in their way, more especially in woodwork, when you cannot get mouldings; but it is quite possible to have too many of a good thing.

6. Not unconnected with chamfers are the notchings now so frequently seen in new buildings. Notchings in a huge spire may do duty for dogtooth; but that is no reason why they should break out in parts where they are least wanted. Archivolts are notched; the upper edges of the abaci of columns, where a straight line is most imperatively demanded by the eye, are notched; the lower edges of mouldings are notched, till they look like what milliners call inserted work; even our very furniture is notched. One of my friends possesses a table where the lower edge of the top is thus decorated, greatly to the discomfort of his visitors' knuckles. After all this notching, although very cheap, is very barbaric, and I believe is indicated by Mr. Owen Jones as among the very earliest of the attempts of the savage mind for the decoration of his war club.

7. The management and the form of the arch are most important considerations; and every kind of arch in itself is so very beautiful that it would almost appear impossible to make them ugly; but, thanks to modern ingenuity, a great deal has been effected towards that end. I have already spoken about the top-chamfering, but an equally efficient way is to insert a tympanum which does not come down to the springing (No. 5). The eye always requires a line, either real or imaginary, to mark the springing: put this line a little below, and it does not much matter, as in the case of the best French art, where the arch is always slightly stilted to allow for the portion taken off by the projection of the abacus (No. 6); but, on the contrary, draw this line above, and, somehow or other, the sensation is never pleasing. The Pointed segmental arch, although frequently employed in England during the Middle Ages, is seldom pleasing, of whatever altitude it may be. See the entrance to the chapter-house at Westminster, where, however, I strongly suspect some inner moulding has been chiselled off. Sometimes, however, this segmental arch becomes a necessity, as in the groining of the passage in the same building; but in every case it should be a subsidiary affair, and never employed in the principal windows of a façade, as we too often see it; or, indeed, anywhere else where it can be avoided. Another form of arch is really no arch at all, but has the advantage of being inexpressibly ugly (No. 7). It was very rarely employed in the Middle Ages, but still there are examples of it, as well as of everything else that is bad. Of course, it is never used constructively, for it would not stand; but it too often in the present day acts as a containing line to dossels, doors, coupled windows, &c.; in fact, it is considered a cheap and easy way of making a thing look strong. This endeavour to get apparent strength by the employment of straight lines where our ancestors would have used curved, is one of the greatest of the faults in art of the present day, and of all is the most painful to the eye; and I would even venture to say that no man who has ever properly studied the figure would be guilty of such a thing.

8. Some years back Mr. Street, in a very excellent lecture at the Architectural Museum, suggested the greater employment of small columns in the place of ornamental buttresses. The suggestion was most excellent, but unfortunately it has been worked to death, and we even see columns mast-headed on the tops of our highest gables, and figures on the top of them.

9. Before dismissing the stonework, I might mention the abuse of foliage and of strings—the former covering the building or object until it looks like a petrified arbour, and the latter jumping up and down in a most spasmodic manner. But these are hardly the faults of the present generation. The strings now-a-days are generally managed rightly; and if there should be a little money over (an event which very seldom happens to a younger member of the profession) we generally do try to get a little sculpture, instead of spending it on foliage. Some of our modern foliage, however, has taken a very crude and ugly development. Thus, we see truncated leaves (No. 8), and stalks jutting out at right angles, or less than right angles, from each other (No. 9), besides sundry other offences against good taste; the origin of all which will be found in the endeavour to get strength—a very laudable one, but hardly successful when obtained by means of straight lines instead of curved. The effect of some of the foliage in the 1862 Exhibition absolutely resembled that of the time of Louis XIV., instead of the thirteenth century, while one or two of the objects were completely smothered in leaves.

10. But our woodwork is still very faulty, being for the most part a very great deal too cheap and thin. I am not so much of an antiquary as to advise the use of oak instead of deal for our roofs. Oak was the common wood of our ancestors, and deal is the common wood of our own time; and, had the case been reversed, I am quite sure that our forefathers, like sensible men, as they were, would have employed fir. But if we look at the majority of thirteenth and fourteenth century churches, we shall find very few open roofs. On the contrary, the roof is generally of the simplest construction, often with tie-beams, to keep everything together, and boarded to the bellies of the rafters,—sometimes even a flat-boarded ceiling. This afforded space for painting, and provided an air-chamber between the church and the outer rafters. Hence the edifice was cool in summer, and warm in winter. A small window opened into this airplace, and afforded means of ventilation. Now, compare this with a modern church roof. The timbers are of the smallest possible scantlings; the roof is open to the top (No. 7), so that in reality we see the straight-lined arch magnified to its fullest possible extent, and the little window, deprived of all use, twinkles up above, and only serves to throw in light where it is least wanted, and to expose the poverty of the whole affair. In the present day so many people have got to consider an open roof as a *sine qua non* in Mediæval art, that it is very difficult to persuade them to the contrary. An open roof, to look well, requires very large and very intricate timbers, or it is almost certain to look poor. Most of the open roofs of our own country are of a comparatively low pitch, and the space between the principals was frequently boarded and painted, and treated like a ceiling.

The same objection may be made to our church furniture. It is generally very poor and miserable. It is very true that the mouldings in woodwork should be more slender and cut out than in stone; but then they are generally combined in masses, and the whole effect is sharp and solid, as it ought to be. The best pieces of ancient woodwork I know of are the stalls of Amiens cathedral.

There are very many other points I may enlarge upon, more especially those of stained glass and sculpture. A protest should also, I think, be made against the common plan of filling in the whole of the windows of a building with large pieces of plate glass, whereby all scale is lost. Plate glass is a very good thing; but surely the upper parts of a window might be filled with lead or iron patterns, and thus some scale be obtained.

But I think I have said enough upon a rather invidious subject, and such, as I said before, that I should not have touched upon if I were not sure that very many of my *confrères*, both young and old, thought with me.

I have very often said, and, even at the risk of being thought tedious, I must repeat it again, that the great and crying defect of the art-architect of the present day is the want of the knowledge of the human figure; and until that is obtained I am afraid that there will be but little progress. I say art-architect, to distinguish him from the surveyor-architect, who makes a great deal more money and has a great deal less to learn, besides being generally thought a more useful member of the community. In fact, the trials of an art-architect of the present day are nearly as great as those of the alchemist of the Middle Ages. If he has money, ten to one but he will not work at so unprofitable an occupation, where he sees all the work in other hands, and where he may have to labour some twenty years before he gets his share. If he has friends who will back him and get him work, so much the worse for him, for he will have to consume that time in the execution of works, and the writing of letters, when he ought to be improving himself and others. What really is wanted is just sufficient work to keep him agoing, or occasionally a good large competition; for I by no means consider competitions as unmitigated evils. Only there are two questions which should be satisfactorily answered before going in. The first is, What is to be the style? as in the present day we have no less than two, which is one more than any other epoch ever had. Unless this question be answered, it is obvious that it is clearly fifty to one against the competitor. The second question should be, Is a professional man to be appointed judge? It is obvious how important it is to have this answered in the affirmative; for, besides the committee having in all probability no knowledge of architecture, it will generally be found that their bias is towards what is called the local man; and, indeed, they would be less than human if they did not have this bias, remembering that they travel with the said local man, that they dine with him, they meet him at dinner, and they have had or may have local dealings with him, and, therefore, as I said before, they would be less than human not to prefer him.

Having said so much I have only to reiterate my advice to the art-architect to learn all he can of the figure; and while he does this, and while he may be filling up his time with drawing cartoons, never on any account to give up or think of giving up his profession. It is true he may see his way to making more money at the present moment, by drawing cartoons, or designing sculpture, or drawing on stone; but all this while he is an architect. He has been brought up as an architect, and the profession has a right to his services; and if she is unkind and gives him but little at present, it is his duty to persevere and never neglect her; for the time will come when she will have occasion for his services, and if he is not in a position to take advantage of it, his place will be filled by another, and, most probably, a less educated man, to the great loss of the art.

It is for these reasons that I have ventured to say a word in favour of competitions, and if some regulations could be drawn up either by the Association or the Institute, or, still better, by both conjointly, I believe a great deal of good might ensue, and transactions which at the present moment are often but so much gambling, and that with loaded dice, might be rendered excellent means of bringing good men forward, or, at least, of causing them to exercise the knowledge they possess. I now conclude with the words of Mr. Seddon,—"If we would only condescend to be simple and true, and work out with a thorough honesty of intention the requirements we are called upon to fulfil, thinking less of ourselves and of our reputation, and more of our work for its own sake, we should, doubtless, leave to posterity work of which we should have no need to feel ashamed."

INIGO JONES'S WORKS.

York Stairs Water-gate.—This building has been attributed to Inigo Jones for many years. "This gate was erected by the first Duke of Buckingham, when Lord High Admiral of England, ann. 1626, by Inigo Jones," says Campbell, in "Vitruvius Britannicus;" also by Ralph, in his "Critical Review," in 1734; and Batty Langley, in his "Ancient Masonry," 1736, gives, in "plate xxviii., the Tuscan order, by Inigo Jones, at York Stairs," p. 219. It will be remembered that the late Mr. George Bailey sent the *Builder* an extract from a manuscript in Sir John Soane's Museum (vol. xii., p. 252), being the "Account-book of Workes done by Nicholas Stone, sen.," which stated that "The Water-gate att Yorke House, *hee desined and built*," &c. Here we had very circumstantial evidence that Jones was no longer to have the credit of the *design*.

Covent Garden Church.—Above I have copied what Langley says for the one structure, and now follows what he says about the church:—

"Plate xxvi., xxvii.—The Tuscan Order by Mr. Stone, in the Portico of St. Paul's, Covent Garden.—This Order is built in the Portico of the Church aforesaid, whose simple Grandeur excels all other Buildings in this City."—P. 218.

"Plate xliv.—The Intercolumniation of the Portico of St. Paul's, Covent Garden.—This Building, I have already noted, was built by Mr. Stone, and not by Mr. Inigo Jones, as most do

imagine, and indeed as I did myself, when I measured the Columns in the Portico; but happening, soon after my measurement, to be speaking of it to my worthy Friend, Sir James Thornhill, deceased, he did assure me, that Mr. Stone was the Architect of that Building; but whether it was his own Design, or Mr. Jones's, I will not undertake to say." P. 225.

The extracts from Stone's pocket-book, or account-book, given in Walpole, "Anecdotes of Painting," p. 239, of Wornum's edition, will show that Stone did design many works of architecture. But if he designed St. Paul's Church as well, which is *not* recorded in it, what becomes of the often-quoted anecdote given by Walpole on the authority of "Mr. Onslow, the late speaker," that the Earl of Bedford wanting nothing "much better than a barn:" "Well, then," replied Jones, "you shall have the handsomest barn in England"? Sir James Thornhill died in 1734: Langley's book was published in 1736; and the church was begun in 1631, that is one century; but Walpole's work was not published until 1762-71, about forty years after that by Langley; both, therefore, receiving their anecdotes traditionally. Is any document known of an earlier period recording the name of the architect?

Not that it much matters now; for, what with the repairs by the Earl of Burlington, about 1727; those by Thomas Hardwick in 1788; and the rebuilding by him after the fire of 1795, nothing exists of the original work but the general design.

Further conflicting evidence is given by the two chief authorities of the "Antiquities of London." Strype, in his additions to Stow's "Survey of London," 1720, book vi., p. 88, says, "The Builder of this famous Church was that rare Architect Mr. Inigo Jones, one of the greatest Restorers of the ancient Roman Way of Building, and this the first. How magnificent and great doth it present itself to the Beholder! The Portico is magnificent. The Upright, with the View of the Garden and the Piazzas, is done by the curious Mr. Holler. It is the only View, in Imitation of the Italians, we have in or about London; ushered into use by that great Encourager of Arts, the Earl of Arundel. The Ceiling-piece in Prospective is admired by all that see it. It was done by an Inhabitant of the Parish. His name was — Pierce, a Painter."

Seymour, in his "Survey of London," 1735, ii. 672, states, "Although it is generally said that 'Inigo Jones was the Architect of this Church, yet the author above quoted says he is credibly informed it was built by Mr. Stone.' The author quoted is "Hiram" in the *Grub-street Journal*, No. 249, for October 3rd, and No. 256, November 21, 1734, in his communications reviewing "the Critical Review of the Public Buildings, &c., of London," generally attributed to James Ralph. It is, however, necessary to notice that "Hiram" speaks of Langley's work above mentioned; consequently there must be an earlier edition than that of 1736 (I cannot find it in any catalogue), by which "Hiram" may have become acquainted with the suggested alteration of Stone for Jones.

WYATT PAPWORTH.

SANITARY INSPECTION; BETHNAL GREEN.

ACCIDENTALLY looking into the *Bethnal-green Times*, we found, in an account of the proceedings at a monthly meeting of the Vestry, a report from their Sanitary Inspector, which, after a statement of the work done in the quarter, begins thus:—

"The great annoyance felt by many of the ratepayers and gentlemen of this Board to the untruthful and exaggerated statements by a portion of the London press, has much subsided; and since my appointment as your officer there has been but one account of the sanitary state of the parish. That account appeared in a journal of high standing, and one that has done much good in promoting sanitary matters. I refer to the *Builder* of January 30th, which speaks in very fulsome terms of the sanitary staff of police, and cites a house in Church-street, and talks about untrapped brick drains. Now, if the police or their informant knew anything about brick drains or untrapped sinks, they would have known such a statement was incorrect; but to show that your sanitary committee had not been idle, at the time the report appeared, the owners of the house mentioned had been summoned to Worship-street, and had repaired the house thoroughly."

Supposing we had talked "about untrapped brick drains," why should any person who "knew anything about brick drains or untrapped sinks," know this statement to be incorrect? Does this Sanitary Inspector think that brick drains cannot be trapped? Will he venture to assert there are no "untrapped brick drains" in his district?

The truth is, however, we made no such observation. What we said, after mentioning the visitation of typhus fever with which the house had been afflicted, and pointing to what we believe caused it, was this:—"From the untrapped closet passes an imperfect brick drain, which allows the poisonous gases to be distributed throughout the house." The inspector does not attempt to deny the correctness of our assertion as to the evil condition of the place, and the consequent frightful results, and yet he tells something very like a falsehood to try and make his masters believe that we were wrong. Hear his own account of these very premises:—

"On one of my visits, I found three adults and three children in one small room; two beds were on the floor, and food was kept in the cupboard. On the first floor, a room was used as a gilder's workshop, wherein was deposited all the materials for the business. In one corner was a quantity of coke, and about a bushel and a half of cinder-ash under the grate. I found the room full of miasma, chiefly arising from the dirty habits of the workmen, and the practice of putting out the fire with an acid. The tenants did not know that their illness arose from want of proper ventilation, and the food being kept in a room heated by six gas-burners, a coke fire, and where three adults and three children sleep in a room containing only 900 feet of air. When it is remembered that each adult requires 300 feet of space, can it be wondered at that the tenants of such places suffer from typhus fever?"

He either did not know of the condition of the drainage, or he shut his eyes to it in order to assert that the *Builder* was speaking of what it did not understand. This may be the way to keep his place, but it is not the way to do his duty.

THE NATIONAL GALLERY.

IN reply to questions in the House of Commons on Monday, respecting the National Gallery and the Royal Academy, Mr. Cowper said there would be no difficulty in the removal of the Royal Academy to Burlington House. The Academy were in possession of considerable capital, and were prepared to spend a portion of the money in providing a permanent gallery upon the Burlington House site, if there should be an entrance into Piccadilly. The expense of the building suitable to their purpose would be somewhere about 80,000*l*. If they had been permitted to occupy the whole of the building in Trafalgar-square, they would have contributed the 80,000*l*. in any way that might have been thought best,—either by giving it towards the new gallery, or in expending the money in embellishing the façades of the present building in Trafalgar-square. It seemed to be perfectly immaterial to the Royal Academy whether they remained on the site or not. Therefore, as regarded the Royal Academy there was no difficulty; but as regarded the interest of the public there were certain considerations which required a good deal of attention. The building in Trafalgar-square altogether would not be large enough to properly accommodate the whole of the national pictures. The Royal Academy rooms had about 7,000 superficial feet of floor area, but they were not as large as the rooms at South Kensington, which were at the present moment crowdedly occupied with the Vernon, the Jacob Bell, and other collections of pictures. The Turner pictures were placed up to the beginning of the ceiling, and so high that they could scarcely be seen. Annual increase, too, must be considered. It was admitted by all the committees and commissions that it would be necessary to acquire a large part (he thought the whole) of the area to the rear of the National Gallery. The parish of St. Martin's would come to an arrangement about the workhouse. Archbishop Tennyson's schools would also have to be removed; and it might be possible to get another barrack in a central part of the metropolis. The expense of the site could not be estimated at less than 300,000*l*. The building would be more costly than the one proposed at Burlington House, because it would have a greater extent of ornamental front. These, however, were matters which would require great care and full consideration.

ACCIDENT IN PULLING DOWN ROOFS.—A man has been killed, in Upper Eaton-place, Pimlico, in a shocking manner. He was engaged in pulling down the roofs of some houses, when, being in liquor, he deliberately walked across a broken glass skylight, and fell through: his spine was broken by the fall, and he shortly afterwards expired. He ought not to have been allowed to go on the roof at all.

LAMBTON CASTLE.

ABOUT a dozen years since this castle evinced signs of insecurity. The sinking of the strata above the coal-workings, under the building, was found to be the origin of the mischief. The services of Mr. Dobson, architect, having been called into requisition, means were taken to prevent further dilapidations. Iron tie-bars were inserted in various places throughout the erection, and a commencement was made to stow the underlying coal-workings with brick. The stowing of these was an operation lasting between seven and eight years, during which time upwards of 14,000,000 of bricks were used for the purpose. A secure foundation having thus been made, plans for the restoration of the castle were prepared and approved, and about four years ago the works were commenced. A considerable portion of the western end of the building has been taken down, and certain new and important arrangements and improvements have been made in that and other directions. Mr. Dobson, from severe indisposition, only saw part of his plans carried out, and Mr. Sydney Smirke, architect, has been delegated to continue the undertaking. Mr. Leighton is the clerk of works. The plaster work has been executed by Mr. R. Dodds, of Newcastle. The stone carving already done is by Mr. R. Beall, of Newcastle. The carpentry of the roof over the great hall has just been completed and covered in. It has been executed by Messrs. W. & C. Burnup, of Newcastle.

FISH PRESERVING AND HEALTH DESTROYING.

A CORRESPONDENT encloses for our inspection a plan of the backyard of a fishmonger's establishment, within a few seconds' walk of Scotland-yard. From this plan it appears that within an area of 15 feet by 11 feet, there are,—a privy without door; six bushels of rotten cabbage, with a heap of miscellaneous rubbish; soles, mackerel, &c., left on the flags to cool; a paved area used indiscriminately as a urinal; a heap of cinder dirt; vats of stagnant water; a lobster copper, in which the crustaceæ are boiled, and the mop washed when used for cleansing (?) the yard; a basket of boiled and one of live crustaceæ. At one side are two small wiudows, being the sole source of light and ventilation (?) to the back rooms of an adjoining house. The detail needs no comment.

THE SEWAGE EXPERIMENT AT CROYDON.

WE saw the other day several fields covered with twelve to fourteen tons of grass per acre, says a writer in the *Agricultural Gazette*. It stood as high as a walking-stick, and as thick upon the ground as it could grow. Of a dark green colour, and still succulent from end to end of every stalk, with the flower spike barely through, it was then the very best green food that could be given to milch cows. And for this purpose it was being sold. Cow-keepers in the neighbourhood were coming all day long and carrying it away, paying 1s. a rod, or at the rate of 8*l*. per acre for it on the spot. And many tons (from six to thirty) were being sent to London cow-houses; 25s. a ton being charged for it delivered there. The produce had been after the rate of thirteen and fourteen tons per acre. A second cut will be ready there before the middle of this month, a third towards the end of July, and a fourth in September. Perhaps a fifth may be obtained, or the last growth may be grazed upon the land. The particular field to which we are alluding now was sown in the autumn of 1862. It yielded four, and some of it five crops last year—twelve, ten, seven, and five tons per acre respectively; and it looks as well this year as ever it has done. The land is worth barely 30s. per acre naturally. There are some 240 acres thus in grass, for the most part in Italian rye-grass. The enormous productiveness of that plant under favouring circumstances has probably hardly anywhere as yet been fully realised. The land in question, about 300 acres in extent, is let to the Croydon Board of Health, and they have sublet it to their tenant, Mr. Marriage, for a term of nine years, at 5*l*. per acre. It lies about two miles and a half from Croydon. Mr. Marriage receives the whole of the sewage of Croydon for the use of this land; and passing the whole (about one million or more gallons per day) over the surface of the land, he thus removes from it its noxious and

fertilising elements, and converts the filthy turbid ditch-water which comes on to the farm into the clear and limpid stream which leaves it. At the farm, it is made to flow in furrows about 16½ yards apart, from which it is gradually poured out over the intervening lands.

Although legal proceedings were taken some years ago against the Board of Health because of the nuisance they were guilty of when only a small piece of land had been used, none has yet been proved or even charged against Mr. Marriage and his farm. One million or more gallons have to be used and purified every day, so that at short intervals every field is continually throughout the year being flooded.

The large produce, probably 8,000 tons or more of green food, annually disappears as fast as it is grown; and there will no doubt prove to be room enough in the demand of 3,000,000 of people for all the produce which will one day similarly arise out of a proper use of the 20,000,000 cubic feet per diem of sewage water which is about the quantity in the way of the Metropolitan Board of Works.

HOME SUBJECTS IN BRONZE.

AT Messrs. Miller's, in Piccadilly, are to be seen a series of statuettes illustrative of English sports, well executed in bronze, by Messrs. Carlhian & Corbière, from the original models by Mr. Joseph Durham. Five of them, single figures, relate to cricket,—and show the beautiful forms the youthful body takes in the exercise of the game,—and one, a group of two upright figures, to boating. They are all charmingly modelled, and are calculated, especially if reproduced in a cheaper material than bronze, to spread widely the sculptor's name. The idea is a very good one; and we shall be glad, if sufficient public favour be shown, to induce Mr. Durham to carry it out further.

THE PARIS SALON OF MODERN ART, 1864.

THE exhibition in the galleries of the Palace of Industry comprises 3,468 numbers, of which only forty-three numbers are devoted to architectural designs and drawings, constituting a very unimportant display of very mediocre quality. A project of decoration for the Pont des Arts, consisting of ironwork gilt is very showy: it is by M. Boileau, Fils. A design for a parish church, by M. Breton, is common in idea to excess, but proposed to be gaudily covered with colour inside. M. Etex, the sculptor, exhibits one of his usual architectural aberrations, for a proposed church. M. Moreau proposes to add a mountain of ornaments and symbols on the roof of the triumphal arch De l'Etoile, in the Champs Elysées, and sends a design for a similarly encumbered arch on the Place du Trône. M. Mamey gives himself the labour of proposing a monument to commemorate the Congress of Peace, which never took place, and a mausoleum for the victims at Chili by the burning of the church at Santiago. M. Stillière exhibits a design for the tomb of Eugene Delacroix, lately deceased, which has merit. The other drawings are either designs for restorations of decayed edifices, or of ancient châteaux still standing.

HOUNSLOW.

THIS well-known posting town of former days, where usually 1,500 horses were kept, has now dwindled into unusual quiet, and makes but small progress towards increase of population. It is not a parish even in itself, as Heston includes it, of which the church is about a mile to the north, in the small village of Heston. The church is ancient; the nave, perhaps, of the fifteenth century; and the tower of the early part of the sixteenth century. The tower is a good example of its class, and is said to be in excellent condition of solidity. The entrance to the church is by a decaying wooden porch, in the spandrels of which may be traced a rose and a pomegranate. There is another wooden porch on the south side, leading into the nave, apparently of the same period; and perhaps destined, ere long, to disappear. The interior is composed of a nave and two aisles, divided by alternate short thick circular and octagon columns. The roof and the windows are wofully deteriorated by subsequent so-called improvements, and the stone buttresses externally have been cobbled up by the village bricklayer.

Repairs to the nave are unquestionably necessary, and for the purpose a survey has been made by Mr. Bellamy, architect, who gave a first estimate of 1,100*l.*, exclusive of any internal fittings or better arrangement. A second plan has now been brought forward by Mr. Bellamy, to provide 128 new sittings, the estimate of it being 4,100*l.* For this amount a subscription has been opened and urged upon the inhabitants.

We have received a letter commenting on the largeness of this sum, and on the want of publicity in respect of the design: we are not anxious, however, on *ex parte* statement, to assist in throwing any obstacle in the way of well-intended endeavours.

GREAT BLAST, ARDSHEAL GRANITE QUARRIES.

PREPARATIONS have been in progress for some time past for a great blast at the Ardsheal quarries on the banks of Loch Linnhe, Scotland. The height of the quarry face was 42 feet above the level of the quarry floor, and at a point 70 feet back from the face, and 72 feet above the level of the floor. A vertical shaft, about 4 feet square, was sunk from the surface of the mountain to a depth of 45 feet. At the bottom of this shaft a mine or heading was driven at a right angle in a parallel line with the quarry face. This heading was 25 feet in length, and 70 feet from the face of the quarry. At the end of this heading the chamber to contain the gunpowder branched off at a right angle towards the front. The chamber was hewn out of the solid rock somewhat in the form of a balloon.

The gunpowder was carefully let down in bags, each containing 25 lb. weight. In this way two tons of gunpowder were safely deposited; but as this operation had to be effected in darkness, all connexion between the gunpowder and the heading was stopped, so as to permit of light being freely used to enable the miner to complete the important operation of stemming up the mines.

At seven o'clock on Thursday evening, the 9th inst., the patent safety fuses were ignited, and in thirty minutes thereafter the explosion took place, causing the mountain to groan and quiver, and bringing with it upwards of 20,000 tons of excellent granite.

RAILWAY COMPENSATION CASES.

ON the 11th inst., at the Lord Mayor's Court, the compensation case of the Eagle Assurance Company, in New Bridge-street, Blackfriars, against the London, Chatham, and Dover Railway Company, occupied a special jury the entire day, under the presidency of Mr. Commissioner Ker. The claim made exceeded 20,000*l.*, and was supported by several witnesses. Mr. Bovill, Q.C., and Mr. Keane, Q.C., appeared for the Eagle office; and Mr. Lloyd, with whom was Mr. Horace Lloyd, represented the railway company. Several surveyors were called on both sides, and the value put on the property was very conflicting. Both sides admitted that "fabulous" prices were being asked for land in the city of London: none could be had for the Eagle-office, and, as stated by Mr. Bovill, the company had been compelled to go "into lodgings," on Ludgate-hill, until they could procure eligible premises. Mr. Sambrooke, the deputy-chairman of the Eagle, said search had been made for premises, and none could be procured. It was stated that it would cost 10,000*l.* to erect similar premises to those in New Bridge-street, which had lately been pulled down. Mr. Commissioner Ker, in placing the case before the jury, dwelt on the great discrepancy in the evidence of the surveyors called on both sides. Compensation juries had given sums on which articles had been written in the newspapers, and claims had increased and large sums been awarded. A reaction was now setting in, and it was the duty of the jury to give the value of the property and such compensation as was reasonable. If juries were to give all that was demanded, when railways were to be made, and no land was to be obtained, then the claims must be very large. The learned Commissioner went over the several items of compensation, and at nearly six o'clock left the case to the jury to settle the amount. The jury retired, and on their return, in half an hour, assessed the compensation at 15,947*l.*

ST. DAVID'S RAILWAY STATION, EXETER.

THIS station was opened for traffic on Wednesday, the 1st instant. It is of the Doric order of architecture, and has occupied nearly two years in building. The cost, including the making of the new approaches, and the taking down and removal of the old station, which has been in use about twenty years, is estimated at between 50,000*l.* and 60,000*l.* The contract of Mr. John Spiller, of Taunton, for the masonry, carpentery, window glazing, and decorations, amounts to 18,000*l.*, besides "extras." Mr. Kerslake, of Exeter, who supplied the ironwork, receives 9,000*l.* The roof alone contains about 300 tons of iron and 30 tons of glass (supplied by the St. Helen's Company, Liverpool). The 25 wrought-iron principals weigh something like 60 tons. The architect is Mr. Henry Lloyd, Park-street, Bristol (who, it will be remembered, was architect of the New Town Hall, Tiverton).

A view of the extended front is obtained from the footpath leading from St. David's Hill. It is 360 feet in length. The exterior is faced with Westleigh stone, the cornices, parapets, dressings, and arches being of Bath stone. There is an ornamental verandah projecting over the footpath, 12 feet wide, and a portion of the road, which is 45 feet wide, is covered with a similar roofing of glass and iron, to shelter carriages, cabs, &c. The façade, which rises above the offices—all of which are on the Exeter side—is divided into three compartments, having parapets, with vases and scroll-work between each bay.

The walls supporting the roof are 32 feet high. The ridge of the open iron roof is 60 feet high, in which there is a continuous skylight, extending down each side of the ridge about 12 feet, which, together with the side windows and the glass screen ends, afford ample light to every part. There are three platforms: the down platform is 25 feet wide, and has a run of 500 feet. Hydraulic lifts are fitted to each end of the trellis girder-bridge, for the ready transit of luggage.

The booking-offices, waiting-rooms, and refreshment-rooms, are on the down platform.

The whole of the rooms are spacious, lofty, and well furnished. Three ornamental water-basins and a large fish-stand, supplied by the Coalbrookdale Iron Company, are placed in different parts of the largest platform. The whole work has been under the supervision of Mr. Francis Fox, chief engineer of the Bristol and Exeter Railway Company.

NEW THEATRE, LEEDS.

A GOOD theatre in Leeds has long been desired, and arrangements are now being made to supply the want by the reconstruction of what has been known as "the amphitheatre." The level of the pit and stage is to be lowered about 6 feet. The part now used as pit stalls is to be appropriated to the first tier of boxes. The part fronting the stage, and at present the pit promenade, is intended to be the dress circle. On each side there are to be three private or family boxes. To this tier a separate entrance, in King Charles's croft, is be made, opening into a vestibule, through which is entered a spacious corridor running all round, and giving access to the various private boxes and dress circles. Above this there will be a second tier, having private boxes and dress circle similar to those below, and also having a similar corridor. There will be a separate entrance to this into the croft, opening into a vestibule on the same level as the first tier vestibule, not having communication except for extra occasions. From this vestibule ascend two wide staircases, one being to the second dress circle, the other to the second boxes. What is now the picture gallery will be partly thrown into the present dress circle, and the remainder will form part of the corridor. The picture gallery is to be transferred elsewhere. The pit will extend under the boxes and dress circle, giving about double the amount of accommodation to that of the present pit. To this there are to be two entrances from Landslane, averaging about 7 feet wide each. In front of the building an open verandah is to be erected, so that carriage parties may alight without risk of getting wet. The means of exit are nearly doubled. New scenery is being painted. The internal decorations are being prepared by a London artist. The new drop will be that from the Stratford festival, painted by Mr. Telbin.

THE ADVANCE OF THE ART-WORKMAN.

IN the lectures on the Art-Workman's position, delivered by Mr. Beresford Hope at the Architectural Museum, reported in our pages at the time, and to which we have since had occasion to refer, the lecturer took for theme his suggestion to the recent Royal Academy Commission, that there should be a class of Art-Workmen connected with the Royal Academy, and the approval of the suggestion expressed by the Commissioners in their report.

The following portion of Mr. Hope's evidence contains the statements on which the Commissioners founded their opinion, and may interest our readers:—

Mr. Reeve.—Did I rightly understand you to say that you thought there might be another class attached to the Academy, consisting of distinguished workmen engaged in various industrial occupations connected with the arts, whose education perhaps might not entitle them to be members of the Academy, but who might be attached to it in a subordinate class?—I think so decidedly; that is a point upon which I have bestowed a great deal of attention, and it is very worthy of notice that a class of subordinate artists is gradually arising from the class of superior workmen. Men who were mere workmen a few years ago, are getting more and more artistic with the growth of public taste.

Will you tell the Commission what your ideas generally would be as to the mode of carrying that out?—I think we might, as I said, follow the analogy of the Universities in the Academy more than we have done. There might be something like diplomas or degrees given. A degree from the Academy need not necessarily give a man a voice in the affairs of the Academy: it need not give him a vote or even a claim of exhibition, but it would be a recognition of merit. It would, in short, be a *third* order in the institution, lower than either Academician or Associate, and it would have no limit as to numbers. Any man who had exhibited one or two paintings of distinguished merit, or a distinguished carving or other work, should have that diploma or certificate. So should the student who had distinguished himself during his pupilage. There is a class gradually growing up of more importance than perhaps the Commission are aware of, which has not yet been sufficiently recognised: I mean the sculptors in stone and not in marble. They have hitherto chiefly played their part in ecclesiastical architecture, but I hope and believe they will be increasingly employed in all kinds of buildings. Every day that class is growing of more and more importance. Hitherto that sort of work has been undertaken by *entrepreneurs* who may be artistic men, and they generally are so, but they undertake not only wood carving but stone carving, foliage, and effigies, all of which pass under their names: generally speaking they began themselves with being working artists, but as they got richer, became gradually employers, not workers. I want those *entrepreneurs* to make no concealment in their employment of subordinate working artists, and for the world to have the names of the men so employed, so that you should know that the wood carving in a particular building was done by Smith, and the figure-carving by Thompson, and so on. In cases where the employer still worked with his own hand, he should have the credit of it. The evil of the present system is, that the workers knowing that they will not get the credit of their work, are apt to be content with a conventional level of smooth mediocrity. Besides, they attempt everything. I could wish the figure carver to stick to figures, and the foliage carver to foliage, and each try to be great in his own line.

You would endeavour to bring these workmen under the influence of the Academy?—I should.

Lord Elcho.—You would honour handicraftsmen?—Yes.

Mr. Reeve.—Would you put them into a separate class? would you have a degree of handicraftsmen, or a class of handicraftsmen attached to the Academy?—That is a delicate matter: the thing must be done so as not to wound their *amour propre*.

You have not thought of any particular mode in which they should be attached to the Academy?—Only by certificate, as far as the general body went. Out of the selected few it might have a class of associates including painters, water-colour painters, sculptors, engravers, photographers, stone-carvers, wood-carvers, glass-painters, potters, metal-chasers, and enamellers.

Mr. H. Seymour.—Have you anything of that sort attached to the Institute of Architects?—No; but the institution called "The Architectural Museum," of which I am president, is for that special purpose.

Have you any certificates of merit for handicraftsmen?—We give prizes and certificates in our Architectural Museum. We are a purely voluntary institution: we have very limited funds; but, what funds we have, we spend partly in collecting this museum of architectural casts, and partly in giving prizes with certificates of merit. We also give lectures, which cost us very little, partly given by amateurs and partly by professionals. Mr. Gilbert Scott, who is both R.A. and a leading member of the Institute of Architects, is our treasurer, and was the founder of our society.

In the Institute of Architects do you give certificates of merit to handicraftsmen?—No; handicraftsmen are not at all recognised there; it is the Institute of Architects, strictly so called, and was founded to meet their artistic and business requirements.

You would think, then, that the Institute of Architects is on too narrow a basis as well as the Royal Academy?—Yes, I think so.

How is it that the Institute of Architects is separate from the Architectural Museum?—There are always three societies to do the work of one in England. The Institute of Architects was founded twenty-five years ago; and several people, about twelve years ago, seeing that it did not embrace handicraftsmen, set up the Architectural Museum to supply that deficiency. The Architectural Museum, though it has no obligatory *credo*, is mainly Gothic. It does not exclude other styles, but it has a strong Gothic bias. It is governed by a mixed council of professional and amateur members. I may add that, not to mention many distinguished living architects who belong to it, the Prince Consort was our patron, and the late Lord De Grey our first president, and that the list includes the names of Sir Charles Barry and Mr. Ruskin. The Institute of Architects has no *credo* at all.

The object of the formation of the Architectural Museum was to encourage the class of handicraftsmen who have found great employment lately in consequence of the development of Gothic architecture?—Quite so.

Lord Elcho.—Supposing that the Royal Academy were reconstituted, and were to consist, as it does at present, of Associates as well as Royal Academicians, what name do you think you could advantageously give to those handicraftsmen whom you wish to honour by attaching them in some way to the Academy?—I recently gave an inaugural lecture at the Architectural Museum in which I discussed our present position, and in which I suggested that they should be called working artists, not art workmen.

Sir E. Head.—If I apprehend your object rightly, it is that the Royal Academy should take hold of the element of art which exists in those handicraftsmen, and by taking notice of that, and stamping it with approbation, they should encourage the growth of that element in the other handicraftsmen?—Precisely.

Mr. H. Seymour.—Did you take your idea with regard to the encouragement of handicraftsmen from any institution of the Middle Ages?—Not directly; the idea was floating in people's minds, I dare say.

THE BUILDING TRADES MOVEMENT.

Newcastle-upon-Tyne.—The master house carpenters and joiners here and at Gateshead have formed an association for their mutual protection.

Birmingham.—The masons, on resuming work, submitted a code of rules to their employers for approval and signature. Four firms signed the rules, and their men resumed work, but the remainder of the firms engaged in the building trade refused to sign the code, and the consequence was that the men in their employ struck work; so that, though the movement was virtually at an end, the trade here is not yet in a settled state.

Leicester.—The strike here may now be said to have terminated. The bricklayers' labourers resumed work, accepting the promise of their masters to give an advance of 3d. per day, in July. The master painters granted their men the 3d. a day which they sought for. The bricklayers sent in an application for 4d. per day, and have been told that it would be given them. The carpenters and joiners notified their intention of striking for 3d. per day, should it not be granted to them on the first Saturday in July. The masters have intimated their intention to grant the increase, as in the face of such a demand as there is for houses in Leicester it is useless to hold out.

St. Helen's.—The plumbers and painters of St. Helen's, in accordance with a notice recently given to the masters by them threatening to strike if certain demands were not complied with, struck work, the masters having refused to give them the required advance of two shillings per week. The painting and plumbing business at St. Helen's is not at present very brisk.

Burslem.—The bricklayers in this district, with their labourers, have been on strike for several weeks, for an advance of 6d. a day. The builders, with deputations from the two bodies, met in friendly conference, with a view to the adjustment of their differences. In course of the discussion, the builders complained that the advance should have been asked on a week's notice, and explained the great loss they should be subjected to in various instances upon the contracts previously entered into (some of them very heavy) upon the then existing scale of labour. Ultimately an offer was made to advance 4d. per day to the bricklayers, and 3d. per day to the labourers,—making the wages of the former 26s. per week, and of the latter, 16s. 6d.

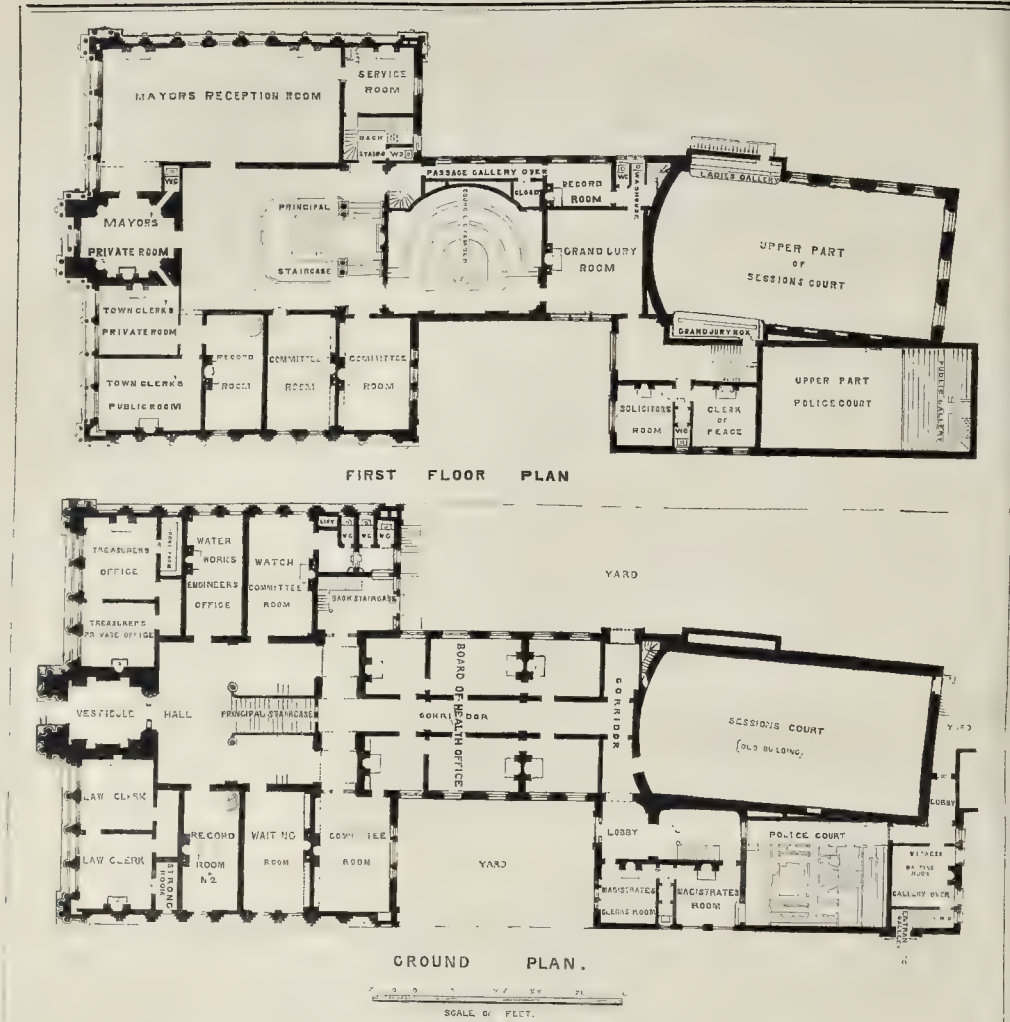
Swansea.—The great body of working masons usually employed by the principal builders of Swansea, struck work recently for an advance of wages. The wages had been 22s. per week, but the men demanded 24s. per week, or 4s. per day. The masters naturally complained that this extreme course was adopted by the men without any notice whatever, and that as large contracts had been taken, based upon the rate of wages hitherto given, it would be almost ruinous to them if they complied with the peremptory demands of the men. Such arguments as these, however, seemed to have no weight with the men. The masters at length felt compelled to comply with the demands of the men, who returned to work at the increased rate of wages. The plumbers, however, afterwards struck, demanding 3s. per week extra wages. Some of the employers offered to give the increased wages, but the men refused to work until the whole body of masters complied with the demand made.

ARCHITECTURAL SOCIETY OF NORTHAMPTON.

THE annual summer meeting of the members of this society was held on Tuesday and Wednesday in last week, at Wellingborough. The meeting was a successful one, the district being interesting and the weather favourable. The proceedings commenced with a meeting in the Town-hall, when there was a large attendance; and the Rev. J. G. Orger, of Cranford, read a paper "On Wellingborough and its Antiquities." The chair was taken by the Rev. Lord Alwyne Compton. Mr. Law, of Northampton, presented some architectural photographs of buildings in Northampton. The chairman afterwards explained a few of the articles in the museum, and the meeting then adjourned to Wellingborough Church, which was briefly examined with reference to Mr. Orger's paper. An excursion was then made to various other churches,—namely, to those of Wilby, Earl's Barton, and Mear's Ashby. Dinner was partaken of at the Hind Hotel; after which there was an evening meeting, with a large attendance, and the Rev. A. Pownall read an account of a remarkable Anglo-Saxon penny, found at Bulwick, in Northants; and the Rev. A. Poole a paper "On Painted Glass in connexion with Architecture." The chairman delivered a short lecture "On Church Tiles," which concluded the evening's proceedings. On Wednesday, another excursion took place, to Great Harrowden and Burton Lattimer Churches; at the latter of which a paper on the edifice was read by the vicar, the Rev. T. Bartlett. The museum, which was held at the Wellingborough Town-hall, was opened to the public on Wednesday, and was visited by many persons.

NEW PULPIT FOR BUCKINGHAM PALACE.—The new pulpit for the private chapel in Buckingham Palace, which has been made by Messrs. Burke & Co., of Regent-street, was designed by Mr. Pennethorne. The material is alabaster. It is delicately moulded, and the panels bear the sacramental cup and other emblems.

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HULL TOWN HALL.

HULL TOWN HALL.

IT having been decided at a council meeting held on January 17th, 1861, that a new town-hall should be erected on the site of the old mansion-house, situate on the west side of Lowgate, a committee was formed, who at once advertised for designs for a building that would occupy the whole of the ground between Leaden-hall and Hanover squares, the premiums being 100*l.* for the first and 50*l.* for the second best designs. Having received forty sets of designs, the committee selected two of them for the premiums, but the town council appears not to have approved of their selection: ultimately the matter was referred to Mr. Tite, M.P., who decided that the design with the motto "Con Amore" by Mr. Cuthbert Brodrick, was the most suitable, and entitled to the first premium. The second premium was awarded to Messrs. Lockwood & Mawson.

Preparations were made for commencing the work, and on excavating the ground it was found to be of such a nature that the portion under the tower was obliged to be piled to the depth of 40 feet, and the whole surface of the main building concreted 2 feet deep; and it was not until October 16th, 1862, that the foundation stone was laid by the mayor, with the customary honours, since which time the works have progressed as fast as possible, and we believe that the entire building will be ready for occupation next spring. The police court is now in use, and the main building is being roofed in.

The building is in the Italian style, having a frontage next Lowgate of 105 feet, and a depth of 220 feet. The front portion, which is entirely for corporation purposes, is faced with Steetly and Portland stone, having a Bradford stone plinth, with Red Mansfield shafts to the columns and pilasters. The whole of the windows have French casement sashes glazed with Bristol plate glass. The tower, which will contain a clock with four illuminated faces, 7 feet 9 inches in diameter, and a bell to sound the hours, of 2 tons weight, is about 135 feet high from the ground line. The board of health, police court, and sessions court buildings, in the rear, are faced with Walkingham white stock bricks, with Steetly stone dressings and Bradford plinth.

The building contains the following rooms and offices:—

Basement: kitchen, 28 feet by 31 feet; scullery, 18 feet 6 inches by 18 feet 6 inches; larder, 18 feet 6 inches by 16 feet; servants' hall, 28 feet by 17 feet; record-room (fireproof), 28 feet by 13 feet 6 inches; two wine-cellars, 11 feet 6 inches by 12 feet each; beer-cellar, 11 feet by 11 feet 6 inches; pantry, 11 feet by 11 feet 6 inches; boiler-house, 15 feet by 16 feet; three spare rooms, 18 feet 6 inches by 17 feet 6 inches each; back staircase, passages, cellars, &c.

The ground-floor, which is 6 feet 6 inches above the level of the street, contains;—Vestibule, 16 feet 6 inches by 20 feet; hall and staircase, 48 feet by 34 feet; law-clerks' public office, 19 feet by 17 feet; private ditto, 19 feet by 18 feet, with strong-room adjoining; treasurer's office, 19 feet by 17 feet; private ditto, 19 feet by 17 feet, with strong-room adjoining; record-office (fire-proof), 28 feet 6 inches by 13 feet 6 inches; waiting-room, 28 feet 6 inches by 16 feet 9 inches; committee-room, 28 feet 6 inches by 16 feet; watch committee-room, 28 feet 6 inches by 17 feet; engineer's office, 28 feet 6 inches by 14 feet; W.Cs., and back staircase.

For the board of health there are, surveyor's offices, three rooms, average 15 feet 8 inches by 13 feet 6 inches; collectors' offices, three rooms, average 15 feet 8 inches by 13 feet 6 inches; corridor and staircase; police-court, 50 feet by 26 feet; magistrates' room, 15 feet by 15 feet 6 inches; magistrates' clerk's room, 15 feet by 13 feet 6 inches; with W.C. and lavatory adjoining; witnesses' waiting-room, with W.C. adjoining, 15 feet by 15 feet; sessions court, 67 feet by 34 feet, with cells beneath



HULL TOWN HALL.—MR. CUTHBERT BRODRICK, ARCHITECT.

sessions and police court, communicating with each dock.

First floor: mayor's reception-room, 57 feet by 28 feet, with a recess 15 feet by 7 feet 4 inches; mayor's private room, 18 feet 4 inches by 22 feet 6 inches, with W.C. adjoining; town clerk's office, 18 feet by 24 feet 6 inches; private ditto, 18 feet 9 inches by 17 feet; record-room (fire-proof), 28 feet 6 inches by 13 feet 6 inches, with geometrical iron staircase to ground and basement floors; committee-room, 28 feet 6 inches by 16 feet 9 inches; ditto, 27 feet by 16 feet; service-room, adjoining mayor's reception-room, 16 feet by 14 feet, with lift from kitchen; back staircase, with W.C., &c.; council-chamber, 36 feet 6 inches by 36 feet 6 inches, fitted up with wainscot desks and chairs, and 28 feet high, with 16 pilasters on sides, and circular enriched ceiling, with dome light 16 feet diameter in the centre; grand jury room, 26 feet by 22 feet 9 inches; recorder's private room, 15 feet 6 inches by 10 feet, with W.C., lavatory, and private staircase to bench of sessions court; clerk of peace's office, 15 feet by 13 feet 6 inches; ditto, private, 15 feet by 15 feet 6 inches, with W.C. adjoining.

The second-floor will contain mayor's bed and dressing rooms, housekeeper's rooms, and several spare rooms.

The contract for the whole of the work was taken by the late Mr. Samuel Addy, of Leeds, for the sum of 20,200*l.*; the sub-contractors being Messrs. Hutchinson & Son, carpenters and joiners; Messrs. Dawler & Son, slaters; Mr. Wardall, painter, of Hull; and Messrs. Nelson, smiths and founders; Messrs. Webster, plumbers and glaziers; and Mr. Mountain, plasterer, of Leeds. Mr. C. Pulman is the clerk of works.

CONTINENTAL BUILDING AND ART NEWS.

Vienna.—A number of sketches for the decoration of the "votive" church now in course of construction, have just been submitted to the inspection of his eminence the Cardinal Archbishop von Rauscher. These sketches consist of designs for about sixty statues of saints, besides four large groups, of which the largest is proposed to be erected over the chief entrance. As soon as the various designs have received the sanction of his eminence it is intended to have them executed by public tender. In the mean time, the works on the church itself are steadily progressing, although a million and a half of florins (about 125,000*l.*) are still wanting in order to complete the building in its integrity. It is hoped that this sum will gradually be raised by voluntary subscriptions. Besides this church, Vienna is to have another smaller church, in the quarter known as "Unter den Weissgerbern." Archbishop von Rauscher has declared himself ready to contribute 60,000 florins (5,000*l.*) on condition that the designs furnished by Mr. Friedrich Schmidt, architect to the cathedral of St. Stephen's, be carried out. The church is to hold 3,000 persons, and will have a nave and two side aisles: the style is Gothic, the materials to be brick and stone, and the cost is estimated at 400,000 florins, being about 11*l.* 10*s.* a sitting.

Munich.—A company has been formed here for the purpose of building a new theatre, to be called the "Volkstheater," or Theatre for the People, and a committee has been formed to consider the details of the plans. Two members of this committee are Mr. F. Bodenstedt and Prof. Ludwig Lange, architect of the museum at Leipzig. The latter will probably be commissioned to carry out the building, which will cost about 60,000 florins.——Prof. Halbig has just completed two statues, one for America, the other for the town of Kehlheim. The former is a nymph, in Carrara marble; and the attitude, especially the treatment of the flowing hair, is much praised. The other is a statue of King Ludwig in regal robes, with the plan of the Hall of Liberty in his right hand.——Schnorr von Carolsfeld is engaged with the completion of his cartoons of the Nibelungen Lied, and but three remain to be finished.——The old Abbey Church of Gladbach, in the Palatinate (Rhenish Bavaria) is being restored. The chancel, in early Gothic style, has been thoroughly repaired, and the ancient painted glass reinstated in its original state. The rest of the abbey is of late Byzantine period, and the porch, which has now been cleared and restored, is one of the finest examples on the Rhine. Any of our readers intending to visit the fine cathedrals of Worms and Spires this autumn, should not omit to "do" Gladbach *en passant*.

Berlin.—A Gothic fountain is being erected in the gardens of the Castle of Babelsberg, the summer residence of the Crown Prince and Princess of Prussia, near Potsdam. This fountain was presented to his Majesty when at Cologne on the 10th of May, and was executed by the masons engaged on the Dom, in memory of the completion of a certain part of the cathedral on the 15th of October, 1863. It is composed of the various sorts of stone employed in the works of the Dom, the principal feature being a column, having a statue of Gerhard van Ryle on the top, surrounded by allegorical figures holding shields charged with arms and emblems of the arts. An inscription at the back has the words:—"*Regi augustissimo protectori potentissimo, lapicidæ summi templi coloniensis hunc fontem ex saxo sculptum.* 1 *Oct.*, 1863."

Prague.—A fine old doorway has just been discovered in making some alterations at the works of Messrs. Kas, of this city. The premises were until lately those of an old church of St. Lazarus. The tympanum of this doorway is peculiarly interesting, containing in high relief a group representing the Saviour blessing Lazarus, who has just been recalled to life. Mary, the sister of Lazarus, stands at his side. The lower part of the tympanum is ornamented with foliage and figures of animals, and the details of the architraves are very peculiar. This doorway is the first originally Byzantine one as yet discovered in this city, and as such the discovery is interesting.

Kiel.—Last year, the authorities of the university in this town issued instructions to competing architects for a new university building, but it was not till lately that they awarded the prizes to the two successful competitors. They manage these things very slowly sometimes in England; but the wise men of Kiel University seem to have carried off the palm in this respect. Possibly, however, the Schleswig-Holstein War may have had something to do with the delay. All the designs, with two exceptions, were Gothic, and these two exceptions carried off the prizes, although the committee do not recommend that either design be carried out. The first premium was awarded to Mr. Karl Remé, of Hamburg; the second to Mr. Augustus Hahnemann, of Berlin.

Baden.—The bridge across the Rhine, at Constance, Grand Duchy of Baden, has lately received four statues executed by local artists. They are 9 feet high, of a reddish yellow sandstone, and represent a grand duke, a duke, and two bishops.

Paris.—A correspondent informs us of an idea seriously entertained, involving a total alteration of the southern galleries of the Tuileries. It is proposed to take down the whole of that façade, and to continue the Renaissance style peculiar to the Galerie Henri II., from the Louvre to the Pavillon de Flore. The cost of this alteration is estimated at 7½ millions of francs.——From a report of the director-general of the Imperial Museums in France, Mons. Nieuwerkerke, it appears that Paris can boast of thirteen museums, besides those of Versailles and the Luxembourg. They are devoted to ancient and modern sculpture; objects of art of the Middle Ages and the Renaissance; paintings, drawings, and engravings; as also to Egyptian, American, Celtic, Gallic, and Roman antiquities, and to navigation.

Residences of Noted Men.—The astronomer Olbers, and Heeren, the historian, were both born at the little village of Arbergen, near Bremen. The King of Hanover has just caused marble tablets, bearing suitable inscriptions, to be affixed to the outside of the houses. This is a custom which we should do well to imitate, as we have often urged. It is interesting to the general public to know where our great men were born or died, and even a rustic will point with pride to a tablet "down in the village."

GARSTON AND LIVERPOOL RAILWAY.

THE new line of railway from near Brunswick Dock, in Liverpool, to Garston, was opened for public traffic, as we before noted, on the 1st of this month. The line is only four miles in length, but in connecting the first port of the kingdom with an existing system of railways, it is of some considerable importance. By its means the Great Northern and Manchester, Sheffield, and Lincoln railways have access to Liverpool; and though the present terminus is chiefly for goods, there is a temporary passenger accommodation, the intention being to extend the line to the centre of the town by a Bill now before Parliament.

The works on the line are costly, through their multiplicity, there being no less than twenty-four bridges and four tunnels, one of which is 1,200 yards in length, through the red sandstone rock.

The warehouses at the station are lofty, and covered with iron roofing. There are nineteen cranes and eight hoists to an upper floor, for the working of the goods traffic: these are propelled by a pair of engines (forty horses): the power is conveyed by shafting through tunnels, under the station, which are well lighted with gas: some of the cranes are suspended from the ceiling of the warehouse floor, and therefore occupy no space for the jib. The three stations on the line are built by Messrs. Holme & Nichols, and each being above the line, offers accommodation for either platform by a footbridge with only one descent. Two bridges at West Dingle and Otterspool pass the railway over those charming valleys, and where the line is in cutting, the gardens of several properties have been reproduced on the top of the short tunnels constructed there.

The contractor for the line was Mr. James Holme, and for the terminal station, Mr. George Thomson. The ironwork was supplied by Messrs. Mabon, of Manchester; and the whole work has been superintended by Mr. James Bower, the resident engineer.

"JERUSALEM EXPLORED."

OXFORD ARCHITECTURAL SOCIETY.

ON Monday afternoon, during the Commemoration, the annual meeting of the Oxford Architectural and Historical Society was held in the lecture-room of the New Museum, when the Rev. George Williams, author of "The Holy City," delivered an address on the charges recently made against Signor Pierotti with reference to certain plans and drawing in his newly-published work "Jerusalem Explored," of which our readers have heard. Professor Goldwin Smith, the president of the society, occupied the chair, and, in opening the proceeding, remarked that the society having been the first in this country before whom Signor Pierotti propounded his discoveries, it was only right that they should hear him defended from the charges which had been brought against him. Mr. Williams then proceeded with his address, in which he entered very minutely into the question. He said, charges of plagiarism and inaccuracy had been laid against the author by Messrs. Fergusson, Grove, and Tipping, and long and acrimonious letters *pro* and *con* had appeared in the journals. Mr. Williams, while admitting one or two instances of fault in the author, contended for his candour and credibility in the main, and produced a number of the signor's original sketches and plans as evidence in refutation. Discussion being invited at the close of the address, the Rev. R. St. John Tyrrwhitt remarked, that all who were interested in the topography of the Holy City, or who had studied Pierotti's work, must have been highly gratified at the information which Mr. Williams had afforded them, and he mentioned that with respect to one detail with which he was acquainted—a monolith in the harem—he thought there was a strong probability, putting aside the positive evidence on the point, of Pierotti having made an original sketch, and a very good one.—The Rev. H. Estridge thought they might now confidently acquit Pierotti of any intentional deceit, as apparently the worst that could be laid to his charge was indiscretion or thoughtlessness.—The president remarked, it was really a case, if the parties thought their characters compromised, for judicial investigation, which might operate with success. It was much to be regretted that there was not some literary tribunal to which questions of this kind, particularly when they involved personal imputations, could be submitted for judicial investigation and decision. The satisfactory course in the present case would be to refer it to a competent tribunal, consisting both of literary men and of those qualified for a judicial investigation, and the points at issue could be easily decided. All that could at present be said was, that the charges had been stated and met by Mr. Williams, and so far as he could judge, excepting the case of indolence or indiscretion in making use of another person's drawings instead of his own, and the allowing his name to be placed to copies of photographs not executed by himself, a substantial answer had been given to the charges.



A PHOTO-ELECTROGRAPH.

PHOTO-ELECTROGRAPHS, OR ETCHINGS ON GLASS.

SOME of our readers will probably stare to find this burlesque sketch in our prosaic pages, but we assure them it is by no means intended as a joke. This impression, not unlike in one respect an Albert Durer engraving on pear-tree, is a successful specimen of a new process of obtaining engravings assisted by photography. There have been many similar attempts, and it will have to be seen in what the present excels. This engraving has been drawn by Mr. R. Townroe, and presented by him to the Female School of Art, to serve as a frontispiece to a burlesque* to be performed next week in the Horticultural Gardens, for the benefit of the building fund of the school. The process is as follows:—1st. A drawing is made by a stile on a glass covered with collodion specially prepared. 2nd. This drawing is printed photographically upon a prepared surface, which admits of a reproduction of the drawing in relief. 3rd. An electrotype cast is made from this reproduction, which serves as a woodcut.

The advantages claimed are, the getting the artist's own work without the intervention of the engraver: and that the cast is made more rapidly than the woodcut, and generally at less cost.

* "Mumbo Jumbo; or, The Mountains of the Moon near the Gaboon! A Nonsensical made Sensical through Notes written by me, William Shakspere, in my Tercentenarce; to be performed for ye beneficial of ye Female School of Art. London: imprinted by Misters Strangeways & Walden for all Booksellers." We take the opportunity to invite assistance to the Female School of Art.

PROVINCIAL NEWS.

Beccles.—A special meeting of the town council was lately held, when the committee appointed to provide additional public rooms presented their report. It appeared that the committee had under their consideration plans which embrace, 1st, A larger room for the public library, leaving the present library as a general reading and news room; 2nd. The appropriation of the apartment under the present library, &c., to the more especial benefit of the working classes; 3rd. The improvement of the gallery now occupied by the Working Men's Institution, adapting it for the purposes of various meetings; 4th. The converting the basement of the assembly-rooms into a kitchen; 5th. The opening an additional entrance from Newgate-street. The consideration of the subject was deferred.

Rochester.—The whole of the booms, piles, and other obstructions which have for several years past impeded the navigation of the river, consequent on the removal of the foundations and other submarine portions of old Rochester Bridge, have at length disappeared, the last of the piles having been recently cleared away. The railway company have fixed additional lights on their bridge crossing the river, to assist the barges "shooting" the bridge after dark.

Eastbourne.—The Workmen's Hall, erected here at the sole expense of Mr. W. Leaf, and presented by him to the town, has been formally opened. The building occupies a corner plot of ground in the Seaside-road, about midway between the Anchor Hotel and Ordnance-yard, presented by the Duke of Devonshire; and has a frontage of 42 feet by a depth of 150 feet. The style of the architecture is Continental Gothic, and the edifice is built of red, white, and black brick, with Bath stone windows, doors, &c. The design includes a tower, which occupies the south-east angle of the building, and through which is the principal entrance. The building affords the following accommodation, viz.,—public coffee-room, library and reading-room, serving-bar, smoking-room, kitchen and hot closet, and means of cooking for about 200 people, when required; large lecture-hall, capable of accommodating 300 persons, with gallery opening into it for orchestra; retiring-room for lecturer, and private staircase. This hall is lighted by windows at either end, and skylights in the open timber roof. The premises also afford a yard for skittle-alley, place for smoking out of doors, lavatories, &c. The architect was Mr. R. K. Blessley, of Eastbourne and London; the builder, Mr. W. H. Standing, of Eastbourne.

Portsmouth.—The report read at the annual meeting of the floating bridge company shows that, after setting aside a sufficient sum to pay their usual dividend of 6 per cent., the directors had been enabled, out of the earnings of the past year, to appropriate 1,000*l.* in reduction of their capital account. The new bridge is expected in a few weeks.

Guernsey.—The works at St. Peter Port Harbour are progressing. One of the new landing stages (the White Rock), is about being completed. When the other landing-stages shall have been erected, steam-boats will be able to land passengers at all tides. There will be four landing-stages. Signals will be hoisted in order to direct the masters of the packets to the proper ones according to the state of the tides.

Neath.—Improvements, keeping pace with the rapid strides of the population, are now going on. The Welsh Independents are about building a new chapel upon the site of the present building. Other chapels are in contemplation. Ground has been secured in the London-road for a new Wesleyan Chapel, and the English Baptists are about procuring a new building; while the new church has met with liberal subscriptions. Many houses are being built at the south side of the town.

Durham.—Messrs. Backhouse & Co., bankers, have purchased the property in the Market-place, Durham, known as the City Tavern. The property adjoins the Market-place Bank. It was purchased by auction for 1,910*l.* Workmen are demolishing Bailes-corner.

Hatherleigh.—A new set of chimes for the church clock are now being fixed in the tower, and will probably be set going by the end of this week. They are constructed to chime six changes and to play every three hours, viz., three, six, nine, twelve, for the space of three minutes. The new clock, which was fixed in the tower about three months ago, was made by Mr. Joseph Fairer, St. George-street East, London, who is now superintending the fixing of the chimes.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting, June 8th, Mr. T. J. Pettigrew, F.R.S., in the chair, Lord Boston exhibited some Stuart memorials, which had long been preserved in his lordship's family. He also exhibited an oval miniature of James Duke of Berwick, of fine execution. It is painted in water-colours, on the back of a card (the seven of diamonds).

Mr. Kell transmitted some further remarks on the site of ancient Southampton, and specially referred to a coin of Offa, the moneyer being the Archbishop JEANBRECHT, known for its great rarity. Mr. Bergue stated that there was one in the Hunterian Museum, at Glasgow, and two others (not precisely alike) in Captain Murchison's collection. Sometimes the O is represented circular, at others of a diamond shape.

Mr. Cecil Brent exhibited further leaden objects from the site of the Steel-yard,—a part of a sheath, a demi-figure of the Virgin, and the *appliqué* ornament of a relic frame, round the circular opening of which is *Ave Maria Gratia Plena*, each word being divided by an acorn. This belongs to the fourteenth century.

Mr. Taylor exhibited a fine flint spear blade, found at Norton, near Daventry. Mr. S. Wayland Kershaw sent notes in regard to a tomb in St. Patrick's Cathedral, Dublin. It has been discovered during the restorations now in progress, and being beneath the stonework of the high altar, and belonging to the first half of the thirteenth century, may probably be that of John Comyn, the first English Archbishop of Dublin, who erected the cathedral in 1191. Mr. Kershaw also exhibited four ancient deeds of the reigns of Edwards I., II., III. They related to grants of land.

Mr. Clarence Hopper read a paper "On watches and clocks," referring particularly to their introduction into England, in the reign of Henry VIII., though not generally used until the reign of Elizabeth. Mr. Hopper read extracts from various wills bequeathing watches, one of which was by Archbishop Parker to Richard, Bishop of Ely. The paper comprised also an inventory, taken from an authentic record of the watches and clocks in the possession of Queen Elizabeth. The paper will be printed.

The Rev. J. H. Pollexfen exhibited the results of a late digging at Colchester, in which was a large urn, containing a small terra-cotta one, and inclosed within were some small glass lachrymatories, and twisted rods of spirals, of blue and white glass; a perfect mirror, with a perforated margin; small bronze keys, pins, &c. Mr. Pollexfen also described a rare medallion, of glass, such as the Romans used as decorations to costly vessels, the idea of which was long retained by the Venetian craftsmen of the Middle Ages. Numerous other exhibitions were made.

The remainder of the evening was occupied in a statement made by Mr. E. Roberts regarding Mediæval discoveries at Guildhall while pulling down the upper portion for the purpose of restoring the roof. These consist of the doorways, and part of the walls of turrets, of Reigate firestone; the various building-stones which had been used by Sir Christopher Wren, on adding to the walls after the Great Fire. Among these were several arch stones, leading Mr. Charles Baily erroneously, he said, to think the hall had originally stone ribs from pillar to pillar; but Mr. Roberts had carefully examined the materials, and found that they belonged to a vaulted building. After pulling down a considerable portion of the gables, part of the original wall was uncovered, and a small portion of the coping. Portions of melted lead had run into the walls at the Fire of London. A plain gargoyle was found in the north wall. Windows had been opened, and showed a good Early Perpendicular two-light window, which had been carefully concealed, inside and without, by Roman cement, a century since. Mr. Roberts referred to the drawing of the ancient roof, as given by Smith, showing how erroneous it was in principle. The report of Mr. Roberts and Mr. Digby Wyatt to the corporation on this subject was laid on the table, but Mr. Roberts disowned any hand in the sketch bearing Mr. Wyatt's initials, as it might tend to support Mr. Smith's roof; nor did he adopt the drawing of the City architect, and expressed his fears that, if taken as the basis of contemplated restoration, the corporation would be disappointed, and the work would be far removed from a right restoration.

The Chairman announced the measures in progress for the Suffolk Congress in August; and, after congratulating the Association upon the number and value of papers and exhibitions laid before the meetings during the session, adjourned the society to November 23rd.

BRISTOL SOCIETY OF ARCHITECTS.

ON the 4th inst., the Bristol Society of Architects took their first excursion for the present year, the route being from Bristol to Clevedon. The first halt was made at Abbot's Leigh, where the society was met by the Rev. W. Annesley, the vicar. The excursionists examined the church, a short description of which was read by the honorary secretary, Mr. C. J. Phipps; and then proceeded, by invitation, to the residence of Mr. Bright, where they partook of refreshments. The next visit was to Portbury, which interesting church was examined, and elicited a long discussion, especially as regarded the curious arrangement of the chancel arch. Clapton church was next inspected. The society was met at Clapton by the Rev. H. J. Marshall, the rector. The original design of the church was commented upon and explained by Mr. E. W. Godwin. From the church the party turned their attention to the court-house, a very old and interesting building, concerning which a paper was read by Mr. Warren. The society proceeded thence to Portishead, where it was met by the rector, the Rev. C. F. Norman, who kindly conducted the members over the church, and explained various restorations that had taken place, as also the peculiarities of the chamber in the organ recess. This feature had been first noticed at Clapton, and was seen in its original form in the church of Weston-in-Gordano, next visited. After the church, the Court-house Farm at Portishead was inspected. The original design of this fourteenth century house was explained. They next started for Weston-in-Gordano church, where they were met by the Rev. R. W. Hautenville, who read a paper on the church. From this document it would appear that the church was founded by the ancient family of the Percevals, which has its descent from a branch of the Dukes of Brittany, and was settled in the county of Somerset soon after the Norman Conquest, Robert Perceval, who was styled Lord of Ivery, having attended William of Normandy in his expedition, and been soon after rewarded with the lands of Quantock and East Harptree. Before leaving, Mr. J. B. Atkinson offered some suggestions as to the mode of painting the east wall of the chancel with frescoes, as proposed by Mr. Hautenville. At Walton church, the edifice next visited, the society was met by the Rev. G. R. Begge, who afterwards conducted the party to Clevedon Court. The next and last object of interest to which the excursionists turned their attention was the old church of Saint Andrew, Clevedon, where they were met by the Rev. N. R. Pedder. The party afterwards dined together, and various speeches were made.

THE SLIDE RULE AND A CAREER.

SIR,—For many years I have been a subscriber and constant reader of the *Builder*. Its weekly perusal is a source of much gratification to me, particularly the steady and persistent course you pursue in the cause of health and cleanliness. Continue to battle against filth, the polluting of the rivers, and to encourage the necessity of sending into the houses of the poor and needy an ample supply of Nature's nectar —the waters of the crystal spring—and thousands yet unborn will have cause to bless you.

I was rather startled on reading your number of the 28th ult. On seeing the simple words, "The Slide Rule," it recalled days long gone by. In 1828, now thirty-six years ago, fond of numbers and figures, I was a self-taught surveyor, and used to be employed by the farmers of my village in measuring the harvest land, &c.

I was fully convinced of the utility of the artificer's common sliding rule in the saving of time in computing quantities, and as acting as a proof and a check to calculations once made; I therefore published a short treatise "On the Slide Rule, as applied to the Prime Rules of Arithmetic, the Admeasurement of Timber, Gauging, Land Measuring, &c." A nobleman's steward, on seeing the work, employed me to map and measure a parish, and the park of the mansion, situate in another parish. I also received flattering communications from gentlemen on the easy style in which I had written the work, having rejected all algebraic signs and characters. One of the heads of a great city ironworks' house wrote to me to give his son practical instructions in surveying, and in the end I worked myself into a first-rate practice as a land-surveyor. When the Tithe Commutation and Parochial Assessment Acts came into operation, in 1836, the Commissioners appointed to carry out the Acts determined that all first-class maps should be sealed, thereby becoming evidence, and their quantities or admeasurements indisputable in courts of law. I did many of them; and I believe the first that received the seal of the Tithe Commissioners. I think, therefore, I am fully entitled to call myself a first-class surveyor.

I have now the little book by me; and on perusing it, I do not perceive a single correction to be required, not even an erratum, and am satisfied it would be a useful school-book, and be of good service to carpenters, masons, builders, timber merchants, farmers, &c. I hope, therefore, by God's blessing, to publish another edition of the work, when I will send you a copy.

GEO. OAKLEY LUCAS.

STUCCO AND GRAINING.

"EXCELLENCE of design, skilfulness of execution, combined with the ineffable witchery of æsthetic effect, can impart a value far exceeding that of the mere money-worth of materials, which may, perhaps, be almost *nil*."

So writes "Art Lover;" and I assure him that I should be the last to dispute one word of it. But I do not exactly see the analogy. "Art Lover" seems to imagine that anything cheap must be an imitation of something costly. But I protest against this. Let the humblest among us have art in their dwellings; but let it be art applied to humble materials, without metamorphosing them into a caricature of what is higher. If beauty could not be produced without shams, then let us have shams; but as beauty has been produced, and is being produced every day, without shams of any kind whatever, I wonder how any one, to say nothing of a professed lover of art, can apologise on behalf of practices which, above everything else, tend to fetter art, and prevent it from spreading itself among all classes.

"Art Lover" then contradicts himself in a remarkable way. He commences his defence of shams, by saying that the cheap can often be the beautiful; and then gravely tells us that there are two kinds of stucco—one cheap, and one dear; and if we want our stucco to be above Brummagem quality, we must pay a large price for it. If our stucco is cheap, it is bad—"Brummagem," in fact, and we all know what that means. Stucco, to be sightly, must cost a great deal, and therefore shams—good shams—are nearly as expensive as realities. And what does stucco conceal? Brick, which a little taste would render nearly, if not quite, as beautiful as stone. I have alluded more than once to Messrs. Moses & Davis's warehouse, in Cheapside, and I would recommend "Art Lover" to go and see it, and then consider whether he would veil it in stucco. And I might mention Mediæval buildings innumerable, all over Europe, built of brick, yet of universally-acknowledged beauty. While I cordially agree with "Art Lover" in his remarks on Italian Gothic, I must say it has its beauties, and these are often shown in brick. I cannot understand why any one can wish brick to be concealed under a coating of stucco, and I can only ascribe it to their not knowing what brick really can do, their knowledge of its effect being confined to our streets in general—"long brick walls with rows of slits in them," as Canova is supposed to have said.

But I will leave stucco and go to the other sham that "Art Lover" has specially mentioned, namely, graining. I am fully aware that this requires a certain amount of skill and labour, as I have watched a man graining an entire panel in a street-door. But I will ask "Art Lover" whether this skill and labour could not be applied to some better purpose,—one that would not bear the least shadow of deception. Carving would be far preferable, but perhaps the grainer would like to keep to his brush. Then why could he not paint in geometrical patterns? Graining, at the best, is but a very sorry substitute for what it imitates; while what I recommend would be preferable in the eyes of the poor man to the most costly wood, on account of its gay appearance, and the infinite variety it could assume.

I repeat again and again that art is for all; for the rich, for the poor, for the palace, for the

cottage, for stone, for brick, for rosewood, for deal. Art is always the same, though in a different form to adapt itself to the different class, or to the different material that requires it. Look at dress. Our country people show just as much taste, perhaps much more, in their costume as our very highest classes, without imitating them at all; while, on the other hand, how absurd it is to see one of the lower rank of life aping the fashions of his or her betters. And here I will conclude, hoping I have proved to "Art Lover" that my abhorrence of shams is neither "downright hypocrisy," nor "downright stupidity."

EX STIRPE.

MORE CONCERNING SHAMS.

BY a rather funny misprint in last week's *Builder*, I was made to express my admiration of Greek *pickle* vases instead of *fictile* ones. Though annoyed at the time by a mistake likely to raise a laugh against me, I do not regret it now, because, by adopting this mode of correcting it I have a fair opportunity of returning to the subject of "shams" at once, and calling attention to an institution that ought to receive the marked reprobation of those who protest against all deceptions of the kind, it being nothing less than directly intended to encourage and patronize them. I allude to the Exhibition of Decorative and Imitative Painting at Painters' Hall, where some of the specimens have actually obtained premiums for the proficiency shown in a species of art which some folks denounce as no better than that of *lying*. Graining is surely a merely pardonable peccadillo in comparison with the heinousness of painting the tops of wooden tables with such præterpluperfect skill in mendaciousness that by the eye they are not distinguishable from inlay-work of the most costly marbles and other materials.

Why then, unless their zeal be itself no more than a cheap sham, do not those who inveigh so lustily against sham of every kind attack it boldly and determinedly in its strongholds? And why, with all their vigilance and sharp-sightedness, do they overlook, or else wink at, so much that ought to excite their indignation? Why, for instance, do they not fulminate against floor-cloth painted to imitate a patterned stone pavement with an ornamental border?

Keeping some ammunition in reserve for another occasion, I here add no more than that, though rudely executed, and all but *nil* as regards money-worth of material, many of the plaster vases and other ornaments hawked about the streets by Italian image boys, give evidence of regard to æsthetic beauty infinitely surpassing that which is either shown or aimed at in gold presentation cups, and things of that sort, whose chief merit is, that they may be put into the melting-pot without suffering other loss than that of barbarous design.

ART LOVER.

THE NEW BRADFORD EXCHANGE.

SIR,—As having had some experience in competitions, and having lately had an opportunity of testing the accuracy of Mr. Waterhouse's estimates, and believing that the Bradford Exchange committee are not altogether without a sense of justice, will you allow me to draw attention to a proposal by Mr. W. Eden Nesfield, which appeared lately in the *Bradford Observer?* viz., that a high architectural authority, say the council of the Institute of British Architects, should be called in to examine "Messrs. Lockwood & Mawson's working drawings, in order to see how far they resemble the original drawings." Mr. Waterhouse has estimated the "accepted" design at 38,000*l.*, or 11,000*l.* in excess of the sum allowed! It is scarcely necessary to point out how easy it is for any architect to cut down the cost of a competition design without any risk of the committee finding it out. The suggestion of Mr. Nesfield is, therefore, one which is eminently adapted to save the committee from any charge of injustice, or from such legal proceedings as they would of course subject themselves to in the event of their finally accepting a design which was contrary to their instructions in its most practical and important element;—a suggestion which I sincerely hope the committee will entertain even on the higher grounds of good faith and righteous dealing between man and man; whilst Messrs. Lockwood & Mawson, if they feel confidence in their statement, would, of course, not fail to encourage such a proceeding as has been pointed out, which, while it would clear them from the evident imputation which now rests upon them, at any rate in the eyes of their professional brethren, (viz., competing with a design more than 40 per cent. above the stipulated cost), would be also the only unanswerable and honourable reply which can be made to the other competitors.

I refrain from entering on the fine art question. If Mr. Ruskin fails to set the people of Bradford right, it is surely vain for me to hope, within the compass of a note, to attempt anything of the sort.

EDWARD W. GODWIN, Architect.

P.S. When the practice (which I follow) is to make all the competition drawings part of the contract drawings, of course this in itself would be sufficient guarantee.

METROPOLITAN BOARD OF WORKS.

THAMES EMBANKMENT, &c.

AT the ordinary meeting last week, a report of the Streets Committee was laid before the Board, recommending that the proposition of the Hampstead, &c. Railway Company, to limit the formation of the proposed street from Tottenham-court-road to Chandos-street, be acceded to, provided the company construct the street 60 feet wide, and widen Buckingham-street from the Strand to Duke-street to 30 feet, and undertake to pay for any land, or interest in land, on, over, or connected with their Embankment. The report was agreed to.

A proposal to invite the Prince of Wales to lay the chief stone of the Thames Embankment was withdrawn after some discussion.

A report of the Thames Embankment Committee relative to the Metropolitan District Railway was read. It stated that they have received the following offer from the Metropolitan District Railway Company, viz.,—that they should be allowed to construct their railway from the commencement of the Embankment at Westminster to Cannon-street, in the City, under the proposed Embankment and new street, upon payment to the Board of 300,000*l.*; the Board to pay all compensation involved directly or indirectly by reason of the construction of the Embankment and railway; but to be allowed to construct their low-level sewer from Cannon-street to Great Tower-street, under the intended railway, without paying any compensation to the company. The report recommended that the offer be not acceded to, and that the solicitor be instructed to take all necessary steps for sustaining the principle of the payment by the railway company to the Board of 500,000*l.* for the right of constructing their line; the railway company to pay all compensation to the City Gas Company and other parties whose property may be affected, and to defray the cost of all alterations and diversions of sewers and other works necessary; and indemnify the Board against liabilities from alteration in contracts. The recommendation was adopted.

CHURCH BUILDING NEWS.

Handsworth.—Holy Trinity Church, Birchfield, in the parish of Handsworth, has been consecrated by the Bishop of Lichfield. The church, which, owing to the strike among the workmen in the building trade, is yet incomplete, has been erected by Messrs. Briggs & Son, from the designs of Mr. Chatwin, architect; the estimated cost being 4,000*l.*, of which a considerable sum is yet deficient. The edifice consists of nave, aisles, apsidal chancel, clerestory, and vestry. It is designed to accommodate 612 persons, 300 of the sittings being free. Its extreme length is 117 feet. The nave is 84 feet long, and the chancel 33 feet. The width of the nave and aisles together is 48 feet 6 inches. The outside is of Tower Hill stone, with Bath stone dressings. The inside is of Bromsgrove stone, with Bath stone dressings to the arcade, chancel arch, and windows. There is a large west window, pierced with the usual foliations of the geometrical period of Gothic architecture. It is at present filled with plain glass, but will hereafter receive stained glass, the gift of a member of the College and other friends of the late Rev. H. J. Ramsden, curate of Handsworth. The east window is filled with stained glass, given by the Rev. W. Haughton Freer and the Rev. T. H. Freer, as a memorial of their sister, the late Miss Freer. The subject is the "Resurrection."

Hulme.—The bishop of the diocese has consecrated a new church here, dedicated to St. Michael. The church has cost 4,500*l.*, and the parsonage connected with it an additional sum of 1,060*l.*, both independently of the site. The church stands, with its parsonage, on a site in Lavender-street, about 33 yards east to west, and 43 yards north to south. The general outline of the plan of the church is a simple rectangle, from which the only projections are the north porch and the octagonal baptistery adjoining. The plan consists of a nave—the unusual breadth of which was demanded by the exigencies of the site, as well as desired by the founder,—north and south aisles, and chancel, with double chancel aisles north and south, the latter being seated for the congregation, and the former screened off for organ chamber and for vestries for the clergy and choristers. The style is Early Pointed, and an attempt has been made to work out a design specially suited to the material (chiefly brick), that has been employed. In form the tower is square and unbuttressed, and rises to the belfry stage without even a set off. The tone of its general colour is modified by bands of dark brick at intervals, and narrow windows pierce each face about the middle of its height. The west gable contains a circular window, 15 feet in diameter, consisting of nine foiled circles. Under it are three single lights. The works have been carried out by Mr. Joseph Thompson, as the general contractor, under the superintendence of the architect, Mr. J. M. Taylor, of Manchester.

Bethnal Green.—The church of St. Paul, Bethnal-green, consecrated by the Bishop of London on the 28th of May, is built upon a portion of a site purchased some years since by the London Diocesan Society, and bounded on the north by Virginia-row, and on the east by Princes-place. It consists of nave, north and south aisles, chancel, with north aisle for organ-chamber, and south aisle for singers' chamber, two porches, and vestry, with tower and slated spire at north-east angle. The style is Gothic, of the flowing Middle Pointed period, freely treated. It is built throughout of brick, with stone dressings, from the white measures of the Hollington quarries. Externally the base is formed of red bricks, finished with a blue brick band and splayed course in cement, the whole of the work above being of the best malms, relieved by bands of red and blue bricks, red and blue brick discharging arches, &c. The tower consists of four stages. The building is covered with blue and red slates in bands, and finished with ornamental ridge tiles. The church is lighted by three-light windows in the aisles, with traceried heads, a four-light and three single-light windows at the west end, two double-light windows in the singers' chamber, and a four-light window at the east end. The heads of the large windows are filled in with tracery. The four-light windows are filled with cathedral glass in two colours. The vestry has a two-light window, and the bell-chamber a two-light window and a triangular window enriched with foliations, &c. The roof is open-timbered, with curved braces, &c., to the principals, and boarded, the whole of the timber and boarding being stained and varnished. The heating apparatus is by Haden & Sons, of Trowbridge, Messrs. Hart, of London, supplying the whole of the coronas, brass standards, &c., for the lighting. The carving was done by Mr. Sansom. The whole of the works have been carried out by the contractor, Mr. Thos. Ennor, of London (Mr. Gibson, builders' foreman), under the immediate superintendence of the architect, Mr. W. Wigginton, of London.

Kempsford (*Gloucestershire*).—A new church for the hamlet of Whelford, in the parish of Kempsford, has been consecrated by the Bishop of Gloucester and Bristol. The church has been built from designs by Mr. G. E. Street. The site was the gift of the lord of the manor, Sir G. East, bart. The funds have been provided by voluntary contributions. The church consists of a nave, chancel with apsidal termination, oak porch, and vestry. The windows of the apse are filled with painted glass, and the roof polychromed.

Books Received.

Facilities of the Law for Small Investments of Real Property and Improvement of Dwellings. By THOMAS HARE. London: E. Faithfull.

AT a special meeting of the Social Science Association, held in London, on 20th April, 1864, Lord Stanley, in the chair, a paper was read by Mr. Hare, on "The facilities which the law may give for small investments in real property, and the means they would afford of improving the dwellings of the people, and the condition of the working classes." A draft bill was submitted to the meeting, and Messrs. Beal, Godwin, Hare, Roberts, and other gentlemen appointed as a committee to consider the subject. The pamphlet under notice is Mr. Hare's paper, in a printed form. His object is the very important one of leading to a legislative effort that shall enable the voluntary action of the people at large to proceed effectually in the work of supplying proper house accommodation for all classes. The conclusion he has formed is that it is only by enabling the great masses of the working population, especially those congregated in large cities, to become the owners of their dwellings,—

not necessarily in fee, but at least for interests of considerable duration,—that there is any rational hope of rendering those dwellings what they ought to be; and that the measures which would afford to the lower classes the means of such ownership, would be at the same time in the highest degree beneficial to classes who, although socially in a higher position, are still, for the most part, earning their subsistence by their labour.

Railways in China: Report upon the feasibility and most effectual Means of introducing Railway Communication into the Empire of China. With a Map. By SIR MACDONALD STEPHENSON. London: Adlard, Bartholomew-close, 1864.

THE first introduction of railways into India was brought about by Sir Macdonald Stephenson, who urged the matter at a time when Indian railways were looked upon as a very unlikely thing to be realized in our day. Important lines of railway have since then been introduced into India; and we should not wonder to see a similar result in a few years in China, which is inhabited by an industrious and active community, very different from the effeminate and indolent Hindu, and far more likely to appreciate the commercial and other advantages of railway communication. Already, as in our own country before the railway era, China is pervaded by canals; and once let the Chinese have a tasting of the still greater benefits derivable from railways, and probably they will imitate ourselves very closely in the extension of the system throughout their empire. The final suppression of the rebels would much hasten such a result.

Sir Macdonald Stephenson proposes first of all to make a short line from Canton to Fatshan, a length of fifteen miles, which could be completed in fifteen months. This line, he considers, will decide the whole question. Twenty-seven of the largest English merchants established at Shanghai have already petitioned the Imperial Commissioner and Governor of the province of Keangsoo for the concession of a line of railway from Shanghai to Soochow, a distance of sixty miles, and it appears to be confidently anticipated that this will be granted. Sir Macdonald states that the Governor of Canton, Prince Kung, and many of the Chinese people are becoming interested in the subject of railways, and abundant reasons are given for believing that, if but one short line be constructed, the Chinese people will immediately demand others.

Sir Macdonald has sketched out a comprehensive system of railways, centering at Hankow. The line extending thence eastward to Shanghai would be 650 miles long, that running south to Canton and Hong Kong 850 miles long; north to Pekin, 800 miles; and west to India, about 1,600 miles. He proposes, if it be possible, to have five lines commenced, which, although each would be complete in itself, and possess the command of a large traffic, might ultimately become links in the larger system first mentioned. The proposed short lines would be as follows:—From Pekin to Tientsin, 70 miles; Shanghai to Soochow, 60 miles; Canton to Hong Kong, 90 miles; Canton to Fatshan, 15 miles; and Canton to Sinan and Samshui, 40 miles.

There seem to be no great physical difficulties in the way of the construction of the proposed lines. They are not only direct, but lie, in nearly all cases, along the valleys of great rivers, and in fine alluvial soil, well cultivated, and capable of contributing traffic.

The low price of Chinese labour, and the industrious habits of the people, give great promise to the whole project. The Chinese are already acquainted with extensive canal works, earth works, masonry, &c., and it appears that their work is well done. Sir Macdonald states, that the value of materials and labour may be taken at the following rates, collected at various sources:—Granite (rough squared) in place, per cubic foot, 3s. 6d.; sound hard timber, 2s. per cubic foot; earthwork, 6d. per cubic yard; mat and bamboo building, suitable for temporary residences, stores, sheds, &c., 1*l.* 10s. per 1,000 cubic feet, this kind of construction being strong, dry, and impervious to rain. The wages of masons, stone-cutters, carpenters, &c., are about 1s. 6d. per day, or if by the month, 22s.; ordinary labour varying from 6d. to 1s. per day, according to locality.

The map which accompanies the report is on a large scale, showing the whole of the Chinese Empire; and it also traces out proposed junctions of the Indian railway system with the projected Chinese railways.

Transactions of the National Association for the Promotion of Social Science, Edinburgh Meeting, 1863. Edited by G. W. HASTINGS, LL.B., General Secretary of the Association. Longman & Co.

IN this goodly volume of 900 pages there are many papers of more or less importance and interest, on Jurisprudence, Education, Punishment and Reformation, Public Health, Social Economy, and Trade and International Law. In our own more especial province there are, under the head of Public Health, a paper by Miss Nightingale on the Sanitary Statistics of Native Colonial Schools and Hospitals; one by Provost Lindsay, on Leith and its Sanitary Efforts; one by the Rev. W. Graham on the sanitary state of Newhaven, near Leith; and several on the causes which modify public health, among which are one on the contamination of water by the imperfect drainage of towns and villages, by S. Macadam, M.D.; one on "How People may Live and not Die in India," by Miss Nightingale; and one on the cleansing operations of Edinburgh as compared with other large towns, by H. D. Littlejohn, M.D. There are also papers on the improvement of the public health, including one by R. Elliott, M.D., on the ventilation of human dwellings; and various minor and miscellaneous communications on the subject of the public health. The papers in the other sections are far too numerous to mention; and the whole forms a valuable body of information on the wide subject of social science.

First Annual Report (to Social Science Association) of the Coroner for the Central District of Middlesex, 1862-3. By EDWIN LANKESTER, M.D., F.R.S. London: E. Faithfull. 1864.

A VALUABLE series of reports will, no doubt, be ushered into public notice by this first of its kind. Dr. Lankester is a very competent reporter on such a subject, and his statement is both interesting and important. The population of the district in which his inquests have been held, is 805,975, whilst the inquests held have been 1,080. There has thus been held one inquest for every 746 persons in the population. The population in 1851, was 664,827, and the inquests from 1857 to 1861, inclusive, averaged 879 per annum, or one inquest to every 755 of the population. The number of inquests, therefore, have slightly increased during the year Dr. Lankester has held the office of coroner as successor to Mr. Wakley.

The crime of infanticide is six times more frequent in Paddington and St. Giles's than in Islington, and is twice as prevalent in Hampstead as in St. Marylebone, and twice as great in St. Pancras as in Islington. Suffocation from unintentionally overlaying infants occurs in a large number of cases, with first-born children. Drink occasions not a few cases of suffocation of infants.

The highest number of suicides occur in November and April, whilst December has only one more than July, August, and September. Men prefer cutting throats and hanging, women the less butcherly and savage modes of poisoning and drowning.

Out of 48 cases of burning to death, 13 only occurred in males, whilst 33, or nearly three times the number, occurred in females. Crinolines amongst women and want of wire guards to fires amongst children,—and amongst women too,—are prominent causes of death from burning.

Falls from ladders and scaffolds, &c., 60 in number, frequently occurred during intoxication, but old men are more liable to such accidents than young.

The report contains some instructive statistics in a tabular form.

VARIORUM.

"Journal of the Bath and West of England Society for the Encouragement of Agriculture, Manufactures, and Commerce. Vol. xii., part 1. London: Ridgway, 1864." This volume contains the usual number of papers on various subjects of interest to agriculturists and others, among which is a paper on Arboriculture, by F. R. De la Trehonnais, in which the method of removing large trees for the adornment of Paris is described, together with sketched illustrations of the waggon for this purpose, invented by M. Barillet Deschamps, which reminds us of a similar British invention.——"The Engineer's, Mining Surveyor's, and Contractor's Field Book. By W. Davis Haskoll (Lockwood & Co.)," consists of a series of tables with rules and notes for plotting traverse surveying, and giving difference of level, with corresponding horizontal distances in taking levels with the theodolite, and for setting out curves and slopes without calculation. It is in a handy form for the pocket.

Miscellanea.

NEW PROMENADE PIER AT LYTHAM.—Operations for the construction of a new promenade pier at Lytham have just been commenced. Mr. E. Birch, C.E., of London, is the engineer. When completed the pier will be in a line with Dicconson-terrace. It will be upwards of 900 feet in length and will extend from the promenade to within a few feet of the low-water mark. The pier will be erected on cast-iron piles, and in principle will be somewhat similar to that at Blackpool.

ROYAL ASTRONOMICAL SOCIETY.—The president of the Royal Astronomical Society, Mr. Warren De la Rue, held a *conversazione* on Saturday evening, at Willis's Rooms, which was honoured with the presence of more than 500 members of the scientific world. The collection of objects of astronomical interest brought together on this occasion was unique, and sufficed to give a *coup d'œil* of the history of instrumental astronomy. Several interesting lectures and expositions were delivered during the evening.

DEATH FROM FOUL AIR IN A CELLAR.—At the Fisherman's Tavern, Nottingham, recently, Rebecca Attenborough, maid-servant, went into the cellar for some ale: not returning, she was followed by Samuel West, who also remained. The landlord, Samuel Kirk, feeling alarmed, also descended, but returned greatly exhausted, foul air having got into the cellar. A young man, named Jennings, was then let down by ropes, but in a short time shouted to those above to hoist him up. Others also descended, but with no better success. At length three men succeeded in bringing the servant up, but every effort to save West was unavailing, as the unfortunate man, after being in the cellar upwards of an hour, was got out, but soon afterwards expired. The girl and Jennings are in a dangerous condition.

UTILIZATION OF METROPOLITAN SEWAGE.—The Select Committee of the Commons have had further meetings; and among those examined were Mr. S. H. Gael, of Lincoln's-inn, as to Acts of Parliament concerning the sewers; Mr. Alderman Mechi respecting his particular views as to liquid sewage; and Dr. Frankland as to the pollution of rivers, and the state of the Thames in particular throughout its course. He recommended the formation by the legislature of some competent authority to superintend and regulate the course of the river. The best means of utilizing the sewage, he considered, was to use it in a liquid state. Mr. G. H. Walker, of Rugby, was also examined as to the use of the Rugby sewage, of the profit of which he spoke favourably, especially as regarded green crops. He applied from 500 to 1,000 tons per acre per annum, at a cost of about 500*l.* The sewage itself cost him 50*l.* He estimated the value of grass at 28*l.* an acre.

NEW ROYAL INSURANCE OFFICE IN BRISTOL.—The workmen have now removed the barricading in front of this building, and it will, in a short time, be occupied for the business of the company. The back portion of the premises will be rebuilt, as soon as convenient arrangements can be made for the tenants. Designs for the building were submitted in competition to the directors under motto, and those of Messrs. Pope & Bindon, of that city, were chosen; and, under their superintendence, the building has been erected. The ground-floor is occupied as the offices of the company, and consists of a large general office, with board-room, private office, &c. The upper portions of the building are occupied as offices of the Bristol Docks and Railways, and the Mercantile Marine Companies. The front of the building towards Corn-street is, in its general features, Italian in design, of the Palladian type, the carvings being a free adaptation of conventional foliage of the same character. It is constructed of Bath stone, with columns of red Aberdeen granite and gray Pennant. The carvings represent the arms of the cities where the principal offices of the company are situate, and to the keys of the windows, capitals of columns, &c., the Liver has been introduced.

LMON WEIRS.—A specification of the man- of constructing a fish-pass over a weir 6 feet by 30 feet broad, to be modified according rcumstances, designed by Mr. William For-, C.E., has been adopted by the Fishery artment of the Home Office; and printed s, signed by two inspectors of fisheries, have issued by authority.

RCHÆOLOGICAL FREEMASONS.—It is reported a grand Masonic archæological meeting will place at Glastonbury, in July next. After eying the Masonic antiquities of the place, xcursion will be made to Wells, to inspect architectural beauties of the cathedral and copal Palace, the renowned workmanship of masons of old.

NOTHER EXHIBITION IN DUBLIN.—The Dublin ter Garden Company intend to celebrate the ning of their spacious building, now in course rection, in the Coburg Gardens, by an Inter- onal Exhibition, which is to commence next , and remain open for about six months. exhibition will include manufactures, raw erials, fabrics of all kinds, machinery, the arts, &c. When the exhibition has been ed the building will be opened as a perma- exhibition, somewhat upon the principle pted at Sydenham.

TREET IMPROVEMENT IN BIRMINGHAM. — The n council have, after many years' delay, now rmined on the continuation of Albert-street Dale-end. The work is estimated to cost ., but from 7,000*l.* to 10,000*l.* have already n paid in connexion with it. The new street , however, be acquired on exceedingly mode- terms. The new thoroughfare will afford ortant accommodation for the town. Land iven for the purpose by Colonel Inge, Mrs. ford, and the governors of the Free Grammar ool, on condition that the corporation proceed h the new street; and the last-named also r to assign a plot of 500 square yards of d for the purpose of widening and improving k-street, Mass House-lane, and Moor-street.

DECORATION OF ST. PAUL'S.—The windows, the igns for which we mentioned last week, are gifts respectively of the Drapers' Company l Mr. Brown. The designs have been re- ned, that the cartoons may be proceeded with. e committee are also expecting from Professor nnorr the designs for two other windows, for apse, the gifts of the Goldsmiths' Company l Dr. Rogers. Those which have been sent over l have been approved, are said to be "powerful, et, and religious in character." There is every son to expect that the first work of pictorial in the cathedral will be Mr. Alfred Stevens's ign, executed in mosaic, for one of the span- ls of the dome, of which the preliminary rk has already been prepared by Sig. Salviati, Murano: the final operation will very shortly commenced in the cathedral.

THE CANYNGES SOCIETY, BRISTOL.—The anni- sary of this Society, which has for its object restoration of the church of St. Mary Red- f, was held on the 8th instant. A sermon s preached in the church by the Rev. J. R. odford. A collection was then made, which ounted to 41*l.* 9s. 7½d. At the annual meet- , subsequently held, Mr. S. W. Lucas pre- ed. Mr. C. S. Clarke, hon. sec., read the ort, which said,—

"The annual subscriptions and other donations for the r ending 31st December, 1863, amounted to the sum 179*l.* 3s.; and for the year ending 31st December last, the sum of 142*l.* 6s. These amounts are exclusive of instalments paid on subscriptions to the 'Lucas nd.' In addition to the above amounts, the sum of l. 6s. 6d. was collected during the years 1862 and 1863 the box kept in the church, and 68*l.* 2s. 6d. from the ations of visitors. The following has been the progress the restoration since the last meeting, viz.:—The toration of the north transept, the north end of tran- t, with the buttresses from the ground to the parapet, h large north window; and the six clerestory windows d flying buttresses, parapets, pinnacles, &c., on the d and west sides, have been completed. The north- st clerestory (the portion between the north transept d the tower) has been restored with five windows, ng buttresses, parapets, pinnacles, and is completed. the interior, the masonry of the ceiling, and the pillars ween the clerestory windows, have been cleaned and tored. The six pillars in the chancel have been cleaned d restored, and a portion of the screen on the south- st side has been completed, and the stone seating at east end of the Ladye Chapel has been restored. ur committee are sorry to find that the condition of tower has become very serious, rendering it necessary st steps should immediately be taken for its preserva- n. The committee have therefore to invite contribu- ns to meet the expenses of the restoration of the wer."

hanks were voted to Mr. Lucas, to Mr. Alderman rector, to the Architect, the Honorary Secre- ry, and others.

THE CORK SCHOOL OF ART.—The result of the late examinations—being five months' work—gives a satisfactory amount of prizes and awards amongst the students of the central school, and also of the national and other schools in connexion with it. Twelve of the works executed in the Central School have been awarded medals, and six have been selected for national competition; and of those who presented themselves for examination in geometry, freehand, and model, a large number have passed successfully.

HAMMERSMITH AND CITY RAILWAY.—This new line of railway was opened for public traffic on the 13th instant. The line forms a junction with the Great Western Railway, commencing at Green-lane, about a mile from the Paddington station, passing by Notting-hill and Shepherd's-bush, terminating at the Broadway at Hammersmith. A short branch, forming a junction with the West London Railway, gives access to Kensington and the districts south of the Thames.

THE OPENING OF SOUTHWARK AND WATERLOO BRIDGES.—A report upon the Bill of Alderman Salomons in the Commons, to facilitate the traffic of the metropolis by improving the communications across the Thames, was presented last week to the court of common council. The Bill authorises the purchase of Southwark, Waterloo, and other bridges, to be opened free to the public. Alderman Salomons got an earwigging for presuming to introduce such a Bill without the authority of the common council, who authorized their committee to prepare a petition to Parliament against the Bill; the sheriffs, attended by the remembrancer, to present the petition.

THE BIRMINGHAM MEMORIAL OF THE LATE PRINCE CONSORT.—The models for the statue intended to be erected as a memorial of the late Prince Consort, in Birmingham, have been submitted by Mr. Foley, R.A., the sculptor, to the committee entrusted with the duty of superintending the work. In both instances the figure is habited in the robes of the Order of the Garter. The one least encumbered with masses of drapery was approved, and the artist was requested to proceed with the execution of his commission, which, we understand, he has promised shall have the precedence of others of the same kind which he has undertaken. The architectural canopy, as our readers are aware, is entrusted to Mr. J. H. Chamberlain. — *Midland Counties Herald.*

COTTAGE IMPROVEMENT SOCIETY.—The annual meeting of the subscribers and friends of the Central Cottage Improvement Society, has been held at the Whittington Club, Arundel-street, Strand, under the presidency of Mr. J. S. Smith. The object of this society is the collecting together, in one museum, all models, plans, books, and papers of every description bearing upon the subject of labourers' dwellings, extracting from them as much practical matter as possible, and publishing so much of the same as may from time to time appear desirable. The council announce that 2,500 sets of plans and specifications of their cottages have been circulated, and probably from 400 to 500 cottages have been erected, in which the general features of those plans have been adopted and the published estimates for them maintained.

FLOWER-SHOWS IN LONDON WINDOWS. — The subject of growing flowers in London windows was treated of last week, at the Royal Horticultural Society, when the Rev. E. Bayley, rector of St. George's, Bloomsbury, explained the plan which had been pursued in portions of his district, and the extraordinary results produced by the competition and emulation which had been excited among the poorer classes of his parishioners, residing in localities the most unfavourable to the rearing of plants and flowers. The rev. gentleman stated the results of the experiment during the last four years. His parish comprises 17,000 inhabitants, 6,000 or 7,000 of whom are steeped in poverty, and living in an exceedingly precarious manner; yet amongst these a love of flowers had been found to prevail, as some had reared plants in the dingiest of atmospheres and most unwholesome of dwellings, even resorting to broken jugs and teapots in default of garden-pots. He also gave a very cheering description of a movement in connexion with the flower-show, called the "Clean and Tidy Movement," the object of which was to induce people, however, poor, to take a pride in their dwellings, and to keep them as clean as possible.

A CEMETERY FOR ASHTON.—The Ashton-under-Lyne Town Council have resolved "That it is expedient that a public cemetery should be provided for the borough of Ashton-under-Lyne, and the general purposes committee be authorised to take all necessary measures for carrying out this resolution; and that a petition to the Queen in council be approved, and the common seal be affixed thereto."

A ROYAL BOTHY.—Previously to her departure from Balmoral last autumn, Her Majesty, feeling the want of a shelter-house from rain showers on Lochnagar, gave orders for the erection of a small dwelling, or simply a bothy, having a "but and a ben," or outer and inner apartment. The bothy is about finished, and stands a few hundred yards from the "white pole," known to Lochnagar tourists, and nearly three miles from Altnaguisac. The building is oblong, having a two-stalled stable in the same line with the royal apartments. For nearly two miles the building materials had to be carried without carts. The building is under the superintendence of Mr. Beaton, architect, of Balmoral.

THE MIDDLE LEVEL LITIGATION.—An important decision has been given in the Court of Queen's Bench. The question at issue was whether the Middle Level Commissioners were liable for the neglect of their servants in respect of the inundations in Norfolk some time ago. Mr. Justice Mellor and the Lord Chief Justice held they were not. Mr. Justice Blackburn was of a different opinion. The case, however, will be taken to the Court of Error.

VENDOR AND PURCHASER.—The suit Viscount Palmerston *v.* Turner, before the Master of the Rolls, arose out of an agreement whereby the Earl of Malmesbury, on behalf of himself and the trustees of his marriage-settlement, of whom Lord Palmerston was one, agreed to sell, and the defendant to purchase, certain lands in Hampshire. The agreement contained a stipulation that if, from any cause whatever, the purchase should not be completed on a certain day, the purchaser should pay interest from that day until the completion of the purchase. Considerable delay was caused by a defect in the vendor's title. The Master of the Rolls held that delay caused by the state of a title, provided it be not wilful, falls within the provision of "any cause whatever;" and that, therefore, in this case, interest was payable by the purchaser.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—At the last meeting, Mr. W. Page Smith delivered a lecture "On the Symbolical Character of the Architecture of the Middle Ages." Amongst the views enforced by the lecturer was one to the effect that during the period which elapsed between the Crusades and the Reformation, the Freemason art-workmen employed on the sculptural decorations of churches and collegiate establishments introduced designs derogatory, not only to the dogmas, but some of the services, of the Romish Church, as well as various others symbolical of the coming reaction. He illustrated his observations by reference to numerous examples. The discourse was followed by a discussion, in which Mr. Hurlstone, Mr. E. B. Lamb, Mr. Stewart, Mr. Herand, and others took part.

THE BUNHILL-FIELDS BURIAL-GROUND.—At a recent meeting of the Court of Common Council a memorial, signed by Mr. Remington Mills, M.P., Mr. Samuel Morley, and many more, was presented, praying the court to take steps to secure the preservation in its present condition of Bunhill-fields burial-ground. The memorialists stated that they were informed that the leases under which the corporation of London had held the Finsbury prebendal estate for more than 300 years, will finally run out at Christmas, 1867, and that the estate will then pass into the hands of the Ecclesiastical Commissioners. Of that estate the burial-ground formed part, and they prayed the court to make such arrangements before the expiration of the lease as might prevent the perversion of the ground to common uses. The ground, they said, was set apart as a place of interment by the corporation 200 years ago; and down to 1852, when it was closed as a place of sepulture, more than 120,000 corpses had been interred in it. "In this burying-ground," they observe, "are interred men whose memory and writings are among the most precious of our national heirlooms." The court passed a unanimous resolution referring the memorial to the City Lands Committee for them to consider what steps should be taken for preserving the burial-ground in its present state.

REMARKABLE ESCAPE.—A CAUTION. Mr. Taylor, jun., architect, of Whitehall, was on Saturday inspecting the works of the Blackfriars Station of the London, Chatham, and Dover Railway, and ascended the scaffold to the south pier by a ladder, to a height of upwards of 40 feet. When descending, some empty railway carriages ran into the scaffolding, shattering it and the lower part of the ladder upon which Mr. Taylor was, leaving him clinging for life to the broken ladder, suspended aloft amid the falling parts of the scaffold, till he was rescued by the workmen who descended to him.

GAS.—At the tenth annual meeting of the East Grinstead Gas Company a dividend of ten per cent. was declared. Although the price of gas was reduced last year from 7s. 6d. to 6s. 3d. per 1,000 cubic feet, still the amount from private consumers rose to within 50*l.* of the previous year; and in consequence of the increase of business it has become necessary to enlarge the works. The cost, estimated at 200*l.*, will be paid from the reserved fund, and still leave about 100*l.* for future emergencies.——The Harwich Gas Company have declared a dividend of 6 per cent. for the past year, and the shareholders have determined to increase their capital 2,000*l.*, in order to carry out the extension of their works, rendered necessary by the increase of their trade.——The Burslem and Tunstall Gas Company have declared dividends of 10 per cent. on original shares, and 7½ per cent. on new, for the past year, free of income-tax; and have reduced the price of their gas by a scheme of discounts, and speak of a farther reduction in price.——The town of Machynlleth has been lighted with gas. The price is to be 7s. 6d. per 1,000 cubic feet.

TENDERS.

For erecting two shops and two cottages in Halls Ville-street, Plaistow Marsh, for Messrs. W. & C. Tipple. Messrs. Williamson & Loudon, architects :—

Wood	£1,410 0 0
Rivett	1,383 0 0
Cordery	1,173 0 0
Fisher	999 0 0
Lewis	960 0 0
Pearson (accepted)	950 0 0

For New Bank, Dover. Mr. Rowland Rees, jun., architect. Quantities supplied :—

Richardson	£2,669 0 0
Stiff & Co.	2,639 0 0
Ayers & Son	2,381 0 0
Matthews (accepted)	2,334 10 0

For two semi-detached residences with boundary walls, &c., at Malvern Link, Worcestershire. Mr. E. C. Alflatt, architect :—

Nott	£730 0 0
Warner	700 0 0
Hughes	630 0 0
Garbutt	548 15 0
Allen (accepted)	535 0 0

For additions to Old Park, near Ventnor, Isle of Wight, the residence of Lieut.-General Sir John Cheape, K.C.B. Mr. Augustus F. Livesay, architect. Quantities supplied :—

Palmer	£2,999 13 10
Spary	2,995 0 0
Newnham (accepted)	2,650 0 0

For residence, Waterloo-road. Mr. Geo. Bidlake, architect (exclusive of foundations) :—

Whiston	£1,100 0 0
Bowater	872 16 2
Heveningham	862 12 0

For japanning works and factory, Wolverhampton, Mr. Geo. Bidlake, architect :—

Trow	£2,841 17 0
Heveningham	2,640 15 0
Whiston	2,580 0 0

For the enlargement and restoration of Kenilworth Church, Warwickshire. Mr. William Smith, architect :—

Hall	£4,140 0 0
Howes	3,240 0 0
Law	3,053 0 0
Marriott	3,030 0 0

For school-room, class-rooms, residence, and industrial offices, Clarence street, Richmond, Surrey. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker :—

Woods, Bros.	£2,440 0 0
Browne & Robinson	2,196 0 0
Turner & Sons	2,169 0 0
Gascoyne	2,150 0 0
Child & Son	2,148 0 0
Vale	2,137 0 0
Wheeler	2,118 0 0
Sims	1,982 0 0

For the enlargement of Hoddesdon Church, Herts. Mr. Joseph Clarke, architect :—

Browne & Robinson	£3,440 0 0
Hill & Sons	3,415 0 0
Rider	3,390 0 0
Condor	3,326 0 0
Sharpington & Cole	3,197 0 0
Carter & Son	3,173 0 0
Dove, Brothers	3,125 0 0
Marsland & Son	3,055 0 0
Hunt	2,995 0 0

For central buildings and west wing of the Midland Counties Proprietary School. Mr. Geo. Bidlake, architect :—

Barnsley	£8,795 0 0
Higham	8,274 0 0
Cockerill	8,050 0 0
Trow	7,527 0 0

For the restoration of the parish church and chancel of St. Chad, Rochdale. Mr. Joseph Clarke, architect :—

	Church.	Chancel.
Ellis & Hinchliffe	£2,806 0 0	£605 0 0
Peters	2,320 0 0	566 0 0
Seedell	2,260 0 0	515 0 0
Parker	2,148 0 0	772 0 0

Alterations to 24 and 25, Oxford-street. Mr. Silvester C. Capes, architect :—

Scrivener & White	£317 0 0
Saunders	278 0 0

New north aisle and new roof to nave of North Kilworth Church, Leicestershire. Mr. Joseph Clarke, architect :—

Law (accepted)	£1,021 19 8

For St. Matthew's Schools, Bedford New Town, N.W. Mr. Silvester C. Capes, architect. Quantities supplied by Messrs. Landsdown :—

Manley & Rogers	£2,861 0 0
Browne & Robinson	2,860 0 0
Brass	2,800 0 0
Dove, Brothers	2,765 0 0
Patrick & Son	2,750 0 0
Mansbridge	2,745 0 0
Patman & Fotheringham	2,690 0 0
Carter & Sons	2,650 0 0
Scrivener & White (accepted)	2,548 0 0

Additions to Bamford Hall, Rochdale. Mr. Joseph Clarke, architect :—

Ellis & Hinchliffe	£2,012 6 0
Diggles, Brothers	1,750 0 0
Lench	1,735 0 0
Parker	1,725 0 0
Ledger	1,695 0 0

For new National Church Schools and residences for master and mistress, at Uxbridge. Mr. Robert W. Edis, architect :—

	Allowed for Old Materials.
Shoppee & Son	£1,108 0 0 ..... £75 0 0
Fassnidge & Son (accepted)	£1,071 0 0 ..... 90 0 0

For additions to No. 22, Highbury-crescent, for Mr. H. Spicer. Mr. Wm. Smith, architect :—

Killby (accepted)	£844 0 0

For St. John's Hospice, Triangle, Hackney :—

Skinner	£360 0 0
Robinson	362 0 0

For restoration of Howe Church, Norfolk. Mr. R. M. Phipson, architect :—

Burrell	£728 12 0
Cornish	644 6 6
Wordingham & Spinks (accepted)	611 0 0

For a new oak roof to the chancel of Redenhall Church, Norfolk. Mr. R. M. Phipson, architect :—

Godbolt (accepted)	£200 0 0

For village school, Mulbarton, Norfolk. Mr. R. M. Phipson, architect :—

Lacey	£240 0 0
Youngs	223 0 0
Worman	218 0 0
Browne & Bantram	210 0 0
Hall	208 10 0
Plummer & Bloom (accepted)	203 18 0

For building a rectory for the parish of Swanton Abbot, Norfolk. Mr. R. M. Phipson, architect :—

Cornish (accepted)	£1,090 0 0

For building a rectory for the parish of Beeston St. Lawrence, Norfolk. Bricks found by rector. Mr. R. M. Phipson, architect :—

Worman	£1,398 0 0
Poyson	1,250 0 0
Baldwin & Bunell	1,125 0 0
Cornish (accepted)	1,105 5 6

For re-pewing and re-decorating chapel, St. Thomas's-square, Hackney. Mr. Edward Sharman, architect :—

Henshaw (accepted)	£612 0 0

For erecting a villa residence at Harrow, for Mr. John Carter. Mr. John M. Bryson, architect :—

Hall	£1,564 0 0
Sykes	1,485 0 0
Smith	1,445 0 0
Cardwell	1,347 0 0

For building a new farmhouse and homestead on the Tring Park Estate, Longmarstone, in the parish of Tring, Herts. Mr. A. T. Parkes, surveyor :—

Holland & Senior	£2,395 0 0
Stevenson	2,262 0 0
Andrews	1,945 0 0
G. & J. Honour (accepted)	1,909 0 0

For alterations, &c. to house, Newman-street, Oxford. Mr. H. H. Collins, architect :—

Cohen (accepted)	£282 0 0

For villa residence, Berkhampstead, for Capt. Hardy. Mr. H. H. Collins, architect :—

Long	£3,979 0 0
Stevenson	3,694 0 0
King	3,685 0 0
Cushing	3,650 0 0
Simons & Martin	3,630 0 0
Mann	3,623 0 0
Saunders	3,602 0 0
Harris	3,490 0 0
Patman & Co.	3,418 0 0
Sharpington & Cole	3,330 0 0
Ward & Co.	3,219 0 0

For Jews' Synagogue, Southampton. Mr. Collins, architect. Quantities supplied :—

Futcher	£1,287 0 0
Bull	1,226 0 0
Stevens	1,220 0 0
Cohen	1,220 0 0
Martin	1,112 0 0
Bailey	1,040 0 0

TO CORRESPONDENTS.

Vegetation on Cement.—A Northampton correspondent w know what it will be best to use in destroying vegetation on An acid or alkaline wash would no doubt destroy the vege but some other correspondent may be able to say what he ha best adapted to effect the object in view

J. B.—H. de M.—Hope (such appointments are obtained wi only. Better not to quit the department hastily).—*μ.*—I W. S.—J. G. L.—W. F. Spectator.—J. F.—R. W.—J. D.—S. J. B.—A. P.—N. A.—J. M. B.

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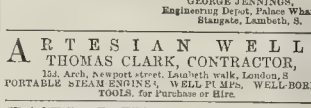
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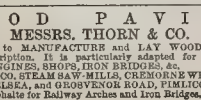
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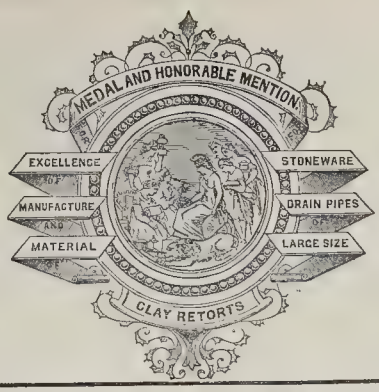
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17, LOWER GARDENER ST.



CLARK'S PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE PROOF.
Branch Establishments :—
PARIS,
42, RUE NOTRE DAME DES VICTOIRES;
BRUSSELS,
RUE DE L'ECUYER;
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51, HUNTER STREET.

HEAD OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON
WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete fro 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

JAMES STIFF & SONS,

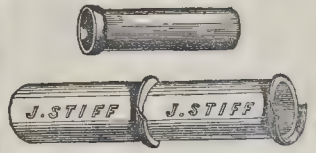
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





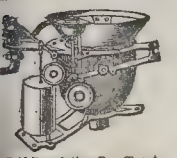
PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers sole of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

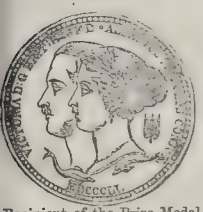
Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

1851.



TERRA-COTTA WORKS,

BLACKFRIARS ROAD,
LONDON, S.

MARKH. BLANCHARD & CO.
Successors to COADES.

1862.



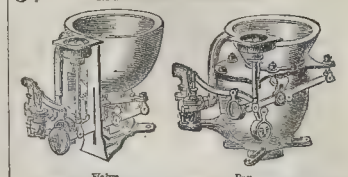
Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

A beautiful variety of Statues, Statuettes, Vases, Tazzæ, Fountains, Flower Pots, Balustrade Terminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MEMO.—The whole of the TERRA-COTTA EMBELLISHMENTS to the NEW BUILDINGS, SOUTH KENSINGTON MUSEUM, CHARING-CROSS, and LANGHAM HOTELS, are being executed by us.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

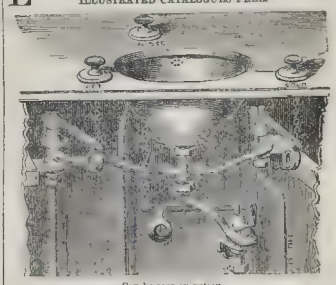
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. ANY number can be worked by one supply pipe. No extern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues and application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH
APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.



Can be seen in action.
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WARWICK LANE, NEWGATE STREET, LONDON.



J. TYLOR & SONS' IMPROVED HYDRANT.

Catalogues free on application to the Manufacturers,
J. TYLOR & SONS,
WARWICK LANE, NEWGATE ST., LONDON.

PAN CLOSET,
and HYDRAULIC REGULATOR.

COMPLETE, 1*l.* 18*s.*



Dispensing with Cranks, Wires, Ball, Lever, Service box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.
A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12*s.* 6*d.*

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

CARRARA WHARF, GROSVENOR ROAD, THAMES BANK, PIMLICO.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JUNE 22, at ELEVEN for TWELVE, a large Assortment of MARBLE BLOCKS, of recent importation, including statuary of fine quality for sculpture, w th first and second class statuary, vein, and Sicilian, and a variety of coloured marbles for manufacturing purposes. Also several thousand feet of Sicilian, vein, statuary, and coloured slabs, garden vases, figures, &c. Approved bills at four and six months. May be viewed two days prior to the sale, and catalogues had at Carrara Wharf; and of PULLEN, HORNE, & EVERSFIELD, 39, Fore-street, City, and 40, Parliament-street, Westminster.

PUDDING-LANE.—Building Materials of three Houses.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JUNE 29, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of three Houses, Nos. 24, 25, and 26, Pudding-lane, Lower Thames street, of the usual description.—May be viewed the day previous. Catalogues had of W. B. TOWSE, Esq., Fishmongers' Hall; of RICHARD BUTER, Esq., Architect, 28, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 39, Fore-street, E.C. and 40, Parliament-street, S.W.

GREAT WESTERN RAILWAY.—Annual Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Great Western Railway Company, to SELL by AUCTION, at the GOODS STATION, Paddington on TUESDAY, JULY 5th, at TEN for ELEVEN, the UNCLAIMED PROPERTY in the Passengers' Department, comprising the usual assortment of wearing apparel, umbrellas, bags, railway rugs, and numerous other effects. Also a quantity of miscellaneous property in the Goods and Parcels Department; and a 20-horse power steam-engine, left over from the former Sale. May be viewed the day previous, with Catalogues only, which may be had at 6d each, of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 39, Fore-street, City.

ESHER, SURREY.—A beautifully timbered Freehold Estate of 165 acres, charmingly situate, adjoining Claremont, and STIPOLA, Paddington on TUESDAY, JULY 5th, at TEN for ELEVEN, the UNCLAIMED PROPERTY in the Passengers' Department, comprising the usual assortment of wearing apparel, umbrellas, bags, railway rugs, and numerous other effects. Also a quantity of miscellaneous property in the Goods and Parcels Department; and a 20-horse power steam-engine, left over from the former Sale. May be viewed the day previous, with Catalogues only, which may be had at 6d each, of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 39, Fore-street, City.

MESSRS. DEBENHAM & TEWSON have received instructions to SELL, at the MART, on THURSDAY, JUNE 30th, at TWELVE, in three lots (unless previously disposed of as a whole by Private Contract), the valuable Freehold and nearly Tithe free ESTATE, known as Fairmile, situate in the most healthy parish of Cobham, Surrey, adjoining Claremont Park, the noble seat of H.M. the King of the Belgians, and about three miles from the Esher Station. The land is high, is belted and studded with a choice variety of well-grown and really handsome timber, the surface is nicely undulating, and it commands from several points beautiful and extensive views over the richly-wooded country round Claremont, Leatherhead, and Weybridge. It has a considerable frontage to an excellent road, the air is as pure and bracing as any in the kingdom, and there is fine spring water. An estate possessing greater natural advantages for the formation of a gentleman's park it would be difficult to find within a like distance of London, or it could be advantageously divided into plots for villa residences, the numerous attractions of the locality causing the demand for houses of a good class to exceed greatly the supply.—May be viewed by cards, to be had of the Auctioneers; and particulars, with conditions of sale, obtained of R. HALL, Esq., Solicitor, No. 49, Coleman street; and of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

BRULAH HILL, NORWOOD. Twenty four Acres of valuable Freehold Building Land, within about a mile of the Norwood Junction, Crystal Palace, and Lower Norwood Stations, and about five minutes' walk from the Dartmouth Heath Station, affording access to London Bridge, Victoria, and Charing Cross, at frequent periods throughout the day.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE HOUSE, near Guildhall, on WEDNESDAY, JULY 6, at ONE punctually, in one lot, 21a. 1r. 7p. of very valuable and nearly all FREEHOLD BUILDING LAND, situate on the western slope of Brulah Hill about three minutes' walk from the church. The land possesses considerable frontage to the Grange-road and Osborne-road. It commands extensive and beautiful views, is surrounded by a rapidly increasing neighbourhood, and offers eligible sites for villas or cottage residences. The whole is Freehold with the exception of 1a. or 2p. which is Copyhold of the Manor of Croydon.—Particulars of Messrs. THOMAS & HOLLAMS, Solicitors, Commercial Sale Rooms, Mincing-lane; and of the Auctioneers, 80, Cheapside.

SYDENHAM AND FOREST HILL.—Valuable Plots of Freehold Building Land, between the Catford Bridge and Forest-hill Stations, offering capital sites for private residences and shops.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEEHOUSE, opposite the Guildhall, on WEDNESDAY, JULY 6, at ONE punctually, in ten lots, several plots of FREEHOLD BUILDING LAND (land tax redeemed), situate within a few hundred yards of the Catford-bridge Station, fronting the main road from Catford bridge to Lower Sydenham, including a very eligible piece of la. 2r. 20p. adjoining the residence of R. Brooks, esq., having a frontage of 257 feet; a valuable corner plot for a public house, and other capital sites for shops and private residences. Also several plots, situate in Canterbury and Winchester roads, Stanstead-lane, offering eligible sites for villas.—Particulars of Messrs. DE JERSEY & MICKLEM, Solicitors, 15a, Gresham street; and of the Auctioneers, 80, Cheapside.

IMPORTANT CITY PREEHOLD, comprising the Spread Eagle Hotel, Gracechurch-street, with extensive Premises and Yard, containing an area of 6,400 square feet, well adapted for advantageous rebuilding.

CHINNOCK, GALSWORTHY, & CHINNOCK are instructed to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, near the Bank of England, on THURSDAY, JULY 14, at TWELVE (unless previously disposed of by private contract), a valuable FREEHOLD PROPERTY, situate in the very heart of the City, where all the commercial interests of the Kingdom are now being centered: comprising the principal portion of that well-known establishment the Spread Eagle, Gracechurch street, with extensive premises and yard, having a back entrance to Lombard-lane Market; the whole containing an area of nearly 6,400 square feet, and forming one of the most important building sites to be found in the City, its advantageous position rendering it admirably adapted for rebuilding as offices, where only a very large rental may be created, thus offering a desirable opportunity for the investment of capital.—Part of the purchase may be allowed on. LUCAS, Esq., Solicitor, 30, Fenchurch-street; of Messrs WALES & SPARKS, Surveyors, 6, Great St. Helen's, E.C.; at the Mart; and of Messrs CHINNOCK, & CO. Land Agents and Surveyors, 11, Waterloo-place, Pall-mall.

UNDER A BILL OF SALE, WESTMINSTER.—PAPER-HANGINGS.

MR. KEMP will SELL by AUCTION, on TUESDAY, 21st JUNE, at the Prince of Orange Artillery-row, Westminster, at ONE, without reserve, 17,000 pieces of PAPER-HANGINGS, WHITELEAD, MARBLES, GRANITES, and Effects.—Catalogues at the Offices, 62, Coleman-street, Bank.

FREEHOLD BUILDING LAND, Battersea, Surrey, close to the New Park, and only 2½ miles from Hyde Park Corner.

GEO. TODD will SELL by AUCTION, on WEDNESDAY, 6th JULY, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, at TWELVE for ONE o'clock, the Plots of FREEHOLD BUILDING LAND, suitable for the erection of villa and cottage property, and well adapted for the creation of a considerable income in freehold ground rents, including a valuable plot at the corner of Park-road and Elche street, admirably adapted for the erection of a first-class tavern.—Particulars, with plan, may be had of Messrs. H. & F. LIEBSTER, Solicitors, 1, Church-row, Newington Butts, S.; and at the Auctioneer's Offices, Battersea Bridge-road, Battersea Park, S.W.

CANADIAN MANUFACTURES from the Paris Exhibition of 1855, and the International Exhibition of 1862, and now exhibited at the Crystal Palace, Sydenham

MESSRS. FULLER & HORSEY are instructed by the Directors of the Crystal Palace Company, on behalf of the Canadian Government, to SELL by AUCTION, on WEDNESDAY, JUNE 22, 1864, at TWELVE o'clock, in the WEST GALLERY of the Crystal Palace, the COLLECTION of MANUFACTURES exhibited by Canada in the Paris Exhibition of 1855, and since removed to the Crystal Palace, at Sydenham: comprising a carved drawing-room suite, in walnut, of centre and card tables, couch, six chairs, easy and cane ditto, and five-screens, a handsomely-carved 6-feet walnut sideboard, a 7-octave square grand pianoforte, by Hood, Montreal, in rosewood case; a planing, tongueing, and grooving machine, to take in plank 14 inches wide; boring and moulding machines, a patent thrashing machine, reaping ditto, a flour-mill, a weighing machine, capable to 2,000 lb.; a fire-engine, with 5-inch barrels, suction and branch; portable forge and bellows, pair of circular bellows, steel edge-tools, agricultural implements, a large signal-lamp with reflector, a refrigerator, a canoe, wooden phaëton, trotting match cart, a wheelbarrow sledge for five persons and driver, quantity of models, including the Victoria-bridge over the river Saint Lawrence, the House of Representatives and part of the Harbour of Montreal, mahogany 4-feet pillar centre, right and horizontal shew cases, saddlery and harness, axle arms, boots and shoes, sables, and furs, 2 bear-skin rugs, woollen fabrics, birch keels, specimens of lumber, floor, staghne, glue, deal pine and boxwood and wood casks, specimens of sashes and doors, large timber planks, an ash bull 12 feet 8 inches by 4 feet 9 inches in diameter, a bass ditto, 12 feet by 4 feet 9 inches in diameter, a walnut ditto, 10 feet 4 inches by 3 feet 5 inches in diameter, specimens of marble, granite, minerals, and ores, 5,000 pamphlets on Canada, a quantity of packing-cases, and a variety of other effects.—May be viewed the day preceding, when Catalogues may be had at the Place of Sale; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

RAILWAY CONTRACTORS' PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, JULY 6, 1864, and following days, at ELEVEN for TWELVE o'clock precisely, on ground's lent on the Railway Station at Hungerford and Devizes, CONTRACTORS' PLANT and IMPLEMENTS used in the Construction of the Berks and Hants Railway, including 190 capital earth wagons, side and end tip, for ten tons contractors' rails, 5,000 sleepers, 100 navvy-barrows, 600 wheeling-planks, 250 loads sound fir timber, 30 loads ash and elm, 5 dobbin-carts, 6 tumbril-carts, 1 timber carriage, 1 light cart, dog cart, phaëton, harness, 100 large wood centres, 500 transoms, battens, 3 tons new bar and cold rod iron, 10 ton scrap iron, weighing machine, scales and weights, stocks and dies, smiths' tools, screw jack, leather bands, 12 circular saws, office furniture, iron safe, new wire lines, 5 tarpaulings, pug-mill, the erection of stabling and workshops, portable office, new wagon-wheels and axles, 2 trollies, quantity of stone, 1,000 yards gravel, 4 water-tanks, 2-horse-power chaff cutting machines, 1-hand-power ditto, quantity of fire-wood, and numerous other effects.—To be viewed on Tuesday previous and mornings of Sale, when catalogues may be had on the Works, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

WILTS.—Residence, with 18 acres of Land, Valuable Freestone Quarry, and Extensive Buildings, at Rudloe Firs, in the Parish of Corsham, two miles from the Box and Corsham Stations on the Great Western Railway.

MESSRS. DARLEY & SONS will offer for SALE by AUCTION, at the ANGEL HOTEL, CHIPPENHAM, on FRIDAY, the 24th day of JUNE, 1864, at FOUR o'clock in the afternoon (unless previously disposed of by private contract), a commodious Residence, with large garden, situate at Rudloe, in the Parish of Corsham, near the Great Western Railway, and a valuable Freestone Quarry, with masons' and smiths' shops, sheds, stables, and every convenience for working the valuable stone which underlies the estate. Also two closes of very fertile Arable Land, containing 14a. 3r. 4p. with large yard, stables, barn, and other buildings. These lands are free of great tithes, and held by grant for 1,000 years, from the Bishop of Salisbury, at a peppercorn rent, and are Copyhold of Inheritance of the Manor of Corsham. The above property forms a most desirable investment for a capitalist wishing to embark in the freestone trade, the increasing demand for Box stone being greater than the supply.—Particulars may be obtained of the Auctioneers, and of Mr. T. ABDY FELLOWES, Solicitor, Chippenham.

TO TIMBER MERCHANTS, CABINET AND PIANOFORTE MAKERS, BUILDERS, CARPENTERS, AND OTHERS.

The well-seasoned STOCK of a Timber Merchant, the Lower part removed for convenience of sale, and will be sold under circumstances that preclude the slightest hesitation.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, on the PREMISES, No. 28, Worship-street, Finsbury, on TUESDAY, JUNE 21st, 1864, at ELEVEN for TWELVE o'clock, the above, comprising 340 feet Spanish and Honduras Mahogany, in boards, logs, and planks, including some very fine rowle and mottle Veneer Pitches and Table Logs; 10,000 feet prime dry Birch, 150,000 feet fine fig'red Spanish Mahogany, Rosewood, Walnut, Maple, and Ebony Veneers; 1,000 Pianoforte Desks, Turned Table Legs, Saws, Rollers, Timber Trestles, &c.—May be viewed the day prior to and morning of sale. Catalogues may be had on the Premises; and of the Auctioneers, Spital-square, Bishopsgate, and Holywell-row, Finsbury.

IN BANKRUPTCY.—To Wholesale and Retail Ironmongers, Builders, and others.

MR. PEAKE is ordered by the Assignees of Mr. Thomas Caston, Bankrupt, to SELL by AUCTION, in Lots, on the PREMISES, No. 6, Bridge house place, Southwark, on TUESDAY, JUNE 21, and WEDNESDAY, 22nd, 1864, at TWELVE o'clock, a very valuable and well-arranged STOCK of GENERAL IRONMONGERY: comprising every description of stock necessary for prosecuting the above business; also the Shop Fixtures and Fittings, comprising excellent counters, drawers, cash-desks, &c. & c.—The stock must be cleared out on THURSDAY, the 23rd day of JUNE.—May be viewed the day previous and morning of sale, and catalogues obtained of GEORGE GRAHAM, Esq., Official Assignee, No. 25, Coleman-street; of THOS. KEENE, Esq. Solicitor, 77, Lower Thames-street; and at Mr. PEAKE'S Auction Offices, 44, Tooley street, Southwark, S.E.

VALUABLE FREEHOLD ESTATE, situate at TUNBRIDGE WELLS.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on TUESDAY, JUNE 28, at TWELVE o'clock, in seven lots, valuable and important FREEHOLD PROPERTY, beautifully situate at Tunbridge Wells, viz.:—

Lot 1.—ROMANOFF HOUSE, immediately opposite the common, adapted for a first-class family residence, which purpose it has been used for many years; or for a spacious family residence, having every accommodation for a numerous family, and capable of producing when furnished a large rental during the season, with capital garden, having a separate access in the rear, which might be appropriated with great advantage to building purposes.

Lot 2.—ROSE-HILL HOUSE, adjoining lot 1, having a very considerable frontage to the high road. It is approached by a carriage drive, and contains numerous bed and dressing rooms, drawing-room, sitting-room, large dining room, complete domestic offices, lawn and pleasure grounds. This residence is equally adapted for a large family desirous of residing in the beautiful neighbourhood of Tunbridge Wells; or it might let the same as Lot 1, when furnished at a very large rental during the season, with great accommodation being especially wanted for that purpose. There is also space for building another residence if required.

Lot 3.—ROMANOFF LODGE, a detached residence, most beautifully situate at Tunbridge Wells, near to Lots 1 and 2, placed on an eminence in the centre of the Common, commanding on all sides most lovely, extensive, and beautiful views. It is equally adapted for a large family desirous of residing in the beautiful neighbourhood of Tunbridge Wells; or it might let the same as Lot 1, when furnished at a very large rental during the season, with great accommodation being especially wanted for that purpose. There is also space for building another residence if required.

Lot 3.—ROMANOFF LODGE, a detached residence, most beautifully situate at Tunbridge Wells, near to Lots 1 and 2, placed on an eminence in the centre of the Common, commanding on all sides most lovely, extensive, and beautiful views. It is equally adapted for a large family desirous of residing in the beautiful neighbourhood. Contains seven bed and dressing rooms, drawing-room, dining room, breakfast room, and detached offices; in the occupation of W. Harriman, esq. on lease, at a rent of 16l per annum.

Lots 4, 5, 6, and 7.—FOUR RESIDENCES, pleasantly situate, Nos. 1, 2, 3, and 4, Bank Terrace, facing the Common, each contain seven bed and dressing rooms, drawing room, dining-room, and domestic offices; in the occupation of highly respectable tenants, at rents amounting together to about 60l per annum.

May be viewed by cards only.—Particulars had at the Calverley Hotel, Tunbridge Wells: Rose and Crown, Tunbridge; Ship, Brighton, of Messrs. ALLEYNE & WALKER, Solicitors, Tunbridge Wells; of Mr. R. JULL, Surveyor and Estate Agent, Tunbridge Wells; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, London.

The TILLINGTON ESTATE, a valuable Freehold and Copyh Property, with Residence, Pleasure grounds, Land, and Buildings, the whole containing about 120 acres, and immediate contiguous to Petworth Park.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on TUESDAY, JUNE 28th, at TWELVE o'clock in Lots, the TILLINGTON ESTATE, a valuable Freehold and Copyh Property, situate at Tillington, in the county of Sussex, within short distance of the Petworth Station, on the London, Brighton, South Coast Railway, and on the high road from Midhurst to Petworth, and immediately contiguous to and overlooking Petworth House and Park, the residence and property of Lord Leconfield, the whole containing nearly 120 acres.

Lot 1.—TILLINGTON HOUSE, a valuable Freehold Estate, situate in the beautiful village of Tillington, and comprising a very comfortable residence, containing eight bed and dressing rooms, drawing-room, dressed in the Elizabethan style, with window opening to a balcony with verandah, commanding most extensive and beautiful views of the south downs and the richly surrounding country; library, dining-room, and detached offices; outbuildings, consisting of large barn, coach-house with granary over, cart-horse stable, three-stall stable, cattle and piggeries, and beautiful pleasure grounds, beautifully laid out, commanding also the most lovely and extensive views, small paddock, kitchen garden, and three orchards, plantation, and several enclosures of arable land, the whole containing 31a. 1r. 39p. in hand. A considerable portion of the land might be appropriated to building purposes, leaving sufficient quantity for occupation with the residence, gardens, and grounds

Lot 2.—COCKSLANDS, a most enjoyable small pleasure-farm, situate near to Lot 1, and comprising an old Elizabethan farmhouse, good farm-buildings, a detached homestead, and several inclosures of first-rate arable land, lying well together; also a detached orchard and a piece of pasture land in upper meadow, the whole containing 76a. 0r. 29p. in hand. Upon this beautiful little pleasure-farm is several sites adapted for a residence. About 34 acres are copyhold of the honour and manor of Petworth, the remainder is freehold.

Lot 3.—A FREEHOLD COTTAGE, beautifully situate on rising ground, on the high road from Petworth to Midhurst, with stable, and a piece of meadow and arable land in the rear, containing together 1la 2r 28p. in the occupation of Mr. Barrett, at a rental of 20l per annum. This lot is beautifully adapted for the erection of a gentleman's residence.

Lot 4.—A FREEHOLD inclosure of Arable Land, situate at the corner of the road from Midhurst to Petworth, close to the village of Tillington, opposite the Church, admirably adapted for building purposes, and containing 7a. 0r 2p.

Lot 5. FOUR FREEHOLD COTTAGES, with buildings and good gardens, situate in the Church, admirably adapted for building purposes, and containing 7a. 0r 2p.

Lot 6.—A PIECE of Freehold Meadow Land, in upper meadow containing 3r. 1p.

May be viewed, and particulars had at the Swan, Petworth; of Messrs. BAILEY, SHAW, SMITH, & BAILEY, Solicitors, 5, Bernerstreet, Oxford-street; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange

HORNSEY, near Crouch end, Middlesex.—Very valuable and beautiful Freehold Building Estate, laid out with the greatest taste and judgment, planted with rare conifers, evergreens, and flowering shrubs, and presenting attractive sites for the erection of villa residences, so much in request in this delightful neighbourhood.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the executors of the late J. T. Barry, esq. to offer for SALE at the GUILDHALL COFFEE HOUSE, Guildhall, in the City of London, on MONDAY, JULY 4, at ONE o'clock precisely, a very important and valuable PROPERTY, of about ten acres of beautiful freehold building land and meadow, situate at Stroud-green, Hornsey, near Hornsey-rise church, half a mile from the Seven Sisters road Station, on the Great Northern Railway, in close proximity to two proposed stations on the Highgate, Finchley, and Hampstead lines (now in course of construction), two miles from Alexandra park, and within half an hour's ride of the metropolis. It is subdivided and arranged by a system of design of fifteen years' growth, into about twenty plots (each plot containing on average half an acre or thereabouts), many thousand pounds having been expended by the late owner in laying out the best advantage for building purposes, with well-formed roads, 40 feet wide, to which there are frontages of nearly 2,000 feet. The property commands very pleasing views, is surrounded by beautiful specimens of conifers, luxuriant shrubs, and avenues of thriving young timber trees in great luxury, perfectly drained throughout, presents in its entirety a building estate rarely to be met with, and offers at the same time most attractive sites to gentlemen desirous of erecting villa residences for their own occupation. Particulars may be had at the Stapleton-hall Tavern, Stroud-green; at the King's Head, Crouch-end; of SPARLING, Esq., Solicitor, 1, King's-road, Bedford-row; at the Guildhall Coffee-house; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

ROCHESTER, KENT.—Valuable Freehold Pleasure Farm, Accommodation and Building Land, Cement Works, Wharf, Cottages, and Gardens

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the GUILDHALL COFFEEHOUSE, near Guildhall, in the City of London, on MONDAY, JULY 4, at ONE o'clock precisely, in six lots, the following valuable FREEHOLD ESTATES, situate in the parish of St. Margaret, Rochester, Kent, viz.:—Lot 1. A valuable Freehold Estate, and the surrounding pictures que country, a portion of the land presenting eligible sites for building; large farmyard, two-bay barn, stabling, and other useful buildings; good garden and orchard, and several inclosures of rich meadow, arable, and hop land, the whole containing 25a. 3r. 10p.; in the occupation of Mr. Pye. Lot 2. A piece of Wood Land, known as Middle-hill, situate in Bridge Chatham parish, containing 3r. 22p. Lot 3. A piece of Wood Land, containing 1r. 30p. Lots 2 and 3 are also occupied by Mr. Pye. Lot 4. A valuable Freehold Property, situate at Borstall, partly bounded by the river Medway, and forming part of the Cockham Hill Farm, comprising engine and boiling houses, mill-house, three kilns and shed, coke-ovens, wash-mill, stable, &c.; a wharf, with considerable frontage to the river; a cottage, together with a chalk-pit and an inclosure of arable land; the whole containing 7a. 0r. 26p., let on lease to Mr. John Hollick, at a very low rental. Lot 5. A valuable Freehold Estate, and forming part of the Cockham Hill Farm, situate at Borstall, near the city of Rochester: comprising a comfortable farmhouse, placed on an elevated site, commanding a fine view of the estate and the surrounding pictures que country, a portion of the land presenting eligible sites for building; large farmyard, two-bay barn, stabling, and other useful buildings; good garden and orchard, and several inclosures of rich meadow, arable, and hop land, the whole containing 25a. 3r. 10p.; in the occupation of Mr. Pye. Lot 2. A piece of Wood Land, known as Middle-hill, situate in Bridge Chatham parish, containing 3r. 22p. Lot 3. A piece of Wood Land, containing 1r. 30p. Lots 2 and 3 are also occupied by Mr. Pye. Lot 4. A valuable Freehold Property, situate at Borstall, partly bounded by the river Medway, and forming part of the Cockham Hill Farm, comprises; comprising engine and boiling houses, mill-house, three kilns and shed, coke-ovens, wash-mill, stable, &c.; a wharf, with considerable frontage to the river; a cottage, together with a chalk-pit and an inclosure of arable land; the whole containing 7a. 0r. 26p., let on lease to Mr. John Hollick, at a very low rental. Lot 5. A valuable Freehold Estate, and forming part of the Cockham Hill Farm, comprising 12a. 3r. 8p.; let on lease to Mr. Mary Tuff and Mr. Thomas Tuff. Lot 6. Several valuable Freehold Inclosures of Marsh Land, forming part of the Cockham Farm, and adjoining lot 5; containing together about 14a. 1r. 39p.; in the occupation of Mr. Pye. Possession of Lots 1, 2, 3, and 6 can be had at Michaelmas next.—May be viewed by permission of the tenants, and particulars had at the Royal Victoria and Crown Hotels, Rochester; of Messrs. WALTERS, YOUNG, and SON, Solicitors, No. 9, New-square, Lincoln's-inn; at the Guildhall Coffeehouse; and, with cards to view, of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

LEYTONSTONE, ESSEX. Fifty-five Plots of eligible Freehold Building Land, suitable for good Residences

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JUNE 30, at TWELVE, in fifty-five lots, a FREEHOLD ESTATE, excoriated from land-tax, comprising fifty-five lots of building ground, including a valuable corner plot having the exclusive privilege of being the only tavern plot on the estate, situate at Harrow green, on the high road between Stratford and Leytonstone, within a short distance of Leyton Railway station, having extensive frontages on the Leytonstone high road, the roads leading to Leyton Railway Station, and other good roads adjoining; the land is high and dry, with a gravelly subsoil, and is particularly eligible for the erection of good detached or semi-detached residences.—May be viewed, and particulars and conditions of sale (with plans) had in due course, at the Mart; of Messrs. GLYNES & SON, solicitors, 9, George-yard, Lombard-street, E.C.; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

[For remainder of Auctions see p. 462.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 18, 1864.

The Builder,

A JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1116. JUNE 25, 1864. PRICE FOURPENCE. By Post, 5d.

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Books received: Report on the Works of Pupils in the French Schools of Design, recently exhibited in the Palais de l'Industrie, Paris (Simpkin & Co.); Variorum Miscellanea 480, 480

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION. — The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

SCOTTISH NATIONAL MEMORIAL to HIS ROYAL HIGHNESS the late PRINCE CONSORT.—The Committee of Advice, nominated by her Majesty, prior to advising Designs for the Scottish National Memorial to the Prince Consort, will be willing to receive SUGGESTIONS as to SITES that may be considered eligible in Edinburgh or its immediate neighbourhood. Such Suggestions can be received after the 1st JULY.

W. S. WALKER, Honorary Secretary.

125, George street, Edinburgh, 9th June, 1864.

HOLMAN HUNT'S PICTURES.— "LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt," together with Robert S. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover-street, Regent-street, from Nine in the morning till Ten at night.—Admission, during the day, from Nine till Seven, One shilling; and in the Evening, from Seven till Ten, Sixpence.

THE PAINTERS' COMPANY'S EXHIBITION of DECORATIVE and IMITATIVE PAINTING will CLOSE on THURSDAY next.—Admission gratis, at their Hall, No. 1 Little Trinity-lane, Cannon-street West, E.C., from Nine to Seven daily. By order,

F. G. TOMLINS, Clerk.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the Bank, where they have on view a large and well-assorted stock of their Patent Prize Metal Ranges and Stoves, Cooking Apparatus, &c. to meet the great public demand; and also for the more extensive execution of all descriptions of hot water, bath, laundry and steam work.

72—74, Bishopsgate-street Within.

COMPETITIONS.

TO ARCHITECTS. — The Corporation of East Retford are desirous of being furnished with DESIGNS and ESTIMATES for the ERECTION of a NEW TOWN HALL, with Corn Exchange and Markets in connection therewith. A premium of 50*l* will be given for the Design adopted, such Designs and Estimates to be the property of the Corporation. The whole of the buildings not to exceed 8,000*l*. The Corporation do not bind themselves to employ the architect who may obtain the premium; but if they do, then he shall not be entitled to the premium. A plan of the land and further particulars may be obtained on application to us.

NEWTON & JONES, Solicitors.
Town Clerk's Office East Retford.

TO ARCHITECTS. — WANTED, a DESIGN for SMALL SEMI-DETACHED VILLAS, standing twenty yards back from public road, in plots of ground 66 yards deep, with frontage to the west of 60 yards. Price of the pair, 80*l*. A premium of 20*l*. will be given for the design approved, together with specifications, or otherwise the architect forwarding it will be engaged for the work. The drawings to be addressed to the Rev. H. WYE, Vicarage, Peterborough, on or before JULY 15th, 1864.

CONTRACTS.

NOTICE to CONTRACTORS.—TENDERS are required for PROVIDING and LAYING CAST-IRON OUTLET PIPE from No. 1 Sluice to the Level of Low Water, in the River Medway, at Sheerness. A plan, showing the position and levels of the pipe, &c. may be seen, and a specification, with all necessary information, obtained, on application at the Office, between the hours of TEN and FOUR, Sundays and 28th June excepted, from 20 h to 30th JUNE instant. Tenders will not be received later than 4th JULY next. The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, 13th June, 1864.

WAR DEPARTMENT CONTRACTS.— NOTICE to BUILDERS.

TENDERS are required for RENEWING COOKHOUSE, ABLUTION, and BATH ROOMS, at the West Wing of Hounslow Barracks, in the county of Middlesex.

Parties desiring to Tender for the erection of these Works must leave their names at this Office from the 20th to 25th JUNE, 1864, both days inclusive, between the hours of ELEVEN o'clock a.m. and THREE o'clock p.m., and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District,
11, James-street, Buckingham-gate, London, S.W.
June 14, 1864.

NOTICE is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall Mall, London, S.W. on or before the 30th JUNE, 1864 for the SUPPLY of the following descriptions of MATERIALS for Artificers' Work, to be delivered into store at Brompton Barracks, from time to time, for a period of Three Years, from the 1st of APRIL, 1864, determinable at any period after one year, on either party giving to the other three months' notice in writing, viz.:—

Bricklayers' Materials.	Painters' Materials.
Carpenters' do.	Plasterers' do.
Masons' do.	Plumbers' do.
Painters', Glaziers', and Paperhangers' do.	Slaters' do.
	Smiths' do.

The probable quantities of Materials required for the present year are:—

1,000 feet cube of Fir, in balk.
1,700 feet super (in total) of 3 inch Deal, Ash, Beech, Elm, and Oak.
460 lb. of Nails.
1 cwt. of Glue.
28 cwt. of Tarred Rope.
27 cwt. of Iron.

The Secretary of State reserves to himself the right of rejecting any or all Tenders that may be presented.

Further information and printed forms of Tender may be obtained, and schedules of Contract may be seen, on application at the Royal Engineer Establishment, Brompton Barracks, from the 18th JUNE to the 29th JUNE, and no Tender can be admitted after the said 30th JUNE, 1864.

Royal Engineer Establishment, Chatham, June 14th, 1864.

BOROUGH of BURNLEY. — To CONTRACTORS, MASONS, and OTHERS.—LEE GREEN COMPENSATION RESERVOIR.—TO BE LET by TENDER, the EXCAVATING, EMBANKING, PUDDLING, MASONS' WORK, ROAD MAKING, &c. required in the Construction of a COMPENSATION RESERVOIR, intended to be made at Lee Green, in the township of Briercliffe-with-Extwistle and Worsthorne-with-Hurstwood in the county of Lancaster. Plans and specifications may be seen, and other information obtained, by applying at the office of Mr. JAMES EMMETT, Waterworks Manager, 3, Carlisle street Burnley. Sealed Tenders, indorsed "Tender for Lee Green Reservoir," addressed to the Chairman of the Water Committee, must be delivered at the Manager's Office not later than MONDAY, the 25th instant. The lowest or any Tender will not necessarily be accepted. By order

Burnley, 2nd June, 1864. A. B. CREEKE, Town Clerk.

TO STONE MERCHANTS.—The Hastings Local Board of Health are ready to receive TENDERS for the purchase of about 12,000 feet, superficial, of the best Tooled Hard YORK PAVING, to be delivered into carts over the side of the vessel, at the Fish Market, or Priory. Hastings, as the Surveyor may direct, free of all freightage or charges whatever; the carts to be provided by the Local Board; and the Board will not take any responsibility until the stone is delivered, sound and in good condition, into the carts. The contractor to state a price per foot, superficial, for 3 inch, strong 2½ inch, and 2 inch. Also for 4-inch Tooled York Landings and 6 inch steps. 12 inches by 6 inches, tooled on the top and one edge. The first cargo to be delivered within three weeks from the date of signing the contract, and the second within two months from the same date and the third within four months. The greater portion can be delivered before the winter, and the whole before the 1st day of MAY, 1865, or at any time within one month from the date of receiving a written order from the Surveyor. The Local Board shall have full power to order either more or less than the quantity named at the price per foot named by the contractor. Payments will be made as follows: 75 per cent. will be paid within two months from the date of the delivery of each cargo, on receiving the certificate of the Surveyor; and the remainder within two months after the completion of the contract. The Local Board do not bind themselves to accept the lowest or any tender. Tenders to be delivered at my Office, No. 84, High-street, Hastings, on or before DEVONSHIRE on the 27th of JUNE instant.

ROBERT GHOUSE, Town Clerk.

TO WELL-DIGGERS, and OTHERS. — Parties willing to CONTRACT for DIGGING a WELL, 8 feet in diameter, and about 100 feet in depth, at Hoshan, Surrey, are requested to send in their Tenders on or before the 27th JULY to Mr. PRICE, Bookseller, West-street, Horsham, where particulars and specifications may be seen, on and after JUNE 27th.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCK ACTS—HENDON DOCK WORKS—DOCK GATES, SWING BRIDGE, and other IRON WORK. — The River Wear Commissioners are prepared to receive TENDERS for the CONSTRUCTION, ERECTION and COMPLETION of the DOCK GATES, SWING BRIDGE, and other IRON WORK of the Junction Entrance of the intended new dock at the South Docks, Sunderland, in conformity with drawings, specifications and conditions, which may be seen, and further particulars obtained, upon application to THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, after JUNE 11th, 1864. Tenders, on printed form, which only will be received, and enclosed under printed covers, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," to be delivered at 13, Fawcett-street, Sunderland, not later than NOON on the 28th JUNE, 1864. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

Sunderland, June 1st, 1864.

TO BUILDERS, CONTRACTORS, and OTHERS.—EXTENSION of TIME for RECEIVING TENDERS. The Directors of the West Worthing Investment Company (Limited), are desirous of receiving TENDERS for the ERECTION of a TERRACE, consisting of twenty first-class Residences, upon the Company's premises at West Worthing, in the county of Sussex.—Plans, sections and specifications, may be seen at the Office of the Architect, G. A. DEAN, Esq. 1, Lancaster-place, Strand, London, W.C. and after WEDNESDAY, the 15th instant. Quantities will be ready to be furnished on the 30th instant. Tenders, addressed to the Secretary, and endorsed "Tender for Terrace," to be delivered at the Company's Offices, at or before ONE o'clock, on TUESDAY, the 26th JULY next. Security will be required for the due performance of the Contract; and the Directors do not pledge themselves to accept the lowest or any Tender.

By order.

Offices, 27, Great George street, Westminster, S.W.
June 15, 1864.

WEST HAM LOCAL BOARD of HEALTH.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for MAKING a SEWER, in Forty Acre-lane, Barking-road, West Ham, within the district, according to plans, sections, specifications, and conditions prepared by Mr. MARSHALL, the Surveyor of the Board; and which may be seen at his Office, at the Kelly House, in Stratford, where also forms of Tender may be obtained, together with any further information required. Tenders, endorsed "Tender for Sewer," are to be sent to me, on or before MONDAY, the 27th instant.—By order of the Board,

CHAS. WILSON, Clerk.

Rokeby House, Stratford, June 13, 1864.

TO BUILDERS. — Persons desirous of submitting TENDERS for the ERECTION of a RESIDENCE and STABLING, at Sudbrooke, in the county of Lincoln, can see the drawings and specification, at 139 Office, and copies of the same, at Mr. HARVEY'S, Printer and Stationer, Bank-street, Sleaford.—Tenders to be sent to me on or before the 15th of JULY, for the lowest or any Tender not necessarily accepted.

CHARLES F. CRAPP, Architect.

70, Camberwell New-road, S.

BOROUGH of STOCKPORT.—The Corporation of this Borough (the Local Board) is desirous of receiving TENDERS for forming 3,000 lineal feet of 9 inch by 24 inch WELSH SETTS, to be delivered at the Canal Wharf, Lancashire Hub, Heaton Norris, or either of the railway stations in the borough, in quantities of not less than 250 tons per week. Samples to be sent with the Tenders. Tenders to be addressed to me, marked "Tender for Welsh Setts," and to be delivered at my Office not later than the 5th day of JULY next.—By order,

HENRY COPPOCK, Clerk to the Local Board.

Stockport, June 20, 1864.

ROADS and SEWERS. — To Persons willing to CONTRACT for the FORMATION of ROADS and SEWERS upon an Estate at Clapton, may see the drawings and specification at the Offices of Messrs. HAMMACK & LAMBERT, 59, Bishopsgate-street, City, E.C.—Tenders to be delivered on WEDNESDAY, the 6th JULY.

SCINDE RAILWAY COMPANY.— CONTRACT for TURNTABLES.—The Directors are prepared to receive TENDERS for THREE ENGINES and TWELVE CARRIAGE TURNTABLES. Drawings can be seen and specifications may be obtained on application at the Company's Offices, on payment of one guinea and a half, which will be returned on a bond fide Tender being given in. Tenders in sealed covers, addressed to the Directors, and endorsed "Tender for Turntables," are to be issued with the undersigned before TWELVE o'clock on WEDNESDAY, the 13th JULY. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

SIDNEY H. R. PARRY, Acting Secretary.

Scinde Railway Company's Offices,
Gresham House, Old Broad street, 23rd June, 1864.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of OFFICES, &c. at Burton-on-Trent, for Messrs. Jodd, Co-pe, & Co. may inspect the drawings and quantities at my Offices, 2, Bank-buildings, Lothbury, on MONDAY, the 27 inst. The estimates to be delivered and Tenders for TENDERS on SATURDAY, 2nd JULY next. The lowest estimate will not be necessarily accepted.

JAMES PAIN and Lofthill, Architects.

PERSONS desirous of TENDERING for the ERECTION of a DETACHED VILLA, Coach-house, Stabling, &c. near Sanderstead Hill, Kent, for G. Hanbury, Esq. may see the drawings, &c. at the Offices of Messrs. W. GOSLING & SON, Architects, 52, Wellington-street, Waterloo, Strand. Mr. Hanbury does not pledge himself to accept the lowest or any Tender.—Tenders to be sent in on WEDNESDAY, 6th JULY. Copies of quantities will be supplied.

[For remainder of Contracts see next Page.

CONTRACTS.

THE VESTRY of the PARISH of LAMBETH.—TO SEWER CONTRACTORS.—The Committee for Sewers & Lamps have ordered that they are prepared to receive TENDERS from competent persons for CONSTRUCTING about five lineal miles of BRICK SEWERS, together with other WORKS in connection with the same, in Norwood new road, Upper and Lower Tulse Hill, Brixton Hill, Bedford road and Clapham road. Plans, specifications, and forms of Tender may be seen, and copies of the latter obtained, at the Vestry Hall, Kennington Green, on and after MONDAY, the 27th instant, between the hours of TEN a.m. and FOUR p.m., Sealed Tenders, addressed to the Clerk of the Vestry, and endorsed "Tender for Sewer Works," are to be delivered at the Vestry Hall not later than FOUR o'clock in the afternoon of MONDAY, the 11th of JULY, and no Tender will be received after that hour. Each Tender is to be accompanied by a letter, addressed to me, at the Vestry Hall, Kennington Green, and to be delivered at the same time as the Tender, stating the names of two sufficient householders, who will be ready to enter into and execute with the party whose Tender shall be accepted a bond in the penalty of £500, with two sureties for the proper performance of the work.—By order,

THOS. BOFFIN, Clerk to the Vestry.

Vestry Hall, Kennington Green, June 21, 1864.

STOCKPORT. — NEW BRIDGE. — TENDERS are required for the ERECTION of a New BRIDGE over the River Mersey, at Stockport, on the Estate of C. Howard, Esq. The Bridge will consist of brick arches, of one span of 57 feet—The drawings and specification may be seen, and forms of Tender and all requisite information obtained, until the 30th JUNE inst. on application to Mr. BRIERLEY, Civil Engineer, Blackburn, and, after that date, on application to Mr. MORLEY, Solicitor, and George Hovell, Stockport. Sealed Tenders, addressed to the undersigned, at Blackburn, and delivered on or before WEDNESDAY, the 6th of JULY next.

JOSEPH BRIERLEY, Engineer, &c.&c.

Blackburn, 23rd June, 1864.

SAINT MARY, ISLINGTON.—The Highways Committee will meet at the Vestry Offices, Upper-street, Islington, on TUESDAY next, the 28th day of JUNE, at TEN o'clock in the forenoon, to receive TENDERS for the REMOVAL of the ROAD SWEEPINGS from some of the roads in the parish—as now under the management of the Metropolis Roads Commissioners. Any of the Surveyors of Watercarts, Heroes, Men, and all other necessaries for Watering the said Roads, or parts thereof. For the above purposes the roads are divided into districts, particulars of which may be obtained at the Vestry Offices. Forms of Tender, which alone will be received, may be had at the Vestry Offices, between the hours of TEN and FOUR o'clock, previous to which Tenders must be sealed and delivered. No Tender will be received after TEN o'clock, on which no Tender will be received unless it be in a sealed cover, addressed to the Chairman of the Committee, and endorsed "Tender for Sweeping Roads." Tenders not accepted will be returned to those persons whose Tenders are not accepted, but will be retained in the other cases until the contracts are executed, and in default of the contract being duly executed, the same deposit shall be forfeited to the Vestry. The Committee do not hold themselves bound to accept any Tender.

Vestry Offices, Upper-street, JOHN LAYTON, Vestry Clerk.

29th June, 1864.

THE NATIONAL EISTEDDFOD, 1864.—TENDERS for the ERECTION of a PAVILION at LLANDUDNO.—To BUILDERS and CONTRACTORS.—Persons willing to TENDER for the ERECTION of a PAVILION to seat 6,000, with Platform, Orchestra, &c. at Llandudno, may inspect the drawings and specification, and obtain all further information, at the offices of Mr. GEORGE HILTON, Architect, Llandudno, on and after WEDNESDAY, the 22nd instant. Tenders, sealed, must be sent to the undersigned, for the performance of the contract, to be sent in by SATURDAY, the 2nd day of JULY, to Mr. WILLIAMS (Corn Bridge, Secretary, Llandudno. The Committee of the National Eisteddfod do not hold themselves to accept the lowest or any Tender.

Llandudno, June 16th, 1864.

STONE CARVING. TENDERS are required for FINISHING the CARVING inside the Church of St. Andrew, Acadia, Upper, Westmoreland. They must include the expenses of scaffolding, carpentering, the safety of the work, and the fees. They must also state the time they will be required to finish the work. The carving is to be done in the stone yard of Messrs. Stone Newington Wors, to commence the same week in AUGUST. No Tender will be received later than the 1st of JULY. A specification can be had on application or drawing one between the Rev. H. WALKER, 2, Shaftesbury-crescent, Lowman, S.W.

TO BUILDERS and CONTRACTORS.—The Joint Burial Boards of the Parishes of St. Pancras and St. Mary, Islington, will meet on THURSDAY, the 30th inst. at FOUR o'clock in the afternoon, to receive TENDERS for the ENLARGEMENT of the NONCONFORMIST CHAPEL at Pardon Chapel, at the Cemetery, Finchley-road, St. John's Wood, and for the making of the Roads, Paths, &c. in the Cemetery, at the Vestry Hall, St. Pancras, on or before FIVE o'clock, of the said day.—The Boards do not bind themselves to accept the lowest tender.

CHAS. GREENE, } Clerks to the respective Boards.
JAMES TAYLOR, }

TO BUILDERS.—The Committee for carrying out the SEAMEN'S ROOMS and OBSERVATORY at Margate, are prepared to receive TENDERS for the ERECTION of the same, from which they will select one. Plans and specifications may be seen at the Office of the Secretary, Mr. W. H. VALLER, Broadstairs, Margate. Tenders must be delivered on or before WEDNESDAY, 6th of JULY next, by TWELVE o'clock at noon. The Committee do not pledge themselves to accept the lowest tender.

TO BUILDERS. — TENDERS will be received for RESTORING the TOWER and REBUILDING the SPIRE of Wood Eaton Church, Oxfordshire. Drawings may be seen at the Vestry Hall, and at Boarhunt the Vicarage, and at the Office of the Architect, in Hall JULY. The Committee do not bind themselves to accept the lowest or any Tender.

BOROUGH of SOUTHAMPTON. — To IRONFOUNDERS and OTHERS.—Notice is hereby given, that the Local Board of Health for the Borough of Southampton will receive TENDERS for the supply of CAST IRON PIPES, SPECIALS, and VALVES required for the Extension of the Waterworks, and for the Construction of New Sewers in the Parish of Millbrook, Hampshire, and for the Supply of Cast Iron Pipes required for the Extension of the Waterworks in the Parish of Millbrook, Hampshire, consisting about 1,000 yards, for a portion of the Pipes required for the Sewers, and about 1,000 yards for the Pipes required for the Waterworks. Specifications may be obtained on application to the Surveyor to the Local Board of Health, Southampton, on and after Wednesday, 22nd June, 1864, and Tenders, addressed to the Chairman of the Local Board of Health, Southampton, and endorsed "Tenders for Pipes," must be delivered at the Office of the Surveyor, No. 20, Portland-terrace, Southampton, on or before Wednesday, 6th July, 1864, at Twelve o'clock at noon. The Board do not pledge themselves to accept the lowest or any other Tender.—By order,

CHARLES B. BEACHAM, Clerk.

Local Board of Health, Southampton, June 22, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Antrim to the [illegible] Liverpool, [illegible] Rivington, [illegible] Bolton, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after FRIDAY, the 24 h of JUNE inst.; [illegible] Tenders, addressed to the undersigned, at Manchester, and delivered [illegible] on or before TUESDAY, the 5th day of JULY next.

WM. JAS. LAWN, Secretary.

Manchester, 18th June, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the BUILDING of a CENTRAL STATION, [illegible] Liverpool, with Engine Houses, Workshops, Goods Warehouses, Offices, and other Buildings, and for the Construction of Roads, Bridges, and Approaches thereto. Plans may be seen, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, and at the Company's Station, Liverpool. Tenders, addressed to the Secretary, and delivered at the Engineer's Office, Manchester, on or before the 2nd JULY next.

WM. JAS. LAWN, Secretary.

Manchester, 18th June, 1864.

SEVENOAKS, KENT.—EXTENSION of TIME.—In consequence of some Alterations to Plans of Proposed NEW FARMSTEAD, the TIME for delivering the TENDERS is DELAYED. The drawings will be at Messrs. Court Farm on and after the 1st instant, till the 14th JULY next, on which day the Tenders are to be delivered to W. J. TONGE, Esq. Oxford House, near Sevenoaks, who does not bind himself to accept the lowest or any Tender. Copies of quantities may be had on application to WILLIAM SHEARBURN, Architect, Dorking.—N.B. The drawings for the New Residence will be ready in a few weeks.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 28th of JUNE, 1864, at HALF PAST TWELVE o'clock precisely, to receive TENDERS for REPAVING the CARRIAGE-WAY of a portion of Watling-street, and RELAYING the CARRIAGE WAY PAVEMENT of portions of King William-street and Cornhill, agreeably to specifications which may be seen at this Office. Persons tendering are required to give the names and addresses of at least two substantial householders as their sureties, in order to bond with. Each contractor for the whole or either of the contracts. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory; and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, June 17, 1864.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coachhouses for four carriages; suitable servants' offices; extensive ornamental grounds, with gardener's houses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

BUILDING LAND at CHITT'S HILL, WOOD GREEN, overlooking three different counties, and fronting the high road; eight minutes walk from the station and Alexandra Park. To BE LET for Thirty-one or Ninety-nine years, in lots which are in great demand in this beautiful locality. Term, 80 years. Money advanced if required. A plan may be seen, and particulars obtained, on application to S. REYNOLDS, Architect and Surveyor, 101, Great Russell street, Bloomsbury, W.C.

BUILDING LAND.—TO BE LET, on the Grand Junction Canal, LAND for BUILDING, bounded on one side by the Great Western Railway and on the other by the Grand Junction Canal. The Canal abuts into the Estate. It is situated at Southall, in Middlesex, and is well adapted for Wharfs, Manufactories, Cottages, and the like. Entrance may be to the Southall Brick Company (Limited), 3, Adelaide place, London Bridge.

LEWISHAM, KENT, near the Junction Railway, and on the Main and North Kent Lines. TO BE LET, TWO PLOTS of GROUND, each for a Pair of Small Villas. Also, a Plot for Three Pairs. Commencement 30 per House.—Apply to THOMAS MILLS & SON, Builders and Agents, 28, York-street, Westminster, S.W. Lessee of sewer, direct from fresh water. No arrears.

HERTFORD, next the Corn Exchange.—TO BE LET, TWO COMMODIOUS SHOPS with Houses and Premises, situate and numbered 7 and 8, Corn-factor's business. For particulars, apply to Mr. SAMUEL ANDREWS, Castle-street, Hertford.

WEARDE STONE QUARRIES, LIMITED. The store road leading from these Quarries has been granted to the Directors for a way to the main road, and can be had for Pitching in any quantity for Housekeeping Samples sent, with prices, on application to the Manager, E. M. CROGER, Gunnislake, Cornwall.

PATENT CONCRETE STONE COMPANY (Limited).—The Directors have granted LICENCES for six of the Counties of Great Britain, and are prepared to enter into further Agreements for LICENCES for the MANUFACTURE of this valuable MATERIAL.—Patent for the erection of Works, and full instructions, on application. By order,

THOMAS PIPER, Secretary.

36, Parliament-street, S.W. May 1864

FOREST HILL. BUILDING LAND TO LET on this hill, commanding extensive views. — Apply to A. B. 129 Bermondsey-street, S.E.

FREEHOLD LAND TO BE SOLD, or LET on Building Leases (about three acres), at Selhurst road, Norwood Junction; Two Acres at Forest-hill, near the station; and also Half an Acre at Wellington-road, Upper Holloway.—Apply to Messrs. M. & T. GARNAR, No. 8, King-street, Bermondsey New-road, S.E.

TO BUILDERS and OTHERS.—TO BE LET, on repairing lease, EIGHTEEN FREEHOLD HOUSES, with the Premises in front in a wide open street, between the Great Western Railway Goods station and the Edmund green-road.—For further particulars, apply to Mr. JOHN COLLIER, Architect and Surveyor, 26, Philpot-lane, Fenchurch-street.

BRICKFIELD WANTED, in working order, near London, or within 20 miles of same, making from 5 to 7 millions annually.—Address, with full particulars, to Mr. PALMER, 2, Cowley-street, Cowley-square, N.W.

BILLITER-STREET. — TO BE LET by TENDER, on Building Lease direct from the Freeholder, for a term of 80 years, the Premises No. 6, Billiter-street, having a frontage of about 20 feet 6 inches, and a depth of about 56 feet 9 inches. Plans to be seen at the Surveyor's Office, HERON, on TUESDAY, the 26th JULY, at TWELVE o'clock precisely, at the Offices of Messrs. W. HORSLEY & SON, Solicitors, Tokenhouse-yard, where a plan of the site and conditions of sale may be seen. The Freeholder does not bind himself to accept the highest or any Tender.

BUILDING LAND (overlooking Bushy Park, Hampton Court), extensive views, gravel soil, good drainage, within twenty minutes' walk of the Station, Teddington. The most healthy and desirable locality in the City. Leases may be had. Plots sold if desired. Apply to Mr. WALKER, Surveyor, Hampton Wick; Mr WILLIS, 48, Kensington Gardens-square.

TO BUILDERS and OTHERS. LAND TO BE LET, on BUILDING LEASE, at Bromley, Kent, for Cottages, Villas, or Shops, with Stabling, &c. Apply to Mr. MILLARD, Builder, Bromley, or Hanover & Wyatt, 10, Upper Thames-street, E.C.

VALUABLE FREEHOLDS in LOTHBURY, in the City of London, fronting to the Bank of England, and adjoining the Mansion-house. Valuable Frontage to the wide and important thoroughfare of Moorgate-street, and Extensive Premises fronting to Coleman-street, Basinghall-street, and Lothbury, which will be Sold by PUBLIC AUCTION, by Messrs. DEBENHAM, TEWSON, FARMER, & BRIDGEWATER, at the Mart, on TUESDAY, the 26th day of JULY next, at TWELVE for ONE precisely, unless previously disposed of by Private Contract, of which due notice will be given. Particulars and plans of the property, together with conditions of sale, may be had of Messrs. HENRY & LINCOLN, VALIANT, Solicitors, 12, Tokenhouse-yard, Lothbury, E.C.; and at the Offices of the Auctioneers, 8, Copthall-buildings, E.C. No lot will be sold under a limited reserve.

The Premises will be open to inspection on TUESDAY, the 19th inst. The Tenders will be opened at ONE o'clock on the same day.

FREEHOLD BUILDING LAND TO BE SOLD, or LET on long Leases, about 14 acres, situate in a very eligible situation, with good view of surrounding country, at Romford, seven minutes' walk from the railway station, at the east end of Victoria-road. It has a south frontage of 200 feet, by a depth of 800 feet. Good roads and drainage, and is fenced in.—Apply to Mr. J. ASHMOLE, Ilford

WANTED, BUILDER'S PREMISES, within Two Miles of the Bank. Water sole preferred. Address full particulars, R. F. S. Saunders, Bros. Stationers, London wall, City.

DARTFORD, KENT.—FOR SALE, valuable FREEHOLD BUILDING LAND, in plots of 50 feet frontage and upwards, at Dartford New Town, about half a mile from the Railway Station.—For particulars, apply to A. RUSSELL, Esq. Solicitor, Dartford; or to Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields.

TO SPECULATORS and OTHERS.—TO BE SOLD, two pairs of ten-roomed carcases with side entrances. Freehold. Sydney Terrace, Sydney Place, Sydney Street, Sydney Walk, Sydney Buildings, Sydney Mews, Sydney Gardens, Sydney Square, Sydney Cottages, Sydney Villas, Sydney Parade, Sydney Crescent, Sydney Row, Sydney Grove

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
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ROLLED GIRDERS AND JOISTS,
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CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



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Orders requiring Despatch and Punctuality can be executed in a few days.

DRAUGHTLESS VENTILATION INFALLIBLY SECURED BY
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in pane of glass,



COMYN, CHING, & CO.
(LATE HUXLEY & CHING),
23, LITTLE ST. ANDREW STREET,
UPPER ST. MARTIN'S LANE,
LONDON.

in pane of glass,



Draughtless, Dustless, Inexpensive,
and universally applicable.
PRICE-LIST and FULL PARTICULARS
FURNISHED on Application.

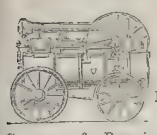
in pane of glass,



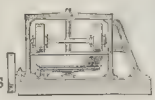
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WHOLESALE BUILDERS' IRONMONGERS,
PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.



A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.
No. 13, KING-STREET, SNOW-HILL LONDON, E.C.



HENRY SYKES,
67, UPPER THAMES STREET, LONDON
(In connexion with RUSTON, PROCTOR, & Co.),
Has on hand several ENGINES and MORTAR MILLS for SALE or HIRE.



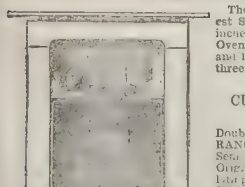
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A 30-cwt., 2-ton, and 3-ton Steam Crane ready for delivery.

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IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom
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Every description of Iron Work Galvanized.
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CUNDY'S
PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



WHEN USED OPEN.

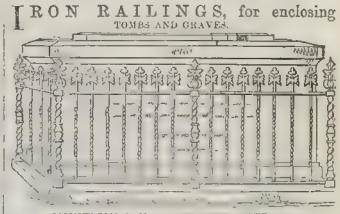
These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.
This Stove, also
CUNDY'S PATENT BRICK OVEN
Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Set close Range and CUNDY'S PATENT Original FIRE-BRICK Warm Air Ventilating STOVE suitable for Offices, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the SHOW-ROOMS of the Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.



WHEN CLOSED FOR BAKING.

A Prospectus, with full description and price of the above, will be sent per Post on application.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated Price Catalogue of Designs, in various styles (Gothic or Classic), sent free.
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WINDOW BLINDS.
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OUTSIDE SUN-SHADE,
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SPRING ROLLER MAKER
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Patent Self-fastening Venetian Blinds, requiring no Fastenings for the Cords. Illustrated List of Prices on receipt of One Postage Stamp.

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ESTABLISHED 1744.
AUSTIN'S IMPERIAL PATENT SASH
and BLIND LINES.
To BUILDERS, CARPENTERS and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that at least these Lines should be purchased in preference to the PATENT LINES Look from Jute, which are far below the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

WINDOW-BLIND MATERIALS.—H. & J. DOVE, 31, Ludgate-hill, London, E.C. SUPPLY the TRADE with every description of WINDOW-BLIND MATERIALS for INSIDE and OUTSIDE WINDOW-BLINDS, comprising Sun Blind Cloth, Linen Hollands; Buff, Green, and White Dowlas; Green, Crimson, and Blue Tammies; Fancy Printed Blinds; Cords, Tassels, and all kinds of Webs at 1 Lines for Venetian Blinds; also every quality of Patent Sash Line. Price-list on application. Established A.D. 1717.

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CAST STEEL for Cutters, Punches, Taps and Dies, Turning Tools, Drills, &c.
CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Crank Axles, Shafts, &c. Forgings of every description.
FILES marked T. TURTON, superior to any other make.
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SAWS. TOOLS marked WM. GREAVES & SONS. Lists free on application.
Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, | SPRING STEEL,
BLISTER STEEL, | GERMAN STEEL,
SPRINGS, ILLEGIBLE AND CAST STEEL TYRES.
For Locomotive Engines, Railway Carriages, and Waggons.
SHEAR WORKS, and SPRING Works, SHEFFIELD.
LONDON WAREHOUSE, 57, QUEEN STREET, CITY,
Where the largest Stock of Saws, Files, Tools, &c. in the World may be selected from.

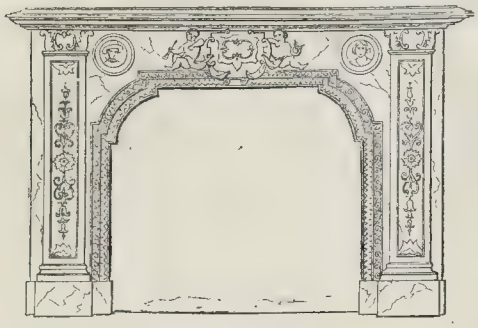
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was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Founder, Nail-bell and Bell Hanger, Gas-fitter and Zinc Patent Locks of all descriptions, Curtain Rods, and Wood Furniture, of all kinds, with Patent Sliding Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
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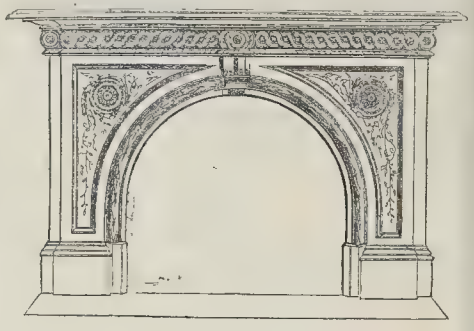
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

IS AT

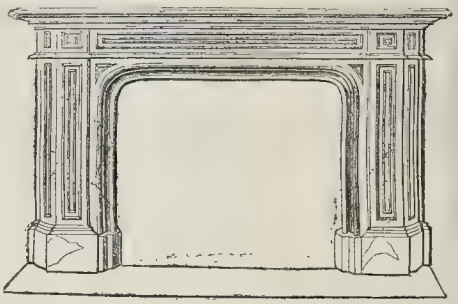
WILLIAM S. BURTON'S.

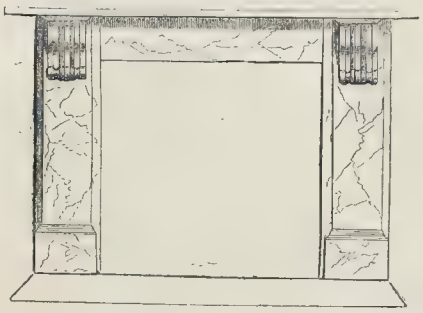
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8s. to 100*l.*

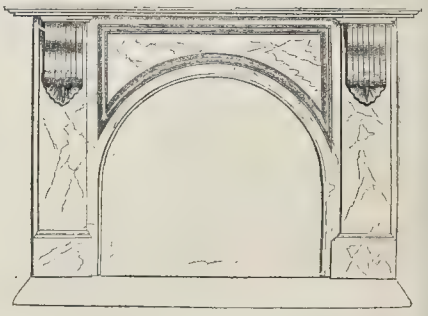












WILLIAM S. BURTON,

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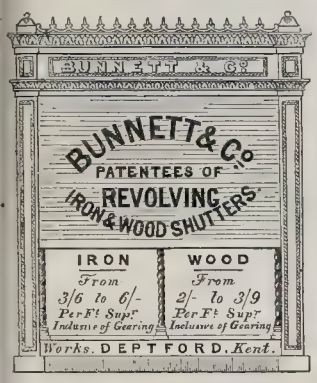
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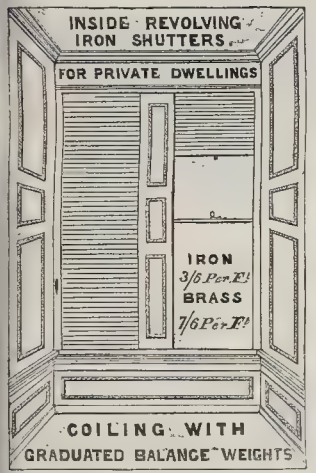
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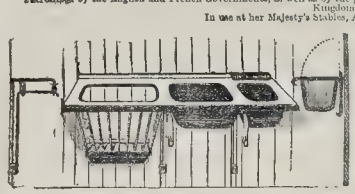
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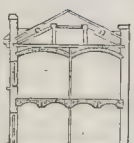
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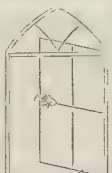
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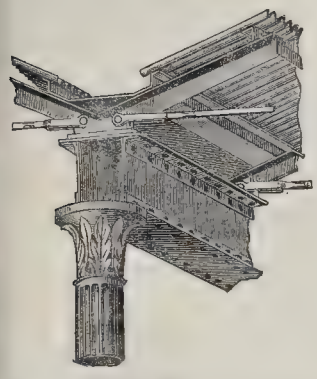
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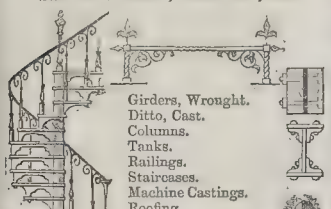
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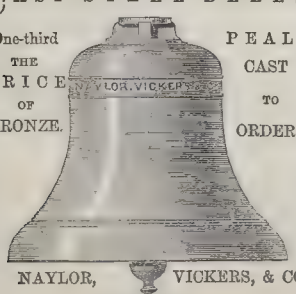
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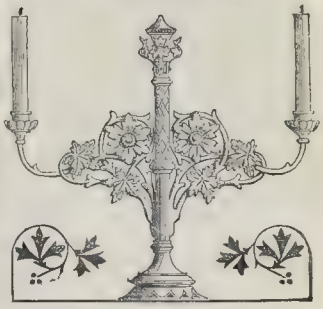
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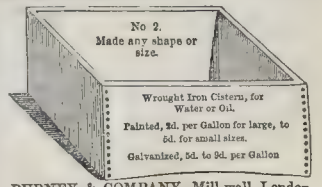
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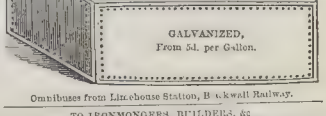
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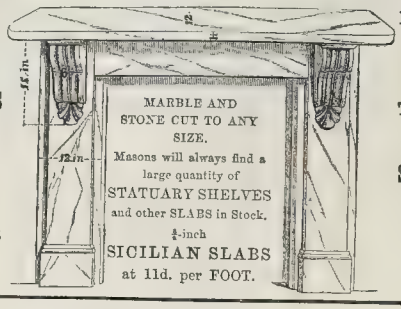
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VOL. XXII.—No. 1116.

Legislation on Technical Questions.



IN the House of Commons, a few days ago, one of those debates took place that attract but little attention from the masses. Yet those whose special knowledge enabled them to see below the surface, could discern fruitful promise of benefit beneath a dry husk of scientific and parliamentary technicalities. We refer to Lord R. Cecil's resolution with regard to private Bill legislation. Lord Robert Cecil moved "That it is expedient that the duty of ascertaining the facts upon which legislation in respect to private Bills is to proceed should be discharged by some tribunal external to this House." He pointed, very feelingly, to the personal sufferings undergone by the members of Select Committees in mastering the engineering questions put before them. In illustration of the very natural difficulty encountered by men, however able, who endeavour to understand things, in a few days' time, that form part of a profession it takes years to acquire, Lord Robert Cecil instanced the case of a committee on a certain dock Bill. "It consisted of a committee of five gentlemen, four of whom had no knowledge of commercial matters; and such was the ignorance displayed by them of the matter under consideration that, after being examined for a considerable period to show the necessity for the formation of a graving-dock," the witness heard one member of the committee say to another, "What does he mean by a graving-dock?" To which question the other replied, "I am sure I do not know, but I suppose it is something relating to ships."

Lord Cecil thought that the issue presented by every private Bill was very simple. On one side there was to be considered the injury done to private individuals; and, on the other hand, the advantage to the public from the object contemplated. The balance had then to be struck, in order to see which outweighed the other; but, before that point was arrived at, there was an enormous amount of facts to be proved, and a great deal of time was wasted in ascertaining these facts.

"... For instance, on a water Bill, which had occupied a great deal of time this session, a great number of questions was put on such matters as the amount of population, the present supply, the exact nature of the scheme, the distance of the sources, the angle of fall, the size and safety of the reservoirs, the area of the gathering ground, the rainfall of the district, and the chemical character of the water. But these were simple facts which could be easily ascertained by a scientific arbitrator appointed by some parties at little expense, and without imposing any labour on members of that House. The same with railways,—gradients, curves, distances, the geological character of the ground, estimates for the work; these were the sort of questions with which much of the time of committees was taken up, and which might easily be disposed of by a scientific arbitrator. In one water Bill committee hours were occupied in questions about the safety of a reservoir; and in a railway committee a day was taken up in inquiring into the nature of the ground,—neither of them questions fitted to be decided by that House. Then, there were questions of opinion,—the traffic between different places, the injury done to individuals,—which would be much better decided by a tribunal, either by a jury empannelled on the spot, or by the tribunal recommended by the Chambers of Commerce."

He concluded by moving that it was expedient that the duty of ascertaining the facts upon which legislation in respect to private Bills was to proceed should be discharged by some tribunal external to the House. Mr. Milner-Gibson, in opposing the resolution, opined that whatever external tribunal was fixed upon there must be an appeal to the House, where the battle would have to be fought over again at additional expense. Lord Stanley, while agreeing that the system was capable of improvement, expressed somewhat similar opinions to those of Mr. M. Gibson. The most acute and powerful speech on the question was clearly that by Mr. Lowe, who thus gave us another instance that, however physically shortsighted he may be, his mental vision has a much farther range. He very forcibly showed that "committees were in somewhat the same position as juries would be if they were called upon to administer the law without judges to assist them." Committees were in the hands of practised counsel, "by whom they were addressed in artful and able speeches, and they had to perform many of the duties of a judge, at Nisi Prius, without the training and practice which gave authority and facility to the decisions of such judges." Mr. Lowe proposed that a single person should take the evidence now taken by committees, and report it to the House, leaving it for parties to move for a committee, if a committee were desired. The members of the House would then act "like special jurors in a case at Nisi Prius."

Lord Robert Cecil's motion does credit to the most rising statesman of the Opposition. It was lost, but the evil Lord Cecil intended to mend will perennially recur, and some change must take place sooner or later. The objection made by Mr. Milner-Gibson and Lord Stanley, that the proposed transference of Parliamentary functions would lead to appeals and double expense, can be made with regard to any civil case,—any patent case, for instance, or a case like that which has resulted from the "pursuit of an elderly Phaon by a litigious Sappho,"—can be at last taken before Parliament. When, as was stated by Mr. Whalley during the debate, 1,500,000*l.* out of 3,000,000*l.* spent on new lines in his own district were consumed in Parliamentary expenses, it is difficult to see how any change of system could increase the notorious expenses of committees. These enormous sums thus lavished do not benefit M.P.s, do not benefit the public: they go into the pockets of Parliamentary barristers and Parliamentary agents,—men who, however worthy and eloquent, are not producers of the national wealth; but are, in these cases, most decidedly consumers, both of time and money. In the ordinary walks of life, the longer people are about their work the less money do they get by the end of the year. The reverse is here the case; and the best joke about the matter is, as was stated by the member for North Lancashire, "that there is no single individual who appears before a Parliamentary committee who has not a direct pecuniary interest in prolonging the proceedings." In the next place, the companies who have spent all this money in getting leave to build a line or erect waterworks, or lay down gas, or build docks, expect, and practically do get, a monopoly for their money. The great railway companies were instanced by Mr. Whalley as having lately "combined as one man" to oppose, and consequently defeat, the main provisions of a Bill now brought before the House by the Board of Trade for affording facilities for constructing railways. Witness, again, the London waterworks companies, who deliver the worst water of any city in the world at the highest rates of any city in the world; and whose shareholders get enormous dividends every year. Who could oppose these monopolists, backed as they are by a compact phalanx of interested M.P.s? We are prepared to maintain that the money wasted in parliamentary committees and through their results would, if properly employed, have long ago both purified and embanked the Thames,—would have long ago provided us with pure and cheap water,—would have even put us in the way to the solution of one of the great problems of the day—the utilization of the sewage of cities. What has this system done for those amongst us who are not shareholders in these Parliamentary successions to sixteenth century royal monopolies; to those amongst us who only wish for good and cheap water, light, ventilation, and conveyance? In the words of Thomas Carlyle, "only powder of millstones (called Hansard Debatings), and a detestable brown substance not unlike the grindings of dried horse-dung or prepared street mud, which though sold under royal patent and much recommended by the trade, is quite unfit for culinary purposes."

It is indeed in Hansard's Reports of the Select Committees that the patient student can acquire some notion of the weakness of these parliamentary tribunals. Costly as the machinery is, it is most inefficient. And it is only natural that this should be the case. As the *Times* remarked, in reference to Lord R. Cecil's proposal, the members of the committees "have often to get up the first elements of the question—not matters for legislators at all, but rather for engineers, chemists, physicians, and other professional classes." Has the old right divine of kings descended on the heads of M.P.s, or are they gifted with papal infallibility, to be enabled to settle what are often most difficult technical and scientific questions? In order to simplify the matter, let us consider a question of public polity in which are involved some interesting scientific problems,—such as, for instance, the Bill which Mr. Laird has just succeeded in passing for the compulsory testing of the chain cables and anchors of merchant vessels. It could have been by a mere chance that a Select Committee appointed to investigate the scientific bearings of the question should be able to choose the best witnesses for its purpose. Who amongst the members of the committee would be able to choose the best and most scientific witnesses in testing iron, and, above all, on testing the machines for testing iron? Accordingly, on the list of witnesses examined before the chain-cable and anchor committee of 1860, we do not find a single name of eminence in the engineering profession; nor do we find any evidence possessing what may be termed a scientific value. Granting that a select committee on a scientific question has succeeded in making a good choice of witnesses, why even then the members have to pass through a kind of education or apprenticeship before understanding what is wanted of them. And it is often more difficult, even for an expert, to ask, to state, to suggest, a question, than to answer a question. Let us, again, suppose that the right witnesses have been chosen, the right questions asked, and that the right answers have been given. Who is to draw the right deductions from the immense amount of resulting evidence? who is to thrash the good grain from the heap of straw and chaff? who is to deduce the right principle for the special case requiring legislation? As was lately very well said by our able contemporary, the *Saturday Review*,—"All experience teaches that principles of legislation, whether on financial or other topics, must be developed by the writings of thoughtful men, and the discussion of interested advocates beyond the walls of Parliament, rather than by the direct action of such a body as a Select Committee. Boards and committees are sometimes capable enough of balancing expediencies or collecting evidence of facts, but they never succeed in discovering principles." Of the truth of this remark we have an instance in a paper on the testing of chain cables, portions of which we have quoted, lately read by an engineer before the Society of Arts. Will it be believed that witnesses before the committee were found to maintain that the

material of a chain was not injured—was not "crippled," to use a term common among engineers,—by being broken several times? and that the committee adopted this evidence in their report as a proof that the application of a severe strain has not an injurious effect on a cable? If the conclusions of the report be right, the quickest and best way to improve the material of a bar would be to break it. An extension of this discovery would lead to our breaking down any iron railway bridge we found too weak, and to then building it up again, carefully using the same materials. Most engineers, however, have long recognised that iron is injured by being strained beyond its limit of elasticity, and more especially if it be strained several times up to breaking point. That iron thus strained is rendered brittle, that the longitudinal elongation under a tensile strain, which is naturally accompanied with a lateral contraction, must contract and transpose the internal structure, is a very probable explanation of the phenomenon.

It appears to us that not one of the speakers in the House on Lord Robert Cecil's motion took a sufficiently comprehensive view of the question before them; and we will now show the point from which, as we think, the question should be regarded. The main difficulty in legislating on private Bills is clearly the difficulty naturally felt by the members of the committee in understanding the question before them. How can it be possibly expected that the middle-aged country gentlemen, the retired merchants, the professed statesmen, the army or navy officers, comprising Parliamentary committees, should be able to fathom the engineering, chemical, or medical questions placed before them in evidence? The majority of these gentlemen were born in the pre-scientific era, before the full growth of the modern sciences, the practical application of which to special and local cases forms the subjects these committees have to consider. How could it be expected, even by the most sanguine mind, that a question of, for instance, medical jurisprudence could be properly settled by a half-dozen gentlemen chosen nearly promiscuously from a body of men like that comprising the House of Commons? What would be the state of our law courts without a judge, without a code of laws, but in which each and every case had to be settled by a jury? It is not improbable that many fair decisions would be given by a dozen intelligent, honest Englishmen, even without the aid of a presiding judge. But what would be the results if only complicated scientific cases were brought before such a jury? Take the trial of patent cases in our present law courts as an instance. Even when a jury is aided by the usually very powerful and practised intellect of one of our judges, many of the cases have actually broken down from the simple inability of the court to understand the questions at issue; and a Parliamentary committee is often in the position of a jury without a judge. For these reasons, the witnesses are ill chosen, absurd and improper questions are repeatedly asked, and the report on which is founded on the whole evidence is often egregiously wrong. The greater number of the questions brought in this way before the House are engineering questions. Fifty years ago, such things as gas, or telegraphs, or railways, or steamers were unknown. The introduction of even such familiar things as iron cables is only fifty years old. Legislation has thus to encounter special and technical difficulties which were unknown to a preceding age. It is, therefore, only natural that the machinery should be altered to meet the new wants.

In truth, the question of the legislative handling of the social applications of modern discoveries is only a single phasis amongst many others of our time. Look at the influence merely of railways on land warfare, leaving out that exerted by the new *armes de précision*, which have also issued from engineers' workshops. As Captain W. H. Tyler (of the Board of Trade) remarked the other day at the Royal United Service Institution, in the presence of the Prince of Wales,—"It is very plain that, as railways increase in number and come into common use in military operations, so it will become more desirable that every soldier in the army should be able to assist in destroying or repairing them. In previous lectures he had pointed out that the use of the spade in warfare will necessarily increase with the common employment and a growing efficiency in the use of rifled weapons; and he would now add that the use of railways in war may render it still more desirable that every soldier should be trained to be more or less of an engineer." About the application of iron in large masses for the arming of war-ships, it is scarcely necessary to speak. But even international laws have had to be modified, and will have to be still more closely adapted to these changes. Agriculture is now scarcely anything else than an application of chemistry and a branch of engineering. These things are profoundly modifying the bases of modern social intercourse. A successful engineer or chemist has, at one and the same time, both the prestige of the successful man of science and the wealth of the merchant. And, accordingly, men like this take social position almost equal to those of the great architects and painters of Mediæval Italy. At the bottom of all the late turmoil about education in our public schools, is the desire felt by most men of common sense that some attention should be given by the English boy to the arts and sciences that convey him swiftly from one place to another, that clothe him, that provide him with light and warmth, that can enable him to send, lightning sped, a message to his parents in India; to the sciences he may require when fighting for his country, at sea or by land. Sooner or later, these educational changes will have to be made, if we do not wish to be left behind by other nations. Our Board of Admiralty, which in its composition completely ignores modern discovery, will also, sooner or later,—perhaps under the pressure of a great naval war,—have to be differently formed. Only one class is now administratively represented at Whitehall,—the old class of naval officers. Naval constructors, marine engineers, and other classes are completely left out; and in this way, again, the composition of our naval administration completely differs from the modern French marine administration. One of the main reasons that our present patent laws excite such discontent is simply to be found in the fact of the incapacity of ordinary tribunals in dealing with patent cases,—which, again, are simply questions of engineering or chemistry. Sooner or later specially formed tribunals will have to decide patent cases, and the many lawsuits involving scientific questions. Under present circumstances any decision is most difficult and expensive. Patent barristers being special men in a special profession, have to be exorbitantly paid; and a multitude of highly-feed witnesses, by the mere weight of authority, and by continual repetition, have to painfully draw decisions from juries upon matters understood by scarcely one amongst the twelve. If, instead of a dozen promiscuously chosen shopkeepers, a certain number of engineers or chemists were chosen to decide on such questions, the expenses and loss of time naturally attending such trials would be greatly diminished. Of course, we do not pretend to say that the adoption of such a plan would be an effectual remedy; but the idea is perhaps worth consideration, and, at any rate, the present arrangements simply result in a mockery of justice.

Now, it would be an interesting question how it is that these sufficiently obvious truths are so much disregarded in England. With the most intellectual nations of the Continent they have been long recognised with more or less completeness. That is to say, the great and searching influence on every phasis of life, of the modern command over matter acquired by our extended and applied knowledge of the natural sciences, has long been comprehended by the most commanding spirits of France and Germany. Take Goethe, for instance, the poet of the greatest intellectual calibre Germany has ever produced. He turns his Wilhelm Meister into a geologist, and Dr. Faust into a civil engineer. In Goethe's later years he gave great attention, and with some success, to natural philosophy. He then sang,—

> "Von Gott, dem Vater, stammt Natur,
> Das allerliebste Frauenbild;
> Des Menschen Geist, ihr auf der Spur,
> Ein treuer Werber, fand sie mild.
> Sie hehlten sich nicht unfruchtbar:
> Ein Kind entsprang von hohem Sinn,
> Sie ist uns Allen offenbar;
> 'Naturphilosophie sei Gottes Enkelin.'"

For two generations the natural sciences have been universally and systematically taught in Germany. Napoleon I. reorganised public education in France from a similar point of view, and his nephew is now directing his attention to further improvements and modifications of the system bequeathed by his uncle. Far different has been the case in England. Here the leading men of the country, the leading statesmen, lawyers, and writers have been for the most part brought up with an almost utter disregard of physical science, while even mathematics have been almost left out of all but university educations. The absence of State interference has some disadvantages, and one of its results in England that every schoolmaster can teach what seemeth good in his own eyes is not the least. Applied mechanics have been cultivated with unexampled success in England, but this has been greatly due to our great natural resources; and the generally felt want of sound instruction is already causing departments of British manufacture to be much surpassed on the Continent. It is just the want of scientific knowledge that leads members of Parliaments to under-estimate the work involved in legislating on scientific and technical matters.

Mais revenons à nos moutons—the Select Committees of Parliament. It appears to us that the work of Parliamentary select committees on scientific and technical questions would be greatly facilitated if they had the benefit of the assistance of experts, not merely as witnesses as at present, but also as advisers. Let a committee, when once formed, at once make use of the professional advice of an engineer, or a chemist, or a physician, or a shipbuilder, or a military or naval officer, according to the subject intended to be investigated. In the first place, a proper choice of witnesses could thus be made. The erratic vagaries of both witnesses and barristers could be at once checked by an expert gifted with ordinary firmness. As was remarked by Lord R. Cecil, "It was owing to the want of knowledge of the members on special subjects that they allowed themselves to be brow-beaten, as they sometimes were, by the Parliamentary counsel." What can be said to the outrageous case of this kind stated in a late number of one of our contemporaries? The Parliamentary committee on the Metropolitan line is now hearing evidence brought before it as to the projected line from the Finsbury extension of the Metropolitan at Little Moorfields passing under Finsbury-circus and Bishopsgate-street by the north-east end of Houndsditch, under Aldgate and the Minories, to a point where the Blackwall crosses Vine-street, and then to the north-east of Trinity-square, Tower-hill. "If there be one point which might be supposed to be clear and undisputed in connexion with this project, it is that the extension, if made, will pass through a populous district, and would have in consequence a very large traffic. But the unfortunate committee are not even permitted to assume this point; and there, in the sultry heat of the crowded committee-room, the members have to receive evidence from Abraham, Isaac, and Jacob as to the traffic of Houndsditch, the trade of Rag-fair, and the trading charlatans of the Minories. "I should think," said Lord Stanley, "mildly addressing the counsel, "that it might be assumed that there would be a large amount of traffic on the line if it were made." "Not so," promptly, and with curious infelicity, replied the learned counsel, profusely perspiring under his load of horsehair, and who represented an opposing line in the same locality; "I am not prepared to admit that my learned friend will get a single passenger upon his railway if it were made." Lord Stanley sank back into his chair in a state of hopeless resignation, and more witnesses were called to prove that the people in the east end of London have frequently to ride in omnibuses, in cabs, or walk beyond the crowded locality of Whitechapel and Aldgate. Now such things are abuses, and learned Parliamentary counsel are the only gainers, to a great loss of most valuable time. A previous investigation of a few matters of fact would prevent this. An expert, again, would at once be enabled to draw the particular information and evidence wanted from each witness as he appeared; and, lastly, a sound and scientific report could be drawn up by such aid. An objection could be made on the score that it would be difficult to get a professional man perfectly unbiased on the question at issue. We do not see that this objection is tenable. There would clearly be many checks in the committee-room itself, and the fact that all the evidence would be published is of itself a sufficient answer to the objection. Are the members themselves always perfectly unbiased? There can be no doubt that the "members of committees discharge a most onerous and ungrateful duty with great ability, and the greatest integrity;" at the same time, perfect impartiality on all questions is certainly not obtained. Witness the London water supply, the oppressive monopoly of which is bolstered up by a compact phalanx of M.P.s.

PROGRESS OF THE METROPOLITAN SEWERAGE.

THE NORTHERN OUTFALL.

THE reports of Mr. Bazalgette to the Metropolitan Board of Works, have recorded progress of that great undertaking, the sewerage of London, until now they offer immediate prospect of consummation of the entire arrangements for outfall, and indicate a proximate termination of nearly all those for interception by the sewers of the different levels. The only portions of the undertaking in which it can be said there is much to be done, are the Low-level sewers; and, even there, the only considerable arrear is in that division of the line which is connected with the Thames Embankment. A large portion of the western sewerage, to be ultimately joined with the Northern Low-level sewer, is complete; and an eastern portion of the Low-level is this week about being tendered for. Of the Low-level line on the southern side, a length of four miles is finished, as stated in the last report. The reservoir just below Crossness Point, and the machinery for pumping the sewage of the south side, are very near to completion. On the north side, the sewage of the High-level, with a large portion of that of the Middle-level, now passes to the reservoir, or three of its compartments, and to the Thames, at Barking Creek. As shown by the state of some streets, there is work yet to be done to the Middle-level sewer, and the Piccadilly branch; whilst there are indications at points variously distant from these lines, of much work in hand connected with the transverse tributary sewers, and with old main lines which are to serve in future as storm-water outfalls. The machinery and stations for pumping the Northern Low-level sewage; and the method of, and many of the arrangements as to, the disinfection, or deodorization, originally contemplated westward, as for the whole of the sewage of London, may be considered in abeyance: but the pumping-stations at least, will be proceeded with in time for the completion of the sewer with which they are connected.

Such being the advanced state of the undertaking, we would invite renewed attention to the several divisions of the comprehensive work. It is full of matter of interest, suggestion, and instruction, for those who have watched its progress, or will take the trouble to follow the details of the numerous, and at first seemingly complicated, arrangements, of which the consummation will involve concealment to the common eye; and, before the last compartment of the reservoir and some other portions of the structural disposition of the Northern Outfall are closed in, we would endeavour to help those who may be disposed to visit the works, to a better comprehension of them than is likely to be obtained with ease otherwise, even given the advantage of reference to the original drawings. We may subsequently offer similar particulars of the features of the Southern Outfall and system.

Already the state of the work of the Northern Outfall is such as to allow only a portion of the construction underground to be seen; but enough may be examined to reward any one who can go prepared with information concerning the general system of the metropolitan sewerage, and the particular arrangements designed and in operation. The best mode of getting to the spot, is probably from the Fenchurch-street station by the railway to North Woolwich, whence the outfall is distant about two miles, by a pleasant walk along the river-bank after rounding the Pavilion Gardens. Soon after passing Bow, the embankment-line of the long outfall-sewers is seen from the railway: it is crossed on the level, before the Stratford Bridge Station is reached; and, after turning south from this latter station, the railway passes under the sewers. The iron troughs or culverts over the many branches of the Lea, and several intersections of the sewers with road and railway, can be glanced at. Each of these, along with the brick-culverts for the marsh-land drainage, required special contrivance. One of the many matters of detail which had to be provided for, was the expansion and contraction of the iron culverts without escape of sewage. This is managed by forming a connexion between the iron and the brick-work, of sheet-lead, in some cases, attached at one edge, to the one material, and at the other to the other, and bent to allow of the required play, the end of the iron culvert being inserted into that of the culvert of brickwork, and being, of course, carried on rollers. In other cases, a thick strip of vulcanized india-rubber is substituted for the lead. There is much ingenuity in these contrivances; but the contact of the two metals may be attended by galvanic action, and destruction of the iron; whilst the india-rubber would seem to possess scarcely sufficient durability. Amongst the matters of which no idea can be gathered during the transit, are the structural arrangements needed for passing over mains of the East London Water-works Company. In the walk from North Woolwich, the eastern portion of the line can be seen. At last, coming to near Barking Creek, the sewers-embankment sweeps round, skirts the reservoir, and ends at the penstock-house, under which the sewage passes, with certain intervals of time, to enter the river as will shortly be described. In the course of the walk, the low-level of the marshes compared with that of high-water of the river, the method of irrigation at present in use, and the suitable position of the land for irrigation from the sewer, will not fail to be noticed. The value of the land as at present irrigated, would seem itself to interpose difficulty of change, the subject being viewed from the owners' position.

Those who propose to visit the works should be provided with a card, or order, which we are enabled to say can be had on proper application at the Office of the Chief Engineer to the Metropolitan Board, in Spring-gardens, by any of our readers; but the whole of what we shall speak of, or what is connected with the sewers themselves, can hardly be seen, at least safely, except under guidance of one of the engineers of the Board.

Along the sewers-embankment, there is a good road by which the outfall is distant somewhat more than five miles from Old Ford, at which latter spot, near Victoria Park, the important division of the works relating to the High and Middle Level sewerage, connecting the two systems, and providing storm-water outlets to the Lea, is situate. The road may eventually form an important access to the Victoria Park, for the inhabitants of West Ham and Plaistow,—districts, however, in which increase of the population is not to be desired. The marsh, and the banks of the Lea, or Bow Creek, seem to be the chosen home of nuisances, which pollute the air more than the sewage in the sewer itself. At Bow Bridge, the water even of the stream, or Creek, is very offensive, although the sewage of Hackney no longer drains into the Lea. The West Ham district is so unfavourably circumstanced for drainage, that when Mr. Rawlinson sewered it, he could not get his trenches dry, and was obliged to set the inverts, ingeniously contrived, of his sewers, by feeling the place for them under water.

It is not our present object, however, to describe many features of site or construction of the Northern Outfall-line, but those of the extremity itself connected with the reservoir. Still, it is necessary to remind the reader of some of the aims and principles which have ruled the arrangements of the metropolitan sewerage.

The whole subject of sewerage almost may be said to be comprised in one of outfall, if we include in the latter question that between merely getting rid of the sewage and utilizing it on land. When the metropolitan scheme was decided upon, the position was that something was imperative to be done, if only experimentally, at whatever cost, with the object of purification; and apparently it was impossible to be satisfied with any system of utilization that would wholly resign the use of the river. It may now be regretted that some system of sewers radiating from London, and serving irrigation of lands on other sides of the metropolis than the east, could not have been designed; but it must be recollected that the subject was not even in 1855 or 1858, so far advanced as it is now; and that now, the readiness of farmers to take the sewage, and the idea of success of schemes based upon such readiness, may be not altogether so clear as to convince persons responsible for success, the Board and their engineer. As to other methods of utilization than by irrigation, it must be confessed that the question of these has advanced but little. For example, we learn that one of the recently-established companies, the Eureka, dealing with night-soil and the contents of ash-pits or middens, at Hyde, near Manchester, finds extreme difficulty in disposing of their disinfected material; and although we say, as we have always argued, that such a circumstance is inconclusive in the question for the authorities of towns,—whose duty might be to get rid of the refuse innocuously, even at cost to the town,—there is no doubt it is important evidence against much that has been adduced for the consideration of the Metropolitan Board of Works.

The system adopted in 1858, and to carry out which the works were commenced in 1859, therefore was that of the interception of the sewage then running into the river,—or preserving the lines to old outfalls only for occasional relief on days of extraordinary rainfall,—and the relief thus of the Low-level districts from the evils of tide-locked drainage, relief which already has to great extent accrued, even though the Low-level sewers be not completed. The sewage, along with the ordinary rainfall of an immense area, and including the water of important tributaries to the Thames perverted to the condition of sewer-rivers, was to be conducted all eastward, and so as to create the impression with some persons, that the volume of the Thames would be diminished seriously for the purpose of navigation, and that the evil of the stench would be in some respects increased through the means by which it was sought to be combated. Without doing more than say that diminished volume of the river combined with the higher rise of the salt-water, is important in the sewerage question, we may note that the conclusion was that the whole water of the streams in their ordinary state, was required to move and carry on the sewage to the place of outfall. Hence the elaboration of arrangements at Old Ford, by which the Middle-level sewer might be made to serve for the relief of the High-level sewer, more subject to be flooded, and the water of the latter might be turned to account in moving the thicker Middle-level sewage; and by some of which arrangements, the whole excess-product of storms might be allowed to escape into the Lea. The disposition of the outfalls to the east of London, merely did not resign the chance of an application of the sewage to the land, in the eastward direction, where levels were most favourable for irrigation.

It may be necessary further only to remind the reader that the line of the outfall-sewerage from Old Ford to the site for the intended pumping-station at Abbey Mills, just west of the eastern branch of the Lea, is formed of two channels; and that eastward of the station, it is of three channels. These may be regarded as separate sewers; and thus indeed we have above alluded to them. The reason for the arrangement, instead of that of one sewer, was not merely to admit of repairs; it allowed the sewage to be brought to the Thames at a higher level, and consequently to be passed into the river at a higher state of the tide.

It was desirable to relieve as large a portion as possible of the northern area to be dealt with, without recourse to pumping. Certain levels, now comprised by the high and middle divisions of the system, were thought to be capable of drainage by gravitation.

The first circumstance going to rule the level of sewers, is the level of the basements of houses. In the case of London, the ordinary sewers were to be preserved; thus the level of the house-drains and sewers, as of Highgate and Hackney, Bayswater and Piccadilly, had to be specially considered. This made the level of the invert at the starting-point on the western bank of the Lea, slightly more than 9 feet (9·022) above that of Trinity high-water mark. Then a gradient had to be decided upon, calculated to ensure the proper flow of the sewage, whilst the outfall should be so high as not to be tide-locked, unless for a very short period of each tide. A fall of 1 in 2,640 or 2 feet in the mile,—and alike throughout, to insure equable flow,—was given to the sewers, the various crossings of roads and railways being capable of being accommodated by great contrivance. Thus in the length of 5 miles 1,400 feet which was that of the line at the date, August, 1860, of the original contract-drawings, the inverts of the sewers came down to the level of about 1 foot 4 inches (1·357) below Trinity mark. Actually the length is some feet more than we have given, the point of outfall having been placed rather nearer to the mouth of Barking Creek.

To cast the sewage into the Thames on the rising tide, except for one hour before high-water, would have been to send it back to London. The object was to allow it to be taken in the reverse direction, as far as the ebb-tide would carry it. It was necessary, therefore, to stop the flow into the river, twice for a certain length of time in each twenty-five hours, and to store the sewage for ten hours. A reservoir capable of storing sewage for such time, thus is

an essential feature in the arrangements of the outfall; and the level of its floor according to the calculation, should be not lower than that of the river at one hour and a half after the mean high-water. The mouths of the three parallel lines of sewer are closed at the proper time by penstocks; and the several upper penstocks of the reservoir are opened: the sewage then accumulates until the proper time of the tide, when lower penstocks are opened, and the sewage flows into the river, as it does also from each upper sewer or its tumbling bay, by nine culverts at a lower level, where the inverts of these end-outlets are less than a foot (0·79) above low-water mark.

The object is to pass the accumulated sewage into the river, in as short a time as possible, and to allow the general sewage to escape, and both to descend as far as possible, having regard to the turn of the tide and the inevitable backward movement of the sewage with the tide. It is assumed that eventually the sewage will get out to sea, and that meanwhile it will be diluted with a hundred times, or as once said, four hundred times, the volume of water of the Thames at London Bridge. Whether this result is attained, or whether the differing specific gravities of river-water, sewage, and sea-water, will tend to produce deposit, or even to cause the sewage to be returned to London Bridge, is a question which we would rather not now enter upon. The works are so far advanced that there will shortly be the best means of testing various theories; and pending the time of experiment, we perhaps ought not to come to any conclusion on the subject. What we have seen, belonging to the question last referred to, we need not hesitate to mention.

The discharge of the sewage, just now, commences about one hour after the time of high water. The Fleet Sewer is not yet intercepted; and much of the Middle-level sewage above still drains into the Thames. Recollecting that none of the Low-level sewage is intercepted, probably we may assume the sewage which now flows into the Thames near Barking Creek as about one-fourth of the ultimate volume for the present inhabited area of the jurisdiction of the Metropolitan Board, north of the Thames. We saw the sewage, on Saturday last, boiling up from the mouths of the nine culverts,—which were at the time of tide, below water,—and passing down in a black stream which might be one-seventh, or one-sixth, the breadth of the river, and was marked by a defined edge from the water which was of greenish hue beyond. At that particular time, certainly, the sewage was pent back in the embayed portion of the river, by the tide, which sets in strongly there in the first hour and a half of ebb; and the current of the Roding, and outflow from Barking Creek, did not seem to have the slightest effect, as we were told it would have some hours later, in diverting the course of the sewage to the middle of the Thames. Far into the distance the line could be traced; and we shall not be satisfied about the sewage getting away from the bank, and being mixed to a greater degree with the Thames water, until the engineers of the Board have carried out an expressed intention of following its edge to the limit of distance where division of the streams can no longer be perceived. Two miles below the Northern Outfall, however, is the Southern Outfall in Half-way Reach. Thus, the present volume of the Northern Outfall being to be multiplied by four, and the Southern Outfall having to contribute its distinct stream, the position of Erith about three miles farther, and even of Gravesend, would hardly be to be envied according to present appearances; and disposal of the sewage by irrigation, if there be adequate quantity of land, or treatment of it in the reservoir, and such appreciation of the value as may produce the demand and pay cost of carriage, must be looked to as the forlorn hope for a more satisfactory state of things. As regards carrying the sewer farther, whether with the view of applying the sewage to the marshes beyond Barking Creek, or placing the outfall at the mouth of the Thames, there is only this difficulty, that whilst greater headway than 8 feet 6 inches, that of the crossing at Old Ford, would be required for the navigation of Barking Creek, (since larger vessels go up to Barking Quay than get up the Lea,) there would not be even that 8 feet 6 inches.

The whole reservoir will store sewage for eleven hours; and it can be emptied in about two hours; and generally, like every part of the arrangements that we have heretofore had to describe, it is exceedingly well contrived and constructed. It may be well to mention, that any discrepancy may be understood, that modifications have been made since the dates of publication of our several notices of the original design for the sewerage generally, and the outfall. Details of the connexion between the outfall-sewer and the reservoir, and the discharge from the latter into the river, were not decided upon till recently; and the times of discharge into the river, may yet be slightly altered.

The reservoir is placed at one side of the sewers, that is, the east; and the sewage flows into the reservoir,—or rather, directly, into an intermediate trough,—through the upper penstock-openings, from certain lengths of culvert that are placed transversely to, and connect, the three main lines where alongside the reservoir. By this arrangement, the sewage-flow turns at a right angle in passing into the reservoir. In passing out, it follows a course precisely similar, (excepting that the flow is in the reverse direction,) through similar openings and along similar transversely-placed lengths of culvert, to turn into three outlet-sewers, at the lower level, corresponding in position, though not quite in their form, with the three lines above. This arrangement of two stories, so to speak, or three sewers in each level, commences (according to the original drawings, which, we are told, have in this case been observed,) from a point which is distant 490 feet from the line of the river-wall, or 670 feet from the mouths of the nine culverts, and continues in the direction of the river for a length of 400 feet, but spreading out from the breadth 34 feet 6 inches, that generally of the three sewers between the pumping-station at Abbey Mills and the reservoir, to the dimension of breadth 74 feet.

From Abbey Mills, up to the point mentioned as 490 feet distant from the river-wall, that is to say in the arrangement of the sewers of the general construction, and where wholly above ground, as for the greater part of the length of four miles from the pumping-station, the three lines are carried on arches of 17 feet to 17 feet 3 inches span, springing from concrete-piers, which measure on plan 4 feet, or 6 feet 6 inches, by the before-mentioned 34 feet 6 inches. The arrangement was referred to in an article in our volume for 1860, where the dimensions in section of each of the parallel lines were given, 9 feet for the span of the semicircular vault, and 9 feet for the total height, in the clear. The bottom, or invert, is a curve which is struck from a centre at the crown, with a 9-feet radius; and the sides below the springing of the covering vault, curve inwards, being struck with a 9-feet radius from centres at the springing. In one of the lines at least, the stream has already been up to about half the height of the crowning vault, as shown by stain on the brickwork; but, on Saturday last, when the whole sewage was passing along only one of the lines, the depth of the stream was little more than 2 feet, though there had been a considerable quantity of water from the High-level, not long previously. For the diversion of the flow into one or other channel, we may mention that not only are there the arrangements at the overflow-chamber at Old Ford, but there are iron gates 4 feet 6 inches in height, as well as chases in which dam-boards can be fixed, at the point where the Low-level sewage is to come in, and where the parallel lines become three in number.

Descending at this point, and standing upon a temporary bridge just above the surface of the stream, the sewage was seen passing swiftly on. It was rather inky, instead of muddy-brown like the water of the Thames in its worst state; and it seemed slimy rather than charged with insoluble particles.

The somewhat inky colour was exchanged for a brown slimy appearance in the mixture of sewage and Thames water seen in the boiling-up at the ends of the nine culverts already noticed. Of course, in the sewer the sense of smell was not gratified; but the stench was less than might have been expected. At the outlet, solids of the sewage were floating collected together, and seemed to have passed down the line without maceration or decomposition. The tide not having fallen below the crown of the arches, there was not the best chance for their being forced away from the bank or wall. The sight was disgusting; but, were it not unsafe to judge from a single occurrence, the fact might show that much of the sewage was passing to the river so rapidly as not to be decomposed, and to give off noxious gases.

Certainly, at the place of previous inspection, four miles from the outfall, there seemed to be no want of proper fall. In the line along which we were able to walk, the middle of the invert was generally as clean as if the bricks had been scrubbed,—so much so indeed, as to suggest that the blue Staffordshire bricks, used in some of the sewers, should have been used throughout the metropolitan system, for inverts. But close to the sides of the sewer, there was sufficient deposit on the invert, to cause difficulty in walking without slipping; and a coating of perhaps a quarter of an inch in thickness, of slime, was found upon the sides of the sewer, for a foot, or perhaps more, in height. Whether this perfect absence of deposit in one place, and speedy commencement of it in another, should teach anything as to forms of sewers, we must leave to our readers' consideration: at present, we but note the facts.

Within the 490 feet before mentioned, brick piers, 3 feet thick, were substituted for those of concrete; and they carried arches of 18 feet span. The piers were pierced by arches, with inverts, three arches in each pier, increasing in span and varying somewhat in form of opening as the outfall was approached; but these openings have now been connected to form part of the three lower channels before described. Over the 18-feet arch which forms the last bay but one in the length, 400 feet, of two-storied construction, and over the lines of sewer, the penstock-house, and residence for the persons in charge of the penstocks, is placed. At the 400 feet, the three tumbling-bays commence, where the sewage dashes from the sewer-mouths to the lower level, 16 feet down, and 22 feet the length on plan of the three inclined planes of granite of which each tumbling-bay is built, on to the nine lower culverts which extend to the river. Between the foot of the incline, however, and commencement of the nine culverts, there is a length of 28 feet, which is paved with granite. The 22 feet length, and the 28 feet, are vaulted over at different levels: but together, the spaces form one large chamber; and the three chambers, one corresponding to each of the three sewers, are connected by small openings at the base, in the transverse walls, through which the sewage may pass. The sewage from the three lower sewers of the 400 feet length before described, that is the sewage from the reservoir, finds its way into the chambers by six openings,—two being placed at the sides of the substructure of each tumbling-bay,—whilst from each chamber there are three culverts of the nine to the river. Each of these tumbling-bay chambers measures on plan 50 feet by 21 feet, and has an internal height in the loftiest part, next the mouth of the sewer, of about 27 feet to the crown of the arch, and one of 14 feet 6 inches in the portion next to the three culverts of the nine. The nine culverts extend for a length of 220 feet forward, or 180 feet from the line of the river-wall; and farther, for 130 feet towards the centre of the river, there is a channel of 68 feet, narrowing to 66 feet, formed by concrete bottom and campsheating at the sides. The outlet-end of the construction of the nine culverts also is protected by piles and campsheating; and the whole is covered by a bed of concrete. All this construction is covered at high-water. Each culvert of the nine is built of brick, with semicircular vault, perpendicular sides and segmental invert, and is 6 feet in the clear width, and the same in height.

The crown of the arch at the place of discharge is just the level of Ordnance datum. Trinity high-water mark is 12 feet 6 inches above that level, or as we have said, about 1 foot 4 inches above the invert of the upper line of sewer; and the low-water of the 27th of March, 1860, was found to be somewhat more than 6 feet 9 inches (6·79) below the datum.

Originally, as shown by the contract-drawings, it was intended to place tidal-flaps as well as penstocks to the ends of the three sewers of the upper level. The tidal-flaps, however, since, have not been thought necessary. The penstocks are closed to shut out the tide, and raised to allow the sewage to escape, when it is not going in to the reservoir. Penstocks also are placed at present to the lower outlet sewers; but something is said of their not being retained, in which case the tide would flow up those sewers, their whole length. Doubtless, consideration will be given to the question whether this would add to deposit.

We are now in a position for making clear a description (to be given in another article,)

of the form and construction of the reservoir, and for adding some essential particulars, not obtainable from any drawings to which we have had access, of the connexion of the reservoir with the upper sewers and lower outfalls. Before proceeding, however, it may be well to allude to the character of the strata at this spot. Where the three tumbling-bays now are, the trial borings showed a stratum of 12 feet of peat, coming after 15 inches of surface-earth, 2 feet of light-brown clay, and 2 feet of soft blue clay, here stated in descending order. After the peat came 2 feet of dull blue clay, 4 feet of sandy clay, and then gravel, with water. A bed of varying thickness, of peat with decayed wood and trees in some places, was found over the whole area to be occupied by the reservoir. Along the line generally through the marshes, a greater number of discoveries than have been noticed in the papers, were made. One of them, recent, and the most curious, if no deception has been practised upon the engineers by the person claiming to have made the discovery, is that of a portion of a ship's block at a very considerable depth in the peat or ground. Mr. Bazalgette and his assistants seem to be quite alive to the geological value of their borings into the soil of London.

BLACKFRIARS.

THE changes that have been effected in the neighbourhood of Blackfriars Bridge, within a comparatively short space of time, are nothing less than marvellous. A visit to the spot will amply pay for the trouble. The vast pile of timber staging forming the temporary bridge, story above story (the ways for foot-passengers above that for horse traffic), has a remarkable effect viewed from the old bridge, St. Paul's seen over it; and at certain times of the tide the water bubbling and boiling beneath gives an added feature. The old bridge will soon come down. In the *Gentleman's Magazine* of 1760, as quoted in the *City Press*, we are told that there was upon "a plate or plates of pure tin a Latin inscription, written at the request of the Court of Common Council, and of which a verbatim account is given." The following is an English translation. It will be seen that it contains a fact perhaps not generally known as to the naming of the bridge, worthy of notice:—"On the last of October, in the year 1760, and in the beginning of the most auspicious reign of George III., Sir Thomas Chitty, knt., lord mayor, laid the first stone of this bridge, undertaken by the common council of London (amidst the rage of an extensive war), for the public accommodation and ornament of the City, Robert Mylne being architect. And that there might remain to posterity a monument of the City's affection to the man who, by the strength of his genius, the steadiness of his mind, and a certain kind of happy contagion of his probity and spirit (under the Divine favour and fortunate auspices of George II.), recovered, augmented, and secured the British Empire in Asia, Africa, and America, and restored the ancient reputation and influence of this country, amongst the nations of Europe, the citizens of London unanimously voted this bridge to be inscribed with the name of William Pitt." Although the citizens did vote this, it is now quite clear that the intention was not carried out. Blackfriars Bridge it always has been called, and always will be in all future histories.

The Railway Bridge, of which, as well as of the proposed new Blackfriars Bridge, we have already given illustrations, is making very rapid progress. The north and south abutments, it may be mentioned, are built of the stone that formed part of the old bridge at Westminster.

The Blackfriars station of the London, Chatham, and Dover Railway Company, opened for traffic on the 1st inst., was arranged and carried out for the Company by their engineers, Mr. Joseph Cubitt and Mr. T. Turner; the architectural department having been intrusted to Mr. John Taylor, junior, architect. This station comprises two levels, the lower being entirely appropriated for a goods' depôt, the upper for both goods and passengers. The main portion of the upper or passenger level is carried upon iron columns and girders.

The approach to the booking offices is by an inclined road commencing in the new street to the east side of the station. There are three passenger platforms which, with their lines of rail, are included under one span of roof. There is a cab and carriage road to the arrival platform, commencing on the south side of the new street, where it adjoins the Blackfriars-road, and is carried by an inclined road on arches alongside the high level viaduct, and thence over the new street by girders to the platform. An entrance and exit for foot passengers are provided at the north end of the station, near the bridge, communicating by staircases with the platform and offices.

The arrangements for the goods traffic, which has to be passed from the high to the low level, and *vice versâ*, are by means of hydraulic lifts. The goods level has direct communication with the River Thames, so that goods can be landed or embarked readily.

The building, though larger and more important, is similar in style and character to the stations at Clapham, Herne Hill, Camberwell, Brixton, Dulwich, Penge, Elephant and Castle, &c. The general features and architectural effect having been left to an architect, under the supervision of the engineers, an architectural effect, with character and uniformity, has been produced, giving an example to other railway companies, much needed in the present day. As respects construction, novelty is observable in the free use of terra-cotta ware, not (as is too frequently the case) in imitation of stone where frequently that material is more applicable, but as a superior brick construction, the whole being built in and bonded with the bricks. There are horizontal moulded drip bands of brown stoneware, a material hitherto used for drain pipes on account of its durability, but now made to prevent the discolouration our London buildings too soon undergo. The colour of this material is a good brown, which contrasts well with the blue Staffordshire ware.

An opportunity has been afforded the architect of carrying out this peculiar treatment of these materials, in which he is protected by patents, and the result must be described as satisfactory.

The station which the company has commenced at Ludgate-hill will be of the same character. The ground is cleared for the line, and in a few weeks the iron bridge will be in its place.

POISONOUS PLAYTHINGS FOR CHILDREN.

WHEN a few children are killed by the mixture of some poison in sugar-sticks, brandy-balls, peppermint-sticks, marshals' staffs, pink ladies, and fifty other confections, that children are better acquainted with than the writer, a coroner's inquest is held, and for a time the unwholesome materials are disused, and the sweetmeats are made more wholesome, although they are less brilliant to the eye. But, besides the articles above referred to, other poisonous snares for children beset them in all directions. It is extraordinary what a great want of common care and knowledge is shown by thousands who have the charge of children, and whose duty it is to protect them from these and other dangers. Amongst those matters which require attention, are the colour-boxes which are provided for the use of children. We have some of these before us of several prices, ranging from 1d. to 6d., and 1s. 6d., and in nearly every instance the colours are composed of the most poisonous preparations of lead and other dangerous minerals: amongst these are the various shades of green, a small portion of which will destroy life. Infant artists are almost invariably addicted to the bad practice of putting both paints and brushes into the mouth; and, in consequence, we have disordered stomachs, which often can in no way be accounted for; and there is no doubt that by this means promise of future excellence in art is sometimes nipped in the bud.

It is the same with other toys. The younger the child, the stronger is the impression that all playthings are good to eat; and this predilection should be especially borne in mind in the preparation of toys. It is, therefore, the duty of the custodians of children to repudiate all toys decorated with poisonous colours, especially when these can be removed by sucking. Persons may daily see india-rubber balls which have been thickly covered with coatings of vermillion and chromates of lead, which can easily be removed by the mouth or damp fingers: these are solid balls; but, some time since, the death of some children was traced to poisoning caused by the coloured gutta-percha air-balls. After the mischance referred to, the coloured balls went almost entirely out of the market, and the clear transparent balls came into general use. Now we perceive that the poisonous tinting of the inside of these balls is again making its appearance, and we fear that the coroner's inquiry respecting these articles will be called for again before long; for it is the practice of the little boys and girls, when the air-balls have burst, to tear the materials into pieces, to moisten the portions in the mouth, and form little balls, which they cause to explode. In doing this, the poisonous colouring is often swallowed, and in certain instances sickness and death take place. In many other ways there is danger, to a greater or lesser extent;—as one instance, in the little coloured prints, which are cut up and put into books and pricked in a lottery: the children who win have a practice of wetting the pictures with the tongue, and transferring the objects represented to the back of the hands, face, &c: during this operation, a considerable quantity of the paint (which is of a description similar to that in bad colour-boxes above referred to) is swallowed, and the consequence is, that from this cause we have more unaccountable sickness.

In the Noah's arks, in the farm-yards, in the bright green coats of the Foresters, and in fifty other ways, there is danger to the lives and health of children. Now, there is no necessity for this. To a large extent vegetable colours, which are very telling and harmless, might be selected and used instead of the mineral preparations. In the Swiss toys this provision is, to a considerable extent, attended to; and, with taste, cochineal, indigo, and various yellows and siennas are used with good effect, and *can* do no damage.

Often the eye, as well as the stomach, is deranged by ill-coloured toys: we have seen some so horrible in their want of harmony, that it has been a matter of pain to look at them. This fault, we fear, can only be very gradually removed; but, as regards the preparation of poisonous toys, when death can be shown to have resulted from the use of them, the persons who are implicated in their sale should meet with due punishment.

UTILISATION OF METROPOLITAN SEWAGE.

THE Select Committee appointed by the House of Commons to inquire into the best means of utilising the sewage of the metropolis have had farther examinations of witnesses on the subject.

Mr. Tom Taylor, the secretary to the Board for carrying out the Local Government Act, was one of them. After giving a general summary of the provisions of that Act, he said, in reply to questions, that the Local Government Act only applied to single towns, and the only approach to combined action was a provision giving local boards in a district the power to unite in any operations if they chose. There were only two alternatives, either to drain the sewage into rivers (which was clearly illegal), or to deodorise it and utilise it for the land. There was no public authority entrusted with the duty of seeing that the law which prohibited the defiling of streams was carried out. It was left entirely to private persons interested to seek for injunctions. If an Act were passed creating boards for each watershed, and giving them power over the whole draining stream, no doubt that would tend very much to carry out drainage operations without polluting the streams. As far as his own opinion went he was decidedly in favour of a general Act applying to the whole country. He thought that some stringent legislation was necessary to prevent streams being fouled. Experiments were now being carried on for the utilisation of sewage which would be very interesting—at Croydon, for instance. He was aware that at Leicester great expense had been gone to for experiments which had been failures. Perhaps until further experiments had been made it would be hard to force local boards to dispose of their sewage on land.

He was decidedly against reverting to the old system of cesspools, nor was he aware of any project for constructing cesspools on a new principle which would meet all the difficulties. The Board of Health had no power of compelling local boards to carry out their functions.

Mr. Rawlinson, C.E., principal inspector in the Local Government Act Office, said, in reply to questions, that, in cases where sewage was allowed to flow into a river, it formed a sort of putrefying bank in the river, which was certainly injurious to health, though not so bad as it seemed. He knew of cases in which the beds of rivers had been silted up 10 or 15 feet by this

kind of deposits, and there were bridges, under which a dog could not creep now, under which living witnesses had seen a cart and horses driven. This was a most suicidal policy. In London we drank the sewage of about 800,000 people. No doubt sewage, by being passed along an open stream, and greatly diluted, lost much of its noxious power on the air, but how far it affected health he could not say. The process employed at Tottenham, Croydon, and Leicester for deodorising and utilising sewage had completely failed. Several rivers ran into the Thames which received the sewage of numerous towns. The Wandle, for instance, received the sewage of Croydon, Mitcham, and Carshalton: the Ravensbourne, also, drained several towns.

He did not believe that the existing laws were strong enough to prohibit the fouling of rivers. In order to secure this object there must be some combined action over each watershed, by means of a local board, or some body of that sort, and he would give them Parliamentary powers, something resembling those given to railway companies. To the best of his knowledge, Croydon and Horde are the best instances of the successful distribution of sewage without the pollution of a stream. He understood that the manure produced was worth about 1*l.* per acre, and the water, when it entered the Wandle, was purer than the river itself. The Manchester corporation spent about 20,000*l.* a year in removing the contents of middens and cesspools, and they got about 50 per cent. of that back again. He knew of no case of a successful application of sewage in a dry form. He was decidedly opposed to any legislation which would prevent towns from removing the putrefying matter in cesspools.

If any company were formed for the purpose of applying the sewage of London to agricultural purposes, and were to give any such price for it as he had seen suggested, he would venture to predict that that company would soon be in the Bankruptcy Court.

No doubt, the introduction of the water-closet system had been very injurious in the pollution of rivers. The cesspool system was very injurious to health. At Ashton-under-Lyne a plan was in operation for deodorising the fœcal matter in cesspools, but he was not aware with what success. Still, it would not be applicable to a great town like London. The water-closet system was bad for the rivers, but towns which possessed them were infinitely more healthy than those under the cesspool system. Health was the first consideration; and he contended that sewage ought to be got rid of, even though the rivers were fouled, or if large expense were incurred in converting it to agricultural purposes. He had examined the water in the Thames above tide-mark, and had found it pretty pure in dry weather; but when there was a freshet the water came down in a turbid muddy condition. The great thing was to carry off the sewage-water rapidly, without allowing it time to ferment: it was the fermentation which did all the harm. He was sure that town sewage properly deodorised might be put on land, and no offensive odour would be traceable half an hour after its application, and he believed there would be no injury to health. Any attempt to sell the sewage of London at a large price would be a fallacy, and would throw the question back, as the Leicester failure had thrown it back. About 30,000 acres would be required for the London sewage.

LEICESTER SQUARE: SABLONIÈRE HOTEL.

A NEW impulse to the improvement of this central part of the metropolis has been set in action by the purchase and proposed renovation of the freehold property which embraces the whole south-east angle of the square, part whereof consists of the hotel most frequented by foreigners. For a long time this square has been sinking in public estimation. The trees and shrubs which luxuriated there so lately as 1830 have been devastated; the Royal equestrian statue has been mutilated; the rail fence broken up; and this pleasing largo in the vitals of London has become a by-word and disgrace to the residents, and therefore to the whole City. Often has the *Builder* referred to the subject in the hope of redressing so palpable a blot and deformity. Yet, notwithstanding the recent Act of Parliament empowering vestries and communities to embellish public squares, but little has been done to redress the disgusting ruin. Nevertheless, the concentric position of the quarter, coupled with the attractions of a convenient and well-directed hotel, on the continental system of moderation and comfort, has continued to retain the custom of that nation with which our associations are most intimate, and our habitudes most congenial.

The Alhambra Palace, a building of superior pretensions, was erected several years back, close to the site of the hotel, on the east side. Several large magazines of trade have long flourished on the *north* side; but the intrusion of a shapeless exhibition in the centre, and the conversion of the whole garden area into a laystall; placed fatal barriers in the way of all further improvement. Now, however, a company of respectability has purchased freehold property adjacent to the Old Sablonière, and proposes to erect a structure sufficiently ornamental in the exterior, and upon a scale of extent that may confer a character suitable to this favourite resort of our French neighbours. Their peculiarly national taste for hotels, comprising luxuries, comforts, and freedom, found in restaurants *à la carte*, cafés, and, above all, the *table d'hôte*,—and all these combined with moderation of charge and rates suited to the discretion of all comers,—should such a policy be adopted, will not fail to appreciate and support an establishment which has hitherto, upon a much smaller scale, commanded their preference, despite the deplorable condition of what was formerly the ornamental foreground of a Royal palace.

The growing importance of the district between the Hungerford Grand Railway Junction and Piccadilly, the proposed enlargement of the National Gallery, and the spacious new street conducting direct thence to Tottenham-court-road;—all these demand a thorough reform and expurgation of Leicester-square. Besides that, the influx of foreign visitors, annually increasing, requires the establishment of such an hotel as the plan of Mr. Whichcord, architect, proposes for the company.

LADIES' SANITARY ASSOCIATION.

THE *conversazione* of this excellent association, held on Tuesday evening last in the Conduit-street Galleries, passed off very successfully. Lord Ebury presided, and was supported by Lord Shaftesbury, Mr. Hanbury, M.P., the Hon. Mr. Cowper, M.P., Mr. Chadwick, and others, the Hon. Mrs. Cowper, Lady Ebury, and a host of other ladies assisting. Mrs. Balfour read the report, to which we shall return; and some very agreeable music by Madlle. F. Lancia, Madlle. Sedlatzek, Miss A. Atkinson, Mr. Horace Bennett, &c., closed the evening after some excellent addresses. The exertions of the ladies who direct this association are above all praise. The galleries were crowded.

THE BATH SCHOOL OF ART.

A PUBLIC meeting was recently held in the council-chamber of the Guildhall, under the presidency of the mayor, "to take into consideration whether steps shall not be taken to re-establish the Bath School of Art upon a more permanent basis," the committee being "anxious that one of the most useful of our institutions should not be closed without an effort being made to enlist public support in its behalf." The attendance, at the hour announced for commencing the proceedings, was very limited; but as the evening advanced the room became pretty full. Mr. Henry Cole, C.B., of the South Kensington Museum, attended to give his advice in the matter. The mayor, in opening the proceedings, said the object of the meeting was no less than to prevent the extinction of the School of Art in Bath. Mr. Cole, in course of his remarks, said they had 52,000 people in Bath, all more or less well off; and he should feel ashamed of having been born in Bath if they allowed the School of Art to go down. In conclusion, he appealed to the citizens to give their mayor and corporation no peace until they had a School of Art in Bath equal to any in the West of England. The following resolution was unanimously carried:—"That the attention of the inhabitants of Bath be called in every possible way to the discredit and disadvantage which would accrue from the extinction of the School of Art in Bath; and that, with a view to placing this institution on a more permanent and satisfactory footing, by providing better rooms, and other means, an immediate effort be made by all classes to pay the debt of about 60*l.* which has been allowed to accumulate."

BOOKBINDING.

LECTURES, SOUTH KENSINGTON MUSEUM.

AN interesting lecture on bookbinding, from its earliest date to the present time, was given at the South Kensington Museum, on Monday, by the Rev. James Beck, when some beautiful specimens of the bibliopegistic art were exhibited. The lecturer appears to have studied the subject *con amore*, and seemed equally at home whilst descanting on the gorgeous bindings bestowed by the monks of old on the service books of the Church, which were adorned with sculptures of gold, silver, and other metals, richly ornamented with enamels, ivory plaques, and precious stones; or whilst pointing out the beautiful coatings of Grolier, Maioli, Laurinus, Canevari, De Thou, and the innumerable collectors of the sixteenth and seventeenth centuries, including popes, cardinals, bishops, abbots, and simple monks; emperors, kings, princes, and noblemen of all nations; authors of every denomination, who seem to have vied in decorating their lucubrations for their patrons or their own private use; or the host of amateurs who, since then, for the sake of show, have left specimens of binding executed by Le Gascon, Dusseuil, Padeloup, Derome, Simier, Capé, Montagu, Baumgarten, Roger Payne, Lewis, Clarke, Bedford, and other celebrated manipulators of leather and gilding.

ST. ALBAN'S.

A CORRESPONDENT writes:—The thick and clumsy old wall that skirted the right of the paved pathway leading from the Clock-tower of St. Alban's to the north chancel door of the famous Abbey of the mitred abbots of the town, has been carted away, and a tall and handsome and not inappropriate semi-Gothic railing (one, however, that Pugin would have pilloried in his famous Contrasts), is on the eve of "reigning in its stead." The rail is wrought at Oxford, and the ironmongers of St. Alban's (the three principal shops in the borough are ironmongers') are in a "white heat" at being overlooked by their worthy rector on this occasion. "Why," they exclaim, "go to Oxford, when the work wanted could be done as well in St. Alban's?" They do not add, however, as *cheaply*; and that must always be a point for full consideration when a work of necessity (and this is nearly such) has to be paid for out of small means—the proceeds, we believe, of tickets to see the Abbey. We may here mention what guide-books and handbooks do not tell us (not even Mr. Davis, the glib-tongued and well-informed verger who shows Duke Humphrey's tomb to hungry hundreds), that the beautiful north door of the chancel (to which this iron railing leads) was copied by Horace Walpole for Strawberry Hill. The *copy*, we may add, thanks to Frances Countess of Waldegrave, is still to be seen in its old place and duty. "The great door of the gallery at Strawberry Hill," writes Horace Walpole, "is copied from the north door of St. Alban's, and the two smaller are parts of the same design."

THE WORKING CLASS INDUSTRIAL EXHIBITIONS.

THE promoters of the South London Working Class Industrial Exhibition contemplate having another Exhibition, to commence on the 1st of February next, and continue open for a month, at an admission fee of 2d., and for children half-price; season tickets, giving admission once a day, 6d.; exhibitors free. They have issued a printed list of suggested rules and regulations, including the subjects to which prizes will be given, and which are of a very miscellaneous description, such as to inventions for saving or preserving human life, whether by sea or land; for stimulating the production of good and cheap food; the increase of social happiness, and sanitary advantages; toys, games, &c., either for indoor or outdoor amusement; general building or engineering purposes; articles peculiarly ingenious, ornamental, or curious; also for models, statuary, drawings, etching, and designs (whether for patterns or in architecture); and even literary productions or music. Prizes will also be given for skill in execution and excellence of workmanship. No prize will be more than 20*l.*, or less than 2*l.* for men; or more than 10*l.* or less than 1*l.* for women, apprentices, or youths; and no article or *fac-simile* of the same shall be eligible

for a prize which has already received that distinction from previous exhibitions.

The promoters of the North London Exhibition called a general meeting, in the parish of St. Luke, in favour of the object in view, at which a resolution pledging the meeting to support the movement and assist in its promotion was unanimously passed.

PARIS.

THE erections, as far as they have been carried, of the so-called Palace of the Universal and Permanent Exhibition at Auteuil, were to have been offered for sale by public auction on the 25th of last May; but the sale was postponed until the 27th of next July, to allow time for an arrangement of the separate rights of the proprietor of the land, M. Erlanger, a banker at Frankfort, and of the contractors for the building, Messrs. Viboux & Co., of Colmar. The land is valued by M. Erlanger at 3,300,000 francs; and Messrs. Viboux & Co., after expending 8,000,000 francs, or thereabouts, towards the construction of the edifice, have become bankrupts.

The so-called palace has much the same appearance that it had a year ago. Its extreme solitude from the total absence of workmen renders it almost as melancholy a picture as the city of Pompeii, with its fragments of walls and roofless buildings, extending here over a surface of two acres more than the London International building of 1862.

All the walls are now completed of the Pavillon de Flore, at the Palace of the Tuileries, and it is ready to receive the roof: the portion of the gallery adjoining which leads from the palace to the Louvre, and was taken down, is now completed and roofed. It advances nearly 10 feet beyond the line of this gallery, and appears to be intended for inhabitation, from the numerous windows in the several stages; but it completely destroys the unity of design of the north and south sides of the courtyard of the Carousel.

At the new Théâtre du Chatelet, a gilt trellis-work has been placed on the stage, between the foot-lights and the performers, to obviate any chance of combustion to female dresses.

WYGGESTON'S HOSPITAL COMPETITION, LEICESTER.

THE exhibition of the designs sent in for this hospital is now closed. There were some sixteen designs sent in under motto, but somehow quite half of them were known, and the authors openly talked about in the room. Yet worse than this, on the first two view days, when the drawings were only open to the private view of the trustees and their friends, some of the local competitors were stationed by their drawings, explaining them to the visitors as they passed round; and these are amongst the selected favourites of the trustees. It is to be hoped that architects from a distance will be cautious of future competitions in Leicester, when local favourites are supplied, in this questionable manner, with tickets of admission, by the trustees or the secretary, for the private views of themselves and friends.

There are six designs selected for future adjudication, when Mr. Brandon will be requested to assist the committee. These six are as follows:—"Desideratum," Messrs. Kirk & Parry, of Sleaford; "Spes et Fides," Messrs. Goddard & Son, of Leicester; "Commissio," Mr. J. King, of Coventry; "Wyggeston Arms," Mr. Millican, of Leicester; "Melton," Mr. Giles, of London; W., within a circle, Mr. Ordish, of Leicester. The stipulated cost is 15,000*l*. The cost of some of the selected would surely far exceed this?

IPSWICH TOWN HALL COMPETITION.

THIS competition appears to have resulted in a dilemma. The town council issued an advertisement, offering two premiums,—the one of 100 guineas, and the other of 50 guineas,—for the best and second best designs which might be sent in, and referred architects intending to compete to the town clerk for instructions, which contained a statement of the rooms and conveniences required, and the minimum area for each room. For instance, the council chamber was to be of a minimum area of 2,100 square feet; the sessions court of the area of 1,000 feet; the upper museum of 2,500 feet; and so on. When the committee came to examine the plans which were sent in for competition, twenty-eight in number, they found that no less than sixteen of them, and including some of the best designs in every respect, were deficient in the amount of accommodation they afforded. Those sixteen were set on one side as not having fulfilled the conditions of the competition, and the committee selected the best and second best out of the remaining twelve; but on referring these to the surveyor, that officer reported that there were faults in them which rendered it impossible that buildings could be erected in accordance with them. Another selection was made, with a similar result as far as one was concerned; and, eventually, the committee determined to recommend two for the premiums, viz., that with the motto "Virtus in Ardnis" for the first, and "Voilà" for the second.

One of the conditions was that the building should not be Gothic; and the consequence is that the designs are mostly Italian, and there is a certain general resemblance in many of them. The most prominent feature in the majority is a clock-tower, placed either at the corner next King-street, or over the central entrance. The majority of the designs are of poor character.

The council have confirmed the selection of the committee, and awarded the premiums to the designs named; but it was stated distinctly at the last meeting that neither of these would be adopted. A design marked "Alpha" was advocated by some members of the council, but has several striking defects. Another meeting was determined on, and the designs were thrown open for public inspection.

THE NEW MARINE-STORE-SHOP REGULATIONS.

A MEASURE we have long advocated, and which, if properly carried out, will prevent a large amount of juvenile crime, has passed the Legislature, and is now in operation in the metropolis. This is the application of new regulations as regards the management of marine-store shops, which have long been a danger and a snare to youth of both sexes. The law now demands that these places of business must be registered by the police, who have power to inspect them at any time. The good character of persons entering the trade must be known; the names of the proprietors, whether male or female, must be carefully and plainly placed on the front of the premises; and the person so named is responsible for the transactions of persons employed. No purchase is to be made from any one who is under the age of sixteen years; and questions must be asked whether or not the property offered for sale belongs to the party who brings it, and a satisfactory account is to be had as to whence it has been brought and that it has been honestly come by. Every article must be described, and entry of its price, date, and hour of sale made in a book kept for this purpose, and which is open to the inspection of the police, or to those who can give satisfactory reason for inquiry.

There are other provisions which to a considerable extent will prevent the operations of the receivers of stolen goods. In this case Parliament has shown a wise discretion and performed a useful duty; and it depends upon the authorities at Scotland-yard to use the powers which they now possess, by stopping the temptation, to save many hundreds from dishonesty and disgrace.

It is probable that the changes which have been made in the law will lead to many alterations in the manner of managing this business, which, taken as a whole, is of great extent and importance; and it is thought that a better class of persons will be brought into it; but, whether or not, there will be increased opportunities for the extension of the labours of the rag-collecting brigade—which we hope will not be overlooked—in the localities in which several of the old shops may probably be discontinued; for the enforcement of this enactment will render many unprofitable.

The magistrates must in this matter assist the police; and it will soon cease to be a common occurrence to read in the newspapers terrible accounts of poor children of tender age, whose heads are not high enough to look over the docks, accused of thefts, which they have been encouraged by dealers who are old in vice to commit. Of course, there are many honest keepers of marine-store shops, but, as a rule, the places have been productive of evil.

FROM SCOTLAND.

Dundee.—The new works at the harbour are progressing. The east wall, for nearly three-fourths of its length, has been entirely rebuilt; and the north wall is almost all founded. At the east and west ends, the wall has been brought up nearly to its full height, and, at the present rate of progress, will be completed in a month. A portion of the west wall has also been rebuilt. The rebuilding of the lock wall is delayed until Mr. Abernethy can examine the foundation. Meantime every effort is being used to discover the source of a stream of water which at present flows from beneath the foundation of the cill of the lock.

Airlie.—At a recent meeting of the Society of Antiquaries of Scotland, among the papers read was a notice of antiquities in the parish of Airlie, Forfarshire, by Mr. A. Jervise, of Brechin. Mr. Jervise gave details of the excavation of a sepulchral mound near the church of Airlie, known as "St. Medan's Knowe;" and concluded with an account of an eirde or Pict's house, on a height about a mile distant from the Knowe. The weem is about 67 feet in height, its average breadth about 7½ feet, till near the entrance, where the size is considerably contracted. The walls converge much to the top, and are covered with huge roofing flags. [Quite in the style of the sorcery halls at Maeshowe, in Orkney, and New Grange, in Ireland.] At a point about 12 feet from the entrance, a smoke-hole was visible until within the last few years. At one time, other four underground houses of this description were in the same neighbourhood, but these have been destroyed. Lord Airlie has taken steps for the preservation of the specimen still remaining.

Dumbarton.—A new Free Church, erected here at a cost of about 5,000*l*.,—4,000*l*. of which was subscribed previously to the laying of the foundation stone in May last, by the Rev. Sir H. Moncrieff,—has been opened for Divine service. The new edifice is in the Gothic style of architecture, has a spire of 140 feet in height, and it is seated for 850 persons.

Hawick.—All over the town, says a local paper, we see proofs of the unusual prosperity of trade in the extensive building operations that are going on. The extensions, additions, and improvements are not confined to one class of house property. Here we have whole ranges of workmen's houses rising with mushroom rapidity: there we see the warehouses of flourishing merchants doubling their dimensions: in one locality we watch many-windowed factories rising in imposing masses along the river; and around the suburbs various new, large, and beautiful residences testify to the prosperity and enterprise of our merchant princes. Only one thing detracts from the general satisfaction at the activity of the building trade: the Corn Exchange, of which so much was hoped, and which is so greatly needed, remains *in statu quo* it was left by the recent unfortunate collapse of its foundation arch. The most attractive houses at present in the hands of the builder are the villas of Provost Wilson and Mr. Thomas Laidlaw, manufacturer. The former is more imposing than elegant. "Sillerbet Ha'," the future residence of Mr. Laidlaw, must be familiar to those who inspected the pictures shown in the last exhibition of the Royal Scottish Academy. Its style is diversified, and its outline irregular. It is traced with belts of sculpture, and has sloping French roofs, a rounded dome, turrets, and minarets.

IRELAND.

National Bank, Roscrea.—A new branch office of the National Bank now approaches completion. The planning provides spacious accommodation for the transaction of the public business in a well-lighted room 40 feet by 22 feet 6 inches. The chaste character of the design, which is Classic, both in the exterior and interior, will be a good addition to the ornamentation of this rising town. It will, on completion, cost about 2,000*l*. Mr. W. F. Caldbeck, of Harcourt-street, Dublin, is the architect.

Drogheda.—On Tuesday, the 24th May, in this well-known seaport, was laid the foundation stone of a new town-hall, called, in honour of its founder, the Whitworth Hall. He it was, as may be remembered, who some short time since offered to guarantee half the cost of new waterworks for the supply of good water to Drogheda. For this building a limited competition was invited, premiums having been offered. The accepted design was

that of Mr. Barre, architect, of Belfast. The design is of considerable merit, and provides a great hall and assembly-room, 80 feet by 42 feet, and 36 feet high to ceiling, with a gallery 16 feet deep, appropriated to an orchestra or platform, occupying a central part, having the required retiring-rooms for performers; with cellars for storage of seats and other effects. It will accommodate 700 persons. Placed conveniently at the entrance are commodious waiting-rooms, reached from the principal entrance and vestibule. On the upper floor is a minor hall, such as may be required for council meetings, lectures, chamber of commerce, or library, balls, &c., 42 feet by 20 feet, lighted by three large windows in front, and 20 feet high. In the basement are a coffee-room and a smoking-room, communicating with each other, and capable of being opened into one by a movable partition. Here are apartments for porters and housekeeper; also a kitchen sufficient for the entire establishment. The ground-floor is about 6 feet above the street-level, and is reached at the front entrance and through the vestibule by two easy flights of six steps each. From these the principal stairs conduct to the upper floor; portions of the basement are approached by external steps in the front areas, whence also are lighted the front rooms of the basement. The ultimate cost will be about 3,000*l*.

DISCOVERY OF ANCIENT CELTIC REMAINS IN IRELAND.

AN interesting discovery of an ancient Celtic necropolis, has been made by Mr. E. A. Conwell, of Trim. The remains are very extensive, and are situate on the peaks of Hag's mountain, as the hill of "Slieve na Calliagh," near Oldcastle, in the county of Meath, is called. Mr. Conwell read a paper on the subject before the Irish Royal Academy, of which he is a member. Some of the numerous cairns, he said, are yet unopened and uninjured. The stones, however, had been partially removed from most of the smaller ones, for fences, thus leaving exposed some of the interior chambers, the flag-stones forming which had been found *engraved with very curious devices*, rubbings of which Mr. Conwell submitted to the inspection of the Academy, together with enlarged sketches of various descriptions of chambers, and a general field plan of the present appearance of the place, and the relative positions of the cairns. The three largest, measuring each from 120 to 190 yards in circumference, and from 20 to 30 yards in height, had yet to be explored. He urged the thorough and systematic examination of the place under the auspices of the Academy. Various other tumuli and some very curious subterraneous caves, in the immediate neighbourhood of Slieve Calliagh, were also described. Mr. Conwell quoted extracts from the "Book of Ballymote," "Annals of the Four Masters," Keating, Dr. O'Donovan, and Professor O'Curry, to show that this ancient Celtic burying place, "on the confines of the Kingdoms of Meath and Ulster," exactly corresponds with all the descriptions possessed of the greatest of all the ancient royal cemeteries of Ireland,—Brugh; the precise situation of which, he said, had not hitherto been satisfactorily established, but which had been erroneously supposed to be near Stackallen. Objections, however, were made to Mr. Conwell's idea, in the discussion which followed.

PROVINCIAL NEWS.

Sheffield.—At a meeting of the shareholders of the Sheffield Music Hall, it has been resolved to adopt several improvements in the arrangement of the minor rooms in connexion with the main hall. These alterations are to cost a sum not exceeding 2,200*l*. At present, a broad passage runs by the side of the Literary and Philosophical Museum: this passage is to be abolished, and the large space it now occupies is to be thrown into the hall of the Museum, which hall it will nearly double in width. The main staircase is to be made larger, and is to be approached by a broad corridor, the staircase to be about as broad again as it now is. The Museum will, we believe, be lighted by a dome light, and will have a gallery round its upper end, as well as an independent entrance of its own apart from the great staircase which is to serve for the main hall. Another reading-room is to be substituted for the existing one, and the present reading-room will be removed to give space for the heightening and top-lighting of the Museum. A saloon or assembly-room, with all the requisite conveniences, is to be made both at the back and at the front of the chief room. Other alterations are also to be made. The architects are Messrs. Hadfield & Son.

Ironville.—In addition to the extensive iron works at Codnor Park, says the *Derbyshire Advertiser*, and the immense new rolling mills recently erected, and now in full operation, the works having been much extended, the company have erected a considerable number of houses for their workmen; and, with their accustomed liberality to provide for their comforts, they have also commenced new baths, lodging-houses, and institute at Ironville, from plans prepared by Messrs. Stevens & Robinson, architects, the cost of which will be about 4,000*l*. Mr. J. W. Thompson, builder, Derby (who built the rolling-mill, and who obtained a premium for the way in which the work was done) is the contractor for the work.

THE BUILDING TRADES MOVEMENT.

Neath.—The carpenters and joiners here have applied to their respective employers for an advance of wages.

Wolverhampton.—The master builders having held a meeting, and come to a unanimous resolution to the effect that if the labourers in the union who gave notice to certain masters for a rise of wages, did not withdraw that notice, there would be a lock-out at all the master builders' yards in that town; this resolution they have since carried out: building operations, were therefore brought to a standstill. The bricklayers also have resolved to give a three months' notice, on an early day, for a rise of 2*s*. a week, making 28*s*.

Tamworth.—The bricklayers here belonging to the trade society have refused to work without a rise of 2*s*. per week. One master has agreed to the demand. Labour is now much wanted.

Coventry.—The labourers employed in the building trade in Coventry, following the example of their fellow-workmen in other towns, have struck for an advance of wages. The men complain, that while in other towns builders' labourers are being paid from 18*s*. to 1*l*. per week, they are only getting 15*s*. They, therefore, ask for an advance of 1*s*., but at present their demand has not been acceded to. A meeting of masters and labourers was held, but no satisfactory arrangement was arrived at. The men express their determination to continue on strike until the advance is given. There are several important building contracts on hand, and a greater demand for labour than has been experienced for some time past.

Leicester.—The labourers' demand for 3d. per day has been given to all. The bricklayers' demand of 4d. per day has also been given generally to all the men. The carpenters and joiners have asked for 4d. per day advance, to commence in July. The stonemasons have sent notice requiring 6d. per day advance in August. The plumbers and glaziers have asked for 6d. per day advance, in July. Farriers and smiths have asked for an advance, and the plasterers have also intimated that they shall try what they can do.

Stockport.—Following the example of other towns, the joiners of this borough have made application to their employers for certain concessions, which, if not agreed to, would be followed by a strike. Their demands include both an advance of wages and an abridgment of the hours of labour,—*i. e.*, an increase from 26*s*. to 28*s*. per week; and to commence work at seven instead of six o'clock on Monday morning, and to have the "pay-table" at one o'clock instead of half-past on the Saturday. The masters have had a meeting on the subject, and, we understand, are quite willing to concede the advance, although deprecating the proposed alteration of time.

Doncaster.—A meeting of joiners and others engaged in the building trade in this town has been held, to consider the decision of the master builders to advance good workmen 2*s*. per week, from the 1st of July next. The master builders had previously decided to increase the wages of men in their employ 2*s*. per week, but only to first-class workmen. This was regarded with dissatisfaction, and it was unanimously agreed to appoint a deputation to wait on the masters, and point out that the proposed 2*s*. should be given to all indiscriminately, thus making the wages 24*s*., instead of 22*s*., as at present.

Malton.—The strike at this town is about at an end. Most of the men have returned to work at the old wages, except in a special case or two; and the chief instigators to the disaffection, who were strangers, have left the town. All now seems settled, and the men are fully employed.

Sheffield.—Negotiations for an advance of the wages of the carpenters and joiners have not terminated amicably. A crowded meeting of joiners was held, "for the purpose of hearing the decision of the employers," when it was announced that a portion only of the employers had assented to the proposed advance. The men have asked for an advance of 2*s*. per week on their wages, which are 24*s*. and 26*s*. The masters suggested a compromise, offering an advance of 1*s*. per week, with some minor arrangements as to "boundary." The joiners declined to accept this proposition, and part of the employers acceded to the proposed demand. The meeting unanimously resolved to support on strike the workmen at all establishments where the advanced wages are not given. The joiners have also resolved unanimously to reject the rules submitted to the trade by the employers.

Stockton.—The bricklayers of this town have obtained a rise. They demanded 4*s*. 6d. per day, by a strike a few weeks ago, and now ask for 5*s*. per day. Some masters acceded to their request, as building is brisk. The labourers, to whom the masters refused for some time to give 1*l*. per week when the artisans were on strike, have got their wages advanced to 1*l*. 1*s*.

Scarborough.—The joiners and bricklayers at Scarborough turned out for an advance of wages. The bricklayers had 27*s*. per week, and the joiners 24*s*., and they struck for an additional 6d. per day; the bricklayers asking also to begin work on Monday mornings at seven instead of six o'clock. The strike was not in either case of long duration, and many, at least among the joiners, returned to work at their former wages, unconditionally. Trade is tolerably brisk in Scarborough, but there also appears to be a sufficient number of men for the work in hand.

Newcastle-upon-Tyne.—The mass of the operative painters are now on strike for an advance of 6d. per day on their present wages of 24*s*. per week. They allege that they only want to be placed in the same position as the painters of the neighbouring towns of Shields, Sunderland, and Hartlepool, who have had for some time past 27*s*. per week. Some employers have granted the advance.

Carlisle.—A meeting of the joiners of this city has been held with respect to a proposition to ask for an increase of 2*s*. per week wages. The workmen ground their claim on the assertion that their hours of labour are longer than many other trades, and yet they are not so well paid. They work sixty-one hours per week, which they say are four hours more than the time worked by the trade in almost any other town in England. Their present rate of wages is 22*s*. per week. The meeting unanimously agreed to the proposition, and a workman in every shop was appointed to give notice to the master.

Cases of intimidation of workmen are occuring. At Liverpool, Matthew Darcey, a joiner, was brought before the stipendiary magistrate, charged with having intimidated another workman named Evans, with the view of preventing him working at the shop of Mr. Hughes. The prisoner was sentenced to three months' imprisonment.

At Stockport, seven persons with their faces blackened, belonging it is supposed to, or hired by, the Brickmakers' Union, visited the brickyard of Mr. Simpson, who employs non-union men, and, after firing several times at the watchman, destroyed a number of "green walls" or bricks in the process of manufacture, and attempted to set fire to the offices by throwing naphtha upon them; but fortunately the wood refused to burn. The watchman fired at the men, and they suddenly disappeared.

A diabolical attempt to destroy a brick-kiln by an explosion has been discovered and frustrated at Birkenhead. Eleven pounds' weight of powder had been enclosed in a piece of water-spout, with a blast fuse affixed to it, and placed within the influence of the heat of the kiln, which is close to a road, and also to the windows of St. Ann's Church. 10*l*. reward has been offered for the scoundrel who committed the act.——A fellow has been committed for trial at Manchester for attempting to destroy several cart-loads of bricks by taking out the kecker-bars from the carts,

while the carters were in a public-house, the effect of which might have been that, on moving the carts, the bricks would have all tumbled out.

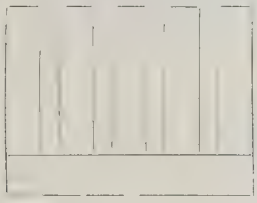
NATIONAL MUSEUM, SOUTH KENSINGTON.

THE COMPETITION DESIGNS.

WE publish in our present number illustrations of Mr. Kerr's design, and take the opportunity at the same time, of recurring, as promised, to the protest delivered by him to the Government with regard to the award of the first premium to the design of Captain Fowke.* In the peculiar circumstances of this case, it may be well to let the author speak directly for himself, in the following statement.

The Government issued to competing architects, for their guidance, copies of a design for a Natural History Museum, which had been prepared two or three years ago by Mr. Hunt, the well-known surveyor to the Office of Works, under the directions of Professor Owen, who holds an official directorate over the Natural History department of the British Museum.

This model has been accepted in the present design, after due inquiry and consideration, as proving itself to be admirably well adjusted to the internal administration of the Natural History Museum. It represents the *gallery* principle, as opposed to the *bazaar* principle of the International Exhibition Building, and other instances. In a bazaar (that is, in a place of great height and width, surrounded by balconies and so on, and lighted from the roof,) natural history specimens would lose scale and importance, the casual visitor would be bewildered and the student interrupted, and the display would sink from the character of science to that of show; and these considerations lie at the root of Mr. Hunt and Professor Owen's plan, which aims at providing, as far as possible, a simple series of long parallel galleries, 40 feet wide, on two stories, with spaces between for light and air, and a basement under for stores; thus:—



In accepting this model, however, certain improvements are proposed. The intermediate spaces are enlarged into courts, about 27 feet wide, open from the basement floor level to the sky; whereby thorough lighting and ventilation are obviously secured, and the whole basement especially by these means utilized. This basement, as another innovation, is formed wholly above ground. Lastly, there is introduced a central corridor (30 feet wide), from which the galleries would branch transversely on both sides; whereby the passing crowd, which frequently becomes so inconveniently great, would accumulate in this corridor out of the way of the collection.

In the accompanying block plan the galleries are indicated by the letter G; the central corridor is marked C C; the letter S represents the position of public staircases at each end in connexion therewith; and E signifies the entrances; O being the mark for the open courts. The author claims for this arrangement the merit of a simplicity and convenience which do not seem possible in any other.

Beyond the provisions of the model plan, a number of private apartments were directed to be added as attendants' rooms; being more properly laboratories and the like, where specimens are prepared for the galleries, and revised as occasion requires. Such rooms, for obvious reasons, were stipulated to be "in contiguity" with the galleries. The letter A is used on the block plan to represent these attendants' rooms; and they are placed in conjunction with short cross corridors or ante-chambers by which persons would pass from one gallery to another at the farther end. At each of these points there is also an attendants' stair, leading down to the basement, for communication with the depositories there; and the rooms have in all cases lifts for the passage up and down of the specimens.

The letter L marks the natural history library, formed out of the upper story of the existing building which fronts the Horticultural Society's gardens. The lower story is appropriated to apartments for the directorate, &c. This library, being in floor-level about midway between the two stories of the Museum, would have the convenience of being reached from both alike by steps across the intervening space.

Th and E M signify on the block plan, the theatre and evening museum. Professor Owen, in a work published on the subject last year, advocates the liberal idea of attaching to the great natural history collection, as an adjunct for the use of the working classes, a small selection for evening exhibition. This suggestion is here followed out; and the lecture-theatre of the Museum is attached to rooms for such an evening collection, forming together a separate building. The basement story, as has already been implied, is wholly above the ground level, and is lighted and ventilated throughout by ordinary windows, so as to be suitable for the extensive depositories and unexhibited collections, &c., of the Museum.

The letter T marks the clock tower. P M indicates the place assigned to the Patent Museum as a separate establishment; here there are two stories of galleries, as before, and basement above ground for the workshops and depositories required. C H would be a future grand central hall (under the dome): and A H a future assembly hall for great scientific meetings, being at the same time a connecting link between the central hall (and state entrance) and the gardens behind.

It will be observed that the intended buildings are (according to the instructions) *confined to the eastern side of the ground*, strictly and without any compromise, and space for extension included; and the western portion is left intact for future buildings.

The question of exterior treatment was fully spoken of in the criticism of the designs generally in a former number of the *Builder*, the present design being distinguished by the motto, "Well to build is well to buy."

To turn now to the protest against the award of the first premium. As soon as possible after the announcement of the award, I delivered to the First Commissioner of her Majesty's Works a document, whose scope is most readily explained in its own opening words, as follows:—

> "There being now three selected designs before the Government, of which mine is one, I beg leave to submit for your consideration—1. Descriptive particulars of my design, which time did not admit of my preparing in the usual manner before the delivery of the drawings: 2. Certain objections to the award of the first premium to the design marked *'dà ogni uccello suo nido è bello,'* which objections I beg leave to urge against any further precedence being accorded to that design. In connexion with the second question I beg also to lay before you an explanatory sketch of my design treated as a building to cover the entire site."

The descriptive particulars are very much what has been given above; the explanatory sketch is reproduced amongst the present illustrations; and the objections to the award are in brief the following:

1. It is distinctly set forth in the conditions of competition, that "the buildings for which a design is required are to be placed on *the eastern portion of the site*." In the descriptive particulars of the first premiated design, the very first words are "The object aimed at has been to prepare a design for the occupation of *the entire site*;" and the whole scope of the design is in accordance with this idea, so that the subject becomes altogether a different subject from the one offered to competition.

2. If it be supposed that the design meets the conditions by its eastern half being equal to the stipulated accommodation (3,280 feet by 40 feet), measurement proves that this is not so, taking the accommodation even at its minimum, and without any space for extension.

3. The gallery system of Professor Owen and Mr. Hunt has been entirely lost sight of in this design, and a bazaar system resorted to (apparently at random), which ought not to have been nominally approved by the adjudicators, in presence of the model plan, without scientific authority. Instances of the faults of the bazaar principle are adduced from the very design in question;—as in respect of the glass-cases of ground-story, which are placed under arcades and balconies overhanging them 16 feet, and lighted from 75 feet off;—the glass-cases of upper story, which stand on an immense length of balconies, 3¼ feet wide;—the obvious difficulty of ventilation by the roof alone;—the utter impossibility of lighting the basement;—and the objectionable structure of the roof (as in the condemned Exhibition building).

4. The further demands of the Natural History collection at Bloomsbury have not been consulted in respect of the preference of the design; there being no suitable basement depository with its appendages, and no other basement possible except a vast expanse of dark useless vaults. The attendants' laboratories also, instead of being "in contiguity" with the galleries, are 10 feet and 12 feet off the level.

5. Certain "artifices" are alleged to appear in the design, which it is contended ought to have excluded it from consideration altogether; for instance, that certain basement windows are shown (essentially) on plan, which are all omitted in the elevations and perspective view, because of their being inimical to the effect, if not impossible to be had; also that an entire basement story is given on plan to the Patent Museum, accommodating essential parts of the establishment, whereas the section shows that no basement whatever is really intended; and also that the attendants' rooms, which are as essential to the upper story as to the lower, are represented on the first-floor plan, complete in number and relation, whereas no such rooms of any kind can possibly be had on that story.

The purpose of the additional perspective sketch is the presentment of my design (otherwise unaltered) "treated as a single composition for the entire site," as in the work of my opponent, contrary to conditions. In a word, the Cromwell-road façade is made the grand basis of composition; the same point of sight is taken as in Captain Fowke's drawing (half a mile off, by the bye, through Brompton bricks and mortar, so that the effect is a mere delusion); and it becomes apparent that all that is required to change the one designer's unity of the eastern part into the other's unity of the whole is an inconsiderable shortening of the Patent Museum to the size of a wing (see the point marked * on the block plan), the stipulated accommodation for this part of the building being still provided to the full, and the plan of the Natural History Museum, as the chief of all possible considerations, being left untouched.

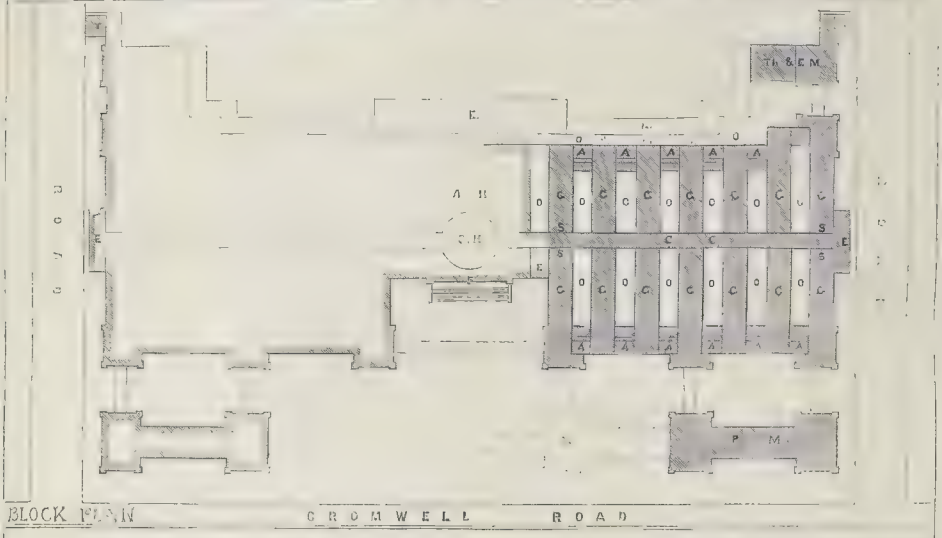
No doubt there will be the usual amount of conscientious difference of opinion upon these arguments: one side will allege that it is the privilege of genius to overleap formal restraints; the other will reply that it is the essence of English fair play to keep within stipulated limits. But, at any rate, the controversy involves most important questions of competition practice, upon which the result, whatever it may be, will go far to establish, either for good or evil, a weighty precedent; and it is not to be expected or, indeed, desired that in such a matter judgment should be allowed to go by default. It is one especially favourable circumstance that the dispute involves no petty grumbling against the good faith of the adjudication (although obviously implying dissatisfaction with its unexampled precipitancy); and it is plain that no struggle is desired to be set up over the bone of the money prizes. The purpose of the protest is the much more business-like intimation that, without any disrespect to the judges, or any opposition to their award so far as it goes (that is to say, to the appropriation of the promised premiums), the writer claims the position of real preference and practical honour to be his. Whether the proposal to build these museums on the South Kensington estate may ever be revived, is thought by many persons to be now somewhat problematical; but if it should be, the assertion will be revived also, that *within the conditions* the second design is the first.

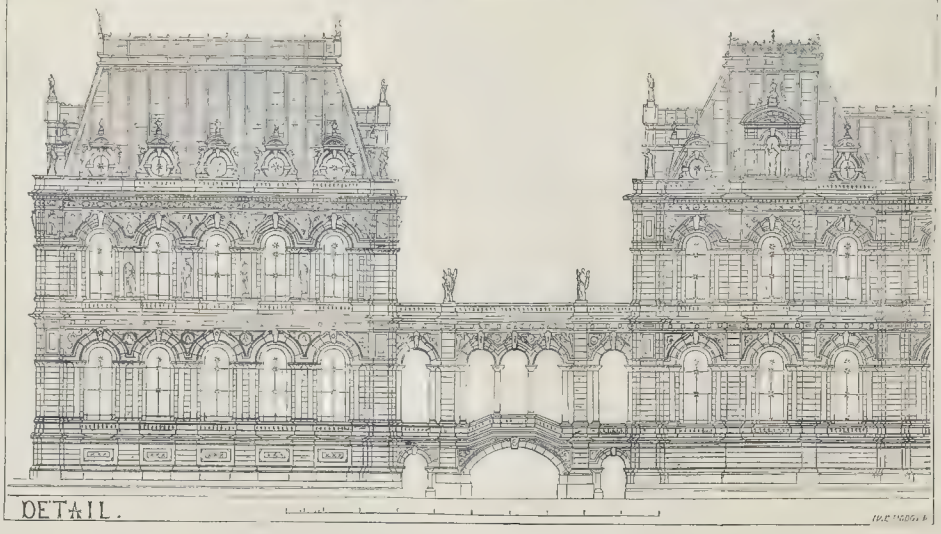
ROBERT KERR.

* For illustrations and account of Captain Fowke's design, see p. 393, *ante*.

A BI-CENTENARY UNITARIAN MEMORIAL HALL IN MANCHESTER. The foundation stone of a memorial hall in connexion with the Unitarians has been laid in Manchester. The hall, as the parchment deposited states, is erected "in commemoration of the bi-centenary of the 2,000 ejected ministers who, on St. Bartholomew's Day, 1662, so nobly proved their fidelity to conscience, by resigning their livings in the English Church." The hall (says a Manchester paper), will have some pretensions to architectural beauty, and it is expected will prove one of the ornaments of the square in which the statue of Prince Albert will be the centre piece.







PROPOSED MUSEUMS, SOUTH KENSINGTON.



DESIGN FOR PROPOSED NATIONAL MUSEUMS, SOUTH KENSINGTON, TO WHICH THE SECOND PREMIUM WAS AWARDED.

PROFESSOR KERR, ARCHITECT.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday, the 10th inst., at the House in Conduit-street. The chair was occupied by the president, Mr. T. Roger Smith.

The Chairman announced that on the following Saturday (the 18th inst.), the members of the Association would have an opportunity of visiting Westminster Abbey, and that Mr. Gilbert Scott had kindly promised to be their cicerone on the occasion.

The hon. secretary (Mr. J. D. Mathews) read a letter from the secretary of the Nottingham Architectural Association, requesting that the Architectural Association would propose it as a member of the Architectural Alliance.

On the motion of Mr. Blashill, seconded by Mr. Ridge, the delegates were requested to comply with the application at the ensuing meeting of the Architectural Alliance.

The hon. secretary read the names of Mr. Christian, V.P., as president for next year, and of Mr. J. Webber for the vice-presidency, subject to election by ballot at the next meeting.

Mr. Burges then read a paper "On the Modern Development of Mediæval Art." This we printed in our last.

At the conclusion,

Some observations having been made by Mr. Seddon,—Mr. Webber observed that, from what he collected as to the meaning of Mr. Burges, the latter recommended unpolished marble in preference to polished. He feared that no polished marble (unless, perhaps, serpentine) would last long under the influence of a London atmosphere.

Mr. H. Christian said he believed that glazed tiles might be very profitably used, and that they might be manufactured without that extraordinary bright glaze to which Mr. Burges had referred. He agreed in the observation made by Mr. Webber about unpolished marble, for polished marble did not stand long without requiring scraping. He believed that majolica might be very advantageously introduced into London buildings.

Mr. Burges threw out a suggestion that the secretary of the Association might write to Messrs. Maw and Minton, asking them whether they could produce tiles without so great a glaze.

Mr. Christian suggested the use of polished Parian, which he said would stand a great deal of wear when water did not drip on it.

Mr. Webber said he had seen the tiles coloured by Mr. Minton last very well for many years.

Mr. Christian thought they must make up their minds to give up colour and depend on form in London architecture, or use glazed materials to the exclusion of all others. He did not see why polished marble might not be used in cases where it would not be directly exposed to impure atmospheric influences.

Mr. Burges called attention to the specimens of majolica shown in pieces at the South Kensington Museum, which appeared to him to realize all that was required. He believed the question of glazed tiles was one to which the attention of the committee might be profitably directed, with the view of obtaining information from manufacturers. Of all marble in combination with stone, Purbeck looked the best, in consequence of its silvery appearance.

Mr. Blashill said that highly-glazed tiles for pavements were open to the objection that they were dangerous to walk on. He had used tiles which were not so highly glazed, but he found that they soon cracked.

The Chairman, in putting a vote of thanks (which was passed) observed that he agreed in much that had fallen from Mr. Burges, and that he had himself always advocated the necessity of students paying attention rather more to building than designing. He thought that plaster might be used on flat surfaces, especially in panels, so long as the architectural features of the building were preserved; and that next to plaster, red brick might be judiciously introduced. The bricks of Mr. Taylor, used at the stations of the London, Chatham, and Dover Railway, struck him as being good; but the best material for London buildings was, perhaps, the Darley stone, which had, however, the drawback of being very costly. With regard to the present system of competition, to which reference had been made, it seemed to him that its effect was to produce good drawings, but bad buildings.

Mr. Tarver having invited gentlemen anxious to join the life school of drawings to give in their names,—

The Chairman observed that the expense would not exceed 6*l.* a month, and that it would be desirable that as many members as possible should join. He also stated that no rule had been made which would operate to exclude gentlemen from joining who were not members of the Association.

The next subject for the class of design will be a brass lectern.*

MORE STILL CONCERNING SHAMS.

You will remember that Mrs. F.'s aunt in Mr. Dickens's "Little Dorritt," on one occasion abruptly exclaims,—"I hate a fool." Although not willing abruptly to interfere with the question between "Ex Stirpe" and "Art Lover," yet I cannot help saying emphatically, "I hate a sham." As "Art Lover" says he has kept some ammunition for a future occasion, I am aware I expose myself to his fire; but as he possibly only employs a sham gun or blank cartridge, or, at any rate, may naturally be supposed to do so, in defence of shams, I hope to escape serious damage.

A lover of art should know wherein real art consists. Mere copies and imitations are but the lowest phases of art; in fact, a "species of art," to use "Art Lover's" own words, "which some folks denounce as no better than that of lying:——"

> "Some folks do—some folks do,
> But that's not me nor you."

Dr. Johnson once said "The man who makes a pun would pick a pocket." Similar ferocity would give those people who, against light and knowledge, patronize art shams, small chance of salvation when the destroying angel passes by and finds their front doors grained.

Disdaining this bigotry in art, it cannot but be matter of regret to an art-lover to witness the immense sacrifice of time and talent in the production of shams. Works of art are worthy of this time and talent, and will meet with the respect of following generations. Shams are not so. Let the object or the material be inferior as it may, one touch of originality or artistic feeling, and the work is worth all the specimens of imitative painting (I mean graining) in existence, as a work of art. Imitations of wood, marble, &c., have attained a wonderful degree of perfection,—a perfection not to be surpassed by the reality, since the sham is sometimes more like the reality than the reality itself; and it is often almost impossible to tell "which is which." "Art Lover" has quoted Hudibras, and holds that—

> "Doubtless the pleasure is as great
> In being cheated as to cheat."

There may be great pleasure in partaking of "mock turtle" (I have never tasted it); but you know and are told it is a mockery. A false set of teeth, and a wig and a cork leg, especially if combined in one individual, would not be a source of so much gratification as the natural things. In the world of art, the pleasure of being cheated is only "great" in proportion as our appreciation of real art is small. We all *ought* to prefer the true to the false; and the true *ought* to be, and generally is, more beautiful than the false. A real art-lover would surely rather bend his energies to the production of a true than a false thing. But, apart altogether from the moral aspect of the question, how lamentable that so large an amount of skill and labour, which might be art-labour, should be exercised in mimickry. A painting was once shown to Sir Joshua Reynolds as a marvel of art, in the production of which the artist had whimsically only employed his fingers. Instead of joining in the admiration, Sir Joshua remarked, "Why didn't the blockhead use his pencils!" Whenever I see some wonderful imitation,—knowing, when I see it, that there has been an exercise of ingenuity and patience worthy of a better object,—that the mere fingers of barbarism (of course this is only figurative, and must be taken for what it is worth) have been busily employed when the pencils of art, and the skill to wield them, were at hand, the thought naturally forces itself upon the mind,—"Why didn't the blockhead use his brains." I do not say that the man who so beautifully imitates the natural grain of some wood, or vein of some costly marble, on a door or pillar, is a blockhead *per se*, or even because he is doing the work which he may be directed to do. Often we architects are the blockheads. If half the labour that is employed in graining and imitations were employed in *decoration*, a better effect, at less cost, would be the result.

I hate shams because I love the arts. A painting is not a sham: a statue is not a sham: mock turtle is not a sham (nor a fine art); for they all tell us what they are. But in the construction of a building, when stone pretends to be wood, deal oak, plaster stone, &c., the art displayed is of a low order, at very dear cost, however cheap; for its natural tendency is not to refine or to elevate, but only to cause blank wonder or blank contempt. Both "cheap" and dear shams are contemptible as works of art. But, then, to talk about cheap—or at any rate economical—shams, is nonsense. No sham is economical. To parade and protrude shams as works of art, and as being saving to the pocket, is only deceptive and disgusting. Of course, it by no means follows that all truthful works of art are beautiful; but I put it to any reasonable man that they are far more easily made beautiful than shams. Those who deal in and perpetuate shams, and those who prefer them to reality, are perhaps more to be pitied than blamed. At the same time, we do not want "fulmination" against shams. "Why," says "Art Lover," "do they not fulminate against floor-cloth painted to imitate a patterned stone pavement with an ornamental border?" Simply, I should say, because there are far more serious matters requiring "fulmination," or more properly speaking, "ventilation;" and because the best patterns of oil-cloth, though having an ornamental border, do not attempt to imitate patterned stone.

Gold presentation-cups to which "Art Lover" alludes as being far inferior in æsthetic beauty to plaster vases hawked about the streets by Italian image boys, are only proofs that the artistic excellence of a thing does not depend on the material, but on the design. Shams and imitations are utterly void of design, except the design of imposition. I do not say this of necessary and useful shams. The matter about which we are arguing I take to be architectural. Shams, even in ordinary things, such as cork legs, and false teeth and hair, are only resorted to in extreme necessity, or as exceptions to a rule. In building, this necessity does not obtain, unless it be made. To build a house on cork legs and with false teeth is ridiculous, and expensive too, and a thing that art-lovers might be expected to discountenance. With regard to cement and ashlar coating to brickwork, there is no reason, *per se*, why cement should imitate stone. It is well known that the bricks made in the suburbs of London are so inferior as to be unbearable, if exposed to view in a building. If they must be coated with cement, the coating need not be "jointed, and coloured in imitation of stone." Let the cement coating be treated *as a cement coating*. The architects are beginning to feel that the shammery of pseudo-stone in cement is derogatory to art, and as irksome as the necessity of false teeth, false hair, and cork legs.

The ammunition that "Art Lover" has kept in reserve I should like to see fired off.

HI JACULIS ILLI DEFENDERE SAXIS.

ALBERT MEMORIAL, EXETER.

SIR,—A correspondent in your last issue says that a building committee "would of course subject themselves to legal proceedings in the event of their finally accepting a design which was contrary to their instructions in the most practical and important element."

Is this true? and, if so, what are the proceedings which can be taken?

I sent in a design for the Exeter Albert Memorial, under the distinct instruction "not to exceed 5,000*l.*" in cost: the two premiated designs, and a third honourably mentioned, could neither of them be carried out for less than 10,000*l.*—indeed, an Exeter architect writes me, of the first, nearly 15,000*l.*

I have exposed this to the committee, and asked the revisal of their award; but, after a second meeting, and reading my further offer to prepare working drawings, &c., free of expense to them, should builders' tenders deny my estimate, the committee has returned my drawings without note or comment, or reply to either of my letters. I understand the committee is composed of gentlemen of unimpeachable integrity. What would your correspondent advise?

EDWARD C. PRESSLAND.

* The paper to be read on, this Friday, the 24th instant, will be by Mr. G. H. Birch, on "London during the Middle Ages." The annual dinner will take place on Thursday, the 30th instant, at the Freemasons' Tavern, Great Queen-street.

THE NATIONAL GALLERY AND BUCKINGHAM PALACE.

SIR,—THE recent debate in the House of Commons, as to the removal of the national gallery of pictures, leaves the question open for rediscussion, and I wish to lay before your readers a comprehensive plan of improvements, suggested with no object in view beyond the public good.

The plan is this. It is proposed to remove the National Gallery to Buckingham Palace, and to build a new palace for her Majesty at Kensington Gardens, when the present National Gallery would be handed over to the Royal Academy, on proper terms.

The receipts from the sale of twenty acres of ground on the south-west side of Buckingham Palace, estimated at 250,000*l.*, would not only be sufficient to build a new palace, but to open up the Mall of St. James's Park to Charing-cross, at the one end, and Grosvenor-place at the other. With this new street, in connexion with the proposed street from Pont-street to Cromwell-road, South Kensington, a Bill for which has been before Parliament, we shall have a continuous line of new street, which will completely relieve Regent-street, Piccadilly, and Knightsbridge-road. It is new streets, and not new railways, that are so much wanted in London; and now the public have the opportunity of completely relieving the crowded streets of the West-end without a shilling of expense.

Plans and estimates of the work have been prepared, from which I extract the following:—

1. Cost of new palace, with enclosures, &c.	£170,000
2. Purchase of property at Spring Gardens	30,000
3. Cost of making the street through Buckingham Palace Gardens	50,000
	£250,000

Responsible contractors being willing to undertake these works for the sum specified, the question of their practicability, without cost to the nation, is placed beyond a doubt.

If it be said that this plan would involve the loss of ground to the public at Kensington Park, the reply is, that that loss will be made up to the public by adding an equal quantity of land to the Green Park; so that there need be no complaint on that score. Buckingham Palace is so overlooked by the hotels and houses recently built in Victoria-road and Grosvenor-place, as to be very unsuitable for a royal residence: consequently it is little used. A few drawing-rooms and state balls are held in the course of the season, but these could be held equally well at Kensington Palace: the change, therefore, would, we think, be a desirable one as respects Her Majesty's convenience.

For a National Gallery, Buckingham Palace, surrounded as it is with parks and gardens, is all that can be desired; and, when contrasted with Trafalgar-square or Burlington House, its superiority is obvious. A.

STAINED GLASS.

SIR,—People do not seem generally to understand the principles of beauty in stained glass. Permit me to explain.

1. Colour applied to canvas or wall is opaque: there is no transparency in an oil painting or fresco.

2. Therefore glass painted with colour would be a failure, because glass is transparent, and all applied colour is essentially non-transparent.

3. Therefore a window should not look like a transparent picture.

4. A stained-glass window should be made up of a number of pieces of stained glass, each piece of lovely colour, the whole forming a combination of lovely colour—a mass of gems.

5. Whatever drawing is necessary in a stained-glass window, should be done with the fewest possible lines, so as not to injure the colour of glass. Fine shading spoils colour of glass, and is also lost, as windows are intended to be seen from a distance. The lead lines in which glass is set are so arranged by the skilful artist as to give much of the effect of drawing, therefore avoiding black lines on the glass.

6. The fault of Munich windows is, that they look like transparent pictures—not like pictures made up of bits of stained glass: they are full of fine shading.

7. The true effect of a stained-glass window is a broad effect of colour gained by using a number of pieces, not too small, of stained glass with few lines on them, and is to be seen especially in the works of Messrs. Morris, now exhibited at South Kensington.

8. The Mediæval manner of using stained glass, as above described, was the true one; therefore all modern stained glass, if it is good, will have a more or less Mediæval effect.

STAINED GLASS.

COMPETITIONS.

SIR,—I venture to make a suggestion relative to the above unpleasant subject. I propose that the Institute or the Association take the subject into consideration, and frame a set of reasonable and just conditions to be observed by committees and others, who advertise for competition plans. All architects to be requested to form a union, and pledge themselves not to compete unless the conditions of the competition are approved of by the committee of architects appointed to decide the question. A very large number of architects would, I am certain, only be too glad to join such a union as I have proposed. Committees and others advertising for competition designs would then be compelled to offer better and more just terms to competing architects. There is not another profession, or even a trade, in which its members are so continually insulted in competitions as are the members of the architectural profession. UNITY.

DOUBLE ACROSTIC.

THE LETTERS.

1. O'ER the wide plain he rides with lightning speed;
   A tent his home, his truest friend a steed.
2. A minister of state, in history known,
   Who, though a Churchman, led and ruled a throne.
3. In former days a singer known to fame,
4. And his, in music's art the mightiest, name.
5. A noble epic of a far-off day;
6. 'Neath southern skies it flings its falling spray.
7. Where silver Thames 'mid flow'ry meadows flows;
   Four centuries back, its halls of learning rose.
8. Its lowly rafters, or its high-arch'd space,
   Whitewash may deck, or gorgeous painting grace.
9. In every fireside nook they find their homely place.

THE WORDS.

Th' Initials will show forth the master-mind;
The Finals, what his science hath design'd.

KEY.—THE LETTERS.

1. A ra B.
2. R ichelie U.
3. C arestin I.
4. H ande L.
5. I lia D.
6. T ern I.
7. E to N.
8. C eilin G.
9. T ong S.

THE WORDS.

Architect.
Buildings. *μ.*

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Brighton.—Between two and three years ago, the new church in Upper North-street, dedicated to St. Mary Magdalene, was opened. Only a section of the building was then completed, the western end of the nave being temporarily closed, so as to admit of divine service being performed. Recently the works have been resumed; and they will now be continued until the original design of the church (in the Early English style) is completed. At the western end, the nave is to be extended some 33 feet, and in this portion of it the organ gallery will be erected. On the north side of this addition to the nave a spire is in course of being raised. The tower (58 feet in height), which is built of red brick with stone dressings, has seven windows in it, for the accommodation chiefly of the belfry and ringing-loft. The buttresses which support the tower on the north side have two niches for figures; and at each of the four tops of the springing of the spire there will be the figure of an angel, of large proportions. The spire itself is built of stone; and its height, from the springing to the top finial, will be 63 feet 6 inches: it will contain a dormer window and two smaller ones above. The total height, from the base of the tower to the top of the vane, will be about 130 feet. Mr. Blunt, of London, is the architect of the church, and the work is being performed by Mr. Fabian, of this town.

CHURCH-BUILDING NEWS.

Hascomb.—The new church here, dedicated to St. Peter, has been consecrated by the Bishop of Winchester. The church will hold about 120 persons. The architect is Mr. H. Woodyer, of Graffham, and the builder, Mr. Mitchell, of Shalford. The expense of erection is about 2,000*l.*, which will be defrayed by Mr. J. Godman, of Park Hatch, and the clergymen of the neighbourhood. All the men in the parish had a hot dinner provided for them at the White Horse Inn, and were addressed by the bishop in a very humorous speech.

Portsmouth.—In the Landport district, the chief stone of a new church has been laid in Surrey-street, to be called the Circus Church. The new edifice has a frontage in Surrey-street of 66 feet, and a depth of 70 feet, with an additional building at the back about 24 feet by 19 feet, containing vestry, gallery, &c., and connected with the building by a large elliptical arched opening. Its internal height is 40 feet in the centre. It is divided longitudinally into three spaces by two rows of cast-iron columns, which support the galleries and take part of the weight of the roof. There is a gallery at each side and at the end nearest to Surrey-street, besides the singers' gallery at the opposite end already referred to. The ceilings over the side galleries are flat, with ornamental perforated openings for ventilation. The centre space is covered with a ceiling at a higher level than those over the galleries, with horizontal glazed panels, for the admission of light. The principal front will have kiln brick facings, with bath stone quoins, and Portland cement dressings, the openings have semicircular heads with arches in gauged brickwork, the whole surmounted by an ornamental cornice, the central portion of the elevation having a pediment following the lines of the roof. It is proposed to construct a bell turret upon the end of the roof next Surrey-street. The other fronts are to have kiln brick facings and plain semicircular headed window openings. The church will seat about 1,800 persons. The seats are open benches of deal, stained and varnished. A school adjoins the main building, and communicates therewith. It has a frontage to Surrey-street of 28 feet, by a depth of 68 feet, and is intended to accommodate 600 children. It is a plain building, of one large room, 19 feet high in the centre, and 10 feet on the walls. The style is Italian in character. The architect is Mr. B. Tabberer, of London. The buildings are to be finished by November next, and the cost will be about 2,600*l.*, independently of the purchase of the land, and other incidental expenses. Mr. Backhurst, of Landport, is the contractor.

Kenilworth.—The plans for the restoration of the church, approved by the parish at public meetings held in February, 1863, have been altered in this respect, that the present inconvenient vestry-room will be thrown into the church, a room of equal size being substituted in the north transept; and that, in place of a gallery at the west end of the building, there will be a small south transept, corresponding to that already existing on the north side. The main features therefore of the restoration will be these:—All the galleries will be removed; the mean round arch between the chancel and the nave replaced by a pointed arch; an aisle added to the chancel on the south side, and the long line of roof on that side of the building broken by the small transept already alluded to. The roof of the nave, which now blocks up one of the windows in the belfry tower, and dwarfs the already sufficiently short steeple, will be moved; the ceiling within removed, and an open roof shown. The chancel roof, on the other hand, will be raised. All the present pews will be removed, and open seats substituted. Tenders for contracts have been received by the committee, and that of Mr. Marriott, of Coventry, has been accepted. He engages to complete the general works for 2,080*l.* The seating, if done in oak, will cost 950*l.*; if in deal, 520*l.*, and will be in addition to the 2,080*l.* The committee, have, therefore, contracted at present only for the general works, leaving the seating, whether in oak or deal, and the warming, to be determined, according as the state of the finances may permit. The subscriptions already received and promised amount to 2,800*l.*

Symondsbury (Dorset).—A new church is to be erected at the hamlet of Eype. The site selected is an eminence known as the Mount, about midway between Eype and Bridport harbour. The edifice will consist of a nave 65 feet long, chancel 26 feet long by 20 feet wide, an aisle on

the north side, and small transepts north and south, with a porch on the south side, and a prominent bell turret rising from the west end of the roof. The walls will be of the local stones, but all the windows, doors, and arches of Bath stone; and accommodation will be provided for 300 adults. Mr. T. Bury, of London, is the architect, and Messrs. G. Swaffield & G. G. Hayward the builders.

Pershore.—The Abbey Church of Holy Cross, Pershore, has been re-opened after restoration by Mr. Scott. A full account of what has been done is given in the *Worcester Herald*, from which it appears that almost everything suggested by the architect has been carried out. The work was commenced in October, 1862, under a contract with Messrs. Collins, Cullis, & James, of Tewkesbury. One of the chief features of the restoration is the opening out of the lantern-tower, which it was at one time feared could not be carried out from want of funds. The total amount expended on the church itself up to this time is 5,410*l.* The cost of opening out and restoring the lantern-tower was 402*l.*

Burrington (*Herefordshire*).—The church of this place has been rebuilt and re-opened. The *Hereford Journal* states that the church is the work of two architects; and that, upon the whole, the result is satisfactory. The chancel and screen are from designs by Mr. G. F. Bodley. The style is Early English. The plan includes nave and chancel. The east window consists of three lights, the side ones much lower than the centre, and each surmounted with a quatrefoil, the centre of which is nearer the middle compartment than the line which vertically divides the side-lights. The chancel is floored with encaustic tiles, by Mr. Godwin, of Lugwardine, in three different degrees of richness as they approach the altar. They are after an old example, and agree with one of the tiles turned up in the excavation. The edifice will seat 200 persons. The nave has been erected at the entire cost of Mr. A. B. Knight, of Downton Castle; and the chancel by the vicar and others.

Brighton.—A new church has been consecrated at Cliftonville. It is dedicated to the Holy Trinity. The church will afford accommodation, under the existing contract, for about 650 persons; but it has been arranged to furnish 200 additional sittings, making a total of 850, by the erection, if necessary, at a future period, of an aisle on the north side, the arcade of communication between it and the nave being already constructed. The edifice, as it stands, consists of nave, side-aisle, with south tower, porch, and chancel, with apsidal end. The interior is very unpretending. The roof is open timbered, stained, and varnished; the details of a simple and inexpensive character. The only decoration of importance in the interior of the building is a stained glass window at the east end of the chancel. This is in three divisions, each division being in two compartments; the centre division illustrating the Baptism of Our Saviour, and the Last Supper. This has been erected as a monument to the memory of Capt. John Taylor, R.N., and his wife, father and mother of the Rev. F. J. Taylor, who has held the office of curate, at Hove, for twelve years. The other divisions are presented by subscriptions. The division to the right of the centre one contains the sacramental injunctions, "This is my body, which is given for you," and "This cup is the New Testament of my blood, which is shed for you." Directly opposite the pulpit, at the other extreme end of the church, is erected a gallery, capable of accommodating about 100 persons, in which is placed temporarily a small organ. The total length of the church is 120 feet, and the breadth of the nave is 25 feet, and of the aisle 15 feet. The interior of the church, in its unpretending character, is only in harmony with the exterior, which is without architectural pretensions. Bricks are used in the façade, with a moderate admixture of Bath stone. A tower and spire enter into the design when completely carried out; but this portion of the edifice awaits the collection of the necessary funds. The plans were furnished by Mr. Woodman, of Brighton, architect, and the church was built by Mr. Cane, of Brighton. The site is on a piece of land slightly elevated, at the top of Medina-villas.

Gloucester.—Some months ago the ancient stained glass of the clerestory of the south transept of the cathedral was removed, preparatory to its being cleaned and re-arranged, by Messrs. Hardman, of Birmingham. It has now been replaced, the stonework of the windows having in the interval also been repaired. The upper lights are filled with a design representing the vine, in white and yellow, on a ruby ground; and the lower lights are composed of the ancient quarries, with coloured borders. Workmen have been engaged in taking the measurement of the two large windows at the west end of the south aisle, preparatory to the erection of the Jenner and Elliott memorials, which it is expected will be completed by the end of October. The execution of the Elliott memorial has been entrusted to Messrs. Hardman, and the glass for the Jenner window to Messrs. Clayton & Bell.

DISSENTING CHURCH-BUILDING NEWS.

West Ashling. — The new Congregational Church at West Ashling, according to the *West Sussex Gazette*, has been opened for Divine service. The walls are of stones from the cathedral at Chichester. Colonel Webber Smith gave the ground. The architect was Mr. H. N. Goulty, of Brighton.

Deal.—A new Wesleyan chapel of much larger size than that in Duke-street is about to be erected in Queen-street. The estimated cost of the edifice is 2,000*l.*, half of which sum, it is reported, will be contributed by Mr. Wm. Betts, of Sandown.

Dudley.—The memorial stone of a new Baptist chapel, at Netherton, has been laid by Mr. H. B. Sheridan, M.P. The building, which is intended to hold about 400 persons, will be erected by Messrs. Bagnall & Round, at a cost of 820*l.*, from designs by Mr. Grosvenor.

Penrick.—The following were the estimates sent in for the proposed new Congregational Chapel at Pole Elm, in this parish. Mr. G. Johnson, architect:—Heming & Son, 650*l.*; Wilson, 588*l.*; Wood & Son, 515*l.*; Holland, Brothers, 463*l.* 10s.

Openshaw (*Lancashire*).—A new Wesleyan Methodist chapel has been opened for divine worship in Openshaw. The edifice occupies a plot of land abutting upon a side street off Grey Mare-lane in the Ashton-road, and has the advantage of a front and side approach. It consists of a chapel 56 feet in length, and 45 feet in width, calculated to accommodate 610 persons; and, at the rear, a school 54 feet in length, and 25 feet in width, with class-rooms, two vestries, and a chapel-keeper's house. The chapel proper is designed in the Anglo-Italian style. The works have been carried out by Messrs. Warburton, Brothers, builders, of Harpurhey, under the superintendence of the architects, Messrs. Hayley & Son, of Manchester. The cost, exclusive of lighting and warming, but inclusive of boundary wall, &c., is about 2,600*l.*

Plymouth.—The foundation-stone of the new Wesleyan chapel, to be erected in King-street, has been laid in the presence of a very large concourse of persons interested in the progress of Wesleyan Methodism. The site of the chapel is at the junction of King and Tracey streets; and the piece of ground on which it will stand is 225 feet in depth by 74 feet in width, and cost 1,700*l.* The building will be in the Italian style, with stone frontages in King-street and Tracey-street, and is intended to seat 1,600 people. The architect is Mr. J. Forster; and the contract for the erection has been taken by Messrs. Call & Pethick, at the sum of 5,000*l.*

Llanymynech.—The foundation stone of a new Presbyterian chapel has been laid here, in the presence of a large concourse of spectators from the immediate neighbourhood, and from Oswestry, Welshpool, and other parts of the Principality. The building is to be Gothic, and without much ornament. At one angle will stand a turret, with a slated spire, rising to the height of 45 feet. The building is to be constructed of Sweeney stone, with red bands and arches, and Bath stone dressings. Its size internally is to be 36 feet by 27 feet, and it will contain accommodation for 175 persons. Mr. Whiston, of Wolverhampton, builder, has contracted to execute the works for the sum of 338*l.*; and the architect is Mr. W. H. Spaull, of Oswestry; being the same builder and architect as for the Oswestry Public Hall.

Kantsford (*Cheshire*).—The foundation-stone of a new Wesleyan chapel and schools has been laid here. The site is adjoining the savings-bank in Princess-street. The style will be Early English; the front faced with white Alderley stone, in random courses, and the dressings of red Alderley stone. The plan is a parallelogram, 63 feet by 37 feet, with ministers' and deacons' vestries behind. The chapel will be divided into nave and two aisles by pillars of wood, supporting a clerestory above, from whence most of the light will be obtained, there being on one side of the site buildings touching the chapel, and on the other only sufficient space to admit of a passage between the chapel and the savings-bank. The front will have a tower on one side, surmounted by a spire, the total height being 70 feet. The entrance will be in the centre of the front into a lobby, from whence will be doors right and left into the aisles; on each side of the door a single-light window, and above a traceried window of five lights. At the east end there will be a wheel window, 11 feet in diameter, filled with quarry glass of an ornamental pattern. There will be a gallery for the school-children at the west end, which will also contain the organ. The nave will be divided into five bays, the pillars being of wood, as also the clerestory. The chapel will be heated with hot water, and lighted with gas from the roof, and will accommodate about 450 persons. The building will be separated from the road by a stone wall, surmounted by a dwarf iron railing. The total cost, including purchase of site, architect's commission, &c., will be 2,680*l.* The architect is Mr. T. R. Clements, of Knutsford; and the contractor Mr. Massey, of Alderley Edge.

Cheadle. — The London and North-Western Railway Company having purchased the Wesleyan chapel at Cheadle, a larger edifice is about to be erected in a central part of the village. The amount given by the Company for the site and materials of the old building is said to be 900*l.*; and this, with the sum already subscribed, will go far to meet the cost of the new chapel, which is estimated at 1,300*l.* The foundation-stone has been laid. The chapel is to be built of seconds bricks, with Hollingstone dressings, and black bricks will be used in some parts of the exterior by way of relief. It will be in the Geometric style, and will consist of a nave and transepts. It is in contemplation, at a future time, to add a school-house to the chapel, at a probable cost of 400*l.*; but until this be done, the two transepts, with the intervening space, will be appropriated to the use of the children connected with the Sunday-schools. This portion of the chapel will be separated from the nave by a wooden screen, so constructed that the whole of the interior will be available, when required, for devotional or other purposes. The nave, which for the present is to be used as the chapel, will accommodate 240 persons. The dimensions within the walls are 64 feet by 29 feet. Suitable vestry and other accommodation will be provided at the rear. The building will be lighted by traceried windows of Gothic pattern. The roof will be of stained open timbered work. There will be no galleries. Mr. H. Fuller, of Manchester, is the architect; and Mr. G. Bardsley, of Cheadle, the contractor. The sum mentioned as the estimated cost of the building will include the expenses of heating and lighting.

SCHOOL-BUILDING NEWS.

Westbromwich (*Staffordshire*).—The Oldbury National Schools, Oldbury, the chief stone of which was laid on the 3rd of November, 1863, by Lord Lyttelton, were formally opened on the 1st of June by the Bishop of Worcester. The buildings comprise a schoolroom, 72 feet long by 32 feet wide, for boys, with a class-room, 18 feet by 16 feet; a schoolroom, 50 feet long by 18 feet wide, for girls, with a class-room, 18 feet by 14 feet; and an infants' school, 42 feet long by 22 feet wide, with a class-room, 21 feet 9 inches by 16 feet. The style is an adaptation of Early English Gothic. The ends of the boys' and the infants' schools facing John-street are carried up as gables, and a large wheel-window and two three-light windows inserted in the former, and a lofty lancet-pointed three-light window in the latter. The flank of the boys' school is also broken up by a gable containing a rose-window with two three-light windows beneath. The side of the girls' school has two smaller gables, with a three-light window in each. The entrance to the boys' school is surmounted by a bell-turret. The walls are built of red bricks, with blue bricks for the plinths and ornamental work in the strings, arches, and labels. The principal windows and other chief features of an ornamental character are worked in Bath stone. The roofs are high pitched, and are covered with red and blue tiles in patterns, surmounted by an ornamental ridge crest. The main timbers are visible from the inside, and wrought, stained, and varnished. The architect was Mr. E. Holmes, of Birmingham; and the builder, Mr. J. Harley, of Smethwick.

GAS.

THE Rugby Gas Company's directors propose a dividend for the year on shares of the different classes amounting to 15 per cent., and that 200*l.* stock be added to the reserve fund; also that the price of gas be reduced to private consumers from 4s. 7d. to 4s. 2d. per thousand feet, with a discount of 5 per cent. for payment within a month from quarter-day; that the price for lighting the public lamps after September next be reduced from 58s. to 54s.; and that the price of gas to the railway companies be reduced from 3s. 6d. to 3s. 3d. per thousand feet.

The Hinckly Gas Company have resolved that the price of their gas be reduced to the public 10d. per thousand; the net price to be 5s. 10d. instead of 6s. 8d., as before. If the consumption increases, a still further reduction may be anticipated.

The South Shields Gas Directors have laid the foundation stone of a new retort-house, which, with other extensive improvements, will be carried out upon the works in Waterloo Vale, in that town. The new works will occupy double the area of the old ones, and in consequence of the improvements, a number of old tenements will be demolished, and the lower end of St. Hilda's-lane will be closed up.

The Hawick Gas Company have declared a dividend of 10 per cent. on their paid-up stock, and have resolved that the price of gas be reduced from 6s. 5½d. to 6s. 3d. per 1,000 cubic feet.

In the journal of the Society of Arts, Mr. C. Tomlinson calls attention to the attempt of a M. Payen, well known as a writer on technological subjects, to claim for a Frenchman, of the name of Philippe Lebon, the discovery of the way to manufacture gas for lighting, from wood and coal, towards the close of last century. "It was not till ten years later," continues M. Payen, "that is to say, twenty-six years after the primitive invention by Lebon, that Murdoch succeeded in lighting up the factory of Boulton & Watt, at Soho." After giving this word to Murdoch, continues Mr. Tomlinson, "our author brings in a host of French names, who did all that was required in the production, purification, and distribution of street gas. Now, all this is unfair, not singularly unfair, because it is unfortunately the usual mode of treating such subjects adopted by French writers. Every one at all acquainted with the literature of the subject knows that in 1667 Mr. Shirley described, before the Royal Society, a burning spring at Wigan, in Lancashire, and traced the origin of the gas to the beds of coal beneath: he also pointed out that the same kind of gas might be procured by the combustion of coal. In 1739 we have a letter printed (Phil. Trans.), but written to Boyle, who died in 1691, and, of course, written before his death, in which the method of procuring gas from the distillation of coal is described. Dr. Hales, in his work on 'Vegetable Statics,' published in 1726, states that he obtained 180 cubic inches of gas, weighing 51 grains, by distilling 158 grains of Newcastle coal. 'This result,' says Mr. Hughes in his 'Treatise on Gas-works,' 'which is rather more than 8,500 cubic feet per ton, agrees very nearly with the production of gas actually realised from Newcastle coal at the present day.' In 1733, Sir James Lowther described (Phil. Trans.), the inflammable air of a coal-mine near Whitehaven; and, in 1765, a proposal was made to the magistrates of Whitehaven to convey this gas through pipes to light the streets of the town; and the proposer, Mr. Spedding, proved the practicability of the idea by conveying the gas into his own office, which he illuminated by its means. . . . . While M. Lebon was engaged in a series of dangerous failures, Murdoch had completed his invention so far as to apply it safely to the purposes of illumination."

Books Received.

Report on the Works of Pupils in the French Schools of Design, recently exhibited in the Palais de l'Industrie, Paris. By WALTER SMITH, Head Master of Leeds School of Art. London: Simpkin, Marshall, & Co. 1864.

THE writer of this pamphlet is one of the Art-Masters who were appointed by the Science and Art Department to visit, in 1863, the Paris Exhibition of the works of pupils in the French Schools of Design, and to report on them under certain headings. Returning to his duties, as master of the Leeds School of Art, Mr. Smith wrote a full report of what he had seen, and what he thought, and duly forwarded it, expecting it would be published. Finding, however, that the Department declined to do so, he has published it himself, with an angry prefatory letter addressed to Sir Stafford Northcote, chairman of the Parliamentary Committee of Inquiry into the Condition and Management of Schools of Art.

In his report the writer states his conviction that we have little to fear from any future artistic competition with the French. "The artistic instruction given to the French," he says,—

"As judged of by the vast majority of the works in the Palais de l'Industrie, is child's play in comparison with the art education obtainable in England in schools of art; so that, unless schools of art become extinct in England, and are invented in France, we need not fear any future artistic competition in our industrial arts, or in design applied to manufacturing purposes."

Elsewhere he says, a comparison of the English and French systems of art-education is overwhelmingly in favour of the former.

"I should consider it nothing less than calamitous if any serious modification of our English system were made, with a desire of assimilating it to the French; for if this were done, instead of advancing steadily, as we have done for the last twelve years, we should be retrograding. This view of the subject is, however, perfectly consistent with our adoption of that which is excellent in the systems of individual schools, and incorporating it with our own system; and I submit to the favourable consideration of the Department the advisability of a further examination, by a few competent masters, of the management and discipline of some of the schools mentioned favourably in this report: the information to be sought for in the class-rooms of the schools themselves; and in the close observation of the methods of study adopted by the best schools. More good would result from such an examination by practical men, who have from experience the knowledge of where real difficulties lie in our system, than from the criticism of all the exhibitions in the world.

My own opinion, derived from observations on the subject, extending over many years, is, that though our system of art-education is still imperfect, it is yet by far the best plan of art-education in existence; and that the difficulties which arise in its working are not the result of the system, so much as the want of true educational ability in the men who work the system. More schools of art are shut up by the masters than by the rules of the Science and Art Department; and this is the case, not from any unwillingness to perform their duties as art masters by the masters themselves, but because, by education and their own tastes and inclinations, many men who can take certificates are radically unfitted to become educationalists."

In respect of instruction in science, however, he considers the French doing much better than we are. The French, he says, have inaugurated a system of mechanical drawing incomparably superior, in a practical sense, to that which exists in England; and he mentions, as what he considers a humiliating fact, that the School of Art at Leeds has to procure its educational examples of machinery from Paris.

VARIORUM.

"Church Restoration: What is it? Whence is it? Rivingtons, London and Oxford." This is a good little tract, by the author of "Thoughts on Churches and Churchyards." The following extract will show the nature of it:—"The Bishop of Lincoln's words are weighty. 'It was a mark of a languid and dwarfed Christianity when Churchmen adorned their houses with all the luxuries which wealth could provide, and allowed the House of God to remain uncared for and neglected.' . . . . . If the love of high art advances as it has done of late, and with it an appreciation of what is beautiful, we may again ere very long have a coloured architecture; and if we are to have it, painting must, we suppose, be the chief means of effecting it, whether of figures in fresco, or in the far simpler forms of diaper, together with various coloured marbles and bricks, now freely used. It is thought that our ancient churches, though, so far as we know, not warmed, yet were painted, as witness that most perfect specimen of ancient colouring in the monument of Bishop John de Sheppey, in Rochester Cathedral. The effect of colour may now be seen in perfection in Ely Cathedral, in rich glass and golden diaper, relieved by neutral tints, grey-stone, and Purbeck marble, as also in the restored sculptures in the beautiful chapter-house at Salisbury, in the magnificent choir-screen at Hereford, and in a tomb lately erected from designs by Mr. Blomfield, to the memory of Bishop Pearson, in Chester Cathedral."——"Homes without Hands. By the Rev. J. G. Wood, M.A., F.L.S. Part VI. Longman & Co." This account of the habitations constructed by various animals continues to sustain its character as an interesting and instructive work. The part under notice relates chiefly to wood-boring insects, a subject of practical importance to the builders of homes *with* hands.——"The Fractional Family; being the first part of Spirit-mathematics-matter. By Arthur Young. London: Sampson Low & Co. 1864." This is a thoughtful book, with rather an odd and uncouth title. The "spirit-mathematics-matter" is an unwieldy word which relates to the fundamental principles of the universe, of which the book treats; but the "fractional family" relates to the very natural habit of the world to associate in small families, according to closeness of relationship. This social arrangement the author reprobates; and he would wish to substitute "the integral family," thus making all the world akin; but we suspect something must be done first of all to *overturn* the *self*-asserting principle, ere mankind will ever consent to live in communities such as Mr. Young and others contemplate. The Christian apostles did live in common; but it was under the direct and sanctifying influence of the Holy Ghost that their selfish propensities were subdued, and their passional and mental nature adapted to such a state of social communion. The case of monks and nuns is not exactly to the point, even though spiritual influences be admitted to have "mortified the lusts of the flesh" in such cases; because what is contemplated by such social reformers as Robert Owen and Mr. Young is not exactly the ascetic life, but "integral families" of men, women, and children, in the full exercise of all their faculties. Mr. Young's volume contains some curious symbolical diagrams, showing "the path of destiny," and embodying his thoughts in general on the subjects regarding which he writes; but their meaning and value require thought to make out; and, after all, we fear their speculative drift leads to no very definite practical result. There is no little thought, as we have said, however, displayed in the work, which is curious and amusing, if not very instructive. One certainly highly practical result the author has in view, could he only establish his "integral family" arrangement,—that is, the sanitary improvement of the "homes" of the people; but it must be remembered that these homes are not such at all as are now inhabited, each, merely by a single family, of father, mother, children, and servants, but a much more wholesale affair, seemingly such as Owen originated, and more especially such as a body called the Christian Socialists once, we remember, spoke of establishing, in the form of model agricultural and manufacturing villages. "What is wanted," says Mr. Young, "is an architectural system which shall permit of a thorough co-ordination of sexes and ages, and occupations, and on such a scale as to permit of all the most improved appliances of science and art;—and such distributive order, model fractional houses [such as the model lodging-houses], of whatever description, can never combine sufficiently with economy of means."——A new edition has been published by Mr. Tegg of poor Albert Smith's amusing and acute "Adventures of Christopher Tadpole," the best of his works. It contains the original capital illustrations by Mr. John Leech.——The "Autographic Mirror," now advanced to No. 9, maintains its interest; and will form, when completed, a remarkable and interesting work.

Miscellanea.

MOSCOW TO BE LIGHTED WITH GAS.—It is stated that a concession for lighting the city of Moscow with gas has been granted to a party of Englishmen, most of whom are directors in the London gas companies. Several foreign houses and bankers competed for this privilege.

FEVER AT OWLERTON, SHEFFIELD.—A report having prevailed that fever had broken out at Owlerton in consequence of the place being choked up with stagnant mud from the inundation, this was contradicted by the statement that only clean sand and gravel had been swept into the cellars, but that it was being cleared out. It seems, however, that this was incorrect, and that the fever has broken out at Owlerton, partly on account of the collection of mud, and partly from the consequent defilement of the water-supply, from the wells in the neighbourhood. There are now fifty-six cases of fever in the village. It is hoped, however, that the precautions now taken, by a new water-supply, by clearing the drains, and by the free use of disinfectants, may prevent further mischief. The cleansing of the houses has involved enormous labour at the cost of the Sanitary Committee.

COPPER.—The price of copper has been reduced 5*l.* per ton, making present wholesale prices of tough cake 93*l.* per ton, and best selected 96*l.*

RELICS AND ROMAN REMAINS IN A CHURCH.—Bowes Church (county of Durham) is at present undergoing restoration, and many interesting relics have come to light. Several floriated crosses, built into the walls, have been disentombed; and fragments of Roman pottery and stonework (doubtless from the adjacent camp) have been discovered in the foundation.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 4th of June, on 11,207 miles, to 628,806*l.*, and for the corresponding week of last year, on 10,809 miles, to 571,025*l.*, showing an increase of 398 miles, and of 57,781*l.* in the receipts. For the week ending the 11th of June, they amounted, on 11,242 miles, to 636,667*l.*, and for the corresponding week of last year, on 10,809 miles, to 561,487*l.*, showing an increase of 433 miles, and of 75,180*l.* in the receipts.

RESTORATION OF GOD'S HOUSE CHAPEL, WINKLE-STREET, SOUTHAMPTON.—This building having undergone a thorough renovation, French Protestant worship has been resumed therein. The building is vested in the hands of four trustees, under a scheme agreed upon by the Lord Chancellor. There are stalls for the accommodation of the four brethren and four sisters of the hospital. The other part of the church is fitted up with movable seats.

SOCIETY OF ARTS' PRIZES.—H.R.H. the Prince Consort's prize of twenty-five guineas has been awarded to John Allan, 25, of the Glasgow Athenæum, assistant surveyor, who obtained the following first-class certificates:—1861. Logic—first-class certificate, with first prize. 1862. English history—first-class certificate, with first prize; English literature—first-class certificate, with second prize. 1863. Arithmetic—first-class certificate, with first prize; book-keeping—first-class certificate, with first prize; geography—first-class certificate, with second prize. 1864. Magnetism, electricity, and heat—first-class certificate, with second prize; domestic economy—first-class certificate, with first prize; animal physiology—first-class certificate, with second prize. [Well done, John Allan!] In practical mechanics—first prize, 5*l.* to David Bruce, 18, Newcastle-on-Tyne Mechanics' Institution, engineer; second prize, 3*l.*, Henry Logan, 23, Wakefield Mechanics' Institution, ironfounder. In free-hand drawing—first prize, 5*l.*, Henry Hill, 33, Messrs. Chance's Library, Smethwick, designer; second prize, 3*l.*, John Dingwall, 28, Popular Evening Classes, Andersonian University, Glasgow, ornamental draughtsman. In mechanical drawing—first prize, 5*l.*, Thomas Edwards, 19, Oldham Science School, mechanic; second prize, 3*l.*, Thomas Wood, 30, Oldham Science School, clerk.

REMOVAL OF METROPOLITAN TURNPIKES.—On Monday morning workmen commenced the removal of the toll-bars at Camden-town and other places. The new Act, 26 & 27 Vic., cap. 78, will take effect immediately after twelve o'clock on the night of Thursday next, the 30th instant, and abolishes on and from that time no less than eighty-one gates and bars; frees fifty-one miles of road; and reduces the tolls in the country districts, Hounslow, Brentford, Ealing, Uxbridge, Harrow, Edgware, Tottenham, Enfield, Edmonton, Lee Bridge-road, &c., to 1d. for every horse not drawing; 2d. every horse drawing; every score of oxen, &c., 5d.; calves, sheep, &c., per score, 2½d. The gates and bars so to be removed on 1st July, 1864, are,—Fulham—Walham Green, Earl's-court, and all gates and side-bars in the district; Kensington—Hammersmith, Notting-hill, and all gates and side-bars in Kensington and Hammersmith; Harrow-road—Kilburn, and all gates and side-bars; Camden-town—King's-road gate, High-street gate, Chalk-farm gate, Haverstock-hill gate, and all gates and side-bars; Camden-road—Brecknock gate, and all gates and side-bars in Camden-road, &c.; Kentish-town—Gate in road, and all gates and side-bars near, and at Gloucester-place, &c.; Holloway-road, and all gates and side-bars; Islington, and all gates and side-bars; Ball's-pond, and all gates and side-bars; Kingsland-road—Cambridge-heath, Hackney, and all gates and side-bars in Hackney, Clapton, and Stoke Newington; Twickenham and Teddington—All gates and bars; and the City-road gate, and all gates and side-bars.

ECCLESIOLOGICAL SOCIETY.—The annual general meeting was held in the South Kensington Museum, on Wednesday evening last, Mr. Beresford Hope in the chair, when the Report was read, and a discussion on the arrangement of Town Churches took place. We are obliged to postpone our report of the proceedings.

RECREATION GROUNDS AT BOLTON.—The town council have given an instruction to their finance and general purposes committee to purchase the vacant land adjoining the recreation ground in Lever-street, Bolton-moor, that it may be fitted up for the physical training of the young of both sexes. The recreation ground referred to is rather more than 3½ acres in extent; was presented by Alderman R. Heywood to the borough for recreative purposes in December, 1862; and has been planted and laid out by the corporation. The price required for "the adjoining land" is 1¼d. per yard; and, taking the extension at rather more than 3½ acres, the outlay, with the chief rent capitalised, will be about 2,100*l.*

ALDERSHOTT INDUSTRIAL EXHIBITION.—The Camp Industrial Exhibition will be opened at the Clubhouse on the 29th instant, by the Duke of Cambridge. The articles to be exhibited will be divided into two classes,—first, those invented or made by officers, non-commissioned officers, and men, now quartered at Aldershott, or by their wives and children; and, second, of articles collected by officers, non-commissioned officers, and men, now quartered at Aldershott, or by their wives and children (*bonâ fide* their own property), during the course of their service in various parts of the world. The exhibition will be open until the 14th of July (Sundays excepted); and the sum received for admission at the doors will go to defray general expenses; any surplus to be divided among committees of regiments and corps exhibiting.

THE WORKING CLASSES AND THE METROPOLITAN RAILWAY.—Since the underground line was opened on the 10th of January of last year, it has conveyed about fourteen millions of persons. Of these, more than sixty per cent. have been of the third or lowest class of passengers. The company have recently run special trains for workmen, so as to enable them to get to their work before six o'clock in the morning, the fare for the double journey being 3d. By means of these trains the labourer may live out in the open districts about Paddington, and go daily to and from his work in the City for 1s. 6d. weekly; and it is said that when the company's extension is open to Finsbury, they propose to increase the number, and to reduce the payment to 1s. weekly. Very shortly the line will be placed in direct communication with the Crystal Palace, and cheap trains will be run for behoof of the working classes. The opening of the Hammersmith line in connexion with the Metropoliton, which took place on 13th June, will enable the public to avail themselves, at low fares, of the opportunity of being landed in half an hour in the pleasant open country in that neighbourhood.

NEW RACE-STAND, NEWCASTLE-ON-TYNE.—An additional stand has been erected on the Newcastle-upon-Tyne race-course. The design was supplied by Mr. J. E. Watson, of that town, architect. The structure is 50 feet long by 20 feet wide. It is supported by stout metal columns, having flanges and openings, through which the longitudinal timbers pass the entire length, the cross timbers resting on the same part of the columns, the whole being firmly bolted together by screw bolts. The platform is of timber work, properly framed, the couples being let in and resting upon the metal columns, the intermediate couples also being supported by struts. The front, back, and ends, as well as the centre columns, are strongly secured by cross braces. The railing round the top of the stand is also braced, the tops of the metal columns being carried up the full length, and the top rail fixed into them, by which firmness is given to that part of the structure. Easy access is afforded to the stand by a stair, 5 feet in width. The stand is estimated to accommodate about 600 persons. Beneath the stand a roomy and commodious weigh-house has been erected. Light is admitted by windows looking into the stable-yard. At the side next the light a long desk has been fitted up for the use of the Press. The stand has been erected by Mr. William Gibson, builder, Newcastle. The metal pillars and iron work were supplied by Mr. Walker, of the Percy Iron Works.

IMPROVED DWELLINGS FOR THE INDUSTRIOUS CLASSES.—A Joint-stock Company is about to be formed at Southampton, having a twofold object; the first, that of building improved dwellings for the industrious classes on the Marsh estate, by which means the working man will obtain the advantages of residing near their work; the second, that of enabling the corporation to borrow money on the ground-rents, and thus give them the means of fencing the parks without entailing any expense on the ratepayers.

THE DAVY MONUMENT FOR PENZANCE.—The announcement of a donation of 1,000*l.* has led, as we have before mentioned, to the idea of giving this memorial a new form; and to this end a public meeting has just been held, at which Mr. Coulson gave an able and extended memoir of Sir H. Davy, which is reported at length in the *Cornish Telegraph*; and resolutions were unanimously passed approving of the proposal to erect almshouses in combination with a statue of Davy, and pledging the meeting to promote the object in view.

NEW TOWN-HALL, STRATFORD.—The site purchased for the erection of a new town-hall and public offices at Stratford is situate at the corner of West-Ham-lane, in the Broadway. One portion of the land will be appropriated to the widening of the road at the corner of the lane; and on the other portion the town-hall will be erected with suitable public offices for the meetings of the various local boards, police-court, and other purposes. It is estimated that the cost of the land and erection of the hall will be about 10,000*l.*; but it is presumed the lettings of the hall and public offices will repay for the outlay.

ACCIDENTS.—A poor fellow employed as a painter on a house in Victoria-terrace, Victoria-road, has met with a fearful death by impalement, in falling from a ladder at one of the windows. A coroner's jury have returned a verdict of accidental death.——At Hastings, a carpenter, at work on one of the new houses in Warrior-square, was at a window on the second floor, and placed his foot on an iron bracket, which was intended as one of the supports to the verandah. The ironwork, not being properly fixed, gave way beneath his weight, and he fell into the area beneath, a distance of about 30 feet. He sustained some severe contusions but fortunately no bones were broken.——Three deaths have occurred at Liskeard, in Cornwall, from the falling of a wall of the old post-office, which was being taken down: verdict, accidental death.

PAINTINGS BY MR. HOLMAN HUNT.—The life-size Girl of Ghizeh, which, under the title of "The After-glow in Egypt," Mr. Holman is exhibiting, with other pictures, in Hanover-street, is a remarkably fine piece of depiction. She stands in the evening on the banks of the Nile, bearing corn and a water-vessel, and with a flock of Barbary pigeons gathering about her. It is painted with wonderful brilliancy and power. A second picture by the same artist represents "London Bridge on the Night of the Marriage of the Prince and Princess of Wales." The flags and other decorations of the bridge preponderate overmuch at the first glance, but quiet examination soon brings into view a whole world of faces, incidents, and thoughts. The two works serve to show the artist's power alike over large and small. We hear with much satisfaction that Mr. Hunt has undertaken to paint, probably in water-glass, a series of subjects from the history of St. Michael the Archangel, in the church at Cambridge dedicated to that saint. Subscriptions are being raised for the purpose.

APPLICATION OF A KNOWN INSTRUMENT TO A NEW PURPOSE.—The plaintiff in the case of Horton *v.* Mabon had obtained letters patent for an alleged new invention for the improvement of telescopic gasholders. The improvement consisted, among other things, in the application of a double angle-iron cup or trough, filled with water to the points of contact between the respective cylinders of the gasometer, by which the escape of gas was prevented. Such a user of the double-angle cup was new as regards gasometers, but was well known, and had been commonly used for other purposes. In this action for infringement in making gasometers with the double-angle cup, the Court of Exchequer Chamber (affirming the decision of the Common Pleas), held that this was merely the application of a well-known instrument to an analogous purpose; that it was not a new invention; and, therefore, not the subject of a patent.

"FISH PRESERVING."—To satisfy a large number of Mr. Grove's customers, we step out of our way to say that it is not his yard that was referred to by a correspondent in our last.

SHIPLEY WATERWORKS.—In consequence of the increased demand for water in Shipley, Saltaire, and Windhill, the Shipley Local Board have determined to extend their works by forming an additional reservoir for the storage of water at Baildon Bank Top. Its capacity will be ten million gallons. Formed of masonry, backed with puddle and an earthen embankment, it will constitute one of the largest reservoirs of the kind in the country. Tenders have been obtained, and the works are about to be carried out by Messrs. Ives & Son, contractors, of Shipley; Mr. McLandsborough, C.E., of Bradford, being the engineer.

VENDOR AND PURCHASER.—The case of *Morey v. Bigwood*, in the House of Lords, was where a purchaser, after an inspection of some property, had entered into a contract under a mistake that a piece of ground was to form part of the conveyance, and the mistake was not attributable to any neglect on his part, but was in some degree occasioned by statements of the vendor in answer to inquiries as to boundaries. It was held, under these circumstances, that the purchaser (the defendant) having acted under a mistake, it would be inequitable to enforce specific performance of the contract against him. The case was heard upon an appeal from a decision of the present Lord Chancellor, reversing a decree of Vice-Chancellor Stuart, whereby his honour had decreed specific performance.

THE METRIC SYSTEM.—By the permission of the president and officers of the Royal Society, the platinum metre which was obtained by the Royal Society, in pursuance of a resolution of the House of Commons, of March 15, 1816, and brought over by M. Arago from the Academy of Sciences in France, for the purpose of a comparison of the French and English standards of length, was shown on Saturday, at Burlington House, to a number of gentlemen who take an interest in the question of its adoption as the standard of the metric system of measures and weights proposed to be introduced in this country under Mr. W. Ewart's Permissive Bill. On the table were sets of weights and measures, books on the subject, &c.; and Mr. J. Yates gave a short account of the platinum metre, and entered into a history of our standard measures.

SALE OF THE ARBORETUM, WORCESTER.—The premises belonging to the Worcester Pleasure-grounds Company have been sold for 9,500*l.* The property consists of 14a. 1r. 2p. of freehold land, free from land-tax, near to the centre of the city, and without restriction as to building thereon or otherwise. The directors did not attribute their losses to a want of public patronage or attendance, but to the fact of their beginning with insufficient capital. The auctioneer stated also that the property contained 69,030 square yards, and estimating the price at 2s. 6d. a yard, that would bring 8,628*l.* for the land only, to say nothing of buildings, trees, shrubs, flowers, &c. The whole was close to the canal, near to the railway stations and the centre of the city, and there was no restriction on it. The biddings commenced at 7,000*l.*, and gradually rose till Mr. Laslett offered 9,500*l.*, at which price the property was sold.

SOUTHAMPTON CASTLE WALL.—Among the reasons why the corporation should vote a sum of money towards the purchase of the Southampton castle wall, says a correspondent of the *Hampshire Independent*, should be noted that there is no equal portion of the town walls of so much importance as this especial part, as this is the only fragment left of the castle wall which enables the student to trace the distinctive features of the Norman method of fortification. The corporation, which has improperly suffered the castle walls to fall into private hands, are the only proper conservators of such walls, as a party of private gentlemen cannot permanently keep possession for the town of such relics, and it is somewhat unjust to tax the liberality of a few for what is equally for the benefit of all. Moreover, as the ground is of some value on which the castle wall stands, as well as the wall itself, the corporation have their money's worth in the outlay. While spending money to beautify the town in other ways, as at the bar gate and parks, it would seem neglectful of the public interest to let this interesting relic be wantonly destroyed.

A LITTLE INSIGHT AS TO THE MAGNETIC FORCE.—At the Royal Institution, the other evening, Professor Tyndall gave "A Magnetic Experiment," in course of which he demonstrated that a magnetized bar of iron becomes elongated, not shortened, at the moment of magnetization. He also showed, that when rapidly intermitting currents of electricity were sent through the wire, a humming sound was distinctly heard in the iron bar, occasioned, as he conceived, by the momentary changes among the particles of iron as the magnetic power was imparted and lost. The lengthening of the bar was shown to the sight by help of a lever acting on a small mirror and a ray of light, so as to show very minute changes in the length of the iron bar. Dr. Tyndall accounted for the lengthening by the hypothesis that the particles of iron tend to arrange themselves in the direction of the current, which passes lengthwise through the iron bar. This reminds one, we may here observe, of the expansion of water while freezing under the influence of the usually contractile force of cold, and is not, therefore, inconsistent with the attractive nature of the magnetic force. In further illustration of the experiment, that of the arrangement of loose particles of oxide of iron suspended in water was exhibited, showing that, when magnetized, the opacity arising from confusion was replaced by translucency from the magnetic arrangement of the particles in lines. May not this shed a light on translucency and transparency in general, as of crystals and glass?

THE GOVERNMENT ANNUITIES BILL.—We are glad, for the sake of the poorer classes, to have now to note that this Bill has been read a third time in the House of Commons, and passed. On the motion for passing the Bill, Mr. Gladstone stated that dividends would be paid wherever annuities might be purchased; and that a man who purchased an annuity and insured his life under this Bill would not be held to have opened a second account in the sense of the Savings Bank Act. Assurances to be created under the Bill will be a property transferable at law. He had no doubt that the competition of the Government would be highly useful to existing friendly societies: the operation of the measure would be much more to extend the total area than to diminish the field now occupied by such institutions.

ARCHITECTURAL ASSOCIATION.—VOLUNTARY EXAMINATION CLASS.—The class will meet, as usual, on Monday next, the 27th inst., at 7·30 p.m. Subject, "Mechanics," by Mr. J. E. Edmeston, jun. The subject for the Monday following will be "Valuations," by Mr. J. W. Penfold.

TENDERS.

For Whitechapel Workhouse. Contract No. 3. Mr. T. D. Barry, architect. Quantities supplied by Mr. Richd. Roberts and Mr. Poland:—

Waters & Saintey	£12,820 0 0
Fish	11,757 0 0
Scrivener & White	11,550 0 0
Wood, Brothers	11,193 0 0
Sims & Martin	10,947 0 0
Mann	10,847 0 0
Dearsley	10,769 0 0
Stap	10,500 0 0
Little	10,399 0 0
Patman & Fotheringham	10,295 0 0
Sharpinton & Cole	10,199 0 0
Hill & Keddell	10,156 0 0
Holmes	10,144 0 0
Tracey & Co.	10,141 0 0
Macers (accepted)	10,130 0 0
Henshaw	9,930 0 0
Perry & Judson	9,888 0 0

For the restoration of the external stonework of the south side of Baldock Church, Herts. Mr. Arthur W. Blomfield, architect:—

Whitehead	£639 0 0
Warren & Son	622 0 0
Richardson	600 0 0
Culshaw	570 0 0

For additions and alterations to Lower Pickle Herring Wharf, Tooley-street, for Messrs. Nash, Hicks, & Nash. Mr. P. Brookes, architect:—

Carter & Son	£2,129 0 0
Cowland	1,995 0 0
Newman & Mann	1,915 0 0
Wells	1,901 0 0
Wills	1,896 0 0

For new sewers, Bermondsey. Mr. George Elkington, surveyor:—

Pearson	£7,280 0 0
Moxon	6,819 0 0
Kent	5,925 0 0
Redden	5,834 0 0
Newton	5,577 0 0
Cole & Son	5,299 0 0
Hill & Keddell (accepted)	4,974 0 0

For new spinning-mill and engine-house, for Messrs. John & Edwin Wright, Universe Works, Millwall. Mr. F. T. Dollman, architect:—

Jacobs	£1,547 0 0
Wood	1,410 0 0
Dove	1,410 0 0
Pritchard	1,397 0 0
Coleman	1,340 0 0
Salt	1,338 0 0
Conder	1,336 0 0
Johnston	1,320 0 0
Macey	1,303 0 0

For the erection of Sunday schools adjoining the Independent chapel, Dunmow, Essex. Mr. Thomas Gibbons, architect.—

Glascock	£460 0 0
Franklin (accepted)	408 15 10
Brown	405 0 0

For decorative works at the Great Synagogue, Aldgate. Mr. N. S Joseph, architect.—

McLachlan	£358 0 0
Newman & Mann	628 0 0
Taylor	598 0 0
King & Sons	579 0 0
Colls	573 0 0
Clarke & Manooch	417 0 0

For brasswork in the synagogue:—

Hart & Son	£310 0 0
Hulett	218 0 0
Forrest	216 0 0

For an Independent Church at Melbourne, Cambridgeshire. Mr. R. H. Moon, architect:—

Grimson	£3,068 7 0
Twelvetrees	3,015 0 0
French	2,980 0 0
Martin & Simms	2,785 0 0
Bullock & Son	2,650 0 0
Waters & Saintey	2,450 0 0

For the restoration of the church, chancel, and tower of Hoby, Leicestershire. Mr. E. Christian, architect. Quantities not supplied:—

Bradshaw	£1,300 0 0
Osbornes	1,053 0 0
Fish	744 0 0

For the restoration of the tower included in the above:—

Bradshaw	£205 0 0
Osbornes	248 0 0
Fish	37 0 0

For a carved sarcophagus, including concrete brickwork, cast-iron fence to design, &c., to the memory of the late Mr. S. T. Harris. Mr. Wm. Millican, architect, Leicester. Quantities supplied:—

Osbornes	£64 0 0
Fish	35 0 0

For plasterer's work to houses at Deptford. Mr. Thos. Dinwiddy, architect:—

Wilson	£320 0 0
Nightingale	257 0 0
Beedle	235 0 0
Harvey (accepted)	164 0 0

For erecting vestry-hall, St. Luke's, Middlesex. Mr. W. Christie, architect:—

Bishop	£9,507 10 0
Jacobs	9,480 0 0
Browne & Robinson	9,395 0 0
Turner & Sons	9,368 0 0
Wood, Brothers	9,353 0 0
Henshaw	9,279 0 0
Piper & Wheeler	9,242 0 0
Axford	9,198 0 0
Brass	8,969 0 0
Auley	8,898 0 0
Loft	8,553 0 0

For stable building, Howard-road, Stoke Newington, for Mr. Jordan. Mr. F. G. Widdows, architect:—

Lewis	£1,068 0 0
Flint	888 0 0
Ennor	848 0 0
Wheen	847 0 0

For rebuilding No. 23, High-street, Gravesend, for the trustees of the estate of the late Mr. Thomas Millson. Mr. George Judge, jun., architect:—

		Allowed for old materials.
Naylar & Son	£1,170 0 0	12 0 0
Stump	1,165 7 0	12 10 0
Langtree	986 0 0	16 0 0
Patman & Fotheringham	980 0 0	15 0 0
Relph	970 0 0	
Anscomb	955 0 0	25 0 0
Hamply	921 0 0	13 0 0
Stevenson	912 0 0	15 0 0
Cobham	893 0 0	18 0 0
Pink	878 0 0	12 0 0
Everist	800 0 0	15 0 0
Blake	770 0 0	10 0 0

For three houses at Hackney Wick, for Mr. John Odhams. Mr. J. P. Rolfe, architect:—

Dale	£1,846 0 0
Brett	1,763 0 0
Newman & Mann	1,749 0 0
Adamson & Son	1,717 0 0

Accepted for New United Presbyterian Church, Middlesbrough-on-Tees. Mr. W. H. Blessley, architect:—

Excavator, Bricklayer, and Plasterer's Work.

Oliver & Johnson	£590 6 9

Mason's Work.

Fidler & Co.	92 0 0

Carpenter, Joiner, Smith, and Ironfounder's Work.

Bettle	865 13 0

Slater's Work.

Benton Ord	66 0 0

Plumber, Glazier, and Gasfitter's Work.

Hudson	90 0 0

Painter and Decorator's Work.

Ward	39 7 0

For new schools at Mitcham, Surrey. Messrs. Wimble & Taylor, architects:—

Barnes	£1,350	0	0
Gulland	1,211	0	0
Norris	1,175	0	0
Myers	1,092	0	0
Drewett	1,090	0	0
White	1,085	0	0
Colls	997	0	0
Adamson & Sons	957	0	0
Jarrett	912	0	0
Sims & Martin	888	0	0

For works at the Kent Lunatic Asylum, near Maidstone. Mr. Martin Bulmer, architect. Quantities supplied by Mr. G. Ruck:—

	Alterations to chapel.	Water-tower, &c. Builder's work.	Founder's work.
Clements & Wallis	£595 0	£740 0	
Auscomb	518 0	659 0	£670 0
Naylar & Sons	511 0	595 0*	—
Cobb	500 0	672 0	—
Sutton & Vaughan	497 0	618 0	—
Chambers	475 0*	607 0	—
Ayers & Son	.....	730 0	—
Bugbird	.....	666 0	411 0
Clark & Son	.....	629 14	
May	.....	.....	530 0
Cartwright & Co.	.....	.....	515 0
Bevington & Topham	.....	.....	493 0
Rosser	.....	.....	491 4
Astbury & Co.	.....	.....	485 0
Ismay & Co.	.....	.....	483 6
Spencelaigh	.....	.....	476 0
Weeks & Son	.....	.....	470 0
Russell	.....	.....	462 11
Butchard	.....	.....	430 0
Garrett	.....	.....	394 15
Drury & Biggleston	.....	.....	362 0*

* Accepted.

TO CORRESPONDENTS.

L. A.—J. W. H.—T. S. (will doubtless see it advertised).—B. H. (the discolouration of external paint at particular seasons of the year was discussed in the *Builder* some time ago)—T. G. W. T. F. (shall be attended to)—G. E. O. (No).—Mr. V.—A Mason.—J. H. jun—A. A.—N. A.—S. H. (too late).—J. J. L.—W. H.—R. C. (not quite up to the mark for publication).—J. E.—J. H. B.—W H.—J. R.—J. A. P.—W. & T.—Art-Lover.—D. B.—A Working Man.—Theodolit e (we cannot advise).—C. D. S.

We are compelled to decline pointing out books and giving addresses.

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FREDERICK AVELING, Vestry Clerk
June 24, 1864.

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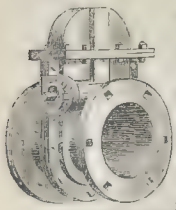
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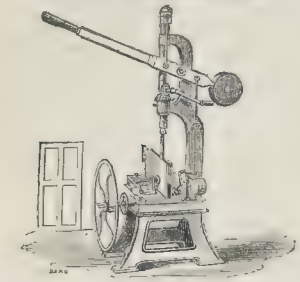
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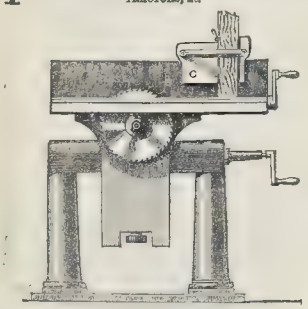
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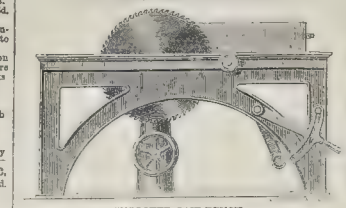


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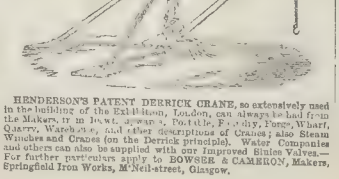
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Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

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The Premiums charged will be estimated by the individual risk; and the utmost liberality will be maintained in every transaction. Professional men introducing business, will be liberally treated with.

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TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION,

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

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PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, fr.eze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

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PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21, Wharf, Macclesfield-street North, City-road, London, N. 2ndly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 681, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Titeries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that, in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 50, Conduit street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.



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MANUFACTURING JOINER,
28, GRAY'S INN ROAD, W.C.
Every description of Joiners' Work for
HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.
An ILLUSTRATED LIST of PRICES forwarded on receipt of stamp. ESTIMATES on application.
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B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 33s. per Load.	
Good Yellow Deals	£16	10	0	per 120, or 2½d. per foot.	
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ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.				Per 120 of 12 ft.		
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SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.
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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
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2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt.
Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
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Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
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Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
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Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

JUROR—Class XXVI. GREAT EXHIBITION, 1851.

JUROR—Class XXX. INTERNATIONAL EXHIBITION 1862.

DESACHY'S FIBROUS PLASTER.

GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), dated and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made, it has been used under the direction of Owen Jones, esq., for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

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(ESTABLISHED IN 1780.)

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PRIZE MEDAL—Class X. (c) INTERNATIONAL EXHIBITION 1862.

1862. INTERNATIONAL EXHIBITION. HONOURABLE MENTION FOR SUPERIOR DESIGN AND WORKMANSHIP.

WILLIAM WHITE,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in
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COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGNS FOR THE DECORATION OF PUBLIC AND PRIVATE BUILDINGS SUPPLIED WITHOUT CHARGE.

WILCOCK & CO.
FIRE-BRICK AND SANITARY TUBE WORKS,
LEEDS.
ILLUSTRATED LISTS ON APPLICATION.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 2d. per cwt.

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GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.

Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

WORKS, LONDON and BIRMINGHAM.

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.

See Advertisement first Saturday in the Month, or on application.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the Lead or Atmosphere.

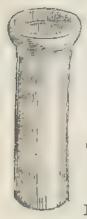
ADULTERATIONS.—Some Paint Grinders have been using Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Worth as it is under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEMICAL.—It only takes a proper proportion of oil, a two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 21, LIME STREET, LONDON.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

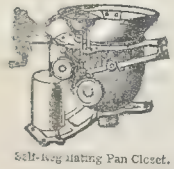
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In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

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High-Pressure Bib and Stop Valve.



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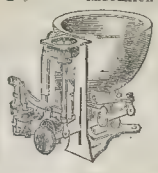
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AWNINGS FOR FOUNDATION STONES.

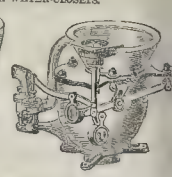
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J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



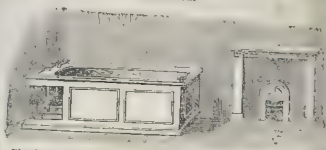
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No waste-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

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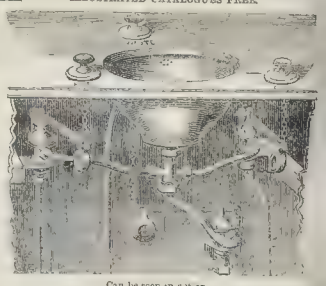
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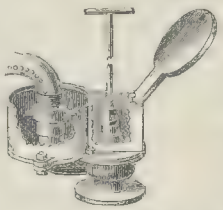
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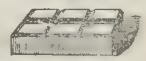
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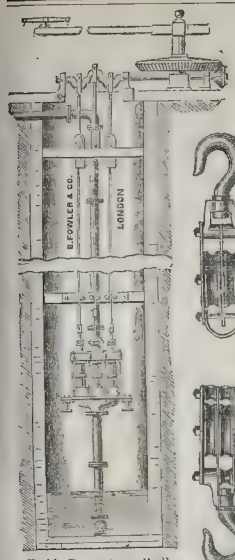
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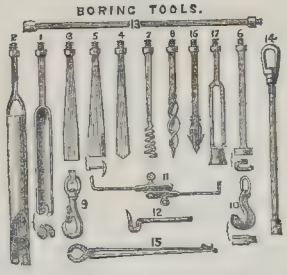
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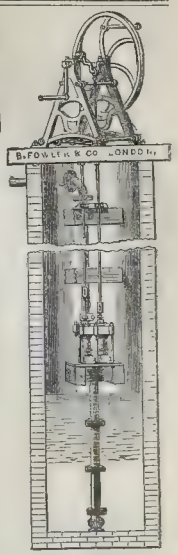
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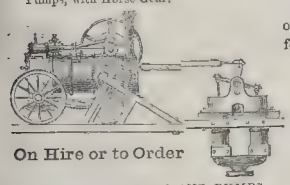
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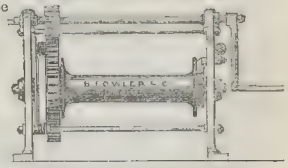


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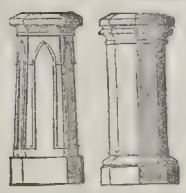
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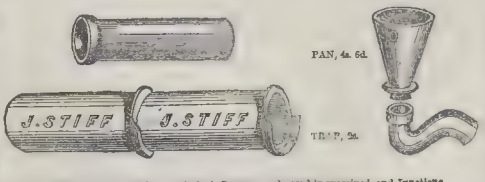
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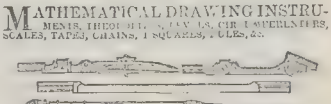
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PULLEN, HORNE, & EVERSFIELD are instructed by the Westminster Company of Fishmongers to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 1st, at TWELVE in Lots, all the Valuable BUILDING MATERIALS and FIXTURES of Nos. 1 and 2, Pudding-lane, Lower Thames-street; of the said Nos. 1 and 2, and 26, Pudding-lane, Lower Thames-street; of the said Nos. 25

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A JOURNAL FOR THE

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VOL. XXII.—No. 1117. JULY 2, 1864. PRICE FOURPENCE. By Post, 5d.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street, W.—A SPECIAL GENERAL MEETING of the Members will be held on WEDNESDAY Evening, JULY 6th. Business to commence at EIGHT o'clock.

JOSEPH KAY, Secretary.

ARCHITECTURAL ASSOCIATION.—The Members are hereby informed, that the TIME for SENDING in DESIGNS for the PRIZES offered by the "Patent Concrete Stone Company," is POSTPONED from JULY 1st to AUGUST 1st, 1864.

J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDDELL }
THOMAS PIPER, Secretary to Patent Concrete Stone Company.

June 25, 1864.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION.—The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt," together with Robert & Martineau's Picture "The Last Day in the Old House," are NOW ON VIEW at "The New Gallery," 16, Hanover street, Regent street, from Nine in the morning till Ten at night.—Admission, during the day, from Nine till Seven, One shilling; and in the Evening, from Seven till Ten, Sixpence.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864

GAS REFORM.—GEORGE FLINTOFF, who has saved the gas consumers of England, Ireland, and Scotland, 200,000*l.* a year, may be ENGAGED to LECTURE, or CONSULTED on GAS ABUSES, STREET LAMPS, NEW JOINT PANELS, and the Means of Securing Cheap Gas.—Apply, W. WRIGHT & CO. 151, Strand, London.

NOTICE.—Mr. LUDWIG DENICKE, of Leipzig, has been appointed AGENT to receive Advertisements, and to supply "The BUILDER," in GERMANY and EASTERN EUROPE.

NOTICE.—LOST.—Should this Meet the Eye of WILLIAM or GEORGE BODLEY, whose two brothers, Robert and Joseph, left England in the year 1848, and sailed for the Cape of Good Hope, they will hear of them by writing to R. BODLEY, Builder, King William's Town, British Kaffraria.

March 21, 1864.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12, Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate street Within.

COMPETITIONS.

IRON CHURCH.—Designs and Estimates required for the ERECTION of an IRON CHURCH, with Wood Frame, to seat 200 persons, with and without seats, including a Vestry 8 feet square, and an Entrance Lobby, within three miles from Charing-cross. The lowest estimate will be accepted if the design is approved. Estimates to be sent in on or before WEDNESDAY, JULY 6th, to A. B. care of Messrs. Simpson & Cullingford, Solicitors, 61, Gracechurch-street, E.C.

CONTRACTS.

BOROUGH of STOCKPORT.—The Corporation of this Borough (the Local Board) is desirous of receiving TENDERS for from 300 to 1,000 tons of 6 inch by 3½ inch WELSH SETS, to be delivered at the Canal Wharf, Lancashire-hill, Heaton Norris, or either of the railway stations in the borough, in quantities of not less than 20 tons per week. Samples to be sent with the Tenders. Tenders to be addressed to me, marked "Tender for Welsh Sets," and to be delivered at my Office not later than the 5th day of JULY next—By order,

HENRY COPPOCK, Clerk to the Local Board.

Stockport, June 20, 1864.

STOCKPORT.—NEW BRIDGE.—TENDERS are required for the ERECTION of a New BRIDGE over the River Mersey, at Stockport, on the Estate of C. Howard, Esq. The Bridge will be of brick and stone, in one span of 70 feet.—The drawings and specification may be seen, and Forms of Tender, and all requisite information obtained, until the 30th JUNE inst. on application to Mr. BRIERLEY, Civil Engineer, Blackburn, and, after that date, on application to Mr. MORLEY, Surveyor, &c. George Hotel, Stockport. Sealed Tenders may be sent to the undersigned not later than WEDNESDAY, the 6th day of JULY next.

JOSEPH BRIERLEY, Engineer, &c. &c.

Blackburn, 23rd June, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Aintree to the North Shore at Bootle, Liverpool. Plans and specifications may be seen, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after FRIDAY, the 24th of JUNE instant, and TENDERS, properly endorsed, and addressed to the Directors, must be delivered to the Secretary not later than TUESDAY, the 12th JULY proximo.

WM. S. LAWN, Secretary.

Manchester, 19th June, 1864.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the BUILDING of a STONE VIADUCT, in lieu of the present wooden structure, called the Mytholm Viaduct, on the Hebden branch. Plans and specification may be seen, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester. Tenders, properly endorsed, and addressed to the Directors, to be forwarded so as to be received by the Secretary not later than TUESDAY, the 5th JULY proximo.

WM. S. LAWN, Secretary.

Manchester, 15th June, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW CHURCH at East Molesey, near Hampton Court, Middlesex, may see the drawings and specification at the Office of the Architect, Mr. TALBOT BURY, 50, Welbeck street, London, W. any day between the hours of TEN and FIVE, after TUESDAY, the 5th of JULY. Tenders to be delivered at 50, Welbeck street, not later than SATURDAY, the 16th JULY, addressed to the Rev. A. WILLIAMS. The lowest or any Tender not necessarily accepted.

CONTRACTS.

BLACKFRIARS BRIDGE.—TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO BUILDERS, &c.—The Committee for the Restoration of St. Mary's Church, Shrewsbury, solicit TENDERS for the RESEATING, in Oak, of the NAVE and AISLES of the said Church. The drawings and specifications may be inspected between the hours of TEN a.m. and SIX p.m. at the Parochial Room, St Mary's-place Shrewsbury, on and after 1st JULY next. The Committee do not bind themselves to accept the lowest or any other Tender. Further particulars may be obtained, by application to Mr. S. P. SMITH, Architect, Shrewsbury. Tenders must be sent to the Rev. T. B. LLOYD, Whitehall, Shrewsbury, before JULY 15th, 1864.

THOS. B. LLOYD, Chairman of the Committee.

Shrewsbury, June 25th.

TO BUILDERS.—Persons desirous of sending in TENDERS for the COMPLETION of TWO pairs of HOUSES at Croydon, can, on and after MONDAY next, the 4th JULY, see the plans and specification at the Office of Mr. TEMPLE, 38, High street, Croydon. The lowest Tender will not necessarily be accepted.

R. J. WOOLCOCK, Architect.

TO BUILDERS and CONTRACTORS.—TENDERS are required for BUILDING the TOWER and SPIRE of St. John's Church, Putney Hill, Surrey. A copy of the bills of quantities can be obtained on application to the Architect, Mr. CHARLES LEE, No. 20, Golden-square, St James's, where the Tenders are to be delivered between the hours of TEN a.m. and FOUR p.m. on WEDNESDAY, the 13th of JULY. The Committee do not pledge themselves to accept the lowest or any Tender.

BRISTOL LOCAL BOARD of HEALTH.—To BUILDERS, CONTRACTORS, & OTHERS.—The Local Board of Health of the City and County of Bristol hereby give notice that they intend to CONTRACT for Laying Down, Constructing, and Completely Finishing, certain intended SEWERS, in the Pyrene Intercepting Sewer District, within their District, about 4,400 yards in length. Persons wishing to Contract for the same are requested to forward through the post, on or before THURSDAY, the 14th day of JULY next, by TEN o'clock in the Forenoon, sealed Tenders, addressed to the Committee of the Local Board of Health, 14, Prince-street, Bristol, and endorsed "Tender for Sewers." Any Tender not sent through the post will be rejected. The plans and specifications of the works to be done may be seen at the Offices of the Local Board of Health; and any further information may be obtained, either on personal application or by letter, prepaid, addressed to the Surveyor, Mr. FREDERICK ASHMEAD, C.E. The party contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.

By order of the Committee,

JOHN G. HEAVEN, Clerk.

Local Board of Health Offices, 13, Prince-street,

24th June, 1864.

BRISTOL LOCAL BOARD of HEALTH.—To MASONS and QUARRYMEN.—The Committee of the Bristol Local Board of Health hereby give notice that they are ready to receive TENDERS for the performance of the following WORKS for Two Years, from the 25th of MARCH last.

FOOTWAYS.

For the Supply of Paving Pennant, Curb and Edging, of the best Basham Stone, or Frenchay, Welsh, or other Stone, if of equal quality, and for Setting and Laying the same in the Footways of the Roads, Streets, Squares, Courts, Yards, Lanes, Passages, and Places within the City and County of Bristol, at such times as the said Local Board or their Surveyor may direct. Any person ready to Contract for doing the above mentioned Works is requested to deliver sealed Tenders for doing the same, on or before TEN o'clock on THURSDAY Morning, the 14th day of JULY next, endorsed "Tender for Paving," &c. and addressed to "The Committee of the Local Board of Health, 13, Prince-street, Bristol," where a specification of the Works, the terms of the Contract, a form of Tender, and any other information may be obtained. The Contractor will be required to find two good and sufficient sureties for the due performance of his Contract. The Committee will not bind themselves to recommend the acceptance by the Local Board of the lowest or any Tender, nor of any Tender, until after inquiry and approval of the proposed sureties.—By order of the Committee,

JOHN G. HEAVEN, Clerk.

Office, 13, Prince-street, 23rd June, 1864.

TO BUILDERS.—Persons desirous of CONTRACTING for the REPAIR and RE-ROOFING of the Chancels of the Parish Churches of Minster and St Mary-le-Crypt, Both in the county of Kent, may apply to Mr CHRISTIAN, 88, Whitehall-place, London, S.W., giving References, before JULY 8th next.—Mr. Christian does not bind himself to acknowledge or reply to any such application.

TO BUILDERS.—The Committee of the Willenhall Literary Institute are desirous of receiving TENDERS for their proposed NEW BUILDING. Small Iron Standard. Tenders are to be sent to Mr. J. C. TILDESLEY, the Hon. Secretary, Willenhall, on or before SATURDAY, the 9th day of JULY next. The plans and specification may be seen at applicants' residences.

J. R. WEALL, Architect.

62, Darlington street, Wolverhampton.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a PARSONAGE HOUSE at Great Marlow, Bucks, from designs made by Mr. G. E. street, Architect, can see the plans and specification upon application to the Rev. H. MILMAN, at Great Marlow. No quantities will be supplied, nor does Mr. Milman bind himself to accept the lowest or any Tender.

[*For remainder of Contracts see next Page.*

CONTRACTS.

SAINT MARYLEBONE.—To CONTRACTORS for HOT WATER WARMING APPARATUS on the LOW-PRESSURE SYSTEM.—Notice is hereby given, that the Vestry of the Parish of Saint Marylebone, in the County of Middlesex, will meet in the Board-room of the Court-house of the said parish, on THURSDAY, the 14th day of JULY, 1864, at ELEVEN o'clock in the forenoon, to receive SPECIFICATION and TENDERS for the WARMING by HOT WATER PIPES and APPARATUS.—Further particulars may be known on application to the Vestry Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house from TWELVE till ONE o'clock. Tenders, with plans and specifications, to be sent in sealed, and addressed to the Vestry's Surveyor, and enclosed "Tender for Hot Water Apparatus," before ELEVEN o'clock in the forenoon of the said 14th day of JULY, 1864. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Vestry will expect the parties tendering, or their agents on their behalf, to be in attendance at the time of opening the Tenders.—By order,

June 3rd, 1864. W. F. GREENWELL, Vestry Clerk.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY the 12th day of JULY, 1864, at half-past TWELVE o'clock precisely to receive TENDERS for REPAVING the Carriageway of Mansion-street, agreeably to a specification, which may be seen at the Office. Persons Tendering are required to give the names and addresses of at least two substantial householders as sureties, to enter into bonds with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory, and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 28th June, 1864.

TO BUILDERS.—The Guardians of the Chertsey Union, in the County of Surrey, are desirous of receiving TENDERS for certain ALTERATIONS and ADDITIONS to be made at the Union Workhouse, situate in Chertsey. Plans and specifications may be seen at the Workhouse, where the site of the works can be viewed. Copies can be obtained on application to Mr. H. WALKER, Hampton-wick, S.W. the Architect. Tenders must be sent to me, or to the Master at the Workhouse, on or before MONDAY, the 11th day of JULY next. A contract in the usual form will be required. The Guardians reserve to themselves the right to reject the lowest Tender, and they will not be responsible for the quantities furnished by the Architect.—By order of the Board.

HENRY G. GRAZEBROOK, Clerk.

Chertsey, 28th June, 1864.

TO BUILDERS and OTHERS.—The Guardians of the Poor of the Parish of St. George the Martyr, Southwark, will meet in the Board Room of their Workhouse, situate in Marlborough-grove, Southwark, on WEDNESDAY, the 13th day of JULY next, at SIX o'clock in the afternoon, to receive TENDERS from such persons as may be willing to CONTRACT for the ERECTION of a BOUNDARY WALL and such other WORKS as are enclosed Vacant Ground adjoining their present buildings. The plan and specification may be seen at the Board Room any day (Sundays excepted) between the hours of TEN and FOUR o'clock. The Guardians do not bind themselves to accept the lowest or any Tender. By order,

JOHN H. PHIPPEN, Clerk to the Guardians.

19, Union-street, Southwark, June 23th, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS, at Ravenstein, near Bisley, the property of John F. White, Esq., of Kenyon, in the County of Bedford, may see the plans and specifications, and obtain forms of tender, at the Farm House, from MONDAY, the 4th, till FRIDAY, the 15th JULY (inclusive). Tenders to be sent in not later than TWELVE o'clock on SATURDAY, the 16th instant, to WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, June 30th, 1864.

SAINT MARY, ISLINGTON.—The Highways Committee will meet at the Vestry Offices, Upper-street, on TUESDAY, the 5th JULY next, at SEVEN o'clock in the evening precisely, to receive TENDERS for the SUPPLY of the BROKEN GRANITE, to be used on those road in the parish now under the jurisdiction of the Metropolis Roads Commissioners.—Forms of Tender, which alone will be received, may be obtained at the Vestry Offices. No Tender will be received after SEVEN o'clock, nor will any Tender be received unless the Contractor and Bank of England note, which will be subsequently returned to those persons whose Tenders are not accepted, but will be retained in the other case until the contract is executed; and in default of the contract being duly executed, the sum deposited shall be forfeited to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

Vestry Office, Upper-street, JOHN LAYTON, Vestry Clerk.

28th June, 1864.

POLICE STATION and INFIRMARY, BISHOPSGATE STREET.—To BUILDERS, &c.—Notice is hereby given, that the Police Committee of the Corporation of London will meet at Guildhall, on MONDAY, the 18th day of JULY, 1864, at TWELVE o'clock precisely, to receive TENDERS for the ERECTION of a POLICE STATION and INFIRMARY, on a plot of ground in Bishopsgate-street, Persons Tendering or agents for Tenders must attend at the Architect's Office, Guildhall, on TUESDAY next, the 5th of JULY, 1864, at ONE o'clock precisely, where drawings, specifications, and Forms of Tender can be inspected, and copies of both of same obtained, on payment of two guineas, which amount will be returned to unsuccessful competitors. The tenders must be sealed up, addressed to the Police Committee, endorsed "Tender for Police Station and Infirmary," and left at the Architect's Office on or before ELEVEN o'clock in the forenoon of MONDAY, the 18th day of JULY next, and the parties tendering are required to be in attendance at one o'clock on that day, at TWELVE o'clock precisely. The Committee do not bind themselves to accept the lowest or any Tender.

WOODTHORPE.

Guildhall, June 30, 1864.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—ERECTION of GOODS WAREHOUSE and GRANARY at the Brighton Arms Depôt.—To BUILDERS.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for the WORKS in the EXTENSION of the GOODS WAREHOUSE and ERECTION of a GRANARY, at the Brighton-arms Station. Plans and specifications may be seen at the Secretary's Office, Brighton, and at the Offices of the Company's Engineer, London Bridge Terminus; and in the meantime Forms only, and endorsed "Tender for Goods Warehouse," may be obtained at the undersigned; and delivered at the Office, not later than ELEVEN o'clock in the forenoon of TUESDAY, the 12th of JULY next. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary

London Bridge Terminus, 29th JUNE, 1864.

TO BRIDGE-BUILDERS and CONTRACTORS.—It is proposed to CONSTRUCT a CAST-IRON BRIDGE over the River Stour, at Bishop's Stortford, near the Railway station. Persons desirous of TENDERING for these Works will view the drawings and specification at the Office of Mr. FOWLER, at the Mercers' Hall, Cheapside, on Tuesday, the 5th of July next, and on FRIDAY, the 8th of JULY, between the hours of NINE and SEVEN in the evening, and on MONDAY, the 11th JULY. Tenders to be delivered at, on or before THURSDAY, the 14th JULY, under cover, as usual, "Tender for the Bridge at Bishop's Stortford." The Committee do not bind themselves to accept the lowest or any Tender.—By order of the Bridge Committee.

GEORGE PERRY, Surveyor.

Bishop's Stortford, 28th June, 1864.

GOULD & PORTER (late CARY) are now manufacturing their improved 1 inch DUMPY LEVEL, best quality, complete for 9l. 10s. Ditto, with silver ring compass, 11l. 10s. 10-inch ditto, ditto, 12l. 0s. 6d. and 12l. 15s. 6d. Best Surveying Instruments, 25 per cent. All other MATHEMATICAL Instruments at Reduced Prices.—Optical and Mathematical Instrument Makers to the Admiralty, having occupied the same Premises, 181, Strand, for upwards of a century.—181, Strand, London.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length, eleven best bedrooms; stabling for eight horses and coachhouses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell square.

LEWISHAM, KENT, near the Junction Station of the Mid and North Kent Lines.—TO BE LET, TWO PLOTS of GROUND, each for a Pair of Small Villas. Also, a Plot for Three Pairs. Ground rent 3l. per house.—Apply to THOMAS MILLS & SON, Builders and Agents, 28, York-street, Westminster, S.W. Leases 70 years, direct from freeholders. No advances.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick-built manufactory of two floors, engine and boiler-houses, with 50-horse power steam engine and three Cornish boilers, range of brick built offices, and paved yards with gateway entrances. There is a water frontage of about 207 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

BUILDING GROUND.—TO BE LET, from Michaelmas next, a valuable PLOT of GROUND, adjoining the Lea Bridge Station, with a frontage of 200 feet to the Lea Bridge-road, the total area being five acres and a half. For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

FOREST HILL.—BUILDING LAND TO LET on this hill, commanding extensive views. — Apply to A. B. 192, Bermondsey-street, S.E.

TONBRIDGE, KENT.—FOR SALE, by PRIVATE CONTRACT, Forty-five Acres of most desirable and highly ornamental Freehold BUILDING LAND, a Family Residence, Stabling, and Building Plots adjoining the Town of Tonbridge, having a frontage of 2,300 feet to the London turnpike-road, and 1,020 feet to the Shipborne-road, most admirably adapted, from its position and the extensive and beautiful prospects it commands, for the erection of first-class villas and other residences.—For further particulars, and to treat for the sale of the whole, or part, apply to Messrs. GORHAM & WARNER, Solicitors; or Messrs. CHARLTON & SON, Land Agents, Tonbridge.

TO BE LET, Large and Valuable PREMISES, with water communication, one mile north from the Bank. Formerly occupied by a mahogany merchant, who realized a large fortune there.—Apply to R. & W. STUEGE, Bridge Wharf, City-road, E.C.

TO CARPENTERS and OTHERS.—TO BE SOLD, separate or together, THREE well-built EIGHT-ROOMED SHOPS: one a corner in carcase, in a good situation, in a high road. Price 420l. Ground rent, 7l. each. Lease 99 years. The whole of the purchase-money may remain on first mortgage, if required. To see the above, and further particulars, apply to Mr. BELL, No. 1, Park-side-street, Battersea Park, S.W.

FREEHOLD LAND.—WANTED, to PURCHASE, a PLOT of an ACRE, more or less. The said Plot must be suitable for the erection of a villa, gravel subsoil, and within half an hour's railway ride of Gracechurch-street. Stockton.—Address, full particulars, price, terms, &c. to J. H. MONK, Grove-villas, East Ham, Essex.

FOR SALE, the LEASE of a HOUSE in the best part of Cockspur-street, valuable as a shop or for offices of a public company.—Address, O. P. Office of "The Builder."

FREEHOLD LAND TO BE LET, for Building, in Lyndhurst-grove and Denman-road, near Camden Church, Camberwell.—Plans and terms may be seen, from TEN to TWELVE (except Saturdays), at Mr. SPRIGGS'S, 8, W. Johnson's, Esq. 5, Gray's-inn-square.

CITY ROAD, Saint Bartholomew's Hospital. GROUND TO BE LET, for Building, in Collingwood-street, with immediate possession.—For further particulars apply at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Brunswick-square.

July, 1864. WILLIAM WILBY, Clerk.

TO BRICKMAKERS.—TO BE LET, in consequence of the decease of the late owner, a valuable BRICK FIELD, of about 3 acres, abutting on a main road contiguous to an important town, and only half a mile from a station within about 50 miles of London. The brick earth averages a depth of upwards of 25 feet, and lime is found on the property. It is now in full work, and, as extensive building operations are taking place in the neighbourhood, a ready sale of all kinds of bricks can ready be effected at very remunerative prices.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside.

BUILDING LAND TO BE LET, on Wandsworth Common, close to New Wandsworth Station for Houses to be let at 30l. per annum, which are in great request. Good soil, drained into sewer. Advances made, if carcases built at an agreed price.—For particulars apply to C. W. TODD, Builder, Battersea Rise.

WATERSIDE PREMISES, Pimlico.—TO BE LET, with immediate possession, a WHARF, in Upper Belgrave-place, well adapted for a marble or stone merchant, with office, loading crane, &c.—Apply to CULLEN, HORNE, & EVERFIELD, 44, Parliament street, Westminster, and 80, Fore street, City.

TO MANUFACTURERS, PRINTERS, and OTHERS, displaced by the City Railways.—TO BE LET, on a Building Lease, or SOLD, a valuable PLOT of LAND, abutting on one of the Metropolitan Railway Lines. Trains to the City every fifteen minutes, and the Directors of the Railway will afford every facility for the conveyance of goods from the premises.—For terms apply by letter to Mr. HARRIS, Newsvendor, Princes-road, Notting-hill, W.

MUNSTER STREET, Regent's Park.—TO BE LET or SOLD, extensive PREMISES, suitable for a Builder, or any Manufacturer requiring space. The Premises are in a most spacious Residence-gateway at side, Cartilage-house, large Yard, with Sheds, Workshops, Stabling, &c. and back entrance.—Terms of Messrs. GLASIER & SONS, Auctioneers, 41, Charing-cross; or J. C. MEYMOTT, Esq. 5, Albion place, Blackfriars-road.

FREEHOLD LAND, a BARGAIN.—WOOD GREEN, near Hornsey, Alexandra Park, and the Station.—Capital building-land to be let in Three PLOTS, each having 54 feet frontage each, 145 feet deep, commencing at the rear of the Cemetery-road, 100 feet by 145 feet, and 200 feet by 145 feet, respectively, situate on the beautiful estate of the Conservative Land Society, and numbered 1, 22, 3, 4, and 5. The proposed sewers made and metalled, and water laid on.—Address, P. P. L. Office of "The Builder."

TO BE LET, or SOLD, an Eligible PLOT of BUILDING LAND, No. 17, fronting on Merrick-road, Plough-lane, near Battersea Park Rise, 16 feet by about 87 feet.—Apply to J. A. WILSON, Esq. Surveyor, 85, Norfolk-street, Strand.

LORDSHIP ROAD, Stoke Newington.—TO BE LET, on Building Leases of 61 years (at low ground rents), EIGHT building sites for semi-detached villas and terraces.—Apply to Mr. RODDA, Waterloo-road, Church-street, Stoke Newington. N.B. Bricks supplied on the estate at low prices.

TO CARPENTERS and BUILDERS.—TO BE LET, a convenient DWELLING-HOUSE, with Workshops, Stables, Yard, and Garden, situated at Leigh, within three miles of Tonbridge, in the county of Kent. Rent moderate. — Address, Y. Z. General Post-office, Tonbridge.

PRIZE MEDAL, 1862.

HAMILTON & CO. No. 16, GREEK-STREET, SOHO-SQUARE, LONDON, W. Sole Manufacturers of C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

CUMBERLAND'S FERRIOXIDE PAINT should be used by Builders, Engineers, Ship Painters, Contractors, and all who are interested in preserving Iron, Wood, Stone, or Compo. For Ironwork there is nothing equal to it. Its preservative and anti-corrosive properties render it universally applicable. It possesses good body and colour (a rich dark red), and, the greatest recommendation of all, it is cheapness

PRICE 20s. PER CWT. Samples sent if required.

MANUFACTURED SOLELY BY HENRY CUMBERLAND, CHEMICAL WORKS, MILLWALL, LONDON, E.

DO NOT BURN OFF OLD PAINT, but use NAENIARE & CO.'S LETHICUM, which will remove it clean to the wood in twenty minutes.—Sold at 8s. per gallon, at 11, St. Andrew's-hill, Doctors' commons, E.C. Brushes, 2s. Success guaranteed.—N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at MARLBOROUGH HOUSE.

TURPENTINE. GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.

Sample gallons may be obtained at the Manufacturers', price 4s.

GARROD & COMPANY, Varnish, White Lead and Colour Manufacturers, 56, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 20s. per cwt. Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 10d. per Gallon. Turpentine, 7s. 6d. per Gallon. Oak Varnish, 7s. per Gallon. Fine Pale Oak Varnish, 8s. per Gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Rosary-street, and 45, Coleshill-street, Pimlico, S.W. Every article for the Trade at the lowest prices.

T. KENT'S PAINTING-BRUSH MANUFACTORY Is continued by his Successors, CROWDEN & GARROD, Falcon-square, London, E.C. Where the TRADE is supplied with the same superior quality under the name celebrated. N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes. Also Manufacturers of the Patent India rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

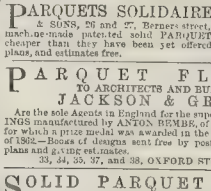
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PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply machine-made patented solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered,—illustrated catalogues, plans, and estimates free.

PARQUET FLOORING. TO ARCHITECTS AND BUILDERS. JACKSON & GRAHAM Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Boxes of designs sent free by post. No charge for taking plans and giving estimates.

33, 34, 35, 37, and 38, OXFORD STREET, LONDON.

SOLID PARQUET FLOORS.— ARROWSMITH'S PATENTED.



The speciality consists in being "SOLID INCH THICK;" each separate piece grooved and tongued together, and keyed at back (not veneers). Remedied in price from 2s. per foot. Interlaced Oak, 1s. 3d. Walnut and other Woods, from 1s. 6d. As orders to Carpets; for Halls, Libraries, Billiard and Reception Rooms, Altar Floors, &c. (Warmer than stone).

SHOW ROOMS—29, NEW BOND ST. W.

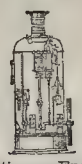
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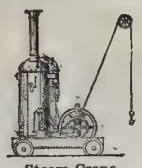
THE LONDON PARQUETRY WORKS. The first Establishment founded in England (in 1842) for the exclusive manufacture of SOLID and PLATED PARQUET FLOORS and BORDERS, CEILINGS, and WALL DECORATIONS; and SOLE PATENTEES of the only system adapted to the English climate, whereby the effects of DRY-ROT, SHRINKAGE, and WARPING (so common to work manufactured in foreign climates) are HITHERTO FULLY PREVENTED.—For Designs, Estimates and List of above 200 Floors, &c. apply to THE LONDON PARQUETRY WORKS, Grove-lane, Camberwell; or their Sole Agents, Messrs. GILLOW & CO. 176, Oxford street.

TO BUILDERS, &c. A LARGE ASSORTED STOCK always on HAND, of CLOTHS and BAIZES, In all colours and qualities, at H. LL & SONS, 36 and 37, St. Martin's-lane, Charing Cross.

NEW PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine.



Steam Crane.



Hoisting Engine.

PRICES OF ENGINES AND BOILERS COMPLETE, DELIVERED FREE IN LONDON.

Description of Engine as shown above.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.
Stationary.....	1-horse	£45	2-horse	£65	3-horse	£85	4-horse	£105	5-horse	£125	7-horse	£150
Steam Crane.....	To hoist 35 cwt.	190	To hoist 50 cwt.	235	To hoist 70 cwt.	285	To hoist 6 tons.	380				
Hoisting Engine	To hoist 12 cwt.	95	To hoist 17 cwt.	120	To hoist 23 cwt.	135	To hoist 28 cwt.	165	To hoist 40 cwt.	195		

The STATIONARY ENGINES require no chimney-shaft or building whatever, a cast-iron ash-pit forming the sole-plate, and they may be set up anywhere and started at once. The STEAM CRANES are mounted on carriage and wheels. The Engine and Boiler swing round and counterbalance the load.

*** EVERY ENGINE is GUARANTEED to be of BEST MATERIALS and WORKMANSHIP, and to PERFORM its WORK SATISFACTORILY.

J. B. BROWN & CO. 18, Cannon-street, City, London, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



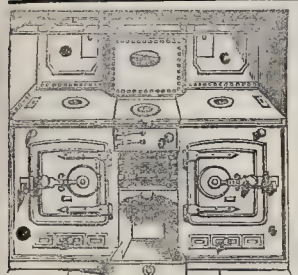
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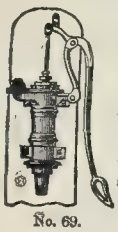
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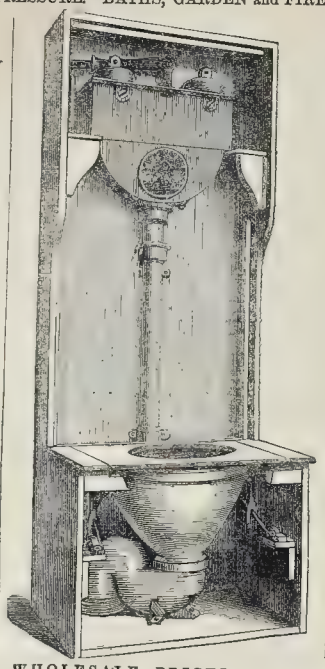
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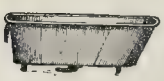


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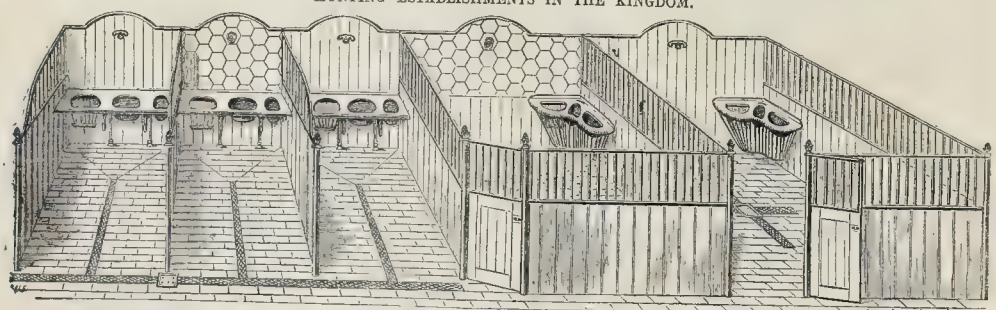
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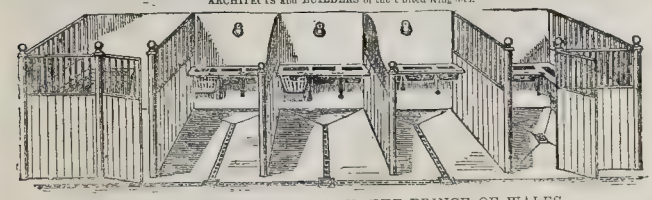
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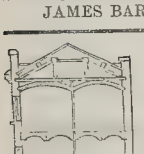
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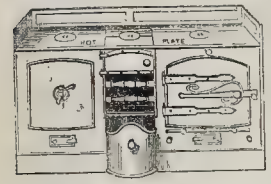
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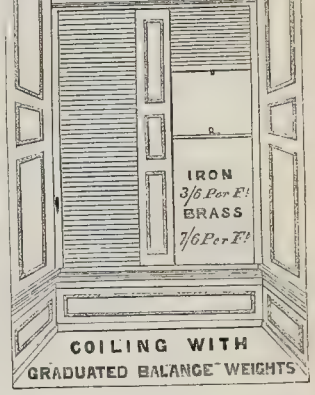
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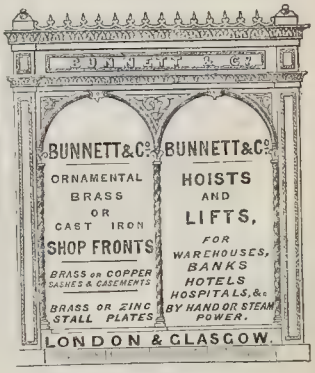
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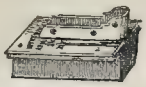
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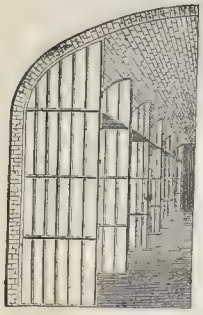



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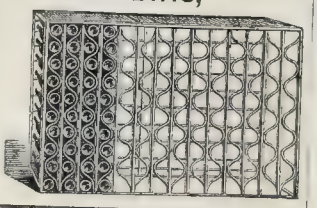
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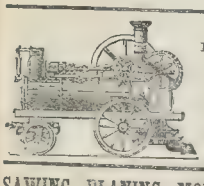
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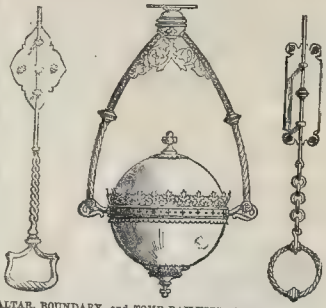
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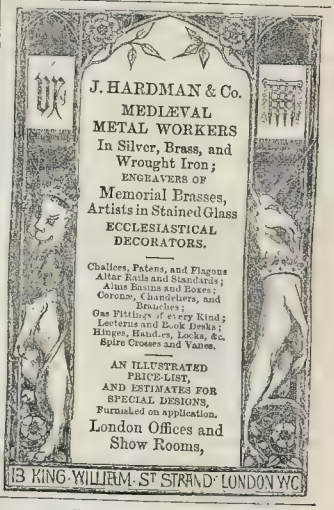
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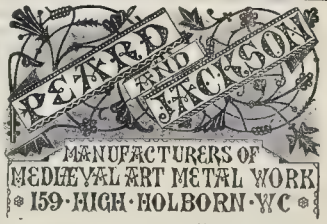
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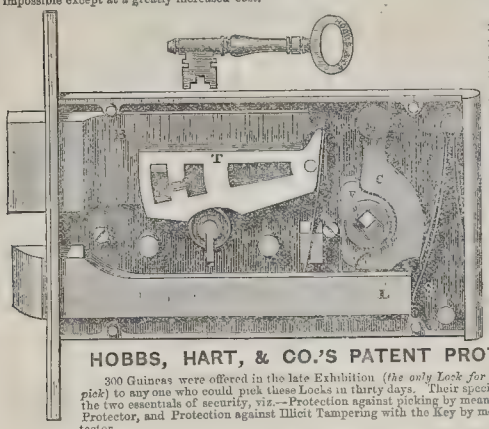


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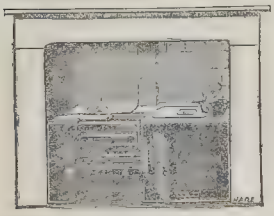
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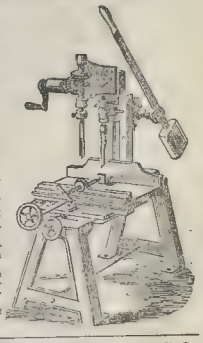
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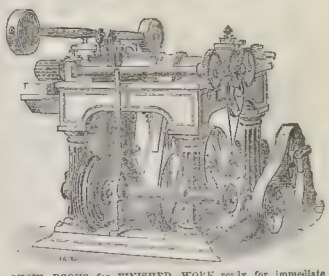
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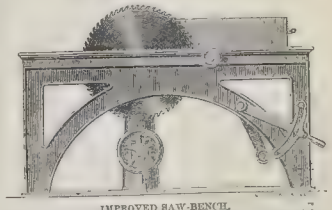


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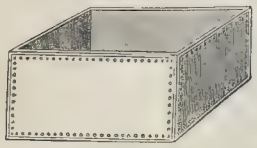
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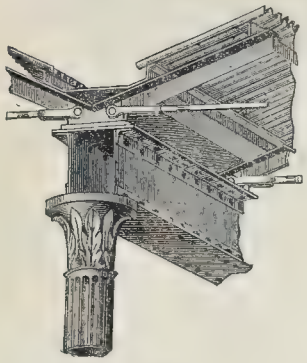
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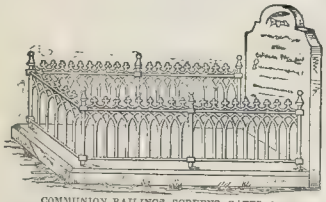
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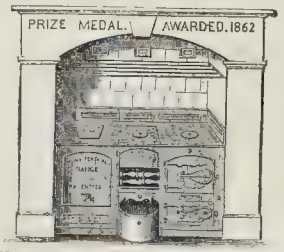
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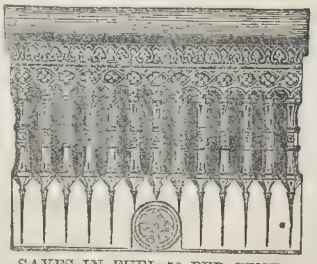
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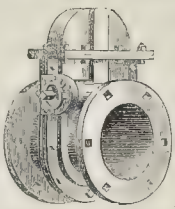
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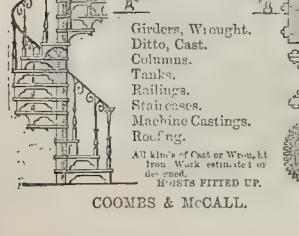
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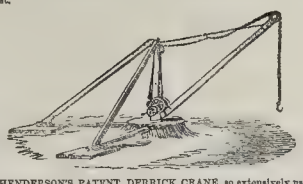
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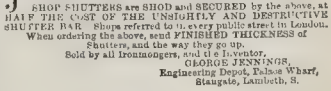
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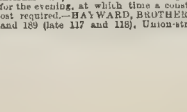
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For further information, and forms of application, apply to the Hon. WILLIAM NAPIER, Managing Director, the Land Securities Company (Limited), 32, Charing-cross, London, S. W.

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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

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MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

The Builder.

VOL. XXII.—No. 1117.

Memorial Tablets on London Houses.

"A man, you know, may study in the streets,
And raise his mind above the mob he meets."
Pope.

"Stay, Passenger, why goest thou by so fast,
Read, if thou canst." *Shakespeare's Epitaph.*



R. DYCE, the accomplished editor of Shakspeare, Beaumont & Fletcher and of the works of other Elizabethan dramatists, has preserved among "Ana" well worth remembering, the following breakfast-bit of talk of the poet Rogers:—

"To any one who has reached a very advanced age, a walk through the streets of London is like a walk in a cemetery. How many houses do I pass now inhabited by strangers, in which I used to spend such happy hours with those who have long been dead and gone."

The same sagacious thinker, who had carefully read both books and men through a long life, and to the last, has thus recorded, and in print, a similar sentiment arising from the *Pleasures* of "Memory:"—

"There is a custom on the Continent well worthy of notice. In Boulogne we read, as we ramble through it, 'Ici est mort l'auteur de Gil Blas;' in Rouen, 'Ici est né Pierre Corneille;' in Geneva, 'Ici est né Jean-Jacques Rousseau;' and in Dijon there is the 'Maison Bossuet;' in Paris the 'Quai Voltaire.' Very rare are such memorials among *us*; and yet wherever we met with them, in whatever country they were, or of whatever age, we should surely say they were evidences of refinement and sensibility in the people. The house of Pindar was spared:

"When temple and tower
Went to the ground;"

and its ruins were held sacred to the last. According to Pausanias, they were still to be seen in the second century."

A similar sentiment has been well expressed by Leigh Hunt:—

"I once had duties to perform, which kept me out late at night, and severely taxed my health and spirits. My path lay through a neighbourhood, in which Dryden lived, and though nothing could be more common-place, and I used to be tired to the heart and soul of me, I never hesitated to go a little out of the way that I might pass through Gerard-street, and so give myself the shadow of a pleasant thought."

The "shadow of a pleasant thought," how exquisite the expression: and might not (we appeal to Mr. Thwaites) this association be awakened in thousands were an inscription, something like the following (only better), cut on a stone between the first-floor windows of No. 43?—

"John Dryden,—'And Dryden's epitaph is Dryden's name,'—translated Virgil, and wrote 'Alexander's Feast,' in the ground-room next the street of this house, and dying here, 1st May, 1700, was buried in Poets' Corner, Westminster Abbey."

The shorter the inscription (it must be clear) the better. We like reading in Westminster Abbey, what Scotchmen do not care to read:—"Edwardus Primus Scotorum Malleus, hic est. 1308."

Surely outside the Jerusalem Chamber of Westminster Abbey something might be erected (with *taste*, which does not necessarily mean expense) to the effect that "in this Jerusalem did Harry die." As Mr. George Gilbert Scott, of Westminster Abbey, Bath Abbey, St. Alban's Abbey, and "here, there, and everywhere," seems to be out of *full employment*, he might, in a leisure hour, design something "feasible, if Art conduce."

Proper inscriptions (proper words in proper places) either in prose or verse, for tomb or cup, the dead or the living, are alike rare. We have more than half a wish to see Waller's fine verses on Le Sœur's statue of Charles I. carved on a vacant side of the noble pedestal on which it stands. Surely something might be set up to *explain* "Siste Viator," the standing statue of King James II. at Whitehall. Something like the following may prove suggestive:—

"This statue, by Grinling Gibbons, of James Stuart, Duke of York and King of England (the last of the Stuart kings) was erected, 31st December, 1686, at the expense of Tobias Rustat, a servant of the crown, and having escaped an abdication, a revolution, and a fire, stands where it was first set up."

An inscription over the Czar's Head public-house in Great Tower-street, *akin* to this, would both instruct and delight:—"Peter the Great, when in England, in the reign of King William and Queen Mary, learning the art of ship-building as a common mechanic in the Royal Dockyard at Deptford, was often 'Hail fellow, well met,' with one and all in this tavern."

This in Maiden-lane, Covent-garden, would serve a good purpose:—"Voltaire, when in England, in the year 1726, lodged at a house in this lane called the White Peruke."

This, again, on the large house at the end of Crane-court, Fleet-street, would call up a whole catalogue of associations:—"With reverence look. In this house the Royal Society met from 1710 until 1782. The room is still to be seen in which Sir Isaac Newton sat as president."

Something of this kind on No. 11, Berkeley-square (on the east side) would give an intellectual relish to an ice at Gunter's:—"In this house which he bought and liked, lived in his latter days, and died in 1797, Horace Walpole, the prince of letter-writers in his time."

The house of the Earl of Powis, on the west side of Berkeley-square, might carry an inscription to this effect:—

"In this house, and by his own hand, died, in the year 1775, Robert Clive, Baron Clive. This great man conquered and gave the East Indies to England."

A wall in Bolton-street, Piccadilly, might be thus inscribed, and to an historical end:—

"In this street lay in concealment, in the year 1762, Charles Edward Stuart, 'Bonnie Prince Charlie,' the Young Pretender."

Who that did not know would be otherwise than pleased, and who that did know would be displeased at seeing an inscription to this effect on Sir Isaac Newton's house, in St. Martin's-street, Leicester-square:—

"'Nature and Nature's laws lay hid in night:
God said, "Let Newton be," and all was light.'
Pope.

Sir Isaac Newton lived in this house. From the observatory on its roof, 'he looked from Nature up to Nature's God.'"

Let us borrow from Sir John Herschel part of an inscription admirably adapted to a London house, viz., No. 37, Tavistock-place, Tavistock-square:—

"In this house, in a small observatory, Francis Baily weighed the Earth. 'The building in which the Earth was weighed, and its bulk and figure calculated, the standard of the British nation perpetuated, and the pendulum experiments rescued from their chief source of inaccuracy, can never cease to be an object of interest to astronomers of future generations.'—*Sir John Herschel.*"

Stepping westward of Temple-Bar, let us seek the solitudes of the Adelphi-terrace, and look at the embankments going on (O unrewarded Martin, thy glad spirit,—

"Ev'n in our ashes live their wonted fires,"—

rejoices in thy sea-beat tomb and sea-girt isle). Then, turning to the terrace, let us read in imagination over many-memoried No. 5, these words:—

"In the back room of the first floor of this house died, 1779, David Garrick, 'the perfection of all that was pleasant in man' (*Oliver Goldsmith*); 'whose death eclipsed the gaiety of nations' (*Samuel Johnson*). The most universal and best remembered of English actors."

Ask all the monosyllabic named men we know,—all the Smiths and Joneses,—ask all the "men of colour" we know,—Black, Brown, Green, and White,—ask all who can read and think, if they would not look with Johnsonian St. John's Gate "reverence" at a house in Great Russell-street, Covent Garden, carrying this suggestive inscription:—

"In the back parlour of this house, on Monday, the 16th of May, 1763, James Boswell first saw Samuel Johnson."

Yes, in Tom Davies's back parlour it was,—

"Upon my life,
That Davies hath a very pretty wife,"—

Boswell, of Auchinleck and Corsica, first met Johnson of that "Ilk," or Johnson of Johnson's-court.

A tablet on the *east side* of Leicester-square thus inscribed would call up one of England's greatest painters:—

"'If genius fire thee, Reader, stay.' William Hogarth, 'whose pictured morals charm the mind, and through the eye correct the heart,' lived here. Born, 1697. Died 1764."

The front of Messrs. Puttick & Simpson's auction-rooms, on the west side of Leicester-square, might be made to exhibit with good effect the following inscription:—

"Sir Joshua Reynolds died in this house. One whose art preserved with learned skill the heads of two generations of English intellect, and the faces of three generations of English beauty. The room remains in which he worked such wonders."

In a now uninviting street—Buckingham-street, Fitzroy-square,—and on house No. 7, we should like to see words akin to those:—

"John Flaxman, sculptor, born at York in 1755, lived in this house from 1796 (when he returned from Rome), until his death here in 1826."

In Gray's-inn-lane, over the entrance to Fox-court, an inscribed stone might be erected, to this or a like effect:—

"In this court, on the 16th January, 1696-7, was born Richard Smith, better known as Richard Savage, distinguished alike by his vices and talents. The story of his life has been told incomparably well by Samuel Johnson."

No. 7, Bentinck-street, Manchester-square, should be made to carry:—

"In this house Edward Gibbon wrote part of 'The Decline and Fall of the Roman Empire,' and the whole of his 'Defence' of it."

Over the doorway of St. George's Hospital, we might read:—

"In this hospital died, in the year 1793, John Hunter, surgeon, and something more."

No. 6, Bedford-square, should be made to carry an inscription much in this manner:—

"John Scott, Earl of Eldon and Lord High Chancellor of England, lived from 1804 to 1815 in this house."

Dryden's lines on Milton's "Three Poets," &c. are properly inscribed on the outer wall of the Church of Allhallows, Bread-street. Another City church might bear a short inscription, and to good end:—

"Within this church of St. Benet, Paul's Wharf, on the 26th of June, 1652, was buried Inigo Jones, architect. His tomb, for which he left by will one hundred pounds, was destroyed in the Great Fire of 1666."

We began by referring to the poet Rogers, and will end by relating an anecdote of him which we had direct from his own lips. At one of many breakfasts we had the honour and good fortune to enjoy at No. 22, St. James's-place, we found the poet in his drawing-room in a more than usually pleasant vein. Taking our hand, holding it, and leading us to the window (half smiling, half laughing all the time) he exclaimed, "I have an anecdote for you, and in your way:—'Coming from the City yesterday, I took Fetter-lane, Fleet-street, in my road, that I might see reverentially—the newly-discovered house in which Dryden is said to have lived. I asked for the house, and could for a long time obtain no better reply to my repeated question, "Which is Dryden's house?" than 'Dryden—Dryden' (the policeman I spoke to thinking for a time with his finger, Sterne-like, to his ear)—'Dryden—is he backward with his rent?' That policeman knew to the life the poetical character. I went laughing home, and as you see, am laughing still."

Such, then, are some of the pleasures of memory and association connected with London houses. Let us awaken and maintain them.

PROGRESS OF THE METROPOLITAN SEWERAGE.

THE NORTHERN OUTFALL.*

As explained in our last article, the arrangements for the discharge of the metropolitan sewage of the northern side of the Thames, near Barking Creek, comprise a peculiar two-storied construction of sewers,—three terminating the parallel main lines, and three for a length of 400 feet on a lower level; a reservoir, into which is received the sewage from the upper sewers when these are not discharging direct into the river, and from which it is allowed at intervals to escape by the lower sewers; three tumbling-bay chambers, into which the sewage from the reservoir flows, through two openings into each chamber, and the sewage from the upper sewers falls; and nine culverts, three from each chamber, along which the whole of the sewage finally passes into the Thames.

The three parallel lines on the plan, as we have already said, do not come to the river as they were originally designed. They are now placed nearly in the direction of east-south-east. This helps to increase the irregularity which characterizes the shape of the reservoir.

The north-western angle of this reservoir corresponds with the termination of the construction of three upper and three lower sewers, (originally intended to be 490 feet from the river-wall), and the commencement of the construction of the three sewers carried on arches and concrete piers.† The length of the line of that side of the reservoir which coincides with the sewers, is about 464 feet; but the breadth of the reservoir towards the opposite end, the east, is 678 feet 6 inches, from out to out, not including footings and concrete. The area may differ little in superficies from that of a square; but only one of the corners, the north-east, is a right angle; whilst there are seven other angles of more or less obliquity. The southern boundary line, about 497 feet in length, is parallel with the river-wall: in the northern boundary, a portion, which is parallel, is about 473 feet to an oblique angle, which is 412 feet distant from the north-west corner. The whole area is said to be about 10 acres.

This reservoir is divided into four compartments which are capable of being used separately. They are spoken of as Nos. 1, 2, 3, & 4, counting from the river. The division-wall between the first two compartments, is parallel with the southern external wall, throughout the length; but as the breadths of the reservoir at the east and west are different, only the eastern halves of the two other division-walls are parallel; that is to say, they have an angle, similar to that in the northern external wall, about midway in their length. The reservoir is vaulted over from piers and arches; and the vaulting throughout runs parallel with the southern boundary, or so as to cut the western portion of the northern external wall, and the similar portions of the division-walls, obliquely, and so as to be cut by the greater portion of the eastern external wall, and by the line of the sewers also obliquely. There are ten bays of vaulting to each compartment, counting in the widest part of the reservoir.

The level of the floor of the reservoir at the lowest point, where next the sewers, is placed at 2 feet 9 inches above Ordnance datum, or 8 feet 9 inches above the level of the inverts of the nine outlet-culverts at their point of discharge, and 2 feet 9 inches above that of the crowns of the arches. The level of the floor at the opposite end of the reservoir, the east, next the Creek, is 5 feet 3 inches above the datum: or there is a fall of 2 feet 6 inches in a length of 643 feet 6 inches. The clear height, or depth, of the reservoir varies from about 17 feet 6 inches (measured in the centre of a bay to the crown of the vaulting), to 15 feet. The dimension to the crown of the arch from the footings of the brickwork may be taken as uniformly 21 feet 3 inches, and the depth of the concrete as about 19 feet below the footings. The thickness of the crown of the arch is 9 inches; and upon this there is a thickness of 3 feet 6 inches of earth, bringing the top of the covering of the reservoir to 12 feet above Trinity High Water Mark.

The concrete generally carried down to the depth of 20 feet below Ordnance datum, the footings are based at 1 foot below the datum; and the floor-level at the lowest point may be stated as 3 feet 9 inches above the bottom of the footings,—the level of which last was about 7 feet 6 inches below the average surface of the ground. The concrete under each of the piers measures on plan 5 feet 9 inches by 5 feet: the footings are also embedded in it; and the whole of the bottom of the reservoir is paved with 3-inch York paving laid on concrete 9 inches in thickness. The floor takes the form of a series of inverted arches, or approximately, so as to provide a channel in each bay, for the last dregs of the sewage running from east to west.

The concrete of each detached pier nearest the external walls on the Thames and Barking Creek sides, is carried across in widths of 5 feet to join the concrete under those walls. The concrete under the division-walls varies from 8 feet to 10 feet in thickness. In several places, different arrangement of the concrete must have been required, to that shown on the original drawings.

The external walls where not strengthened by counterforts of the brickwork are 3 feet in thickness: but the north and south walls are 2 feet 3 inches in thickness; and, to make up a thickness of 3 feet 9 inches, they have, besides a counterfort opposite each main rib of the vaulting, of the breadth 1 foot 6 inches, two intermediate counterforts in the length corresponding to the 22 feet 3 inches of the space between the ribs and the projecting faces of the internal piers. The spaces between the external counterforts are filled in with the concrete; and a sloping bank of earth surrounds the reservoir.

There are ten bays of vaulting, as stated, to each compartment, counting across the widest part of the reservoir, the vaults running east and west, and springing from piers and arches. Eight of the ten bays have each a clear span of 15 feet; whilst each outer bay has a span of 14 feet 6 inches. Each vault has a rise of 3 feet 9 inches, and is divided by transverse strengthening ribs, which spring from the piers, and are at the distance of 22 feet 3 inches from one another. They measure 13½ inches on the soffit; and are 1 foot 10½ inches in thickness, including the vault. The detached piers are cruciform on plan, and measure 3 feet 9 inches by 3 feet 4½ inches on the extreme breadth. The longitudinal arches carrying the springers of the vaults, have a span each of 20 feet, and a rise of 5 feet from a skew-back that forms a splayed set-off to the face of the pier, which below the arch-springing has a breadth of 2 feet 3 inches. These arches with their spandrels, and the courses of brickwork over them, are 18 inches in thickness. All the arches and vaulting are segmental.

Eighteen openings in the vaulting are provided; and circular shafts, 4 feet in internal diameter, are carried up from them to the surface of the ground over the reservoir, where they are coped with Bramley Fall stone, and fitted with an iron frame, and a perforated plate which may be removed should the reservoir require to be cleansed by other means than flushing; or should deposit, left, or produced by mechanical or chemical means, be in demand as capable of utilization. The openings serve also for ventilation and lighting.

On the outside of the vaulting, the spandrels are carried up solid to 2 feet 3 inches above the springing-line; and spandrel walls, 13½ inches thick, are filled in up to the level of the soffit of the arching, and at clear intervals of 6 feet 8 inches in the length of the vault. A channel or drain was to be formed in the solid spandrel, and covered with tiles, to discharge into the reservoir at each pier through a 2-inch stoneware pipe, built into the brickwork. For the earth-covering, a layer, 9 inches in thickness, of well-tempered clay was first to be laid next the arching, so as to drain into the channels in the spandrels; the space over which, for a width of 2 feet, was to be covered to within 6 inches of the surface, with clean gravel. The remainder of the earth-covering was to be of suitable material, and was to be sown with grass and clover seed. Around the reservoir, clay was to be deposited in layers well punned, the original slopes of the river-bank being cut into steps: earth was to be filled in; and slopes were to be finished to an incline of 1½ to 1, and sown with seeds. We believe these minute details have been observed generally; but broken stone, for the drains, was being deposited in the spandrels, at the time of our visit.

The reservoir at the west, though we have described it as skirted by the sewers, is actually separated from them by a *trough*, so-called, 6 feet in the clear width, or by what is rather to be described as a trough to each compartment of the reservoir. This "trough" is 35 feet in height or depth: its floor is 10 feet lower than that of the reservoir; or, otherwise stated, the level is 1 foot below that of the inverts of the nine culverts at their outlet-ends; whilst the inverts of the sixteen penstock-openings of egress, which lead into the three lower sewers, may be described as generally 6 inches above those inverts. It is desirable that there should be liquid in the trough to break the force of the cascades from the sixteen penstock-openings of ingress, or of the upper level. The lower penstocks being closed during the filling of the reservoir, a depth of 10 feet of sewage would be at all times in the trough,—unless, indeed, these penstocks were kept open till the time of low-water. But the whole arrangements suppose the stoppage of the flow into the river, and the recommencement of storage, long previous to that time. The upper tier of sixteen openings, terminating transverse connexions of the three upper sewers, have their inverts placed corresponding with the level of the inverts of those sewers, which is, as explained in the last article, about 1 foot 4 inches below Trinity high-water mark. The covering of the trough, of large Yorkshire landings, 6 inches thick, on iron girders, is carried up 4 feet 6 inches above the top of the embankment and covering of the

* See page 467, *ante*.

† It should have been explained that this latter method of construction was not used except where the concrete would be wholly below ground. Where the surface of the ground, in the line from Old Ford, was low, the sewers indeed were carried on concrete; but it formed a continuous substructure, and core to the embankment. The embankment itself,—only varied in the core, and substructure of the sewers, and where crossing over streams or ways,—extends throughout the distance from the junction of the High and Middle-level Sewers.

reservoir, and forms a terrace, where the lifting-gear of the thirty-two penstocks is worked.

The central division-wall of the reservoir, and the greater part of the length of the walls between compartments Nos. 1 & 2, and 3 & 4, respectively, may be described as constructed each of two external 9-inch walls at a distance of 3 feet, tied together by cross-walls 13½ inches thick, and 6 feet 8 inches apart, and having the cavities filled with concrete. For the lengths of 246 feet in the division between compartments 1 & 2, and 290 feet in that between compartments 3 & 4, the concrete filling-in is omitted, the walls have a thickness of 1 foot 10½ inches, the upper part of the cross-wall is carried on an arch (so that there is clear way for the stream), and the walls are coped with Bramley Fall stone, whilst the springing of each vault is carried by dwarf-piers in such manner that there are openings 4 feet 4 inches in length and 12 inches in height, and a lipped and throated formation of the capping, to complete the arrangement for weirs or overflows from the reservoir. In short, the openings, cavities, and 3-feet passage-way, in each of these two lengths of division-wall, are to answer the same purpose as the trumpet-mouthed stand-pipe of a common cistern. The floor in the trough here takes the same level as the floor of the reservoir; and one of the drawings shows the opening into the sewer at the same level; whilst at this point, the arrangement of the "trough" becomes that of a square shaft quite disconnected from the two compartments or troughs that it separates. The floor between the weir-walls, and the floor of the trough, are paved with 6-inch York landings; whilst the walls for a height of 6 feet 6 inches are faced with the Staffordshire bricks, all headers, the inner half-brick rim of the arch of the tie-walls being of the same description of bricks.

The wall between each compartment of the reservoir and the trough is pierced with openings, 16 feet 3 inches in height and about 14 feet in width, with piers of 3 feet 9 inches between; and their sides and inverts are lined with the blue brick.

The reservoir is flushed from a culvert, 6 feet in width, and about 6 feet 3 inches in height, which extends along the greater portion of the breadth of the reservoir, but external to it, at the east end, and which is supplied with water of the Thames, from a length of 36-inch iron piping. The culvert communicates with the reservoir, by three openings to each of the four compartments. Each opening is 2 feet 9 inches by 3 feet, and is faced and lined with Bramley Fall stone; and floored, like the culverts, with 4-inch York landing. The culvert also is lined with the blue bricks. Each of the twelve openings is fitted with an iron penstock door or valve. The valves are worked each by a worm-spindle which passes up into a stone built into the vaulting, and fitted with a cast-iron box to receive the squared end of the spindle; which last there receives the end of a moveable "spanner" that is turned from the level of the ground over the reservoir. The worm-end of the spindle works into a rack fixed down the front of the penstock valve or door, the edges of the valve being guided by grooves. The floor of the reservoir in front of the openings, is paved with Port Nant granite cubes, 7 inches deep, for an area of 6 feet in width by 10 feet in length, laid in cement. Attached to each penstock is a man-hole opening, 3 feet by 2 feet 6 inches, fitted with the usual arrangement of cover and safety-grate, and having below it the requisite foot-irons for descent. On the occasion of the visit spoken of in our last article, the reservoirs had been that morning flushed out; and some of the water still remained at the lower end. We descended, however, and walked as far as the water would permit, or for about two-thirds of the length. Some slight deposit was left, after the flushing, or about the piers; but there was very little stench. A penstock similar to the others, is fitted to a chamber which forms the junction between the iron piping and the flushing-culvert.

The iron piping, which extends to the outer edge of the reed-shore, or about 117 feet in length, was specified to have 6-inch socket-joints, packed with yarn and run with lead; and the pipes were to be steeped at the foundry in "Dr. Angus Smith's patent solution." The piping was to be imbedded in Portland cement-concrete laid in a trench. The work required great care, and a separate coffer-dam was we believe used in the laying. A large dam was required for the reservoir generally. At the end, of ingress for the flushing-water from the river, there was a protecting framework to the pipes, comprised of four 12-inch piles, with 15-inch capping-timbers, and on each side a walling-piece of 12 inches, and further strengthened by iron bolts and plates.

The arrangement, construction, and manner of working the penstocks in the "trough," requires some more words. There are, in all, thirty-four openings between the "trough" (or four troughs and two shafts), and the construction of upper and lower sewers. Two of the openings connected with the overflow-chambers and weirs, are always free for the passage of sewage out, in the event of their being needed. The thirty-two other openings, sixteen in the upper level and sixteen in the lower, are provided with penstock-valves, or sliding-doors, in the manner to be described. There are four pairs of the valves to each compartment of the reservoir, each upper penstock being at a distance of 16 feet 7½ inches above the lower penstock, measuring from invert to invert. Each upper penstock is 5 feet by 6 feet 8 inches in the clear; and the lower penstock is 3 feet 3 inches by 6 feet. The valves are calculated to sustain a pressure on either face, of a column of water, 14 feet in height for the upper perstock, and 30 feet for the lower. The valves and their seating are generally similar to one another; but the lifting-screw to the upper valve works in a tube, cast upon the centre-line; whilst to the lower one, there are two lifting-screws, which work in side-boxes or seatings for nuts. The spindles of the three screws are continued upwards to the landing already mentioned; below which, each has a toothed wheel; and the central spindle continues above the landing, into a hollow standard and winch-box, where the spindle is so contrived as to allow of the transmission of the motion direct to its own lifting screw, that of the upper penstock, and not to the side screws of the lower penstock, or otherwise to the side lifting-screws and not to the centre one; so that one driving motion will serve for either valve. Each valve has two wrought-iron wedge-hooks at the crown, and two tail-wedges at the invert, arranged with adjusting cotters and pinching-screws, so as to secure tight-fitting to the valve-seat and opening.

The penstocks to the ends of the main outlet-sewers, three in number, of the upper level, are somewhat differently contrived. Each valve, there, is worked by a windlass and the power of four men; and one long counterbalance weight is suspended by chains which pass over toothed wheels; whilst there are extra contrivances for strength of the valve, and for close fitting. The machinery of these large penstocks is carried by iron girders. The penstock-house, which is attached to the residence, is arranged as a kind of loggia or inclosed portico, with nine iron columns, bearing segmental arches and eaves-guttering; and there are three oak girders to be used in hoisting. Decorative character is given to the building generally, by arch-headed windows, brick pilasters, and stone dressings.

The brickwork of the reservoir is built in Portland cement (specified to be not less in weight than 110 lb. to the bushel) mixed with an equal portion of sand. The external work had the joints raked out, and pointed with neat cement. Hoop iron-bond was laid in every fifth course of the work, two widths for every brick in thickness. The bricks to be used generally were to be the best description of picked stocks; but much difficulty, we believe, was found in getting those which were originally contemplated. Very great care, however, has been given to the materials and work in every particular. The inside of the reservoir is faced with shippers or paviors. The concrete, of which the quantity used about the reservoir, and along the line of sewers-embankment, must have been enormous, is formed of blue-lias lime and Thames ballast, in the proportion of one of the former to six of the latter. In the schedule of prices referred to in, and forming part of, the specification and conditions, the brickwork of Portland cement and picked stocks, was set down as 16*l.* per rod; and that in which the shippers or paviors were used, as 18*l.* per rod. The concrete was to be 7*s.* per cubic yard.

The original contract-sum for the line of outfall-sewers from the west bank of the Lea, was 625,000*l.* That for the reservoir was 164,000*l.* What the actual cost of either division of the work has been, cannot be stated at present.

The whole work of the outfall-sewers and reservoir combined has been superintended by Mr. Edmund Cooper, as resident engineer under Mr. Bazalgette's direction. Mr. Cooper had previously conducted the works of the High-level Sewer, including the construction at Old Ford; and much credit is unquestionably due to him. Mr. George Furness, the contractor, and his manager and agent on the works, Mr. Broome, also deserve to have their names connected with this great undertaking of the Northern Outfall. The bulk of the comprehensive work, including details of great importance, as in the iron culverts, and the crossings generally of streams, roads, and railways, we have not attempted here to describe.

ON CIRCULAR ROCK-MARKS AND OTHER SYMBOLS.

CERTAIN rock-markings in Northumberland, of recent discovery, have of late been exciting a good deal of interest amongst archæologists, from their enigmatical nature, as well as from their multiplicity.

I propose, with your permission, to string together a few notes on this subject, as they occur to me, in connexion with other symbols of an apparently kindred nature, and with some relative matter of a miscellaneous description.

My attention was first drawn to the rock symbols of Northumberland by an article, with engravings, in the *Illustrated News* of 19th March last. From this article I may, in the outset, condense a brief descriptive extract; appending, also, a copy of one or two of the illustrations.

Incised Rock-Markings, of unknown Import, in Northumberland.

There have lately been noticed, upon some bared rocks in the flanks of the Cheviot hills, various incised markings, which are supposed to belong to a very remote period of British history. They consist, for the most part, of a central *depression*, round which one or more circles are drawn. Occasionally a number of dots are placed outside the outer circle. They show considerable differences of detail. The number of them is surprising. The district about Doddington, in which these circles abound, is characterized by the presence of *Celtic* remains—such as *barrows*, *stone circles*, and camps. These markings are not confined to Northumberland: they occur in several places in Scotland, particularly at Lochgilphead, in Argyleshire. Some, of spiral character, are found in Ireland. Others, wavy in their form, are met with on the stone circles and cromlechs of Brittany. One very interesting fact connected with these enigmatical figures is, that in several instances they have been found upon stones covering Celtic interments. No satisfactory answer has yet been given to the question which naturally arises, —What purpose were these strange devices intended to serve? The fact that they occur on stones used for covering the remains of the dead seems to indicate that *they have a religious significance* in relation to the rites of sepulture. The Duke of Northumberland has taken measures for having accurate representations of the Northumbrian examples executed in lithography, together with the most characteristic specimens which may be noticed elsewhere. Some well-known antiquaries are actively engaged in carrying out the designs of the duke; and these have appointed Dr. Bruce, of Newcastle-upon-Tyne, to conduct their correspondence.

One of the illustrations, with three concentric circles, is as under;—



and it is accompanied by two other and smaller ones, as here also given.

Another consists of seven concentric circles, with a single rough *branch-* or *root-*form, forked at the outer circle, and pointed at the central depression. The small marks adjoining the three-circled symbol here given show that not only does a single circle, with its central point, or hollow, occur; but the central point even without any circle: this is of frequent occurrence; and, with the pointing of branched and other stick-shapes always towards the centres of the concentric circles, is seemingly intended *to fix the attention, above all, upon the central point.* Sometimes a single branch or root-shape is even hooked, *like a bishop's staff*, round the centre.

Similar marks, but spiral in character, as said,

do occur in Ireland, and wavy ones in Brittany. In Ireland, however, not only do spiral ones occur, but also the concentric circles themselves, with their central mark, and a rayed circle, or circle surrounded by radiating lines,—as at Dowth, in a mound chamber, or "sorcery hall" (as such chambers are described to have been, in a Runic inscription recently discovered within the one at Maeshowe, in Orkney). In the Dowth sorcery hall, too, strange to say, there is a wheeled cross, like that of the Persian ferocher, pharaoh, fairy-guardian, or guardian angel, of kings, which, by the way, was also rayed. The concentric circles, the rayed circle, and the wheeled cross, of Dowth, are all three carved on one stone. Concentric circles and wavy marks, as well as spirals, also occur at the celebrated "sorcery hall," or artificial "cavern of initiation," within the immense pyramidal mound of New Grange: there are double and concentric spirals at the mouth of the "transe" or passage into the sorcery hall of this pyramid, as if to denote two contrary processes connected with a single centre, one concentrative, the other radiative; but of this I shall again have occasion to speak.

It is notable that on the slabs from Carthage, illustrated by Mr. Godwin in the *Archæologia*, and referred to in my letters on "Geometrical Symbols" in the *Builder*, there is a symbol amongst the angular ones of precisely the same class with the Northumbrian rock markings. It consists of the single circle and central point. The very same symbol occurs in connexion with the N or initial "wavy" symbol M and the figure of Minerva on the coins of the Ariarathan prechristian kings of Persia. In the Hindu cavern of initiation at Salsette, too, amongst an innumerable multitude of symbolical figures with which the walls are covered, and among which the lingam and the yoni are conspicuous, these are typified by the petal and the calyx of the lotus, and *by the point within the circle.* Indeed, it is well known that not only amongst the Hindus, the Egyptians, and the Druids, but throughout the Gentile nations generally, the central point within the circle prevailed, at one time, as a symbol which involved a similar sense, but obviously of a religious and mysterious character, although mistaken for a mere stupid sensual symbol.

In his book on "Signs and Symbols," the Rev. Dr. Oliver, the Freemason, has some remarks on the circle and central point, or point within a circle, which I may here condense, as matter already collected from various sources, and not because I quite agree with the reverend doctor, either in his own interpretation or in those which he has compiled from others; but simply to show briefly and at once what has already been thought and said on this curious subject.

The circle referred to eternity, and the central point to time. The Garden of Eden was of a circular form, and the tree of life was placed in the centre (Gen. ii. 9). Now, as the fruit of this tree was reputed to convey the privilege of immortality, the centre would hence be esteemed the most honourable situation, and be ultimately assigned to the Deity. The tribes contiguous to Judea placed a jod (י) in the centre of a circle, as a symbol of the Deity, surrounded by eternity. The Samothracians had a great veneration for the circle, and hence rings were distributed to the initiated as amulets, possessed of the power of averting danger. The first settlers in Egypt transmitted to their posterity an exact copy of our point within a circle. The widely-extended universe was represented as a *circle* of boundless *Light*, in the *centre* of which the *deity* was said to dwell. The number *One* was the point within the circle, and denoted *the central Fire*, or God. The point within the circle afterwards became a universal emblem, to denote the temple of the deity, and was referred to the planetary circle, in the centre of which was fixed the sun, as the universal God. Servius tells us that it was believed that the centre of a *temple* was the peculiar residence of the deity, the exterior decorations being merely ornamental (Serv. Georg. 3). Hence the astronomical character used to denote or represent the sun is a point within a circle, because that figure is the *symbol of perfection.* The most *perfect* metal, gold, is also designated in chemistry by the same character. With this reference, *the point within a circle was an emblem of great importance amongst the British Druids.* Their temples were circular, many of them with a single stone placed in the centre. Their solemn processions were all arranged in the same form; and without a circle it was thought impossible to obtain the favour of the gods. The rights of divination could not be securely and successfully performed unless the operator were protected within the consecrated periphery of a magical circle. It is remarkable that, in all the ancient systems of mythology, the Great Father, or the Male Generative principle, was uniformly symbolized by a point, within a circle. In the latter ages of idolatry *the point within a circle*, with an unequivocal allusion to the phallic worship, *was the principal object of devotion with every people in the world.*

St. Augustin has some remarks on the circle and centre which bring us, I think, much nearer to the true ancient ideas originally involved in this symbol than anything else, almost, which Dr. Oliver has succeeded in collecting together on the subject; inasmuch as St. Augustin speaks here of the human soul and its specialities of action in such a way as to show forth its evidently concentrative nature. He says,—

"As, in a circle, however large, there is one middle point, whither all converge, called by geometricians the centre; and, although the parts of the whole circumference may be divided innumerably; yet is there no other point save *one* which all measure equally, and which, by a certain law of evenness, hath *the sovereignty* over all. But if you leave this one point, whatever point you take, the greater number of lines you draw, the more everything is confused. *So the Soul* is tossed to and fro by the very vastness of the things, and is crushed by a real destitution, in that *its own nature compels it everywhere to seek* ONE object, and the multiplicity suffers it not!"

The Jewish "sephiroths," or "celestial splendours," are denoted by a symbol curiously akin to the concentric rock symbols. The sephiroths were *sometimes symbolized as a tree; sometimes as a series of concentric circles*, the outer one of which was called "The Crown," *and the inmost or central space* "*The Kingdom.*" And this reminds me of certain symbols of my own invention, intended to denote the connexion of the radiative and concentrative life principles, or Spirit and Soul; and used by me as such for many years before I ever heard of rock symbols, points within circles as symbols, or cabbalistic sephiroths. With your permission, I shall here illustrate by diagram one or two of these, which will at least show a curious coincidence with the nature of those admittedly mysterious symbols with which I am at present dealing.

In a note-book, of date 1834, herewith presented for your inspection, I have incidentally used, as I have ever since occasionally done, a point to denote the concentrative, and a circle to denote the radiative, while *the conjunction between the two* was denoted, as you will perceive, by *the point within the circle.* In the same volume and page a circle is filled with arrows, in black ink, concentrating towards the centre, in order to denote the concentrative or personal *Life* principle, or Soul; and with arrows, in red ink, radiating from the same centre, to denote the radiative or Spiritual principle, or *Light* of the Soul. In another of these old note-books, of date 1833, I have incidentally used the annexed rock-mark-like symbol, as you are aware; the upper arborescence, or *branch*, in red ink, to denote the radiative; the lower, or *root*, in black ink, to denote the concentrative; and the three concentric circles to denote the three great subdivisions of the mental radio-concentrative organism, — positive, comparative, and superlative, — with the central point to denote "the Head of every Man"—the Centre of every Soul,—the one common and Sovereign Centre of both concentrative and radiative, Life and Light, or Soul and Spirit, and "the straight and narrow *Way*" of translation, by ecstatic entrancement, from the concentrative life to the radiative,—from earth to heaven,—and of "thence returning;"—for the complete psychological and spiritual meaning of all which already explained mysteries I must here refer to my previous letters on Symbolism, in the *Builder.**



As every one will readily perceive, who has read the letters referred to, such symbols as those now under consideration, like the angular ones before treated of, *arose naturally out of ideas* such as those originated and entertained by me in regard to the concentrative and radiative principles of life and of religion; and, doing so, the coincidence with the general drift of meaning, as well as of form, in the Jewish sephiroths and in the Gentile circle and centre, as well as with the general form of the rock and sorcery-hall symbols, whatever was *their* meaning, must also be obvious, and must tend to induce the idea that *in all* there is embodied one and the same original meaning,—namely, that meaning which led naturally to the reinvention of the very same symbols, in order to illustrate that one meaning. In respect to the Jewish sephiroths, especially, I would wish to point out the circumstance that the "celestial splendours" indicated were symbolized, as Maurice, in his "Indian Antiquities," p. 566, mentions, sometimes by concentric circles, and sometimes by a tree,—in short, by *almost* the identical forms of the rock symbols, and by *precisely* those two methods which sciential principles of my own have led me, as already shown, to combine together into one compound symbol. And, in respect to the Hindu, Egyptian, Druidical, and even Jewish *point within a circle*, which symbol, as we have seen, is also identical with one of mine, denotive of the conjunction of the concentrative and radiative principles of life, animate and spiritual, I would wish to remind those who have read my former letters, that a sexual idea is also necessarily embodied in my use of such a symbol, just as it has been among the Hindus and other nations, the concentrative being the masculine and the radiative the feminine, encompassing it as a "crown of glory."*

Is it not probable, then, that the very same principles as those denoted by my own symbols and those of the Jewish sephiroths, and by the universal point and circle symbol, were at one time understood or intended by the original inventors of the closely-analogous rock and sorcery hall symbols, which are at present exciting so much interest as to their hidden meaning?

There is a peculiarity of the rock symbols to which I must now advert,—that is, their interminable repetition. To what purpose could this lavish multiplication of one and the same symbol have been subservient? To answer this directly and satisfactorily we ought first to really know their actual meaning; but, independently of any such knowledge, I might reply, like a true Scotsman, by means of another question. To what purpose can the interminable repetition of the Buddhist "Om mani" be subservient? There is something curiously analogous here. The sentence "Om mani padme houm," is a prayer which is repeated and repeated in millions of instances, inscribed everywhere throughout all Thibet,—in the temples, in the streets, on the roads, on the rocks, on the monuments or manis, in the houses: everywhere and at all times have the Thibetans before their eyes the never-to-be-forgotten "Om mani padme houm," which pervades their land. Not only so, but they have everywhere "praying-wheels," to be whirled about, and containing nothing else but interminable repetitions of the *Om mani*;—and in concentric circles too! Thus, in a description, given by Mr. William Simpson, of one of his water-colour drawings, of a Llama's praying-cylinder, he says;—

"These praying-machines are composed of cylinders which are made to revolve, a spindle passing through them. On this spindle are threaded a vast number of circular pieces of paper, corresponding with the diameter of the cylinder: on each of the successive layers, a mystic sentence is written; and repeated again and again, in concentric circles, until the whole surface is covered; and these are deposited one over the other until the entire bulk is filled."

The mystic sentence so repeated, as I have said, is the *Om mani*, of the meaning of which Sir William Jones gives an amplified paraphase, to the effect that *it is a prayer for illumination by the Divine Sun.* And it is so, if what Abbé Huc and others tell us be correct. The Abbé says that in Thibet an impressive spectacle occurs every evening, as the sun is setting, when every Thibetan *prostrates himself*, wherever he may be, or whatever he may have been doing, and repeats the *Om mani*, which is thus interpreted;—Oh, may I (now) attain *perfection!*†

It is not the Buddhists alone, however, who venerate the mystic name of "Om." The Hindus are taught by their religion to meditate on this mystic name; ever repeating, monotonously, the one identical monosyllable, Om, Om, Om, Om, in silent thought; the great religious purpose of *calling on Om* being to produce, by his help, the state of divine entrancement, illumined rest [in the light of the Divine nocturnal Sun], or holy "repose."‡ Much the

* See, especially, the letter on Geometrical and other Symbols, with Psychological Key, of 11th July, 1863.

* The Lord hath created a new thing in the earth: a *woman* shall *compass a man.*—Jer. xxxi. 22. She shall compass thee *with a crown of glory.*—Prov. iv. 9. This compassing crown of glory, then, which is as a woman to a man, a bride to a bridegroom, and a spirit to a soul, must be what is meant by the outer circle of the Jewish sephiroths, or celestial splendours, which circle is called "The Crown"—the crown of splendours—the crown of glory. Thus the one common idea embodied in circle and centre is brought home even to the sephiroths of the Jews, and from their own sacred Scriptures.

† The Buddhist practice of prayer seems very absurd in the eyes of professing Christians; but let them remember that, according to their own principles, to pray aright is to "seek the Lord;" and to pray for instantaneous illumination by the Divine Sun is assuredly to seek the Lord, however wrongly gone about; for the Divine Sun is no other than the Lord; and the Buddha himself is even called the Lord. Are the prayers of professing Christians always nothing else than seeking the Lord, or asking for divine illumination? And is their own mode of prayer so correct and effectual that they always, in its exercise, *find* Him whom they *seek?*

‡ "Repose," according to Medhurst, the well-known Chinese interpreter, *means* entrancement, with the Buddhists; so that to "enjoy repose" is an expression only used to denote being in a trance. [See *Builder* of 16th August, 1856, page 450.] The Hindus have much the

same purpose have the Christian monks of Mount Athos in view when they meditate upon the Christ within them, with their eyes fixed upon the umbilicus, as the centre of their body. And this reminds me that wherever an ancient oracle existed, that spot was called the *umbilicus*, or *centre*, of the earth, as indeed were the entranced themselves, who were consulted as oracles;* and that the very word Om is believed to have had a somewhat similar meaning, and to have been used even by the Greeks in this sense, and as "the opening," "the mouth," "the voice," &c. The word, indeed, occurs in many languages, and always, it is said, with a meaning in some way connected with the idea of a *circle* or the *centre* of a circle. *Umbilicus*, itself, has been quoted as a word etymologically related to *Om*; and what is very odd, in connexion with the subject of Northumbrian rock symbols, is the fact that Higgins, in his Anacalypsis, traces the name North-umber-land through the *Om*-bricæ, to the East, and to this very word Om, which, also, as he considers, is identical with the Omh of the *Irish* Druids, which means "He who is"—or in fact, the "I am"—the Identitive—the Ever-the-Same,—"The Same" of Plato,—to arouse whom in the Soul by the monotonous or identitive repetition or calling of the name of this "bent bow of the soul," as he is called by the Buddhists, appears to be the sole immediate purpose of all the *Om mani* prayers of the Thibetan Buddhists, and of all the reiterated callings on his name among the Brahminical Hindus.

The eternal repetition of the rock symbols may have had a somewhat similar purpose to the *Om mani*, in Druidical or Celtic devotion. The central point or hollow depression, or central *opening*, was evidently what it was desired to *fix the attention upon*; and the fixation of the devotee's eyes on this point under devotional impression would be analogous to the fixing of the Mount Athos monk's eyes upon the centre of his body, and his mind upon the internal Christ; as well as to the fixing of the Hindu's eyes upon the point of his nose, as Douglas, of Cavers, in his work on "Errors in Religion," says he is taught to do, while he fixes his mind upon the word *Om*; and to the fixing of the Buddhist's eyes and mind upon his *Om mani* or his whirling cylinder;—which cylinder reminds one, by the way, of the sorcerer's wheel,—

> "That magic wheel, which power to Nico gave
> To draw *the lover* o'er the distant wave;
> And, *from her couch*, half willing, half afraid,
> *At dead of night* to lure the trembling *maid*."
> *Anthology*, v. 205.

When it was spun in one direction, the sorcerer's wheel was believed to possess the power of inspiring love for one of the opposite sex; and when retrograded, or spun in the opposite direction, it was believed to free the heart from its own spell, as has been supposed to appear from Horace's prayer to Canidia:—

> "Citumque retro volve,—solve turbinem;"

which has been thus translated into English:

> "Reverse thy magic wheel, and break the spell;"

and thus into French:

> "Et que le cercle magique tourne,
> En un sens contraire."

In beseeching Canidia, however, in his ode to her, to desist from, or to reverse, her incantations, whereby she had *enchanted* or *bewitched* him, Horace doubtless had her enchanting or magical and revolutionizing influence on his mind in view, rather than any incantations by means of a sorcerer's wheel. Turbinem, besides denoting a sorcerer's or magician's wheel, includes such meanings as giddiness, fury, spinning round like a top, whirling like a wheel, and winding like a spiral; also whirlwind and whirlpool. These meanings may be usefully kept in view by the reader while perusing the remainder of this letter.

The concentric circles of the *sorcerer's* hall, and of the Northumbrian rocks, may have had something more in common with the *sorcerer's* wheel, and these with the Buddhist praying-wheel, than may at first sight be supposed. Even the potter's wheel has had something to do with oracles occasionally, if we may believe Apuleius, who had himself the credit, or discredit rather, of being a sorcerer;—and assuredly he was, by his own account, initiated (as Lucius) in the Eleusinian mysteries; and, on the "confines of death," had seen, or been illumined by, the divine and "midnight Sun," and was exhibited to the profane, "arrayed like the Sun," as a divine cataleptic, a living statue, or an entranced oracle, from behind the veil of the goddess Ceres or Isis.* Apuleius was tried as a sorcerer, or for magical practices, *and especially for entrancing a boy to make him an oracle*; and one of the points in his eloquent and ingenious defence was, that the boy had "the divine disease" naturally; and that it was well known that such epileptic (cataleptic?) persons were liable to *fall down* (or *prostrate themselves*) in their fits (of divinity?) from many causes, such as the whirling of a potter's wheel.

Oracles are even now (or were lately) in full force in the Sub-Himalayas. In the "Asiatic Journal of Bengal," vol. xviii. p. 730, is a curious account, by Mr. B. H. Hodgson, of an "incantation," as he calls it, named the bamboo festival of the Bodos, which was then still actually *ordered*, annually, by the Rajah of Sikkim, for the purpose of predicting the prospects of the harvest! In this modern incantation, thirteen priests (a devil's dozen) dance and chant with a monotonous invocation of a few brief syllables and chorus, round another,—a central priest,—called the Deoda, in whom the god or the oracle is to be manifested. Each of the thirteen holds a bamboo pole in his hand. The chant and whirling dance gradually become fast and furious, till, suddenly, all the thirteen poles *are concentrated to the one common centre of the circle*, into a *pavilion* form, above the head of the central Deoda, who immediately goes off in what Mr. Hodgson calls an "affected fit," but which a little more knowledge of what he was speaking of would have, no doubt, induced him to think was probably a real fit—of entrancement, during the continuance of which the oracle,—the God-possessed or God-given man, the Deoda,—in the encircled centre, was doubtless consulted by the surrounding priests. Even to the "pavilion" there is, in all this, something peculiarly and impressively *Druidical*; and the question forcibly suggests itself,—did not the Celtic and Druidical sculptors of the sorcery halls and Northumbrian rocks practise just such incantations or *invocations* of their God Hu or Hee, the Omh, the "I am," the "He *who is*," or the Identitive, in the Soul's centre of concentrative circles?

It may not be out of place here to remark, in reference to the spirals at the mouth of the passage (or "transe," as they would call it in Scotland) which leads into the sorcery hall at New Grange, that I remember being told by the brother of an aide-de-camp of a late Governor-General of India, of the account which a Hindu gave him of his feelings while falling into a state of entrancement. The Hindu said it was as if his head began to swim round and round spirally, nearing and still more nearing a centre, till, at last, he bolted, as it were of a sudden, *through a central hole or opening*, and was lost, in a moment, to consciousness. Now, ludicrous as this,—like the fixing of the Hindu's eyes on the point of his nose, and of the Christian monk's on his umbilicus,—may be thought, I am well assured that it is highly significant of the true meaning of the sorcerer's concentric double spiral, the one, concentrating to the centre, denoting the entrancing process, and the other, radiating from it, the *reversal*, like that of the witch's wheel, or the undoing of the spell,—of the *god-spell*. The sudden fall of the whirling dervish after a rapid rotation, or *circulation*, round his own *centre* of gravity, while at *his* peculiar devotional exercises, doubtless denotes a consummation of the very same kind as that of the entranced Hindu.* Druidical and magical circles had all of them to do, I doubt not, with similar practices; and probably so had the circular symbols of the sorcery halls at Dowth and New Grange, as well as those of the Northumbrian rocks.

JOHN E. DOVE.

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same idea of "repose," which with them denotes divine absorption. This, too, is the divine "*rest*" and the "ecstacy" of Christian and other mystics.

* The Jews are said to have regarded Jerusalem as the centre of the earth.

* There are numerous and singular allusions to the Divine Sun, his *rising*, and his *Day*, of the *Night*, in the Bible. Thus "The Lord God is a Sun."—"The Lord shall arise upon thee; and his *glory* shall be seen *upon* thee."—"The Day (shall) dawn and the Daystar arise *upon your hearts*."—"In that Day the light shall not be clear nor dark; but it shall be one Day which shall be known to the Lord,—*not day, nor night*: but it shall come to pass that *at the evening time it shall be light*."—"*The night shall be light about me*."—"The Day of the Lord cometh, as a thief, *in the night*."—"A Day with the Lord is ..... as a *watch in the night*."—"They that sleep sleep in the night ..... *but ye* are children of the Light and children of the Day; and no more of the night nor of darkness;" "therefore let us not sleep as do others, but let us watch."—"Now it is high time to awake out of sleep; for now is our *salvation* nearer than we believed."—"*The night is far spent: the Day is at hand*: let us therefore cast off the works of darkness and let us put on the armour of Light."—"Light *in the Lord*,"—the "Divine Sun," who cometh "in the night" as "the Daystar in our hearts."—"To you that fear shall the Sun of righteousness arise ('in you,' or 'upon you,' 'in the night' of nature) with healing in his wings."—"There is no night *there*, and *they* need no candle, neither light of the sun; for the Lord giveth them light."—"Their eye is single (over the 'whole body;' the spiritual or 'pneumatical body,' as Aristotle has it, being 'all sense -all sensory') and their whole body is full of Light, as when the bright shining of a candle giveth thee light." In short, this is the true "Crown of Glory," and Divine "Illumination," both of body and of soul, "in the holy Spirit" of Rest, which is also a Spirit of *watching*, or a Radiative *life*, though a concentrative *death*. Thus Illumination by the *true* eternal *Sun* denotes or implies the advent of a new Day of eternity in the Night of time; and hence the conversion of night itself into this new Day of Rest *to and in all those so illuminated*, or so resting and refreshing themselves, *nightly*, "in the Light" of the "high noon" of this "Midnight Sun." To all such, "night" is "spent" and "Day" has "dawned." The quotations are mostly from memory, but are correct, I believe, in all essential respects, as may be seen by help of a Concordance.

* Some Christian mystics have an idea that the Soul ascends spirally to heaven; and, as the ascent of the Soul into the Spirit is just, as it were, the descent of the Spirit into the Soul, perhaps the spiral idea may have been derived from that of the Lord descending "like a whirlwind," speaking "out of the whirlwind," having "*his* way in the whirlwind," &c. "Marvel not that I said unto thee, *ye must be born again*. The wind [the whirlwind?] bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh, and whither it goeth: *so is every one that is born of the Spirit*..... Art thou a master of Israel and knowest not these things?"—St. John iii. 8.

THE ECCLESIOLOGICAL SOCIETY.

TOWN CHURCHES.

The twenty-fifth annual meeting of the members of this society was held on Monday evening last, at the South Kensington Museum. The chair was occupied by the president, Mr. Beresford Hope.

A collection of church-plate mosaics (by Signor Salviati) and of mural paintings was exhibited, and appeared to attract considerable attention.

The chairman commenced the proceedings by observing that the present was the twenty-fifth anniversary of the Society, and might be said to make an epoch in its history. He was glad it was not a tercentenary; for, judging from the experience of the Shakspeare festival to commemorate that event, they had no desire to emulate that ceremonial. The association had, he might say, been successful at all points; and this was a simple fact, of which every county, every archdeaconry, and every large town in England was a standing witness. He would not refer in detail to what had been done for Gothic architecture, which had of late years revolutionized the external appearance of our churches, nor would he refer to that which the report would disclose, but would content himself by calling upon their excellent Hon. Secretary to read the narrative of their proceedings during the last twelve months.

The Rev. Benjamin Webb (Hon. Secretary) then read the report, from which we take the following portion:—

"We proceed to notice the principal new churches of the year. In the first rank we must place Mr. J. L. Pearson's excellent church of St. Peter, Vauxhall, which is memorable as the first example, in the present revival, of a church vaulted throughout. Mr. Street's fine design for St. Mary's, Clifton, and the same architect's church of St. John, Torquay, are very noticeable. We hear with pleasure that Mr. Burges is really beginning the new cathedral of Cork. That of Tuam, by Mr. Deane, is also in progress. Mr. Scott's new chapel for St. John's College, Cambridge, is already above the first tabling. Mr. Buckeridge is building a very remarkable church, with hospital attached, at Holy Trinity, Ascot, Berkshire. Mr. Clarke's original chapel for the House of Charity, Soho, will shortly be opened for worship. The shell of Mr. Bodley's new All Saints', Cambridge, is completed; and he has also in hand St. Wilfrid's, Hayward's Heath, Sussex. Mr. Robson has designed a good church at Rainton, in Durham; and Mr. St. Aubyn one at St. Mark's, New Brompton, Kent. Mr. Slater has designed a series of very inexpensive churches for Belfast, and his chapel at Hurstpierpoint is in course of erection. At Edinburgh he is about to complete the enlargement and enrichment of the church of St. Peter. Mr. Withers has designed a chapel-school for Coatham Mandeville, in the parish of Haughton-le-Skerne, Durham, which deserves special commendation. Mr. Peacock's church of St. Jude, Gray's-inn-lane, has made excellent points. St. Mary's, Aberdeen, the work of a clerical amateur, has been finished.

Out of England we notice the commencement of Mr. Street's design for the memorial church at Constantinople; a church at Egutpoora, Bombay, by Mr. Buckeridge (embodying some suggestions by Mr. Cameron on Tropical architecture); and one by Mr. Wray, for Calcutta.

A design by M. Statz, of Cologne, for an Anglican chapel at Stuttgart, has been noticed at length in the *Ecclesiologist*; as also M. Cuypers's remarkable Roman Catholic church at Amsterdam.

Mr. Withers is about to build a very good English church at Brussels; and Mr. Smith has completed one, with many excellent points, at Naples.

The work of church restoration continues with unabated zeal. Hereford Cathedral, restored by Mr. Scott, has been re-opened. Gloucester Cathedral and St. David's have been entrusted to the same architect, who is also commissioned to take the spire of Salisbury in hand. The spire of Chichester is rising again, under Mr. Scott and Mr. Slater. The works at Ely in the octagon are making progress; and a county appeal has been made in behalf of the continuation of the works at Worcester, under Mr. Perkins. A restoration of the reredos in Westminster Abbey is contemplated, under Mr. Scott; and Signor Salviati's mosaics in the Wolsey Tomb-house in Windsor Chapel approach completion. The well-meant, but most deplorable, restoration of St. Patrick's, Dublin, continues to excite the deep regrets of all ecclesiologists. In St. Paul's, London, the first mosaic of the apse, designed by Baron Triqueti and executed by Dr. Salviati, is about to be fixed. Pershore Abbey church, restored by Mr. Scott, has been finished; and Great St. Mary's, Cambridge, by the same architect, having been re-arranged and re-fitted, now displays the fine proportions of the interior. Other large churches, such as St. Cuthbert's, Darlington, under Mr. Scott, and St. Nicholas, Great Yarmouth, under Mr. Seddon, are in hand. In St. Sepulchre's, Northampton, a new font is to be placed, as a memorial of the late Canon James. Mr. Norton has been called in to suggest a plan for enlarging St. Mary's, Cheltenham; and Mr. Slater has in hand the fine church at Calne, Wiltshire. Newland Church, Monmouthshire, has been restored by Mr. White; and Bosham Church, Sussex, by Mr. Christian. Attention has been loudly called to the necessity for restoring the noble church of St. Nicholas, Newcastle-on-Tyne, to serve (it is hoped) as the cathedral for a Northumbrian see. In London, Mr. St. Aubyn has finished his judicious alterations in the round nave of the Temple Church, and is about to begin the restoration of the interesting church of Cliffe-at-Hooe, Kent; and Mr. Hayter Lewis and Mr. Slater are about to begin the actual works of restoration in St Bartholomew's, Smithfield. Elaborate decorative works are in progress in the ancient crypt of St. Stephen's Chapel, which we hope will be used as a chapel for the Houses of Parliament. At Oxford, Mr. Burges has in hand the interesting task of transforming and decorating the interior of the chapel of Worcester College. All Saints', Brixworth, Northamptonshire, is about to be undertaken by Mr. Slater, with all the caution that is necessary in touching so curious and venerable a building. The interesting church of Cobham, Kent, has been restored by Mr. Scott: that of Minster, in Thanet, in the same county, has fallen into non-professional hands, but has not suffered so much as might have been expected. The need of some reparation in the round chapel at Ludlow has been urged in the pages of the *Ecclesiologist*.

"Of works not strictly ecclesiastical may be mentioned the restoration of the curious Decanal house at Gloucester, and the contemplated improvements in the Guildhall, London. Here it is intended to reproduce the ancient open timber roof, and to restore the original windows, which happily remain. It is understood that the Corporation of London are contemplating further works of great magnitude, including a complete range of buildings, on a general scheme, for the law courts, the City library, and other municipal offices. It is greatly to be hoped that the result may be such a town-hall as may be worthy to be compared with those of the great commercial cities of the Low Countries. The remains at Mayfield, Sussex, have been purchased by a Roman Catholic community, and the ancient hall is to be converted into a chapel.

"Abroad, the opening of the completed and roofed nave of Cologne Cathedral must be chronicled. The restoration of French cathedrals seems to be continued with the same recklessness that has excited alarm among English antiquaries. At home also we have still to complain of the careless scraping of ancient sculpture in works of so-called restoration. It may be doubted, also, whether monumental stones, which are seldom without value as documents, are not too often needlessly sacrificed in modern alterations. At Amsterdam, M. Cuypers has won the competition for the new picture gallery. Here the competition was limited to that picturesque form of the Renaissance, which is natural to that city. He has subsequently succeeded in another competition for the National Monument of 1814, in the same city, when his Pointed design was chosen in preference to one in the Classical style.

"Turning now to the subsidiary arts, we are not able to say that the progress of religious sculpture is very promising. The committee look with some apprehension to the sculpture which is promised for the Albert Memorial at Kensington. Mr. Philip has finished a high-tomb for Lady Canning; and Mr. Redfern has in hand a good recumbent effigy of a lady for a church in Hampshire. Mr. Earp has also executed some good architectural sculpture.

"Polychromatic decoration is in a more hopeful state. Mr. Herbert's final mural painting in the House of Lords must be noticed. Mr. Gambier Parry is carrying on, with vigour and increasing ability, the roof paintings in the nave of Ely Cathedral, begun by Mr. Le Strange. A promising experiment of an effective but inexpensive method of wall-painting is being tried, by Messrs. Clayton & Bell, in Mr. Pearson's church of St. Peter, Vauxhall, which has been already noticed. At St. Alban's, Rochdale, Mr. Clarke is colouring the whole chancel; and a skilled amateur is desirous to paint the church of Bosham, in emulation of Mr. Gambier Parry's admirable work in his own church at Highnam. At Lyndhurst church Hants, a reredos has been painted by Mr. Leighton."

The Archdeacon of Bristol briefly moved the adoption of the report, which, he observed, bore most gratifying testimony to what had been done and what was doing all over the country for the development of correct principles of taste in the erection of new and the restoration of old churches. He knew of no association which appeared to do so much work with so little show and so little talk.

Mr. St. Aubyn called attention to the contemplated destruction of St. Mary's Church, Cheltenham, which, he said, was about to be demolished, with the exception of the tower. He had ventured to remonstrate with Mr. Cooke, the architect, on the subject, but to no purpose; and perhaps it might be well for the Association to write a few lines before it was too late.

The Chairman.—Is the new church to be a tolerably decent one?

Mr. St. Aubyn said that, from an examination of the plans, it appeared to him to be an immense church, which would quite bury the old tower that was to be left standing.

Mr. Gambier Parry said he lived in the neighbourhood, and that St. Mary's Church, Cheltenham, was the only decent bit of architecture in the whole neighbourhood. He quite agreed with Mr. St. Aubyn as to the inadvisability of sacrificing the old church: it contained an admirable rose window, which was very rarely found in a parish church. It would, he thought, be abominable to destroy it.

The Chairman thought the subject was one which the Association would do well to take up, and he suggested that they should communicate with the Bishop of Gloucester and Bristol, and transmit a formal remonstrance against the proposed destruction. They might all bring any local influence they might possess to bear on the same subject. As he saw the Rev. Dr. Jebb present, he would be glad to know whether he had anything to say on the subject of the "restoration" of St. Patrick's Cathedral, Dublin.

Dr. Jebb said he was glad to be able to report that the proposed arrangement with reference to the choir would not be carried out, as it would have destroyed the character of the whole building. He owned that, from all he had heard in reference to the restoration, he had approached the structure with fear and trembling. Subsequent examination showed that his apprehensions were not groundless. He would not enter into all the barbarities of the details, but he might state that the general effect was not so very bad as he had expected to find it. Indeed, it was even fine. The northern transept had been restored, which, thirty years ago, had been rebuilt in a most preposterous style, and had been used as a parish church. This had been pulled down, and a Norman transept built. He was sorry, however, to find that the magnificent old organ, which had some of the finest "stops" of any instrument in the world, was to be removed. He understood that the pipes had been already melted down, and a new organ set up in a side aisle. He had been unable to ascertain whether there was to be an altar-screen; as, in answer to inquiries on the subject, he was informed that "Mr. Guinness had not yet made up his mind on the subject." The details of the "restoration" showed deplorable ignorance of art; and however much they might respect the munificence of the gentleman who had undertaken the work, that sentiment ought not, in his opinion, to mitigate their feelings of regret and censure for the manner in which it was being carried out. With respect to Christ Church, the other metropolitan cathedral of Dublin, the "restoration" was so wretched and preposterous, that nothing further remained to spoil, and total demolition was all that was left undone. A few of the ancient details yet remained, and it might be desirable to secure drawings of them, and to bring the influence of the Society to bear to prevent the complete desecration of a most interesting metropolitan church. He hoped there was no truth in the whisper of a whisper (for he could not call it anything else) which had reached him, of the intention to pull the building down; but he thought it his duty to mention what had reached his ear on the subject.

The Chairman said that he had some recollection of Christ Church and of St. Patrick's Cathedral, and that some of their details were so beautiful and interesting that he thought the Society would do well to move at once in the matter.

Mr. Burges brought under notice the decayed and disreputable condition of the south façade of Westminster Abbey, built by Sir Christopher Wren. The sculptured figures were, he said, rotting away, and the whole of the apostles were already gone. With regard to the display of church plate in the room, he was bound to say, that he did not think it was at all up to the age, as the forms and designs were those of twenty years ago, and showed no signs of progress in this department of art.

Mr. White observed, that he had seen the drawings for the proposed restoration of St. Mary's Church, Cheltenham, and that the building which it was intended to construct would, in his opinion, be far too large to be filled by any single voice.

The report was then agreed to.

Town Churches.

The Chairman, referring to the plan and construction of town churches in a practical and artistic sense, pointed out the various styles and features which it might be desirable to consider, and advocated the necessity of building town churches, with a view not only to ritual grandeur and congregational convenience, but also to the surrounding buildings. As an illustration of the representative of a fine Mediæval groined church, he referred to St. Peter's, on the site of Vauxhall Gardens. This was a brick groined church, with an apse, and reflected great credit upon the architect—Mr. Pearson. On the much-vexed question of galleries in churches, he must say that his opinion remained unchanged, as he believed that something similar to that found in the Rhenish churches, or in the new Roman Catholic church now building at Amsterdam, might be introduced with advantage. Here, there were aisles, nave, and triforium, for congregational use, and over the latter a clerestory, and then a brick vault, all of which might be used as galleries.

Mr. Burges thought that the Chairman, who had studied the subject of church architecture so deeply and so well, might do good service if he could be persuaded to write another book in reference to the topics to which he had called attention that evening. With regard to town churches, he was of opinion that we had not in the whole metropolis a single church worthy of the name. We wanted thick walls, domes, mosaic inside, and marble outside—something, in fact, which looked like a church, and might be used by thousands as a church. In his opinion, the idea of putting up little village churches in London was simply absurd. London was now in course of reconstruction. We were building houses five and six stories high, and what we wanted to keep pace with our domestic architecture was, great masses of churches.

Mr. Gambier Parry said, he quite agreed with what the Chairman had said on the subject of galleries in churches. It might be heresy to advocate them; still, he thought they might be judiciously introduced in town churches. He had always supported Gothic architecture as the architecture of common sense. No other style was so elastic; and although it might be heresy to advocate the introduction of galleries in Gothic churches, still he felt bound to say that he saw no other way of accommodating large congregations than by various stories or galleries.

The Dean of Bristol confessed that, although he had heard a good deal in favour of galleries, he was of opinion that, if possible, the congregation should all be on the floor.

Mr. Clarke said, his own feeling was that we had arrived at a period when galleries had become a necessity. If we could afford to decorate our churches with mosaic, majolica, and marble, as suggested by Mr. Burges, we might be able to build all our churches on such a scale as to accommodate the whole congregation on the floor.

Mr. White thought that a good town church ought to be so designed as to be more lofty than the adjoining houses. He was in favour of constructing churches so as to obtain as much light as possible from above, and to make large chancels and chancel aisles.

Mr. Hills said that a round church was an unpracticable form, unless admission were free, and unless seats could be dispensed with altogether. He confessed that he was shocked to hear any one in that room advocating galleries under any circumstances. In Roman Catholic cathedrals, galleries were used in order that the congregation might obtain a glimpse of honoured relics or sacred processions; but as these were not exhibited in Anglican churches, there was no necessity for galleries.

Mr. Heels, as an amateur, advocated small churches and frequent services.

The Chairman said, he quite agreed with the last speaker as to the advisability of multiplying services.

A member suggested that, in building new churches and restoring old ones, it would be well to keep in mind the necessity of providing for choral services.

After some further discussion, the proceedings were brought to a termination by a vote of thanks to Mr. Hope for presiding.

MOSAIC ART.

MOSAIC art, in its ancient and true form, has at length, after a lapse of eight centuries, again taken root upon English soil. Mediæval mosaic, and also the art as practised in the empire of the East, after its transfer to Constantinople, must be considered degenerate, and by no means equal to the legitimate and beautiful *opus vermiculatum*, practised during the empire of the twelve Cæsars. The art was at that time divided into three varieties,—the *opus majus*, *opus medium*, and *opus minor*. Thus we find all the varieties of the mosaic art were defined in Latin terms. The baths of Caracalla displayed specimens of *opus majus*, the work being large and coarse. Specimens of the *medium*, much finer, are to be witnessed in the ruins of Pompeii. A splendid specimen existed there of this style, in a large painting, supposed to represent the battles of Alexander and Darius. But the *opus minor* gave, in the style of *opus vermiculatum*, the finest, most beautiful, and elaborate of all the ancient Roman mosaics. It consisted of delicate paintings, in very minute pieces of marble, worked in with other fictile materials, most of the strips, or tesseræ being only the tenth of an inch across. As an instance of the luxury of this period of the empire it is recorded, that Julius Cæsar carried with him in his wars, pieces of these precious mosaics, for the adornment of his tent.

Some who take a circumscribed view of mosaic give its origin and discovery to the monks, and its cultivation and perfection to monastic skill, and a monastic life; in short, that mosaic art was exclusively practised in monasteries, and by the labour of ascetics. This is incorrect. It is true, when the arts, learning, and science were extinguished by the barbarians, the monasteries proved the only secure asylum for them until their revival. But this art flourished perhaps a thousand years before the Christian era, and was very probably the earliest and most enduring expression of pictorial art. It is not well determined what people, or nation justly claim the merit of its invention or discovery. Unless it be conceded that in the ancient periods of human civilization, or semi-civilization, natural science was cultivated, and natural philosophy had its schools and professors, it is difficult to comprehend how mosaic art was discovered, or became established. We have every reason to believe that this art was practised by the early Egyptians, transmitted from them by conquest to the Persians, and again by the same means to the Greeks, who gave to the art the generic name of *Lithostroton*. This gives an antiquity sufficiently remote; but a period when even language was in its infancy, and written language not discovered, would not seem capable to foster, and cultivate natural science. We are led to these observations since a knowledge of chemistry is almost indispensable to the production of mosaic painting. But even alchemy, and the secrets of the transmutation of metals, if they were resorted to at this period, are not noticed as having existed in the records of history among the ancient Egyptians. Upon the supposition of the practice of these arts, under the designation of natural science, at this distant epoch of the history of mankind, we are not nearer to comprehend how they succeeded in the precise combinations required for the formation of the mosaic enamels, their delicate and various tints, and shades of colour—combinations and results, both as regards material and colour, that have resisted every external influence, source of decay, or destruction, even down to our own time: combinations also implying some knowledge of physical agencies, and re-agencies only obtainable through the achievements of natural science, or a knowledge of chemical affinities. But it is still more surprising that, with the possession of knowledge of minerals, metals, and their subjection to changes by agency of furnace heat, implied in the production of the mosaic enamels, and their application to transcendental art, they should not have also stumbled upon the discoveries afterwards made by groping perseverance and untiring researches, of antimony and mercury, among many other skilful manipulations, highly important in the future progress and researches of science. Until the present day, for ages, Italy has enjoyed the unrivalled, and envied monopoly of encouraging mosaic art, as it may be said to have done of all the sciences and arts. The Romans, after having conquered the Greeks, subjected them to the usual condition of a Roman province. Hence, numerous migrations of Grecian artists took place to Rome, and at that time introduced the mosaic (the *Lithostroton*). They gave to the numerous varieties they introduced and practised all over the provinces conquered by them, Latin denominations, namely, *opus tesselatum* and *opus sectile* for pavements, and *opus vermiculatum* for mural decoration. The Romans designated them the "glassy walls," *cum auro superinducto*. They were extensively used, both in public and private. The gold floors are still to be seen as pavements, found in the richest houses in Pompeii. These were executed at least one hundred years before Christ. A great influx of Greek artists no doubt occurred, after Constantinople was besieged, and taken by the Latins in 1203; and they and their disciples executed in the eastern empire many of the Byzantine, and Mediæval mosaics. In the more recent periods in which mosaic flourished, the popes and the Church took it under especial regard and encouragement, and it was greatly fostered by the early Christian emperors, in the churches they at that period erected. The monasteries at length became the workshops, and monks the artists of mosaic. It is even probable that Roger Bacon, one of the greatest men and philosophers of this, or any other country (as was afterwards another of his lineage and name), among his multifarious accomplishments, and achievements in science, practised, as he did, the mysteries of alchemy, the mosaic art, he being also the discoverer of gunpowder, and that the Abbey of Westminster, where he so long dwelt, and may be truly said to have been imprisoned, does to this day contain some of the handicraft labours in mosaic of Friar Bacon. These labours may have tended to beguile the miserable persecution this great man suffered in a dark period from the hands of his superstitious countrymen. This is strongly confirmed, since at the date of Roger Bacon's incarceration, in his friar's cell at Westminster, the mosaic was finished, that to this day gives us a beautiful specimen of the art executed A.D. 1270 upon the shrine of Edward the Confessor, in the reign of Henry III. England has always been slow in adopting high art—always tardy in the initiation of imitative skill; but, with the usual tenacity of its race, when once inspired with an idea worthy of realization, success invariably awaits, and is the result of its efforts.

The existence of mosaic art is first recorded in the Book of Esther: to use the language of holy writ, "Ahasuerus King of Persia and Media, reigned over a dominion extending from India to Ethiopia. In the third year of his reign, he gave a great feast to all the princes, and nobles of his provinces, in his palace of Shushan, where he sat upon the throne of his kingdom. He there displayed the riches of his glorious kingdom, for a hundred and fourscore days. He also made a feast in the court of the garden of the king's palace." We first read in the Book of Esther, in the description of the sumptuous magnificence of the palace, of its riches, and luxurious embellishments, a clear description, and the earliest on record, of mosaic art, in the following words: "Where were white, green, and violet hangings fastened with cords of purple to silver rings, and pillars of marble. The beds were of gold and silver, upon a pavement of red, and blue, and white, and black marble." This confirms that at this remote date mosaic art was practised by the use of natural crystallized minerals, whenever, at almost any cost, they could be obtained. Thus, no doubt, ruby, porphyry, pavonazetta, sapphire, serpentine, agate, jasper, and jade, were the gems resorted to for this purpose. These could be only found or supplied at great cost, and insufficient in quantity to supply the demand, which the luxurious arts of that age created, and required. But Egypt flourished, and was in its highest state of civilization long before this period. The condition of the civilization of Egypt was peculiar; it deteriorated from the date of its commencement, and flourished most as an empire in the most distant period of its existence, or in its most juvenile period of civilization, contrary to all examples of more modern times.

Natural minerals, represented by gems, and precious stones, were resorted to, until the less costly expedient of artificial minerals, in the form of furnace-fused enamels, coloured with metallic oxides was discovered. When this discovery was made, we are left in entire ignorance: its date is not known.

The fictile imitations of mosaic enamels, in pot-clay, of Messrs. Minton, and also of Messrs. Maw (the latter executed in designs given to them by Mr. Digby Wyatt, who has contributed much to elucidate the mosaic art), afford earnest of what may be expected in achievement, from those who have embarked in genuine mosaic, and whose ingenuity has at length, discovered the elements, combinations of colours, and chemical minerals required to accomplish in the execution, the perpetuation of designs in pictorial art to all ages, in the most graceful, brilliant, and enduring forms. However charming, and attractive are the fictile *tableaux* of the Messrs. Minton, and Messrs. Maw, enamelled, and glazed with brilliant tints, in imitation of Mediæval glass tesselation, they will not suffer comparison, and only serve as a foil, even when at a distance from the genuine mosaic, to display the unapproachable beauty, and excellence of the latter. We are, moreover, informed that cost will no longer continue to be a barrier to the use of mosaic work. The architect may now extend the limit of his ideal creations, and give licence to architectural ornamentation, never before attainable. He will no longer be deterred by the impediment of cost, or cramped in his creative designs, by the monopolies, the establishments of Rome, Florence, Venice, and St. Petersburg have hitherto enjoyed, of the most beautiful element conducive to the excellence of architectural science, in the manufacture of the mosaic enamels. The architect may, for a while, be chary in the use of this delicate and brilliant decorative element. But, when the fact, that pure and brilliant as are the tints and tone of colour of mosaic paintings, they are also as enduring, as the granite block forming the outline, and elevations of buildings, and that the mosaic tesseræ will remain unaltered for ages, by time or decay, even when the coarse granite shows symptoms of mouldering away, he will not long pause to adopt this new arm of his art. Dominico Ghirlandajo, well expressed this truth when he said that mosaic was the only painting for eternity. Vasari also made the same remark.

But a few months since, Mr. Jesse Rust was as innocent of the knowledge of mosaic art, or of mosaic enamels, as he probably is of Hebrew.

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Being challenged to produce the artificial mosaic minerals, and mosaic gold, and silver, by a party little expecting any other result than failure, his attempt proved successful. At his glass-works in Lambeth, he is now actively manufacturing the artistic minerals, and also gold and silver enamels, used in mosaic art. It is also not less creditable to his perseverance, ingenuity, and industry, that with little preparation or training, he has already submitted for public criticism, very fair specimens of mosaic, formed from tesserœ of his own manufactured enamels.

These may be seen at the Architectural Exhibition, Conduit-street, now open to the public. Among them, we may mention a centre cross of gold ground for altar or reredos, in stick and cane mosaic; mosaic specimens of gold and silver enamels; numerous chromatic shades, of cane or stick mosaic; and gold, silver, and coloured bosses, for external, and internal mural decoration; pressed tesserœ, for pavement and mural work; also pressed and slab enamels, and some very good specimens of geometrical mosaic. At the South Kensington Museum, may also be seen specimens of Mr. Rust's execution: namely, a mosaic design; a chromatic scale; a mosaic wall-tile; a panel of geometrical mosaic; an altar-piece (mosaic cross); and specimens of gold, silver, and enamel bosses, for architectural decoration. However unpretending, and humble these efforts may be, they give promise of future improvement and advance, claiming encouragement, as manifestations of native enterprise and skill. They are unambitious, but sufficiently deserving of the fostering solicitude, and patronage of the promotors of decorative art. Other competitors, now that the facility thus afforded by Mr. Rust of obtaining the enamels, and also by the manufacture of Messrs. Powell, of Whitefriars, to supply the material for prosecuting the art, are exhibiting; Mr. Fisher, of Southampton-street, has sent to the South Kensington Museum, a head and figure of St. Peter, thus obtained of British mosaic enamels. B.

THE SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES.

THE twentieth annual meeting of this society has been held at Willis's Rooms, St. James's; the Earl of Shaftesbury in the chair. The report gave the result of the workings of the several model buildings, lodging-houses, &c., connected with the society during the year ending 31st December, 1863, as in every particular satisfactory and encouraging. The mortality in the entire of the society's houses during the year had been twenty-five out of an average population of 1,509. Seventeen deaths were of children under ten years of age. The average rate of mortality of the society's houses had been therefore only 16·339 per thousand. The net return from all the society's houses during the year exceeds that of the previous year by 196*l.* 0s. 1½d. The number of washings at the public washhouse at Portpool-lane had been 21,367. The receipts from this source had been 457*l.* 10s. 1d., and deducting therefrom 448*l.* 6s. 10½d. expenses, including repairs, there remained a small balance of 3*l.* 3s. 2½d. in favour of the establishment. The real property, &c., of the society (valued at cost) is 44,545*l.* 12s. 7d., and the general liabilities 22,279*l.* 9s. 11d., leaving assets (valued at cost) to the amount of 22,266*l.* 2s. 8d. The Earl of Shaftesbury expressed his unabated interest in the society after an attachment to it of twenty years. There was one great difficulty, however, he said, that was not as yet touched on, and that was the providing for and protecting those unfortunates who could not pay even the small rent required at the model lodgings attached to the society. He believed that a vast amount of the drunkenness and immorality that prevailed was attributable to the filthy condition in which those poor destitutes were obliged to live; and when some remedy would be applied to this melancholy state of things, which he looked upon as quite possible, it would go further, he thought, to promote universal health, prosperity, and happiness, than anything else that could be devised. This was a crying necessity of the present day, and he hoped that those who had it in their power would come forward and give the necessary assistance. This society had proved that the poorer working classes were open to improvement. He knew himself they were, and he never knew the working classes of this country to be more ready and desirous to be improved than at present.

THE GUILDHALL, LONDON.

COURT OF COMMON COUNCIL.

AT the meeting on the 23rd ult. Mr. R. N. Philipps moved a resolution to the effect that as 24,000*l.* had been voted for the restoration of the roof of Guildhall, an outline model of the purposed form of which has been submitted to the Court, the Improvement Committee be empowered to obtain forthwith the advice of some of the most eminent architects, to be named by the Court, in conjunction with the City Architect, in settling the details of the restoration in accordance with the style of the original architecture. He urged that the work was a national one, and that it ought to be carried out in a manner so as not in any of its details to offend archæological taste. He contended that the proposed introduction of sixteen dormers or lights, each 13 feet high, into the roof, was a solecism in architecture, having regard to the time the hall was built and to the roofs then in vogue, as was also the proposed louvre, which was to be 65 feet high from the apex of the roof, and 18 feet wide at its base. According to the opinion of Mr. Raphael Brandon, none originally existed in the English halls. The imposing effect of a grand open oak roof would be marred by such recesses in it, whilst it is contrary to the best information which we can obtain that such ever originally existed. There was another matter, however, to which he would call attention, viz., the proposal of a large louvre rising from the centre of the roof, 65 feet high and 16 feet wide, the lower part constructed of wood, principally covered with tiles, and the upper half of iron. What the effect during a high wind might be he could not pretend to say; but as it depended merely on the roof to which it was fixed, and did not rest on a structure from the ground, its stability might be questionable. Again, the ridge of the roof was crested with ornamented ironwork, 2 feet high—a species of ornament found only in foreign countries, but never till recently in England. Such ironwork and such arrangements cannot be said to be consistent with the original architecture of the hall itself.

Mr. Philipps concluded his remarks by quoting from a letter of Mr. Gilbert Scott, in which he says, in reference to the "alterations sustained by the noble civic hall, that nothing can be more important than to ascertain, by the most careful study, both of its external and internal evidences, what was the original form and design of the parts it is proposed to restore, and to adhere rigidly and loyally to the results of such investigation; and that nothing should lead to a consent that the noble historical monument should be restored in any other way than in exact conformity with its ancient design."

Mr. Kelday, the chairman of the Improvement Committee, explained that although the outline of the roof had been agreed upon by them, the details had not been finally arranged by the committee, but that when they were they would be submitted to the Court for approval. Some difficulty had been experienced in ascertaining the exact form of the original roof, from the want of reliable historical information upon the subject. Its exact form was not known after the fire of London which destroyed it; but within the last few months, in removing the roof, which was constructed in 1669, three years after the fire, indications were discovered proving that the roof now proposed was as nearly as possible like the original one in form. They had also found that two louvres and two dormers were introduced into the original roof fifty years after its erection, so that the use of such adjuncts now could not be called an innovation. Besides, as the new roof, which was to be open in the interior, would be of great height, and filled in with tracery, light would be indispensably necessary to render its internal ornamentation appreciable.

Mr. Horace Jones, the City Architect, stated, in reply to a question put by Deputy Elliott, that a great many of the alterations referred to by Mr. Philipps were not finally agreed upon, and that he was proceeding with the utmost caution.

The motion of Mr. Philipps was eventually put to the Court, and negatived by a large majority.

A report was presented from the police committee by Mr. Alderman Finnis, with plans and estimates for the erection of a police-station, with an infirmary adjoining, in Bishopsgate-street, in lieu of the existing station in that division, at an estimated cost of 13,750*l.* The report was agreed to, and referred back to the committee to be carried into effect. Mr. Kelday, the chairman of the Guildhall Improvement Committee, presented a report from them, recommending the purchase of leases and of freehold property in Basinghall-street for 30,000*l.*, with a view to contemplated improvements in the neighbourhood of Guildhall for the convenience of the Corporation. The report was adopted.

COMPENSATION CASES.

NOTTINGHAM.

THE award of the umpire has just been published, in relation to a claim for compensation, under the Lands Clauses Consolidation Act, by Mr. Thomas Fox, against the corporation of Nottingham, acting as the Local Board of Health, for the compulsory taking of certain freehold property, required for the improvement of Lister Gate. Mr. John S. Norris, of Nottingham, civil engineer, sat as arbitrator for the claimant; and Mr. C. E. Cawley, of Manchester, civil engineer, as arbitrator for the Local Board; Mr. Jeremiah Mathews, of Birmingham, acting as umpire. Mr. Fox's witnesses were Mr. F. Williamson, architect, who estimated his claim at 9,540*l.*, and Mr. John Jackson, architect, whose estimate was 9,569*l.* For the corporation, Mr. M. O. Tarbotton, their surveyor, estimated the value of the property at 6,186*l.* 6s. 6d., and Mr. T. C. Hine, architect, at 6,438*l.* 19s. 11d.

The amount awarded by the umpire is 7,500*l.*, the corporation, by agreement, paying the costs on both sides.

SOME PECULIARITIES IN ANCIENT AND MEDIÆVAL IRISH ECCLESIASTICAL ARCHITECTURE.

ON this subject Mr. George Victor du Noyer contributes to the proceedings of the Kilkenny Archæological Society an interesting paper fully illustrated. By the courtesy of the Rev. James Graves, we are enabled to place the following parts of it before our readers:—

When Christianity was promulgated in Ireland, in the fifth century, its immediate professors erected, here and there over the country, a very remarkable class of buildings called Oratories; and of these many yet remain in the remote western parts of the county of Kerry, and in some of the islands off the west coast.

These structures are small, and almost invariably rectangular in plan, though one of them, on Church Island, in Lough Currane, at Waterville, in the county of Kerry, is rectangular within, but of a broad oval shape without. They are built of dry masonry, the stones being carefully fitted together, and sometimes bearing indications of having been dressed. The walls, which are usually without foundations, are very thick, and those forming the sides of the building converge rapidly from the ground, each stone overlapping the one beneath it, till the edifice was closed at the apex by a row of single blocks. In one instance the gable walls converge almost as much as the sides, thus giving to the structure a singularly quaint appearance. The door-ways, which are invariably flat-headed, with converging sides, are placed in the gable facing westward, the lintels and sills being formed of very large blocks. The gables facing eastwards are pierced by a small window or narrow loop, which, in one instance, is semi-circular-headed.

The learned Dr. Petrie, in his "Inquiry into the Origin and Uses of the Round Towers of Ireland," has made the archæological world acquainted with two varieties of this primitive church, in his description and illustrations of the Oratory at Gallerus, near the southern shore of Smerwick Harbour, in the county of Kerry; and of that on Church Island, in Lough Currane, which latter building he has identified as the house (or Church) of St. Finan Cam, who lived in the sixth century.*

Dr. Petrie, in describing the Oratory at Gallerus, says that:—

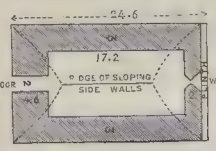
"It measures externally 23 feet long, by 10 feet broad, and is 16 feet high on the outside of the apex of the pyramid. The doorway, which is placed, as is usual in all our ancient churches, in its west end wall, is 5 feet 7 inches high, 2 feet 4 inches wide at the base, and 1 foot 9 inches at the top; and the walls are 4 feet in thickness at

* See Petrie's "Round Towers," p. 130. For an illustration of the flat-headed doorway of Gallerus, see also the work now quoted, p. 160.

the base. It is lighted by a single [semicircular-headed] window in its east side; and each of the gables was terminated by small stone crosses, only the sockets of which now remain. . . . I am strongly inclined to believe that they [the Oratories] may be even more ancient than the period assigned for the conversion of the Irish generally by their great Apostle Patrick."

At page 316 of the same work, allusion is made to another Oratory close to the old church of Kilmalkedar, and at the distance of about one mile north of that already mentioned at Gallerus; and, as this building is remarkably singular, and very probably of greater age than the former, I wish to direct special attention to it.

The accompanying engraving (fig. 1) gives a view of this unique building, as seen from the S.W., and is taken from the summit of the original and nearly circular termon wall surrounding it. Subjoined is a plan of this building:—



It will be seen that the gables converge almost as abruptly as the side walls, the junction of both being suggested by the dotted lines, and in this respect it differs from the Oratory at Gallerus.

The masonry is formed of large splintery flakes of the grey grit of the district, the interstices between the stones being filled with small fragments, the whole most carefully put together, and forming a very solid wall: a narrow plinth passes along the base of the east gable, but does not extend to the side walls. The window in the east gable resembles a narrow flat-headed loop, and is splayed both within and without.

The annexed woodcut (fig. 3) represents the interior of the east gable of this Oratory. Dr. Petrie, at page 182, gives an illustration of the exterior of the window from the east gable of Gallerus Oratory, the head of which is semicircular, and formed out of two stones: the difference between the two opes will be at once apparent.

The internal curve of the side walls of Gallerus Oratory resembles an ordinary pointed arch; while that of the building near Kilmalkedar is of a decided ogee form.

The most singular feature of both these oratories, and that which originally suggested to me the compilation of this paper, is the occurrence of thick projecting flagstones over the interior of each doorway, pierced vertically by large holes, from which a wooden door could have been suspended. The accompanying cut shows the interior of the west doorway of Kilmalkedar Oratory:—



It is obvious that, by inserting strong wooden loops into these vertical perforations, a wooden door could readily have been suspended, after the manner illustrated in fig. 5, such a door being, of course, most securely fastened from within. In the interior and over the doorway of Gallerus Oratory, there are two large projecting perforated flags inserted above the lintel, which is flush with the surface of the wall, and these answered the purpose of the projecting perforated lintel just described.

In all the ruined churches of the eighth to the twelfth century, which I have had an opportunity of examining over the southern portion of Ireland, there is unmistakeable evidence to show that the doors were fastened from within: for example, the doorway of the old church of Agha, near Bagnalstown, in the county of Carlow, a work of the eighth or ninth century; and the richly decorated doorway of the old church of Killeshin, near Carlow, which is doubtless of the tenth or eleventh century.

In the twelfth and succeeding centuries, many of our stone-roofed and decorated churches were constructed with a view to their being constantly inhabited. Cormac's chapel, at Cashel, for instance, has a fire-place in the croft, from which flues for receiving the heated air from the fire are conveyed all round the side walls, on a level with the floor, the apartment being lighted by windows in the south side wall, just below the spring of the roof; and the date of this building has been determined by Dr. Petrie, in the work already quoted, at the year 1127. It was consecrated A.D. 1134. (See "Round Towers," p. 283, &c.)

The ruined church at Donaghmore, between Clonmel and Fethard, in the county of Tipperary, which the late Dr. O'Donovan assured me was a building of the twelfth century, was also constructed to answer the purpose of a dwelling-house, the habitable portion being over the stone-roofed chancel, to which access was by a ladder from the body of the church through a doorway directly over the choir arch.

From the foregoing observations it would appear that the primitive, and doubtless venerated custom, which permitted the ecclesiastics to reside within their churches, became, after the lapse of centuries, so essentially a duty, that eventually the church architects of the thirteenth and fourteenth centuries almost invariably made distinct provisions for its exercise, with as much regard to the personal comfort of the ecclesiastics as would be consistent with the preservation of the sacred character of the edifice, and its insurance from any accidental desecration.

In illustration of this curious fact, I shall select a few well-marked examples out of many which I could bring forward.

The ruined chapel of St. Catherine, which was erected within the precincts of an ancient earthen embankment, which cuts off the extremity of a small promontory on the shore of Nook Bay, to the north of Ballyhack, in the county of Wexford, is a striking example of the peculiar kind of church architecture to which I allude. The style of this building is Late Decorated, and we may therefore suppose its date to be the middle of the fourteenth century. * * *

What gives this little church such peculiar interest is the fact that a small portion of its west end has been designedly constructed so as to answer all the purposes of a dwelling-house, and which was evidently separated from the sacred portion of the building by a wooden partition, or possibly a thin wall, and was divided by a wooden floor into a basement and upper story, as will be clearly understood by the view on the next page (fig. 6). We have here presented to us some very novel features in church architecture. In the left-hand corner, at the base of the gable wall, an arched recess has been constructed, to receive a bed or shallow cupboard, most probably the former; and near it, in the south side wall, is a small loop for lighting this lower apartment. At the opposite corner of the gable there is a narrow flat-headed doorway, leading to a flight of steps constructed in the thickness of the gable wall, which conducts to the doorway raised above the ground, and near the centre of the gable, which allowed access to the second floor. The stairs are prolonged to the parapet of the south side wall, access to which is by a door in the wall of the gable. Above the lower doorway, in the west gable, there is a fireplace, intended to heat the upper floor, which was lighted by the small window close to the doorway in the south wall, and to which allusion has been already made. The stairs were lighted by three small square apertures and a loop in the outer shell of the gable.

Annexed is given a plan of this church (fig. 7), which will clearly explain the architectural peculiarities just described.

A. Main doorway in north wall. B. Small doorway in south wall. C. Recess in west gable. D. Doorway to stairs in thickness of west gable, with fire-place above, indicated by the semi-circular line. E. Stairs to doorway of upper floor, and to the parapet of the south wall. F. Doorway to parapet. G. Small niche for lantern. H. H. Peep holes, commanding land approach to the church. I. Aumbrey. K. East window.

It is probable that the doorway in the south wall was the private entrance to the non-sacred portion of the building, of which the annexed illustration (fig. 8) supplies a probable restoration.

The next example to which I shall direct attention is that of the old church of Castle Gregory, in the county of Kerry, which from its architectural features, appears to have been constructed at the close of the thirteenth, or the beginning of the fourteenth century, and it presents some marked peculiarities which bear strongly on the point I am discussing. It was originally a simple rectangular building, having the walls widely parapeted, and well drained by long gurgoyles. Near the centre of the south side wall, at its external face, there is a large chimney-like projection rising from the ground, and terminating at the parapet, where its use as a *necessarium* is very evident; and on the opposite wall is a similar hollow projection, the use of which is not apparent, unless it was constructed as a mask to conceal the object of the other.

At some time subsequent to the original construction of this church it appears that the accommodation as a dwelling afforded by its western end was not sufficient for the purpose intended. A small massive square tower was therefore erected at the south-east angle of the church, access to which was from the parapet of the south wall by a narrow doorway leading to the first floor of the tower, which was on a level with it; the basement being dark, and probably used as a store-room. From this apartment circular stairs, constructed in the thickness of the wall, led to the roof of the tower.

The east window of this church is a single light of the lancet form, tricusped at top, and completely surrounded by a massive plain bead moulding.

The fourth example which I have to offer is a remarkable one, and quite unique in Ireland, if not in Britain.* I allude to a fortified church, or rather castle-church, forming one of the groups of ecclesiastical ruins at Clonmines, on the shore of Bannow Bay, in the county of Wexford. This singular building stands on a rise of ground adjoining the monastery, but detached from it, and when viewed from the westward quite resembles a square castle, the north-east and south-west angles of which are prolonged into small but lofty crenellated turrets.

The accompanying cut (fig. 9) is an external view of this church. It shows the doorway in the west wall which led to the habitable portion of the building, and which is protected by a large machicolation connected with the roof. The doorway nearly facing the spectator conducts to the church, and the arched recess adjoining it may have been intended for a tomb or seat, and probably the former. Externally this church measures 37 feet by 26 feet, the walls being 5 feet thick, thus imparting to it an unusual degree of strength and solidity: the parapet walls are about 2 feet 8 inches thick, and are all embattled.

The east wall is pierced, at the height of about 7 feet from the ground, by a small window of two pointed lights.

It is not till we enter this building that its true character and object become apparent, and we at once perceive that we are in a lofty arched room, half church and half residence. The eastern end of this room forms a square of 16 feet 6 inches, and is groined with massive chamfered ribs, springing from each corner, and crossed by others, springing from the sides. This groining defines the limits of the church; the remaining western portion being simply arched, and is somewhat lower than the eastern, thus forming a flat tympanum overhead, against which was laid the wooden partition which screened off the living-room.

In the sill of the window on the south side, is a small piscina; and in the north and south walls, at their junction with the east wall, there are small square unornamented aumbries; to the right of the door in the west wall there is a small stoop.

* The writer says,—"It would be exceedingly interesting to Irish archæologists to be informed if churches of the thirteenth or fourteenth centuries, fortified after the manner of that of Clonmines, exist in Great Britain. Up to the present time no published record of such a building exists; but we know that Geoffrey Keating and Camden allude to the fact, that the parish churches of Ireland were used as dwellings before and after the Reformation." With reference to this point, see notice of Ancroft Church and Pele tower, Northumberland, in our volume for 1863 (xxi.), p. 909.—ED.



Fig. 1.—Primitive Irish Church, Kilmalkedar, Co. Kerry.



Fig. 6.—St. Catherine's Chapel, Nook.



FIG. 3.



Fig. 9.—Fortified Church, Clonmines.

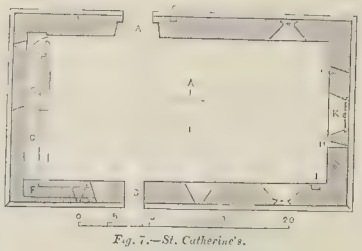


Fig. 7.—St. Catherine's.



Fig. 8.—St. Catherine's.

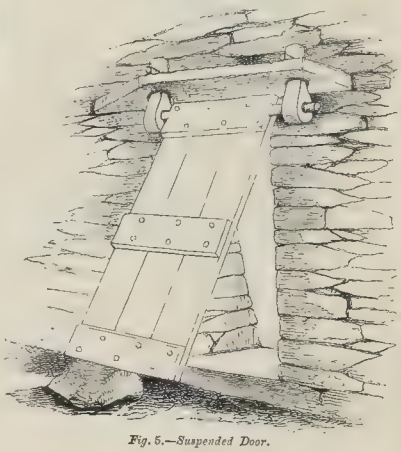
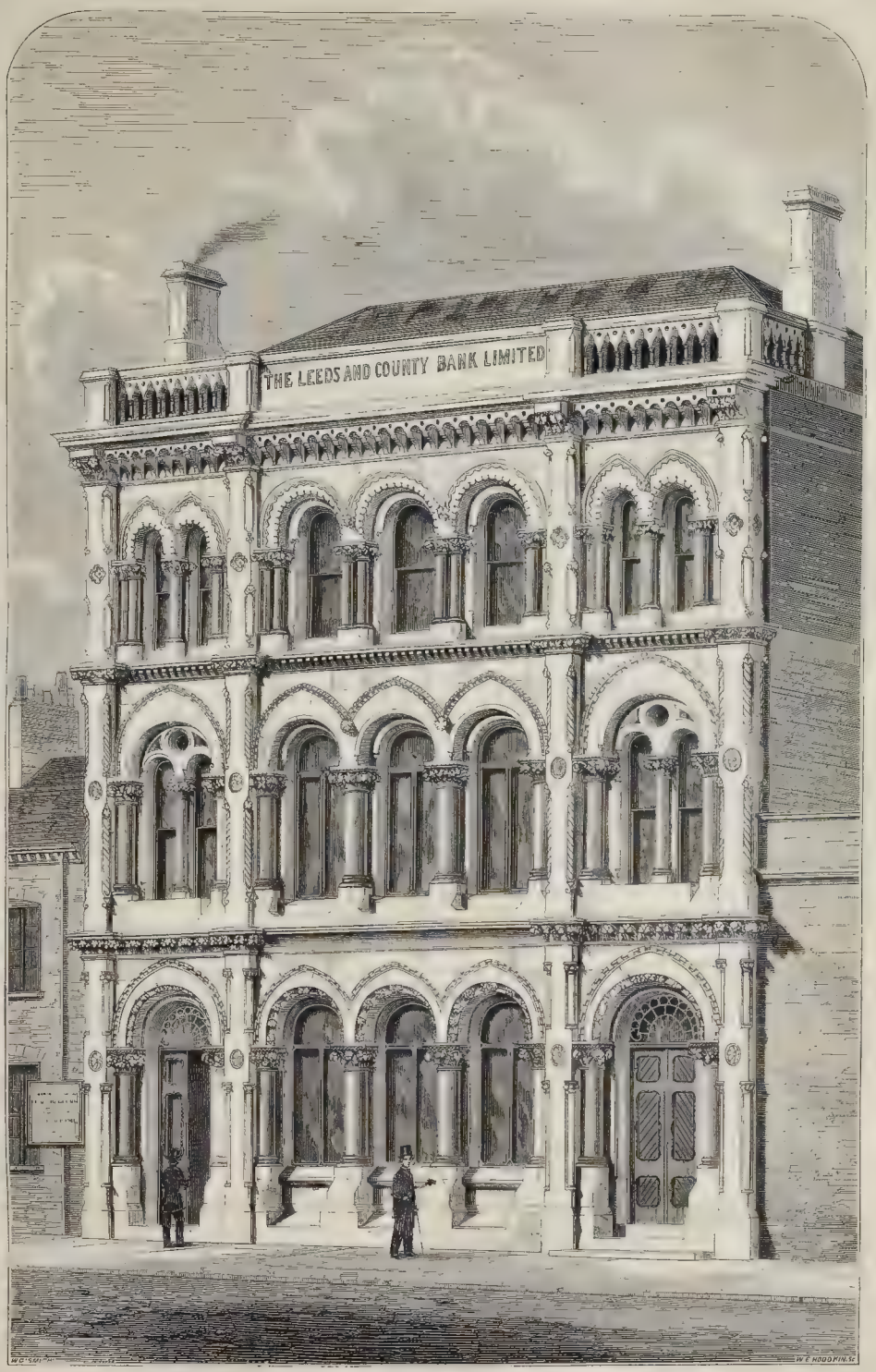


Fig. 5.—Suspended Door.



LEEDS AND COUNTY BANK.—MESSRS. LOCKWOOD & MAWSON, ARCHITECTS.

LEEDS AND COUNTY BANK.

AMONG the numerous buildings now being and recently erected in Leeds, its banks form a prominent feature.

The building of which an illustration is here given, was opened at the close of last year, and was erected from the designs of Messrs. Lockwood & Mawson, architects, of London and Bradford. In this building the Telegraph Company have their offices, and a Board-room and a residence for the manager are comprised in the arrangements.

Directly opposite, the new bank of Messrs. Cousins, Allen, & Co., has reached the first floor; and in the immediate neighbourhood the new building for the Leeds Banking Company has been commenced, both under the same architects.

Closely adjoining are the new Bank of England, and Messrs. Beckett & Co.'s new buildings, thus making *five* banks accommodated in Leeds within twelve months.

THE PROPOSED NEW LAW COURTS.

IN the House of Commons, on Monday last, Mr. M. Smith complained, at some length, that another session was likely to come to a close without the long-promised Government Bill on this subject; and the Attorney-General promised, late as it was, to bring in the Bill during the present session. Mr. Cowper reiterated the assurance that the architect would be chosen by public competition.

THE SOCIETY OF ARTS PRIZE PRESENTATIONS.

THE Prince of Wales presided at the distribution of the Society of Arts prizes, in Willis's Rooms, as president of the Society. Among those on the platform were the Archbishop of York, Sir Joseph Paxton, Sir C. W. Dilke, and others. About thirty-four young gentlemen were introduced to the Prince, and received prizes from him for proficiency, respectively, in arithmetic, book-keeping, algebra, chemistry, mensuration, geometry, animal physiology, conic sections, practical mechanics, magnetism, electricity, astronomy, botany, agriculture, mining and metallurgy, domestic economy, geography, English history, logic and mental science, English literature, French, German, freehand drawing, geometrical drawing, and music.

The Prince Consort's prize of twenty-five guineas, for having, in the present and three preceding years, obtained the largest number of first-class certificates, was awarded to Mr. J. Allan, of whom we have already spoken.

The Marquis of Salisbury introduced Mr. John Birch, architect, who was presented with 25*l.* and the Society's silver medal, for the best design for a labourer's cottage. There were 107 competitors for this prize.

The Swiney Prize, consisting of a silver cup of the value of 100*l.*, with gold coin in it to the same amount, awarded every fifth year, pursuant to the will of the late Dr. Swiney, to the "author of the best published treatise on jurisprudence," was awarded to Henry Sumner Maine, LL.D. (late professor of civil law in the University of Cambridge, and now member of the Legislative Council of India) for his work on "Ancient Law." The prize, owing to Mr. Maine's absence, was presented to his brother.

The winners of the Art Workmanship Prizes were next presented. They were twenty-one in number, and their performances ranged over a great variety of ornamental work, modelling in metals, repoussé work, carving in ivory, chasing, painting, &c. They were presented by Sir F. Crossley, M.P.

The Society's medal, for the discovery of, and bringing under the notice of the Society of Arts, the first imported specimens of the "balata," a gum from the Sapota Mulleri, as a substitute for gutta purcha, was presented to Mr. William Walker, Colonial Secretary of British Guiana; and Sir William Holmes, of British Guiana, received a similar reward for the introduction into the commerce of this country of the "balata" as a substitute for gutta percha.

The Albert Gold Medal, executed by Mr. Wyon, and the first prize of the kind, was given to Sir Rowland Hill. The Prince, in presenting it, stated that the Queen's portrait, which the Society also intended to present to Sir Rowland Hill, was not yet completed, but when finished it would be sent to him.

THE NATIONAL ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCE.

THIS society will hold its eighth annual meeting in the city of York, from the 22nd to the 29th of September, under the presidency of Lord Brougham. His grace the Archbishop of York is one of the vice-presidents, and also the president of the Education department. The Right Hon. Sir James Wilde, judge of the Court of Probate, presides over the department of Jurisprudence. The other chairs have not yet been filled up. The council of the Association have found it necessary, owing to the annual pressure of business, to adopt new regulations. In each of the departments, now reduced to four, three special questions are put, and a day is to be devoted to the discussion of each, the voluntary papers being read and discussed on the remaining days. The following are the questions for the several departments:—

SPECIAL QUESTIONS FOR DISCUSSION IN JURISPRUDENCE.

1. Are the laws of real property in the three parts of the united Kingdom respectively, in their substance and tendency, suited to the present condition of society? and, if not, how should they be improved?
2. On what principle should the law deal with questions of responsibility and mental competence in civil and criminal cases respectively?
3. Whether any, and what, ameliorations can be introduced into the institution and conduct of criminal prosecutions?

SPECIAL QUESTIONS FOR DISCUSSION IN EDUCATION.

1. What improvements can be introduced into the present system of public school education? The discussion will be opened by a paper on the Report of the Commissioners appointed to inquire into the revenues and management of certain colleges and schools.
2. In what way can the grammar and other endowed schools be made more available for the education of the middle class?
3. What are the peculiar difficulties in the way of elementary education in small towns and rural districts? and how can those difficulties be removed or lessened?

SPECIAL QUESTIONS FOR DISCUSSION IN HEALTH.

1. What are the best means for disposing of the sewage of towns?
2. What are the causes, and what are the means for the prevention, of excessive infant mortality?
3. What is the influence on health of the overcrowding of dwelling-houses and workshops? and by what means could such overcrowding be prevented?

SPECIAL QUESTIONS FOR DISCUSSION IN ECONOMY AND TRADE.

1. What are the effects upon trade of the existing laws of maritime warfare?
2. Is the granting of patents for inventions conducive to the interests of trade?
3. In what respects and to what extent should Government security and supervision be applied to the provident investments of the working classes?

SCHOOLS OF ART.

The Devonport and Plymouth Schools.—Since these schools have come under Mr. Holmes's management they have progressed rapidly. The number of awards this year is double that of last year.

The Gloucester and Stroud Schools.—Thirty-seven pupils of the Gloucester National and British Schools were examined, and of these 24, or two-thirds, passed. At Stroud, 72 pupils of the National and British Schools were examined, and 51, or rather more than two-thirds, were successful. Fifty-nine pupils of the Gloucester School of Art were examined, and of these 20 passed, and 18 were classed "excellent," giving together 38 successes. At the Stroud School 65 pupils were examined, of whom 12 passed, and 15 were classed "excellent." Of the works selected from the Gloucester School two have been awarded national medallions and one "honourable mention." One "honourable mention" has been gained at Stroud; and one national medallion and several "hon. mentions" at Cirencester, and one medal at Cheltenham.

The Macclesfield School.—A testimonial has been presented to Mr. George Stewart, for thirteen years master of this school, on the eve of his departure for another and a wider sphere of labour. The testimonial consists of a silver dessert service, inclosed in a case, on which is engraven, from the design of one of the students, a complimentary inscription. This was accompanied by an address, engrossed and illuminated by one of the students, and set in a framework of carved oak made from a relic of the wreck of the *Royal Charter*.

The Chester School.—Two national medallions have been awarded to Chester, both in the two highest stages on the programme of instruction. The successful candidates are Mr. Alfred Lockwood, jun., and Mr. Alfred Bickerdike. The former receives the medallion for a complete set of designs and working drawings for a town-hall, the latter for a series of drawings made from actual measurement of the various ornamental features of the Chester Cathedral and St. John's Church, illustrating the history of Gothic architecture. This is the highest honour yet achieved by the Chester School of Art.

The Manchester School.—The medals, books, &c., awarded to the students by the Science and Art Department for the past year have been distributed, in the lecture-theatre of the Royal Institution, by the head master, Mr. W. J. Muckley, who addressed the students on the subject of their studies. Miss J. C. Shepherd received the Queen's prize. Thirty medals and two national medallions were distributed.

The Boston School.—This school is now self-supporting. The medals and other prizes were lately distributed.

The Lincoln School.—This school has obtained a national medallion, which has been awarded to Mr. A. Bellamy. There have also been twenty-two medals, besides other prizes, obtained by this school in its first year, and in the face of great disadvantages arising from want of proper accommodation.

THE ARCHITECTURAL ASSOCIATION.

THE concluding meeting of the Session of 1863-4 was held on Friday evening (the 24th ult.), at the House in Conduit-street.

The chair was occupied by the President, Mr. T. Roger Smith.

The following gentlemen were, on ballot, elected members of the Association: — Mr. R. C. F. Thomas, 67, Warwick-street Pimlico; Mr. John Bennett, 12, Wharton-street, Lloyd's-square; and Mr. J. T. Adams, 4, Upper Gower-street.

Mr. J. D. Mathews (hon. sec.) read a letter which he had received from the Patent Concrete Stone Company, in answer to a communication made on behalf of the Class of Design, requesting an extension of the period during which designs might be sent in to compete for the prize offered by the Company for the best design in the material manufactured by them. The Company expressed their willingness to comply with the application by extending the period by one month.

Attention having been called to the very interesting visit made by the members of the Association on a recent occasion to Westminster Abbey and the Chapter-house, a vote of thanks was unanimously accorded to Mr. Cowper, Chief Commissioner of Works; to Mr. Gilbert Scott, the architect to the Cathedral; and to the Dean and Chapter, for their kindness and courtesy in the matter.

Mr. G. H. Birch then read a paper on London during the Middle Ages, in which he described the bridges, walls, monasteries, churches, water supply, &c., of the metropolis proper during that period.

At the conclusion, a short discussion ensued, in the course of which Mr. Blashill described a recently-discovered well at St. Dunstan's Hill, at the bottom of which some bricks were found of the sixteenth century. He also cautioned collectors of curiosities as to purchasing many of the so-called antiquities alleged to be found at the excavations for the South Eastern Railway Company's new branch from London Bridge to Cannon-street. Here, at the Middlesex side of the river, certain enterprising individuals were collecting, and exposing for sale, a variety of objects of a very suspicious character, many of which bore the evidence of having been carefully got up for disposal to those whose enthusiasm for the antique was not commensurate with their knowledge of ancient art or history. Many genuine relics had, however, recently been found during excavations within the municipal boundaries; and it was curious to witness the vast quantity of ancient hair-pins which had come to light. In many places they seemed to have been picked up in handfuls.

The Chairman, in referring in complimentary terms to the paper read by Mr. Birch, recommended students of architecture, in a utilitarian age like the present, to turn their attention to the manner in which Gothic art might be adapted to commercial buildings. There were, he said, plenty of good Gothic church builders; but now that Gothic was coming so generally into use in our domestic buildings, it was desirable that young architects should study the

best manner in which the style might be made to answer the every-day uses of the age in which we lived.

A vote of thanks was accorded to Mr. Birch, for his paper.

The meeting then proceeded to ballot for president, vice-president, and office bearers for the ensuing year (1864-5), and the following gentlemen were elected *nem. con.*:—J. Henry Christian, president; Josiah Webber, vice-president; F. Brooks, J. Lemon, C. H. F. Lewes, H. L. Florence, T. Roger Smith, F. Sills, R. Plumbe, R. W. Edis, G. H. Birch, J. Edmeston, jun., ordinary members of committee; J. Douglass Mathews, honorary treasurer; Francis Truefitt, honorary solicitor; B. A. C. Herring, G. B. New, auditors; C. H. F. Lewes, Frederick Judge, curators and librarians; J. Douglass Mathews, Lacy W. Ridge, honorary secretaries; Henry Moody, registrar and collector.

The Chairman, in resigning the presidency, and closing the session, said he could not do so without expressing his sense of the valuable services of the gentlemen who had filled the various honorary appointments connected with the Association during the past year. From all of them he had received every possible assistance. It was also a source of great satisfaction to him (as he was persuaded it was to all who heard him), to note the satisfactory progress which the Association had made during the year just ended. All the classes had done well, and he hoped the life class would also prove a success. He hoped the ensuing year would also be marked by progress, and that the members of the class of design would exert themselves as much as possible, so that a goodly number of designs might be sent in to compete for the prizes.

A vote of thanks to the president was subsequently moved, and carried unanimously.

The meetings of the Association will for the future be held at half-past seven o'clock in the evening, instead of eight as heretofore; and the discussions on papers to be read will be brought to a conclusion as soon after half-past nine o'clock as possible.

BIRMINGHAM FREE LIBRARIES.

THE third annual report of the committee has been presented to the council. It speaks of the marked success which has attended the free library in Constitution-hill, and the unabated interest of the public therein. By returns received from twenty-three towns where free libraries have been established, it appears that the Birmingham free library has, between the date of its opening and the present time, circulated more books than any other library during the same period. The returns of the four principal towns are as follows:—

Liverpool—North District	155,866	vols.
,, South District	209,451	,,
Manchester	236,320	,,
Sheffield	341,053	,,
Birmingham	357,436	,,

During the past year 1,990 volumes have been added to the library, of which number 135 had been presented, and the remainder had cost on the average, 2s. 6½d. a volume. The total number of volumes actually lost to the library since its opening was only eight, value 11s. The issues were of course chiefly comprehended under the general head of literature, including poetry and the drama, fiction, &c., the number being 90,459; but there were a goodly number of issues of works on history and biography, voyages and travels, the number being 30,995: of science and arts there were 7,313 issues; and the total of issues was 130,520.

LOOK OUT IN SMITHFIELD.

IT is to be hoped that the excavations which are about to be made at the north side of Smithfield, near the Charter-house, and towards the once splendid home of the Knights of St. John of Jerusalem, will be carefully watched, and with intelligence. It would be strange if no remnants of the times gone by show themselves here. The diggers should not be allowed to become the tools of dealers in spurious antiquities; nor should the men be allowed to remove from the premises articles which have been dug up and are of real value. No site in the whole of what was Old London has more historic interest than Smithfield; and every scrap of information which the proposed excavations may afford will prove of use. The strata of the soil observable, and other conditions, should be noted.

FROM BRISBANE, QUEENSLAND.

THE design selected for the new houses of Parliament by the commission appointed for the purpose, is that inscribed "Concinnavi tecte; conditiones asservo;" Mr. C. Tiffin, the colonial architect, being the author, and who has therefore been awarded the first premium of 200*l.* The second prize of 100*l.* was awarded to a design inscribed "Pro rege, lege, et grege," and sent in by Mr. Stanley, clerk to Mr. Tiffin. It is probable the tenders for the work will be issued shortly after the sitting of the Parliament.

Tenders have been received for the construction of the bridge over the Brisbane river, and one has been accepted.

The new town-hall is rapidly approaching completion. As to architectural pretensions, it takes one of the first places in the colony. The new premises for the Bank of New South Wales have been commenced. The building is to be of brick and cement. Several stone stores have been erected in the vicinity of Raff's Wharf.

Operations for the formation of a reservoir for water-supply to Brisbane have been commenced at Ennoggera Creek. The Brisbane Gas Company will also soon begin building, having obtained a site for their works at Petrie's Bight, at the northern end of the town.

Numerous wooden houses are being erected in he suburbs.

CONTINENTAL BUILDING AND ART NEWS.

Paris.—Two colossal equestrian statues, the one of Francis I., the other of Napoleon I., are about to be put up at the entrance to the Champs Elysées, at the end next the Place de la Concorde. They are only in plaster, coloured with a coating of bronze, and the object is to obtain the opinion of the public, as well as of a jury to be appointed for the purpose. Should they be approved of, it is intended to cast them in iron and to place them in one of the courts of the Louvre.——The Emperor has given orders for a statue of Marshal Pelissier. It is to be erected on the new Boulevard Sebastopol.

Vienna.—A statue of Mozart is being erected on the Mozart Platz, in the Weiden suburb. It is of stone, and will be surrounded with swans. ——Haydn is also to have a statue, of metal, and Vienna artists have been invited to compete for the design. The painters Führich & Rahl, and Hansen the architect, are to be the judges; and models are to be sent in not later than the 15th of November.——The quaint old statues by Raphael Donner on the New Market-place, having suffered much from corrosion and otherwise in the lapse of years, have been taken down, and will be preserved in one of the museums. They are to be substituted by bronze copies.——The officers of the *corps d'armée* now in Schleswig have subscribed for the erection of two monuments to commemorate the loss of those comrades who have *as yet* fallen in the war—to quote the celebrated temporary Irishism on the Crimean monument in Waterloo-place, "To those who *fell, by those who lived.*" The Austrian monuments are to be placed, the one near the inn at Oversee, the other on the outskirts of the wood. Here the first encounter took place after the evacuation of the Dannewerk by the Danes.

Carlsruhe. — The Government offices, the theatre, the museum, and the Polytechnic Institute (the last instructing some 600 young men, from all parts of Germany, in engineering, architecture, machinery, and mining), have all been built within the last twenty years, and now another very large building is to be immediately begun, to contain the public library and collections of coins, objects illustrating natural history, and fine arts amongst the ancients. Only nine architects competed, although the competition was a public one, and two prizes of 2,000 and 1,000 florins were awarded; but no one of the designs was accepted. Then Mr. Bergmüller, of Carlsruhe, was commissioned to amalgamate the various features approved of, and this design is now to be carried out. The cost is estimated at 800,000 florins (80,000*l.*), and the style is that peculiar one known in Germany as the "Carlsruhe style," in contradistinction to the Berlin and Maximilian (Munich) styles, and was chiefly promulgated by Hübsch, who died a few years ago.

Westphalia. — Münster, the capital of this Prussian province, was the scene of the triumph and downfall of John of Leyden, whose life we have all followed, more than once, doubtless, in Meyerbeer's opera, the "Prophète." The Anabaptists, after having proclaimed Münster the New Jerusalem, reigned for a few months, committing all possible atrocities, substituting polygamy for marriage, and expelling all respectable and rational inhabitants. The arrival of imperial forces, however, turned the scales, and John, together with his two (not *three*) colleagues, Knipperdolling and Krechting, was caught, cruelly tortured for an hour with red-hot pincers, and then executed in the great square in 1534. The bodies were then hung up in iron cages, on the tower of the Church of St. Lambert, and the cages are there to this day. But the tower has now been reported in a dangerous state, and it is probable that it will have to be taken down entirely. The restoration of the west front of the church has already begun.

Worms.—A commission, composed of the architect Arnold, the painter Schorr von Carolsfeld, the sculptor Donndorf, and Dr. Hähnel, has visited this old city, with a view to determining the site of a statue of Luther, about to be erected. Luther attended the Diet, to which he was summoned in 1521, when, in the presence of the young emperor Charles V. and the assembled princes, he declared his adhesion to the Reformed doctrines, which the Diet finally declared to be heretical.

Hamburg.—The company called, "The London, Hamburg, and Continental Exchange Bank, Limited," is erecting very spacious premises in the Admiralty-street. Messrs. Reichardt & Wallenstein are the architects.

Darmstadt.—Professor Wideman has been requested to submit designs for a mausoleum to the memory of the Grand Duchess Mathilda, daughter of old Ludwig of Bavaria, and sister of the ex-King of Greece. The design approved of is rather a close imitation of the mausoleum by Schinkel at Charlottenburg, near Berlin, noteworthy as containing Rauch's celebrated effigies of King Frederick William III., and of his Consort Louisa, who died 1810, of a broken heart, caused by the misfortunes of her people under Napoleonic rule.

THE BUILDING TRADES MOVEMENT.

Coventry. — The strike among the builders' labourers still continues, and the masters show no willingness to give way. They think the men ought to have given notice of their intention to ask for an advance, when they could have made arrangements accordingly. The strike among the labourers affects those engaged in other branches of the trade—the bricklayers, masons, and others; who, we hear, are opposed to the step that the labourers have taken.

Birmingham.—The following is an abstract of a letter written by authority of Birmingham builders: "Sir,—A few days ago, a meeting of builders of Wolverhampton and Birmingham was held here, to take into consideration the unsatisfactory state of the labour question; and it was unanimously resolved, that the time had arrived when the builders of England should take some united action to counteract the combined power of the operatives. It was considered desirable to ascertain the feeling, and obtain the co-operation, of the general body of builders in the Midland Counties, previous to a meeting of delegates from the different towns, to be called at a time and place to be hereafter decided upon. The gentlemen present agreed to form themselves into deputations to visit the various towns in the Midland district, numbering about thirty (and including Leicester), to lay before them the general ideas, and to invite their cordial co-operation, and also to make suggestions for organizing the various towns for a future united course of action. I have the pleasure to inform you, that Mr. Jones and myself have undertaken to visit ————, and shall be glad if you will inform me, by return, if you are inclined to co-operate, &c. (Signed) J. HARDWICK, Hon. Sec."

Liverpool.—There is a good deal of excitement in all branches of the building trades in Liverpool at present, and strikes have been common. Owing to the enormous amount of work in hand among the builders, the demands made by the men have been in many cases acceded to, but in others refused, and the consequence has been the origination of an ill-feeling among the men. For the last twenty years the building trade in Liverpool has never been so brisk as at present, and works are in progress which will absorb from a million and a half to two millions sterling. The pressure being so great, the masters have

in the case of the masons and bricklayers yielded to the demands of the men for an advancement of wages. The joiners and carpenters have demanded an increase from 26s. to 28s. per week, which the leading masters have already granted. The plasterers seek an advance of 2s. (from 28s. to 30s. per week), and the plasterers' labourers an advance of 1s. (from 20s. to 21s.). The joiners and others employ men as "picquets," who "explain" matters to those who have refused to strike work. One man has been sent to gaol with hard labour for two months for "explaining."

Manchester.—In consequence of the strike of bricklayers, joiners, and labourers, employed at the assize courts, it has been found necessary, in order to have the courts ready by the day fixed for the opening of the assize, to obtain workmen from a distance. The men on strike have molested and threatened the new-comers to such an extent that the men are obliged to sleep in the building, which they are unable to leave by day or night, because of the union men outside. All the entrances to the courts are guarded by policemen, and the number of constables on duty in the neighbourhood has been increased.

Stockport.—The committee of the Operative Carpenters and Joiners' Society write to the local *Advertiser* to disclaim any threat of a strike if their wages were not increased and their hours of labour decreased, as demanded, or solicited.

York.—Following the example of other towns, the joiners of this city have been out on strike during the past week. They require an addition to their wages (which, in most cases, we understand, amount to 24s. per week) of 2s. per week; also to leave work at noon on Saturdays, and at four o'clock on the day before Christmas-day.

Sheffield.—The master joiners have resolved that all work shall be suspended until the dispute with the operatives is settled. The masters allege that they have good reason to complain of the conduct of the men in not giving a longer notice. The only subject of contention now is as to the shilling per week advance, the masters having conceded the other demands. Several of the employers assert that men can be got from distant towns who will accept the terms which the men on strike have refused. The edge-tool trade strike has terminated by the unconditional submission of the men.

Newcastle-upon-Tyne.—The painters, who are out on strike, have formed themselves into a sort of co-operative society, and advertise their willingness to execute painting, glazing, &c., on their own account.

Montrose.—The ship carpenters in all the building-yards in Montrose have addressed their employers, asking for an advance of wages of 4s. per week, to make the wages equal to what is given in Arbroath and other small towns. At present the wages are 22s. for new, and 24s. for old work.

California.—All the ironworks in California, according to an American paper, have been at a stand-still for the ten weeks previous to May 3. Iron moulders, blacksmiths, boiler makers, &c., receive 16s. per day. They have struck for 18s., and the masters refuse to pay.

Coercion.—Besides those cases already alluded to, two workmen have been committed to prison for a month, at Leeds, for threats. In this case the men, who are plasterers, endeavoured to compel their employer to discharge a non-union man by threatening to strike if he refused to do so. A disgraceful "rattening" has been perpetrated at Sheffield by union brickmakers, who have destroyed several thousand bricks, and carried off barrows, planks, &c., from a brick yard. Similar doings still continue at Stockport.

UTILIZATION OF THE METROPOLITAN SEWAGE.

FURTHER examinations have been made by the Commons' Select Committee. Mr. Laws, the artificial manure manufacturer, and a member of the sewage committee itself, stated his opinions and experience in reply to questions put by the committee. He did not agree with Lord Essex or Mr. Walker that the Rugby experiments were delusive, or did not give a sufficient account of the value of sewage for manure. The character of the grasses exposed to treatment with sewage was completely changed. He could not agree with Mr. Walker that his land had been injured to the extent of 20*l.* per acre by those sewage experiments. Sewage grass was not good for fattening cattle used alone. A thousand tons of sewage produced about 5*l.* 18s. worth of milk, reckoning the price at 8d. per gallon. Liquid sewage was best, but it ought not to be applied too profusely. Sandy soil was greatly improved by it, and land worth nothing could thus be made worth 100*l.* an acre.

Professor Way, another member of the sewage commission, also gave evidence. Water once polluted by sewage, he was of opinion, could not be chemically purified and made fit for drinking purposes. He strongly condemned the practice of allowing sewage to contaminate rivers. The only alternative was to use it for manure, and in a liquid form.

At the meeting on Monday last, Mr. Bazalgette described fully the London Main Drainage scheme.

THE BIRMINGHAM ALBERT MEMORIAL.

THE committee to whom has been entrusted the carrying out of this memorial having decided not to erect a mere statue, but to combine therewith an architectural monument, applied to Professor Chamberlain, now of the firm of Martin & Chamberlain, for a design, which has now been laid before the sub-committee.

The design provides for placing the statue on an octagonal pedestal. On four of the sides of the upper part of the pedestal will be spaces for inscriptions, and the lower part will be carved into panels containing shields for armorial bearings. The main central pedestal is connected by arched balustrades, with four bases of columns supporting the canopy. The columns are formed of the grouped shafts so familiar in Gothic architecture. The space covered by the canopy is about 6 feet square. The columns are surmounted by enriched foliated capitals, from which spring four main pointed arches, divided into tracery-like compartments by eight foliated cusps. The arches are flanked by octagonal buttresses, the spandrels being formed by enriched arcades. Crowning the arches and buttresses an ornamental cornice runs entirely round the structure, and from this four gables are carried, the external lines being crocketed, and the tympana occupied each with a large sexfoil filled with elaborate carving. Detached open pinnacles are formed on each side of the main gables with columns, cusped arches, crocketed spires and enriched finials. Two other pinnacles of a similar character are formed near this line. The richness of this, the main portion of the design, is increased by four spire-lights, which rise over the apices of the large gables, and are also enriched with crockets. An octagonal spire crowns the whole design, the angles of which are crocketed, and the apex is decorated with a foliated finial. The whole building will be raised upon a broad stone platform, which, following the general outline of the plan, will be broken at the angles round the bases of the columns. A light wrought-iron railing would surround and protect the structure. Not to detract from the effect of Mr. Foley's sculpture, the springing line of the main arches will be some feet above the top of the statue.

The general dimensions are as follows:—Width, 20 feet at base; height, to main string, 14 feet; to top of spire, 60 feet.

Executed in good sound stone, the design might be realised for about a thousand pounds; but if a better class of materials were employed, such as granite for the main piers, and various coloured marbles for the ornamental details, the cost would of course be increased. Messrs. Martin & Chamberlain are to prepare a drawing of the monument to a large scale, showing more fully the ornamental details.

"BLACK THURSDAY."

THURSDAY, the 6th of February, 1851, will long be remembered under this title in Australia, as the date of a frightful bush-fire in Port Phillip, which destroyed whole families, stations, and flocks and herds in thousands. Mr. Strutt, a pupil of M. Drolling, has chosen an episode of this event as the subject of a large picture, painted from sketches and studies on the spot, and has produced a very interesting and satisfactory work. A number of settlers are fleeing from the advancing flames on the parched plains. The road is thronged with drays laden with women, children, and sick and infirm relatives. The worn cattle are urged on by shouts and lashes. In the centre of the picture a squatter, who has but just had time to take up his wife, is fleeing with her, a ruined man, followed by a "black-fellow," carrying behind him his master's only son. Other squatters, settlers, and shepherds fill up the road; while to the left a mob of cattle and horses rush madly by, crushing over a flock of sheep which impede their course. Skeletons of the victims of previous droughts are scattered on the road side, and flights of birds are dimly seen in the lurid atmosphere. The artist was present on the occasion of this terrible occurrence, and has done well to represent the scene. The picture is exhibited in the Scandinavian Gallery, Haymarket, where there are, moreover, several other good works.

COMPETITIONS.

Liverpool. — The Wesleyan Methodists of Brighton (Liverpool) are about to erect a chapel and school premises, in Norfolk-road. Designs for these were obtained from five or six gentlemen, and that sent in by Mr. C. O. Ellison has been selected.

Wyggeston's Hospital.—One of the competitors denies the correctness of some of the names printed in our last. The list we gave was current in the town, and published by the local press.

Albert Memorial, Exeter.—A "Member of the Committee," in reply to the competitor who wrote in our last, states that the cost of the approved design is exaggerated considerably, and says the design sent by the competitor in question was poor. The last part of the reply, however, has nothing to do with the real question.

Ipswich Town-hall. The town council have again met; but temper was shown, and it was thought better to adjourn without any decision, to admit of a cooler discussion hereafter.

TENDERS FOR THE EASTERN PORTION OF THE NORTHERN LOW-LEVEL SEWER.

At the last meeting of the Board of Works, the tenders for this work were opened, and were found to be as follows:—

Ritson	£337,499	0	0
Thorn & Co.	300,748	0	0
Pearson	265,500	0	0
Furness	259,000	0	0
Brassey & Co.	258,000	0	0
Moxon	247,840	0	0
Dethick	233,000	0	0
Webster	229,000	0	0

The difference between the highest and the lowest more than 100,000*l.*

The committee recommended Mr. Webster's tender should be accepted.

Mr. Carpmael moved the adoption of this report, and bore testimony to the excellent manner in which Mr. Webster had carried out the works he had been intrusted with under the Board.

Mr. D'Iffanger seconded the motion, which was agreed to unanimously.

A WORD FOR WILKINS.

WHILE I rejoice to find that the *Saturday Review* has put in a good word in behalf of that most cruelly and stupidly maligned building in Trafalgar-square which every penny-a-liner makes his spittoon, I am shocked to learn that a gentleman in the Hon. W. Cowper's position, who may be presumed to understand something of architecture, should, if his words have been truly reported, have so slandered the National Gallery as to call it "the most ignoble, disjointed, mean, and paltry building in the world!" To give Mr. C. the benefit of a doubt, I suppose that what he really meant to say was, that the Gallery was not to be compared with some Continental ones; and if so, it is a pity that he did not qualify his language accordingly.

However unsatisfactory the building may now be considered with respect to now required accommodation—and let the Sneerings and Snarlings say what they may—it is greatly to Wilkins's credit, that, under circumstances the most unpropitious, he did so well as he did, when sadly thwarted in every way by the persons then in power. Much space was lavishly sacrificed to the dictatorial whim of letting St. Martin's Church be seen from Pall-mall East, since, had it not been for that, a second "great room" might have been obtained both east and west,—as might, in fact, be done now to the improvement of the general façades. Then, again, the building had to be halved internally between two quite distinct institutions located under the same roof; which circumstance rendered further

loss of space inevitable, if, perhaps, only to prevent a hostile collision between "Gallery" and "Academy," or old and new masters. Ill as that space could be spared, the loss was turned to some account; for, though not what it might have been made, the vista through the two screens of columns had something of the scenic in it. The chief reasonable objection to it was, that that entrance-hall was—as is too often the case—so much more pretentious than any other part of the interior as, by inevitable comparison, to cause the picture-rooms to appear still smaller than they actually are. But that defect—such as it was—has now been corrected, and the present meanness of approach to them greatly enlarges the picture-rooms to the eye.

It is one of the grievances peculiar to the profession, that the architect must submit to being interfered with, and has to truckle to the whims and fancies of others, however unreasonable. It is not so with other artists. A painter may be dictated to, in the case of a commission picture, with regard to the particular subject of it; but is left to execute it undisturbedly, to the best of his power. Altogether different is it with the architect; for he is not unfrequently compelled to act contrary to his own judgment, and do violence to his artistic feeling, out of enforced deference to those who may be mere ignoramuses in architecture, however well informed otherwise they may be, for the simple reason that the study of the æsthetics of the art is not recognised as one of the essentials of a liberal education. Here I feel myself treading on such very dangerous ground, that I had better skip over it at once. So, to leap back again, just for a minute, to Trafalgar-square, it does not say much for either the generosity or the critical acumen of Wilkins's detractors, that they ignorantly, or else wilfully, and with *malice prepense*, shut their eyes to one superlative merit in his building, namely, the majestic *pose* of its portico on an extended stylobate, in which respect it stands quite unrivalled; or, if rival it has, I should very much like to know where it is to be found.

ART LOVER.

ENGLISH *versus* FRENCH GOTHIC.

SIR,—With Mr. Burges's strictures upon the many frivolous eccentricities in modern Gothic architecture (in his late lecture) I am fully prepared to fall in; but he seems to me to have failed to point out the nobler beauties of his art. He desires that the future architecture should be grand and imposing; this to be gained in great measure by balance of parts. As to style, he prefers French Gothic; and he looks upon his whole building chiefly as a means of exhibiting sculpture of the human figure. Now in all these points I would in this letter wish to combat him. Grandeur is no essential feature of architecture: it is of no possible value, and can only emanate from vanity. When it is an expression of individual wealth, it is excessively offensive. It is a decidedly foreign trait in art, and was unknown in English work of the Middle Ages. It is rather the fruit of an ostentatious commercial wealth than of any refinement of feeling. English cathedrals do not aim at being grand buildings, but at being sweet lyrical compositions, and possess just this superiority over French cathedrals, that they are the creations of sweetly poetical delicate minds, and not of coarse, vain, boasting lovers of "glory." The sweet simplicity of the half-timbered English house is a trait unknown in Mediæval Italy, where there was no thought but that of showiness. I do not say for one moment there are not great beauties in foreign work, but I deny they are in any way nobler than the delicate littleness of English work. Delicacy is a nobler trait than showy grandeur. French Gothic is wanting in that lovely domestic character peculiar to our Elizabethan and Third Pointed.

If an architect is to consider balance of parts, he will not obtain a picturesque building; he will only obtain a monotonous façade: besides, such a theory must end in arranging the interior according to exterior. Whereas true architecture can only consider one thing, viz., use;—that is, having arranged the best possible ground-plan, the architect proceeds to build his walls; and the best possible ground-plan is that which is best suited to the wants either of the proprietor or public society for which the building is erected; and as to his doors and windows, he puts them in when required, and of the form most convenient and strong. Mr. Burges, desiring only French Gothic, has no idea of windows and arches without capitals and string-courses to connect: this is an eminently foreign idea, and is common to Mr. Burges and his school amongst the younger architects. It is not English, and is of no real value to architecture: in English domestic architecture it is quite unknown; and in the work of Mr. Webb, Mr. Bodley, or Mr. Butterfield, it forms no essential feature, these gentlemen being thoroughly English in their work.

For the exhibition of sculpture on the exterior of a building our climate is not suited: it would soon decay: it soon loses all expression. With all the attempts of Messrs. Scott, Street, Burges, &c., I cannot congratulate them on having produced a sculptor of even passable powers, either as to execution or imagination. I can see no use in a mass of third-rate figure carving.

Touching character in architecture, Mr. Burges does not entertain the slightest feeling. He does not perceive any want of national feeling in building a French building in England: he would prefer to make London a French Mediæval city rather than English: he does not appear to possess the most natural and poetic of national traits, that of desiring to hand on the traditions of his forefathers: he breaks with poetry altogether: he has no objection to railway stations of the Charing Cross character. I do not think he would even object to that roof on the top of a French Mediæval station. Inasmuch as all architecture has grown up in accordance with the wants of a people, with the surrounding scenery, and with local traditions, I do maintain that Mr. Burges violates national sweetness of feeling in desiring to introduce a foreign style into this land.

IN ILLO TEMPORE.

THE REGULATION OF COMPETITIONS.

"UNITY" has made a suggestion on this subject for which every architect should thank him.

Very much of that which can be said *pro* and *con.* has been already remarked by the Committee of the Royal Institute of British Architects in 1838, by the Architectural Association's Memorandum, or by Mr. Morgan, in his paper before the members of the Institute in 1858, and during the discussion which followed the reading of that paper. Differences of opinion were shown to exist on some of the chief points at issue; some architects approving of competitive struggling as a gain to art, if not to artists; others condemning it, as opposed to the true interests of both. Various suggestions were at that time and have since been proposed, but no definite understanding has yet been arrived at as to what is the right course for the public or for professors to adopt.

Meantime, it cannot but be admitted that the practice of competition is an overwhelming *fact*: it cannot be reasoned away; it cannot be ignored wisely; it must be dealt with as a permanent institution (the growth of free trade), whether for good or ill.

If this be so, it is idle to talk of leaving it to itself, making no effort to lead the movement into a more satisfactory *modus operandi*. The knowledge that men of established practice hesitate to compete as things now are, adds yearly to the number of quack professors and to the detriment of the profession generally.

Let the Institute take up this matter in the same manner as it did that of the "professional practice and charges of architects," of which question it is a branch; let it receive from the various architectural societies (both London and provincial), and from individual professors, the suggestions they may have to make; let it appoint a committee to consider the same, and to draw up a report containing a tabulated analysis, and accompany it with forms of conditions and instructions most suitable in their judgment, and meeting the requirements of ordinary cases. Let the report be accompanied with an exposition of the principles of professional honour and right feeling to be observed by competitors. And then, the subject having been well considered and approved at a special meeting of members, a resolution to be passed accepting the consequences of adhesion to the principles laid down; which resolution, after being signed by every member of the Institute, and other architectural societies, should be open for signature by every architect in practice throughout the kingdom, whether a member of the Institute or not.

UNION IS STRENGTH.

IPSWICH TOWN HALL COMPETITION.

SIR,—At a meeting of the council in February last, a member, in speaking of the proposed competition, said, that "he hoped they would not get into a mess, as they had done with the grammar-school competition;" but it appears from your last impression, as also from the local journals, that that feat has been successfully accomplished, nevertheless. It seems that, after having thrown out sixteen out of the twenty-eight designs, on account of deficient accommodation, the committee made no less than three distinct selections one after another, because the borough surveyor had declared the first two selections as impossible of execution. Four distinct sets of designs, therefore, have been declared impossible to execute; and the object of my troubling you with these lines is to obtain, if possible, the publication of the four mottoes, in order that the authors may have an *opportunity* of challenging the opinion of the borough surveyor, should they be able or disposed to do so. This would only be fair, and would be willingly communicated by a committee which, I have every reason to believe, is an honest one.

ONE OF THE TWELVE.

PROVINCIAL NEWS.

Harwich.—Among the new structures in the course of erection at Harwich is the Great Eastern Railway Hotel, building for the Great Eastern Railway Company. It stands within twenty yards of the sea and pier on the opposite side of the road. This large building has a frontage of 120 feet, and reaches backward about the same distance. It consists of a ground floor and three upper floors, with between sixty and seventy bed-rooms. Upon the ground floor, in front, is a coffee-room, dining-room, ladies' coffee-room, luggage-room, bar-parlour, bar, billiard-room, tavern, and smoking-room. At the back is the serving-room, kitchen, and scullery. The hotel has a wide entrance opening into a wide staircase hall, and the staircase, corridors, and landing are all stone, and fire-proof from top to bottom. Every floor is provided with baths of salt water and fresh, cold and hot, &c. The front of the hotel is of white brick, and stone dressings to the windows. The centre compartment will be covered with a pediment. The lower floor has all circular-headed windows, between each of which is a medallion upon which will be carved the heads of all the English kings and queens who have visited Harwich in the olden time. On a level with the first floor is a balcony round the whole of the front and end part of the building, and the roof has a flat 70 feet long, with an iron balustrade, to be used by visitors as a look-out on the sea. The whole of the cellars are fire-proof, and intended for bonding stores. The cost of the hotel is about 26,000*l.*, and it will be finished about Michaelmas. The architect is Mr. Thomas Allom, of London; and the contractors are Messrs. Lucas & Co. The Great Eastern Railway Company are now building a new pier of 450 feet in length, which runs in direct communication with the railway-station, and is intended to be used for the goods traffic of the new steam-ships, when the present pier will be used for passengers only.

Burton-upon-Trent.—The new bridge recently erected over the Trent at Burton, at a cost of 35,000*l.*, to replace the "old Burton Bridge," has been opened with the usual ceremonies.

Sunderland.—Messrs. Potts & Sons, architects, have been instructed by the committee appointed to carry out the proposed new Infirmary, to prepare the necessary plans for a new building to be erected on the Thornhill estate.

Newcastle-upon-Tyne.—The foundation stone has been laid of the long-contemplated deep-water dock at the Low Lights. The day was observed as one of general festivity and rejoicing. The dock will cost 350,000*l.* The walls are to enclose a space of forty-one acres, with an entrance towards the sea and one at Clifford's Fort. The seaward entrance will be protected by two piers, enclosing an outer basin of seven acres, the space between the pier-heads being 130 feet wide. Besides protecting the gates, this basin is intended for small vessels to bring up while waiting for the tide to go into the dock. The depth of water on the sill of the lower entrance is, according to Mr. Ure's plan, to be 26 feet, which is 2 feet more than the Northumberland or Tyne Docks, but it is contemplated to make it 28 feet, which would enable ships of a very large class to pass in. The western entrance

will be situate at or behind Clifford's Fort. The sea wall, inclusive of the outer basin, will extend from the Lighthouse to the black middens, below the Spanish Battery. Towards the dock will be a vertical quay wall: on the outer side it will present a rough sloping front to the waves. While the enclosed space will, as already stated, be forty-one acres; the excavations at first will only be to the extent of twenty, extending alongshore on the north side where the staiths are to be placed. As the demand for accommodation increases, the remaining space within the walls will be made available.

CHURCH-BUILDING NEWS.

Dalston.—The chief stone of a new church, dedicated to St. Mark, has been laid, by the Earl of Shaftesbury. The new church is situate in the centre of a large and increasingly populous neighbourhood, being built on a plot of ground given by the lord of the manor, Mr. J. Amhurst, and adjoining the Ridley-road, Dalston, and also the Kingsland-road. The new church is designed to meet the wants of the congregation worshipping in the temporary iron church in the Ridley-road, which is now too small to meet the requirements of the district. The design of the new edifice is Early English. In the body of the church there will be accommodation for 1,500 persons, and it is intended at a subsequent period to add galleries, with sittings for 500 more, thus affording a total accommodation of 2,000 sittings. The estimated cost of building, exclusive of spire, is 9,000*l.* The whole work is being carried out by Messrs. Dove, Brothers, contractors.

Reading.—St. Mary's Church here has been re-opened, after undergoing various repairs, alterations, and additions, very much changing the internal appearance of the edifice. A new aisle has been built on the south side of the chancel, with which it is connected by pointed arches, on a shaft of Aberdeen red granite, with carved caps, in the Decorated style of the fourteenth century, the roof being close boarded and divided into panels, with carvings at the intersections. The whole of the high pewing has been removed and open benches substituted, and the aisles repaved with black and red tiles. The old circular chancel arch has been replaced by a pointed arch, with deep mouldings, in the Early English style, supported on polished granite columns, and caps carved in natural foliage. By the Rev. A. P. Cust, vicar, the chancel has been entirely rebuilt. It was originally intended to retain the old flat roof, but the idea being subsequently abandoned, it has been replaced by a new pointed roof, the brackets supported on carved stone cornices, and the cornice with pierced tracery. Ventilation is secured by openings in the tiling. The east window is a pointed triplet, with clustered columns and carved caps. The flooring within the altar-railing is paved with Minton's encaustic tiles, the pattern being copies of tesselated paving found in excavating for the alterations, and supposed to have been part of the original floor of the church. In pulling down the north and south walls the remains of Early English windows were found, also a piscina, credence, and aumbry, which have been restored. The ceiling of the south aisle roof has been removed, and the timbers opened, &c., the gallery having also been taken away. The west gallery, which projected far into the church, has been set back, and the old organ removed, opening the west windows and tower arch. A new organ, by Willis & Co., London, is fixed in the north aisle. The new tower screen, of oak tracery and carving, has the ancient grotesque brackets and cornice from under the west gallery introduced. The new pulpit is hexagonal in form, of Caen stone, with Purbeck marble columns at the base, and serpentine marble at the angles, with carvings of natural foliage, and carved emblems of the evangelists in the panels. The windows in the body of the church are mostly new. Two of stained glass on the south side are the gift of Mr. George May. Two other stained-glass windows will hereafter be added,—the "Ladies'" and "Mary's" from subscriptions, as their titles indicate. The tablets and monuments on the walls in the body of the church have been removed permanently to the porch of the tower. Externally the church has been strengthened by the erection of buttresses corresponding with the original structure, and the gables of the new aisle, and east end, are surmounted with large crosses carved in stone. The restoration has been carried out from the designs and under the superintendence of Messrs. Clacy & Son, architects, Reading. The contractors were Messrs. Wheeler, Reading. The carpentry and joinery work has been executed by Mr. Barnicote, of Reading. The glazing was done by Mr. Freeman. The carvings were by Mr. Allen, of London. The gas standards were provided by Messrs. Hart, of Reading.

Turvey.—For the restoration of the church tower, it has been resolved that estimates tendered should be accepted, but that the sum of 220*l.* should not be exceeded. It is contemplated to pull down the upper portion of the tower, to rebuild the wall, and alter the roof (which is now a lead flat) to a high pitch, and cover it with Staffordshire tiles. A new bell is to be added to the "Village Bells," the gift of Colonel Higgins, of Picts-hill; also a hot-water apparatus for warming the church; and that the sum of 400*l.* should be borrowed on the church rates, to defray the cost of the restoration.

Gloucester.—Eight "Gurney stoves" are to be placed in Gloucester Cathedral—two in the lady chapel, two in the nave, one in each transept, and one on each side of the choir. The stoves are now being fixed by the London Warming and Ventilating Company.

Frome.—The south aisle of the parish church has been re-opened. The south arcade, south wall, and the south porch have been taken down and rebuilt from new foundations in its original style, with the exception of the latter, which has been built of a new design of the thirteenth century work. The porch generally is built of local stone, with Bath stone dressings. It contains three small trefoil-headed windows on each side, with a Bath stone ceiling. These windows will be glazed with a simple geometrical pattern. The floor is of Minton's tiles, with stone benches on each side the entrance. The old Norman doorway leading from the porch to the south aisle, has been reinstated. The entrance arch to the porch has jambs composed of clustered shafts, with carved capitals, from which springs a stone arch, with carved soffit, and ball flowers in the inner and outer mouldings. The south gable is a pediment with stone parapet. Over the entrance doorway, leading from the porch to the church, is an arcade of three openings, filled with blocks for future sculpture. The windows of the aisle are to be filled with stained glass, which is not yet completed. The whole of the south aisle has been built in harmony with the north aisle, opened some months since, with the addition of freestone bands. The south of the arcade, on the side towards the nave, has some medallions inserted in the spandrels of the arches, which are intended to be sculptured. The story windows are being glazed by Messrs. Horwood, Brothers, of Wells. The whole of the roofs are covered with lead. The pathway up the south side of the church has been lowered, to suit the new level of the porch, and also a little diverted in front of the porch, to correspond with the new plan. The aisle will be filled with the benches which it formerly contained. The roof of the nave is obliged to be supported by temporary beams, bolted up to lengthen the original timbers, the roof not being long enough to rest upon the new wall. The whole of the south aisle has been refloored. The chancel arch, with its large cracks in the spandrels, looks unsightly and threatening.

Hereford.—Mr. Mason, of this city, builder, is said to have taken the contract for the erection of Tupsley Church, to be constructed according to designs prepared by Mr. Kempson, of this city, architect.

Burrington.—The nave and tower of the church here were rebuilt for Mr. Knight, of Downton Castle, from designs by Mr. S. P. Smith, of Shrewsbury, architect.

Shrewsbury.—Abbey foregate new church has been opened for divine service. It occupies a site on the east side of the English Bridge. In plan it is a parallelogram, roofed in one span, the west front having a centre gable, with large tracery-headed window and central doorway. The tower, at the north-east angle, rises to a height of 114 feet. The south front has two tiers of windows, adapting the lighting to the interior arrangement of side galleries. The lower windows are double light, pierced with plate tracery; the upper triple light, grouped as one. The internal dimensions are 70 feet by 45 feet, divided by side aisles into three groups of sittings, accommodating, including galleries, 900. An organ-gallery is planned as an apse at the east end, the under portion being enclosed as vestries. School premises adjoin and connect with the chapel, consisting of a large room, 50 feet by 29 feet, and, on the first floor, are five class-rooms. The chapel is faced with white Grinshill stone, set rubble work, with bands of red Grinshill and dressings of Box ground stone. The interior wood-work is stained and varnished; and the roof, which is open, is tinted and stencilled. The contractors for the building were Messrs. Trow, of Wednesbury; for the heating, Mr. Dodwell, of Shrewsbury; and, for the gas-work, the Shrewsbury Gas Company and Mr. Thomason, of Birmingham. The whole has been under the direction and from the design of the architect, Mr. G. Bidlake, of Wolverhampton. The cost, inclusive of land, is between 5,000*l.* and 6,000*l.*——The collegiate church of St. Mary is to be restored, under the care of Mr. S. Pountney Smith, of Shrewsbury, architect.

DISSENTING CHURCH-BUILDING NEWS.

Coseley.—The foundation stone of a new Wesleyan Methodist chapel, at Can-lane, has been laid. The intended building will be constructed to hold 800 persons, and will be built by Messrs. Elliott & Whitfield, of Wolverhampton. The cost is to be about 1,300*l.*

Bilston (Staffordshire).—The Wesleyan Methodist Society at Can-lane, having outgrown their old chapel, have laid the foundation-stone of a new one, which is to provide 650 sittings, 200 free, and accommodation for 300 children. The building will be erected in the Grecian style, at a cost of 1,060*l.* The site is opposite the present structure.

Bootle (near Liverpool).—The Wesleyan chapel which, within the last twelve months, has been erected at Balliol-road, Bootle, has been opened for divine service. The chapel stands in its own grounds, not far from the Miller's Bridge Station, on the left side of the Balliol-road, with the school-rooms attached to it. The new building runs north and south, fronting the road, and is in the Pointed style, being an adaptation of the Early French. The ends of the front elevation are finished with flying buttresses, between which are a flight of steps and the porch. The gable is finished with a small spirelet, which is designed to act as a ventilator, and which also contains a bell. The whole building is formed of bluish grey stone with white dressings, and a slate roof; and the school-rooms are in a similar style to the chapel. The nave of the main building is 83 feet by 46 feet, and is separated from the chancel by a triple arch resting on red granite columns, with foliated capitals. One of the smaller chancel arches is occupied by the organ. The pulpit is of white stone, separated from the wall in a style usual in churches, but for some reason very uncommon in Nonconformist chapels. The roof is an open one, the chancel ceiling being coloured blue, and in the chancel are also some stained-glass windows, the gift of Mr. John Vernon, who erected them as a memorial of his father. The subjects are the Crucifixion and the Resurrection, with secondary figures of the weeping women and disciples. The pews of the chapel are of pine wood, and there is also an end gallery which contains a number of sittings. At the back of the chapel is a minister's vestry, with lavatory, a large vestry, and three class-rooms, and a capacious school-room above. The building, including its groundrent, cost 5,400*l.*, of which 4,400*l.* have been received and promised. The chapel will seat 800 persons, 216 free. Mr. C. O. Ellison was the architect.

Salford.—The foundation-stone of a United Methodist free chapel in Salford has been laid. It is to be erected in Liverpool-street, and will be in the Italian style, and built of brick, with moulded stone dressings. There will be two front entrances into a vestibule, from which there will be entrances into the body of the chapel and to the gallery. The chapel will afford accommodation for 800 persons, a large proportion free. The entire cost of the building, including heating apparatus, &c., it is believed, will be about 1,650*l.* The cost of the land was 566*l.* The architect is Mr. Belshaw, of Manchester; and the builders are Messrs. Barnes & Howe, of Fairfield and Manchester.

Castlemere (Rochdale).—The foundation-stone of a United Methodist Free Church and school was laid at Castlemere, Rochdale, on Whit-Friday. The building, which will be in the Italian style, will cost about 6,000*l.*, and is being erected from the designs and under the superintendence of Messrs. Woodhouse & Potts, architects, Oldham. Mr. Archibald Neill, of Bradford, is the contractor.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

London.—The church of St. John of Jerusalem, in Great Ormond-street, has been opened by Cardinal Wiseman. The building is in the Italian style, the front being of Portland stone, and the interior finished with marbles of various colours. The high altar is placed beneath a marble canopy standing below a cupola adorned with the same materials, the most frequent decoration being the Maltese cross of eight points, in white, inlaid in the brown veined marble. Behind the high altar is a tribune or gallery, supported by marble scrolls, which is intended for the nuns, and is ornamented in front with the arms of Sir George Bowyer, who has presented this church to the hospital. It has been constructed by Mr. Simpson, of Tottenham-court-road, from the designs and under the superintendence of Mr. G. Goldie, architect. The hospital next door accommodates forty-four patients, most of whom are incurable.

Rugby.—St. Marie's Church, which has been considerably enlarged—indeed, it may be said to have been rebuilt—has been opened. The new church is built in the Early Decorated style, from designs by Mr. Pugin. The principal entrance is in the west front, of which a view is obtained on the approach from the Dunchurch-road. At an elevation of several steps is a Gothic doorway, with carved corbels; and immediately over it is a wheel window, with six lights. The upper part of the west front has rather a heavy appearance, from the extent of plain work, unrelieved, or nearly so, by anything above the window named. The tower of the former small church stands on the right of this front; and from the fact that it is but little higher than the present high building, it presents rather an incongruous appearance. The former church now forms the south aisle, separated from the body of the building by a row of Gothic pillars and arches. At the east end is the Hibbert chantrey, enclosed by an open screen of carved woodwork. The north aisle, which corresponds in its main features, has at the western end the font, enclosed within an iron railing, and at the other end the Wilberforce chantrey, in the chapel of St. Joseph. The main body of the church is lofty, there being an open timbered roof, lighted by a number of clerestory windows, of the same shape as the lights in the west window. The side-aisles are lighted by three-light windows, most of which are now filled—as all are intended to be—with painted or stained glass. Around the walls, and let into them, are subjects from Scripture history, in bas relief. The chancel is raised above the body of the church: the eastern end is formed by three sides of an octagon, in each of which, at a considerable height, is a two-light window, separated by a pillar with floriated capital. On either side of the altar is a window of crimson glass. Mr. Denney, of Rugby, was the contractor. The stone-carving, of which there is a considerable quantity, was executed by Mr. Boulton, of Worcester.

RECENT PATENTS CONNECTED WITH BUILDING.*

FRAMES, SASHES, SHUTTERS, BLINDS, AND VENTILATORS FOR WINDOWS, &c.—*J. Hillier.* Dated 25th May, 1863.—This invention consists—First, in combining the sashes, shutters, blinds, and ventilators, intended for a window or other opening, into one apparatus, so that they may be raised or lowered by the same mechanism, and will occupy much less thickness of wall, while every purpose of light, shade, ventilation, and extent of open area will be served. Secondly, the invention consists of improved shutters of metal or wire gauze, formed by employing jambs either grooved in wood, or formed of tubes or of strips of corrugated metal forced close together or in closer corrugations. The shutters are made of splats or sheets of metal or wire gauze, or both, fitted the one upon the other by a hook-shaped groove formed upon the upper edge of the one, and engaging in a similar groove upon the under edge of the one above it, plain side edges being left upon each splat or sheet, and each working in its own groove or corrugation on the jambs. When lowered, the splats or sheets fall one behind the other into the casing behind the dado or beneath the floor. Thirdly, the invention consists in forming ventilators for insertion in windows or other opening of a strip or sheet of wire gauze mounted on a thin metal grooved frame, to the upper back edge of which is hung (by means of an open tube hinge) a sheet of glass, intended to fall close at the back of the gauze upon being allowed to do so by releasing a cord upon a pulley or a quadrant catch, which latter may then be turned over the front of the gauze, and form a lock for securing all together closely. The gauze can be removed from the mount at any time when either more light or more air may be necessary.

PROTECTING, PRESERVING, AND HARDENING SURFACES OF BRICK, CEMENT, STONES, STUCCO, &c. *S. F. Bayf.* Dated 3rd June, 1863.—For the purposes of this invention the patentee employs a compound of the soluble silicates of soda or potash (by preference, the silicate of potash), with a mixture of sulphate of baryta and carbonate of lime. The proportions he employs are the following: he takes two parts by weight of sulphate of baryta, and one part of carbonate of lime, and having ultimately mixed these he adds as much water as will form a paste, and then adds thereto a solution of silicate of potash, having the specific gravity of 1·20, until the consistency of an ordinary paint is obtained, when the mixture is ready for use. The object in using the sulphate of baryta is to prevent the too rapid combination of the silica with the lime, and so to secure the formation of the insoluble silicate immediately upon the surface coated. The mixture, as above described, is to be laid on with a brush in the same manner as an ordinary oil paint; and, to produce the maximum of hardness and durability, the material so laid on should afterwards be further saturated with the silicate of potash. If colour be required, he mixes umber, ochre, or similar substances, to give the required shade.

* Selected from the *Engineer's* lists.

Books Received.

VARIORUM.

"THE Boy's Own Volume," edited and published by Mr. Beeton, is full of adventurous stories, fully illustrated, and suggestive papers, likely to be useful. It will be popular amongst those for whom it is intended.——"The Operative Mechanics' Workshop Companion," by William Templeton, appears in the shape of an eighth edition. What more need be said? It is published by Lockwood & Co., of Stationers' Hall-court.——Borough of Portsmouth: Report on the Sewerage. By Lewis Angell, C.E., Engineer and Surveyor to the Corporation. London: M'Corquodale & Co. Portsmouth has grown to be a town of 100,000 inhabitants without *any* proper drainage; and, after many years' contention, the local Government Act has recently been applied to it, and it is hoped that a scheme of drainage such as Mr. Angell here develops will shortly be carried out. The estimated cost of this scheme is 90,000*l.*, exclusive of land, &c. The total length of main arterial and branch sewers proposed will be about forty-six miles. The point of outfall is at the entrance of Langston harbour. Storage will be combined with pumping, so as to effect the discharge of the sewage only during the ebb tide.——Great Eastern Railway Company: Statement of the Board of Directors in reference to the Great Eastern Northern Junction Railway Bill. London: Waterlow & Sons." This pamphlet is accompanied by a map of the Great Eastern Railway system, showing the proposed new line to the north of England, the communications with the docks of London, and the metropolitan districts to be served. The utility and advantages to the public of a line connecting the Great Eastern system with the north of England (in the neighbourhood of Doncaster) seems obvious, whatever influence it may have on the Great Northern as a rival line; but we cannot enter on the somewhat curious chapter in the history of railway legislation disclosed by this pamphlet, and by the rejected Bill of which it speaks.

Miscellanea.

GOOD PAPER FROM MAIZE.—The celebrated paper manufactory of Schlagelmuhl, at Vienna, has succeeded, it is said, after many attempts, in producing excellent paper from maize leaves. Paper has often been made from this substance, but on no previous occasion of so good a quality. It is stated also to be very moderate in price.

GARRICK'S VILLA at Hampton has been sold by auction for 10,800*l.* to a popular wall-advertising tailor, Mr. Grove, of Battle Bridge.

NEW BUILDING AT ROTHERHITHE.—The foundation stone of an immense building for the Patent Ventilating Granary Company, has been laid at Canada Wharf, Rotherhithe.

VANDALISM AT CLONMACNOISE.—Several of the fine old monuments at the Seven Churches, Clonmacnoise, have suffered irreparable injury at the hands of a number of young men who made an "excursion" from Birr to Clonmacnoise, and whilst the inhabitants were attending worship, amused themselves by battering with stones the carved ornamentation on the monumental crosses in the cemetery and the principal doorways of the churches. We trust the law may yet punish them as they deserve.

NEW CALORIC ENGINE.—An improved hot-air engine, invented by Mr. Roper, has, it is said, been successfully applied in the United States. Its chief peculiarity is that it does not use upon the piston common air heated, but only the products of combustion. The air to supply oxygen for the combustion of anthracite coal is pumped in: the carbon is burned rapidly and completely under pressure; and the resulting carbonic acid gas and uncombined nitrogen gas from the air are passed from the generator or fire-box to the piston. It requires about 8 lb. of coals per hour, and about twenty minutes' attention, to keep it in working order, at two or three horse-power, ten hours. The machine is said to be very compact, and can be manufactured and sold at a cost of little more than 100*l.*

BRITISH TUMULI IN DORCHESTER.—Part of the old Roman embankment at the east end of the South Walks was recently levelled for building purposes, and during the necessary operations a few interesting facts were brought to light. The first section made was in the centre of the embankment, east and west; and here, says the local *Chronicle*, the outline of an ancient British barrow was disclosed, of a very elegant bell-shape, and this only 2 feet from a second. These were evidently long anterior to the Roman embankment, which covered the apex of both to the depth of 2 feet or 3 feet. Under the floor of one an urn and some ashes were found, and in the sides several skeletons, buried apparently in haste, sometimes singly and sometimes two and three together. The skulls have been pronounced to be undoubtedly ancient British.

THE SCOTTISH MEMORIAL OF THE LATE PRINCE CONSORT.—On Monday a meeting of the local acting committee for promoting the Scottish National Memorial of the late Prince Consort, was held. The secretary intimated that the sum at the disposal of the Acting Committee was about 4,113*l.* On the motion of Mr. David Smith, seconded by Mr. Francis Abbot, the meeting unanimously agreed to authorize the treasurer to transfer the balance at his credit in the Royal Bank to the credit of the Central Committee. Bailie Blackadder expressed a hope that the competition for the plans for the memorial would be open. Bailie Auchie said that the Central Committee were at present advertising for suggestions, and he supposed that the competition for plans would also be open.

THE LAW REGARDING PARISH CHURCHES.—The purpose of the existence and endowment of parish churches is that there shall everywhere be the free means for every man to have the benefit of all the offices of religion. The church is not a building for the service of any sect. It embodies the broad fact that there shall be always, and *free to all*, the means and opportunity of the reminder, that man is not made for himself alone, nor to live here for ever. It is part of our institutions that, free and unpaid for, there shall, in every parish, be the ministry and offices of religion open to all. It has already been remarked that, though the freehold of the church is nominally in the parson, the parishioners have the use of it as a matter of right. The use is in them, though the technical freehold is in the parson. *The pews belong exclusively to them.* The ordering of the pews is the duty of the churchwardens, with the consent of the vestry. They are bound so to order them as to afford the greatest amount of accommodation to the parishioners. *The free use of the church is a common right of every parishioner.* Every man in the parish has a right to a seat without any payment. The minister cannot interfere in this matter.—"*The Parish.*"—*Toulmin Smith.*

NCH INTERNATIONAL ASSOCIATION FOR THE CEMENT OF SOCIAL SCIENCE.—This So- which was formed three years since in ion of the English society of the same holds its meeting this year at Amsterdam.

—The Stafford Gas Company have re- to reduce the price of their gas from 5s. 00 cubic feet to 3s. 9d.——The directors Rothwell Gas and Coke Company, at ring, have decided upon erecting a house al-shed at the works, and the tenders of . Barlow & Butlin for mason's work, and ohn Burditt for carpenter's work, have ccepted.

AN TELEGRAPHS. — We learn, says the *n Star*, that a proposition has lately been to connect the whole of the West India s by telegraph with the main land at nc, in French Guyana, and at Key West, Florida, if a guarantee of 6 per cent. on the can be obtained. The cost is estimated 0,000*l*.

OD AND IRON CHURCH, HIGHBURY NEW —The new district church of St. Augus- Highbury New Park, which has been d through the munificence of Mr. Henry n, the owner of property in the neighbour- has been formally opened by the Bishop ndon. It is a plain temporary iron and church, capable of accommodating about persons; the work being executed by s. Tupper & Co., of Moorgate-street, at a is we hear, of nearly 2,000*l*. The incumbent Rev. Gordon Calthrop, M.A.

KE DWELLINGS.—The *Reader* says,—The erious lake-dwellings found within the last ears in Switzerland, have now also been vered in Bavaria, in the Starnberger See. ssor Desor, from Neufchâtel, an eminent gist who, in a recent work, "Die Pfahlbau- les Neuenburger Sees," pronounced his ed conviction of the existence of such rem- on the locality where they were now dis- ed, has taken the first steps towards a fur- investigation on the spot.

CIDENT AT ELSWICK. — An accident of an ning nature has occurred at the Elswick ance Works, by which four men have been ely injured by an explosion of gas. It seems a number of men were employed at a new rnace. Some of the men were in the act cing a board in front of the furnace, having ed orders to have it in readiness for the ctors, when suddenly an explosion of a at nature took place, by which the four men severely burnt about the face, hands, and

ETROPOLITAN POLICE CRIMINAL RETURNS, —The number of persons taken into cus- by the metropolitan police in 1863 was 5 males and 21,715 females. Of these 4 males and 11,300 females were discharged he magistrates; 23,123 males and 9,553 les were summarily convicted or held to 2,758 males and 862 females were com- ed for trial; 2,239 males and 667 females convicted and sentenced; 426 males and emales were acquitted; and 93 males and emales were not prosecuted, or bills were found against them. As to the offences, were taken into custody for simple larceny; for drunkenness; 7,538 for common assaults; he highest number of all under one head- ere 9,749 drunk and disorderly characters. age, of the persons summarily convicted males and 73 females were 10 and under ears of age; 4,384 males and 1,227 females nd under 20 years of age, and 5,158 males ,956 females 20 and under 25 years of age. largest number were 4,447 males and 2,350 les 30 and under 40 years of age. Of the total ns of those taken into custody, 9,132 males, 5,249 females, could neither read nor write; 41 males and 15,292 females could read only, ad and write imperfectly; 2,587 males and emales could read and write well; and 85 s and one female had superior instruction. amount of first loss of property from felo- was 67,211*l*.; of which amount the value of 57*l*. was recovered. In 1831, out of 72,324 ons taken into custody, 48,026 were dis- ged by the magistrates; 21,843 were sum- ly disposed of or held to bail; 2,955 were nitted for trial; 1,932 were convicted and enced; 616 were acquitted; and 251 were prosecuted.

PARK-LANE.—In the Commons the other day, in reply to Sir J. Shelley, Mr. Tite stated that the Metropolitan Board of Works had come to a decision to open Hamilton-place, with the view of relieving the traffic in Park-lane.

INDURATION OF STONE.—As an improvement upon the present mode of indurating stone, cement, &c., and manufacturing artificial stone, Mr. F. de Wyldé, of Tower-hill, proposes to employ a solution of a soluble alkali, in combination with a neutral solution of alumina.

HERTS ARCHITECTURAL SOCIETY.—The annual meeting of this Society has just taken place at St. Alban's. The chair was taken by Mr. G. W. Lydekker. A paper was read by the Rev. R. Gee, M.A., Vicar of Abbots Langley, on "Bridges and Bridge-building in the Olden Time."

PROPOSED THEATRE. — The London Theatre Company is announced, with a proposed capital of 50,000*l*., divided into 5,000 shares of 10*l*. each. The object is to erect, on a site near King's Cross, a theatre capable of containing 2,500 persons, and a concert-room or bijou theatre. An estimate appended to the prospectus shows a net profit of 9,805*l*. per annum, being at the rate of nearly 20 per cent.

A STRANGE PAVING FOR DOCKS. — A curious archæological discovery has just been made at Ghent. A dock being emptied for alterations, the bed was found to partly consist of ancient tombstones in an excellent state of preservation. Seventeen have already been recovered, and others remain. They appear to have been obtained from the church of St. Tharaide, which was pulled down in the sixteenth century. The earliest date yet deciphered is said to be 1042.

HOLBORN DISTRICT BOARD OF WORKS.—PROPOSED IMPROVEMENTS IN CURSITOR STREET, CHANCERY LANE. This Board met on Monday, the 20th ult., Mr. John Ode Hall, member of the Metropolitan Board of Works, in the chair. Mr. John Walker, of Holborn, stated the substance of a proposition by Mr. J. R. Taylor, to widen Cursitor-street, which was embodied in a memorial to the Board, numerously signed by inhabitant householders in the immediate locality and in Holborn. The meeting was also addressed by Mr. Southee and other members of the board. The motion was well received, and ultimately referred to the Improvement Committee for consideration and report. We hope the report will be favourable, and that the improvement will be effected.

CRYSTAL PALACE PICTURE GALLERY. — The directors having recently offered 200 guineas for the best pictures sent by artists for the present exhibition, the judges (Messrs. David Roberts, R.A., S. C. Hall, F.S.A., and Louis Haghe) have awarded the prizes as follows:—To Miss E. Osborne, 60 guineas, for the best figure picture, No. 212 in catalogue; to Mr. J. G. Naish, 40 guineas, for best landscape, No. 333; to Mr. H. Tidey, 20 guineas, for best water-colour drawing, No. 1,345; for best French picture, to M. Cressin de la Fosse, 40 guineas, for No. 966; and for the best foreign picture (French school excepted), to M. De Bruzcker, 40 guineas, for No. 1,029.

METROPOLITAN OPEN SPACES.—In the Commons, on Tuesday, Mr. Doulton called attention to the gradual diminution of open spaces in and around the metropolis. Many of the open spaces round the metropolis had, to accommodate the population, been covered with houses, and others were undergoing the same process. Parliament had already decided that the forests should be preserved, and he hoped the Crown would not seek to interfere with that decision. With respect to the commons, he contended that the Government should purchase the whole of the rights over them. He moved that "it is the duty of her Majesty's Government to provide for the preservation of such open spaces as are within the limits assigned by the 14th section of the Enclosure Act of 1845." Mr. F. Peel said the Crown had shown no disposition to deprive the people of any rights to which they were entitled in connexion with the open spaces owned by the Crown. As to the commons, he would not agree that it was the duty of the Government to provide the means of purchasing them out of the public revenue. He therefore opposed the motion. After some discussion, in which Mr. Locke, Sir W. Fraser, Mr. Torrens, and Mr. Cowper took part, the motion was carried by 79 votes to 40.

GREAT WESTERN RAILWAY.—Mr. Gooch, the eminent engineer, according to *Herapath*, has resigned his appointment on the Great Western.

LIMNER TO THE QUEEN FOR SCOTLAND.—It is supposed that Mr. Noel Paton will succeed to the vacancy of "Limner to the Queen for Scotland." The salary attached to it is the odd sum of 87*l*.

LOCAL GOVERNMENT ACT FOR GUILDFORD.—At a public meeting held at the town-hall, Guildford, to consider the propriety of adopting the Local Government Act, the meeting have decided for the adoption of the Act by a majority of 28 to 23.

ROYAL DRAMATIC COLLEGE.—The Royal Dramatic College *fête* will be held at the Crystal Palace on the 16th and 18th of July. Great endeavours will be made. Mr. and Mrs. Howard Paul are to inhabit a grotesque edifice, resembling a huge fan opening and closing, the design of Mr. R. Phillips, of the Adelphi Theatre. Messrs. Toole and Paul Bedford are to give an exhibition of waxwork; and many other favourites will exert themselves in the cause.

DISCOVERY OF ANTIQUARIAN RELICS IN ORKNEY. Workmen employed by Mr. Mackenzie, contractor for the roads on Newhall estate, Deerness, have come accidentally on some antiquarian relics while clearing away what appeared to be the ruins of an old building near the church of Deerness. The relics, which are now in the possession of Mr. George Petrie, consist of fragments of a comb and spinning-wheel lying beside the horns and tusk of extinct animals of the deer and boar species.

NEW ROAD FROM PICCADILLY TO OXFORD-STREET.—Sir W. Fraser (in the House of Commons on Tuesday) asked the First Commissioner of Works whether he would consider a plan for a thoroughfare from Piccadilly to Oxford-street, by Burlington-house, Burlington-street, George-street, Hanover-square, and Harewood-place. Mr. Cowper said the subject was well worthy of consideration. Many difficulties, however, lay in the way, and its importance was not so pressing as many other metropolitan improvements which were under consideration.

LIVERPOOL ARCHITECTURAL SOCIETY. — On Saturday, the members of the Liverpool Architectural and Archæological Society enjoyed an excursion to Manchester. On arrival, they proceeded direct to the new assize courts, just approaching completion, at Salford, where they were received and conducted through the building by Mr. A. Waterhouse, its architect. Next the party visited the cathedral, and viewed the progress of the renovations now being carried out under the superintendence of Mr. Holden, the architect, who pointed out the portions of the ancient sacred edifice erected at various dates, commencing about the year 1400, and explained the new works, which include a tower 140 feet high. Some of the members subsequently inspected the Free-trade Hall, the warehouse of the Messrs. Watts, and other objects of interest. At five o'clock, dinner was served at the Royal Hotel; Mr. J. Boult, president of the society, in the chair.

CONSECRATION OF ST. PETER'S, VAUXHALL.—The new church of St. Peter, Vauxhall, has been consecrated by the Bishop of Winchester. This church is built on the site of the once famous Vauxhall Gardens. Schools have long ago been built; and the Prince of Wales about three years ago laid the foundation stone of the School of Art, in which the company lunched at the consecration. The church, of which the foundation stone was laid by the Lord Primate in February, 1863, is in the Early English style, and accommodates 900 people. It cost 6,400*l*. It is apparently very plain, but is capable of decoration. There is but one little window of stained glass, in the baptistery, in memory of the daughter of the incumbent. A feature in the church is a fresco of the marriage of Cana, below the second window of the clerestory, on the south side. The ceiling is of brick, painted at intervals. The seven windows of the apse are to be filled with stained glass—Our Lord in the centre, the four Evangelists round Him; and there is to be a fresco for a reredos—the Lord's Supper. The sedilia are of Caen stone, and on the pulpit is a mosaic—the Sermon on the Mount. Mr. Pearson was the architect.

RAILING, ST. ALBAN'S ABBEY. — Sir: As to your able notice of the above in last week's *Builder*, having designed and superintended the work, I should like the credit to be given to the right person. The railing was executed by Messrs. Bailey, of Holborn, London,—not as described, from Oxford.

THOMAS HILL, Architect.

THE ROYAL MEMORIAL ARCH AT FETTERCAIRN. On Tuesday, the 21st ult., the foundation stone of the royal arch to commemorate the visit of her Majesty and the Prince Consort to Fettercairn, on the 20th September, 1861, was laid by Sir John Stuart Forbes, bart.

PHOTO-SCULPTURE.—A prospectus has been issued of the International Photo-Sculpture Company, with a capital of 50,000*l.*, in shares of 10*l.*, to purchase and work the recent patent for photo-sculpture, a process which some people think will create a revolution in that branch of art. The company will be in alliance with a kindred establishment in Paris—the Société Générále de Photo-Sculpture de France—and Sir David Brewster is at the head of the Board of direction. Why a company?

THE GALLERY OF ILLUSTRATION, REGENT-STREET.—"Mrs. Roseleaf Out of Town" (everyone remembers her "Evening Party") is the best thing that Mr. John Parry has ever done, and that is saying a great deal. It presents a picture so full of life and individual character that, on looking back on it, it is scarcely possible to believe that it has all been brought before the eye and mind in less than half an hour, and by one gentleman in evening dress. Mr. Yeanay in the boat, an Italian organ-man with a monkey, the characteristics of both man and monkey being brought out with surprising distinctness; the "Town Band," who execute a waltz in a style that is recognised by all; "Miss Florence Roseleaf in the hands of Mrs. Ducker, an old bathing-woman;" and the acrobat who, while balancing one of his companions on a tall pole, has to look out for passing vehicles, are all masterly impersonations. The Egyptian entertainment, in which Mr. and Mrs. German Reed are admirable, has been shortened, bringing the plums nearer together; and, along with a Reverie of Shakspeare, makes up a capital evening's amusement.

PROTECTING METALLIC SURFACES. — An improved composition for protecting metallic articles from oxidation has been patented by the Baroness de Lavenant, of Paris. She states that by combining various solvents with a crystal base, and by the addition of colouring matters, she has obtained a product which preserves the metals from oxidation, solidifies them, and preserves their natural tint, or imparts to them any colour or varied shade. The colourless base is formed of 680 parts of glass, 250 parts of minium, 80 parts of sub-carbonate of potassa, and 100 parts of borax. The addition of about 10 parts of cobalt or binoxide of copper or steel gives a blue colour. About 3½ parts of sulphate of copper gives a green colour, and by substituting borate of iron for borax a yellow colour is produced. A jet black is obtained by adding pounded iron scale to the colourless base. To produce a red colour she takes the same substances as for the colourless base, but the proportion of sub-carbonate is increased and of minium diminished, and there are added to the base five parts of copper turnings or filings, previously immersed in white Burgundy vinegar, then dried, or with the addition of ten parts of protoxide of copper, stirred in with a copper rod. To produce a silver colour, granules of virgin silver are dissolved in nitric acid, precipitated by aqua regia, then mixed one part with four parts of borax: wood, glass, porcelain, or earthenware vessels only should be used in this operation. The various substances are weighed, broken up, mixed, and placed in a crucible previously submitted to the action of fire in an oven or furnace. The crucible is covered with coke; and, after a given time, depending upon the weight of the crucible, it is withdrawn from the fire: the matter fully fused, after being stirred with an iron rod to render it more malleable, is run out upon a metal plate with raised edges, and previously heated and allowed to cool: the matter is next broken, pulverised, and ground up with water, and is now ready for application. It is spread on or applied, with more or less water, by a brush, or by dipping, or it is sifted over the article. The articles are next baked in a muffle, or stove, hermetically closed.

THE SANITARY STATE OF LIVERPOOL. — A deputation from the local health committee have had interviews with the registrar-general and his secretary as to the desire of the committee to trace the cause of the high bills of mortality of the borough; and the registrar-general has promised to cause an abstract of the census returns of 1861, showing the number of families and the number of persons in each family recorded as residing in every house in the borough, to be prepared at the cost of the corporation. Fifty pounds is mentioned as the probable cost.

TENDERS.

For the construction of bridge over the River Mersey, at Rixton and Warburton, for the Rixton and Warburton Bridge Company. Mr. B. P. Coxon, engineer. Quantities supplied:—

Daglish	£8,805 0 0
Lawton	6,751 0 0
Mabon	6,647 0 0
Pilling (accepted)	5,995 0 0

For villa residence, Wandsworth Common, for Mr. Joshua Artley. Mr. John Thomas, architect. Quantities supplied:—

Colls & Co.	£1,045 0 0
Jacob	999 0 0
Soper	997 0 0
Thompson	965 0 0
Farmer	948 10 0
Elliott	937 0 0

For additional buildings to the Head Quarters Station of the Kent County Constabulary at Maidstone. Mr. Martin Bulmer, architect. Quantities by Mr. G. Ruck:—

Greasted	£1,663 0 0
Chambers	1,600 0 0
Sutton & Vaughan	1,593 0 0
Ayres & Son	1,550 0 0
Pell and Clark & Son	1,499 9 0
Anscomb	1,493 0 0
Naylor & Son	1,473 0 0
Norris	1,461 0 0
Clements & Wallis (accepted)	1,439 10 0

For additions to the buildings of the Folkestone Waterworks Company. Mr. Martin Bulmer, architect. Quantities supplied:—

Banks	£1,325 15 6
Temple	1,320 5 0
Spurrier	1,200 0 0
Ayers & Son	1,152 0 0
Dunk (accepted)	1,112 0 0

For St. John's Church, Carlisle. Mr. R. Clarke, architect, Nottingham:—

Scott	£4,821 0 0
Bushby	4,728 0 0
Dennett	4,299 0 0
Wright	4,062 0 0
Nelson	3,609 0 0
Black	3,453 0 0
Milburn	3,426 0 0
Armstrong (accepted)	3,343 0 0

For alterations and additions to the Railway Tavern, Dartford, Kent. Messrs. Aston & Nicoll, architects. Quantities supplied by Mr. Arthur W. Q. Nicoll:—

Kiddle	£540 10 0
Anley	497 0 0
Milton	492 0 0
Turner & Dennis	489 0 0
Green	477 0 0
Kent	475 0 0
Ward & Co.	459 0 0
Dover (accepted)	442 0 0

For house and stabling, Pied Bull-yard, Bury-street, Bloomsbury, for Messrs. Neighbour & Sons. Mr. W. J. Trehearne, architect. Quantities supplied:—

Massey	£842 0 0
Cole	720 0 0
West	650 0 0
Foster	610 0 0
Walton (accepted)	590 0 0

For proposed alterations at 85, Hampstead-road, for Mr. Samuel Purkis. Mr. W. Berriman, architect:—

Moore & Willis	£400 0 0
Perry	399 0 0
Baugh & Bryant	389 0 0
Murphy	350 0 0
Westrop	349 0 0
Ring & Wayman	190 0 0

For Grey Friars' Church Schools, Reading. Mr. W. H. Woodman, architect:—

Sawyer	£1,290 0 0
Searle	1,244 0 0
Dodd	1,198 10 0
Barnicoat	1,190 0 0
Savage	1,172 0 0
Grover	1,172 0 0
Matthews	1,139 0 0
Dunn	1,110 0 0
Kendall	1,050 0 0
Wheeler (accepted)	1,042 0 0

For new warehouses, London Dock, Steam Wharf, Wapping Wall. Iron work only:—

Grissell	£11,760 0 0
Lawrence, Brothers	11,444 0 0
Robinson & Cottam	9,700 0 0

For tower and spire to St. John's Church, Putney. Mr. Charles Lee, architect:—

Greig	£1,627 17 6
Aries	1,606 0 0
Adamson & Sons	1,576 0 0
Macey	1,558 0 0
Meyers & Sons	1,525 0 0
Aviss & Son	1,497 0 0

For the restoration of Slawston Church, Le
Messrs. H. Goddard & Son, architects, Leicester:—

Branston	£341 6
Clifton	319 0
Loveday	292 10

For the restoration of the chancel of ditto:—

Branston	£123 5
Clifton	82 0
Loveday	77 0

For building Baptist Chapel, Bromley, Kent. H. Moore, architect:—

Coles	£1,847 0
Boily & Son	1,762 0
Ellis	1,749 0
Stone & Pierce	1,499 0
Bouncit	1,490 0
Ward & Co.	1,483 0
Anscome	1,423 0
James & Martin	1,423 0
King	1,330 0
Waters & Sainty (accepted)	1,200 0

For new Wesleyan Chapel, class-rooms, chapel ke rooms, evening chapel, &c., St. John's-hill, Wands Mr. J. Tarring, architect. Quantities by Mr. C Fowle:—

	Chapel, &c.	Even Chapel
Nicholson & Sons	£5,508 0 0	£922
Longmire & Burge	5,494 0 0	870
Higgs	5,167 0 0	820
Jackson & Shaw	5,066 0 0	798
Myers & Sons	5,051 0 0	883
Simpson	4,979 12 3	819 12
Scrivener & White	4,878 0 0	793
Saunders	4,596 0 0	774
Dove, Brothers	4,325 0 0	790

For two detached houses at Erith, Kent, for M Jay. Mr. Herbert Ford, Architect:—

Patrick & Son	£2,265 0 0
Calow (accepted)	1,678 0 0
Perry	1,670 0 0
Rickett	1,650 0 0
Rawlins	1,263 0 0
Everest	1,227 0 0

For repairing Christchurch, Hoxton:—

Ansell	£230 0 0
Grover	185 0 0
Horner	170 0 0
Loft	145 0 0
Smith	124 17 0

For restoration of the fabric of the nave, aisles, north porch of Westbourne Church. Mr. B. Fe architect. Quantities supplied by Mr. Northcroft:—

R. V. Ellis	£1,371 0 0
A. A. Ellis	1,141 0 0
J. Ellis	1,133 0 0
Bushby (accepted)	1,097 0 0

For model dwellings, Islington, for the trustees of Peabody's Fund. Mr. H. A. Darbishire, architect:—

Smith & Co.	£29,780 0 0
Cubitt & Co.	29,417 0 0
Mansfield	28,700 0 0
Holland & Hannen	27,923 0 0
Lucas	27,860 0 0
Lawrence & Sons	27,420 0 0
Patman & Fotheringham	27,280 0 0

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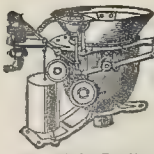
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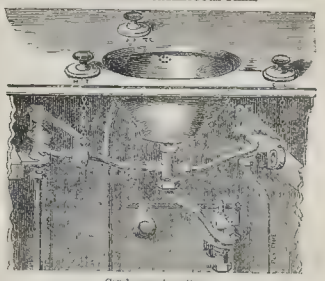
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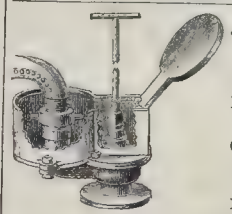


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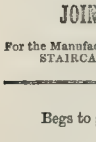
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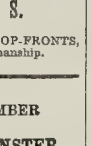
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30,500 feet in Plank and Board, sawn three years
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ON SALE, upwards of 12,000 superficial feet of wa PITCH PINE BOARDS, varying from ¾ inch to 2½ inche ness.—Apply to Messrs. ROE & SON, Timber Merchants, D

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At 6d. 7d. and 8d. per foot, at
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NEW MANUFACTURE OF METALLINE TILE 6 inches by 1 inch thick, in truck-loads of 4,000, from 63s. cash, delivered to Nine Elms. Also, in kiln, ridge, gutt tiles, buff, glazed, and fire-bricks. Specimens may be every information obtained, at the Offices, No. 36, Parliam S.W.; also at the Architectural Exhibition, 9, Conduit-stre street; Kensington Museum; the Fine Arts' Academy Crystal Palace, Sydenham — Address, The Architectur Company, 36, Parliament-street, S. W.; or Poole, Dorset.

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NORWICH UNION FIRE INSUR
SOCIETY.
NOTICE.—MIDSUMMER RENEWALS.
Mercantile and Dock Insurances at the reduced rates.
The business of the Company exceeds 70,000,000l.
The duty paid to Government for the year 1862 was 8 the amount insured on farming stock 10,085,332l.
A sum of three-fifths of the profits periodically made insuring, who have thus from time to time received sums in the aggregate to 440,000l.; and the Society now holds a serve applicable to a future Bonus.
The rates of premium are in no case higher than those the other principal Offices making no returns to their Insu
For prospectuses, apply at the Society's Offices, Su Norwich; and 29, Fleet-street, E.C.

FIRE INSURANCE.—REDUCTION OF DUTY
ALBERT INSURANCE COMI
LIMITED (Fire and Marine), undertakes FIRE R the 24th JUNE, at the Full Reduction of Duty.
The Premiums charged will be estimated by the indivi and the utmost liberality will be maintained in every tra
Professional men introducing business, will be liber with.
For prospectus and every information, apply at 8, Finch lane, or 7, Water co-place, Pall mall; or throu kingdom of any of the Agents of the Albert Life Office
MORELL THEOBALD.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT, FOR SHOP FRONTS, 2s. 2s. 6d. 3s. and 3s. 6d. Per Foot Super. THE MOST SIMPLE AND SECURE SHUTTER EXTANT. Branch Establishments :— 4, MARKET STREET, MANCHESTER; GLASGOW, 37, BUCHANAN STREET; DUBLIN, 9, TALBOT STREET.



CLARK'S PATENT, FOR PRIVATE HOUSES, 2s. 6d. and 3s. 6d. Per Foot Super. BURGLAR AND FIRE PROOF. Branch Establishments :— PARIS, 42, RUE NOTRE DAME DES VICTOIRES; BRUSSELS, RUE DE L'ECUYER; AMSTERDAM, BINNEN AMSTEL; SYDNEY, 51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

ARCHITECTS, BUILDERS, MERCHANTS, SHIPPERS, AND MASONS

Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the

EMPORIUM, J. W. BIRD & CO.'s, 143½ and 145, EUSTON ROAD, N.W.

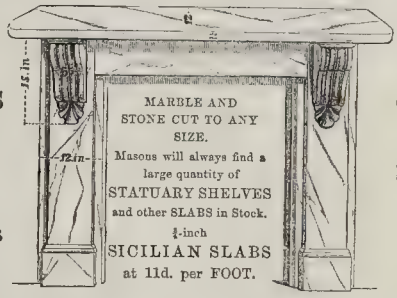
BOX STONE CHIMNEY PIECES for 5s. 6d.
Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS in great variety, equally low in price.

MASONS' WORK OF ALL KINDS CONTRACTED FOR, AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF 500 CHIMNEY PIECES always to choose from.

PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIECE for £1 5s.
First-class Bed-room ditto, £1 10s.

FIRST-CLASS TRUSS MARBLE CHIMNEY PIECES from £2 5s. to £3 5s.

A WELL-CARVED STATUARY CHIMNEY PIECE, with 13½-inch Piers, suitable for a Drawing-room, which must be seen to be believed, FOR THE SUM OF £6.
Net Prompt Cash.
PRICE LIST ON APPLICATION.

1862.
INTERNATIONAL EXHIBITION.
HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

CEILING FLOWERS,

PANEL DECORATIONS, TRUSSES, CAPS, &c. IN PAPIER MACHE AND CARTON PIERRE.

WILLIAM WHITE,

49 and 50, Great Marylebone Street, London, W.
NEW DESIGNS FOR CEILING FLOWERS SENT ON APPLICATION.

SPECIAL DESIGNS FOR THE DECORATION OF PUBLIC AND PRIVATE BUILDINGS SUPPLIED WITHOUT CHARGE

NEW TARIFF OF GLASS.

THOMAS MILLINGTON,

GLASS AND COLOUR MERCHANT,

No. 87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF OF SHEET GLASS.

SHEET GLASS.

IN SHEETS FOR CUTTING UP, AVERAGING FROM 6 TO 9 FEET SUPER.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Fourths quality, per 300 feet Case	...	...	32s. 6d. or about 1¼d. per foot super.
Thirds ,, ,, ,, ...	...	41 0	,, 1⅜ ,, ,,
Seconds ,, ,, ,, ...	...	60 0	,, 2 ,, ,,
Best ,, ,, ,, ...	...	90 0	,, 3 ,, ,,

AVERAGE THICKNESS, 21 OZ.

Fourths quality, per 200 feet Case	...	...	33s. 6d. or about 2d. per foot super.
Thirds ,, ,, ,, ...	...	42 0	,, 2⅛ ,, ,,
Seconds ,, ,, ,, ...	...	63 0	,, 3⅛ ,, ,,
Best ,, ,, ,, ...	...	89 0	,, 5⅛ ,, ,,

AVERAGE THICKNESS, 26 OZ.

Fourths quality, per 200 feet Case	...	...	44s. 6d. or about 2½d. per foot super.
Thirds ,, ,, ,, ...	...	56 0	,, 3¼ ,, ,,
Seconds ,, ,, ,, ...	...	84 0	,, 5 ,, ,,
Best ,, ,, ,, ...	...	116 0	,, 7 ,, ,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

SHEET SQUARES (Cut to Order).

	Under 1 ft. super.	Under 2 ft.	Under 3 ft.	Under 4 ft.	Under 5 ft.	Under 6 ft.
AVERAGE THICKNESS, 15 OZ. TO 16 OZ.						
Fourths quality ...	1⅛d.	1½d.	2d.	2½d.	2½d.	2¾d.
Thirds ,, ...	1⅜	2	2½	2¾	3	3½
Seconds ,, ...	2	2½	3	3½	4	4
Best ,, ...	2½	3	3½	4	4½	5
AVERAGE THICKNESS, 21 OZ.						
Fourths quality ...	2½d.	2½d.	3d.	3½d.	3¾d.	3¾d.
Thirds ,, ...	2⅝	3¼	3½	3¾	4	4½
Seconds ,, ...	3	3½	3¾	4½	4½	4½
Best ,, ...	4	4½	5	5½	6	7
AVERAGE THICKNESS, 26 OZ.						
Fourths quality ...	3d.	3½d.	3¾	4	4½d.	4½d.
Thirds ,, ...	3⅜	4	4½	4¾	5	5½
Seconds ,, ...	4½	5	5½	6	6	6½
Best ,, ...	5½	6½	7	7½	8	8½

EXTRA WHITE OR CRYSTAL SHEET GLASS,

Very superior, for Pictures and Best Glazing.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Thirds quality, per 200 feet Case	...	...	34s. 0d. or about 2½d. per foot super.
Seconds ,, ,, ,, ...	...	56 0	,, 3½ ,, ,,
Best ,, ,, ,, ...	...	77 6	,, 4¾ ,, ,,

AVERAGE THICKNESS, 21 OZ.

Thirds quality, per 200 feet Case	...	...	51s. 0d. or about 3¾d. per foot super.
Seconds ,, ,, ,, ...	...	84 0	,, 5 ,, ,,
Best ,, ,, ,, ...	...	116 0	,, 7 ,, ,,

GROUND OR OBSCURED.

15 oz. per 200 feet Case ..... 40s. In Sheets ..... 3d. per foot super.
21 oz. ,, ,, ... 54 ,, ... 4 ,,
If cut to size, 1d. per foot extra.

FLUTED SHEET.

15 oz. per 200 feet Case ... ... 50s. In Sheets ... ... 3½d. per foot super.
21 oz. ,, ,, ... 75 ,, ... 5 ,,
If cut to size, 1d. per foot extra.

MATTED or ENAMELLED (Various Patterns).

IN CASES, per 200 feet, 58s. IN SHEETS, 4½d. per foot super.
If cut to size, 1d. per foot extra.

ORNAMENTAL COLOURED GLASS.

Ruby, in Sheets	...	... 9d. per foot.	Cut to Size, 3d. per foot extra.
Green do.	...	... 9 do.	Ditto 3 do.
Blue do.	...	... 7 do.	Ditto 3 do.
Orange do.	...	... 7 do.	Ditto 3 do.
Purple do.	...	... 7 do.	Ditto 3 do.
Ruby Matted, in Sheets	...	1s. 2d. per foot.	Cut to Size, 3d. per foot extra.
Green do. do.	...	1 2 do.	Ditto 3 do.
Blue & Yellow do. do.	...	1 0 do.	Ditto 3 do.
Purple do. do.	...	1 0 do.	Ditto 3 do.
Cathedral, 15 oz. in Sheets	...	3½d. per foot.	Cut to Size, 1d. per foot extra.
Ditto 21 do.	...	5 do.	Ditto 1 do.

Coloured Borders and Rosettes, Cut and Engraved to Various Designs and Patterns.

15 oz. Squares usually kept in Stock in 100 feet and 200 feet Boxes.

Stock Squares, per 100 Feet.

in.	in.	in.	in.	in.	in.	in.					
6 by 4	7 by 5	8 by 6	9 by 7	Fourths.	Thirds.	Seconds.	Best.
6½ — 4½	7½ — 5½	8½ — 6½	9½ — 7½	9s. 6d.	10s. 9d.	12s. 6d.	14s. 8d.
10 — 8	12 — 9	12½ — 10	14½ — 10½				
10½ — 8½	12½ — 9½	13 — 10½	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10	13 — 11				
11½ — 9½	12 — 10	14 — 10½	14 — 11				
15½ — 10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.

Stock Squares, per 100 feet.

in.	in.	in.	in.	in.	in.	in.	
15½ by 11½	16 by 12	18 by 14	20 by 17	Fourths.	Thirds.	Seconds.	Best.
16 — 11	16½ — 12½	22 — 14	22 — 17				
21 — 11	17 — 12	24 — 14	24 — 17				
13 — 12	18 — 12	22 — 15	20 — 18	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.
14 — 12	22 — 12	24 — 15	22 — 18				
15 — 12	17 — 13	22 — 16	24 — 18				
15½ — 12½	23 — 13	24 — 16					

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

AVERAGE THICKNESS, 15 oz. to 16 oz. Per 100 feet. AVERAGE THICKNESS, 21 oz.

16½ in. by 12½ in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.	20 in. by 12 in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
20 ,, 12 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	24s. 0d.	27s. 6d.
20 ,, 13 ,,	20 ,, 17 ,,					20 ,, 14 ,,	20 ,, 17 ,,				
20 ,, 14 ,,											

The above Prices are only for the Sizes stated, but if a quantity of any other Size be required, it can be supplied at about Five per Cent. additional, provided time be allowed to manufacture it.

GLASS TILES IN SHEET AND ROUGH PLATE, PLATE GLASS, PATENT PLATE, AND HARTLEY'S IMPROVED ROUGH PLATE.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	...	...	30s. per cwt.
Seconds ,, ,,	...	...	28 ,,
Linseed Oil Putty	...	...	9 ,,
Fine Oak Varnish	...	10s. to 12s.	per gal.
,, Carriage Varnish		12 to 14	,,
,, Crystal or Paper do.		10 to 12	,,
Ground Patent Dryers	...	3d. to 4½d.	per lb.
,, Oxford Ochre	...	3 to 4½	,,
,, Raw Umber	...	4½ to 6	,,
,, Burnt do.	...	6 to 9	,,
Green paint, all shades	...	28s. to 60s.	per cwt.
Black ditto	...	24 to 36	,,
Linseed Oil	...	...	3s. 9d. per gal.
Boiled Oil	...	...	4 3 ,,
Turpentine	...	...	7 0 ,,
Mineral Turpentine	...	...	3 6 ,,
Prepared Oil for Anti-Corrosion			4 6 ,,
Brushes for ditto, &c. &c.			

WHITE ZINC PAINT, 34s. per Cwt.

One hundredweight of pure Zinc Paint with three gallons of Linseed Oil, will cover as much as one hundredweight and a half of White Lead and six gallons of Linseed Oil.

Special Dryers for this Paint.

STUCCO PAINT, 24s. per Cwt.

This Paint adheres firmly to the walls, resists the weather, and is free from the glossy appearance of oil paint, resembling a stone surface, and can be made any required shade. It is mixed with rain or pure river water.

IMPROVED ANTI-CORROSION PAINT, 28s. to 34s. per Cwt.

Anti-corrosion paint is extensively used for all kinds of work in exposed situations, on Brick, Stone, Compo, Iron, Iron Bridges, Conservatories, Greenhouses, &c. and is easily laid on by any ordinary workman.

MILLED LEAD, IN SHEETS AND PIPES, OF ALL KINDS. OLD LEAD BOUGHT OR TAKEN IN EXCHANGE.
LIFT PUMPS, WATER CLOSETS, AND PLUMBERS' BRASS WORKS OF ALL KINDS.

NET CASH.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK HELVES, HAMMER HANDLES, &c., and every description of Coach Smiths', Painters', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pig-rolls, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.

GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

E. TAYLOR, Solid and Veneered HAND-RAIL and STAIRCASE MANUFACTURER, To the Trade, in town or country. With Good Seasoned Materials and Workmanship, AT THE LOWEST PRICES FOR CASH. 247, CAMBERWELL NEW ROAD, LONDON.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION,

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

JAMES STIFF & SONS,

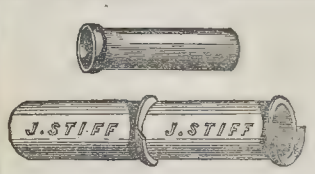
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS.

Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET

Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

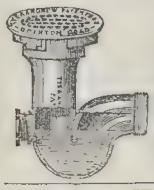
WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions, Am ng their, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c on the premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6849.

3s. 9d.



The ONLY MEDAL, "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Are Actually Inventors,

Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. These goods will be found Remarkably Low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

TURRET CLOCKS, designed and constructed upon the most approved plans and of the very best workmanship and materials, at the lowest possible prices, for Cathedrals, Churches, Public Buildings, and Gentlemen's Mansions, Stables, &c., comprising Turret Timepieces, Striking, Quarter, and Chime Clocks. Windials made and fixed. Also Clock-dials adapted to the various orders of Architecture.



JOSEPH FAIRER,

188, St. George-street, East, London,

By Special Appointment to the Queen and to his late Royal Highness the Prince Consort, her Majesty's War Department, &c.

Maker of the Great Clock of the Tower of London.
The Village Clock, price 40 guineas.

SALES BY AUCTION.

KENTISH-TOWN.—Materials of Twelve Houses, to clear the ground for the Tottenham and Hampstead Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the above Company to SELL by AUCTION, at the Premises, on Monday, July 4, and following Day, at TEN, the MATERIALS and FITTINGS of the following HOUSES, viz Nos. 8, 9, and 10, Mortimer-terrace; Nos. 24, 25, 26, and 27, Fitzroy-terrace, Kentish-town-road; Nos. 3, 4, 5, and 6, College-lane; and a House in Churchill-road, Maiden-lane; comprising capital stock brickwork, sound timber in roofs and floors, door-heads, partitions, doors, sashes, slates and other fittings, slated and tiled roofs, lead gutters, pipes and cisterns, iron railing, stone coping, and other useful materials. May be viewed, and catalogues had at the Offices of F. PULLEN, Esq., 8, Adelphi-terrace, Strand; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

GREAT WESTERN RAILWAY.—Annual Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Great Western Railway Company, to SELL by AUCTION, at the GOODS STATION, Paddington, on WEDNESDAY, JULY 6th, and following Day, at TEN for ELEVEN, the UNCLAIMED PROPERTY in the Passengers' Department, comprising the usual assortment of wearing apparel, umbrellas, bags, railway-wrappers, and numerous other effects. Also a quantity of miscellaneous property in the Goods and Parcels Department, and a 20 horse power steam engine, left uncleared from the former Sale. May be viewed the day previous, with catalogues only, which may be had at 6d. each, of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

Metropolis Roads North of the Thames.—Materials of the Toll-houses, &c.

PULLEN, HORNE, & EVERSFIELD have received instructions from the Commissioners of the Metropolis Roads north of the Thames, to SELL by AUCTION, at KENSINGTON and at ISLINGTON, on FRIDAY, JULY 8, in lots, the BRICK and TIMBER ERECTIONS of 17 TOLL HOUSES, with the Gates and various Side Gates. The Sale will commence at ELEVEN for TWELVE at Kensington Gate, at which place will be sold the toll-houses, &c. at Fulham Fields, Ship-lane, Fulham; Church-lane, Kensington; Hammersmith, Harrow-road, and Edgware. The Sale will be continued at TWO for THREE, on the same day, at the Toll-house at Islington, at which place will also be sold the toll-houses at Chalk-farm, Holloway, Caledonia, Highgate, Stamford-hill, Balls Pond, Kingsland, Dalston-lane, Cambridge Heath, and City road. Also a quantity of surplus stores, consisting of iron pumps, standposts, and palisading, at the Commissioners' Depôt, opposite the Macclesfield Arms, City-road.—May be viewed two days previous, and catalogues had at the Metropolis Roads Office, 22, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

19, MILLBANK STREET.—To Sculptors, Masons, Builders, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr John Udny, agent for Count N. Lazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, 19, Millbank-street, Westm. ster, on WEDNESDAY, JULY 13, at ELEVEN for TWELVE, a large assortment of MARBLE BLOCKS; consisting of statuary, vein, Sicilian, black and gold, yellow, Siennas, verd-antique, and other marble. Approved bids at four and six months.—May be viewed two days previous; and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

CITY OFFICES COMPANY (LIMITED).—Extensive sale of Building Materials, Clement's-lane, Lombard-street, to clear the site for re-building.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the City Offices Company (Limited), to SELL by AUCTION, on the PREMISES, on MONDAY, JULY 18, at TWELVE, in Lots, the whole of the VALUABLE MATERIALS of the extensive Block of Buildings forming Nos 25a, 26, and 27, Clement's-lane, Nos. 1, 2, 3, and 4, Bridge-street-range of coach-houses and stabling, and other buildings, covering a large area of ground in Hart-street, Fell-street, and Monkwell-street, Wood-street, City.—Further particulars in a few days, when catalogues may be had of JOHN COLLIER, Esq. Architect, 26, Philpot-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

PIMLICO.—Materials of several Houses and Shops, to be cleared away for the extensive improvement of the district.

MR. GEO. HAINES is instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 7, at TWELVE o'clock, a large quantity of excellent BUILDING MATERIALS of a yellow brick, of Queen-size with six other houses; including all the sound brickwork, lead down-pipes, slated roofs, with strong rafters, the usual internal fittings, shop fronts, erection of cow-sheds, and fixtures.—May be viewed. Catalogues on the Premises; of Messrs. HAINES & SON, Auctioneers, Mornsgate-street, City; and at the Auction Mart Offices, Grosvenor-street West, Eaton square.

NEW SOUTHSEA, HANTS.—Valuable Freehold Estate, with Building Ground, close to Havelock Park.

MESSRS. PRICE & CLARK are instructed to SELL by AUCTION, at GARRAWAY'S Coffee House Change Alley, on TUESDAY, AUGUST 2, at TWELVE for ONE o'clock, the important FREEHOLD ESTATE known as Firdale-villa, New Southsea, comprising a capital and substantially-built Family Residence, stabling, and coach-house, and pleasure grounds; the whole containing about eight acres, and is well adapted for the formation of a public institution, or for a genteel building site for the Family Residences of Naval & Military Officers. Lowe's Church and the newly-erected beautiful residences in that locality. The surrounding property is rapidly rising in value, and the capabilities of this particular estate as a building site are highly favourable, offering an advantageous opportunity to capitalists, builders, and others to form a good and profitable investment. The property may be viewed, and the sale by application to Mr. CARLILL, 7, Union-street, Portsea; and particulars with plans may be had 14 days preceding the Sale of Messrs HILLARD & SON, Solicitors Portsmouth; and at the Auction Offices of GARRAWAY'S, and the Offices of PRICE & CLARK, 48, Chancery-lane.

TO CONTRACTORS, BUILDERS, AND OTHERS.—TO BE SOLD by AUCTION, by

MESSRS. S. NEWMAN & J. SAVILL, who are prepared to proceed in this sale, at the HORN INN, Braintree, on WEDNESDAY, JULY 6th, 1864, at FOUR o'clock in the afternoon, by direction of the Trustees for sale of the estates of the late C. A. Hilton, esq. deceased, a valuable small ESTATE, comprising a brick-built and tiled messuage or tenement, brick kiln, stable, and other buildings, and six enclosures of very excellent arable and meadow land, containing 18a. 3r. 17p. or thereabouts, now in the occupation of Mrs. Robert Buck Kartt, situate on the parish of Bocking End, and Great Maplestead, in the county of Essex, on the Colne Valley and Halstead line of railway, and contiguous to the Bocking and Braintree station and goods yard at carriage road stations on the Great Eastern Railway. Also, other Freehold, Copyhold, and Leasehold Properties, consisting of a Leasehold Farm, called "Pigeons," containing 90a. 2r. 29p., pretty fields, containing 30a. 2r. 2p., Warrick's Piece, containing 3a. 1r. 3p., and other fields all situate in the parish of Sible Hedingham, and which will be SOLD, in 19 Lots. Plans and particulars of sale may be had of Messrs. HOLMES & SON, Solicitors, Bocking; and of the Auctioneers, Rayne, near Braintree, and Grange Hall, Gosfield, Essex.

RAILWAY CONTRACTORS' PLANT AND IMPLEMENTS, DEVIZES AND HUNGERFORD.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, JULY 6, 1864, and following days, at SEVEN for TWELVE o'clock precisely, on ground adjoining the Railway Stations at Hungerford and Devizes, CONTRACTORS' PLANT and IMPLEMENTS used in the Construction of the Berks and Hants Railway, including 100 capital earth waggons, side and end tip, 50 tons contractors' rails, 5,000 sleepers, 100 navvy-barrows, 500 wheeling-planks, 150 loads sound fir timber, 30 loads ash and elm, 5 dobbin-carts, 3 timbril carts, 1 timber carriage, 1 light cart, dog cart, 2 phaetons, harness, 100 large wood centres, 500 transoms, battens, 2 tons new bar and rod iron, 10 tons scrap iron, weighing machine, scales and weights, stocks and dies, smiths' tools, screw jack, leather bands, 12 circular saws, office furniture, iron safe, and other effects, on the ground. The land (2 crosses) comprising workshops, portable office, and Hants Railway including 100 capital earth waggons, side and end tip, 50 tons contractors' rails, 5,000 sleepers, 100 navvy-barrows, 500 wheeling-planks, 150 loads sound fir timber, 30 loads ash and elm, 5 dobbin-carts, 3 timbril carts, 1 timber carriage, 1 light cart, dog cart, 2 phaetons, harness, 100 large wood centres, 500 transoms, battens, 2 tons new bar and rod iron, 10 tons scrap iron, weighing machine, scales and weights, stocks and dies, smiths' tools, screw jack, leather bands, 12 circular saws, office furniture, iron safe, and other effects, on the ground. The land (2 crosses) comprising workshops, portable office, and new wire lines, 5 tarpaulings, pug-mill, the erection of stabling and workshops, portable office, and new wire lines, 5 tarpaulings, pug-mill, the erection of stabling and workshops, portable office, and new wire lines, 5 tarpaulings, pug-mill, the erection of stabling and workshops, portable office, and new wire lines, 5 tarpaulings, pug-mill, the erection of stabling and clay-working machines, 1 hand power ditto, quantity of fire-wood, and numerous other effects. To be viewed on Tuesday previous and mornings of Sale, when catalogues may be had on the Works, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

Valuable STEAM SAW-MILL, PLANING and MOULDING MACHINERY, &c. Herrington-street and Grafton street, with accommodation Land adjoining.—By

MR. EDWARD CHALONER, on WEDNESDAY, the 13th of JULY next, at TWELVE o'clock precisely, on the PREMISES, in Harrington-street, subject to such conditions as shall be then and there produced (the two Properties will be put up together at the upset price of 20,000l.) all that piece of LAND, situate on the west side of Grafton street and east side of Harrington-street, in Bethnal Green Park, in Liverpool, with a frontage of 65 yards to each of the said streets, and being 110 yards in depth, and containing 5,000 square yards, together with the Steam Saw mills and other Buildings thereon erected, well known for many years as the Brunswick Steam Saw mills, with the boilers, steaming, and sawing, planing, and moulding machinery, fixtures, and tools as they now stand in full working order. And also all that piece of LAND, situate on the east side of Hamilton-street aforesaid, and west side of Mann-street, with a frontage to each of such streets of 100 yards, and bounded on the north by Northumberland-street, with a frontage thereto of 45 yards, and containing altogether 4,500 square yards. Both of these properties are close to the new goods station of the Liverpool and Garston Railway Company, and to the Brunswick Dock. The mills have been worked up to the Office on the Premises.—For further particulars and for catalogues of the Machinery, apply to Mr. WILLIAM FOSTER, Solicitor, 38, Cannon-street, London; to Messrs. LOWNDES & CO. Solicitors, 3, Brunswick-street, Liverpool; to Mr. EDWARD WHITLEY, Solicitor, 6, Water-street, Liverpool; or to EDWARD CHALONER, Broker, East side Queen's Dock, Liverpool.

BY MR. EDWARD CHALONER.—On WEDNESDAY, the 13th of JULY next, at TWO o'clock in the afternoon precisely (unless previously disposed of by private treaty, of which due notice will be given), at the CLARENDON ROOMS, South John-street, Liverpool, subject to conditions of sale to be then produced; being the remainder of the property of Mr. John M'Laughlin left unsold at the sale on the 21st instant. As it is important that the estate should be realised as soon as possible the reserve prices on the various lots have been considerably reduced.

Lot 1 THREE MESSUAGES, forming Nos. 42, 43, and 44, Oxford-street, Liverpool. The tenure is leasehold under the corporation of Liverpool for the residue of a term of seventy-five years, from the 6th day of June, 1864, at a peppercorn rent. If not sold in one lot these three houses will be offered separately.

2. A MESSUAGE, being No. 102, Crown-street, Liverpool. The tenure is leasehold under the corporation of Liverpool for the residue of a term of seventy-five years, from the 14th day of May, 1831, at a peppercorn rent.

3. A Piece of FREEHOLD LAND, with frontage to Rishton-street and Breckfield-road North, Everton, containing on the south side, in front to Rishton-street, 92 feet 1 inch; on the east side, in front to Breckfield-road, 30 feet and 3 inches; containing in the whole 574 4-9ths square yards or thereabouts. Together with the Three Dwelling-houses thereon erected, two of which front to Rishton street, and the third is intended for a public house, and fronts to Breckfield road North. These buildings are not quite completed, but a very small outlay will be sufficient to complete them.

4. A Piece of FREEHOLD LAND, on the east side of Grey Rock-street, West Derby-road, with a frontage thereto of 89 feet 7 inches, and a depth of 45 feet. Together with the Six nearly-finished Dwelling-houses erected thereon.

5. A Piece of FREEHOLD LAND, situate on the west side of Dovestreet, and north side of Selby street, Lodge lane, Toxteth Park, with a frontage to Dove-street, reserved, of 102 feet, and to Selby-street of 43 feet 6 inches, and containing in the whole 493 square yards, or thereabouts. Together with the Seven Messuages and shops erected thereon, and numbered 1, 2, 3, 7, 9, 11, and 13.

6. A Piece of FREEHOLD LAND, situate on the south-west side of Fore-street, Birkenhead, with a frontage thereto of 79 feet 4 inches, and extending on the whole to the River Mersey in the rear thereof. Together with the Six several Messuages and Dwelling-houses erected thereon, and fronting Fore-street, and numbered 23, 27, 29, 31, 33, and 35.

7. A Piece of FREEHOLD LAND, situate on the north-west side of Claughton-road, in Birkenhead, with a frontage thereto of 88 feet 9 inches and containing in the whole, including one half of the common passage, 477 and 6-9ths square yards, or thereabouts. Together with the FIVE MESSUAGES thereon erected, and being numbered 140, 138, 136, 142, and 144, in Claughton-road.

For further particulars apply, as to Lot 1, to Messrs MINSHULL & HORNER, Solicitors, Exchange-alley North; as to lot 2, to Mr CROPPER, Solicitor, Fenwick-buildings, Harrington-street; as to lot 4, to T. J. SMITH, Solicitor, Newington; as to lot 5, to J. F. HARRIS, Solicitor, 5, Clayton-square; as to lot 6, to Mr J. O. JONES, Solicitor, 58, Castle-street; and as to the whole, to Mr. WILLIAM FOSTER, Solicitor, 38, Cannon-street, London; to Messrs. LOWNDES & CO. Solicitors, 3, Brunswick-street; Mr. EDWARD WHITLEY, Solicitor, 6, Water-street; or Mr. EDWARD CHALONER, Broker, east side Queen's Dock, Liverpool.

OXFORD.—To Speculators and Building Societies.—Most valuable Freehold Building Ground, St. Giles', and the City of Oxford, in proximity to the main street, St. John's College, Worcester College, the Clarendon Printing Office, Beaumont-street, St. John's street, and the Railway Stations

MR. JOHN FISHER begs to announce that he is instructed by the Guardians of the Oxford Incorporation to offer for SALE by AUCTION, at the TOWN HALL Oxford, on WEDNESDAY, JULY 27, at TWO for THREE o'clock in the afternoon, in One Lot, all that Valuable BUILDING LAND, comprising the sites of the present Workhouse and Gardens, consisting of 4a. 2r. 9p. with every convenience for building. The property is free from tithe, and the land-tax is redeemed; it offers the finest opportunity that has ever occurred in Oxford for building the Building Lots, for many years to come, from its great extent, both combined. Further particulars may be known, on application to Mr. JACOB, Clerk to the Board of Guardians, St. Giles's-street; or the Auctioneer's, High-street, Oxford where plans may be seen.

8 and Portion of a Timber Merchant's Stock to be SOLD, by order of the Proprietor retiring from business.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Chesshiton street, Somerstown, on MONDAY, JULY 11th, at TWELVE, a quantity of MAHOGANY PLANK and BOARD, beech, birch, cedar, walnut, whitwood, dry pine, yellow and white deals and battens (prime and cull) many stocks of rosewood and other veneers, fancy sparwood, planes, bits, stair battens, and a carcase of wood, for a fine-toned pianoforte.—Auction Offices, 2, Cardington-street, Hampstead road.

TO PUBLICANS, BUILDERS, AND OTHERS.—FREEHOLD INVESTMENTS, Kentish-town, within a mile of the City.

GEO. TODD is instructed to SELL by AUCTION (and may be leased by Private Treaty), at GARRAWAY'S (prior to the Sale), Change-alley, Cornhill, on WEDNESDAY, 6th JULY, at TWO, the genuine old-established RESIDENCE, known as Spread Eagle, situate at the Corner of the Royal Oak-road and Bower-street, well adapted for conversion into a first-class tavern or shop, which are in great demand in the locality. Also a capital Villa, with dwelling-house and shop adjoining, in the rear of the erection of shops, lower well situate in the Bridge-road and opposite Church street. The whole of the property is close to the new Park, and in close proximity to the Government Building Land. For further particulars, apply to Messrs. H. & F. CHESTER, Solicitors, No 1, Church-row, Newington; at the Auction Offices, Nos. 1 and 2, Chapel-place, Bridge-road, Battersea Park, S.W.

FREEHOLD BUILDING LAND, Battersea, Surrey, close to the New Park, and giving Votes for the County.

GEO. TODD will SELL by AUCTION, on WEDNESDAY, 6th JULY, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, at TWELVE for ONE o'clock, the Second Portion of the SPENCER LODGE ESTATE, consisting of 57 Plots of FREEHOLD BUILDING LAND, suitable for the erection of villa and cottage property, and well adapted for the erection of a commercial centre to freehold ground rents, including a valuable plot at the corner of Park-road and Elsha street, admirably adapted for the erection of a first-class tavern.—Particulars, with plan, may be had of Messrs. H. & F. CHESTER, Solicitors, 1, Church row, Newington Butts, and on the Auctioneer's Offices, Battersea Bridge-road, Battersea Park, S.W.

BEULAH HILL NORWOOD.—Twenty four Acres of valuable Freehold Building Land, within about a mile of the Norwood Junction, Crystal Palace, and Lower Norwood Stations, and about five minutes' walk from the Thornton Heath Station, affording access to London Bridge, Victoria, and Charing Cross, at frequent intervals throughout the day

MESSRS. DEBENHAM & TEWSON will SELL at the GUILDHALL COFFEE HOUSE, near Guildhall, on WEDNESDAY next, JULY 13, at ONE punctually, in one lot, 24a. 1r. 7p. of very valuable and nearly all FREEHOLD BUILDING LAND, situate on the western slope of Beulah Hill, about three minutes' walk from the Church. The land possesses considerable frontages to the Grange-road and Oakdene-road. It commands extensive and beautiful views, is surrounded by a rapidly increasing neighbourhood, and offers eligible sites for villas or cottage residences. The whole is Freehold with the exception of 1a. 3r. 27p. which is Copyhold of the Manor of Croydon.—Particulars of Messrs. THOMAS & ROLLS, Solicitors, Commercial Sale Rooms, Mincing-lane; and of the Auctioneers, 80, Cheapside.

SYDENHAM AND FOREST HILL.—Valuable Plots of Freehold Land, between the Catford-bridge and Forest-hill Stations, offering capital sites for residences.

MESSRS. DEBENHAM & TEWSON will SELL at the GUILDHALL COFFEEHOUSE, opposite the Guildhall, on WEDNESDAY, JULY 13, at ONE punctually, in ten lots, several plots of FREEHOLD BUILDING LAND (land-tax redeemed), situate within a few hundred yards of the Catford-bridge Station, for suiting the main road from Catford bridge to Lower Sydenham, including a very eligible piece 61a. 0r. 39p. now adjusting the residence of R. Brooks, esq. having a frontage of 357 feet; a valuable corner plot for a public house, and some capital sites for shops and private residences. Also several plots, situate in Canterbury and Manchester roads, Stanstead-lane, offering eligible sites for villas.—Particulars of Messrs. DE JERSEY & MICKLEM, Solicitors, 13a, Gresham street; and of the Auctioneers, 80, Cheapside.

FARNHAM, SURREY.—Ten Acres of Freehold Land, adapted for Building or Accommodation purposes, and conferring Votes for the County

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE HOUSE, near the Guildhall, in the City of London, on WEDNESDAY, JULY 13th, at ONE punctually, in two lots, about TEN ACRES of FREEHOLD LAND, situate on the beautiful eminence known as Lodge Hill, only a mile from the capital market town and railway station of Farnham, and possessing a frontage of 607 feet to the road connecting the high road from Farnham to Guildford and that from Farnham to Frensham, and a short frontage to a road in the rear. Part colors of S. WARNER, Esq. Solicitor, 3, King-street, Cheapside; and of the Auctioneers, 8c, Cheapside, E.C.

REPOSITORY, BARBICAN.—TUESDAY'S SALE.

Contractors' Stock.—Cart Horses, Waggons, Town Carts, Harness, &c. TO BE SOLD by AUCTION, by

MR. J. GOWER, on TUESDAY, JULY 5, at ONE o'clock, without reserve, by direction of Mr John Graham, Contractor, Brook Wharf, Upper Thames street, in consequence of the Contract being completed.—TWENTY FIVE well-known young powerful CART HORSES, four 3-ton waggons, two 4-ton ditto, sugar trolly to carry 10 tons, four town carts on springs, skid, chain, cart, and van harness, chaff machine, with gear to work by horse power; wanties, nosebags, headstalls, &c. On view day prior.

CONTRACT CART HORSES, from the Northern Outfall Sewer Works, Plaistow.—TO BE SOLD by AUCTION, by

MR. J. GOWER, at his REPOSITORY, Barbican, on FRIDAY, JULY 8th, at ONE o'clock, without reserve, Twenty well known young active CART HORSES, by direction of that eminent Contractor, Mr. G. Furness. Sold in consequence of the works being nearly completed. On view two days prior.

TREGANTLE FORT, CORNWALL, four miles from Fipmouth.—To CONTRACTORS, MINE AGENTS, BUILDERS, and OTHERS.

MR. HENRY SENDEY has received instructions from Messrs. Kirk & Parry, who have completed their Contract, to SELL by AUCTION, on TUESDAY, JULY 12th, 1864, and following days, upon the Works at TREGANTLE FORT, their most complete and valuable CONTRACTOR'S PLANT and MACHINERY comprising steam engines and boilers, two sets of winding gear, large main iron and steel wire ropes, by Newall, of Gateshead, and apparatus by Nicholls & Co. of Tavistock, for working an incline tramway, ½ mile long; a railway weighing-machine, by Nicholson, of Warrington; 150 tons of fish jointed and other railway metals, switches, points, and crossings; 40 railway waggons and trollies; 22 valuable Lincolnshire and other horses, in excellent condition, with all their gear complete; a complete set of stable utensils; 20 three-wheeled and other carts; wheelbarrows and planks; a powerful 6-ton derrick crane, and two smaller ditto on movable plate rims, by Forrest & Son; two 5-ton Forrest travelling winches, capable of lifting from four to six tons, with carriages, driving shafts, and thrusting bars complete, adapted to spans of from 30 feet to 60 feet; one 30-ton lever balance; all the usual masons, sails, and spars, complete; carpenters' benches; masons', quarrymen's, and complete sets of blacksmith's tools; bellows, anvils, &c. Also twenty Workman's Cottages, temporary dwelling-houses, engine-houses, carpenters' and smiths' workshops, and brick and tiled offices, with fittings, as now standing. May be viewed seven days preceding the day of sale, at Catalogues had of Mr. HENRY SENDEY, the Auctioneer, Ridgway, Plympton; of the Agent, on the Works; at the Globe Hotel, Chubb's Commercial hotel, the Albion, and the Prince of Wales, Plymouth, at the Royal Hotel and Steam Packet Commercial Hotel, Devonport, and at the principal inns throughout Devon and Cornwall. Sale to commence each day at half-past TEN A.M. Refreshments will be on the table from One to Two, after which time no lot will be sold by Auction, obtained from the Auctioneer. Mr. H. Sendey begs to call the particular attention of the public to the above valuable Stock and Materials, as the greater part has been in use only for the Tregantle Contract, and consequently is in first rate working condition.

June 14th, 1864.

MEDWAY LIME and CEMENT WORKS.

TO BE DISPOSED OF, the well-established BUSINESS, now in full operation, of the MEDWAY LIME and CEMENT WORKS, situate at Halling, a station on the South Kent Railway, near, and on the banks of the River Medway, together with the Mineral Rights, Plant, &c. The Works comprise a wash mill with drying floor, three cement kilns, a mill with three pairs of stones and crushing rolls, engine house, one 10-horse power steam engine, coal to be lease power, three steam boilers, chimney-shaft, range of eight dome-head lime-kilns, a tunnel kiln, spacious chalk-pit, landing wharf on the banks of the Medway, with load weighing beam, power, &c. The sale comprises all the buildings and erections on the Spot. The South-Eastern Railway intersects the property, from which a siding has been made. The Works have been built for the supply of the cement made adjoining, for which there is an unlimited demand. In connexion with the property are a Farm House, with out-buildings, three cottages, and about 30 acres of Meadow and Arable land, and several pieces of parcels of land, containing about 2a. 2r. 20p. and also Two Freehold Houses at Hastings.—For particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 2, 1864.

The Builder.

A JOURNAL FOR ALL

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1118. JULY 9, 1864. PRICE FOURPENCE. By Post, 5d.

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THE METROPOLITAN BUILDING ACT, 1855, Section 33.—The Institute of British Architects hereby give notice that an EXAMINATION of Persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 9, Conduit-street, Hanover-square, W. on FRIDAY, the 15th of JULY, at TEN o'clock in the Forenoon. Persons desirous to be examined must, on or before TUESDAY, the 19th day of JULY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

JOHN P. SEDDON,
CHAS. FORSTER HAYWARD, } Hon. Secs.

Conduit street, July 5th, 1864.

INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till DUSK. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION.—The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt;" together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Hanover-street, Regent street, from NINE till SEVEN.—Admission, One Shilling.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

CONTRACTS.

LANCASHIRE and YORKSHIRE RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of a BRANCH RAILWAY from Amiree to the North Shore at Bootle, Liverpool. Plans and specifications may be seen, and forms of Tender obtained, at the Engineer's Office, Hunt's Bank, Manchester, on and after FRIDAY, the 24th of JUNE instant; and TENDERS, properly endorsed, and addressed to the Directors, must be delivered to the Secretary not later than TUESDAY, the 12th JULY proximo.

WM. S. LAWN, Secretary.

Manchester, 10th June, 1864.

CONTRACTS.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the headstone columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO PAVIORS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 12th day of JULY, 1864, at half-past TWELVE o'clock precisely, to receive TENDERS for REPAVING the Carriageway of Moorgate-street, agreeably to a specification, which may be seen at this Office. Persons Tendering are required to give the names and addresses of at least two substantial householders as their sureties, to enter into bond with the Contractor for the due performance of the Contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory, and no Tender will be received after TWELVE o'clock on the day of treaty.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 28th June, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS, at Eaveusden, near Bedford, the property of John E. White, esq., of Kempston, in the county of Bedford, may see the plans and specifications by applying to the present occupier, at the Farm House, from MONDAY, the 4th, till FRIDAY, the 15th JULY (inclusive). Tenders to be sent in on or before TWELVE o'clock on SATURDAY, the 16th instant, to WILLIAM WATSON, Surveyor, Henlow, Biggleswade. The lowest or any Tender will not necessarily be accepted.

Henlow, June 30th, 1864.

TO BRIDGE-BUILDERS and CONTRACTORS.—It is proposed to CONSTRUCT a CAST-IRON BRIDGE over the River Stort, at Bishop's Stortford, near the Railway station. Persons desirous of TENDERING for these Works, may see the drawings and specification on application to Mr. FOWLER, at the Mechanics' Institute, Corn Exchange, Bishop's Stortford, on FRIDAY next, the 1st JULY, between the hours of NINE a.m. and SIX p.m. up to WEDNESDAY, the 13th JULY.—Tenders to be delivered to me on THURSDAY, the 14th JULY, under cover, endorsed, "Tender for the Erection of a Bridge at Bishop's Stortford." The Committee do not pledge themselves to accept the lowest or any Tender.—By order of the Bridge Committee.

GEORGE FERRY, Surveyor.

Bishop's Stortford, 28th June, 1864.

TO BUILDERS.—TENDERS will be received for sundry RESTORATIONS to, and for RE SEATING and RE-ROOFING with LEAD, the Parish Church of Lugwardine, near Ludlow.—The plans may be seen at the Offices of the Architects, in Hereford, and upon application to the Parish Clerk, at Lugwardine. The Tenders are to be delivered to the Architect, on the 22nd instant, and no pledge is given that the lowest will be accepted.

THOMAS NICHOLSON, F.I.B.A. Diocesan Architect.

Hereford, 1st July, 1864.

TO BUILDERS.—Contractors desirous of TENDERING for various WORKS required, in ADDITIONS and CONSTRUCTION of New SCHOOLS, OFFICES, and FARM BUILDINGS, at the Primitive Methodist Training College, Flaxfield House, near York, may see the plans and specifications, and receive further information, of Mr. HERBERT FIPPARD, Architect, 3, Frances-terrace, York, up to WEDNESDAY, the 20th instant, when sealed Tenders are to be delivered.

SAINT OLAVE'S UNION.—To PAINTERS and OTHERS.—The Guardians of the above-named Union are desirous of receiving TENDERS for PAINTING the whole of the external portion of the BUILDINGS of the WORKHOUSE belonging to the said Union, situate in Parish-street, Horsleydown, and for some REPAIRS to the same. A specification of the said works may be seen at the Office of Messrs. SNOOKE & STOCK, Architects and Surveyors, No. 6, Duke street, London Bridge, Southwark, and Tenders clearly and legibly written, directed to the Guardians or Clerk, and endorsed "Tender for Painting," are to be delivered at the above-mentioned Workhouse, by THURSDAY, the 21st day of JULY instant, by TWO o'clock in the afternoon at the latest.—Any further information may be obtained from the above-named architects, at their said Office. The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board,

CHARLES WELBORNE, Clerk to the Guardians.

17, Duke street, London Bridge, Southwark, July 1, 1864.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of a HOUSE at Kidwelly, South Wales, can see the plans and specification at 21, Guildford-street, London, W.C.

M. C. W. HORNE, Architect.

TO BUILDERS.—Parties desirous of CONTRACTING for the ALTERATIONS and ADDITIONS to the CHURCH at PONTBLODDYN, near Mold, can examine the plans and specifications at our Office, between the hours of NINE a.m. and SIX p.m. from the 7th to the 21st inst. Tenders must be sent to us on or before the 23rd inst. endorsed "Tenders for Pontblyddyn Church." The lowest Tender will not necessarily be accepted.

LLOYD, WILLIAMS, & UNDERWOOD, Architects and Surveyors.

Park-lane, Denbigh, 4th July, 1864.

CROYDON LOCAL BOARD of HEALTH. To STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the SUPPLY of one thousand tons of Broken GRANITE for road purpose, and also GRANITE and PURBECK CUBES of various sizes, in accordance with the specification prepared by Mr. Latham, C.E. the Engineer of the Local Board, can inspect the said specification at the Engineer's Office, in the Town-hall, Croydon, on or after this day.—Sealed Tenders, endorsed "Tender for Granite," are to be delivered at the Office of the Local Board in the Town-hall, Croydon, on or before MONDAY, the 8th day of AUGUST next. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk.

July 8th, 1864.

CONTRACTS.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of an HOTEL at Ilfracombe, North Devon, are requested to send their names to Mr. M. C. W. HORNE, Architect, 20, Guildford-street, London, W.C.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for FISHING BOLTS and SLEEPER BOLTS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of FISHING BOLTS and SLEEPER BOLTS for this line—about 19½ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received), at the Office of Mr. Cubitt, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders, sealed up and marked "Tenders for Fishing Bolts and Sleeper Bolts," must be lodged at this Office, before TWELVE o'clock at noon on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, N. June 27, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for SLEEPERS. The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for this Line about 19½ miles in length. Parties disposed to Tender may obtain the specification and forms of tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders, sealed up and marked "Tenders for Sleepers," must be lodged at this Office, before TWELVE at Noon, on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, 27th June, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19½ miles in length). Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George street, Westminster, S.W. on or after TUESDAY, the 12th JULY.—Tenders sealed up and marked "Tender for Rails and Fish Plates," must be lodged at this Office before ELEVEN o'clock a.m. on TUESDAY, the 2nd AUGUST, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, N. June 27th, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the SPALDING and MARCH LINE about 19½ miles long) and STATIONS. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY; where also the working drawings may be inspected, and copies of the general plan and working section, and other information may be obtained, on payment of 2l 2s. Tenders, sealed up and marked "Tender for Spalding to March Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, 27th June, 1864.

BUILDERS and OTHERS desirous of erecting some Detached and Semi-detached Villas at Chiswick, may inspect the Plans and Particulars at the Offices of the Architects and Surveyors, Messrs. M'NEILL & ELLIOTT, 18a, Belgrave-square. It is proposed, in the first instance, that Builders erect the villas upon their own account, as the rents are secured by the owner. The ground-rent moderate. Term, 99 years.

CORPORATION of MANCHESTER.—TO CONTRACTORS.—The Waterworks Committee is prepared to receive TENDERS for the CONSTRUCTION of a SERVICE RESERVOIR at Prestwich Hills, about 4 miles from Manchester. Plans may be seen, and printed copies of the specifications obtained, on and after THURSDAY, the 7th inst. on application at the City Surveyor's Office at the Town-hall. A charge of Two guineas will be made for a copy of the specification, which will be returned when the Tender is delivered, whether the party tendering obtains the Contract or not. Tenders to be delivered not later than the 2nd of AUGUST next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH HERON, Town Clerk.

Town-hall, Manchester, 2nd July, 1864.

SWANSEA LOCAL BOARD of HEALTH. To CONTRACTORS.—The Swansea Local Board of Health are prepared to receive TENDERS for the SUPPLY of CAST-IRON PIPES, varying from 3 inches to 9 inches diameter, to be used as Distributing Water Mains within the district. The quantity which Tenders may be accepted will be required to contract for the delivery of such Iron Pipes as may be required by the Local Board during a period of 12 months from the date of Contract.—The specification, form of Tender, and schedules for price may be seen at the Office of the Surveyor to the Local Board, Guildhall, Swansea. Sealed Tenders to be sent in, addressed to the Clerk, on or before MONDAY, the 25th of JULY instant, endorsed "Tender for Cast-iron Pipes." No pledge is given that the lowest or any Tender will be accepted.—By order,

C. B. NANSE.LD, Clerk.

Guildhall Offices, Swansea, July 4th, 1864.

[For remainder of Contracts see next Page.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a TOWER and SPIRE to St Mark's Church, Cheltenham, may see the plans and specifications at the Lower Alstone School room, from MONDAY, the 11th of JULY, to FRIDAY, the 22nd instant.

JOHN MIDDLETON, Architect.

Cheltenham, July 1, 1864.

TO BUILDERS. — Persons willing to CONTRACT for ENLARGING or ERECTING WATER-CLOSETS, WASHHOUSE, and LAUNDRY, may see the drawings and specification at the Board room of the Workhouse in Copperas-row, on and after SATURDAY, the 16th of JULY inst. between the hours of TEN and FIVE o'clock. TENDERS to be delivered on or before FRIDAY, the 29th inst. next, by SIX o'clock, sealed, endorsed, and addressed to me.—For further particulars, apply to Mr W. P GRIFFITH, Architect, 19, Guilford-street, W.C. The Guardians do not bind themselves to accept the lowest or any Tender.

EDWARD SCARGILL, Clerk to the Guardians.

Workhouse, Copperas-row, July 6th, 1864.

FALING SEWERAGE WORKS.—MANURE TANKS.—The Local Board are prepared to receive TENDERS for the CONSTRUCTION of certain MANURE TANKS, FILTER BEDS, and other Works connected therewith.—The plans, specification, together with any other information, may be obtained at the Office of Mr CHARLES JONES, 2, Church-terrace, Ealing the Surveyor of the Board. Sealed Tenders to be delivered to the Surveyor, on or before NOON on FRIDAY, the 22nd JULY, 1864. The Board do not pledge themselves to accept the lowest or any Tender —By order, (a good) ALEXANDER HEMSLEY, Clerk.

Ealing, 7th July, 1864.

TO BUILDERS.—Persons willing to TENDER for BUILDING a HOUSE on land adjoining the Wellington College Station, and next to the Wellington College station, South-Eastern Railway, may see the Plans at the Office on and after FRIDAY, the 15th of JULY, between the hours of Ten and Five. Tenders to be delivered to me at FOUR o'clock on TUESDAY, the 26th of JULY Neither the lowest nor any Tender will necessarily be accepted CHAS. SMITH, Architect.

194, Friar-street, Reading.

NORTH STAFFORDSHIRE RAILWAY. To BUILDERS.—The North Staffordshire Railway Company desire to LET by CONTRACT the ERECTION of Additional WORK SHOPS at Stoke upon Trent. The Buildings will be principally composed of brickwork and will be about 750 feet long by 70 feet wide, and 21 feet high, from the ground to the parapet. The drawings can be seen, and other necessary information obtained, on written application to Mr. J. C. FORSYTH, the Company's Engineer, Stoke-upon-Trent. Sealed Tenders to be addressed to the Secretary, at Stoke upon-Trent, and delivered on or before the 1st of AUGUST. The Directors do not bind themselves to accept the lowest or any Tender

J. SAMUDA, Secretary

Stoke upon Trent, July 1st, 1864.

TO BUILDERS.—TENDERS are invited for a TERRACE of VILLA RESIDENCES, near Watford Station, Herts. The plans and specifications may be seen at 1, Athenæum-terrace, Stoke (near the site), any day up to MONDAY, JULY 18th, and particulars as to the class and style of house may be known from Mr. WINDLE, 48, Carmelite-chambers, Lothbury-road. Mr. Windle does not pledge himself to accept the lowest or any Tender.

TO CONTRACTORS.—Persons desirous of CONTRACTING for the WORK to be done in the RESTORATION of the TOWER, NAVE, and AISLES of Worcester Cathedral, may see the drawings on [illegible] on application to the Architect, Mr A. E. PERKINS, College-yard, Worcester, on or after the 6th of JULY until the 31st, when final stroke arrangements for the issuing the said drawings and specifications for preparing Tenders, which must be free of expense, will be given to the Committee, at the Chapter Room of the Cathedral, at or before TEN o'clock in the morning of the 4th of AUGUST next The Tenders for the Tower and those for the Aisles must be separate The Committee do not bind themselves to accept the lowest Tender

NOTICE to CONTRACTORS.—TENDERS are required for REPLACING the present STONE PARAPET of the Tower on Grand Stand with SETTS of CORNISH GRANITE. The drawing may be seen, and a specification and form of Tender obtained, on application at this Office, between the hours of TEN and FOUR, from 18th till 23rd JULY next

Parties tendering will be required to take out their own quantities.

Tenders will not be received later than 28th JULY inst.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer office, Sheerness, 4th July, 1864.

TO BUILDERS.—TENDERS are required for the NEW BANK to be ERECTED in Westgate, at Huddersfield, for the Halifax and Huddersfield Union Banking Company Bills of quantity, which may be had free of charge, and applications for the same must be sent to us, per post, not later than WEDNESDAY, the 13th instant The drawings and specification will be in Huddersfield for inspection on and after MONDAY, the 18th instant, until the SATURDAY following; and the Tenders must be delivered on MONDAY morning the 25th instant.—All further particulars will be given with the Bills of

PAULL & AYLIFFE, Architects.

India Buildings, 69, Cross-street, Manchester,

Dated July 5th, 1864.

GLOUCESTER. TENDERS are required for the ERECTION of a CHAPEL to seat 650 persons. The foundations are to be of brick, covered with rag and corrugated iron Drawings and specification may be seen at the Office, and applications for the same must be sent to me, per post, not later than WEDNESDAY, the 13th instant. The drawings and specification will be in Gloucester for inspection on and after MONDAY, the 18th instant, until the SATURDAY following; and the Tenders must be delivered on MONDAY morning the 25th instant.—All further particulars will be given with the Bills of Quantities

PAULL & AYLIFFE, Architects.

India Buildings, 69, Cross-street, Manchester,

Dated July 5th, 1864.

GLOUCESTER. TENDERS are required for the ERECTION of a CHAPEL to seat 650 persons. The foundations are to be of brick, covered with rag and corrugated iron Drawings and specification may be seen at the Office, and applications for the same must be sent to me, per post, not later than WEDNESDAY, the 13th instant. The drawings and specification will be in Gloucester for inspection on and after MONDAY, the 18th instant, until the SATURDAY following; and the Tenders must be delivered on MONDAY morning the 25th instant.—All further particulars will be given with the Bills of Quantities

ROWLAND FISHER, Architect

17, Great George-street, Westminster, S.W.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a PAIR of SEMI DETACHED VILLAS, at Brompton road, Bexley Heath, Kent, for Henry Chandler, Esq., may see the drawings and specification, and obtain copy of quantities, at the Office of Messrs. WM GOSLING & SON, Architects and Surveyors, 87, Wellington street, Woolwich.—Tenders to be sent in on SATURDAY next, the 16th instant. Mr. Chandler does not pledge himself to accept the lowest or any Tender.

BUILDING GROUND.—TO BE LET, for a Mr. I next, a valuable PLOT of GROUND, adjoining the Lea Bridge Road Station, with a frontage of 80 feet to the Lea Bridge-road, the total area being five acres and a half.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO BE LET, Large and Valuable PREMISES, with water communication, one mile north from the Bank, lately occupied by a mahogany merchant, who realized a large fortune there.—Apply to E. & W. STURGE, Bridge Wharf, City-road, E.C.

CITY ROAD, Saint Bartholomew's Hospital. GROUND TO BE LET, for Building, in Collingwood-street, with immediate possession. For further particulars apply at Mr HARDWICK'S Office, No. 1, Henrietta-street, Cavendish Square.

July, 1864 WILLIAM WILBY, Clerk.

A FREEHOLD MANSION TO BE SOLD. The elegant furniture may be had at a valuation. There are four reception rooms, two being 20 feet in length, sixteen bed and dressing rooms, stabling for eight horses and coach house for four carriages, kitchen-garden, offices, extensive ornamental grounds, with greenhouses, in all 2a. 0r. 35p. (nearly), forming a most desirable residence, situate on the Western Parade, half a mile from Windsor Great Park, and 23 minutes from the Waterloo station.—Apply to J. BOWEN MAY, Esq., Solicitor, 17, Russell square.

LORDSHIP ROAD, Stoke Newington.—TO BE LET, on Building Leases of 99 years (at low ground rental), several PLOTS, eligible for semi-detached villas and terraces.—Apply to Mr. RODDA, Bourne-road, Church-street, Stoke Newington. N.B. Bricks supplied on the estate at low prices.

FOREST HILL.—BUILDING LAND TO LET on this hill, commanding extensive views. — Apply to A. B 192 Bermondsey-street, S.E.

LEWISHAM, KENT, near the Junction Station of the Midland North Kent lines.—TO BE LET, TWO PLOTS of GROUND, each for a Pair of Small Villas. Also, a Plot for Three Pairs. Ground rent 3l. per house.—Apply to THOMAS MILLS & SON, Builders and Agents, 28, York-street, Westminster, S.W Leases 99 years, direct from freeholders. No advances.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City road, and comprising a spacious and substantial modern [illegible] manufactory of two floors, engine and boiler houses, with 70 horse power steam engine and three Cornish boilers, range of brick-built offices, and paved yards with gateway entrances There is a water frontage of about 90 feet For further particulars apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

BUILDING LAND TO BE LET, situate at Vauxhall, Leytonstone, and Camberwell.—For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

TO BE SOLD, a FREEHOLD ESTATE, near London, and near a railway station communicating with the Metropolitan, the Kensington, and other Railways Price moderate It consists of a superior farmhouse and buildings, with 18 acres of rich pasture land in a ring fence. It abounds with first-class brick earth, and presents large frontages to good roads, forming excellent sites for building, and it possesses many other advantages which render it a most desirable investment. The greater portion of the purchase-money may remain on mortgage at 4 per cent.—For plans and particulars, apply to Mr. DEAN, Architect, 123, Chancery-lane.

DARTFORD, Kent.—FOR SALE, valuable FREEHOLD BUILDING LAND, in plots of 50 feet frontage and upwards, at Dartford New town, about half a mile from the railway-station.—For particulars, apply to A. RUSSELL, Esq Solicitor, Dartford; or to Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields.

ACTON.—TO BE LET, on a Repairing Lease, a Small HOUSE and GARDEN. The ground, which is 50 feet by 100 feet, has two frontages, and is well adapted for building purposes.—For particulars, apply to Mr. SAMUEL FIELD, Surveyor, 11, Bedford buildings, Strand, W.C.

TO BE SOLD by PRIVATE CONTRACT, upwards of NINETY FREEHOLD and long LEASEHOLD HOUSES, situate near the railway stations at Blackheath, New Cross, and Peckham; also at Old Ford road, Victoria Park, De Beauvoir-town, and Gravesend; also Two Houses and Shops in Fort-street, Spitalfields. The rentals of the houses range from 30l. to 40l. per annum The above houses and shops are well worthy the attention of Builders and persons of small capital seeking profitable investments, as three-fourths of the purchase-money may remain on mortgage.—Full particulars will be given on application to Messrs. WATTS, Rolls chambers, 84, Chancery lane, W.C.

LARGE HOUSES are REQUIRED at WANSTEAD. The Grove Estate is five minutes' walk from the station Money and materials advanced. -THOMAS EDWARD KNIGHTLEY, Architect, 25, Cannon-street, City.—The Freehold may be purchased

NEWLY and most substantially erected WAREHOUSES and LAND, occupying an area of nearly half an acre, near the entrance to the London Docks, well adapted for bonded warehouses, TO BE LET on LEASE, or the Freehold to be sold.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO BUILDERS and OTHERS.—LAND TO BE LET on BUILDING LEASES.—Upwards of 3,000 feet frontage, beautifully situate at Penge, within a short distance of three railway stations.—Apply to Mr. LEWIS, Architect, 5, John-street, Adelphi; Mr. RICHARDS, Solicitor, Croydon; or to Mr. GARROOD, Hawthorn grove, Penge Money advanced if required

LAND TO BE LET, in the best part of Chelsea, in large or small plots, equal in all respects to freehold.—Apply for particulars and to see the plans, to Mr. H. M. EYTON, Surveyor, 250, King's-road, Chelsea; or to Mr. GRACE, 57, Oakley-street, Chelsea, S.W.

UPNOR, near ROCHESTER and CHATHAM, KENT—ELIGIBLE INVESTMENT.—TO BE LET, on LEASE, or SOLD, all those very desirable PREMISES, known as the Terra-Cotta Works, Upnor, near Rochester, consisting of tile kilns, an extensive range of sheds, stable, offices, and other buildings, together with three acres of meadow land, containing a very large quantity of pottier's clay. The property is situate immediately opposite the Government works in connexion with Chatham Dockyard, in close proximity to the property of the War Department at Upnor, and has a most convenient frontage to the river Medway, where it will prove a more than ordinary valuable investment. The premises for some years past have been used as a Terra Cotta Manufactory. No objection, however, will be made to their conversion by a tenant to other uses, to be approved of by the owners.—For further particulars, apply to Messrs FESSELL, KNIGHT, & ARNOLD, Solicitors, Rochester, Kent.

PUTNEY.—To BUILDERS and OTHERS. Superior BUILDING LAND TO BE LET, on the Richmond-road, Putney, within 10 years of the termination Lease, 90 years. Ground-rent moderate. Liberal allowances made.—For plan, &c. apply to J. H. ROWLEY, Esq. Architect, 35, Poultry, E.C.

BRICKS for SALE.—About 200,000 RED FACING BRICKS, lying at Grays, Essex.—Apply at the Office of the Grays' Chalk Quarries Company (Limited), 8, Georges-yard, Lombard-street, London, where a sample may be seen.

TO BUILDERS and OTHERS.—Superior RED and STAINED TILES, RED KILN BRICKS, and ORNAMENTAL WARE, in Stock and to Order, at FRIMLIN'S Brick and Tile Factory, Wateringbury, Kent. Can be put into Medway barges, or on the South Eastern Railway.

TO BRICKMAKERS. — All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two-fold.

1st. Nearly all the ordinary burnt stocks, and the yield of inferior bricks is reduced from 25 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank street, Westminster.

SAMPLES of BRICKS, TILES, &c. Made at EAST COWES PARK, Can be seen in the Constructional Department, KENSINGTON MUSEUM. R. LANGLEY, Agent.

NEW STOCK NOW READY. FINE WHITE BRICKS. BEST RED BRICKS.

White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Plain and Ornamental ROOFING and RIDGE TILES; Delivered to Vessels in the Dock alongside the Kilns, in the River Medina.

Pattern Sheets, and all information, may be had of R. LANGLEY, Agent, East Cowes-park, Isle of Wight.

BRICKS, PANTILES, AND PAVINGS. J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 30s per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS. By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS. By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Hatcher Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

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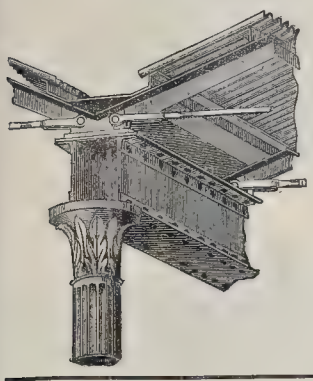
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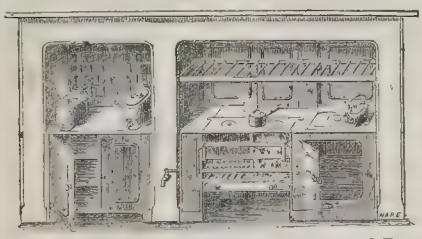
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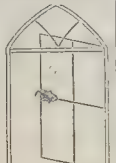
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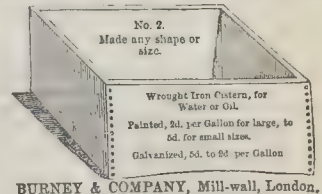
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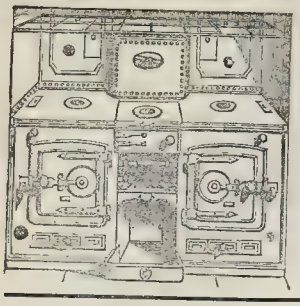
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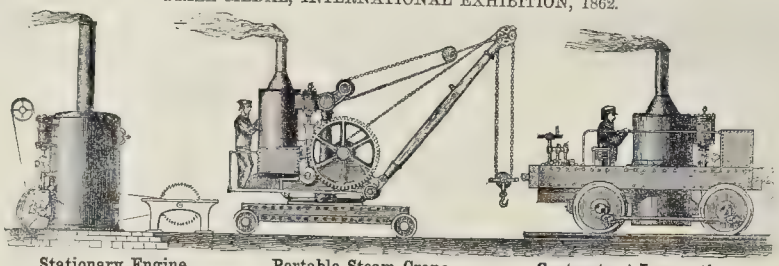
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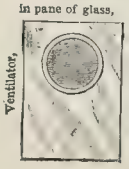
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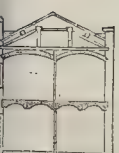


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CURE OF SMOKY CHIMNEYS,

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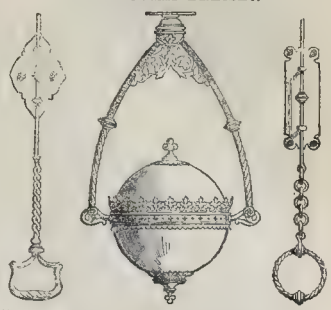
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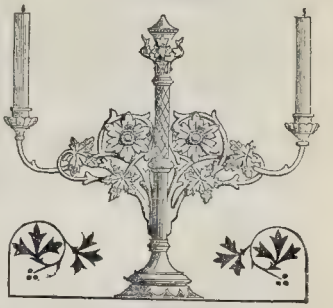
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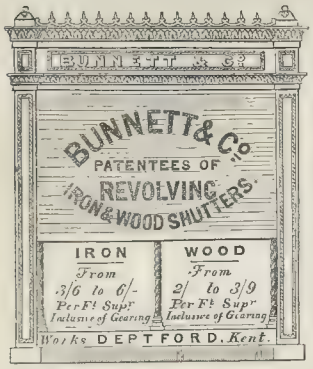
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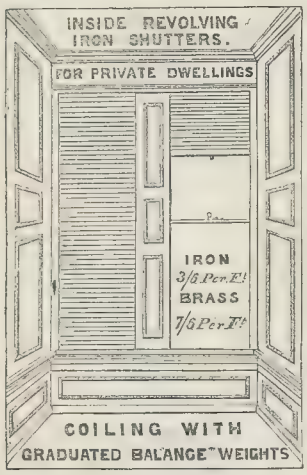
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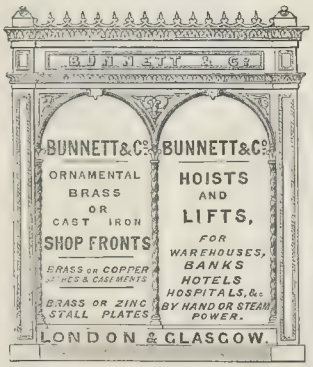
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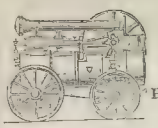
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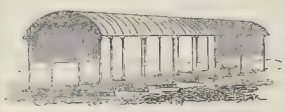
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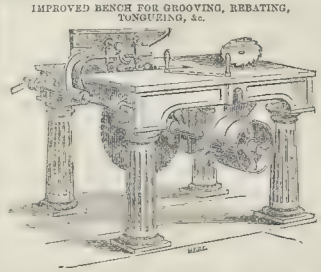
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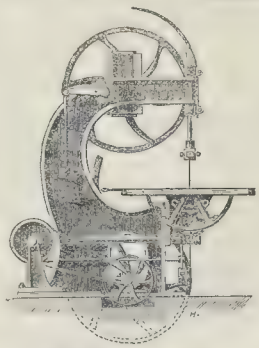
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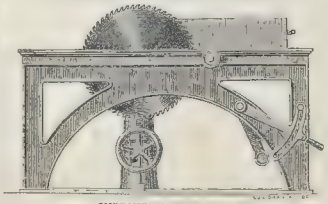
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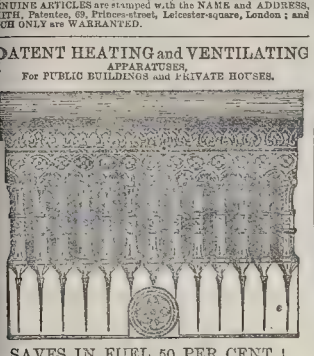
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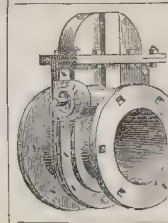
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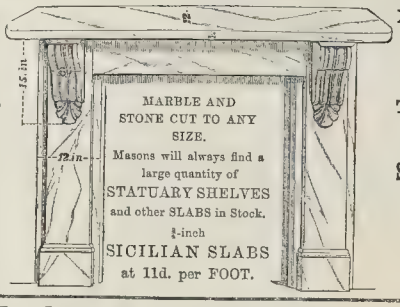
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The Builder.

VOL. XXII.—No. 1118.

The Exhibited Machinery of 1862.*

SEVERAL years are now gone by since Mr. D. K. Clark published his admirable work on Locomotive Machinery. There can be no doubt that this book was the best book ever written on any form of the steam engine. Containing many new views and experiments, filled with very careful descriptions of then existing and still extant machinery, ustrated with a profusion of woodcuts and cellent engravings, and the whole text be-g, as it were, threaded on a careful and minous style, this work may be said to have rmed an era in the development of the loco-otive, and to have been a benefit to the ofession. It is true that nothing is more volutionary than science, and more especially echanical science,—like the Time of mythology, e progress of one year perennially devours the oducts of the last. Many other engineers ve, doubtless, assimilated much of the results this book, and thus fortified, can carry still rther the development of locomotive machi-ry; but the book itself will always remain an most imperishable monument to Mr. Clark's owledge, talents, and industry. We say most, for it is the fate of scientific works to more or less transitory; and although, to use e words of Laplace, "a system of the uni-rse can only be once discovered," many of the pours of Newton himself have already been perseded. We shall, however, always feel ateful to Mr. Clark for his excellent work on comotive Machinery, and we can never cease feel respect for his abilities. Such success s, however, its own disadvantages. An thor like this raises great expectations when issues a second work under such excellent estige; and he has to in a great measure ame these very expectations if they be not lfilled.

We must confess that his last work has been great disappointment to us. It has disap-inted us in several ways—as to its period of blication, its size, and its matter. In the first ace, as our readers will have seen, we have d long ago occasion to notice several very cellent reports on the Great Exhibition of 62. We have thus long ago had the English, e French, and the Belgian official reports, ithout reckoning the numerous excellent and sultory accounts that have appeared in our ges and in those of our contemporaries. Why, this time, as we know to be the fact in several stances, many of the exhibits are already perseded by improved contrivances. This int, however, may be said to be the business the readers or purchasers, many of whom, r aught we know, might still delight in a full, reful, and correct record, in the English lan-age, of the engineering department of the hibition of 1862. The other point, which ore closely concerns Mr. Clark himself, is the size of the work,—what the French would call its *cadre*. Now, we unhesitatingly say that this is too narrow. We hold it to be impossible to condense a really interesting and valuable account of the engineering exhibits of 1862 in a work of this size. Mr. Clark himself has the same feeling. He says that "with every disposition to compress the matter of the volume within smaller limits, it has, nevertheless, been extended to nearly one-half more than the space originally assigned for it; as it was found that these limits could not be observed without injuriously curtailing the book. In fact, the volume might easily and profitably have been extended to double the size." No doubt it could, but then, *tant pis* for an author who has to make such an avowal. Then comes the question:—Can one man,—even if he be Mr. Clark, and Superintendent of the Western Annex,—write a thorough work on the exhibits of the quondam Western Annex? We should decidedly say, No. Can one man write equally well about railway plant, the rolling stock, and the fixed plant of lines;—on machinery for manufacturing textile fabrics,—spinning and weaving cotton, and flax, and silk, and wool;—machine tools for working in iron, wood, and other materials; machines for working in paper, stone, and clay, sugar and oil, and in flour; and on machines for brewing? There is no engineer living who may be said to be equally competent in all the forms of even the steam-engine alone, in locomotive, and marine and pumping, and stationary engines, and portable work. Hydraulic machinery, again, has several special developments that form separate classes requiring a life-long study; and then an immense variety of unclassed machinery was exhibited, some classes of which were entirely novel, and contained within themselves the germs of new branches of the engineering profession. There can be no doubt that the plan adopted in all the reports on the Exhibition, except Mr. Clark's,—that, namely, of employing, the pens of a number of men of science,—is the only one suited to the encyclopedic character of the task of describing and, if possible, criticising upwards of eleven hundred engines and machines. It is true that writing about an engine or machine is not so difficult as constructing it, but we could scarcely expect that even Mr. Clark, favoured as he was by his official position, would be equal to a work demanding such multifarious experience.

In the arrangement of his book, Mr. Clark has generally followed the classification adopted in the official catalogue. The first part of this volume is on railway plant; the second on the manufacture of textile fabrics; the third treats on machine tools; and the last on machinery in general. The work contains some 431 wood engravings,—nearly the same in number as the letter-press pages. Many of the wood-cuts have appeared before in different works, but this cannot be said against the thirty-nine excellent lithographs; and among these we may direct attention to a series of six, showing the dry clay brick-making machines of Messrs. Platt, Brothers, & Co., of Oldham.

The plan carried out by Mr. Clark in this work has been to treat fully and critically on the departments in which he has a thorough experience, and to confine himself to somewhat meagre descriptions of the exhibits out of his special scope. The accounts of the railway plant and of the steam-engines are thus very valuable, and almost unique; but, except in two other particular cases that appear to concern himself personally, Mr. Clark keeps in the main to the *rôle* of description only. The most important improvement in permanent way is clearly the application of steel rails. Mr. Clark does not so strictly confine himself to the Western Annex, but that he might have alluded to the Bessemer steel rails. Mr. Bessemer sent a rail 40 feet long, rolled at Crewe. There was one sample that had been twisted cold like a ribbon, under the steam-hammer, and during a severe frost. According to an account now before us, the London and North-Western Railway have manufactured at their works at Crewe, less than six months ago, upwards of 1,200 of Bessemer rails, and the quantity of cross ends amounted to 97 tons. The engineers of that line have put down the steel rail exhibited in 1862, and expect to be able to send it to an eventual exhibition of 1872. We also miss an account of some samples of steel-topped rails exhibited by M. Verdié, of Firminy, in France. In the Austrian department, again, an excellent sample of a chilled crossing, similar to that of Mr. Biddell, of Ipswich, was exhibited by Ganz & Co., of Ofen; but Mr. Clark has not noticed this exhibit. There is a very complete and correct account of the wood-working machinery; but with the more progressive makers, such as Messrs. Worssam & Co., of Chelsea, many of these machines have been already altered in detail from those exhibited in 1862. Mr. Clark, in alluding to Perin's band-saws, states that "their introduction into general use in England is due to General Tulloch, lately director of the Royal Carriage Department, at Woolwich Arsenal," who saw it at work at the Paris Exhibition of 1855. "The example set at Woolwich was quickly followed at other wood-working establishments in various parts of the country, and hundreds of band-saws were quickly at work." The admirable machines of Messrs. Worssam are very carefully described; and this is also more or less the case with those of Messrs. Powis & James, of Messrs. Thomas Robinson & Sons, and Greenwood & Batley, and others. Most mechanics will have a very distinct impression of Messrs. Greenwood & Batley's stand, which formed a perfect "carnival" of ingenuity, kept within due bounds by admirable workmanship and design. Mr. Clark concludes a notice of these machines of such value to the builder, by remarking that the style of wood-working machinery is being assimilated to that of the best machine-tools; the frames are massed into the simplest forms, and the fewest number of pieces, while each machine is placed on a strong bed-plate. "The sooner that the common architectural abortions in cast-iron are abandoned, the better it will be for the founder and for the machine. The hollow or box system of framing now successfully practised by the machine-tool makers might be with benefit introduced in various ways in wood-working machinery." The wet or plastic clay machines—in which the clay is forced through a die, consolidating it and shaping it during the passage — of Messrs. Clayton & Co., P. Effertz, Page & Co., and Sharp & Bulmer, are carefully described. This is also the case with the dry-clay or compression machines,—in which the clay is formed in moulds,—of Wilson, of Glasgow; Bradley & Craven; and Platt, Brothers, & Co. These last are very completely illustrated. There can be no doubt but that the wet-clay machines, working by compression, are as yet the most successful; and we have seen the machines of Clayton & Co., in particular, in successful working trim in several distant parts of Europe.

In the account of the ice-making machines of M. Carré, Mr. Clark has omitted to notice the dioptric water-gauge glass used on these machines, and also beginning to be applied to steam boilers. The glass is protected from breakage by means of a brass casing; this casing is furnished with sets of holes opposite each other, and the difference of refraction between the water and the glass causes the circular holes in the level of the water to appear as an ellipse with its major axis in the same line with the vertical axis of the tube. The glass is thus protected, and its indications are clearer.

* "The Exhibited Machinery of 1862: a Cyclopædia of the Machinery represented at the International Exhibition." By D. K. Clark, C.E., M. Inst. C.E.; late Superintendent of the Western Annex, International Exhibition, 1862; Author of "Railway Machinery," &c. Day & Son. London, 1864.

As we have stated, the notice on the steam engines exhibited is very interesting and valuable. This portion is supplemented by a lengthy note referring to a contestation about the scientific priority between Mr. Clark himself and Mr. Z. Colburn, as to the origination of a new explanation of boiler explosions. The explanation is of great interest, and its more extensive propagation would probably result in the saving of many lives and of much property.* It is not, perhaps, so generally known as it ought to be, that at least 100 lives and many thousands' worth of property are annually lost in England alone through boiler explosions. The theory is here neatly stated as follows: "Explosions are probably in many cases preceded by ruptures. Circumstances determine whether a rupture shall be followed by an explosion. Perhaps the occurrence of an explosion, in ordinary cases, mainly depends upon the locality of the rupture under water or above water. If under water, water only is expelled, causing very little enlargement of volume, reduction of pressure, or internal commotion, and therefore unlikely to incur explosion. If, on the contrary, the rupture takes place above water, steam issues with the enormous velocity due greatly to its comparative lightness and its tension, 1,800 to 2,000 feet per second, which, of course, would cause the evacuation of the steam-room of an ordinary boiler instantaneously through a very small opening, and therefore an instant fall of pressure, and an instant generation of steam, and the projection of water and steam at the rate of many hundred feet per second within the boiler." Mr. Clark then hastens to state that "this new theory of the violence of boiler explosions, which may be called the "projectile theory," was first broached by the author in 1859, and published by him in the *Mechanics' Magazine* for February 10, 1860. Now it really would be a matter of serene indifference to us who first broached the new explanation, but having carefully examined the question, we feel bound to state that Mr. Clark is, mildly speaking, quite mistaken in his assumption. Any question of priority of discovery is simply and purely a question of priority of publication. Starting from this universally received test—acknowledged as the only one by the scientific men of all nations ever since there was such a thing as science—the question is very simple. On the one hand is the little note of a few lines of Mr. Clark; on the other an elaborate pamphlet by Mr. Colburn.† The first was published in February; its only idea is an assimilation of the explosion of a boiler to that of, say, a loaded mortar filled with small shot—the particles of water taking the function of the bullets. This idea, whether it be right or wrong, is a mere fraction in the explanation published in March by Mr. Colburn in his pamphlet. We have thus Mr. Clark's small note in one scale of the balance, and Mr. Z. Colburn's book in the other. Any one who chooses can read Mr. Colburn's pamphlet for himself, and whatever he may otherwise think of the controversy, he can scarcely come to any other conclusion than that Mr. Colburn has received very considerable provocation.

In the midst of the article on hydraulic machinery is inserted another long note, as full of explosive materials as any gun-cartridge. The question is again a point of dispute between Messrs. Clark and Colburn, but it is this time on the relative efficiency of the centrifugal pumps of Messrs. Appold and Messrs. Gwynne respectively. To enter in the least into the question would, amongst other little things, require from us an examination into the best means generally of taking the useful effect of hydraulic apparatus,—would demand an essay on indicating engines,—a choice by ourselves of one amongst the multitudinous formulæ for calculating the flow of water over weirs,—and, let us add, as a winding up, a little discussion on the *genus irritabile vatum*. Mr. Clark found that the useful work done by Appold's pump was 73·71 per cent. of the indicator power exerted by the engine, and that of Messrs. Gwynne's pump to be only 56½ per cent. of the indicator horse power. Mr. Colburn found that Appold's pump gave 67·68 per cent. of useful effect, while that of Messrs. Gwynne gave no less than 83·18 per cent. M. Tresca and General Morin, on the other hand, found that "the pump with curved vanes of Mr. Appold, when it is submerged in the lower tank, and is driven at the proper speed due to the height of ascension of the water, gives a useful effect of from 0·65 to 0·70 per cent. of the motive power." Eleven experiments, made in 1859, by the same distinguished experimentalists, on a pump of Messrs. Gwynne, gave an average of useful effect of 0·337 of the motive power. All these results are discordant enough, and when our space allows, we may return to the subject.

In an account of Herr Krupp of Essen's remarkable stand, Mr. Clark mentions that "M. Krupp is erecting large rolling-mills for making cast-steel plates and rails, with a steam-engine of 2,000 horse-power. He hopes to roll plates sufficiently large to form locomotive boilers from a single sheet of metal, with a single row of rivets, with roll of 15 feet in length; also armour-plates 1 foot thick."

It would be an immense benefit to the occupiers of small workshops if our gas and water mains could be utilized, not merely as sources of light and water supply, but also as supplies of motive power. The solution of the mechanical problem of cheaply delivering one or two or three horse power to small workshop engines may be said to almost possess a domestic interest. It is stated that Mr. Schiele, of Manchester, has succeeded in making a very small and compact high-pressure turbine, for such household purposes as, for instance, blowing organs. It was hoped that the air or caloric engines, several of which were exhibited, could be applied in this way. Up to the present, these engines do not seem to have made much progress in England, but appear more successful abroad. Ericsson of New York, Neill of London, Dennison of Rhode Island, U.S., and Schwarzkopff of Berlin, each sent an engine of this kind. It appears that the Reading Iron-works Company are now making some of Lenoir's gas-engines, one of which was exhibited in the French department of the Annex. Its appearance was that of a horizontal steam-engine with two slide valve boxes. The gas and air were exploded at each end of the cylinder by means of the electric spark from a Ruhenkorff coil. Lenoir's engine is stated to consume 90 cubic feet of gas per horse-power per hour. Another gas-engine, exhibited by Mr. C. W. Siemens, would probably consume much less gas, from being provided with a regenerator. There can be no doubt that the manufacturer who can put an engine in the market, suitable for cases where, say, a couple of horse-power are required—at intervals, and in situations where steam and its pressure are inapplicable—would meet with a great demand. Perhaps electro-magnetism may yet solve the problem. Amongst the crane-work, Mr. Clark directs attention to a ship's engines, exhibited by Chaplin & Co., and provided with apparatus for winding, cooking, and distilling, in combination—and a very curious combination indeed. The great merit of this work is its being probably the most correct and compact list of the exhibits in the Western Annex of 1862, and there can be no doubt that it will be useful as a work of reference to engineers, and to the former exhibitors.

* We have lately used this explanation in the course of an account of the explosion of an engine on the Metropolitan Railway.

† "Steam Boiler Explosions." By Zerah Colburn. London: John Weale. 1860.

GLASS PAINTING, ANCIENT AND MODERN.*

A PRUDENT device is very commonly practised by writers of modern history,—stopping short at the chapter in which their own contemporaries would come upon the scene. I must beg to be allowed to hedge myself within the borders of a similar prudence. I have been asked to give a critical lecture on the exhibition which is now open within these walls; but it would be so very much like having gentlemen glass-painters up one by one to say their catechisms, or to answer to the charges brought against them, that I could not be guilty either of such impertinence or such presumption on the part of an amateur. I must, therefore, content myself, and you, if possible, by a general review of the past and present of the art of the glass-painter.

We appear to be at the beginning of a great revival of this art. The demand for painted windows is enough to satisfy the most commercial manufacturers of them, and to drive into a fever those few *real artists* (and to their honour, be it said, that there are such) who have devoted their talents to this beautiful form of art. This demand is made by people of all ranks, and for every conceivable purpose. Its application, too, is as various as good or bad taste can suggest, from the windows recalling the deeds of charity of saints and martyrs, *fit* memorials to the good and benevolent of our own days, down to the *unfit and unseemly* use of a fine Early English window in one of the stateliest abbeys in England, filled with the most elaborate thirteenth century ornamentation, as a framework to nineteenth century medallions of railway trains and railway bridges, &c., &c., and a perfect galaxy of life-size portraits of great engineers, Sir Christopher Wren, Telford, Stephenson, and others, in no way to the honour of God or reverence for the associations of the place, but to the honour and glory of the march of modern intellect.

This demand for painted glass amounts at present to a sort of public passion. There is, unhappily, very little method in this madness. Glass is wanted, and glass is supplied; but the buyer has very little judgment, the producer very little money: so the balance is rapidly struck between them, though, perhaps, not always so rapidly settled. Time, too, is made an element in the bargain; and the work which professes to be one of fine art is valued less by its merit than by its measurement. Such has been the indiscriminate demand and supply of this beautiful material up to the present time; but the more cultivated taste and knowledge of our day is, however, beginning to act upon it. People are beginning to recognise the fact that the eye must be educated to judge of beauty, as much as the mind to appreciate its excellence; that individual *fancy* is *not* the test of art; that genius in the artist, no less than judgment in his critic, can only be perfected by care, by study, and by work.

It was but half a century ago that painted glass seemed to have been consigned to the tender mercies of respectable plumbers! Church architecture had reached that pure and perfect chastity which ignores all ornament. The windows, which were the eyes of the buildings, were just allowed a line of label over them by way of architectural eyebrows. Those windows admitted the light of heaven, to the satisfaction of the blindest inhabitant, and to agony of all the rest. If the respectable plumber who had supplied the glass had happened to be of an imaginative turn of mind, he would probably have fringed his work with a border of pale lilac-coloured quarries, alternating with equally pale orange, with all the severe purity of that classical age. There was little edification to be got out of them, but some amusement. The landscape was clearly seen through them, and at moments of wandering thoughts, the congregation occupied themselves with lilac, oak trees, and orange elms. The storied pane and dim religious light existed in poetry alone, and not in churches. But, indeed, there was a very dim religious light everywhere at that time; and as for storied panes, the Puritans had taken them to destroy all that they could reach of what was worth seeing or having in the material fabric of the church. The troubles on the Continent at the beginning of this century were the cause of many works of various arts being brought into England. The feeling of the time was little in harmony with matters of that kind. A few

* By Mr. T. Gambier Parry. Read at the South Kensington Museum, on Monday, July 4th.

mateurs collected what was brought to England, nd became the centres of little coteries, where rt subjects made the bond of union. The ainted glass which, with many other things, ecame the objects of a novel interest, was prinipally of a late style. Its gemlike beauty and old design gave the cue to those who had a eart to get the materials. The only glass to be ot was that violet and yellow stuff at the lumber's, some ruby glass very like sealing-wax, nd some very deep blue, principally used for he old fashioned finger-glasses on dessert-tables, ll equally hopeless and impossible for any art urposes. However, a beginning was made with hese. The grandly coloured bits of old picture lass which had been brought from the Conti- ent were very much to the revivers of the art what Sir J. Reynolds's lectures were to the tudents of the Academy. The effects of a full- blown art were put before their eyes, but the essons of first schooling were not to be got from hem. They were put to mathematics before hey had begun arithmetic.

The art deducible from those late specimens was a kind of liberty-of-conscience art. There was no principle whatever to be got out of them. The wretched glass-painters of those days began o find that it was a worthless liberty to do merely what was right in their own eyes. The public was beginning to open theirs—uninstructed eyes they were; but here and there over the country, in byways and outlying village churches, where the sacrilegious hand of the fanatic had not found its way, and in some more important buildings,—cathedrals, abbeys, where the very quantity of beautiful works had tired out the hand of the destroyer;—in such places and by such occasions as these, there was just enough left here and there about the country to leave an effect upon people's eyes, which they used in destructive comparison with the weak and washy productions of their own time. Up to those days there had been for long time past a perfect stagnation of public taste. As for drawing and knowledge of the human figure, people had even lost the knowledge of their own drawing; and ladies tied their waists where no waists ever were created; and gentlemen, blind to what good points they possessed, powdered their hair, and loaded their throats with yards of cloth, and finished themselves off behind and below with tails and continuations of the most unnatural construction. Those were the halcyon days of glorious independence of all taste. But what was to be done? Painted windows were to be produced. How? Things were growing serious. There was nothing to be got out of the external appearance of the men and women of the period, and the grand old bits of foreign glass and of what still remained in England could not be followed, because the materials used in one could not be got for money, and the technical refinement of the other had long ago been forgotten.

But there was a decided stir beginning in that great stagnation. The art of painting glass had never entirely died out. A few men, unknown to fame, but in whom the fire of the old arts still smouldered, had persisted in making scraps of fine coloured glass for their own use; but the only art for them to follow, which the public was then admiring, was of the late Flemish and northern schools, and could give them no good grounding in their art, such as the glass in King's College Chapel, Cambridge, which is a grand specimen of the art at a stage in its overgrown development that could offer him no model to begin from; and such, too, as the glass in Fairford Church, in Gloucestershire, which is magnificent in the sensuous element of colours, but coarse and vulgar in the extreme in the higher artistic qualities of drawing and composition.

The early glass-painters of our days had small chance. They were themselves untutored in art. They were anxious to gain the public favour. The public—that bugbear of all genius—was the son of the public of the eighteenth century, and the grandson of the public of the seventeenth century,—a vigorous public, but born of a stolid parentage, with material tastes and blunt manners, and little or no time or care for the finer arts of peace. Early in this century the world was in a perfect turmoil all round the equator. A few quiet spirits, finer than the rest, were the sparks which wandered about the dying embers of our national arts. Architecture, that centre and nucleus of them all, was in abeyance. Birmingham was in the ascendant. To judge from the decorative works of that day, the ideal of beauty must have been an egg. Everything was either ovate or oval. Nothing was tolerated but what savoured of Greece or Rome, or eggs. All responsibility for beauty was thrown upon the shoulders of the Classics; and they were very broad, for classical designs were mainly a matter of measurement. There needed to be no invention with them, because all their proportions were fixed by rule. Exceedingly beautiful those proportions were—most pure and refined. The result of those rules had been devised by men of wondrous genius in ages long gone by, and under a climate and circumstances the perfect opposite of our own. Our people felt safe in copying them with the utmost complacency. But people are troubled with hearts as well as eyes. They soon began to feel the dreariness of an art which had been thrust upon them, foreign in its origin, foreign in its character, and foreign both in place and purpose to which it had been brought. They were bound to admire it, but they could not care for it. There was nothing in a Greek temple that could meet the requirements of a northern people. True Classic art is most beautiful; but there is some other quality required in art besides that. Our people became conscious of that want. All that was thrust upon them at every corner neither attracted their sense nor engaged their sympathy. It might be unanswerably correct, but was most desperately uninteresting. There was *nothing of home* in it. Do what they might with it, let the basement be of British granite, the superstructure of British marble, the carving of British stone, the beams of British oak; nothing to bring it to a British heart. It might command intellectual love; heart love—none.

With peace restored at home, and leisure to return to the arts of peace, the relics of old days and old things at home, of home history, home romance, home devotion, soon began to touch people to the quick, and to engage a warmth of cordial affection which all the elevations from Athens and the copies from Spalato and Corinth could never command.

Among the relics of our national arts none engaged a more general attention than those associated with our national architecture, and pre-eminently that of painted glass. It was valuable for its heraldry, its costume, its legends; but some loved it for its beauty, and caught the first glimpse of the refinement of its art, which for centuries had shared in the contempt of all things Gothic.

People had been taught to look at everything through Palladian spectacles. All avenues to really national taste had long been closed. This country had been overwhelmed by three centuries of invasions,—religious invasion of the old form of faith; democratic invasion of the old forms of Government; invasion of Dutch arts and notions, with a Dutch king and Dutch nobility; union with Scotland, royalty from Hanover, and all the foreign influence which refugees for religion, refugees for politics, and all that the novel interests of our growing foreign connexionships, commerce, colonies, and conquests could produce on the manners and habits of our people;—till we had well nigh lost the recollections of our old nationality, and worked at things with new notions, and looked at them with new eyes.

This was the spirit in which the nineteenth century began. But things began to settle down. People began to yearn for something of their own. The old national arts were revived with all the interest of novelty. Their very principles had been forgotten. Italian fiddlers, French cooks, Flemish painters, and Dutch architects, had put out all memory of them. But they were to live and flourish again. We are to-day engaged upon one of them. The first glass-painters of this modern Renaissance were unhappily no artists. They floundered about in a perfect mosaic of difficulties. They were staggered by multiplicity of styles; they had no good art in themselves, no good materials in their workshops. There seemed to be no standard of excellence: there was no standard of public taste. The contrast between the vigour of the old work and the poverty of the new grew more and more painful; the old savoured of art, the new only savoured of the shop. The glass was thin, the colour poor. Smearing it, varnishing it, would not make it deep and rich; it only made it bilious. What was to be done? To imitate? Yes, to imitate,—and to the necessity which drove them to it will be hereafter traced the cause of the pre-eminence which I firmly believe our artists will attain. Imitation the most laborious is the very foundation for all hope of ultimate success in the education of all art. The processes, the theory, the *rationale* of art need to be analyzed before the mind can digest them. Imitation is *not* base, except in this, that it is the *very* base of all success. The most heaven-born genius must first have learnt to spell. England did not stand alone in difficulty. In Germany the art was taken up with spirit; but the old examples were too soon cast aside. The reasons of their beauty, the nature of their materials, the very alphabet of the future language was neglected. Their only real success has been in an art unsuited to the large scale of windows, in the beautiful cabinet examples of enamel-painted glass, principally of copies of old pictures of their own school. Their merit is in technical dexterity, no more. For the high purposes of an independent art such works are but hindrances, influential only for bad. I know nothing more futile, more unhappy, in matters of taste, than the attempts to mimic the productions of one art by the processes of another. The attempt to reproduce in glass the works of the oil or fresco painter might be made in a modest admiration of the great works of other men; but, as such, could only be allowed as an honourable plea in the pursuits to which an amateur might consecrate his intellectual leisure—but no further. Glass-painting is no mere supplement to any other art. It has an individuality all its own, it will stand or fall on its own merits, and for them it need not fear. The Germans have been among its most unfaithful followers. In other styles of art, their painters are not strong colourists. It is strange that this should be so, for as a nation they are the greatest of musicians, and music is essentially the art of colour; but their painters, with rare exception, do not share in this great gift. It was, therefore, not unnatural that in an art of which colour is the great characteristic, they should fail to seize the true ideal: they failed even to perceive the true properties of their material. Regardless of the principles of old art, on which the whole excellence of their masterpieces depends, they formed a dull ideal of their own,—they went to work on glass as if it were canvas,—they worked as if they were afraid of it: they coated it with enamel, they did all that was possible to get rid of it, they reduced it to the condition of transparent calico, and then painted upon it, but with the veriest abuse of glass. Brilliant glancing jewelry of glass, such as in the days of Gothic art filled their cathedral windows with a glory as yet unrivalled, and in those wondrous days of Italy, now 300 years ago, blazed and sparkled with a reckless brilliancy,—with such as this, this genuine use of glass, our modern Germans have no sympathy,—at least, if we are to judge them by their works.

It is hard and thankless work to try to make people see what they cannot see. In matters of this kind they are in general satisfied if only they find things what Irish people call "pretty." There is little or no perception of aptitude and inaptitude in works of art. If glass be made to look like calico, or calico made to look like glass, who cares?

In modern Italian glass there is very much the same error. But then the Italian is essentially a colourist. In glass, however, he, like the German, has begun at the wrong end. The Italians never had much sympathy with northern art. They rather affected to despise their Gothic neighbours; they ignored those schools of art which had covered walls with paintings and windows with storied glass, schools marked with all the individuality of national character well nigh a hundred years before Giotto dipped his first brush in colour. And now, too, in their attempt to revive glass-painting, they ignore those schools again from which the first lessons of true art in glass can best be learnt. They have missed, too, those identical principles even when displayed in their own glorious Cinquecento windows, the principles of translucent colour. They have rather gone in for a style of art more suited to paper than to glass. They have produced some designs tempered with great refinement, and they have transferred these designs to glass. But why to glass? Why to great sheets of fragile glass, toned down with dense enamel, worked and laboured at till all glass was lost sight of, changed, got rid of, treated just as oiled cardboard might have been treated, and with precisely the same result? Again, we look in vain for the glancing jewelry of glass: instead of it we find pictures which, in treatment, texture, and effect, resemble precisely large coloured lithographs varnished into transparency labour misapplied and misplaced—one, indeed, in which I admire the frequent

beauty and merit of design, and delicate execution; but it is not the art of glass. Refinement and tenderness are merits indeed; but they become morbid and vicious when they occupy exclusively the heart and hand of an artist, leaving no room for other qualities, such as vigour and decision, which, even by mere contrast, would have added to their charms. Why are the glories of old glass at Florence and Venice, at Chartres and Bourges, passed by, rich as they are with every lesson which a glass-painter need learn, examples which illustrate the entire powers of the art, and its scale complete from gorgeousness to solemnity? Let those old works be equalled first before they are improved upon.

In France and in Belgium the revival of this art has been carried on in much the same feeling as in England. The principle that has appeared to be a guide to the best men in these countries has been to keep one hand stretched out behind with firm grasp upon the past while the other was stretched out toward the future. They took no heed of the taunts about copying,—they knew that they were but working out great secrets of past excellence for the ground-work of their own. There has been, indeed, a most mean and miserable copyism carried on by men who could do no better, and through their ill doing the reproach has been misapplied to all. But better men knew all the while what they were about,—they knew well what was good, what bad, in the works they studied, what was the matrix, what was the gem. If in the Gothic art of France and England figures were painted in ignorance of anatomy, and architecture in ignorance of perspective, what matter? You might as well look for "photography" in a Johnson's Dictionary as for the rules of the Academy in a Gothic window. No, the grand old fellows of those times did their best. They felt with poetry, and they worked with earnestness; but, what is more to our purpose now, they had a most thorough knowledge of the use of glass,—that is the lesson we have to learn from them. We may draw better; our technicality and science may be greater. How could it be otherwise, when each generation does but light its lamp from the one that has gone before? But they unluckily let the lamp of glass go out. So we, to light our own, must reach still farther back to the old lamp of our forefathers, which is bright and glowing still.

The revival of this art on such right principle as this gives, not hopes only, but confidence in ultimate success. One may grieve at the atrocities which have filled cathedral and other windows with disgrace; but there have been some grand things done. Nothing but a sense that it would be invidious prevents me from naming them.

If there has been one fault more prominent than another, it has been that both the artists and the public have thought too much about the painting, too little about the glass. And the result has been in too many cases that glass-painters have consecrated works to the genius of the arts which ought rather to have been consigned to the simpler genius of the pestle and mortar.

Of the early history of the art very little is known. There appears no reason for supposing that coloured glass was used in windows before the Christian era. The early Egyptian and Greek coloured glass, so far as we can acquaint ourselves, was but semi-transparent, commonly used for coating earthenware and in making small ornamental vessels. Somebody has lately taken out in England a patent for glass coffins. He must have a very high opinion of his friends. The Egyptians had already made glass coffins between 200 and 300 B.C. There are some in the British Museum. There were very few colours made in glass in those times, but a good many varieties of their tints. A good red is not to be found. There are tints of deep and pale blue, ochre and straw colour, browns and greens. About Greek glass windows before our era little or nothing is known; what is described has no analogy to our system of flat sheets set in frames. That glass was used in windows at about the beginning of our era, we know from Pompeii. But we have no trace of coloured glass used for the purpose. This is all the more strange, because of Pliny's expression about glass, that "*avida est materia siquidem ad picturæ accommodatior*" (Nat. Hist. lib. xxxvi. § 67), which sounds like a reference to pictures on glass. I conceive that in reality it refers only to what we find in the bottles and vases of glass of his time, namely, the use of many coloured pieces twisted or drawn out, and worked into all kinds of forms by means of their extreme ductility. Many materials are described as used in Roman windows, such as talc and alabaster, as well as glass. The Japanese used the same expedients, and in addition to them large transparent shells. St. Wilfrid of York describes church windows in his time (seventh century) as filled with transparent stones. The rareness of glass in windows would be inferred from the very few notices of it by two such writers as Philo and Lactantius, who refer so intimately to the habits and usages of their times.

The earliest pictorial use of coloured glass was in the tesseræ of the mosaics; and it is by no means improbable that glass-coated materials, and glass itself, in flat sheets, were used in the polychrome decoration of walls. The earliest examples of any designs on perfectly transparent glass that I can find are those of figures of the Early Byzantine school, made in gold coated upon glass.

There appears no good reason to believe, as is common by writers of the history of the art, that the great church of St. Sophia, of the sixth century, in Constantinople, had coloured glass in its windows. Procopius's description, from which it has been rather wilfully deduced that they were so, would rather lead to the opposite conclusion. He says that "such was the amount of light poured into the temple, that the light of day itself seemed to take its very origin within it;" the pith of the text being in the words "*tanta est effusæ lucis copia*,"—words which he would hardly have applied to the mellowing, modifying influence of the coloured glass of that period. But a contemporary writer seems to explain this magnificent effect by saying that "the walls sparkled with golden vitreous tesseræ,"—"*tesselis vitreis inauratis fulgent*,"—than which it would be impossible to conceive a more gorgeous effect.

That the glass early used in windows was of a soft refractive kind, rather than perfectly imperceptible, as our transparent glass is, may be inferred from Procopius's description, "*vitreis ocellata fenestris vaga lux loquacaria sine sole micat.*" But the way was being fast prepared for coloured glass in windows. The use of tesseræ in mosaics on walls and floors was the natural suggestion for a similar use of coloured glass in windows, from the first moment that a perfectly translucent quality of it was made. Figure subjects had been common in mosaics, why not, then, in coloured window glass? Thus it may naturally have begun; but the earliest positive information I can find of coloured glass being used in windows is of Prudentius's notice of it in the basilica of St. Paul, at Rome, in the fourth century. We next hear of it at a church at Lyons, in the fifth century, and that the coloured glass there was arranged in patterns. The next in point of time distinctly spoken of are the windows of St. Fortunat, Bishop of Poictiers, in the sixth century; and, in the same century, the introduction of it in a church at Tours by St. Gregory; so that, by that time, the use of it had spread commonly, and to a great distance. But in England we had not been so fortunate. St. Wilfred, in the seventh century, laments that makers of coloured glass were not then found in England, so he went to France in search of them. In the next century, the eighth, we find Pope Leo III. filling the apse windows of the Lateran church with coloured glass, in the year 795 ("*Fenestras de apsidâ in vitro diversis coloribus conclusit.*"—Anastasius, History of Leo III.); but up to this time we hear nothing definitely of painting upon glass.

After all the pains which antiquarians have bestowed on the research, it does not appear that any account of figure subjects can be traced with any reliable authority earlier than the middle of the eleventh century, and the example cited is the subject of the "Mystery of St. Paschasius," in a window of a church at Dijon, mentioned by the historian of the monastery of St. Benigne, A.D. 1052. The French king Charles le Chauve was the first great patron of glass-painters. Soon after his time the art became universal. The treatise of Theophilus, of about that period, describes almost every process necessary for a complete window, with the whole detail of its design, and colouring of patterns, figures, and draperies, so that it is impossible not to infer that an art so complete as he describes it must, to have attained such completeness, have been practised long before, although we may find no written account of it, and all that actually remains to us is in pieces coloured separately and inlaid, as in vitreous enamels, mosaics, and incrusted ornaments, or bits of glass, in imitation of gems on bookbinding, church vessels, rings and so forth. At about this time glass-painting became a very distinguished profession. It was honoured by privileges and dignities at Venice and in Normandy by the semi-noble distinction of a title, that of "Gentlemen Glaziers." In those "dark ages," those benighted Gothic times when Christian art first sprang forth in all its freshness and beauty, schools of art were founded in religious establishments; and the artists of those times, trained in the whole range of education then open to them, appear to have practised all the arts of design connected with architecture,—that wall-painting, designs for sculpture, illumination, and glass were followed equally by the same persons—rather a broad hint to those modern "gentlemen glaziers" who go on turning out painted windows, and do not appear to possess so much knowledge of drawing, nor of the principle of ornamentation, as many a poor mechanic who has been for a couple of years a pupil in a good Government school of design.*

THE HOUSE OF COMMONS AND THE DISPUTED THAMES EMBANKMENT CONTRACT.

IN the committee of the House of Commons appointed to inquire into the best means of disposing of the metropolitan sewage, the question of the contracts recently arose.

The first witness called was Mr. Ridley, who complained that, while the Metropolitan Board of Works invited tenders for the execution of that work under certain conditions, those whose tenders had been ultimately accepted were allowed to go on with the work in opposition to the terms of it. By the terms of the contract it was required to fill up the space behind the embankment with Thames gravel; but in the face of this agreement common rubbish and rubble had been used; and, instead of paying for Thames sand, the contractor had actually received 9d. or 6d. per load from persons who wanted to shoot their rubbish on the embankment works. When witness sent in his tender for the embankment works it was at first accepted; but afterwards, on some question being raised as to the sufficiency of his sureties for the due execution of the works, he offered to place the full amount in cash at once in the hands of the bankers.

Mr. Roche, member of the Metropolitan Board of Works, was examined; and he said Mr. Ridley's tender was accepted, and the Board were satisfied with it until they received the report of Mr. Bazalgette, who stated that he would not be responsible for these works being properly carried out if Mr. Ridley were the contractor. Messrs. Bakers' was the second lowest tender to Mr. Ridley; but they required in their contract that an arbitration clause should be inserted; and the Board were of opinion that this would give Messrs. Baker an unfair advantage over other contractors. The Board did not think it wise to re-advertise, because, as the engineer's estimate had become known, they would have had to receive much higher tenders than those which had been sent in in ignorance of the engineer's estimate. It is usual in contracts made by the War Office to have inserted an arbitration clause, and many contractors refuse to accept a tender unless the arbitration clause be inserted in the contract. The absence of an arbitration clause tended to raise the price of the work, as it placed absolute power in the hands of the engineer, and he was the sole arbitrator as to the way in which the work should be done. Architects generally considered it right and proper that an arbitration clause should be inserted in all contracts, and he was not aware that engineers universally were opposed to it. The want of an arbitration clause diminishes the number of persons applying; for instance, Messrs. Baker and Messrs. Lawrence will not send in tenders unless there is an arbitration clause in the contract. The engineer of the Board did not agree to a limited arbitration clause, that was in respect to extras. Had the Board rejected all the tenders and advertised for fresh ones, inserting the arbitration clause, he believed that a tender would have been sent in of a lower amount than that of Mr. Furness, which was accepted. He believed the refusal of Mr. Ridley's tender was detrimental to the interests of the ratepayers.

Mr. Nicholay, another member of the Metro-

* To be continued.

politan Board of Works, said he believed the rejection of Mr. Ridley's tender was unfair to that contractor and injurious to the interests of the ratepayers. Why that tender was not accepted was a problem yet remaining to be solved. The tender was not accepted by a majority of the members. The Board had a professional adviser (their engineer), and they were guided by his opinion. It was his impression that Mr. Ridley's tender was rejected in consequence of Mr. Bazalgette's representation. It was not at that time known that Mr. Bazalgette was to receive 11,000*l.* in respect to Mr. Furness's Odessa contract. He refused to sign the report of the committee of the Board acquitting Mr. Bazalgette; and he said he would rather have his right hand cut off than sign it. As regarded the Odessa contract he believed the ratepayers would be delighted if the subject were inquired into by some impartial tribunal. He thought the arbitration clause ought to be introduced, for without it, if the engineer chose, he might ruin any contractor. The absence of the arbitration clause shut out some of the most eminent contractors in London. He had not heard before that Mr. Furness, instead of filling up behind the embankment with sand, was allowing rubble and rubbish to be shot there, for which he received 6d. and 9d. a load. The engineer had never reported on this to the Board. He believed the object of requiring the use of Thames gravel was to deepen the river, as well as to put a solid material behind the embankment.

Mr. Bazalgette was called, and wished to enter into some explanations, upon which the chairman ordered the room to be cleared; and, on the re-admission of the public, he said that Mr. Bazalgette would be at liberty to put in any statement in writing on a future occasion.

On Monday, Mr. John Thwaites was examined on the same points. It does not seem clear to us that the committee are not going out of their province.

THE GRAVE OF THE LATE SIR CHARLES BARRY, ARCHITECT.

A MEMORIAL brass has recently been placed in the nave of Westminster Abbey, by the family of the late Sir Charles Barry, over the position of his coffin, and close to the grave of the late Robert Stephenson. It has been made by Messrs. Hardman, and consists of a large floriated cross let into a slab of black marble, about 12 feet by 5 feet, with an inscription round the outside of the slab and at the foot of the cross. Two tablets are introduced into the design, one giving the elevation of the Victoria Tower, and the other a plan of the New Palace at Westminster.

The inscription at the foot of the cross is as follows:—"Sacred to the memory of Sir Charles Barry, Knight, R.A., F.R.S., &c., architect of the New Palace at Westminster, and other buildings, who died 12th of May, A.D. 1860, aged 64 years, and lies buried beneath this brass."

The following text is also inscribed round the outside of the marble slab:—"Whatsoever ye do, do it heartily, as to the Lord, and not unto men; for so ye serve the Lord Christ."—Col. iii. 23, 24.

A NATIONAL PALACE OF ART.

THE national taste for art has extended itself so rapidly among all classes during the last twenty years, as to be become almost a national characteristic. The culture and development of a taste for the fine arts, and the development of the power of critical appreciation of the works of various classes of art, bid fair to become necessary parts of even an ordinary education. It is true that the age of the virtuoso, of connoisseurship, and of dilettanteism has passed away, but a more genuine and manly appreciation of art has taken the place of those hot-house growths of aristocratic taste and refinement. A truly national taste for art has in fact so widely manifested itself, and taken root so deeply, that the time present has become neither more nor less than a true golden age for artists. If any one doubt the truth of this assertion, let him go to any one of the artistic exhibitions now open, from that of the Royal Academy to the most unpretending of these annual displays, and he will find almost every picture of the slightest merit *sold*. At the exhibition of the Society of Painters in Water Colours, always one of the most charming of the season, this is most strikingly the case; for, not only are all the good pictures disposed of, but all the indifferent ones have also met with purchasers, and, with very few exceptions, the bad ones have likewise found their amateurs; a fact which induced a visitor to say, on a recent occasion, that the taste for bad pictures appeared to be becoming a positive mania; the explanation of the seeming paradox being, simply, that the supply of good pictures is not equal to the demand; and impatient purchasers, who cannot get good ones, are content to get bad ones rather than have none at all; for to buy one or two new pictures once or twice a year has become almost as necessary a sign of respectability as the ordering of one or two new coats. This rapidly increasing taste for modern paintings is but a part of the vast increase in the national appreciation of art in general; not only on account of the charm of its refining influences, and its power of awakening a wider sense of intellectual pleasure, such as can emanate from no other source, but as a striking evidence of our national dignity and high civilization, and as a prolific means of national wealth and an undeniable signet-stamp of our high standing among the most advanced nations of Europe. It is in considerations of this kind that we may seek for the incentive which of late years, from time to time, has induced our Government to bring forward scheme after scheme for the improvement and extension of our national picture gallery, or the erection of a new one of higher character.

Sufficient time has now elapsed since the promulgation of the last of these propositions (that of Mr. Cowper, which was both introduced and defeated on the 7th of last month) to enable us coolly to refer to a few of its defects. After all the official and parliamentary discussions on the subject that have already taken place, it appears somewhat extraordinary that the gist of the scheme should consist in "abandoning the whole of the building in Trafalgar-square to the Royal Academy," and building a new National Gallery on part of the site of Burlington House! It would seem to any one bestowing a little serious thought on the subject that, granting the separation of the Royal Academy and National Gallery to have become necessary on the ground of the absolute necessity for increased accommodation for the latter, the best of the two sites should be at once conceded to the National Gallery; and there cannot be a doubt about the best site of the two named being that which forms the north side of Trafalgar-square: therefore, if advisable to remove either institution to Burlington House, undoubtedly the Royal Academy should be the one so removed. Mr. Cowper, in order to enlist national ambition and pride on his side of the question, first alluded to words forming part of a resolution to the effect that the proposed building for the new National Gallery should be "one worthy of the British people, which would command universal admiration, and do honour to the age." But, after this exordium, the speaker next endeavoured to enlist the sympathies of the rigid economists, and proposed to do the thing cheap. His proposed building was to occupy the whole of the present garden of Burlington House, being about an acre and a half, and forming half the extent of the entire site. Mr. Cowper proposed to erect on that acre and a half "the very best building in Europe"! And for what price? Why, for the small sum of 152,000*l.*! The best building in Europe thus proposed to be built was to "*consist all of one floor*," and to be lighted from the top. The galleries thus suggested were to be three in number, parallel to each other, and to be crossed by three other similar galleries. "The effect produced by that means would, he thought, be very grand." But is it not self-evident that in such a group of galleries of one story, the lowness of the elevation would alone prevent their external aspect from presenting an effect of any importance, as they would not be much more than half the height of the present National Gallery, which has been so abundantly abused for its want of sufficient elevation, that radical defect being the only cogent reason, till quite recently, for erecting a new National Gallery at all. What, then, could be the chain of reason which could lead to a proposition for erecting a building much lower than the old one, so well abused for its lowness? Was it intended to remedy the external defect by the splendour of the interiors? Why, the mere building of three galleries, each 200 feet long, as proposed, and crossed by three other galleries of similar dimensions, would cost nearly all the money if substantially done, even in the plainest possible brick, mortar, and plaster style, taking into consideration the absolutely necessary finishing, and leaving entirely out of the question all decorations of a monumental character. Such a building would, in short, merely provide first-rate warehousing room for our national collection of pictures; and this, according to Mr. Cowper's own showing, would, at their present rate of increase, only accommodate them for ten years.

But then, Mr. Cowper continued, "if it were desirable to have an architectural erection, it might be substituted for the buildings of Burlington House." Now, all this patching and pottering is utterly beneath English dignity, and quite at variance with the national longings on the subject, which are, there can be no doubt, in favour of spending sufficient money to insure the erection of such a building as shall be, in the words of Lord Broughton's commission (referred to by Mr. Cowper), "worthy of the British people, and which would do honour to the age, and command universal admiration." Such a view as that can only be carried out by a bold and radically original proposition; and such a one would receive the approbation of Parliament and of the people, and the erection of a palace of art worthy of the nation be rendered a matter of comparative certainty. With such an object in view, and the apparent certainty of its being nobly carried out, unshackled by trammels and prejudices, no reasonable sum would be grudged for the purpose. But the whole scheme, as well as the building itself, must be rendered truly national.

And now it is time to say something of the character, of the various purposes, of the extent, and also of the site of such a palace of art as the one proposed. The national palace of art which the people of this country are looking forward to, and which they will not hesitate to pay for splendidly so soon as they see anything like good security for obtaining the thing they require, must be simply magnificent, both in dimensions, design, and purpose. John Bull is no longer content to warehouse his treasures, he is determined that the casket shall be worthy of the jewel. He will, he says, have a palace for them, instead of a shed.

The present Emperor of the French, in completing the Louvre, has converted it into a vast palace of art,—and the palace is worthy of its precious contents. It is a truly noble architectural work, open as it may be, and is, to artistic criticism, on many accounts; but, on the whole, it is such a national monument as cannot, at present, be matched in the world. Nevertheless, we do not desire a copy of the Louvre: far from it; and many of our cleverest architects appear sadly wanting in national feeling in art when they allow themselves to be carried away by the fatal ease with which the fascinations of the style of that great work may be imitated. No: we want no reproduction, either of the magnificent Louvre, or of the noble museum of Berlin, or of the lesser beauties of the celebrated art galleries of Munich. We want something national, something entirely our own, and yet which shall be fully equal in its own national character to the Louvre itself, or any other rival building; equal in grandeur of dimensions, equal in richness of design, in copiousness of decoration, and more than equal in special fitness for its destined purpose. And that we have national art-talent in abundance equal to the task, if properly appealed to, there cannot be the slightest doubt. The originality, boldness, and national character of much of our new street architecture, where no committees of virtuosi have interfered to dictate style, or encumber the designer with objections, or, worse still, suggestions, are sufficient to prove that there exists architectural talent of high order and national character equal to the task in question, whenever it shall be called upon to execute it.

As to the site, that of Trafalgar-square is undoubtedly the best available one; but then there must be a clearance to make more room. The barracks and the workhouse, and something more, must disappear in the rear of the present building; and to the west, as far as the Haymarket, there must also be a clear space, which would not be very costly, inasmuch as the frontages only are of high value, while the remodelling of the wretched property in their rear would almost pay for itself. The most costly part of the clearance would be that of the "Middle-row" of the west, the block of houses standing between Pall-mall East and Cockspur-street. These clearances made, which, with the exception of the last named, would be repaid in the shape of the high value

of newly-created frontages, there would be a truly noble site for the erection of a National Palace of Art,—a site which might be made still greater in extent than proposed, and yet not more costly, if more new and valuable frontages were created by still greater innovations and clearances. Such clearances might include even Leicester-square and Cranbourne-street, and even a large space to the north of Cranbourne-street, all of which ground, from its situation, is capable of being made to yield enormous revenues, instead of the paltry returns derived from the present wretched buildings. In short, an enterprising company might do the whole thing at a profit; and it would, perhaps, be more consistent with our character as a truly free people that our National Palace of Art should be the creation of private enterprise.

But to return to the pith of the subject—the palace itself. This structure should contain many distinct parts. As Lord Palmerston well remarked, in reference to the equal interests of the National Gallery and the Royal Academy in the proposed measure, it should not be overlooked that the National Gallery has been especially created and maintained as a collection of monuments of art essential to the successful training of successive generations of artists; as the chief of many important means of assistance to students destined to become members of the Royal Academy of Painting; and therefore the interests of the Royal Academy itself should not be for a moment lost sight of while considering the suitable housing of those precious monuments, the conservation of which is intended to assist the labours of that Academy and other institutions established expressly for the advancement of art. Therefore, while superb galleries—magnificent works of art in themselves—should be erected to enshrine the masterpieces out of former generations of artists, the studies and interests of the present race must at the same time becared for. It is with similar convictions that one might recommend that suitable, and even splendid, accommodation should be afforded to the council and members of the Royal Academy (if possible) in the same building, as at present, in preference to such a separation as the one proposed. Indeed, distinct schools of sculpture, architecture, and painting ought, it would seem, to be established within the precincts of the national palace of art, so as not to separate the students of any one of those branches of the fine arts from the models which are destined to serve as guides to their studies, and as landmarks to them in tracing the history of the arts which they are following for honour and fame, as well as a means of honourable income.

The collections should, therefore, be arranged so as to be most accessible to the respective schools. The antique sculpture from the British Museum, and other national collections, should be nearest to the school of sculpture: the paintings should be closely accessible to the school of painting; and the architectural specimens from Kensington, and other sources, should be close to the school of architecture; while each of those schools should be organized upon enlarged, improved, and eminently practical systems. The great rooms for painting, of large size, and also for sculpture, such as it might be desirable to light from the top,—such specimens, for instance, as the cartoons of Raffaelle from Hampton Court, in painting; and, in sculpture, the colossal remains from Nineveh, in the British Museum,—might form transverse galleries, separating the great quadrangle into a series of compartments, but only as high as the first story, the top-lighted galleries being only on the ground floor, while the apartments for smaller works might occupy the first and upper stories. Monuments of other branches of art should find their proper places in a similar manner; those of the jeweller, the porcelain worker, and many other branches of art (none of which should be neglected), each having assigned to it a distinct series of apartments; and thus the collections of South Kensington, of the British Museum, of Hampton Court, and of the National Portrait Gallery, would all find collectively a fitting and splendid home. Among the subdivisions of the palace of art, one of the most prominent should consist of a series of galleries for the reception of the works of living artists, of which a certain limited number only of the very highest character should be purchased by the Government, wherever extraordinary merit appeared to render it advisable. This division should form one of the most extensive as it assuredly would one of the most attractive of the palace. In addition to all this much space would be required for the suitable display of several classes of ancient monuments not usually shown to the public in an instructive manner. For instance, one of the finest cabinets of coins in the world, exhibiting as it does in an unbroken chain of examples a most interesting branch of art of a very high character, that of die sinking, is shut up in what may be called a private room of the British Museum, and never seen by the public. This very collection, or, at all events, a selection from it, should be exhibited under glass in our projected palace, arranged in chronological order, each coin having an attached label with the name of the state or sovereign by whom it was issued, and also its own name as a coin, its value, and its date: and in this department examples of the national coinage should form a distinct, complete, and most copiously illustrated series.

Such a palace of art as the one here supposed would, indeed, form a grand national monument, such as strangers from all parts of the world would come to see; and the influx of such visitors would yearly add to our national wealth the money that they would be thus induced to spend among us. It would be difficult to imagine a national institution of more attractive character than such a palace of art, containing a vast gallery of painting by native artists,—a similar gallery of modern sculpture, an historical portrait gallery of British worthies of all ages; in addition to which would be attached extensive galleries devoted to the preservation of paintings by the old masters, and others for the display of antique and Mediæval sculpture, and many series of chambers filled with monuments of art of various classes, and of all ages, in which chronological order as well as the class of work should always form a prominent feature, forming collectively an almost endless series of examples of beautiful works in every conceivable branch of art,—intricate and beautiful devices which the eye could not dwell upon without receiving both delight and instruction.

But before we can possess such a concentration of the monuments of art of all ages, and such a display of native works of our own time, we must first get a place to put them in; and the place to put them in must be in itself the noblest monument of them all,—a building, too, stamped with the spirit of the present age. In the space of our few remaining lines, it is difficult to state in detail the precise nature of the style which should characterize such a building in England in this second half of the nineteenth century; but, without straining after novelty for mere novelty's sake, it is easy to conceive that a building of original feeling and style might be produced without any unnatural efforts at change at any price.

As regards the avoidance of Gothic, it is only necessary to eschew the pointed arch, and the special kind of window tracery found in that school of art, as also the marked peculiarities of the Gothic treatment of accessorial decorations. The main structural principles of the style may be preserved wherever useful, as they belong, in fact, like all first principles, to all styles and all epochs. In avoiding Greek and Roman imitations, it will only be necessary to beware of repeating the Corinthian or Ionic capitals, the precise proportions of the columns, and the exact parts of the Greek or Roman cornice, and their special decorations. The main features of stone columns and stone beams may be used as ever-enduring principles of structural art whenever required. Thus, by making the main structure suit itself, especially in its main forms, to its own purpose, and by seeking appropriate and original decorations from natural sources, and treating them with a true feeling for their own special nature, with the necessary modifications of their natural features when reduced to the form of artistic decorations, a fresh national character will necessarily grow up. But in a building of the class under discussion, baldness, above all things, must be avoided, and richness and splendour aimed at as the one great necessity, even to the extent of exuberance. But it is premature even to hint at details before we have got the Parliamentary grant of the two or three millions required for our purpose. The means, however, will most certainly not be withheld when the end is unmistakably in sight; that is to say, so soon as a genuine and grand prospectus shall be properly brought forward, accompanied by ample security against jobbery of all kinds. With a national revenue of above 70,000,000*l.*, it is absurd to suppose that we cannot spare half a million a year, for five or six years, over and above all other demands, for a purpose so truly national, and so important to our character as a wealthy and highly cultivated people. H. N. H.

PARK LANE STRAITS.

VARIED propositions to improve the great central thoroughfares, and the agitation of the question in the *Times*, will, it is to be hoped, stimulate the authorities, if, indeed, there be any who have the inclination and the power to advance the deplorable condition of our great metropolis, which in this respect is truly contemptible as compared with Paris or any other great city. A letter by Mr. Nelson, architect, recommends the extension of Audley-street to Down-street, and thus, by an issue into Piccadilly, to save the Park-lane traffic, thereby giving a direct line of access for a great portion of the N.W. postal district.

On reference to the *Builder*, of some eight or nine years back, in an article entitled, "A Short Cut by a Long Route," it will be seen that the extension of Audley-street was suggested by the writer, to run *in directum* to Piccadilly; or else, in order to avoid the expense of pulling down three valuable houses in Seymour-place and Curzon-street, as well as the Marquis of Londonderry's, with several others in the narrows of Park-lane, *to form a road by a trifling deviation through the private gardens into Hamilton-place.* The importance of this much-needed easement for public traffic has now become so notorious, that the necessity has been admitted by the Board of Works, and debated in Parliament. Whichever of the modes of transit be adopted matters little to the public, provided the thoroughfare be open, easy, and direct; but to diverge eastward into Down-street, as recommended by Mr. Nelson, would be much further out of the line of Baker-street and Audley-street than to take the issue into Piccadilly by Hamilton-place, or the direct course of Audley-street, which would strike out just over the foundation of the south-west corner of Park-lane.

Then as to the suggestion that direct lines of thoroughfare are needed across Mayfair, north and south by Grosvenor-square, nobody will conflict that question; but the great object is to attain the most useful line of intercourse where most required, and that is precisely the one in question, to relieve both Park-lane and the Audley-street lines by *one cut*. To form traverses by Clarges-street, or other existing narrow lines, might throw open a valuable district, at present of a retired and aristocratic character, but could alleviate little the aggravated and still growing inconvenience of congested traffic between the north-western and south-western divisions.

As to a straight or strategic causeway, although it would be of course more desirable and more effective, as communicating between Regent's and the Green parks, we have no authoritative predilections for such a provision in this capital. The main object to be desired is a direct and open causeway. Such a route might be attained through Hamilton-place (by permission of the Dean and Chapter of Westminster) through their gardens; or, if the dignity of the metropolis is to be regarded, then the straight line from park to park, opening into Piccadilly, would assuredly be the grandest.

If in this great city we cannot carry out new designs good in themselves, how can we hope for improvements which, being only accessory to the extension and completion of fine causeways already in existence, private speculators have no inducement to undertake? Still, there is a hope that Parliamentary interest, once evoked, may give the *fiat* for a great public work.

A quotation of a portion of the former article in the *Builder*, before referred to, may not be amiss, viz.:—

"Whatever improvement be made at the issue of Park-lane into Piccadilly,—and there is no great thoroughfare of the West End so inadequate to the traffic,—that same line would go in aid of the great northern line of Baker-street. Hamilton-place is in the direct range, and it would also come into the slightly sweeping curve of the Lane; but as there are some costly mansions in the way of the Audley-street continuation, that route might, by a slight curvature, strike through Little Stanhope-street into Hertford-street, and so by Down-street, into Piccadilly."

No one would desire to infringe upon the park, nor to curtail its extent by a rood. On the contrary, the public voice, if polled, would decide for the *clearance of the ranger's lodge* (the most picturesque spot), as well as the guard-house and magazine; but in urging the applica-

tion of a strip, say 60 feet wide only, and 500 feet long, extending from the south end of Seymour-place to Hamilton-place, no disfigurement could be perpetrated; but, on the contrary, the exceedingly ornate character of these pretty grounds might be still maintained, whilst an inestimable source of accommodation would be opened to the public; and the Dean and Chapter, who own the grounds, and who have long dedicated them to public health and convenience, would assuredly not oppose so pious a user.

It might be expedient, in order to complete a grand thoroughfare, to withdraw the iron rail park fence some few feet inwards, so as to make the causeway an equable width throughout, beginning at Oxford-street for some short distance; then from the Grosvenor-gate southward towards Holford House. That done, here would be truly a noble public route; for the aspect of the houses, as well as of the park, would be thereby improved.

The line of Audley-street already communicates, by a short turn through Stanhope-street, with Park-lane westwards; and Curzon-street eastwards affords ample opening for traffic, which may run into Piccadilly by Half-Moon and Clarges streets, and also by Bolton-row. The additional opening of Hamilton-place would therefore be quite sufficient, seeing that the present strait or gut of Park-lane would still be retained; and, so far as the view from the mansions between that and Seymour-place are concerned, a strip of bright shrubbery would yet screen off the traffic, which might (*pro tanto*) be withdrawn from under their windows.

It is right to state that Park-lane, as now existing, is not of an equable width throughout. At the Oxford-street end it is 37 feet wide, from Brook-street southward: it then increases to 40 feet. Opposite to Grosvenor House it is 53 feet; from South-street to Holford House it is 43 feet; while at the Stanhope and Grosvenor gates there are large spaces thrown into the causeway, as the gates sweep inwards towards the park; but at the issue into Piccadilly the total width, including footways on either side, is but 31 feet!

Having premised how great is the repugnance on the part of the public to encroach on the liberties of the park, it may seem strange to advocate the obtrusion of a few feet upon its precincts; but, seeing that an important public thoroughfare cannot be accomplished effectively without shifting the fence, it is proposed to the Chief Commissioner of Woods and Forests to withdraw the iron railing which runs first from Oxford-street nearly to Grosvenor-gate, and thence also to the southern end of Seymour-place, in a direct line, *only 6 feet inwards*. This would leave a good causeway for carriages, and a footing on either side; and, by a slight deviation south of Stanhope-gate, the road might be continued almost direct through Hamilton-place.

An opportunity might then arise for substituting a new railing, and of improving its aspect, without much increased expense; and, at the same time, it would not be necessary to *cut or disturb a single tree or shrub!*

This plan will secure a great boon to all moving life in London, and at the same time the change or reduction of park extent will be utterly impalpable, whilst not a single flower of the pretty borders will be interfered with.

CRIMEAN MEMORIAL CHURCH, CONSTANTINOPLE.

THE contractors for this building are Messrs. Rogers & Booth, of Gosport, who sent out a staff from England, and commenced operations in May; so that the work so frequently referred to in the columns of the *Builder*, and so long delayed, is now progressing, and will, we understand, be completed within two years.

SOME PECULIARITIES IN ANCIENT AND MEDIÆVAL IRISH ECCLESIASTICAL ARCHITECTURE.

MR. DU NOYER'S paper (addressed to the Kilkenny Archæological Society), of which we gave the greater portion in our last Number, has proved so interesting to some of our readers, that we are led to print the remainder of it, and give the omitted illustrations. Fig. 1 is an exterior view of the ruined chapel of St. Catherine, on the shore of Nook Bay, in the county of Wexford. The building is attributed by the writer to the middle of the fourteenth century.

The walls of this building are massive, and batter from their base, to the height of 4 or 5 feet; and they terminate in a projecting parapet. The east gable is pierced by a flat-headed window of two lights, terminating in simple but graceful cusped tracery of flamboyant character, of the exterior of which the accompanying cut is a correct illustration (fig. 2). At either side of this window there is a peep-hole, which originally commanded a view of the land approach to the place.* The north doorway is equilateral pointed, the arch being formed of two large stones, the angles of which, and those at the sides of the doorway being chamfered as low down as the commencement of the batter.

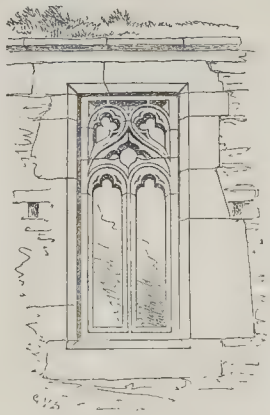


Fig. 2.—Window, St. Catherine's.

On the exterior of the wall, to the left of this doorway near the springing of its arch, and at the height of about 6 feet from the ground, there is a small tricusped niche, which, from its peculiar position, would lead one to suppose that it was intended to receive a lantern to act as a beacon to vessels passing over the neighbouring portion of the Waterford estuary. On the opposite side of the doorway, and just beneath the string course of the parapet, there is a small window, by means of which parley could have been held with any one at the door. We give a view of this doorway (fig. 3), with its lantern niche and window.

The doorway in the south wall, which is seen in the view through that in the north wall, is flat arched in the interior, but is surmounted by a massive single lintel externally.

[Of the Castle-church at Clonmines, described in our last, we add a view of the Interior, looking west, showing the corbels intended to support the floor of the gallery, and the entrance doorways to the winding stairs leading to this upper floor and roof (fig. 4). We continue the paper.]

Figs. 5 and 6 show, respectively, the plan of the basement, and of the roof open to the air above the vault.

The turret at the north-west angle surmounts the winding stairs at the basement floor, while that on the north-east angle has a large oven beneath it: both these turrets are flat roofed, with high and embattled parapets.

Figs. 7, 8, and 9 represent the three chrism or consecration crosses, which were scraped in the fresh plaster of the walls at the time of consecration of the building.

Fig. 7. On the east wall, at the right hand side of the east window. Fig. 8. On the south wall, under the first corbel for supporting the floor of the gallery. Fig. 9. Also on the south wall, under the second corbel, and within 2 feet 10 inches of the west wall.

From the fact of two of these consecration crosses being so far away from the eastern or groined end of the room, it may be that the entire of the basement floor was appropriated to worship, and that the habitable portion resembled a modern gallery to a church, but closely partitioned off from the groined end of the building.

With regard to these crosses, it appears from some of our most ancient sculptured monoliths, many of which bear Ogham inscriptions, that a cross formed by the intersection of four parts of circles, and ending in eight points, or such a modification of it as we see in fig. 9, is that form of this emblem which was introduced into Ireland by St. Patrick, or the earlier missionaries, and they must have got it from the Greek or Eastern Church, which still retains it.

I believe that in this particular shape of the cross we have *not* the emblem of the Passion of our Lord, but that of the descending dove with outstretched wings, which alighted on him at his baptism, and which was the physical confirmation of the Divine voice which acknowledged him as "the well-beloved son." A slight modification of the lowest member of this geometrical figure would supply the head of the bird, while the upper part would be the fanned out tail, and the side expansion the wings.

In the ancient baptistery at Poitiers, a building of the third century, and in all the oldest French, German, and Lombardic churches, some of which were originally Roman Basilicæ, and in the ancient cathedral of Athens, which may be of the second century, the cross when introduced is always of eight points, with the shafts slender, and the whole enclosed in a circle. This form of cross is also that invariably sculptured, enamelled, or painted within the nimbus encircling the head of our Lord in works of art down to the thirteenth century, not only on the Continent, but in England. It will be at once apparent how appropriate a place this is for such an emblem, as typifying The Dove, while that which would only recall the emblem of the Passion would here be quite inadmissible.

It was not till many centuries after the establishment of the Eastern Hierarchy that the *Latin* form of cross, or that made by the intersection of two pieces of wood, was recognised generally over Western Europe; the first idea being one more lofty, more emblematic of the divinity of our Lord, while the other appealed to his weakest part, his human nature.

Space will not allow me to enter more fully on this interesting inquiry as to the origin of the cross of eight points: suffice it that I believe it to be emblematic of the Dove, and I would therefore propose to call it "the dove cross." Those interested in the matter, I would refer to "Les Monuments Anc. et Mod.," by Mons. Jules Gailhabaud, where they will see many illustrations bearing out the opinion which I have here ventured to express.

With regard to the ecclesiastical buildings at Clonmines, Archdall, in his "Monasticon Hib." states, at p. 734, that Clonmines is a borough town in the barony of Shelburne, six miles south-east of Dunbrody. The family of Cavanagh founded a monastery here for Eremites following the rule of St. Augustin. In A.D. 1385 it was enlarged and beautified by Nicholas the Clerk, the son of Nicholas; and the friars of the order of St. Dominick afterwards obtained possession of it.

Nicholas Woding, the last prior, surrendered this priory, being seized of the same, and of a church and belfry, a dormitory, a hall, three chambers, a kitchen, cemetery, and one close within the site thereof—annual value, besides reprisals, 3s. 4d.; also of one small tower, four messuages, ten gardens, one acre of arable land near St. Keran's Pyll (or creek), and the tithes of the said garden; also 2s. chief rent arising from Colgan's lands in Clonmyn aforesaid—annual value, besides reprisals 23s. 8d. On the 25th August, 35th of Henry VIII. (A.D. 1544), this monastery with its appurtenances, together with the Dominican friary of Rosbercon, in the county of Kilkenny, was granted for ever to John Parker, at the annual rent of 2s. 4d. Irish. He sold them to John Blake, of New Ross.

It is exceedingly probable that the church stated to have been erected by Nicholas the Clerk, at the close of the fourteenth century, is the building I have described as the fortified church, or castle church, for its architectural features point precisely to such a period, and it may be one of the beautifications or additions mentioned as having been made by him.

It is evident that great pains were bestowed in the construction of this remarkable building, which on an emergency was intended to act as a castle or defence to the neighbouring abbey, should that establishment ever be beleagured by hostile natives; and if all communication between it and the monastery were cut off, and if the monks and their retainers happened to be well provisioned, they could have held their own against any foray, and, if necessary, stood a siege.

* St. Catherine's is not unique in this respect: the fashion of constructing peep-holes in the east gable, and sometimes in the side walls of fourteenth century churches, appears to have been very prevalent in Ireland.



Fig. 1.—St. Catherine's Chapel, Nook, Co. Wexford.



Fig. 4.—Interior of Clonmines Church, showing West End and Corbels for Gallery.



Fig. 3.—Doorway, St. Catherine's.

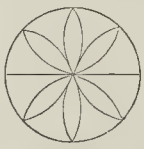


Fig. 8.



Fig. 9.

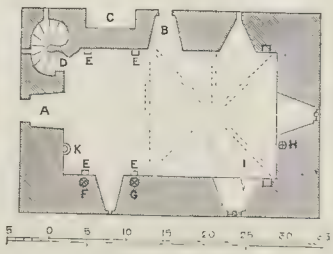


Fig. 5.

A. Doorway in west wall. B. Doorway in north wall (to the church). C. Recess, tomb, or seat. D. Doorway to winding stairs to second floor and roof. E E E E. Corbels to support beams of second floor or gallery. F. G. H. Chrism crosses on plaster of walls. I. Piscina. K. Stoop.

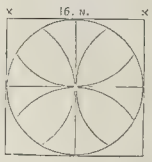


Fig. 7.

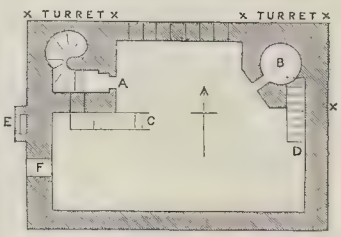
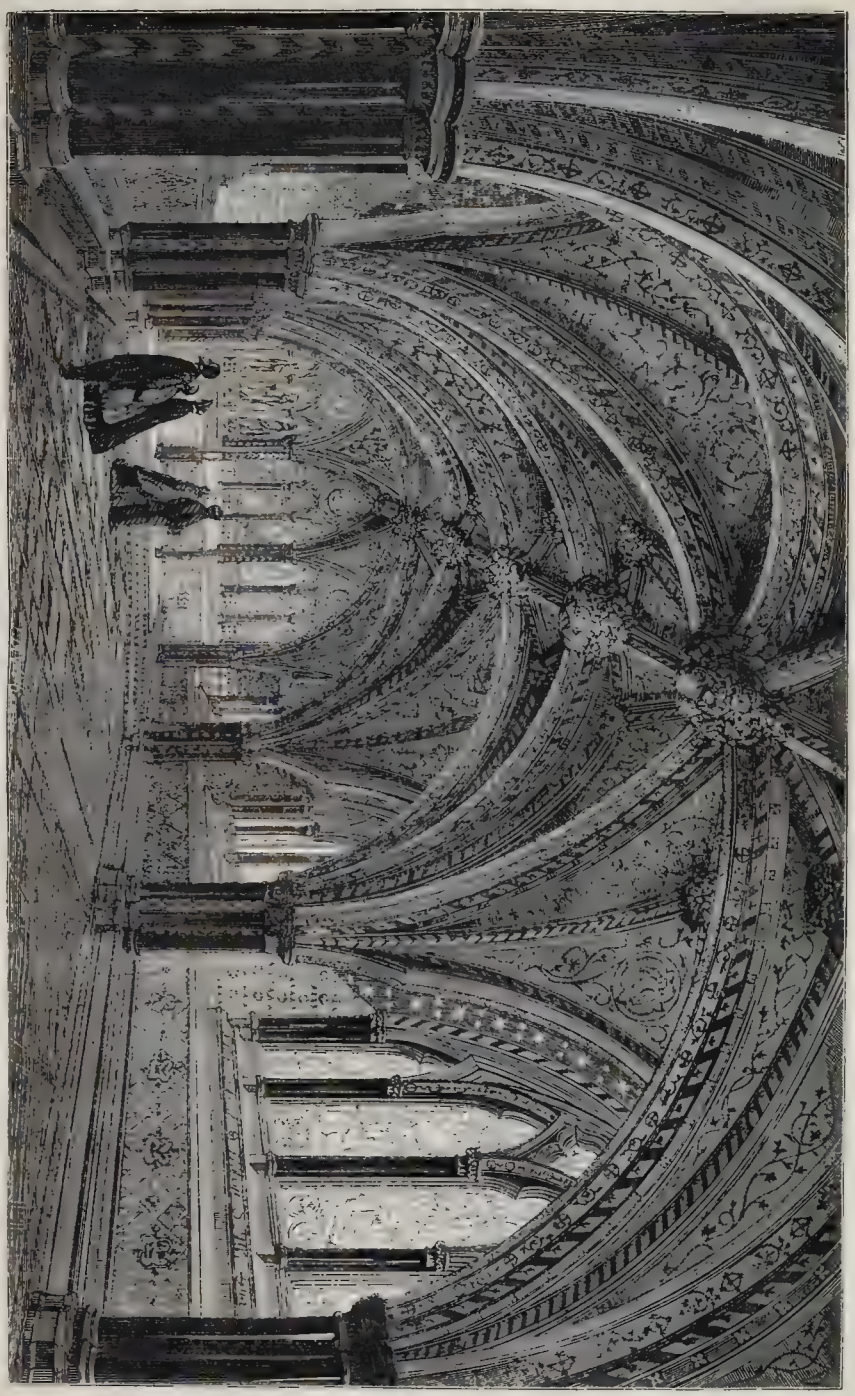


Fig. 6.

A. Doorway to roof from winding stairs. B. Oven turret. C. Stairs to roof of turret. D. Stairs to roof turret. E. Machicolation over doorway in west wall. F. Large door-like opening in parapet, probably a postern gate, to be reached by ladder from the ground: the sides of this opening converge.



ST. STEPHEN'S CRYPT: THE CHAPEL OF THE HOUSES OF PARLIAMENT.—RESTORED UNDER THE DIRECTION OF MR. E. M. BARRY, A.R.A.

THE CHAPEL OF THE HOUSES OF PARLIAMENT, FORMERLY ST. STEPHEN'S CRYPT.

ST. STEPHEN'S CRYPT, in the New Palace at Westminster, is almost the only portion remaining of the old Palace at Westminster, and formed the basement story of St. Stephen's Chapel. After years of desecration it has been carefully and effectively restored and decorated, and is now prepared to be used as the chapel of the New Palace at Westminster, according to the original design of the late Sir Charles Barry. The restoration has been carried out by Mr. Edward M. Barry, in whose charge the New Palace has been placed since the death of his father, in 1860.

The length of the chapel is 90 feet, and it is 28 feet wide, and 20 feet high. It consists of five bays, the easternmost of which is raised to form a sanctuary. There is a private entrance at the north-west corner from the palace, and access is given to the public by a door near the angle at the southern end of Westminster Hall down a flight of stone steps, thence through a door on the right hand.

On entering the vaulted chamber, the spectator is struck with its fine proportions and sombre effect, its bold moulded groinings, and richly sculptured bosses.

The stained-glass windows, seven in number, are by Hardman, and represent the Ministry and Martyrdom of St. Stephen. The walls beneath the windows are covered with alabaster and inlaid marble, disposed in a rich diaper pattern, and the whole of the groining is decorated with arabesques and figures executed on gold grounds. The old bosses have been carefully preserved, and represent the martyrdom of St. Stephen, St. John, St. Catherine, and St. Lawrence, and also St. George and the Dragon, beautifully executed.

The east wall is panelled with deep recessed tracery, with full-length figures on a gold ground. There are nine panels, the centre of which is to contain a cross. The other eight panels represent St. Peter, St. Stephen, St. Oswald, St. Ethelreda, St. Edmund, St. Edward the Confessor, St. Margaret of Scotland, and St. Edward the Martyr. The reredos is to be a low structure, of marble and mosaic, and is not yet completed. All the columns are of polished Purbeck marble, and have been executed by Mr. Field, who has also carried out all the other marble and alabaster work. The decoration has been done by Mr. Crace, from the designs of the architect, except the figures on the east wall and the easternmost groin, which latter have been entrusted to Messrs. Clayton & Bell. The chapel is now almost ready for occupation, and will contain about 250 persons. It was used within our memory as a dining-room for the Speaker, and we rejoice to find that after having been so long devoted to ignoble uses, it is likely once more to be dedicated to those purposes of religion for which it was originally designed and constructed.

ENLARGEMENT OF SUSSEX COUNTY HOSPITAL.

A SPECIAL general Court of Governors of the Sussex County Hospital has been held in the board-room of the institution at Brighton, to consider a report from the medical officers, recommending important improvements and enlargements to the hospital, which had been adopted by the committee of management; and to sanction the issue of advertisements calling on architects to send in plans for such improvements and enlargements, and offering premiums of 100*l.* and 50*l.* respectively for the first and second best of the plans sent in.

The Rev. J. H. North presided, and in the course of his introductory remarks said, it would be in the recollection of many that erysipelas prevailed in one of the wards a few years ago, and he was sure the medical gentlemen would bear him out when he said that that was a disease which resulted chiefly from a want of proper drainage and proper ventilation. At the time the malady prevailed, an inquiry was set on foot, and it resulted in the solution that the drainage was inefficient. Steps were immediately taken to arrest the evil, which were effectual; and *since that period there had been no recurrence of that particular form of disease in the hospital.* The disease was very prevalent in many hospitals, more especially in hospitals in confined situations; but even in such places, with not half the advantage which the Sussex hospital possesses in the pure air that sweeps through every ward in the building, where the case has been met stoutly by sanitary measures, those hospitals have shut out the disease. More recently, and during the last winter, another form of disease had shown itself in this hospital, a disease known under the name of pyæmia. This was also a mischief traceable, almost infallibly, to some sanitary defects in the ward where the patients happened to be. *This evil had also been remedied.* The present proceedings emanated from the medical officers of the institution; and this being the case, it carried with it even a still greater weight. There was one advantage the hospital possessed over many others: it was situate in a capital position as far as air was concerned. A gentle and equally-distributed current of air was constantly passing through the hospital by day; and this, in some measure, made up for the deficiency of actual space; but at night, when the hospital was shut, that healthy current of air could not pass through the building. He took it that they were all agreed that as much space as possible should be allowed for air; but at present there was not sufficient space. With respect to the offices of the hospital, this opened another branch of inquiry. Nearly every office wanted enlargement.

Sir Charles M. Jackson read the report of the medical officers, who, in committee assembled, had passed the following resolutions, which were embodied in their report:—

"That more ward room is wanted for patients in the hospital; that the Museum and Library should be removed out of the main building into apartments adapted to their probable increase; that increased accommodation for the purposes of baths, lavatories, and water-closets is required for both the patients and the officers of the Hospital; and that if possible sea-water baths should also be provided.

That small wards for various special purposes are much needed, as well as convalescent wards or large day-rooms. Also a reception-room for patients applying for admission.

That more and better accommodation is required for the out-patients and for the medical officers of this department, providing especially for the better separation of the sexes, and a better arrangement of the baths and water-closets."

The report was signed by every medical officer of the institution.

A resolution that the report be received and adopted, was finally substituted by one in which the word "approved" was inserted in place of "adopted," and unanimously carried.

The next resolution related to the premiums, and in moving it Sir C. Jackson stated that the committee were of opinion that they would not be able to get the best plans unless they held out some inducements to architects in the shape of remuneration.

Captain Fitzmaurice seconded the resolution. The original architect of the building, he observed, was Sir Charles Barry, who received no remuneration. (Mr. Goulty said that Lord Egremont compensated him.) They could not expect to get architects to work for nothing; and he thought the plan proposed by the committee was the mode least open to the charge of jobbing or favouritism. He thought the premiums offered were very moderate. It was necessary that they should get good plans, as that might save them thousands.

Mr. Tamplin could not see the slightest necessity for offering premiums. What would they do next? He believed architects would be glad to have an opportunity of securing so good a recommendation as having their names associated with such an institution as the Sussex County Hospital. They would esteem it an honour, and he was sure numbers would be found to send in plans gratuitously.

Dr. Fussell was opposed to everything in the shape of lavish expenditure. It had been urged that, if they were to hold out premiums for plans, they would avoid jobbing. This was not the point. Was it necessary to pay 150*l.* to architects for plans? He would say, most emphatically, certainly not. Again, they were told that by offering premiums they would be getting eminent advice. This was all very well, but was it necessary that they should have eminent advice? They did not require eminent sense for altering or enlarging the hospital: all that they required was common sense,—that was the best advice they could obtain. And when they spoke about giving premiums for the reason that men could not be expected to work for nothing, did they forget that every day of their lives they were receiving gratuitous services? He thought, if premiums were offered for plans, on the same principle they ought to offer some gratuity to their physicians and surgeons. He wrote to the authorities of the Oxford Infirmary, and asked them if they gave premiums to architects for the best plans? The answer was, "Certainly not." The committee of the Bath Mineral Water Hospital had recently made improvements to the extent of 20,000*l.*, and they gave no premiums for plans. The same thing occurred with regard to the Leeds Infirmary.

The Chairman approved of the proposition, but thought lower premiums might be given to a limited number of unsuccessful competitors, as the successful competitor would be amply remunerated in another way without premium.

Several other gentlemen spoke against the motion, and ultimately Sir Charles Jackson withdrew it, at the same time remarking that it was not intended to give these premiums out of the funds of the hospital. They would have come out of the new funds.

Mr. Hussey moved, "That no portion of the proposed works be commenced until two-thirds of the estimated cost of such portion of the works has been subscribed, nor until the plans have received the sanction of a General Court." This was carried unanimously.

How the designs *are* to be obtained was not stated.

THE LONDON FIRE-BRIGADE.

THE progress of the London Fire Brigade under the active direction of Captain Shaw is satisfactory, although much yet remains to be done before the lives and property of the dwellers in the metropolis are rendered so safe as we might reasonably expect in this scientific age. It is true that the old-fashioned hand-engines are rapidly giving place to those which are worked by steam power; and we are told that the electric telegraph has been employed to ensure the simultaneous action of the men and engines at the various stations. Still this power can and doubtless will be used to a far greater extent than it is at present, and with the most beneficial results. Besides a perfect means of communication between the different engine-houses, there should be the means of telegraphic despatch between the police stations, and also at the spots where the fire-escapes are kept, and Watling-street, the head-quarters of the brigade.

The writer remembers, years ago, the slow management of the fire-engines in some of the chief towns in the north of England. Then there were the parish-engines, which were very ineffective, and certain engines of a better kind, which were provided by the corporate authorities. For the management of these a sort of brigade was formed, that for the most part consisted of men engaged during the day as bricklayers, or in other branches of the building trades, which enabled them to climb about with activity in case of the outbreak of fire. These men resided in different parts of the town; sometimes at a considerable distance from each other; so that delay generally took place before the parties could be summoned to their duties; and during the daytime they were often engaged in work or in other ways, and so could not be found. In the night, when the sleepy and almost useless old watchman became sensible that a fire had broken out, he was often impotent for action, and a long period elapsed before the men could be knocked up, attired in the suitable habiliments, and brought to the scene of action. In Newcastle-on-Tyne, for instance, the water-supply was ill laid on, and in many parts of the town, from want of water the fire-engines were of no use. To add to the difficulty, the police consisted of about a dozen officers called the "town-serjeants," and these were scattered in different parts,—here and there in out-of-the-way spots, in "chairs,"* alleys, &c. So that frequently there were no sufficient means of preserving order amongst the crowd; and so the movements of the firemen were often interrupted, and danger was incurred.

It was a great improvement when a powerful fire-engine was placed at the barracks, situate about two miles to the north of the town, and the soldiers were well drilled into the manner of effectually working it: it was generally the case that the barracks engine was the first to arrive, and rendered more effective aid than the other forces joined together. In those days the

* Many of the narrow alleys in this town are called "*chairs*;"—for instance, "Pudding-chair," "*Manor-chair*," "*Denton-chair*." The writer is not able to explain the meaning of this word; but remembers once at the assizes both judge and council were puzzled by the statement of a witness that he had "seen the prisoner at the bar coming out of the chair foot."

present rapidity with which the engines can be turned out for service by the London Fire Brigade would have been as little believed in as was then the successful working of George Stephenson's railway system. At the recent night visit of the Prince of Wales to the various stations of the brigade, some of the engines were horsed, manned, and into the street, ready to start in any direction, in less time than two minutes and a half after having received notice.

All parties agree that it would be difficult to gather together a more brave, intelligent, and well-conducted body of men than those who form the London Brigade; but they cannot perform impossibilities: for the want of some such system as we have hinted at, delay takes place which yearly causes the destruction of much property and life. There is the present divided management of the metropolitan fire-engines, which will be removed when the business is made a matter of police. The rapidly-spreading suburbs require attention, and the appointment of fire stations in well-chosen spots.

There is just now, not only in London, but also in the provincial towns, an increasing desire by persons in influential positions to form amateur fire brigades—a movement not to be wondered at; for, besides the feeling that using exertions in this way is a means of doing good, there is a marvellous degree of excitement in the active performance of the task of battling with a great fire. Valuable as amateur aid is in many instances, it would not do to depend on it in such a huge and densely populated space as is covered by the metropolis, where it is needful to concentrate efforts on a large scale, and ensure the aid of superintendents and men whose time is entirely directed to an express purpose, and who are fitted to their duty by long practical experience.

In connexion with the London Fire Brigade, several men of high rank have made it a sort of hobby, and the countenance in this way shown will not be without a beneficial effect on the men, who were proud to learn that H.R.H. the Prince of Wales, in the usual costume of the fireman, helmet and tunic, and armed with his axe, mounted a fire-engine, and in the middle of the night visited several of the stations, and noticed the rapidity with which the engines and men were turned out at the note of alarm. We are glad that the Prince has shown an interest in this splendid institution. Not only during the day, but also during the hours of darkness, the dwellers in London depend on this force as an important means of protection. It might lead to good to many if his Royal Highness would, in a similar spirit, take a few strolls among the neglected dwellings to be found in certain parts of the metropolis. The experience, though painful, would be likely to produce a most important influence towards the improvement of conditions which are deplorable. The Prince is steadily winning his way to the hearts of the people.

THE ALDERSHOTT INDUSTRIAL EXHIBITION.

AN interesting exhibition has been opened in the club-house, at the Aldershott camp. This industrial exhibition has been carried out under the direction of a committee consisting of the officers commanding such regiments, corps, and departments as were willing to take part in the work,—Lieut.-general Sir John Pennefather, K.C.B., who opened the exhibition, acting as president, and the general officers commanding brigades being the vice-presidents. Colonel Lennox, deputy assistant quartermaster, and other officers, acted as secretaries and treasurers.

The object of the exhibition is to encourage and foster in the soldiers, and in their wives and families, a taste for the practice of the useful arts and sciences. The soldiers have exhibited various articles of their own invention and manufacture, and the officers have co-operated with them by exhibiting a number of things which have fallen into their hands in periods of warfare in different parts of the world. Many of the articles which were made by the soldiers and their wives and families will be sold for their benefit, after deducting the necessary expenses of the exhibition; and some of the articles exhibited by the officers and their families will also be sold, and the proceeds devoted to charitable purposes.

The articles exhibited by the soldiers are arranged in six classes:—1st. Painting, drawing, and photography; 2nd. Carving, cabinetmaking, and carpenters' work; 3rd. Military engineering instruments, accoutrements, and equipment; 4th. Armourers' and smiths' work; 5th. Leather work; 6th. Needlework and clothwork.

The officers' collection includes many articles of curious interest; among others a superb summer dress, once belonging to the Chinese Commissioner Yeh, several fine Indian tapestries and Chinese drawings, and a number of Oriental swords of all kinds. Indeed, there is a large number of interesting curiosities from India, China, Ceylon, Japan, &c.

In the industrial exhibition are patchwork carpets made by the soldiers, and a display of carved ivory, by Lieut. Wilkinson. There is also a machine for making lint on the field of battle, invented by private Southam.

Altogether there are between 700 and 800 articles exhibited by officers and men, and their families, connected with the regiments at Aldershott, and about 400 sent on loan.

NORTH LONDON INDUSTRIAL EXHIBITION.

A PUBLIC meeting promotive of this exhibition has been held at Hoxton; Mr. F. Dove, of Messrs. Dove, Brothers, in the chair. There was a large attendance. In course of his address in advocacy of the proposed exhibition, the chairman said there was a strong opinion prevailing that the mechanics of the present day were individually deteriorating, although collectively they were progressing; and that opinion was based upon the circumstance that in consequence of the extensive introduction of machinery a great deal of preparatory work was now done by it instead of by the workman, as was formerly the case. He thought the present movement would be beneficial in improving the workman, both mentally and socially, as well as physically. Mr. Ratley explained the object of the meeting as hon. sec. of the central committee. It had, he said, been found that the master and workman did not get on very well together. The men were looked upon as machines, and an unpleasant feeling sprang up between them. It was to remove such a feeling that such an exhibition as they had met to promote had been projected, and he believed it would have the effect of reconciling labour and capital. Mr. J. Surr and others also addressed the meeting, and appropriate resolutions were carried *nem. con.*

HOGARTH'S HOUSE, LEICESTER SQUARE.

I OBSERVE it is suggested, in the *Builder*, that a memorial tablet should be inserted in the wall of Hogarth's house, in Leicester-square; but as, in the preceding number, we had been informed that the Sablonière Hotel was about to be demolished to make way for an edifice of more imposing exterior, the attempt to do honour to the dwelling-place of the first and greatest of English painters must take some other form. With this object in view, allow me to suggest that either the editor of the *Builder*, or some of its many qualified contributors, should seek an interview with the architect of the new hotel, and ascertain upon the spot whether any undoubted remains of the Hogarth period still exist in the building; and if so, whether they are of such a nature as would justify him in preserving them in the new erection.

I think it hardly possible at this distance of time to determine the particular chamber in which were—

> Closed in death the attentive eyes
> That saw the manners in the face;

and it is still less likely that any trace could be found of the bust of gilded cork, which stood for the sign of the "Golden Head," and which Smith (in his "Life of Nollekens") tells us was the work of Hogarth's own hand. But I find, from the *European Magazine* of 1801, that the apartment which Hogarth had erected for painting was still in existence as the billiard-room of the Sablonière, for which its top lighting would peculiarly adapt it; and nothing would be easier than to ascertain whether the portion of the building now appropriated to that game, is, in very deed, the room in which so many immortal works were executed. Now, as such a room, to judge from the admirable architectural spirit displayed in Hogarth's pictures, would be certain to be panelled, what so easy as to work the materials into a new room of the same size? Independently of all higher considerations, would it not prove a source of pecuniary profit to the proprietors to be able to boast of their Hogarth room? Who would not choose it to dine in? and what a zest it would give to a supper after the play! I would have it hung round with choice specimens of the artist's own engravings, without margins, and in the narrow black and gold frames in which alone they look well; and I volunteer as a free gift my own set of the "Marriage à la Mode," in the early state before the introduction of the lock of hair on the forehead of the lady in No. 2! How Charles Lamb would have delighted to play whist in such a room; and, when the punch went round, what rare stores of quaint and genial wisdom and wit would have come from his stammering lips!

But I must have done. If you agree with me, Mr. *Builder*, on the propriety of moving in the matter, pray be up and stirring, and the work is done! F. C.

MEMORIAL TABLETS.

I WAS much pleased with your article, "Memorial Tablets on London Houses." How often have I remarked to friends in walking through King-street, St. James's, that it was a pity that there was no tablet to mark the house,—I think No. 2,—in which Louis Napoleon so long lodged when a refugee in England. I hope the owner, whoever he is, may read your paper, and be induced to expend 5*l.* in a small marble slab to record a fact which will not deteriorate from the letting value of his house. W. E.

WITH reference to the article in your paper headed "Memorial Tablets on London Houses," might I suggest something of this kind as a suitable inscription for No. 57, Lower Brook-street?—"George Frederic Handel lived in this house for thirty-four years. Here he composed the 'Messiah' and other works, and died 13th of April, 1759." * A HANDELIAN.

THE LONDON HOSPITAL, WHITECHAPEL ROAD.

THE first stone of the new west wing to this hospital has been laid by the Prince of Wales in presence of the Princess, and of the Duke of Cambridge, who is president of the hospital. The estimated cost of the new wing, with the alterations depending upon it, is 27,000*l.* This amount will provide a building 140 feet long by 60 feet wide, which will contain on the basement story a large waiting-hall for out-patients, surgeons' and physicians' rooms, laboratory, dispensary, and other offices. On the upper floors will be large wards for men, women, and children, with separate wards for persons of the Hebrew faith,—providing altogether room for about 200 patients in addition to those at present relieved. The contract has been taken for 23,000*l.* by Messrs. Hill & Keddell, of the Whitechapel-road; and the work is to be executed under the superintendence of Mr. C. Barry, architect.

THE NEW BRIDGE AT BURTON-ON-TRENT.

THE bridge which replaces old Burton Bridge, and the opening of which has already been noticed in our columns, crosses the river in a straight line, giving an even carriage roadway of 20 feet, with two causeways, each 5 feet wide, making the total width 30 feet within the parapet walls, which are 4 feet high. The total length is 470 feet, or more than a quarter of a mile, and there are thirty-two openings. Of these all but two are arched, the two exceptions being covered with iron girders, so as to give height for the passage beneath them of locomotive steam-engines and trains. In addition to the main bridge there are three smaller ones branching from it, and forming outlets to occupation roads. One of these, consisting of three arches, leads to the Hay, one of four arches to the Broadholme, and a third of five arches to the Burton Meadows. The bridge is of stone from Whatstandwell. The arches are lined underneath with Staffordshire blue bricks, but the quoins, piers, and parapets, and the whole face of the bridge, are of stone. The piers rest on gravel beds, the foundations having been carried down

* See "Life of Handel, by Victor Schœlcher," pp. 227 and 120.

to these by removing 12 or 14 feet of loose shingle, &c. The designs for the bridge were made in the office of Mr. J. S. Crossley, of Derby, the engineer for the Midland Railway Company; and the work has been done by Messrs. Benton & Woodiwiss, railway contractors, who built the Marple Viaduct, near Stockport, and are now constructing the Cornforth and Wennington Railway, in North Lancashire. The work has been carried on under the superintendence of Mr. G. Haslam, as clerk of the works; and it has been regularly inspected during its progress by Mr. Bridgart, the county surveyor of Derby. Owing to the illness of the late county surveyor of Staffordshire, this county did not obtain any specific power of supervision; but Mr. Griffiths, the Staffordshire surveyor, has inspected the works from time to time during their progress. The cost of construction is about 20,000*l.*; but the bridge has been built, not by an estimate, but at a schedule of prices. The contract was at first taken by Mr. Palmer of Lowdham, near Nottingham; but after six months had elapsed, was transferred to Messrs. Benton & Woodiwiss. This has caused a little delay in the opening.

THE YORKSHIRE ARCHITECTURAL SOCIETY.

THE annual excursion of the Yorkshire Architectural Society took place on the 22nd ult., for the purpose of visiting the ruins of Byland and Rievaulx Abbeys, and Helmsley Castle. On reaching Byland, a paper on the "History and Architecture of the Abbey," was read by Mr. J. R. Walbran, F.S.A. It appears, from what he said, that the Abbey Church presents three peculiarities:—Firstly, in the extreme length of its nave—200 feet; secondly, in having a western as well as an eastern aisle in its transept, as occurs also at York, Ely, Winchester, Wells, and Beverley, and in the Cistercian churches of Clairvaux and Pontigny, in France; and thirdly, in having a transverse aisle at the east end of the choir, like Archbishop Roger's church at Ripon. Beginning his observations at the west end of the nave, Mr. Walbran expressed an opinion, backed by appearances, that the design of the façade had been changed when the builders came to that part of their work. After a vote of thanks, the company proceeded to Rievaulx, where a paper "On the Foundation and Early Abbots of Rievaulx," by the Rev. James Raine, M.A., was read, in the absence of that gentleman, by the Rev. Thomas Bayly, M.A., sub-chanter of York Minster. The ruins of the abbey were then examined in detail, and the excursion was continued to Helmsley, where a paper on "Helmsley Castle" was read by Mr. J. Ness, in one of its now desolate apartments.

SALISBURY CATHEDRAL.

A MEETING of the dignitaries and other persons connected with Salisbury and its cathedral has been held, in order to take into consideration the report of Mr. G. G. Scott, on the present state of the cathedral, and his proposals for its security and effectual restoration. This document stated that the weight and pressure of the spire had long ago caused a settlement of the piers and crushing of the lantern walls. Since 1837, efforts had been made to avert the threatened destruction of the fabric, and from time to time no fewer than one hundred and twelve struts and supports had been inserted with that view, besides the building of buttresses, and of two arches in the naves, which served to connect the northern and southern sustaining piers. These expedients had, so far, answered the purpose: the church still stands, but it stands a wonder. The pressure upon the lantern justified the gravest fears; its outer wall being cracked at every angle, and the cracks had reopened since the last repairs. All the corner piers also were cracked, some of them seriously. There is nothing, Mr. Scott avers, to insure the building against such an accident as befel Chichester Cathedral. Certain iron bands brace the walls together, and these, in the opinion of Wren, who surveyed the cathedral in 1688, were so essential to the standing of the work, that if they were removed the spire would spread open the walls of the tower and cause its instant destruction. These bands were, of course, liable to rust and decay, and it was, therefore, of the utmost importance that they should undergo a thorough investigation.

Mr. Scott proposes to strengthen the lantern story without interfering with or overloading the piers below. To this end he would have command of materials not in use when Wren, who proceeded upon the same principle, was living. Before beginning these works it would be needful to underpin and effectually drain the foundation of the church and restore the masonwork of the basement moulding. The fabric may be said to be in a bad state of repair throughout. The dean and chapter had obtained 10,000*l.* from the Ecclesiastical Commissioners; but this would hardly suffice to pay for the works now in progress: those for the security of the tower, &c. are unprovided for; so that the authorities appeal to the public to supply the further sum, from 35,000*l.* to 40,000*l.*, required. A committee was appointed to carry out the objects contemplated, and a subscription entered upon in the room, which amounted to 6,000*l.*

RECONSTRUCTION OF THE SEWER IN SKINNER STREET, SNOW HILL.

A CORRESPONDENT says,—In consequence of the extension line of the London, Chatham, and Dover Railway having to pass at a considerable depth under Skinner-street, in order to effect a junction with the Metropolitan at Farringdon-road, it became necessary to deepen the course of the main sewer, from about opposite St. Sepulchre's Church to the Fleet-ditch, in Holborn Valley. Instructions were consequently given by Mr. Haywood, the engineer to the City Sewers Commission, to Messrs. Mowlem, Burt, & Freeman, contractors for City sewers, to carry out the necessary works, the whole of which have been of a very critical character. The old sewer ran along the under surface of the street, with a gradual fall to the low level, in the ordinary way, by the force of its own gravitating flow, its mean depth being 10 feet; but the works in connexion with the extension of the Dover line necessitated its being made at a depth of 35 feet, in order that its course might be carried underneath the line of railway. In order to accomplish this object, it was found necessary to excavate the ground in Skinner-street nearly two-thirds of its length to the depth required, and to open an extensive cutting opposite Snow-hill and Seacoal-lane, 46 feet in length, 18 feet in width, and 35 feet deep, so as to construct the new egg-shaped sewer (6 feet by 3 feet 6 inches), and afterwards to put in the retaining walls of the railway upon the top of it, 10 feet in thickness. But having done this portion of the work, it was further necessary to cause a connexion to be made between that portion of the sewer which still continued at the eastern end at the higher level. This was effected by an engineering artifice—namely, by gradually altering the level of the sewer, and the construction of an underground flight of steps, twenty in number, for the purpose of breaking the rush of the sewage, especially in periods of heavy storms. The sewer is built of stock bricks in cement, and concreted all round to a considerable thickness. A vast deal of timber has been used in the work, and built in with it, where it remains, its value alone amounting to upwards of 1,200*l.* The contractors for these works are Messrs. Mowlem & Co.: Mr. John Burt is their principal clerk; Mr. Moreton, their foreman; and Mr. R. Lidstone, the clerk of works to the engineer to the Commissioners of Sewers.

TELEGRAPH ROUND THE WORLD.

THE proposed intercontinental telegraph which, *viâ* Behring's Straits, will complete the circuit of the world, was recently the subject of discussion in the New York Chamber of Commerce. It appears that Russia has undertaken a line of 6,000 miles, from Moscow to the Pacific Ocean, at the mouth of the Amoor, of which 4,000 miles, from Moscow to Irkutsk, are in operation, and that she has granted to Mr. P. M. Collins, of New York, a concession for thirty-three years to extend this line up to and across Behring's Straits, and then through her American territories to the frontier of the British possessions, a distance in all of 4,500 miles; that the British Government have granted a similar privilege down the northern frontier of the United States; and that an application is now pending in the Washington Congress for like permission, through that country; thus connecting the whole telegraphic system of Europe and Asia with the telegraphic system of America. The Chamber unanimously resolved to memorialize the president and both Houses of Congress in favour of the undertaking. The full completion of the project may, it is alleged, be expected within three years. The total distance overland by way of Behring's Straits, which are only 39 miles wide and 160 feet in depth, will be about 16,000 miles; but how the influence of the glaciers which must inevitably cross the path of the wire is to be obviated, it is hard to say. That glaciers rip up the ground whenever they reach shoal water is well known; and the wire *must* cross the shoals as well as the deeps. It is asserted that messages have been repeatedly sent during the present year from Boston to San Francisco, a distance of 3,000 miles, in two minutes.

FEATHER BEDS.

THE sanitary effects of the various materials used for beds is a subject which has been too little considered. The old-established institution, the feather-bed, has its comforts, and with those who have been long accustomed to it, it has become an actual necessity. In the Anglo-Saxon days warm beds were a desideratum in every well-arranged household; and since then, through the Mediæval Ages up to the present time, beds, bedsteads, and bed-furniture have been matters of importance in connexion with every household. The unwholesome curtains have now nearly gone out of use,—a change in fashion which is conducive to health; with those of the rising generation, the feather-bed is decidedly going out of favour; and, generally, the medical profession do not speak in its praise, and before long it is likely that feather-beds will be disused in the hospitals. By some good housewives the cases of the feather-beds are changed, at the least, once a year; the feathers which have massed together in lumps are separated, aired, and then placed in a clean covering. This is a wholesome method, but it is by no means an uncommon custom to leave the feathers in the same case unopened for many years together,—a practice which is very reprehensible. Besides the ill effects which may arise in this way, there is now an opinion, strongly expressed, that very soft and yielding couches are not good for health or proper muscular development, and are, therefore, improper for use in schools and places in which the youth of both sexes are reared. Up to the end of his life the Duke of Wellington slept on a hard narrow mattress; and others might be mentioned who have lived to an advanced age, who repudiated soft beds.

A variety of materials is used for the stuffing of beds. There are the sweetly-scented heather beds in Highland cottages, which when carefully and frequently renewed afford a pleasant resting-place for the weary traveller. In some parts, various species of the fern are employed for the same purpose. In some of the English regiments, the soldiers fill the bedticks with clean dry straw: this, when neatly put in regular layers, is said to make a comfortable and wholesome bed. The straw is changed once in a fortnight; and what has been put aside from the barrack-room can be used in the cavalry stables. In London, and other large towns, a material called "flock" is extensively used for stuffing beds. This should be often changed and cleansed. In many of the dwellings of the poor we have met with beds filled with wood-shavings: a filling of this kind for a bed can be had for about 4*d.*; and if the material is often renewed there is no harm in it: but, unfortunately, this is not done; and often these beds fall into shocking conditions. Horse-hair and spring mattresses have in many instances been substituted for feather-beds; and some have carried the liking of hard beds to such a degree as to sleep on flat boards: this, however, will not generally come up to the idea we have of a bed of roses.

As regards beds in a sanitary point of view, there can be no doubt that the use of feathers in excessive quantities is not beneficial to health; and that the materials used for stuffing should be frequently changed. Some have suggested that any substantial filling for beds may be done without altogether, by the use of gutta-percha bed-cases, filled with air. We have no estimate of the difference of cost between first-class feather-beds and those of gutta-percha which can be inflated; but in some respects, provided that the cost did not forbid it, air-beds filled to a proper consistency would have advantages.

WIDE TENDERS.

COMMENTING on a recent list of tenders for a church in Cambridgeshire, a correspondent, T. S. G., says:—"This competition illustrates the way in which a wide difference in the amounts of tenders sometimes occurs. The specification included some terra-cotta work modelled to the architect's designs. One builder was referred by the architect to the manufacturers for the price of this work, and was informed by them that it would be 457*l. net*, and that the same estimate had been given to the other builders. Another builder told me that the architect informed him that the cost, according to an estimate which he had obtained from another maker, would be about 287*l.*; a third firm, not receiving the promised information from the architect in time, stated in their tender the sum they had allowed for terra-cotta; and that, if the architect's estimate exceeded it, the difference, which proved to be about 140*l.*, was to be added to the amount of their tender. Now, if all these tenders were adjusted to the datum price of 287*l.* for terra-cotta (which would have the effect of adding 140*l.* to Messrs. Bullock's tender, and deducting 170*l.* from Mr. Grinson's, and similarly modifying the others), the amounts would approximate more closely, and would show that builders are not always so "blind" as they sometimes appear."

IMPROVEMENT OF ARCHITECTURAL COMPETITIONS.

SIR,—It would seem that a little interest has been aroused, or rather revived, in the almost forgotten question of competition reform. Fourteen years ago I remember being somewhat ardent about it myself. If your correspondent will look into the eighth volume of the *Builder*, he will find full particulars of such a congress of architects as he and Mr. Burges desire to convene.

A meeting was called by the Architectural Association; and a committee, consisting of its chairman (Mr. Godwin), Mr. Papworth, Mr. James Bell, Mr. Truefitt, and some half-dozen others, appointed. I believe it is STILL SITTING!

WILLIAM YOUNG.

PUBLIC PLEASURE-GROUNDS.

THE vote on Mr. Doulton's motion in the House of Commons is calculated to throw a gleam of consolation on the minds of those who have long mourned over the diminished means of public enjoyment of rural scenery, through the spread of inclosures, and of encroachments on rights of way. It seems as if Parliament, which for some years has been alive to the propriety of a considerable governmental expenditure upon new national pleasure-grounds, is at last awaking to the more economical plan of abstaining from giving away those to which we have possessed rights from time immemorial.

My present object is to suggest a middle course as regards economy in expenditure, towards the furtherance of public open-air recreation. Let it be imagined that a desirable plot, say of 100 acres of land, is offered to the notice of the public. It is desirable as a building speculation: it is desirable, also, as a national park. I say, let an architect or landscape gardener, on the part of the building speculator, lay out an appropriate plan in concert with the authorities of the Woods and Forests. Let Government purchase, not the freehold of the whole 100 acres, but the freehold of an intended public path, say 3 yards wide, suppose in a serpentine line; also the freehold of any remarkable site, or knoll, commanding a fine prospect, with the right of way thereto; also the freeholds of small plots adjacent to the above, where it shall have been considered desirable to plant clumps, or erect ornamental objects, as fountains or statues. Let covenants be entered into that the inclosure of the public path be no more than a light iron fence; that no brick wall be thrown up nearer to it than 100 yards; that the villas to be erected be of approved picturesque designs; &c., &c.

Now, considering that these covenants on behalf of the public need be but little more onerous to the purchasers of building plots than those to which, for their own sakes, they would be willing to subject each other; considering, also, that the requirements of the public might only entail the purchase of 5 or 10 acres of freehold, instead of the whole 100; I submit that I have pointed out a plan which, if less economical than the mere conservation of Epping Forest, is much more so than would be the establishment of another Victoria Park.

GEORGE MACKENZIE.

THE TENDERS FOR TOWER OF ST. JOHN'S, PUTNEY.

SIR,—In your last number, under the head of "Contracts," is an advertisement for tenders for erecting the tower and spire of St. John's Church, Putney; and in the list of tenders received are the several amounts of the builders who have recently been invited to tender, in limited competition, for the above work, and who sent in their estimates to Mr. Charles Lee, the architect.

In the year 1858, we gave an estimate, with others, for erecting St. John's Church, Putney, from quantities supplied by Mr. Lee, and the separate estimates for the tower and spire varied from 1,030*l.* to 800*l.*; our price being 1,013*l.* The church was built at that time, with the exception of the tower and spire; but not by us.

Being one of those builders selected again to tender for the tower and spire (in the limited competition above referred to) from the original drawings, and the quantities not being supplied, we employed a competent surveyor to take them out, and a discrepancy was found in the Bath and rag stone work alone between Mr. Lee's original quantities and those taken out by the surveyor amounting in value to the sum of 350*l.*; and in addition to this the stone staircase, although shown on the drawings, was altogether omitted in Mr. Lee's quantities.

We think it right that these facts should be made known to the building trade, as the architect has written a letter thanking us for our tender, and saying "that the committee, thinking all the tenders too high, have decided to put the matter to public competition;" and they have advertised accordingly for tenders, to be based on quantities supplied by Mr. Lee.

We have written to the building committee, informing them of the errors in the original quantities, which, with the rise in materials and labour, is sufficient to explain the great difference between our estimates of 1858 and 1864.

We shall feel greatly obliged by your inserting this letter in your next impression.

T. H. ADAMSON & SONS.

THE BUILDING TRADES MOVEMENT.

Leeds.—The new infirmary building operations have been suspended for a day or two, owing to the labourers having dictated ultra-union principles to the contractors. Fresh men were found to supply their places, however, and the works were proceeded with. The lock-out men have issued a statement and balance-sheet up to June 25. They deny the correctness of some statements that have been made showing that a large proportion of the men have returned to work. As to money matters, they say that the first week each man received 10*s.*; and each succeeding week 14*s.* They then continue:—"We have done everything that is fair and reasonable by way of securing a settlement of the present dispute. Deputations, in connexion with every work now locked out in the district, have repeatedly waited on their respective employers, but only to find themselves insulted by being told to give up the union and sign the document." They then appeal to the men of England, Scotland, and Wales, not to seek work in the Leeds district. The balance-sheet shows that the total amount received by the union during nine weeks of the strike, was 6,808*l.* 7*s.* 1*d.* Of this sum Gateshead had contributed 3,544*l.* 13*s.*; Brierley-hill, 2,770*l.*; West Bromwich, 350*l.*; public subscriptions from Leeds, 28*l.* 2*s.* 3*d.*; and other subscriptions amounting to upwards of 113*l.*, including subscriptions from Wolverhampton, Newcastle, and London. The total expenditure had been 6,746*l.*, which had been disbursed in payments to the men locked out, in the cost of sending three of their number to America, and in the railway fares of those leaving the district for work elsewhere.

Sheffield.—An employer gives, in last week's local *Independent*, the following as to the state of the joiners' strike. A considerable number of the most respectable part of their workmen have accepted and are at work on their employers' terms—that is, 1*s.* per week advance on the present rate of wages; to commence work on Monday morning at seven o'clock instead of six; overtime, two hours to be considered a quarter of a day. Many men are prevented from working owing to the picket system, by gangs of men being placed near some of the workshops, and many threats of intimidation are being made to prevent men resuming their work. The employers are determined to make no further concession, and say they are satisfied that the strike will soon terminate.

Carlisle.—The working cabinetmakers of this city, following the example of the joiners, have struck work for an advance of wages. Some weeks ago a turn-out on the part of the joiners was threatened if their wages were not advanced from 22*s.* to 24*s.* per week. Meetings of masters and men were held, and the result was that those of the men who were considered worth the advance obtained it. It seems, however, that in some shops the joiners have been working in the double capacity of joiners and cabinetmakers, and these have now come out along with those whose trade is cabinetmaking alone. The rate of wages now demanded by the cabinetmakers as a body, is 25*s.* per week. It appears that at this season the masters have more orders in hand than they can execute; and the men, knowing this, have taken advantage of the opportunity to enforce their claim. The largest employers determined to resist the demand of their men, and consequently a considerable number of the trade are now walking about on strike.

Outrage by Brickmakers.—A party of working brickmakers have visited Mr. A. Ashworth's brickcroft, which is behind the Infantry Barracks, Manchester, and destroyed about 90,000 bricks. The bricks were wet from the mould, and were on the drying floors. The bricks being in an unfinished state, the damage caused is comparatively trifling. Mr. Ashworth employs a large number of men connected with the union, and is also an employer generally respected by his workmen.

FROM SCOTLAND.

Edinburgh.—The foundation-stone of the College "munificently endowed" by the late Sir William Fettes (who, by the bye, is said to have left his daughter to starve while doing so) has been laid at Comely Bank, in presence of a numerous and brilliant assemblage, amongst whom, we dare say, Sir William's daughter would not be seen. Mr. David Bryce is the architect, and the following is a list of the contractors for the works:—Excavating, Mr. J. M'Donald, Edinburgh; mason work, Mr. A. Morrison, Edinburgh; stone carving, Mr. W. Pearce, Edinburgh; carpenter and joiners' work, Messrs. Beattie & Sons, Edinburgh; iron work, Messrs. Tod & Son, Edinburgh; plumbers' work, Mr. M. Carstairs, Edinburgh; plasterers' work, Mr. J. Annan, Edinburgh; slaters' work, Mr. T. Crombie, Fife. Mr. Kay is clerk of the works. In the evening the trustees entertained a select party at dinner in the Douglas Hotel. The contractors were entertained at dinner in the Crown Hotel, and a suitable entertainment was also provided by the trustees for all the workmen engaged in the works.

Leith.—The description of house property most in demand in Leith, according to the *Scotsman*, is first-class dwelling-houses, and also working-class dwellings at rents of 5*l.* to 8*l.* Ranges of large warehouses and lofts are in request, but more shops and offices are not now wanted. The cost of erecting new buildings is much the same as last year, when there was a great deal of building going on in and about Leith, including 334 dwelling-houses of different kinds.

Innerleithen.—A few new buildings have been put up here this season, and a few more are in course of erection. At the west end of the village a new police office, with cells and house accommodation for two policemen with their families, is in course of construction. Various cottages and other houses also have been built or are in course of erection.

Brechin.—The building in Swan-street for the Royal Bank of Scotland is expected shortly to be opened for business. The site forms the junction of Swan-street and Clerk-street. The building is about square, with four elevations, and is two stories in height, with attics. The windows in the principal front are divided by circular columns with carved capitals. At the angles of the building spiral columns are introduced, with carved capitals. A deep polished belt goes round the eaves, with heavy moulded cast-iron rhones, supported on ornamental brackets. The roof is square in form, with a platform flanked with ornamental cast-iron finials. The designs were furnished and carried out by Messrs. Peddie & Kinnear, of Edinburgh. The carving, which is natural foliage, arranged conventionally, was executed by Mr. Roddis, of London. Local contractors executed the work.

Dundee.—A fountain has been procured by Messrs. Nicoll for Sir David Baxter, to be placed in the Baxter Park. It is to be erected on the north or back wall of the pavilion. The water flows from a font of Sicilian marble, carved into the shape of a shell, and surrounding it are

various emblematical representations. On the right side is a modelled figure of Moses with rod in hand, as if preparing to strike the rock; and on the left side is represented a Jewess holding the cup to the lips of her young child, while immediately above is the inscription from which the design is taken.—"He opened the rock, and the waters gushed out: they ran in the dry places like a river." The fountain, including the pedestal, will stand 6 feet high, and is 4½ feet in breadth. The whole of the work, except the font, is of cast iron in imitation of bronze, and is from the Coalbrookdale Iron Works.

Perth.—An artesian well is being bored at the dye works in Mill-street. Water has been found at a depth of 270 feet, and has risen to within 6 feet or 7 feet of the surface. Operations were still being prosecuted, in the hope that the spring would rise to a higher level.

Auchtermuchty.—At a meeting of shareholders in a projected new town-hall on Tuesday last, it was stated that fully three hundred shares had been already taken, about one-half of the number being by parties non-resident in the district. It was decided that it should be raised on a site at the south side of the town.

IRELAND.

Dublin.—At the head of Cavendish-row, one side of Rutland-square, and presenting a flank to North Frederick-street, on the finest site for a structure of the kind in this city, a new Presbyterian church approaches completion. This, which we may consider the metropolitan of the Presbyterian church in Ireland, is intended for the accommodation of the congregation now attending the dingy old meeting-house in Mary's Abbey, about 800 in number, and is presented to them through the munificence of Mr. A. Findlater, one of the great merchants of Ireland: the cost of the whole will, on its completion, be about 12,000*l.* It consists of a nave about 60 feet long by 30 feet wide, separated on each side by an arcade of three lofty arches, from aisles 15 feet in width; these aisles having in the several bays formed by the arches much the character of so many transepts, the ends of which, on one side alone, as the church abutting against adjoining dwelling-houses cannot obtain light from the other side, are filled with large traceried windows, with a considerable admixture of English and French Gothic details. In the front facing the square, above an arcade with small cusped-headed single lights, the gable is filled with a traceried window, occupied by a stained-glass device, forming a memorial to Mr. Findlater, the donor of the church. This window is the gift of the congregation. The remaining light is obtained by a rose-window, set high in the back wall of the recess, which in Congregational churches generally stands for the chancel. The vestry and committee-room form a separate building running across the rear of the church, and presenting a gable-end to Frederick-street, ornamented by pointed windows. Between the gables on this flank buttresses support lofty but somewhat too slender pinnacles which form a decorative feature of no mean order, yet suggest an idea of insecurity. The roofs are of high pitch, and inside the timbers are stained to a deep walnut tint. The principals rest on slender pillars of Caen stone, on which, in capitals and bands, is lavished a large amount of carving. The style of the building is English Gothic of the Middle Decorated period: considerable licence is taken, however, to introduce north French details. The result will not bear critical examination. The interior is more successful, the great height of the aisle, piers, and arches giving an effect seldom obtained in churches of this character. The architect is Mr. A. Heiton, of Perth; the builder, Mr. Samuel H. Bolton, of Dublin.

Bonmahon, County Waterford.—A coast-guard station is about to be erected at Bonmahon, in the county of Waterford, to accommodate one chief officer and six boatmen, and is provided with a watch-tower and boat-house. The plans were prepared at the Office of Public Works, Ireland, under the direction of their architect, Mr. James H. Owen.

New Castle, County Limerick.—A branch establishment of the National Banking Company is about to be erected in New Castle, county Limerick, which, besides giving good accommodation, will have somewhat of a decorative character. The style is Classic. The probable cost is about 2,000*l.* Mr. W. F. Caldbeck is the architect.

CHURCH-BUILDING NEWS.

Happisburgh (Norfolk).—The church here has recently been restored, both internally and externally. Before the restoration, the building, which is of the Perpendicular style of the fourteenth century, was in a sad state of decay, the whole of the timbers and lead-covering of the roofs being so unsound as to be past reparation. New roofs have, therefore, been substituted, of stained red deal: the whole of the aisle and clerestory windows (many of which were previously blocked up with brickwork) have been entirely renovated and reglazed: two of the tower light windows, which were unsafe, have been renewed; and several of the buttresses rebuilt, and the walls repaired. In the interior, the columns and arches have had the whitewash removed; the stonework has been repaired; and the whole of the walls restuccoed. The old box pews have been replaced by open deal benches of modern design: the pulpit and reading-desk are executed in oak, the former having a stone base: the old font having been restored, cleansed of paint, and the carving recut, is refixed on new stone steps; and the aisles and passages have been paved in a pattern, with the red and white tiles of the neighbourhood. The gallery in the tower has been removed, and a new belfry floor has been fixed in the tower, so that the west window and door (which have been renovated) are no longer hidden from view. The works have been carried out by Mr. R. Burton, of Paston, builder, from the designs and under the superintendence of Mr. J. H. Brown, of Norwich, architect. Mr. Moore, of North Walsham, was the contractor for the stonework; with the exception of the windows and font, which were executed by Mr. R. Rust, of Norwich. Mr. Wm. Storey, of Bacton, was the plumber and glazier. The chancel has been entirely restored under the direction of the Ecclesiastical Commissioners, the rectory being vested in the Bishop of Norwich, through their architect, Mr. E. Christian, of London: a new roof has been supplied; a new window of stone fixed to the east; and the two wooden windows to the south, replaced by stone ones; the buttresses rebuilt, and the flint-work of the walls restored and pointed, replastered internally, and a new door opened to the south. The works have been carried out by Mr. R. Rust, of Norwich.

Stowmarket.—At a meeting of the parishioners held to consider the subject of restoring the parish church, it was stated that Mr. Phipson had prepared a plan, which had been left open for builders to see, and four estimates had been received: one was 1,900*l.*; the second, 1,670*l.*; the third, by Stowmarket builders, 1,550*l.*; and a fourth, 1,541*l.* The one from the town they hoped to accept, and thus have the work done at home. To set about the work properly about 2,000*l.* would be required, and the way was clear for 1,000*l.* Mr. Phipson then explained his plans, and a resolution favourable to the object in view was passed.

Slawston (Leicestershire).—The church here is to be restored and repewed, and the whole of the fittings will be new. The tower arch is to be opened, a new porch to be built on the south side, the nave, aisles, and chancel to have new roofs, and a new east window in chancel. The plans have been prepared by Messrs. Goddard & Son, of Leicester, architects. Mr. Loveday's tender has been accepted, that for the church being 559*l.*, and for the chancel 198*l.*

Bristol. — The restoration of St. Stephen's church is now proceeding. The wall and roof of the south aisle have been pulled down, and are now being re-erected. The south aisle will be rebuilt of Pennant stone, with three-light windows, which will be more in character with those in the tower. This aisle will also be lowered from its former height, in order to show the whole of the clerestory windows of the nave. The clerestory itself will present a new face of Bath stone, and its windows will follow the pattern of the ancient ones. An extension of the north aisle will be made eastward, upon old foundations, for the purpose of removing the organ and its gallery, so that a number of new seats may be put in the west part of the church unencumbered by these obstructions. The architects are Messrs. Fripp & Ponton. The church requires much additional restoration, and funds are solicited for that object.

Manchester.—The ceremony of laying the corner-stone of the new tower of Manchester Cathedral will probably take place in the course of July. It is hoped that the Prince of Wales may be induced to officiate on the occasion.

DISSENTING CHURCH-BUILDING NEWS.

Southwark.—The memorial (Congregational) church for the Pilgrim Fathers was begun in 1856, the stone having been laid on the 29th of May of that year, the anniversary of the martyrdom of Penry in 1596. Mr. Pouget, architect, provided the design, and Mr. W. Downs was the builder. There is accommodation, without any galleries, for about 530 persons. The original design was more extensive, and richer in its character, but adverse circumstances prevented its progress; and, with the exception of the pilgrim hall, completed some years past, the building remained in its normal state; but recently a few gentlemen interested in the edifice having determined to carry it out to a completion, although under very altered features, the work was again proceeded with; and on the 25th of May of this year it was opened for public service. The interior dimensions are as follows:—86 feet by 40 feet from the front wall to the reredos, and 48 feet in height to the ridge: the hall or gallery behind the same is 56 feet long, and is completed in some measure approaching to the character of work originally intended. The style is Gothic, and essentially of the Decorated period. The roof is hammer-beam, and sufficiently lofty to admit of galleries at some future time. The windows, including the chancel window, have been executed in terra-cotta by Mr. M. H. Blanchard, whom the architect has long employed in this department. The lighting was executed by Mr. J. C. Sharp. The pulpit is to be from a subscription now progressing in Wales and other places, and is to be also commemorative in its character of the same objects. The warming has been executed by Mr. J. Lewal, engineer.

Croydon.—The Trinity Congregational chapel, Dingwall-road, Croydon,—Mr. Pouget, architect, Great St. Helen's, and Messrs. Nicholson & Sons, builders, Wandsworth,—gives accommodation, without side galleries, to about 730 persons. The edifice is essentially Italian. Its interior measurements are 48 feet 6 inches in width, 85 feet 6 inches in length from front wall to reredos, and 37 feet in height to the central ridge. The roof is in three divisions, with wrought moulded trusses. The chief feature of the interior arrangements is that there are neither arches nor columns to sustain the roof at the division of the nave and aisles, but longitudinal girders, ornamented with cornices and enriched spandrels, superseding the necessity of any supports constituting hindrances to the sight and hearing. The whole of the windows are executed in terra-cotta by Mr. Blanchard, of Blackfriars-road, and are fully or partially illuminated in stained glass, from the designs of Mr. Wailes, of Newcastle-on-Tyne. The seats are open. The exterior is composed of a pediment with large central window, surmounted by the cross, and the wings by two campanile towers. The warming and lighting were executed by Mr. J. C. Sharp.

Alford (Lincolnshire).—The Wesleyans of this town are about to erect a new chapel, with a considerable frontage to West-street. The building is to be in the Decorated style, from a design by Mr. W. Botterill, of Hull, architect. Accommodation will be provided for about 700 persons. The works have been let, by private contract, to Messrs. Hasnip & White, of Alford, and the cost will be about 3,000*l.*

Northallerton. — The foundation-stone of a Wesleyan chapel has been laid here. The site of Wesley Chapel, as it will be called, is one of the best in the town, and cost, with the buildings erected thereon, 600*l.*, being the ground for many years occupied by the Pack Horse Inn, on the east side of Northallerton. The style of architecture will be Gothic, without much ornament. It will be built a few yards from the front of the town street. The external length of the chapel and vestry will be 80 feet, and the external width, including buttresses, 36 feet; and the building is calculated to accommodate 450 persons. Messrs. Wilson & Crosland, of Sheffield, are the architects, and the following are the builders:—Messrs. A. Peacock & Sons, bricklayers and plasterers; Mr. Thos. Thompson, joiner; Mr. John Metcalfe, stone-mason; Mr. W. Swain, plumber and glazier; Mr. Jas. Naylor, worker in wrought-iron; and Messrs. Cooper & Son, painters, all of Northallerton; Mr. Wm. Walker, ironfounder, York; and Mr. John Baynes, slater, Ripon. The contracts amounted altogether to 1,183*l.* 5s. 6d. The cost of the chapel and Sunday school which is intended to be built, including the site, will be about 2,000*l.*, towards which about 1,100*l.* have been given.

Books Received.

Society of Engineers. Transactions for 1863. London: Spon.

THIS society deserves to be better known than it yet is. The place of meeting is in the lower hall of Exeter Hall, Strand. Mr. C. L. Light is the chairman, and Mr. A. Williams the honorary secretary and treasurer. The present volume is well got up, and the contents are illustrated by numerous plates. There are papers on "Steam Boilers," by P. F. Nursey; on "The Relation between the Safe Load and the Ultimate Strength of Iron," by Zerah Colburn; on "The Construction of Chelsea Bridge," by G. G. Page (already given in the *Builder*); on "The Bombay, Baroda, and Central India Railway" (of which we have also given some account), by C. Saunderson; on "Signalling, for Land and Naval Purposes," by F. Wise; on "Steam Navigation on the Indus," by A. Warren; and on "Steam Fire-engines, and the late Trials at the Crystal Palace," by W. Roberts.

VARIORUM.

"Memoirs of the distinguished Men of Science of Great Britain, living in the years 1807-8. By W. Walker, jun. Second edition. London: Spon." These brief memoirs were originally compiled for the purpose of accompanying an engraving of distinguished men assembled at the Royal Institution. Though a compilation, the work is neatly done; and, as remarked by Mr. R. Hunt, F.R.S., in the introduction, which is written by him, "the influences of human *thought* on the physical forces which regulate the great phenomena of the universe,—and the operation of the powers of the mind on the material constituents of the planet which is man's abiding-place, form subjects, for studies, which have a most exalting tendency." Men of thought are the true rulers of the world, and their memoirs have an abiding interest for all their loyal subjects.——We can now only briefly mention, amongst other books to be hereafter spoken of, "Cottage Construction and Design," by C. W. Strickland (Macmillan); "The Grammar of House Planning," by an M. S. A. and M. R. A. S. (Fullarton & Co.); Jeays on the "Orthogonal System of Hand-railing" (Simpkin, Marshall, & Co.); and "The Church and Fortress of Dover Castle," by the Rev. John Puckle (J. H. & J. Parker).

Miscellanea.

THE SAVOY CHURCH, STRAND.—This ancient structure has been again ravaged by fire.

ARCHITECTURAL ALLIANCE.—The annual meeting of delegates was opened at the House, in Conduit-street, on Wednesday last, Mr. T. Roger Smith in the chair.

CULTIVATION OF WINDOW FLOWERS.—A society has recently been established in Nottingham, to encourage the cultivation of window flowers and plants, more particularly in the neighbourhood of Narrow Marsh.

GAS.—The managers of the Brighton Gas Companies have determined to reduce the price of gas to private consumers to 4s. 9d. per 1,000 feet, instead of 5s., as heretofore. It is proposed to still further reduce the price to 4s. 6d. per 1,000 feet next year.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—On Thursday, the 30th ult., Mr. W. Cave Thomas read a lecture on "Metronomy; the Quantitative Analysis of Phenomena, and Demonstration of the Measure of the Ideal." We shall return to it.

GIFT TO THE SOUTH KENSINGTON MUSEUM.—A curious collection of objects has lately been presented to the South Kensington Museum, by the Rev. R. Brooke, of Gateforth Hall, Selby, consisting of numerous objects of the sixteenth, seventeenth, and eighteenth centuries, used and preserved in the families of Brooke and Osbaldistone, which will enrich several of the divisions of the museum. Amongst the objects thus acquired by the nation, are a unique collection of posy rings, watches, canes, costumes, and court dresses, besides a miscellaneous collection of nicknacks, which our great grandfathers and great grandmothers used in their domestic life.

WILTS COUNTY SURVEYOR.—Mr. H. Weaver was last week elected to the office of county surveyor by the magistrates: there were two candidates proposed,—viz., Mr. Weaver, of Devizes, and Mr. Bothams, of Salisbury.

VENDOR AND PURCHASER.—Vice-Chancellor Kindersley lately held, in the case of Poole *v.* Adams, that where a house under a contract for sale, having been insured against damage by fire, is burnt down after signing of the contract, but before completion of the purchase, the purchaser is not entitled to the benefit of the insurance, in the absence of any express stipulation to that effect contained in the agreement.

DAMAGES FOR SCAFFOLDING ACCIDENT.—The case of Miss Crawford, against the Dublin Corporation, as to an accident which occurred to that lady, in March, last year, while passing through Westmoreland-street, where some scaffolding had been erected by order of the Corporation, has been brought to a conclusion. The damages were laid at 2,000*l.*, but by consent of counsel a verdict of 1,400*l.* was recorded in favour of the plaintiff.

THE CITY CROSS, WINCHESTER.—This erection and its scaffolding, which, says a Hampshire paper, is a nuisance as it now remains, and a monument of disgraceful delay, will shortly be brought under the discussion of the committee, who have received a letter at last from the architect, in which it is stated that the sum required for the restoration is 500*l.* Other expenses will bring this amount up to 600*l.*, nearly 300*l.* of which remain to be raised.

ELECTION OF PRESIDENT OF THE ROYAL SCOTTISH ACADEMY.—At an adjourned meeting of the Royal Scottish Academy, Mr. George Harvey was elected President, in room of the late Sir John Watson Gordon. There were two candidates proposed—Mr. Harvey and Mr. Graham Gilbert. The former was nominated and seconded by Mr. Noel Paton and Mr. Horatio M'Culloch—the latter by Mr. John Steell and Mr. David Bryce. On a division, seven members voted for each of the gentlemen proposed, and the election was carried by the casting vote of the chairman, Mr. Lees, in Mr. Harvey's favour.

NATIONAL ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCE.—The annual dinner of this society (with which is now associated the Society for Promoting the Amendment of the Law) took place at the Ship, Greenwich, on Saturday evening, the 2nd instant. The president (Lord Brougham) occupied the chair, and discharged the duties of the position with all the vigour of former days. The common serjeant, Mr. Jas. Heywood, Mr. Westlake, Mr. Hastings, Mr. McQueen, Mr. T. Webster, and others spoke to various toasts, and the evening was passed very agreeably.

THE COURTS OF JUSTICE BUILDING.—The Attorney-General has at last asked and obtained leave to bring in a Bill to supply means towards defraying the expenses of providing courts of justice, and the various offices belonging thereto, and for other purposes; and Mr. Cowper to bring in a Bill to enable the Commissioners of Works to acquire a site for the erection of the courts of justice, &c. This Bill has been prepared to permit the purchase of what is known as the Carey-street site,—that is, of the area bounded on the north by Carey-street and Yeates-street, on the south-west by Clement's-inn, on the south by the Strand, and on the east by Bell-yard. Taking it altogether, this locality is probably open to fewer objections than any other. It may, moreover, be made accessible by subways from the lower levels of the Temple, or by a bridge across Fleet-street at Temple-bar. "The building known as Temple-bar" is specially protected by the fourth clause of the Site Bill, but only so far as to prevent it being purchased, taken, or used without the consent of the Lord Mayor, Aldermen, and Common Council. It is a further recommendation of this site that it is at present covered with alleys and courts, the demolition of which would be a blessing. All the preliminary steps for securing this plot of land appear to have been taken already. The owners, lessees, and occupiers have been duly served with notices. Questions of disputed compensation are to be determined by a jury in the Lord Mayor's Court; but the rights of the Metropolitan Board of Works and of the Commission of Sewers are expressly reserved.

THE HOLBORN VALLEY IMPROVEMENT.—The Holborn Valley Improvement Act has passed, and received the Royal assent on the 23rd of June. The Act has been referred to the City Improvement Committee to carry it into execution, and to confer from time to time with the Coal, Corn, and Finance Committee as to how the funds should be raised for the purpose.

THE IRON TRADE.—*Rylands' Iron Trade Circular* says that the preliminary meeting of the iron masters was more than ordinarily attended, and the discussion was exceedingly animated. The question of certain members of the trade having undersold was prominently brought forward, and it was urged that foreigners are admitted into the market at present rates in a manner disadvantageous to the leading houses and the future prospects of the trade. The call in Wales last week showed a rise. Some orders have been already refused at late prices. Marked South Staffordshire iron stands as before at 9*l.* 10s. per ton. There has been a little more inquiry in the pig-iron market, yet no advance can be obtained, although quotations are made a shade upwards. The movement in the Scotch iron market has resulted in an upward tendency in pigs. All other prices remain as before.

CANNON STREET STATION HOTEL.—This hotel will be built over the booking-offices of the railway. It will front Cannon-street, and have Dowgate hill for its western boundary. The station will be thrown back a distance of 80 feet from Cannon-street, the space in front being left open as a forecourt, similar to the plan of the Charing-cross Station. The hotel, with the station, will be in the Italian style, treated somewhat after the manner of the Renaissance, with high roof and towers at each end of the building. The building, which is to consist of four stories and an attic-floor, will be constructed of white brick, relieved with dressings of terra-cotta, cement, and stone. The great feature of the interior will be a hall, 100 feet in length, 40 feet in width, and 40 feet in height. The designs of the hotel and the arrangements of the booking-offices have been prepared by Mr. E. M. Barry.

RESTORATION AT LINCOLN CATHEDRAL.—A correspondent writes: "Unless I am very much mistaken, the very ancient *bas relief*, which stood in the wall on the north or left-hand side of the doorway, on a level with the kings, has been removed, and its place filled up with plain masonry. The Chapter of course employs an architect, whose talent and skill and taste are sufficiently undoubted, or they would not allow him to meddle with the splendid building of which they have the charge. But, with all deference to this authority, I cannot but think all lovers of old art will regret that he has "restored" this *bas relief* completely out of sight. It is one of a series probably of Saxon works which appear to have been taken from some other church and used by the Norman builders with tender regard for the hands that wrought them. It is reserved for us to replace these monuments of art, older than the Cathedral itself, by masonry, which, however excellent it may be to the builder's eye, is not an object of much general interest. If this sculpture was too decayed to be cleaned, as the one on the opposite wall has been, why, in the name of patience, could the mason not have left it alone?"

HEREFORD CATHEDRAL ORGAN.—This organ has been remodelled and enlarged by Messrs. Grey & Davison, under the superintendence of the Rev. Sir F. Gore Ouseley, bart. The organ now stands under the first arch on the south side of the choir, projecting also over the stalls in front of the triforium, the pipes being supported by ornamental wrought-iron work, and diapered in gold and colour. The position in which the organ has been placed will not admit of its use at the triennial festivals, as it has been determined to alter the arrangement which has hitherto prevailed, and to erect the orchestra at the western end of the nave. There will thus be an unbroken view of the whole of the cathedral, from the nave to the Lady Chapel, which could not have been afforded by adherence to the plan of erecting the orchestra at the eastern end of the nave. The effect of the sound is said to be very grand in every part of the building—the faintest note being distinctly heard in the remotest corners. The cost will be about 1,300*l.*, towards which nearly one-half has been raised by subscription.

BEDS. ARCHÆOLOGICAL AND ARCHITECTURAL SOCIETY.—The annual meeting of this society was held in the lecture-room of the Working Men's Institute at Bedford. Mr. J. Harvey, of Ickwell Bury, presided. The objects exhibited consisted chiefly of urns, shield-bosses, spear-heads, knives, and other Saxon antiquities. The chairman said he regretted the small attendance. The Rev. E. Trollope read a paper on the Fens and Submarine Forests of the Eastern Part of England; Mr. Wyatt one on Nuremberg Tokens; and the Rev. S. E. Fitch one on the Saxon Remains discovered at Kempston.

WORCESTER DIOCESAN ARCHITECTURAL SOCIETY. The first excursion of this society for the present season took place on Tuesday in last week, when between twenty and thirty of the members and their friends assembled at the society's rooms, Foregate-street, and proceeded to Holt church. The principal architectural and ecclesiological objects were pointed out, and a few historical particulars connected with the parish related by Mr. Severn Walker, who also officiated in like manner at the other churches included in the day's proceedings. The old castle, with its terraced gardens, was next visited, and here Mr. Pickernell provided luncheon. The party then went on to Shrawley church, and thence to Astley, returning to Holt Fleet, where upwards of thirty ladies and gentlemen sat down to dinner, under the presidency of the Rev. D. Melville, Mr. S. Walker occupying the vice-chair. A move was afterwards made for Grimley church, which having been duly examined, the party returned to Worcester.

CONGRESS OF BRITISH ARCHÆOLOGICAL ASSOCIATION.—The 21st annual meeting will be held in Ipswich from August 8th to the 13th inclusive, under the presidency of Mr. George Tomline, M.P., F.S.A. The programme includes,—August 8. Reception by the Mayor and Corporation.—President's Address.—Examination of some of the Antiquities of Ipswich, under the guidance of Mr. Phipson.—Evening Meeting at the Assembly Rooms for Papers and Discussion. Aug. 9. Excursion to Bury St. Edmunds.—Reception at the Guildhall.—Examination, under the guidance of Mr. Tymms and Mr. Gordon Hills, of St. Mary's Church—The Norman Tower St. James's Church—The Abbey Gateway, &c.—Departure for Hengrave Hall and Church.—Thence to Risby and Little Saxham.—Papers in evening. Aug. 10. Excursion to Colchester.—Reception at Townhall.—Corporation Records.—Examination of the Castle, by the Rev. C. H. Hartshorne.—The Museum.—Walls and Roman Guardhouse.—Balkon Hill, &c., &c.—St. Botolph and Priory, by Mr. E. Roberts.—Evening Meeting at Ipswich. Aug. 11. Excursion to Parham Hall and Church. Thence to Bruisyard Church.—Dannington Church and Monuments: Reception by the Rev. E. C. Alston.—To Framlingham Castle and Church.—Visit to the President at Orwell Park, 8 p.m. Aug. 12. Excursion to Woodbridge.—Examination of St. Mary's Church and Seckford Hall.—Thence to Ufford Church.—Butley Abbey.—Orford Castle and Church. Aug. 13. Excursion to Sudbury.—Thence to Long Melford.—Lavenham and Hadleigh.—Little Wenham Hall and Church.—Concluding Meeting in Evening.

DISCOVERY OF ROMAN REMAINS AT CHEDWORTH.—About two years ago, Thomas Margetts, a gamekeeper on the estate of Lord Eldon, at Chedworth, noticed in a rabbit-warren a small portion of Roman pavement, but at the time did not consider it of sufficient moment to call attention to it. A few days ago, however, he observed that the soil had been still further removed by the rabbits, and that a large portion of the pavement was exposed to view. He communicated the facts to Mr. Farr, one of his lordship's trustees, who immediately ordered excavations to be made, which have resulted in the discovery of three distinct rooms, the floors of which are in a beautiful state of preservation. One of the rooms measures 36 feet long by 19½ feet wide, and the design of the pavement consists of a vase and flowers, surrounded by a border. The representation of a man holding in his hand a hare or leveret is clearly brought out. In another room, not quite so large as the first, is the figure of a youth holding in one hand a bird, and in the other a buck's horn; while in the third room a font has been discovered, which leads to the presumption that the building has been used by the Romans as a place of worship. The workmen are still actively engaged.

RAILWAY MATTERS.—The masonry work in connexion with the erection of the railway bridge across the Mersey at Runcorn is progressing on both sides of the river. On the Cheshire side, the main abutment presents a solid mass of masonry some 25 feet high, and the masonry on the snig rocks on the Lancashire side will shortly be above high-water mark.——Respecting the arrangements made for the journey of the Emperor and Empress of Russia to Potsdam, the *Morning Post* says,—"We learn that the imperial train which conveyed their majesties from St. Petersburg consisted of twelve saloon and ordinary carriages, all of which were fitted up with the utmost attention to comfort and convenience, and included a kitchen, a billiard-room, sleeping chambers, &c. The great luxury of the imperial journeys, the terrace carriage with balconies, which is splendidly ornamented, it was necessary to leave behind, as with it the train would have been too long."——As railways will play a considerable part in the wars of the future, there is said to be an intention to add to the engineer corps in the armies of America sections of working mechanicians, for disabling the railways and locomotives of the enemy, and for repairing those which the opposing army has disabled.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 18th of June, on 11,308 miles, to 651,395*l.*; and, for the corresponding week of last year, on 10,849 miles, to 585,473*l.*, showing an increase of 459 miles and of 65,922*l.* in the receipts.

ARCHITECTURAL ASSOCIATION VOLUNTARY EXAMINATION CLASS.—Members are informed that the class will meet on Tuesday evenings in future; and on Tuesday next, the 12th July, Mr. J. W. Penfold will resume his paper "On Valuations."

TENDERS.

For restoration and refitting Bassingbourn Church. Messrs. Nash & Son, Royston, architects:—

Bulloch	£1,645	0	0
Dove	1,555	0	0
Gimson	1,495	0	0
Gibbons	1,460	0	0

For alterations and additions to Langley Cottage, Beckenham. Mr. R. P. Browne, architect. Quantities supplied by Messrs. J. C. & G. Lansdown.

J. Thomson	£1,838	0	0
Patman & Fotheringham	1,617	0	0
Sims & Martin	1,590	0	0
Dimsdale	1,576	0	0

For widening and otherwise improving Sadler Gate Bridge, Derby. Mr. George Thompson, borough engineer and surveyor. Quantities not supplied:—

Humphreys	£545	0	0
Harper	430	0	0
Walkerdine	399	0	0
Stoddard (accepted)	286	0	0

For Wesleyan chapel, Mayfield-terrace, Dalston. Quantities not supplied. Messrs. Bassett, Keeling, & Tyrie, architects:—

Dove, Brothers (accepted)	£4,135	0	0

For the restoration of Slawston Church and chancel, Leicestershire. Messrs. Goddard & Son, architects. [In lieu of statement last week]:—

Loveday (lowest accepted)	£757	0	0

For the erection of new school, &c., Hallaton, Leicestershire. Messrs. Goddard & Son, architects:—

Loveday (lowest accepted)	£477	0	0

For the erection of a new rectory house, Saddington, Leicestershire. Messrs. Goddard & Son, architects:—

Clifton (accepted)	£895	0	0
Allowed for old materials	138	0	0
	757	0	0

For a dwelling-house at Hasson. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker:—

Child & Son	£850	0	0
Lodge	822	0	0

For altering a house and stables at Potter's Bar, called Oakmere Lodge, for Mr. H. Kemble. Messrs. Habershon & Pite, architects. Quantities supplied:—

Wardle & Baker	£4,550	0	0
Manly & Rogers	4,400	0	0
Piper & Wheeler	4,240	0	0
Pattersill	4,217	0	0
Rider	4,178	0	0
Patman & Fotheringham	4,147	0	0
Adamson	3,997	0	0
Clark	3,994	0	0
Cowland	3,980	0	0
Cushing	3,978	10	0

For alterations to the Nonconformist chapel of the Islington and St. Pancras Cemetery, Finchley. Mr. Allom, architect. Quantities supplied:—

Cowland	£1,550	0	0
Glenn, Brothers	1,510	0	0
Carter & Son	1,490	0	0
Palmer	1,451	0	0

For cottages for Mr. A. Smith, of Leesthorpe Hall. Mr. R. W. Johnson, architect:—

Darling	£466	0	0
Porter	438	8	0
Morrison & Co.	388	19	6
Weaver & Son	364	8	0
Fast	358	10	0
Stafford	353	5	0
Wakerly & Barnes	343	9	3

For a new warehouse, Blackfriars, for Messrs. Dakin & Co. Mr. Wm. Hudson, architect:—

Sewell	£3,477	0	0
Pritchard	4,968	0	0
Lawrance & Son	4,942	0	0
Burton	4,898	0	0
Child & Son	4,888	0	0
Newman & Man (accepted)	4,790	0	0

For rebuilding No. 33, Bishopsgate-street Without, for Messrs. Chadwick & Co. Messrs. Ashby & Stoner, architects:—

King & Son	£1,620	0	0
Pocock	1,590	0	0
Conder	1,566	0	0
Axford	1,540	0	0
Killby	1,534	0	0
Pritchard	1,520	0	0

For Foxton Chapel, Leicester. Messrs. Shenton & Baker, architects. Quantities supplied:—

Bland	£1,110	0	0
Duxbury	1,108	0	0
Palmer	1,105	0	0
Porter	1,095	0	0
Adams	1,088	0	0
Neal	1,085	0	0
Burdett	1,080	0	0
Thompson & Loveday	1,070	0	0
Branston	1,064	0	0
Clifton	1,025	0	0
Mattock	1,017	0	0
Bassett	1,000	0	0
Russell	976	0	0
Eagle	943	0	0
Middleton	893	0	0

For the erection of infirmary and medical officer's house at the Central London District Schools, Hanwell, Middlesex. Mr. Joseph Gale, architect. Quantities supplied to Mr. D. J. Brown:—

Clemence	£9,360	0	0
Brown & Robinson	9,349	0	0
Haward	9,300	0	0
Patman & Fotheringham	9,290	0	0
Ashby & Sons	9,200	0	0
Brass	9,188	0	0
Downs	8,974	0	0
F. & F. J. Wood	8,853	0	0
Nye	7,798	0	0
Strudwick	7,680	0	0

For detached house, Brunswick Hill, Reading. Messrs. Cooper & Goulding, architects. Quantities furnished:—

Grover	£460	0	0
Barnicoat	439	0	0
Willett	427	0	0

For new chapel, East Ilsley, Berks. Messrs. Cooper & Goulding, architects:—

Wheelers	£420	0	0
Winter	360	0	0
Nash	345	0	0

For villa residence, Wimbledon Park, for Mr. W. Turquand. Mr. H. S. Legg, architect:—

Downs	£3,490	0	0
Rider	3,470	0	0
Patrick	3,266	0	0
Lawrence	3,257	0	0
Aviss & Son	3,220	0	0
Nicholson	3,200	0	0

For building the National Bank, Charing-cross:—

Barlow & Rigby	£10,892	0	0
Trollope	10,799	0	0
Clemence	10,695	0	0
Myers	10,650	0	0
Macey	10,670	0	0
Lawrence	9,732	0	0

For house and conservatory at Elmer's End, Penge, for Mr. Sigvest. Mr. J. B. Shaw, architect. Quantities not supplied:—

Smith & Co.	£817	0	0
Dover (accepted)	787	0	0

For the Red Lion Tavern, Norwich. Mr. T. D. Barry, architect. Quantities supplied:—

Pegg	£845	0	0
Roll	697	9	0
Wordingham	687	0	0
Browne & Bailey	667	15	0
Gilbert (accepted)	635	0	0

For St. Luke's School, Hull. Mr. Robert Blenley, architect:—

Stamp	£469	0	0
Robinson	462	0	0
Barrett	448	0	0
Skinner (accepted)	423	0	0

For alterations to Melcomb Farm, Sussex. Mr. Robert Blenley, architect. Part of the materials supplied:—

Ticehurst (accepted)	£265	0	0

TO CORRESPONDENTS.

SANITARY COMMITTEE.—T. P. says,—Do any of your readers know of an economical way of consuming the smoke of a smithy fire? An answer through your columns will oblige

A. S. D.—J. L.—C. S. H.—W. G.—J. B. (dampness and want of air).—C. G. S. (returned).—G. H. S.—FAIR PLAY.—W. S.—N. & M.—L.—Messrs. G. & Son.—H. B. & B.—B. B.—J. W.—H. M. (too late).—E. W.—J. H. (from more quarters than one).—F. R. W.—Col. F. C. (next week)

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to Advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

[ADVERTISEMENT.]

CHURCH, TURRET, and STABLE CLOCKS. J. W. BENSON, having erected steam-power and improved machinery for clock-making, at the manufactory, Ludgate-hill, will be glad to furnish to clergymen, architects, and committees, Estimates and Specifications of every description of Horological Machine, especially cathedral and public clocks, chiming tunes on any number of bells. A descriptive pamphlet on Church Clocks post free for one stamp. Watch and Clock Maker by Warrant of Appointment to H.R.H. the Prince of Wales, and maker of the great clock for the Exhibition, 1862. 33 & 34, Ludgate-hill, E.C. Established 1749.

ADVERTISEMENTS.

TO BUILDERS.—Under peremptory Order of Sale.

MR. EDWIN WHITE will SELL, without reserve, at 12, Holborn-bars, and 1, Castle-street, Holborn, on TUESDAY, JULY 12th, at ONE o'clock, a large and modern STOCK of ENGLISH and FRENCH PAPERHANGINGS, including golds, flocks, satins, grounds, tints, marbles, oaks, ornamental staircases, &c. Also, 1,500 feet of gilt room-moulding, a few water-closets, and about 100 Chimney-pieces in nearly all the white and coloured marbles and enamelled slate, and in every style.—View and catalogues on Monday and Morning of Sale.

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THE EDINBURGH REVIEW, No. CCXLV. is published THIS DAY, SATURDAY.

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STAINED GLASS WINDOWS for CHURCHES and DWELLINGS. HEATON, BUTLER, & BAYNE, New King-street, Covent Garden, W.C. Removed from Cardington-street, Hampstead-road. Specimens at the Exhibition of Stained Glass Windows, South Kensington Museum.

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Seasoned Mahoguny, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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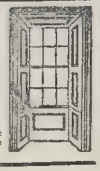
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	Per 120 of 12 ft.			Per 120 of 12 ft.		
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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

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Nearly opposite Entrance to Goods Station, Great Northern Railway.

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JACKSON & GRAHAM
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REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

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JUROR—Class XXVI.
GREAT EXHIBITION,
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JUROR—Class XXX.
TERNATIONAL EXHIBITION
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HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.
It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c., for the linings of walls and ceilings, and for all purposes of ornamental plaster.
The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.
SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASE IS STAMPED "HUBBUCK, LONDON, PATENT."

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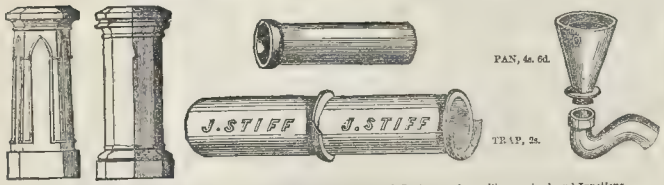
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

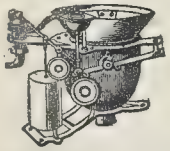
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LONDON.

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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



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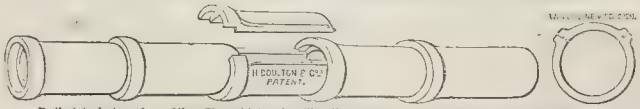


Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

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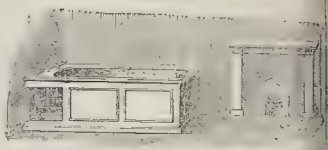
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that however small the fall of water, it must flush and is inserted. Any number can be worked by one supply pipe. No intervening valves, cranks, or wires required. Pan Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

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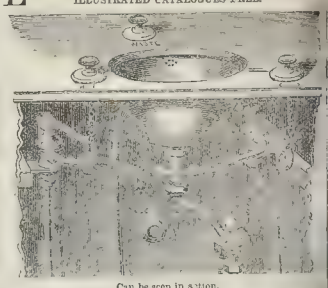


The bath and boiler may be fixed in the same or separate rooms anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

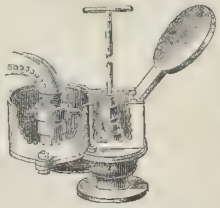
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Any number can be supplied from one pipe.

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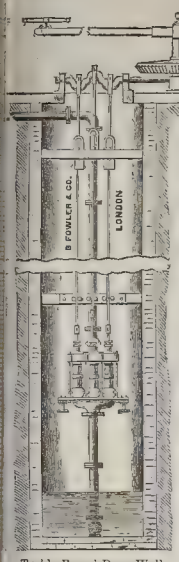
A Cottage Closet, with Patten's Patent High pressure Valve, complete, 12*s.* 6*d.*

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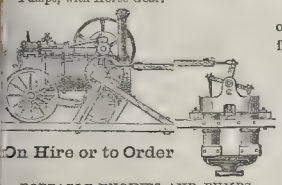
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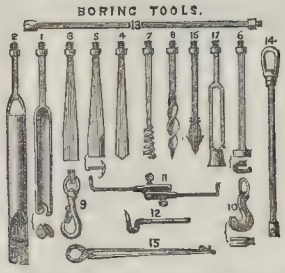
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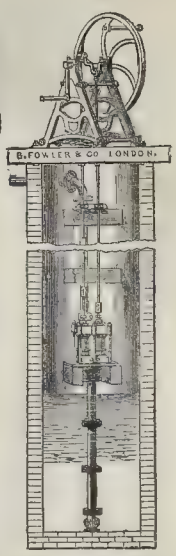
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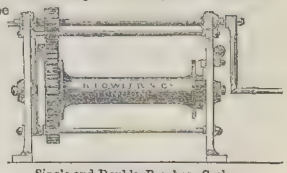
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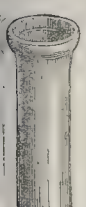
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Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.



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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

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obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

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IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economica substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 561, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

BALLAST WAGGONS TO BE LET.—

The Midland Waggon Company have a number of low-sided WAGGONS, suited for Ballasting, TO LET. They have also a few for SALE.
Midland Works, Birmingham.

PRIZE WAGGONS and CARTS.—

HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,
SCOTGATE WORKS STAMFORD.

CARTS, LADDERS, BARROWS, &c.—

GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application.

GEORGE ELL & CO.
EUSTON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

SALES BY AUCTION.

19, MILLBANK STREET. To Sculptors, Masons, Builders, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. John Udny, agent for Count N. Iazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, Millbank-street, Westminster, on WEDNESDAY, JULY 13, at ELEVEN for TWELVE, a large assortment of MARBLE BLOCKS; consisting of statuary, vein, Sicilian, black and gold, yellow, Siennia, veined, and other marble. Approved bills at four and six months may be viewed two days previous, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD 40, Parliament-street, S.W. and 80, Fore street, E.C.

CITY OFFICES COMPANY (LIMITED) -Extensive sale of Building Materials, Clement's lane, Lombard street, to clear the site for re-building

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the City Offices Company (Limited), to SELL by AUCTION, on the PREMISES, on MONDAY, JULY 18, at TWELVE, in Lots, the whole of the VALUABLE MATERIALS of the extensive Block of Buildings forming Nos 25a, 26, 27, Clement's-lane, Nos 9, 10, and 11, Nag's Head court, and Nos. 3, 4, and 5, Church court; comprising good sound brickwork, lead and slate, useful timber, sash frames and doors, plate glass and other sashes, doors, partitions, chimney pieces, and interior fittings, sound floor-boards, shop fronts, stone lintels, several tons of lead in gutters, cisterns, and pipes, stoves, and useful fixtures -May be viewed the day previous, and catalogues had of Messrs. F. & H. FRANCIS, Architects, 38, Upper Bedford place, Russell-square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WOOD STREET, CITY.—Extensive Sale of Building Materials of several Houses, Factories, Ranges of Stabling, &c

PULLEN, HORNE, & EVERSFIELD are directed by the Worshipful Company of Salters, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JULY 20, at TWELVE, in lots, the whole of the valuable BUILDING MATERIALS of several dwelling houses, spacious warehouses, factories, extensive range of coach-houses and stabling, and other buildings, covering a large area of ground in Hart-street, Fell-street, and Monkwell-street, Wood-street, City; comprising about 700,000 excellent stock bricks, stout rafters, joists, girders, and other timber; plain and pan tiles, and slates, sky-lights, doors, partitions, mantels and other chimney-pieces, large folding gates, racks and mangers, lining and flooring boards, lead flats, gutters, cisterns and pipes, wrought iron doors, large iron bolt, iron columns, stone paving, coping and cills, granite pitching, clinker paving, stoves, and various useful fittings-on—May be viewed the day previous. Catalogues had of JOHN COLLIER, Esq., Architect, 25, Philpot-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

NEWGATE STREET.—Building Materials of Four large Houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 22, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of four HOUSES, Nos 67, 68, 69, and 70, Newgate street, and large Warehouses in the rear; comprising good sound brickwork, stout rafters, joists, and other useful timber, tiling and slating, glazed sashes and skylights, doors, partitions, wainscoting, linings, mantels and other chimney-pieces, plate-glass and other shop fronts, sound floor-boards, lead gutters, cisterns and pipes, iron columns, coping and cills, and various useful fittings up.—May be viewed the day previous. Catalogues had at Mr. HARWICK'S Offices, 31, Cavendish-square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 20th day of JULY, 1864 at ONE o'clock precisely, (Luncheon at Half-past Twelve o'clock). For account of Importers.

- 2,500 Spruce Deals, Battens, and Ends
- 900 Quebec Pine and Spruce Deals
- 500 St. Petersburg Red Deals
- 10,000 Onega Red Deals, Battens, and 1 Boards
- 1,500 4 by 11-inch Fresh Redwood Memel Deals, per "Minerva"
- 20,000 4 by 9-inch Riddarne Red Deals
- 4,000 Swedish Redwood Deals, Battens, and Ends
- 1,200 Fresh Norway Redwood and Whitewood Battens
- 400 Loads Quebec Board Yellow Pine, fresh timber
- 200 Logs Fresh P. E Island Birch
- 20 Logs Quebec Whitewood
- 40 Logs Quebec Oak
- 200 Loads Quebec Red Pine, fresh timber
- 200 Loads Quebec Pine
- 10 Loads Fresh Timber Elm
- 400 Loads Fresh Memel Timber, per "Minerva," just arrived
- 100 Waimscot Oak Logs
- 80 Loads Dant. Redwood Timber
- 350 Logs Swedish Timber, per "Rea," from Sundswall, fresh Timber
- 200 Fresh Norway Masts
- 600 Fresh 4 by 6-inch spars
- 2,000 Memel Pipe Staves
- 20 Fat. quebec Quebec Lathwood
- 17,000 Spruce Palings
- Flooring

With other Goods.

Catalogues will be issued in the Week of Sale

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, July 5, 1864.

N B. The Brokers are expecting a superior Cargo of Mexican Mahogany, of extremely large dimensions and superior quality; also a Cargo of Cuba Mahogany, of fine figure and good dimensions, both of which they hope will arrive in time to be Sold by Auction on Thursday, the 21st July, as if of which case not, shall be given.

BATCLIFF —Eligible Leasehold Builder's Premises; also, Two Houses & Stabling, and a Freehold Dwelling house, by order of the Trustees of Mr. H. Brown.

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JULY 14, at TWELVE, in Two Lots, eligible BUSINESS PREMISES, containing a capital dwelling-house, with two counting-houses, builder's yard, range of stabling, and back entrance, Middle-row, Back street, Ratcliff; also Two DWELLING HOUSES, 27 and 29, Brook-street, adjoining, let at £47 14s per annum, held for twenty two years, at a moderate rental; and a Pair of Dwelling house, 24, Carolina-street, Commercial-road, let at 21l per annum. Particulars of T. MARTIN, Esq. Solicitor, 57, Lincoln's-inn-fields, E.C.; at Garraway's; and at the Auctioneers' Offices, Mile-end-road, E.

MILE-END ROAD.—Eligible Leasehold Builder's Premises, adapted for business occupation

MESSRS. C. C. & T. MOORE will SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JULY 14, at TWELVE, in one lot, a Leasehold Seven roomed DWELLING-HOUSE, 31, Carlton road, Globe road, Mile end, with conservatory and offices; also a large yard, with side gate entrance, stable, workshop, and timber-shed. Annual value, 50l.; term sixty years, ground-rent, 12l. Held on lease of Richard Hall Clarke, Esq. Particulars of BOYS & TWEEDIES, Solicitors, 5 and 6, Ely-place, Holborn, W.C. at GARRAWAY'S; and at the Auctioneers' Offices, Mile-end-road, E.

TO BRICKMAKERS.—SUFFOLK BRICKS.—TO BE SOLD by AUCTION, by

MESSRS. ROLFE & WHEELER, at the FOUR SWANS HOTEL, Sudbury, on FRIDAY, the 15th day of JULY, 1864 at THREE for FOUR o'clock in the afternoon, a first-rate BUSINESS PROPERTY known as the "Brick and Pottery Works," situate in the parish of St. Gomard, near Sudbury, in the County of Suffolk, on which large and lucrative business is carried on for many years, and is now in the occupation, and in the sole possession at the death of its late proprietor, Mr. Jno. Turner. The Property consists of a comfortable residence, about 3½ acres of land, containing an abundant inexhaustible supply of the finest White Brick Earth which, upon reasonable terms, may be had in the County of Suffolk. It is situate in almost immediate proximity with both rail and water conveyance, and offers to capitalists, either for occupation or investment, an opportunity rarely to be met with. For further and conditions of sale may be obtained of ROBERT RANSOM, Esq. Solicitor, at the Office of the Auctioneers, Market-hill, Sudbury; or posted free on application.

Valuable STEAM SAW-MILL, PLANING and MOULDING MACHINERY, &c. Harrington-street and Graft n street, with accommodious Land adjoining. By

MR. EDWARD CHALONER, on WEDNESDAY, the 13th of JULY next, at TWELVE o'clock precisely, on the PREMISES, in Harrington street, subject to such conditions as shall be then and there produced, the valuable PROPERTY will be put up together at the upset price of 2,000l all that piece of LAND, situate on the west side of Grafton-street and east side of Harrington street, in St. Pancras Park, in Liverpool, with a frontage of Harrington street, in St. Pancras Park, in Liverpool, with a frontage of 100 yards to each of the said streets, and being 100 yards in depth, and containing 2,000 square yards, together with the Steam Saw mills and other Building thereon erected, known as "Lowell Mills," for many years as the Brunswick Steam Saw mills, with the 16-horse steam-engine, and sawing, planing, and moulding machinery, fixtures, and tools as they now stand (all following after And also all that piece of LAND situate on the east side of Grafton-street aforesaid, and west side of Mann street, with a frontage to each of such streets of 100 yards, and bounded on the north by Northumberland street, with a frontage thereto of 43 yards, and containing altogether 4,300 square yards Both of these properties are close to the new goods station of the Liverpool and Garst n Dock Company, and to the Brunswick Dock The mill may be viewed on applying at the Office on the Premises —For further particulars and for catalogues of the Machinery, apply to Mr. WILLIAM FOSTER, Solicitor, 38, Cannon-street, London; to Messrs. LOWNDES & CO. Solicitors, 3, Brunswick-street, Liverpool; to Mr. EDWARD WHITLEY, Solicitor, 6, Water-street, Liverpool; or to EDWARD CHALONER, Broker, East side Queen's Dock, Liverpool.

BY MR. EDWARD CHALONER.—On WEDNESDAY, the 13th of JULY next, at TWO o'clock in the afternoon precisely (unless previously disposed of by private treaty, of which due notice will be given), at the CLARENDON ROOMS, South John street, Liverpool, subject to conditions of sale to be then produced; being the remainder of the property of Mr. John M'Laughlin left unsold at the sale on the 21st instant. As it is important that the estate should be realised as soon as possible the reserve price on the whole will be considerably reduced.

Lot 1. THREE MESSUAGES, being Nos. 42, 44, and 46, Oxford-street, Liverpool. The tenure is leasehold under the corporation of Liverpool for the residue of a term of seventy-five years, from the 6th day of June, 1864 at a peppercorn rent. If not sold in one lot these three houses will be offered separately.

2. A MESSUAGE, Nos. 1 and 2, Crown-street, Liverpool. The tenure is leasehold under the corporation of Liverpool for the residue of a term of seventy five years, from the 14th day of May, 1831, at a peppercorn rent.

3 A Piece of FREEHOLD LAND, with frontages to Rishton-street and Breckfield-road North, Everton, containing on the south side, in front to Rishton-street, 93 feet 3 inches, on the east side, in front to Breckfield-road, 30 feet and 3 inches; containing in the whole 374 4-8ths square yards or thereabouts. Together with the Three Dwelling houses thereon erected, two of which front to Rishton-street, and the third is intended for a public house and fronts to Breckfield-road North. These buildings are not quite completed, but a very small outlay will be sufficient to complete them.

4. A Piece of FREEHOLD LAND, on the east side of Grey Rock-street, West Derby-road, with a frontage thereto of 99 feet 7 inches, and a depth of 46 feet. Together with the Six nearly-finished Dwelling-houses erected thereon.

5 A Piece of FREEHOND LAND, situate on the west side of Dovestreet, and north side of Solway-street, Lodge-lane, Toxteth Park, with a frontage to Dove-street, aforesaid, of 102 feet, and to Solway street of 43 feet 6 inches, and containing in the whole 493 square yards, or thereabouts. Together with the Seven Messuages and shops erected thereon, and numbered 1, 3, 5, 7, 9, 11, and 13.

6. A Piece of FREEHOLD LAND, situate on the south-west side of Dove-street, Birkenhead, with a frontage thereto of 79 feet 4 inches, and containing in the whole 426 6-9ths square yards, or thereabouts Together with the Six several Messuages and Dwelling-houses erected thereon, and fronting Dove-street, and numbered 25, 27, 29, 31, 33, and 35

7. A Piece of FREEHOLD LAND, situate on the north-west side of Claughton-road, in Birkenhead, with a frontage thereto of 58 feet 3 inches, and containing in the whole, including one half of the common passage, 467 and 6-9ths square yards, or thereabouts. Together with the Five MESSUAGES thereon erected, and being numbered 136, 138, 140, 142, and 144, in Claughton-road.

For further particulars apply, as to lot 1, to Messrs. MINSHULL & HORNER, Solicitors, Cunard-buildings, Water Street; as to lot 2, to Mr CROPPER, Solicitor, Pekin-buildings, Water-street; as to lot 4, to T. J. SMITH, Solicitor, Newington; (has to lot 5, to J. F HARRIS, Solicitor, Church-street; as to lot 6, to Mr. T. O. JONES, Solicitor, 58, Castle-street; and as to the whole to Mr. WILLIAM FOSTER, Solicitor, 38, Cannon-street, London; to Messrs. LOWNDES & CO. Solicitors, 3, Brunswick-street; or Mr. EDWARD WHITLEY, Solicitor, 6, Water-street; or to Mr. EDWARD CHALONER, Broker, east side Queen's Dock, Liverpool.

HAMPSHIRE —Important Sale of Landed Properties, comprising about 700 acres, nearly all freehold, in and near to the capital market towns of Lymington and Christchurch, and at Fordingbridge, in the Isle of Wight, the property of the late John Templar, esq. and sold by the direction of the executors.

MESSRS. ABBOTT & SON are favoured with instructions to SELL by AUCTION, at the NAGS HEAD HOTEL, Lyndhurst, on MONDAY, AUGUST 8, and at NEW'S HOTEL, Christchurch, on TUESDAY, AUGUST 9, very valuable ESTATES, comprising upwards of Fifty Lots of investments in land and other property, and freeholds, some of the most important sales in the above district which has taken place for many years, viz.—In the parish of Boldre, Slade Farm, with 130 acres; Mount Pleasant Farm, of 40 acres; Silver-street Farm, of 74 acres; Kettlebourn Farm, of 50 acres; several small farms in the parish of Mords, varying from 22 acres to 6 acres, with numerous dwelling-houses and other small occupations —Sway; Sidley's Farm, of 90 acres; Lymington, with 8 acres; several exclusive of accommodation land contiguous to the town, and dwelling houses and business premises in the town, for which the Auctioneers beg respectfully to direct particular attention; the whole of the above being situate near to Lymington, a town which is increasing in importance, and where extensive docks are being projected, with every prospect of success, and within three hours' ride of London Also, THREE CLOSES of very valuable BUILDING LAND, situated close to Colwell Bay, in the parish of Freshwater, in the Isle of Wight. The Properties near to Christchurch comprise a Farm of about 90 acres, at Dudsbury, in the parish of West Parley, 4 miles from the fashionable watering place, Bournemouth, 6 from Wimborne, and 8 from Christchurch; and 25 acres of Land at Godwin's Croft, near to Christchurch, bounded by the estates of Sir G. E. M. T. Gervis, bart. and William Jesson, esq. and L. S. Lesslie, esq.—Printed particulars, with plans attached, may be obtained in due course of Messrs. THOMPSON, PICKERING, & STYAN, Solicitors to the Executors, 4, Stone-buildings, Lincoln's-inn; at the Estate Exchange, Change-alley, Cornhill, London; and of Messrs ABBOTT & SON, Auctioneers and Estate Agents, Christchurch, Hants

Extensive Sale of Valuable Building Materials, opposite Alexandra Tavern, Barking-road, Plaistow, Essex.

MR. T. J. FISHER is instructed by the Contractor, to SELL by AUCTION, without reserve, on THURSDAY, the 14th day of JULY, 1864 at TEN o'clock precisely, the whole of the MATERIALS of FOUR LARGE HOUSES, certain detached blocks of sound Memel timber, along lengths of flooring, joist plate, rafters, and scantling, 100 dozens of 7-inch yellow deal boards, 60 doors, 70 pairs modern sashes, frames, and fittings, good slating, 9 sets marble chimney pieces, 1,000 feet run of 10-inch cast iron rain-water pipes, 1,000 feet run of 4-inch cast iron gutters, 4 capital ranges, register, shop, and other stoves, iron bars, balconies, old iron truck, tail-boys, 20 stacks firewood, slates, tiles, sky-lights, and a vast accumulation of valuable building materials. On view two days previous. Catalogues on the Premises, the Auctioneer's Offices in the neighbourhood, and of the Auctioneer, Plaistow.

HOUGHTON.—Important Freehold House and Shop Properties, including a corner shop and premises, with 3 parlours, 3 bedrooms, and fitted for business; 10 minutes' walk from the Hackney Station, for Sale, by order of the Trustees.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE HOUSE, opposite Guildhall, on TUESDAY, AUGUST 2, at ONE punctually, in one lot (unless previously disposed of), a desirable Freehold and Title-free ESTATE, situate in the parish of Cheriton, nearly adjoining Coulsdon Common, a few minutes' walk from the Farr Inn; comprising two substantial newly-built cottages, which might be so connected as to form one residence; a newly-erected range of timber and slated outbuildings, suitable for stabling, cart-sheds, cow-houses, or other purposes; and about 14 acres of land; the whole lying in a ring fence, and possessing a frontage of 360 feet to the Coulsdon and Chaldon road, and a frontage of 355 feet to another road in the rear. The land is in excellent condition, great improvements having been made by the present owner, and it offers very eligible sites for moderate-sized residences; there are gravel, sand, flint, and chalk on the property; the position is elevated and extremely healthy; and it is equally deserving the attention of the speculative builder, land society, or capitalist.—Particulars of Messrs. E. & W. B. SMITH, Solicitors, 226 High Holborn; of Mr. J. OLDFIELD, Land Agent and Surveyor, 26, Northend, Croydon; and of the Auctioneers, 80, Cheapside, E.C.

Second Portion of a Timber Merchant's Stock, by order of the Proprietor, retiring from the retail trade.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, 50, Osnaburgh-street, Somerstown, on MONDAY, JULY 11th, at TWELVE, a quantity of MAHOGANY PLANK and BOARD, beech, birch, cedar, walnut, wainscot, dry pine, yellow and white pauks deals and battens, white pine board, cut stuff, rosewood, and other veneers, flooring, quartering, panelled lathes, slating battens, timber packs; also a fine-toned 6½ octave pianoforte —Auction Offices, 2, Cardington street, Hampstead road.

NOTICE OF SALE.—Two Days, MONDAY and TUESDAY, JULY 18 and 19.—Contractors' and Builders' stock.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, on MONDAY, JULY 18, and following day, at TWELVE for ONE each day, the STOCK, viz.: 9 loads of good Baltic timber, 2,000 yellow, white, and pine planks, deals, and battens; cut stuff, 150 squares of prepared flooring, various thicknesses; 70 squares of 14 and 1¼ inch best yellow grooved and tongued ditto, 5,000 feet run pine board, 12,000 feet quartering, mahogany, birch, lime-tree, oak, beech, &c; and a large quantity of excellent materials.—Auction and Valuation Offices, Cardington-street, Hampstead-road, N.W.

EAST ACTON, MIDDLESEX.—Highly valuable Freehold Building Land, within a few minutes' walk of the Acton Station of the Kew Railway.

BAKER & SON will SELL by AUCTION, on WEDNESDAY, JULY 13, at TWELVE, at the GUILDHALL COFFEE-HOUSE, Gresham-street, E.C. 3a. 0r. 20p. of FREEHOLD BUILDING LAND, in seventeen Lots, known as the Glen Meadow, beautifully situate adjoining the road leading from East Acton to Friar-place to which it has a most important frontage, and adapted for the erection of seventeen villas, being within ten minutes' walk of the Acton Station of the Kew Branch of the South London Railway, and forms the majority of the only remaining unbuilt-upon eligible freehold building site in Acton. Each lot has a frontage of 35 feet to the road, by a depth of from 100 feet to 130 feet, with possession. May be viewed two days prior. Particulars had at the Goldsmith's Arms Inn, East Acton; at the Guildhall Coffee-house; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, City; and of BAKER & SON, Land and Railway Surveyors and Agents, opposite the Chapel, Kilburn.

OXFORD.—To Speculators and Building Societies.—Most valuable Freehold Building Ground, St. Giles's, in the City of Oxford, in front and to the rear of Beaumont-street, St. John's College, Worcester College, the Clarendon Printing office, Beaumont street, St. John's-street, and the Railway Station.

MR. JOHN FISHER begs to announce that he is instructed by the Guardians of the Oxford Incorporation, to offer for SALE by AUCTION, at the TOWN HALL, Oxford, on WEDNESDAY, AUGUST 3rd, 1864, at THREE o'clock in the afternoon, in One Lot, all that Valuable BUILDING LAND, comprising the sites of the present Workhouse and Gardens, consisting of 5a. 0r. 0p. with very extensive street frontages. This property is free from tithe, and the land-tax is redeemed; it offers the finest opportunity that has ever occurred in Oxford for dividing into Building Lots, for any Public Institution, or from its great extent, both combined —Further particulars may be known, on application to Mr. H. JACOB, Clerk to the Board of Guardians, St. Ebbe's-street; or the Auctioneer, 8, High-street, Oxford, where plans may be seen.

TREGANLE FORT, CORNWALL, four miles from Plymouth.—To CONTRACTORS, MINE AGENTS, BUILDERS, and OTHERS.

MR. HENRY SENDEY has received instructions from Messrs. Kirk & Parry, who have completed their Contract, to SELL by AUCTION, on TUESDAY, JULY 12th, 1864, on the Works at TREGANLE FORT, their last et complete and valuable CONTRACTOR'S PLANT and MACHINERY: comprising steam-engines and boilers, two sets of winding engines, shaft, and iron and steel wire ropes, by Newball, of Gateshead, and apparatus by Nicholls & Co. of Tavistock, for working an incline tramway, 1¼ mile long; a railway weighing-machine, by Newball, of Gateshead; a powerful steam-engine and other railway materials, switches, points, and crossings; 40 railway waggons and trucks; 22 valuable Lincolnshire and other horses, in excellent condition, all their gearing, and a complete set of stable utensils; 20 three-wheeled and other carts; wheelbarrows and planks; a powerful 6-ton derrick crane, and two smaller ditto on movable platforms, by Vernal & Barr, of Devonport; five overhead travelling winches, capable of lifting from four to six tons, with carriages, driving shafts, and tramway lines complete, adapted to spans of from 50 feet to 100 feet, the whole to be SOLD, after which time only to be had by bid, of which due notice will be given by the Auctioneer Mr. Sendey begs to call the particular attention of the public to the above valuable Stock and Materials, as the greater part has been in use only for the Tregantle Contract, and consequently is in first rate working condition.

June 24th, 1864

[For remainder of Auctions see p. ix.]

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St Giles in the fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, July 9, 1864

The Builder.

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1119. JULY 16, 1864. PRICE FOURPENCE. By Post, 5d.

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INSTITUTE of PAINTERS in WATER COLOURS.—The 30th Annual Exhibition is now OPEN, at their GALLERY, 54, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

INSTITUTE of PAINTERS in WATER COLOURS will close the 30th Annual Exhibition on SATURDAY, JULY 30th inst., at their GALLERY, 54, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Sec.

WEST LONDON SCHOOL of ART (in connexion with the Department of Science and Art, South Kensington Museum), 24, Great Portland street, W. Established 1862. A PUBLIC MEETING will be held in the New Gallery of this School, on WEDNESDAY EVENING, the 20th of JULY, 1864, when the PRIZES will be presented to the successful students, by A. J. B. BERESFORD HOPE, Esq. LL.D. D.C.L. F.S.A. president of the School. The chair will be taken at EIGHT o'clock punctually. There will be an Exhibition of the Works of Art to which the Prizes have been awarded. The Committee invite those interested in the School to see its progress during the past year. Ladies are invited to be present.

*** In the late Government examination of the Students, 150 papers on "Linear Measure," done before the Art Inspector, obtained the mark "Good," and of these 74 were distinguished by the mark "Excellent." In the ordinary studies of the Pupils, 21 were awarded Medals, and 8 "Honourable Mentions;" and, subsequently, in the National Competition, the large proportion of 3 National Medallions, and 1 "Honourable Mention," were awarded.

PHOTOGRAPHIC EXHIBITION. — The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 35, Pall Mall. Admission 1s.; Catalogue 6d.

HOLMAN HUNT'S PICTURES.—"LONDON BRIDGE on the NIGHT of the MARRIAGE of the PRINCE and PRINCESS of WALES," and "The Afterglow in Egypt," together with Robert B. Martineau's Picture "The Last Day in the Old Home," are NOW ON VIEW at "The New Gallery," 16, Grafton street, Regent street, from TEN till SIX—Admission, One Shilling; and in the Evening, from SEVEN till TEN—Sixpence

GAS REFORM.—GEORGE FLINTOFF, who has saved Gas Consumers £50,000 per annum by correcting abuses and causing reductions in the price of gas in 107 cities and towns, may be CONSULTED, engaged to form New Companies, reconstruct Works, or to LECTURE on the Gas Question.—Address, No. 151, Strand, London

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow of the Inventor all the profits, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12 Aldersgate street, Westminster, who will also afford any information he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on applicants attending either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72 74, Bishopsgate street Within.

CONTRACTS.

WAR DEPARTMENT CONTRACT. — NOTICE to BUILDERS

TENDERS are required for the ERECTION of an OFFICERS' MESS ESTABLISHMENT, and a portion of BOUNDARY WALL, at Milton Barracks, Gravesend.

Persons desirous of Tendering for the execution of these Works are requested to make application to this Office, on or before MONDAY, the 25th JULY, 1864, and to pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded as soon as prepared by the Government Surveyor.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Gravesend,
12th July, 1864

WAR DEPARTMENT CONTRACT.— NOTICE to BUILDERS.

TENDERS are required for RAISING No. 2 GUN SHED to increase the Store Accommodation at Chester Castle.

Parties desiring to Tender for the execution of these Works must leave their names at this Office on or before the 21st instant, and pay the sum of 10s. 6d. for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office 22a, Stretford road, Manchester,
7th July, 1864.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and steps, Bosch, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps. Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO BUILDERS.—Parties desirous of CONTRACTING for the ALTERATIONS and ADDITIONS to the CHURCH at PONTRHYDYN, near Mold, can examine the Plans and specifications at our Office, between the hours of NINE a.m. and SIX p.m. from the 7th to the 21st inst. Tenders must be sent to us on or before the 23rd inst. endorsed "Tenders for Pontblyddyn Church." The lowest Tender will not necessarily be accepted.

LLOYD, WILLIAMS, & UNDERWOOD,
Architects and Surveyors.

Park-lane, Denbigh, 4th July, 1864.

BUCKS COUNTY LUNATIC ASYLUM. To BUILDERS, CONTRACTORS, &c.—The Committee of Visitors of the asylum are desirous of receiving TENDERS from persons willing to undertake for EXECUTING the WORKS relating to the Enlargement of the Female Wing of the Asylum, at Stone, near Aylesbury, according to certain plans, which can be seen, and information obtained, at the Office of Mr. D. BRANDON, the Architect, 24, Berkeley-square, London, on and after the 18th day of JULY instant. All Tenders must be sealed up and sent or delivered to me, on or before the 27th day of JULY instant, but the Committee do not bind themselves to accept the lowest or any Tender

ACTON TINDAL, Clerk to the Committee of Visitors.

County Hall, Aylesbury, 13th July, 1864.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of an HOTEL at Ilfracombe, North Devon, are requested to send their names to Mr. M. C. W. HORNE, Architect, 30, Guildford street, London, W.C.

NORTH STAFFORDSHIRE RAILWAY. To BUILDERS.—The North Staffordshire Railway Company desire to LET by CONTRACT the ERECTION of Additional WORKSHOPS at Stoke upon-Trent. The Buildings will be principally composed of brickwork, and will be about 250 feet long by 70 feet wide, and divided into bays proper to the purpose. The drawings can be seen, and further information obtained, on written application to Mr. J. C. FORSYTH, the Company's Engineer, Stoke-upon-Trent.

Sealed Tenders to be addressed to the Secretary, at Stoke upon-Trent, and delivered on or before the 1st of AUGUST. The Directors do not bind themselves to accept the lowest or any Tender.

J. SAMUDA, Secretary.

Stoke upon-Trent, July 1st, 1864.

TO BUILDERS.—Persons wishing to TENDER for the ERECTION of a TOWER and SPIRE to St. Mark's Church, Cheltenham, may see the plans and specifications at the Lower Alstone School room, from MONDAY, the 11th of JULY, to FRIDAY, the 22nd instant.

Cheltenham, July 1, 1864. JOHN MIDDLETON, Architect.

CONTRACTS.

TO BUILDERS. — Parties desirous of TENDERING for the ERECTION of new HEAD QUARTERS, DRILL-SHED, &c. at Camberwell, for the First Surrey Rifle Volunteers, can see the drawings and specification at my Office on and after WEDNESDAY, JULY 20th, and obtain bills of quantities, prepared by Messrs. Lumsdaine, and printed forms of Tender, upon paying a deposit of Three guineas, which will be returned to those who deliver a bona fide Tender. The committee do not bind themselves to accept the lowest or any Tender. JOHN T. LEPARD, Architect.

Drummond Chambers, 10, John-street, Adelphi, W.C.
14th July, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the SPALDING and MARCH LINE (about 10½ miles long) and STATIONS. Parties disposed to Tender may obtain the specifications and forms of tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George street, Westminster, S.W. on or after TUESDAY, 12th JULY; where also the working drawings may be inspected, and copies of the general plan and working sections, and other information may be obtained, on payment of 3l. 3s. Tenders sealed up and marked "Tender for Spalding to March Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 9th AUGUST.

N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, N. June 27, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for SLEEPERS. The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for the Line—about 10½ miles in length. Parties disposed to Tender may obtain the specification and forms of tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders, sealed up and marked "Tender for Sleepers," must be lodged at this Office, before TWELVE at Noon, on 2nd AUGUST.

N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, 27th June, 1864

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19½ miles in length). Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received), at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, the 12th JULY.—Tenders sealed up and marked "Tender for Rails and Fish Plates," must be lodged at this Office before ELEVEN o'clock a.m. on TUESDAY, the 2nd AUGUST, when parties Tendering must be in attendance.

N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order,

HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, N. June 27th, 1864.

NOTICE to CONTRACTORS.—TENDERS are required for REPLACING the present STONE CURBS at the Tower on Grain Spit with NEW CURBS of CORNISH GRANITE. The drawing may be seen, and a specification and form of Tender obtained, on application at this Office, between the hours of TEN and FOUR, from 11th till 23rd JULY inst.

Parties tendering will be required to take out their own quantities.

Tenders will not be received later than 28th JULY inst.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, 4th July, 1864

BEDFORD. — To BUILDERS. — Persons desirous of TENDERING for the ERECTION of new SHOW-ROOMS, WORK-ROOMS, and WAREHOUSES, for Messrs. Rose, No. 91, High-street, Bedford, may see the drawings at the Office of Mr. UTHER, Surveyor, Middle-row, Ely, on THURSDAY, JULY 14, and Tenders to be sent in not later than TEN o'clock on SATURDAY morning, JULY 23rd. The lowest or any Tender not necessarily accepted.

July 12th, 1864.

BEDFORD. — To BUILDERS. — Persons desirous of TENDERING for ADDITIONS and ALTERATIONS to DWELLING HOUSE and PREMISES, being No. 91, High-street, Bedford, may see the drawings at the Office of Mr. UTHER, Surveyor, Middle-row, Ely, on THURSDAY, JULY 14, and Tenders to be sent in not later than TEN o'clock on SATURDAY morning, JULY 23rd. The lowest or any Tender not necessarily accepted.

July 12th, 1864.

[For remainder of Contracts see next Page.

TO BUILDERS.—The Trustees of the Tipton Wesleyan Chapel are prepared to receive TENDERS for the ERECTION of a NEW CHAPEL, according to the plans and specifications lying at the Vestry of the old Chapel. The Trustees will meet at the said Vestry at THREE o'clock TUESDAY, AUGUST 9th, to open the Tenders, after which no more Tenders will be admitted. They do not bind themselves to accept the lowest or any Tender.

TO PIPE MANUFACTURERS and OTHERS.—TENDERS are required for 300 feet of 12-inch, 250 feet of 9-inch, and 150 feet of 6-inch, including the necessary bends and junctions, for the Council at Hartlepool, Durham. The Tenders Tenderers must state the lowest terms, cash payment within one month from the date of invoice. The screw Pipes must be of clear sample, round, and well-faced. Tenders to be sent in sealed, addressed to the Board, and to read, "Tenders for Screw Pipes." Tenders to be addressed to WILLIAM ADAMSON, Contractor, Ant House, Hawkhow-road, Hastings, on or before TUESDAY, the 19th of JULY, 1864

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for REPAIRING and MAKING UP Park Side street, Battersea, and sheet piling, in the parish of Battersea. The specification can be seen at the offices of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in sealed, addressed to the Board, and to read, "Tenders for Repairs to Streets, Battersea," on or before MONDAY, 25 JULY inst. No tender will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District.

ARTHUR ALEX. CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, 2nd July, 1864.

ST. MARYLEBONE, July 7, 1864.—To PAVIORS, MASONS, CONTRACTORS, &c.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the County of Middlesex, assembled in the Board Room of the Court House of the said parish, in Marylebone-lane, on THURSDAY, the 21st day of JULY, 1864, will be ready to receive the aforesaid, proper, and true TENDERS for paving with Granite, and Contract for the RELAYING and REPAIRING of a portion of the CARRIAGE-WAY of OXFORD-STREET, and for NEW LAYING of the Footpaths of Castle-street with 6-inch by 3-inch Mount Sorrel Granite Paving. — Further particulars may be known and specifications seen, on application to the Vestry Clerk, at the Vestry Hall, on any day (except Sunday) in office hours, between the hours of TWELVE and ONE o'clock. The Contractors to find satisfactory security for the performance of the Works, and to pay the expenses of the bond and sheet. The Tenders to be sent to the Vestry Clerk, sealed and endorsed, "Tender for Paving Works," before ELEVEN o'clock in the forenoon of the 21st day of JULY inst., at which hour will be publicly opened. ELEVEN o'clock. The Vestry will expect the parties tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

CARDIFF HOTEL COMPANY (Limited).—TO BUILDERS.—TENDERS will be received for BUILDING an HOTEL in St Mary-street, Cardiff, for the Cardiff Hotel Company (Limited). The specification and arrangement plan to be seen at the Company's Office, 23, Trinity-street, Cardiff; and copies of the bill of quantities may be obtained, after the 20th instant, upon payment of one guinea each. Sealed Tenders, endorsed "Tender for Hotel," to be delivered at the above Office, addressed to the Secretary, HENRY HEAD, Esq., not later than on the 3rd of AUGUST next. The Directors do not bind themselves to accept the lowest or any Tender. C. E. BERNARD, Architect.

Cardiff, July 11th, 1864.

TO BUILDERS.—Trinity House, London, EC. 11th July, 1864.—The Corporation are desirous of obtaining TENDERS for the ERECTION of a STOREHOUSE and OTHER BUILDINGS at their Quay Wharf at Bankwell, lately in the occupation of Messrs. Forster and Sons, formerly of Deptford, and purchased of the present holders at compensation valuation. Plans and specifications may be seen at the Quay Wharf, and also on application at the Trinity House, on and after MONDAY, the 18th instant, between the hours of TEN o'clock in the forenoon and FOUR in the afternoon. Tenders are not to be sent in unless the parties tendering are prepared to enter into a contract (if required) on and after SATURDAY, the 30th instant, and to the number of TEN o'clock in the forenoon of the said 30th day are sealed Tenders to be addressed to the Gentlemen of the Lewisham Board, and marked "Tender for Buildings." The parties Tendering will be expected to be in attendance on the said 30th instant, at the hour named. The Corporation will not bind themselves bound to accept the lowest or any Tender; and the Contractor will have to enter into a sufficient Contract (either with or without sureties as the Gentlemen shall require for the execution of the Works. Duplicate plans, specification, &c., can be seen at the Office of Mr. WALLEN, Architect and Surveyor, 4, Laurence Pountney-hill, Cannon-street, E.C.—By order,

THOMAS PARKER, Clerk

Lewisham, 13th July, 1864

TO ENGINEERS, BUILDERS, and OTHERS.—Trinity House, London, E.C. 11th July, 1864.—This Corporation being desirous of obtaining TENDERS, for the ERECTION of LIGHTHOUSE BUILDINGS, on St. Bees Head, near Whitehaven, here by give notice that the plans, specifications, forms of Tender, and other particulars may be deposited at the House, and at the St Bees Lighthouse, and may be inspected on any day between the hours of TEN o'clock a.m. and FOUR p.m. The Tenders must be sent to this House, on the forms provided, and directed as required, on or before MONDAY, the 1st August next. The Corporation do not pledge themselves to accept the lowest or any Tender.—By order of the Corporation,

P. H. BERTHON, Secretary.

CORPORATION of MANCHESTER.—TO CONTRACTORS.—The Waterworks Committee appointed to receive TENDERS for the CONSTRUCTION of a SERVICE RESERVOIR at Prestwich Hills, about 4 miles from Manchester. Plans may be seen, and printed copies of the specifications obtained after THURSDAY, the 7th inst. on application at the City Surveyor's Office at the Town-hall. A charge of Two guineas will be made for a copy of the specification, which will be returned when the Tender is delivered, and if the party tendering obtains the Contract or not. Tenders, endorsed "Tender for Service Reservoir," addressed to the Chairman of the Waterworks Committee, to be delivered to Mr. BERRY, at the Waterworks Offices, Town Hall, Manchester, not later than the 1st AUGUST next. The Committee do not bind themselves to accept the lowest or any Tender. By order,

JOSEPH HERON, Town Clerk.

Town-hall Manchester, 2nd July, 1864

TO MASONS and OTHERS.—The Trustees of the late Samuel Ender, esq., are ready to receive TENDERS for PAVING, with Yorkshire Channelling and Guttering, on their estate, situate at Bethnal Green, in the parish of St. Matthew, Middlesex, of which plans, specifications, and conditions of contract may be seen, and forms of Tender obtained, upon application to Mr. Tite Ellis, who is to be delivered in or before FRIDAY, the 29th JUNE, 1864. The Trustees do not bind themselves to accept the lowest or any Tender.

CHARLES DUNCH, Architect.

White Horse-street, Commercial-road East, July 15, 1864

TO BUILDERS.—TENDERS wanted for the ERECTION of PALM BUILDINGS and COTTAGES, on the Estate of Mr. Samuel Lilly, at Hoo, in the parish of Hoo, Lower Hoo, and Sharnal Street Hill, in the parish of Hoo, in the Parish of Frindsbury, Hoo, Kent, and of Brockenhurst, in the parish of Minstead and Hill Deverill, in the parish of Hoo, in which Tenders are to be forwarded to Mr. P. F. Arnold, Hoo, to whom Tenders Tenderers must state exactly to be accepted.

TO BUILDERS.—TENDERS are required for the ERECTION of a VILLA, with stabling, and also for the COMPLETION of FOUR UNFINISHED SHOPS, at Parsloe's-park, near Abersbott. Drawings, specifications, and conditions of contract, may be seen at the Architect's Office, No. 4, Lancaster-place, Strand, on and after TUESDAY next, the 19th inst. The Tenders are to be delivered at the Architect's Office, on FRIDAY, the 29th instant, at ELEVEN o'clock, in separate amounts. The lowest or any Tender will not necessarily be accepted.

HENRY CURRLY, Architect.
4, Lancaster-place, Strand, W.C. July 11, 1864.

TO BUILDERS and CONTRACTORS.—TENDERS are required for BUILDING the TOWER and SPIRE of ST. JOHN'S CHURCH, PUTNEY-HILL. Drawings (between Lambeth and Camberwell Parties) at the Vestry, Surrey. A copy of the Works may see the plans and specifications on and after WEDNESDAY, the 20th JULY instant, at the Office of Mr. GEORGE BELTON, Architect, Lambeth Palace Road, where the Tenders are to be left on or before the 1st of AUGUST next. The Committee do not bind themselves to accept the lowest or any Tender.

By order of the Committee,
JOHN WILLIAMS, Honorary Secretary.

Bedford, Llandaff-ne, July 12, 1864.

CROYDON LOCAL BOARD of HEALTH.—TO CONTRACTORS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for the EXCAVATION and FILLING of all the Colonial yards of WATER PIPE TRENCHES, in accordance with the specification of Mr. BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board of Health, can inspect the said specification in the Engineer's Office, in the Town-hall, Croydon, on or after the 18th Sealed Tenders, endorsed "Tender for Water pipe Trenches," are to be delivered at the Offices of the Local Board, in the Town-hall, Croydon, on or before TUESDAY, the 2nd of AUGUST next, evening. The Local Board do not bind themselves to accept the lowest or any Tender.

July 16th, 1864. HENRY RICHARDS, Clerk.

CROYDON LOCAL BOARD of HEALTH.—TO STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the SUPPLY of one thousand tons of Broken GRANITE for road purposes, and also GRANITE and PURBECK CURBS of various sizes, in accordance with the specification prepared by Mr. Latham, C.E. the Engineer of the Local Board, can inspect the said specification at the Engineer's Office, in the Town-hall, Croydon, on or after this day.—Sealed Tenders, endorsed "Tender for Granite," are to be delivered at the Office of the Local Board in the Town-hall, Croydon, on or before MONDAY, the 8th day of AUGUST next. The Local Board do not bind themselves to accept the lowest or any Tender

July 8th, 1864. HENRY RICHARDS, Clerk.

GLOUCESTER FREE CHURCH.—TENDERS are required for the ERECTION of a CHAPEL to seat 600 persons. The framing is of wood and iron, covered with zinc and corrugated iron.—Drawings and specifications may be seen at my Office, and at the Offices of Messrs. LINGHAM, BROTHERS, 176, Little Britain-street, Bartholomew, after the 17th instant. Tenders are to be addressed to me, and delivered on or before the 27th instant, the lowest or any Tender not necessarily accepted

ROWLAND FISHER, Architect.
17, Great George-street, Westminster, London, S.W.

TO CONTRACTORS.—Persons desirous of CONTRACTING for the WORK to be done in the RESTORATION of the TOWER, NAVE, and AISLES of Worcester Cathedral, may see the drawings and specification on application to the Architect, Mr. A. E. PERKINS, 6, Collingwood, Worcester, or at the Chapter Office of the Cathedral, at 3 o'clock in the morning of the 25th of AUGUST next. The Tenders for the Tower and those for the Aisles to be separate. The Committee do not bind themselves to accept the Lowest Tender.

STRAND UNION.—The Guardians of the Strand Union are desirous of inviting TENDERS from Builders for ADDITIONS to be made to the Workhouse in Cambridge-road. The drawings and specifications are to be seen at St Mary's House, Cornhill, the Office of their Architect, Mr WILLIAM LEE, by whom all requisite information respecting the Works will be given. The Tenders are to be delivered at No. 6, Bow-street, Covent-garden, on TUESDAY, 26th of JULY, at SEVEN o'clock in the evening, indorsed "Tender for Additions to Workhouse," and addressed to the Guardians. The Guardians do not bind themselves to accept the lowest or any of the Tenders.—By order of the Board,

J. KILNER, Clerk.

TO BUILDERS, CONTRACTORS, and OTHERS.—NOTICE.—The Council of the City and Borough of Canterbury will receive TENDERS, in writing sealed up, for the Making, Covering, ALTERATIONS and IMPROVEMENTS to the CATTLE MARKET according to plans and specifications. The plans and specifications to be seen, and any part or parts required may be obtained, on application at the Office of Mr. WILLIAM WILKINSON, Surveyor, 9, Orange-street, Canterbury. The works to be carried out under the superintendence of the Market Committee. The person whose Tender is accepted will be required to enter into a sufficient Bond for the performance of the work. The Council do not bind themselves to accept the lowest or any Tender. Tenders to be sent to the Town Clerk's Office on or before MONDAY, the 1st day of AUGUST next.

ELIJ. WILLIAM FLINT, Town Clerk.

Canterbury, July 9, 1864.

WEARDE STONE QUARRIES, LIMITED.—The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any quantity, also for Macadamising. Samples sent, and prices on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

PATENT CONCRETE STONE COMPANY (Limited).—The Directors have granted LICENCES for six of the Counties of Great Britain and are prepared to grant further Licences for LICENCES for the MANUFACTURE of this valuable MATERIAL.—Plans for the erection of Works, and full instructions, on application.—By order,

THOMAS PIPER, Secretary.

38, Parliament-street, S.W. May, 1864.

G. MITCHELL, MARBLE, STONE, and GRANITE WORKS. SHOWROOMS:—

No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants may see the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.

Estimates will meet with prompt attention.
MANUFACTORY at WALTON STREET.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Carrara, Italy, London.

JOHN WREN

Begs to inform Architects, Sculptors, Painters, &c. he has OPENED the above Premises for the Display of his SHOW-ROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, imported at the lowest possible prices.

N.B.—Executantegwen, Country and Foreign orders executed with promptness and personal attention.

TO MARBLE and STONE MERCHANTS.—FOR SALE, a large quantity of PURBECK MARBLE, consisting of about 100 blocks of different sizes, from the quarry lately in the occupation of Mr James Vose.—For further particulars, apply to Mr HENRY ANDREWS, Winchester-street, Salisbury.—Carriage free to Wareham or Swanage.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, Indian quarry work or other labour, forwarded on application.—Office, 27, Hillbank-street, London, S.W.

RED MANSFIELD STONE, WHITE MANSFIELD STONE, YELLOW MAGNESIAN or BOLSOVER LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from cutters to any railway station.

Mr ROBERT LYDIATT, Mansfield Quarries, Nottinghamshire.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.

Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.

Apply to ALEX. MACDONALD, FIELD, & Co., Aberdeen; and at London Depôt, 404, Euston road, N.W.—DAVID WILLS, Agent.

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE and SUPERIOR PLASTER OF PARIS.

This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.

PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIVERPOOL STREET, LONDON, E.C.
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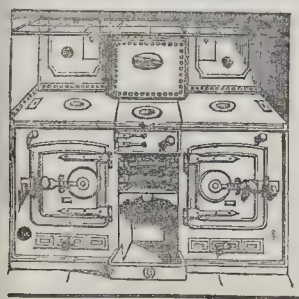
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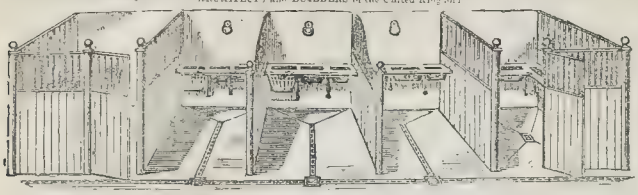
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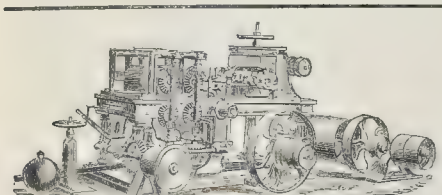
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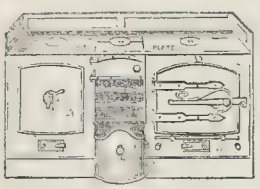
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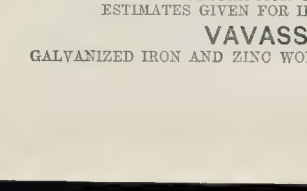
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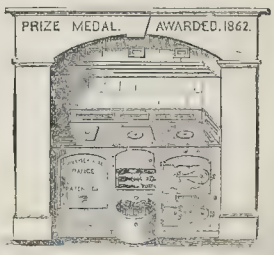
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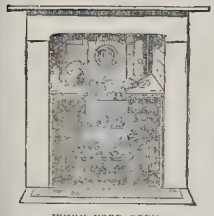
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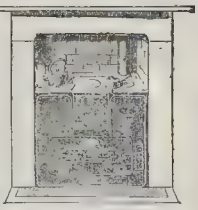
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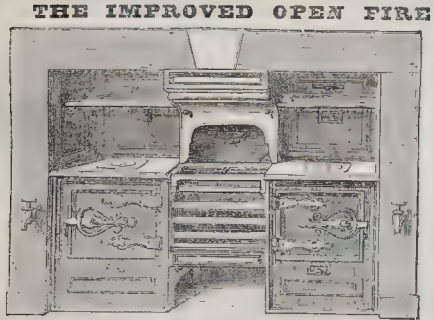


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OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

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THE IMPROVED OPEN FIRE KITCHENER,



Manufactured by
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PHŒNIX IRON WORKS,
ROTHERHAM,

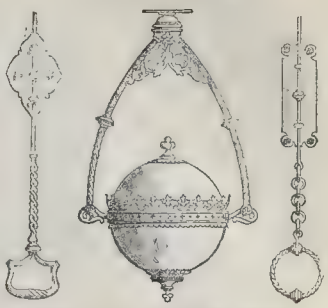
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The Ovens are heated upon Bradley's Patent Principle (under which W. O. possesses the sole right to manufacture), and by which a great economy of fuel is effected.

These Kitchens are made of all qualities and sizes, suitable for all classes of houses, from the cottage to the mansion; and can be OBTAINED THROUGH ANY IRONMONGER in the UNITED KINGDOM.

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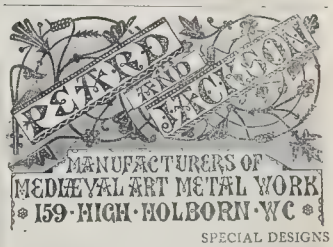
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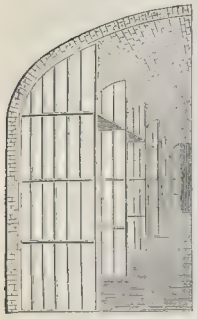
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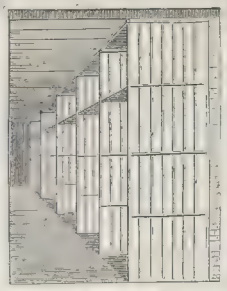
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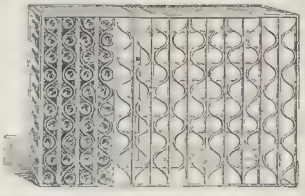
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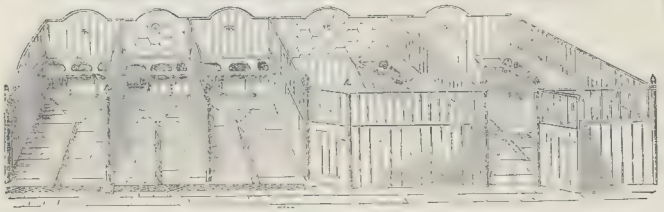
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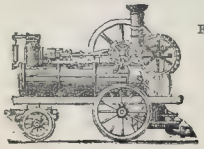
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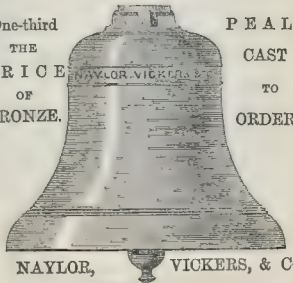
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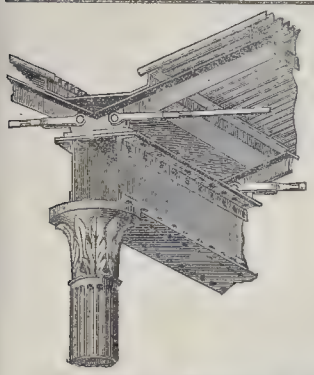
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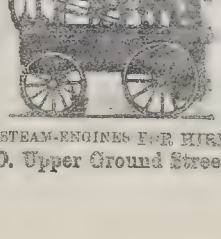
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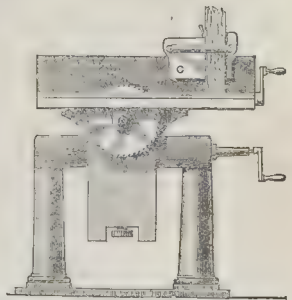
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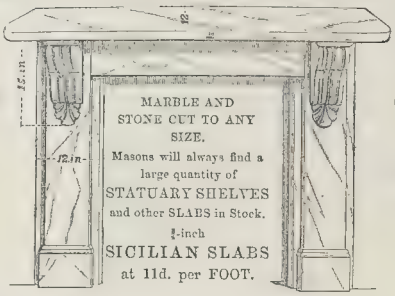
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VOL. XXII.—No. 1119.

The Northern Low-level Sewer.



UR recently published particulars of the main arrangements and of some of the chief structural details of the outfall of the London sewerage, north of the Thames, will have reminded the reader, even resident at a distance from the metropolis, of the conditions of level which had to be considered in the general design. It was possible, by one sewer of interception for the drainage of Hampstead, Holloway, Stoke Newington, and districts similarly elevated, and by another for that of Kensal-green, Bayswater, Oxford-street and Piccadilly, Old-street, and Bethnal-green, (including branches,) to get streams to flow converging to a point at Old Ford; whence this sewage of the High-level and the Middle-level could continue in parallel channels to the spot, near Barking Creek, at which is situate the combined arrangement of reservoir and outlets which we described. To effect the drainage of those levels, thus, by gravitation only, and not to bring the outlets down to much below the level of high-water, involved, as we have seen, an incline not greater than 2 feet per mile. But, a large portion of the metropolis is by no means so advantageously circumstanced as the districts specified. Under the arrangements which must remain up to the completion of the new works, the low-levels can be drained only at or about the time of low-water; whilst provision of an intercepting sewer results in bringing the sewage finally to a level which is below low-water mark, by some 10 feet, or even much more, if the length and fall have been continuous. Thus, the operation of lifting sewage is an essential feature of the actual scheme for London; and we were amongst those who in the early stages of the design, looked with anxiety to the description of machine that might be used for a purpose for which some persons had declared valved pumps to be inapplicable. When, shortly, we revisit the south side of the Thames, we may have an opportunity of inspecting the machinery, some of which we have described from the original drawings, that is or is about to be in operation. Mr. Bazalgette's report presented on Friday in last week, shows that since our recent articles were written, a portion of the sewage of the south side has commenced to be discharged at Crossness Point. The pumps, however, there, are not at work: the arrangements are only temporary; and the Deptford pumping machinery has only in part been brought into use. The benefit derived by the Northern Low-level districts, so far, from the sewerage, is that the sewage of the higher levels, or so much of it as is connected with the completed portion of the systems, no longer adds its volume to contents of those sewers that are tide-locked. The area of London, which is under the conditions of level that have been described, comprises not merely the margins of the Thames, but districts extending far inland, and many of them thickly populated.

Owing to the breadth of London from east to west, and to the consequent length of the sewer-lines, as well as to the low level of ground at the west,—and perhaps as to the north side, to change in the design,—there will have to be in the case of each side of the Thames, two lifts. On the south side, although much of the area within the jurisdiction of the Metropolitan Board is of a high level, an underground course has been adopted for the Outfall-Sewer; so that the whole of the sewage has to be pumped at the point of outfall. The Low-level sewage is also pumped at Deptford to the level there, of the Outfall-Sewer, which continues the lines of the High-level Sewer and the Effra Branch.

On the north side, the Low-level sewerage, so to be called as belonging to the one system, connected with the lifts, or from the level involving them necessarily, has an area which commences from a point that lies even north of the Northern High-level Sewer. This point is at the North London Railway, just south of Homerton; and the area thence extends southwards (crossed at Old Ford by the parallel channels of the Middle-level Sewer and the Northern High-level), and takes in Bow and Poplar; still south of which lies the Isle of Dogs. Respecting the system for this latter district, we have no present information. In the western part of London, the Low-level system takes in Westminster, Chelsea, Fulham, Hammersmith, and Shepherd's Bush.

The whole of the ordinary sewage of the immense area comprised in these limits, and including the length of the Thames Embankment, will at last flow through a 10 feet 3 inch barrel-sewer to the spot near Abbey Mills, West Ham Abbey, mentioned by us as the site of the station where the sewage will be lifted finally to the higher level, and where a third parallel line is added to the other two to Barking Creek. The height of lift will be about 38 feet, or somewhat more than the measurement from invert to invert. The level of the invert of the sewer of the Low-level, as proposed, at this point, would not be low enough to get the requisite incline unbroken, all the way from Hammersmith: therefore there will be somewhere at least one other lift, as already mentioned. The position for it selected may be between the Chelsea Suspension Bridge, and the Victoria Station and Crystal Palace Railway Bridge. The lift there would be about 18 feet, that is from 19 feet below Ordnance datum to 1 foot below. This assumes that the course of the Low-level Sewer would be along Lupus-street; but the whole of the sewerage between Westminster Bridge and the western side of Cremorne Gardens is to be considered as unsettled. From the point last mentioned, to the limit of the Board's jurisdiction between Hammersmith and Chiswick, as well as short of Acton, the sewers are either completed or are very nearly so. For this western district, generally described as the Western Division, it was originally intended to have deodorizing works and an outfall into the Thames, just west of the Kensington Railway Bridge. But, that intention, as our readers have some time known, has been abandoned in favour of the connexion ultimately with the Low-level Sewer.

Lines of the metropolitan sewerage are marked upon a published map which has been "drawn and engraved for the Metropolitan Board of Works;" but there are many inaccuracies in it, and it can scarcely be taken as any guide. In particular, besides showing many portions of the Low-level sewerage as settled, which are not so, or which have been arranged otherwise than as shown, it shows the branch from Homerton, which replaces the Hackney Brook, in connexion with the Outfall Sewers, and not continued to the main Low-level Sewer, between Bow and Bromley, the real course of the branch, as will shortly be described.

The whole Northern Low-level sewerage with that of the Western Division, and with pumping-stations, promises before completion to have formed the subject of something near a dozen contracts. The most important of these are the contracts for the sewer and the Embankment between Westminster Bridge and a point to the west of Blackfriars Bridge, opposite the Temple. They include not merely the river-wall, the steamboat-piers, requisite works to the bridges, a sub-way, and the sewer which would form part of the Low-level line; but they include other sewers of interception, and elaborate contrivances, chiefly in connexion with old outlets, for the escape of storm-waters. The portion of the line immediately east of the Temple and in front of the Gas Works, and the length thence to Trinity-square and the north-western angle of the Tower, we must consider like the portion westward of Westminster Bridge, as not absolutely decided upon. The length between Trinity-square and Abbey Mills, with a portion of the branch taking the Hackney Brook sewage, was the subject of last week's tenders; and this we proceed to notice in detail, leaving the work of the Embankment to a future opportunity.

The length of the main line, and so much of the branch as belongs to the present contract, amount to 4 miles 4,855 feet, the main line length being 3 miles 4,485 feet and the branch length 1 mile 370 feet. The main line has throughout the same inclination as the lines passing to Barking in the embankment, namely 1 in 2,640, or 2 feet per mile. At the lowest point at Abbey Mills, the invert is to be about 17 feet 6 inches (17·590) below Ordnance datum; and this will be about 24 feet 6 inches below the present surface of the ground. The level of the inverts of the parallel lines in the embankment being about 19 feet 6 inches (19·439) above the datum, the height from the invert of the lower level to that of the upper is seen to be about 37 feet (37·029). The level of 17 feet 6 inches below the datum, should be considered as very nearly 11 feet below low-water mark. The present surface of the ground at the site of the pumping-station is 6 feet below Trinity high-water mark. Fortunately, a considerable portion of the length of the main line will pass through the London blue clay, and can be tunnelled; but this condition of the strata has not been found to exist between the site of the pumping-station and the branch of the Lea called Three Mills Wall River, a length of about 1,400 feet. At the first boring where the sewer is to commence, or actually about 450 feet at present from the sewers-embankment, the water-line was reached at 2 feet from the surface after passing through 6 inches of black soil and 18 inches of yellow clay. Below these were 2 feet of clay and gravel, 12 feet of sand and gravel, 2 feet of grey clay, and 14 feet of soft sand, in which last the level of the invert of the sewer would fall. Starting little below it, the section shows 11 feet of loamy sand, and lastly stiff clay. Tracing the course of the sewer upwards, the second boring, near to the stream just named, showed the water-line to be in peat of 4 feet in thickness, underlaying loamy clay of 1 foot 6 inches thickness, and black soil of 1 foot. Below the peat, the crown of the sewer would come in 19 feet of sharp sand and ballast; just below which sand, the invert would fall within the London clay, which is 14 feet 6 inches thick at

this point, and overlays 6 inches of soft white sand, 1 foot 6 inches pebbles and sand, 3 feet black sand, 6 inches shells and clay, 4 feet of coloured clay, and a stratum yet lower, of sand and clay. The London clay is fairly entered by the line of the sewer, at the spot where the third boring was taken, which is on the western bank of the main channel of the Lea. Here the surface of the ground is 15 feet higher than the level at the starting-point of the sewer. The water-line stands at 2 feet below the surface, in made ground, which has here a thickness of 9 feet, overlaying 2 feet of sand and gravel and 4 feet of yellow clay. Below the yellow clay begins the London clay, that is to say precisely at the level of the surface at the starting-point. At the next point, near the Stepney Union, the top of the London clay, the water-line, and the level of the surface of the ground, are still higher. The strata above the clay comprise 3 feet 7 inches of made ground, 7 feet 6 inches of pit gravel (below the centre of which is the water-line) 2 feet of sharp sand, 8 feet of coarse gravel, and 2 feet of yellow clay. The greatest elevation of the surface recorded on the sheet of sections of the strata, was found beyond the western termination of the portion of the main line now under notice, namely in Eastcheap, where the surface is 51 feet above Ordnance datum, or 38 feet 6 inches above Trinity high-water mark, and where the made ground is 15 feet in thickness. We may mention that in Cannon-street West, near to the end of Walbrook, where the surface has fallen to just over 32 feet above the datum, the made ground was found to be 19 feet 2 inches in thickness. Immediately below it came 11 feet of yellow clay; below which was the London clay. At this spot, the crown of the arch of the sewer intended but not yet tendered for, will fall just within the London clay. Opposite Bow-lane, the surface of the ground has risen about 14 feet 6 inches, and that of the blue clay has risen considerably. We have several times drawn attention to the importance and interest of such information, which Mr. Bazalgette's trials have furnished in abundance.

The course of the sewer after the meadow-land which is next the starting-point, is under Three Mills Wall river, and a confluent stream called the Three Mills Back River, and under the Lea to Three Mills-lane, under houses, and crossing under St. Leonard's-street, under the ground at the south-east angle of the Stepney Union, under the Tilbury and Southend Railway, and the North London Railway branch, and under and along Devon's-lane, St. Paul's-road, and part of Turner-road, parallel with the North London main line, and thence parallel with the canal, and crossing under it in the same line with Salmon's-lane. From Salmon's-lane the sewer skirts the south-eastern side of the railway to the Commercial-road, under which it crosses under the line. This is close to the junction of the North London Railway, with the Blackwall line. Again, close to this junction, the sewer-line turns southward to cross under the Blackwall Railway, after which it passes by a line of streets which are generally parallel with the railway, and north of the London Docks, through Ratcliff, Shadwell, and along Cable-street and Royal Mint-street, to the point near the Tower already mentioned as the termination. Here the invert has risen somewhat more than 17 feet 6 inches (17·69), that is in the length of 3 miles 4,485 feet, but is still rather more than 3 feet below low-water level. The branch, of which a portion is in the present contract, will join the main line in St. Leonard's-street; and eventually, a branch from Poplar and the Isle of Dogs may join somewhat westward of the same spot.

The sewer is to be all of the barrel form. The dimensions, again tracing the course upwards, are in the clear diameter, for the first 2,795 feet, the already mentioned 10 feet 3 inches; for 1,000 feet 10 feet; for 4,700 feet in Devon's-lane and St. Paul's-road, to Cotton-street, Bow Common, 9 feet 9 inches; for 5,030 feet, ending in Brook-street, at Devonport-street, Commercial-road, 9 feet 6 inches; for 2,910 feet in Back-road, and ending at Cannon-street-road, 9 feet 3 inches; for 1,660 feet in Cable-street, and ending at Leman-street, 9 feet; and, for 2,230 feet the remainder of the length, 8 feet 9 inches.

The portion of the largest diameter, which passes through the worst soil, will be constructed of four rings of brickwork in cement; and the outer ring, all round, will be covered with Seyssel asphalte, 1½ inch in thickness. The method of construction will continue to the point where the branch, Hackney Wick Branch Sewer, joins in, in St. Leonard's-street, Bromley. This length of the main sewer, the 2,795 feet, will also have a line of 12-inch stone-ware drain piping laid externally along and under the invert; and the whole, both sewer and pipe, will be encased in Portland cement concrete 9 inches thick at the sides, and flat-bedded, and finished at the top so as to have a general square form of the exterior as shown in section. Moreover, well-tempered clay-puddle is to be placed over and by the sides of the concrete, 2 feet in thickness. The precautions are intended to prevent the slightest leakage into the sewer, of water from the ground, or from the streams which will pass over or near the sewer. The remainder of the work of the main line will be simply of four rings of brickwork in cement. There are sewers existing in various portions of the line, and above the level of the work, as in St. Paul's-road, Back-road, Brook-street, New-road, Cable-street, and Royal Mint-street. These will, of course, require careful handling.

The Hackney-wick Branch, so far as belonging to the present contract, is the lower end of a line which formed part of the High-level contract. The northern portion of the line was completed with the High-level Sewer, by Mr. Moxon; and has been described by us. We may mention, however, that this northern portion of the branch is joined by a syphon to those storm-water outfall-sewers that run, below the main lines of the High-level and Middle-level sewers, to the Lea; so that at present the Hackney Brook sewage is still passing into the Lea. The design, however, was to carry that sewage crossing under the storm-water outfalls, and to form a connexion with the Low-level main line as stated. The length at present in question, following the course downwards, will pass from the Outfall Sewers, by Old Ford-road, and generally south-eastward, crossed by the Great Eastern Railway, and coming near to the western bank of the Lea, crossing High-street close to Bow Bridge, and turning round by the Bow Brewery, to pass along High-street, Bromley, to the junction with the main line in St. Leonard's-street. This sewer, 1 mile 370 feet in length, is to be constructed as a 4-feet barrel sewer of three rings in cement. At the lowest point it is about 16 feet 6 inches below Ordnance datum; and thence for 5,650 feet, the inclination will be 1 in 273, or 19 feet 4 inches per mile. Thus in the length of High-street, Bromley, there will be a fall of 10 feet 6 inches for the sewer. The remainder of the length will have an inclination of 1 in 533, or 9 feet 9½ inches per mile: the invert of the portion of the sewer at present constructed being, at Old Ford, 9 inches above Ordnance datum. The line, judging from the borings, will pass entirely through the London clay.

There are no novel provisions for ventilation of these sewers, more than in any of the lines which we have described. Connected with the Low-level Sewers there will be circular shafts; which, in the case of the main line, start from the sewer with a diameter of 5 feet, and rise to 3 feet, where the shaft is covered with the ordinary grating laid in the street-paving. The arrangement of the side entrance includes a shaft 6 feet in diameter, domed over and covered by a ventilating-grating, and containing a circular staircase.

Relative to our observations when we published the list of tenders, that the difference between the highest and lowest was more than 100,000*l*., it is but right to direct attention to the fact that there must be, in work of this character, a large amount of materials and labour for which the contractor has little guidance beyond general clauses in the specification, and the information given by borings. Here, in the tunnelled portions of the work, all cavities, from whatever cause arising, are to be filled up solid to the maiden ground, with brickwork in cement; and all timbering, &c., requiring to be left in, is to be at the contractor's expense. In open cuttings, indeed, timber left in, is to be paid for as extra. But the contractor is held responsible for any damage which may occur, as where the sewer passes under the Lea, and under the Regent's Canal; he is to make terms with owners, lessees, and occupiers, and to pay all compensations, including those for loss of trade or rent. He is of course to provide all machinery and contrivances for pumping; for, "no part of the sewer" is to "be suffered to become water-logged." The experience of Mr. Rawlinson in the district of West Ham, to which we referred in one of our articles, would help to show what may be expected in some portions of the ground traversed.

The works are to be finished in eighteen months from the time at which the order to commence is received; or the contractor is to pay 50*l*. per day as liquidated damages.

Some differences from the manner of executing the work of the Outfall Reservoir, are to be remarked in clauses of the specification. The concrete is to be formed, in place of the one measure of blue lias lime and six of ballast, of one of Portland cement to seven of ballast, the latter to contain one of sand. There is yet room for inquiry into the best method of mixing concrete. Some say there is error in the usual mixing with hot lime, that the lime and sand should be mixed before ballast is added, and that there is no reason why the material should not be used *en pisé* above ground, and afford walls thicker by one-third, than those of brick-work, whilst at one-third less expense. Certainly, in France, as by Coignet, there has been much done that merits attention. In the clause of the specification relating to cement, the material is required to be mixed with sand, one part of each, excepting where the cement would be liable to be acted upon by the water before it would have had time for resistance; in which case, neat cement is to be used.

The lowest tender by Mr. Webster, which would appear to have been accepted, amounted to 229,000*l*. Mr. Edmund Cooper, who has conducted the works of the Outfall, as well as those of the High-level Sewer, and who has also the Eastern portion of the Thames Embankment, will be the resident engineer

Some further particulars of the sewerage, now nearly completed, at the opposite extremity of London, may assist comprehension of the collective features of the Low-level.

The completed works of the Western Division include the Acton Branch, comprising 7,350 feet in length of brick and iron sewers and other works in connexion with them, and extending from the limit of the jurisdiction near Acton Vale, along the Uxbridge-road through Shepherd's Bush and across the West London Railway to Royal-crescent; at which point the branch enters the Counter's Creek Sewer, the old line which extends south-easterly, nearly parallel with the railway, passing east of the West of London Cemetery, and west of Cremorne Gardens, to enter the Thames at the Creek which forms a portion of the Kensington Canal. The Acton Branch cost 9,820*l*., including 970*l*. for extra works. The works of the Western Division proper, which are in progress, comprise the Main Line and the Fulham Branch. The total length included in the contract in the autumn of 1862, was four miles 2,175 feet; and the amount of the contract was 56,710*l*. The line originally intended to go into the Thames was not to continue quite to the river as part of the contract just referred to; and now, even the limit which was indicated has been stopped short of, near the Gas Works; whence a substituted line, or addition, is being carved round, to the north-west. The extension is to cross the Creek to a point whereat there will be a temporary pumping-station and a connexion with the Counter's Creek Sewer. The extension and connexion may ultimately be continued as the Low-level Sewer Main Line, or a branch of it, along Cheyne-walk; but this latter portion of the sewerage, as we have said, cannot be considered as decided upon.

The main line of the Western Sewers, passes north-westerly through Walham Green to the road connecting Fulham and Hammersmith; along this latter road it passes to the eastern end of Tranquilla-place, Hammersmith; it turns west to pass along Tranquilla-place, again to turn and pass north-westerly along the Queen's-road, and cross the road leading to Hammersmith Bridge, whence it continues along Cut Throat-lane, and crosses the creek to the Upper Mall, where it runs westerly to pass Hammersmith-terrace, and end with the limits of the jurisdiction in Chiswick Mall. The Fulham Branch starts from the main line, between Sands End-lane and Bagley's-lane, and passes south-westward, along the King's-road, through Parson's Green, to Church-street, Fulham, along which it runs to end at the bridge. The total length of these two sewers was originally 4 miles 1,390 feet as stated. The main line was 3 miles 1,315 feet, which must be about the present length. The length of the Fulham Branch is 1 mile 720 feet.

The lower end of the main line is considerably below low-water level. The invert is about 13 feet 6 inches below Ordnance datum, which last is 12 feet 6 inches below Trinity high-water mark. On the 15th of May, 1862, the condition

of tide was such that the level of the invert was about 12 feet 6 inches below the low-water level, and nearly 28 feet below the high-water level. The tide on the date given, rose to nearly 2 feet above Trinity mark, and did not fall much lower than 1 foot below Ordnance datum, instead of the nearly 7 feet which it fell to, at Barking, on another date. Comparison of such facts, will serve to show the difficulties of the sewerage of London, sought to be met by pumping. At the upper end of the main line of the Western Sewers, however, the level of the invert has risen to about 6 inches below Ordnance datum; and the similar end of the Fulham Branch rises above that. The main line has an inclination uniformly of 1 in 1,320, or 4 feet per mile; and it varies in dimensions from the 4-feet barrel form to the 4 feet by 2 feet 8 inches egg-shape. The Fulham branch has an inclination of 1 in 509, generally, and varies from 4 feet 6 inches by 3 feet, egg-shape, to 3 feet 9 inches by 2 feet 6 inches. The brickwork was 9 inches in thickness, and was set in Portland cement; and it was throughout the lines encased in concrete. The sewers were nearly everywhere above the blue clay, and had to be formed in trenches; whilst from strata above the sewer, water flowed copiously. At one point, now, an engine of 40-horse power is at work.

These works, originally contracted for by Messrs. Moxon & Co., are superintended by Mr. Thomas Lovick, as the resident engineer, who has also the superintendence of the western portion of the Thames Embankment, and of the northern Middle-level sewerage, which last is approaching completion.

These notes may form a fitting introduction to particulars of the work of the Embankment, which is already making itself very conspicuous on the river.

GLASS PAINTING, ANCIENT AND MODERN.*

ONE great cause of the beauty in the works of the early artists is the equality of pains they seem to have taken with all parts of their design. It accounts for the harmony which prevails between their glass and the architecture to which it is made subordinate. In the earlier styles the artistic composition of picture subjects was made effective and the groups of figures relieved from each other by contrasts of colour, rather than, as in more recent work, by opposing lines. Their shadows consisted of little else than lines, so that the glass was honoured throughout, and the right principle of a window was maintained as a thing of light. But as time progressed and the arts of mural painting and illumination became more realistic, glass-painting followed in the same strain.

There was one mode of composition often pursued throughout a window which has a most chaste and architectural effect. I mean the use of colour in the figures alone, or in the backgrounds alone; the other, as it may be, being all of white glass, diapered, or relieved by strong lines and golden-yellow stains. The grand simplicity of this effect can hardly be surpassed. There is another admirable effect produced in white glass by keeping both figures and background white. The relief of colour is given in bands and blots of it in parts of the window not occupied by those compositions. The effect I mean is produced by keeping the figures in pieces of glass of a comparatively large size, marking their outlines and principal folds of drapery and so on by very strong leading, the background being equally of white glass, but cut up into little pieces of geometrical diaper. The relief is perfect. It would be admirable for domestic use where a single window, or perhaps at most two, would be treated in this way; but there is no relief in it by colour for the cold architectural masses of church walls. Where such are all polychromed this is precisely the style of glass for the purpose. There is a modern plan, lately introduced, with something of the same object, but it utterly fails: it attempts to be pretty, and loses all the vigour which makes work in glass worth a straw. I mean the plan of taking sheets of glass, and drawing in outline figure subjects, and putting in various backgrounds, all drawn exactly in the same way and on the same piece of glass. The drawing is sometimes very creditable, but the result weak and poor in the extreme. If the makers of such work would only condescend to use glass as glass, and not like great sheets of paper, and would bear to be told that leading is not a vulgar expedient all very well for the poor benighted Goths who could not make such fine great sheets of glass as we can, they would then succeed where they now fail. It appears to me that it is the leading which gives consistency to a glass painting and vigour to its effect.

I was speaking of the improvements in the arts of painting during the fifteenth century. They were the first poison-drops which ultimately ruined the art applied to glass. Up to the end of the fourteenth century little harm was done. Shadows were used in the draperies, but they were used, as they ought to be, for glass. The folds were marked as in the previous style by strong and fine lines, the shadows in the fewest possible places so darkened as to save the rest from weakness. The points in the figure composition and the relief of the parts were maintained in the genuine spirit of glass-painting, by the contrast of colours and the shapes of the pieces, and pre-eminently by the reckless boldness of the leading.

Too much praise cannot be bestowed on the care that was lavished on the ornamental as distinguished from the pictorial parts. It is a great mistake to suppose that a high and refined sense of beauty can only be shown in figure-painting. Ornamentation is to art what the varieties in form and tint of leaves and flowers are to nature, and often expressive of its greatest beauty. It is a branch of art never despised by the really great artist. The principle of an arabesque, if only used in the right place, is admirable. The Early Gothic and Norman arabesques were magnificent. There is just in them that legitimate place for wild fancy which is wanted somewhere,—a sort of safety-valve for fun, which must break out somewhere, and might otherwise become dangerous.

About the middle of the fifteenth century the treatment of pictures in glass became more and more relaxed. The artists had hitherto been guided by the safe principle of deference to the architecture of which their work formed a part. After that time the architect's design seemed to be beneath the notice of the painter's condescension. He spread his picture over the whole window-space, regardless of all obstacles.

A little later than this a magnificent style of glass-painting was developed in Italy. Glass was treated pictorially indeed; but, like most genuine artists as they were, the Italian designers of those pictures felt intuitively that the compositions and resources of other styles were unsuitable for glass. So they went in for light and colour like men; and designed, for breadth of contrast and vigour of effect, figures, architecture, fruit, flowers, animals; and then leaded them all together, regardless of atmospheric effects and perspective, and with an equality of colour throughout and relief in the detail just enough to save all the objects from confusion. The effect was the most powerful that glass could produce. It was flat, architectural, and grand in the extreme. The success of those windows consisted in this, that their designers were, first of all, consummate artists themselves, and then that they had the genius and wit to seize the true and complete idea of the materials they had to work with. Theirs was the last blaze of that fine art for many a long year. Their successors adopted a new system by painting upon glass with enamel colours. The result was the rapid decline of the art. They would paint. The art of glass, therefore, was no more. Such was the fate of glass-painting south of the Alps. In the north, much the same result occurred. Religious and political troubles, far and wide, confirmed it. But here and there, and more particularly in Holland and Flanders, the old vigour of the art was revived. But the taste of the times was coarse, and the idea of art was too realistic to be attained in glass, without straining it beyond its proper functions. Some grand effects were, however, produced by combining the inlaid system of the best times with the enamel-painting of the worst. The inferior artists revelled, as usual, in violent effects. The public taste of their day was low, and was growing lower. There was no demand for good art, so there was no supply. And so the art dwindled away, till it fell, as I described at the beginning of this address, into the hands of the plumbers.

By this very sketchy review of the history of the art, from its earliest day to our own, and by our own personal observation of the works which remain of the various periods and styles, by the rarity of success and the frequency of failure, we must be impressed that there are somewhere, if we could but find them, some as certain principles for the foundation of all that is good in this as in any other of the fine arts; and that, for any hope of its successful revival, the first thing for us to do is to master those principles; and, further than that, to clear from our minds those obstacles which the very knowledge we possess of other arts may cast in the way of our comprehension and success in this.

I think that those principles are perfectly clear. The subject appears naturally to divide itself thus: 1, the treatment of ornamentation; 2, the treatment of pictorial composition. Of the first I will only say that it has met with too great indifference at the hand of modern glass-painters in general. Ornamentation is capable of taking a high position in the scale of art. The abstract beauty of form which is its very essence is comprehensible only to the most refined and intuitively artistic minds. It is a subject for glass-painters especially, and worthy of the talent and the labour they can expend upon it. I hope they will do so. It involves quite as much the improvement of the material of glass and its variety (which we are all desiring) as its treatment.

To go, then, without further delay, to the second part of the subject, it is evident that the greatest difficulty lies in the treatment of pictures in glass. You have seen, in the slight sketch of the art, how, as the other arts advanced, the glass-painter was tempted to push his also forward, not perhaps so much for any ambition to rival them, as that, his eyes having become habituated to a more artificial and academic system, he followed onward with the stream of his contemporaries. But he found at last, with many other reformers, that advance is not always synonymous with improvement. In his time perspective had become a science. Theories of composition, of the balance of lines, of the balance of colour, were taught as axioms of art. Pictures were no more suggestions or reminiscences, but actual representations, with all the natural effects of sun and shadow, night and day. And why was not all this to be effected on glass as well as on canvas or a wall? The glass-painter seems to have gone on asking himself this question; and now in our time people are asking it again. They are demanding pictures for their windows, family legends and local traditions for their halls, sacred subjects for their churches. How is the modern glass-painter to proceed? He certainly stands on the 'vantage-ground of experience. The successes and failures of past days are all before him. He has, with few exceptions, the whole array of materials for equal success: he has himself only to blame for equal failures. His difficulties are the difficulties of abundance rather than poverty. Style after style is open to his choice. Science is at his bidding. Galleries and museums are open to him everywhere. And the skill of the modern artisan sets him at ease about matters of technicality.

But it is just in all this that his trouble lies. He is impelled by all around him to the idea of advance. The notion of accepting the principles of a less educated age is to him a notion of retrogression. And there are other rocks than these also for him to wreck upon. There is the pre-occupation of people, in all the absorbing objects of this busy age, which unfits them for the quiet atmosphere of art, and greatly disqualifies their judgment. Then there is the unsettled state of architectural taste, which keeps all the arts associated with it in the same unhappy condition. Then there is that most fatal commercial element to contend with—to which, indeed, be all honour and respect paid within the broad limits of its proper action for individual and national enterprise and wealth—not when it invades the realm of the arts and presses one of the finest of them, as it does now glass-painting, into its service: no loose stone in a foundation, no poison in the food, no worm in the bud, could be an element of more certain ruin than it.

I know that here I touch on a very delicate subject. If I give offence I regret it, but there are occasions when plain opinion and plain truth must be stated, and this is one of them. I know that the artist must live by his art. I know, too, that it will be replied to my objection that the artist is under great obligation to the man of commercial energy for giving him the means of constant employment. So far so good—we are quite agreed so far. The evil is not here. The evil does not lie in the man of commerce supplying the artist with the means of constant

* By Mr. T. Gambier Parry. See p. 506, *ante*.

employment, but in the simple reversing of those words, that it is the artist who is pressed to supply the commercial man with the constant employment of his means. That is the evil, and a serious one. The very energy of the employer is the ruin of the employed. His talents are over-pressed—the fertility of his invention over-tasked. Orders pour in,—customers become impatient,—work must be completed, or, in its commercial sense, "turned out," in a specified time. The result is repetition, inferiority, and routine. But a still worse state of the case is this, and a common one, that the contract price keeps down the quality of the work—and quality is a matter of time, and time is money;—and thus a man's genius and high feeling are fettered and crushed because one breath more, one step further would not pay. The rich stream must be diluted down to the necessities of trade. Genius is become an article of commerce, to be sold by the pound, or to be measured at so much per foot. I assert that this is utter degradation of art. No art can live long in such an atmosphere; nor, certainly, could it rise above the most utter mediocrity. Thus far, indeed, it might rise, and for such a purpose the lower powers of art are not improperly applied. There are very many things, objects of universal use and trade, of which the value is very legitimately enhanced by a certain amount of artistic excellence. For such purpose let such a system prevail; for carpets, curtains, silks, and ribbons, tables, embroidery, earthenware, clocks, and ten thousand other things, in which dealers must deal, and which manufacturers must supply. The more they civilize and cheapen their wares the better. But there are occasions also here where a rather higher character of art is sometimes applied; as, for instance, in the painting of the finest porcelain. But I never heard of even that being degraded as our glass is. I never yet heard of a Sèvres vase, or a Dresden group, or Chelsea bowl, being sold by the measure of their surfaces, or by any other test of value but that of the excellence to which the artist, by all the powers he possessed, could press, to the very utmost of his perfection, the work of his hands. But the glass-painter stands on a higher level of art than he does. I know that the glass-painter must live by the work of his hands, and that they are but the fruit of his genius. The greatest men before him have done the same. The greatest architects have built for money, the greatest sculptors have modelled, the greatest painters have painted for money; but where was ever one such as they found who would yield for one moment to the bondage of the money for which they worked, or who would not, with poor old Palissy, have rather burnt the last leg of his last chair, and the last rail of his garden fence, than bear to fail in the full excellence of his work? If glass-painting in our day is to be submitted to such pressure as would have crushed the genius of a Raffaelle, it has small chance of vitality, and none of perfection.

But I must not be misunderstood. I desire, by no means, to pass a sweeping censure against the combination of the commercial man and the artist. Our whole social state is changed since the days of those peaceful contemplative poets of art who began their work with prayer, and mingled their colours with devotion, making religion as much a medium of art as art a medium of religion—men who worked the live-long day, refreshing their spirits and their eyes on the tranquil and lovely scenery of Umbria.

But do you reply,—"Yes, but those men often undertook great works on contract, and at a fixed price, and fixed time too"? Yes, they did; but who made the contract, who fixed the time? Not any commercial partner who had to make money out of the artist's brains. No; for no art can reach excellence,—the complement of a man's full powers can never be attained but in the freedom of undisturbed thought. If there is any vital element in art, it is that which is akin to poetry. It is a strange mixture in itself of delicacy and power, qualities which in the execution of its work maintain and modulate each other. Delicacy would otherwise degenerate to weakness, and power swell into vulgarity. Art cannot live as a slave to commerce. When Perugino grew avaricious, he prostituted his art. It was lucky for the arts, and for his reputation, that in his younger days he had said his prayers. In those days he had acquired a power of refinement and expression of the most exalted character, for which all after-ages have venerated his memory. He had been a poet—he had indeed been a poet; but when his studio was lowered to a manufactory the volume of his glory closed.

I must repeat most explicitly that I by no means object to the combination of the man of business and the artist in an establishment for glass-painting. On the contrary, I think it would be one of the greatest service. I only demand that the two men should be in their proper places. I demand that their workshops—yes, call it boldly by its proper name, for in the highest days of art it always was the "bottega"—should be rather on the more dignified model of a school or a studio than that of a place of trade. I know most happily that there are such existing. There are very many details of such a "bottega," in which a man of business habits would be a perfect second right hand to the artist. There are orders of a common kind as well as of a higher, which must be supplied from such an establishment. There are works of ornamental art, which, when once well designed, may be many and many a time repeated, such as diapers, quarries, borders, geometrical work, and so on, in the various styles of architectural composition; for a really good thing had better be oftimes repeated, than poor ones multiplied. I would even say that the repetition of a higher class of pictorial compositions is by no means to be decried, when the means at hand for purchase are limited. A good copy of a good work is more honourable than the perpetration of a bad original. The one thing I demand in such a partnership is, that the artist should be king of the establishment. There is plenty of work for both. Such a "firm" (I call it so because there must be some capital invested) should be like a body corporate, with its right hand and its left. I demand that the right hand should be the artist's — every finger of it his. It shall be for him to say that such a work shall be undertaken, and, with wisdom and honesty (not always practised now), that such another shall be declined. I beg you for a moment to look at the opposite picture, and to listen for a moment to such a by no means impossible nor improbable conversation as this. Head partner, managing man of the "concern" enters: "Well, John, how do you get on? You must push along a bit. We have got that order for the Last Judgment, for the east window of blank Church; and Hannibal crossing the Alps, for the Duke of Bareacres's staircase. You must manage to work off Honolulu Cathedral by next month, for the other big window is promised for Australia before Christmas, and the ship sails in about a couple of months."

I ask you to conceive the utter state of prostration with which the artist partner flings himself into his arm-chair, poor fellow! if head partner allows him one; and to realise to yourself the utter prostitution of art submitted to such terms. I believe the scene to be by no means exaggerated, but to be only, in other words, of most possible occurrence. If art is to be a plaything, only let it be honestly sold in toy-shops. Let us have no more hypocrisy about it, no pharisaical nonsense about any height in its aim, any beauty in its motive, any divine gift in its genius. But if it be a noble thing, if these qualities and objects be really its own, let it be emancipated to the utmost possible to us weak mortals, from worldly pressure. Let the artist be at his own command,—at liberty to say yes or no; to live in and by the harmonious assistance of his invaluable commercial friend, but to fix his own work, his own time, his own price; to follow his glorious work in quietude, in honour to his art, in honour to his patrons, and in honour to himself. Commerce and art thus wedded together would be like body and soul to each other. Only let the right hand keep the keys (*i. e.*, the power to ordain and to dispense), and the left hand keep the accounts.

It would be a rare case to meet with so perfect a little body corporate as this. There would be no fear for its issue; and, happily, we know of some founded nearly on this ideal. But, alas! for human weakness, it too often happens that the partner in poetry, though he knows he is overworked, cannot bring himself to say "no" to the glittering offer of a patron. Partner in business decidedly hopes he will not; and so the spirit too often succumbs to the infirmities of the flesh!

If there be one greater error than another that an artist can commit, it is in the transgression of the nature of his materials. The more evident, the more distinct, that nature is, the greater is his sin. Now, if there be any material at his disposal of which the qualities and resources are more clearly marked than any other, it certainly is glass. If in oil colour, they are those of depth and power; if of water colour, delicacy; if of fresco, sobriety; of glass, they are pre-eminently those of light.

I by no means infer from this, what I might be mistaken to mean, a garish, gaudy use of the raw material. But I certainly do mean that the degradation of so beautiful a material as glass to the condition of cardboard, as is done too often by the Germans, or into oiled calico as by the Italians, or into a very bad style of whity-brown paper, as is frequently done by the English and French, is simply an *abnegation of the art in glass*. As I said before, glass is a thing of light and colour, which calico, cardboard, and brown paper certainly are not.

The abuse, as we have seen, arose at the time (the fifteenth century) when glass was manufactured thinner and more clear. The painters now black it to hide its poverty. It is wanted for all varieties of effect; and, rightly used, it can be gorgeous without being gaudy, and solemn without being dull. The first step to its improvement for art purposes must be the work of the manufacturer. I do not pretend to be versed in the niceties of its manufacture; but it appears to me that the ruby, the green, and the white would be better made thick, the blues more grey, the white very various in hues, and a more refractive and a rich translucent rather than purely transparent glass, made for them all.

The next step, the artist's, is not so easy to describe. If the right kind of glass could be got there would be little need of veiling it at all, to enrich its poverty or to tone its garishness, beyond the broad lines of the drawing, the lightest possible indication of shadow, and so on. Such, indeed, I feel, should be the law of the glass-painter. But as in severer matters, the best of laws are sometimes more honoured in their breach than in their observance, so it is with glass. And here it is, I think, that might come in the right use of enamel colours. Their exclusive use has two great objections,—one the costliness of their production in the perfection of the little cabinet examples, from Nuremburg and Munich; the other, their weak effect when used on any considerable scale, and from the number of bakings required for the different colours, a process often attended with fracture of the glass. But the pot-metals, toned with discreet moderation, as they have done especially in some of the Dutch and Flemish examples, would have at once a mellow and a rich effect—a good deal preferable to the choice between brown paper and blacking.

But now, having progressed so far, comes the great question, How is he to treat his pictures? There can be no real difficulty in this, but in the practice of humility and self-denial. The first thing for the artist under such circumstances is to make up his mind that he is, in truth and in deed, a "glass-painter." If only he is quite sure of that, half his difficulties are over.

Now let us for a moment compare the characteristics of a picture on canvas, and a picture on glass; and the conclusion will be obvious. In the first place, then, the element of form is common to them both, and equally within their reach. Then chiaroscuro, the whole law of which runs in the simple sequence of "high light, half tint, shade, reflected light, and cast shade," is also equally within the reach of both, for glass can be blackened as black as night, and high lights filled out as bright as the sun. Then "colour;"—that, too, is common to them both. Where, then, is the difference? I answer, Mainly in this, that, although all things may be possible, all things are not expedient.

But now look at the opposite view of the case. Take two subjects only, those of "roundness," and "atmospheric perspective." The way in which our artist produces the effect of roundness is by modification of colour, and by loss of outline. These are amongst the most powerful means in the hand of a painter, to produce to the eyes of others the effects of nature, and among the most favourite resources of his art.

These two, his primary essentials, are simply and entirely impossible to the glass-painter, because his outlines must be marked by lines of lead, and his colours can only be tempered by the coarse expedients of mere light and shade, or, at best, by enamels, which must injure the brilliancy, and can only darken, without in truth modulating, his colours.

There can be no modulation of colour in glass. I must not be mistaken. Of course glass may be ground into semi-opaque white and painted on in many ways with water and oil colours modulated as you please; but that is not glass painting in what is (without any quibble about words)

really meant by it. It can also be effected by enamels; but that is glass enamelling, not glass painting, and very objectionable for the reasons (only with the favourable exceptions) I have mentioned. So then truly there can be no modulation of colours on glass. How can the painter get the grey between the light and the purpled shadow of a ruby-coloured drapery? How can he get the thousand and one tints of sky and earth into its reflected light? How can he soften off its edge?

Then take the effects of "atmospheric perspective." These are mainly producible by the same processes. Things in nature are cleared from each other, not by any means so much by their colours as by the air between them. There is nothing more delicate than this in all painting. But these are unattainable by the glass-painter. He can only approach them by the ingenious use of forms, and by suggesting (however untruly in a realistic point of view) the idea of proximity by strong colours, and distance by the more delicate.

In spite of all these limitations to which he is subjected, I do not feel that his art is lowered, for art does not depend on perfection of representation. Such perfection would at once be the loss of all its poetry. I believe that each art has its distinctive genius and capabilities; that there is a something which each can do the best; and that, failing that, the fault lies rather with the artist than with his materials.

Michelangelo would be as great in terra cotta as in the finest marble. What, then, is the glass-painter to do? I am confident that the secret of his success lies in this, that his designs must be made entirely with reference to the powers and limits of his art,—that the designs of Michelangelo himself would be utter failures unless made unreservedly upon such a model. An idea is prevalent that copies may be made from great old pictures, or that designs may be obtained with great advantage from the leading artists of the day. But I am confident that it would be an injury rather than an advantage that artists, however great in figures, landscape, or genre, should be so employed unless they do it with a thorough knowledge of the peculiar qualities and limitations of what they work for; that in their pictures they may revel in the poetry of shadow, but that in glass they must design for the effects of light; that their canvas may be a broad, open space to work for, but that glass (even for the common purpose of its safety) must be broken up into small pieces; that every form must be definite from the mechanism by which those pieces are joined; and that the light, even of the most mellow glass, is too great for the eye to bear it long; so that his composition should be broad, clear, sculpturesque, rather than pictorial, but beautiful, delicate, or powerful, to the utmost of his art. What, then, unreservedly are these powers and limitations of the glass-painter? His powers? He has the whole beauty of the rainbow and the whole power of the sun at his disposal. What are his limitations? They resolve themselves into two, the impossibility of colour-gradation and the rigid obligation of severity of outline in the use of his leads. The result, therefore, is that his works are characterized by a certain flatness of effect, more in the character of a bas-relief than the atmosphere of a picture. This peculiarity is by no means peculiar to the essentially Gothic art of glass-painting. At a period of Classic art in Greece, perhaps unequalled by any other for refined purity of design, wall-painting was constantly executed in this manner. Figures, and even groups of figures, were thus painted with no more than sometimes a mere faint line to stand upon, and without any accessories of background. It is impossible to imagine the science of design put to a severer trial, or a more perfect and pure ideal of painting in connexion with architecture. And I adjure him not to disguise this essential peculiarity, and so to falsify his art. It would be as unreasonable for a composer to complain that his instrument had not the power of an orchestra, or a sculptor that his marble was debarred from the accessories possible to canvas, as for a glass-painter to complain of his glass. But, above all things, let him remember this, that, before he can be an artist in glass, he must first be in verity an *artist*.

In respect to the variety of styles, the Classic, Gothic, Renaissance, and Modern, which is most intimately connected with the subject of glass-painting, there can be no doubt of this, that to reduce everything to the mere dead level of modernism would be to deprive the world of that invaluable means for expressing the many phases of beauty which depend entirely upon the characteristics of particular styles,—that they are, in fact, the expression of the widest range of human feeling; for, excepting literature, all that remains to earth of the hearts and souls of the best men is in their arts.

The objection is made, "But why copy them? Why bind down your wider knowledge to the limits of their comparative imperfections?" I can only say, in reply, Who in his senses would ever, or what man with a spark of genius ever could, advocate such a course? The objection is one of those bugbears which gentlemen of certain opinions are constantly raising—gentlemen whose judgment seems to be a good deal affected by temper and a little by prejudice.

The imperfections of old art are most patent and followed only by those who know, and are capable of, no better. But I hold that there is a latent beauty beneath the crust of those imperfections that you have failed to perceive; that there are there more than the vigour of strong feeling and the earnestness of purpose, which even you in some sort allow; but that there is a perfect sense of the relation of one art to another, a most genuine poetic sense in their employment, a modesty in self, a keen perception of the fitness of materials, and of the appropriateness of the character of their design to all the qualities of them, to be found as the guiding principles in those works, which it is impossible to overrate—guiding principles, which, if some modern had equally perceived, they would have succeeded where now they have failed.

I grieve at the discredit that has been brought upon old art by the atrocities committed by incompetent imitators. To them the mere archaisms and exaggerations of expression have been the low ideal of those arts. They have missed the latent beauty, and made bad copies of the crust. Those artists of old days felt of beauty as we do, though they had no academical rules for its display: they felt all the poetry of human passion as we do, though they had no axioms for its embodiment in art; and, under their exceeding disadvantages, with no rules to guide, no experience of the past to enlighten them, it is *less* their fault that they expressed their strong feelings faultily, than it is ours that we are so blind—eye-blind and heart-blind—to perceive them. Neither do I perceive at all that the modified flatness of representation necessary to glass deprives it of the means of aiming at and of obtaining a very high order of art. For what is high art? Surely the greatest art is that which expresses the greatest idea; and, as I believe that this great result overrides all technicalities of material, I see no reason why its attainment is not as possible for the glass-painter as for them who find expression for the yearnings of a big heart in the other poor and weak resources of stone or marble, of metal or of paint. And I would that the glass-painter would lay such an ideal before him; that, even if it were possible, glass-painters could form themselves into a guild, and exclude those unworthy pretenders who do but poison public taste, and dishonour the credit of a noble profession. But such a happy result would be disallowed by the axioms of modern liberty, which sanctifies by its licence all things bad.

The only other hope for the elevation of this beautiful art lies in this,—that those who have power should refrain from its abuse; that in all the honourableness of self-discipline they should put quality before quantity; and then (pardon me for adding) work for the high aim in their art, rather than for high balances in their ledger.

With such sentiments, then, as these would I close this address to all the artists and amateurs interested in this beautiful art. Let the glass-painter do honour to his glass! Let there be no hesitation about it,—no wretched condescension to mislead those who gaze upon it. Let it be glass without mistake; parading nothing, pretending nothing; but honoured even in its weakness, and treated with justice, even to its defects. Why envy the qualities, or even the excellences of other arts?—or, why dread the genuine light of day, the open sun and passing cloud (which are as death and destruction to the oil-painter and the fresco-painter)?

Have you not gems to play with—a very flood of gems to toss about, and to let your thoughts revel in? Do you fear their gayness and vivacity? What if the diamond, ruby, and emerald have a fire which no art can equal, except yours alone? Have you not also the mellow richness of the jacinth, the softness of the chrysophsan, the tenderness of the pearl? If you fear them, leave them! If you use them, use them and glory in them! but use them within the limits of an educated sense. Treat them with that mingled modesty and confidence which have ever been and ever must be the characteristics of disciplined genius. You have entered the temple of the arts with the most precious jewels in your hands. Ignorance and self-conceit are sacrilege here. Sordid motives are sacrilege here.

It might have been well for the great men of former days to have played with their art—confident in their principles, but modest in themselves. But glass-painting is no easy and light matter. The mere material itself is so beautiful that the eyes of the vulgar are dazzled and deceived by it; but it needs the utmost tact in its management, and genius, and labour long and hard, for its success.

Let, then, no wilful, no untrained hand meddle with it—let no vain spirit of self-taught genius intrude upon it; for such a one who thus violates the sanctity of the art will cut the throat of all his hopes and reputation, as surely as the glass will cut his fingers.

THE SAVOY CHAPEL.

THE Queen has graciously taken upon herself the cost of restoring the ruined chapel, and Professor Smirke, R.A., has surveyed the ruins with reference to the probable cost. In 1843, her Majesty, as "Duchess of Lancaster," did the same thing. George III., according to a tablet still on the outside of the church, paid the cost of its repair in 1826 and 1830, as George I. had done in 1721. Unfortunately, however, all the Queen's horses and all the Queen's men cannot put Humpty-dumpty again as he was before; and the disaster should lead to increased carefulness in respect of other remnants of the past. Little remains but the walls. Most of the monuments are destroyed, including that of Dryden's "Vestal Virgin of the Skies," Anne Killigrew, "A Grace for beauty, and a Muse for wit." What has become of the Gawain Douglas brass we did not notice.

The history of the Savoy Palace is curious. The founder of it was Peter de Savoy, brother of Boniface, Archbishop of Canterbury, and uncle of Eleanor, Queen of Henry III. This Peter was knighted publicly in Westminster Abbey (1245) and was created Earl of Savoy and Richmond. Many vicissitudes happened to this building. It next became the property of the friars of Mountjoy, and then Eleanor purchased it again for her son Edmund, Earl of Lancaster, father of the earl who was beheaded for treason in the reign of Edward II. John of Gaunt married the daughter and heiress of the Duke of Lancaster, and he became tenant of the Savoy Palace. The battle of Poictiers (1356) resulted, we all know, in the defeat of King John of France. On the 24th of April, 1357, the Black Prince rode through London with King John of France, and the captive king lived in the palace, where the English king and the prince "went frequently to see him." King John returned to his country in hopes of making terms of peace; but, being unsuccessful, he returned to England, and died in the Savoy in 1364. The Savoy Palace next became an hospital in the time of Henry VII. In the reign of his successor there was an establishment of a master and four chaplains, and then the hospital was suppressed after a time. Of this institution all traces are swept away except the chapel which has just been destroyed by fire.

The chapel was built in 1505. The ceiling, which has been entirely destroyed, was the most striking feature of the interior. It was wholly of oak and pear-tree, and divided into 138 quatrefoil panels, each enriched with a carved ornament either of sacred or historical significance. The panels numbered twenty-three in the length of the chapel and six in its width. Ten of the ranges had each a shield in the centre presenting in high relief some feature or emblem of the passion and death of the Saviour, and all devised and arranged in a style of which there are many examples in sacred edifices of the fifteenth and sixteenth centuries. The panels throughout the rest of the ceiling contained bearings or badges indicating the various families from which the royal lineage was derived, and more particularly the alliances of the House of Lancaster, each panel being surrounded by a wreath richly blazoned and tinted with the livery colours of the different families. The various devices in the ceiling are minutely explained in a published work by Mr. Willement. The altar-piece (designed by

Sir Reginald Bray), and the large stained glass window surmounting it, have been entirely destroyed. "This window was glazed at the cost of the congregation, in honour of God, and in gratitude to our Queen Victoria."

Fuller, the church historian, was once lecturer at the chapel; and Cowley, the poet, was a candidate for the appointment. Wither, the poet, and William Hilton, the painter, were buried there.

In early times, a right of sanctuary was claimed for the Savoy. A letter to Lord Burleigh in 1581, as to an outbreak of rogues, says, "The chief nurserie of all these evell people is the Savoy, and the brick kilnes near Islington."

THE PHILOLOGY OF ARCHITECTURAL TERMS.*

MR. PICTON, well known to most of our readers as an able and popular Liverpool architect, now appears in quite a new aspect,—that of a philologist. The papers in the volume of which we are about to speak were read mainly before the Literary and Philosophical Society of Liverpool, of which he is the president; and the chapter on the philology of architectural terms was read before the Liverpool Architectural and Archæological Society. The first are divided into two parts. In the first part Mr. Picton gives a general view of the grammatical forms of the Gothic language, and of the relations in which they stand both to what may be called the affiliated tongues of the Teutonic stock, on the one hand, and to the Sanskrit and classical languages on the other. In the second part he treats of the substance or vocabulary of the language.

In the outset, the author remarks that,—

"From the mere desultory acquisition of separate languages, Philology began to assume the character of one of the exact sciences. The keen searching power of modern analysis, brought to bear on the mass of facts previously accumulated, has gradually elicited order out of chaos, has illustrated the existence of fixed law where irregularity and caprice had been held as dominant, and has discovered relationships heretofore unconceived between the most distant races of mankind.

If Geology teaches us to read the history of our planet in its wondrous revolutions, and in the succession of organised beings previous to the advent of mankind, the Science of Language takes up, so to speak, the thread of the narrative where Geology ceases to inform; and, far beyond the first dawn of history, reflects a light, obtainable from no other source, on the earliest condition and the progress of the human race."

Of this we are persuaded, that geology will ere long shed a light on the science of language itself of which few have as yet any conception. The *progress* of peoples and of languages has already been traced *downwards* along the course of some of the great rivers of the East, flowing from Upper Asia eastwards; and now that the error as to the geological time of man's advent on the planet is being cleared away, still further discoveries, of a like nature, will probably be made; such, for example, as that involved in the fact that there is more analogy between some of the peoples and languages of Upper Asia and those of the Caucasus than between either and any intermediate region; a circumstance which seems to imply that at a period when the highlands of the sub-Himalayas, for example, and the Caucasus, were above the ocean, and the intermediate region below it, mankind already existed; and that it was thus also that the Caucasian type of man became afterwards so general in the western world. Something similar is also already known to have occurred in India, where various races, including the Aryans, were, as it were, intruded, between the highlanders of the sub-Himalayas and those of the southern highlands of India, the inhabitants of which highlands were therefore probably of more ancient origin than the lowlanders, in a national point of view. In the West, the question of the origin and relationships of Celtic highlanders thus becomes enhanced in interest; and the strange traditionary fascination which *continental* peoples, according to Bailey, have for *islands* begins to be accountable. Scandinavia is high ground compared with the general level of Russia and even of Europe: hence the antiquity and the ramifications in Europe of its peoples and its languages. And the geological period when the low levels of Europe and Asia were below water is not so very ancient, comparatively speaking, as may be supposed: indeed, during the glacial era itself, many low lands were strewed with boulders and *débris*, evidently dropped from glaciers, floating and melting in a wide ocean studded with islands; and, in Homer's time, it appears, there was a tradition that an ocean was known to have once spread northwards through Russia from the Mediterranean.

But our purpose was merely to make some use of Mr. Picton's chapter on the philology of architectural terms; and to a few gleanings in that respect we must now restrict ourselves.

In its present application the term *building* occupies æsthetically a lower position than *architecture*, the former meaning with us simple construction, whilst the latter is understood to indicate something in addition in the nature of design. Such was not the case originally. The words come down to us from different sources, and have in the course of their transmission completely changed their primitive signification.

The original word for building and construction in our Anglo-Saxon mother tongue is *timbrian*, which has its equivalent in every Teutonic dialect:—

Gothic,	timrjan
Swedish,	timbra.
Old High German,	zimbaron.
Modern German	zimmern.
Holl.,	timmeren.

This did not originally signify necessarily *wooden* construction, but was applied to every material indifferently. As, however, wood was the principal material employed by our ancestors for building during the Saxon period, timber and wood became in time synonymous terms.

To *build* originally meant to form, shape, fashion, design.

Anglo-Saxon,	Byldan.
Old High German,	Bildon.

In modern German it has retained this meaning exclusively, and is applied both to sculpture and painting. In our own tongue, from being applied to the ornamental portion of the wooden structures, it gradually extended itself to the general construction, and superseded the ancient *timbrian*.

The modern term *architecture*, which has sprung up since the revival of classical literature, and can hardly be traced farther back than the time of Milton, was originally applied to simple building. The Sanskrit root *trach*, to cover, is found in one form or other in all the Aryan tongues.

Greek, τέκτων.
Latin, *tego*.
Old German, *dahjan*, whence *dach*, a roof, and *deck*, the covering of a ship.
Anglo-Saxon, *theccan*, to cover, whence *thatch*, a straw roof.

The Greek τέκτων was the carpenter who framed the roof, ἀρχιτέκτων was the chief of the workmen. The word is first used by Herodotus, but rather in the sense of engineer than of artistic designer. It is afterwards employed by Plato; and, along with Greek art, was borrowed by the Romans; from whom, principally through the treatise of Vitruvius, we have derived it, and brought it into general use with its modern acceptation.

The word *house*, in the sense of habitation, is identical in all the Teutonic and Norse tongues, varied slightly in form. A similar word exists in some of the Slavonian dialects. The radical is not found either in Greek or Sanskrit. It is impossible, therefore, to ascertain any leading idea in the root beyond its uniform meaning of a dwelling-place.

The *door* is still wider in its use. We trace it in the Sanskrit *dwara*, Greek Θύρα, Latin *for-is*, Persian *der*, Slavonic *door*, Hib. *dor*, Cymric *dor*, Old German *daur*, Anglo-Saxon *duru*, &c. This term also, like *house*, seems to be itself a root.

The original meaning of the term *wall* was an earthen mound, Latin *vallum*. The corresponding term in German is *maur*. Both are probably derived from the Latin, *vallum* and *murus*, the former not unlikely through the Cambrian *gwall*.

If the term *wall* is not indigenous we cannot expect to find the materials of which it is constructed of native growth.

Stone is a word found in all the Teutonic tongues. Its primitive signification is that of *rock*, the original root being found in the Sanskrit *s'tha*, indicating stability—the absence of motion. Its application to separate fragments is a secondary meaning of later date.

The word *brick* is not found in Anglo-Saxon, nor is it found in German, ancient or modern. It has been attempted by some etymologists to derive this word from *brechan*, Latin *frang-o*, Sanskrit *bhranj*, to break.

Mortar again is not an indigenous term. There is no equivalent for it in Anglo-Saxon, and in German the Latin name has had to be borrowed, slightly changed in form. *Mortarium* originally meant a vessel in which ingredients were bruised, as we now employ the term in one sense. It was then transferred to the large hole or basin in which lime and sand were mixed. So it is employed by Vitruvius. By a natural metonymy, the word came to mean the materials bruised and mixed up in the *mortarium*, and is so also employed by Vitruvius. The term has continued in use down to the present time, passing into the French *mortier*, German *mörtel*, and English *mortar*.

The term *cement* has undergone a singular transformation from its original meaning. *Cæmentum*, more commonly used in the plural *cæmenta*, meant originally in Latin rubble stone as it came from the quarry.

From rubble stone, *cæmentum* was applied to marble chippings, which were ground up and mixed with lime and sand for plastering. During the Middle Ages *cæmentare* meant to build; and *cæmentarius* was the name of a walling mason. But as most of the thick walls in the castle-building period were cored with rubble grouting, the *cæmentum* gradually came to mean the plastic material which formed the matrix. The word now has come to mean in general parlance any plastic substance which unites two hard bodies. As a building term it is almost exclusively confined to the so-called Roman cement, which owes its hydraulic properties to the combination of lime with iron, silica, and alumina.

Lime is another name for building material which has equally departed from its original meaning, but in an opposite direction. The root is indigenous in all the Teutonic tongues, and is found in the Latin *lim-us*. Its primitive meaning is clay, mud, slime, anything sticky or adhesive. We have retained it in that sense in the word *bird-lime*. In the other languages it has never changed its meaning, but in English it has come to mean the solid mineral which is calcined for mortar.

In Gothic *window* is called *auga-daur*, eye-door. In old Norse it is *glar-glugg*, light-hole. In old German it is *tag loch*, which has the same signification. In old Saxon it is *eagh-thyrl*, eye-hole: *wind-oga* the eye or hole for the wind, has been softened into the modern *window*.

Sill—door-sill, window-sill. This is an indigenous term, Anglo-Saxon *syl*, German *saul*, French *seuil*, which is doubtless akin with the Latin *sol-um*, meaning the plate on the ground.

Another name for a door-sill, *threshold*, was probably first applied to the log placed across the barn door to prevent the grain and straw from being driven outside. It does not exist in the kindred tongues.

Lintel is of French derivation; Latin *limen*, *limentellum*. It is not found in German or Norse.

Roof is the Anglo-Saxon *hroof* from *hrafnan* to uphold, support.

The term *gable* originally meant anything in a furcated form, and was applied in Anglo-Saxon, *geflas*, both to the main rafters of a building and to the *gallows*, which is merely a modification of the same word. It is found in Gothic *gibla*, Swedish *gafwel*, German *gibel*, in the same sense as our *gable*.

The *rafters* are the supporters, Anglo-Saxon *rafter*, from *rafnian*, to bear.

Tile is of comparatively late introduction, though found in Anglo-Saxon. It is derived from Latin *tegula*, either through German *tigel* or French *tuile*.

Slate as a covering is not found in Anglo-Saxon, but the word is indigenous, being derived from *slitan*, German *schlitzen*, to rend asunder, to split. Its earliest appearance is about the time of Wickliffe, the middle of the fourteenth century.

The *ridge* sufficiently explains itself.

Chimney is an exotic in all modern languages, neither the thing nor the word having been known until the twelfth century. The word is derived through the French *cheminée*, Italian *camino*, Latin *caminus*, from the Greek κάμινος, a furnace, which of necessity had a pipe or flue connected with it.

One of the first improvements in the Anglo-Saxon house was the construction of an upper chamber with a boarded floor. This seems to have been an indigenous improvement, as the terms employed are partly of native origin. The chamber was called the *solere*, and in the Middle Ages the *solar* or *soller*. The term seems to apply to the separate floor, from the old German *sulan*, Gothic *suljan*, to stand upon. The apart-

* "Philological Papers; comprising Notes on the Ancient Gothic Language; with a Chapter on the Philology of Architectural Terms." By J. A. Picton, F.S.A. Liverpool: printed, for private distribution only, by T. Brakell, Cook-street. 1864.

ment under the solere was called the *cellar*, German *keller*, French *cellier*, and was used for keeping provisions and stores, entering from the outside. The derivation may be from old German *kele*, a hollow place, but has more probably descended through the French from the Latin *cella*, a storeroom or granary. There is some confusion in the use of these terms owing to their similarity in sound.

The *solar* or upper room led to the necessity for stairs. This is a pure Anglo-Saxon word, originally *stogers*, from *stigan*, to ascend, mount upwards. A boarded floor required *joists* to support it. The derivation of this word is obscure. The most plausible is that from the old French word *adjouster*, to place in order, adjust.

Breast-summer or bressummer is an application of the French *sommier* or main beam, supporting the breast or front of a building.

The word *girder* is now used for the main timbers of a floor, but in its origin it rather meant a tie, from Anglo-Saxon *gyrdan*, to gird, bind round.

Most of our modern terms of carpentry, such as tie-beam, rafter, ridge, strut, king and queen post, valley, wall-plate, pole-plate, sufficiently explain themselves.

The words *carpenter*, *carpentry*, are derived from the Latin, through the French.

Most of our terms used in joinery are derived from the French, who preceded this country in the art.

Mr. Picton's philological disquisitions are both clever and interesting, although, no doubt, other philologists will be quite ready to pick holes in them.

It was in student-days when we first made the acquaintance of Mr. Picton, now some years ago,—the days of poor London and the *Architectural Magazine*. From that time to this he has been steadily building up reputation and fortune, and quietly earning the increasing respect of his fellow-citizens. Liverpool holds Mr. Picton in high esteem, and has good reason for doing so. We avail ourselves gladly of the present opportunity to point, with much regard, to an honourable and successful career.

THE SAD STORY OF THE "GREAT EASTERN" STEAM-SHIP.

THE *Great Eastern* steam-ship, which but four years since was the wonder of the day, was sold in February last at public auction for 25,000*l.*, scarcely one-third of its value as old materials.

This is another instance, added to many, of great expectations disappointed, of genius wasted, and of enterprise thwarted. It is the last act in the history of one of our first limited liability companies, and I hope you will agree with me that it may be useful to record some of the principal facts which appear to have led to this lamentable termination of an enterprise which promised the greatest results.

This ship originally belonged to the Eastern Steam Navigation Company,—a company established to carry the Indian and China mails by the long sea route, the political advantages of which the directors hoped would have induced the Government to give them a mail contract on favourable terms.

In this they were disappointed: the influence of the Peninsular and Oriental Company was too strong for them; but they were not disheartened, and immediately turned their attention to the consideration of the question whether ships could be built and profitably worked to carry mails and passengers as quickly and more cheaply than by the overland route, without the aid of a Government subsidy. The result of their inquiries led to the construction of the *Great Eastern*, the particulars of which were first announced in a report presented to an extraordinary general meeting of the company, held on the 12th of July, 1852.

In August, 1853, full particulars of the proposed ship were laid before the proprietors; by March, 1854, the contracts for the hull and machinery were taken; and, in July, Mr. Brunel presented his first report on the progress of the works.

In February, 1855, the directors submitted a report containing an elaborate and very interesting account of the progress of the ship to that time. In 1857 all the available capital of the company had been expended; and in February, 1858, after the launch, the necessity for raising further funds to complete the ship was announced; and here arose the first of a series of blunders, which have terminated in the sale of the ship by public auction.

Instead of trying the ship as she was launched with the machinery, coals, ballast, and rigging necessary to navigate her, so as to ascertain what might be her deficiencies, and how to remedy them, very little short of 100,000*l.* was spent before she was tried, in the general outfit of the ship, and in fittings and decorations of the most expensive character, delaying thereby for many months her trial trip, and very much increasing the loss caused by the accident which subsequently befel her.

It was this unwise expenditure which first placed the company in serious pecuniary difficulties, and led to the conversion of the Eastern Steam-ship Company into the "Great Ship Company, Limited."

In November, 1858, the prospectus of the new company was issued. The capital which was to buy the ship, to cover all existing liabilities, and to provide ample funds to work her, was 380,000*l.*

In the autumn of 1859 she went to sea, and the first accident occurred off Hastings; and from this time to the day of her sale almost every casualty which could befall a ship occurred to her, without causing any material injury to her hull or machinery. The bursting of a boiler of the size and strength of those in this ship would have destroyed any other ship afloat; but she pursued her way to Portland after the accident, without even stopping for a moment.

She rode out a gale in Holyhead Harbour, proving the utility of her double motive power. She encountered a hurricane in the Atlantic, which disabled her rudder and damaged her paddles, and left her for three or four days rolling about in the trough of a heavy sea.

She ran upon a rock at New York, and broke her bottom plates for a length of 80 feet, which were repaired while afloat, and without going into dock; and she came home safely.

During this period directors of known position gradually withdrew from the board, till the company was left to the care of the four late directors, who, after the fall of the ship financially, finish their career by calling a special meeting of shareholders, to inform them that they have no plan to propose and no policy to pursue to improve the position of the company; and that, unless 30,000*l.* could be raised, the ship must be sold by auction in fourteen days.

The shareholders try to resist this lamentable result, but ineffectually; and, upon inquiry, they find that the directors, anxious apparently to avoid the odium of being the parties to carry the company through the Bankruptcy Court, proceedings against the company having been already commenced, have sold their shares, and left the ship in the hands of the trustees of the mortgagees for sale.

This sale has since taken place, and 25,000*l.* is all that has been realised for the expenditure of 1,000,000*l.* of capital.

I propose, then, having given this brief account of the present insolvent position of the Great Ship Company, to inquire whether it can be attributed to the operation of the new law of limited liability making directors careless and inattentive to their duties; or whether it be due to mismanagement arising from incapacity and ignorance; or whether it be the result of a policy calculated to satisfy the unthinking public, the shareholders, and the creditors, that the difficulties inherent to the management of this great and novel enterprise have necessarily led to so lamentable a result.

The result, produced by whatever cause, may be thus stated:—1,000,000*l.* has been spent, and nothing remains for the shareholders, original or preferential, or for the bondholders; for the 25,000*l.* realised at public sale for the ship will be hardly sufficient to pay the preference creditors and the law expenses. Everything available, including office furniture, was sold before the directors disqualified themselves, though they did not forget to send in claims for half-year's fees in arrear; and all that is left besides the balance of the 25,000*l.*, after paying expenses and preference claims, is 15*l.*, which is in the hands of the official liquidator.

The ship has been bought for this ridiculously small sum by a new company, of which three of the late directors of the Great Ship Company are the principal shareholders and directors.

Surely this is a state of things which deserves, may demands, inquiry, especially just now, when limited liability companies are increasing in number so rapidly; for if the directors of a limited company can with impunity waste all the property intrusted to their care, and leave a large amount of debt, without anything whatever to meet it, and without any legal responsibility or accountability, some new provisions are most assuredly required.

No private trader in times past could waste his creditors' property, without incurring any responsibility; and it appears impossible that when the accounts of the company are rendered to the Court of Chancery, some persons can escape severe censure. Let us, then, endeavour to trace the progress of the mismanagement of this unfortunate company.

The ship was designed and built for the Eastern or Indian trade. Every appliance and fitting was designed for a long voyage, the capacity for cargo, the space allotted for fuel, the smallness of her power compared with her tonnage, her size, her height between decks, the special attention paid to ventilation, were all considered, and provided for a long and mainly tropical voyage. But the directors into whose hands she fell, either ignorant of the suitability of the ship for what she was intended, or wedded to other views, decided upon placing her on short voyages in northern latitudes, where the arrangements applicable to tropical climates became a source of discomfort, where her capacity for fuel was unnecessary, where her splendid accommodation for first and second class passengers was useless, where her speed was not so superior to every rival as to give her any practical advantage, and where indeed every special peculiarity in her construction, size, power, and economy of management became rather sources of loss than of advantage.

I will assume that when the directors first determined to divert her from her original destination, they believed it would be beneficial to the shareholders; but on what principle of profit they kept her on the American line, when each of the eleven voyages produced a large loss, exclusive of the heavy staff expenses at Liverpool and New York, is quite unaccountable.

This system of losing by every voyage was persisted in by the directors, notwithstanding continual warnings, and the actual results published in their annual balance-sheets, till we arrive at the special meeting held on the 2nd October, 1863, when the shareholders were told by the chairman that all their money was spent, that they had no more credit, that their borrowing powers were exhausted, and that the ship would be sold by the sheriff unless 30,000*l.* were raised in fourteen days.

This meeting was adjourned, in opposition to the wishes of the directors, in order to give the shareholders time, little though it was, to satisfy themselves as to the exact financial state of the company, and a committee was appointed to ascertain whether any means could be devised to relieve the company from its difficulties; but before the special committee could read their report to the adjourned meeting, held on Monday, the 15th of October, the chairman announced, that on the previous Saturday he had called a meeting of bondholders, and that they had, in conformity with the powers conferred upon them in the mortgage deed, instructed the trustees who held the mortgage to sell the ship by auction, and that the ship was no longer in the possession of the shareholders, so that whatever they might resolve at the meeting would be of no avail. This announcement, accompanied, as it was, by most damaging statements, completely neutralized any efforts the committee could make to revive the company; and it was found impossible, in the face of the insolvent condition in which the chairman represented it to be, to raise funds to liquidate the pressing claims, and to repair and refit the ship. She was therefore left in the hands of the bondholders, and the winding up of the company in court was proceeded with.

The trustees to the bondholders, in whose hands the ship was placed from this date, are three in number. Mr. Jones, of Oswestry, generally supposed to represent the late chairman; Mr. Brereton, the consulting engineer to the company, and apparently representing the general body of bondholders; and Mr. Stevenson, of the Great Western Railway, the colleague in that company of another great ship director, Mr. Gooch.

These gentlemen had the following propositions submitted to them before the ship was sold by auction, in February.

The first, immediately after she was bought in at public sale, was to the effect that they should give the ship in offer to certain parties for twenty-one days, at 130,000*l.*, the reserved price



CONGLETON TOWN HALL.

at the sale, when there was but one bid for 50,000*l*. At that time there would have been no difficulty in forming a company with capital, had a little time been given to make the necessary arrangements. This was refused without any other reason being assigned than that it precluded the trustees accepting any better offer during the three weeks.

The next offer was made a month later by bondholders attending the meeting called by the trustees, who offered 120,000*l*., subject to an option for seven days. This was refused, when the original offer of 130,000*l*., subject to the same condition as before, was renewed.

The parties to the offer of 130,000*l*. stated that their reason for requiring the option of purchase for three weeks was that, after all the late directors had said about the ship, and the accidents which had befallen her, it was necessary before they embarked the large sum to purchase her, and to complete the repairs admitted to be indispensable before she could go an Indian voyage, that competent engineering opinions should be obtained respecting her.

Notwithstanding the refusal of the trustees to entertain their proposition, these gentlemen engaged the services of Mr. Wm. Fairbairn, of Manchester, and others, to inspect and survey the ship; but, unfortunately, their reports could not be obtained in time to form a company before the day fixed for the sale, and this expense and trouble were wasted.

Mr. Fairbairn's report, which has since been printed, proved the value of the ship, and upon it a company would certainly have been formed had there been sufficient time before the sale. The consequence, then, of the refusal of the trustees to give the option of purchase for three weeks to the gentlemen who incurred the expense and trouble of these surveys, was that two or three days afterwards the ship was sold by auction to the new company to which we have already referred.

It is a singular and somewhat anomalous position in which some of the directors of the company have placed themselves. They were the acting directors of the Great Ship Company, when the first winding-up petition to the Court was presented. They then sold their shares in the company, and became disqualified to act as directors; but being large bondholders, they retained their control over the ship. By their influence and votes the trustees were obliged to put up the ship for sale by auction; by their influence and advice the trustees refused to entertain the offers made for the ship after the first offer for sale by auction; and ultimately, under the same influence, the bondholders sell the ship for 25,000*l*. to a company of which three of the directors of the old company and the principal bondholders are directors and shareholders.

They are now, therefore, in possession of a valuable property, upon which, whilst it was under their management as directors of the Great Ship Company, 550,000*l*. have been sunk and lost; and the next question arises, what will they now do with her that they could not have done as directors of that company, and for the benefit of the whole body of mortgagees and shareholders?

First, then, *immediately after* they obtain



CONGLETON TOWN HALL.—MR. E. W. GODWIN, ARCHITECT.

possession of her, they complete an agreement for letting the ship to the Atlantic Telegraph Company. For this they are to receive 50,000*l.* of the company's paid-up shares, besides the repair of the ship and her care and maintenance during the twenty or twenty-four months she is to be employed by that company. What will become of her then no one can predict. It is understood her paddle-engines are to be removed, so that she will never be tried as originally designed; and report has already assigned her to the French Government.

But whether this be so or not, the "Great Ship Company (Limited)," will sink into oblivion and be forgotten, except as a company that has wasted nearly 500,000*l.* of capital, and 40,000*l.* or 50,000*l.* of creditors' money, and has passed out of existence, through the Bankruptcy Court, without paying a fraction of a penny in the pound on this large amount of capital and debt, the entire assets of the company being under 20*l.*

CONGLETON TOWN HALL.

THE accompanying view and plans illustrate the new Town-hall for Congleton, designed by Mr. E. W. Godwin, architect. It includes a court-room, assembly-room, and public reading-room. The assembly-room, to seat 1,000 persons, has a retiring-room at the platform end, which will be found useful for the speakers or singers in the case of public meetings or concerts. The court-room, it will be seen, is on the first-floor, and is lighted from above, as the assembly-room is.

The frontage being only 71 feet, breaks have been avoided, to get as much breadth of effect as was practicable.

The arches of the windows are filled in with the small round glass manufactured in Germany. The front is of local stone. The statues introduced have reference to the history of the town.

The tower measures to the apex 110 feet: the clock is elevated to the top of it, that it may be seen from the Market-place as well as from the principal streets.

We shall have another opportunity to go more fully into details.

THE HORTICULTURAL GARDENS.

THE Duke of Buccleuch's *conversazione*, as president of the Royal Horticultural Society, to the Fellows of the Society, who assembled in force at the Kensington Museum, to meet the Prince and Princess of Wales, was a very successful one. There was an exhibition of bouquet-holders, flower-stands, vases, and other objects of interest, including some sculpture. The Prince and Princess of Wales remained for some time (in the gallery), and examined with interest the objects exhibited.

From a correspondence between General Grey on the part of her Majesty and Mr. A. Murray, the Society's secretary, it appears that her Majesty, while expressing the gratification which she received from her recent visit to the gardens, authorized General Grey to suggest the annual opening of the gardens, *free*, to the public, on the anniversary of the late Prince Consort's birthday,—the 26th August, as an arrangement which would be especially gratifying to her Majesty, on account of the interest taken in the gardens by the Prince Consort. To this suggestion Mr. Murray informed General Grey that the council of the Society had great pleasure in assenting.

BRADFIELD RESERVOIR FAILURE.

THE outlet pipes of the Bradfield reservoir have been closely examined and tested during the week, the result proving that the bursting of the reservoir was not due to any default in the outlet pipe. The main was tested with a force equalling double that excited by the waters of the reservoir, without any leakage taking place. A man was then sent through the large pipe; and, after closely examining the joints, which were found to be faultless, he placed lighted candles at regular intervals throughout the whole length. On observing these from either end, the row of lights formed one even and unbroken line, thus proving the uniform level of the bed of the pipes. The theory that the accident was caused by the pipes giving way in the embankment, is thus entirely disproved. Every day seems to show more clearly that the view we took of the cause of the disaster was the correct one.

THE FRENCH GALLERY.

M. GLEIN'S last picture, painted for the Emperor of the French, and representing the reception of the Emperor in the Bay of Genoa, nearly fills one side of the apartment, and has occupied the artist some four years. The gallery is not large enough to admit of its being seen to greatest advantage. The general grand arrangement, skilful perspective, and aërial effect cannot be fully estimated on a near view, while the stiffness, and in some cases comparatively poor painting, of the figures scanned separately, force themselves on the attention. Some of the figures,—as, for example, in the barge bearing the Emperor, and a prominent female figure on the right of the spectator,—seem, indeed, to call for revision. The scene is one of great enthusiasm: crowds fill every available space: the rigging is alive: the decks swarm: the sun pours a sudden ray of light on the central object, the point to which all look; and the sea, sprinkled with bouquets of flowers, has the aspect of a vast parterre, in the midst of which some black sailors bear up, as from the deep, a floral crown. It was interesting at the private view to see our own veteran Stanfield going over it, piece by piece, with the distinguished painter of the picture.

THE LUDGATE STATION OF THE DOVER RAILWAY, BRIDGE STREET.

THE works in connexion with this important station on the Ludgate extension of the London, Chatham, and Dover line, from the projected new street at Earl-street, Blackfriars, to the Mansion House, to its junction with the Metropolitan at Farringdon-road, are now in such a forward state of progress that we may furnish a brief account of them.

The western front of the station facing Bridge-street will stand recessed from the true line of the carriage- and foot-way on the eastern side, to a depth of 30 feet, so as to give sufficient room out of the main thoroughfare for a hackney-carriage stand and for vehicular traffic to and from the booking-offices and the arrival and departure platforms, which will have a length of about 1,500 feet. The principal front will be 450 yards long. The northern one, in Little Bridge-street, and the southern, near the new Earl-street, will pass over Union-street nearly in a line with the front of the *Times* printing-office, close by Playhouse-yard. The whole of these works will be similar in style of building to the station at Blackfriars-road, and will correspond, consequently, in every respect with the other stations on the line, with the exception that the one in Bridge-street will be more elaborately adorned than the other buildings. A room, 68 feet square on ground plan, but laid out for staircases and other conveniences, so as to have partly an octagonal and partly a semicircular appearance, will be erected for the purposes of ticket-offices, &c., with an extensive refreshment department ranging the whole length of the rear of the building. The whole of the waiting, refreshment, and first and second-class rooms, with the booking-offices, will be tastefully fitted up, the ceiling over head being formed of the iron girders of the line, supported by iron columns. The descent from the platforms on the arrival of the trains will be so arranged that there will be no interference with parties going by starting trains, the staircases for egress being quite independent of the means of access to the platforms to be used for departure. Mr. Thomas is the engineer; and Mr. George Sharp the clerk of the works; Mr. Barnes being the agent to Messrs. Peto & Betts, who are the contractors for the Ludgate station (City extension) works of the railway. Mr. Taylor, jun., we conclude, directs the architectural portions, as in the former cases.

With respect to the general progress of this extension, we have been informed that, so far as can be at present seen, the railway bridge over the Thames will be completed within two months from the present date; and that the line will be opened to the Ludgate station, and ready for the examination of the inspector of railways by the 1st of October next. For the viaduct over Ludgate-hill, the whole of the iron castings are ready; and the fixing of them, it is expected, will not take more than six weeks; while the whole of the clearances northward are in a forward state; so that, no doubt, by the end of the present year, the junction of the line with the Metropolitan for through travelling purposes will be accomplished.

CONTINENTAL BUILDING AND ART NEWS.

Paris.—The very large range of stables for the Imperial stud on the Quai d'Orsay is now completed, and has been fitted up with all the latest improvements. The horses were removed from their old quarters, Rue de Montaigne, last week, and workmen are already employed in clearing the site of the now empty stables.

Nismes.—The new church of Ste. Perpetue at Nismes, built in modern French Gothic style, has just been consecrated with all due solemnity by the Archbishop of Nismes, accompanied by the clergy of his diocese, the archbishops of Genoa and of Avignon, the bishops of Viviers, Valence, Digne, &c. The prelates having taken their places upon an estrade constructed for the occasion, the procession proceeded to fetch the relics of Ste. Perpetue, which had hitherto rested in the Church of the Assumption, and deposited them in the new edifice. The ceremony concluded with speeches by the archbishop of Avignon and others, and the celebration of High Mass.

The Hague.—His Royal Highness Prince Frederick of the Netherlands (brother of the King), to whom the chief committee referred the ultimate selection of the best of two designs for the National Monument, has decided in favour of the set marked "O. V." which proved to be that of Mr. Cuypers, of Roermond, a well-known Dutch architect. The National Monument is intended to commemorate the liberation of the Netherlands from the French yoke in 1813.

Vienna.—The spire of St. Stephen's is being restored and completed. The finial which will surmount it is now temporarily put together, and stands in one of the workshops which surround the cathedral. Some idea will be formed of the size of the spire, when we add that this finial measures 15 feet across.

Cologne.—The "Central Dombau Verein," or Association for Furthering the Completion of the Dom, intend to institute a lottery for the benefit of the church-building fund. They have already obtained the concession and permission of several German states, and expect to organize it in the course of the autumn. There will be eight money prizes, the highest of which will amount to 100,000 thalers, or about 15,000*l.*; and the rest of the prizes will consist of works of art to the amount of 4,500*l.*

Konigsberg.—Kant is to have a statue here. The pedestal is of polished granite, weighing 22 tons, and has lately been fixed in its place. The statue is by Rauch, of Berlin, and is described as worthy of that artist.

Holstein.—The fine old parish church of Plön was destroyed by fire on the 24th ult. The tower was struck by lightning; but it was not until two hours afterwards that the fact became apparent by the flames suddenly bursting out from end to end of the church. In three-quarters of an hour all was over. Luckily the spire, and then the tower, both fell into the church, and not into the street, or the loss of property and life would have been considerable. The church was of the seventeenth century (1690), and was in the non-descript style at that time so much the fashion in Holland.

COMPETITIONS.

Hexham Corn Market.—A competitor asserts that the premium has been awarded to a design set forth in *colours*, though the conditions prescribed sepia.

New Town-hall for Rochdale.—The Rochdale general purposes committee, to whom the designs for a new town-hall were referred, have awarded the premiums as follows, viz.:—First, 100*l.*, to Mr. W. H. Crossland, of Leeds; second, 60*l.*, to Mr. J. W. Best, of Bolton; and the third, 40*l.*, to Mr. J. Maxwell, of Bury; and the town council have adopted the design of Mr. Crossland, conditional on certain alterations of detail, and on the entire cost of the building not exceeding 20,000*l.*

Wyggeston's Hospital.—A report from the architect appointed by the trustees to examine and advise upon the merits of the designs for Wyggeston's Hospital, names "W. within O." for the first place, "Melton" second, and "The Hospital Seal" and "Desideratum" equally for the third place. If the trustees adopt this selection; to the first, by Mr. Ordish, of Queniborough, will be awarded the prize of 50*l.*; to Mr. Giles, of London, and Mr. Gundry, 25*l.*; and to either Messrs. Kirk & Parry, or Mr. Millican, 25*l.*, for the third.

PARLIAMENTARY.

The Metropolitan Railways Bill.—On Monday, Lord Redesdale announced that certain bills relating to metropolitan railways had just come up from the other House, and that it was his intention to move the suspension of the standing orders, in order that those bills should be allowed to proceed, notwithstanding the advanced period of the session.

Mutilation of Ancient Irish Monuments.—On Mr. Gregory inquiring of the Chief Secretary for Ireland whether Government would prosecute the offenders at Clonmacnoise, according to the provisions of the Act 24 & 25 Vic., cap. 39, Sir R. Peel said his hon. friend had made a curious mistake; as the 24 & 25 Vic., cap. 39, was an act for the purification of Brighton. The 24 & 25 Vic., cap. 97, was the Act under which the proceedings in this case would be taken. Whether Government would restore the monuments he was unable to say.

British Museum.—On voting 92,127*l.* for the expenses of the Museum, some conversation took place as to what should be done with respect to increased accommodation, and the Chancellor of the Exchequer said the Commissioner of Works had taken steps to advance the subject by inviting the presentation of a plan, but the time had not come for making any proposal to the House.

SANITARY STATE OF DEBENHAM, SUFFOLK.

It would appear that the road through this town consists in some places of the bed of the river Deben, which, for the greater part of the year is perfectly dry, but at all times is used as a kind of open sewer for a good deal of the drainage. The consequence is seen in the fact that the average mortality of the town, for the ten years ending March last, is 24 in 1,000, whilst in the adjoining parish of Winston it is only 17 in 1,000. Fever has been so rife that in only eight families there were thirty-eight cases and two deaths between Michaelmas and Lady-day last. For some time past, it appears, the Vicar (the Rev. C. J. Cornish) has been doing his best to rouse his parishioners to the necessity for a more efficient system of drainage. After fair warning, he applied to the Home Secretary, and Dr. Bristowe, medical inspector, has visited Debenham. Meantime a committee has been also at length appointed by the Board of Guardians, and it is hoped the sanitary state of Debenham will shortly be improved.

SANITARY PROGRESS IN SHEFFIELD.

THE people of Sheffield and its town council are to be congratulated on the circumstance that the council have at length resolved, by a majority of 36 to 14 votes, to adopt the local government Act for municipal and sanitary purposes. This measure has been carried in the face of much popular clamour, and justifies our investigation, which may have led to it.

PREMIUMS GIVEN BY INSTITUTION OF CIVIL ENGINEERS.

SESSION 1863-64.

THE Council of the Institution of Civil Engineers have awarded the following premiums:—

1. A Telford Medal, and the Manby Premium, in books, to G. H. Phipps, for paper "On the Resistances to Bodies passing through Water."
*2. A Telford Premium, in books, to J. Baldry Redman, for paper "On the East Coast, between the Thames and the Wash Estuaries."
3. A Telford Medal, and a Telford Premium, in books, to W. Lloyd, for "Description of the Santiago and Valparaiso Railway, Chile, South America."
*4. A Telford Premium, in books, to W. Parkes, for "Description of Lighthouses lately erected in the Red Sea."
5. A Telford Medal, to M. Pernolet (of Paris), for paper "On the Means of utilizing the Products of the Distillation of Coal, so as to reduce the Price of Coke, &c."
6. A Watt Medal, and a Telford Premium, in books, to T. Sopwith, junior, for paper "On the Actual State of the Works on the Mont Cenis Tunnel, Victor Emmanuel Railway, and Description of the Machinery employed."
*7. A Watt Medal, to W. Bridges Adams, for paper "On the Impedimental Friction between Wheel Tires and Rails."
8. A Watt medal, to J. Cross, for paper "On the Structure of Locomotive Engines for ascending Steep Inclines."
*9. A Telford Premium, in books, to J. Mortimer Heppel, for paper "On the Closing of Reclamation Banks."
10. A Telford Premium, in books, to G. R. Burnell, for paper "On the Machinery employed in sinking Artesian Wells on the Continent."

* Have previously received Telford Medals.

ARCHITECTURAL ALLIANCE.

THE annual meeting of the Architectural Alliance was held in the Rooms, Conduit-street, Wednesday, July 6, Mr. T. Roger Smith, president, in the chair.

There were present delegates from all the allied societies, viz., the London Architectural Association, Institute of Scottish Architects, Birmingham Architectural Association, Bristol Society of Architects, Glasgow Architectural Society, Liverpool Architectural Society, Manchester Architectural Association, and the Northern Architectural Association.

The Hon. Secretary, Mr. Pritchett, of Darlington, read a report of the proceedings of the past year, detailing what had been done.

The Nottingham Architectural Association was admitted into the Alliance on the recommendation of the London Association.

The alterations in the scale of charges proposed by the various allied societies were discussed, and a scale definitely fixed agreeing almost entirely with the scale published by the Institute, and it was left with the various societies, to add notes respecting any local variations which they might wish, subject to the approval of the Alliance.

A circular drawn up by the hon. secretary, to be sent to the managers of competitions was read, and ordered to be printed for use, after being revised by the officers of the Alliance.

Resolutions were passed, declaring that it is desirable to adopt a uniform system of measurement throughout the country, and that the London system be taken as the basis.

The officers were re-elected for the ensuing year, viz.—Mr. T. Roger Smith, president; Mr. H. C. Chamberlain, vice-president; and Mr. Pritchett, treasurer and hon. secretary.

Some votes of thanks were passed, after which the meeting adjourned to eat the annual dinner.

BRISTOL SOCIETY OF ARCHITECTS.

THE monthly meeting of the council was held at the rooms of the Fine Arts Academy,—Mr. Fripp, the vice-president, in the chair,—on Monday, July 4.

The Rev. R. W. Hautenville, M.A., of Weston in Gordano, Somerset, was elected an amateur member; and Messrs. F. M. Harvey, A. Hazeland, and W. E. Jones, student members.

A committee was appointed to report upon the advisability of publishing a volume of Transactions.

A committee was also appointed, on the motion of Mr. E. W. Godwin, for the purpose of establishing a class, to be called the "Students' Class," at which a course of study would be arranged, and examinations made, to facilitate the students in passing the examinations at the Royal Institute of British Architects.

The discussion upon Mr. Underwood's paper on "Measurement of Artificers' Work," was continued.

It was unanimously resolved, and the delegates to the Architectural Alliance meeting were instructed to support such resolution,—

"That inasmuch as this Society has already adopted the scale of professional charges published by the Institute of British Architects, it has no reason to make any of the alterations proposed by the Alliance, and that any local customs required by local societies should in justice to the profession be placed as notes at the end of the Institute's scale."

THE JUNCTION ROAD OUTFALL AT BRIGHTON.

SINCE a mishap about three weeks since, no attempt was made to float the third length of piping in continuation of this Outfall until Tuesday in last week. On the occasion to which we have referred, the eastern end of the piping did not get clear of the shingle, and the consequence was, that the remainder of the piping was jolted and strained, thus necessitating its removal to its original position at the head of the beach. In consequence of this mishap, repairs had to be made to the joints; and, during the late boisterous weather, the length has been extended on the ways, and fresh appliances laid down. The operations were this time successful. The pipes were left lying in the water till low tide, when they were sunk in the same manner as the previous lengths. Since then the last piece of piping of the Junction-road outfall has been successfully floated out to its place below low-water mark. The sea was rather rough at the time. It was lowered into its resting-place, and its junction effected by the divers. It was 250 feet long, and it carries out the out-fall to the length determined on, namely, 1,760 feet, or the third of a mile; taking its head into the sea considerably beyond the outer platform of the Chain Pier. At present, the outfall lies in the bed dredged for it without any securing; but it is intended to fasten it down with moorings. The contractors for the work were Messrs. Aird & Son: the contract price was 6,800*l.*; and the work was commenced about a year ago. It is believed to be a unique work of its kind, no piping having before been laid in the sea to such an extent beyond low-water mark.

BRICKMAKING MACHINE.

A NEW machine, patented by Messrs. Bawden & Co., Clifton-street, Notting-hill, is at full work in the brickfields of Messrs. J. & S. Williams, Richardson, & Co., at Shepherd's Bush, producing hard bricks, good in form and surface. From the simplicity and strength of the mechanism, it is not liable to get out of order, nor to be clogged by clay; and it may be managed with effect by any ordinary workman in two hours' practice. The machine, throwing off from 1,200 to 1,400 bricks per hour, is about the size of an ordinary pug-mill, standing on wheels upon a frame, under a box about 4 feet square, by 6 feet high, in the centre whereof a vertical iron shaft, armed with blades, on the Archimedian-screw principle, is turned by horse-power, mixing and thoroughly kneading the clay, which is thrown in at the top, and delivered at the base, in moulds of bricks complete: these are rapidly emptied on trays, laid on a turntable, and are then successively wheeled away to the drying stacks. The machine occupies but a small space, close to the heap of prepared material; and it is stated that, owing to the complete process of mixing, kneading, and compressing, almost any sort of earth, with a modicum of clay, will turn out excellent bricks.

Bawden's machines were first used in Canada, and furnished supplies to all the growing cities there. At the Exhibition at Montreal, inaugurated by H.R.H. the Prince of Wales in 1860, it obtained the first prize, the bricks for the Parliament buildings in Ottawa having been also made by it; and these machines are now at work in several of the counties of England.

DEATH IN THE REGENT'S CANAL.

THOSE who live close to the banks of the Regent's Canal, especially in the populous districts of St. Pancras and Islington, get somewhat accustomed to sorry sights, for the number of children and others who lose their lives here in the extent of two miles is remarkable. In a great measure this loss of life is caused by the want of attention to the fences which should be provided to prevent children from getting into danger, and the want of a watchman who would stop the occupation of the towing-paths by those whose lives are not safe in such situations. For instance, to the east of Thornhill Bridge, Caledonian-road, there is an infant school, and another school in which a very large number of children assemble. On one side of the canal at this point a steep bank leads to the water. Here there is nothing to prevent the children from placing themselves in great risk. At other parts the railings are broken, and are allowed to remain so for months together; and so by this, and in consequence of the want of a person to keep the way clear, boys and girls are constantly falling in, and many have endangered their lives in the attempt to rescue them. This is a subject which we recommend to the notice of the jury and the coroner at the inquest which may be held on the next sufferer; for the canal companies should be as much bound to prevent loss of life when their property stretches through dense populations as are the railway companies.

In the course of last week, Dr. Lankester held an inquest at the City of York, York-road, King's Cross, on the body of Edward Summers, seven years of age. The deceased and his brother were playing on the banks of the Regent's Canal, when the deceased's hoop rolled into the water. Deceased endeavoured to recover it, and fell in, pulling his brother into the water with him. George Waite, who was at work at Humphries's wood yard, heard that two children were in the water, took off his clothes and jumped in after

them. He dived, and brought up the body of the deceased. Isaac Featherstone, who works at the same place, brought up the body of the one who was saved; this being the *seventh* life he has saved near this spot. The writer, having for some time lived near this dangerous locality, has had many opportunities of noticing the bravery and intrepidity of these two lads, who, even in the depths of winter, rush eagerly to the rescue of life. Before the drags could be got from the station, they have been into the water, diving like otters, in search of lost bodies; and this they seem to do gladly, without fee or reward: but surely such praiseworthy conduct should not pass unheeded. We should be glad to hear that these few lines have been the means of bringing the matter under the notice of some who may help them upwards in life.

LONDON STREET NOMENCLATURE.

WE have on various occasions expressed our anxiety lest the Metropolitan Board of Works, in their well-meant endeavours to abolish arbitrary divisions, get rid of repetitions, and reform the irregular numbering of houses, should destroy the interesting associations and suggestiveness of our streets. This fear is by no means lessened, and has been recently expressed by several correspondents. We adopt part of the letter of one of the most recent of them:—I desire to protest against the improper use, as I consider it, of this power, when exercised in making unnecessary innovation on the old-established and time-honoured local associations, and probably suggested at the whim of private individuals. Let me allude to a notorious instance of vicious taste (perpetrated, however, before the Local Management Act of 1855), where a foolish builder was allowed to destroy the historical associations connected with "Battle Bridge," for which was substituted the term "King's-cross," meaning nothing more than a wretched brick and plaster attempt at a statue of the then king, so absurd in character and execution, that its subsequent removal as a nuisance was hailed by acclamation. The disreputable name remains to this day, under the sanction of the Metropolitan Board of Works, who have recently extended the "King's-cross" line of road into Clerkenwell, when they could as easily have restored "Battle Bridge," on whose reminiscences a volume might be written. But my main object just now is not so much with past doings, but with what is now undergoing discussion in the parish of Islington, where it is proposed to substitute, at the instigation of a few shopkeepers, the name "Essex-road," for the present "Lower-road." To say nothing of the absurdity of a designation having only a very indirect relation at all with Essex, the Central Board seems likely to sanction the removal of our oldest landmark, with its Elizabethan mementos, and associations coeval with the parish itself. Where is this senseless kind of proceeding to stop, unless the Board exerts its undoubted authority in such cases? for the outcry raised is likely to be disregarded, and all that remains is to call public attention to what seems to be a dereliction or at least a misconception of duty. A rumour is afloat, though it appears scarcely credible, that the Board of Works, influenced by a desire to abolish duplicate names, will not tolerate a *Lower-road* at Deptford and another at Islington!

PROPERTY IN BRADFORD.

ARBITRATION.

ON the 29th ult. the first of a series of arbitration cases, in respect of property scheduled for town improvements, was opened in the saloon of St. George's Hall, before Mr. Picton, of Liverpool, umpire; Mr. Lockwood, arbitrator for the Town Council; and Mr. James Bancroft, arbitrator for the trustees of the late Mr. J. M. Atkinson. The property which was the subject of inquiry is what was known as the Old Foundry property—a large block of old property situate in the line of the proposed extension of Market-street from Bridge-street and Manchester-road.

Mr. Lloyd, in opening the case for the trustees, said that the property about to be arbitrated upon was one of great interest and value. The question was, what was its fair value? Its area was 4,043 square yards; and, looking at its site, it would be difficult to exaggerate its value. The average yearly rental for the last five years was only 400*l.*; but in its present condition the property was a manifest anachronism, a relic of the past amidst valuable modern property. He therefore discarded the rental as a basis of calculation, and contended that the proper way to estimate the value of the area of 4,043 square yards, was to find what would be its worth per yard if the buildings were swept away and the land sold in building blocks. His witnesses would tell them that at the lowest estimate the ground for building purposes would be worth 6*l.* per yard. The learned gentleman showed that, by every usual mode of valuing, the same total estimate for the entire block would be arrived at, namely, 25,000*l.* It was his opinion that the Town Council would recoup themselves by the resale of the large portion of the site not required for the street. Only 966 yards were wanted for the street. The new thoroughfare would give excellent frontage to the part to be resold for building purposes.

Mr. George Knowles, architect and surveyor in Bradford.—The proper mode of dealing with it in order to obtain the best price for it would be to clear the ground, as it is not now in its most productive state. In conjunction with Mr. Andrews and Mr. Dixon I have laid out a scheme with the view of arriving at the value of the property, and I now show through the centre of the plan a street from Market-street to Chapel-yard 12 yards wide. Chapel-lane is 8 yards wide, and I have made it lineable, and also Toad-lane, and thus would make a sacrifice, by widening those places, of 1,376 square yards. The available property for building would then be 2,238 square yards, with 376 square yards for carrits or yards. The value of the land thus worked out I estimate would be 5*l.* 12*s.* per square yard upon the whole area, and not upon the net area. Upon the whole area the average value is 5*l.* 12*s.* per square yard according to the method applied, which would be 22,675*l.*, to which add 20 per cent. for improveable value, and the sum is 27,210*l.* Allowing for deferred value when the property is setting during two years at 4 per cent. 2,052*l.*, and the sum is reduced to 25,158*l.* This is, I think, a very fair and reasonable valuation, and facts are within my own knowledge to justify such valuations.

Mr. Thomas Dixon, land surveyor.—I think, taking all the plots together, that 5*l.* 12*s.* per yard would be a fair price for it. I have no doubt that it would realize all that I have put upon it. With discount, the cost of the land would be 25,158*l.*

Mr. Wm. Andrews, architect, said:—I went over the calculations with Mr. Dixon and Mr. Knowles, and agree with their figures, and think that the rental is not extravagantly high. I agree in the 20 per cent. mentioned in consequence of what has been called the compulsory rate, or improving value.

Mr. Thomas Newsam, land surveyor, Leeds, said:—My opinion is that the ground in question is worth 6*l.* 6*s.* per square yard, for either buyer or seller. Property is not so valuable in Leeds as in Bradford. What I think worth 6*l.* 6*s.* here would not bring more than 4*l.* in Leeds. I make the value of the property to be 20,471*l.*, and that without the 20 per cent.

Mr. C. E. Cawley, Manchester.—I think the estimated cost of the proposed buildings very moderate. The cost which I think ought to be paid for it is 23,217*l.* 10*s.*, to which I would add 10 per cent., making a total of 25,500*l.*

The case for the Corporation was opened on the following day.

THE INCISED ROCK SYMBOLS IN NORTHUMBERLAND.

SIR,—The single illustration given by Mr. Dove of these singular relics is not sufficiently typical to have enabled him to come to a correct conclusion as to their origin or use. The most general form is that of three or four concentric circles with but one outlet from the centre: this fact quite upsets his theory.

Nor is the statement correct that these stones have been recently discovered. In 1852, the Rev. W. Greenwell gave a description of the rocks first discovered to the Congress of the British Association at Newcastle; and, in October of the same year, Mr. George Tate, secretary of the Berwickshire Naturalists' Club, gave the members an elaborate account of them. On that occasion a drawing was furnished of the most important one, at Routing Linn, by the Rector of Ford. Mr. Tate has also laid the subject before the Society of Scottish Antiquaries. I have made a drawing of the groups of figures on the curious scalp at Routing Lynn, and can testify that there are configurations there that would bear no such explanation as that given by your accomplished correspondent. As at Doddington and Bewick, there are concentric incisions of horse-shoe forms, with but one outlet; others arranged in a branch-like manner; and still more of circles attached to others of different dimensions.

This is a subject that cannot be disposed of at first sight. The rocks are situate on the most exposed situations on the bleak hills and moors of this county adjacent to, but not, as reported, *upon* the Cheviots; and consequently can only be visited for purposes of study in fair weather in the summer months. On a cloudy or wet day many of the slightly incised marks might be overlooked; and, as they lie in various places of several miles' distance from each other, their examination is a work involving the lapse and labour of several of our short seasons of summer. Mr. Tate has bestowed his care upon the subject, and is about to present the result in a comprehensive and exhaustive paper.

F. R. WILSON.

IN Mr. Wilson's communication, which you have been good enough to refer to me for my remarks, he himself speaks of "*three or* four concentric circles," with one "outlet," as sufficiently *typical* of "the most general form" of the rock symbols. It was precisely because it is so in the somewhat more essential respect of threefoldness (and for economical reasons as well) that I gave the three-circled illustration only. As to the also variable contingency of "but one outlet from the centre,"—notwithstanding what Mr. Wilson says, that does not and cannot in the slightest degree even affect my "theory," far less "quite upset" it; and Mr. Wilson must be labouring under some singular misapprehension on the subject. Although I have chosen an illustration with two "outlets from the centre," as Mr. Wilson calls them (why not *inlets to* the centre, and why not branch or stick shapes *pointing* to the centre?) merely because it happened a little more closely to resemble a symbol of my own; nevertheless I have myself drawn special attention to the circumstance that "a *single* rough branch- or root-form, forked at the outer circle, and POINTED *at the central depression*," also occurs; and have even said that the frequent occurrence of a single circle and central point (without *any* "outlet" or "inlet" at all, be it noted), and even of the central point without any *circle*,—far less any "*outlet*,"—seems to have been intended,—together "with the pointing of branched and other stick shapes ('outlets' or inlets) always towards the centres of the concentric circles,"—to "fix the attention, above all, upon the central point." And, indeed, one pointer more clearly harmonizes with this theory than two. How, then, can my theory be "quite upset" by the mere circumstance that the illustration I gave happens to have *two* such pointers instead of only one, in order to direct the attention to the centre? I have myself even also noted that sometimes a *single* branch or root shape is "hooked, like a bishop's staff, round the centre." If what I have called the branch or stick shapes pointing to the centre, and what Mr. Wilson calls the outlets from the centre, were really intended, like the centre *per se*, and the centre and single circle without any pointer, to fix the attention upon the centre (which is what Mr. Wilson must here mean by my "theory"), what *can* it signify to that theory how many or how few of these pointers there are in any one particular symbol? There might be twenty just as there is often only one, without in the least affecting the verisimilitude of the idea. The pointers do vary, and even so do the circles, in number; *but the one essential point,—the centre,—never varies, and is never awanting.* Every variation, however, may have a symbolical meaning. Thus, nine circles, which do occur, may denote the threefold *subdivision* of the threefold *division* of the mind into positive, comparative, and superlative regions.

Mr. Wilson is quite mistaken (as must be evident) in his supposition that because I have for economical reasons given merely one illustration, I must have therefore come to my conclusion as to the origin or use of such symbols from a consideration of that one illustration alone.

Of course, by the word "theory," Mr. Wilson does not and cannot allude to my psychological theory, which is not based on rock or any other symbols at all, but on psychological principles,—explanative of many symbols certainly, but neither derived from them nor in any way dependent on them, nor capable of being "upset" by them, or by any possible explanation of them, or of any class or section of them.

That other forms of the rock symbols are explainable *on the very same psychological principles* I have not the least doubt; but my restricted purpose was to deal with the more general forms of the *circular* symbols alone; and in carrying out that purpose I chose what appears, from Mr. Wilson's own showing, to be essentially "the most general form" of such symbols, in spite of "one outlet" being more general than two or any other number. I am persuaded, however, as I have already indicated, that the stick or branch forms have also in themselves had a

mbolical meaning, connected, like the circles, ith the concentrative and radiative principles of e; and, although two such branch forms might enote both, so might one, considered both as a ot and as a branch, on the arterial and venous ea already explained in one of my letters on eometrical Symbols.

Of the wavy and other angular symbols I ave also already offered explanations quite nsistent with my psychological theory, but aving nothing immediately to do with centres circles; and as to the horse-shoe-and-ntre form, that is a mere modification of the ntralizing idea, and no more affects it than the king away of all but the root and branch with ossing *segments* of the concentric circles, in y own symbol, as given in my last letter, ould have affected *its* meaning. *The possible mbolical modifications of one and the same lea are endless.* I before gave the concentro-adiative tree-form, it may be remembered, ithout any circles at all, but still with one nd the same concentro-radiative meaning. he branch-like symbols and the double ones re quite explainable on my views as well as ne others.

I need only further remark, that, although cer-in of the rock symbols may have been long nown, others appear to have been of recent dis-overy, and to have thus called attention to them enerally. To the fact, however, that the concen-ric circled symbol was to be found among the ng-known Irish sorcery hall symbols, and that ne single circle and centre, of the rock symbols, as also otherwise widely spread and well known, called the special attention of your readers in y letter.

It may or may not be unfortunate for Mr. ate that I have preceded him; but Mr. Wilson ould have given my letter a little more con-ideration before attempting to clear the way for im by so futile an endeavour to "upset" and xtinguish my little "theory" as to the circular ock symbols. J. E. D.

THE LONDON HOMES OF EMINENT MEN.

A CORRESPONDENT writes,—I am glad to notice hat you pursue the idea which you have on everal occasions urged in the *Builder*, to mark n a permanent manner the houses in which ur greatest men have lived, and where they ave performed important works, and received onoured contemporaries. The value of such a tep would be great in our own, but far more so n future generations, and it would be the means f saving many a relic which will otherwise e ruthlessly swept away.

The task of doing this would be an easy one, nd not attended with any great expense; but hat seems to be wanted is the practical super-ision of persons who, feeling interest in the novement, would prevail on the proprietors of remises to place some mark for their identity. ome would not go to the expense themselves, ut would have no objection to have it done by thers. It is therefore needful that some funds hould be provided to meet these emergencies; nd it seems very desirable that we should have society formed of those who are interested in he subject, which might be the means of direct-ng the public attention to places which require are. By this means there can be little doubt ubscriptions sufficient for the purpose would ow in. In these days we cannot hope for any-hing to be done in this way by the Board of Works, nor by the parish Boards; and there is ut small hope from the City corporation; but urely if this business were brought to the otice of one of the Archæological Societies, or f the Antiquarian Society, we should soon ave a useful body of workers, who would see hat London was not behind Paris in doing onour to its worthies.

A LONDON ANTIQUARY.

*** The Society of Arts would be a very roper body to undertake the work.

CLERGYMEN'S CLUB.—A company has issued a rospectus for the erection of a club and hotel or clergymen in London. The capital is placed t 100,000*l.*, in 10,000 shares of 10*l.* each; the eposit being 1*l.* per share on application, and 1*l.* n allotment. In addition to the club and hotel is proposed to provide a common hall or cham-er for meetings, and rooms for church institu-ions or societies as offices. The directors are in reaty for a suitable site in the neighbourhood of Charing-cross.

THE METROPOLITAN BOARD OF WORKS.

At the meeting of the Board, on Friday, the 8th, at the offices, in Spring-gardens, the chairman, Mr. J. Thwaites, presiding; a correspondence, which had passed between the officers of the Board, the Thames Conservators, and the Office of Works, relative to the filling-in of the Chelsea Embankment; was read, and it appeared from it that the Thames Conservators complained that, instead of the contractors who were carrying out the Embankment using material dredged from the river, as ordered by the Legislature, they were filling in with rubbish obtained from other sources. The chairman stated that the contractors had taken all the material supplied by the conservators; and that if the fillings-in were to be all taken from the bed of the river, the works would not be completed in double the time allowed.

The chief engineer (Mr. Bazalgette) presented his annual statement of the works carried out and in course of formation under the Board. He informed the Board that the works had continued during the year without any material interruption, and that a large amount of tunnelling had been completed on the south side of the river under canals, railways, and large buildings, and through treacherous soil filled with water, with but few casualties. Many of the large sewers had now been completed, and on the north side of the river 14,000,000 gallons of sewage were discharged at Barking, and on the south side 12,000,000 gallons discharged at Crossness, being, on the whole, 26,000,000 gallons of sewage now discharged into the river far out of the metropolitan limits, at such a turn of the tide as to carry the obnoxious fluid seawards. This quantity is one-third of the whole metropolitan sewage. The following works were reported as completed at the cost attached to each:—Northern High-level Sewer, 9 miles in length, 203,816*l.* 7*s.* 9*d.*; Northern Outfall Sewer, 5½ miles of double and treble lines of sewers, 643,000*l.*; Middle-level Sewer, 12 miles in length, about 314,000*l.* (completed, with the exception of the aqueduct, across the Metropolitan Railway at Farringdon-road); Northern Outfall Reservoir, for the storage of sewage, 166,000*l.*; Southern High-level Sewer, rather more than 9½ miles in length, 215,299*l.* 1*s.* 5*d.*; Bermondsey Branch Sewers, 96,000*l.*; and Southern Outfall Sewer (exclusive of land purchased by the Board), 310,618*l.* 2*s.* 6*d.* With respect to the Thames Embankment, the value of the work done, materials, &c., on the first contract (between Westminster and Waterloo Bridges), was about 37,000*l.*; and on the second (from the east side of Waterloo Bridge to the Temple Gardens) about 18,000*l.* He also reported that the drawings and specifications for the Southern Thames Embankment (from Westminster Bridge to Vauxhall) would be ready for tender in October next. The report was referred to the Main Drainage Committee.

FALL OF A WALL AT KENTISH TOWN.

THE flank wall of a small house on the Conservative Land Society's estate, Maiden-lane, Kentish-town, of recent erection but undergoing demolition in consequence of the contemplated works for the Hampstead and Tottenham Junction Railway, fell, or was forced down by the wind, on Monday last, under peculiar circumstances, resulting in the instant and lamentable death of one man, and the very serious injury of another. The building was two stories in height, and the wall which fell was about 26 feet long, 16 feet high, and one brick thick. All the return walls, cross partitions, joists, and every matter which would have constituted a support or strut had been removed by the men on their own responsibility. It should be noted, that the woodwork had been purchased by one party and the brickwork by another, hence a divided interest in the management of the clearance, which appears to have resulted in the too early removal of the abutments which would have prevented the catastrophe.

The coroner's inquest, after a careful investigation of the facts, returned a verdict of "Death from accidental causes;" but in the course of the inquiry Dr. Lankester remarked that the evidence laid before the jury seemed to indicate in this case, as in most others, the absence of caution on the part of the workmen themselves, who incur voluntarily unnecessary risks, where their employers would have a very strong hesitation in ordering them into such situations. The evidence in this case proved that these men had several warnings from a bystander of the trembling condition of the wall, but without making any impression on them.

INJUNCTION: COTTER *v.* THE METROPOLITAN RAILWAY COMPANY.

BEFORE Vice-Chancellor Sir R. J. Kindersley, an injunction has been obtained to restrain the Metropolitan Railway Company from entering and taking possession of a house, No. 20, Lower Whitecross-street, which the plaintiff held under a lease. The plaintiff claimed 3,650*l.* for purchase-money and compensation, and a bond was given in the ordinary form, except that after the words, "If the (obligor) shall pay into court," &c., were inserted the words "at any time hereafter," and at the same time the company threatened to take possession on the 7th of July.

The Vice-Chancellor was of opinion that no proper valuation had been made: it was necessary for that purpose that a house should be inspected internally. The objection as to the words inserted into the bond was fatal, not deciding whether an action would lie or not: it was a departure from the terms of the Act of Parliament. His honour adhered to the opinion he had expressed in "Gibson *v.* The Hammersmith Railway Company," and there must be a restraining order for the injunction until a proper valuation was made, as required by the 85th section, the amount paid into court, or the jury had given their verdict, with liberty to apply.

LONDON BELFRIES AND RINGERS.—The "Beadle and Steeple-keeper of St. Mary-le-bow," E. Watts, is not contented with Mr. Morris's account of his stairs and ringing-room. He says "the college ringers have rung at the church from the year 1850, and during this period I have not had a call made for a clothes-brush." We are glad to hear it.

COMPENSATION CASES.

THE THAMES EMBANKMENT.

At the Sheriffs' Court, Red Lion-square, last week, the case *Gwynne* v. *The Metropolitan Board of Works* occupied the court for five days. It was the first contested claim. Mr. Lloyd and Mr. Horace Lloyd were for the claimant; and Mr. Lush, Q.C., Mr. Karslake, Q.C., and Mr. Raymond represented the Board of Works. The claim exceeded 30,000*l.*, and the principal question was whether Mr. Gwynne, who is an hydraulic and mechanical engineer at the bottom of Essex-street, by the Temple-pier, was entitled to compensation for being deprived of the water of the Thames, which was necessary to carry on his works. Last year his net profits exceeded 10,000*l.* He had taken new premises at Battersea, for which he paid 7,000*l.* The Board of Works did not require the premises for the embankment, and a roadway was now being formed, and which would, it was stated, be much better for the claimant. On his behalf it was, however, urged that waterside premises were essential to him, and to enable him to test the pumps made for foreign Governments. On both sides numerous witnesses were called. The design of the embankment was exhibited in court, and some of the witnesses were of opinion that property in the neighbourhood would be increased in value by the improvements in contemplation. On the part of Mr. Gwynne, a substantial compensation was claimed, and the several items were placed before the jury. Mr. Lush, Q.C., complained of the "monstrous" claim which he said had been made, and called witnesses to disprove some of the allegations advanced. It was impossible to exaggerate the importance to the public of the case now under consideration. The compensation would come out of the public money in the shape of rates. Mr. Lloyd admitted the importance of the case, and complained of the conduct pursued by those in authority, which had been shown in the matter. Mr. C. Pollock, the assessor, summed up the evidence extending over the several days, and laid down the law on the subject. The claimant was entitled to full and fair compensation. The jury retired at nearly five o'clock, and after a consultation of an hour and a half they returned into court, giving a verdict for 14,000*l.*

THE BUILDING TRADES MOVEMENT.

Swansea.—Most of the operative joiners and carpenters struck work for an indiscriminate rise of 3*s.* a week, or from 21*s.* to 24. A meeting of master builders and workmen took place, when the masters offered to give the rise from the 1st of April next, advancing 1*s.* of it in the mean time. These terms seemed to be favourably received; but at an evening meeting of the men the offer was refused, and most of them struck work. Various employers have since, according to the *Cambrian*, agreed to give the 6*d.* a day required, and others have offered 4*d.* a day, or 2*s.* a week. What the masters chiefly complain of is the demand for an immediate advance.

Wolverhampton.—After a six weeks' strike and part lock-out, building operations have recommenced in Wolverhampton. The bricklayers mediated between the labourers and the master builders, and got the men to withdraw the notice for an advance of wages, on the ground that they ought to have given a three months' notice, and not a fortnight's notice; and the masters have withdrawn the lock-out. Afterwards the masters gave the labourers an advance of 1*s.* per week all the year round, to make 18*s.* in the summer and 16*s.* in the winter; but they refused to make the wages in the winter equal with those in the summer, which the men at first required.

Coventry.—The strike here is said to be virtually at an end. Most of the labourers have resumed work, many of them at the old rate of wages.

Manchester.—The carpenters demand 2*s.* a week more wages, which the masters refuse to give.

Sheffield.—The joiners' strike has been settled on the terms offered by the masters at the time of our last notice.

Leeds.—A rather numerous meeting of operative carpenters and joiners has been held at the bazaar, in consequence of an alleged violation by the employers of an understanding which was come to five or six weeks ago, that all men should be paid punctually at 12·30 on Saturdays, unless paid at 5·30 on Friday evenings; and a resolution was passed, recommending all the men to present themselves for payment at 12·30

precisely, and that if the employers objected to it, a meeting between the masters and men's deputations should be sought for. If that should fail to accomplish the object, then the men were to give six months' notice for an alteration of the existing rules, and also 2s. advance in the weekly wages.

Middleton.—The operative painters of Middleton have held several meetings, for the purpose of appointing a deputation to wait upon the masters for an increase of wages from 24s to 26s. per week, and, if this be not acceded to, the men declare they will cease working. One of the masters has granted their request.

SCOTLAND.

Pitcairn Monument, Colinton, near Edinburgh. A rural monument attached to the estate of Dreghorn, and erected in memory of David Pitcairn, of Dreghorn, an ancestor of Principal Robertson, the historian, and other public personages, has been repaired at the cost of several of his descendants, including the Earl of Minto, Baroness Dunfermline, Countess Russell, and others. The restoration was conducted by Mr. John Nicol, of Edinburgh, architect; while Mr. Wilkie, of Juniper-green, executed the masonwork; and the brass plate was engraved by Mr. R. Nicol, Edinburgh. The property is attached to the estate at Dreghorn, of which Mr. R. A. Macfie, of Liverpool, is proprietor. That gentleman, however, waived his rights, and encouraged the restoration of the fabric.

Dumbarton.—The new free church in High-street, Dumbarton, erected from designs by Mr. John Honeyman, jun., of Glasgow, architect, has recently been completed and opened for public worship. The plan of the church, the foundation-stone of which was laid on the 13th July, 1863, by Provost M'Ausland, is a simple parallelogram, about 70 feet long by 50 feet wide, arranged in the usual way, with galleries at the sides and end, the pillars supporting the galleries being continued up to support the roof also. The ceiling (which is plastered) is considerably higher over the centre aisle than at the sides, and a line of timber panelling at each side of the centre ceiling affords means of ventilation. The gallery front is of timber, panelled. The pews give sittings for about 850 persons. The principal front of the church is towards High-street, and the tower is introduced at one corner and the staircase at the other. The spire, which is at the corner of High-street and Brewery-lane, is 145 feet high, and is a prominent feature in every view of Dumbarton. The style of architecture is Early English, similar in character to what is seen in the older parts of Lincoln Cathedral. Over the entrance-door, which has a trefoil head, are three lancet windows, the mullions of which are enriched with detached clustered shafts of black Carnock stone, having carved capitals. Above these an enriched band-course crosses the gable, and also encircles the tower, and over that in the gable is another small triplet window. The mouldings of the skew, and many other mouldings, are enriched with dog-tooth ornament. At the south end of the church, and entering from Brewery-lane, is a large hall, which will be used for the meetings of the Presbytery. Adjoining this are the vestry, session-house, waiting-rooms, &c. The church is heated by means of hot-water pipes. The gasfittings consist of bronzed brackets below the galleries, and two bronzed star-lights of twenty-four burners each, light the galleries and body of the church. The cost of the buildings and fittings will be about 5,000*l.* The contractor for the masonwork was Mr. A. Coghill; for wrightwork, Mr. J. Connell, both of Glasgow. The plumber was Mr. W. Reid, Glasgow; the slater, the late Mr. Ferguson, Dumbarton; and the plasterer, Mr. Hutcheson, Dumbarton; the gas mains being supplied by Mr. Colvill, Dumbarton; and the other gasfittings by Mr. G. Mathieson, Glasgow. The clerk of works was Mr. W. Kent.

DISSENTING CHURCH-BUILDING NEWS.

Brightlingsea (Essex).—The memorial stone of a new congregational chapel has been laid at Brightlingsea. The building is designed in the early English period of Gothic architecture, and is to be erected with red bricks laid close with a dark mortar joint, strengthened by buttresses at intervals, formed with white Suffolk bricks and water-tables of Bath stone. The porch entrances, in principal gable, are to have solid stone jambs with columns, and a three-light stone window will be placed in the gable. The windows on each side of the chapel are also to be of stone, and the heads of the doors and windows will be relieved by arches formed with party-coloured bricks. The corbels to gable and the coping will also be stone, and the apex will be surmounted by a carved cross. The roof will be covered with slates, with ornamental ridge crest. The windows will be glazed with quarry glass in front, and tinted fluted glass at the sides, and ventilation is provided for by Hopper casements, with air gratings under the floors. The roof will be open to the interior of the chapel and the principal timbers will be wrought, moulded, and stained. The chapel will be fitted with open benches or stalls. A schoolroom and vestry are provided at the back of the chapel. The whole of the works are to be erected by Messrs. Lake & Gull, of Brightlingsea, builders, for the sum of 600*l.*, under the superintendence of the architect, Mr. Horace Darken, of Colchester.

Bedford.—The foundation-stone of a new Moravian chapel has been laid here, on the site of the old building at St. Peter's green. The plans and specifications have been prepared by Mr. Horsford, of Bedford, architect, and the contractors are Messrs. James Francis & Son. Roman is the style of architectture selected. The building is to be of brick, with stone quoins and window frames. The estimated cost is about 1,500*l.*——The architect of the proposed new Wesleyan chapel, Mr. Palgrave, of Pall Mall, having completed the plans of this building, tenders for its erection were called for, and have been delivered as under:—

For the erection of the chapel and school:—			
Mr. C. Day	£3,121	0	6
Mr. G. Bryant	3,142	11	6
Mr. S. Joy	3,249	0	0
For the tower:—			
Mr. G. Bryant	390	0	0
Mr. S. Joy	437	0	0
Mr. C. Day	483	12	6

Bisley (Gloucestershire).—The Wesleyan chapel just erected at Bisley has been opened. The building is a small Gothic structure, and has cost upwards of 400*l.* Most of the money has been raised.

CHURCH-BUILDING NEWS.

Boultham (Lincolnshire).—The chancel of Boultham Church is now being rebuilt, at the expense of Colonel Ellison, and, so far as it is executed, exhibits an improvement upon the old barn-like structure, erected only about a century ago. It is intended to complete the work by restoring the nave. In pulling down the old walls a carved stone of Norman architecture was discovered. It evidently at one time formed part of a large archway. The works are being executed by Messrs. Barker & Smith, under Mr. Drury's superintendence.

Earls Colne (Essex).—The parish church of Earls Colne has been re-opened, after having been closed for fifteen or sixteen months for repairs, which have been executed under the superintendence of Mr. Hayward, of Colchester, architect, at a cost of upwards of 3,000*l.* The contract for the works was taken by village tradesmen—Messrs. Rogers, Clark, and Cawston, and Mr. Bremer, of Colchester. The improvements include a new north aisle, corresponding with the southern portion of the church; the chancel renewed; the roof of the building laid open, stained, and varnished; and stained open benches substituted for the old pews.

Hertford.—At a meeting of the committee appointed to carry out the resolution of the vestry relative to the re-pewing of All Saints' Church, the secretary produced the plans sent in by Mr. T. Smith, who explained them. Mr. Smith proposed to re-pew the whole of the nave and chancel, and the transept, with open seats; and he had also included in his plan a new transept. The re-pewing would add 109 seats, and the proposed new transept 93, or an increase of 202 seats, so that the church, as proposed to be altered, would accommodate 780 adults. Mr. Smith's estimate of the cost of the alteration was as follows:—

Repewing old church, new floor and tiles	£600
Additional transept, with three new stone windows, iron columns, and extra seating	450
Heating the church	160
Extra tiles for chancel floor	20
	£1,230

It was agreed to adopt the plans, with the exception of the transept, the omission of which reduced the estimated expenditure to 780*l.*

Northampton.—It has been resolved by the vestry of All Saints' to repair the church, and a committee has been appointed. Mr. Law, architect, has reported as to what is requisite; the summary being—

For general external restorations	£632
Inside restorations and decorations	510
Altering seats on ground floor	200
New gas burners as suggested, 54 in number	110
New windows throughout, including glazing, and painting, and fixing, with ground glass on south side, and 19 casements	328
Total estimate	£1,775

If the organ chamber is erected add the sum of £500

Weedon.—The restoration of the church chancel, which has been some time in progress, is at length completed, and the chancel opened. The chancel arch, which is in the Early English style, is higher and wider than the old one, extending to the roof. The doorway and south window are in the same style. The window is of stained glass. The east window is also of stained glass. In the centre is the "Good Shepherd," presented to the vicar by Mr. Powell, of London, who supplied the windows. The architect was Mr. E. F. Law, of Northampton; the builder, Mr. E. Roberts, of Weedon. The stone carving was the work of Mr. White, who also executed the carving of the new town-hall, Northampton.

Oxford. The reparation of the south-west porch of St. Mary's Church, which has long been a subject of discussion, and for which a vote was granted last year by convocation, on the advice of Mr. G. G. Scott, has just been commenced. It is intended to saturate the stone, where practicable, with an indurating solution, and then to insert new material in the most decayed places, by which means it is hoped this interesting relic may be preserved. The unsightly south wall of the churchyard has also been taken down, and is being replaced by a low and ornamental erection.

Buckingham.—The Church of All Saints at Milton Keynes has been reopened by the Bishop of Oxford, after restoration. The restoration has been carried out by Mr. Street. The church is in the Decorated style. New roofs have been put on the nave and chancel, and carried up to the old pitch. The whole of the interior is fitted with open benches, and oak stalls in the chancel. The pavement is formed of encaustic tiles.

Old Windsor.—St. Peter's Church, Old Windsor, has been re-opened for divine service, after undergoing a restoration and renovation by Mr. Scott. Exteriorly its aspect is considerably altered: the new south porch is a feature on one side, and a north chancel aisle has been added on the other. Within all has been changed: the square boxes have been, of course, pulled down, together with the gallery, and the whole area has been fitted with open seats, to accommodate about 460 persons, and of these we understand something like two-thirds are to be free. The whole of the woodwork, including the roof, is of solid English oak, and the expense, including everything, has been about 2,800*l.* Of this the greater part has been raised by subscription, the roof alone having been put on at the expense of the church-rate. Among the features of the new chancel aisle we may mention a stained glass memorial window, by Messrs. O'Connor. In the left-hand base compartment is represented the Finding of Moses, and in the right Samuel and Eli. Above, in the left compartment, is the Holy Family, and in the right are Timothy and his Mother. In the extreme top of the window is a representation of Our Saviour blessing little children. It is intended, also, to fill in the east windows with stained glass,—the gift of a friend whose name is not, we understand, made public. In the new chancel aisle is also a mural brass, put up in memory of the same family as the window. The design of the organ-case was by Mr. Scott, and is Gothic, the front pipes of Mr. Walker's spotted metal. The whole cost of the instrument is about 250 guineas.

Walsden. The church of St. Peter, which is situate in the Todmorden valley, at Walsden, has remained for some considerable time destitute of a spire. A special effort has been made by the Masonic body in the division to supply the deficiency, and the result of their appeal is the dedication of the newly-completed spire. The cost of finishing the spire is 300*l.* The architect was Mr. James Green, of Portsmouth, near Todmorden. Upon the tower is placed a "level," as a weather-vane, it having been considered appropriate, both as a Masonic emblem, and to surmount a building consecrated to divine worship.

Miscellanea.

Wilts County Surveyorship. — Mr. Henry Beaver, of Devizes, has been appointed to this office by a large majority of votes.

Schools of Art.—The Southampton School has had a national medallion awarded to it; the Brighton School four national medallions; and the Ipswich School one national medallion. Of course other medals and prizes have also been won by all three.

The Gloucester Surveyorship.—We understand that five of the candidates for the office of surveyor and chamberlain of this city were selected to have an interview with the Board of Wealth prior to the election. The candidates selected were Mr. Richardson, Barnsley; Mr. Moss, London; Mr. Fowler, Leeds; Mr. Jewett, Manchester; and Mr. Colbran, Burnley.

Mr. and Mrs. Alfred Wigan.—On Wednesday afternoon, in the presence of a fashionable assembly, Mr. and Mrs. Alfred Wigan gave a series of miscellaneous "readings" at Apsley House, with the permission of the Duke of Wellington. The "readings" comprised scenes from the "School for Scandal," the "Merchant of Venice," and "Hamlet," with Macaulay's "Horatius," Aytoun's "Death of Montrose," and two poems of Hood's. They were heard with the greatest attention, and received unanimous applause. A second "reading," at Stafford House, is announced for Monday next.

Derby New Market Hall.—The walls of the new Market Hall are now finished and ready to receive the roof. Some delay has been occasioned through the alteration of the original design for the roof, necessitating an entirely new set of plans for this part of the work. They have been prepared by Messrs. Ordish & Le Feuvre, of Westminster, engineers, under whose superintendence the iron roof is being carried out, Mr. Lucas, from their office, being clerk of works. The brick, stone, and wood-work, &c., which are under a separate contract, are being completed under the superintendence of Mr. George Thompson, borough surveyor, who was appointed by the market committee in place of Mr. Thorburn.

Liverpool Surveyorship.—The town council, after some discussion, have resolved to confirm an arrangement made by the local Finance Committee in a report on the duties of the surveyor and of his department; recommending, firstly, that the services of Mr. Weightman be retained, at his present salary, as consulting surveyor, and to manage the whole of the Corporation property, properly so called. Secondly, that a competent person be engaged to have the care of, and to be responsible for, all the buildings in the possession of the Corporation (with certain exceptions), the conduct of the purchases of all property required to be taken by the Corporation under the various Improvement Acts obtained from time to time by the council, and the preparation of plans, &c. And, thirdly, that the gentleman to be engaged as surveyor be experienced in his profession; not above forty years of age; and that his salary be 800*l.* per annum.

Water Supply for Ripon.—At a special meeting of the Ripon corporation, the report of Mr. Filliter, C.E., borough surveyor, and engineer to the waterworks, at Leeds, with respect to the different schemes for supplying the city of Ripon with a constant supply of pure water, was read. At the close of his report Mr. Filliter says,—"Finally, and to recapitulate, I have adjudged the premium for the best and most practicable scheme to Messrs. Stevenson & Utley, of Halifax, but consider Mr. Charlton's and Mr. J. K. Radford's plans are nearly equal thereto. I do not recommend any purchase of the existing waterworks. I advise that further examination be made of the following sources and schemes;—the river Skell above Aldfield Spa; the Lady Well springs, and any others of similar quality that may be discovered; the Kez-beck at or about Toad Hole Wood, as suggested by Mr. J. K. Radford; the water-wheel pumping scheme of Mr. A. Charlton from the river Ure; the river Laver beyond the magnesia limestone district. The corporation will find it advantageous to postpone their decision, if practicable to do so, until the ensuing dry season has passed." It was resolved by the meeting that the premium of fifty guineas be paid to Messrs. Stevenson & Utley, of Halifax.

South Kensington Museum. — During the week ending 9th July, 1864, 13,940 persons visited the Museum.

Railway Returns.—The traffic returns of railways in the United Kingdom, published for the week ending the 2nd of July, amounted, on 11,308 miles, to 666,565*l.*, and for the corresponding week of 1863, on 10,906 miles, to 611,769*l.*, showing an increase of 402 miles, and of the sum of 54,796*l.* in the receipts.

The Dining Halls Company.—This company, to advance the object of which Lord Brougham, Lord Shrewsbury, and others have given their names, is established to supply the industrial classes with good and cheap food (a substantial dinner being provided for 4d.). Hopes of pecuniary success are founded on the results of the Surrey Cooking Depôt, New Cut, the purchase of which is one object of the company. Looking into the accounts of this establishment, we found the profits about 20 per cent., and the customers well satisfied too.

The Murder on the North London Railway.—With reference to some recent outrages in railway-carriages, a correspondent says,—Have two or three long plate-glass squares about 10 inches wide glazed upright, not only in the partitions of each compartment, but also in the ends of the carriages, so that any passenger can see not only through the carriage, but likewise throughout the whole length of the train. There can be no doubt, that if the parties riding in the next compartment to Mr. Briggs could have seen into the one where he was, this foul murder would never have been attempted. Open carriages from end to end like the ordinary third-class are much safer than the closed compartments of the second and first class; but then they are very liable to give cold by some one keeping the windows down at the back of your neck.

Petroleum in America.—Writing on this subject in the "Journal of Science," Dr. Draper, of New York, says:—The exact source of petroleum is, up to the present, uncertain; whether it has all been produced by distillation from bituminous coal, anthracite being formed at the same time; or whether it has resulted directly from the bituminous fermentation of marine plants antedating the coal, and containing a larger proportion of hydrogen. The amount thrown out by some of the wells is enormous. One of them ejected 3,740 barrels a day, three 1,000 barrels, one 800 barrels. To "strike ile," has become throughout that region the synonym for rapidly growing wealthy. It has entirely displaced all other means of lighting, except gas. The great desideratum is a perfect chimneyless burner.

St. John's Hospital for Diseases of the Skin.—In the interest of the poor of London we are glad to observe that the much-neglected subject of skin diseases has at last attracted serious attention. The establishment of St. John's Hospital, Westminster, we believe, is calculated to supply a great public want, its laudable object being to place the poor of London in an equally favourable position with those of continental cities—as Paris and Vienna; the former possessing the richly endowed Hôpital St. Louis, devoted solely to treatment and study of cutaneous maladies. The principle of St. John's is, we are glad to observe, free admission; so that the poor man can obtain every necessary attention, and that daily, without loss of time, which to him and his family is of so great importance. Moreover, much benefit to science may be anticipated from careful observation in the hospital; and the objections urged against special hospitals (in which we participate), cannot apply to the present case, when we find it stated in a leading medical periodical, the *British and Foreign Medical and Chirurgical Review*, in reference to the want of opportunity in studying and learning skin diseases in England, that medical students constantly come to the end of their hospital life without being able to name or recognise with certainty the most common diseases of the skin. The knowledge which has been entirely neglected during the period of studentship is seldom acquired in the busy years of later life; and probably there are no branches of medical knowledge so neglected and so little understood by English practitioners as the diagnosis and treatment of skin diseases. The extent to which these diseases prevail and the misery they produce are nevertheless enormous.

Gas.—The Boston Gas Company's directors have determined to recommend to the shareholders a dividend of 8½ per cent. at their annual meeting.

Cheltenham Water Supply.—The prospectus of a new water-company for supplying Cheltenham with water has been issued. The capital is estimated at 125,000*l.* which it is proposed to raise in shares of 5*l.* each, and the water is to be conducted from the springs at South Cerney.

Bedford Drainage.—Mr. C. Trapp, of Manchester, has undertaken, for twenty guineas, to examine the plan of Mr. Usher for the drainage of the town. The sum, said the mayor, in announcing the circumstance, is much below the usual professional charges; but Mr. Trapp being a native of Bedford, and the corporation not a very rich one, he offered his services at the sum named, and will present his report in due course.

The old Castle Wall at Southampton.—Another endeavour to induce the Corporation to purchase and preserve this interesting relic, at a cost of 45*l.* for the wall, or of 300*l.* for the wall and its site together, has failed. In the council Mr. Stebbing urged, that whilst they were building a Hartley Institution, renovating the Bargate, improving the parks, and doing all they could to render the town attractive, it would be an act of vandalism to permit the destruction of a relic of the past, which constituted a remain of the old Norman works, by which they could trace the system of fortification which existed in former times. Mr. Tucker asked why those interested in the relic did not themselves subscribe and purchase it, instead of demanding for the purpose a grant from the public funds? Surely this interesting and historical landmark will not be allowed to be destroyed from want of so small a sum as is required for its preservation.

New Joint-stock Companies.—The number of new joint-stock companies brought out during the first half of the present year was 171. They represented a total capital of 116,203,500*l.* A great number have failed to establish themselves, and have been withdrawn; and the actual amount of shares taken would probably not represent more than 50,000,000*l.* Of the total 116,000,000*l.* of proposed capital about 53 per cent. was for banks and finance companies, 14 per cent. for the conversion of various industrial establishments already in existence into joint-stock associations, 12 per cent. for steam and other shipping enterprises, 6 per cent. for insurance companies, 5 per cent. for railways, 5 per cent. for estate investments, and about 1 or 2 per cent. for hotels. Last year, although the total capital proposed for companies seemed enormous, it did not amount to more than 100,000,000*l.*; while the progress of concoction this year has been at the rate of 232,000,000*l.* for the twelve months.

Accidents.—At Bury a fatal accident has occurred, resulting in the death of Mr. George Dewhurst, master bricklayer, of Heywood. Mr. Dewhurst's men were employed at Bury in finishing a factory chimney, 90 feet high; and, being anxious to have the work completed by a certain time, Mr. Dewhurst went to the top of the chimney for the purpose of expediting the workmen. He took part in the finishing process himself, and assisted to lay one of the cornice stones, on the top of which he stood after it was fixed. It is supposed that one of the legs of the triangle used for hoisting the stones must have been placed on a lower level than the other two, as it suddenly turned over, precipitating Mr. Dewhurst, and the stone on which he was standing, to the bottom of the chimney. Mr. Dewhurst fell through the roof of a weaving-shed, breaking in his fall not only through the roof, but also through two thick joists of wood, and alighting on a young woman who was at work in the shop. All efforts to restore consciousness were unavailing, Mr. Dewhurst expiring shortly after the accident happened.—— For about a week a number of men in the employment of Mr. Graham Holmes, contractor, have been engaged in painting the inside of the roof of the market-hall, Birmingham. The work has been performed by means of a moveable scaffolding, which reached to the roof of the hall. As three men were at work upon the scaffolding at the end of the hall nearest the Bull-ring, it suddenly overbalanced, and the men were thrown to the ground. They fortunately escaped without any serious injury.

RESULTS OF SETTING CAPITAL FREE. Within the eight years elapsed since the passing of the main Act, 3,830 limited companies have been formed, with an aggregate of 12,085,073 shares, and a nominal capital of 429,103,622*l.*—*Parl. Return.*

A PLAGUE-STRICKEN TOWN. — The Spanish journals mention the outbreak of a dangerous malady in the city of Murcia:—In constructing the railway which passes through that place, a large mass of earth was excavated from the neighbourhood of the city for the purpose of making the embankments. At the spot whence the earth was taken a quantity of stagnant water has since collected, the malaria from which is said to have produced an epidemic fever, with all the characteristics of a plague. More than 1,500 persons in Murcia and the environs have been attacked, and a large number of deaths have already taken place. A manifestation against the railway company, by the population, lately took place, and more serious disturbances were feared.

SALE OF BUILDING SITES AT REDLAND, BRISTOL. Messrs. Alexander and Daniel, auctioneers, recently submitted, for public competition, some valuable property at Redland, including sites for first-class villa residences. The property was offered in four lots, the first being the freehold residence known as Redland Green House, to which are attached two closes of pasture land, which have an extensive frontage to the road leading from Redland to Durdham Down. This lot was knocked down to Mr. G. O. Edwards, for the sum of 3,050*l.* Mr. J. G. Hobbs was the purchaser of the second lot, which consisted of a close of building, and about ten acres and a half in extent, and having a good frontage to Durdham Down. This lot realised 4,000*l.* Mr. Joseph D. Weston was the highest bidder for both the remaining lots. No. 3 adjoins the second lot, and consists of twenty-eight acres of pasture land. The sum given for it was 3,800*l.* The last lot, for which 4,500*l.* were given, consisted of a farmhouse, outbuildings, and forty-one acres of pasture land, forming part of Cold Harbour Farm. It is anticipated that a number of new villas will be erected at Redland, on portions of the land now sold. The number of detached residences built lately in the neighbourhood of Bristol is wonderful.

TENDERS.

For alterations at the Coach and Horses, St. Martin's-lane, for Mr. Parsons:—

Sellick	£1,020 0 0
[illegible]	893 0 0
Jeffs Brothers	874 0 0
Longmore	870 0 0
[illegible]	750 0 0

For new front and alterations to Moira Chambers, Ironmonger-lane, for Mr. Charles Champion. Mr. James Dudley, architect.—

[illegible]	£1,184 0 0
Ashby & Sons	1,158 0 0
Turner & Sons	1,139 0 0
Scrivener & White	1,067 0 0
Adamson & Sons	1,015 0 0

For the erection of seed stores, in the King's-road, Reading, for Messrs Sutton. Mr. W. Brown, architect. Quantities supplied:—

Kendell	£1,398 0 0
G. Strong	1,377 0 0
Wheeler & Sons	1,354 0 0
W. Strong	1,352 0 0
Woodroffe	1,348 0 0
Matthews	1,333 0 0
Sheppard	1,275 0 0
Sawyer	1,239 0 0
Barnicoat	1,224 0 0
Biggs	1,189 0 0
Norris (accepted)	1,130 0 0

For the erection of a new wing to the Ray Tavern, Cookham, for Messrs. Langton, Burrows, & Co. Mr. W. Brown, architect.

Hurley (accepted)	£517 0 0

For erecting a workhouse, No. 224, High-street, Wapping, for Messrs. Bakes. Messrs. Aitchison & Son, architects. Quantities supplied:—

King & Sons (accepted)	£1,976 0 0

For erecting three warehouses, Commercial-street, Whitechapel, for Mr. D. Falcke. Mr. H. H. Collins, architect. Quantities by Mr. Pearson.—

Patman & Fotheringham	£7,537 0 0
Trollope	7,404 0 0
Brown & Robinson	7,389 0 0
Macey	7,318 0 0
Myers	7,251 0 0
Stevenson	7,188 0 0
Newman & Mann	7,162 0 0
Hill & Sons	7,000 0 0
Patson	6,944 0 0
Sharpington & Coles	6,809 0 0
Simms & Martin	6,769 0 0
Brass	6,726 0 0
Hill & Keddel	6,692 0 0
King & Sons	6,651 0 0

For rebuilding offices, &c., Abbey-wharf, Reading, for Messrs. Ridley & Son. Mr. W. Brown, architect. Quantities supplied:—

Norris	£762 0 0
Sheppard	736 0 0
Kendell	726 0 0
Matthews	716 0 0
Barnicoat	710 0 0

For erecting three warehouses, Commercial-street, Whitechapel, for Mr. M. Levy. Mr. H. H. Collins, architect. Quantities by Mr. Pearson:—

Patman & Fotheringham	£8,851 0 0
Trollope	8,771 0 0
Brown & Robinson	8,748 0 0
Macey	8,714 0 0
Myers	8,633 0 0
Hill & Keddel	8,394 0 0
Stevenson	8,316 0 0
Newman & Mann	8,297 0 0
Hill & Sons	8,284 0 0
Patson	8,214 0 0
Simms & Martin	8,000 0 0
Sharpington & Coles	7,997 0 0
Brass	7,919 0 0
King & Sons	7,845 0 0

For the erection of a presbytery, at Woolton, near Liverpool, for the Rev. J. P. O'Brien. Mr. E. Welby Pugin, architect. Quantities supplied by Mr. Marples:—

Ward, Brothers	£1,894 0 0
Hall	1,540 0 0
Crowther	1,485 0 0
Gore	1,425 0 0
Hughes	1,397 0 0
Pollock	1,395 0 0
Glaister (accepted)	1,361 0 0

For the erection of a public-house, at Little Berkhampstead, Herts, and removing old house. Mr. Robert T. Andrews, architect. Quantities supplied:—

J. Collins	£343 10 0
Norris	324 13 6
Birt	324 10 6
C. Collins (accepted)	314 13 6

For the erection of new offices, at Burton-on-Trent, for Messrs. Ind, Coope, & Co. Mr. James Fairclough, architect:—

Branson & Murray	£1,970 0 0
Lowe & Sons (accepted)	1,750 0 0

For branch banking-house, Walsall, for the Staffordshire Joint-Stock Banking Company. Mr. George Bidlake, architect:—

Highway (accepted)	£2,275 0 0

For alterations and repairs to the Plough Tavern, Fore-street, City, for Mr. Riches. Mr. W. Lambert, architect:—

Richardson	£987 0 0
Yardley	779 10 0
Thomas	667 0 0
Larke	621 0 0
Hodges	587 0 0

For building new Masonic hall, Oxford, for the Apollo University Lodge of Freemasons. Mr. Edward G. Bruton, architect:—

Bartlett	£1,490 0 0
Castle & Co.	1,257 0 0
Jones & Sons	1,320 0 0
Cowley	1,283 0 0
Baker	1,150 0 0

For domestic offices and additional bedrooms for the directors of the Clarendon Hotel Company, Oxford. Mr. Edward G. Bruton, architect:—

Baker (accepted)	£1,137 0 0

For new oak sashes, plate-glass windows, and cement front to the Clarendon Hotel, Oxford. Mr. Bruton, architect:—

Baker (accepted)	£396 0 0

For the enlargement of goods warehouse and new granary, at Bricklayers' Arms Station, for the London, Brighton, and South Coast Railway Company. Mr. F. D. Banister, architect. Quantities supplied:—

Sawyer	£5,834 0 0
Reddin	5,190 0 0
Matthews	5,127 0 0
Peskett	4,995 0 0
Meyers & Son	4,941 0 0
Boothman & Broomhead	4,885 0 0
Hill & Keddell	4,788 0 0
Thorn	4,765 0 0
Wardle & Baker	4,700 0 0
Moxon	4,650 0 0
Jackson & Shaw	4,600 0 0
Ansconb	4,444 0 0
W. Perry	4,444 0 0
J. Perry, jun. (accepted)	4,200 0 0
Wilson & Raynham	3,887 0 0

For the erection of All Souls' Church, St. John's Wood. Messrs. Wadmore & Baker, architects. Quantities prepared by Messrs. White & Thacker.—

Warne & Co.	£5,600 0 0
Patrick & Son	4,775 0 0
Brass	4,760 0 0
Mansfield & Son	4,725 0 0
Patman & Fotheringham	4,700 0 0
Rivett	4,663 0 0
Myers & Son	4,613 0 0
Rowe	4,518 0 0
Scrivener & White *	4,467 0 0

* Accepted, subject to certain alterations.

For the St. Thomas's Lunatic Hospital, in the parish of Heavitree, Devon. Mr. W. F. Cross, architect.—

Pollard	£32,945 0 0
Spiller	28,830 0 0
Pugh	27,814 0 0
Moses	27,820 0 0

For house and shop, in High-street, Battersea, for Mr. Scott. Mr. Charles Bowes, architect:—

Lathey, Brothers (accepted)	£208 0 0

For house and shop, St. John's-hill, Wandsworth-road, for Mr. Samuel Foster. Mr. Charles Bowes, architect:—

Eastor	£1,170 0 0
Gates	885 10 0
Farmer	847 15 0
Thornton	845 0 0
Lathey, Brothers (accepted)	760 0 0

For building detached residence, coach house, stable, &c., at Shooter's-hill, Kent, for Captain Harrison, Royal Artillery. Messrs. Wm. Gosling & Son, architects. Quantities supplied:—

Dover	£2,888 18 9
Sutton	2,485 0 0
Grey	2,450 0 0
Sykes	2,360 0 0
King & Wainman	2,230 0 0
Tongue	2,150 0 0
Thompson	2,100 0 0
Greig	1,950 0 0
Nourex	1,790 0 0
Lidbetter	1,720 0 0

For alterations to the church of St. Mary the Virgin, Northam, Devon. Mr. W. F. Cross, architect:—

Gush	£1,500 0 0
Cock	1,013 0 0
Hookway	770 0 0
Reed	751 0 0
Deadle	652 18 0
Yeo	636 0 0
Ball	581 12 0

For the erection of villa residence, at Fant-fields, Maidstone, for Mr. W. Varney. Mr. J. H. Andrews, architect:—

Shadgett	£1,469 0 0
Pryer	1,404 0 0
Naylar & Son	1,143 0 0
Ansconb (accepted)	1,131 0 0

For landing-wharf, on the banks of the Thames, Erith Marshes, for Messrs. Charles Price & Co. Mr. Hubert Ford, architect:—

Cavey (accepted)	£1,060 0 0

For sewer, and drainage to ten houses, in Lumerstone-street, Chelsea. Mr. George C. Handford, architect:—

Moxon	£877 0 0
Scrivener & White	688 0 0
Thirst (accepted)	585 10 0

For the erection of forty-six model dwelling-houses, at Wimbledon, for the Rev. Alfred Peache. Mr. James G. Smither, architect.—

	38 Houses.	8 Front Houses.
Mitchell (accepted)	£7,689	2,355

For alterations and additions to Nos. 27 and 28, Whitechapel-road, for Messrs. Clayton. Mr. F. G. Waldows, architect.

Flint	£1,600 0 0
Rivett	1,543 0 0
Hill & Co.	1,385 0 0
Child & Son	1,370 0 0
Wood, Brothers	1,335 0 0
Sewell & Son	1,298 0 0
Lamor	1,247 0 0

For the North End Sewer, Fulham.

Wigmore & Whittick (accepted)	£9,560 0 0

For making up carriage-way in the Cedar-road, Fulham.—

Elsey	£169 10 0
Johnson	109 0 0
Wigmore & Whittick	138 10 0
Coats	85 0 0
Harvey	85 0 0

TO CORRESPONDENTS.

T. G.—H. M. (the *Builder* goes to press on Thursday night).—J. D.—H. T.—Beta.—R. T. A.—A Subscriber's Wife.—A. B. H.—W. B.—F. W. (appears to have no features calling for illustration).—G. B.—Mr. N.—W. W.—Mr. W.—W. M.—E. G. B.—A. R.—C. H. D.—W. L. (oak).—B. & S.—J. R.—A. K.—W. & B.—J. B.—J. H. M.—R. M. L.—Blackburn (next week).—T. A. S.—G. B.—J. F.—C. G.—H. H.—W. G.—J. G.—J. S. (send block).—T. C.—S. P.—C. J. F.—Castel Dinas Brân (in type).—Mr. N.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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No. CCXXXI. will be published NEXT WEDNESDAY.

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I. WORDS AND PLACES.
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VII. PUBLIC SCHOOLS.
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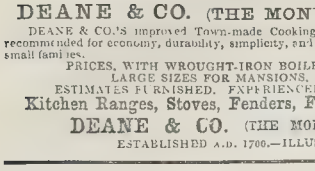
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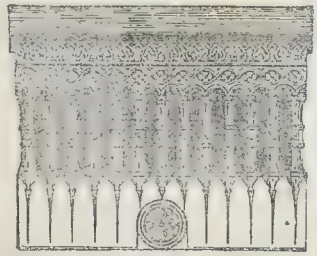


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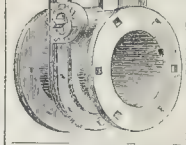
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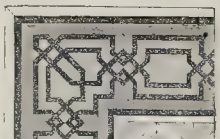
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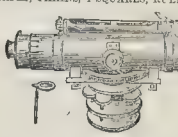
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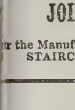
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PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.
This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

BORSTAL PORTLAND CEMENT WORKS,
ON THE MEDWAY, NEAR ROCHESTER, KENT.
MESSRS. BOOTH & CO.
BEG TO GIVE NOTICE THAT THEY HAVE SUCCEEDED TO THE BUSINESS OF
MESSRS. JOHN HOLLICK & CO.
At the above Works, and are now prepared to supply Cement of the best quality. The Cement for Hydraulic purposes has been largely used in the Metropolitan Main Drainage Works, and highly approved.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS.
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

MARTIN'S CEMENT,
Prize Medal, 1851.
THE MOST APPROVED INTERNAL STUCCO.
CAN BE PAINTED IN TWELVE HOURS.
J. C. PART, MANUFACTURER,
181, DRURY LANE, LONDON; and at DERBY.
THE BEST PLASTER OF PARIS. ESTABLISHED 1784.
Honourable Mention, 1862.

PORTLAND CEMENT WORKS,
EAST GREENWICH,
EDWIN HOLLICK,
MANUFACTURER OF PORTLAND CEMENT, OF THE BEST QUALITY ONLY, FOR THE ENGLISH AND FOREIGN MARKETS. VESSELS LOADED ALONGSIDE.
ESTABLISHED 1852.

J. B. WHITE & BROTHERS,
CEMENT MANUFACTURERS,
BRICKMAKERS, &c.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL, 42, SEEL STREET.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO., Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and consolidating powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The Limestone can be had in full cargoes, also the Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 121, Bishopsgate-street Within, E.C.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Paving for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
No. 16, SOUTH WHARF, PADDINGTON BASIN, W.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

ABERTHAW BLUE LIAS LIME COMPANY
WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.
The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE, Westbourne Grove, Paddington, W.

GREAVES'S BLUE LIAS LIME,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered in every part of London, Kingston Wharf, and Barnes, and sent by rail to every part of the kingdom by canal or rail.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its durability, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

PORTLAND CEMENT WORKS
FREEN & COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
LIME BURNERS, AND LATH RENDERS.
MANUFACTORIES AND WHARFS:—
17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, S.W.
3, CANAL ROAD, KINGSLAND ROAD, N.; and
FRINDSBURY, near STROOD, KENT.
FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland-road; or to 17, Abingdon-street, Millbank street, Westminster, will receive prompt attention.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(late Watt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

INTERNATIONAL EXHIBITION, 1862.
CLASS 33, No. 6849.
3s. 9d.
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

st. It is a non-conductor.—2nd It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half umber usually required.—4th. It can be easily applied by any unpractised person.—5th From its lightness, weighing only about 42 lbs. to quare of 100 feet, the cost of carriage is small.—6th Under slate, metal, or tiles, it is a most effective non conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. ... under the name of "Improved Zinc Paint," or "Patent Zinc Paint." Every Pure Zinc Paint is so workman can produce good work with ... which will have no covering. The Patent Zinc Paint will never willingly assume any other Paint for their best work.

... One gallon of the ground paint in oil has weight, two hundred weight of this Paint, with six gallons of oil covers as much ... two hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

NOTICE TO ARCHITECTS AND THE TRADE.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.

Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

WORKS, LONDON and BIRMINGHAM.

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.

See Advertisement first Saturday in the Month, or on application.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

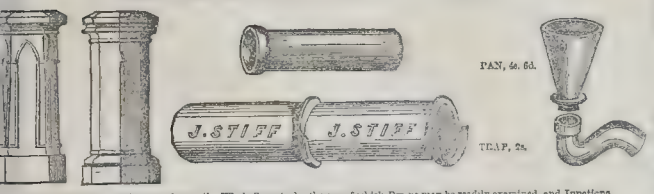
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

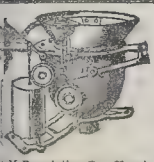


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

CLOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

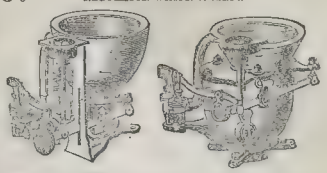
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

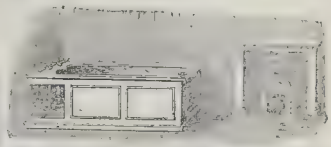
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the flush of water, perfect cleanliness is ensured. Any number can be worked at one pressure. No internal valves, cranks, or wires to get out of order. Can be seen in action at the Manufactory, and Illustrated Catalogues sent on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



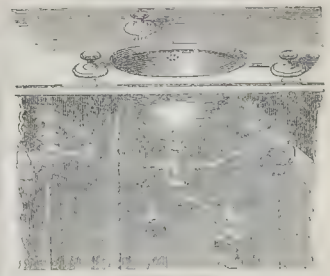
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.

ILLUSTRATED CATALOGUES FREE.



Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.



J. TYLOR & SONS' IMPROVED HYDRANT.

Catalogues free on application to the Manufacturers,

J. TYLOR & SONS,

WARWICK LANE, NEWGATE ST., LONDON.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 11. 18s.



Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), from absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c., apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

CITY OFFICES COMPANY, LIMITED.—Extensive Sale of Building Materials, Cement, and Limeand street, to clear the site for new offices.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the CITY OFFICES COMPANY, LIMITED, to SELL by AUCTION, on the PREMISES, on MONDAY, JULY 25, at TWELVE, in lots, the whole of the VALUABLE BUILDING MATERIALS comprising Portland stone, Bath stone, Yorkshire landings, Caen stone, Nos. 9, 10, 11, 12, 13, New's Head-court, and Nos. 3, 4, and 5, Church-court; comprising good sound brickwork, stone and timber in roofs, floors, and partitions, doors, sashes and frames, fittings, and other materials; also the fixtures, including lead in gutters, cisterns, and pipes, stoves, and useful fixtures.—May be viewed two days previous, and catalogues had of Messrs. F. & H. FRANCIS, Architects, 38, Upper Bedford-place, Russell-square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WOOD STREET, CITY.—Extensive Sale of Building Materials of several Houses, Factories, Ranges of Stabling, &c.

MESSRS. PULLEN, HORNE, & EVERSFIELD are directed by the Worshipful Company of Salters, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JULY 20, at TWELVE, in lots, the whole of the VALUABLE BUILDING MATERIALS comprising Portland stone, Bath stone, Yorkshire landings, Caen stone, Nos. 9, 10, 11, 12, 13, New's Head-court, and Nos. 3, 4, and 5, Church-court; comprising good sound brickwork, stone and timber in roofs, floors, and partitions, doors, sashes and frames, fittings, and other materials; also the fixtures, including lead in gutters, cisterns, and pipes, stoves, and useful fixtures.—May be viewed two days previous, and catalogues had of Messrs. F. & H. FRANCIS, Architects, 38, Upper Bedford-place, Russell-square; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

NEWGATE-STREET.—Building Materials of Four large Houses.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 22nd, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of Four HOUSES, Nos. 68, 69, and 70, Newgate-street, and 2, Sugar Loaf-court, in the rear, comprising good sound brickwork, roof timbers, joists, and other timber, slating and tiling, and paving, lead gutters and soil pipes, cisterns and pipes, doors, sashes, and frames, and other ordinary fittings, including handsome and capital wainscot chimney-pieces, large fitting cases, racks and mangers, lining and flooring boards, lead flats, gutters, cisterns and pipes, wrought iron gates, large cast iron columns, ornamental coping, ornamental railings, grate fronts, kitchen ranges, pavior's tools, gas fittings, &c.—May be viewed the day previous. Catalogues had of JOHN COLLIER, Esq. Architect, 36, Finsbury-circus; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FOR SALE, by PUBLIC AUCTION, in the SALE ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Crown Marsh, Bristol, on WEDNESDAY, the 27th day of JULY, 1864, at ONE o'clock precisely (Luncheon at Half-past Twelve o'clock) a quantity of Timber, viz.:—

15,000 Spruce Deals, Battens, and Ends
Quebec Pine and Spruce Deals
Yellow and White Deals
Dantzic Crown Red Deals, Battens, and Boards
8,000 4 by 9 inch Sandarne Red Deals
Swedish Red Deals, Battens, and Ends
Fresh Stocky Redwood and Waterwood Battens
Loads Quebec Board Yellow Pine
Logs Fresh P. E. Island Birch
Logs Spruce & White wood
Logs Quebec Oak
Logs Quebec Red Pine
Loads Quebec Elm
Loads Fresh Memel Timber, per "Minerva," just arrived
Loads Swedish Timber, per "Resa," from Sundswall, fresh shipped
Spars of Scots Masts
Fresh 4 by 6 Scantlings
Mast Pine Spars
Lots Hackmatack or Tamarack
Spruce Poles
Flooring

With other Goods.

Catalogues will be issued on the Week of Sale

Crown Marsh, Bristol, July 7th, 1864.

F. K. BARNES & SONS, Brokers.

N.B. The Brokers are expecting a superior Cargo of Mexican Mahogany, Logwood, and Spanish, all superior quality; also a Cargo of Cuba Mahogany, of fine square and good dimensions, both of which will be early date be sold by Auction, and of which due notice will be given.

HAMPSHIRE.—Important Sale of Landed Properties, comprising about 1,000 acres, nearly all freehold, in and near to the capital market town of Winchester.—By direction of the Executors of the late John Templar, esq. deceased.

MESSRS. ABBOTT & SON are favoured with instructions to SELL by AUCTION at the NAG'S HEAD HOTEL, Christchurch, on TUESDAY, AUGUST 9, very valuable ESTATES, comprising upwards of Fifty Lots of in extensive landed and timber property, forming one of the most important sales in the above district which has taken place for many years, viz:—

The splendid FREEHOLD TIMBER and UNDERWOOD, known as the Pylewell Estate, with Lodge, Gate Piers, and Entrance Drive, Pylewell Farm, with Lodge, Mount Farm, and Cottage, in the occupation of Messrs. Ketchell, containing about 300 acres; several small farms in the parish of Boldre, varying from 20 acres to 4 acres, well adapted as dwelling-houses for gentlemen, and let at £435 a-year; Ashley's Farm, Close to Lymington, with 8 acres; several enclosures of accommodation land contiguous to the town, and dwelling-houses and business premises in Lymington, to which the Auctioneers beg respectfully to direct particular attention; the whole of the above being situate near to Lymington, a town which is increasing in importance, and where eligible sites are being required, with every local address, and within three hours' ride of London. Also, THREE CLOSES of very valuable BUILDING LAND, situate close to Oxwell Bay, in the parish of Freshwater, in the Isle of Wight. The Properties near to the beforementioned comprise a Farm of about 30 acres, in Pylewell, in the parish of West Boldre, 4 miles from the fashionable watering place, Bournemouth, 5 from Wimborne, and 6 from Christchurch; and 25 acres of Land, situate at Godwin's Croft, near to Christchurch bounded by the estates of Sir G. E. M. T. Gervis, Bart. and Mrs. Jeffery, esq. and L. S. Leathes, esq.—Printed particulars, with plans, may shortly be obtained in due course of Messrs. SIMPSON, HOCKLAND, & SHAW, Solicitors to the Executors, Lymington; of Mr. Robert Rich, at the Estate Buildings, Christchurch; of Messrs. Abbott & Son, Auctioneers and Estate Agents, Christchurch, Hants.

NOTICE OF SALE.—Two Days' MONDAY and TUESDAY, JULY 18 and 19.—Fifty lots and Builders' Stock.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, on MONDAY, JULY 18, and following day, at TWELVE for ONE o'clock, the Stock in Trade of Mr. Baillie Butler, Builder, comprising 1,500 feet of well-seasoned deal boards, 1,000 feet of wide pine boards, 1,000 feet of inch deal boards, 10,000 feet wide pine and inch deal planking, 15,000 feet of prepared flooring, various thicknesses; 70 squares of 24 oz. and 1 inch sheet glass, and 600 cases, 10,000 feet wide pine and inch deal matchboarding, 17,000 feet moulding, 9 circular, bird's mouth, and other sashes, 100 doors, large quantity of deal fittings, &c.—Auction Offices, Camden-street, Hampstead-road, N.W.

SOMERS TOWN.—Final Portion of the Timber Merchant's Stock, Several Builders' Materials.

MESSRS. LEREW & LEREW will SELL by AUCTION, on No. 1, Oswald-street, Somers-town, on MONDAY, JULY 18, at TWELVE for ONE o'clock, the remaining portion of the Timber Merchant's Stock, comprising 1,000 feet of well-seasoned deal boards, wide pine boards, inch deal boards, 10,000 feet of inch deal planking, 5,000 feet of prepared flooring, various thicknesses, 70 squares of 24 oz. and 1 inch sheet glass, 600 cases, 10,000 feet wide pine and inch deal matchboarding, 17,000 feet moulding, 9 circular, bird's mouth, and other sashes, 100 doors, large quantity of deal fittings, &c. Also several lots of Builders' Materials.—Auction Offices, Camden-street, Hampstead-road, N.W.

TO TIMBER MERCHANTS, BUILDERS, CABINET-MAKERS, PIANOFORTE MAKERS, and OTHERS.—Unreserved Sale of the Stock-in-Trade of a Timber Merchant.

MR. EDMONDS will SELL by AUCTION, on the PREMISES, as above, on TWELVE for ONE o'clock precisely, on TUESDAY, JULY 26th, by direction of Mr. Hickey, the whole of the valuable STOCK: comprising 60,000 feet of Honduras mahogany, 40,000 feet of Spanish, 10,000 feet of Italian, walnut in planks and boards, a large quantity of Spanish, Honduras, walnut, rosewood, and maple veneers; 1,000 pair planks, deals, and quantity of mouldings. Unreserved sale. Catalogues may be had on the Premises, and of the Auctioneer, Finsbury-chambers, 29, New-street, Bishopsgate-street, E.C.

BUILDING LAND, on the Western Borders of Kensington Parish.

MR. GEORGE HAINES is instructed to SELL by AUCTION, at the VESTRY HALL, Kensington, on WEDNESDAY, AUGUST 3, at TWO precisely, by direction of the Trustees of the Camden Charity Estate, a valuable PLOT of about 114 feet of road frontage of FREEHOLD BUILDING LAND, known as the Harrow-road Estate, having an important frontage near the high road leading to Uxbridge and Richmond, contiguous to the West London Extension and the Hammersmith and City Railways, and adjoining to the noble mansion and grounds of the Holland Park Estate. Leases will be granted for terms of nine or seven years, and it is proposed to erect 200 houses, offering to a man of enterprise a most favorable opportunity to realise a large profit rental.—Full particulars and plans may be obtained of Messrs. GREEN, Esq. and JAMES BROADBRIDGE, Esq. Surveyor, at the Vestry Hall, Kensington; of THOS. H. MERRIMAN, Esq. Solicitor, 1, Mitre-court, Temple; of WALTER RICH, Esq. Solicitor, 1, Pulteney-terrace, Notting-hill; of Messrs. HAINES & SON, Auctioneers, Mount-street; and at the Auctioneer's Office, Grosvenor-street West, Eaton-square.

PIMLICO IMPROVEMENTS.—Eighth Clearance Sale of Five Houses

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 19th, at TWELVE o'clock, the recent BUILDING MATERIALS of five Houses, Coachmaker's Factory, and Back Buildings, Nos. 20, 21, 22, 23, and 24, Lower Eaton-street, comprising a large quantity of prime stock brickwork, slated and tiled roofings, and timbers in roofs, glazed sashes, doors, partitions, floors and joists, lead flats, cisterns and pipes, iron railings, stone floors, chimney-pieces, several capital shop-fronts, fixtures, and numerous fittings.—May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Mount-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

POSTMAN BARRACKS.—To BUILDERS, CARPENTERS, FARMERS, PLUMBERS, PLUTERERS, and others.—Final Portion and Clearance of the Materials and Fittings of the Mess, Kitchen, and several other Large Buildings on Orchard-street, Oxford-street.

MR. J. A. SMITH will SELL by AUCTION, on the PREMISES, as above, on MONDAY, JULY 18th, 1864, at TWELVE o'clock, 250 genuine large Lots of MATERIALS comprising about 50 loads of excellent Memel timber, in rafters, joists, scantling, battens, quarters, and boards; 1,000 pairs of capital yellow flooring boards, 50 six- and four-panel moulded doors, 30 pairs of sashes and frames, cupboard fronts and shelves, panel partition, marble and other chimney-pieces, 2 cwt. cases and duchess slates, 5,000 plain and fancy tiles, York paving, Portland stone steps and sills, two tons of capital cast entrance gates, 70 fathoms of firewood in three stacks, 30 cwt. cooper stoves, kitchen ranges, and large quantity of old iron, cast and wrought; the detached office, erection of stable with tiled roof, and the whole of the stout posts and rails, and a great quantity of other effects: the whole to be sold without any reserve whatever, as the premises are required for pulling down in two days.—May be viewed, and catalogues had on the Premises; and of the Auctioneer, King-street, Hammersmith, who will forward them by post on application.

200 Italian, Belgian, and English MARBLE CHIMNEY PIECES, Lately imported, elaborately and classically carved by Italian foreign artists: Malachite Pyramidal Ornaments, Table-tops, Panels suitable for Cabinets, Columns, &c.

MR. JAMES ROBINS will SELL by AUCTION, at Mr. GAGAN'S NEW MARBLE DEPOSITORY, No. 489A, New Oxford-street, on SATURDAY, JULY 23rd, at TWELVE, ONE HUNDRED CHIMNEY PIECES, in pure statuary, black and gold, color, some inlaid, and all richly carved, one presenting a very commanding appearance 12 feet high, suitable for dining rooms, libraries, entrance halls, and halls to distinguish mansions, as well as others for handsome second class residences; also several chimney-glasses, &c.—On view and Catalogues had.

RAILWAY CART HORSES.—Mr. R. Brollymould's Second Portion of the Transport Cart Horses of Messrs. Pickford & Co.

MR. J. GOWER will SELL by AUCTION, at the Repository, Bayham-street, Camden-town, on FRIDAY, JULY 22, 1864, at ONE o'clock, Thirty first-class Young Powerful English CART or VAN HORSES. Among them are several active 7 years old and 8 inch Van Horses, that have been piped on the above line in connection with a portion of the works has recommended. On view two days prior.

OXFORD.—To Speculators and Building Societies.—Most valuable Freehold Building Ground, St. Giles's, in the City of Oxford, in part only to be opened shortly, and valuable Property adjoining, the Corporation Property, Beaumont-street, St. John's-street, and the Railway Stations.

MR. JOHN FISHER begs to announce that he is instructed by the Corporation of the City of Oxford, to SELL by AUCTION, at the Mitre Hotel, Oxford, on WEDNESDAY, AUGUST 17, at THREE o'clock precisely, the Site of the present Cattle Market, consisting of about 3a. 2r. 30p. with a frontage to Beaumont-street of 180 feet. This property is free from tithe, and the Corporation is released; it offers the finest opportunity that has ever occurred for building speculation, and is divided into Building Lots, for any Public Institution or Gentleman of extensive means. Let for a long term, and can be known, on application to Mr. H. JACOBS, Clerk to the Board of Improvements, Beaumont-street; or the Auctioneer, 4, Hall-street, Oxford, where plans may be seen.

Freehold Lands, in the parish of Dagenham, in the county of Essex: comprising about 64 acres, whereby possession; in lots suitable to purchasers.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL, by AUCTION, at the GUILDHALL COFFEE HOUSE, Gresham-street, on THURSDAY, the 28th day of AUGUST next, at THREE o'clock precisely, in the following lots, by order of the Trustees of the late FREEHOLD ARABLE and MARSH LANDS, with Farm-house, called or known for the term of fifteen years, from 29th September, 1851, by Mr. ALEX. HOWARD, at the yearly rent of £97; the tenant paying the land-tax and rates: Lot 1 will comprise about 21 acres of capital arable land, with farm-house and proper sets, situate Beacon Tree Field, Jockey Field, and Hadrell-heath estate, and 2½ miles from the Romford Station on the Great Eastern Railway; and the remaining lots will consist of five small pieces of fertile arable land, situate in Dagenham-street, close to the Rainham Station of the London, Tilbury, and Southend Railway, and near to the high road between Romford and Rainham, and plan showing the property to be sold may be obtained of Messrs. RANKEN, FORD, LONGBOURNE, LONGBOURNE, Solicitors, 4, Southsquare, Gray's inn; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 19, Wellington-place, Pall-Mall.

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[illegible] Lots, on WEDNESDAY, the 27th day of JULY, 1864, at TWELVE for ONE o'clock precisely, by direction of the Executors of the late Mr. Thomas Williams, deceased, in the following Lots (unless previously disposed of by Private Contract, of which due notice will be given), all that valuable Freehold Property, situate in the Parish of Hornsey, in the County of Middlesex, and known as Nos. 1 and 2, Mount-villas, Mount-pleasant-lane, Hornsey-rise, and Nos. 1 and 2, Mount-villas, Mount-pleasant-lane, Upper Holloway, comprising Two Lots of Freehold Land, with the Dwelling-houses thereon, and the Stables, Coach-houses, Sheds, and Outbuildings, and the Gardens and Premises thereto belonging, and now in the occupation of the Executors and Tenants.

Lot 1 comprises a Plot of Freehold Land, with the Dwelling-house, Stables, Coach-houses, Sheds, and Outbuildings, and the Gardens and Premises thereto belonging, and now in the occupation of the Executors, containing in front to the road 50 feet, and in depth 150 feet, more or less.

Lot 2 comprises a Plot of Freehold Land, with the Dwelling-house, Stables, Coach-houses, Sheds, and Outbuildings, and the Gardens and Premises thereto belonging, and now in the occupation of a Tenant, containing in front to the road 50 feet, and in depth 150 feet, more or less.

Printed Particulars, with Plans, may be obtained of Messrs. RANKEN, FORD, LONGBOURNE, and LONGBOURNE, Solicitors, 4, South-square, Gray's-inn; of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 19, Wellington-place, Pall-Mall, S.W.

IN CHANCERY.—In the Matter of the Estate of Robert Wand of the Trustees as per Deed to Trustees, dated the 14th day of April, 1864, and executed on the 15th day of May, 1864, as to one undivided Third Part, and by Order of Trustees, for Sale as to the other two undivided Third Parts, bearing date the 14th day of June, 1864, and made in the Matters of Robert Wand and Others, Infants, and in the Matters of Bankruptcy, Ex parte Thomas Wand, of Dagenham, in the County of Essex, Farmer, and Robert Wand, of Dagenham aforesaid, Farmer.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, Gresham-street, on THURSDAY, the 28th day of JULY, 1864, at THREE o'clock precisely, in the following valuable FREEHOLD ESTATES, viz.:—Lot 1, Grove Farm, situate in the parish of Barking, on the high road, midway between Great Ilford and Romford, and near to the Goodmayes Station on the Great Eastern Railway; comprising an exceedingly compact rent-charge, with convenient farm-house, offices and large barn, extensive stabling and farm-buildings, and several inclosures of productive arable and pasture land, containing altogether 16a. 3r. 32p. in the occupation of Mr. John Dawson, a yearly Michaelmas tenant. Lot 2. Two Inclosures of sound Arable Land, situate adjoining Lot 1, containing together 10a. 3r. 34p. Lot 3. Several Inclosures of Arable and Pasture Land, with good shed, situate near Lots 1 and 2, on the opposite side of the road, adjoining the property of John Philpot, esq. and — Pedley, esq. and containing together 17a. 3r. 4p. Lot 4. Several Inclosures of productive Arable Land, in the parish of Dagenham, and containing together 7a. 3r. 19p. Let to Mr. Mc. Salmon, Schoolmaster, for a term expiring Lady-day, 1865, at a yearly rent of £20. Lot 5. The Inclosure of Arable Land, situate in the parish of Barking, adjoining Lot 6, having an extensive frontage to the high road, admirably adapted for building purposes, and containing 8a. 3r. 9p. This lot is believed to contain valuable brick earth. Lot 6. An Inclosure of Arable Land, situate adjoining lots 2 and 14, with an extensive frontage to the high road, and containing 8a. 3r. 32p. Lot 7. A small Dwelling-house and outbuildings, together with two inclosures of sound arable land, containing together 3a. 3r. 13p. situate in the parish of Dagenham, near to the above lots and the high road, in the occupation of Messrs. Thomas and John Dunsdon, yearly tenants. Lot 8. Four Tenements, each one part with gardens, situate adjoining the foregoing, and containing 28 perches, in the occupation of Thomas and John Dunsdon or their under tenants. Lot 9. An Inclosure of Productive Arable Land, in the parish of Barking, presenting a good building site, situate adjoining lot 2, with a considerable frontage to the high road, and containing 3a. 2r. 21p. Lot 10. An Inclosure of sound Arable Land, situate adjoining lots 1 and 11, with a considerable frontage to the high road, and containing 3a. 3r. 26p. Lot 11. An Inclosure of productive Arable Land, adjoining lot 10, containing 3a. 1r. 7p. Lot 12. An Inclosure of capital Pasture Land, situate on the north side of Dagenham, containing 3a. 1r. 34p. Lot 13. A small Dwelling-house, with Farrier's shop and good walled garden, offering an excellent building site, situate adjoining lots 3 and 6, with a good frontage to the high road, and containing 2r. 21p. Lot 14. A Block of Six Freehold Arable Fields, situate adjoining lot 2 and the Greyhound Inn, and containing 16a. 0r. 0p. May be viewed on application to the respective tenants, and particulars had at the Guildhall Coffee-house, Gresham-street, E.C.; of Messrs. HOLLINGWORTH, TURMAN, & GREEN, 3, Serjeants'-inn, Fleet-street, E.C.; of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 19, Wellington-place, Pall-mall, S.W.

CHARING CROSS RAILWAY, (CITY TERMINUS.)—To Builders, Contractors, Tavern, and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 26th, 1864, at ONE for TWO o'clock, punctually, the valuable Brick and Timber BUILDINGS, Sheds, and Scaffolding, together with DWELLING-HOUSES, Bar, and Scott's Yard, forming the Ground Floor of Nos. 1 and 2, Scott's-yard, together with the Ground Floor of No. 3, Duncannon-street, Strand, comprising Stock Bricks, slates, and tiles, sound timbers, joists, and flooring boards, cast and lead pipes, gutters, and ridges, sashes and frames, doors and fittings, and a variety of useful fixtures and fittings up.—May be viewed the day prior and morning of sale, and catalogues had on the Premises; at the Contractor's Office, Waterloo-street, Strand-bridge; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

THE ROBERTSFORS IRON WORKS COMPANY (Limited). To be incorporated under the Companies Act, 1862, by which the Liability of Shareholders is limited to the Amount of their Shares. Capital, £200,000, in 10,000 Shares of £20 each. Deposit £1 per Share on Application, and £2 on Allotment. First Issue, 7,500 Shares. No Call will exceed £5 per Share, at intervals of not less than three months.

No Dividend on any Shares will be paid, and the preliminary expenses will be confined strictly to the proper charges on a Company.

The Right Hon. Lord Garvagh, Arms and Navy Club, Pall-mall, S.W.
D. C. Griffith, esq. F.R.G.S. Messrs. Griffith & Barton, assayers, 19, Basinghall-street, and the Argyle Mews, Argyle-street.
Robert Mushet, esq. Messrs. Gudelmont & Weylandt, Bankers, Stockholm.
Edward Nicholl, esq. Messrs. Glyn, Mills, Currie, & Co. Lombard-street.
Edward Nicholson, esq. Osmonde House, Bagnor, Sussex, Director of the General Produce and Estate Agency Company, (Limited)
J. Pullen, esq. Messrs. Paton & Co. Lombard-street, Solicitors.
Charles Wicher, esq. Messrs. G. Hammond & Co. Swedish and Norwegian and Russian Merchants, Old Jewry.
(With power to add to their number.)
Bankers.—The Consolidated Bank (Limited), Fenchurch-street.
Auditors.—Messrs. Bennett & Gadsden, Accountants, 11, Angel-court, Throgmorton-street.
Solicitors.—Messrs. Lumley & Lumley, 39, Lincoln's-inn-fields.
Secretary (pro tem.)—Mr. Edward Nicholson, 6, Lombard-street.
Temporary Offices, 7a, Laurence Pountney-hill, Cannon-street, E.C.

The Company is formed for the purchase of the extensive estate of Robertsfors, situate in the province of Westerbotten, in Sweden, comprising a considerable freehold Crown lands, with large forests and valuable timber, and iron-works, also timber and iron-works, shipbuilding-yards, &c. and Robertsfors, the capital of West Bothnia, is also the port for shipping the produce of the estate, and is situated on the Gulf of Bothnia; and also to extend the present manufacture of iron, &c. Bessemer steel process, to take the very profitable trade of the export of pig, bar, and rail, now in the hands of the Swedish Government.

The purchase money has been settled at £80,000 for the whole of the property, timbers, works, &c. which have been carefully surveyed by a competent engineer Mr. Peter B. Cowing; and on his report His Majesty the King of Sweden has given permission to form a Joint-Stock Company, and confirmed the valuation of the property at £80,000 Sterling, or 1,440,000 Rix Dollars.

The Articles of Association, with plans of the estates and samples, may be inspected at the Offices of the Company, where also the deeds and reports of the property may be had on application.

Prospectuses and forms of application may be obtained of the Bankers, Brokers, and at the Offices of the Company.

TO BUILDERS.

BRICKWORK POINTED, by Contract or otherwise, in town or country, on the best terms, by W. SILES, 1, Map-place, George-street, Hollow-ay, N.

OAK TIMBER.—Two first-class TREES, one 20 feet long by 40 inches quarter girth, the other 20 feet long by somequarter girth, FOR SALE; both within 8 miles of the Ludgate Hill Station, on the London and North-Western Railway.—For price and particulars, apply to Mr. WILLIAM BAND, Auctioneer and Estate Agent, Astley Bridge, near Bolton-le-Moors, Lancashire.

London:—Printed by CHARLES WILMAN, Printer, at the Printing-office of C. & E. Wyman, No. 74, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WILMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-Garden, both in the County of Middlesex.—Saturday, July 16, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1120. JULY 23, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.—The SEVENTEENTH ANNUAL MEETING of the Subscribers and Friends of this Charity will be held at the LONDON TAVERN, on THURSDAY next, the 28th instant, at THREE o'clock p.m. Mr. Alderman JAMES C. LAWRENCE, President of the Institution, in the chair, to Receive the Report for the past year, Elect the President, Treasurer, Directors, and Auditors for the year ensuing, and of her business connected with the welfare of the Institution.

July 22, 1864. A. G. HARRIS, Secretary.

INSTITUTE of PAINTERS in WATER COLOURS will close their 30th Annual Exhibition on SATURDAY next, JULY 30th inst. at their GALLERY, 53, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d. JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION.—The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

BY Order of the Secretary of State for India in Council.

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will, in the year 1865, be open to Public Competition.

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office 14th July, 1864.

THE EXHIBITION of the WORKS of MULREADY, at the South Kensington Museum, WILL BE CLOSED on the 30th JULY next, by order of the Lords of the Committee of Council on Education.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

73–74, Bishopsgate-street Within.

COMPETITIONS.

BOROUGH of WALSALL.—To ARCHITECTS.—The Walsall Town Council are desirous of receiving DESIGNS for a TOWN-HALL and GAOL.—A premium of 20*l.* will be given for the Design which in the opinion of the Council is the best, and a Premium of 15*l.* for that which is in their opinion the second-best; and both these sets of plans are to become the absolute property of the Council. Plans of the site, with statements of the offices and conveniences required, and of the conditions to be observed by the competitors, may be had on application to the Town Clerk.—By order, SAMUEL WILKINSON, Jun. Town Clerk.

Walsall, 14th July, 1864.

TO ENGINEERS.—The Tamworth Local Board of Health being desirous of obtaining PLANS, ESTIMATES, and SPECIFICATIONS for the DRAINAGE of the TOWN, and for obtaining an adequate SUPPLY of WATER suitable for domestic purposes, offers a Premium of 25*l.* for such Plans, &c as shall be ultimately approved of and adopted. The Board will pay for one set only of plans, estimates, and specifications, and which shall become the property of the Board. Those not adopted will be returned. All plans, estimates, and specifications are to be sent to me on or before the 20th day of AUGUST next THOMAS ARGYLE, Town Clerk.

Tamworth, 14th July, 1864.

SUSSEX COUNTY HOSPITAL.—Certain ADDITIONS and IMPROVEMENTS to the BUILDINGS of the SUSSEX COUNTY HOSPITAL being required, Architects are hereby invited to send to the Committee of Management, within three months from this date, Plans, Specifications, and Estimates, in accordance with the Medical Officer's Report and other printed instructions to be obtained from the Secretary.

N.B.—The plans and measurements of the present building can be seen at the Hospital.—By order, ARTHUR VESEY, Secretary.

Brighton, 13th July, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—To BUILDERS and CONTRACTORS.

TENDERS are required for the PERFORMANCE of the WORK required in the ERECTION of a DOUBLE BALL-COURT at the top of C. Lines in the North Camp at Aldershott, Plants, the plans and specifications for which may be seen at this Office.

Persons desirous of Tendering for this Work must leave their names at this Office on or before SATURDAY, JULY 30th, 1864, and deposit the sum of Half a Guinea for the Bills of Quantities, which may be had at the same time, as also forms of Tender and general conditions of Contract.

The Tenders to be addressed under cover to the Director of Contracts, War Office, Pall mall, London, S.W. indorsed in the left-hand corner, "Tender for Ball-court at Aldershott," and delivered by TEN o'clock a.m. on SATURDAY, the 6th of AUGUST next.

Royal Engineer Office, Aldershott, 20th July, 1864.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for the ERECTION of an OFFICERS' MESS ESTABLISHMENT, and a portion of BOUNDARY WALL, at Milton Barracks, Gravesend.

Persons desirous of Tendering for the execution of these Works are requested to make application to this Office, on or before MONDAY, the 25th JULY, 1864, and to pay the sum of 10*s.* 6*d.* for the bills of quantities, which will be forwarded as soon as prepared by the Government Surveyor.

The Secretary of State for War does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Gravesend,
15th July, 1864

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the REPAIRING and MAKING UP of York-street, Cross-street, and Stanford, in the parish of Battersea. The specification can be seen at the Offices of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in under seal, addressed to the Board, and indorsed, "Tender for Repairing Streets, Battersea," on or before MONDAY, 25th JULY inst. Security will be required for the due execution of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,

ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Battersea rise, Wandsworth, S.W. July 12th, 1864.

CARDIFF HOTEL COMPANY (Limited). To BUILDERS.—TENDERS will be received for BUILDING an HOTEL in St. Mary-street, Cardiff, for the Cardiff Hotel Company (Limited). The specification and drawings may now be seen at the Company's Office, 23, Trinity-street, Cardiff; and copies of the bill of quantities may be obtained, after the 23rd instant, upon payment of one guinea for each. Sealed Tenders, endorsed "Tender for Hotel," to be delivered at the above Office, addressed to the Secretary, HENRY HEARD, Esq., not later than on the 3rd of AUGUST next. The directors do not bind themselves to accept the lowest or any Tender.

Cardiff, July 11th, 1864. C. E. BERNARD, Architect.

TO BUILDERS.—Trinity House, London, E.C. 11th July, 1864.—The Corporation being desirous of obtaining TENDERS for the ERECTION of a STOREHOUSE and OTHER BUILDINGS at their Quay Wharf at Harwich, hereby give Notice that the plans, specifications, forms of Tender, and conditions of the proposed contract are deposited at this House and at the Quay Wharf, and may be inspected on any day between the hours of TEN o'clock a.m. and FOUR p.m. The Tenders must be sent to this House on the forms provided and directed as required, on or before MONDAY, the 1st of AUGUST next. The Corporation do not pledge themselves to accept the lowest or any Tender.—By order of the Corporation.

P. H. BRETHON, Secretary.

TO ENGINEERS, BUILDERS, and OTHERS.—Trinity House, London, E.C. 11th July, 1864.—The Corporation being desirous of obtaining TENDERS, for the ERECTION of LIGHTHOUSE BUILDINGS, on St. Bees Head, near Whitehaven, hereby give notice that the plans, specifications, forms of tender, and conditions of contract, are deposited at this House, and at the St. Bees Lighthouse, and may be inspected on any day between the hours of TEN o'clock a.m. and FOUR p.m. The Tenders must be sent to this House, on the terms provided, and directed as required, on or before MONDAY, the 1st AUGUST next. The Corporation do not pledge themselves to accept the lowest or any Tender.—By order of the Corporation,

P. H. BRETHON, Secretary.

CONTRACTS.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the SPALDING and MARCH LINE (about 19¼ miles long) and STATIONS. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY; where also the working drawings may be inspected, and copies of the general plan and working section, and other information may be obtained, on payment of 3*l.* 3*s.* Tenders sealed up and marked "Tender for Spalding to March Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 9th AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, 27th June, 1864

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for FISHING BOLTS and SLEEPER BOLTS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of FISHING BOLTS and SLEEPER BOLTS for this line—about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received), at the Office of Mr. Cubitt, 37, Great George street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders sealed up and marked "Tenders for Fishing Bolts and Sleeper Bolts," must be lodged at this Office, before TWELVE o'clock at noon on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, N. June 27, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for SLEEPERS. The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for this Line—about 19¼ miles in length. Parties disposed to Tender may obtain the specification and forms of tender (on which form only Tenders will be received) at the Office of Mr CUBITT, 37 Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders, sealed up and marked "Tenders for Sleepers," must be lodged at this Office, before TWELVE at Noon, on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross Station, London, 27th June, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19¼ miles in length). Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr CUBITT, 37, Great George street, Westminster, S.W. on or after TUESDAY, the 12th JULY.—Tenders sealed up and marked "Tender for Rails and Fish Plates," must be lodged at this Office before ELEVEN o'clock a.m. on TUESDAY, the 2nd AUGUST, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross Station, London, N. June 27th, 1864.

CROYDON LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for the EXCAVATION and REFILLING of about 12,000 lineal yards of WATER PIPE TRENCHES, in accordance with the specification of Mr. BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board of Health, can inspect the said specification at the Engineer's Office, in the Town-hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Water-pipe Trenches," are to be delivered at the Offices of the Local Board, in the Town-hall, Croydon, on or before TUESDAY, the 2nd of AUGUST next, ensuing. The Local Board do not bind themselves to accept the lowest or any Tender.

July 16th, 1864. HENRY RICHARDS, Clerk.

CROYDON LOCAL BOARD of HEALTH. To STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the SUPPLY of the thousand tons of Best GRANITE for road purposes, and also GRANITE and PURBECK CURBS of various scantling, in accordance with the specification prepared by Mr. Latham, C.E. the Engineer of the Local Board, can inspect the said specification at the Engineer's Office, in the Town hall, Croydon, on or after this day.—Sealed Tenders, endorsed "Tender for Granite," are to be delivered at the Office of the Local Board in the Town-hall, Croydon, on or before MONDAY, the 8th day of AUGUST next. The Local Board do not bind themselves to accept the lowest or any Tender.

July 8th, 1864. HENRY RICHARDS, Clerk.

TO BUILDERS and CONTRACTORS.—STAFFORDSHIRE.—Persons disposed to TENDER for the ERECTION of a POLICE STATION and MAGISTRATE'S ROOM at Tipton, may inspect the plans and specification, and obtain bills of quantities at my Office, on and after TUESDAY, the 2nd day of AUGUST, until THURSDAY, the 11th of AUGUST. Sealed Tenders, endorsed "Tipton Police Station," must be delivered at my Office, on or before the 11th AUGUST, by TEN o'clock a.m. A charge of 1*l.* 1*s.* will be made for each copy of quantities, but will be returned to all parties submitting Tenders for the works. Neither the lowest nor any Tender will necessarily be accepted.

ROBERT GRIFFITHS, Architect.

County Surveyor's Office, Eastgate-street, Stafford, 20th July, 1864.

[For remainder of Contracts see next Page.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of an HOTEL at Lifracombe, North Devon, are requested to send their names to Mr M. C. W. HORNE, Architect, 20, Guildford-street, London, W C

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of the Board will be held on MONDAY, the 1st day of AUGUST, 1864, at SIX o'clock in the evening, at the office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the EXECUTION of the several WORKS connected with the sewers and drains of the district, particulars of which are described in the specification or schedule of contract prepared by direction of the Board, for the period of one year. A copy of the specification or schedule of Tender may be obtained at the office of the Board, upon payment of the which will be returned to persons tendering. All tenders must be delivered at the Office previous to the time of meeting, endorsed "Tender for Sewer Works," and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender. ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, July 19, 1864.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 1st day of AUGUST, 1864, at SIX o'clock in the evening, at the office, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the execution of certain BRICK SEWERS, to North street, Percival's buildings and Raven-row, in the parish of Whitechapel, within the said district. Plans, sections, and specifications may be inspected and further particulars, with printed forms of Tenders, obtained, on application to Mr FRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Each Tender, endorsed "Tender for Sewer Works," upon each of which a ten-pound note is to be enclosed, must be delivered at the Office previously to the time of meeting; and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, July 19, 1864.

ST. MARYLEBONE. — To PAINTERS, BUILDERS, CONTRACTORS, &c.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the county of Middlesex, will meet in the Board room of the Court House of the said parish, on THURSDAY, the 28th day of JULY, 1864, at ELEVEN o'clock in the forenoon, to open TENDERS for PAINTING and REPAIRS to the COURT HOUSE of the said parish, particulars of which may be known, on application to the Vestry Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court House, from TWELVE till ONE o'clock. Tenders to be sent in sealed and addressed to the Vestry Clerk, before ELEVEN o'clock in the forenoon of the said 28th day of JULY, 1864. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Vestry will expect the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders.—By order,

July 14, 1864. W. E. GREENWELL, Vestry Clerk.

ST. SAVIOUR'S DISTRICT BOARD of WORKS.—ELECTION of a CLERK of the WORKS and a FOREMAN of the WORKS.—The Board are desirous of ENGAGING a CLERK of the WORKS, to SUPERINTEND the performance of all PAVING and SEWAGE WORKS within the district, to take the admeasurements thereof, and keep an account of the charges in relation thereto; to inspect, whenever necessary, the various sewers within the district, to superintend and have the custody of all stone and materials of every description the property of the Board, and keep an account of such stone and materials, and of all dealings therewith; to have the superintendence of the men in the employ of the Board, and keep an account of their time; and to keep all other books and accounts that may from time to time be thought necessary. He will be subject to the orders and duties as set under the direction of, the Surveyor. Salary, 85l. per annum.—The Board are also desirous of ENGAGING a FOREMAN to SUPERINTEND the STONEYARDS, and have the general and constant superintendence of the stone and other materials; to keep an account from day to day of all stone and other materials received or delivered, and for which no account the Clerk of the Works can keep the stone and other materials are managed as to be accessible and convenient for removal; and to act under the directions of the Clerk of the Works and of other Officers of the Board. He must be an experienced workman, able and willing to assist in any work that he may be required. Wages, 27s. per week.—Candidates for either of the above situations must send in their applications (to be written once only), addressed to the Clerk of the Board, on or before TUESDAY, the 26th JULY instant, and each of the candidates shall be selected will be communicated with, and required to be in attendance at the meeting of the Board on WEDNESDAY, the 27th JULY, at SEVEN o'clock in the evening.—By order of the Board,

HERBERT STURMY, Clerk.

Board-room, Emerson-street, Bankside, Southwark, 21st July, 1864.

TO BUILDERS.—BATH UNITED HOSPITAL.—Builders disposed to CONTRACT for ERECTING the ALBERT MEMORIAL WING, and making other Additions and Alterations to the Bath United Hospital, may see the drawings and specifications at the Hospital, and send Tenders either for the whole of the work, or for one or more of the several trades to be sent us by ELEVEN a.m. on THURSDAY, the 18th AUGUST next, endorsed, "Tender for Works at the Bath United Hospital." The Committee do not pledge themselves to accept the lowest or any Tender.

MANNERS & GILL, Architects.

No 1, Fountain-buildings, Bath, 14th July, 1864.

TO PLASTERERS. — The LABOUR to the PLASTERING of a Twelve-roomed HOUSE, at Worthing, Sussex, TO BE LET.—For particulars, apply to Mr. GEORGE HEAD, 17, Montague-street, Worthing.

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of a WESLEYAN CHAPEL, at Buxwich, in the county of Stafford, may inspect the plans at Aspendale, and obtain bills of quantities, by applying at the Office of the Architects, on and after THURSDAY next, the 21st, until SATURDAY, the 30th JULY. Tenders to be sealed, and addressed by post to the Rev. W. M BAMBRIDGE, Wesleyan Minister, Buxwich, not later than WEDNESDAY, the 3rd of AUGUST. Each Tender to be endorsed on the out side of the envelope, "T. B. C." The Trustees do not bind themselves to accept the lowest or any Tender. LOXTON, BROTHERS,

Architects and Civil Engineers, Russell street, Wednesbury

CORPORATION of MANCHESTER.—To MASONS, BRICKLAYERS, JOINERS, and OTHERS.—The Watch Committee are desirous of receiving TENDERS for the CONSTRUCTION of a CHIEF FIRE-STATION, in Jackson's row, each trade to be tendered for separately. Plans and specifications may be seen and particulars obtained, on and after MONDAY, the 25th inst. on application at the City Surveyor's Office, in the Town-hall, upon the deposit of One Guinea, which will be returned to all parties sending in Tenders. Tenders endorsed "Tender for Chief Fire-Station," to be delivered at the Town-hall, on or before WEDNESDAY, the 10th day of AUGUST. The Committee do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH HEBON, Town Clerk.

Town-hall, Manchester, July 23, 1864.

SLEEPERS WANTED, 10,000 HALF-ROUND REDWOOD BALTIC SLEEPERS, CREOSOTED, 8 ft. 11 in. long, by 10 in. by 5 in. as small end.—For particulars apply to Messrs. PETO & BETTS, 3, Great George-street, Westminster.

Tenders received later than the 30th JULY.

TO BRICKMAKERS. — Surrey County Lunatic Asylum.—Persons willing to SUPPLY this Institution with about 150,000 good STOCK BRICKS, delivered in barge loads of about 30,000 each, to the Basin Wharf, Waterside, Wandsworth, are requested to send in sealed Tenders, endorsed "Tender for Bricks," and addressed to the Committee of Visitors, Surrey County Lunatic Asylum, near Tooting, S. on or before FRIDAY, the 29th of JULY instant. The Bricks will be required to be delivered between the 14th of AUGUST and the 30th of SEPTEMBER next. The Visitors do not bind themselves to accept the lowest or any Tender.—By order,

S. BRIDGLAND, Clerk to the Committee of Visitors.

14th July, 1864.

TO BUILDERS. — Builders wishing to TENDER for the ERECTION of a PAIR of Semi-detached HOUSES, at Barnet, are requested to apply to

T. W. GOODMAN, Architect.

27, King William-street, Strand, W.C.

TO GAS WORKS CONTRACTORS, ENGINEERS, and IRONFOUNDERS.—The Llandilo Gas Company (Limited) are prepared to receive TENDERS for the ERECTION of the necessary IRON-WORK, consisting of a 30-feet Gas-holder, Retorts, Condensers, Purifiers, and about 1,600 yards of Cast iron Gas-pipes.—Plans and Specifications may be seen at the Office of the Company, Llandilo, on and after the 1st of AUGUST next, on application to Mr. E. BAGOT, Llanelly, and sealed Tenders, endorsed "Tender for Gas-works," are requested to be sent in, addressed to the Secretary, on or before MONDAY, the 15th of AUGUST next. The Company to be at liberty themselves to accept the lowest or any of the Tenders.—By order,

THOS. EVANS, Secretary.

Llandilo, July 19 h, 1864.

TO BUILDERS and OTHERS.—Parish of the HOLY TRINITY, Colchester.—Persons willing to TENDER for the BUILDING of a NEW TRANSEPT, and other ADDITIONS, being part of a Design for the Enlargement of the Church, may see the plans and specifications on and after the 28th of JULY instant, by application to the Churchwardens, who will on the mean time give any information that may be required. Tenders must be sent in to the Churchwardens not later than the 4th of AUGUST next. The Committee will not be bound to accept the lowest or any Tender.

Colchester, 20th July, 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of an HOTEL, Stabling, and Tap, on the site of the present Bell Hotel, Southgate-street, Gloucester. Drawings, specification, and conditions of contract, may be seen at the Office of the Architect, Mr. HENRY JAMES, Eastgate-street, Gloucester, on and after the 4th of AUGUST next. The lowest or any Tender will not necessarily be accepted.—By order of the Provisional Directors. THOS. TAYNTON, Secretary pro. tem.

Gloucester, July 20, 1864

TO MASONS and OTHERS.—The Trustees of the late Samuel Emsley, esq. are ready to receive TENDERS for PAVING, CURBING and CHANNELLING certain STREETS, on their estate, situate at Bethnal green. The plan, a scdicat on, and conditions of contract, can be seen, and forms of Tender obtained, upon application to me. The Tenders are to be delivered on or before FRIDAY, the 29 h JUNE, 1864. The trustees do not bind themselves to accept the lowest or any Tender

CHARLES DUNCH, Architect.

White Horse-street, Commercial road East, July 13, 1864.

TO BUILDERS. — TENDERS wanted for the ERECTION of FARM BUILDINGS and COTTAGES, on the Estate of the Right Hon. Lady de la Zouch. Plans and specifications to be seen on and after FRIDAY, JULY 22nd, at the Parsonage Farm-house, Hendfield; and at Brickyard, Storrington; or with Messrs J. & J. GIRDWOOD, 49 Pall mall, London; to whom Tenders are to be forwarded not later than FRIDAY, JULY 29th. The lowest Tender will not necessarily be accepted

TO BUILDERS.—TENDERS are required for the ERECTION of a VILLA, with stabling, and also for the COMPLETION of FOUR UNFINISHED SHOPS, at Farnborough near Aldershott. Drawings, specification, and conditions of contract, may be seen at the Architect's Office No 4, Lancaster-place, Strand, on and after TUESDAY next the 19th inst. The Tenders are to be delivered at the Architect's Office, on FRIDAY, the 29th instant, at ELEVEN o'clock, in separate amounts. The lowest or any Tender will not necessarily be accepted. HENRY CURREY, Architect.

4, Lancaster-place, Strand, W.C July 14, 1864

TO BUILDERS and CONTRACTORS.—RE-ROOFING, RE-PEWING, REFITTING, and otherwise RESTORING the ancient Parish CHURCH of Egloys-ruh (between Llandudno and Conway).—Parties desirous of TENDERING for the above WORKS may see the plans and specifications on and after WEDNESDAY, the 20th JULY instant, at the office of Mr. GEORGE FELTON, Architect, Llandudno. Tenders to be sent in to me by the last day of AUGUST next. The Committee do not bind themselves to accept the lowest or any Tender

JOHN WILLIAMS, Honorary Secretary.

Bodafon, Llandudno, July 13, 1864.

CORPORATION of MANCHESTER.—TO CONTRACTORS. The Waterworks Committee is prepared to receive TENDERS for the CONSTRUCTION of a SERVICE RESERVOIR at Prestwich Hills, about 4 miles from Manchester. Plans may be seen, and printed copies of the specifications obtained, on and after THURSDAY, the 7th inst. on application at the City Surveyor's Office at the Town-hall. A charge of Two guineas will be made for a copy of the specification. Tenders will be received when the Tender is delivered, whether the party tendering obtains the Contract or not. Tenders, endorsed "Tender for Service Reservoir," addressed to the Chairman of the Waterworks Committee to be delivered at Mr. BERREY, at the Waterworks Offices, Town Hall, Manchester, not later than the 2nd of AUGUST next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH HEBON, Town Clerk.

Town-hall, Manchester, 2nd July, 1864.

BRICKS for SALE.—About 200,000 RED FACING BRICKS, lying at Grays, Essex.—Apply at the office of the Grays Chalk Quarries Company (Limited), 8, George-yard, Lombard-street, London, where a sample may be seen.

TO BUILDERS and OTHERS.—Superior RED and STAINED TILES, RED KILN BRICKS, and ORNAMENTAL WARE, in Stock and to Order, at TREMLIN'S Bridge and Tile Factory, Wateringbury, Kent. Can be put into Medway barges, or on the South-Eastern Railway.

TO BRICKMAKERS. — All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

The advantages of this plan are two-fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

AYLESFORD and BURHAM BRICK WORKS near Maidstone, Kent.

MR. GEORGE FURNESS

Having increased his mechanical appliances for the Manufacture of Bricks by erecting a number of the most approved patent machines, Architects, Builders, and Contractors are respectfully informed that they can be Supplied with QUALT BRICKS of the best quality, and at moderate prices. He has from three to four millions in stock.—Price and particulars furnished on application to Mr. GEORGE FURNESS, 36, Great George-street, Westminster; or to

MR. SLATER,

Thames Embankment, Cannon Wharf, Westminster.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, 55s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
White Kiln ditto, 45s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN-PIPES AND RED GOODS, TERRA COTTA, SPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER PAVIORS, RED AND WHITE FACINGS, STAFFORDSHIRE AND FIRE GOODS, MALM CUTTERS, PICKINGS, AND BUILDING GOODS GENERALLY.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S. Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

SAMPLES of BRICKS, TILES, &c. Made at EAST COWES PARK, Can be seen in the Constructional Department, KENSINGTON MUSEUM. R LANGLEY, Agent.

NEW STOCK NOW READY. FINE WHITE BRICKS. BEST RED BRICKS. White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Plain and Ornamental ROOFING and RIDGE TILES, Delivered to Vessels in the Dock at beside the Kilns, in the River Medina.

Pattern Sheets, and all information, may be had of R. LANGLEY, Agent, East Cowes-park, Isle of Wight.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS. By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS. By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Dividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

BRICKS.—TO BE SOLD, about 350,000 good BRICKS, Size, 9 inches by 4½ inches, and 3 inches in depth. They can be delivered at any railway station, or into canal-boats. Satisfactory references will be required.—Apply to EXECUTORS of late HENRY HUGHES, Beachamp-Hills, Leamington.

FAIRER'S TURRET CLOCKS, 188, St. George-street East, London. By Special Appointment to the Queen and to the late Royal Highness the Prince Consort, her Majesty's War Department, &c. Maker of the Great Clock of the Tower of London. The Village Clock, price 40 guineas.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 30 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

MEDIÆVAL PAPERHANGINGS, from the Thirteenth to the Sixteenth Centuries. Designed by G. T. ROBINSON, F.R.I.B.A. Manufactured by WM. WOOLLAMS & CO. 105, HIGH STREET, near Manchester-square, London, W May be obtained of the principal Decorators.

Extracts from notices in the undermentioned publications

"Conventionalized patterns, often displaying great beauty of form, characterize the examples sent to us. With a few exceptions, the colouring of the specimens is commendable, in many it is worthy of the highest praise."—*Athenæum.*

"The designs are exceedingly elegant, and the colours good and well arranged. Some of the patterns are of strictly ecclesiastical character, suitable for museum churches and oratories, or they may be used as accessories in church decoration."—*Church Builder.*

"The majority of the patterns are exceedingly satisfactory, and not expensive."—*Builder*

"These designs are infinitely varied, yet always consistent and effective; the colouring is pre-eminently good, both in the selection of tints, and in harmonious combinations; and the quality of the paper is of the highest order."—*Art Journal.*

INDIA-RUBBER MILL BANDS, WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING A STOCK OF THE ABOVE ALWAYS ON HAND.

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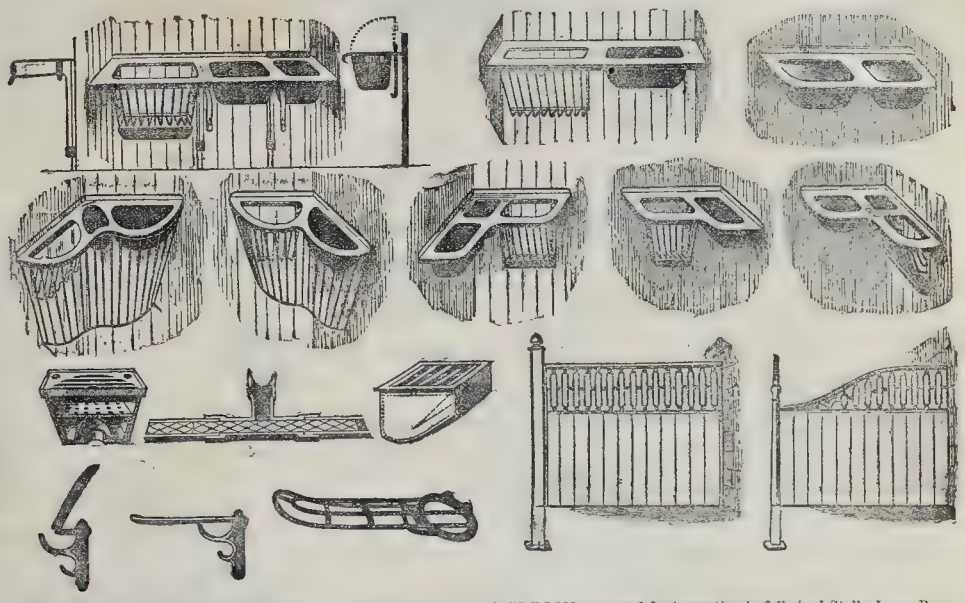
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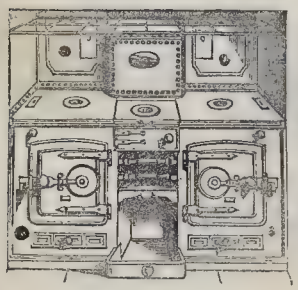
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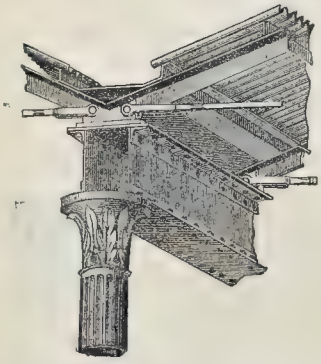
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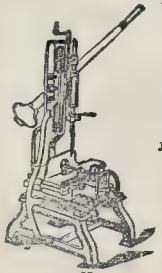
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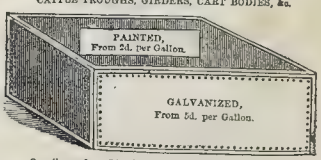
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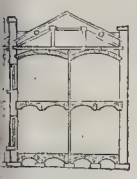
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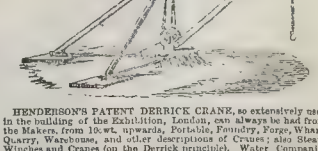
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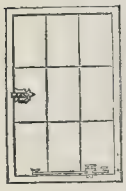
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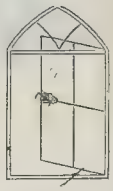
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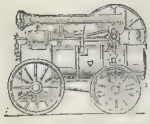
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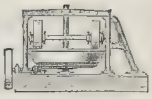
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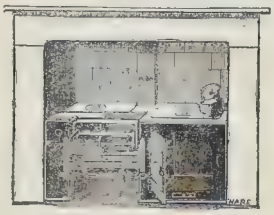
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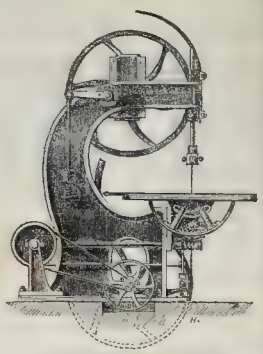
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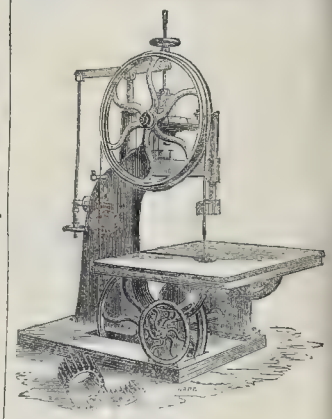


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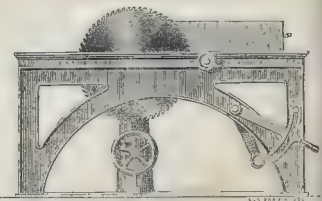
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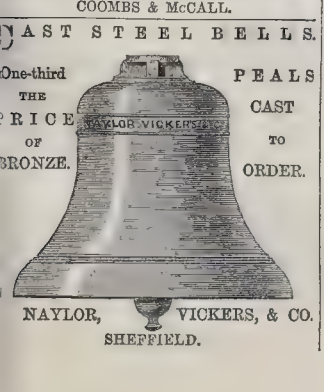
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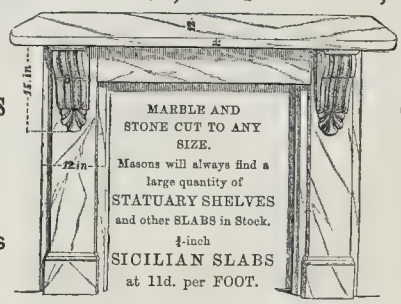
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VOL. XXII.—No. 1120.



Memorial Tablets on London Houses.

E revert to a pleasant subject* —inscriptions in London streets, —such as are well merited, and will gratify the passer-by, with *shadows* of pleasant thoughts.

The Church of St. Mary Overy, or St. Saviour's, Southwark, might carry, at little cost, words to this effect :—

"In this Church,
and
Beneath nameless stones
lie the Remains
of
John Fletcher,
Poet,
(Beaumont's associate);
and of
Philip Massinger,
Poet,
Author of 'A New Way to Pay Old Debts.'
Fletcher died in 1625, of the Plague,
and
Massinger in 1638-9."

On an outer wall of the same church we should like to read :—

"In this Church of
St. Saviour, Southwark,
was buried,
31st Dec., 1607,
'With an afternoon's knell of the great bell,'
Edmund Shakspeare,
Player,
Younger brother of
William Shakspeare.
(England's myriad-minded Poet
was then a shareholder and actor
in
The Globe Theatre,
in this parish)."

This, on the little Church of St. Peter, in the Tower, would serve a good purpose :—

"Sir John Eliot,
of
Cornwall,
the fellow-labourer with
John Hampden and John Pym
in defence of
Liberty,
Died a Prisoner in this Garrison
in 1632, aged 42,
and
was buried, by command of
King Charles I.,
in this Chapel of
St. Peter ad Vincula.
The stone which covers his body is
uninscribed."

Shaftesbury House, in Aldersgate, should be made to carry :—

"In this House
(Inigo Jones, architect)
Lived and Caballed
Anthony Ashley Cooper,
Earl of Shaftesbury
and
Lord High Chancellor of England,
In the reign of
King Charles the Second."

* See p. 485, *ante*.

A church near to the Guildhall would "stay" many a "passenger" to read words "akin to these" :—

"In this Church of
St. Lawrence Jewry
(Sir Christopher Wren, architect),
Gilbert Burnet, Bishop of Salisbury,
Preached in 1694
The Funeral Sermon of
John Tillotson,
Archbishop of Canterbury.

In early life the great Tillotson
Was Tuesday Evening Lecturer in this Church."

This would arrest and deserve the attention of all who are wending "Eastward ho!" or "Westward ho!"—

"In the Font of this Church
of
St. Michael's, Cornhill,
Thomas Gray,
Author of
'An Elegy written in a Country Church-yard,'
Was Baptised in
The year 1716."

This, on No. 17, Gough-square, Fleet-street, would bring a debt of national gratitude to complete remembrance :—

"In a Garret
In this Square,
Samuel Johnson
Compiled
His famous Dictionary
of
The English Language."

This, in Silver-street, Golden-square, would please more artists than Mr. Clarkson Stanfield or Mr. David Roberts :—

"At Mr. Viggans', in this street,
Lived,
In the year 1752,
Antonio Canaletti,
The well-known Painter of 'Views of Venice.'"

The Poet Laureate, we are sure, would not be displeased at seeing a stone to this purport in Piccadilly :—

"In this Church of
St. James's, Westminster,
Lies buried,
Mark Akenside,
Author of the 'Pleasures of Imagination.'
Born 1721. Died 1770."

Mr. Macready, when in London, and in Great Marlborough-street, would bow with reverence to the house connected with the name of Mrs. Siddons :—

"Sarah Siddons,
In the height of her Fame
as
England's greatest Actress,
Lived in this House."

Baron Marochetti, again, would be pleased to be reminded of a great sculptor :—

"In this House,
No. 30, Lower Belgrave-place,
Sir Francis Chantrey,
Sculptor,
Died,
In the year 1841.
All his finest works
Were executed
Here."

Even an ancient Royal Academician would not grumble at seeing, on No. 30, Allsop-terrace, New-road, an inscription to John Martin :—

"In this House,
John Martin,
The painter and engraver of 'Belshazzar's Feast,'
And other noble works,
Lived for five-and-twenty years.
The gallery in which he worked
(At the rear of the house)
Is still to be seen.
He died, in 1854,
In the Isle of Man."

The late Right Hon. John Wilson Croker, were he alive, and in Savile-row, would have given a nod of approbation at reading,—

"In this room
(Of Set No. 1 E in the Albany)
Thomas Babington Macaulay,
Baron Macaulay,
Wrote the earlier half
of his
'History of England;'
And in
Set No 2 A,
Lord Byron
Wrote his poem of 'Lara.'"

We cannot conclude without renewing a hope and repeating a belief that something will be done,—and soon too,—in a matter that will be honourable to those who erect, and pleasant and suggestive to those who read.

THE THAMES EMBANKMENT.

The first stone of the Thames Embankment of the northern side, was laid on Wednesday last, by Mr. Thwaites, in the presence of the First Commissioner of Her Majesty's Works, and of Lord John Manners, and others, assembled on the concrete-bed and footings of a portion of the retaining-wall and sewer-construction, in a tight coffer-dam, at the depth of about 21 ft. below the level of high-water. The spot chosen for the formal commencement of the undertaking was in the line between Hungerford Bridge and Westminster Bridge, and not far from Whitehall-stairs. The work of the contract for one portion of the Embankment, in fact, commenced in the autumn of last year,—borings to ascertain the nature of the strata and foundation having been made by the engineer, some time previously; but that which has hitherto presented itself to view, including the greater part of the walling of iron caissons, belongs to the appliances of construction, and will form no part of the finished work above the bed of the river. When complete, the work generally will present above low-water line, a facing of granite, with a curved batter, surmounted by mouldings and a parapet-wall with a plinth and cornice, and with block-pedestals which are to carry standards for lamps and mooring-rings; whilst the line will be broken by the bridges, and by recesses for the steamboat-piers, and by landing-stairs at other points. Behind the wall will be the Low-level Sewer, which we last week described in the extremities of its course, and above it, a sub-way for water-pipes and telegraph-wires, though not for gas,—considered as dangerous. Further in the rear will come the railway joining Kensington and Brompton with the City and the east of London, and forming with the Metropolitan, the Inner Circle. The top of the Embankment and reclaimed ground will be appropriated partly as a roadway, 100 ft. wide, partly as recreation-ground, and partly for buildings; and the road will be connected with the present thoroughfares by new streets.

The greater number of the schemes for the embankment of the Thames have been directed to both sides of the river; the present work, however, deals first with the left bank. The two contracts which are in hand comprise the length between Westminster Bridge and the eastern limit of the Temple. For the space between the Temple and Blackfriars Bridge, power to proceed has been obtained, but the design is not absolutely decided upon; whilst eastward of Blackfriars Bridge, the idea of an embankment, even to Queenhithe, the point originally intended for the termination, seems to have been abandoned. The Embankment of the south side, which the Metropolitan Board have been from time to time blamed for neglecting, is, however, contemplated as to be undertaken ultimately throughout the length corresponding with the work on the left bank, and extending even farther down, so as to include Bankside, corresponding to Queenhithe, and a space below Southwark Bridge,

* We have pleasure in drawing attention to the following letter :—

Sir, The admirable suggestion contained in your paper, of marking, in a permanent manner, the residences of great men (why not of women too?) in London, cannot, I think, fail of being responded to.

In order to carry this suggestion into a practical use, it is evident that money must be forthcoming; and, as a beginning, I am authorised by a kind and liberal friend to inform you, that he is ready to subscribe twenty pounds towards this good work; and, should it be responded to, as I can have no doubt but that it will be, the money will be paid on an application from yourself, made to,—Yours, &c. Edward Jesse.

to the west side of St. Mary Overie Dock. Indeed, above Westminster Bridge, a considerable length of embankment is so far decided upon, that drawings will be ready in October next. Here, opposite the Houses of Parliament, will be the new St. Thomas's Hospital. On the same side of the river, the Embankment will eventually be continued to the railway company's property at the bridge near Battersea Park.

Thus, the grand comprehensive undertaking which has been the subject of so many schemes of the last thirty years, and of some more dating from the plan of Sir Christopher Wren, but to which little had been done except talking and planning,—or saving the line from Millbank to Chelsea,—seems likely to be accomplished in our time. In relation with the subject of metropolitan communications and the relief of the present overcrowded streets, and with the removal from the river, of objects which contribute largely to the unsightliness of London, the work of the Thames Embankment must be considered as the most important that has ever been commenced in this metropolis. These are not the only objects which the undertaking is to serve, and they are perhaps not those which have been at all times regarded as principal. But as to them, we may say, it gives some hope of ultimate due consideration of the solid advantages derived from decorative character in cities, to find that the appearance of the banks of the Thames is now deemed one of the matters requiring correction. Mr. Cowper, speaking on Wednesday last, rightly appreciated the architectural value, and scenic effect to be realized, of some works that London possesses. Whether more will be obtained than a convenient route, and an agreeable promenade with a view of a grand monument from either end, we will not discuss at present. Last year and this, when noticing the architectural drawings exhibited at the Royal Academy, we freely spoke of the short-comings, if not defects, decoratively, of the designs for some of the accessories of the Embankment. But as to the buildings bordering the roadway and open spaces, it would be much to be regretted should the usual result of leasing ground attend the completion of the undertaking, instead of the result as seen in the really good and improving architecture of buildings of the City of London, where the sites are mostly freehold.

Before entering upon a description to be given hereafter, of the design and structural features of the work now in progress, it may be well to give some particulars of the objects sought to be obtained in embanking the Thames, of different schemes that have been proposed, with alternating principles, and of the general aim, and the principles accepted, in the undertaking of the Metropolitan Board.

The first object, sought in what we may call the historic period, to be attained by embanking the river, was the improvement of the navigation. With this has been joined, the removal or obliteration of the unsightly and otherwise offensive mud-banks. Nearly all who have considered the subject, have held that these objects were to be realized by contracting the water-way where the river widens, as opposite the Adelphi, to the width of the narrow part, as at Southwark Bridge. Thus, it is said, shoals would not be formed; there would be ample depth at high-water alongside a quay; whilst the scour would be increased; and, that way, the river-bed would be lowered. Attention has been directed to the shoal at Waterloo Bridge, visible on the Surrey side at low water; and some of the authorities, Mr. Bazalgette included, would say that the Embankment on the Middlesex side, should occupy in width, the space of two arches of the bridge, in order that the strength of the current should not take a course far from the Surrey side as at present. Opinions have differed only as to the necessity for storage of water of the up-flow, in order that the maximum of down-scour be obtained. Take away the present storage, some say, such as that in the wide portion of the river just now spoken of; and the Pool, below bridge, will silt up. The provision of a thoroughfare has just been adverted to. A route of ample width between the two extremities of London has long been demanded. Every month increases the need of it, but at the same time heightens the cost and difficulty of the formation, whether by widening an old route, or forming a new one that would entail destruction of buildings. The Thames is already a water-highway of value; but it is improvable by provision of better access: the Embankment will afford the means, and will add a route for carriages in an important division of the line from Westminster to the Bank. And to the space for an ordinary carriageway, the Embankment adds that for a railway. The Embankment, again,—or as in some of the propositions, the foreshore,—affords space for a sewer to intercept the sewage at the mouths of numerous old channels now discharging into the river. Further, when all these objects have been attained, the ground reclaimed or gained from the river, is of great extent; and, placed as it is about the exact centre of the metropolis, it would be most valuable, laid out for purposes of recreation, or appropriated for important public buildings that have been long needing sites. The object of improving the appearance of the river we have already adverted to.

The great difficulty in the way of all propositions was the value of the river-side property. Even supposing the money in hand to purchase all rights, it was deemed essential to the existence of London that wharfs and warehouses should line the river at high-water, and that barges should be able to approach the wharfs, and settle down on the mud, as the tide fell, where they might be laden or unladen by the help of cranes. To this it was at one time answered that the warehouses might be separated from the river by the roadway, and the goods be wheeled across without much difficulty, after the method said not to be found inconvenient at Dublin. Designs were made preserving the water-frontage for the warehouses, so as still to allow of craning, and getting the roadway below them. Generally, however, designs for the Embankment endeavoured to provide a substitute for the water-frontage, by docks. These docks, according to some designs, would have increased the water-frontage. However, they might have been difficult of access without some slight obstruction to the navigation; and they would have seriously interfered with some of the most important objects of the Embankment. Bridges would have become necessary; and, for the straw-barges or other vessels with high loads, those bridges would have been required made to open; and the sewer in the Embankment would have been impossible. Refuse and mud would have been liable to accumulate in the docks. The existing docks and inlets have been several times reported upon as nuisances. Truly, docks might have served the object of storage of water, supposing the view as to such storage, to secure the most complete down-scour, to be important. The railway would have been unobtainable.

Before such difficulties of the water-side as have been adverted to, the Metropolitan Board of Works itself has recoiled, at least as regards the portion of the river eastward of Blackfriars Bridge. But there the river-side course for the thoroughfare was not indispensable; and the line of street, the sewer, and the railway, could together go with some advantage in a different direction. On the other hand, the Metropolitan Board, assuming that the coal trade was that chiefly provided for, between Blackfriars and Westminster, have come to the conclusion that the supply of coals by way of the Thames is not essential, now that the railways carry much coal; and they have consequently adopted the solid embankment, clearing off thus some of the chief impediments to the undertaking, securing every advantage of the roadway, railway, sewer, and reclaimed ground; and leaving only as a question, that of storage, to which it has been lately said their sewerage works, intercepting or abstracting a considerable quantity of water from the river, have given new importance.

The construction of embankments to the estuary and stream of the Thames began long before the period of authentic history. We have only to follow the course of the river on either bank, to see that a great engineering work was at some time in progress for the reclamation of immense areas of land, above the level of which the tide now rises, but which it is prevented from submerging. Moreover, scarcely any excavation is made for an important building in Thames-street, that does not disclose the remains of several lines of embankment of different periods. The first plan that we are acquainted with, is that of Sir Christopher Wren; but it was not proceeded with, and since his time there have been numerous detached embankments, merely irregular encroachments upon the stream. There was a considerable projection, from Whitefriars and the Temple, into the river, made in connexion with Blackfriars Bridge in 1767; there was an embankment for the Adelphi in 1770; there was one for Waterloo Bridge in 1814, taking the line of the previous one for Somerset House; there was one at Hungerford Market and there was that for the New Houses of Parliament. But the absence of uniformity in these was the source of evil rather than benefit. It is by no means certain, that the chief difficulty of continuing a line of quay to London Bridge, is not caused by illegal encroachments; and the Metropolitan Board might do well to look into the matter.

One of the first within present recollection who produced a defined scheme for the Embankment, combined with other objects now in view was the late Mr. John Martin, the painter. He proposed to embank both sides of the river, and to place a sewer of interception under the Embankment. One of his schemes for the interception of sewage dates as early as 1827 or 1828. He was at work upon the same subject in 1832, and following year; and in 1834, his designs appeared in a Parliamentary report on the sewers of the metropolis. In 1836, efforts were made by a committee, to get the design for the Thames improvement carried into effect, and Martin published engravings showing a sewer-quay and colonnaded wharfs, and a railway. In 1838, in 1842, and in 1843; and in each year from 1845 to 1850, some publication of his scheme was made at his own cost, or by a commission or committee on Metropolitan Improvements. A suggestion by Lord John Manners, that the streets now about to be made, should bear the names of the pioneers in this work of the Embankment, will, we hope, be taken. Amongst the number of such men was the late Sir Frederick Trench. He, if we remember rightly, proposed a railway, but above ground. On the 23rd of November, 1842, was appointed a very important commission, at the head of which was the Earl of Lincoln, now Duke of Newcastle; and of which Sir Robert Smirke, and Sir Charles (then Mr.) Barry were members. Mr. Thomas Page had been previously at work taking soundings of the river, and comparing them with previous soundings. Designs by him, Mr. Martin, Sir Frederick Trench, Mr. Barry, and Messrs. Walker & Burges, were considered; and most of them appear in the report, which was printed in 1844, and is a production of permanent interest and value. Mr. Page contributed to it very largely, and so as to well justify the application to him of the words of the chairman of the Commission of 1861, that he thoroughly understood "all these matters," "having had more to do with the river than almost any man living." Now it is at least important to notice that Mr. Page has always maintained the necessity for storage of up-tidal water in order to get sufficient down-scour to prevent deposit, as in the Pool; that his plan adopted by the Commission of 1844, provided large areas of water, or so that it was described by a commissioner, Mr. Gally Knight, as one for "a road in a river;" and that the Commission of 1861, before whom his view still was maintained, said in the course of their report,—"If at any future time any effect should be produced on the river from the diminution of its capacity for tidal water, by reason of the embankment, arrangements may be made higher up the river by dredging, or by a tidal reservoir to compensate for the loss." But they said,—"The consideration, however, of this matter would naturally devolve on the Conservators of the River Thames." This report came in the year following that in which a committee of the House of Commons (itself following those of previous years on Metropolitan Communications) received evidence tending to show that the Embankment should be continued from Westminster Bridge to Blackfriars Bridge. The Commission of 1861 was appointed consequent upon a certain agitation caused by the appearance of hoardings in the Strand, where Mr. Bazalgette, obliged to contemplate that line as possible for the sewer, was busy with preliminary examination of the strata. The Commission, following a precedent of the Parliamentary Committee, advertised for designs. More than fifty were presented. The majority of the plans included docks; but some few proposed a solid embankment. Amongst the latter was a design by Mr. Shields (of which we gave some illustration soon afterwards), and which was adopted by the Commission as the basis of their recommendations. The plan of Messrs. Walker & Burges before referred to, was mainly for a solid embankment. The report of this commission recommended a new street from Blackfriars Bridge, across Cannon-street to the Mansion House; and, between the former point and the eastern side of the Temple, a viaduct on piers of masonry, leaving a water-way for the convenience of the City Gas-works and the ad-

ving wharfs. Amongst the other recommen-tions, was one "that a uniform low-water annel of 6 ft. in depth at ordinary spring es, and 500 ft. in width from the embank-nt wall be secured, and thus the stream be re equalised in velocity." In this year, the t was passed, which created funds for the nbankment, by continuing the coal and wtne dies to 1872. In the following year there was committee of the House of Commons on the nbankment; and the question of the inter-tion of carriage traffic from the Embank-nt where in front of the ground leased by e Duke of Buccleuch and others from the own, was at length decided in favour of having e carriage-way, as well as footway, all the way Westminster Bridge. The discussion was liminary to "The Thames Embankment Act, 62," which received the Royal assent on gust 7th. In the course of the debate, Mr. wper admitted that "in a sanitary point of w it would be desirable to get rid of the gas-rks." The Bill, however, passed with a con-lerable number of provisoes, which we fear re of a nature to reduce the advantage to be pected from the Embankment.

Upon the Act of 1862, and the Government uarantee through which money has been raised a reduced percentage, the undertaking is now active progress; and we shall give shortly, rther particulars of the plan, and minute de-ription of the structural details.

TESTING HYDRAULIC TESTING MACHINES.

Mr. F. A. Paget, C.E., writes:—The necessity r testing iron structures and details may be id to have been long recognised. Although any questions in the science of the strength of aterials are still in an unsettled state, there is ttle doubt that no chain cable, or anchor, or rder, or topsail chain, or pit-chain, or pit wire-pe, &c., should be trusted with human life efore having been tested up to what engineers ave recognised to be proof strength. The ope-ation is, however, one of an extremely delicate naracter. While, on the one hand, we are bound o carry the test as far as possible, in order to equire as much certainty as possible, we are on he other also bound to keep within certain irict limits, to exceed which would be to injure he structure. If, again, we wish to test a bar, r a riveted joint, or a length of wire, or a chain, r a submarine electric cable, to destruction, in rder to arrive at its ultimate power of resistance, is clear that in such cases also, the utmost ccuracy in the measurement of the applied stress s required—at least if any reliance is to be laced on the results. These operations are of ecessity carried out by means of the hydraulic ress, and it is therefore of great importance to now the best means of measuring the useful ffort exerted by the press plunger. A few eeks ago you did me the honour to quote a ortion of my memoir "On the Testing of Chain Cables," in which I also investigated this parti-ular question. I was not then aware that cer-ain very defective means of measuring the real ffort exerted by the press were so very com-non, and perhaps you will now permit me to dwell at some length on a matter which all ractical engineers will acknowledge to be of the utmost importance.

The application, by Bramah, of the self-ightening or self-adjusting principle to the acking of the hydraulic press may be said to have first brought Pascal's hydrostatic paradox within the domain of practical science. As carried out in Bramah's press of 1796 (a piece of exquisite workmanship now in the Kensington Museum), this principle appears in the shape of a leather-packed, self-tightening, piston or bucket. It was only some years after-wards that the late Benjamin Hick, of Bolton, invented the elegant self-tightening collar, consisting of a cupped leather caused to grip the outside circumference of the ram by means of the pressure of the water itself. The much greater difficulty in keeping a water-tight joint than a steam-tight joint, even at low pressures,—a difficulty doubtless due to the power of capillary attraction,—is well known to all engineers; and when behind this subtle force is working the brute force of perhaps several tons to the square inch, it is clear that the self-tightening principle is the only one practicable with the practical requirements of the manifold adaptations of the hydraulic press. The expectation that this friction at the packings should not increase with the hydraulic pressure can only result from a complete oversight of the construction of the hydraulic press. In all machines there is necessarily a loss of useful effect, but with the hydraulic press that loss increases with the pressure of the water. The only *direct* experiments that have been published on the friction of the hydraulic press are those of Professor Rankine. The distinguished past President of the Society of Engineers in Scotland, and Messrs. More, of Glasgow, found that "the friction between a plunger and its collar is about one-tenth of the total effort of the water on the plunger,—at all events, something between 1-9th and 1-11th." Dr. Rankine, in fact, approximately estimates the loss by friction at about one-tenth of the gross load. General Morin found that with leather on cast-iron the ratio of the friction of quiescence to the pressure was, when the surfaces were lubricated, 0·12; when dry, 0·28; and when wet, 0·38. The peculiar faculty possessed by leather for adhesion under pressure is familiarly shown in the boy's plaything of the leather "sucker." After having been for some time in motion, the ratio of the friction to the pressure of leather on cast-iron or brass was no less than 0·56 when the surfaces were dry; 0·36 when the surfaces were wetted 0·23 when wetted and greasy; and 0·15 when covered with oil. Morin gives 0·36 for a wet, but not lubricated, pump-bucket packing; and 0·29 when lubricated. These co-efficients, however, were obtained with metallic surfaces in a good state; and it is clear that the friction will vary with the same cylinder and the same packing according to their respective and mutually influencing states. Corrosive water would thus naturally deteriorate the surfaces, and lead to an increase of the friction. Doubtless these reasons further the appearance sometimes noticed on the ram of a press, of small bits of leather sticking to the cast-iron surface. Engineers in France and Germany generally take the useful effort of the ram of the hydraulic press at 0·80 or 0·85 of the gross load on the plunger. The distinguishing feature of the matter is, however, that the friction will vary,—1. With the construction of the press, and the more or less surface of the packing,—less of the *push* of a solid plunger, and more of the *pull* of a leather-packed piston and collar would be consumed in friction; 2, the friction will vary with the state of the lubrication; 3, with the state of the metallic surfaces; and, 4, in some cases with the work being done by the press. The down-pull caused by the weight of a very long length of cable, for instance, will increase the side friction of a horizontal piston-rod. The only thing certain is, that the effort of the press will be less than the gross load on the piston.

It is therefore clear that *a metallic gauge, or graduated lever and weight*, placed in communication with the water, could not be with any security adjusted to any assumed amount of friction. Of course, if placed in communication with the cylinder without any such allowance, as is often done, for the loss by friction, the indications are then 10 per cent. less than the real effect, according to Rankine, and still less, according to Morin. But metallic gauges, especially when registering high pressures of perhaps several tons to the square inch, are never quite to be trusted. When Dr. Fairbairn, in 1858, conducted his experiments on the resistance of tubes to collapse, he used two metallic gauges to register the water-pressure, and besides checked these results by means of a delicate safety-valve and graduated lever. It is, in fact, only as a check that a graduated lever should be used. Denis Papin never intended that his safety-valve and lever should be used as indicators of fluid-pressure at any given moment, but rather as a boundary line which must not be overstepped by a certain given pressure. Five minutes spent on the foot-board of a locomotive will show the difference between the indications of the safety-valves and the steam gauge. When the driver wishes to ascertain the pressure from the safety-valves, he must by a tap overcome the inertia of the lever, of the valve and their appurtenances, the friction of quiescence at the joints, and any adhesion at the metallic surfaces of the valve and seating. In the case of the hydraulic press, it is clear that a hair's-breadth of error in calculating the relative areas of the valve and the plunger will be very considerably multiplied. The use of a conical valve is, in any case, simply a farce, as hundreds can testify, for the water insinuates itself between the surfaces. Loading a valve by means of either a spring or a weight has in either case its peculiar objections. The mere lifting of the lever, for instance, at once increases the resistance of the spring. Quite independently of the friction of the press, the indication of its real pull will thus vary according to:—1, Whether these indications be taken from the graduated lever on the pressure gauge; 2, with the respective mechanical states, more or less subject to variation, in which these apparatus may happen to be. And these assumptions are founded on an initial accuracy of proportion and workmanship which is not always obtained.

But when, in addition to these influences so adverse to an accurate measurement of the real pull or push, the water, intended to give motion to the indicating plunger or valve, kept down by a weighted lever, is conveyed through a pipe of more or less length and of greater or less diameter, a fresh set of phenomena will affect the indications, and to an extent that renders the operations of testing(!) a mere groping in the dark. I have, *mirabile dictu*, seen the fictitious indications of large hydraulic testing machines thus conveyed to a ¾-inch indicating plunger several fathoms distant by means of a copper pipe only half an inch in diameter outside. The loss of head under such circumstances (as shown in the numberless careful experiments conducted by such men as Coulomb, Couplet, Bossut, Dubuat, De Prony, Darcy, Neville, Eytelwein, and Weisbach) is something very great; and in some hydraulic testing machines of this kind, the pressure of the water is diminished by more than 20 per cent., through loss of head in the pipe, before the water reaches the indicating valve. The loss through friction and adhesion to the sides of the pipe will be directly as its length, and inversely as its diameter; this resistance will increase with the square of the speed, or, according to Weisbach, at a rather quicker rate than the square of the velocity. Every bend, of which there must be necessarily several in a case of this kind, will increase the resistance, and this action will also be furthered by the loss at the outlet into the pipe, and still more at the enlargement at the valve. As the loss of head in the flow of water is independent of the pressure, the indications of small amount will be proportionately more affected. All these laws have been, of course, long known to science, and their results could be pretty accurately calculated for any given case. But we may remind ourselves that within late years, M. Darcy, *Inspecteur Général des Ponts et Chaussées*, while confirming most of the results of previous experiments, has shown, as a result of no less than 198 experiments, that the flow of water through pipes is very powerfully influenced by the nature and state of the surfaces. Darcy has thus proved that, while the loss of head in a wrought-iron tarred pipe could be represented by 1, that in a new cast-iron pipe is 1·5, and in an encrusted pipe as much as 3. Most waters have some deposit, and thus—even supposing that the diameter be not reduced, or that the incrustation be not very rough—the indicator would be more and more affected as the pipes got older. Variability and uncertainty are in this case also the distinguishing features. Any air in the pipe would greatly affect the flow of the water, and consequently the indications; and the results are indeed liable to be affected by several other accidental circumstances. No wonder, therefore, that the difference of results between two machines, in one of which the pull is measured by a series of levers, while in the other it is measured by the plan I have just described, is as much as 10, 15, or 20 per cent., as I can prove by private documents now in my possession.

The only means of measuring the effort exerted by the plunger is that adopted in the press now in the Kensington Museum, made by Bramah nearly seventy years ago; the plan recommended by Professors P. Barlow and Dr. Rankine; by Mr. Bowman, Mr. Lenox, and Mr. Macdonald, before the Chain-cable and Anchor Committee of 1860; and adopted for more than thirty years by the Admiralty at all the Royal dockyards, and by Messrs. Bown and Lenox. This plan simply consists in measuring the pull by means of a weighing-machine, or combination of balanced levers turning on knife-edges.

Railways through London.—The London and North-Western Railway is to be extended, by means of a separate company, from Euston-square to Charing-cross, where it will join the South-Eastern line, and thus we shall have another line through London.

KENSAL GREEN CEMETERY.

A HANDSOME CROSS, on the model of the early graveyard crosses of Ireland, has been erected "to the precious memory" of the late Major H. W. Paget and his son. It is about 9 ft. in height, of Sicilian marble, and is covered with a great variety of knot-work and interlacings. In the centre of the cross is a well-executed bas-relief of Christ and Mary in the garden, after the Resurrection, at the moment when ("she supposing him to be the gardener") he said unto her, "Mary!" and she turns, and exclaims, "Rabboni." The arms of the cross are filled with oak-leaves, acorns, and lilies. It should be looked for when visiting the cemetery. A stroll there, we may add, is seldom taken without advantage. To say nothing of the assertion that a grave, wherever found, preaches a pithy sermon to the soul; or the fact that every dozen steps show a name that has been heard of and recalls a career; there may now often be seen, amongst the mass of ugliness around, "the stone-quarry above ground,"—a work of art, or, at any rate, an approach to it.

At a very short distance from the Cross,—on which, by the way, the name of the sculptor does not appear,—a triangular marble pedestal the work of Mr. Noble, has been recently set up in memory of Lieutenant-General Fiddes and Lieutenant George Pauli, and which bears three medallion heads, very well executed, especially that of Lieutenant Pauli. The form of the upper part of the monument, a lengthened finial, is less pleasing. Some lovely flowers fill the front area, and show continuing care. Coming to this pedestal (the tombs of Rendel, Catherine Hayes, and others noteworthy, close by), the monument of Catherine, Duchess Dowager of Leeds, not a new one, will be seen literally shrouded with a lovely mass of jessamine and clematis. A small marble cross to Harold d'Doigne Hearsay, five months old, put up only a few weeks ago, has in low relief, on the upper part, the figure of an angel bearing up a child, and on the foot of the cross the representation of a too large lily in bloom. The figures show good feeling.

The most important, however, of the later monuments, as involving the exercise of a higher art, is one, still in the same part of the ground, erected in memory of the Gardner family. This was designed by Mr. Alfred Beaumont, architect, and executed by Messrs. Purves & Norton, successors to poor John Thomas, the sculptor. It includes two life-size figures of angels in Sicilian marble: one a veiled figure extinguishing a torch, intended, perhaps, to typify Death; the other bearing a palm-branch, and with upraised hand pointing to the dove that surmounts the whole composition, suggesting Immortality. The pedestal, richly ornamented, is of polished red granite and white marble. It is to be regretted that a little more room was not given to this work. Every inch of ground here, however, is being rendered available:—

"How populous! how vital is the grave!"

If, as we firmly believe, nothing dies but something mourns, what an amount of sorrow and anguish does this densely packed "God's Acre" represent! You may see the very tears on many of the tombstones. On one a father exclaims, "*My poor child*" and on another, the loving parents of a darling born on the 24th of June, and too soon removed, sigh out,—

"*Dear Midsummer Day rose-bud.*"

But patience, ye who weep! patience for a short, short time,—

"And Death, that swallows all, shall be
Swallow'd himself in Victory!"

THE CISTERCIAN MONASTERY OF CASAMARI.

ONE of the most ancient and interesting sanctuaries in the Roman states, which was maltreated on a late occasion, though within the guaranteed territory of the Church, is the Cistercian, or, rather, Trappist, monastery of Casamari, within a few hours' expedition, on foot or horseback, from Frosinone, and but two miles distant from the Neapolitan frontier. Little known and still less visited by the tourist, this cloisteral home well deserves the attention of those to whom sacred architecture or monastic story is interesting; and amidst the well-nigh total extinction of all art informed by the Mediæval spirit in the district of Rome, such a monastery stands an almost unique example, still, happily, intact, presenting, in the grave simplicity of its olden characteristics, a monumental protest against the corruption of taste, the generally secular style in sacred buildings, and the preference for the sumptuous rather than the nobly beautiful, deplorably manifest at the Papal metropolis, and more or less so throughout those provinces still left under her sway.

Casamari takes its name from the villa of Caius Marius, whose ruins, consisting of reticulated masonry, arcades and columns of Pæstan Doric, remained conspicuous on that spot till the earlier years of the last century. An ancient Roman bridge of one arch crosses a narrow stream, the Amaseno, close to the cloisteral enclosure; and an aqueduct, supposed to be Roman, still exists in several arcades, supplying water to its inmates. Amongst those classic ruins arose, in the year 1005, a hermitage, inhabited by four priests,—who had retired from the neighbouring town of Veroli, to lead a life then deemed the summit of Christian perfection,—and here built a chapel, dedicated to SS. John and Paul, two canonized members of the Orsini family. After about thirty years, several, from the ranks both of laity and clergy, joined, and placed themselves under direction of these hermit priests, the fame of whose sanctity had now become widely spread; and in the sequel was formed a community, bound to the usual vows under a religious rule borrowed from the Benedictine: the black habit of that more ancient order was assumed: a "prior-abbot" was appointed by the superior of the nearest Benedictine monastery (at Sora, within the Neapolitan frontier); and the monks of Casamari were Benedictines before they became Cistercians. In 1045 the primitive church, raised by the first hermits, was enlarged, with embellishments, windows of stained glass, and a tower supplied with eight bells. But soon followed the usual vicissitudes,—that phase of monastic history, sooner or later, supervening in the annals of almost all such institutions,—the period of decline and disorders. In 1149, Pope Eugenius III., when visiting these cloisters, found them all but deserted, and partly in ruin; the few monks still on the premises no longer living in observance of their rule. Wisely, therefore, did that pontiff determine to eradicate and reform; and well did he choose such an energetic agent as St. Bernard for the task of re-organizing another community here, under an abbot appointed by the holy man himself, after the expulsion of those unworthy subjects. Within a few years afterwards, namely, in 1181, these cloisters contained a family of more than 300 monks, under the government of an abbot, John, fourth of that name, who was sent as legate by Innocent III. to the kings of France and England; and in 1217 a new church (the still extant edifice), surpassing the older in magnificence, was consecrated by Pope Honorius III., all the cardinals and Roman Curia assisting, and entertained at the monastery, upon whose premises more than 1,000 horses were stalled during this illustrious visitation. At later periods imperial guests, Frederick II. and his empress, also partook of hospitality here, and all the family of the Hohenstaufen were, on this occasion, 1221, inscribed among "spiritual children of Casamari." But days of trial ensued: in 1406 the monks had to fly before the invading troops of Ladislaus, the profligate Neopolitan king; and in 1417 one Jacopo Caldoro encamped on the premises, fortified their buildings, sustained here a siege and was eventually put to flight, not perhaps without damage to the edifice, by another leader, the head of the Sforza family. Soon afterwards, the community having become insignificant, and the property in greater part usurped by seculars, the rest ill-administered, Pope Martin V. determined to place both the monastery and its abbatial government *in commendam*; and the first abbot commendator, no longer bound to residence, was that Pope's nephew, Cardinal Colonna. In 1463, Pius II. restored the property to its former administrators; but in 1472 their abbot voluntarily resigned it to Sixtus IV., in lieu of an income of 300 gold florins per annum. So rapidly did the establishment thenceforth decline, that, in 1503, a prior and *one* monk were the sole inmates left in these buildings. The *cloisteral* abbacy for a time maintained, even while the economic government was exercised by another non-resident superior, was finally suppressed, giving place to the humbler office of a priorate; but in 1663 was restored the ancient dignity of abbot; and its thirtieth representative was elected to preside, not as formerly, for life, but for eight years. In 1705, Cardinal Albani removed the Cistercian community, now dwindled to only eight individuals, and invited the Trappists to succeed them. Thus did these cloisters for the third time receive a new appropriation, becoming the only Trappist monastery in these states, under a superior elected for life. That reformed Cistercian order continued to flourish here till, at the close of the last century, the storm of revolution burst over these cloisters with the usual disastrous results. In 1799, six of the community were murdered by the French troops on their march from Naples; then were all portable valuables seized and carried away; the contents of the library dispersed; oil-casks and wine-barrels tapped and left leaking; sacred vessels robbed; the altar-tabernacle broken open, and all this by soldiers who had been courteously received and hospitably entertained for three days by their victims! Finally, in 1811, the monastery was suppressed by the French Government; its premises let to private families; and its library transferred to the next town, Veroli. But three years subsequently a decree of Pius VII. restored Casamari to Trappist Cistercians; and, in 1850, Pius IX. re-endowed it with all its property, hitherto held *in commendam* within the Roman states, under the sole obligation of an annual subvention, 1,200 scudi, to the chapter of St. Maria Maggiore. During late years the monastic family here has averaged forty, including novices and lay brothers. Several efforts have been made, but in vain, to re-obtain for their archives a voluminous parchment code, now in the Vatican library, containing all the registered privileges, deeds, and titles of the monastic property, &c.; the whole compiled and brought to a close in 1490, by one of the industrious brethren here an inmate. In part, but not without many deficiencies, the dispersed library has been restored; but the archives are for ever lost. During the revolution of 1848-9, this community remained exempt from all serious disturbances; but the last outrage suffered, at the hands of regular troops fighting under the banners of a Catholic government, was, if less sanguinary, not less violent, than any other to which these cloisters have been subjected in the stormy past.

Casamari does not stand amidst scenes of wild grandeur or romantic solitude, but presents a pleasing aspect. Its ample buildings seem the home of peace and modest prosperity; while the olden dignity of the church and cloisters adds the religious character to an exterior insignificant in its more modern features. Just before reaching its outer gate, we cross the ancient one-arched bridge (over a narrow stream), of good masonry, and the aqueduct, with arcades, irregular in form and unlike those of the ancient Romans, though ascribed to their work. Before reaching the inhabited and restored portion, we pass through two quadrangles of the ancient buildings, one wing bearing marks of fire on its roofless structure; another now serving as a granary. The outer porch is Gothic, with good details; above its archway rising an attic (once the quarters of the cellarer and porter) adorned by an arcade-course. Hence through the round-arched gateway, we have a view of acute arches receding beyond with fine perspective effect. The church, opening on an inner quadrangle, has an atrium, with a central arch, rounded, and lateral ones, acute in form, fine mouldings and symbolic reliefs on the tympanum of its doorway. The modern monastic buildings are in a style utterly insignificant, and without character. Arriving with a fellow-traveller, we had to wait a while and parley with the lay brother who received us, and had first to communicate with the abbot, before bringing word that we should be very welcome to remain till the next day,—a preliminary not usual in the arrangements of monastic hospitalities, but here necessitated by exceptional, and (particularly at the time of our visit) distressful circumstances; notwithstanding which the attentions shown us were all that could be desired. We found a community consisting of forty religious, four being novices,—who, in strict observance of their rule, lead a life dedicated to studies and devotions. Their food is exclusively meagre, excepting for some part of the winter-season. They rise for office in choir at two after midnight. Their novitiate lasts for a year at least, or longer according to the judgment of the superior; and during that period of probation, are made all the requisite studies,—rhetoric, philosophy, and theology. The fathers hear the confessions of seculars, and preach at least one short sermon

every Sunday morning. The earliest daily mass begins at 4½ a.m.; and one service every evening is the office of *Complines*, with the *Salve Regina*, sung to solemn music.

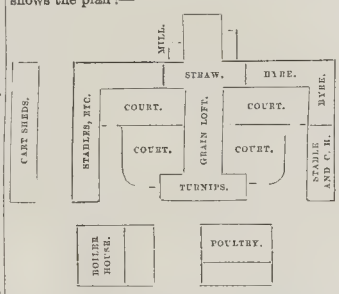
After making acquaintance with the "Master of Novices," and being assured of welcome, we were presented to the Father Abbot, a little fragile-looking old man, who received us with courtesy; answering all questions with readiness, asking no questions of us, his guests, and most obligingly conducting us over the principal portions of the premises — cloisters, chapter-house, and church. The cloisters are a genuine and intact specimen of the style prevailing, though less in these provinces than elsewhere, in the thirteenth century; not, indeed, with the richly-elaborate details of the Ostian St. Paul's, or the Lateran cloisters, but more severe in simplicity, with triple arcades supported by light colonnettes, spiral or fluted, single or coupled; a character of massiveness and gloom, a twilight solemnity distinguishing this enclosure. The chapter-house has still more of the same severe and imposing religious aspect, — its interior an ample quadrangle, lighted from the cloisters by narrow acute-arched windows; divided into three naves by clustering columns, or rather piers, with folial capitals, the vaulted ceiling divided into bays, with intersecting ribs. Here the monks meet every evening, after vespers, for conferences or reading. We shall not forget the first impressions received from the church, so fortunately preserved alike from despoilers and the tasteless efforts of pseudo-restoration, so harmonious in its simplicity, its general expression of repose, and the grace of its forms. A cruciform edifice, it has the central nave and two aisles, transepts and apsidal choir beyond an isolated high altar; the vaulting groined, and in several bays. The nave and aisles are divided by fourteen acute arches with clustering columns, which rise as high as the springings of the vault; the whole edifice having fifty-four windows of corresponding style, on two stories, but all those on the lower range now closed. An attic, above the arcades, is quite plain, except in a series of pointed niches that correspond to the archways, presenting a feature like a very simple description of triforium. The windows are of five lights, and lancet in form, except those over the chief portal, in the tribune, and at the transept extremities, all which are wheel windows, with appropriate tracery. Ranking as a basilica, this church measures, in its entire length, 269 palms; in that of the transepts, 150 palms; the nave, 42 palms; the transepts, 30½ palms in width; height of interior, 88 palms; and the whole is built in native stone, of a pleasing yellowish-grey tint. The only objects decidedly out of keeping are the high altar and its canopied baldacchino, in the sumptuous modern Italian style, richly inlaid with coloured marbles,—a novelty due to the Cardinal Albani, who was abbot-commendator, and a liberal benefactor of Casamari in the early years of the last century. Besides that altar there are six others, in lateral chapels off the transepts; but none are in the body of the church, which, therefore, gains in simplicity and breadth of effect. From its nave the sanctuary is divided by iron screen-work, in style suitable to that Mediæval architecture — a judicious improvement, substituted by the present abbot for the tasteless *cancella* erected here in the seventeenth century. The abbot mentioned several other improvements he had projected, as the introduction of stained glass in the windows, and the reopening of those long since built up; but adverse circumstances had frustrated all these good intentions.

In the afternoon we were conducted over the rest of the premises, by the "Master of Novices," an intelligent and obliging *padre*, who was our companion during many hours, and sat with us at the dinner-table, though not to eat or drink. The ancient refectory and dormitory are fine examples of the Mediæval style. A spacious hall, divided into two equal compartments, by seven massive piers, with very high stilted arches that support a ribbed vaulting (in the same grey stone as the church and cloisters), was the olden refectory, where 300 monks sat at the well-spread tables. This serves now as a granary, and above is utilized as a hay-loft what once was the dormitory, a long low room, under a ribbed and vaulted roof. Another ground-floor story, under these two, contains the enormous square basements, in goodstone work, of the columns (or piers), supporting the arcades in the refectory above; and a different section of the same wing, now a magazine for garden tools and implements, is traversed by another massive arcade, passing through the centre of this building, obviously of the same period, but different in details of architecture from the other portion. The structures seem to have suffered by the action of fire; and the church's belfry, one of the best external features, has been reduced in height, and deprived of its spire, by lightning.

NEW FARM-STEADING, WESTFIELD, SCOTLAND.

THE estate of Westfield, in the parish of Spynie, has several points of interest;—its position, long since, on the borders of the once noble Loch of Spynie; its connexion with the bishops of Moray at a remote period; its being owned by Randolph in the fourteenth century, and thus brought within a step of royalty. The long line of noble proprietors to whom it afterwards belonged, and a period of 400 years between the two heiresses "Black Agnes" and "Janet," awaken many reflections. It has not, and never had, any baronial residence situate on its fertile plains. And yet how many castles now in ruins are associated with it!

The new steading is built on the site of the former one, but occupies a good deal more ground. The buildings are in the form of nearly a complete square, except where broken by the entrance to the courts in front, and where the thrashing-mill juts into the stackyard behind, and the inclosed court is divided into two by the cattle-sheds, with grain-loft over. Such is the steading proper; but besides, on the south-west side are the cart and implement sheds, and in front a poultry and boiler house. The following shows the plan:—



Beginning at the back end on south-west of thrashing-mill, is the grieve's store, fitted with pegs, shelves, and hooks; then the hay-house, with a high door for putting in the hay, and communicating with the stable inside. Passing outside a loose box and the harness-room, and turning the corner, we have the farm stable wing, 125 feet long, including harness-room at the angle, which is fitted up for eleven horses. It contains, also, men's sleeping-room, with large glazed windows for overlooking the horses, and the manure placed in the angle opening to the front. Opposite and facing this side are the cart-shed and implement-house, 90 feet long. The shed holds fourteen carts, and the divisions are formed by coupled cast-iron pillars, about 6 inches square, panelled on the sides, with moulded capitals, on which the stone lintels rest. The pillars are joined together two and two, to take in the thickness of the wall (2 feet) over, and are set on large stone blocks, to keep off the cartwheels. These pillars occupy little space, and with a light have a strong appearance, from being in pairs, like three H.s set one above the other. The tool-house at end is a roomy place, having a wide door running on pulleys, and a beam at top, with iron guide-plates at bottom, sunk into the sole, and openings to allow stone, sand, or any other impediment to drop through. The same description of door is used in every place where barrows, carts, or cattle are in the way of passing through, and are all hung on the inside of walls, thereby protecting them from the weather. These doors are easily moved, are never in the way when opened, nor are they liable, like those on hinges, to be blown about by the wind.

Turning to the front of the building, which is 160 feet long, there is, as already mentioned, the manure-shed, and the entrance to one of the large dung or cattle courts, and a smaller court. In the centre is a turnip-shed, in one end of which is a stone stair, closed in, leading to the grain-loft; and right in front is a long wide passage, having on each side cattle-sheds, with stone feeding-troughs and straw-racks. The turnips are wheeled along this passage from the shed at one end, and at the opposite end is a door into the straw-barn. Above the turnip and cattle sheds is the grain-loft, being the largest in this quarter, the floor having an area of about 3,700 feet, and computed to hold upwards of 400 quarters of corn, if spread over a depth of 18 inches, with room to travel round the whole. The walls and floor are supported on cast-iron pillars, similar to those of cart-shed, and cast-iron beams, which have the appearance of stone lintels. The loft is covered by a single roof, 39 feet wide, and which, notwithstanding its great span, and the baulks being some 3½ feet above the walls, is formed of common couples, and shows how, by a judicious use of light timber, great strength may be gained. The loft is well lighted and ventilated, having sky-lights in roofs, and on each side ten large hinged windows, covered outside with iron wire netting. It has convenient hatches in the floor for loading the carts, and is entered from the front by a stone stair in end of turnip-shed, and at the other end communicates with the mill-loft by a strong wooden foot-bridge, resting only on the walls on each side of straw-barn.

On the opposite side of the road, and fronting the turnip-shed, is the poultry-house, having boiler-house at one end. The pigs' houses occupy the corner opposite. The poultry-house is 30 feet by 18 feet, divided into two separate houses, with tiers of nesting-places, and roosts formed in the walls, and having yards in the front enclosed with ornamental railing, covered over with a flat zinc roof. Out of and rising above the slate-covered roof of the poultry-house, rises the pigeon-house, 9 feet square, built with white stone pillars at the corners, and panelled, as it were, with red bricks. It has a projecting zinc-covered, bell-shaped roof, with moulded beams under the projection and pendants at the corners, and a gilded ball and vane at the apex of roof.

On the N.E. side, fronting the garden and mansion house, is the groom's stable, a private store with shelves, &c., cow-byre for ten cows, with stone troughs and feeding-passage in front, and turnip-shed at the angle of the square. In one end of, and separated by a pavement partition breast-high, are the calves' cribs, each closed in by a gate. At the back, and on the N.E. side of thrashing-mill, is another cow-byre for eight cows, similarly constructed and fitted up to the others; and between it and the grieve's store, where we started, is the straw-barn, 46 feet by 20 feet, communicating at one end with the feeding-passages of byres, in the centre, with passage of cattle-sheds, and at other end with farm stable. Jutting into the stack-yard is the thrashing-mill, 48 feet by 24 feet, with a circular saw and bench on one side, and the engine and coal-shed on the other. The loaded carts from stackyard ascend a slight incline to the sheaf-loft, emptying their loads at the feeding-bench. The engine is a horizontal one, of ten to twelve horse power. The working machinery is got up with all the latest improvements, including second fan, humbler, and corn-bruiser. The engine and machinery were supplied and fitted up by Messrs. Abernethy & Co., of Aberdeen, and fully sustain their well-earned reputation. The walls of corn-room, sheaf-loft, and straw-barn, are all 18 feet high: the cattle-sheds and grain-loft are 14 feet; and all the other buildings are 11 feet. The whole are open to the top of roof.

The stables and byres are drained into the dung-courts: these are again drained into a large manure tank situate at a short distance from the end of cart-shed. Ventilation is effected by a small roof over the point of the main one of the stables and byres, with a few inches between them, similar to a small V reversed, and placed over a larger one also reversed. The grieve's cottage stands on a knoll to the west of steading.

The whole buildings are of substantial character,—the walls of Newton freestone, the timber Baltic: the roof is covered with Ballachulish slates; and the floors are laid with either Caithness flags, asphalte, or square stone pitching. The roofs project at the eaves, showing the ends of rafters plastered between and also over the gables with moulded cantilevers.

The plans and specifications were supplied by Mr. Petrie, architect, Elgin, under whose auspices the whole works have been carried through.

The contractors were,—for mason work, James Gray, Hopeman; carpenter, John Thom, Elgin; slater, Wm. Findlay, Elgin; plasterer, Robert Stewart, Elgin; and plumber, John Hunter, Elgin.

ENORMOUS CASTING IN SHEFFIELD.

MESSRS. J. M. STANLEY & Co., of the Midland Works, have been casting vast blocks of metal for steam-hammer anvils. The fifty- or sixty-ton anvil, once considered to be a marvel, was followed by the 100-ton block; but that has again given way to a 160-ton block, which has been successfully cast. The mould was 12 ft. square at the base, and 11 ft. 6 in. deep, and it was estimated that nearly 170 tons of iron would be required to fill it. At intervals outside the shop were five furnaces, which poured their molten contents into the chasm from six a.m. to five p.m. A metal rod was then thrust through the mass to test its perfect liquidity; and the top of the pit was then closed, until the metal has cooled, which will probably be in about seven weeks. The operation of lifting the block and transferring it to its destination, has been arranged for, and it is confidently believed will be safely and speedily effected. The anvil is intended to be placed in the gun-manufactory of Messrs. Firth, which is close to the Midland Works. The object of the casting is to secure an anvil that no force can shake. The block will have to sustain the blows of a 25-ton steam-hammer (Nasmyth's), which will be employed in forging the 600-pounder and 300-pounder guns that Messrs. Frith are making for Mr. Whitworth. In this forge were made some of those guns that are now being tried at Shoeburyness, and which have stood the unprecedented test of nearly 3,000 rounds, without giving any sign of failure.

WEST LONDON SCHOOL OF ART.

THE second annual distribution of medals and prizes to the successful students took place on Wednesday evening, at a public meeting held in the new gallery of the school, 204, Great Portland-street, before a crowded assembly of students and their friends. The president of the school, Mr. A. J. B. Beresford Hope, was in the chair, and distributed the prizes. Among the gentlemen immediately surrounding the chair were the Earl of Powis, one of the patrons; Mr. Peter Graham, the treasurer; Mr. Hubert; Mr. Digby Wyatt; Mr. Godwin; Mr. Joseph Clarke; Mr. Macdonald Clarke, the master of the school; and Mr. Lomax, the hon. secretary. The Chairman said they had met together for the second time to distribute the prizes of what was once the Marylebone School of Art, but which had now grown into the West London School of Art,—an important change. He saw many familiar faces around him, but missed many others,—the Bishop of Oxford, the Bishop of Chichester; and as that night there was an important meeting of the Royal Academy, Sir Charles Eastlake, Mr. Redgrave, and Mr. Roberts were likewise unable to attend. A number of letters had been received from other gentlemen, including Sir Gardner Wilkinson, Mr. Donaldson, Mr. Harvey Lewis, M.P., the Rev. J. C. Phipps, and Dr. Goulbourn. The fact was, the Chairman said, they had met rather late in the season, he did not know why, and he must welcome those he saw there. He believed he might say that he saw approaching a more material connexion between the West London School of Art and the Architectural Museum, and that there would be a sort of underground union between the two some day. Although there were not all there they could have wished, there was a goodly gathering, and all who were there had, he was sure, sharpened their tongues. All who took an interest in such matters knew that schools of art had now arrived at a crisis. There was a new system that had been elaborated by the House of Lords. Well, standing before them, it would be expected he should say something on the subject. He would confine himself merely to the actual progress of the school which owed so much to a truly artistical and self-devoted man, Mr. McDonald Clarke, to whom its material progress was mainly due. Without going further into detail, he would say that last year they had ten medals and two honourable mentions, while this year they had twenty-one medals and eight honourable mentions. In the national competition last year, they had two national medallions, and no honourable mention; while this year they had three, and one honourable mention. Nearly all the works shown on the walls had been done between the first occupation of the room,—indeed, between November and March. It said volumes to the credit of those who had done the work. He was informed that though they had come into large and more commodious premises, they were still jostled by the number of students, in spite of the attractions out of doors,—what those were he did not know,—perhaps amongst them was that which a too severe Parliament had just doomed to silence. They had the loan of valuable casts from Mr. Owen Jones, and of carvings from Mr. Morant. He had a good hope that a portion of the collection of the Architectural Museum would be on the walls of that school before another year had passed. He saw, with pleasure, that there was a scheme for branch schools, taught by their own teachers, and using their own appliances. The West London School of Art could not be too well known. There was, however, a limited liability for their own subscribers, which he hoped they would never exceed. They were now, he understood, to take in the S.W., N.W., and W. postal districts: whether they could cover all the ground depended on their energy and the amount of support they would receive. The chairman then made some remarks on our growing civilisation, and of realizing the beautiful in everything. There existed a necessity for art for the million, and it must be pure. If they desired to oppose mere animal luxuries, they must work for that end; and they could not strive too much. He would say, be solvent and be ambitious—ambitious to the skies. He might commend to their treasurer the solvency, and to their secretary the ambition. He trusted they would for many years stand on a most solid foundation. He had made a long preface to a short text; and he would now proceed to distribute the well-earned honours with the approbation of the friends and relatives of the students who sat around them.

The President then proceeded with the distribution: forty-nine students, having obtained the mark "Excellent" in the time-drawing or second-grade examination, received prizes.

Thirty-three students (including six young ladies), obtained the mark "Good" in the time-drawing examination.

Thirteen students obtained medals for their studies: the entire number of medals taken by them was twenty-one.

The following students obtained the National Medallion, the highest distinction conferred by the Department of Science and Art:—Messrs. G. H. Ives, H. Montford, and G. S. Murdoch; and honourable mention was awarded to W. F. Wetten. A money prize offered by Captain Joliffe, M.P., for a sketch for a stained-glass window, was awarded to Mr. G. Porter.

The following are entitled to prize studentships, having passed four subjects in each, and taken medals:—H. Montford and C. S. Gordon.

H. Braun and F. Braun obtained prizes in the Society of Arts' competition among art-workmen.

Six senior students of the school have, during the past year, been admitted students of the Royal Academy.

In distributing the prizes, the president spoke very highly of the abilities of Mr. Montford, and that gentleman was loudly applauded by his fellow students.

When the distribution was over, the president remarked that he had no more to say to the students; but to the unsuccessful, go in and win, whip up and crowd the room till the ventilation becomes intolerable: to those who had been successful, he would say he only hoped they would be more so next year.

Earl Powis expressed the great delight he felt at the extension of the operations of the school; referred to the great works of the Grecian artists as examples to the students; urged the necessity for general education; and concluded by moving a vote of thanks to the chairman.

A pleasing incident occurred at this stage of the proceedings. A pencil, in the names of the students, was presented to Mr. Pilsbury, the second-master of the school; and that gentleman, in returning thanks, said the value of the gift was much enhanced by the fact that he had not the slightest idea that anything of the sort was intended.

Mr. Digby Wyatt, in seconding the vote of thanks, agreed with Lord Powis as to the necessity of general education; regretted the want of a library; and kindly offered to place ten volumes of his own books at the service of the students, to be replaced at certain periods by others.

Mr. Peter Graham spoke of the progress of the school, and mentioned several donations that had been received, including two from Sir Claude Scott, of 10 guineas each.

Mr. G. Godwin said that however successful the school might be in an artistical point of view, it was not so financially at present. He understood that they received about 120*l.* a year, but 250*l.* would be required to secure the permanent success of the school. He gave some reasons why this aid should be forthcoming.

The vote of thanks was carried unanimously; and the chairman called on the meeting to give a hearty cheer for the committee and officers of the school, which was spiritedly responded to.

THE PROVINCIAL SCHOOLS OF ART.

THE collection of works from the various local Schools of Art is still to be seen at South Kensington, and should be visited. In several departments the works are very satisfactory: the least so are the specimens in that of *architecture*, several of which, selected as they are for *national* competition, are little less than childish. An architect amongst the judges is evidently needed.

THE DRAMATIC COLLEGE FÊTE.

THE fête and fair in the Crystal Palace in aid of the funds of the Dramatic College went off with great spirit, and must have produced a large amount of money. Actors and actresses worked most energetically all day,—an exertion the more remarkable considering that many of them had to act in their respective theatres at night. Every show was filled for some hours with successive crowds, and again and again Mr. Tootle did his magic, Mr. J. Clarke explained his antiquities, Mr. Addison lectured on his Menagerie, and a whole Company at "Richardson's Show" went through a thrilling tragedy with every one killed but the fiddlers. The interest of the collection in the Model of Shakespeare's House in Stratford, was greatly increased by a selection of scarce and curious books of the Shakspearean era, lent by Mr. Tite, M.P. There are many other curious things in the Museum, which will remain for some time, and should be seen. The staircase to the upper rooms, by the way, is that which came from Dr. Johnson's lodgings in the Temple.

ARCHÆOLOGICAL INSTITUTE.

THE annual meeting at Warwick, commencing Tuesday, July 26, promises to be a good one. On that day the inaugural meeting will take place in the Assembly-room, at the Court-house, when the Marquis Camden will introduce Lord Leigh as chairman. At the close of the meeting the museum will be thrown open, and a party will be formed to visit the Beauchamp Chapel, the Leycester Hospital, &c.

July 27.—Meetings of Sections at ten a.m. Warwick Castle will be visited, and the Rev. C. H. Hartshorne will describe its architecture. Mr. G. Scharf will discourse upon the pictures. Later in the day an excursion will be made to Kenilworth Castle.

July 28.—Excursion to Coventry. Evening meeting.

July 29.—Excursion to Lichfield, where Professor Willis will give a discourse on the cathedral. Evening meeting.

July 30.—Meeting for papers. Excursion to Stratford. *Conversazione* in the museum.

August 1.—Meeting for papers. Excursion. In the evening a meeting at the Court-house, or a *conversazione* in the museum.

August 2.—Annual meeting and other business, in the Court-house, at half-past nine a.m. General concluding meeting.

COMPETITIONS.

County Lunatic Asylum, Bodmin.—The visiting justices of the county of Cornwall have selected, in competition, the design by Messrs. Alfred Norman & James Hine, architects, Plymouth, for the proposed new building for private patients.

Bell Hotel, Gloucester.—The first premium, of 50*l.*, has been awarded to Mr. H. James, of Gloucester, and the second premium, of 25*l.*, to Mr. C. F. Hayward, of London. Eighteen designs were sent in.

EPPING FOREST.

THE question of the inclosure of Epping Forest, of which we have already fully and more than once written in the *Builder*, has been again brought before the attention of the House of Commons. Mr. Doulton has announced that early next session he will move for a select committee to inquire into the whole question of metropolitan inclosures, with a view to keeping such spaces as Epping Forest in a state of native wildness for the healthful recreation of the people.

In the session of 1863, the select committee appointed to inquire into the condition of the forests in Essex recommended Government "to make provision for securing an adequate portion of Epping Forest for those purposes of health and recreation which it has been proved to your committee have been from time immemorial enjoyed by the inhabitants of the forest." So far, however, no good has resulted from this recommendation; and the Government authorities seem to be looking supinely on while inclosure is being carried out in various directions; thus, as each month and year passes, arrangements are rendered more and more difficult and expensive.

In connexion with this subject, Mr. F. Peel, who represented the Government, mentioned that the vote of the House which prayed the Queen not to allow facilities for the inclosure, or permit the sale, of Crown lands, within 15 miles of the centre of the metropolis, was carried against the wish of the Government. Mr. Peel said that he scarcely thought this was right, considering that the Crown land was simply a right of sporting over private property in Epping Forest. There is a right, however, which the people have in connexion with these lands; and although we cannot pretend to a knowledge of all the possible quirks and quiddities of the law as to this matter, common-sense suggests that if the Crown authorities preserve their right of sporting and feeding deer on these lands, the lord of the manor cannot inclose or build on them. There is a fair and equitable privilege to be secured on either side; and it would seem to be easy to bring this about by arbitration. It must not be forgotten also that the commoners residing within the forest have a right to wood, pasturage, &c., enjoyed by them from a very ancient date. This right will be abolished if the district is allowed to be divided into private inclosures: the poor dwellers of the forest will in that case be most wrongfully treated.

Some years ago the affairs of the Royal Forest of Dean, in Gloucestershire, had fallen into sad confusion: the disputes among the miners and others and the officers of the Woods and Forests were incessant; and claimants of various kinds had encroached upon and injured the oak plantations. In order to remedy the mischief, a commission of practical men was appointed to inquire with care into the facts of the case. Evidence of a varied and elaborate kind was collected, and persons of various classes who were concerned in the matter were examined. The various claims were taken into consideration; and either the money value of those parts which interfered with the growth of the forest was given, or ground in some other position under the management of the Woods and Forests Commissioners was exchanged, as an equivalent. For some time the Commissioners were strongly opposed by the foresters; but eventually every one was satisfied; and the change was acknowledged to be of advantage to all parties. Is it impossible to settle the Epping Forest matter in something of the same spirit? We think not. The portion of the land which would be especially useful for the public should be determined upon without delay; and then the claims which can be fairly made upon this property should be forthwith considered. If it can in justice be shown that the lord of the manor, or any other person, has a right to compensation, let that be paid; for eventually, even in the course of a few years, the sum which might now be paid in full satisfaction of all claims, will seem trifling in comparison with future worth.

In Epping Forest we do not desire to see a trim and ornamental park laid out; but simply that a sufficient space may be left in its present wild and most picturesque condition, to which the Londoners may easily resort, there to enjoy the charms of nature and the fresh pleasant air. Delays are dangerous; and it is hoped that the strong opinion expressed by the House of Commons will stir those connected with the Government to do their duty in this and some other important sanitary and social arrangements with alacrity and without official routine, so preventing the occurrence of evils which in years to come it will not be so easy to remedy. The first settlement of the forest must be the chief expense; for the cost of keeping the district in its present wild state for the next twenty or thirty years would be very trifling. If things, on the contrary, are allowed to go on as they do with impunity, we shall ere long have no forest at all to trouble ourselves about.

LOWER MIDDLE-CLASS SCHOOL, ARDINGLY.

THE foundation-stone of another school, in connexion with St. Nicholas College, Lancing, was laid, on Tuesday, the 12th, at Ardingly, a small village in the weald of Sussex, about three or four miles from the Balcombe Station of the London and Brighton Railway, and about the same distance from the Haywards Heath Station. The future school will overlook the south of the valley of the Ouse and the viaduct which spans it: to the north-east the steeple of Lindfield Church may be seen rising up; and on every side there are well-wooded eminences,—amongst them the "high beech," pre-eminent,—and bosky dells, relieved by grass-lands and cornfields, with those rich hedgerows which distinguish the scenery of the weald. Well we know their wild flowers!

Lord Granville laid the stone, and Lord Brougham, the Bishop of Chichester, Mr. Beresford Hope, and other eminent persons were present. The school is to be capable of accommodating 1,000 boys, who will pay 13*l.* a year for their board, lodging, washing, and schooling, and about 3*l.* more in entrance fees and cost of books, &c., making it 16*l.* in all. From careful calculations it has been ascertained by the Rev. Mr. Woodward, the founder of these schools, that this 16,000*l.* per annum revenue from the boys will cover all the expenses of the school, including the salaries of masters. The building is erected by the aid of the friends of education; but it is hoped that after a start of one or two years the institution will not only become self-supporting, but yield a profit which is at once utilized to extend the system in other parts.

The architects of the Ardingly College are Messrs. Slater & Carpenter; and the builder is Mr. F. Cane, of Brighton. It is intended when complete to accommodate, as we have said, 1,000 boys, besides masters, chaplains, and other official persons.

The plan of the college is arranged in two large quadrangles. That in the front is open to the south. The inner quadrangle is divided from the outer by a lofty range of buildings, comprising the dining-halls, school-rooms, chapel, and cloister. The principal entrance is through a tower placed in the centre of this block of buildings, dividing the dining-halls from the chapel.

In the buildings on the various other sides of both quadrangles are arranged the dormitories, day-rooms, class-rooms, and other necessary accommodation for the boys, and living-rooms and bed-rooms for the clerical junior masters and the chaplains. Some of the masters are placed in the blocks of buildings at the ends of the wings of the south quadrangle. The head-master's house projects to the south-east in the extreme front of the building, and the second master is accommodated in the centre of the north side of the inner quadrangle, at the other end of the college. The principal kitchens and offices form a separate court by themselves, and are situate on the west side of the college. The dormitories are placed, as before stated, in the wings or sides of the two quadrangles, and are made to accommodate some of them fifty-two, and others twenty boys each.

The dining-halls, two in number, are arranged one over the other in the western half of the great central building, extending, that is to say, from the kitchens to the central tower. The portion of the central building eastward of this tower is used for school-rooms and for the chapel, the former occupying the ground-floor. The dining-halls are each 100 ft. long by 32 ft. broad.

The sides of the quadrangles, with the exception of the central building, are in three stories. The building is in the Early Pointed style. The materials to be used are red brick for the walling generally, and the windows and other features are to be of Scaines Hill stone.

CONTINENTAL NEWS.

France.—The Emperor has commanded a statue of the late King of Wurtemberg, to be executed in marble, and placed in one of the galleries at Versailles.——Chateaubriand, the poet, is to have a statue at St. Malo, his birthplace.

Brussels.—With reference to our notice of the prizes awarded to the successful competitors, for the Hague Museum, in the *Builder* of 30th April last, we are now enabled to add that the sealed envelopes of the five plans that received honourable mention have been opened by the committee, and were found to have been sent in by the following architects:—Motto, "*Travailler c'est vivre*," from M. Louis Radoux, at Paris; "*Concordiâ res parvæ crescunt*," from Mr. Lucas Hermanus Eberson, of Arnheim; "Rembrandt," from M. Charles Peigniet, of Paris; "*Streben ist Leben*," from Herr Heinrich Gmelin, of Carlsruhe, established at Bâle; and "*Orange Boven*," from M. Charles Demaeght, of Brussels.——A model of a statue of Mr. Verhaegen, the Belgian statesman, is now temporarily placed in the Great Court of the University. Geefs, the sculptor, was to execute it in marble, but bronze has now been decided on as a more durable material.

Leyden.—The celebrated Museum of Japanese Curiosities, presented to the Dutch nation by Colonel von Siebold, and which has hitherto been open to public inspection in a house in the Breedestraat, has been removed within the last few days to the new National Ethnographical Museum, on the Hoogeweerd. It is understood that the valuable collections of the lately dissolved Royal Academy of Delft are to be brought to Leyden, and also placed in the New Museum. The Museum of Antiquities of this university has lately been enriched by a set of casts from the Roman bronzes found a few years ago in the bed of the Rhine, near Xanten, the originals of which are in the Royal Museum at Berlin. The same Museum has also just received a valuable contribution of Javanese antiquities, a present from the heirs of the late Mr. Buyskes, of Leyden, as well as a collection of ethnographical objects from New Zealand, presented by the same heirs; and, finally, a collection from Dr. G. Wienecke, medical officer at Benkoelen, on the Island of Sumatra, containing many interesting antiquities discovered and collected by that enterprising gentleman in Sumatra and Engano.

Vienna.—The annual meeting of German architects will this year be held in this city, from the 29th to the 31st of August. Upwards of 800 architects have already signified their intention of attending. Fernkorn's original quarter-size model of the colossal equestrian statue on the Burgplatz has been purchased by subscription by the officers of the Austrian army and presented to the son of the hero, the Archduke Albert of Austria. It has now found a place in the Weilburgh at Baden, near Vienna. A curious custom is getting very prevalent here. *Cartes de visite* and other photographic representations of the deceased are inserted in their tombstones, covered with glass.

Berlin.—The exterior of the Royal Palace has just received eight full-sized statues, executed in sandstone. "Magnanimity" and "Bravery," both male figures, are by Schievelbein: the female figures are "Gentleness" and "Liberality," by Heidel; "Commerce" and "Art," by Fischer; and "Industry" and "Navigation," by Stürmer.

Cologne.—A stained-glass window, which, when finished, will be the largest in the world, is being executed here for the cathedral at the sole expense of the Crown Prince of Prussia. Over the west entrance into the nave, between the two towers, there will be a window 70 ft. in height, and this window will receive in gigantic proportion a representation of the Last Judgment. The design is from the cartoons of Peter von Cornelius, and was originally intended for the Campo Santa at Berlin, where, however, it was never executed. Voss, the sculptor, of this town, but practising in Rome, has just finished two works, which are much praised. The one is Rebecca at the well: she is pensively examining the bracelet just given to her by Abraham's servant: her right hand rests on the pitcher. The other statue represents Loreley, *Anglicé* Lurline, and is intended for exhibition at the annual Fine Arts show at Berlin.

Colberg.—A statue of the late King of Prussia was unveiled last week in presence of the Crown Prince. Palm, the bookseller, who was shot by the French very shortly before the Prussians

successfully threw off the foreign yoke, is to have a statue at Brannan. The designs were submitted to the ex-King of Bavaria, who decided in favour of one by Knoll, of Munich.

Dresden.—A very large building is being erected here, intended for representations of various kinds. It is circular on plan, and is estimated at about 24,000*l.*

Lisbon.—Five premiums, of which the highest is 11,100 francs, and the lowest 2,755 francs, are offered for the best designs for a monument and statue to be erected at Lisbon in memory of the Emperor Dom Pedro IV. No doubt, the Portuguese embassy in London would give further information.

FROM SCOTLAND.

Elgin.—Mr. Hutton, of Glasgow, proposes to erect extensive chemical works in the immediate vicinity of Elgin. A site for the manufactory has been spoken of at the south-eastern extremity of the Leper Lands, near the Pinefield Nurseries.

St. Andrews.—The foundation stone of a new United Presbyterian church has been laid here.

Perth. — The cofferdam to be used at the Dundee railway bridge is nearly completed. The bridge itself is in a forward state. The iron girders have been painted of a light-blue colour; and the flooring, railing, and foot-path are nearly completed.

Montrose.—The new building for the Royal Bank of Scotland is now nearly finished, and has been opened for business. The building is three stories in height. The whole of the windows in front have moulded architraves of various forms on the different floors. Those of the upper floor have, in the centre, columns with carved capitals. Moulded stringcourses go the whole length of the building, at the level of the window-sills, with conventional carved frieze courses below. The whole is surmounted with a stone cornice, with cantilevers and large paterae between each. The stone for the front is from one of the Fife quarries. The building, which is in the High-street, was designed and carried out by Messrs. Peddie & Kinnear, of Edinburgh. The contractors were Messrs. Balfour, Hird, Middleton & Son, Lindsay, and Millar; and under the inspectorship of Mr. Clunis the building has been finished. The same architects are executing at present, at Sunnyside, a mansionhouse for Mr. T. B. Paton. The building is Italian in style.

Aberdeen.—During the recent sojourn of the Court at Balmoral, the movement set a-going in the city and county of Aberdeen to erect a statue of the Queen in the city, is said to have been brought under the notice of her Majesty, who expressed her satisfaction with the proposal, the more especially as it had originated with the working classes. We understand, also, that her Majesty signified her willingness to give the sculptor a sitting when she revisits Balmoral during the autumn.

Inverness.—The inverness district lunatic asylum was formally opened on the 18th of May, and is now in regular use. The building has been in progress for several years. The plan was prepared by Mr. Mathews, Aberdeen, and the details, having reference to the health of the patients and the special arrangements required in such institutions, were carried out under the supervision of the medical officer. The asylum occupies a conspicuous situation, on the eastern shoulder of Duncan, between that hill and Craig Phadraig, on what is called the Leachkin. The asylum has a frontage of about 600 feet. Towards the town the appearance is tame and monotonous; but at the back two wings project boldly, the towers are better seen, and the outline is more broken. The principal entrance is at the back, so as to avoid exciting the inmates by arrivals and departures. The centre block contains the kitchen and offices connected therewith, the apartments of the various officers and domestic servants, and the dining and recreation halls and chapel. To the left, or east, of this is situate the females' convalescent ward; and further to the left, at right angles, are the rooms to be appropriated by and by to the worst class of cases. Beyond it, again, is the female infirmary. The western half of the building is arranged in precisely the same manner, and set apart for the male portion of the inmates. The hospitals, or infirmaries, are thus separated from the rest of the building: so that, in the event of an epidemic, the inmates can be completely shut off from the other patients. Each hospital has a small airing yard attached, and is fitted up for the accommodation of twenty patients. The building is heated by Haden's patent, and lighted with "home-made" gas. At distances of from 80 feet to 90 feet throughout the length and breadth of the building, and rising from the foundation to the roof, there are thick stone walls containing iron sliding-doors, which can be drawn out across the corridors, so that in the event of a fire breaking out in any particular ward, all communication with the rest of the asylum may at once be effectually intercepted. Other precautions against accident have been adopted. In the industrial department are joiners', tailors', and shoemakers' shops. The laundry, farm-offices, and gas-works are situate a short distance from the main building. The whole of the work is intended to be performed by the patients. The accommodation is calculated for about 350 patients.

Lerwick (Shetland).—An episcopal church of modest dimensions has been erected here, and consecrated by the Bishop at Aberdeen. The Church of St. Magnus has been built from designs furnished by Mr. Ellis, architect, Aberdeen. It is a building in the First Pointed style, consisting of nave and chancel, with a bell-turret near the junction, carrying a small bell. The church is seated for about 250. The principal features internally are the chancel arch and the elevation of the altar, which stands upon a footpace reached by seven steps from the floor of the nave. There is an organ, presented by Mrs. Forbes, of Boyndlie. This stands under an arch on the south side of the chancel, which also gives entrance to the vestry. The east and west windows are both rose windows, the former being filled with stained glass. The church stands on a considerable piece of land given by Major Cameron.

FERRY ACROSS THE SERPENTINE.

BEFORE the foot-bridge spanned the waters of St. James's Park, in the line between Marlborough House and Queen's-square, a ferry-boat, plied by an old tar, afforded great accommodation to men of business and wayfarers between Pall-Mall and Westminster; over which way there is now a continuous intercourse.

Since the Exhibition of 1862, and the dismissal of the St. James's boats, another ferry, at one penny a head, has been established across the Serpentine, on a line between Prince's-gate and Hyde Park Gardens, which appears to be as yet little known, although there are always six boats in waiting, some of them for rowing parties; but there is no notice-board of the ferry! There are great numbers who traverse the park, from Prince's-gate towards Hyde Park Gardens, and for them this would give a short cut of half a mile, besides the solace of a varied and pleasing rest.

In order to establish the ferry, and to compensate the boatmen, so as to insure regularity of service, it should be made known that there is one. There can be no bridge to spoil this our only London lake, or mar a pleasing picture. The plying skiffs would give it animation; and sailing parties over the sunny expanse would also add a pleasing effect to the scene.

The condition of the waters, it is true, is not what it ought to be, if a proper supply of *fresh* were drawn from the head of the Serpentine; but, before that can be done, alterations must be made, both in the pumps and their adjustment. At present, the adaptation is, to draw from one tank, which receives both the fresh spring water from the well, and the reflux water, as returned from the festering Serpentine itself!

The quantity drawn from the well every hour is 10,400 gallons, and the quantity from the reflux of the lake is 27,300 gallons! but by alteration in the pumps and application of proper mechanism, fully that quantity—that is, 37,700 gallons hourly—might be obtained, it is assented, from the well alone. The pumps are not, however, worked daily for so many hours as they might be. Alterations might be made in the winter months, without interfering with the sanitary influence of the present supply; and then for the improvement of the waters, as used by the multitude for bathing, what a boon it would be to those who resort thither, and can go no farther to enjoy a swim. Although the water is not quite so green and weedy as it used to be, it certainly offers little inducement for the increase of bathers; and it is surely a matter of moment to Government that this enormous population, which is already bereft of its fluvial resorts on the Thames banks, should have some opportunity of lustration afforded them. The Thames is too much polluted; besides that for a wide district it is too remote; and, where accessible, there are no reserves for dressing or undressing. Certainly baths have multiplied in all quarters of the metropolis; but there is no space for the practice of swimming like the Serpentine, where the feat from Cestos to Abydos might be equalled.

This is a municipal and almost a national question: every boy ought to know how to save himself if submerged by accident; besides that for health and cleanly habitudes, an opportunity to bathe should be given wherever it is practicable. The hours of license—from six to eight a.m. and seven to nine p.m.—could interfere with no use or right of promenaders, "*à pied ou à cheval.*" Might not the Commissioners dedicate a little further expense to an increased supply of water from the fountains? It ought also to be suggested, that if the engines are to be worked for twelve hours daily, the one solitary and overworked engineer should have an apartment either on the spot, or in one of the numerous lodges and lie-byes in the Park.

MALVERN.

THE furniture of the Priory Church has just received an addition, in a new pulpit, reading-desk, lectern, and a pair of communion chairs. The whole are constructed of oak, and the cost will not fall far short of 500*l.* The whole were designed by Mr. G. G. Scott, and have been executed by Messrs. Wood & Son, of Worcester. The pulpit is in plan a semi-quadrangle, with the three sides of an octagon jutting from the whole side or front. It is moulded and panelled, each panel having a carved centre on a diaper ground, terminating at the upper end with carved foliage. The interior of the pulpit is reached by the aid of a staircase, which winds round the south-west of the four piers that support the tower of the church. Mr. Boulton, of Worcester, executed the carving.

A meeting has been held in the Malvern Link Working Men's Club-room, for the purpose of considering a project for erecting suitable buildings, in conjunction with the above club, for the more complete accommodation of the working men of the district; in fact, a kind of boarding-house, under the Limited Liability Act. The building will cost about 650*l.* The club-room will be 48 ft. by 24 ft., underneath which will be a dormitory for twenty beds, and lower down a dining or eating-room. Rooms for a porter and his wife will also be provided, in addition to a pantry, wherein the working men can deposit their purchases. An appropriate resolution was adopted, and a committee appointed to carry out the object in view.

UTILISATION OF TOWN SEWAGE.

A HOPEFUL experiment is about to be made at Aldershott, by Mr. Blackburn, of Aberdeenshire, in the utilisation of sewage. 160 acres of gradually sloping heath below the level of the camp have been allotted to him, and on to this farm some 700 tons a day of the drainage of the two camps will be delivered. The land is now being torn up by heavy ploughs and teams, 18 in., by 20 in. deep. A furrow, 10 in. to 12 in. deep is turned, and the subsoil is stirred 8 in. deeper by a subsoil plough. The whole of the ferruginous pan, as it were, of concrete, which has hitherto held water after rain upon the surface of the sandy heath is being broken up, and the drainage of the land is being thus effected. When a certain tilth has been provided, and the scanty growth of ling which naturally covers the land has disappeared, the land is levelled and sown with Italian rye-grass. Pumps worked by a 12-horse power engine will receive the sewage; and, arranged as to direction of their thrust, and as to size of pipes, &c., so as to avoid friction as much as possible, they will drive this sewage through underground piping to a hydrant in every 5 acres of land. Surface pipes will then conduct it to stations in every 1·25 acre, and thence a man will distribute 200 or 300 tons per acre evenly every day by hose. Some few acres of land have been already sown, and 60 or 70 acres have been already subsoiled: some portion of the expenditure on buildings has been already incurred; but nothing can be done until the stream is delivered on the land. Mr. Blackburn's experiment is one both of agricultural and of social interest.

AN ARCHITECTURAL TRIP IN ALGERIA.

THE coming season is the usual one for holiday tours; but as there are doubtless some amongst your readers who find it difficult to leave home in summer, permit me to suggest, that were a few to substitute winter trips to Algeria, they might greatly extend our knowledge of Saracenic art. The present disturbances will doubtless soon pass over, and in ordinary times travelling there is safe and agreeable enough.

Tlemcen, near the western frontier of that country, just now presents peculiar facilities for the study of architecture. For centuries the capital of the kingdom of Mogreb-el-Aksa, few cities contain more striking proofs of former greatness. Much has been destroyed, but much also still remains, though rapidly passing away before the changes effected by the French administration, in carrying out what seems to be the darling object of the French official, namely, to make every colonial city a miniature copy of Paris.

When the city of Fez becomes accessible to the tourist, perhaps it may offer a yet wider field for study; but there the mosques are still a closed book to us; and of the few Europeans who have visited the sultan's reception-rooms, none seem to have had sufficient architectural taste to give the world any information as to their artistic merits; whilst the Palace of Mekines, perhaps the rival of the Alhambra, is known only as yet by name. Still, whatever the unknown future may open to us in coming years, it is to be hoped that the present will not pass away without our making use of the opportunities now offered. A large portion of the antiquities of Tlemcen have already been destroyed; others will soon follow; whilst the mosques that are allowed to remain, being generally renovated by French artists,—in an elegant style, it is true,—lose all archæological value, so that should no one competent to the task avail of the occasion, it is to be feared that all record will for ever be lost of the ruins of one of the chief seats of Saracenic learning and art.

Besides the numerous mosques within the city, and the five massive concrete walls that once encircled it, about half a mile to the west, the traveller is shown the remains of a large fortified enclosure and mosque, called Mansourah, said to have been erected by Youcef Al Mancour, Sultan of Fez, as a permanent camp, during a siege of *seven* years, which ended in the year 1309, in the taking of the city, and its reduction from the capital of a powerful state to a mere provincial town. Of the mosque itself only some concrete walls remain, but of the tower, nearly the whole of the western side is perfect: tradition tells us that the eastern, face having been built by Jews, has long since crumbled away, leaving the work of the true believer firm and erect as ever. It is quite different from any other yet described, being placed (instead of at one of the angles) in the centre of the western front over the principal entrance, a low semi-circular archway, surmounted by a bracketed gallery, before a wide arcaded opening; above are the usual recessed panelling, and an elegant cusped arcade, occupying the highest story now left.

The great cemetery to the east of the city is hardly less interesting, with its tombs and skulls of the last eight centuries. The museum and the sanctuary of Boumedine, an adjacent village, also contain numerous relics of past greatness.

Of late years a good deal of attention has been devoted to Moorish ornamentation, but the study has been chiefly confined to Spanish examples, as these are in many cases the work of Spaniards under the Saracenic rule; or, if really Moresco, have since been very much altered, so that they can hardly be taken as a fair guide to the characteristics of the style. Until I visited Barbary, I never understood the structural character of Moorish architecture: in fact, writers seem hardly to have considered this branch of the subject, or noted that this was the style in which concrete and plaster construction attained the highest development, like the arch did in the Gothic, or the column and lintel in Greek art.

At Mogador, near the confines of the Great Desert, this system may be seen in its most primitive form. Complete houses of concrete and bamboo lath, exhibiting hardly a single straight line, but walls, pillars, floors, and roofs all presenting different varieties of curves and bulges. Proceeding north you find, first, the floors levelled and laid with glazed tiles; next, ceilings of bamboo and mortar replaced by elegantly framed woodwork; and, further on, concrete pillars give place to marble shafts with elaborately cusped arches and rich plaster mouldings.

The historical development of the Saracenic style was probably much the same. Beginning in a country in which large timber is almost unknown and hard stone little used, the rough edifice of concrete and mortar gradually advanced by the successive introduction of glazed tiles, wooden fretwork, marble shafts, and plaster mouldings, to the perfection attained in the Alhambra of the fourteenth century.

A Moorish mosque, like a Greek temple or a Mediæval church, always presents the same general features, however much the decorative details may vary;—a square or oblong area, one half covered by a hip-shaped tile roof, resting on massive rows of arches, but rarely, if ever, vaulted across; and the open portion encircled by a substantial arcade, with a square tower at one of the western angles. The form of this is very similar to the celebrated Geralda of Seville, the sides divided into two or three recessed panels, the first containing one or two shafted arches, the other a small arcade surmounted by carved fretwork, inlaid with glazed tiles, and terminating in pyramidal battlements, inclosing a small central turret.

The Moorish style, like the Gothic, appears to present three stages of development:—

The first, that in which the decoration is confined to plaster, in low relief.

The second distinguished by bold circular pillars and interlacing arches.

The third, in which light shafts, stalactite arches, and honeycomb plasterwork take the place of these.

In the first we find a roof composed of small pieces of wood, elaborately framed together, resting on plain pointed or horseshoe arches, with square piers more or less massive, these and the inner surfaces of the walls being covered with plaster decoration in low relief; but the plan and design are purely utilitarian, the ornamentation being confined to superficial coatings of stucco and paint. The mosques at Tlemcen nearly all belong to this period, and are stated to date from the twelfth century. The noble Norno-Saracenic churches of Sicily may perhaps be considered as an adaptation of this style to the stone-work and gold mosaics of the lower empire before those changes had been developed which form the second stage. The only specimen of the first-class that I have seen in Spain is the old Synagogue at Toledo, now Sta. Maria Blanca, and in this the piers are octagonal, not square. In fact, it may be doubted if its use ever became general in that country: it is more probable that its introduction by the conquering race into a country well provided with stone, and amongst a people accustomed to circular columns and light arcades of the later Roman empire, at once caused the development of the second stage.

In this the massive square piers are replaced by circular columns, and the heavy flat-sided arcades by the elegant cusped and interlaced arches that we see at Cordova and in the little church of Sta. Christo de Luz, at Toledo, the ornamention thus becoming a structural portion of the edifice. These changes were doubtless gradually adopted in Northern Africa also; but this, being a stone rather than a concrete style, soon gave place, at least on the southern shores of the Mediterranean, to the third and last development.

This is the elaborate style familiar to us from the Alhambra Court of the Crystal Palace. In it plaster is no longer a mere superficial coating, but becomes a portion of the structure itself, in those many-sided stalactite arches, honeycomb pendants, and elaborate eaves that have so long elicited universal admiration in the courts of the Spanish Alhambra. In it the plasterers' art attained the highest development the world has yet seen; brick, stone, and concrete being only used to form the framework on which to attach the blocks of plaster. As Tlemcen, at the beginning of the fourteenth century, was reduced to the rank of a mere provincial city, but few specimens of this style are to be expected there. I, however, noticed a beautiful little mosque in the Place St. Michel, now used as a school. Some portions of the Great Mosque belong either to this or the second stage, but I had not time for a close enough examination to ascertain to which they should be attributed.

This is still the style in use in Morocco, though recent erections, I think, show some decline in taste on the Alhambra period. This is particularly observable in the small palace at Saffi, erected about the close of the last century, and in a little pavilion near Mogador, intended as a resting-place for the Sultan during his visits to that city, but is not so noticeable in some of the new houses at Mazagan.

The increasing probability of an early conquest of Tunis by the Italians, and of Morocco by Spain, which will soon sweep those countries also of their relics of Mediæval greatness, renders it not unlikely that a few years may clear the southern shore of the Mediterranean of all that is of interest to the architect. C. D. S.

CASTELL DINAS BRÂN.

IT is possible that the following brief description of Castell Dinas Brân may find a place in your pages. It was written during a recent visit to the ruin; and though by no means an exhaustive account, it is fuller than that given in Murray, and touches several points, not, I think, before noticed.

This castle crowns the summit of a steep conical and isolated hill, which rises on the left bank of the Dee to 910 feet in height, between that river and the higher scarp of limestone which forms the southern edge of the Ruabon coal-field. About a mile north-west of the castle are the beautiful ruins of Vallecrucis Abbey, and the more ancient pillar of Elisey.

The castle, evidently intended to guard the passes of the Dee from invaders from the east, occupies a site which, being absolutely inaccessible to waggons and heavy baggage, could scarcely have been selected by either a Roman or Norman engineer. This agrees with the tradition which attributes this castle to the Welsh princes.

The castle is a quadrangular inclosure, about 400 feet east and west, by 200 feet north and south. On the east and south sides is a deep moat, cut in the slate rock, and there are traces of a slighter ditch on the north-west side also. The north side is naturally steep, and has been scarped by art. The south side, being that towards the river and town of Llangollen, is further guarded by a second or outer ditch, up which the approach seems to have lain from the south-east.

The north wall is plain. At the north-west angle was a tower, connected with, no doubt, a garderobe, in which was a passage, still to be traced, in the thickness of the west wall. Here also are traces of a ribbed vault.

At the south-west angle are other buildings, and in the south wall an opening, possibly a postern. In the centre of this front is the kitchen tower, with a semicircular bow outwards, and a large chimney. An archway opened from this tower eastwards into the hall, of which apartment two windows remain in the south wall.

The eastern end of the enclosure is cut off from the rest by a foss excavated in the rock, the eastern or part so isolated having been the lord's strong place or keep. It is entered from the rest of the castle by a winding passage and flight of steps in the thickness of the wall, and below the staircase is a curious pit in the rock.

At the north-east angle is a vaulted passage, which seems to have been the principal entrance. In the crown of the arch are three circular holes, like that in a London cellar, but for what purpose it is difficult to say. They do not appear to have been connected with the defences, and light could scarcely have been wanted so near the gate. North of this passage are some arch mouldings of Decorated date, which may have belonged to a chapel.

The ditches are dry, and water must have been preserved in cisterns.

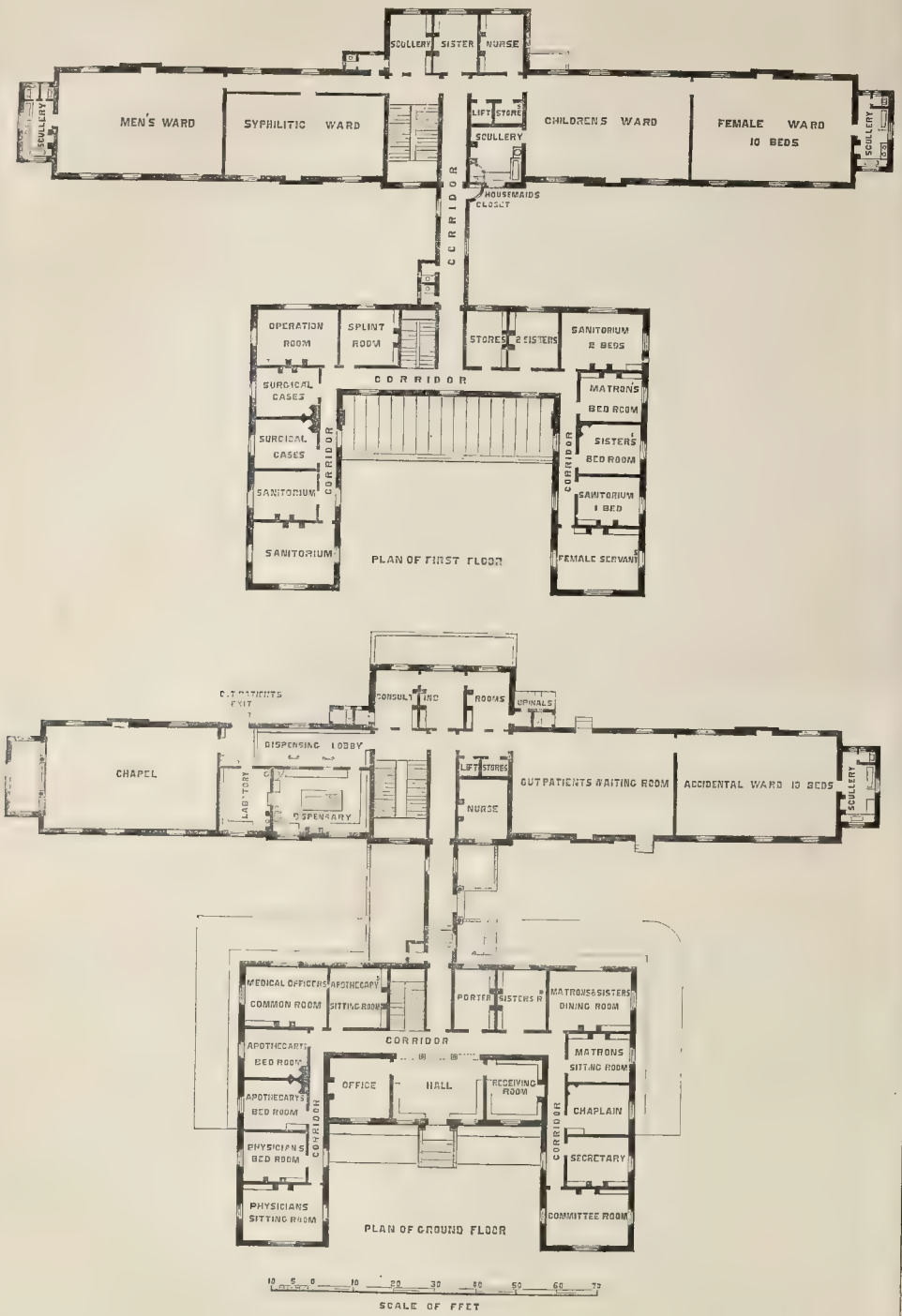
The walls are much ruinated, and most of the ashlar and cut stone is gone.

The approach, practicable only for footmen or Welsh ponies, seems to have entered the outer *fosse* at the south-east angle, to have passed in face of the south wall some way, then to have made a traverse along the inner ditch, below the south and east walls, reaching the portal at the north-east angle. The banks thrown up on the exteriors or counterscarps of the southern ditches seem contrived to cover the bend of the traverse. C. T. C.

THE GERMAN HOSPITAL, DALSTON.

WE give a perspective view and plans of the new hospital, Dalston, now in the course of completion, for the reception and cure of natives of Germany and others speaking the German language. Professor Donaldson is the architect: Messrs. I'Anson are the builders. We must reserve particulars for another occasion. In the meanwhile the plans will explain the general arrangement of the building, and the appropriation of the various parts of it.

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THE GERMAN HOSPITAL, DALSTON.



THE GERMAN HOSPITAL, DALSTON.—PROFESSOR DONALDSON, ARCHITECT.

LAW OF LANDLORD AND TENANT.

IN consequence of numerous cases in which tenants complain of having the rent demanded of them when their houses are uninhabitable, the judge of the Swansea County Court, Mr. Thomas Falconer, has drawn up a note of the law affecting both tenants and landlords, which, as it seems to us, may be usefully circulated:—

It may not be disadvantageous to relate the rules of law governing the general occupation of houses, and the consequences of special contracts to occupy houses on condition to keep them in a state of repair, whether this obligation rests on the landlord or on the tenant.

First, it should be known, that the law does not imply any warranty that a house is fit for human habitation. A plaintiff agreed to let to the defendant a house and garden with the use of the fixtures for three years, the tenant to preserve the house and premises in good tenantable repair. The defendant alleged that the house was let to him in order to inhabit, but that when he entered to the time he left the house it was not habitable—it was infested with bugs (it was an unfurnished house), and that he quitted it and gave notice to the plaintiff. It was held that the law implied no contract on the part of the lessor that the house was in a reasonably fit state for habitation, and that there is no implied warranty on a lease of a house or land that it is fit for habitation, occupation, or cultivation.—(Hart *v.* Windsor, 12 M. & W., 69.)

Again, where the declaration stated that the defendant let a house to the plaintiff, knowing at the time that it was in a state dangerous to occupy; knowing, also, that the plaintiff was ignorant of its state, and that he took it for the purpose of immediate occupation, and that he believed he could immediately occupy it, and that the defendant never gave notice to the plaintiff that the house was in that state, and the plaintiff entered and the house fell and did special damage: it was held that there was no cause of action. It was admitted that there was no express or implied warranty the house was fit for immediate occupation; but it was said that because there was no positive statement made by the defendant it was not fit for immediate occupation;—that because the defendant knew it to be in a ruinous state, and did not inform the plaintiff of that fact, therefore the defendant was liable, though he was not guilty of any active deceit. But it was consistent with the state of facts disclosed in the declaration that the defendant knew that the house was ruinous, or that the plaintiff came to him and asked to hire the house, and that the defendant had said he would let it, and did let it. The declaration did not say that the defendant made any misrepresentation, nor that he knew the plaintiff was acting under a delusion induced by the defendant's conduct as to the state of the house. He might reasonably have thought that the plaintiff would do what other persons would have done in the position of the plaintiff, namely, make an investigation and satisfy himself on the point. There was no averment of deceit, and there was no obligation on the defendant to make a disclosure as to the state of the house.—(Keats *v.* The Earl of Cadogan, 15 *Jurist*, 428.) And when the chimney-stack of a house fell upon the house, though express notice of the danger was given by the tenant to his own landlord, and the landlord had been requested to repair the chimneys, the landlord was held not to be responsible to the tenant for the damage done, as a landlord is not bound to keep the premises in a tenantable state of repair during a tenancy from year to year, except under an express contract.—(Golt *v.* Gandy, 23 *Law Journal* R., 1.) He would have been responsible for damage done if the stack of chimneys had fallen on the neighbour's house.—(Todd *v.* Flight, 30 *Law Journal* R., 21, C.P.)

2. If the landlord undertakes to do repairs, there is no implied condition that, if he fails to perform this part of his contract, the tenant, after having occupied the premises, may throw up his tenancy to avoid the payment of rent. Thus, in an agreement for the tenancy of a building for a term, and the landlord was to do the repairs. The tenant entered, and there was no implied condition that the tenant might quit if the repairs were not done. The defendants were yearly tenants of certain malt-offices at the rent of 25*l.* a year. They entered into possession at Michaelmas, and in the month of March, 1843, they quitted possession on the ground that they were not in a fit state of repair for the purposes of malting, and they tendered the keys to the agent of the plaintiff. The question was, whether, if the landlord is bound to repair the premises during the tenancy, there is an implied condition that, should he fail in the performance of his contract, the tenant may throw up the tenancy. If the contract were under seal, a condition that the tenant, on the breach thereof, might determine the tenancy, could not be implied. There is no legal principle that an agreement by parol is to be construed differently in this respect from one under seal. Assuming there was an agreement of the landlord to repair,—though none was actually proved,—there was no principle of law to authorise the importing into the contract the condition contended for.—(Surplice *v.* Tamworth, 7 Manning & Granger, 584.)

3. If the tenant undertakes to do repairs, and enters into possession, he is not entitled to determine the tenancy if the landlord fails to make other repairs necessary for the habitation of the premises. Thus, where the tenant of a house undertakes by his agreement to keep it in good repair as when he took it, fair wear and tear excepted, he is not entitled to quit on its becoming uninhabitable for want of other repairs during his term, and the landlord is under no implied obligation to do any repairs in such a case. The house in this case was rented for 30*l.* a year, and in consequence of age and natural decay, and the rotten, founderous, miry, and insecure state of the walls, timber, and foundation, and for want of sufficient sewerage and draining, became ruinous, insecure, dangerous and unsafe, and unfit for habitation. In order to keep the basement free from water, pumps for several hours a day were necessary, and it was then so wet as to be unfit for occupation; and a surveyor stated, that if the defendant had continued to occupy it, it would have fallen down. It was held, that unless there had been some fraud or improper concealment, the contract for letting was perfectly good. The rule laid down by Tindal, C.J., in Izon *v.* Gorton, 5 Bingh. c. 501, was approved of, viz., that when the tenant had been allowed to withdraw himself from the tenancy and to refuse payment of rent, was either when there was error or fraudulent misdescription of the premises which were the subject of letting, or where the premises had been found to be uninhabitable by the wrongful act or default of the landlord himself.—(Arden *v.* Pullen, 10 M. & W., 321.)

4. If the landlord agrees to do the repairs by a certain day, and they are not executed by that day, the tenant may decline to take possession. Thus, where an agreement was made by which the plaintiff agreed to do certain work by the 14th of June ensuing, namely, that the stairs of the kitchen should be less steep, a greenhouse to be erected, a bath to be divided from the other part of the room when the intended tenant should require, bells to be hung and finger-plates affixed to the doors as might be required by the intending tenant, and water to be laid on, &c.; and in consideration of these conditions being fulfilled, the defendant agreed to take the house for three years, at an annual rent of 130*l.*, and the plaintiff did not complete the whole work necessary by the 14th of June. It was held, in an action by the landlord on an alleged breach of the agreement, because the defendant did not become tenant to the plaintiff on June 24th, that there was a breach of a condition precedent by the landlord, and that the defendant had a right to stipulate for a particular day. It was a reasonable stipulation, as many things were to be done between the completion of a building and actually entering on it. Judgment was given for the defendant.—(Tidey *v.* Mollett, 4 N.R., 109; and S.C. 10 *Law Times* R., 380 N.S.).

5. A landlord may, by a parol agreement in writing, contract with a tenant that the tenant shall do repairs by a certain day, and that if not done he may re-enter. Thus an agreement was made January 21, 1863, by which it was contracted, that when the defendant (the intended tenant) should have executed certain repairs, and built certain rooms, the premises should be demised to him for thirty-five years from December, 1862; and such lease was to contain covenants to keep in repair, &c. The repairs were to be done by June 24, 1863, and there was a proviso for re-entry. The defendant entered and paid rent, but he did no repairs by the day named, that is, by June 24, 1863. (See Connoch *v.* Jones, 18 L. J., 204.) The landlord brought an action of ejectment, and the court sustained a verdict in his favour. Though the agreement was not under seal, the word "covenant" was held to apply to any solemn agreement whether under seal or not. It was held that as the landlord had his remedy without ejectment by giving six months' notice, but it was held that as the landlord desired to have a tenant for a long term it would be an unjust conclusion. "We will read, said Byles, J., the word 'covenant' according to the effect given to it in ancient and modern documents from the celebrated covenant for thirty pieces of silver to the present time." The tenant had judgment given against him.—(Hayne *v.* Cummins, 4 N. R., 61; and S. C. 10 *Law Times* R., 341 N.S., Q.B.)

6. When the landlord agrees to put the premises in good tenantable repair and condition, and the tenant agrees to maintain and keep them in that state, and to deliver them up in such state at the expiration of the tenancy, the landlord must first put them in repair in order to charge the tenant on this account. Where the breach of the agreement was alleged to have been that the tenant did not keep and deliver up the premises in good repair, it was held it was a precedent condition that the landlord should put them in repair, and it was not a divisible condition, and therefore putting them in repair in part did not entitle the landlord to recover for a breach of the agreement as to that part.—(Neale *v.* Ratcliffe, 20 L. J., 130 Q.B.).

7. If the landlord lets a house conditionally to furnish it or to do certain repairs, and the tenant enters into the occupation of the premises before such acts are performed by the landlord, and the landlord fails to perform them, he (the landlord) though he may sue for the use and occupation of the premises, cannot distrain for the rent payable under the special contract. Thus, in an action of trespass, where the plaintiff had agreed with the agent of the landlord to take the house of the defendant, and the house was to be furnished, and the rent was to be 170*l.* a year, the house was only finished in part, but the agent said it should be completely furnished, without fixing any time. The plaintiff was let into possession, and at the end of a quarter was distrained on for rent. The furniture had not been sent in as promised. The tenant brought an action of trespass, and the question which was rightly put to the jury was, whether the agreement to pay the rent was absolute or on condition only of the furniture being sent in. There was evidence to find it to be conditional only, and the jury so found. The distress, therefore, was not justified.—(Mechelen *v.* Wallace, 7 Ad. & Ellis, 54.)

So, again, in the case of Regnart *v.* Porter, 7 Bingh. R., 451, which was an action of replevin, the tenant entered into the possession of the premises under an agreement for a lease at 25*l.* a year for sixty years, and the defendant agreed to do certain repairs; but he never completed them, and the tenant never paid rent. The tenant said he was ready to pay what was due, provided certain improvements agreed on were completed, and an allowance made to him for the expense of certain repairs he himself had done. It was held that a demise at a rent certain could not be implied under the circumstances so as to entitle the landlord to distrain. The question was, whether the plaintiff held as tenant of the defendant at a rent certain; for, unless he were tenant at a rent certain, his landlord had no right to distrain. Four years' rent were in arrear. If an action for use and occupation had been brought, as it might have been, then a jury might have given a less sum than that reserved in the lease. The distress, therefore, was not justified.

8. If the tenant enters into possession of the premises, and the repairs the landlord has agreed to execute are not done, the tenant cannot refuse to pay for the occupation of the premises on this account, though the landlord may not be entitled to recover the whole sum agreed on as rent. In the case of Smith *v.* Eldridge, 23 *Law Times* R., 270, heard before Mr. Justice Williams, in June, 1854, there was a signed agreement for a lease, but no lease was executed. The defendants did not themselves occupy, but underlet the premises. The rent was to be 55*l.* until a license for a public-house was obtained, and afterwards it was to be 65*l.* The certificate of the licence was admitted as evidence that the licence had been granted. The defendant's case was, that by the written agreement "no rent was to be paid until the house was completed;" and as a sink, drain, and water-closet were in an incomplete state, no rent had accrued. It was objected that these deficiencies ought to have been specially pleaded. Williams, J., thought they might be shown in reduction of damages,

the action being for use and occupation. The jury were directed that the agreement did not preclude the plaintiff from recovering a reasonable sum of money for occupation, if the defendant chose to occupy the premises whether the alterations were made or not. A verdict was given for 30*l.* for the half-year. On June 3rd, it was by leave moved on the part of the defendant to enter a nonsuit on the ground that the ruling of the judge was incorrect, but the court above upheld his decision. The jury appear to have diminished the demand for the half-year [32*l.* 10s.] by the sum of 2*l.* 10s.

9. Even if the premises are destroyed by fire, unless there is an exception in such an event to discharge the tenant from rent, the tenancy and the liability to pay rent continue. Thus in the case of Izon *v.* Gorton, 5 Bingham, C. 50, the defendant was tenant from year to year, occupied a second floor, which during their occupation was consumed by accidental fire. It was held that, notwithstanding the destruction of the premises, he was liable to an action for use and occupation for the period which elapsed between the fire and the regular determination of the tenancy. The defendant was sued for 109*l.*, and to this sum of money the plaintiff was held to be entitled. The rooms of the defendant had become untenantable until the plaintiff had completed the repairs after about seven months interval from the time of the fire. If there had been an agreement in writing for a term of years no question could have been made but that the term of years continued to exist. (Baker *v.* Gottpzaffet, 4 Taun., 45.) A tenancy from year to year, until it is determined by notice to quit, is, as to its legal character and consequences, the same as a term for years. There was nothing done by the landlord to take away the continuance of the occupation or enjoyment of the tenant, for it would have been unreasonable to hold that the landlord's act in replacing the floor and repairing the walls of the defendant's rooms amounted to an eviction. If the landlord rebuilds and the tenant chooses to re-enter and continue his occupation of the new building, where seems nothing to prevent him, if no notice to quit has been given on either side; and if so, the obligation of each party must be reciprocal and the tenant must make satisfaction for the rent.

10. But if the tenant under a covenant to repair exempts himself from a liability to rebuild, he will not be exempt from the payment of rent unless there is a covenant containing this exemption. Thus in the case of Belfour *v.* Weston, 1 T. R., 310, a tenant covenanted to pay rent and to repair with the express exception of casualties by fire, he was held to be liable on his covenant for rent, though the premises were burnt down and not rebuilt by the lessor after notice. And in the case of Doe & Ellis *v.* Bedwin, 1 T. R. 705, under powers to lease on the "usual covenants" it was held that even such an exception that the rent should cease if the premises were blown down, or burnt, was not a usual covenant, and that power to lease was not well exercised.

11. If the landlord is bound to repair he must rebuild within a reasonable time. In the case of Green *v.* Eates, 2 Q. B., 225, and 11 L. J., 63, the lessor had covenanted to repair the external parts of the house demised. This covenant was held to comprise the boundary wall of an adjoining house. The lessor was liable to repair and to compensate the lessee for damages sustained by him in consequence of the adjoining house being pulled down under the provisions of a local Act of Parliament. The dividing wall gave way and sank, and damage was done to the premises demised. The landlord was liable to an action for non-repair, although a reasonable time has not elapsed to do them, on his direct refusal to do repairs. The tenant could not, however, recover as damages the rent paid by him for the occupation of another house during the time the demised premises were uninhabitable, or the expenses incurred in making other premises fit for his habitation. In the case of Pindar *v.* Arnsley, 1 T. R., 312, the plaintiff sought to recover possession of some houses which had been burnt down and rebuilt by the landlord. The action was brought in 1767. In March 1763 the premises were worth nothing in consequence of the fire, and the tenant had paid no rent from the time of the fire. They were, in fact, worth nothing. The landlord might have continued to exact rent from the tenant; and the question put to the jury was, whether it was not to be presumed the tenant had abandoned the lease at the time of the fire, and the jury so found for the defendant.

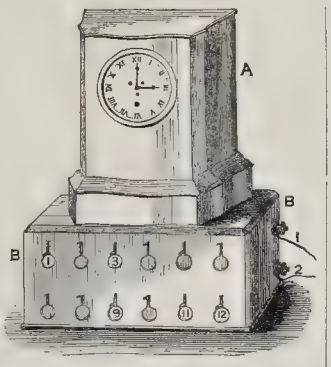
12. A tenant has no equity to compel his landlord to expend money received from an insurance office, on account of his premises being burnt down, in rebuilding the premises, or to restrain the landlord for suing for rent until the premises are rebuilt. There being in the lease no exception as to the event of accident by fire, the plaintiff at law continues to be bound to pay his rent. The plaintiff having covenanted to pay his rent during the whole continuance of the lease is not entitled to any suspension of the rent during the time which may be occupied in the rebuilding and restoring the premises. The plaintiff, in his lease, might have provided for the contingency.—(Leeds *v.* Chatham, 1 Simons, 146.)

13. And lastly, in an action of covenant for rent by a landlord, the defendant cannot set off any uncertain damages that he may be entitled to recover against the landlord on any of the covenants of the lease, though the defendant had actually expended the money (30*l.*), which was his claim against the landlord.—(Weigall *v.* Waters, 6 T. R., 488.)

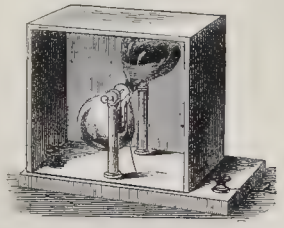
THE ELECTRIC TELL-TALE.

THE accompanying engravings give an external elevation of a very simple and ingenious tell-tale, invented by A. W. Willoughby Smith, and manufactured by Mr. T. Sax, of Great Russell-street, Bedford-square. The principle of its action is simply this:—Let us suppose that in different parts of a large establishment, instead of expensive clocks, a number of old-fashioned hour-glasses were placed: let us suppose, further, that the watchman in going his rounds should turn all these glasses within the hour. It is obvious that, if any means could be devised by which the turning of each glass before it was run out could be registered, all the purposes of the best watchman's clock would be fulfilled. This registration is what Messrs. Smith & Sax effect, but the registration takes place in the head office of the firm, and it is a matter of impossibility, in consequence, to tamper with the record.

An apparatus is affixed to an ordinary clock, A, fig. 1, so constructed as to communicate by



means of electricity with certain small boxes, one of which is shown in fig. 2, placed in differ-



ent apartments or districts of a building requiring to be visited. The watchman is provided with a small key, by means of which he sets the sand glasses each hour: by so doing he completes a circuit which would otherwise be broken by the ascent of the glass from an inclined to a vertical position, by the change in the position of the centre of gravity, consequent on the fall of the entire quantity of sand into the lower glass.

Beneath the clock is placed a stand or base, B, fig. 1, in the lower part of which are twelve apertures corresponding to the hours, marked on the dial above. In each of these is placed a small German silver slide, marked 1, 5, 10, &c., up to 12. The clock is placed in the master's private office, and the operation of the entire apparatus is as follows:—So long as the line is complete a label will drop into view as the hour-hand of the clock reaches each figure on the dial; but the circuit cannot be kept complete unless the hour-glasses, which are shut up in locked boxes, are turned regularly: thus the neglect of any one hour is registered by the non-descent of the corresponding label. It matters not if out of twenty glasses nineteen are in contact, the failure of the twentieth is inevitably registered.

If the wires are tampered with a bell is set ringing in the office, until attention is attracted and the wires set right.

This electrical tell-tale is applicable to a number of purposes. It can be used on board ship. At railway-stations it can report the vigilance of outlying signal-men. In fire-engine stations, breweries, factories, mills, docks, or warehouses, it is likely to prove equally suitable.

CHURCH-BUILDING NEWS.

Chilham.—The parish church has just been re-opened after being restored at the expense of Mr. Charles Hardy, excepting the repairs to the roof of the middle aisle, which was done by subscription. The chancel is new, with a wing on each side, and a new window. The north transept has had a new roof, while the south one has been repaired. A ringing-loft has also been added, with a gallery for the Sunday-school children in the belfry. The mausoleum has been removed, and the coffins placed in a large vault near the church, while a tablet is erected in the chancel. The work has been performed by Messrs. Myers & Co., of London.

Chesterton.—Mr. Young, merchant, and many years mayor of Wisbech, on the application of the committee for the restoration of the church, has agreed to supply the timber required, at prime cost. The restoration of the south aisle is progressing.

Pidley.—The foundation stone of the new church at Pidley, one of the three parishes attached to the Regius Professorship of Divinity at Cambridge, has been laid. The building is under the superintendence of Mr. Fawcett, of Cambridge, architect.

Schuckburgh (*Warwickshire*).—Saint John the Baptist Church, Schuckburgh, has been consecrated by the Bishop of Worcester. The church, which stands nearly on the site occupied by the former one, is built from the design of Mr. Crofts, of London. It is in the style of the Transition Period from the Early Pointed to the Byzantine, the former style being, on the exterior, conspicuous on the southern side, while the Byzantine is recognizable in the windows of the north aisle. The interior of the building may be said to be Byzantine entirely. The chancel is lighted by an east window of three lights, immediately under which, and behind the communion table, is a carved reredos of Bath stone, the pinnacles at either end being ornamented with the grape-vine and passion-flower. The roof of the chancel is formed by groined stone arches, the interstices being filled with a brown and white ground-work, having the appearance of terra-cotta, but, it is said, manufactured in the village. The body of the church is lofty, the roof being a boarded timber one, with principals springing from carved stone corbels, and bearing ornamental wood bosses. The side aisles are separated from the body of the church by pillars and arches of stone and ornamental brickwork, the northern aisle having two-light Byzantine windows, and the southern aisle three- and four-light Pointed windows. The bell-turret, with small spire, is over the southern entrance-porch.

Stoyursey.—Extensive repairs and restorations are now in progress in the old Norman church of St. Andrew, in this parish, from designs of Mr. John Norton, of London, architect, by Mr. W. Brock, of Bristol, builder, under the superintendence of Mr. G. Salmon, the clerk of the works. The repairs of the tower and spire are nearly completed. The latter has been recased and covered with lead as before, the former strengthened, and the old Norman windows opened and restored to their original dimen-

sions; also the top of the tower surmounted by a traceried parapet of Bath stone. A Norman east window of three lights, to be filled with stained glass, has been erected in the chancel, and several other new windows in the nave and south transept. The funds for the restoration are estimated at about 4,000*l.* The contract for warming the church has been taken by Mr. Haden, of Trowbridge: the vaulted chambers and all other preparatory arrangements are already finished.

Yarpole (*Herefordshire*).—The church here has been enlarged northwards by the erection of a new aisle, separated from the nave by an arcade of four bays. The shafts and arches are formed in alternate courses of freestone and stone quarried in the neighbourhood at Luston. The whole of the interior ashlaring has been cleaned, restored, and pointed; the roof opened, stained, and varnished, and strengthened by king-posts; the floor laid with black and red Staffordshire tiles; and the old boxes have given place to open stalls of red deal, stained and varnished. Externally, a new porch has been erected, and the whole church covered with Broseley tile; the plaster and whitewash have given place to the original ashlar; and the windows are again filled with tracery. The new aisle is spanned by a lean-to roof, and is lighted by four three-light windows on the north side, and by a two-light window at its eastern and western terminations. The present restoration of the nave has been effected for 1,500*l.* The architect was Mr. Scott; and the contractor Mr. Smith, of Tenbury.

Hereford.—The foundation stone of a new church has been laid at Tupsley. The total cost of the church will be something like 2,300*l.*, and the existing deficiency in the funds amounts to about 600*l.* The church has been designed by Mr. Kempson, of Hereford, architect, and the contract for its erection has been taken by Mr. Joseph Mason, also of Hereford. The edifice, which will be in the Early Decorated style of architecture, will accommodate a congregation of upwards of 500, and is to consist of a nave, north and south aisles, chancel, and vestry. The tower at the south-west angle will be surmounted by a lofty spire: the building will be surrounded by a churchyard of ample area; and the rest of the site will be appropriated to the erection of the parsonage, and a schoolroom.

Rhayder.—The foundation stone of a new church has been laid at Rhayder. The church is intended for the accommodation of the parishioners of Cwm-toy-ddwr. Mr. F. R. Kempson, of Hereford, is the architect; and Mr. J. Mason, also of Hereford, the builder.

St. David's (*Pembroke*).—The building committee of the cathedral have had open tenders for the restoration of different portions of the edifice, sent in by six experienced builders.

Leicestershire.—"Great attention now appears to be given to the repair of churches," says the *Leicester Advertiser*. "The following are being repaired in this district:—*Slawston* [This church we have already spoken of]. *Great Easton.*—The tower and spire of the church at this village is about to be taken down and rebuilt. Mr. Loveday and Messrs. Stanyon & Son are again the contractors. Mr. E. Christian, of London, is the architect. *Weston by Welland.*—At this small village the old church, tower, and chancel have been taken down, and are about to be rebuilt. This church was in a most wretched state. There is some beautiful stone-work about it. Mr. Hussey, of London, is the architect; and Messrs. Stanyon & Son and Mr. J. Loveday are the contractors. These parties have also restored Kibworth Church, Stonton, Bringhurst, and Sutton Bassett."

Birmingham.—The chief stone of a new church has been laid in Bissell-street. The new edifice will accommodate about 800 persons; and if the necessary galleries can be erected, there will be accommodation for nearly 200 more, nearly all free. The church will be from a design by Messrs. Martin & Chamberlain, and will consist of tower, nave, aisles, transepts, chancel, vestry, choir, and clerestory. The principal entrance will be in the west end, under the tower, and there will be an entrance at the side of the tower also. The walls will be of red brick, but all the apertures will be faced with stone.——The memorial stone of Immanuel Church, Broad-street, has been laid. The new edifice is being erected on the site of Magdalen Chapel. The body of the church is on plan a parallelogram, 72 ft. 6 in. by 44 ft. (exclusive of the chancel), and is divided in its length by two rows of light iron columns, which support the galleries that are carried along the sides and west end. The large span of the roof is divided by iron columns over those supporting the side galleries to receive hammer-beams, from which longitudinal and transverse arched braces are carried. All the iron columns will have wrought-iron foliage to caps. The height from the floor to the ridge is 52 ft. The chancel is 20 ft. by 17 ft. 6 in., on the north side of which and adjoining is the vestry, with organ-gallery over. At the west end an enriched triple-arched entrance, supported by serpentine marble columns with carved caps, opens on to the vestibule leading to the body of the church and to the galleries. This entrance is covered by carved and crocketed gables. The staircases leading to galleries are made to form ornamental features in the front, that on the north side being finished with a cornice and a parapet of open traceried work; while the other is carried up as an octagonal turret, surmounted by a spire 90 ft. high. On account of the confined nature of the site, houses abutting on the sides, the usual method of obtaining light to ecclesiastical structures could only be followed at the east and west ends: a five-light window has been introduced at the former, and a large seven-light window, 14 ft. 6 in. wide, and 22 ft. high, at the latter. These, however, would be by no means sufficient for the large area to be lighted: roof-lights are therefore introduced at intervals on each side. The style of the building is Decorated Gothic. The timbers of the roof will be exposed, and, with the benches, which will be open, will be stained and varnished. The walls will be built of bricks, faced externally towards Broad-street with Wilncote stone and Bath stone for the windows and moulded and carved work and dressings generally. Internally the walls will be plastered, and the floors laid with tiles in patterns. The building is to be warmed by Haden's warming apparatus. Accommodation will be provided for 488 adults on the ground-floor, and 428 adults and 179 children in galleries, making a total of 1,095 sittings. The architect is Mr. Holmes, and the builder Mr. Wilson. The total estimated cost, including the site and the old chapel, is 4,400*l.*, towards which 2,850*l.* have been subscribed.

Market Harborough.—The Langton or Hanbury charities have lately had new trustees appointed to them. The present church requires a thorough restoration, and the trustees are empowered to expend a sum for that purpose not exceeding 3,000*l.* This church is to be at once restored, and the Messrs. Goddard & Son, architects, Leicester, are instructed to prepare plans and specifications. As soon as they are prepared, and the necessary arrangements made, the work will be proceeded with. The trustees have also the power to remove the mausoleum in the churchyard, where there are deposited some half-dozen coffins, and among them the remains of the founder of the charity. If the mausoleum be removed, a vault is to be made in which to deposit the coffins. The churches at Thorpe Langton and Tur Langton are each to have 1,000*l.* expended upon them in restorations. The latter church is in a very dilapidated state, and, it is expected, will have to be entirely rebuilt.

Ancoats (*Lancashire*).—The foundation-stone of St. Jude's New Church, Ancoats, has been laid. The new building, the site of which is at the corner of Mill and Kirby streets, is intended to be substituted for the present church. The proposed church in design may be classed under the Early Gometrical. The material is brick. The plans combine a tower to the south; nave and aisles which are unobstructed by pillars, and afford a clear view throughout; north and south transepts, and a chancel. The transept and west end of the nave are galleried. The chancel is lighted on the east by a circular window, and on the north and south by clerestory lancets. The nave, in contrast with the chancel, has in its west gable a five-light traceried window. The roof is to be in one span, the thrust being resisted by external buttresses. The exterior of the building will have its surface relieved by stone where rendered constructionally necessary, and by bands of blue and white brick. Further relief will be gained in the door and window arches by peculiarities in radiated blue, red, and white bricks. The slating of the roof is to be in alternate bands of blue and green, ridged with ornamental cresting. The tower, with its surmounting spire, will, like the rest of the exterior, be of seconds bricks, with banded broachings and pierced stone strings. The contract will be carried out by Messrs. Clark & Jones, under a guaranteed estimate of 4,200*l.* The heating apparatus will be supplied by Messrs. Haden & Son, of Trowbridge. The whole cost, including the purchase of the land, it is estimated, will amount to 5,400*l.* The church will have 1,200 sittings, 547 free. The whole of the works will be carried out from the design and under the superintendence of the architect, Mr. John Lowe, of Manchester.

Over-Darwen.—The new church of St. John Over-Darwen, built at the sole expense of Mr. and Mrs. Graham, of Turncroft, has been consecrated by the Bishop of Manchester. The church may be described as Gothic of the thirteenth century. It is built wholly of stone quarried in the neighbourhood. In extreme length it measures 145 ft. from east to west, and 70 ft. across the transepts. The church, which will accommodate 750 people on the ground floor, and has a nave, north and south aisles, north and south transepts, tower and spire at the west end, and a large chancel, with semi-octagonal termination. The chancel ceiling and eastern wall have been painted by Messrs. Lavers & Barraud, of London and Manchester. The architect is Mr. E. G. Haley, of Lancaster.

Bolton.—At a recent meeting of the committee for the rebuilding of the Bolton Church, a letter from Mr. Stephen Blair, of Mill-hill House, formerly M.P. for Bolton, was read, offering to subscribe 1,000*l.* forthwith, provided nine other gentlemen would do the same. That would raise 10,000*l.*,—half the amount required. A gentleman, however, who is said to be largely interested in the staple industry of the town (Mr. Peter Ormrod, it is believed) has informed the committee of his intention to rebuild the parish church at his sole cost; the plans to be submitted to the committee. The estimated amount required is 20,000*l.*

DISSENTING CHURCH-BUILDING NEWS.

Tombridge.—The new Union chapel here has been opened. The cost of the erection has amounted to over 650*l.* The building is from designs by Mr. Wheeler, of Brenchley, architect, and is constructed to hold 300 persons. It is built of the cheapest materials, though with some architectural effect. The ground floor is a parallelogram, 45 ft. by 36 ft. 6 in., and is divided into centre and aisles by two arcades of three arches, the centre aisle being extended eastward beyond the arcade to form a sacrarium, which is raised three steps from the floor of the nave. The doorways are at the east end of the side aisles, and the entrances are to be connected with the house by an iron screw work, forming corridors for the approach of the inmates to the chapel. The material of the building is stock brick, bonded with red for the exterior, the walls being lined with red brick bonded in black. The west gable is surmounted by a bell-cot for one bell. The roof is of deal, stained, and plastered between the rafters, except that of the chancel, where it is of panelled woodwork. The seats are plain, stained, and varnished. The painted glass, in the rose window, was given by Mr. Hughes, of Soho-square; and that in the circular openings by Mr. R. Wheeler, the architect.

Eastbourne.—The new Wesleyan chapel in Pevensey-road has been opened. The edifice, which occupies a favourable position in Pevensey-road, is in the Continental Gothic style of architecture, from designs by Mr. R. K. Blessley, of London and Eastbourne, architect. It has been constructed of flint with Bath stone dressings, by Mr. Stonestreet, of Hailsham, the contractor. The windows are filled with Hartley's cathedral glass. The seats (stained and varnished) will afford accommodation for 430 persons. The floor of the chapel has been so constructed as to give a rise of 18 in. from the pulpit to the main entrance. Additional ground has been secured for the erection of a schoolroom and a minister's house.

Wolverhampton.—The memorial stone of a new Congregational church has been laid, in Queen-street, in place of the old Independent chapel. The edifice is being erected by Messrs. Trow & Sons, of Wednesbury, from designs furnished by Mr. Bidlake, of this town. The structure now being raised is on the site of the old church and school-room, together with an adjoining house. The style is Italian, freely treated. The outside dimensions are 90 ft. by 70 ft., affording accommodation for nearly 1,300 persons. The floor of the chapel will gradually incline towards the platform. There will be a large platform at the south end, 20 ft. long by 12 ft. wide, raised above the floor of the chapel upon wheel stands, the pulpit, with the com-

nion table, placed in front. Under the chapel large lecture-room is provided, capable of ommodating 400 persons, adjacent to which a deacon's vestry, also a minister's vestry, vision being made under the front entrance a chapel-keeper's store-room, heat-chamber, lls, &c. The principal front, next Queen-het, consists of two side wings. The centre is vided with a large circular-headed Venetian dow, enriched with ornamental metal-work, h is surmounted by an ornamental balustrade pediment. The side wings contain the ery staircases, having entrances correspond-t to the centre one: above the one next rket-street rises a tower and spire to the ght of 110 ft., the upper stage having an ded two-light window, above which rises an agonal spire. The front next Market-street, ve the basement, has two tiers of semicircular dows, carved as triplets, and the upper por-a enriched with pilasters and columns of ne in the window-jambs, and surmounted by rnice. The plan of the interior of the chapel a parallelogram, with nave and side aisles.

Nottingham.—The foundation-stone of a new apel and schools in connexion with the United thodist Free Church, has been laid in Great ford-street, on a site acquired for the purpose. e building is to be called Great Alfred-street apel, and is from designs furnished by Mr. omas Simpson, architect, Nottingham. The ilding, which is of brick and stone, will have essed Bulwell stone basement story, forming linth to the superstructure, and is about 62 ft. g by 46 ft. wide in external dimensions. It three tiers of windows at either side, and in front. The pewing of galleries and ound floor, which is disposed in the horse-shoe m, slopes amphitheatrically, concentring upon e forum under the gallery at the rear. The sement story is occupied in the centre by a hool-room, with convenience for 250 boys and ls, having separate ingress and egress, while e back and front are divided into a suite of ass-rooms for week-day communion. Contigu-s to the school-room is also a kitchen, with tea ppers and apparatus for the convenience of cial festivities. Abutting upon the kitchen, at e rear, is a minister's retiring-room, with a ivate approach and a flight of steps leading m thence to the forum above. The chapel, th gallery, when complete, will afford accom-odation for between 600 and 700 persons. The incipal front to Great Alfred-street is ascended a flight of eight steps, 22 ft. wide, landing to a recessed portico, supported by columns four couplets, forming an open lobby, leading ght and left to the entrances of ground floor d galleries, and embraced by projecting angu-r towers, surmounted by mansard roofs with estings. The style of the building is modern alian, of Venetian treatment, and the cost will upwards of 1,500*l*. Mr. W. Holloway was e builder.

Liverpool.—The foundation stone of a new aptist chapel has been laid in Breck-road, verton. Messrs. Picton & Son are the archi-cts. The proposed building will consist a chapel measuring internally 66 ft. by ft., with an entrance vestibule 12 ft. wide d 50 ft. long, in which the staircases to the lleries are intended hereafter to be placed. At e farther end of the chapel, behind the pulpit, ere will be a semicircular apse from which ors communicate with the vestries. In the se is placed the baptismal font, which extends ck the full depth of the recess, having a flight steps leading down into it opposite the door each vestry. There will be two vestries hind the building, each 17 ft. by 15 ft. he exterior of the building will be of a plain aracter, the decoration being confined to the enings. The building will be of brick, with essings of Stourton stone, the windows having oved jambs in stock brick, with semicircular ched heads. Bands of stock brick are also rried round the building at intervals. The hool-room will be placed in the rear of the apel. It will be 50 ft. long by 27 ft. broad. he cost of the building and fence-wall will be out 4,200*l*.

Hexham. — The new United Presbyterian hurch at Hexham has been opened. The struc-ure is a stone building in the Gothic style of rchitecture. Mr. Oliver, of Newcastle, was the rchitect; and Mr. J. Ridley acted as clerk of he works. Accommodation has been provided or 400 persons in sittings of open benches, and dditional sittings can be obtained by the erec-ion of an end gallery, for which provision has lready been made. The contractors were Mr. Bulman, masons' work; Mr. Snowball, joiners' work; Mr. Beck, slaters' work; Mr. Oliver, plasterers' work; Messrs. Pattinson, Davison, & Spencer, iron work; and Mr. Wilson, plumbers' work.

STAINED GLASS.

Peterborough Cathedral. — A stained-glass memorial window has just been erected in the north transept of Peterborough Cathedral, by Mr. G. W. Johnson, of that town. The subjects chosen are, in one light, a life-size figure of Our Lord as He appeared to the disciples on the seashore, with large folds of diapered and coloured draperies. The other compartment represents Our Lord appearing to St. Thomas, and telling him to thrust his hand into the wounded side. Both compartments are surmounted with canopies. The window was executed by Messrs. Cox & Son, of London.

Lavenham Church (*Suffolk*).—Another stained-glass window (the great east window of the north chapel) has just been placed in this church, at the expense of Mr. F. Thompson. The window, which has been executed by Messrs. Lavers & Barraud, contains ten large lights, which are occupied by two subjects—the upper five by "The Raising of Lazarus," and the lower by "The Marriage of Cana in Galilee." In the former are nineteen figures, nearly life-size. The moment chosen for representation appears to be that in which Jesus says, "Loose him and let him go." In the representation of the Marriage Feast are fifteen figures, of a like size, the time represented being when the first of the new wine is drawn by the servants and presented to the governor of the feast. Above the ten principal lights are eight smaller ones, each of which contains a full-length figure about 2 ft. high, bearing scrolls on which are written Christ's answer to the messenger of John (St. Matt. xi. 5).

Allesley Church (*near Coventry*).—A stained-glass window has just been erected in this church, by the Rev. C. Gibson, the subjects being taken from the Book of Ruth, viz.—"Naomi's Return," "Ruth cleaves to Naomi," "Ruth gleaning," "Boaz and Ruth's Kinsman," "The Feast," "Naomi nursing Obad." Messrs. Heaton, Butler, & Bayne, of London, executed the work.

Albury Church.—An east window, consisting of two lights, has lately been painted for Albury Church, Surrey, by Lady Rokewode Gage, in memory of Mr. Henry Drummond, M.P., and Lady Harriet Drummond. Two medallions contain the Crucifixion and the Resurrection, with a ruby background. In and below the former the passion-flower is freely introduced, while in the latter the lily is substituted: the windows are filled up with foliation in which the vine bears a prominent part. The glass was prepared and burnt by Mr. A. Gibbs, of London.

Tarring Church.—Four memorial windows have been placed by Messrs. Baillie & Co., of London, in the four lancets in the south aisle of this church. They were presented by Mr. C. Peachy, of this place, and Messrs. Roberts & Fowler, of Worthing. The subjects of the memorials are the four Evangelists.

Fordingbridge Church (*Hants.*)—The chancel of this church has lately been enriched by the insertion of a memorial stained glass window, in one of the Early Pointed lights on the south side, the one nearest to the east end being adopted for this purpose. The subjects are illustrative of the last verse of the 7th chapter of the Book of Revelations: "For the Lamb which is in the midst of the throne shall feed them, and shall lead them into living fountains of waters, and God shall wipe away all tears from their eyes." These are treated in three separate groups. That at the top represents the Lamb on his throne, surrounded by the heavenly host leading groups up to the "living fountains of waters;" and beneath all this is shown the miracle of "Feeding the Five Thousand," typical of the connexion of the earthly and heavenly portions of the kingdom of the Lamb. The backgrounds are jewelled and mosaic. The Scriptural text is so contrived as to be seen throughout the window on each subject respectively. The window has been erected to the memory of the late Major Brice, by his widow and children. The work has been executed by the Messrs. O'Connor, of London.

The Maison Dieu, Dover.—The Town-hall has been enriched by the addition of another window to the series with which it is proposed to adorn it. The window just inserted is the gift of Mr. H. P. Mackenzie, builder, Charlton; and the incident represented is one of the most remarkable connected with the history of Dover—"The Landing of the Emperor Sigismund at Dover resisted by the Duke of Gloucester"—in the reign of the Fifth Harry, as an inscription on it intimates; and at the base we observe the following:—"Presented by Mr. H. P. Mackenzie, the builder employed in restoring this Hall. A.D. 1862." The artist has represented the moment when the barons, headed by the Duke of Gloucester on horseback, are advancing with uplifted swords. The Emperor Sigismund is seen standing on the forepart of the ship which is hung round with shields bearing alternately the arms of France and of the Empire. The window was executed by Messrs. Heaton, Butler, & Bayne, of London; and designed by Mr. E. J. Poynter.

St. Peter-Port's, Guernsey.—The east window of St. Peter-Port Church, has been reglazed with a stained-glass representation of the Resurrection of our Saviour, by Messrs. O'Connor. The following is the inscription:—"Margaret Berthe, only surviving child of Adolphus Carey and Frances Delrymple his wife, born the 18th of June, 1830; died 29th January, 1862, aged 31. This window is erected to the loved memory of her child by a widowed mother. 'She is not dead but sleepeth.'" The lower centre light consists of angels sitting on the empty tomb: above these is the risen Saviour: on the right and left of the two angels are the guards; while Peter and John are gazing into the sepulchre. Six angels are seen on the right, and six on the left of the risen Saviour.

St. Jude's, Islington.—The three apse windows of St. Jude's Church, Mildmay Park, has been filled in with stained glass, consisting of nine figures, viz.—St. Mark, St. Jude, St. Matthew, St. Peter, the Saviour, St. Paul, St. John, St. Simon, St. Luke. The whole are richly coloured, and placed under canopies. At the base of the windows is the following inscription:—Erected by the congregation to the glory of God, and in memory of the Rev. Thomas Pitman, M.A., first incumbent of this church, who died 9th December, 1863. The windows have been executed by Mr. Charles Gibbs, of Marylebone-road.

ENGLISHMEN IN GERMANY.

Sir,—As there is much talk about the treatment of Englishmen in Germany, many *alarming* accounts having been circulated, evidently deterring numbers of my countrymen from coming here; I wish to bear my testimony to the courtesy shown me by all with whom I have come in contact.

As I do not speak a word of German, I am more particularly at the mercy of the natives. Perhaps this is in some respects an advantage, as many travellers one meets with possessing a smattering of the language are eternally squabbling over trifles, to show their intimate knowledge of it.

Martin Underwood.

Vienna.

NORTH-EASTERN DEFENCES, PLYMOUTH.

STRIKE AMONGST THE MASONS.

Sir,—It seems difficult to deal with the operative masons now-a-days. Lately, they struck at Plymouth for a large advance of wages, which after some time they obtained. They have now struck on the above works, because a notice was issued by the contractors that every one employed should pay 3*d*. per fortnight towards the maintenance of a surgeon. They have no objection to the contribution, and think it to be a very proper thing, but they do object to the word "shall," in the printed notice. "Shall" pay, they consider an act of tyranny.

N. J. T.

COMPENSATION CASES.

THE MAIN DRAINAGE.

A case was brought before the Hon. G. C. Norton (Lambeth Police Court), involving a claim for compensation against the Metropolitan Board of Works, for damage done by the working of a steam-engine in the progress of the construction of the main drainage.

The complainant was Mr. Herapath, carrying on a mixed business of picture-frame maker and cheap jewelry dealer, in the Old Kent-road. The damages were laid at 50*l*.

Mr. Shaw, barrister, appeared on behalf of Mr. Webster, the contractor for the main-drainage works; and the complainant was represented by Mr. Starke, solicitor.

From the evidence brought forward, it appeared that the engine used for pumping was placed near the complainant's premises; and in consequence of its continually working night and day, such a vibration was caused as to shatter several windows and glass-cases, and throw down and damage picture-frames and shelves of jewelry, doing damage to the extent claimed. In addition to this it was stated that the walls were cracked and split up in many parts.

Evidence was not heard on the defendant's side, but after a protracted inquiry it was agreed that 25*l*. should be paid to the complainant, and the case terminated.

Books Received.

The Church and Fortress of Dover Castle. By the REV. JOHN PUCKLE, M.A., Vicar of St. Mary's, Dover; Rural Dean: with illustrations, from the Author's drawings. Oxford and London: Parkers. 1864.

AT whatever time, and in whatever way, Christianity may have been introduced into this country, the old style of navigation renders it highly probable that Dover would be one of the first places in which its rudiments would be planted; and it is scarcely to be wondered at that an extreme age should be claimed for the foundation of such a church as that of St. Mary-at-the-Castle, Dover. That there are really good grounds for such a claim Mr. Puckle has ingeniously and clearly demonstrated. From a special and careful examination of the foundations, which he was authorized by the late Lord Herbert to make previously to the restoration of the church by Mr. Scott, it is Mr. Puckle's opinion that the church,—

"All but demonstrably dates from the closing Roman-British days of the FOURTH CENTURY, during the peace of the British Church after the Diocletian rage of extermination, and while our island Christians knew not how to hold too dear the memory of St. Alban, and all to whom 'it was given,' like him, 'not only to believe in Christ, but also to suffer for His sake.'"

In a notice such as this of Mr. Puckle's able volume the force of evidence in favour of his idea can scarcely be done justice to; but we shall select as complete a summary of his reasons as we can find in the volume and in the words of the author himself.

The plain and strong contrast between the (adjoining) Pharos, being of such well-defined Roman work, and the church, which consists of such different materials throughout, bars the likelihood of the latter having had any origin like that of the purer Roman works in Britain.

On the other hand, the whole aspect of the materials and workmanship is, nevertheless, *Roman-like*, with no affinities to the next distinctive period following, as we gather from the items of evidence, that may be thus taken in heads.

1. The concrete, or mortar, used in these walls resembles in many ways (?) that in the Pharos; being fine, hard, and mixed in similar proportions, differing much from that in the neighbouring remains of Saxon masonry.

2. The tile-brick, though changed in make and substance, is very strikingly used after a Roman fashion, as well as copied in manufacture: it is not easily detected as non-Roman at a superficial view.

3. The plan and execution of the foundations are better than anything belonging to Saxon times; evidently constructed by those who had better learned and practised this important feature of builders' work.

4. Nearly on this level the small portions remaining of the ancient floor exhibit a very peculiar method of laying down; and can but remind us, however roughly, of the way in which a Roman villa was paved, or a Roman high-road in Britain made.

5. The blocks of stone in many parts of the fabric not only far exceed in size any we find in the old Saxon masonry, but are put together in a manner not to be mistaken in its likeness to the work of Roman masons themselves.

6. And still more: these blocks, with a certain amount of smaller rubble, consist of a particular oolite, (now) foreign to this part of the country; a material which we find in connexion with Roman remains near at hand, but not with Saxon; and, as it characterizes most of the lower structure of these church walls, it seems to fix their period of foundation as being at least not far from days when Romans knew and used this stone, transporting it from some distance now unknown.

7. Lastly, the scale and character of the several members of the fabric, their proportions, and symmetry of construction, show no resemblance to those which undoubted Saxon buildings contain, and must be due to something surviving at least of that art handicraftship which had so long found its way from the imperial city even to this distant colony of the empire.

"Considering, therefore, the manifest differences between this and any work of genuine Roman type, the evidences it bears nevertheless of some kind of Roman instruction and example, and the entire isolation of all its features from the Saxons' rude and imperfect attempts, the period thus suggested within which we might fairly place the probable foundation of this church, would be somewhere during the decay of the Imperial power in Britain, and before the fall of Rome; which, after the close of the fourth century, left the country long a prey to the ravages of Northmen on the one hand, and Saxons on the other.

Our view becomes thus narrowed to some part of the fourth century -rather, perhaps, towards the middle than the latter portion of it For the historical character of those years, as given by England's primitive historian Bede, throws a colour of greatest probability on such having been the time when a church like this might most likely have been built on a site of strength and security like the Roman entrenchment at Dover."

Throughout the whole of the cruciform structure,—nave, chancel, transepts, and tower,—the same forms, materials, and workmanship appear; showing that beneath the changes of any subsequent times, the original work was one.

The true ground-plan was not ascertained without considerable works of excavation. The ground-line, as it used to be seen before commencing the restoration, was about 9 ft. above the present floor. It is hard to account for, except from wilful mischief and desecration; but the interior had become filled up with earth and rubbish to an equal level with the accumulation outside. So that, although it had not lain buried so deeply or so long, the church may be said to have been almost as much disinterred as those latterly recovered from the sands of Cornwall. The ground-plan, as at length followed out and carefully reduced to a scale, is annexed at the beginning of the volume.

From this it appears that the form of the church, though beautifully chosen and well-proportioned, was not laid down with any commensurate skill. It is like the work of men better able to imagine than execute; with whom arts and principles of working were imperfectly known, or had been forgotten. The lines of the building were so curiously set out for working, that there is not a true right angle among them: no two walls are perfectly parallel with each other.

"The two noble arches of the nave and chancel, of such lofty and really impressive proportion, nevertheless will not centre together; and neither member of the building can be made to range evenly co-ordinate with the rest. It exhibits a curious blending of the faults of a ruder age with the conceptions of one higher and better; and just what we might expect as a result of later British feeling and labour in the decline of what their Roman masters had once taught them.

Along the lines thus laid down, however, the foundations are deposited in a very strong and workmanlike manner, far more comparable to those of Roman than of any Anglo-Saxon construction. Rising from a depth about 5 ft. below the present floor, and at a uniform thickness of nearly 4 ft. all round, they come to a well-made offset regularly continued, internally and externally, from which the walls then rise at a thickness of about 3 ft., slightly lessened towards the top. Considerable care, too, is shown in the selection and placing of material where the great superincumbent weight is to be borne. Masses of stone are used, very different from those found in Anglo-Saxon buildings, reaching even as much as to 13 cubic ft. in size. Also the rubble-work is laid in comparatively close and regular course; and the joints of the more massive stones are fitted with a closeness and precision not unworthy of Roman masons' skill. Indeed, if we considered only the general look of these features in the work, it would at once suggest a doubt of its belonging to even the least rude and rough of Anglo-Saxon times."

The subsequent history of the church is next treated of by the author; but into this subject we need not here enter. We may remind readers that in earlier volumes of our journal will be found illustrations both of the church as it appeared in a ruined state, and as it now is. Though chiefly interested in the church, Mr. Puckle also gives an account of the ancient foundations and history of the castle itself, from its germ in the lofty earthwork whose rude rampart incloses the church and the Pharos which adjoins it.

VARIORUM.

THE *Giornale dell' Ingegnere - Architetto ed Agronomo* (Milan), reproduces excellently from our pages, by lithography, the view and plan we gave some time ago of Wycliffe Chapel, Birmingham, designed by Mr. Cranston, together with the descriptive particulars. Signor Pareto, the editor, says at the commencement of his translation:—*Noi prendiamo ad giornale inglese,* "The Builder," *perfettamente compilato e che gode grandissimo credito, la qui unita tavola per mostrare con quanta maestria e gusto artistico sappiano gli inglesi trattare lo stile gotico.*"——"A Manual on Earthwork." By Alexander J. S. Graham, C.E. (Lockwood & Co.) This very little book contains an investigation of principles necessary for the measurement and calculation of earthwork. A general formula is given for curving, which renders the use of tables unnecessary. The principal advantage claimed for the system is the correct estimation of excavations in sidelong ground.——To meet the wants of the Royal Agricultural Society last week in particular, and holiday excursionists in general, Mr. Reid has issued a shilling version of Dr. Bruce's "Handbook to Newcastle-upon-Tyne," of which, in its larger shape, we have spoken at some length. —— "Noble Dames of Ancient Story," by J. G. Edgar, is one of Messrs. Hogg's interesting series of books for young people, and relates pleasantly the story of Royal and eminent ladies who lived in the fourteenth century.—— "The Popular Science Review. No. 12. Hardwicke." The July number of this excellent periodical is of more than average interest. The leading paper is one on "The Aniline Dyes," by Dr. T. L. Phipson, illustrated with strips of silk, showing some varieties of these beautiful dyes. The editor, Dr. Lawson, gives an instructive and popular paper on "Oyster Culture;" Baron Liebig one on the "Action of Manures;" Mr. Lankester one on "The Old Red Sandstone Fishes of England;" Mr. S. J. Mackie one on "The Pneumatic Despatch;" and there are various others, besides the usual full and valuable scientific summary. In his paper on the "Pneumatic Despatch," Mr. Mackie describes the tunnel at the Crystal Palace, of which we have before spoken in the *Builder*. It is 9 ft. high by 8 ft. wide, and capable of containing the largest carriage of the Great Western Railway. The length is a quarter of a mile. The material is fine brickwork. The tunnel, with its closing-valves, has been completed. The fan-wheel, 21 ft. in diameter,—which will be temporarily worked by a fixed locomotive,—is erected and inclosed in its plate-iron case; and a model station has been formed, and a model carriage got from Manchester. The pneumatic pressure can be applied either behind or before the carriage; or, as Mr. Mackie describes it, either by the blowing or by the sucking process. The latter term, however, is somewhat objectionable, considering the erroneous hypothesis which it has always involved. True, sucking is a *very* natural process, however we may explain it; and it may be urged that the word is a useful one as descriptive of an actual process which is certainly in itself of the same nature as one of the pneumatic despatch processes, although mistakes about it did at one time prevail; but we suspect that the mistakes *still* prevail, and that it is, therefore, unadvisable to use it in a scientific paper, even though a popular one.

Miscellanea.

THE PRINCE CONSORT'S WINDSOR ASSOCIATION. After a temporary lapse of two years, the prizes usually given to the humbler classes at Windsor for industry, frugality, ingenuity, &c., by this association, have been again distributed,—on this occasion by the Prince of Wales. The devotion of the Queen to the memory of the Prince Consort has never, perhaps, been more touchingly displayed than in the simple circumstance that farm labourers, gardeners, coal-heavers, soldiers, and others rewarded on this occasion, were presented with certificates, signed with the royal autograph, to be hung up in their cottage homes.

HACKNEY NEW TOWN HALL.—The new town-hall project has advanced another stage. The committee last week received the following tenders for the building:—

	With Bath stone facings.	Extra for Portland stone.
Sewell	£8,954 0 0	£1,800 0 0
Downs	8,890 0 0	920 0 0
Perry & Jutson	8,785 0 0	930 0 0
Dove	8,445 0 0	1,500 0 0
Myers	8,355 0 0	
Sawyer	8,333 0 0	2,710 0 0
Macers & Son	7,835 0 0	1,100 0 0

We learn from the *Hackney Independent*, that the lowest tender—that of Messrs. Macers & Son, of Hackney-road—was accepted, and the committee decided not to go to the expense of Portland stone. The tender does not include the railing, which will cost about 500l.

A NEW BRICK FOR GARDEN WALLS. — Mr. Foxley, of Stony Stratford, has invented a new brick, ingeniously contrived for avoiding the necessity of nailing for training trees to garden walls. The brick has a projecting bead in the centre of the face, which is drilled with holes so as to admit of the passage of a piece of string or bass, with which the branch may be tied. One advantage of the bead is, that it admits of a free circulation of air between the plant and the wall, preventing the formation of mildew and rot and the accumulation of insects. The cost is said to be little more than that of an ordinary brick.

THE RE-PAVEMENT OF THE MINORIES.—Messrs. Brook & Sons, paviours for the City, have re-laved the whole of this much used thoroughfare with new cubes of Aberdeen granite, 4 in. by 4 in., laid upon a solid bed of broken stone and ballast, and grouted with lime concrete. Messrs. Parsons & Matthews were the foremen of the work.

LORD BUTE HOUSE, CAMPDEN-HILL.—This mansion (formerly the residence of the Marquis of Bute), with gardens and stabling, was sold, by auction, on the 14th inst., at the Westminster Palace Hotel, by Messrs. Mansell & Elliott; and although held for an unexpired term of only twenty-five years, and at a ground rent of 105*l.* per annum, changed owners at the sum of 11,000*l.*, his Grace the Duke of Rutland being the purchaser.

ACCIDENT.—Since the fall of a house wall in Kentish Town another has fallen in Somers Town, killing a boy. The portion of the house that fell is situate at 17, Lower Cambridge-street, Agar-street, and is one of a number in course of demolition for the formation of the Midland Railway Station. The deceased and his companions endeavoured to take out the cill of the back window, and in swinging it backward and forward loosened the bricks to such an extent that a large crack was made in the wall, and before they could get out of the way, it fell, burying the deceased under the *débris*.

TERRIBLE RAILWAY ACCIDENT IN CANADA.—About one hundred emigrants, men, women, and children, have been killed, and many more injured, at St. Hilaire bridge, on the Grand Trunk Railway of Canada, by the train running into an open drawbridge, and carriage after carriage falling into a canal, 70 ft. below the line of railway. The driver is under arrest, but asserts that from some cause he could not stop the engine, although the rule was to regard the drawbridge in approaching it to be always open, so that trains uniformly came to a complete stand near the bridge. The passengers were chiefly Germans, Poles, and Norwegians, in families.

CONSECRATION OF ST. SAVIOUR'S, PIMLICO.—St. Saviour's Church, Pimlico, a district for which has been created out of St. Gabriel's, Warwick-square, was consecrated on Saturday last week, by the Lord Bishop of London. The church—which at present is internally devoid of ornamentation, though much is intended when the funds will permit of it—is in the Middle Pointed style, and consists of nave, aisles, and choir. There are 1,140 sittings, of which 360 are free. The tower and spire are 190 ft. high. The architect was Mr. Thomas Cundy, who was also the architect of St. Gabriel's, Warwick-square, and St. Barnabas's, Pimlico. The church has cost about 12,000*l.*, of which sum the Marquis of Westminster has given 7,000*l.*, and the site; Mr. George Cubitt, M.P., 1,000*l.*; the Rev. J. Walker, the incumbent, 1,000*l.*; Mr. A. Cuthell, 500*l.*; Mrs. Cubitt, 100*l.*; and the War Office, 500*l.*

WATER FOR CREWE.—The well at Whitmore and the reservoir at Madeley, which the London and North-Western Railway Company have been constructing for some time at great cost, for the purpose of supplying their works at Crewe and the town with pure water, are approaching completion. The water main from the town is now laid to the reservoir at Madeley. The well is 12 ft. in diameter inside, and has been sunk about 80 ft. deep in the sandstone rock, with a bore-hole 18 in. diameter, 150 ft. below that. The reservoir will hold from 12 to 15 millions of gallons. An abundant supply of water has been secured, and it is said to be so pure that no filter beds are needed.

WET PAINT AND CRINOLINES.—In the Sheriffs' Court case, Levy *v.* Bartlett, a lady sued for 2*l.* damages, the value of a dress spoiled by wet paint in entering defendant's shop. There were no boards up to protect dresses, but a shopman called out "Beware of the paint" after the dress had touched it, and the lady in turning round at the warning got her dress still more damaged. The defendant maintained that the unusually large crinoline was the cause of the accident; but the sheriff said he could not punish a woman for wearing crinoline: plaintiff could reply that she was entitled to follow the prevailing fashion. If the tradesman wished to protect himself particularly he ought to put up a notice, "No ladies with large crinolines served in this shop." Verdict for plaintiff, with costs.

THE PARIS ANNUAL EXHIBITION.—From the accounts of the late Annual Exhibition of the works of living artists just published, it appears that the total sum taken at the doors was 110,000 francs. The Exhibition was open from the 1st of May to the 15th of June, deducting Sundays, when admission was gratis, thirty-nine days; this, at 1 franc a head, gives an average attendance on the pay-days of 2,820. The number of catalogues sold is stated at 28,000.

COMMERCIAL CALCULATIONS.—No. 2 of *Dunlop's Calculator* has been issued by Messrs. Houlston & Wright, of Paternoster-row. Its purpose, as a ready reckoner, is for the invoicing of goods by tons, cwts., qrs., and lbs., at prices from ½th of a penny to 10*l.* per cwt., or 200*l.* per ton; and *vice versâ*, for finding the cost or rate per cwt. or ton. We had occasion to speak favourably of No. 1, and we see no reason to form a different opinion of No. 2.

THE ROMANS IN GLOUCESTERSHIRE. — The Roman villa recently discovered on Lord Eldon's property, in Chedworth Wood, about two miles from Foss Bridge, up the Coln Valley, promises, it appears, to afford an example of a Roman residence of more than ordinary interest. It is now in progress of clearing, and already a suite of rooms, several of which are tesselated, have been discovered. Adjoining is a hypocaust. Along the whole front of the rooms, on a lower level, runs a corridor, about 8 ft. wide, with a flight of steps leading up to the rooms. This is also tesselated. In advance of the corridor are many other rooms, partly cleared out. It is intended to continue the excavations until a perfect ground plan can be drawn, exhibiting the entire arrangements of a Roman villa.

INAUGURATION OF THE ALBERT MEMORIAL, ALDERNEY. On the 12th instant, the memorial of the Prince Consort was inaugurated at Alderney. A committee having been formed on the 3rd of December, 1862, it was decided to erect a stone arch at the eastern entrance of the grounds attached to St. Ann's Church, and to purchase a pair of wrought-iron gates to correspond with it. This reads very much like killing two birds with one stone. The amount raised by the committee was 175*l.* The arch is in the Gothic style, surmounted by an ornamental cross, and bears the following inscription, in raised gilt letters:—"Albert. Erected by the people of Alderney, 1864." The stone was procured from Cornwall, and the execution confided to Messrs. Jackson & Bean, Mr. G. G. Scott being the architect. The gates bear the initials, gilded, "A. P." on the north, and "V. R." on the south sides.

COMPENSATION FOR DEATH BY A RAILWAY ACCIDENT.—Mrs. Torry brought an action against the North-Eastern Railway Company at the Newcastle assizes, on Saturday, to recover compensation for losses sustained by the death of her husband, killed through the negligence of defendant's servants. The deceased gentleman, a commercial traveller, who was only 35 years of age, and in excellent health, was travelling on the defendant's line, between Scarborough and Whitby, in February last; and, when the train was being lowered down the Goathland incline by means of a wire rope and a fixed engine, the rope broke, and the train dashed off with frightful velocity to the bottom of the incline, where the carriages were overturned, and deceased killed. The defendants had paid 1,500*l.* into court, and the verdict of the jury in favour of the plaintiff increased the sum by 50*l.*

COMPENSATION CASE.—SHOREHAM-ROAD TRUSTEES *v.* HEDGCOCK.—This case, which was taken in the Brighton County Court, is of some importance to those engaged in building operations at Hove. Mr. Merrifield appeared for the trustees, and Mr. Roupell appeared on behalf of Mr. Hedgcock, builder. The question for consideration was the amount of compensation which should be given by the Shoreham-road trustees to Mr. Hedgcock, for a piece of land (of 22 ft. breadth), on the road to the west of the Sussex Hotel, Cliftonville, which Mr. Hedgcock had lately purchased, and on which he had commenced building two houses. This piece of land the trustees desired to claim, so that the road on which a portion of the land abutted might be improved. The trustees originally offered 426*l.*; but this they subsequently reduced to 330*l.* On behalf of Mr. Hedgcock, Mr. H. N. Goulty estimated the value of the land, alteration of the buildings, &c., at 747*l.* 10*s.* A verdict was ultimately returned for the defendant for 550*l.*

IRON.—It is generally understood that the reduction of 1*l.* per ton on the various descriptions of finished iron will be accepted by the trade; indeed, it would be next to impossible for even the makers of favourite brands to stand out. At the same time, so much confusion prevails, consequent on the proceedings at the Birmingham meeting, that some time will necessarily elapse before matters settle quietly down.

THE DEFACEMENT OF THE CLONMACNOISE REMAINS.—We are very glad to learn from the Rev. Jas. Graves, the active and able secretary of the Kilkenny Archæological Society, that the society have resolved to bear the costs of prosecuting the despicable scoundrel who has defaced the ancient architectural relics at the Seven Churches, Clonmacnoise. At the petty sessions, held in Parsonstown, a young man, of the name of John Glennon, was brought before the magistrates on this charge, and the magistrates decided on sending the case for trial to the assizes. There are two witnesses, it seems, a boy and a girl, to the fact that the accused is the person who alone perpetrated the dastardly offence, although his companions swore that he did not do it. The accused is said to be a "respectable" person.

BLACKBURN.—Under the Public Works (manufacturing districts) Act there have been great activity and energy displayed at Blackburn. Twenty-three streets have been formed and paved complete, and ten more are in a forward state. About eleven miles of new sewer have been laid down, and extensive improvements have been made in the Public Park. During the past winter from 600 to 800 factory operatives have been employed upon these works, and the amount expended will not fall far short of 40,000*l.* The works are still being pursued without interruption.

THE BEST WHITEWASH.—Mr. Ritchie, a Boston (U.S.) master-builder, after forty years' experience, comes to the following conclusions respecting the best whitewash:—1. For rough outside walls—those exposed to the weather—the best mixture is clear lime and water. Any animal or vegetable substance diminishes the adhesion and durability of the wash. 2. But if the wall be hard and smooth, the wash is improved by a mixture of very fine sand—as much as will mix and can be applied. 3. For inside walls an addition of a little glue—say a quarter of a pound to three pailfuls—increases the adhesion. If it be desired to have the walls very white, the whites of eggs may be used in the place of the glue.

GOVERNMENT LOAN FOR THE WHITEHAVEN DOCK. At the last weekly meeting of the Whitehaven trustees, the secretary read a letter from the Public Works' Loan Commissioners, announcing that the Commissioners had agreed to grant a loan of 140,000*l.*, part of the loan of 150,000*l.* applied for by the trustees, on the security of a mortgage of the harbour revenues; such loan to be advanced by seven instalments of 20,000*l.*, at intervals of about six months, subject to the production of full specifications of the projected works, and satisfactory contracts for the execution thereof; besides other conditions. The first five instalments, with interest at 3½ per cent., must be repaid by forty-nine annual payments of 825*l.* each, and the balance of principal with all interest at the expiration of the fiftieth year from the date of each advance.

A NEW COOKING RANGE. — Batty & Steven have, at their warehouse, New Oxford-street, some cooking-ranges on a new principle, of their own invention, which, we believe, has not hitherto been made public. The upper bar of the fire-grate is increased in breadth, and placed in an angular position, so as to direct the air downwards upon the fire, thereby producing more perfect combustion. The increased heat, instead of being carried up the flues or chimney, which is the case where there is a close door in front of the fire, is thrown outwards, by which simple arrangement a strong roasting fire is obtained, and at the same time the oven, boiler, and hob-plate are heated in a superior manner. A 10-inch fire is said to be capable of roasting a joint of meat, and a 12-inch fire of roasting two joints. It is also found that the fire-bars last longer than usual; one or two sets, which have been in constant use for upwards of five years, being still almost as perfect as when first applied. The effects produced by this very simple change of form are certainly worth inquiring into.

METROPOLITAN TURNPIKES.—In the House of Commons, in reply to a question put by Viscount Enfield to Sir W. Jolliffe (as a commissioner of the metropolitan roads north of the Thames), Sir W. Jolliffe said that 25 turnpike gates and 54 side bars had been removed. The number of miles of road which had been given over to the parishes was 55: the number of miles which had been continued as turnpike roads was 67: the number of new gates was 9, and of side bars 8. The total number of places at which tolls were collected was now 31, in place of 93. There were now thirteen districts, and the gates had been placed in strict conformity with the provisions of the turnpike Acts, and the measure of last session, the 41st section of which gave power to any district to convert their roads into parish roads.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—On the evening of the 15th instant a *conversazione* was given by this society in the picture galleries of the South Kensington Museum. The principal business of the evening was the announcement of the awards of prize medals for the current season, as follows:—Painting.—History: Mr. J. Pettie, for his "George Fox refusing to take the Oath at Houlker Hall, A.D. 1663;" Genre: Mr. E. Nicol, for his "Waiting for the Train;" Landscape: Mr. G. Cole, for his "Harvesting in Surrey;" Water-colour Paintings: Mr. Walker, for his "Spring," and Mr. G. Shalders, for his "Evening near Dorking." Architecture.—Mr. Lamb, for his design for "St. John's Church, Carlisle." Poetry.—Mr. Robert Buchanan, for his volume of poems, "Undertones." The musical arrangements for the evening were under the conduct of Messrs. Benedict, Ganz, Schmeyer, and Van Noorden.

HOUNSLOW.—While the House of Lords and the press are rejoicing at the abolition of turnpikes, declared a nuisance by the Parliamentary Committee, the inhabitants of this little town, within ten miles of London, according to the milestones, have been dismayed by the erection of some of the abolished gates in their midst, at the intersection of the Staines and Bath roads, with side-bars in all directions. It appears as if the population were confined in a strait-waistcoat, or that the highwaymen of Hounslow Heath tradition had resuscitated in the toll-keepers, who stop all horsemen and vehicles with their "stand and deliver!" 2d. or 4d., as the case may be.

THE GREAT GAOL AT CALCUTTA.—In the Commons lately, Mr. Leslie asked the Secretary of State for India whether there was any foundation for the statements contained in a letter of the Indian correspondent of the *Times* regarding the condition of the great gaol at Calcutta, "that it is a den of iniquity, a sink of filth; that no one could inform the president of the sanitary commission how many prisoners died in the gaol; that the medical attendant could not say for certain what the mortality was; and that some prisoners have been murdered by the native gaolers in the attempt to extort bribes from them and their friends." Sir C. Wood, in reply, said that he had himself received no information on the subject, and he was, therefore, unable to contradict the statement. The last report was dated February last, and it contained this paragraph:—"We beg to state that the management of the gaol appears to be satisfactory." It was hardly likely, then, that the gaol could be in the condition described in the newspaper. We are not certain of that.

TRAVELLING ASSOCIATES.—As to company, two is the very best travelling number. It is good not to be quite alone in case of accident, even if the accident be no worse than a fly in your eye. Three is not bad, especially if two of the three (as two sisters) can occupy the same bedroom. The coupé of a diligence—a pleasant place—holds three. Four do well together under many circumstances, particularly if two rooms suffice. Four exactly fill a hired calèche (such as you would cross the Alps in by the carriage roads), dividing the expense conveniently. Five is a very awkward figure. After four, it is not "the more the merrier," but "the melancholier:" a fifth person is almost always one too many. But it is far better to be alone than to travel in uncongenial, capricious, exacting, selfish, or uncertain-tempered company. The choice of one's travelling associates requires great caution and consideration; for many and many have started friends who have returned quite the contrary.—*London Society.*

SURREY ARCHÆOLOGICAL SOCIETY.—A general meeting of this society took place last week at Sutton-place, Guildford, under the presidency of Mr. G. Cubitt, M.P. The members of the society and numerous visitors assembled from different parts of the county at the Guildford Railway Station, whence they proceeded to Sutton-place, where descriptive papers were read by Mr. G. Bailey, Mr. J. G. Nichols, F.S.A., and Mr. W. H. Hart, F.S.A. The mansion possesses many features of interest, particularly in the use of terra-cotta. It contains a large hall, in the windows of which is much painted glass, chiefly heraldic, of great interest. The property was granted to Sir Richard Weston in the reign of Henry VIII., and is now in possession of Captain Salvin. The company then left for Ripley, where luncheon was provided; and after that a visit to Ockham Park and Ockham Church, the architectural features of which were described by Mr. Hart. The remains of Newark Abbey were then visited, and described by Mr. Godwin-Austen.

DANGEROUS WINDOW-CLEANING. — A correspondent writes,—Although the present London season has nearly passed away, it may be allowed to mention a public disgraceful, occasional, practice of employing thoughtless or helpless servant girls to clean windows on the outside sill,—sometimes 20 ft. or upwards from the ground,—as I lately witnessed in St. John's-street, Clerkenwell,—which abuse caused the death of a fine young woman, about three weeks ago. The poor girls have sometimes no sort of safeguard, when standing upright, except putting their fingers within the windows. Of course, any sudden alarm in the street, even where there was presence of mind, might cause more than one death, including that of some person below. If women must be put to such masculine employment,—which in my country youthful experience was that of glaziers' men, on ladders. Even a belt round the waist, with cord fastenings inside, would be an improvement (an idea, possibly, available elsewhere). Of course the greater blame, as in heartless and shameful breach of the law, in still secretly employing "climbing-boys" for chimneys, lies with the master or mistress. The late "Father" of the House of Commons, Sir C. Burrell, proved a humane claim to that venerable title, by trying for Legislative interference shortly before his death.

A VITRIFIED "FORT," AT EARLSTOUN, IN SCOTLAND.—The peaked summit of the Black-hill, Earlstoun, has been found to be surrounded by traces of *three concentric circles* of vitrified masonry, except where the two interior and higher circles are broken by the abruptness of the northern side of the hill. The vitrifaction is said to be perfectly similar to that of Craigphadric and some others, in the highlands of Scotland. The *Border Advertiser* quotes from the *Review* a theory as to the purpose of such vitrified forts, to the effect that they were probably the mountain altars of the ancient fire-worshippers,—the "high places of Baal," in short; and, that such altars must have existed in Scotland at one time the frequency of the prefix Baal, now Bal, to the names of places, such as Balbougie, Balbirnie, Balmoral, &c., seems to show. In Persia the ancient fire-worshippers had threefold fire temples, one of which was depicted with flames issuing from its central region. The writer in the *Review* says, on the subject;—"Was Baal, *the Lord of Heaven*, ever adored by the original inhabitants of Scotland? Every one who knows anything of the antiquities of our country knows that this *was* the case, and that there are many remnants of tradition bearing upon the point. We shall only adduce the word *beltane*, which, in Gaelic, is Baaltinn; that is, Baal's fire, or Baal the Lord of Fire. In modern days *beltane* is fixed to the 1st of May; but it may admit of a doubt whether this great annual adoration of *the Lord of the Summer* was on his passing the equinoctial, or at his solstice." It is a mistaken idea, however, that the outward sun was "the lord of the summer" here indicated. There can be no doubt that, at one time at least, the true sun so worshipped was known and held to be the Divine Sun, internal to man himself, and of whom the outward sun, and the fire, were merely used as emblems. It was thus, too, that the Druidical ground circles and centres (used, probably, in invocations of the God) were representative not of the macrocosm or the planetary system, but of the microcosm or little world of man's own nature, as the true *temple* of the *Deity*. The masonry of the Blackhill and other "forts," as they are called, is said to be vitrified only on and near the surface.

TENDERS.

For a dwelling-house at Leicester. Quantities supplied. Mr. Francis Drake, architect:—

Beaver	£832	0	0
Porter	769	0	0
Neale	753	0	0
Clifton	743	0	0
Cox	743	0	0
Chambers	729	0	0
Glover	721	0	0
Middleton	627	0	0

For erecting a villa residence at Cockington, South Devon, for Mr. W. Froude (exclusive of foundations to be measured). Quantities not supplied. Mr. Edward Appleton, architect:—

Harvey	£4,946	0	0
Dyer & Bragge (accepted)	4,928	0	0

For excavators', bricklayers', masons', slaters', plumbers', and smiths' work to three pairs of semi-detached residences in St. James's-road, Tonbridge Wells. Mr. James Blundell, architect:—

Strange & Sons	£4,467	14	0
Edwards & Walkling	4,328	0	0
Pink (accepted)	3,997	0	0
For plasterers' work.			
Mason	£859	10	0
Twort	857	0	0
Wenban (accepted)	845	0	0

Accepted for a pair of semi-detached residences, at Wakefield, for Messrs. Baker & Mander. Mr. Watson, architect:—

Kershaw (excavating, brick, stone, and slating)	£851	0	0
Mountain (carpenter and joiner)	505	10	0
Driver (plasterer)	58	0	0
Craven (plumber and glazier)	71	10	0
Hudson (smith and bellhanger)	62	10	0
Moxon (painter)	20	0	0

For rebuilding 26, Maddox-street, Regent-street. Mr. George Truefitt, architect:—

Stimpson	£1,399	0	0
Patrick	1,238	0	0
Henshaw	1,234	0	0
Simmonds	1,030	0	0

For the erection of a Free Methodist chapel, Brigg, Lincolnshire. Mr. Watkins, architect:—

Whatmough	£1,100	0	0
Dent	1,066	0	0
Andrews	1,055	14	6
Clarke (accepted)*	1,012	0	0

* Exclusive of heating apparatus, &c.

For the first portion of restorations, Manuden parish church, Essex. Mr. Lansdown, architect:—

Bint	£1,725	0	0
Thoday & Clayton	1,523	0	0
Bullock & Son	1,475	0	0
Gibbons	1,414	0	0
Dickinson	1,343	15	0
Glasscock	1,245	0	0
Brown (accepted)	1,170	0	0

For four cottages for Mr. Buckland, Chippenham, Wilts. Mr. Lansdown, architect:—

Harris	£730	15	6
Beszant	747	0	0
Light	686	0	0
Cuzna	688	0	0
Brown (accepted)	578	0	0

For new farm-house for Mr. Hawkins, Oaksey, exclusive of old materials re-used. Mr. Lansdown, architect:—

Barrett	£883	19	0
Phillips	848	0	0
Wall & Hook	795	0	0
Liddiah (accepted)	790	0	0

For building London Dock Steam Wharf, Wapping Wall, exclusive of iron-work. Mr. J. Whichcord, architect:—

Gammon	£11,948	0	0
Macey	11,481	0	0
Henshaw	11,380	0	0
Higgs	11,120	0	0
Hack & Sons	10,997	0	0
Myers & Sons	10,887	0	0
Lawrance & Son	10,832	0	0
Brown & Robinson	10,600	0	0
I'Anson	10,440	0	0
Axford	10,200	0	0
Piper & Wheeler	9,987	0	0

For erecting factory for Messrs. Clarke & Co. Messrs. Hill & Paraire, architects. Deducting for old materials:—

Tracey	£9,794	0	0
Fish	9,500	0	0
Macey	9,460	0	0
Patrick	8,260	0	0
Holland	8,093	0	0
Henshaw	7,588	0	0
Howard	7,547	0	0
Matthews	7,465	0	0

For erecting a villa residence, with stables, at the Roslyn Park Estate, Hampstead, for Mr. J. J. Orgill. Mr. H. Field, architect. Quantities supplied by Messrs. Williams & Schofield:—

Turner	£4,645	0	0
Adamson & Son	4,379	0	0
Conder	4,111	0	0
Scrivener & White	3,999	0	0
Yarbury	3,948	0	0
Watts (accepted)	3,797	0	0

For villa residence and stables in the Lawn-road, Hampstead, for Mr. E. M. Hill. Messrs. G. & T. Cremer, architects. Quantities supplied by Mr. M. Taylor:—

Hibberd	£2,290	0	0
White	2,189	11	0
Fincher & Martyn	1,775	0	0

For alterations to The Globe, Goldsmith-row, Hackney-road, for Mr. Herbert. Mr. E. Brown, architect :—

Stanton	£845	0	0
Simmonds	630	0	0

For the City-road Chapel. Mr. Pocock, architect :—

Clements	£3,823	0	0
Richardson	3,717	0	0
Ashby & Son	3,514	0	0
Piper & Wheeler	3,400	0	0
Lawrence	3,300	0	0
Pritchard	3,211	0	0
Thomson	2,923	0	0

For 16, Basinghall-street. Mr. Woodthorpe, architect :—

Prince	£1,475	0	0
Brass	1,426	0	0
Turner	1,413	0	0
Axford	1,400	0	0
Jeffrey	1,398	0	0
Pritchard	1,364	0	0

For the erection of three warehouses in Dorset-street, White's-row, and Commercial-street. Mr. N. S. Joseph, architect :—

Lawrence & Sons	£4,220	0	0
Newmann & Mann	4,060	0	0
Ashby & Horner	4,043	0	0
Piper & Wheeler	3,960	0	0
Mansfield & Sons	3,840	0	0
Axford	3,760	0	0
King & Sons	3,750	0	0
Browne & Robinson (too late)	3,748	0	0
Hill & Keddall	3,723	0	0
Conder (accepted)	3,698	0	0

For Morant's Court farmstead. Mr. W. Shearburn, architect. Quantities supplied by Mr. Nelson Jones :—

Grover	£1,900	0	0
Sawyer	1,798	5	0
Rose	1,715	13	0
Hoadley	1,369	0	0
Wesley	1,350	0	0
Pattinson	1,297	0	0
Potter	1,226	0	0
Anscomb	1,208	0	0
Luxford	1,202	0	0
Rutter	1,190	0	0
Jennings	1,190	0	0
Smith	1,146	0	0
Bonnett (accepted)	1,115	0	0

For alterations and shop front at 307, Kentish-town road. Mr. H. Hodge, architect :—

Bradley & Egg	£385	0	0
Kent	385	0	0
Allen (accepted)	273	0	0

For conservatory, at 12, Clarendon-road, Notting-hill, for Mr. Thompson. Mr. G. Trueffitt, architect :—

Allen (accepted)	£154	0	0

For the erection of eight cottages, at Hallsville, Essex. for Mr. Joseph Harris, jun., architect :—

Wood	£1,350	0	0
Howlett	1,160	0	0
Heritage	995	0	0
Cosh (accepted)	960	0	0

For building a pair of semi-detached residences, Brompton-road, Bexley Heath, for Mr. Henry Chandler. Messrs. W. Gosling & Son, architects. Quantities supplied :—

Tongue	£1,635	0	0
Sutton	1,450	0	0
Harding	1,435	0	0
Ledbetter	1,428	0	0
Wamman	1,329	0	0
Peskett	1,297	0	0
Somers	1,275	0	0
Gray	1,223	0	0
Thompson	1,160	0	0

For gun manufactory, Lancaster-street, Birmingham, for Messrs. Scott & Son. Mr. Edward Holmes, architect. Quantities supplied by Mr. Mansell :—

Matthews	£1,785	0	0
Partridge	1,780	0	0
Briggs & Son	1,705	0	0
Whitnall	1,670	0	0
Hardwick	1,644	0	0
Jeffrey & Pritchett	1,641	0	0
Jones	1,623	0	0
Horsley, Brothers	1,547	0	0

For lodge and gates to Tudor Hill Estate, Sutton Coldfield, near Birmingham, for Messrs. Bach & Barker. Mr. Edward Holmes, architect. Quantities supplied by Mr. Mansell :—

Hardwick	£411	10	0
Hill	378	0	0
Matthews	377	0	0
Jones (accepted)	335	0	0

For the erection of two houses at Belgrave, near Leicester, for Messrs. Burton. Mr. William Millican, architect :—

Wykes	£1,119	0	0
Hutchinson	1,020	0	0
Duxbury	1,006	0	0
Porter	998	0	0
Osborne	997	0	0
Plant & Thurlby	940	0	0
Armstrong*	925	0	0

* Second tender reduced, £883 11s. (accepted).

For the erection of new offices, Horsefair-street, Leicester, for Mr. Thomas Farmer Cooke. Mr. William Millican, architect :—

Clifton	£704	10	0
Wykes	644	0	0
Plant & Thurlby	623	0	0
Osborne	585	0	0
Hutchinson	582	0	0
Cox	581	0	0
Duxbury	578	0	0
Porter (accepted)	555	8	6

For addition to the Free School, Halesowen. Mr. Edward Holmes, architect. Quantities supplied by Mr. Mansell :—

Matthews	£585	0	0
Newey	470	0	0
Jeffrey & Pritchett	455	0	0
Horsley	444	0	0
Hardwick (accepted)	394	0	0

For alterations and additions to house, Market-street, Leicester. Mr. William Millican, architect :—

Wykes	£170	0	0
Clifton	151	0	0
Cox	139	5	0
Duxbury (accepted)	138	15	0

For alterations and additions to a house at Smeeton Westerby, near Leicester, for Mr. W. Goodman. Mr. William Millican, architect :—

Mattock	238	0	0
Thompson (accepted)	232	10	0

For the erection of new stabling and offices to a house at Botcheston, near Leicester, for Mr. J. G. Browne. Mr. William Millican, architect :—

Osborne	259	0	0
Neale (accepted)	227	16	0

Accepted Tenders for the erection of St. Simon's Church Schools, Sheffield. Mr. Jos. Fawcett, architect. Quantities supplied :—

For mason's, bricklayer's, plasterer's, and slater's work.

White	£360	0	0

For carpenter and joiner's work.

Duke	147	0	0

For plumber's and glazier's work.

Walker	43	5	0

For additions and finishing one pair of semi-detached residences, at Wimbledon, for Mr. Samuel Cross. Mr. W. G. Bartlett, architect :—

Parker (accepted)	£974	0	3

For erecting a public-house at Toddington, for Messrs. Well & Co. Mr. W. Watson, architect :—

Welch	£877	15	0
Dunham	550	0	0
Shaw, Horley, & Bass (accepted)	493	0	0

For erecting farm-buildings, &c. at Ravensden, near Bedford, for Mr. J. E. White. Mr. W. Watson, architect :—

Jackson	£1,248	0	0
Cunvin	1,083	0	0
Dickins	1,083	6	0
Joy	1,063	7	0
Bryant	1,059	10	0
Haynes	1,047	17	0
Wain & Co. (accepted)	1,000	0	0

TO CORRESPONDENTS.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

W. W.—J. G.—J. H.—Stained Glass.—W. W.—J. L.—W. C. T.—J. A. P.—F. C. P.—R. R.—R. D.—B. B.—J. B.—E. H.—H. C.—H. G. G. F. N.—J. D. P.—D. B.—H. J.—Messrs. K. & T.—A. M. F. S.—G. G. —Asso. I. C. E.—G. M.

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Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

[ADVERTISEMENT.]

CHURCH, TURRET, and STABLE CLOCKS. J. W. BENSON, having erected steam-power and improved machinery for clock-making, at the manufactory, Ludgate-hill, will be glad to furnish to clergymen, architects, and committees, Estimates and Specifications of every description of Horological Machine, especially cathedral and public clocks, chiming tunes on any number of bells. A descriptive pamphlet on Church Clocks post free for one stamp. Watch and Clock Maker by Warrant of Appointment to H.R.H. the Prince of Wales, and maker of the great clock for the Exhibition, 1862. 33 & 34, Ludgate-hill, E.C. Established 1749.

ADVERTISEMENTS.

Early in July,

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"There is no work published by or without authority, for the use of scientific branches of the service, which contains anything like the amount of admirably arranged, reliable, and useful information. It is really a most solid, substantial, and excellent work; and not a page can be opened by a man of ordinary intelligence which will not satisfy him that this praise is amply deserved."—*Army and Navy Gazette.*

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London: ATCHLEY & CO. Publishers of Engineering and Architectural Works, 106, Great Russell-street, Bedford-square, W.C.

THE QUARTERLY REVIEW, No. CCXXXI. published THIS DAY.

CONTENTS.

I. WORDS AND PLACES.
II. LUDWIG UHLAND.
III. FREE THINKING: ITS HISTORY AND TENDENCIES.
IV. THE CIRCASSIAN EXODUS.
V. LACORDAIRE.
VI. CHRISTIAN ART.
VII. PUBLIC SCHOOLS.
VIII. TRAVELLING IN ENGLAND.
IX. THE HOUSE OF COMMONS.

JOHN MURRAY, Albemarle-street.

NORWOOD.—Valuable Freehold Building Land, Land-tax redeemed.

MR. MARSH has received instructions to SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4, at TWELVE o'clock, in one lot, valuable FREEHOLD BUILDING LAND, comprising about 8 acres, situate in the White Horse-road and Decimus Burton-road, Norwood, within fifteen minutes' walk of the Norwood Junction Station, and three minutes' walk of the Thornton Heath Station, on the Balham and Croydon branch of the Brighton Railway, and suitable for the erection of first and second class villa residences. May be viewed, and particulars, with plans, had of G. W. ABBOTT, Esq., Solicitor, 61, King William-street, City; at Garraway's; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house.

SURREY.—The first portion of the Worcester Park Estate, situate between Kingston and Ewell, twelve miles from London, and within one mile and a half of five railway stations, one of which (the Worcester Park Station) is on the estate, and in fifty minutes' journey by rail from town, divided into Forty-seven Lots of from one to two acres each, and Four from four to fifteen acres; a Government registered title, the conveyance of which to each lot will be delivered to the purchaser free of all expense.

MR. MARSH is instructed by the Landed Estates Company (Limited) to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, AUGUST 5, at TWELVE, in Forty-one Lots, the First Portion of the valuable Freehold BUILDING ESTATE, known as Worcester Park, anciently a royal manor, then distinguished as Little Nonsuch Park. This fine estate is beautifully studded with ornamental timber, and presents many choice spots for the erection of detached villas, for which purpose it has been purchased by the Landed Estates Company (Limited) and divided into plots of convenient extent. The subsoil is gravel and sand and a high service water-supply is laid on by the Lambeth Waterworks Company direct from their reservoirs at Kingston. The Ewell, Kingston, and Epsom and King ton to Epsom, forms one boundary of the property, which possesses a frontage of upwards of several thousand feet. The lots in Ewell parish are all tithe free.—Particulars, with plans attached, are in course of preparation, and may shortly be obtained of Messrs. HOOK, the Surveyors of the Company, 13a, Great George-street, Westminster; Messrs. THORNDYKE & SMITH, the Solicitors of the Company, 11, Staple-inn; or at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house.

KENSINGTON.—Desirable Freehold Residence, with about 2¼ acres of land, prettily timbered, and available for building purposes, within five minutes' walk of the Kensington Railway Station.

MR. MARSH has received instructions to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, AUGUST 11, at TWELVE, the detached FREEHOLD RESIDENCE, distinguished as Weston Lodge, Portland-road, Kensington, with large coach and kitchen gardens, beautifully timbered, containing about 2¼ acres, offering great advantages for building purposes, and well worthy the immediate attention of capitalists, builders, and others. May be viewed on application, and particulars, with conditions of sale, with plans attached, may shortly be obtained of TUFNELL SOUTHGATE, Esq. Solicitor, 7, King's-bench-walk, Temple, W.C.; at Garraway's; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House.

FREEHOLD BUILDING PLOT, HACKNEY, suitable for two good Shops, with 35 feet frontage to Mare-street, Hackney adjoining the Mansion Houses, with Stabling thereon, value 50*l.* per annum.

MESSRS. TEBB, BROTHERS, will SELL the above, at GARRAWAY'S, Cornhill, on FRIDAY, AUGUST 5, at ONE o'clock.—Particulars of W. RUTTER, Esq. 10, Basinghall-street, E.C.; at Garraway's; and of the Auctioneers, 3, Adelaide-place, London Bridge, E.C.

LEYTONSTONE.—Second Portion of Estate, comprising Forty Plots of Freehold Building Land.

MR. JOHN M. DEAN will SELL by AUCTION, at the Plough and Harrow Tavern, Leytonstone, on THURSDAY, AUGUST 4, at THREE o'clock, in forty lots, a FREEHOLD ESTATE (consecrated from land-tax), comprising FORTY PLOTS of eligible BUILDING GROUNDS, situate at Harrow Green, on the high road from Stratford to Leyton-stone, within a short distance of the Leyton Railway Station, having extensive frontages on both sides of the Leytonstone high road. The land is level and dry, with a gravelly subsoil, and is particularly eligible for the erection of detached or semi-detached residences. May be viewed, and particulars and conditions of sale, with plans, had of Messrs. LYNES & SON, Solicitors, 8, George-yard, Lombard-street; at the Plough and Harrow Inn, Leytonstone; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

To Contractors and Manufacturers requiring good Stabling.

CLERKENWELL, close to New River Head. By direction of the Administratrix of the late Mr. Pitman.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, at GARRAWAY'S, on WEDNESDAY, AUGUST 3, at TWELVE, a capital LEASEHOLD ESTATE, comprising Nos. 10 to 16, Gainsford-mews, close to New River Head, consisting of good stables, with rooms over, now occupied by weekly tenants. Held at a low ground rent for about 45 years, unexpired.—May be viewed. Particulars obtained of Messrs. LOXLEY & MORLEY, Solicitors, 30, Cheapside; and of the Auctioneers, Holywell-row, Finsbury.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a cause of "John Merryman against Will am Wolfe Bonney and Others," with the approbation of the Vice-Chancellor, Sir R. T. Kindersley, the Judge to whose court this cause is attached, by

MESSRS. PRICE & CLARK, the persons appointed by the said Judge, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, in the city of London, on FRIDAY, the 5th day of AUGUST, 1864, at TWELVE for ONE o'clock in the afternoon, in Three Lots, certain FREEHOLD PREMISES, situate in Garrett lane, Wandsworth, Surrey, formerly known as Aithorp Lodge, but now called the Duke of Wellington Inn, having extensive frontage to the high road leading from Wandsworth to Tooting, and opposite St. Mary's Church, with garden, pleasure-grounds, and meadow land, the whole containing about 2½ acres, or thereabouts, and possessing an ancient well; subject to a lease thereof for about forty two years from the 25th of December, 1851, at 140 per annum; also, Freehold Ground-rents, amounting to 56l. 5s. per annum, secured on five dwelling houses (one with shop), being Nos. 8, 9, 10, 11, and 12, Edward-terrace, Garrett-lane aforesaid; and also a Freehold Piece of Land situate in Garrett lane aforesaid, and adjoining the premises before mentioned, having a frontage to the said high road of 152 feet 6 inches and a depth of 656 feet 9 inches, adapted for building purposes.—Particulars whereof, and conditions of sale may be had, gratis, of Mr. T. H. MERRIMAN, Solicitor, 1, Mitre court, Temple London; Mr. WM. VENN, Solicitor, 3, New Inn, Strand; Mr. HENRY PARRIS, Solicitor, 34a, Mompte street; Mr DAVID ASTON, Solicitor, of 108, Edgware-road, W.; Mr. R. GIBBS, Solicitor, 18, Poultry; and of the Auctioneers, 38, Chancery-lane, W.C.
J. A. BUCKLEY, Chief Clerk.

SOMERS TOWN,—Final Portion of the Timber Merchant's Stock, to clear the Premises

MESSRS. LEREW & LEREW will SELL by AUCTION at No. 59, Osnaburgh-street, Euston-road, on MONDAY, JULY 25th, at TWELVE, the remaining STOCK, viz 5,000 feet mahogany, walnut, cedar, ash, birch and beech, wide pine board, 7,000 feet veneers, 80 squares flooring, 5,000 feet quartering, a few dry planks and battens, 6g ocave piano forte, truck, racks, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

WANDSWORTH.—Valuable Freehold Building Land, in the South-fields, containing about Eight Acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors of the late Thomas Langton, Esq. to offer for SALE, at the QUILTHALL COFFEE-HOUSE, near Guildhall, in the City of London, on FRIDAY, 31st AUGUST, at ONE o'clock precisely, in five lots, valuable FREEHOLD BUILDING LAND, site in South fields, Wandsworth, and on the high Wandsworth and Merton road. Lot 1. A Plot of Building Land, having a frontage to the Wandsworth and Merton road of 175 feet, by a depth of 350 feet, and containing 2a. 0r. 34p. Lot 2. A Plot of Building Land, adjoining Lot 1, having a frontage of 143 feet to the Wandsworth and Merton road, by a depth of 333 feet, and containing 1a. 3r. 11p. Lot 3. A plot of Building Land, situate near to Lots 1 and 2, having a frontage of 176 feet to the Wandsworth and Merton road, by a depth of 324 feet, and containing 1a. 3r. 34p. Lots 4 and 5 Two plots of Land, inclosed, situate in Milking place Shot, near to Dunsford's cross, and containing together 1a. 3r. 39p.—May be viewed, and particulars had at the Swan, Wandsworth; of Messrs. RIXON & SON, Solicitors, 33, Cannon street; at the Guildhall Coffee-house; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange

CHARING CROSS RAILWAY, CITY TERMINUS.—To Builders, Contractors, Paviors, and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 26th, 1864, at TWELVE PRECISELY, the valuable and useful MATERIALS of the Plumbers' Hall, together with DWELLING HOUSES in Monkwell-lane, Scott's yard, and Tower-hill-lane, comprising 300,000 sound stock bricks, slates, and tiles, sound timbers, joists, and flooring boards, the lead pipes, gutters, and ridges, sashes and frames, doors and frames, and a variety of useful fixtures and fittings up.—May be viewed the day prior and morning of sale, and catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey

ASH, SURREY.—WINDMILL HILL.—Eligible Investments.

MESSRS. WILLIS & HARROW are favoured with instructions from Mr John Price to SELL by AUCTION, at the KING'S HEAD HOTEL, Ash, on TUESDAY, AUGUST 9, 1864, at FOUR for FIVE o'clock, in Eleven Lots, la 1r 26p. of important BUILDING LAND, together with a Cottage and Garden, delightfully situate on an extensive elevation, a walk from the Ash Station on the South-Eastern Railway, and within an easy distance of the town of Aldershott. The soil is dry, the situation extremely healthy, and there is an abundant supply of excellent water. The sites are such as may rarely be obtained in the locality, where the demand for them of all classes is incessant. The property is copyhold, of the Manor of Ash.—Particulars and conditions of sale, with plans, may be obtained at the Place of Sale; of E. C. BARTON, Esq. Solicitor, 4, Wardgate-place, Westminster-road, Lambeth; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

CHARING-CROSS RAILWAY, CITY TERMINUS.—To BUILDERS CONTRACTORS, PAVIORS, and OTHERS.

MESSRS. WILLIS & HARROW have been favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 10th, 1864, at TWELVE for ONE o'clock precisely, the very superior MATERIALS of the substantially-erected range of Offices known as "Dwgate-hill Chambers," comprising 3½ tons of lead and pipes, gutters and ridges, excellent flooring boards and timbers, plate glass sashes and frames, sliding, panelled, and glazed doors, Portland stone landings and steps, mahogany hand rails with iron supports, ornamental Portland stone cornices and stringing, stoves, gasfittings, iron girders, and a variety of useful fixtures and fittings up.—May be viewed the day prior and morning of Sale and Catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey

PURLEY, in the Parishes of Croydon and Coulsdon, contiguous to the Caterham Junction Station, on the main line of the Brighton and South Eastern Railways, about a mile and a half from the South Croydon Terminus, and twelve miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, on WEDNESDAY, AUGUST 3rd, at TWELVE, the First Portion of the Purley Lodge Estate, consisting of about Twenty acres of FREEHOLD LAND, divided into suitable lots for building purposes, the northern portion varying from one to two acres, and the southern from six-tenths to a full acre. A very eligible site, adjoining the railway-station, is here set apart for the erection of a Tavern. The land is ornamented with timber, and has a substratum of gravel and chalk. The situation is beautifully rural and healthy and (with the ready access to the metropolis) presents to the builder, capitalist, and private gentleman first-class sites for the erection of country residences of the first class, with plans, may be had at Garraway's Coffee-house; of Messrs WEST & KING, Solicitors, 3, Charlotte-row, Mansion-house; and of Messrs. BLAKE, Croydon.

SUTTON, SURREY, in the immediate vicinity of the Sutton Station of the London and Epsom Railway.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, on FRIDAY, AUGUST 12th, at TWELVE o'clock, THIRTY Eight valuable FREEHOLD BUILDING PLOTS, comprising the principal part on the Sutton Park Estate, having capital frontages to the Cheam road, and to new roads, known as Grove and Church roads. The land, which comprises an area of about seven acres, is elevated, and commands fine views. It has a sub-stratum of chalk, and is admirably adapted for the erection of first-class residences. There is an early prospect of additional railway accommodation with the Metropolis, by which means the importance of the neighbourhood will be much enhanced.—Particulars, with plans, may be had fourteen days before the sale, at Garraway's Coffee-house; at the Inns at Sutton, Epsom, Carshalton, and Reigate; of JOHN BERNEY, Esq. Surveyor, Croydon; of H. RICHARDS, Esq. Solicitor, Croydon; and of Messrs. BLAKE, Croydon.

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TO BUILDERS, &c. having Capital, and who may be willing to employ it and to reside abroad.—An English Builder, many years established in a healthy country abroad, and who has a very large and rapidly-increasing business, is desirous of obtaining the assistance of an active PARTNER possessing Capital and a knowledge of building in all its branches. He invites a present visit.—For all particulars, apply to Mr. WM. MORLEY, 26, Great Winchester-street, Old Broad-street, London.

PHOTOGRAPHY.
DOLAMORE & BULLOCK,
ARCHITECTURAL AND ENGINEERING PHOTOGRAPHERS,
30, REGENT STREET, WATERLOO PLACE, S.W.

NOTICE.—LOST.—Should this Meet the Eye of WILLIAM or GEORGE BODLEY, whose two brothers, Robert and Joseph, left England in the year 1848, and sailed for the Cape of Good Hope, they will hear of them by writing to R. BODLEY, Builder, King William's Town, British Kaffraria.
March 11, 1864.

A CARPENTER and BUILDER is desirous of meeting with a PARTNER.—An active and practical Man. Strict references given and required.—Address, X. R. Office of "The Builder."

PARTNERSHIP WANTED, with an established CONTRACTOR or BUILDER.—Address, with particulars and amount of premium required, to ARCHITECT, No. 20, Brompton-crescent.

BOROUGH of LIVERPOOL.—To ARCHITECTS and SURVEYORS.—The Town Council of the Borough of Liverpool desire to engage the services of a competent person to act as SURVEYOR of their Estates, and as ARCHITECT in the erection of any buildings required by them. An outline of the principal duties required will be forwarded on written application, addressed to the Town Clerk, Town Hall, Liverpool. The gentleman appointed must be experienced in his profession, and not more than forty years of age, and he will be required to abstain from all private practice, and to devote his whole time and attention to the business of the Corporation. The salary will be 800l. per annum; and suitable offices, with a competent staff of clerks, and all stationery, &c. will be provided by the Town Council. Applications, with testimonials, sealed, and marked "Application for Office of Surveyor," and addressed to "The Chairman of the Real Estate Sub-committee, Town Hall, Liverpool," will be received at the Office of the Town Clerk of Liverpool, up to ONE o'clock on THURSDAY, the 11th day of AUGUST next, but no later. Each applicant must give full particulars of the present and previous employment of the applicant, and state how sworn, if appointed, he could enter upon the duties of the office. No recommendation of any applicant will be taken into consideration unless it be stated therein that the writer is personally acquainted with the individual recommended, and that such writer can, of his own knowledge, answer for the qualifications of the applicant. If the applicant, or any person recommending him, is not resident in Liverpool, a reference to a person of respectability and standing in Liverpool, who is acquainted with the applicant or person so recommending, as the case may be, will be required. It is requested that no personal application be made to any member of the Council in reference to this appointment. The gentleman appointed will have the benefit of conferring and advising, and will be expected to co-operate with the present Surveyor to the Corporation, who will continue his services as Consulting Surveyor.—By order,
JOHN SHUTTLEWORTH, Town Clerk.
Town Hall, Liverpool, July 13, 1864.

BRICKLAYERS WANTED, at the New Gas, Strangeways, Manchester. Wages, 33s. Two years' work. Either society or non-society men.

CLERK of WORKS.—WANTED, a CLERK of WORKS, to Superintend the Erection of a Small Church in Norfolk.—Application to be made by letter, enclosing reference and terms, to T. JECKYLL, 8, Furnival's Inn.

LOCAL BOARD of HEALTH, KINGSTON-UPON HULL.—To FOREMEN.—The Local Board of Health for the district of Kingston-upon-Hull require the services of a STREET FOREMAN, and are prepared to receive applications from properly qualified persons. The situation will be held under the Surveyor, and the duties will consist in Superintending the Construction and Repairs of Street surface Work, including paved and macadamised roads, also the keeping of the usual foreman's accounts. The hours of service are to be from six a.m. to six p.m. The wages to be 28s. per week.—Applications, accompanied by referees (or are to be forwarded, under cover, endorsed, "Street Foreman's application," to C. S. TODD, Esq., Clerk to the Local Board, 15, Bowlalley-lane, Hull, on or before THURSDAY, the 4th day of AUGUST, 1864.—By order,
J. FOX SHARP, Surveyor to the Local Board.
Surveyor's Office, Sculcoates Hall, Hull, 20th July, 1864.

STONE CARVERS WANTED.—Apply to JAMES BIRCHENOUGH, 14, New York-street, Tipping-street, Manchester.

TO SURVEYORS.—The Local Board of Health for the District of Penrith hereby give notice that, at their Meeting, to be holden on MONDAY, the 22nd day of AUGUST, 1864, they will proceed to the APPOINTMENT of a SURVEYOR and INSPECTOR of NUISANCES to the Board, who will be required to devote the whole of his time to the duties of the office, as given in the Board's Bye Laws, to the exclusion of any other employment whatever. The duties comprise the superintending of the Board's Waterworks, where a steam-engine and water power are used, the former as an assistant only; the maintenance of the streets of the town, and the highways of the rural districts, in all about 24 miles in length; preparing plans, specifications, and estimates of all works to be done under the direction of the Local Board, and superintending their execution; examining all plans of houses, streets, &c. submitted to the Board for approval, and advising thereon as to their structural arrangements and their conformity generally to the Board's Bye Laws; inspecting regularly the sanitary condition of the town; reporting thereon; keeping proper books and accounts; attending all Board and Committee meetings; and carrying out all orders given by the Board in connexion with the Surveyor's department. The person appointed will be required to enter upon office on the 20th day of September next. The Local Board will be guided in their choice solely by the character and competency of the candidates, and canvassing the members in any way prohibited. Applications, stating salary, accompanied by testimonials of recent date, to be addressed to me before the 15th of AUGUST. Office, with gas and coal, provided by order.
CHRIS. FAIRES, Clerk to the Local Board.
Board Room, Penrith, July 13, 1864.

TO STONE MASONS.
WANTED, a good WORKING FOREMAN, capable of taking out quantities. Wages, 4s. 8d. per day, and constant employment to a steady man.—Address, with full particulars, B. B. Post office, Wednesbury.

WANTED, an efficient DRAUGHTSMAN and practical Assistant.—Apply, stating terms and particulars for by a call between Eleven and One o'clock on MONDAY, the 25th instant) to T. CHATFIELD CLARKE, Architect, 137, Leadenhall-street.

WANTED, IMMEDIATELY, TWO ASSISTANTS.—Address, stating age, qualifications references, and salary required, to Mr. H. JAMES, Architect, Gloucester.

WANTED, a CARPENTER and BUILDER'S BUSINESS, within 15 miles of London. (Not in London.) Premium not exceeding 20l.—Address, F. J. C. Post-office, Waltham Abbey, Essex.

WANTED, for a Permanency, an ASSISTANT, who is a neat and correct architectural draughtsman, understands quantities, and has a practical knowledge of superintending and levelling.—Apply, stating salary required, to WILTS COUNTY SURVEYOR, Devizes.

TO BUILDERS' CLERKS.
WANTED, by a London Firm, an intelligent Young Man of respectability, as PRIME COST CLERK.—Address, stating age, salary, and where last engaged, to L. M. R. Office of "The Builder."

TO BUILDERS' FOREMEN.
WANTED, a thoroughly experienced GENERAL FOREMAN, to undertake the entire Superintendence of a large Building a short distance from London.—Address, stating age, where last engaged, and salary required, to W. X. M. Office of "The Builder." Anonymous communications will not have attention.

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It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c; for the lintings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

CARTON PIERRE AND PAPIER MACHE WORKS, 49, RATHBONE PLACE, LONDON, W.
(ESTABLISHED IN 1780.)

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

JOSEPH CLIFF & SON,

...WORTLEY, near LEEDS,

MANUFACTURERS OF

...AZED SOCKETED DRAIN PIPES,

...ERRA COTTA CHIMNEY TOPS,

...RE BRICKS, CLAY RETORTS,

AND

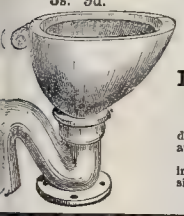
Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,
WHARF No. 4,
GREAT NORTHERN GOODS STATION,
KING'S CROSS, N.,
Where is always on hand a
STOCK OF FIRE GOODS,
TERRA COTTA WARE,
AND
DRAIN PIPES,
From 2 inches to 24 inches diameter.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

WILCOCK & CO.

...RE-BRICK AND SANITARY TUBE WORKS,
LEEDS.
ILLUSTRATED LISTS ON APPLICATION.

PAN CLOSET,
and HYDRAULIC REGULATOR.

COMPLETE,
1l. 18s.



Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.
A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

POLONCEAU and SEYSSEL ASPHALTE.

ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the
MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1859), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,500l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

IMPROVED REVOLVING SHUTTERS.

MARTIN & CO.

Respectfully invite the attention of Architects, Builders, and the Public to their superior IRON or WOOD REVOLVING SHUTTERS, with all requisite gearing complete.

Wood Revolving Shutters from 2s. per foot super. Iron from 2s. 6d., with all requisite gearing complete, suitable for Banking Houses, Shop Fronts, Public Buildings, and Private Houses.

Brass Sash Bars and Brass Stall Plates at considerably reduced prices for best quality only.

ILLUSTRATED PROSPECTUS ON APPLICATION TO MARTIN & CO., 200, HIGH HOLBORN, W.C.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

NOTICE TO ARCHITECTS AND THE TRADE.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.

Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

WORKS, LONDON and BIRMINGHAM.

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.

See Advertisement first Saturday in the Month, or on application.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

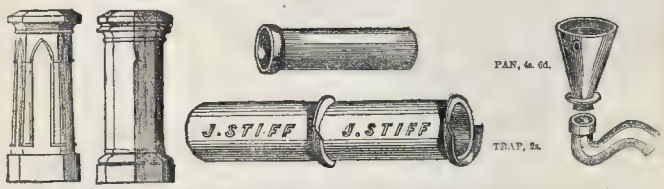
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

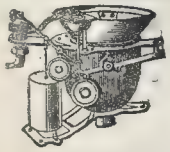


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

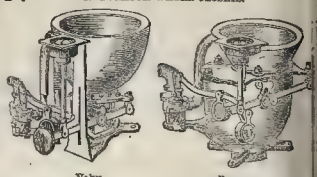
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

J. TYLOR & SONS' PATEN

REGULATOR WATER-CLOSETS.

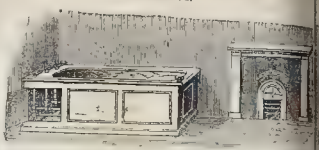


Valve. Pan.

The Regulator Valve gives perfect control over the supply of wate to each closet, so that, however small the fall of water, perfect flu ing is insured. Any number can be worked by one supply pipe. N cistern-valves, cranks, or wires required. The Closets can be seen i action at the Manufactory, and Illustrated Catalogue had on appl cation to the Manufacturers, J. TYLOR & SONS, Warwick-lan Newgate-street, London

J. TYLOR & SONS' PATENT BAT

APPARATUS.



The bath and boiler may be fixed in the same or separate roo anywhere below the level of cold-water cistern. Open or close fire a pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection o buildings.

Catalogues, containing Nine Illustrations of different methods o heating baths, sent on application to the Manufacturers, J. TYLO & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATUS

ILLUSTRATED CATALOGUES FREE.

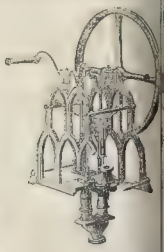


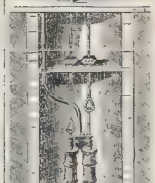
Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.







PUMPS

FOR

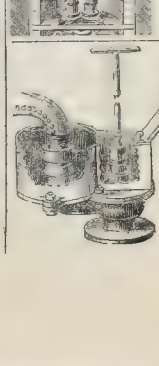
DEEP OR SHALLOW WELLS,

WATER BOATS, &c.

J. TYLOR & SONS,

MANUFACTURERS,

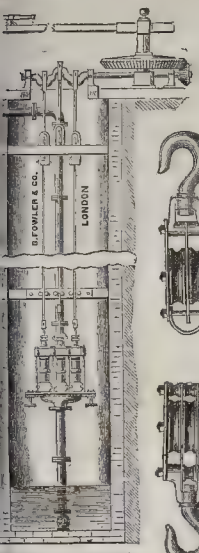
WARWICK LANE, NEWGATE STREET, LONDON.



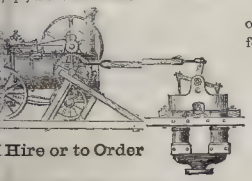
IMPROVED HYDRANT

J. TYLOR & SONS,

WARWICK LANE, NEWGATE ST LONDON.



eble Barrel Deep Well
mps, with Horse Gear.



Hire or to Order

ORTABLE ENGINES AND PUMPS,
Of all sizes, for any depth.

CLINTON & OWENS

(LATE FOWLER & CO.),
WHITEFRIARS STREET, FLEET STREET, LONDON,
MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

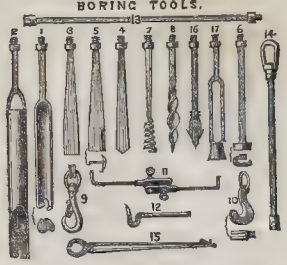
AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.





BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

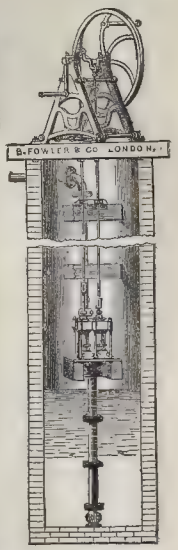
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

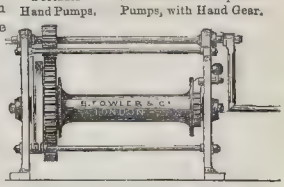
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 „	3 15
4 „	5 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. Is recommended for the simplicity of its construction, and the ease with which it works.

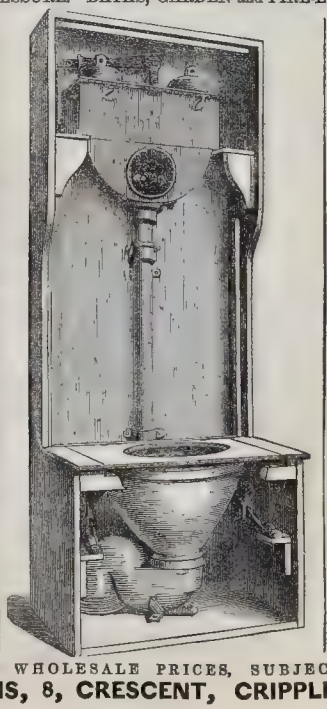
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive rings and guides are unnecessary, rendering the pump cons derably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	3 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0
No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

GREENWICH HOSPITAL.—Old Stores and Building Materials

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, on the SPARE YARD of the Hospital, on THURSDAY, JULY 28th, at ELEVEN for TWELVE, a large quantity of OLD STORES: comprising blue woollen clothing, linen rags, coverlets, blankets, bedsteads, bedding, as above, and other effects belonging to the Steward's Department; also a quantity of Building Materials, old iron, and articles belonging to the Works Department. May be viewed two days previous, between the hours of Ten and Four; and catalogues had on the Premises; of the Steward and Inspector of Works; and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, Westminster, and 80, Fore-street, City.

PADDINGTON.—To Builders and Others.—Surplus Stock of the Lincolnshire Slate and Slate Company, Limited.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the above company, to SELL by AUCTION, on the PREMISES, No. 4 Wharf, South Wharf-road, Paddington, on MONDAY, AUGUST 1, at TEN for ELEVEN (on account of the number of lots) the extensive and valuable STOCK of ENAMELLED SLATE, consisting of a large assortment of chimney-pieces in imitation of various marbles, and adapted for first-class residences; a very handsome sideboard, fitted with book-shelves and closets, and plate glass back (made expressly for the Exhibition of 1862); inlaid tables of various descriptions, clock-cases, and other articles, the whole of which are executed in the best style. Also a large portion of the Unmanufactured Stock, consisting of 1,000 feet of slate slabs of various thicknesses, several thousand roofing slates of all sizes, cisterns, water pipes, &c., a person's carter-van, a 4-ton truck, cart, and other effects. May be viewed on Saturday previous and morning of sale, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 46, Parliament-street, Westminster, and 80, Fore-street, City.

HAMPSHIRE. Important Sale of Landed Properties, comprising about 240 acres, nearly all freehold, in and near to the capital market-towns of Lymington and Christchurch and at Freshwater, in the Isle of Wight, the property of the late John Templar, esq., and sold by the direction of his executors.

MESSRS. ABBOTT & SON are favoured with instructions to SELL by AUCTION, at the NAG'S HEAD HOTEL, Lymington, on MONDAY, AUGUST 8, and at NEWLYN'S HOTEL, Christchurch, on TUESDAY, AUGUST 9, very valuable ESTATES, comprising upwards of Fifty Lots of an extremely handed and other property, and forming one of the most important sales in the above district which has taken place for many years; viz:—In the parish of Boldre, Slade Farm, with 130 acres; Mount Pleasant Farm, of 54 acres; Silver Street Farm, of 74 acres; Kettlethorn Farm, of 50 acres; several small farms in the parish of Hordle, varying from 22 acres to 4 acres, with numerous dwelling-houses and other small enclosures at Sway; Sudley's Farm, close to Lymington, with 8 acres; several enclosures of accommodation land contiguous to the town, and dwelling houses and business premises in the town, to which the Auctioneers beg respectfully to direct particular attention; the whole of the above being situate near to Lymington, a town which is increasing in importance, and where extensive docks are being projected, with every prospect of success, and within three hours' ride of London. Also, THREE CLOSES of very valuable BUILDING LAND, situate close to Colwell Bay, in the parish of Freshwater, in the Isle of Wight. The Properties near to Christchurch comprise a Farm of about 30 acres, at Duckbury, in the parish of West Parley, 4 miles from the fashionable watering-place, Bournemouth, and from Wimborne, and 6 from Christchurch; and 25 acres of Land at Godwin's Croft, near to Christchurch, bounded by the estates of Sir G. E. M. T. Gervis, bart. and William Jesson, esq. and L. B. Lenthal, esq.—Printed particulars, with plans attached, may be obtained in due course of Messrs. THOMPSON, PICKERING, & STYAN, Solicitors to the Executors, 4, Stone-buildings, Lincoln's Inn; at the Estate Exchange, Change-alley, Cornhill, London; and of Messrs. ABBOTT & SON, Auctioneers and Estate Agents, Christchurch Hants.

TO TIMBER MERCHANTS, BUILDERS, CABINET-MAKERS, PIANOFORTE-MAKERS, and OTHERS.—Unreserved Sale of the Remaining Stock of a Timber Merchant.

MR. EDMONDS will SELL by AUCTION, on the PREMISES, 212 and 214, Hackney-road, on TUESDAY, JULY 26th, at ELEVEN for TWELVE, the remaining well-selected STOCK: comprising 60,000 feet of Honduras mahogany, 50,000 feet of Spanish, 10,000 feet of Italian walnut in planks and boards; a large quantity of Spanish, Honduras walnut, rosewood, and maple veneers; 1,500 cut pine planks and deals, and quantity of useful stuff. Utensils in trade, viz. saws, 24 screw-stocks, tires, &c.—May be viewed the Saturday and Monday p.r. Catalogues had on the Premises, and at the Auctioneer's Offices, 22, New North-road, N. The lease of the extensive Premises to be disposed of.

PIMLICO.—To Builders, Dealers in Materials, and Others.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES on TUESDAY, JULY 26th, at TWELVE o'clock, the capital MATERIALS of Six large Dwelling-Houses and Erections, Nos. 5 to 10, Upper Eaton-street, comprising all the excellent stock brickwork, sound covering, and stout timbers in roofs, glazed sashes, doors, partitions, floors and joists, several shop fronts, lead work and iron rail ags, stone paving, fix ures and the usual fittings.—May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Mornington-street; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

BUILDING LAND, on the Western Borders of Kensington Parish.—To Capitalists, Builders, and Others.

MR. GEORGE HAINES is instructed to LET, by AUCTION, at the VESTRY HALL, Kensington, on WEDNESDAY, AUGUST 3, 1864, at TWO precisely, by direction of the Trustees of the Golden Charity Estate, a valuable PLOT of about 14 acres of most desirable BUILDING LAND, known as the Charcroft Estate, having an important frontage next the high road leading to Uxbridge and Richmond, contiguous to the West London Extension and the Hammersmith and City Railways, and adjoining to the noble mansion and grounds of the Holland Park Estate. Lease will be granted for terms of ninety nine years, and it is purposed to erect 300 houses, offering to a man of enterprise a favourable opportunity to realise a large profit rental.—Full particulars and plans may be obtained of REUBEN GREEN, Esq. and JAMES BROADBRIDGE, Esq. Surveyor, at the Vestry Hall, Kensington; of THOS. H. MERRIMAN, Esq. Solicitor, 1, Mitre-court, Temple; of WALTER REYNOLDS, Esq. Solicitor, Union terrace, Notting hill, of Messrs. HAINES & SON, Auctioneers, Mornington-street; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square.

OXFORD.—To Speculators and Building Societies. Most valuable Freehold Building Ground, St. Giles's, in the City of Oxford, in proximity to the new Schools, St. John's College, Worcester College, the Clarendon Printing office, Beaumont-street, St. John's-street, and the Railway Stations.

MR. JOHN FISHER begs to announce that he is instructed by the Guardians of the Oxford Incorporation, to offer for SALE by AUCTION, at the TOWN HALL, Oxford, on WEDNESDAY, AUGUST 3rd, 1864, at THREE o'clock in the afternoon, in one lot, all that Valuable BUILDING LAND, comprising the sites of the present Workhouse and Garden, consisting of 0a. 3r. 6p. with very extensive street frontages. The property is free from tithe, and land tax is redeemed. It offers the finest opportunity that has ever occurred in Oxford for dividing into Building Lots, for any Public Institution, or from its great extent, both combined.—Further particulars may be known, on application to Mr. H. JACOB, Clerk to the Board of Guardians, St. Giles's-street; or the Auctioneer, 8, High street, Oxford, where plans may be seen.

BATTERSEA.—50 Plots of Freehold Building Land, adjoining Clapham Junction Railway Station.

GEO. TODD will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on WEDNESDAY, JULY 27th, at ONE for TWO o'clock, the first portion of the CLAPHAM JUNCTION ESTATE, in plots suitable for the erection of villa, cottage, and shop property, including a few eligible sites for the erection of lodgers, and well adapted for the creation of a considerable income in Freehold Ground-rents. The Estate is a very short distance from Clapham and Wandsworth Commons, and the new Park at Battersea; and notices having been given by railway companies, will command it to the speculator.—Particulars, with a plan, may be had of Messrs. H. & F. CHESTER, Solicitors, 1, Church-row, Newington butts; or at the Auctioneer's Offices, Battersea Bridge-road, Battersea Park, S.W.

Freehold Lands, in the parish of Dagenham, in the county of Essex: comprising about 33 acres, with early possession; in lots suitable to small capitalists.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, Gresham-street, E.C. on THURSDAY, the 4th day of AUGUST, at THREE o'clock precisely, in 4 lots, about THIRTY THREE ACRES of valuable FREEHOLD ARABLE and MARSH LANDS, with farm-house and premises, held on lease for thirteen years, from Michaelmas last, by Mr. Ashby Haws, at the yearly rental of 80l; the tenant paying the land-tax and tithes. Lot 1 will comprise about 21 acres of good arable land, with farmhouse and premises, situate Beacon Tree heath, 1¼ mile from the Chadwell-heath Station, and 2¼ miles from the Romford Station on the Great Eastern Railway; and the remaining lots will consist of five small pieces of arable land, situate in Dagenham marsh, two miles from the Rainham Station of the London, Tilbury, and Southend Railway, and near to the high road between Barking and Rainham.—Further particulars, and an order to view the property may be obtained of Messrs. RANKEN, FORD, LONGBOURNE, & LONGBOURNE, Solicitors, 4, South-square, Gray's-inn; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall.

Freehold Ground-rent of 100l per annum, well secured on property in the Old Kent-road, opposite the Turk's Head public-house, in the parish of St. Giles, Camberwell, in the county of Surrey.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to offer for SALE by AUCTION, at the GUILDHALL COFFEE-HOUSE, Gresham-street, E.C. on THURSDAY, the 4th day of AUGUST next, at THREE o'clock precisely, all that THREE ACRES of FREEHOLD LAND, upon which are various houses and premises, producing a rack rental of 130l per annum, comprising fifty-six houses and shops, in Shenton street and Arthur street, with some vacant garden land; the whole is leased for an unexpired term of fifty seven years, at 100l per annum and forms an unexceptionable security, increasing in value year by year.—Particulars, with plan, may be obtained of Messrs. RANKEN, FORD, LONGBOURNE, & LONGBOURNE, Solicitors, 4, South-square, Gray's-inn, W.C; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

IN CHANCERY.—In the Matter of the Settled Estates Acts, and of the Estate subject to the Trusts of the Will of the late William Cordell, esq. deceased, dated 5th March, 1824, as to one undivided third part, and by order of Sale as to the other two undivided third parts, forming together the entirety.—Valuable Freehold and Leasehold Investments.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to OFFER for SALE, at the GUILDHALL COFFEE HOUSE, Gresham-street, E.C. on THURSDAY, the 4th day of AUGUST, at THREE o'clock precisely, in seven lots, pursuant (as to one third part) to an Order of the High Court of Chancery, with the approbation of the Judge to whose court the above matter is attached, the following valuable FREEHOLD and LEASEHOLD PROPERTIES, viz.:—Lot 1. Eleven Freehold Dwelling-houses and Premises, situate Nos. 1 to 10 and 10½ inclusive, Rose's Head-yard, Whitechapel, and at the rear of Nos. 17, 19, 21, 23, 25, and 27, Coulston-street, adjoining, the whole occupying an important area, let on lease for a term which will expire 1879, at the rent of 90l. per annum. Lot 2. An Unexpired Lease of Sixty-Three Years, amply secured upon, and arising out of, the same premises situate Nos. 11, 9 and 12, Minories, in the respective occupations of Messrs. Lowe & Cundall and Mr. John Annis, held for a term which will expire 1883, at a ground-rent of 12l 10s. and let at rentals amounting to 150l per annum. Lot 3. The valuable Leasehold Ruin as Premises, situate No. 2, Houndsditch, opposite Aldgate Church, let to Messrs. Levy, on lease, which will expire in 1879, at a rent of 80l, and held under the Corporation of the City of London for a term renewable every 14 years, at a ground-rent of 13l. per annum. Lot 4. Leasehold Dwelling-houses, situate No. 1, 2 to 5 inclusive, 8, 9, and 10, Cambridge-terrace, Hackney-road, held for a term which will expire Midsummer, 1893, subject to a ground rent of 12l 10s. and let for the whole term at rentals amounting together to 44l. 8s. Lot 5. Five Leasehold Dwelling-houses, Nos. 1 to 5 inclusive, Cent.-e-street, Hackney-road, held for a term expiring 1883, at a peppercorn, and let for the whole term at rentals amounting together to 20l. 6s. per annum. Lot 6. A Leasehold Dwelling-house, with two shops, situate No. 27, Exmouth-street, Clerkenwell, held for a term which will expire 1876 at a ground-rent of 4l. per annum, and let for the whole term at a rental of 36l. per annum, leaving a net profit rental of 32l. per annum for nine years. Lot 7. Two Leasehold Dwelling-houses, situate Nos. 16 and 22, Wakefield-street, Regent-square, in the occupation of Mr. Matthias Lilley and Mr. John Edwards, held for a term which will expire 1914, at a ground-rent of 24l. per annum, and let for the whole term at rentals amounting together to 52l. per annum.—May be viewed on application to the respective tenants, and particulars had at the Guildhall Coffee-house, Gresham-street, E.C.; of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, Solicitors, 24, Great-James-street, E.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

IN CHANCERY. In the matter of the Settled Estates Act, and of the Estates subject to the Trusts of the Will of the late William Cordell, esq. deceased, dated 5th March, 1824, as to one undivided third part, and by order of Sale as to the other two undivided third parts, forming together the entirety.—Valuable Freehold Estates, land-tax redeemed, situate in the parishes of Bark ng and Dagenham, in the county of Essex.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to offer FOR SALE by AUCTION at the GUILDHALL COFFEE HOUSE, Gresham-street, E.C. on THURSDAY, the 4th day of AUGUST, at THREE o'clock precisely, in fifteen lots (pursuant as to one-third part to an order of the High Court of Chancery, with the approbation of the Judge to whose court the above matter is attached), the following valuable FREEHOLD ESTATES, viz:—Lot 1. Grove Farm, situate in the parish of Barking, on the high road from London to Great Ilford and Romford, and close to the Chadwell heath Station on the Great Eastern Railway; comprising an exceeding'y compact residence, with offices and large garden, convenient for stabling and farm buildings, and several inclosures of productive arable and pasture land, containing altogether 19a. 3r. 3p. in the occupation of Mr. John Nelson, a yearly Michaelmas tenant. Lot 2. Two Inclosures of arable and pasture land, situate adjoining Lot 1, containing together 19a. 2r. 34p. Lot 3. Several Inclosures of Arable and Pasture Land, with yard and shed situate near Lots 1 and 2, on the opposite side of the road, adjoining the property of John Philpot, esq. and — Pedley, esq. and containing together 17a. 3r. 4p. Lot 4. Several Inclosures of productive Arable Land, in the parish of Dagenham, and containing together 25a. 0r. 12p. let to Mr. Samuel Seabrook for a term expiring Lady-day, 1866, at a yearly rental of 60l. Lot 5. An Inclosure of Arable Land, situate in the parish of Dagenham, and containing 9a. 2r. 21p. let to Mr. Samuel Seabrook for a term expiring Lady-day, 1866, at a yearly rental of 30l. Lot 6. An Inclosure of Arable Land, situate in the parish of Dagenham, and containing 9a. 2r. 21p. let to Mr. Samuel Seabrook for a term expiring Lady-day, 1866, at a yearly rental of 30l. Lot 7. A small Dwelling-house and outbuildings, together with two inclosures of arable land, containing together 5a. 1r. 2p. situate in the parish of Dagenham, and near to the foregoing Lots and the high road, in the occupation of Messrs. Thomas and John Dunsdon, yearly tenants. Lot 8. A range of Tenements, under one roof, with gardens, situate adjoining the foregoing lot, containing 23 perches, in the occupation of Thomas and John Dunsdon under the same tenancy. Lot 9. An Inclosure of productive Arable Land, in the parish of Barking, presenting a good building site, situate adjoining lot 2, with a considerable frontage to the high road, and containing 3a. 2r. 21p. Lot 10. An Inclosure of sound Arable Land, situate adjoining lots 1 and 11, with a considerable frontage to the high road, and containing 1a 3r 36p. Lot 11. An Inclosure of productive Arable Land, adjoining lot 10, containing 3a. 1r. 2p. Lot 12. An Inclosure of capital Pasture Land, adjoining the opposite side of the road, with a good frontage thereto, and adjoining lot 13, containing 1a. 1r. 31p. Lot 13. An Inclosure of sound Arable Land, in the parish of Barking, a small portion of which is in the parish of Dagenham, containing 3a. 1r. 21p. Lot 14. A small Dwelling-house, with Farrier's Shop and good walled garden, offering an excellent building site, situate adjoining lots 3 and 6, with a good frontage to the high road, and containing 2r. 2p. Lot 15. A Block of Six Tenements with gardens, situate adjoining lot 5 and the Greyhound Inn, and containing 1r. 37p.—May be viewed on application to the respective tenants, and particulars had at the Guildhall coffee-house, Gresham-street, E.C.; of Messrs. HOLLINGSWORTH, TYERMAN, & GREEN, Solicitors, 24, Great-James-street, E.C.; of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

TO ENGINEERS.

MESSRS. FULLER & HORSEY are instructed by the Assignees to SELL by AUCTION, on MONDAY, AUGUST 8th, 1864, at ONE o'clock precisely, on the PREMISES, No. 199 Fulham-road West, Brompton, without reserve, the ENGINEERS' TOOLS of the Best Class, supplied but a few months since principally by Muir & Co., of Manchester, including a 6-inch stroke slotting machine, a 6-inch centre-hand 8-inch lathe, two 5-inch centre single-speed lathes, a 6-inch c-mire screw-cutting lathe, a self acting 6in. 4in. machine, self-acting hand-power planing machine, valuable assortment of screwing tackle, steel tools, flat vices and bench, shafting, leather bands, portable forge, anvils, tools, gas fittings, wood patterns, patent grindstone, a manikin, and other effects.—To be viewed on Saturday previous to the sale, when catalogues may be had on the Premises; of Messrs. REED & PHELPS, Solicitors, No. 3, Gresham-street; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

Secon l Portion of the Surplus Property of the London, Chatham, and Dover Railway Metropolitan Extension Lines.—For SALE by AUCTION, by

MR. VIGERS, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4th, at TWELVE for ONE, in twenty two lots, by order of the Directors, SIXTEEN FREEHOLD HOUSES and SHOPS and FOUR PLOTS of FREEHOLD BUILDING LAND, producing an aggregate rental of 1,000l per annum, viz.—A detached Residence, known as the Eagle House, and two Freehold Houses and Shops, in Cold Harbour-lane, Brixton; a Freehold Message, 6, Avenue-cottages, Camberwell; four Residences, Nos. 88, 90, 92, and 96, Camberwell-road; two Freehold Messuages, Nos. 45, Carter-street, and 10, West street, Walworth; a capital Chandler's and Shop, No. 9 Crown-street, Walworth-road; a valuable Piece of Building Land, with frontages to Newington causeway; a Message in Great Suffolk-street, Southwark; four Freehold Houses and shops, Nos. 8, 9, 10, and 11, Brixton-place, Brixton, and a Plot of Building Land at side; and a valuable corner Plot of Building Land to the Clapham road, adjoining a first class station on the London, Chatham, and Dover railway.—The property may be viewed by permission of the tenants; and particulars and conditions of sale may be had of Messrs. FRESHFIELDS & NEWMAN, Solicitors, 5, Bank-buildings; at GARRAWAY'S and the Estate Exchange, Change-alley, Cornhill; and of Mr. VIGERS, Land Agent and Surveyor, 3, Frederick's-place, Old Jewry.

FREEHOLD PROPERTY FOR SALE by AUCTION, by

MR. VIGERS, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4th, at TWELVE for ONE, by order of the Directors of the London, Chatham, and Dover Railway, a FREEHOLD ESTATE, comprising BERESFORD CHAPEL, SCHOOLS, and DWELLING-HOUSE, the whole let on lease to the Rev. Wm. Lincoln, at the low rent of 90l a year.—Particulars and conditions of sale to be had of Messrs. FRESHFIELDS & NEWMAN, Solicitors, 5, Bank-buildings; at Garraway's and the Estate Exchange, Change-alley, Cornhill; and of Mr. VIGERS, Land Agent and Surveyor, 3, Frederick's-place, Old Jewry.

LEASEHOLD FOR SALE by AUCTION, by

MR. VIGERS, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4th, at TWELVE for ONE, by order of the Directors of the London, Chatham, and Dover Railway Company, a Brick-built MESSUAGE, No. 14, Bluchei-road, Camberwell, let to a yearly tenant at 21l per annum, held for a term of 42½ years from Michaelmas last, at a ground rent of 1l 10s.—Particulars and conditions of sale to be had of Messrs. FRESHFIELDS & NEWMAN, Solicitors, 5, Bank-buildings; at Garraway's and the Estate Exchange, Change-alley, Cornhill; and of Mr. VIGERS, 3, Frederick's-place, Old Jewry.

LEASEHOLD for SALE by AUCTION.—Sutherland-square, Walworth, by

MR. VIGERS, at GARRAWAY'S COFFEE HOUSE, on THURSDAY, AUGUST 4, at TWELVE for ONE by order of the Directors of the London, Chatham, and Dover Railway Company, a substantial brick-built RESIDENCE, No. 13, Sutherland-street, Walworth, let to a yearly tenant at 34l. 4s. annum, held for a long term at a ground rent of 6l. 15s. per annum.—Particulars and conditions of sale to be had of Messrs. FRESHFIELDS & NEWMAN, Solicitors, 5, Bank-buildings; at Garraway's and the Estate Exchange, Change-alley, Cornhill; and of Mr. VIGERS, Land Agent and Surveyor, 3, Frederick's-place, Old Jewry.

THE KING'S HEAD, RYDER STREET, St. James's-square, Piccadilly.—The whole of the sound BUILDING MATERIALS of the above public-house and stabling, comprising an excellent stock bricks, plain tiling, York paving, prime pine timbers, in joists, plates, rafters, quar rings, partitions, panel and ledge doors, sashes, sound floorings, marble slabs, mahogany shop front with plate glass, stoves, mantels, iron stack pipes, and sundries.

ALEX. HUMPHREY will SELL the same, above by AUCTION, on the PREMISES, on MONDAY, JULY 25th, at TWELVE o'clock.—21, Coleman-street, Bank.

CATERHAM, SURREY.—About 2¼ acres of Freehold Building Land, with frontages to two roads, situate on the line now being engineered close to Coulsdon-common, offering a beautiful site for one or more houses.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE-HOUSE, near Guildhall, on TUESDAY, AUGUST 2, at ONE punctually, in one lot, about 2¼ Acres of FREEHOLD BUILDING LAND (land-tax redeemed and tithe-free), possessing a considerable frontage to the road from Coulsdon Common to Chaldon, and also to the top of Farm Chaldon Common to Caterham, one of the most healthy spots on the range of the Surrey Hills. The subsoil is gravel and chalk. The land is now in the occupation of Mr. Banks, of the Fox Inn, Coulsdon Common, who will point out the property, and of whom particulars and conditions of sale may be obtained; also of W. ARMSTRONG, Esq. Solicitor, 33, Old Jewry; and of the Auctioneers, 80, Cheapside.

CAMBERWELL.—To Builders, Land and Building Societies, and others requiring eligible Building Sites within two miles of London Bridge.

MESSRS. DEBENHAM & TEWSON will SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, near the Guildhall, on THURSDAY, AUGUST 18, at ONE precisely, in 81 Lots, seven acres of VALUABLE FREEHOLD BUILDING LAND, situate near the Rosemary Branch, Southampton-street, Camberwell, close to Peckham grove, with frontages to Peckham-grove and Bushwood-street, as well as to capital new roads now in course of formation. The subsoil includes a considerable portion of good gravel and sand, and the neighbourhood is one in which houses of a moderate size let readily at very remunerative rentals; also a neat Freehold House, having ten rooms and garden; and a Plot of Leasehold land, with a frontage of 16½ feet to Bushwood-street.—Particulars and plans are being prepared, and may shortly be had of Messrs. WEST & RING, Solicitors, 3, Charlotte-row, Mansion-house; and of the Auctioneers, 80, Cheapside.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE HOUSE, Cornhill, on THURSDAY, the 28th JULY, 1864, at SIX o'clock precisely, by order of the Importers, &c.:—

Mahogany, 378 logs, Honduras (northern wood) of superior quality
Cedar, 17 ,, ,, and large dimension, just landed
at the West India Docks, ex *Parrot*, from Belize.
Rosewood, 2,700 planks, Rio and Bahia.
1,000 Quebec Pine Planks.
9,500 St. John Spruce Deals, &c.
125 Dantzic Deck Deals.
With Cedar, Box-wood, Fustic, Brazil, Satin-wood, Fiddleback, Bird's eye Maple Plank, &c.
Catalogues in due time, of THOMAS ROBERTS & Co. Brokers, 9, Billiter-street, E.C.

[*For remainder of Auctions see p.* 555.]

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, July 23, 1864.

The Builder.

A JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1121. JULY 30, 1864. PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions which will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of PENSIONERS will take place in NOVEMBER next.—Candidates may obtain forms of application (to be returned on or before 29th AUGUST) at the Offices, 32, Southampton-street, Bloomsbury. Pensions, 24l. per annum for males; and 10l. for females.

A. G. HARRIS, Secretary.

July 23th, 1864.

NEWSPAPER PRESS FUND.—The President, the Right Hon. Lord Houghton.—A Special MEETING of the Members and Subscribers to the NEWSPAPER PRESS FUND will be holden at the FREEMASONS' TAVERN, Great Queen-street, W.C. on SATURDAY, JULY 30, at TWO o'clock p.m. to receive a report from the Committee as to the position of the Fund, and the Balance-sheet for the year; also, to appoint officers for the ensuing year.—By order,

HENRY G. WARREN, Hon. Sec.

6, Beaufort buildings, Strand, W.C. July 8, 1864.

INSTITUTE of PAINTERS in WATER COLOURS will CLOSE their 30th Annual Exhibition THIS DAY, at their GALLERY, 5a, PALL MALL, near St. James's Palace, Daily, from NINE till dusk. Admission, 1s. Catalogue, 6d.

JAMES FAHEY, Sec.

PHOTOGRAPHIC EXHIBITION. — The TENTH ANNUAL EXHIBITION of the PHOTOGRAPHIC SOCIETY is now open from 10 till 6, at the Gallery, 48, Pall Mall. Admission 1s.; Catalogue 6d.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the convenient more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

BILLING'S PATENTS.—CHIMNEY TERMINALS. - THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices, apply to the Manager, Mr. TYLER, 12 Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

COMPETITIONS.

BOROUGH of WALSALL.—To ARCHITECTS.—The Walsall Town Council are desirous of receiving DESIGNS for a TOWN-HALL and GAOL—A premium of 30l. will be given for the Design which in the opinion of the Council is the best, and a Premium of 15l. for that which is in their opinion the second-best; and both these sets of plans are to become the absolute property of the Council. Plans of the site, with statements of the offices and conveniences required, and of the conditions to be observed by the competitors, may be had on application to the Town Clerk—By order, SAMUEL WILKINSON, Jun. Town Clerk.

Walsall, 14th July, 1864.

SUSSEX COUNTY HOSPITAL.—Certain ADDITIONS and IMPROVEMENTS to the BUILDINGS of the SUSSEX COUNTY HOSPITAL being required, Architects are hereby invited to send to the Committee of Management, within three months from this date, Plans, Specifications, and Estimates, in accordance with the Medical Officer's Report and other printed instructions to be obtained from the Secretary.

N.B.—The plans and measurements of the present building can be seen at the Hospital.—By order, ARTHUR VESEY, Secretary.

Brighton, 13th July, 1864.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Kingsdown, near Deal, in the county of Kent, may inspect the Drawings and Specifications at the Coast Guard Watch Room, Deal, or at this Office, between the hours of TEN and FOUR, from TUESDAY, the 2nd, to MONDAY, the 15th of AUGUST, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 16th AUGUST, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Kingsdown."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 26th day of July, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

CROYDON LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—Persons desirous of contracting with the Croydon Local Board of Health for the EXCAVATION and REFILLING of about 12,000 lineal yards of WATER PIPE TRENCHES, in accordance with the specification of Mr. BALDWIN LATHAM, C.E. the Engineer of the Croydon Local Board of Health, can inspect the said specification in the Engineer's Office, in the Town-hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Water-pipe Trenches," are to be delivered at the Offices of the Local Board, in the Town-hall, Croydon, on or before TUESDAY, the 2nd of AUGUST next, ensuing. The Local Board do not bind themselves to accept the lowest or any Tender.

July 16th, 1864. HENRY RICHARDS, Clerk.

CROYDON LOCAL BOARD of HEALTH. To STONE MERCHANTS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the SUPPLY of one thousand tons of Broken GRANITE for road purposes, and also GRANITE and PURBECK CURBS of various moulding, in accordance with the specification prepared by Mr. Baldwin Latham, C.E. the Engineer of the Local Board, can inspect the said specification at the Engineer's Office, in the Town-hall, Croydon, on or after this day.—Sealed Tenders, endorsed "Tender for Curbs," are to be delivered at the Office of the Local Board in the Town-hall, Croydon, on or before MONDAY, the 8th day of AUGUST next. The Local Board do not bind themselves to accept the lowest or any Tender.

July 8th, 1864. HENRY RICHARDS, Clerk.

TO BUILDERS and CONTRACTORS.—STAFFORDSHIRE.—Persons disposed to TENDER for the ERECTION of a POLICE STATION and MAGISTRATE'S ROOM at Tipton, may inspect the plans and specifications, and obtain bills of quantities at my Offices, on and after TUESDAY, the 2nd day of AUGUST, until THURSDAY, the 11th of AUGUST. Sealed Tenders, endorsed "Tipton Police Station," must be delivered at my Offices, on or before the 11th of AUGUST, by TEN o'clock, a.m. A charge of 1l. 1s. will be made for each copy of quantities, but will be returned to all parties submitting Tenders for the works. Neither the lowest nor any Tender will necessarily be accepted.

ROBERT GRIFFITHS, Architect.

County Surveyor's Office, Eastgate-street, Stafford, 20th July, 1864.

HARROGATE.—TENDERS are required for the ERECTION of SIX DWELLING-HOUSES, in Princes street, Harrogate, for J. Hixon, esq. Drawings and specifications may be seen at the Somerset Hotel, Harrogate. Tenders are to be addressed to me, and delivered at the said Hotel, on or before THURSDAY, the 4th of AUGUST. The lowest or any Tender will not necessarily be accepted.

J. H. HIRST, Architect

TO BUILDERS.—TENDERS are invited for the ERECTION of a SCHOOL-ROOM and MINISTER'S HOUSE adjoining Bryndynnon Wesleyan Chapel, Regent street, Wrexham. The plans and specifications may be seen in the Vestry of the Chapel, on the 1st, 2nd, 3rd, and 4th of AUGUST next, from TEN to FIVE each day. The Tenders to be sent to Mr R. WILLIAMS, Park Lodge, Wrexham, in a sealed envelope, marked "Tender for School-room, &c." on or before MONDAY, the 15th of AUGUST. The Committee do not pledge themselves to accept the lowest or any Tender. Security will be required from the contractors for the due performance of the work.

Wrexham, July 25, 1864.

CONTRACTS.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the SPALDING and MARCH LINE (about 19¼ miles long) and STATIONS. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY; where also the working drawings may be inspected, and copies of the general plan and working section, and other information may be obtained, on payment of 3l. 3s. Tenders sealed up and marked "Tender for Spalding to March Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 9th AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross Station, London, 27th June, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE—CONTRACT for FISHING BOLTS and SLEEPER BOLTS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of FISHING BOLTS and SLEEPER BOLTS for this line—about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which form only Tenders will be received), at the Office of Mr. Cubitt, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders sealed up and marked "Tenders for Fishing Bolts and Sleeper Bolts," must be lodged at this Office, before TWELVE o'clock at noon on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross Station, London, N. June 27, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for SLEEPERS. The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for the line—about 19¼ miles in length. Parties disposed to Tender may obtain the specification and forms of tender (on which form only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, 12th JULY. Tenders, sealed up and marked "Tenders for Sleepers," must be lodged at this Office, before TWELVE at Noon, on 2nd AUGUST.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's cross Station, London, 27th June, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—SPALDING to MARCH LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19¼ miles in length). Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received), at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after TUESDAY, the 12th JULY.—Tenders sealed up and marked "Tender for Rails and Fish Plates," must be lodged at this Office before ELEVEN o'clock a.m. on TUESDAY, the 2nd AUGUST, when parties Tendering must be in attendance.

N.B. The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross Station, London, N. June 27th, 1864.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 1st day of AUGUST, 1864, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the EXECUTION of the several WORKS connected with the sewers and drains of the district, mentioned and described in the specification or schedule of quantities prepared by direction of the Board, for the period of one year. A copy of the specification and form of Tender may be obtained at the Office of the Board, upon payment of 10s. which will be returned to persons tendering. All Tenders must be delivered at the Office previous to the time of meeting, endorsed "Tender for General Sewer Works," and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, July 19, 1864.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A meeting of this Board will be held on MONDAY, the 1st day of AUGUST, 1864, at SIX o'clock in the evening, at the Office, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for the CONSTRUCTION of certain BRICK SEWERS, in North-street, Perceval's-buildings and Raven-row, in the parish of Whitechapel, within the said district. Plans, sections, and specifications may be inspected, and further particulars, with printed forms of Tenders, obtained, on application to Mr. FRICKER, Surveyor, between the hours of TEN and FOUR, at the Office of the Board. Sealed Tenders, endorsed "Tender for New Sewers," and in each of which a ten-pound note is to be enclosed, must be delivered at the Office previously to the time of meeting, and any Tender which is not upon the printed form prepared by the Board, and duly signed by the person or persons tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, July 19, 1864

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of High Easter Church, Essex, can see the plans and specification at the Offices of Mr. FRED. CHANCELLOR, Architect, Chelmsford, after the 4th of AUGUST. Tenders to be delivered to the Architect on or before the 12th of AUGUST. The lowest or any Tender will not necessarily be accepted

[For remainder of Contracts see next Page.

CORPORATION of MANCHESTER.—To MASONS, BRICKLAYERS, JOINERS, and OTHERS.—The Watch Committee are desirous of receiving TENDERS for the CONSTRUCTION of a CHIEF FIRE-STATION, in Jackson's row, each trade to be tendered for separately. Plans and specifications may be seen and quantities obtained, on and after MONDAY, the 25th inst on application at the City Surveyor's Office, in the Town-hall, upon the deposit of One Guinea, which will be returned to all parties sending in Tenders Tenders endorsed "Tender for Chief Fire-Station," to be delivered at the Town-hall, on or before WEDNESDAY, the 10th day of AUGUST. The Committee do not bind themselves to accept the lowest or any Tender.—By order,
JOSEPH HERON, Town Clerk.
Town hall, Manchester, July 23, 1864.

CORPORATION of MANCHESTER.—To CONTRACTORS.—The Waterworks Committee is prepared to receive TENDERS for the CONSTRUCTION of a SERVICE RESERVOIR at Prestwich Hills, about 4 miles from Manchester. Plans may be seen, and printed copies of the specifications obtained, on and after THURSDAY, the 21st inst. on application at the City Surveyor's Office at the Town-hall. A charge of Two guineas will be made for a copy of the specification, which will be returned when the Tender is delivered, whether the party tendering obtains the Contract or not. Tenders, endorsed "Tender for Service Reservoir," addressed to the Chairman of the Waterworks Committee, to be delivered to Mr BERREY, at the Waterworks Offices, Town Hall, Manchester, not later than the 3rd of AUGUST next. The Corporation do not bind themselves to accept the lowest or any Tender.—By order,
JOSEPH HERON, Town Clerk.
Town-hall, Manchester, 2nd July, 1864.

TO CONTRACTORS.—The Trustees of the Town, Port, and Harbour of Whitehaven are prepared to receive TENDERS for SEWERAGE and OUTFALL WORKS for the drainage of the said town, and neighbourhood. Drawings and specification, prepared by Mr. HAWKSLEY, Civil Engineer, 30, Great George street, Westminster, may be seen at his Office, and at the Office of the Secretary to the Trustees, at the Town Hall, in Whitehaven (where bills of quantities and other particulars may be obtained), on and after MONDAY, the 1st day of AUGUST next. Sealed Tenders, addressed to the Secretary to the Trustees, must be delivered at his Office, in Whitehaven, on or before MONDAY, the 22nd day of AUGUST, but the Trustees do not pledge themselves to accept the lowest or other Tender, although they will do so unless there should appear to them to be sufficient reason for the contrary
By order, JOHN COLLINS, Secretary to the said Trustees.
Queen street, Whitehaven, 2nd July, 1864

TO QUARRYMEN, STONE MERCHANTS, and OTHERS.—The Dover Local Board invite TENDERS for the SUPPLY of
1,000 LOADS of BROKEN FLINTS,
500 TONS of BROKEN GRANITE,
500 FEET LINEAL of KERB,
150 FEET LINEAL of CHANNELLING, and
400 SQUARE YARDS of BEST YORKSHIRE PAVING.
The flints to be broken to a size to pass through a 2-inch mesh, are to be delivered at the rate of between thirty and forty loads per week, or in such other quantities as the Surveyor of the Board may direct, from the date of acceptance of the Tender. The granite, to be blue Guernsey broken granite, to be broken to the same size. The whole to be delivered before the 3rd day of SEPTEMBER next. The kerb to be Aberdeen or Guernsey granite, 12 inches on face by 7 inches deep, dressed rectangular. The channelling to be of the same granite, 10 inches on face by 9 inches deep, dressed on face and on one side, and to square and shoot ends. The whole to be delivered before the 3rd day of SEPTEMBER next. The Yorkshire paving stone to be of not less than 2½ inches in thickness, to be delivered before the 1st day of OCTOBER next.
The Flints are to be delivered by the Contractor at such part or parts of the borough as the Surveyor may direct; and all the other materials contracted for into yards to be provided by the Local Board, on the Quay at Dover; and all the deliveries are to be subject to the approval of the Surveyor, who is to have the power to reject any that are not in his judgment in accordance with the terms of the contract. The price to be named is to include freight, labour, and all other charges whatever, except harbour wharfage and local dues at Dover, which will be paid by the Local Board. Payment will be made within two months after the date of the certificate of the Surveyor that any delivery is in accordance with the terms of the contract. Tenders may be made for all or any one or more of the articles above named, and the Local Board shall be at liberty to take any one or more of the materials named in any Tender, without the necessity of accepting all named in such Tender. Any person whose Tender is accepted will be required to execute a deed of contract in accordance with the above terms, to be prepared by the Town Clerk, at the expense of the Local Board; and further particulars may be obtained by inquiry at the Surveyor's Office Tenders, in sealed covers, marked "Tender for Street Materials," are to be delivered at this Office, on or before WEDNESDAY, the 3rd day of AUGUST instant. Each Tender must be accompanied by a letter from one or more responsible persons, undertaking to execute a bond in double the amount of the Tender, for the due performance of the contract. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,
KNOCKER, Town Clerk.
Local Board Office, Dover, July 22nd, 1864

TO BUILDERS and CONTRACTORS.—Parties desirous of TENDERING for the ERECTION of THREE HOUSES at Kentish Town, can obtain full particulars, and see the drawings, at the Office of Mr J. BELCHER, 5, Adelaide-place, E.C any day between the hours of TEN and FOUR Tenders to be delivered on WEDNESDAY, the 3rd of AUGUST, at TWELVE o'clock. The lowest Tender will not necessarily be accepted, but it will be necessary for the builder whose Tender is approved to give sufficient guarantee, and to provide proper sureties, for the due performance of the works.

TO BUILDERS.—GLEWSTONE SCHOOL CHURCH, in the Parish of Goodrich, near Ross.—Plans and specifications may be seen at the house of Mr. WILLIAM MORGAN, Church House, Goodrich; and TENDERS to be sent to my Office, as below, on or before the 13th day of AUGUST. The lowest or any Tender not necessarily accepted.
JOHN V. SEDDON.
12, Park street, Westminster.

TO GAS ENGINEERS, SMITHS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, on TUESDAY, the 9th day of AUGUST next, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for twelve months for the SUPPLY of STREET LAMPS, and the several parts thereof, and for the Works connected with the fitting and fixing thereof in the said Parish, as may be required and directed. Further particulars, with the form of Tender, may be had on application at this Office. Sealed Tenders, signed by the proposed Contractor, with the name and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock on the said 9th AUGUST next. The contract deed will be provided by the Vestry. No Tender will be received or attended to unless made on the printed form; and the Vestry do not bind themselves to accept any Tender.—By order,
CHARLES LAREE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, July, 1864.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a PARSONAGE-HOUSE and STABLES, &c., in Trinity Church District, Oswestry, Salop, may see the plans and specification at my Office, The Lyden, Oswestry, from THURSDAY, the 11th of AUGUST, to THURSDAY, the 18th, inclusive. The lowest Tender will not necessarily be accepted
W. H. HILL, Architect and Surveyor.

MIDDLESEX and ESSEX TURNPIKE ROADS.—To PAVIORS.—Notice is hereby given, that the Trustees of these Roads are willing to receive TENDERS for RELAYING, at Stratford, Essex, each side of Broadway, about 2 one yards of Old CARRIAGEWAY, at per yard superficial, and also for RELAYING the CURB required thereto, at per yard run. Specification of such intended work may be inspected at this Office, on and after MONDAY next, between the hours of TEN a.m and TWELVE at noon. Letters directed to the Trustees, respectively sealed and endorsed "Tender for Relaying Old Carriageway," are to be sent to this Office, on or before WEDNESDAY, the 10th day of AUGUST next The Trustees do not bind themselves to accept the lowest or any tender.
GEORGE DACRE,
Clerk and Solicitor to the said Trustees.
Turnpike-road Office, Bow, Middlesex, 8, 25th July, 1864.

TO GAS WORKS CONTRACTORS, ENGINEERS, and IRONFOUNDERS.—The Llandilo Gas Company (Limited) are prepared to receive TENDERS for the ERECTION of the necessary IRON-WORK, consisting of a 30 feet Gas-holder, Retorts, Condensers, Purifiers, and about 1,500 yards of Cast-iron Gas-pipes.—Plans and specifications may be seen at the Office of the Company, Llandilo, on and after the 1st of AUGUST next, or on application to Mr. E. BAGOT, Llanelly, and sealed Tenders, endorsed "Tender for Gas works," are requested to be sent in, addressed to the Secretary, on or before MONDAY, the 15th of AUGUST next. The Company do not pledge themselves to accept the lowest or any of the Tenders By order,
THOS. EVANS, Secretary.
Llandilo, July 19th 1864.

TO BUILDERS.—TENDERS are required for the ERECTION of an HOTEL, Stabling, and Tap, on the site of the present Bell Hotel, Southgate street, Gloucester. Drawings, specifications, and conditions of contract, may be seen at the Office of the Architect, Mr. HENRY JAMES, Eastgate-street, Gloucester, on and after the 4th of AUGUST next. The lowest or any Tender will not necessarily be accepted.—By order of the Provisional Directors.
THOS. TAYNTON, Secretary pro tem.
Gloucester, July 20, 1864.

BROKEN GUERNSEY GRANITE.—MIDDLESEX and ESSEX TURNPIKE ROADS.—Notice is hereby given, that the Trustees of these Roads are willing to CONTRACT for 600 cubic yards of NEW BLUE GUERNSEY GRANITE, of the best and hardest quality, broken to gauges not less than of two inches and one half an inch, and not less than one inch and one-quarter of an inch The stones after having been broken, must be passed through a screen of one inch and one quarter of an inch gauge, and all stones larger or smaller than the above dimensions will be rejected The broken granite is to be delivered on or before the month of OCTOBER next, alongside the wharf of Mr Barrell Ford Bridge, Ilford Essex. The Trustees to be at the expense of unloading the barges Payments will be made for the granite contracted for, subject to all the conditions having been fulfilled, on the 25th of JANUARY next. Tenders, directed to the Trustees, at this Office, respectively sealed and endorsed "Tender for Broken Granite," accompanied by a sample stone of the quality proposed to be supplied, are to be sent to this Office, on or before WEDNESDAY, the 10th day of AUGUST next, otherwise the Tender will not be considered The party tendering will be required to give an undertaking to truly and punctually perform the conditions of the Tender, under the penalty of £20, as liquidated damages. The Trustees do not bind themselves to accept the lowest or any offer that may be made to them.
GEORGE DACRE,
Clerk and Solicitor to the said Trustees.
Turnpike-road Office, Bow, E. July 26, 1864.

WANDSWORTH, SURREY.—OAK FENCE.—Persons willing to CONTRACT for PROVIDING and FIXING a new OAK FENCE on the Melrose Hall Estate, Westhill, Wandsworth, for the Royal Hospital for Incurables, may see the drawings and specification at the Office of Mr. W. F. GRIFFITH, Architect, 14, Guildford-street, W.C. on and after SATURDAY, the 30th of JULY, inst between the hours of NINE and FOUR o'clock.—Tenders to be delivered on or before FRIDAY, the 5th of AUGUST next, by THREE o'clock, sealed, endorsed, and addressed to me. The lowest or any Tender will not necessarily be accepted.
FREDERIC ANDREW, Secretary.
10, Poultry, E.C. July 27, 1864.

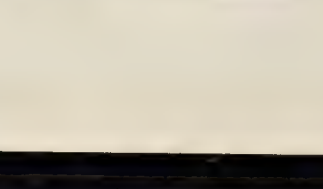
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For covering Flat Roofs, Paving and Flooring of every description, specially in places subject to damp and vermin. This Asphalte is now extensively used for making Blocks (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c., apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c with instructions to lay it down.

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The cheap country made article is sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality Superfine and fine Plaster unequalled. Good plaster saves labour and vexation.

ORGAN.—TO BE SOLD a Bargain, a powerful Six-stop Finger ORGAN, new, containing open diapason CC to A in alt, dulciana, principal, Stopped diapason bass and treble, principal and flute, two octaves of pedals, movement to stops, foot and hand blower to bellows. General swell and handsome Gothic case. Size, 9 feet 3 inches by 5 feet 9 inches by 2 feet 8 inches Acknowledged by professors as being very superior in tone, touch, and workmanship.—To view, &c. apply by letter, to Mr W DENINGTON, 10, Price's-terrace, Westminster-road, Lambeth, London, S.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.


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ROBERT MACLAREN & CO.
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GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

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LEAD MERCHANT, Brass Founder, and Manufacturer of Water Closets. Water-closets fitted with Underhay's Patent Regulator and Supply Valve. Pumps for deep wells; Pumps on planks; Patent Screw-barrel Cocks for high pressure; Engineers' Brass Castings, Railway Axle Brasses, Patent Bearings, and Railway Fittings of every description.
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IMPROVED GAS VALVES,
With Wrought-iron Pinions.
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List of prices, with full dimensions of all sizes up to 36 in. to be had on application.
These Valves are all proved on both sides to 30lb. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun-metal faces.
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ENGINEERS
Near Grange-road, Bermondsey

R. FOX, 5, Conant-place, West-India-road, E. Contractor for laying Dewaux's thick Vieille Montagne Roofing Zinc (on the new system introduced by Mr. Edmeston, Architect to the Vieille Montagne Zinc Mining Company, of Crown-court, Old Broad-street, E.C.) by which durability and great neatness of work are obtained; Sash and Skylight Maker. All kinds of Ornamental and other Zinc Work executed in the best manner.

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ELDRIDGE'S CONTRACTORS and IRONMONGERS' COST PRICE BOOK, 2s. 6d
ELDRIDGE'S BRAZIER'S and TINMAN'S GUIDE, 5s.
Address, T. ELDRIDGE, 54, Murray-street, City-road, London.

TO BUILDERS, CONTRACTORS, &c.—FOR SALE, a DEAL SAWING FRAME and SAWS, complete, and a Circular-saw Table, with Saws, Concave and Grooving Saws, Moulding Blocks, with Cutters for Beads and Sash bars, and fitted with a Set of Patent Boring Bits. The whole in first-class order. Made by Chambers, London, twelve months since.—For price, &c. address M. CRITCHLEY, Luton, Beds.

WANTED, a PAIR of 20 or 25-HORSE HIGH-PRESSURE ENGINES, or One Engine from 30 to 40-Horse Power Horizontal preferred.—Apply to Mr. BAKER, Canons' Marsh, Bristol.

STEAM CRANES, STEAM WINCHES, STEAM PILE ENGINES, Vertical and Horizontal Portable ENGINES, Contractors' LOCOMOTIVES, and General PLANT, made by J. CAMPBELL EVANS, East Greenwich.

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IMPROVED SMOKE-CONSUMING APPARATUS,
For CHURCHES and LARGE PUBLIC and OTHER BUILDINGS;
Consumes the Smoke, Warms the Building with pure Atmospheric Air, and saves Coal and Labour;
And of the APPARATUS with PRISMATIC TUBES,
For PRIVATE HOUSES, OFFICES, WARDS of HOSPITALS, &c.;
Saves 50 per cent. in Fuel, cures Smoky Chimneys, shows always a Cheerful Fire, and one Fire will warm other Rooms.
HEATING APPARATUS upon the most approved Principles of Hot Water, Steam, &c.
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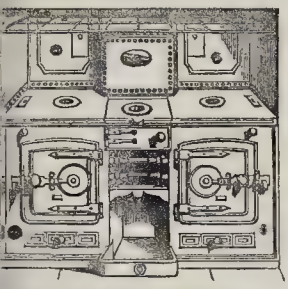
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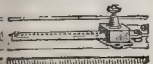
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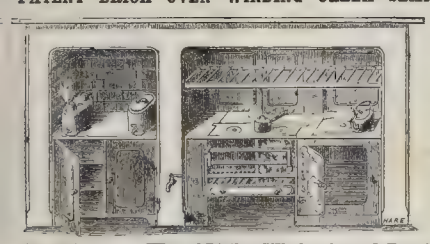


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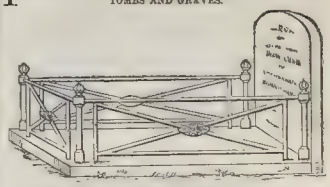
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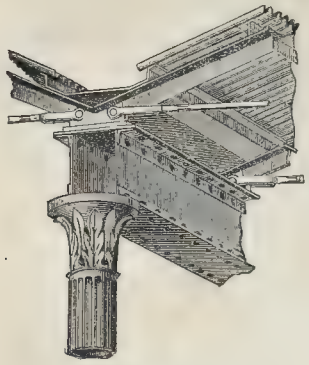
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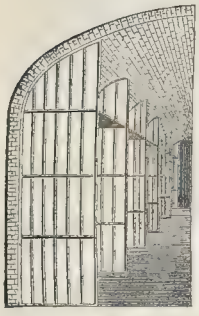
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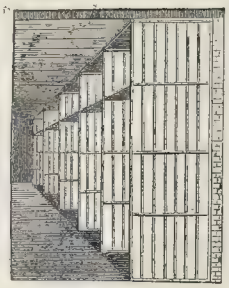
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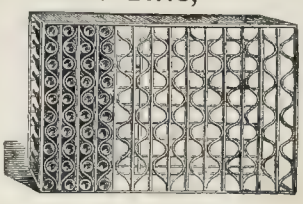
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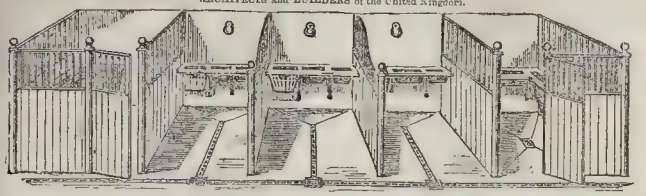
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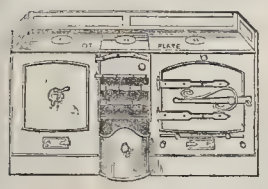
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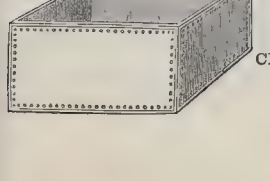
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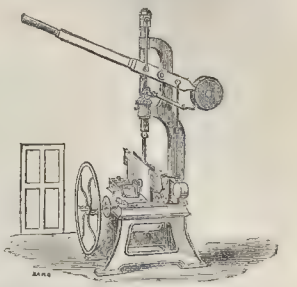


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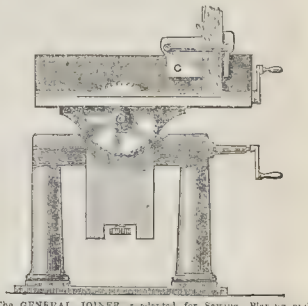
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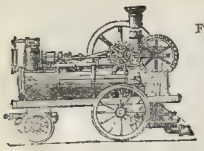
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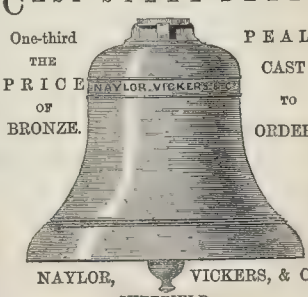
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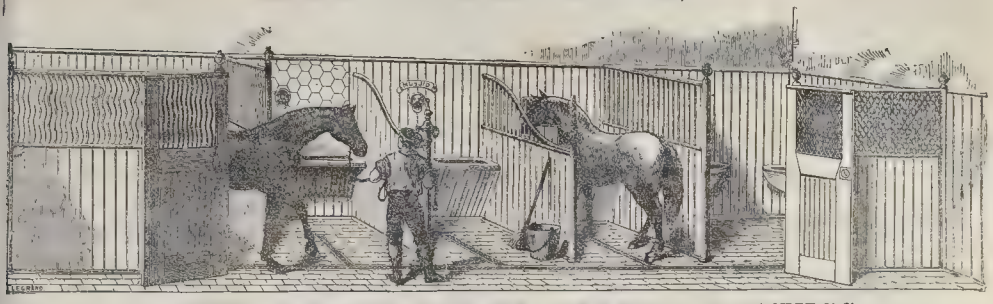
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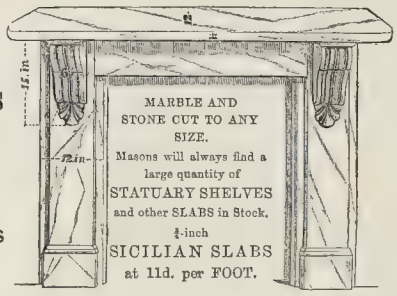
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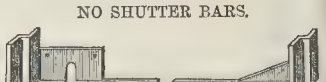
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VOL. XXII.—No. 1121.

*The Design and Construction of Harbours.**



VER since the successful erection, in 1810, of that remarkable work the Bell Rock Lighthouse, the name of Stevenson has been as intimately associated in the public mind with what may be termed "civil marine engineering" as that of the similar but differently spelt name with railway engineering. There is, we believe, a saying that a banking-house never lasts for more than three generations. A frugal, hardworking man, taught in the painful school of adversity, founds a house which is often dilapidated by his children, who are brought up to look at life through fine carriage windows. Successive alternate upper middle-class generations often vibrate like a pendulum between wealth and poverty. A similar observation can be made with regard to manufacturing mechanical engineers who, if at all successful, generally accumulate much wealth. It is but seldom that the second or third generation continues a difficult business of this kind with the same success as the original founder. Civil engineers who, as a rule, do not undertake contracts, do not—generally, at least,—accumulate so much wealth. Their descendants, free from the allurements of too much pudding, and naturally attracted by the interesting nature of the work, generally follow the family profession. Even on the supposition that there be only average abilities to start with, the aid and counsel of the parent directing the education, tastes, and first start in life of the son, or near relation, generally ensure success, if only acting in combination with fair conduct. And then, as the Germans say, "*Wem Gott ein Amt gibt, dem gibt er auch Verstand*;" and early practice, even if it do not make perfect, certainly gives a long start in the race of life. We may thus now see many successful civil engineers whose profession has been an heirloom in their families ever since there was such a thing as engineering.

But even without this being the case in the source of the work now before us, as we always look upon it as a good thing when practical men write about their practice, we should regard this book with pleasure. We hold it to show almost a want of principle, at any rate a narrow selfishness, that men engaged in large and important scientific undertakings should not put some of their store of knowledge on record for the use of others and other generations. It is a great loss, a loss even in material wealth, when a man of this kind is gathered to his fathers without having recorded some of the knowledge he has gained. His ground has perhaps to be gone over again by others, at great expense of time and money, causing losses that can scarcely be directly or indirectly estimated. We are now thinking of more than one engineer who has illiberally kept to himself the result of expensive experiments. But this reproach cannot be addressed to the builder of the Bell Rock Light-house, nor to Messrs. T. & A. Stevenson, who have worthily done, in this and more practical ways, what we think is a duty to the country. Several excellent works have proceeded from their pens, amongst which we may mention the rudimentary treatise on light-houses, by Mr. Alan Stevenson, and a work on lighthouse illumination by Mr. Thomas Stevenson. The book now before us is by the last gentleman. It is substantially a reprint, but with many additions, of the article on harbours in the "Encyclopædia Britannica." It is stated by the author that the late Professor Hosking intended to republish that article, in company with others from the "Encyclopædia," "as an independent treatise on civil engineering and the constructive sciences," but, owing to the death of the professor, that project was given up, and Mr. Stevenson now publishes the article by itself, and in an improved form. The work begins by a classification of the different kinds of harbours into "either havens for the protection of ships during storms, or as ports for commercial purposes." The difficulties to be encountered by the engineer may be said to generally increase with the size of the works he undertakes. At any rate, there is much more disaster through any false step. For this reason, there is a much smaller field for ingenuity, and a greater demand for judgment, as one advances from the designing and construction of small machines, towards those of larger engines, and to the still larger constructive works. Designing harbours is one of the most difficult branches. It would be impossible, in searching for precedents of work, to find perfect identity in the physical peculiarities of different places. One has to inquire as to the most economical design, sufficient for the class of shipping to be accommodated—exterior works,—and suitable to the local requirements of the station—interior works. Mr. Stevenson does not enter much into details as to the inner works of harbours, "as from their situation they are necessarily protected from heavy seas, and are consequently more nearly of the same character at different harbours than the exterior works, the nature of which must vary more or less with every locality."

The exterior works of harbours are classified under:—Harbours of refuge and anchorage, breakwaters, deep-water and tidal harbours for commercial purposes, canted or curved piers, straight piers, and quays or wharfs. The various conditions determining the general character of the works are, the kind of shelter of the situation; the action of the waves with regard to the situation; whether it is necessary to protect the berthage by means of a curved or a canted pier; whether it is necessary to inclose the space of water between two piers inclined to each other; and whether recourse must be had to a "compound harbour," or one harbour within another, in which "the outside waves are first reduced by expansion into the area of the outer or stilling harbour." After settling the general character of the works, the details adapted to the local characteristics have next to be considered. The work is thus devoted to an examination of the detail questions affecting the construction of harbours, such as the geological features of the shore, its exposure, the local force of the waves, the range of the tides, the depth of water, the proximity of deep water to the pier itself, and the angle made by the coast-line with the direction whence arrive the heaviest waves. Mr. Stevenson draws the important inference, from his own observations and those of others, that in exposed situations mud cannot repose near the surface, and that, therefore, if "we find in front of a proposed harbour that mud reposes within a few fathoms of the surface, we have in that fact certain ground for concluding that our works will never be assailed by a very heavy sea." As the substance of his article on the generation of waves, he considers that "the most exposed coasts may therefore be regarded, *cæteris paribus*, as those on which the waves generated in the line of maximum exposure come dead upon the shore." Smeaton is here quoted as placing the force of the waves as "subject to no calculation;" and Mr. Stevenson endeavours to form a more accurate estimation of those forces thus designated by "our greatest marine engineer." As showing the enormous power of the waves of the sea may be cited the instance that at Bishop Rock Lighthouse, "a bell was broken from its attachments during a gale in the winter of 1860, and at Uist a door was broken open, at a height of 195 ft. above the sea." Blocks of 50 tons weight have been moved by the sea at Barrahead, one of the Hebrides. The ultimate strength of any sea-works must be in a great measure determined by the actual local force of the waves, and the importance is clear of measuring this force in order to obtain a point of departure. Mr. Stevenson has used for this purpose a marine dynamometer, consisting of a cast-iron cylinder bolted to the rock where the experiments are to be made. Within the cylinder is attached a strong steel spring, abutting against a number of rods sliding in the cylinder. To these rods is fixed a disc against which the waves impinge, and communicate motion to the rods by compressing the spring. Rings of leather slide on the guide rods, and indicate how far the rods have been pushed back. With such instruments, more or less modified to suit special circumstances, Mr. Stevenson has made a large number of observations, dating from 1843. He thus, January 12th, 1848, found that a very heavy swell exerted a force of no less than 5,032 lb. to the square foot.

The use of these instruments was attended with certain difficulties,—leaving alone some complications in their construction. In the first place, it was not found desirable to select a site for the observations on a very low level, "as it has not unfrequently happened, during a gale, that for days together no one could approach the dynamometer to read off the result, and to readjust the indices to zero." The use of a heavy spring is also attended with the objections that, without subsequently testing it, we could not be certain that it had not taken a permanent set. In 1858, the author made a series of experiments at Dunbar, which were continued till the completion of the new sea-wall, in order to ascertain the relative forces exerted by the waves at different levels. The various dynamometers attached to the old *curved* sea-wall had necessarily to be sunk nearly flush with the masonry. In order to check the indication of the leather rings, holes were made in the under-side of the rod, and filled with small shot, which were expected to drop out when the rod was pushed so far out as to leave them unsupported. This plan did not answer, and the use of a cylinder of wax, to be scratched by a pin, was proposed by a friend of the author. It seems to us that a certainly simpler, and probably more efficient, marine dynamometer might be made for these important purposes. It could consist of a bored out cylinder fitted with a plunger, attached to the disc intended to receive the impact of the waves. Behind the plunger, and filling the portion of the cylinder behind the plunger, would be water, and the piston could be kept tight by means of an elastic diaphragm, attached to the piston itself, and to a cover at the back, thus forming the two joints. The water could then communicate with a metallic gauge, such as Bourdon's or Schaefer's. The pressure given to the water would thus be indicated by the hand of the gauge, which could be made self-registering, as is often the case with metallic hydraulic gauges. This instrument would have another great advantage, inasmuch

* The Design and Construction of Harbours. By Thomas Stevenson, F.R.S.E. Reprinted and enlarged from the article "Harbours," in the eighth edition of the "Encyclopædia Britannica." Edinburgh: Adam & Charles Black. 1864.

as the movements of the index could be seen from afar by means of a telescope, while the maximum results could be recorded by the fixed hand. It is scarcely possible to prognosticate in advance the efficiency of anything of this kind, but our idea is perhaps worth the consideration of Mr. Stevenson.

The true cause of such dangerous breaking waters as the Bore of Duneansby, and the Merry Men of Mey in the Pentland Firth, is given to be "the swell of the ocean encountering an opposing tidal current." Mr. Scott Russell's, statement, that "he has never noticed a wave so much as 10 ft. high in 10 ft. water, nor so much as 20 ft. high in 20 ft. water, nor 30 ft. high in 5 fathoms water; but he has seen waves approach very nearly to those limits," is here quoted with approval. The depth of water for some distance in front of a work may thus be said "to be the ruling element which determines the amount of force which it has to resist." The waves exert their destructive influence by the propagation of vibrations, by the direct influence of the fluid on the back joints of the face stone of the quay, by the sudden condensations and expansions of air in the hearting, and by the hydrostatic pressure of the water which may be forced through the seawall. Very curious instances are cited of damage resulting from rarefaction of the air outside the masonry, produced by the sudden back-draught caused by the relapse of a heavy wave after it has broken against a structure. The entrance-door of the Eddystone Lighthouse has thus been driven outwards,—though secured against the outside by strong bolts—by the atmospheric pressure acting from the inside of the tower. Stones are thus found to suddenly start from the faces of sea-walls from this cause. The great importance of a high specific gravity in the quarries to be used for harbour purposes, has led Mr. Stevenson to give a table of the specific gravities of different kinds of rock. He obtained the amounts very expeditiously by means of a spring balance, from which was suspended the specimen, the reading noted, and after being immersed in water, the diminished weight is again noted. We should say that the spring itself should be occasionally tested, in order to be certain that its elasticity had not been affected.

The great importance of a high specific gravity in the materials for sea-works, is clearly shown further on in a comparison between the requirements of sea and land architecture. The perfection of marine masonry would be attained in the construction of a pier so that, "on the abstraction of a stone at the bottom, the whole vertical section of masonry should at once sink so as to fill up the void." The lower courses would then be kept in place by the unreduced weight of the upper portions. In land architecture just the contrary is obtained, and some of the lower stones of a wall may often be pulled out without endangering the structure.

As showing the necessity of a good "loose," or point of departure, in a harbour, the digest of 266 wrecks, taken from the Harbour of Refuge Commission report, is here given. The table proves that more than one-fifth of the whole took place on either entering or leaving the port; and if to this be added the vessels damaged on piers through insufficiency of the ropes, it is seen that some of the greater perils of the sea have actually to be encountered in or near the port. In the article on docks an inquiring mind may learn "what is a graving dock;" and we hope that Lord Robert Cecil will take an early opportunity to call the attention of his parliamentary friend to this source of information. Those who wish to dive deeper will find an excellent comparison between the relative advantages of slips and graving docks. We find here a contradiction to the general statement that the *teredo navalis* is of recent appearance on our shores. It appears that they were unpleasantly known in Scotland upwards of 300 years ago, and that "they were then firmly believed to be young sea-fowl, of the kind called *klaiks*. Mr. D. Stevenson has directed attention to the fact that woody fibre is eaten by the worm, though the outer skin had been protected by creosoting. "At Scrabster, Leith, Invergordon, and other places, where the timber was thoroughly creosoted, it has been very much destroyed by the worm." In other places, however, this has not been found the case.

One of the most important and interesting problems of the day, involving vast interests, is the question as to the durability of cast and wrought iron when in contact with sea-water. Mr. Stevenson thinks that, "where there is room for choice, neither cast nor malleable iron should be used as a *principal* constituent of sea-works which are to be so deeply submerged as to become difficult of inspection or repair." There is much too little recorded experiment on this question. From an examination of a cannon-ball, probably about three centuries old, Mr. Stevenson concludes that upwards of $\frac{3}{4}$ of an inch in a ball $4\frac{1}{2}$ inches in diameter, are oxidised within a century, the material being placed so as to be alternately wet and dry. According to Mr. Mallet's experiments on cast-iron immersed in clear salt water, only from 1-10th to 4-10ths in depth, in castings 1 in. thick, would be destroyed in a century. Mr. T. Stevenson has made some remarkable observations on certain cast-iron gratings fixed to the Bell Rock Lighthouse, completed in 1810 by Mr. R. Stevenson. "Many of these gratings, which are not constantly immerged, are now decayed in different places, cavities having been found fully half an inch deep; thus giving 1 in. to the century for castings 1 in. square." The important circumstance was observed that the decay is very much confined to parts where there have been air-holes. Once the water gained access to these holes it would be retained, and the effects of constant immersion would be locally produced. This points to the especial importance of avoiding blow-holes in castings exposed to the action of sea-water, as also to the necessity for the absence of any hollows in which the water might lodge. But, even with an originally perfectly sound casting, Mr. Stevenson found its specific gravity was reduced to 5·63, and its transverse strength from 7,409 to 4,797 lb., without showing any external appearance of decay. Another apparently sound casting was found to have lost nearly half its strength in about fifty years. Iron in the form of borings, mixed with gravel to form a concrete, bids fair to be of great use. It has been introduced by Mr. Leslie at the Stanraer pier; and a careful account of the composition and application of this concrete is given in a letter from the resident engineer of those works. This is clearly, in its way, an application of the old "rust joint" used from the beginning for steam-joints, and for the composition of which such minute directions were given by Watt. After two months and a half only, the layers of borings used at Stanraer were found caked into a hard mass, and particles of gravel were seen adhering to the sides of the layers, thus showing that the concretionary influence of the borings is extending, and will in all probability, in course of time, completely bind the intervening layers of gravel." The gravel was also found very strongly coloured. The last chapter is on miscellaneous subjects relating to harbours; such as the deposits of silt, the movement of heavy shingle by the surf, the shoaling of natural bays, the cause of inclosed harbours keeping open, the efficiency of back-water scouring, artificial scouring, the duration of scouring, the effective velocities of currents, dredging, dredging in exposed situations, the removal of silt by pumping. A proposition here examined is that the commercial value of harbours or rivers probably increases as the cubes of the depths of water. An interesting diagram of the height of the waves at Lybster Harbour is given for the purpose of graphically showing the suddenness of the gales visiting our eastern coasts, as also the comparative eligibility of the summer and winter months for carrying on marine works. The highest waves are those in November and December, and the lowest from May to October. Lighthouses are next briefly treated on. A suggestion by the author that gas-pipes ought to be laid out "to any inaccessible place, the position of which required to be marked by night," is carried out on the Clyde, near Port Glasgow. The gas, kept constantly burning, is raised and lowered as required by means of stopcocks on the shore. Suspension piers, Mr. Mitchell's screw piles and screw moorings, fenders, moving hauls, are briefly described, and the advantages of two entrances to a harbour are briefly set forth. The Bill brought into Parliament by the President of the Board of Trade, and passed, for granting for the construction of harbours, loans not in any one case exceeding 100,000*l.*, at the rate of $3\frac{1}{2}$ per cent., appears to be mainly a consequence of Mr. Stevenson's article in the "Encyclopædia Britannica."

This work is undoubtedly of great value; it conveys a large amount of information, expressed very clearly. It is by no means abstruse, and an intelligent member of a Parliamentary committee on docks and harbours might with advantage spend a couple of days in reading this work, and thus at least learning something more explicit about a graving dock than merely its connexion with ships. This small work also contains the results of a large amount of experimental observation, against which, however, we have to make an occasional objection, that the means of making these observations were scarcely so precise and accurate as we could wish. The text is illustrated with ten plates of different marine works. These illustrations, though of course drawn to scale, are on too small a scale to be of much real use. The value of works like these increases in a direct ratio with the size, and completeness of, and number of dimensions on, the drawings. Little engineering and architectural drawings are, as some one has said, like little birds, the sex of which it is impossible to ascertain. We should also have been glad to see this work more completely indexed. In these fast times, in which, unfortunately, every one is in more or less of a hurry, an index is of great importance, and an alphabetical index is scarcely sufficient.

THE THAMES EMBANKMENT.*

FOR that personification of the constituency of the newspapers, "the general reader," information hitherto given respecting the Thames Embankment, may, by some writers, be deemed sufficient. But the columns of the *Builder* will be expected to afford particulars of other portions of the comprehensive design than the mere river-wall between Westminster and Whitefriars, and to describe those numerous and varied features of plan, and contrivances in construction, which the work of the two contracts now in hand presents. The entire scheme of the Embankment not only includes both sides of the river, but is connected as well with the sewerage, as with street-improvements in the City and the western part of London, more important than have been previously undertaken in similar period of time; and before looking at the separate landing-stairs and steam-boat piers designed, and structural features of the portion of the undertaking in progress, we may do well to note what were the intentions, so far as we can gather them, of the legislation of 1862 to which we referred in our last, and the proceedings of the Metropolitan Board following thereon, as well as the steps that were taken in the course of last year.

"The Thames Embankment Act, 1862," did not include the new street to the Mansion House: this was provided for by an Act of the following year. In 1863, also, an Act for a portion of the Embankment of the south side was passed; and notice was given of application to Parliament for powers to take additional land in Stangate and Palace New-road. In both years, reports appeared from the Commission originally named in 1861, and from Mr. Bazalgette, on the Southern Embankment; and, in connexion with the Northern Embankment, on improvements that had not been included in the Act of 1862, which has been named.

This Act of 1862 authorised works comprising not only the length of embankment since contracted for, but a viaduct to commence at the eastern boundary of the Temple, and to terminate near to the western side of Blackfriars Bridge; also a roadway 100 ft. wide on the embankment, and 70 ft. on the viaduct; a transverse, or crescent-formed, approach-road of not less than 40 ft. in width, and a gradient not steeper than 1 in 30, communicating with Surrey-street, Norfolk-street, and Arundel-street, which were to be extended; a street from the east side of the Middlesex end of Hungerford Bridge, to terminate in Wellington-street South, and to communicate by short streets with Villiers-street and Buckingham-street; a street joining Whitehall-place with the before-mentioned new street, near to George-street, Adelphi; a street from Whitehall, opposite the Horse Guards, through Whitehall-yard, to the Embankment near Whitehall-stairs; and lastly the reclamation and inclosing of the foreshore between the present bank of the Thames and the new line. Certain land in the parish of St. Margaret's, Westminster, however, was not to be taken without consent; and there were many other restrictions and stipulations.

The Act gave power to, and required, the Conservators of the River Thames to take from the bed of the river, and to deposit, at the cost of the

* See p. 537, *ante*.

Board, materials for the Embankment, when applied to. All the land reclaimed from the river, on the south of the streets described as running to Wellington-street, and Whitehall-place, not required for streets or roads "nor otherwise specifically appropriated" by provisions of the Act, "and lying between an imaginary line drawn from the eastern boundary of the houses on the east side of Cecil-street to the Embankment roadway on the east, and the Crown lands on the west, and the Embankment roadway on the south, together with the lands" on the southern side of the approach-road before referred to as connected with Norfolk-street, Surrey-street, and Arundel-street, was to be vested in the Board and maintained as recreation-ground; but, subject to provisoes, the Board were allowed to grant in perpetuity, or for a term, the reclaimed land to any owner of ground in front of which the roadway would pass.

Generally, as regards the lands acquired by the Board, and not wanted for the purposes referred to in the Act, or specially excepted, the Board might lease the ground and dispose of the ground-rents, or might sell. But before disposing of such lands, the Board were first to offer to sell them to the owners of the ground from which the lands were originally severed, the price being, in case of dispute, settled by arbitration.

It was not to be lawful to use any locomotive engine propelled by steam, along the streets or roadways. Nevertheless, an Act for the construction of an underground railway in the Embankment now seems likely to be obtained.

No building was to be erected in front of the ground of the Temple, other than porters' lodges; and, there, the ground reclaimed was to be vested in the Societies of the Temple: a private landing-place was to be constructed by the Board; but other compensation was not to be claimed.

Land belonging to the Duke of Northumberland, other than that required for the streets in continuation of Whitehall-place and Northumberland-street respectively, was not to be taken without consent; and no building, except with consent, was to be erected upon the lands taken, or on those coloured green upon a signed and deposited plan, except for the requisite fences, or for fountains or covered resting-places, or public monuments,—none of which erections were to exceed in height the level of 19 ft. above Trinity High-water Mark. The general width of the streets just referred to, and of one to be formed in continuation of Craven-street, was to be 60 ft. The street between Whitehall-place and Wellington-street was to pass under the northernmost opening of the Charing-cross Railway Bridge, that is, on the south side of the north abutment. Certain land was not to be taken from the railway company without consent. No landing-place, other than one substituted for the present Adelphi Pier, at the site now occupied by it, was to be constructed within 150 yards on either side of the present pier belonging to the Railway Company.

Opposite the Norfolk estate, the north side of the approach-road, and the approaches therefrom to Surrey-street, Norfolk-street, and Arundel-street, were to be constructed as shown on a deposited plan; no powers of compulsory purchase were to be exercised, except so far as might be necessary for the construction of the approach-road and approaches; no buildings were to be placed on the reclaimed land, between Somerset House and the Middle Temple, southward, except the works connected with the Embankment; the land between the southern boundary of the estate and the approach-road, was to become the property of the Duke of Norfolk, who was to have power to build up to the north side of the approach-road, and on both sides of the approaches to Surrey-street, Norfolk-street, and Arundel-street, compensation being paid to and by the Duke, and the Board, respectively.

As to the Adelphi estate, no part was to be taken by compulsion, except what might be required for the street between Whitehall-place and Wellington-street: the land reclaimed, and between this estate and the street, was to be subject to like restrictions as to buildings, as those in the Act of George III. which allowed of the embankment opposite Durham-yard, Salisbury-street, Cecil-street, and Beaufort-buildings; and this land was to be vested in the owner of the estate, after payment of any balance which would have to be paid by the decision of an arbitration subsequently referred to in the Act, the amount to be paid by the Board being also settled by arbitration; and as before, no building was to be erected between the land vested in the owner, and the river, other than works of the Embankment or roads, and landing-stairs, fountains, resting-places, and monuments. As regards the land opposite the Salisbury estate, no building was to be erected without the assent of the Marquis, with similar exceptions to those of the Marquis, with similar exceptions to those in the last-named case: the Marquis and his tenants in Cecil-street and Salisbury-street were to have means of access provided for them, to the ground reclaimed; and no roadway to Salisbury-street was to be constructed without the Marquis's assent, and if constructed was not to be open without consent, except for foot-passengers.

As to the Crown lands, certain works of filling up, levelling, and fencing, were to be done, as well as in the case of the ground opposite Somerset House and the Board of Control. All the land reclaimed was to remain vested and annexed, as the present ground, excepting that the lessees might within five years of the passing of the Act, take leases of the reclaimed ground from the Commissioners of Woods; no building being allowed to be erected on the Embankment, without consent by the Commissioners of Woods, in one case, and the First Commissioner of Works in another, other than a parapet-wall or railing, not exceeding 4 ft. in height; and the new ground taken by the lessees, being valued as garden ground. New landing-places were to be provided in place of those removed. Also, the Crown, or Commissioners of Woods, might at any time hereafter, require the Board to construct at the expense of the Commissioners, vaults or cellars, extending 12 ft. under a road or street connected with the Crown lands.

As regards the viaduct in front of the premises of the gas company, it was to be carried upon two arches, each having a span of 70 ft., and a headway of not less that 8 ft. above Trinity high-water mark; and there was to be one arch in front of Whitefriars Dock, of similar dimensions. The entire arrangement of the line between the Temple and Blackfriars Bridge, however, now, will undergo modification, the company for the construction of a railway in the Embankment having been more successful than the Metropolitan Board, in removing the difficulty of the gas works. There is much trouble in planning the routes and gradients of the many lines of road, railway, sub-way, and sewer, which will meet and intersect at Blackfriars Bridge; but the viaduct above referred to, and the construction in connexion with it, of a roadway on iron columns, spoken of, after the passing of the Act, by Mr. Bazalgette, will probably no longer be persevered in.

In the debate of the 3rd of July, 1862, Lord Palmerston referring to the question of the carriage-way past the ground of the Crown lessees, observed that the opponents of the Government "only said that the lessees of the Crown were to have this addition to the gardens they occupied; and that they were ready to furnish the money to make the Embankment. But if so, they might go along the whole river, and allow each proprietor to buy up that portion of the Embankment which ran before his own house." Yet defeating the manœuvres in one place, and preserving the full use of the road, Government and Parliament allow not only the Crown lessees to obtain reclaimed ground, but have given certain parties power to prohibit the erection of buildings on similar ground, and to control the traffic of certain streets of access to the Embankment. The Metropolitan Board is not able to build on such reclaimed ground: the ground is appropriated to the owners in the position of those referred to. Of the recreation-ground there will be about 13 acres, truly a gain to London. But considering the want of sites for many important buildings, as the projected law-courts, for which the Embankment would be more suitable than the Strand and Carey-street, we are not disposed to give unqualified approbation to the measure of the Legislature.

The day after the Act of 1862 had received the Royal assent, the Metropolitan Board appointed a committee to carry the measure into effect; and on the 22nd of October, a report by Mr. Bazalgette appeared. In this report, there comes to light a defect of the Act, which was alluded to in our last article. The clear water-way of the Thames is 900 ft. wide above Blackfriars Bridge, and 900 ft. at Westminster Bridge; whilst it is 1,120 ft. at Waterloo Bridge, and 1,020 ft. at Hungerford Bridge. In passing through Southwark and London Bridges,—at the former of which, the water-way, according to Mr. Bazalgette, is 660 ft., and at the latter is 700 ft.,—the tidal-water flows with sufficient velocity to keep the channel there free from deposit. But where the channel spreads to nearly double the width, as at Waterloo Bridge, a partial and contracted channel is formed in the north bend of the river, whilst there is much deposit on the south side. The embankment-line now is to take in the first arch and pier of the bridge. Had it extended to the second pier from the Middlesex side, a more uniform section of river would have been the result; whilst eight acres additional of land would have been obtained. The limits of deviation allowed by the Act, however, do not extend so far as the second pier; and fresh powers would have to be sought, involving a year's delay, to get the legislation accordant with the circumstances and the requirements. Mr. Bazalgette says, the Board are not responsible for the defect; but the bungling which there must have been somewhere, is not likely to be satisfactory when looked into by the public.

The face of the Embankment as shown by the contract-drawings, which are before us, and by Mr. Bazalgette's description in the report mentioned, is to commence at the northern abutment of Westminster Bridge, in a line with the existing embankment of the Houses of Parliament, and is to extend in a slightly curved line to the northern brick pier of Hungerford Bridge, and thence onward. The general direction is already marked out; but it should be recollected that the iron caissons are only appliances of the construction, and will be removed, except where below the bed of the river, to expose the facing of granite of the actual wall which will be built behind them in short lengths of coffer-dam. At Richmond-terrace, the face of the Embankment will be 220 ft. in front of the present high-water line: at Scotland-yard, it will be 400 ft., and at Hungerford Bridge, 300 ft. Opposite Buckingham-street, the Embankment will extend 450 ft. into the river; opposite Salisbury-street, 300 ft.; opposite Somerset House, 130 ft.; and opposite the eastern side of the Temple, 200 ft. The general level of the Embankment-road will be 4 ft. above Trinity High-water Mark, or 22 ft. 6 in. above the low water-line as marked on the drawings. The roadway will be joined with that of Westminster Bridge by an incline of 1 in 80, and the footway by a broad flight of steps; and the Embankment will pass under Hungerford and Waterloo bridges as will have been understood.

The present differences of level will necessitate careful planning. The roads connecting the Embankment with existing streets, would include, besides the approach-road to streets of the Norfolk estate, the new street from Wellington-street passing through the Savoy, and falling at an inclination of 1 in 40, under Hungerford Bridge, to near Northumberland Wharf, and joined with Whitehall-place by a prolongation of the latter, and having branch streets, in continuation of Cecil-street at an inclination of 1 in 50, of Salisbury-street at 1 in 63, George-street 1 in 125, Buckingham-street 1 in 127, and Villiers-street 1 in 60, and the street opposite the Horse Guards, from Whitehall to the Embankment, nearly on a level. But several of the existing streets at right angles to the Strand would be very inconvenient as thoroughfares. Norfolk-street, 40 feet wide, and the best of them, would have an inclination of 1 in 25. Mr. Bazalgette has also shown that provision had not been made for a direct line of communication between the Embankment and Charing-cross,—though such a line would probably tend to relieve the Strand and Fleet-street more than any other,—and that, should a line through the gardens of Northumberland House be deemed too costly, a route might be obtained by purchasing the houses between Northumberland-street and Craven-street, and passing in a curved line from the east corner of Northumberland House. That route from Charing-cross to the east of London, he says, would be 400 ft. nearer than by Whitehall-place, and 100 ft. nearer than along the Strand and down Norfolk-street, whilst the gradient would be more favourable than in either of the other cases. A better proposition however would seem to be that of a street prolonging the line of Duncannon-street and that in front of the National Gallery, from the north end of Villiers-street next the Railway-station, across Off-alley, Duke-street, Buckingham-street, and George-street, and crossing the other road opposite the Adelphi, to the end of Waterloo Bridge at the site of the intended steam-boat pier. In the report to which we

have alluded, Mr. Bazalgette submitted that the street from Wellington-street should commence in the Strand at the junction of Wellington-street, instead of as originally proposed, opposite the end of Somerset House.

During the autumn of the same year, 1862, when the reports appeared on the embankment of the south side, other parts of the comprehensive undertaking, with the street improvements, were under consideration; but we defer full particulars till the drawings now in preparation come before us. We may mention, however, that in November of 1862, the Board gave notice of intended application to Parliament for power to construct not only a street towards the Mansion House, but a continuation of the Embankment in the direction of Southwark-bridge, as far as Queenhithe, and a second street thence to the Mansion House. And in February of the following year, the members of the Commission of 1861, with Mr. Tite added, were appointed to consider plans for these several objects, and also for uniting the Embankment at Westminster Bridge with the existing embankment at Millbank. But they reported, as had the Commissioners in 1861, against the line to Queenhithe, on account of the probable heavy claims for compensation. After considering a proposed line to St. Paul's-churchyard, they concluded in favour of the line originally recommended by the Commission of 1861. They were against any enlargement of the present embankment in front of the Houses of Parliament, and in favour of considerable improvements about the Victoria Tower, as well as of the widening of King-street. Soon afterwards, an Act for the street to the Mansion House was passed; and a Bill for a portion of the Southern Embankment above Westminster Bridge was brought in.

There were points in connexion with the scheme of the new street which caused considerable difficulty and difference of opinion. The Commissioners had recommended a line in which there would have been gradients of 1 in 30, and one which would have had the effect, as it was said, of excluding the wharfingers from an approach to their own premises.

In April, 1863, the drawings for the Embankment of the north side were ready, and Mr. Bazalgette reported upon them to the Metropolitan Board. The total length upon which a commencement was then to be made was 5,710 ft., exclusive of the spaces occupied by the piers of Hungerford Bridge and Waterloo Bridge. This length was made up of 3,740 ft. of the first contract, undertaken towards the end of last year, by Mr. Furness, for 520,000*l.*, and extending from Westminster Bridge to Waterloo Bridge, and for a short distance eastward; and of 1,970 ft. of the second contract, about the commencement of the present year, undertaken by Messrs. Ritson & Co. for 229,000*l.*, and extending from the termination of the first contract to the eastern end of the Inner Temple Gardens. The two contracts include, besides the general line of embankment, sewer, and subway, steamboat-piers at Westminster, Hungerford, and Waterloo Bridges, and landing-stairs opposite Whitehall Gardens, Salisbury-street, and Essex-street, besides works for upholding the pier of Waterloo Bridge, and numerous short lengths of intercepting sewer, and arrangements of wiers and penstocks to old sewer-mouths, retained as storm-water outfalls. At Westminster Bridge, the arrangement consists of a single recess for the dumby, or floating portion of the pier; but at the other two bridges, there are two of these recesses and dumbies, or one above the bridge and the other below. The landing-stairs opposite Whitehall Gardens will include as the chief feature, York Gate, at present at the end of Buckingham-street, but with the addition of steps right and left to a landing, and an arch and substructure of rusticated masonry, in place of the broad platform and steps in front, of the original design.

The construction of each of these piers and landing-stages includes some of those elaborate contrivances in connexion with the sewerage, to which we have already alluded, and may further describe. And in the case of Waterloo Bridge, further contrivance, just now adverted to, was needed from the fact that the level of the bottom of the footings of the Embankment-wall was about the same as the bottom of the footings of the bridge, so that the excavation for the concrete of the wall would be even below the footings of the bridge. To describe the manner in which the important protecting work to the bridge, that of the sewerage, and that of the contrivances for preventing deposit in the recesses, are proposed to be executed, would, however, demand more space than we can spare now. But, in this number, we give a view of the steamboat-piers at Waterloo Bridge.* It will explain what will be one of the features of the finished Embankment; though it shows, even as to the single point in the line from Westminster to Whitefriars, nothing of the contrivance and construction in which great engineering skill has been brought to the preparation of the drawings and specifications of the two contracts, and to the devising means of executing the work by the contractors.

THE POETRY AND VARIETY OF ENGLISH MASONRY.

MANY a summer's day may be pleasantly and profitably spent in reading the stories told by ancient stonework. Fashioned by different races in distant centuries, there are vast gradations of feeling expressed in masonry. As in music, as in architectural ornament, as in art of all kinds, there is an indisputable stamp, or style, that marks the work of different ages in the same country: in the work of different nations the points of divergence are still more easily distinguishable.

Can you see upon the Kentish coast, about a mile from red-roofed Sandwich, a mass of ruddy walling standing up amidst the corn? That is a fragment of Richborough Castle, all that remains of the most frequented haven and port in all Britain in the days of the Roman occupation, *Portus Rutupensis*. Of the sea frontage of noble edifices, the temples, baths, schools, wharfs, arsenal, magazine, and amphitheatre, there is but one monument, this fragment of walling. The river Stour, then wide and deep, has shrunk up into a stream, and the sea has receded and left dry and bare the bottom of the bay upon which the Roman navy floated. But still, guided by this grass-tufted fragment of ruddy masonry, one may say it was here that Vespasian came; it was here that Claudius Contentus and Flavius Sanctius, both prefects of Britain, were buried; it was at the foot of this hill that Hengist and Horsa landed with their forces; it was here, more than 500 years afterwards, that King Sweyn came and burnt and slew all before him; it was here, too, that a tonsured monk landed, carrying, we may be sure, the sign in his hand that was to endure in the land for evermore—the cross. St. Augustine must have looked upon that ruddy walling with a wistful gaze after his sea voyage, for the Saxon kings had made the old fortress into a palace, and the holy father was to find King Ethelbert his most influential convert. And now the crowd upon the landing-place is gone, the bronzed warriors on guard are gone, the streets are silent, the buildings are overthrown, for the mighty sea rose and left a barrier of silt it never more overflowed. Some workmen digging to lay the foundation of a sluice, some time back, came upon the old seashore, strewn with shells and seaweeds, just as Italian workmen at Pompeii, digging into the lava, came upon the old, old surface of that city. Besides the shells and seaweed on this strip of shore there lay a small shoe, with a fibula in it, lost there or thrown there hundreds and hundreds of years ago. Corn ripens upon the site of this busy port; poppies flaunt where men wrought and lived; blue-winged moths are fluttering in the air; the peewit and corncrake make monotonous music where crowds chaffered and people came and went, and ships were made fast, laden and unladen; and the plough turns up countless coins and mementos of the traffic. Breasting the corn as a giant might breast the ripples of a lakelet, stands this fragment of the fabric raised by the Roman warriors after they had subdued Arviragus, the gallant British prince who endeavoured to prevent them from landing. The bronzed war-smiths, how they must have toiled! Six acres and more of land they marked out in the form of a parallelogram, on a declivity facing the sea, and set to work. We may see they raised the walls, 11 ft. thick and 23 ft. high, good measure. At the angles they built round projecting towers, and between these they threw out others that were square. The latter were solid for the first 8 ft. above the ground, and then hollow. How the bronzed battle-smiths must have toiled, and stooped, and lifted, and stretched, and climbed. Consider the labour of building a wall 11 ft. thick and 23 ft. high, to enclose an area of nearly 6 acres, when the gates were barred, in a strange land, and surrounded by hostile people. We may see how they went to work,—how they used the materials of the district as far as they would go, or were procurable. The ashlar they formed of squared grit and Portland stone: they backed this up with rows and rows of boulders, or large flint pebbles, over which they strewed as they went on a layer of smaller pebbles, fragments of flint and brick, and blocks of chalk, which fell into the interstices between the larger boulders; and all this was grouted together at various stages with a cement, a large ingredient in which was the refuse of their tiles. When the wall had advanced 5 ft. in height, they laid a double row of large flat tiles upon it to bond it together. Upon this they raised seven more courses of the squared work, then placed another double row of the thick red tiles, and so carried the work up to its full height with double rows of tiles inserted at intervals of from 3 ft. to 4 ft. Thus was formed this fragment of Roman masonry. It would have taken the bravest of Britons to have scaled that wall while the work was neat and trim. But now you may catch at any of the tufts of scorching grass that are protruding from the clefts, and climb up to the top unchallenged. You will see the cornfields spangled with poppies, and, beyond the marshland with its fluttering veil of blue-winged moths, the dazzling channel looking as like the road to fortune as it did to Julius Cæsar, Vespasian, Hengist and Horsa, King Sweyn, William the Norman, and other adventurers. If you look into the area, enclosed by the remains of the circumvallation, you will see a bare place in the midst of the standing crop, in the form of a huge cross, some 87 ft. long, that nothing will grow upon. Successive generations of antiquaries have examined this cross and probed it, and found that it is a compact mass of masonry, and that is all that they can make out of it. Whether it is the foundation of a Roman sea-mark, or of a Saxon memorial, to indicate the spot St. Augustine consecrated, or the platform upon which some other building was raised, may yet be ascertained. It is one of the curiosities of the castle-field that you will see as you shade your eyes and look round from your vantage ground, raised by the mighty war-smiths of Rome.

You may tell Norman from Roman masonry, without looking at a scrap of ornament, as you would have told the Roman from the Norman invasion, at a glance. The stones used by the Normans were but as handfuls compared to those used by the Romans; just as the men with which William made his venture were but as a handful compared to the Roman legions. The first Norman work was in reality Saxon work: so the antiquaries of the last century—Sir Walter Scott among the rest—were nearly right when they called Norman buildings Saxon; for the victors seized upon the vanquished, and made them build the strongholds that were to make the conquest permanent. We may note the economy of labour enforced by scarcity of hands by the diminished thickness of walling with the substitution of flat buttresses at intervals to give the necessary strength. The stones were reduced to a rough uniformity of size and squareness, or height and breadth, by no means considerable, suggesting, indeed, that the compulsory masons had no labourers, and that each could be lifted by one man. The rubble shows a certain hurry too, being but mere rubbish; not boulders gathered from the shore by a legion of gatherers, but mud, chips—anything that was at hand; the whole being bonded together, so to speak, with sighs and regrets that time eventually hardened into indifference, and thence into content. There is plenty of this Norman work wrought by Saxon workers in the land; plenty in Kent, not far from the Roman legacy, at Dover, for instance; and here and there fragments in every county, even to the northern extreme of the island, where there are several examples within the jurisdiction of the see of Durham. Cold and hard it looks in its regularity as though men had clenched their fists and ground their teeth as they built it up.

There appears to be in the enriched Norman work that followed this a lavishment of secret, and even open, exultation, as though the workers were happy,—as though the generation or so of masons were content and charmed with their task,—as though, as it was in truth, a calm had succeeded a storm. Out of this storm arose the exaltation that produced the best of workmanship, that of the Early English period. The same intensity of devotion that produced the

* See p. 565.

reater number of our cathedrals at this time sured that every stone should be wrought and id to the honour and advancement of the work. very mason seems to have regarded the fabric, its entirety, as a re-edification of the temple athens had overthrown; and each particular one upon which he was employed, one after e, as so many offerings to be laid before the tar. Thus the masonry of this Plantagenet iriod may be read as an expression of a devo- m that felt labour was prayer and praise. The ansitional period that ushered in this perfec- m of workmanship partakes to a great extent this disencumbrance of the mind from remu- rative considerations, as represented in the e of attractive ornaments to the neglect of is showy details.

Come a few miles out of your way, and look the gateway of a border town not very far uth of the Tweed. First look at the tint there pon it, as deep, sombre, threatening, as that a thunder-cloud; so imminently threatening, deed, that as you gaze, you would not be sur- ised to hear a peal burst from it. Then look the stones. Huge blocks they are, with the intings deeply recessed, leaving the edges anding out in rough lines of light. The ins of four hundred summers, and the frosts four hundred winters, have smoothed and orn away everything in the likeness of an lgie, and the mass remains a silent, solemn, gged remembrance.

"And dark and true and tender is the North,"

u will think. There is no ivy, no blade of ass, nor a leaf of any kind in sight. The teway pointed out spans a thoroughfare that the entrance to a town. A hay-cart, piled up th hay, has just tried to pass through the chway, and failed. The carter is busy taking r the topmost bundles of his fragrant load to duce its height, and the approach is littered th scented shreds. Looking through the sha- wy archway you will see a broad street of stone uses of irregular heights (with a shop or two nong them, to add to their irregularity), that idens as it leaves the gateway, till it divides to two roads, and leaves a triangular group of uses standing in the midst at the point of verance; and, if you stand a little to the ght, you will see that one of these roads ens into a market-place. You would never ess that the other road, narrowed to a mere ck just there, was a portion of the great rth road between London and Edinburgh. t princes have passed that way full many a ne. It leads to the barbican of Alnwick stle, and away hundreds of miles past it into e dark and true and tender north. This storm- ound of a gateway was built by the son of otspur. Eleven years after the death of that llant knight his son was restored to the mily honours by the successor of the offended narch; and, in good time, the young Percy, th all his father's energy of character, began build on his vast possessions in this massive anner. Over the gateway, in a recessed panel, sculptured the Percy lion,—placed there, it uld seem, as men place their seals to docu- ents, to say "this is my act and deed." Over e lion protrudes three corbels, to hold some tra defence should temporary need require it; d the wings of the gateway are thrown for- ard in the form of three sides of an octagon, to ve additional protection to the passage through e centre. The stout town wall left the gate- ay on either side composed of masonry as assive, as profuse: no stint here, of either orkers or material. The Scots were, of course, e common enemy all this was supposed to fy; but it is impossible not to think that the eat fight near Shrewsbury, the quartering and spersion of Hotspur's remains, the subsequent enation of his inheritance, find some expres- on in it,—some precautionary expression that e chances of any further civil war should have different ending. But, one-and-twenty years ter leave to embattle the town had been ob- ined, this knight was lying with his face turned to the sky, cold and stiff, upon the battle- ld of St. Alban's. The moaning of the wind it sweeps through the darkened archway ings to mind the sound of muffled drums, the eat stones seem so many sighs, the great inter- ces so many shudders as we think of this.

Very different from this grave and sad kind masonry, reared within a ride of Chevy Chase, that the fifteenth and sixteenth century men ought. There are no such ledges to catch n and snow and cast shadows: no such stern istance, sullen reliance implied in it. The stones are neater, smaller, arranged with a flatter surface; the interstices mere chinks. Somehow this masonry appears to have absorbed all the sunshine that has ever fallen upon it. It appears to be mellow; almost melliferous, if one might say so. If it be less like the temper that dictated chivalrous exploits it is more like the sweetness that devised "Arcadia," the "Faëry Queen," and a "Midsummer's Night's Dream." Kenilworth Castle comes, a-glow with noon-day heat, to view. Haddon Hall, on the Wye, too, amidst a crowd of other examples, comes, pictorially, to mind as a specimen that half a dozen generations of artists have made familiar to many. Wandering about the untenanted hall, who does not feel as some wight of old arriving at an enchanted castle, and move on and on, through the courts, chambers, hall, and gallery, expecting at every step to be met by something not of this world; expecting in every oriel to come upon a group belonging to other days? The footsteps of Sir Philip Sydney, Spencer, or Shakspeare might have been the last that trod the glorious terrace so mysteriously deserted and yet so mysteriously kept in an elvish kind of order.

There is a later Tudor masonry that is not so poetical. It is stiffer in manner, less ripe in appearance, laid more by rule: as though a knowledge of machine-executed labour was dawning in men's minds, and they aimed at rivalling any such process applied to stonework. Some of this effect is doubtless due to the comparative newness of the ashlar; but more to a sentiment of progress which at that age had begun to show itself in the study of antiquities as curiosities, and in the reproduction of Roman and Norman forms in ornamentation as proofs of scholastic elegance. We are thinking of the workmanship of which Burleigh House is a stately type. Of much angularity and of a cold grey colour, these stones might have been wrought in our own prosaic age. All that this seat gains in effect from the leafage of its grand park and glitter of its gilded vanes and variety of its enrichment is wanted to realize that it is an Elizabethan *chef d'œuvre*.

Turning seawards, could we suggest a material more declaratory of our insular position than the flint and freestone mural surfaces of our eastern coast, or a more masterly manner of using it than that adopted by the builders of Early Norfolk and Suffolk churches on the coast, or of those in the lime districts in Kent? It is, however, most appreciable in those venerable and sunbleached edifices that assume a twofold character, and serve as landmarks to those that go down to the sea in ships. A score of white fishing villages, with fluted red roofs and glossy-black doors and palings, redolent of tar, rise before the eye like a vision out of the sea, at the mention of them. A redolence of seaweed, drying nets, seasoning timber and dried fish, accompanies the remembrance of unconsidered trifles, ropes, cables, oars, blocks and pulleys, and other fishing gear that form part of every seaside scene: the crunch of footsteps on the beach, snatches of sailors' songs, and fragments of the long, long story the wind is telling to the idle waves fall upon the ear. For 600 years men have gathered flints, broken them, bedded them in mortar, with the broken faces placed to form a sheeny surface, after the same fashion, with as little change in the mode of conducting the operation as the sea-terns have made in scooping out their nests in the sand. The artistic portions of the fabrics show stages of progress, but the matter-of-fact process of building appears to have been instinctively grasped.

If we leave England, we may see as much feeling and variety in masonry: certainly not more. No echo of a "wild Irish" chant could be more weird or moving than those hoary, mysterious, cone-topped Irish towers: no "second sight" reversed and directed to primeval times, when a few tribes wandered over the land with reindeer, could be more quick with strange undreamt-of life than the "sorcery halls" with their Runic writings in the North of Scotland. Could a Welsh harper fire the blood in one's veins by any recountal more than an eye-feast upon the grand Cambrian castles of Harlech, Carnarvon, and Conway will do? They must have been brave men to have called for so much castle-building at the hands of Edward; and all honour to the brave. On the Continent, in the cities that now occupy the sites of the vast old-world forests, there has been the same power of expressing thought and circumstances in stone.

Here is one foreign example. About fifty miles from Baden-Baden there is a town of some 10,000 inhabitants, whose principal trade is that of polishing crystals and precious stones. It is seated on a plain surrounded by distant hills. You will know it by its rows of poplar-trees, its step-gabled houses, its convents and university; but more by the exquisite spire that rises above all these things. You will own, at once, that a mind familiar with other minds in daily contact with the refinement and refining of precious stones is the only one likely to have conceived the idea of lavishing so much love and labour on such an object,—of treating red sandstone with the utmost witchery, and capping a tower nearly 240 ft. high with a spire rivalling in its open-work tracery the effect of rich point lace. This Freyberg spire is exactly 155 ft. high. It rises from an octagonal stage, having triangular spirelets at the angles, which, in its turn, has for a still lower stage the plain and simple square base containing the porch. The interior of this church does not yield anything so captivating to the imagination. There is no trifo- rium; but, as we remember Freyberg, this omis- sion was scarcely noticeable, for the walls were hung with black cloth; not a step was stir- ring; and, resting on trestles in the centre ambulatory, in the solemn silence and solitude, lay a coffin. But, perhaps, of all the poetry to be read in masonry, the most sublime in the world is that in the huge bevelled blocks in the Wailing-place of the Jews in Jerusalem, where the stones are worn away with the lamen- tations of the Israelites.

FORMATIVE ETHICS, OR THE MORAL SCIENCE OF RECTIFYING ABERRATION, AND OF DEVELOPING THE PERFECT AND BEAUTIFUL.

BEING dissatisfied some years ago with the capriciousness of modern criticism and the pre- valence of extreme differences of opinion, where there would be general consent if men had but a criterion of judgment and a definite purpose of thought and action, I resolved, if it were pos- sible, to obtain such a criterion and to enunciate such a purpose. In pursuing these objects, I have frequently had to reject the results of much intense but fruitless thought. In noticing the fundamentally quantitative nature of all *exact* science, however, I had discerned the clue which has since led to a distinct view of man's forma- tive purpose, viz., the Rectification of Nature by Mind and to the discovery of a criterion, calculus, or compass of judgment, which, once thoroughly understood, enables us to determine the measure of rectitude, and to definitely estimate departure from it in every species of phenomenon of the solar system.

It is a leading principle of Formative Ethics that all true art (using this word in its most comprehensive sense) has the rectification of nature as its ultimate object. From this enun- ciation of a leading principle of the science, an enunciation with which most thinkers will agree, it will appear that it does not aim to astonish by new doctrines, but to induce a more consistent mode of thought than gene- rally prevails. It has been stated, indeed, that no discoveries can be made in ethics; yet no allusion to the theory now propounded is to be found in any modern work I am acquainted with, although it is distinctly enunciated in the sacred Scriptures. The science of Formative Ethics having been worked out independently of other moral systems, gives a command over the subject which enables me to re-unite and grasp the scat- tered fragments of what I believe to be an ancient philosophy into one consistent whole. Fragments of familiar every-day wisdom, the leading fea- ture of the Aristotelian ethics, will be found re- united in Formative Ethics, which moreover coalesce and harmonise with Christianity, and have reference not only to human conduct and development, but to the government of the spheres, the whole of animated nature and art. An outline of the science of Formative Ethics will be traced under several heads before entering upon the quantitative analysis of phenomena, or drawing those inevitable conclusions consequent upon the consideration that all differences in phenomena have their corresponding quantita- tive or numerical expression, which it is the vocation of all science aspiring to the title of "*exact*," each in its special department, to determine and record.

1. The first great question which presents itself on the threshold of ethical inquiry is, are wrong, error, and imperfection, more than

nominal distinctions? If they be not, with or without ethical systems, nature can never be otherwise than as it ought. This question, however, it is assumed has been affirmatively determined, and that the words right and wrong stand for real distinctions in the nature of ideas and of things.

2. The mental conceptions of right and wrong include the ideas of a normal and abnormal state of nature, and of the possibility of gradually rectifying, converting, or developing the latter into the former. On this rectification of nature being possible, the utility of ethics, and the validity of the distinctions of right and wrong are logically dependent; for no wrong, error, or imperfection were possible, if all the differences in ideas and things were unalterably fixed.

3. Observation and experience confirm these *a priori* ethical conceptions. From experience and observation, we learn that nature is alterable, and capable of such rectification, or development; that the knowledge of rectitude is gradually becoming the guide of human action; and that wisdom has not only the power to rectify the inner world of human ideas, but also the outer world of visible and tangible forms.

4. The nature of things is comformable to the perfection or imperfection of ideas. The rectification of organization and form is a re-creating, re-making, and remodelling of the real to the pattern of the ideal. And as all right or perfect are also moral ideas, the real so rectified is said by Formative Ethics to exist in its moral form. The sensuously good, beautiful, and perfect are the realizations of the ideally good, beautiful, and perfect by rectitude of action.

5. As the establishment and appreciation of a science of ethics of a theory of rectitude, by which this re-creation, re-formation, re-modelling, or transmutation of nature is being directed, is due to right-mindedness, the great work in progress has been designated the Rectification of Nature by Mind, and the theory by which it is guided—Formative Ethics.

6. By a slight alteration of expression the rectification of nature by mind becomes that of the rectification of nature by right, or moral ideas and action, which coalesces with the Scripture doctrine, "the Rectification of Nature by the Spirit of Truth."

7. A complete science of ethics would propound the theory of rectitude or the ideal conception of every species of phenomenon; that is to say, it would propound the moral theory of the universe,—that best constitution of it, in which every species of phenomenon, whether of ideas or of things, would have its full, complete, or perfect existence.

8. But, as it will presently be demonstrated that the fundamental form of all exact mental conception is quantitative, a complete science of ethics would also demonstrate the numerical expression or measure of rectitude in every species of phenomenon.

9. All exact knowledge, therefore, might be recorded under the comprehensive title of orthometry (right measurement); and that special department having reference to *exact* moral science might be specified as quantitative ethics. The quantitative expression of rectitude has the sanction of Holy Writ.

10. According to the scientific conception of ethics, then, the Quantitative Rectification of Nature is the great work to be accomplished by moral ideas and action. The rectification of the understanding of human ideas must precede the rectification of imperfect action and forms. The right conception of the best condition of every species of phenomenon has to be acquired before the imperfections of species can be corrected. The inward and invisible ideal conceptions of things will then be gradually realised in nature; right ideas gradually find embodiment in outward and visible realities. This is also, as before affirmed, the teaching of Christianity; but Christianity breathes faith, hope, and life into what would otherwise be a cold, spiritless scientific formula.

11. The words "ideal," "right," "moral," "good," "beautiful," "normal," and "perfect," are considered to be equivalent or correllate expressions, as also are their contraries, "accidental," "wrong," "immoral," "bad," "ungainly," "abnormal," and "imperfect."

What ought to be the sole inquiry with every man who takes to himself, or deserves from others, the designation of philosopher? Should not the exclusive question be, and should not the answer to it be sought with equal simplicity and earnestness of purpose,—What is truth? What other object can there be of aught that is entitled to be called philosophy, but the discovery of truth? Of what conceivable use or value are all the investigations and reasonings of philosophy, if not for ascertaining truth? Such are the ever-recurring questions. Who, however, having given them serious thought, has not felt their vagueness, found the thread of his inquiry soon entangled, and given up, for a time at least, all hope of satisfactorily solving the question, "What is truth?" But, if the equivalent, though more explicit word for the kind of truth implied in this question, had been substituted, they would have gained perspicuity; for the question of paramount importance to mankind is not, What is truth? but, What is right?—in thought, in act, and in being? Truths are as multitudinous as facts, and are of two kinds; but there is only one right or best condition in every species of phenomena, and this is the kind of truth, beyond all other, which philosophy has to determine; for, although everything in nature, *per se*, is a fact,—*is* a truth, it does not follow that it is also right. To eliminate every possible form of aberration from the conception of any species of phenomena, and to rectify and reform according to the residual ideal, is the doctrine consonant with divine teaching and of Formative Ethics.

There often arises a confusion of ideas, too. When it is asked, "What, in the name of common sense, has a man to do, but to act and work in conformity to nature?" For the word "nature," like that of "truth," has two significations, the one implying only that which is *right*, the other all that is possible in thought, act, and being; so that the limited meaning of *that which is right* gets transferred to it when used in its widest sense of *all that is possible*, and nature frequently discoursed upon as if it were immaculate. If nature were immaculate, unerring, there would be no moral law: it is the aberration of nature from rectitude which renders a remedial moral science necessary. It is the rectification of nature which all ethical systems have more or less in view; but it is Christianity only which grasps this idea in its totality, in teaching the gradual subjugation of the spirit of error, and the final restoration of all things in rectitude. The full import of this great doctrine in its material application has not hitherto been discerned, much less understood.

There is a perfect agreement between experience and revelation in this, that nature is capable of being perverted from, or converted to its best conditions. All means, therefore, whether improving or debasing, are natural means,—means which either mend or mar, but still within the compass of Nature's powers. The following quotation from Shakspeare is to the point:—

> *Perdita.*—I have heard it said
> There is an art, which, in their piedness, shares
> With great creating nature.
> *Polixenes.*— Say there be,
> Yet nature is made better by no mean,
> But nature makes that mean: so that the art,
> Which, you say, adds to nature, is an art
> That nature makes . . . . We marry
> A gentler scion to the wildest stock,
> And make conceive a bark of baser kind
> By bud of nobler race. This is an art
> Which does mend nature,—change it rather; but
> The art itself is nature.

This power over means to change nature and dominate it to our will is a mental power conferred by knowledge. The material world is conformed or moulded by man to his mentally right or erroneous conceptions by his good or ill will. All causation, according to the Christian doctrine, is either moral or immoral. All imperfection and deformity proceeding from the spirit of error, all goodness, beauty, and perfection from the Spirit of Truth. All outward perfection and imperfection indicate the moral and immoral sources from which they spring. The moral and immoral powers produce corresponding effects,—that is to say, outward moral and immoral conditions and forms. Whether right or wrong in its conceptions, it is the inevitable tendency of mind to dominate and subdue other nature to its own: if right in its apprehension it preserves and re-forms, if wrong it deforms or destroys.

It may be legitimately inferred that the wisdom of man differs in degrees, and not in kind, from His who made him pre-eminent in, and gave him dominion over, the earth; and that as he partakes of or more and more advances towards that measure of the divine nature to which he may attain, will he desire to restore all things to their best conditions; for he has been taught that the universe existed at the fiat of the Creator an embodiment of the divine ideas, perfect in all its phenomena. Imbued with these considerations, the doctrine of the Rectification of Nature by Mind is invested with a higher dignity and importance than any which its sciential and artistical utility confers; for it is discerned to be correlated with the great Christian doctrine which reveals that nature is to be finally reinstated in the perfections from which it has been gradually perverted by the spirit of error. The Christian doctrine of Restoration accurately defines the nature of true progress,—that progress in which inheres the breath of life, the progress which is irresistible. And in this Christian and scientific view the development of beauty and perfection, by moral ideas and action, is transferred from the narrow sphere of the canvas and marble to the plastic world of organic and inorganic being: this is art in its widest sense, the great Christian art which, proceeding from a "new spirit," mends and tempers nature, and with more than Phidian power corrects excesses and defects, proportions, remodels, and restores terrestrial nature to its Moral Form.

The pernicious and deforming influence of human error is not confined to man: it permeates all other nature under his dominion; so that this is also marred in its outward form and fabric. The world, with all things in it, retrogrades from or progresses towards its perfect state, as the soul either falls in ignorance and misused knowledge or soars upon the wings of faith and science. Body or substance is moulded by the rectitude or error of the mind;—the material by the spiritual. This is why Christianty promises as the result of inward renovation the outward development of human and other nature to their fulness of beauty and glory. Experience teaches us that the rectification of nature by mind, a material restoration, is possible; for from it we learn that nature, under the constant culture and compulsion of right reason, of rectitude of mind,—like the clay that was marred in the hands of the potter,—is made again as it seemeth good to the true workman to make it. Hence it is the duty of orderly and scientific minds to define the Moral Conditions and Moral Forms of nature; to point out the Christian art of educing them; and to proclaim that physical beauty and perfection are to be the outward and visible signs of the presence and imperial sway of the Spirit of Truth in the human mind.

If the Dorians had possessed the right comprehension of morals they would not have prayed, as it is recorded they did, for the beautiful to be associated with the good; for they would have then known that persistent goodness would inevitably produce its external evidence in beauty. A clearer perception of the relation of the beautiful to the good was evinced by him of old, who, when interrogated respecting the final purpose of philosophy, replied,—to make that which is inward,—*i. e.* ideal conceptions,—outward.

"What!" it will be said, "do you maintain and believe that human ungainliness and deformity are to be gradually but ultimately extirpated by moral ideas and persistent moral action? We know very well the extraordinary changes which have been produced in animals, plants, fruits and flowers by art; but human nature is a very different matter: we do not believe in its convertibility." It is, perhaps, a little more perverse and obstinate and therefore less ductile and plastic. Nevertheless, that is the doctrine of Formative Ethics, nay of the highest authority, even Christianity. Let it be borne in mind, however, that Formative Ethics do not maintain that ungainly and deformed humanity is to be at once transformed to beauty by right-mindedness and rectitude of action: imperfections of organization and form may be the effects of malcausation of ancient date, for which the bearer is not responsible; the gradual accumulation of years, it may be of centuries, of misdirected thought and action. Such physical decadence, then, is not to be rectified in the twinkling of an eye, but by gentle gradations, according to the unalterable laws of human growth and change. The human race must ascend towards perfect organization and form as gradually as it falls from it. The effects of rectitude of thought and action must accumulate through years, perhaps through generations, before the evidences of present or past malcausation can be completely erased, and humanity culminate in the full beauty of its Moral Form. Meanwhile those imbued with a right spirit,

nough they cannot be transformed by it at nce to this physical perfection, are irradiated ith that spiritual light which suns out the ark ungainly shadows of bodily imperfections, r beauty of some kind must be associated with oodness in the divine constitution of things. y goodness alone can beauty be preserved; by oodness alone can beauty be produced through it the wide domain of nature. This is the ctrine of Formative Ethics.

It is contrary to reason to suppose that ny function or power of being, rightly used, ould tend either to produce or increase malrganization or malformation; but that perfect rganization and form which corresponds with s moral use, that is to say, its Moral Organizaon and Form. Apply this reasoning not only to uman functions and powers, but to those of all her being, and we shall be able to grasp the lea of what persistent moral force will ultiately accomplish in the conformation of nature.

The Rectification of Nature by Mind is not a etaphysical idea, involving subtle disquisition a the natures of mind and matter, but a pracal view taken from the summit of experience, here recognising the power of mind, as that culty is commonly understood, to modify or ange forms and conditions, and the probable fects of that power in the vista of the future, alises in the mind's eye the glorious prospect a renewed world. Formative Ethics, therefore, eks to define the right conditions and forms of nenomena, to establish the right ideas to which ature should be conformed.

The perception that the progress of knowdge is giving man a continually increasing ower over nature to mould it to his will, and of e eternal and necessary quantitative predomiance of good over evil, leads us at once to ecognise the parallel which exists between the ientific prevision of a restored world and the storation proclaimed in the prophecies and by hristianity. Moral science has to define what right in thought, act, and being, in order that ll nature may be reinstated in rectitude. The ore one rightly and thoroughly knows, the earer becomes the anticipated correspondence etween the natural or scientific and the realed moral law. Christianity and Formative thics lead us to contemplate the human race nd the world as materials long since marred by norance or wilfulness, being re-made and conrmed as right ideas see fit to make them,—reored to rectitude.

Before proceeding to formulate the science a more detailed exposition of the hypothesis Quantitative Ethics, it is important that the llowing brief summary of the results of ages of hilosophical speculation should be grasped and nderstood. Philosophy, then, has decided and -decided in recurring cycles, that we can nly believe in or speculate upon, but never now, cause *per se;* that neither the existence of piritual nor physical noumena can absolutely be emonstrated. All thinking men, however, beeve that there are noumenal potentialities adequate to the production of, though hidden ehind the veil of, phenomena. To these nouenal potentialities various titles have been iven according to the moral or immoral tenency of the mind. In the one case, all effects e attributed to spiritual; in the other, to phyical causes. The hypothesis of a noumenal notion and substance being the causes of all hings is less probable than that of the spiritual, r the ground of its destructive social effects nd practical disadvantages. A belief in a reat First Cause, however, appears to be herent in the human mind, and thousands thoughtful lives have been spent in vainly ideavouring to penetrate the veil of ideas; e ever-recurring result being, that if phisophers are compelled to accept nominalism as conviction, they always adopt some form of alism as a belief. Bishop Berkeley wrote an refutable treatise, proving that the existence of a oumenal substance cannot be demonstrated: he light also have as irrefutably proved that the istence of a noumenal physical force or motive ause is undemonstrable; so that the idea of aysical causation, of materialism, which by me minds is thought to be so certain and posire, ultimately rests like that of the spiritual on elief. But in controverting and discarding this ea, he was compelled by a mental necessity to bstitute belief for belief, and to attribute all nenomena to a spiritual cause, *i.e.* the will of e Creator.

Both the metaphysician and the physicist, en, fail in attempting to define and demonrate the nature of causation; and the correct arrangement, classification, the right quantitative expression of ideas, and the correct observation and measurement of external phenomena are the more legitimate objects of science.

Let it be conceded, however, for a moment, and for the sake of argument, that the belief in physical causation is the right one; that all phenomena are so many various effects of a noumenal physical motion and substance; and the inevitable conclusion must be, that all phenomena are capable of quantitative expression, of being numbered or measured; that all exact science must be the knowledge of quantities, of definite proportional relations, for our ideas of force and substance are fundamentally those of degree and extension. The same inference, too, must be drawn from any metaphysical conception of cause, for metaphysicians have long since decided that our fundamentally intuitive ideas are those of space and time, which are really subject to still higher abstraction, and are ultimately, as in the physical idea, resolvable into quantity. Quantity, then, under either hypothesis, is the most abstract of comprehensible ideas: it is fortunately also the simplest, and forms under its symbolic expression of number and measure the surest basis of discussion.*

W. CAVE THOMAS.

GERMAN HOSPITAL, DALSTON.

IT is estimated that there are upwards of 30,000 natives of Germany or of the German provinces subject to other states, resident in London and its neighbourhood, and contributing to the commercial, manufacturing, and professional activity and prosperity of the metropolis. Up to about twenty years since, many of the artisans and other humble classes of that nation, whenever they were ill and destitute of the most necessary comfort or medical aid, had to depend on parish assistance, finding themselves alone and deprived of the soothing attention of kindred and friends. Under such circumstances their wealthier fellow countrymen took steps to create an institution which should relieve such misery; and, seconded by the benevolent sympathy of the late king of Prussia, and of her Majesty Queen Victoria and the Prince Consort, they were enabled to open a hospital at Dalston on the 15th of October, 1845, in the presence of his Royal Highness Prince George of Cambridge and a numerous assembly of influential friends.

Three thousand pounds had been liberally advanced without interest, in equal shares by the late King of Prussia and two German merchants, for the purchase of the establishment at Dalston, originally occupied as the Infant Orphan Asylum. The committee secured the services of a matron and three nurses, from the institution at Kaiserwerth, near Düsseldorf, on the Rhine, in which institution, from religious principles, respectable Protestant females devote themselves to the task of nursing the sick, and are there trained as "sisters" or "deaconesses." The committee were soon joined by several English gentlemen zealous in the cause, and since that period above 150,000 sufferers have been relieved, whether as in or outpatients, of whom above one-third have been English; the average *daily* number of English outpatients amounting to about 100!

One valuable feature distinguishes this Institution: it has a sanitarium, or a part of the hospital where accommodation is afforded to German patients who are received on paying a moderate remuneration to the funds of the Institution,—a system which might with great advantage be more generally adopted than it is in the lunatic and other hospitals and infirmaries of this kingdom. The accommodation at the end of the first twenty years' probation proved inadequate to the increasing demands upon the resources, both from local and other claims upon the benevolence of the governors. The total number of cases relieved last year amounting to nearly 17,500, of whom 789 were in-patients and of them 141 English, these last arising from accidents, many of them heavy, expensive, and occupying the beds for a considerable time. A further appeal was made to the German committee and the benevolent English, who sympathised in their efforts, and the late Mr. F. Huth having made a munificent gift of 2,500*l.*, his example was generously followed, and steps taken to erect a new hospital; and Mr. Huth being requested to name the architect, he recommended Professor Donaldson, which was confirmed, and his plans for 100 beds adopted at a meeting held on the 16th of July of last year, presided over by his Royal Highness the Duke of Cambridge.

The building, of which we gave a view and plans in our last number,* stands in the centre of what was formerly the garden of the hospital, through which runs the North London railway. The soil is admirable in a sanitary point of view, consisting of gravel and sand to a great depth. The building consists of two blocks; the ward building, one of whose long fronts faces the south, and the north or residential building, containing the kitchen department, offices, medical and other officers' residences and "sanitarium rooms," for eight or ten patients. These two blocks are united by a corridor, which at the same time disconnects the wards from the residence of the officers. The wards have windows on both their long sides, to the north and south, affording a thorough ventilation, and are 15 ft. high in the clear, thus providing 1,500 cubic ft. for each bed. It will be perceived that each ward has at the end its scullery, containing ventilated water-closets, bath and other conveniences, and rooms for the nurse and sister. The ground-floor has the accident-ward for ten beds, with attached scullery and nurse's room, and to the out-patients waiting-room; these are capable of holding above 100 persons at once, besides an outer shed for the like purpose, near the entrance-gates. There are three consultation-rooms for the medical officers, a dispensary, laboratory, and lobby for out-patients in waiting, while the medicines are preparing. The chapel, 40 ft. by 25 ft., and 16 ft. high, with chancel, is at the east end, having over the communion-table a stained-glass window in memory of his Royal Highness the late Prince Consort, presented by Mr. J. Rahles, a member of the Board of Management, and the floor has an ornamental paving of Minton's tiles.

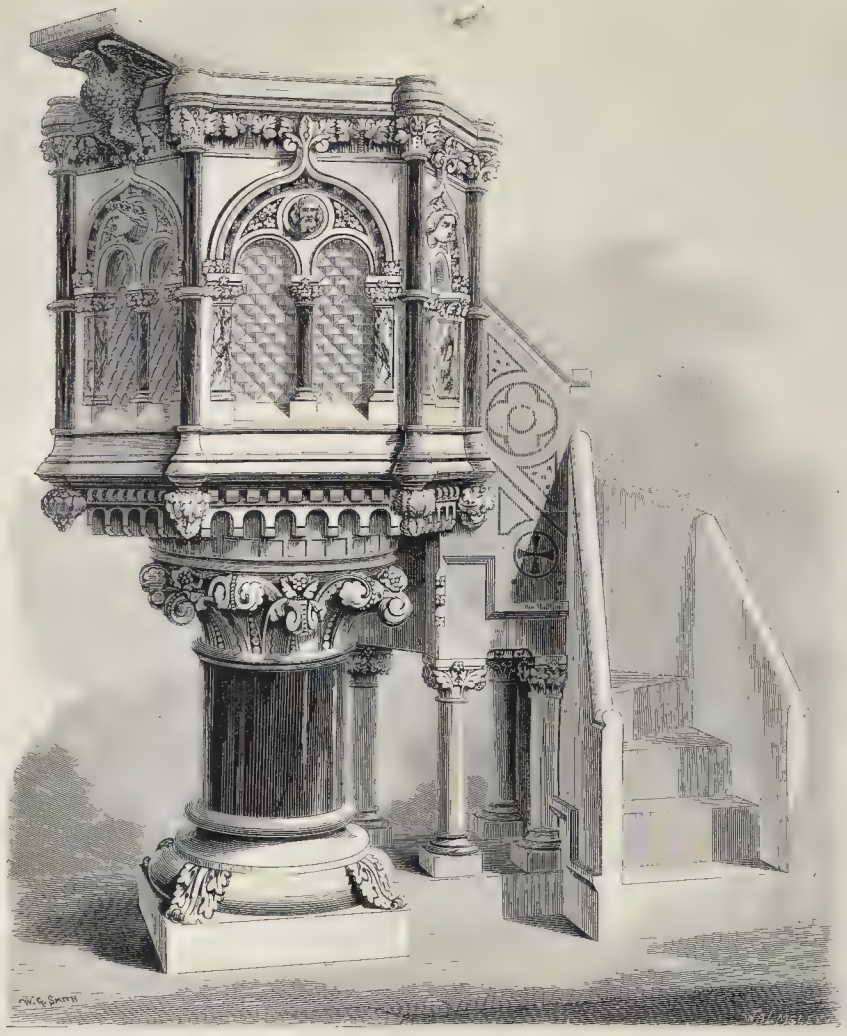
The staircase is 26 ft. by 13 ft., having flights of steps 5 ft. wide, with 12 in. treads and 6 in. risers, affording immediate and direct access to the wards, which on the first floor are divided into four, for ten beds each. These consist of the children and female wards on the one side, and the men's wards on the other; and of four sculleries, and two nurses' and one sister's rooms, 14 ft. by 10 ft. The second floor, or uppermost range, consists of two large wards, of twenty beds each, with two sculleries, and two nurses' and two sisters' rooms. In the attics are five rooms for male attendants or stores. There is a lift for raising coals, the dinners, or any other articles, from the basement to each floor, worked by Easton & Amos's hydraulic apparatus, and which, in case of need, is available for use by patients; and on each landing is a store closet. The basement has a bath-room, and vapour and sulphur bath-rooms, with capacious coal cellars. A corridor connects the ward-building on each floor with the northern or residential building, the basement of which is elevated to the kitchen and domestic departments, matron's stores, wash-house and laundry for the smaller articles, the chief bulk of the washing having to be done out of doors. The entrance-floor consists of the entrance-hall and staircase, committee, chaplain's, and secretary's rooms, matron's sitting-room, common or dining room for matron and sisters, medical men's common sitting and sleeping rooms, clerk's office, and a waiting-room on either side of the hall, the walls of which are to have enamelled slate slabs, inscribed with the names of benefactors. On the first floor are the operation-rooms and two surgical-cases rooms attached, sanitaria rooms for contributing patients, and bedrooms for the matron and sisters, with a storeroom for linen.

The building has been carried out by Professor Donaldson, with the co-operation of Mr. Edward A. Gruning as his colleague. Messrs. I'Anson are the contractors for the building; the cost of the structural part and some of the fittings amounting to about 12,500*l.*; the out-buildings of porter's lodge, dead-house, and post-mortem rooms, shed, and coach-house, 1,050*l.*; the cooking apparatus, by Riddell, 125*l.*; the heating apparatus of the wards, baths, and sculleries, by the London Heating and Ventilating Company, 244*l.* 6*s.*;† the lift, 180*l.*; gas-fittings, 176*l.* 10*s.*; and bells, 52*l.* 10*s.* Some few minor fittings have yet to be arranged for.

* To be continued.

* See p. 546, *ante*.

† The warming will be effected by means of the "Gurney" stoves (as used in St. Paul's and various other buildings), and open-fireplace fresh-air grates. These grates admit the external air over the back of the grate, and it thus becomes thoroughly warm before entering the ward.



PULPIT, CHRIST CHURCH, DEPTFORD.

Designed by Messrs. Newman & Billing: executed by Mr. Seale, Sculptor.

PULPIT, CHRIST CHURCH, DEPTFORD.

THE accompanying engraving represents the pulpit in Christ Church, Deptford, designed by Messrs. Newman & Billing, architects, and executed by Mr. J. W. Seale. The principal portion of the pulpit is Caen stone, with a polished Aberdeen granite shaft. The columns in the upper part are Devonshire and Irish red marbles. The book-stand and pilasters are of Derbyshire alabaster. The five medallions represent Christ and the Evangelists.

THE POOR OF THE METROPOLIS.

MORE deaths and more misery in Bethnal-green! Some inquiry is necessary. The changes which are taking place in the condition and arrangements of our population are surprising, and call for new measures which may meet the difficulties now constantly arising in consequence of these alterations. It is impossible, with justice to all classes of the community, to continue old-fashioned management. With all our changes, the poor shall not cease in the land; in fact, it is unfortunately the case that, notwithstanding the general prosperity, there is an amount of helpless destitution to be dealt with which it is frightful to think of.

One peculiarity of our present position is, that the increased growth of the towns, the gathering together of the people in certain situations, is causing the poverty to be concentrated into these particular quarters, where it is left without that voluntary aid, which, in more limited populations, affords the means of enabling persons to bridge over temporary difficulties. For this and several other pressing reasons an inquiry into the condition of the metropolitan poor is called for, which would enable us to see clearly how the matter stands. In the course of such an inquiry it would be needful to ascertain the effect which the removal of so many houses formerly inhabited by the poorer classes has really had in increasing the extent of overcrowding; the amount of rent, and other facts, which should be gathered on a more extensive scale than it is possible for private individuals to manage; and other circumstances connected with the dwellings which materially affect the life and health of a great multitude. It is also needful that the working of the present system of the Poor-laws should receive very careful attention; for what is especially wanted just now is a collection of facts, which can be put to use by able persons who are unbiassed in their opinions by routine, or by interested or other motives.

The inquiries which have been made by the Poor-law Commissioners at Bethnal Green will, to a certain extent, be productive of good, inasmuch as they will show the manner in which the evil works, and in a certain degree indicate



THAMES EMBANKMENT: LANDING PLACES, WATERLOO BRIDGE.—MR. BAZALGETTE, ENGINEER.

* See p. 563, *ante*.

the nature of the changes which should at once be made. It is hoped that the ill-feeling exhibited by the guardians here, not only to the pauper part of the population, but also to those who are living in situations where the proper duration of life depends on careful inspection and the enforcement of sanitary laws, will give way to a wiser policy.

The matter is one beset with difficulty; for instance, the great size of the metropolitan unions and parishes, and the proportionate extent of the accommodation which is required in the workhouses, some of which have a population as large as that of many well-known country towns, have to be considered. In the infirmary alone of Bethnal Green Workhouse there are, including the old and infirm, more than 400 patients. These large numbers render necessary a perfect system of management, which will insure kind treatment to the inmates, and a degree of economy that will not prove oppressive to the parishioners; and it is to the clashing of these interests that many of the complaints are to be attributed. On the master and matron, then, devolves the heavy charge of preserving order and preventing waste in these gigantic households: with these, in the absence of the relieving officers, rests the responsibility of admitting casual applicants or others who are unprovided with formal orders of admission. There are also the chaplain, house-surgeon, the schoolmaster and the school mistress, one or more paid superintendent nurses, who are chiefly entrusted with the internal management of the house: there are also the relieving officers, who seldom reside on the premises, whose duty it is to investigate the circumstances of those who apply for both in-door and out-door relief, keep accounts, and make the necessary payments: there are also the pauper nurses, cooks, night and day porters, &c.; but it is to the Board of Guardians that all these officials are in the main responsible. It is the Board which decides upon contracts for provisions, &c., fixes the extent of the rations, and should in their weekly rounds attend to any complaints which are justly made by either old or young: to this body the charge of any general or extensive mismanagement must be laid. Therefore, when we hear, in any particular parish or district, continual charges made of wholesale sanitary neglect; of poor people perishing with hunger; of sick persons being kept waiting at the door for long hours for admission during the day, and those destitute in the night turned away; there can be no doubt that, however much blame there is to be attached to individuals, it is to the Board that we must look for any effectual remedy of the present state of management. As is the case with families, where the kindly nature or otherwise of the principals may be in a measure judged of by the behaviour of the servants, so is it in connexion with workhouse officials. In some parishes complaint of neglect or cruelty is seldom heard: in others it is unceasing; and in a great measure this is caused by the inequality with which the poor-rates are levied in various parts of the metropolis, which causes the guardians to use a degree of parsimonious pressure of which some of them may not approve. But much of what is considered a saving is an actual loss: take, for instance, the commonly practised system of employing pauper nurses. The damage done by this means amongst the young of both sexes who are reared in these establishments is greater than can be calculated. On this point Mr. Farnall remarks:—"It was impossible for guardians to put any confidence or trust in pauper nurses, or unpaid officers. If they knew as much how paupers behaved to paupers as he did, they would not employ them. The Poor-law Board had left no stone unturned to induce guardians to pay their nurses."

As regards some of the paid officers, the smallness of the salary prevents the most suitable persons from seeking the employment. In the workhouse schools there should be effective teachers; but how can they be obtained on the terms which are often offered, and which would not be accepted by a decent housemaid? Of equal importance is the selection of the porters of workhouses, for in their hands often rests the power of life and death: they should be persons of intelligence, who can be held responsible. At present, many of these officers are the cause of much mischief, and often they are made "scapegoats" for faults which should be laid elsewhere.

After looking at the subject,—not from the Board of Guardians', the master of the workhouse's, or the relieving officer's point of view,—but with a view of the immense destitution and misery which exist, and knowing in how many instances the present system of poor relief is insufficient for its purpose, we ask, at the least, that an inquiry should be made into the present condition of the many thousands who are now suffering. It is not right that the poor, when in actual starvation, should declare, as we have many times heard them, that "they would rather die than go into the workhouse;" or that in time of temporary but great distress relief should be refused unless the poor furniture of a house be sacrificed, or those who are able to earn a part of their living are forced into the workhouse, where men, women, and children are separated, and where the persons thus treated (at the rate of fifty and upwards per cent.) become perpetual paupers, evermore chargeable to the rate-payers and comparatively useless to society.

PROPOSED GOVERNMENT MEASURE RESPECTING THE CASUAL POOR OF THE METROPOLIS.

FOR many years past, in our notices of the condition of the London poor, attention has been often directed to the inadequacy of the present system for the relief of casual destitution. The unequal way in which the plan works has been shown; how hardly it bears upon the poor; and how heavily it presses upon the parishes which are inclined to do their duty. We have carefully observed the effect of the arrangement; and have long been of opinion that the only right way of meeting the evil is the provision of *places of refuge*, supported by a fair rating, in proportion *to rental, of the united metropolitan parishes*. It is satisfactory, therefore, to find that a movement is in progress which seems likely to carry out these views. The proposed Bill sets forth that the metropolitan parishes should make out separate accounts, half-yearly, of the amount of relief given to the houseless poor between the hours of eight p.m. and eight a.m. The account is, on being submitted to and passed by the official auditor, to be transmitted to the Metropolitan Board of Works, who are authorized to pay the same out of the moneys raised under the powers of the Metropolis Local Management Act, such payments to stand as part of the expenditure of the Board. The Bill gives power—subject to the approval of the Poor-Law Board,—for parishes to construct refuges. There is but little hope that this Bill will pass through the Parliament of this session, but we hope our legislators, even when they are in pleasant and healthful places, will think of the vile conditions which exist in the heart of England, and consider not only how they can ameliorate the disgraceful circumstances, but strive for things far better than most folks at the present time contemplate. The Metropolitan Board have declared their unwillingness to have anything to do with the collection of money for the purpose.

THE APPLICATION OF SCIENCE TO THE DETECTION OF CRIME.

IN days gone by, when the neglected condition of the police was notorious, the detection of the most serious crimes was almost impossible, and the plan was for the City officers of the law to have periodical "field-days" to gather up the rogues and give an example to the whole, by chancing to hang up those who were deserving of such punishment. For a long time the trial for secret murder was not dependent upon the evidence or the production of links in the chain of facts, but on the ordeals of touch and fire, or upon the risk of the victory of contending champions. Even in the reign of Henry VIII., protection of the lives and property of the Londoners was not systematically arranged for, notwithstanding that the marching watch yearly displayed its picturesque pageantry. In Queen Elizabeth's days the state of affairs became somewhat better, and in the streets of the capital there were, no doubt, the "Dogberries" and their companions, from whom Shakspeare sketched from the life his famous characters. Nor was the condition of the country any better than that of the town, for wholesale robbery and murder were common throughout the land. Along the Borders the small chiefs afforded a feeble security to property, levying a tax upon their neighbours for doing so; but this was such a frail and uncertain security, that it became necessary to appoint wardens of the marshes, for the purpose of keeping this voluntary police force in order. As time passed on, the slow-moving night-watch did but little either to prevent the commission of crime or to bring the guilty to punishment. There were also the beadles of the City wards, whose office it was to act as constables, and keep a check over evil-doers; but it was not until the days of Jonathan Wild and Townsend that thief-catching began to be considered as a science; and a combination of persons both in and out of uniform, under the direction of a clever head, became a means of detecting the perpetrators of offences which otherwise would have escaped punishment. Since the time mentioned, the detective police force has greatly extended, and at one time had an over-good character. Means are provided far more certain than the blood-hound to hunt down the robber and the murderer. If the offender be aided by the speed of the locomotive, there is the electric telegraph against him, which is more rapid still; and great was the surprise of all when this agency led to the apprehension of Tawell, the Quaker. Since then many who have done wrong, and who trusted to the swiftness of the rail, have been caught, both to their confusion and surprise. Besides this, photography has been called into use with excellent effect. By this means the portraits of many of whom the police were in search have been multiplied, and sent to all the stations in the metropolis, and throughout the country. In several of the prisons, photographs of those who are likely to be again "wanted" are taken and kept for the purpose of identification. In the case of the supposed murderer of Mr. Briggs, a photograph given by him to an acquaintance, afforded the opportunity for Mr. Death to identify him as the person who exchanged the gold watch-guard for other property; and now, by the power of the steam-engine, the mail-packet will outspeed the sailing-ship *Victoria*, on board of which the murderer is believed to be; and by the time he reaches New York, the police and those who are able to apprehend him will, it is to be hoped, be in waiting for his apprehension.

Nevertheless, with all these aids the police are losing reputation; and, as it seems to us, not unjustly. We fail to discover the exercise by them of any real acuteness; and, indeed, know of cases where the greatest negligence, to use no worse word, has been shown when no reward had been offered. A Parliamentary inquiry before long will probably be necessary.

SCHOOLS OF ART.

A DEPUTATION of managers and masters of Schools of Art recently waited on Earl Granville, at the Privy Council Office. It was headed by Mr. Beresford Hope, who dwelt upon the points which the schools desired the Committee of Council to take into consideration before any new minutes founded on the recommendations of the late select committee of inquiry were issued. These were mainly that there should be an extension of the meaning of the term "artisan," so as to include small tradespeople, clerks, apprentices, &c., and that the schools throughout the country might be cheaply and efficiently worked with an amount of direct State aid equal to all the fees and subscriptions raised by the schools themselves, viz., 20,000*l*., as against 46,600*l*. claimed by the Department of Science and Art to have been spent upon the schools during the past year.

The Select Committee on Schools of Art have embodied in various resolutions the recommendations to which they have agreed. The principal of them are:—"That a central training school for teachers be maintained as at present, and sufficiently qualified scholars from local schools be admitted to the training school at the expense of the State, the study of decorative art useful for manufactures being the primary object; other scholars should also be admitted to the training school upon payment of remunerative fees. That a national competition of works from all the local Schools of Art continue to be held annually at South Kensington, and prizes awarded. That the conditions of granting any State aid to local Schools of Art be:—That night classes for artisans be open at least three times a week, at fees within the reach of artisans; that the teachers be certified, and receive the whole of the fees of the artisan classes; and that the localities provide suitable premises, and pay all charges for rent, taxes, and repairs. That no further grants be made in aid either of building or fitting Schools of Art.

MOSAIC WORK IN ST. PAUL'S CATHEDRAL.

ON Friday, the 22nd, while the big clock was striking three, the covering was removed from the first of the mosaic pictures with which it is proposed to decorate, as funds become available, the interior of the metropolitan cathedral. It fills one of the eight spandrels of the arches under the dome (the south-western), is inscribed "Isaiah," and was executed by Signor Salviati (who, as our readers know, is also at work at Windsor), after a design by Mr. Alfred Stevens, and under the general direction of Mr. Penrose. The cost, including the design, if the area covered be as stated, about 300 feet, will be something under 2*l.* 10*s.* per foot superficial. The picture consists of three figures: the prophet seated regarding a tablet held by an angel to the left of the spectator, and a second angel on the right holding another tablet, and which may be intended to convey that by spiritual interposition Isaiah was enabled to give forth prophecies to the world. The back-ground is of gold. Some indistinctness in the design is caused, especially when the light in the building is not very good, by the absence of those bright lights and strong shadows which are to be found in the ancient mosaics, and which are needed in all pictorial representations intended to be seen from a distance. Thus the tablet held by the angels mixes up with the figure in both cases. The piece of floating drapery from the shoulder of the angel on the left side, is open to cavil, and the same may be said of the perpendicular line formed by the leg of the prophet against the couch. Nevertheless, as a whole, it seems to us a successful first essay: there is a certain grandeur about the composition, and the colour of the lower portion of the picture is harmonious and pleasing. We sincerely hope that money will be forthcoming to admit of the continuation of the work.

AYLESBURY CORN EXCHANGE AND MARKETS.

THE foundation stone for this building was laid on Wednesday, the 13th inst., by Lord Carington.

The building, which is to be in the Elizabethan style, will be faced with red bricks and Box ground-stone dressings. The front will consist of three archways, the centre one for carriages, 18 ft. wide; and the other two for foot passengers, each 7 ft. wide, supported by pillars. The passage through these archways will lead into a new road which will open a thoroughfare. Above the archways will be two rooms separated by sliding doors; and, when thrown into one, forming an assembly-room, 42 ft. by 33 ft., with retiring-rooms and other conveniences.

The front contains a bay window, surmounted by an ornamental gable with a clock-face and Elizabethan terminals. This part of the building will be entered by a stone staircase on the left-hand side of the archways, surmounted by a mansard roof with a cresting. The Corn Exchange will stand at right angles with the archways. The building will be 90 ft. by 45 ft. in the clear, the roof being supported by semi-circular wrought-iron ribs, the spandrels filled in with tracery. The height in the centre will be 48 ft. Light will be afforded by a skylight extending a distance of 70 ft. along the centre of the roof as well as by clerestory windows. The construction of the walls will be peculiar: it is designed to economise space, and to resist the lateral pressure of the roof. The space between the buttresses will be enclosed, and form offices for corn dealers and others, to the number of twenty. At the end nearest the archway will be a gallery approached by the staircase before mentioned: at the farther end will be the orchestra.

Between the Corn Exchange and the general Market will be a kitchen, scullery, and butler's pantry for use on the occasion of public dinners. There is also an office which will probably be let with the wine-cellars under the market, and a tap for the sale of beer. The general market in the rear of the building will extend along the side of a new road. This building will be 112 ft. long and 61 ft. wide, and covered with about two-thirds slates and one-third glass. The roof will be in three spans, and supported by iron columns 14 ft. high, with ornamental brackets.

The contract price for the buildings, exclusive of the kitchen arrangements, cellars, and fittings, is 7,064*l.* The architect is Mr. D. Brandon; the builder, Mr. E. Conder; and the clerk of the works, Mr. G. French.

"THE EXHIBITED MACHINERY OF 1862."

WITH reference to part of our recent notice of this book, touching the projectile theory of boiler explosions, Mr. D. K. Clark requests us to insert the following portion of a letter from Mr. Colburn, which he considers a distinct acknowledgment of the justice of his claim: with this request we willingly comply:—

"*Nov. 23rd*, 1859.

About the Boiler Explosions, I am ashamed to say I have done nothing yet. I intended to adhere to the arrangement we made the last evening I was at your house; but I have additional ideas on the subject, which have kept me thinking over the theory still more. I think it will all be clear enough, though, and that its publication can be brought into a moderate compass. Our names appearing, as was understood between us, I should rather prefer that *you* should write a brief introduction, stating the share of each. I believe I was the one to suggest the disengagement of the steam from hot water. You confirmed my belief in several ways; and you have given me nearly all I knew of the action of steam by momentum. My views on decomposition, electricity, &c., are borrowed, and I lay no claim to originality in them. I hope to go at it soon."

Mr. Clark adds,—"As I have often before proposed, I am quite ready to talk over the matter with Mr. Colburn, in the presence of witnesses, to settle any little discrepancies of evidence."

Another correspondent on the same point asserts that the leading features of the theory will be found "stated in a paper by Mr. Sewell, Assoc. Inst. C.E., which was read by Mr. Wm. Fairbairn, of Manchester, before the British Association, and was afterwards published in the *Mining Journal* about 1853." We are not disposed, however, to pursue the controversy.

Touching another portion of the book referred to in our review, we print the milder portion of a letter from another commentator:—

Had the author confined himself to the description and delineation of the various machines, the objects of such a publication would have been better served; but in one department, at least, that of hydraulic mechanism, he has thought proper to contrast the merits of two centrifugal pumps, which, perhaps, attracted more popular attention than any other items of the varied mechanical display: one was the patented invention of Mr. Gwynne, as manufactured by his firm; the other being Appold's pump, as manufactured by Messrs. Easton, Amos, & Sons. He proceeds to discuss the merits of both; depreciating the former and lauding the latter; jumping at once from the position of compiler and commentator to that of a zealous partisan. Computations in favour of Messrs. Easton's Appold pump set forth an excess of performance, which that firm did not claim for themselves: he alleges that Messrs. Easton's pump, at a speed of 124 revolutions per minute, threw 184 tons of water! whilst Messrs. Easton themselves state, as published in the Illustrated Exhibition Catalogue, that their pump, at a speed of 118 revolutions per minute, threw 100 tons of water.

Mr. Clark's position of Superintendent of the Western Annexe, together with the authorship of the announced publication on its exhibited contents, invested his *dicta* and opinions with some importance. On the other hand, one of the firm of Messrs. Easton, Amos, & Co., was engineer to the Royal Agricultural Society, and as constructive engineers, they supplied water to the Horticultural Gardens, and to the Exhibition itself, being contractors as well as competitive exhibitors.

Apprehensive of the effect of partisanship, Messrs. Gwynne appealed to the Jury of the International Exhibition of 1862 to have their patent centrifugal pump carefully tested, offering to bear any expense incurred; but the jury refused. The patentees then engaged Mr. Z. Colburn, editor of the *Engineer*, to make report thereon. That gentleman made the examination, testing both Messrs. Gwynne's centrifugal pump and Messrs. Easton & Amos's "Appold" pump; "having ascertained the efficiency of each, both as to the absolute discharge, and as to the proportion which the useful work done might bear to the power expended:" the epitome of computation is as follows, viz.:—

"As compared with the full theoretical efficiency of 100 per cent., Messrs. Gwynne & Co.'s pump reached 11¼ per cent. nearer to this than Messrs. Easton's 'Appold' pump, and, as compared directly with Messrs. Easton's 'Appold' pump, Messrs. Gwynne & Co.'s did 16 per cent. more work in proportion to the power applied."

In addition to this attestation, various professional gentlemen gave their approval of the computations, and acquiescence in the results.

M. A.

STATUES BY MR. STORY.

MESSRS. JACKSON & GRAHAM, of Oxford-street, have in one of their rooms at this moment two very interesting statues by Mr. Story, who exhibited "Cleopatra and the Sybil" in 1862. One, a sitting figure, is called "Sappho;" the other, standing with upraised right hand, the left holding a sword, "Judith." The face of Sappho is not that of a Grecian, but is one, nevertheless, saddened, it may be supposed, by her unrequited love for Phaon, that fixes and delights the spectator. The drapery is admirably disposed (as is the case with the "Judith"), but the hands are over large. Great manipulative skill is shown in both. Notice, for example, the manner in which the Etruscan necklace worn by Sappho is wrought out of the marble, and the treatment of the back of Judith's head.

THE PROPOSED O'CONNELL MONUMENT.

THE question of a monument, of which a statue should form a chief part, to the memory of the late Daniel O'Connell, is again being agitated. It is proposed to collect and spend on this object a sum of 10,000*l.*, of which nearly 6,000*l.* are stated to have been already realised.

It has been decided, almost unanimously, that the artist should be a fellow-countryman of the person commemorated.

On referring to the discussion at a late meeting, held on the 6th inst. in the City Hall, Dublin, the committee divided on the advisability of holding non-resident Irish artists eligible for competition. In connexion with the proposed monument, several names have been mentioned not unknown to fame; foremost amongst them Mr. Foley and Mr. MacDowell, non-resident; Mr. Farrell and Mr. Kirk, resident in Dublin.

Mr. Foley has, we have heard, already been consulted on the subject by the committee or some individuals of it. This act has been the cause of dissension, it being thought by others not quite proper to let the work be executed out of Ireland, which would probably be the case were Mr. Foley, the artist, employed.

It has been stated that Mr. Foley has declined to compete, should the final decision of the committee authorise a competition. Mr. MacDowell, however, has expressed himself willing to do so.

At the late meeting already referred to, on a show of hands at the close, the original resolution was carried by a small majority against an amendment in favour of giving the work directly to Mr. Foley.

The resolution is as follows:—

"That while the committee are advised that it is likely some of the most eminent Irish artists will not contribute designs in competition for the prize, they deem it advisable to afford opportunity for the widest possible exercise of genius in the production of the design, and to that end advise the committee to invite designs by competition; reserving to themselves, meanwhile, the power of ordering a design from an artist or artists of eminence to be selected by the committee, should they decide on adopting this course. That the following prizes be offered for designs for the O'Connell Monument, by Irish artists, architects, and others. For the first in order of merit, 100*l.*; second, 60*l.*; third, 40*l.*; the design to be in accordance with the following instructions and conditions:—'The Statue of O'Connell to be the most prominent feature in the monument; statuary groups or bas-reliefs to form features of the structure; the monument to be designed on an estimate of the minimum sum of 10,000*l.*; the design to be a sketch model on the scale of 1 in. to the foot. The ground granted for the site is 20 ft. square, and it is probable that a larger space in length, though not in width, may be obtained if required. Models or designs to which prizes may be awarded shall be the property of the committee. The committee will not be bound to accept or award prizes to any of the designs that may be sent in.'"

SANITARY PRECAUTIONS.

LET us again, if it be not already too late in the hot season, offer some advice on this most essential point. The summer heat, especially with the great drought of the season, makes all outdoor pollution the more dangerous, and necessitates the greater sanitary care. In all instances it is needful, at this time of the year, to examine carefully what is deficient, and also to see what improvement can be made, both in town and in country, for the preservation of life and health; especially in those places to which the pent-up Londoners and others living in large cities are wont to flock for the enjoyment of fresh and pleasant breezes. In these days the heads of families look at the death rates of the various "Health Retreats," as they are often wrongly called, before they entrust those who are dear to them to such retreats. At the seaside or other spots, occasionally, more actually

die per thousand than die on the average in the metropolis, and some other thickly populated towns. It is, therefore, to the interest of all connected with property in these neighbourhoods, by improved drainage, by the construction of good and well-arranged dwellings, and by a proper system of scavenging, to make them what they really would be but for the impurities occasioned by neglect.

From time to time we have looked with care at the annual death-rates given in the reports of the various localities, and, with pain we must say, have noted the terrible difference which exists in places that have the same natural advantages, and the means of prolonging life and promoting health. We do not allude just now to those spots where persons in the last stages of consumption, and some other fatal diseases, are often taken; but to those where people in the ordinary state of health are in the practice of going in large numbers; and it is a sad fact that in many such places the annual death-rate is frequently from eight to ten, and even more, in the thousand per annum greater than it ought to be.

An examination of the Registrar General's valuable reports shows that in those health-resorts, when the authorities have gone properly to work, there is the sure consequence of a decrease in the annual number of deaths; and it is to such real "health-retreats" alone that sensible fathers of families send their wives and children, and go themselves as often as they can spare time from their busy city pursuits.

If the Registrar-General were to prepare a list of the chief places to which persons resort for summer recreation; and, against each, place the death-rate, and its increase or decrease for the last ten years, such a list would be most valuable. It might be suspended in the hall at the office in Somerset House, to be easily inspected by those interested; or even more good would be done by preparing such a list annually for the press, at the season when the swallows come, and the "leafy month" is at hand.

The drought of the present season is believed to be greater in some districts of the country than it has been for forty years. Pasturage is dried up, and cattle are already being fed on the new and scanty crop of hay. As regards the washing away of the festering pollutions of summer, this drought is a most serious matter, and betokens great evil to health and life in the autumn; more especially as there has also been a want of thunder-storms to "clear the air," and assist, with their vivifying ozone, in promoting the scavenging decomposition and dispersion of animal and vegetable refuse. All the more, on this account, too, is there pressing need of active sanitary measures of a preventive nature at the present moment.

RAILWAY MATTERS.

WE hear that the directors of the London and South-Western railway have given instructions for placing a glazed aperture in each division of their carriages, such as was recommended in the *Builder*. They will be circular, and provided with curtains (?) so as to insure privacy to the passengers, but will, at the same time, in the event of an assault by one individual upon another in any one of the carriages, afford to the occupant of an adjoining compartment the means of identifying the offender.

A correspondent, "T. A. S.," suggests a simple and practical means of communication between passengers and guards; but such means have over and over again been suggested and been laid before the directors and managers of railways. It is not from want of practical and simple means that some such communication has not been long ere now established between passengers and guards. We have often, and for many years, insisted, that the only really satisfactory mode of communication between passengers and guards would be by the formation of what we called a watchman's beat, either outside or inside, so that the guard,—who would really then be a guard, and not himself a helpless prisoner,—would regularly traverse the train, as a duty, while in transit. This, however, would occasion a little remodelling of railway carriages, and perhaps a little re-arrangement or re-construction even of the line itself as regards the width of arches, the position of posts, &c.; and directors doubtless have the fear of the cost in view. So long as a guard or driver runs the risk as he now does of having his head smashed if he only thrust it out a little to one side of his train on the out-look for accidents, there seems to be a difficulty in forming an outside beat along the sides of the carriages; and as for the interior, although such is already the case in America, and occasionally on the Continent, new sets of carriages must with us be made to meet the object in view. The suggestion of glass compartments is, perhaps, the next best, although that does not enable passengers to stop the train, and might not, on occasion, even prevent murder,—as by a madman, for example; although it would certainly produce a wholesome influence on murderous villains in possession of their reason and their senses, if there be any such.

At the Sheriff's Court, Red Lion-square, a few days since, a special jury awarded 18,000*l.* to St. John's College, Cambridge, for some property at Cow-cross, required by the Metropolitan railway.

A locomotive coming from Spain has passed through the Pyrenees into France along the new series of tunnels. The official inauguration of the line is fixed for August 15.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 9th of July, on 11,308 miles, to 663,892*l.*, and for the corresponding week of last year, on 10,911 miles, to 610,648*l.*, showing an increase of 397 miles, and of 53,244*l.* in the receipts.

THE GLOUCESTER SURVEYORSHIP.

AT the last quarterly meeting of the Local Board of Health, the clerk read the report of the committee appointed to consider the applications for the office of city surveyor, &c. Of the twenty-eight candidates the committee had selected four,—Mr. Fowler, assistant borough surveyor at Leeds; Mr. John Richardson, surveyor to the Barnsley Local Board of Health; Mr. John Ross, assistant surveyor at Bradford; and Mr. Jowett, in charge of the works at Dorchester. Of these four they especially recommended Messrs. Fowler & Richardson; and, upon a division, the votes were thirteen for Mr. Richardson, and four for Mr. Fowler, one member declining to vote. Mr. Richardson was, therefore, elected to the surveyorship and the offices connected with it, at a total salary of 250*l.* a year. The following resolution was also unanimously passed:—"That Mr. McLandsborough's resignation be accepted, and that the thanks of the Board be presented to him for the manner in which he has performed his duties during the three years he has held his office, and for the zeal and attention he has shown in carrying out the various works undertaken by the Board, and generally for the services he has at all times readily afforded in the management of the corporation property."

COMPETITIONS.

Wyggeston's Hospital, Leicester.—The design marked "*Desideratum*" has been selected. The author is Mr. Thos. Chas. Sorby, of London.

Chester Town Hall.—The designs, twenty-nine in number, were referred to Mr. M. D. Wyatt, who has reported on them and recommends the one marked "Love's Labour" for the first premium (100*l.*), and that marked "Deva," in black ink, for the second (50*l.*). Touching the cost, Mr. Wyatt says in his report:—

"To state the case broadly, from a careful computation of the cubical areas of many of the schemes, it would appear that of those really affording the accommodation prescribed, the most compact of all require about three-quarters of a million cubic feet of building. The most extravagant of all that of 'Red Cross'—rather understated, demands about one million and a quarter; and that the average, under which 'Love's Labour' slightly falls, would involve (belfry included) about one million cubic feet. There is nothing peculiarly extravagant in the style of work proposed by the author of 'Love's Labour,' and I therefore unhesitatingly recommend it for adoption, in the full belief that, whether its cost exceeds or not the sum named in the instructions as the probable limit—16,000*l.*—it would not cost more than would any other design worthy in any respect of realization.

Next to 'Love's Labour' I have placed the design under the motto 'Deva,' in black ink. Had the first-mentioned not have presented itself, I believe you would have had a satisfactory structure if this design had been selected for execution. The exterior would have been picturesque, English, and civic-looking. The plan is to be commended in every particular, excepting a few, which might probably be easily remedied on revision. I think it very good, but still, considerably less good than 'Love's Labour.' After these two, but at a considerable interval, I should place in order of excellence for various good qualities, 'Cheshire,' 'Cirium,' 'Non nobis Domine,' 'St. Werburgh,' and 'Elizabethan.'"

Hexham Corn Markets.—Are any of your readers aware what decision has been arrived at by the directors of the above building? It is now more than two months since the designs were sent in, and a competitor asserted, a fortnight since, the premiums had been awarded.

ANOTHER COMPETITOR.

A GYMNASIUM.

LIVERPOOL.

THE first stone of a new gymnasium has been laid in Myrtle-street, Liverpool, nearly opposite the Philharmonic Hall. The building will occupy 1,450 square yards. On the principal floor, on the level of the ground, are the entrance-hall, 12 ft. wide; gentlemen's room, committee-room, ladies' room, bath-rooms for ladies, bath-rooms for gentlemen, lavatories, store-room, professor's room, office, and the gymnasium proper,—an apartment 105 ft. long, 75 ft. wide, and 45 ft. high. There are twelve dressing-rooms attached. There is a wide gallery at two sides and one end of the gymnasium, generally used for the various exercises, and intended for spectators on grand occasions. In addition to the floor space there is a space of 105 ft. long by 28 ft. wide provided in the roof for trapeze and other exercises requiring and imparting steadiness and nerve. On the first floor there are the school of arms, a room 50 ft. long, 27 ft. wide, and 15 ft. in height; an armoury, dressing-room, and porter's apartment; and in the towers, store-rooms, tanks, and porter's rooms. The basement contains work-rooms, cellars, apparatus-room, &c. There are two separate main staircases, and the rooms for the sexes are completely detached. There are handsome arcades between the school of arms and the gymnasium, connecting them, and adding to the vista and general effect. The windows are at the sides and ends, close to the roof, leaving the walls free for ornament and for fixing the apparatus. The light being admitted from so great a height, there will be an air of privacy and seclusion in the gymnasium. The building will be warmed by hot-water apparatus. The elevation towards Myrtle-street will be in the Italian style, and will consist mainly of a low centre, with towers at either end 60 ft. high. This elevation is to be wholly executed with rubbed stone. Its frontage is 94 ft. Mr. Walter Scott is the architect, his designs having been preferred in a competition. This plot of land, containing 1,450 square yards, has been purchased for a sum of 2,539*l.*, on corporation lease. The contract for the whole building has been taken by Messrs. Nicholson & Ayre for 7,060*l.*; and they have bound themselves to finish the interior, the hall, and the school of arms by the 1st of November, and the whole building by the 21st of December.

PRESERVING TIMBER FROM DECAY.

EXPERIMENTS by Mr. Crepin are recorded in the *Annales des Travaux Publics de Belgique*, in connexion with Baltic timber creosoted by Mr. John Bethell's process. In October, 1857, creosoted fir, which had been taken from wood prepared in the ordinary way for the State railway, beech prepared with sulphate of copper, and fir and beech not prepared in any way, were placed 6 ft. 3 in. (1·90 metre) above the water-mark upon the piles of the east pier at Ostend. In the beginning of January, 1859, the pieces were taken down and inspected. It was found that the piece of fir unprepared was much perforated by the teredo; that the piece of beech unprepared was perforated from one end to the other; that the pieces prepared with sulphate of copper were all three eaten by the teredo; and that the three pieces of creosoted fir alone were intact, and without a trace of the teredo. Mr. Crepin concludes that he cannot too strongly recommend the use of creosoted fir wood in hydraulic engineering, in preference to oak; since, in addition to its being cheaper, there is no doubt of the creosoted fir lasting longer. The Government Public Works Department has adopted this process, and constructed part of the dyke, and the whole of the American foot-passengers' bridge, in the new works at Ostend, of creosoted red fir. A report of Mr. Moir, with respect to the piles and other timber in the pier at Leith Harbour, creosoted by Mr. Bethell, is equally satisfactory.

THE NEW ACT ON GOVERNMENT ANNUITIES.—This Act has been issued. Annuities may now be granted up to 50*l.*, and may be paid for in smaller instalments and at shorter periods than hitherto. An assurance on death is not to be entered into for or on behalf of a person under 16 or over 60; and is not to be for more than 100*l.* or less than 20*l.* The Act is not to come into force until tables made in pursuance thereof can be legally acted upon.

PARLIAMENTARY.

'ce of Works.—Public Recreation Grounds.—Doulton gave notice that next session he d call attention to the organisation of the s of Works, and would move that the conso- ion of the several branches of the public ce, in relation to architecture, art, and ce, should replace the present anomalous inconvenient arrangements. He also gave e that he would move for a select committee quire into the open spaces within the metro- an district, with a view to prevent their sure.

nders for Works at Windsor Castle.—In ver to Mr. Vansittart, Mr. Cowper said, cer- alterations had been made as to the recep- of tenders for these works, with the view of toting economy; but those alterations would in any degree exclude the tradesmen in dsor, who had hitherto done this sort of , from still sending in tenders.

ork Lane.—In answer to Sir J. Shelley, Mr. per said, he was very glad that the Metro- an Board of Works had taken into their con- ation the crowded traffic of Park-lane, with w of remedying it. They proposed, how- that Hamilton-place should be opened for purpose, instead of adopting what he ght a better plan, viz., widening Park-lane. ilton-place was under a lease from the n, and that lease could not be broken, but dvisers of the Crown would not oppose a ngation of Hamilton-place if the Metropo- Board of Works should desire that.

e Serpentine.—In answer to Mr. H. Lewis, Cowper said it would be dangerous in the ent hot weather to meddle with the Ser- ine, but it would be cleansed in the cold cher.

CONTINENTAL NEWS.

amburg.—The want of a zoological garden long been felt by the inhabitants of this especially as the connexions of our mer- nt princes with all parts of the world seemed cilitate its establishment. At last, about a and a half ago, some fifty influential gen- en met at a dinner, speeches were made, subscription lists were handed round—*tout ne chez nous*. Most of the subscriptions con- d of *animals*, one gentleman signing for a le of lions, another for a bear, a third for a key-house, &c; and in less than a year burg could boast of a well-stocked zoologi- establishment. Amongst the latest additions large aquarium, constructed from the plans essrs. Meuron & Haller, architects, who were led by the advice of Mr. W. Alford Lloyd, rium manufacturer, of London. This build- is 64 ft. long by 34 ft. broad: the floor is t. below ground level, and is reached by two ts of steps, 10 ft. wide. The interior is ded into what may be called a nave and two isles, 9 ft. wide, the latter being roofed in glass, similar to hot-houses, each contain- ive aquaria. The sides of these aquaria are ate slabs, 2½ in. and 2 in. thick, the sides spectator being of glass, 1 in. and ¾ in. r. The central division, or nave, is 16 ft. , and is lighted only by means of the rays e sun passing through the aquaria on either

The effect of this arrangement is, that all ight is thrown upon the specimen cases, the tator remaining in half light. The arrange- t for lighting the building by night is lar, argand burners throwing no shadows, reflectors being fixed near the surface of the r. A hot-water apparatus, and diverse con- nces for ventilation and for keeping the ding at an even temperature throughout the , complete this novel arrangement.——The Museum of Fine Arts is shortly to be begun, ers for masons', joiners', and carpenters' k being advertised for in the local journals. architect is Mr. F. Laeisz.

remen—is to have a new exchange, the build- to contain a large hall, reading-rooms, tele- h offices, &c.

eipzig.—The idea of testifying to Herr von st the satisfaction of all Germany, for the ner in which he represented the Diet at the conference in London, found little favour at time; but now the matter has again been n up, and subscriptions are being raised. ady some 5,000*l.* are at the disposal of the mittee, and it is probable that a villa, beau- ly situate on the banks of the Elbe, just pleted, and now for sale, will be purchased presented to him.

Cologne.—This city is just now celebrating a great church festival, the 500th anniversary of the arrival of the bones of the Three Magi. These relics are supposed to have reposed at Milan for centuries, and when Frederick Barbarossa conquered and destroyed that city, Archbishop Reinold, of Cologne, obtained the remains as his share of booty, and sent them to his native city, where they arrived on the 23rd July, 1164. Many of our readers have, doubtless, seen the costly shrine in which the relics are preserved. If we remember rightly the *skulls* of the Three Magi are preserved at Venice.

Hanover.—A decree, dated June, 1861, ordered the construction of a "Royal Guelphic Museum," to contain collections of antiquities belonging to the Ducal (now Royal) House of the Guelphs, and to the countries ruled by them. Already this Museum possesses a degree of interest hardly to be expected in so short a time. There are collections of armour, and implements of war and the chase; an array of costumes, some belonging to the middle of the sixteenth century; cases of jewelry, formerly in the possession of the House of Brunswick-Luneburg; collections of glasses, silver drinking-cups, and quaint musical instruments, &c. There is a curious display of instruments of torture, formerly used,—the last as late as 1818, when a man was cruelly ill-used for stealing a horse. The coins are interesting, and there is a complete series of English money, beginning with that of the time of George I. Not the least interesting is some church plate brought by Henry the Lion from Palestine in the twelfth century.

Athens.—The Austrian Consul, Dr. von Hahn, has sent a detailed and interesting paper to the President of the Austrian Geological Institute, Hofrath von Haidinger, giving an account of his recent excavations at Troy. With only thirty-six workmen at his disposal, he succeeded, between the 29th of April and 21st of May, in opening up the entire extent of the fort on the Balidagh, and discovered many "cyclopian" walls. Sculpture there was none; but Dr. von Hahn collected some Greek coins, lamps, and figures in burnt clay.

FROM SCOTLAND.

Edinburgh.—The Edinburgh and Leith Sewerage Bill has now passed, with a few unimportant amendments, which we reagreed to by the Commons.

Dumfries.—The "Apostolic" or Irvingite congregation have resolved to erect a more commodious and elegant place of worship. The site is in Mr. Learmont's nursery, on the north side of the New-road, near the theatre. "The plan of the building," says the *Dumfries Courier*, "is the same as that of the new Episcopal Church at Dunse,—architectural designs not being copyright,—with the addition of another vestry. It is in the Norman style of architecture. The building will consist of nave, with side aisles and chancel. The entire length will be 64 ft., and the width 40 ft. The elevation to the New-road will be about 34 ft. in height, with a tower and spire at the east side. The line of front is broken, the centre or nave projecting beyond the west aisle, while the tower is in advance of the nave. The entrance is by the tower. In the gable front of the nave there is a large wheel window in eight compartments, and a large window below in two compartments. At the north gable the chancel projects about 12 ft. beyond the east aisle, and on the west side of the chancel are a large and a small vestry. In the interior the side walls are supported by four columns and arches, dividing the aisles from the nave. There will be four windows in each aisle, four clerestory windows in the upper part of the nave, and a large three-mullioned window in the chancel. At the south end of the nave there is an organ-gallery above the entrance lobby, the access to which will be by a stair in the tower. The building material is red freestone, dressed in 'blocker' work,—hewn with a narrow chisel. The interior walls will be the same as the exterior, there being no plaster work. The columns of the aisles will be polished, with carved capitals. The church will accommodate fully 200. The contractors are Mr. Joseph Watret for masonwork; and Mr. John Mein for joiner, slater, plumber-work, &c. The cost, we believe, will be fully 1,000*l.*"——In St. Andrew's Roman Catholic Church, an improvement is nearly completed by the whole of the windows being filled in with mullions in the Gothic style, executed by Mr. J. Flint. The windows have been refilled with stained glass, executed by Mr. F. Barnet, Leith. The groundwork of the windows is a geometrical design, and in each of the windows in the body of the building there are two panels, with the representations of saints. The first window from the altar on the south side contains Saints Winefreda and Francisca Xaverius; the second, Saints Robert and Helena; the third, Saints Andrew and Margaret; and the fourth St. John the Baptist and St. Elizabeth. On the north side, the first window from the altar contains Saints James and John; the second, Saints Joseph and Mary, with the infant Jesus; the third, Saints William and Helen; and the fourth, Saints Patrick and Bridget. The two windows in the front on each side of the tower, have also been erected by the congregation: they do not contain panels.

Arbroath.—The seven wells erected in the Townhead district, for the Townhead water supply, has been set in operation. The water, it is said, has every appearance of being plentiful, and the quality excellent. This water has been got in the Montrose Turnpike-road, which abounds with spring-water. The bottom of the reservoir is 8 ft. from the surface of the road, and is 45 ft. long, 5 ft. wide, and 4½ ft. in depth. At this depth the water is abundant. The total quantity which could now be drawn from the reservoir is upwards of twenty gallons per minute. An eighth well is in contemplation. The expense of the whole scheme will be about 200*l.*

CHURCH-BUILDING NEWS.

Gainsborough.—The sum of 500*l.* having been subscribed for the Gainsborough parish church alterations, it has been resolved that an application should be made forthwith for a faculty for re-building the north and south galleries, and carrying out the other improvements contemplated, including the warming of the edifice. The portion of the south gallery occupied by Sir Hickman Bacon, bart., is not, however, to be taken down or altered in any way without his written consent having been first obtained. Meantime the alterations in the church have been commenced. The joists under the floor are found to be very much decayed, and another 100*l.* or more will be required on this account. Mr. A. Allen, of Newark, is the architect; and Mr. Cant, of Gainsborough, the contractor.

Huddersfield.—St. Stephen's Church, Rashcliffe, has been consecrated. The edifice has been erected at a cost of about 2,300*l.* from plans prepared by Messrs. Blackmoor & Withers, of Sheffield.

Westow.—The church here, which is situate about a mile and a half from Kirkham, on the York and Scarborough Railway, has lately been restored, and re-opened for Divine service. The new church consists of a nave and north aisle, 50 ft. long and 21 ft. and 12½ ft. wide respectively. The chancel is of nearly the same dimensions as the old one, with a vestry on the north side. A south porch on the site of the old one gives access to the body of the church. The church walls have been rebuilt, to a great extent, with the old materials. There are simple windows of two lights in the north and south walls, with tracery in the heads, and a three-light in the west wall of the north aisle. The roofs are high pitched (as near the original as can be ascertained), and covered with Westmoreland slate, while stone crosses surmount the various gables. The interior of the church is of simple and unadorned character. The nave is divided from the north aisle by an arcade of four arches springing from circular columns. The chancel arch is of rather more ornamental character, resting on corbel shafts with foliaged caps. The walls are lined with rubble stone from neighbouring quarries. The windows are filled with cathedral glass, excepting the east and north, which are painted. The roofs internally are open to the ridge, boarded, and stained. The seats are of wainscot oak, and of low height, and open accommodation for about 400 is provided. With the exception of the chancel, which has been restored under the superintendence of the Ecclesiastical Commissioners, the whole of the alterations have been designed by Messrs. Mallinson & Healey, of Bradford. The east window is of stained glass, and was supplied by Mr. Wailes, of Newcastle, at the cost of 150*l.* The subjects are, Christ entering the House of Mary and Martha after the Death of Lazarus; Christ raising Lazarus; Jesus weeping; Jews coming from Jerusalem to comfort the Sisters concerning Lazarus; the two Sisters ministering to Lazarus

when sick; and Mary kneeling at the Feet of Jesus. The west window, which represents the Transfiguration, was supplied by Mr. Knowles, of York. Exclusive of the windows, the restoration of the nave has cost 1,000*l.*, and the chancel 300*l.*

Tockwith.—The foundation stone of a new church has been laid at Tockwith, near Wetherby. The edifice is to be built in the Early Decorated Gothic style, and will consist of a nave 6 ft. by 22 ft.; north and south transepts, 14½ ft. by 17½ ft.; chancel, 32 ft. by 21 ft.; organ chamber and vestry on the south side of the chancel, porch on the westernmost bay of the nave and circular bell-turret on the north-east corner of the nave. It will accommodate 244 adults and fifty-six children, and the total cost will probably amount to 3,000*l.* The architects are Messrs. Mallinson & Healey, of Bradford and Halifax; and the contractors, Messrs. Ridsdale, masons, Starbeck, and Messrs. Whitfield & Son, joiners, Wetherby.

Crayke (*Yorkshire*).—The church at Crayke, near Easingwold, has been recently restored and enlarged, and is now re-opened for divine worship. The superintendence of the restoration was placed in the hands of Mr. E. G. Paley, of Lancaster, architect, and according to the plans which he prepared workmen commenced operations in the spring of last year. It was then ascertained that the rafters of the roof were in many instances decayed at the ends, although sound in other respects. It was felt that the roof ought, if possible, to be preserved, and this has been accomplished. The old and new wood, of which the timbers consist, are dovetailed together, and secured by iron plates fastened upon each side. The flooring was in a bad condition, and has been removed. The aisles are now laid with flagging, whilst that portion of the area of the church devoted to sittings has a covering of thick boards, underneath which is a hollow space to prevent damp. The oak pews have been replaced by low uniform sittings. The wall of the new aisles contains three windows of two lights each. At the east end of it is a three-light window, and at the western termination is a window of two lights. The whole of these are filled in with cathedral glass. The cost of the restoration has been about 1,000*l.* Of this an outlay of 750*l.* has been incurred in the erection of the new aisle by Archdeacon Churton, the rector. The contractor was Mr. J. Brown, carpenter and joiner. He sublet the masonry to Mr. Grange; the glazing, to Messrs. Hodgson; and the staining of the seats, to Messrs. Harker & Dodsworth, all of York.

Staveley (*Yorkshire*).—The church here has been consecrated by the Bishop of Ripon, and is of the Early English style, with nave; tower and spire at west end, open through to nave, with large arch, chancel, organ-chamber, and vestry at the north side of same. The roofs are of high pitch with open framed principals, with slates of varied tints in alternate bands. The stalls in chancel are of English oak, richly carved. The pulpit and font are of Caen stone. The seats throughout are of pitch pine, with accommodation for 230 persons. The chancel is laid with encaustic tiles. Several of the windows in nave are filled with richly-coloured stained glass by Ward & Hughes, of London, and Edmundson & Son, of Manchester. The altar-rail is of brass, by Skidmore, of Coventry. The total cost will be about 2,000*l.* and all the works have been done by Mr. Freeman, builder, of Staveley, from the designs and superintendence of Mr. John Lowe, architect, of Manchester.

Hawthorn.—The Bishop of Durham has just consecrated a new church, erected at the sole expense of Mr. R. L. Pemberton, at the village of Hawthorn, almost midway between Seaham Harbour and Easington. When the living of Easington was divided, a short time ago, Mr. Pemberton, who owns the whole of the land in that district, built a parsonage-house. He also erected schools for the use of the villagers, and those for a time served as a temporary church.

Blyth.—A new church has been consecrated by the Bishop of Durham, at Waterloo, near Blyth. The edifice, which is of Early Pointed architecture, consists, at present, of a nave and short chancel. It is intended, hereafter, to extend the chancel, to erect a tower, and to build a broad aisle on the north side. The east and west windows are each of three lancet-lights under an enclosing arch, with crisped circles under it. The side windows are of two lights and similar character. There is a porch at the south-western angle of the nave. A temporary vestry is built on the north side. The roofs are open-framed; the timbers dressed and stained, with ceiling between the spars, and a space between the ceiling; and slates to obviate down-draught in the church. The seats in the nave are all low, open, and uniform; those in the chancel somewhat ornamental. An organ, by Nicholson, of Newcastle, is placed in the south-east corner of the nave. The church will accommodate nearly 300 persons, all free. Messrs. Austin & Johnson, of Newcastle, were the architects; and the builders were Messrs. Burn & White, of Blyth and Morpeth. The cost of the edifice has been 1,600*l.*, one-half defrayed by a family in the neighbourhood, who also gave the site.

Scotby (*Carlisle*).—The foundation stone of a new parsonage-house for the incumbent has been laid at Scotby, on a site on Swine-hill, at the Carlisle end of the village. Mr. David Hodgson gives the site and a donation besides. Mr. D. Birkett, of Carlisle, is the architect of the building, which will be in the Gothic style. It is to be built of the red sandstone of the district, the cost being about 1,200*l.* Messrs. Brough & Dodd are the contractors.

Gateshead.—The foundation stone of a new church, connected with the Church of England, in Gateshead, has been laid by Lady James, who is also the chief contributor towards the building. The site is in the east part of the borough. The church will comprise a chancel 31 ft. 6 in. long by 29 ft. wide, with organ chamber and vestry on the north side; a nave 71 ft. 6 in. long by 29 ft. wide; and a north aisle 72 ft. long by 12 ft. wide. The height to the ridge of the nave roof will be about 53 ft. Arches will be built into the south wall of the nave to facilitate the addition of a south aisle. The accommodation now provided is in all 540 sittings. The style is Transition. The main walls are 3 ft. thick, and the timbers of the roof of considerable dimensions. The walls will be constructed externally of snecked rubble, and will not be plastered on the inside. The roofs will be open-timbered, and ceiled between the spars.

Tonbridge.—We are requested to state that the sum of 650*l.* for the Union Chapel included architect's commission, &c.; and that the builder was Mr. Constable, of Penshurst. The building has been erected for the performance of the services of the Church of England.

DISSENTING CHURCH BUILDING NEWS.

Montgomery.—The new Wesleyan Chapel here has been opened for divine service. It was built from a design by Mr. White, architect, of London, under the superintendence of Mr. Potter, of Welshpool; Mr. L. E. Evans, of Montgomery, being the builder. The structure is in the Gothic style with a turret. The edifice is situate below the ruins of the old castle of Montgomery, and in the entrance to the town.

Willenhall.—The Wesleyan chapel has been re-opened. The building has been enlarged by extension backwards, and by transeptal projections in the sides, by which means some 250 additional sittings for adults have been obtained. The front has been remodelled, and now includes two staircase towers at the corners, surmounted by domes, with new pediments, new vestibule, &c. The style adopted is Greco-Roman, the lower part being of the Doric order, and the upper part of the Corinthian. The interior has been altered by the introduction of a series of large arches, and corresponding recesses at the communion end, by new cornices and other ornaments in the ceiling. The ground floor has been repewed, and a new pulpit erected. At the east end, over the communion, there is a large window of three semicircular-headed lights, filled in with stained glass. In the middle light is a figure of the Saviour, surmounted by a cross, with the inscription underneath:—"My kingdom is not of this world." The figure is placed under a canopy, supported by a base on which is the representation of a lamb illustrated in the text, "Behold the Lamb of God." Forming the apex of the canopy is the "Pelican of Piety." The whole is surrounded by a border. In the side lights are the emblems of the Trinity and the Holy Ghost, surrounded by a light border, and enriched by a gold stain, with monograms inscribed above and beneath, and also surrounded, like the centre light, with a border. The window was designed by Mr. T. W. Carm, and has been executed by Messrs. Chance, of West Bromwich. The night lighting is effected by three large star lights in the main ceiling, and by brackets under the galleries. The whole of the alterations have been carried out from the designs of Mr. H. Banks, of Wolverhampton, architect. The contractor was Mr. Job Wilkes, of Darlaston. The total expense incurred is about 1,500*l.*, towards which upwards of 900*l.* has already been raised and promised.

Rosedale (*Yorkshire*).—Some months ago the foundation-stone of a new Wesleyan chapel was laid here by Mr. A. C. Sheriff, of Worcester. This chapel is now completed, and has been opened for public worship. The building is of Gothic character, without much ornament. The inside measure is 40 ft. by 32 ft., and affords sittings for 250 persons. The edifice is built of local stone, pitch faced, and laid in level courses with tooled dressings, and relieved by bands and arches of a darker coloured stone. The roof is in one span, coiled at the collar-beams, which together with the principals, purlins, and ceiling binders, are exposed, and stained and varnished. The pews are framed of Petersburg red deal with solid bench ends, and stained and varnished. The contractors for the mason's, slater's, and plasterer's work were Messrs. Wood, of Pickering; for the carpenter's and joiner's work, Mr. W. Bulmer, of Scarborough; for the plumber's, glazier's, ironfounder's, and painter's works, Mr. Whitelock, of Pickering. The whole of the works have been carried out under the superintendence of Mr. Watson, of Wakefield, the architect. The cost, exclusive of boundaries, is about 500*l.*

Books Received.

A Series of Metric Tables. By CHARLES H. DOWLING, C.E. London: Lockwood & Co. 1864.

IN this series of metric tables, prepared by Mr. Dowling, the British standard measures and weights are compared with those of the metric system at present in use on the Continent. They are intended to facilitate the conversion of the one into the other in both ways,—British into Metric and Metric into British; and are therefore capable of rendering important service to all engaged with continental countries in commercial, manufacturing, or mechanical transactions. They were originally calculated for the author's own use, while professionally engaged on the Continent; and it appears from the preface that their accuracy has been certified by Professor Airy, the Astronomer Royal, a very high authority on such a subject.

VARIORUM.

"On certain Results and Defects of the Reports of the Registrar-General; from the Journal of the Statistical Society of London; June, 1864." The author of this paper is Mr. W. L. Sargant. One of his principal conclusions is thus stated:—

"Comparing the last decennial period (1851-60) with the previous one (1841-50), the improvement in the rate of mortality is very small, and is far from fulfilling the expectations of sanitary reformers [p. 175]. The excess of mortality in towns as compared with that of rural districts, is an evil too deeply seated to be corrected by improved drainage and water-supply [p. 177]."

Now, we deny either that the expectations of sanitary reformers have been disappointed with the results of drainage and water supply in towns, or that they look to drainage and water supply alone to produce all that is desired in sanitary reform. Both are essential, and cannot be neglected with impunity, though Mr. Sargant would seem to imply that they can; but so long as want of ventilation, over-crowding, and dirt, prevail in the interior of dwellings, the requirements of sanitary reformers are not by any means fulfilled. Nevertheless, the local and special reports, which have been published by scores, on the subject, show clearly that wherever drainage and water supply have been improved, there mortality has markedly diminished; and if the Registrar-General's reports show this improvement to be as yet what Mr. Sargant calls "very small," that can only show how much is yet to be done throughout the whole country in the case of even drainage and water supply, far less in regard to ventilation, overcrowding, and dirty habits. The continued efforts of sanitary reformers have already produced a decided and very general public opinion in favour of both drainage and water supply; and it is mainly by the formation of a similar public opinion in favour of ventilation and cleanly habits, and against overcrowding, that they hope to fulfil their expecta-

s.——"Report of a Discussion on the pro- d Admission of Girls to the University local minations. London: Emily Faithfull. 1864." pamphlet is published under the auspices ie National Association for the Promotion of ial Science, with which is united the Society Promoting the Amendment of the Law. shows the result of an experiment with rd to the local examination of girls, by com- son with those of boys,—a result which is idered sufficiently favourable to induce those rested in it to make further exertions towards realization of the object in view.——The *rterly* has an interesting paper on "Christian " founded on Lady Eastlake's "History of Lord," of which book, by the way, we owe readers an account, and will not long delay ment. The *Quarterly* writer dwells at con- rable length on the Art of the Catacombs. article in the same periodical, on "Travelling England," will also interest many of our ders.

Miscellanea.

ARCHÆOLOGICAL INSTITUTE.—The congress has a opened satisfactorily in Warwick, and seve- excursions, in accordance with the pro- mme we gave, have been made.

PROPOSED RESTORATION OF ST. BARTHOLOMEW'S, THFIELD.—We learn from the newspapers a committee of architects have met and e sanctioned the plans laid before the Resto- on Committee, and that the works will be tly commenced.

DEMOLITION OF AN ANCIENT HOUSE IN LON- .—In the centre of a block of houses on west side of St. Mary-axe, and only a few rs from Leadenhall-street, stood an edifice of int appearance, being constructed of wood h overhanging bay windows, except those on attic or fourth floor, which was evidently of e modern construction than the rest of the ding. Its date has been lost in the lapse of rs. This relic of old London has recently been ed down.

RESTORING OIL PAINTINGS. — A remarkable cess for restoring old oil pictures by sub- ting them to the vapour of alcohol has, it is , been perfected by a German *savant* (Herr tenkoffer), who thus restores them without real chemical action and without touching n at all. His process professes to be hanical, and merely to replace the losses ich age and desiccation have produced, and estore the original brilliancy of the pictures a process which is simple and effectual, and perfectly safe. In this view the blackness old pictures must be supposed not at all to e from smoke or dirt on the varnish.

MONUMENTAL.—To Mr. Shirley Brooks belongs credit of organising a committee, numbering e of the best known names in literature and for the purpose of erecting a memorial to late Mr. Thackeray in Westminster Abbey. consent of the dean has been obtained, and m the subscriptions flow in, a meeting will eld to decide what form the memorial shall e. —— An influential committee has been ed in London to raise a memorial to the late W. J. Fox, and a considerable sum has been ady subscribed towards the fund for this ect. The committee propose to employ the unt obtained in erecting a monument over grave of Fox, in placing a marble copy of Earle's bust of the deceased in the National trait Gallery, and issuing an edition of his ks.

THE STRIKE AMONGST THE FLINT GLASS KERS.—A fortnight ago a meeting of masters delegates connected with the flint glass le was held at the Old George, Bridge-gate, ds, to consider the advance asked for by the n. The chair was taken by Mr. S. Blunn, of cliffe. A fair and impartial consideration he question having been invited, the repre- tative of the masters drew attention to the n competition at present existing between English and foreign manufacturers, and ed that at present the masters were not in sition to grant the advance asked for. Mr. ester replied on behalf of the delegates, con- ding that the 15 per cent. advance asked for neither unreasonable nor exorbitant. The ters unanimously agreed to give the advance ked for. The men withdrew their notices, and med work.

IMPROVED CABS.—It is proposed to establish a new patent carriage company upon rather improved principles to the Hansom cab. A great deal of improvement is needed in all the London public vehicles, and certainly a better cab than the hansom is required, which is inconvenient to enter at the side, provides an awkward prospect, and has the knack of getting into innumerable difficulties. The writer of this has twice seen the cabman pitched right over the horse when it stumbled, and only last week saw a passenger thrown out head foremost into the street.

SCULPTURE BY ELECTRIC LIGHT.—Persons who passed the gardens of Apsley House a few nights ago were at a loss to understand the varicoloured lights which flashed here and there and filled the trees with radiance. The fact is, a number of works of sculpture were being exhibited by electric light to the guests of the Duke of Wellington. This was effected by large voltaic batteries arranged on Grove's principle, which were connected with lamps and parabolic reflectors, constructed by M. Serrin, of Paris. The colours applied were shades of red, amber, blue, green, and white.

ORNAMENTAL TIMBER.—The Lords Justices, in the recent case of *Forde* v. *Tynte*, decided that the question what "a prudent owner" would do in the proper or ordinary course of management can be no measure of the obligation which attaches in the Court of Chancery upon a tenant for life without impeachment of waste, with reference to timber planted or left standing for ornament; for every such tenant for life is bound by the taste or want of taste of any absolute owner by whom the timber may have been so planted or left standing: he is not owner, for any beneficial purpose, of timber absolutely and entirely so dedicated.

HAVELOCK'S TOMB.—A correspondent of the *Bengal Hurkaru*, who lately passed through Oude, gives this sad account of the present condition of Havelock's tomb:—"I reached the Alumbagh about five a.m., and could not pass without visiting the grave of Havelock. I was much surprised and disappointed to find the place utterly neglected. It might be as well, perhaps, to leave the house as it now stands, for it bears good evidence of the fighting there; but why the garden should be allowed to remain as it is cannot very well be explained. One thousand rupees expended on the garden in clearing it out and planting shrubs, and fifty rupees per month afterwards, would, I think, do all that is necessary."

THE PUBLIC WORKS ACT.—In reference to the Lancashire Public Works Act, it appears that of the loans ordered, amounting to a million and a half, only 426,000*l.* have been yet advanced. The great bulk of the expenditure has been for sewerage and street improvement works, including the formation and paving of streets. The length of the sewerage works thus undertaken is 263 miles. The area of paving and street works undertaken in respect of the above-mentioned sum is 683 acres, the length of the streets and roads made being 253 miles. The tables include almost every township of importance in the cotton manufacturing districts, there being but few which have not undertaken public works through the provisions of this Act. The health and strength of the distressed operatives have been greatly improved since their employment on these public works.

PROPOSED WORKING WOMEN'S COLLEGE.—A prospectus for the formation of a working women's college has been issued. It is intended to take as a model the Working Men's College, in Great Ormond-street, in which the principle of mutual help and brotherhood between those in different social positions has been successfully carried out. There will be in many subjects both elementary and advanced classes, taught by ladies and gentlemen experienced in teaching, and also preparatory classes in reading, writing, and arithmetic, in order to render students eligible to join the elementary classes. The fees will be very small. A coffee-room will be provided, with periodicals, newspapers, &c., and will be open every evening from seven to ten o'clock, and be made as far as possible (under proper regulations), the centre of the social life of the college. It is proposed to rent a house in some central situation—say, near either Fitzroy-square or Soho-square—and to begin with some preparatory classes as soon as possible, with a view to the college itself being regularly opened in October next.

HALIFAX TOWN HALL.—A marble bust of the Queen has just been erected in the Halifax Town Hall. It is a gift to the corporation from the ex-mayor, Mr. John Crossley, and is a companion bust to that of the Prince Consort, presented by the present mayor, Major Holdsworth.

PLÖN CHURCH DESTROYED BY LIGHTNING.—The fine old parish church of Plön was destroyed by fire on the 24th ult. The tower was struck by lightning; but it was not until two hours afterwards that the fire became apparent by the flames suddenly bursting out from end to end of the church. In three-quarters of an hour all was over.

NEW THEATRE AND OPERA-HOUSE FOR LIVERPOOL.—A limited liability company, the directors of which include some of the most influential and wealthy "merchant princes" of Liverpool, have purchased a plot of ground in Lime-street, Liverpool, near the London and North-Western Railway Station, and opposite St. George's Hall, on which they are about to erect a theatre and opera-house. It is expected that the new building will be opened before next Christmas, though it is to be a very large structure, combining all the recent improvements. Especial attention will be paid to ventilation and to the comfort of the audience; for, though the theatre will be a large one, it is only intended to seat 1,500 persons. The building is to be called the Alexandra Theatre and Opera-House.

NEW METHOD OF ILLUMINATION.—M. Subra, professor of mathematics, says the *American Gas-Light Journal*, has invented a new method of illumination, or rather a method of inverting a flame, by the adoption of which several advantages are expected to be realized. The apparatus consists of a syphon of glass, the open ends of which are turned upwards; a burner is placed just within the shorter branch. Before lighting the lamp, the longer branch of the syphon is heated, and a current of air established, which carries with it any flame placed at the open end of the shorter branch, the flame, consequently, becoming inverted. As soon as the current is established, and the burner kindled, the heating of the longer leg may be discontinued; the current, once established, being sustained by the heat from the inverted flame. Thus, the supports of the globes or lamp-glasses are placed above the flame, and do not intercept the light; and the reflectors are in no danger of becoming blackened by smoke. The products of combustion, too, are collected in the syphon, and may be conveyed away, instead of vitiating the air of the apartment. It is proposed to employ these reversed flames as foot-lights for theatres.

OPENING OF NEW CUSTOM HOUSE, SOUTH SHIELDS.—The new Custom-house buildings, South Shields, have been formally opened by the members of the corporation and the River Tyne commissioners. The buildings, which are of the Italian order of architecture, stand on the quay at the Mill Dam, and command an extensive view of the River Tyne, both up and down. The façade next the river is composed of eight Corinthian columns (coupled), standing upon a rusticated basement of piers and arches, forming an arcade. The four centre columns are surmounted by a pediment, in which are placed the Royal arms. The borough arms are likewise placed over the centre arch of the arcade. The flank and back elevations are of a somewhat plainer character. The main cornice and principal string-courses are continued all round, with rusticated basement story in keeping with arcade and moulded quoins at the angles, the whole surmounted by a parapet. The shipping-office is on the ground-floor, and comprises shipping-master's office, 20 ft. by 16 ft.; waiting-room, 20 ft. by 15 ft.; general shipping-office, 26 ft. by 20 ft. The entrance or vestibule to shipping-office is paved with Caithness flags. There is also on the ground-floor a large bonding warehouse, with other rooms. The first floor is set apart for the Custom-house, the entrance to which is by a vestibule 34 ft. in length, and paved with tesselated flags. The Custom-house comprises private office, 20 ft. by 17 ft.; general office, 23 ft. 6 in. by 20 ft.; locker's room, 12 ft. by 13 ft. 6 in.; waiting-room and small office, 20 ft. by 13 ft. 6 in. On this floor also is the Marine Board-room, 25 ft. by 20 ft. The cost of the building is, we understand, 3,000*l.* Mr. T. M. Clemence, the borough surveyor, was the architect, under whose superintendence the buildings were carried out by Messrs. Scott & Suddards, of South Shields, builders.

THE ANTHROPOGLOSSOS. — If this so-called singing-machine had been restricted to a simple song or so, we might have listened quietly, and wondered whether or not we were being deceived; but, singing, as it does, all sorts of songs, and any that may be given to the owner a few hours beforehand, we have no doubt on the subject. How the imposition is managed, unless, indeed, some poor dwarf is actually boxed up in the suspended head, is not obvious; but imposition it must be. This need not prevent people from going to see it,—the question being, how is the affair managed? If, however, it *should* resolve itself into the confinement of a human being within the waxen *caput*, the proprietors should at once be prosecuted for cruelty.

STAINED GLASS COMPETITION.—The Art Department is seeking to obtain for the South Kensington Museum a design for a stained glass window, 18 ft. 9 in. high to the crown of a semicircular arch, by 11 ft. wide. The subject is furnished by the thirty-eighth chapter of Ecclesiasticus. The design is to be on the scale of one inch to the foot, and coloured, and it is to be accompanied by a full-size cartoon of a sufficient portion to show the execution, and a specimen of a portion of the design executed in glass, of the full size, 40*l.* will be awarded for the design which appears to be most suitable, and a sum of 20*l.* for the next best design. The designs to which the prizes are awarded will become the property of the Department, which however does not bind itself to execute either of them. The inducement seems to us scarcely strong enough to insure a good result.

THE COPPER TRADE.—The past fortnight, says a Liverpool report, has been characterised by an active and also speculative demand for both English and foreign copper; and though the smelters have not officially advanced their prices, they have been able to sell pretty freely at 3*l.* advance: 5*l.* are now generally asked. Chili bars have advanced to 89*l.* and 90*l.*, and there is very little Chili ore and regulus to be got under 18s. per unit. This change has been produced by the feeling on the part of consumers that copper had reached a price when it was desirable to go pretty freely into stock. In the first five months of the current year the imports of copper ore and regulus have been 36,733 tons, against 42,827 tons in the corresponding period of 1863, and 47,926 tons in the corresponding period of 1862. The value of the copper ore and regulus imported has been as follows since 1853:—1854, 1,236,132*l.*; 1855, 1,433,693*l.*; 1856, 1,929,683*l.*; 1857, 2,157,558*l.*; 1858, 2,138,880*l.*; 1859, 1,812,023*l.*; 1860, 2,211,558*l.*; 1861, 2,008,246*l.*; 1862, 2,631,056*l.*; and 1863, 2,000,473*l.*

ANCIENT BUDDHIST REMAINS.—An interesting collection of ancient Buddhist remains, discovered by Mr. E. Harris at Sultangunge, on the Ganges, while engaged in some engineering operations, has just arrived in England. Among the objects of interest discovered in the ruins excavated (supposed to be a vihár, or Buddhist monastery) is a colossal image of copper, 7 ft. 6 in. in height, weighing upwards of a ton, and supposed to be more than 2,000 years old. There are also several smaller figures, both in stone and in copper, and some baked clay slabs thickly covered with writing, &c., reminding one of the ancient Assyrian practice. The collection is at present placed in the museum of the Royal Asiatic Society, where plans and sections of the excavations have also been deposited.

LINCOLN ARCHITECTURAL SOCIETY.—The annual meeting was held at Nottingham. The proceedings commenced at St. Mary's Church, with divine service, at which the Rev. Canon Brooks officiated. The choir sang a full service, after which the Rev. Prebendary Trollope, the general secretary of the society, delivered an address on the fabric. The members then proceeded to the castle, where the Bishop of Lincoln took the chair, and the mayor and corporation presented an address of welcome. A paper on the subject of "Nottingham Castle" was read by Mr. T. C. Hine, the honorary local secretary. An excursion was then made to Wollaton Hall; and there was an evening meeting, under the presidency of the Bishop of Lincoln, at the Exchange Hall, where the Rev. Prebendary Trollope read a paper on "The Raising of the Royal Standard of War at Nottingham, by King Charles I.;" and other proceedings took place. A collection of paintings and engravings was exhibited in the Exchange Hall, for the purpose of illustrating the Caroline Civil War, which formally commenced at Nottingham.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—The members of this society have just taken their annual excursion. They met at Little Walsingham, and visited Great Walsingham, where a short stay was made, and Mr. L'Estrange read a few explanatory and historical notes on the church. Some little delay was occasioned owing to the keys of the church not being at hand when the party arrived; and this was the case at several other places visited, although a previous intimation of the visit and the time had been forwarded to the different clergymen. Other places visited were Wighton, Burnham Thorpe (the birthplace of Lord Nelson), Burnham Ulph, Burnham Norton (where a paper was read by the Rev. G. W. Minns on the church, &c., and on the priory ruins and the Lady's Well), and North Creake Abbey, the ruins of which were found to be in apparently the last stage of decomposition, huge timber props being necessary to prevent the chief portion from falling down. Here Mr. Carthew read a short paper, and it was agreed that photographs of the ruins should be engraved and published in the Society's journal. The party closed the day and the meeting by returning to Walsingham.

THE LEICESTERSHIRE ARCHITECTURAL SOCIETY. This society, under the patronage of the Lord-Lieutenant of the county and the Lord Bishop of the diocese, held its tenth general annual meeting at Hinckley, on Tuesday in last week. The members and friends of the society assembled in the Corn Exchange, and, after an address from the Rev. Wm. Skirrow, the vicar, as chairman of the local committee, walked in procession to the church, where, after prayers and a voluntary upon the organ, Mr. Bloxam proceeded to point out the architectural features of the structure. From the church the party proceeded to the site of the old castle. At thé Corn Exchange in the evening papers were read by Mr. Bloxam, on Merevale Abbey; Ancient Hinckley, by Mr. J. Thompson; and Notes upon Ancient Hosiery, by Mr. T. North, for Mr. J. G. Nichols. On Wednesday morning the visitors went to Mancetter (Lord Curzon's), Merevale (Mr. C. Dugdale's), lunched at Atherstone, and thence went to Sheepy, Orton-on-the-Hill, Troycross, and Gopsall Hall. The meetings and Museum were crowded to excess throughout Tuesday. The Museum, arranged for the occasion, contained a great variety of architectural and antiquarian objects of interest.

TENDERS.

For new wash-house, laundry, &c., at Clerkenwell Workhouse. Mr. W. P. Griffith, architect:—

Gribble	£1,093 0 0
Ramsay	788 16 0
Hall	726 0 0
Yardley (accepted)	699 10 0
Fowler	680 0 0
Terrey	645 0 0

For editors' rooms, Chapterhouse-court, for Religious Tract Society. Mr. W. P. Griffith, architect:—

Ebbage (accepted)	£440 8 9

For new malting, brewery, and beer cellars for Mr. Thomas Crane, Leicester, exclusive of bricks. Mr. Francis E. Drake, architect. Quantities supplied:—

Glover	£455 0 0
Flude	410 0 0
Clifton	407 0 0
Chambers	400 0 0
Bent	365 0 0
Wall & Lee	345 0 0

For the erection of a billiard-room and other offices at Frensham Hall, for Mr. Charles E. Taylor. Messrs. Eggar & Stapley, architects:—

Birch	£475 0 0

For the erection of a villa residence, at Boundstone, near Farnham, for Messrs. J. & S. Fishwick. Messrs. Eggar & Stapley, architects:—

Birch	£2,335 0 0

For three houses at Camberwell. Mr. W. Berriman, architect:—

Marsland & Son	£4,830 0 0
Colls & Son	4,825 0 0
Macey	4,645 0 0
Gammon	4,560 0 0
Tarrant	4,500 0 0
Westropp	4,485 0 0
Thompson	4,435 0 0
Dennis	4,375 0 0
Wills	4,193 0 0
Henshaw	4,138 0 0

Accepted for the restoration of the parish church at Cossington, in the county of Leicester. Messrs. Goddard & Son, architects:—

For stone-mason's, bricklayer's, slater's, and plasterer's work.

Firn	£669 0 0

For carpenter's, joiner's, and ironfounder's work.

Loveday	575 0 0

For plumber and glazier's work.

Hill	55 0 0

For raising Hare-court Chapel, Aldersgate-street. Mr. W. P. Griffith, architect:—

Ebbage (accepted)	£480 0 0

For additions to a house at Upper Norwood. Mr. Sextus Dyball, architect:—

Seymour (accepted)	£508 0 0

For cellars to No. 2, Church-road, Upper Norwood. Mr. S. Dyball, architect:—

Seymour (accepted)	£350 0 0

For alterations and additions to buildings, at Sydenham, for the Sydenham Laundry Company. Mr. S. Dyball, architect. Quantities by Mr. F. Chadwick:—

Seymour	£1,405 0 0
Sims & Marten	1,320 0 0
Buck	1,270 0 0
Littlejohn	1,100 0 0
King, Hipwell, & Co.*	1,047 0 0

* Accepted.

For a pair of houses to be built at Wandsworth. Mr. G. H. Page, architect:—

Bass	£1,150 0 0
Adamson & Sons	885 0 0
Brighten	875 0 0

For house to be built at St. John's Hill, Battersea-rise, Mr. G. H. Page, architect:—

Bass (accepted)	£1,550 0 0

For additions to the Strand Union schools, Edmonton. Mr. W. Lee, architect. Quantities supplied by Messrs. Linsdell & Giffard:—

Cannon	£4,980 0 0
Fish	4,975 0 0
Howard	4,975 0 0
Hall	4,815 0 0
Humphries	4,750 0 0
Maeers	4,690 0 0
Linzell	4,655 0 0
Hill & Keddell	4,530 0 0
Perry & Judson (accepted)	4,485 0 0
Mann	4,233 0 0
Purkiss	4,085 0 0

For the construction of roads and sewers, Clapton Park Estate. Messrs. Hammack & Lambert, surveyors:—

Randell & Co.	£2,932 0 0
Hartland & Bloomfield	1,997 0 0
Reddin	1,870 0 0
Radley	1,869 0 0
Pound	1,799 0 0
Pizzey	1,775 0 0
Porter	1,628 0 0
Potter (accepted)	1,285 0 0
Horn	1,260 0 0

For the erection of a house at Beulah Spa, for Mr. H. Wright. Messrs. Tress & Chambers, architects:—

Brown & Robinson	£2,593 0 0
Brass	2,575 0 0
Macey	2,519 0 0
King, Burton, & Co.	2,358 0 0
Hawkes	2,200 0 0
Piper & Wheeler	2,185 0 0
Conder	2,134 0 0
Newman & Mann	2,112 0 0
Olludge	2,066 0 0

For building St. Andrew's Church, Canal-road, Kingsland. Messrs. Long & Bond, architects:—

Sanders	£4,150 0 0
Mares	3,900 0 0
Wood	3,713 0 0
Piper & Wheeler	3,450 0 0
Hardiman & Sandon	3,182 0 0

TO CORRESPONDENTS.

TO KEEP STONE WHITE.—A Subscriber says,—I shall feel obliged if any of your readers will inform me of a wash that will keep white stone clean, in place of using the yellow or white clay which we see daubed on door-steps and parapets.

H. J. M., Quebec (*Carte* has been sent as requested).—E. A. C.—G. & Son.—F. R. W. (not necessary).—G. W. (names are not readable).—F. C.—Dr. R.—J. H. (we decline advising on private disputes, and on *ex parte* evidence).—W. K.—W. J.—R. F. (useless now).—E. A. D.—C. E. E.—W. & Sons.—Mr. F.—A. W.

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IV. THE CIRCASSIAN EXODUS.
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MR. KERMOCK is favoured with Instructions from Messrs. Brassey & Ogilvie, to SELL by AUCTION, on THURSDAY, 4th AUGUST, 1864, at TWELVE for ONE o'clock, upon the PREMISES near the River Thames, at Hampton Wick, all the SURPLUS MATERIALS and BUILDINGS, comprising the erection of boarded and slated stabling, 75 feet long, with racks, mangers, &c. and brick paving; the erection of carpenters' shop, smiths' shop and storehouse, together 133 feet long, with plain and pan tiled roofs; boarded counting-house, with fireplace, &c.; three carts, five useful horses, six sets of harness, a chaff machine, about 500 new deals, a quantity of sleepers and timber, well seasoned and capable of being converted into various useful purposes; close-boarded and open carriage gates, large trestles, an iron tank 4 feet square, scaffold poles planks, ladders, posts and rails, spare and pear tree stems, open and close fencing, a grindstone and frame, corn bins, window frames and sashes, carpenters' benches, deal posts, and numerous items.—To be viewed on Saturday and Monday, August the 6th and 8th. Catalogues may be had at the Greyhound Inn, Richmond; the Railway Hotel, Twickenham; and at EDWIN KERMOCK'S Offices, Kingston-on-Thames, S.W.

OLD BUILDING MATERIALS.—TO BE SOLD by AUCTION, by MR. B. ABBOTT, JUN. on MONDAY next, AUGUST 1, on the PREMISES, Marlborough-place, Old Kent-road, at ONE o'clock, a large quantity of excellent OLD BUILDING MATERIALS, comprising mahogany doors and fittings, 800 feet plate glass, sashes, and frames; glass doors, modern chimney pieces, stone paving; 7,000 feet long sound joists, nearly new, 2 by 3; 3 tons sound oak and fir timber, joists and plates; modern iron railing, stoves, &c.—Catalogues may be had on the Premises; or at the Auctioneer's, 74, Gracechurch street, City.

AUCTION ROOMS, 13, HIGH HOLBORN.—A well-assorted Stock of Builders' Ironmongery, Large Iron Repository, Weighing Machines, &c. &c.

MR. HOLLINGSWORTH will SELL by AUCTION, on MONDAY next, AUGUST 1st, at TWELVE for ONE precisely, a STOCK of BUILDERS' IRONMONGERY, including three tons of nails, 15,000 gross of screws, bright and black, register stoves, ranges, brass and iron hinges, mortise and other locks, three tons steel, rod and bar iron, five cwt. glue, white lead, colours, &c.; together with fifty fenders, and a few lots of furnishing ironmongery.—May be viewed on Saturday, when Catalogues will be ready.

OXFORD.—To Speculators and Building Societies.—Most valuable Freehold Building Ground, St. Giles's, in the City of Oxford, in proximity to the main street, St. John's College, Worcester College, the Clarendon Printing office, Beaumont-street, St. John's-street, and the Railway Stations.

MR. JOHN FISHER begs to announce that he is instructed by the Guardians of the Oxford Incorporation, to offer for SALE by AUCTION, at the TOWN HALL, Oxford, on WEDNESDAY, AUGUST 3rd, 1864, at THREE o'clock in the afternoon, in One Lot, all that Valuable BUILDING LAND, comprising the sites of the present Workhouse and Gardens, consisting of 5a. 0r. 6p. with very extensive street frontages. This property is free from tithe, and the land-tax is redeemed; it offers the finest opportunity that has ever occurred in Oxford for dividing into Building Lots, for any Public Institution, or from its great extent, both combined.—Further particulars may be known, on application to Mr. H. JACOB, Clerk to the Board of Guardians, St. Giles's-street; or the Auctioneer, 8, High-street, Oxford, where plans may be seen.

MESSRS. LAKE & HOPKINSON, ARCHITECTS and CONSULTING SURVEYORS.
Quantities of Artificers' Work accurately taken.
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PHOTOGRAPHY.
DOLAMORE & BULLOCK,
ARCHITECTURAL AND ENGINEERING PHOTOGRAPHERS,
30, REGENT-STREET, WATERLOO PLACE, S.W.

AN Architect is desirous of RECEIVING into his Office a YOUNG GENTLEMAN as IMPROVER.—Apply to E. B. care of S. Hounsell, esq. Solicitor, 3, Furnival's Inn, London.

A BURNER of PORTLAND CEMENT KILNS, WANTED.—Apply, by letter, giving references as to character, particulars of experience, and terms required, to HOOPER & ASHBY, Southampton.

BOROUGH of LIVERPOOL.—To ARCHITECTS and SURVEYORS.—The Town Council of the Borough of Liverpool desire to engage the services of a competent person to act as SURVEYOR of their Estates, and as ARCHITECT in the erection of any buildings required by them. An outline of the principal duties required will be forwarded on written application, addressed to the Town Clerk, Town hall, Liverpool. The gentleman appointed must be experienced in his profession, and not more than forty years of age, and he will be required to abstain from all private practice, and to devote his whole time and attention to the business of the Corporation. The salary will be £600, per annum; and suitable offices, with a competent staff of clerks, and all stationery, &c. will be provided by the Town Council. Applications, with testimonials, sealed, and marked by James Dafforne, "for Office of Surveyor," and addressed to "The Chairman of the Real Estate Sub-committee, Town Hall, Liverpool," will be received at the Office of the Town Clerk of Liverpool, up to NOON, on THURSDAY, the 11th day of AUGUST next, but no later. Each application must give full particulars of the present and previous employment of the applicant, and state how soon, if appointed, he could enter upon the duties of the office. No recommendation of any applicant will be taken into consideration unless it be stated therein that the writer is personally acquainted with the individual recommended, and that such writer can, of his own knowledge, answer for the qualifications of the applicant. If the applicant, or any person recommending him, is not resident in Liverpool, a reference to a person of respectability and position in Liverpool, who is acquainted with the applicant or person so recommending, as the case may be, will be required. It is requested that no personal or written application may be made to any member of the Council in reference to this appointment. The gentleman appointed will have the benefit of conferring and advising, and will be expected to co-operate with the present Surveyor of the Corporation, who will continue his services as Consulting Surveyor.—By order,
WM SHUTTLEWORTH, Town Clerk.
Town Hall, Liverpool, July 15, 1864.

GOOD GLAZIERS WANTED.—Apply to WARD & HUGHES, 67, Frith-street, Soho-square.

LOCAL BOARD of HEALTH, KINGSTON-UPON-HULL.—To FOREMEN of ROADS.—The Local Board of Health for the district of Kingston-upon-Hull require the services of a STREET FOREMAN, and are prepared to receive applications from properly qualified persons. The situation will be held under the Surveyor, and the duties will consist in Superintending the Construction and Repairs of street surface Work, in Built, paved and macadamised roads; also the keeping of the usual foremen's accounts. The hours of service will be six a.m. to six p.m. and the wages 35s per week. Applications, stating age and previous employment, accompanied by references, are to be forwarded, under cover endorsed, "Street Foreman's application," to C. S. TODD, Esq. Clerk to the Local Board, 15, Bowlalley-lane, Hull, on or before THURSDAY, the 4th day of AUGUST, 1864.—By order,
J. FOX SHARP, Surveyor to the Local Board.
Surveyor's Office, Sculcoates Hall, Hull, 20th July, 1864.

REQUIRED, the assistance of a good DRAUGHTSMAN, for working drawings and Gothic details.—Apply, stating works recently engaged on, with testimonials and salary required, to Mr. F. BAINES, Architect, Ipswich.

TO ROAD SURVEYORS.—The Paving Committee of the Vestry of the Parish of St. Mary, Newington, Surrey, will meet at the VESTRY ROOM of the Parish Church, on MONDAY, the 8th day of AUGUST, at SEVEN o'clock in the evening precisely, to receive APPLICATIONS from CANDIDATES for the Office of SURVEYOR of ROADS for the before-mentioned parish, at a salary of £80 per annum and 30l. for the keep of a horse, subject to determination upon three months' previous notice, ending at any time. The person elected to the office will be required to devote the whole of his time thereto, to reside in the parish, and not to engage in any other occupation whatever. Any further information required may be obtained from the Clerks to the Vestry.—Applications, with testimonials, to be forwarded to the Clerks to the Vestry, before FOUR o'clock in the afternoon of the above mentioned day. Candidates will be informed when required to attend the Committee. NB None but those who have had experience in road making and repairing need apply.
H. & F. CHESTER, Clerks to the Vestry.
1, Church-row, Newington Butts.

TO SURVEYORS.—The Local Board of Health for the District of Penrith hereby give notice that, at their Meeting, to be holden on MONDAY, the 22nd day of AUGUST, 1864, they will proceed to the APPOINTMENT of a SURVEYOR and INSPECTOR of NUISANCES to the Board, who will be required to devote the whole of his time to the duties of the office, as given in the Board's Bye Laws, to the exclusion of any other employment whatever. The duties comprise the superintending of the Board's Waterworks, where a steam-engine and water power are used, the former as an auxiliary only; the maintenance of the streets of the town, and the highways of the rural districts, in all about 24 miles in length; preparing plans, specifications, and estimates of all works to be done under the direction of the Local Board, and superintending their execution; examining all plans of houses, streets, &c. submitted to the Board for approval, and advising thereon as to their structural arrangements and their conformity generally to the Board's Bye Laws; inspecting regularly the sanitary condition of the town; reporting thereon; keeping proper books and accounts; attending all Board and Committee meetings; and carrying out all orders given by the Board in connexion with the Surveyor's department. The person appointed will be required to enter upon his office on the 26th day of September next. The Local Board will be guided in their choice solely by the character and competency of the candidates, and canvassing the members is strictly prohibited. Applications, stating salary, accompanied by testimonials of recent date, to be addressed to me before the 15th of AUGUST. Office, with gas and coal, provided.
By order, CHRIS. FAIRER, Clerk to the Local Board.
Board Room, Penrith, July 14, 1864.

JOINERS WANTED, at Messrs. ROGERS & BOOTH'S, Clarence-square, Gosport.

W. & C. JECKS, Timber Merchants, Norwich, require an active intelligent MAN as FOREMAN.

ASPHALTE FOOTWAYS.

WANTED, in the Town of Windsor, a practical Man to prepare ASPHALTE with GAS TAR, SAND, &c. and LAY DOWN the same to Town Footways. Wages required and references to be sent to me, FREDERICK BROWN, Surveyor to the Windsor Local Board of Health.
Windsor, April 19th, 1864.

TO PAINTERS AND DECORATORS.

WANTED, immediately, a thoroughly COMPETENT PERSON to take CHARGE of the OUT-DOOR DEPARTMENT in a HOUSE-PAINTER'S and DECORATOR'S ESTABLISHMENT. He must be accustomed to take charge of men, and thoroughly acquainted with house-painting and decorating in all their branches.—Apply, inclosing reference, to GEORGE COOPER, the Northumberland Works, 83, Clayton-street, Newcastle-on-Tyne.

WANTED, in a Builder's Office in the City, a YOUTH. One who writes a good hand, and has some little knowledge of the business.—Address, stating wages, references, &c. S. & CO. Saunders, Brothers, Stationers, London Wall.

TO CABINET MAKERS, CARPENTERS, AND PAPER-HANGERS

WANTED, immediately, to fill a vacancy, a Man to do Paper hanging and general House Jobbing in the Carpentry and Cabinet branches. None but first-class men need apply.—Address to Mr. JAMES PAGE, Builder, &c. St. Leonard's-on-Sea, stating wages required, and reference to last employer.

WANTED, a CIRCULAR SAWYER.—Apply to PHILLIPS, BROTHERS, Brewers, Northampton. None need apply but those who are steady and will work regularly.

TO SURVEYORS' CLERKS.

WANTED, in a Land Surveyor's Office in the South of England, a WORKING CLERK, at a salary of 17 10s per week, with payment for time exceeding eight hours per day. Satisfactory character indispensable, as well as superiority of mechanical drawing and ornamental writing.—Apply to "X." Estates Gazette" Office, 220, Fleet street, London. All specimens of work will be carefully returned.

TO GAS ENGINEERS

WANTED, by the Dewsbury and Batley Gas Company, a MANAGER. He must understand and be capable of superintending the working of the concern and keeping of the books, and be fully competent to draw plans and prepare specifications for works and gas machinery. The present amount of gas manufactured is upwards of 100 millions of feet a year. Applications and testimonials, with any reference, to be sent in to the Dewsbury and Batley Gas Company's Office, Dewsbury, before the 18th of AUGUST next. WAITS & SON.
Dewsbury, 21st July, 1864.

TO BUILDERS' CLERKS.

WANTED, a BUILDER'S CLERK, whose character will bear the strictest investigation. Salary 100l. per annum. He must be quick and accurate in accounts and in squaring all materials, and able to trace well. Satisfactory references and testimonials from present and previous employers required. Applicants to state age, and to apply in their own hand-writing.—Address, To the Engineer, Monmouthshire Railway and Canal Company's Office, Dock-street, Newport, Monmouthshire.

WANTED, a BUILDER'S CLERK.—Must be a good bookkeeper and accountant. Apply by letter, stating age and salary required, to Mr. MACEY, Milford-wharf, Strand.

WANTED, a WORKING FOREMAN, a CARPENTER and JOINER: one quite capable of taking the charge of a job. None but those with first rate characters need apply.—Address, R. A. A. Office of "The Builder."

WANTED, a JUNIOR CLERK, in a BUILDER'S OFFICE, who has filled a similar situation. Hours six to six.—Apply personally, at 30, Baker-street, W. before NINE o'clock a.m.

TO BUILDERS

WANTED, a SITUATION as IMPROVER in a good Joiner's shop, by a respectable Young Man, aged 20.—Address, G. K. care of Mr. Grady, 31, Alexandra-terrace, Victoria Park-road, South Hackney.

TO BUILDERS

WANTED, a RE-ENGAGEMENT, by a thoroughly efficient practical SHOP FOREMAN, of Town experience, and able to give unexceptionable references.—Address, M. C. J. 21, Sidney-square, Mile-end, London.

WANTED, a SITUATION as FOREMAN of PAINTERS. Has filled a similar situation to some of the leading firms for years, and had the charge of a great many men. Has been accustomed to measuring, &c. and is practically acquainted with graining and decorating, glazing, oil gilding and graining, &c.—Apply to R. D. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS

WANTED, by an experienced ASSISTANT, an ENGAGEMENT with the above. Is fully competent to prepare working, detail, and competition drawings, and is quick at quantities. Good references, &c.—Address, ALPHA, care of Mr. Sage, 11, Victoria Grove, South Kensington.

WANTED, EMPLOYMENT, by a first-class GRAINER and MARBLER, by Piecework or otherwise. Address, A. I. 94, Charrington street, Oakley-square, N.W.

WANTED, by a respectable Young Man, a constant SITUATION, in Town or country, as PLUMBER, PAINTER, and GLAZIER. Can have a good reference if required.—Address, J. W. 3, Millman's-row, King's-road, Chelsea.

WANTED, by a Practical Man, a RE-ENGAGEMENT as SHOP FOREMAN. Thoroughly understands all kinds of carpenters' and joiners' work, staircasing, and making working drawings, measuring, &c. Good references. No objection to a few miles from town.—Address, J. A. 4, Brixham-terrace, Wandsworth road, S.

WANTED, by a Carpenter and Joiner, a SITUATION as WORKING FOREMAN, in the Shop or Building. Can set out work, make out working drawings, and measure up work. No objection to take charge of a country job having recently completed one good job. References from last employer.—Address, T. T. care of Mr. Sinclair, 5, King street, Golden-square.

TO PLUMBERS AND BUILDERS

WANTED, by a Young Man, a SITUATION as IMPROVER to the PLUMBING.—Address, A. F. No. 3, Moreton terrace, Pimlico.

TO ARCHITECTS AND BUILDERS

WANTED, a SITUATION, as CLERK of WORKS, or Re engagement as General Foreman, or to take the entire charge of a Job. Thoroughly acquainted with the construction of building works, prepares detail and working drawings, &c. Good testimonials and reference.—Address, J. M. 78, Lillington-street, Pimlico, S.W.

WANTED, by a Young Man, aged 21, a SITUATION as IMPROVER to the CARPENTERING and JOINERY, town or country.—Address, T. P. 15, Stafford-buildings, Stafford-street, Paddington.

TO ARCHITECTS AND BUILDERS.

WANTED, by the Advertiser, a SITUATION as JUNIOR ASSISTANT. Having a private income, a small salary would be taken. Good reference.—Address, H. Office of "The Builder."

WANTED, by a thoroughly Practical FOREMAN, a RE ENGAGEMENT to TAKE CHARGE of a JOB. Joiner by trade. Good reference.—Address, G. S. 78, Great Suffolk-street, Borough, S.E.

TO ARCHITECTS AND OTHERS.

WANTED, by the Advertiser, a SITUATION in the Office of the above. Is well up in tracing and copying drawings, can make out fair drawings from rough sketches, take plan, and understands the general routine of an architect's office. Writes a good hand. Wages not so much an object as a permanent situation.—Address, X. Y. Z. 4, South-crescent, Bedford-square W.C

WANTED, by a DRAUGHTSMAN, a RE ENGAGEMENT in an Architect's, Surveyor's, or Builder's Office. Salary moderate. Country not objected to.—Address, A. Z. care of Mrs Terry, 28, Asburn-place, Walworth-road.

TO BUILDERS AND DECORATORS.

WANTED, by a Young Man, a SITUATION, as GRAINER, &c.—Address, by letter, to J. A. No. 24, Wellington-street, Newington causeway, S.E.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a Carpenter and Joiner by trade, aged 34, a SITUATION as OUTDOOR FOREMAN, having had good experience both in town and country. Good references. No objection to a country job.—Address, W. F. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, a permanent SITUATION by a THREE BRANCH HAND. Good references. — Address, H. S. 37, Munster-square, Regent's-park, W.

TO BUILDERS, &c.

WANTED, by a Young Man, aged 30, a SITUATION as PLUMBER, PAINTER, and GLAZIER.—ddress, H. B. T. Office of "The Builder."

TO MASTER PLUMBERS, &c.

WANTED, a JOB, by a good Plumber, or THREE BRANCHED. From the country. Aged 30.—Address, J. EDWARDS, 34, Riding House-street, Portland-place, W.C.

TO ARCHITECTS AND SURVEYORS.

WANTED, to ARTICLE a YOUTH, 16 years of age, who has a decided taste for drawing, in the Office of the above.—Address, stating terms, to G. R. FLINT, Meppershall, near Biggleswade, Bedfordshire.

TO BUILDERS, PAINTERS, &c.

WANTED, by a respectable middle-aged Man, a Constant SITUATION. Is a good Paperhanger, can do good house-painting, distempering, & good oak graining, plain writer, also glazing sash or lead work. Prefers a country shop, on account of his wife's health.—Address, stating wages, &c. X. Y. Z. Post-office, Romford, Essex

TO BUILDERS AND OTHERS.

WANTED, a Permanent SITUATION, as PAPERHANGER, &c.—Address, F. M. No. 3, Salisbury place, Kilburn.

TO CIVIL ENGINEERS, &c.

WANTED, by the Advertiser, an ENGAGEMENT as ASSISTANT or RESIDENT ENGINEER. Address, B. A 5, High-street, Oxford.

TO BUILDERS, &c.

WANTED, a SITUATION, by the Advertiser, as TIMEKEEPER or FOREMAN. Has managed a building business for several years.—Address, J. P. No. 2, Langton terrace North, Cumberwell New Road.

TO BUILDERS.

WANTED, a good ENGAGEMENT, by a thoroughly competent and practical MANAGING SHOP FOREMAN, who, if necessary, would give a cash security for his character and superior abilities.—Address, C. No. 2, Gerrard-street, Islington, N.

TO ENGINEERS AND SURVEYORS.

WANTED, by a Gentleman, aged 19, a SITUATION in an Engineer's or surveyor's Office. Understands land and railway surveying, levelling, &c. and is considered a fair draughtsman. Good references.—Address, E. D. Barnesfield Rectory near Kington.

TO BUILDERS AND DECORATORS.

WANTED, by a thoroughly competent Man, a SITUATION, to MANAGE. First class Decorating or General Painting BUSINESS, or FOREMAN in Large Works. Fifteen years' experience. No objection to country.—Address, W. W. Nos. 36 and 37, King street, Regent-street, W.

WANTED, a RE-ENGAGEMENT, as CLERK of the WORKS, by a thoroughly practical Man, a Joiner by trade. No objection to the country.—Reference, &c. R. P. Office of "The Builder."

TO PLUMBERS, BUILDERS, &c.

WANTED, by the Advertiser, a SITUATION as FOREMAN, or to MANAGE a TRADE. Is a first-class Plumber, sash and lead Glazier. References from past and present employer.—Address, Z. Post-office, Highgate, N.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, a PERMANENCY in either of the above Offices. Is a neat colourist and careful draughtsman, prepare and understands levelling and surveying. Conversant with taking out quantities, designing of villas and other buildings. Good references.—Address, O. K. Post-office, Newington Butts.

TO BUILDERS AND CONTRACTORS.

WANTED, by an experienced GENERAL FOREMAN, a SITUATION, to take charge of a Job. Can measure up work, prepare and understands detail drawings. Good references can be given.—Address, Q. X. Z. Mr. Farritt's Library, 14, Prince-road, Stanogate, Lambeth.

WANTED, by a MASON, who has acted as Foreman, a RE-ENGAGEMENT, in town or country. Is thoroughly acquainted with good work, particularly the Mediæval. Is a good geometer and draughtsman. Aged 35. References given for qualification.—Address, P. G. N. Post-office, Henley, Oxon.

TO GENTLEMEN AND BUILDERS.

THE Advertiser, a good MASON, and having a knowledge of brickwork, aged 28 (married), is desirous to ENGAGE with a gentleman for the MANAGEMENT of his BUILDING-WORK, &c. &c.; or as Builder's Foreman. First rate testimonials may be had.—Address, E. C. Post-office, Winsham, Chard, Somerset.

TO OWNERS of BRICKYARDS. — A Maker, having a large number of Moulds for Elizabethan Chimney Shafts, Window, String Courses, Ridges, &c. is open to an ENGAGEMENT for MAKING the above, at the following moderate prices.—7 feet chimney shafts, with caps and bases, octagon or moulded, from 10s. each; 6 feet by 6 moulded windows, with head, sill, jambs, mullions, and transoms, from 10s. each. Ridge tiles, &c. at equally low prices.—Apply to CHAS SMALLS, at Mr. Hubbard's, Contractor, East Dereham, Norfolk.

TO ARCHITECTS, SURVEYORS, AND CIVIL ENGINEERS.

THE Friends of a Youth, who has had some experience in Land Surveying and Architectural Drawing, are desirous of having him ARTICLED to a first-rate Surveyor and Engineer, for which purpose a moderate premium will be given.—Apply, stating terms, &c to A. L. care of D. Gaved, No. 13, Pell-street, St. George's-in-the East.

TO BUILDERS.

THE Advertiser, who is a neat Draughtsman, &c. with good references, wishes for EMPLOYMENT for about Two Months. A small salary only required.—Address, A. B. 10, Brook-street, Kennington-road, S

TO HOUSE DECORATORS, BUILDERS, &c.

THE Advertiser, a thoroughly practical Man, offers himself for RE-ENGAGEMENT as FOREMAN, or Working Foreman of Painters, Decorators, &c. Used to good work in all branches of the trade. London preferred. Good references. Wages moderate.—Address, I. H. Office of "The Builder"

TO ENGINEERS AND CONTRACTORS.

EMPLOYMENT WANTED, by one who has had much experience in the Construction of Railways, Waterworks, Town Drainage, &c. The advertiser is a thoroughly practical surveyor, leveller, and a good mathematician. Good references and testimonials given. No objection to going abroad. Address, D. R. 2, Queen's-row, Buckingham Gate, S.W.

TO ENGINEERS, ARCHITECTS, OR CONTRACTORS.

A CLERK of WORKS open to a RE-ENGAGEMENT. Can measure, prepare details, and set out every description of work.—Address, A. Cosmopolitan Glass-works, 296, Oxford street, W.

TO BUILDERS AND SURVEYORS

AN ESTIMATOR and DRAUGHTSMAN, having a portion of his time unemployed, is open to ASSIST in measuring up work, taking out quantities, preparing drawings and estimates, on moderate terms.—Address, or apply, to H. R. No. 3, North-street, Fitzroy square, W.

TO ARCHITECTS.

A YOUNG MAN, who has served an apprenticeship of five years, has had other experience, and can be highly recommended, WANTS a SITUATION in an Architect's Office.—Address, J. A. R. 10, Symond's-inn, Chancery-lane, London

TO CONTRACTORS, BUILDERS, &c.

A YOUNG MAN, aged 22½ years, with unexceptionable references, offers his SERVICES as CLERK. Thoroughly understands the routine, and capable of taking charge of an office, or keeping prime costs. Town preferred.—Address, X. Y. Z. 3, Blenheim-road, Hornsey road, London, N.

A DRAUGHTSMAN, accustomed to Details in Ironwork Construction for Buildings, Bridges, &c. is open to an ENGAGEMENT in an Office, or at the Works. Has had great practice in taking off quantities from drawings, and superintending the manufacture of girders, roofing, &c.—Address, FERRUM. Office of "The Builder"

AS WORKING FOREMAN of MASONS. Has been accustomed to the management of a general business. Good references.—Address, G. H. 128, Lillington street, Pimlico.

A YOUTH is desirous of a SITUATION as IMPROVER in the CARPENTERING and JOINERING. Address, T. H. 54, Caledonian-road, King's-cross, N.

A CLERK of WORKS, a Joiner by Trade, with a thorough knowledge of the various branches of the building trade, is desirous of a RE-ENGAGEMENT. Country preferred. First-class testimonials.—Address, E. C. C. 63, Bishopsgate-street Without, E.C.

TO SURVEYORS AND ENGINEERS.

A YOUNG MAN, who has served his Articles for four years, wishes a SITUATION in a Surveyor's or Engineer's Office.—Address, A. B. care of William Collins, esq. Solicitor, Winchester.

TO BUILDERS AND OTHERS.

AN Experienced WOOD and STONE CARVER and MODELLER, well up in the various styles of Architecture, accustomed to plaster enrichments, first-class letter-cutter, painter, illuminator, and neat draughtsman, wishes an ENGAGEMENT in the Country.—Address, T. W. O. Office of "The Builder."

TO ARCHITECTS, &c.

A GOOD Practical ASSISTANT wishes for an ENGAGEMENT, either temporary or permanent. Has had seventeen years' experience, and would take charge of a General Practice or the Management of an Estate. Is well up in details, construction, &c.—Address, B B 27, Bishopsgate street Within.

TO LAND AGENTS AND SURVEYORS, &c.

A PERSON, duly qualified, wishes for an ENGAGEMENT, either with or without a view to a PARTNERSHIP.—Address, C. W. 9, Old Cavendish-street, Cavendish-square.

TO BUILDERS AND PLUMBERS.

A GOOD PLUMBER is in WANT of WORK. Is accustomed with Gasfitting and Zinc-work. Good references if for a constancy.—Address, W. M. at Mr. Taylor's, 48, Castle-street, Leicester-square, W.C.

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NEWLY and most substantially erected WAREHOUSES and LAND, occupying an area of nearly half an acre, near the entrance to the London Docks, well adapted for bonded warehouses, TO BE LET on LEASE, or the Freehold to be sold.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

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	Per 120 of 12 ft.				Per 120 of 12 ft.		
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YELLOW ditto	9	10		¾-FLOORING from per Square	0	10	6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

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FIR TIMBER, 45s. PER LOAD.
WHITE BATTENS, from £8 10s. per 120.

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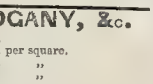
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	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅝ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

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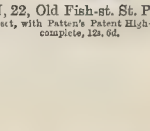
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DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

Prize Medal, 1851.
MARTIN'S CEMENT,
THE MOST APPROVED INTERNAL STUCCO.
CAN BE PAINTED IN TWELVE HOURS.
J. C. PART, MANUFACTURER,
181, DRURY LANE, LONDON; and at DERBY.
THE BEST PLASTER OF PARIS. ESTABLISHED 1784.
Honourable Mention, 1862.

VICTORIA MARBLE WORKS.
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

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FOR SALE, a large quantity of PURBECK MARBLE, consisting of about 150 blocks of different sizes, from the quarry late in the occupation of Mr James Vose. For further particulars, apply to Mr. HENRY ANDREWS, Winchester-street, Salisbury.—Carriage free to Wareham or Swanage.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
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The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any size; also for Macadamizing.—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

PATENT CONCRETE STONE COMPANY (Limited).—The Directors have granted LICENCES for six of the Counties of Great Britain, and are prepared to entertain further Propositions for LICENCES for the MANUFACTURE of this valuable MATERIAL. Plans for the erection of Works, and full instructions, on application.—By order,
THOMAS PIPER, Secretary.
36, Parliament-street, S.W. May, 1864.

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Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depôt, 404, Euston-road, N.W.—DAVID WILLET, Agent.

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W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 37, Millbank-street, London, S.W.

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GENERAL AND ORNAMENTAL PLASTERERS,
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SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.
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Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico.
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Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
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BLAKE'S STONE BREAKER is recommended by the best Engineers in this and other countries to Break Stone of every description, of the best quality for Macadam Roads, Concrete, Ballasting Railways, &c. It takes in large blocks or round boulders, and reduces them to fine road metal, at a cost of from 2d. to 3d. per ton. If your pauper labourer costs 3s. per day, this machine will do more work, and do it better, at 3d.—For circular testimonials, &c. apply to
H. R. MARSDEN,
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LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD,
The Owner; and see Specimen at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.
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£1,000 IN CASE OF DEATH, or an Allowance of 6l. per week while laid up by Injury caused by
ACCIDENT OF ANY KIND,
Whether Walking, Riding, Driving, Hunting, Shooting, Fishing, or at Home, may be secured by an Annual Payment of 3l. to the RAILWAY PASSENGERS' ASSURANCE COMPANY.
MORE THAN 8,000 CLAIMS FOR COMPENSATION
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For particulars apply at the Offices, 10, REGENT-STREET, and 64, CORNHILL. WILLIAM J. VIAN, Secretary.

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MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
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A LARGE ASSORTED STOCK always on HAND, of
CLOTHS and BAIZES,
In all widths, colours, and qualities, at
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KAMPTULICON FLOOR CLOTH.
DURABLE, COMFORTABLE, ECONOMICAL, and ORNAMENTAL, for CHURCHES, PUBLIC BUILDINGS, BILLIARD-ROOMS, and PRIVATE HOUSES.
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MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES,
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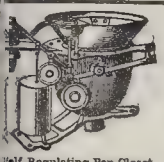
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.
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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.



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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
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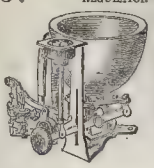
CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.

By Her Majesty's  Royal Letters Patent.

McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
...by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it ...been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal ...cultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, ..., and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE ...NNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of ... of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of ...gdom, or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel ...ected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with ...od stock, and in lengths best suited to their roofs. The original works where the above roofing is made are P. McNEILL & CO.'S Manu...ories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, ...GRAUH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, ...early One Million Feet. A Liberal Discount allowed to the Trade.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
...let. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half ...umber usually required.—4th. It can be easily applied by any unpractised person.—5th From its lightness, weighing only about 42 lbs. to ...square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

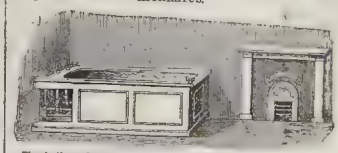
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.


Valve.

Pan.

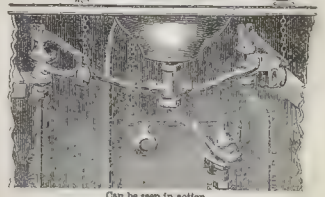
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.

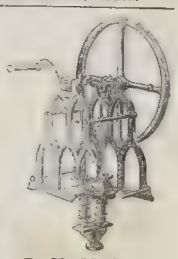


The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.

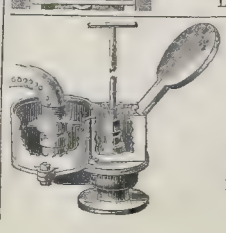



Can be seen in action.
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WARWICK LANE, NEWGATE STREET, LONDON.


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FOR
DEEP OR SHALLOW WELLS,
WATER BOATS, &c.

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MANUFACTURERS,
WARWICK LANE,
NEWGATE STREET,
LONDON.



IMPROVED HYDRANT.

J. TYLOR & SONS,
WARWICK LANE,
NEWGATE ST.
LONDON.

SALES BY AUCTION.

PADDINGTON To Builders and Others.—Surplus Stock of the Llangollen Slab and Slate Company, Limited.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the above Company, to SELL by AUCTION, on the PREMISES, No. 4 Wharf, South Wharf-road, Paddington, on MONDAY, AUGUST 1st, at TEN for ELEVEN (on account of the unusual quantity of lots) the extensive and valuable STOCK of ENAMELLED SLATE, consisting of a large assortment of chimney-pieces in imitation of various marbles, and adapted for first-class residences; the above of which are executed in the best style. Also a large portion of the Unmanufactured Stock, consisting of 1,000 feet of slate slabs of various thicknesses, several thousand roofing slates of all sizes, caterns, water-tanks, &c.; a mason's cart on springs, a town cart, and other effects. May be viewed on Saturday previous and morning of sale, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 81, Fore-street, E.C.

THE NEW METROPOLITAN MEAT AND POULTRY MARKET.—Fifth Clearance Sale—Building Materials of several Houses and Premises, Smithfield; also the Fixtures and Plant of a Paperstainer.

MESSRS. PULLEN, HORNE, & EVERSFIELD respectfully announce that they are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 5, and following day, at TWELVE, in lots, all the VALUABLE BUILDING MATERIALS of several Houses, Warehouses, and Premises, situate on the north side of Smithfield, West street, Durham yard, and Greenhill's rents, comprising excellent stock bricks, oak and fir timber in roofs and floors, Flats and pan tiles and slates, glazed sashes, doors, chimney pieces, and interior fittings, flooring boards, folding gates, paper, lath, and plaster, iron columns, girders, cisterns, water-tanks, &c.; a mason's cart on springs, a town cart, and other effects. May be viewed on Saturday previous and morning of sale, and catalogues had at the Place of Sale; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 81, Fore-street, E.C.

CHANCERY-LANE Building Materials of Ten large Houses.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Public Chambers Company, Limited, to SELL by AUCTION, on the PREMISES on WEDNESDAY, AUGUST 17, at TWELVE, the MATERIALS and FITTINGS of TEN LARGE HOUSES, being Nos. 39, 40, and 41, Chancery-lane, and Nos. 1 to 7, Cursitor-street, comprising a large quantity of sound timber in roofs and floors, floor boards, part tiles, doors, sashes, and other fittings, stoves, ranges, iron railing, tiles and slates, stone coping, several tons of lead, and other materials. May be viewed one week previously, and catalogues had at the Architects' Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

Second Portion of the Surplus Property of the London, Chatham, and Dover Railway Metropolitan Extension Lines.—For SALE by AUCTION, by

MR. VIGERS, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4, at TWELVE for ONE, in fourteen lots, by order of the Directors, SIXTEEN FREEHOLD HOUSES and SHOPS, FIVE LEASEHOLD COTTAGES, and FOUR PLOTS of FREEHOLD BUILDING LAND, ready, or in superior rental of 850*l.* per annum.—A Plot of Freehold Building Land at Pence; a detached Residence, known as the Eagle House, and two Freehold Houses and Shops, in Cold Harbour-lane, Brixton; Freehold Fee Residence, No. 78, Old, 82, and 90, Camberwell-road; two Freehold Messuages, Nos. 47, Carter-street, and 1, West street, Walworth; a capital Messuage at Shop, No. 9, Crown-street, Walworth-road; a valuable Plot of Building Land, with frontage on Newington-causeway, and five Leasehold Cottages in Tiverton-street, Newington; four Freehold Houses and Shops, Nos. 2, 3, 6, and 11, Upper Brixton-place, Brixton, and a Plot of Building Land adjoining; and a valuable corner Plot of Building Land at the Clock Inn road, adjoining a first-class station on the London, Chatham, and Dover Railway. The property may be viewed by persons on the tenants', and particulars and conditions of sale may be had of Messrs. FRESHFIELDS & NEWMAN, Solicitors, 9, Bank Buildings, and of GARRAWAY'S Auction & Estate Exchange, Change-alley, Cornhill; and of Mr. VIGERS, Land Agent and Surveyor, 3, Frederick's-place, Old Jewry.

TO BE SOLD, pursuant to a decree of the High Court of Chancery, made in a cause of "John Merryman against William Wolfe Bankes and others," with the approbation of the Vice-Chancellor, Sir R. T. Kindersley, the Judge to whose court this cause is attached, by

MESSRS. PRICE & CLARK, the persons appointed by the said Judge, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, in the City of London, on FRIDAY, the 5th day of AUGUST, 1864, at TWELVE for ONE o'clock in the afternoon, in three Lots, certain FREEHOLD PREMISES, situate in Garrett-lane, Wandsworth-road, Surrey, formerly known as Athorp Lodge, but now called the Duke of Wellington Inn, having extensive frontage to the high road leading from Wandsworth to Tooting, will expire on St. Michael's Day, 1877, and is let to Messrs. Combe, and a meadow land, the whole containing about 3a. acres, or thereabouts, and possessing an extensive well; subject to a lease thereof for about forty-two years from the 25th of December, 1861, at 14*l.* per annum, also, Freehold Ground rents, amounting to 30*l.* 5*s.* per annum, secured on nine dwelling-houses (one with shop) being Nos. 8, 9, 10, and 12, Edward-place, Garrett-lane aforesaid, and also a Freehold Piece of Land situate in Garrett-lane aforesaid, and adjoining the premises before mentioned, having a frontage to the said high road of 122 feet 6 inches and a depth of 70 feet 9 inches, let and for the building purposes. Particulars and a plan of the estate may be had, gratis, of Mr. H. MERRIMAN, Solicitor, 1, Mitre-court, Temple, E.C.; of Mr. WM. WILKS, Solicitor, 3, New Inn, Strand; of Mr. HENRY PARRIS, Solicitor, 34A, Moorgate-street; Mr. DAVID ASTON, Solicitor, 108, Lewin-road, W.; Mr. R. GIBBS, Solicitor, 15, Poultry; and of the Auctioneers, 24, Chancery-lane, W.C.

J. A. BUCKLEY, Chief Clerk.

TO TIMBER MERCHANTS, BUILDERS, CABINET MAKERS, AND OTHERS.

MR. THOMAS ROBERTS & CO. will SELL by AUCTION, on the PREMISES, Letts's Wharf, Commercial-road, Peckham, on WEDNESDAY, AUGUST 10, and following day, at ELEVEN o'clock precisely, the extensive and well-seasoned STOCK, consisting of 150 loads of Spanish, and Honduras mahogany, dry larch, waiscoting, Baltic timber, &c., about 100 loads of dry Memel and Yank, and several thousand feet of well-planed boards. &c.—To be viewed one day prior and morning of sale. Catalogues to be had at the place of sale and of the Auctioneers, 3, Billiter-street, E.C.

FREEHOLD BUILDING PLOT, HACKNEY, suitable for two good Shops, with dwelling-houses over, to Mare-street, Hackney, adjoining the Morning Herald Office, with a depth of 70 feet 9 inches, abutting for the building purposes on Parish-street and Cecil-street.

MESSRS. TEBB, BROTHERS, will SELL the above, at GARRAWAY'S, Cornhill, on FRIDAY, AUGUST 5, at ONE o'clock.—Particulars of WHITER, Esq., Basinghall-street, Clerk at Garraway's; and of the Auctioneers, 3, Adelaide-place, London Bridge, E.C.

LEYTONSTONE, Second Portion of Estate, comprising Forty Plots of Freehold Building Land.

MR. JOHN M. DEAN will SELL by AUCTION, at the Plough and Harrow Tavern, Leytonstone, on THURSDAY, AUGUST 4, at THREE o'clock, in forty lots, a FREEHOLD ESTATE, admirably adapted for building purposes, FORTY PLOTS of eligible BUILDING GROUND, situate at Harrow Green on the high road from Stratford to Leytonstone, within a short distance of the Leyton Railway Station, having extensive frontages on roads leading out of the Leytonstone high road. The land is high and dry, with a gravelly subsoil, and in part ready eligible for the erection of detached and semi-detached residences.—May be viewed, and particulars and conditions of sale, with plans, had of Messrs GLYNES & SON, Solicitors, 9, George-yard, Lombard-street; at the Plough and Harrow Inn, Leytonstone, and of Mr JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

WOOD GREEN.—To Builders and Others.—Six Houses in Carcase.

MESSRS. DEBENHAM & TEWSON will SELL (by order of the Mortgagee), at the GUILDHALL COFFEE-HOUSE, near Guildhall, on THURSDAY, AUGUST 11, at ONE punctually, in one lot, the CARCASES of SIX DWELLING HOUSES, pleasantly situate in the Hornsey-road, London-lane, near the Jolly Butchers, Wood-green common, about half a mile from the Wood-green Station. Each house stands on a plot of ground 126 feet in length, is roofed in, has the joists laid, is planned to contain six rooms, and moderately estimated to produce 26*l.* a-year when finished. Lease, direct from freeholder, for a long term, at a moderate ground rent.—Particulars of THOMAS ASH, Esq. Solicitor, 4, Lothbury; and of the Auctioneers, 80, Cheapside.

UPPER TEDDINGTON, about 61 acres of Freehold Building Land, overlooking Bushey Park, less than a mile from the Teddington Station, on the new Kingston line, and about five minutes' walk from the Hampton Station, on the Thames Valley line, which is now nearly completed.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE-HOUSE, near Guildhall, on THURSDAY, AUGUST 25, at THREE punctually, in several lots, about 61 ACRES of valuable FREEHOLD BUILDING LAND (unredeemed), part in the parish of Hampton, and part in Upper Teddington very eligibly situate fronting the high road from Teddington to Hampton, and overlooking Bushey Park in the rear. The land is high, the soil is a deep gravel, spring water can be obtained at a moderate depth, water and gas services are laid along the road, and the land offers most eligible sites for the erection of villas or cottage residences, the demand for which in the neighbourhood is almost unlimited.—Particulars, with plans, shortly of Mr. WALKER, Surveyor, Hampton-wick; of G. E. GUSTARD, Esq. Solicitor, No. 51, Lincoln's-inn-fields, and of the Auctioneers, 80, Cheapside.

UPPER KENNINGTON LANE, VAUXHALL.—Freehold Residences and Building Land, being Nos. 11 and 12, Kennington-lane, Upper Kennington-lane, with orchard and garden ground adjoining, present long eligible sites for the erection of shops, dwelling houses, or manufacturing premises.

MESSRS. DRIVER & CO. are instructed to SELL by AUCTION, on THURSDAY, AUGUST 25th, in two lots, the above desirable FREEHOLD PROPERTY, most advantageously situate, and well adapted for building purposes. Particulars and plans may be had at the inns in the neighbourhood; of Messrs. SHUM & CROSSMAN, Solicitors, 3, King's-road, Bedford-row, and of Messrs DRIVER & CO. Surveyors, Land Agents and Auctioneers, 4, Whitehall, London, S.W.

CASTLE-STREET, SOUTHWARK.—Valuable Estate (nearly equal to Freehold) near the new and important thoroughfare called Southwark street, being the main road from Westminster to London Bridge completed, and largely improved by the Metropolitan and premises forming Nos. 50, 51, 52, and part of 53, Castle street, Southwark Bridge road, having a frontage of 73 feet to Castle street, and extending a ground area of about 14,200 feet, or nearly the third of an acre.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, City, on THURSDAY, the 25th day of AUGUST, at ONE precisely, in one lot (unless the same be previously disposed of by private contract), the above valuable ESTATE, which, on account of its extensive area, contiguity to water-carriage, railway stations, and well-known leading thoroughfares, presents a very desirable site for the erection of manufactories or other commercial buildings. The valuable property may be considered equal to freehold, being held under a lease granted by the Bishop of Winchester's lessee for a term of 61 years from the 6th of April, 1820, on three lives aged respectively 70, 68, and 150 years, or the survivor of them, at the very moderate ground rent of 14*l.* per annum, and arrangements have been made by the tenants with the freeholders (the Ecclesiastical Commissioners of England), whereby the fee can be obtained by the purchaser on completion of the purchase.—Particulars may be had (free from the usual charges) at the Guildhall Coffee-house, at the Estate Exchange, Change-alley, Cornhill; of Messrs. BENNETT, DAWSON, & THORNHILL, Solicitors, 5, New-inn, Lincoln's-inn-fields; of Messrs. RANDALL, HARRIS, & RANDALL, Solicitors, King's Bench-walk, Temple, and of Messrs DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

UPPER TOOTING, near Balham and Wandsworth Common, Surrey. Valuable Freehold Property; comprising a detached Residence, with Offices, Gardens, and Paddock, well adapted for building purposes.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors of the late Mr. Mortimer, Esq. to offer for SALE, at the Guildhall Coffee House, on WEDNESDAY, the 17th day of AUGUST, 1864, at ONE precisely (unless previously disposed of by private contract), a valuable FREEHOLD RESIDENCE, known as Warren House, for many years in the occupation of the late owner, pleasantly situate adjoining the property of — Bell, Esq. at Upper Tooting, in the parish of Streatham, Surrey, about a mile from the Balham Station on the Brighton Railway, and within an hour's access of all parts of the metropolis. It is detached and approached from the high road by a carriage drive through a lawn, and contains sufficient accommodation for a moderate-sized family, with stabling, offices, and yards, very productive kitchen gardens, with an abundance of fruit trees in full bearing, and rich pasture, extending to the private road in the rear, leading to Wandsworth Common; the whole containing about four acres. A more detailed advertisement will appear shortly, when particulars may be had of JOHN MORTIMER, Esq. Solicitor, 17, Clifford's-inn, W.C.; at the Guildhall Coffee House, and of Messrs NORTON, HOGGART, & TRIST, No. 62, Old Broad street, E.C.

ON MONDAY, AUGUST 8, at TWELVE for ONE.—Contractors' and Builders' Stock

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES Camden-terrace, Camden-town, the STOCK, consisting 1,200 yellow, white, and pine planks, deals and battens, 400 pine scantling, 3,000 feet run of pine, 130 squares flooring (yellow and white), 3,500 feet white pine board, 1400 feet quartering, mahogany, birch, doors, fifteen ladders, forty scaffold poles, slates, plain tiles, three loads plaster, stove-pipes, and useful building materials.—Auction Offices, 2, Cardington street, Hampstead road.

To Contractors and Manufacturers requiring good Stabling

CLERKENWELL.—Capital Stabling for Sale.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, at GARRAWAY'S, on WEDNESDAY, AUGUST 3, at TWELVE, a capital LEASEHOLD ESTATE, comprising Nos. 10 to 16, Garnault-mews, close to New River Head, consisting of good stables, with rooms over, now occupied by weekly tenants. Held at a low ground rent for about 40 years unexpired.—May be viewed. Particulars obtained of Messrs. LOXLEY & MORLEY, Solicitors, 80, Cheapside; and of the Auctioneers, Holywell-row, Finsbury.

CHARING CROSS RAILWAY, CITY TERMINUS.—To BUILDERS CONTRACTORS PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW have been favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 10th, 1864, at TWELVE for ONE o'clock precisely, the very superior MATERIALS of the substantially-erected range of Offices known as "Dowgate hill Chambers," comprising the lead and pipes, gutters and ridges, excellent flooring boards and timbers, plate glass sashes and frames, sashes, panelled, and glazed doors, Portland stone landings and staircases, Kentish rag and Bath stone, York, supports, ornamental Portland stone cornices and strapping, several sets of Runcorn & Co's patent corn-dresser iron shutters, iron safes, stoves, gas fittings, iron girders, and a variety of useful fixtures and fittings, &c.—May be viewed the day prior and morning of sale, and Catalogues had on the Premises; at the Contractor's Office, Worcester street, Southwark; and of Messrs WILLIS & HARROW, Auctioneers of Essex-yard, 3, Newman's-court, Cornhill, E.C. and West Moulsey, Molesey, Surrey

NORTH LONDON RAILWAY.—CITY TERMINUS.—Materials and Fittings of the Shop, Public House, and other Buildings now standing at the Corner of Long-alley and Saunder-street, Bishopsgate.

MESSRS. KENNEDY & BONNY will SELL the above MATERIALS by AUCTION, the Second week in AUGUST.—See future Advertisements.

Camden-town, July 28th, 1864.

NORWOOD.—Valuable Freehold Building Land, Land-tax redeemed.

MR. MARSH has received instructions to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 4, at TWELVE o'clock, in one lot, valuable FREEHOLD BUILDING LAND, comprising about 8 acres, situate in the White Horse-road and Beckham Burton road, Norwood, within fifteen minutes' walk of the Norwood Junction Station, and three minutes' walk of the Thornton Heath Station, on the Balham and Croydon branch of the Brighton Railway, and suitable for the erection of first and second class detached residences. May be viewed, and particulars, with plans, had of G. W. ABBOTT, Esq. Solicitor, 64, King William-street, City; at Garraway's; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House.

SURREY.—The first portion of the Worcester Park Estate situate between Kingston and Ewell, twelve miles from London, and within half a mile and a half of the railway stations, one of which (Worcester Park Station) is on the estate, and thirty minutes' ride by rail from town, divided into Fifty-seven Lots of from one to two acres each, and Four from four to fifteen acres; also convenient registered title, the conveyance of which to each lot will be delivered to the purchaser free of all expense.

MR. MARSH is instructed by the Landed Estates Company (Limited) to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, AUGUST 5th, at TWELVE, in Fifty-one Lots, the First Portion of the valuable Freehold BUILDING ESTATE, known as Worcester Park, anciently a royal manor, then distinguished as Little Nonsuch Park. This fine estate is most fully abodied with ornamental timber, and presents many choice spots for the erection of detached villas for which purpose it has been purchased by the Landed Estates Company (limited) and divided into plots of convenient extent. The subsoil is gravel and sand and a high service water-supply is laid on by the Lambeth Waterworks Company and direct from reservoirs at Kingston. The Ewell high road, from Kingston to Epsom, forms one boundary of the property, which possesses a frontage thereto of several thousand feet. The lots in Ewell parish are all Tithe free. Particulars, with plans attached, are in course of preparation, and may shortly be obtained of Messrs HOOK, the Surveyors of the Company, 14a, Great George-street, Westminster; Messrs. FORDYCE & SMITH, the Solicitors of the Company, 11, Staple-inn, or at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house.

KENSINGTON.—Desirable Freehold Residence, with about 2½ acres of land, prettily timbered, and available for building purposes, within five minutes' walk of the Kensington Railway Station.

MR. MARSH has received instructions to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, AUGUST 11, at TWELVE, the detached FREEHOLD RESIDENCE, distinguished as Weston Lodge, Portland-road, Kensington, with large pleasure and kitchen gardens, beautifully timbered, containing about 2½ acres, offering great advantages for building purposes, and is well worthy the immediate attention of capitalists, builders, and others. May be viewed on application, and particulars, with conditions of sale, with plans attached, may shortly be obtained of TURNELL SOUTHGATE, Esq. Solicitor, 7, King's-bench-walk, Temple, W.C.; at Garraway's; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House.

PURLEY, in the Parishes of Croydon and Coulsdon, contiguous to the Coulsdon Junction Station, on the main line of the Brighton and South-Eastern Railways, about a mile and a half from the South Croydon Terminus, and twelve miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, on WEDNESDAY, AUGUST 3rd, at TWELVE, the First Portion of the Purley Lodge Estate, consisting of about Twenty acres of FREEHOLD LAND, divided into suitable lots for building purposes, the northern portion varying from one to two acres, all the remainder from a quarter to half an acre. A very eligible site, adjoining the railway station, has been set apart for the erection of a Tavern. The land is ornamented with timber, and has a substratum of gravel and chalk. The situation is beautifully rural, and healthy and within easy access to the metropolis; presents to the timber, capital sites, and private gentlemen first-class sites for the erection of country residences.—Particulars, with plans, may be had at Garraway's Coffee house; of Messrs WEST & KING, Solicitors, 3, Charlotte-row, Mansion-house; and of Messrs. BLAKE, Croydon.

SUTTON, SURREY, in the immediate vicinity of the Sutton Station of the London and Epsom Railway

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on FRIDAY, AUGUST 19th, at TWELVE o'clock, HIGHLY ATTRACTIVE FREEHOLD BUILDING PLOTS, comprising the principal portion of the Sutton Park Estate, having capital frontages to the Cheam road, and to new roads, known as Grove and Cumbria roads. The land, which comprises an area of about seven acres, is elevated, and commands fine views. It has a substratum of chalk, and is admirably adapted for the erection of first-class residences. There is an early prospect of additional railway accommodation with the Metropolis, by which means the importance of the neighbourhood will be much enhanced.—Particulars, with plans, may be had seven days before the sale, at Garraway's Coffee-house; of the inns at Sutton, Epsom, Carshalton, and Reigate; of JOHN BERNEY, Esq. Surveyor, Croydon, of H. RICHARDS, Esq. Solicitor, Croydon; and of Messrs BLAKE, Croydon.

TONBRIDGE, KENT.—Forty-five acres of most valuable Freehold Building Land, a Family Residence, Stabling, and Buildings convenient to the town, and the endowed Free Grammar School.

MESSRS. CHARLTON will SELL the above by AUCTION (unless previously disposed of by private contract), at GARRAWAY'S COFFEEHOUSE, Change-alley, Cornhill, London, on WEDNESDAY, the 17th AUGUST, 1864, at TWELVE for ONE o'clock, in two lots.

Lot 1. A most valuable BUILD NG ESTATE; comprising about forty-five acres of pasture meadow land, eligibly situated close to the town of Tonbridge, having frontages to the London turnpike road of 1,185 feet, and to the Shipbourne and Wrotham turnpike road of 1,050 feet, and is well adapted for the erection of first-class residences, which are much in request in the locality, being within a few minutes' walk of the richly endowed Grammar School, which is increasing in importance every year, and has lately undergone considerable addition and enlargement. The situation is high and dry, the ground undulating, overlooking the varied and charming scenery for which the district is so celebrated. The property is prettily studded with timber, with two ornamental cottages suitable for lodge entrance; with the possibility of forming a lake in the stream of water running across the lower extremity, affords additional feature.

Lot 2. A brick-built FAMILY RESIDENCE, known as Dry-hill, approached by a carriage drive, with lodge entrance hall, drawing room, 27 feet by 17 feet 6 inches; library, 25 feet 6 inches by 16 feet 6 inches; water closet, cupboard, china pantry, store room, and beer cellar; larder, wood and scullery, butler's pantry, store room, and beer cellar; larder, wood and poultry houses, large laundry, the whole supplied with good water. The above lot has complete coachman's cottage, two stall stable, with loft over, harness room, double coach-house, two large warehouses, cattle yard and boiler, together with 5a. or 6a. of garden and fruit plantations, having frontages of 450 feet to the London turnpike road, and 400 feet to the Shipbourne and Wrotham turnpike road, also a valuable piece of land, lying between the roads at present containing 4a. or 5a. R. having on the premises; at the Contractor's Office, Worcester street, Southwark; and of Messrs WILLIS & HARROW, Auctioneers of Essex-yard, 3, Newman's-court, Cornhill, E.C. and West Moulsey, Molesey, Surrey

[For remainder of Auctions see p. ix.]

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, No. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday July 30, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

CONTAINS 20

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ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Hon Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place ; or by Mr. ALFRED HILL, 28, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of PENSIONERS will take place in NOVEMBER next.—Candidates may obtain forms of application (to be returned on or before 29th AUGUST) at the offices, 24, Southampton-street, Bloomsbury. Pensions, 24l. per annum for males ; and 20l. for females.

A. G. HARRIS, Secretary.

July 29th, 1864.

NOTICE. — Mr. LUDWIG DENICKE, of Leipzig, has been appointed AGENT to receive Advertisements, and to supply "The BUILDER," in GERMANY AND EASTERN EUROPE.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand ; and also for the convenient more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

COMPETITIONS.

BOROUGH of WALSALL.—To ARCHITECTS.—The Walsall Town Council are desirous of receiving DESIGNS for a TOWN-HALL and GAOL.—A premium of 30l. will be given for the Design which in the opinion of the Council is the best, and a Premium of 15l. for that which is in their opinion the second-best ; and both these sets of plans are to become the absolute property of the Council. Plans of the site, with statements of the offices and conveniences required, and of the conditions to be observed by the competitors, may be had on application to the Town Clerk.—By order,

SAMUEL WILKINSON, Jun. Town Clerk.

Walsall, 14th July, 1864.

COMPETITION for VILLAS.—The Rev. E. DAVYS presents his compliments and best thanks to the numerous Architects who favoured him with their designs. The premium of 20l. is awarded to T. C. SORBY, Esq. of Bedford-row, London. Two additional premiums of 10l. each have been given, for the use of their designs, to JAMES KENDALL, Esq. of Darlington, and WILLIAM YOUNG, Esq. of Waterloo road, Manchester ; and one of 5l. to E. C. TILLY, Esq. of Bolton-le-Moors.

TERRA-COTTA ENGINE CHIMNEY TOP.—WANTED, DESIGNS and PRICES for BEADING and TOP of an Octagon CHIMNEY, 90 feet high and 4 feet clear inside at top, 10-inch walls.—Address, SPEAR & JACKSON, Etna Works, Sheffield.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for CARRYING OUT the ARTIFICERS' and other WORKS of an estimated value of three hundred pounds and under, at NETLEY, in the County of Hants, under a TRIENNIAL CONTRACT, from the 1st of OCTOBER next, determinable at any period after one year on either party giving to the other three months' notice in writing.

Copies of the Schedules (price seven shillings and sixpence) and form of Tender may be obtained on application at this Office.

The Secretary of State for War does not bind himself to accept the lowest or any Tender. (Signed) P. RAVENHILL,

Major, Commanding Royal Engineer, Netley.

Royal Engineer Office, Netley,
2rd August, 1864

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Kingsdown, near Deal, in the county of Kent, may inspect the Drawings and Specifications at the Coast Guard Watch House, Deal, or at this Office, between the hours of TEN and FOUR, from TUESDAY the 2nd, to MONDAY, the 15th of AUGUST, now next ensuing, all both inclusive (Sundays excepted.)

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 16th AUGUST, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Kingsdown."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 26th day of July, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

TO BUILDERS and CONTRACTORS.—STAFFORDSHIRE.—Persons disposed to TENDER for the ERECTION of a POLICE STATION and MAGISTRATE'S ROOM at Tipton, may inspect the plans and specification, and obtain bills of quantities at my Offices, on and after TUESDAY, the 2nd day of AUGUST, until THURSDAY, the 11th of AUGUST. Sealed Tenders, endorsed "Tipton Police Station," must be delivered at my Offices, on or before the 11th of AUGUST, by TEN o'clock, a.m. A charge of 1l. 1s. will be made for each copy of quantities, but will be returned to all parties submitting Tenders for the works. Neither the lowest nor any Tender will necessarily be accepted.

ROBERT GRIFFITHS, Architect.

County Surveyor's Office, Eastgate-street, Stafford,
20th July, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of High Easter Church, Essex, can see the plans and specification at the Offices of Mr. FRED. CHANCELLOR, Architect, Chelmsford, after the 4th of AUGUST. Tenders to be delivered to the Architect on or before the 19th of AUGUST. The lowest or any Tender will not necessarily be accepted

TO CONTRACTORS.—The Trustees of the Town, Port, and Harbour of Whitehaven are prepared to receive TENDERS for SEWERAGE and OUTFALL WORKS for the drainage of the said town and neighbourhood. Drawings and specification, prepared by Mr. HAWKSLEY, Civil Engineer, 30, Parliament-street, Westminster, may be seen at his Office, and at the Office of the Secretary to the Trustees, at the Town Hall, in Whitehaven (where bills of quantities and other particulars may be obtained), on and after MONDAY, the 1st day of AUGUST next. Sealed Tenders, addressed to the Secretary to the Trustees, must be delivered at his Office, in Whitehaven, on or before MONDAY, the 22nd day of AUGUST, but the Trustees do not pledge themselves to accept the lowest or other Tender, although they will do so unless there should appear to them to be sufficient reason for the contrary.

By order, JOHN COLLINS, Secretary to the said Trustees.

Queen-street, Whitehaven, 22nd July, 1864.

TO BUILDERS.—GLEWSTONE SCHOOL CHURCH, in the Parish of Goodrich, near Ross.—Plans and specifications may be seen at the house of Mr. WILLIAM MORGAN, Church House, Goodrich : and TENDERS to be sent to my Office, as below, on or before the 13th day of AUGUST. The lowest or any Tender not necessarily accepted. JOHN V. BEDDOE.

12, Park-street, Westminster.

TO GAS ENGINEERS, SMITHS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's road, on TUESDAY, the 9th day of AUGUST next, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for twelve months for the SUPPLY of STREET LAMPS, and the several parts thereof, and for the Works connected with the fitting and fixing thereof in the said parish, as may be required and directed : Further particulars, with the form of Tender, may be had on application at this Office. Sealed Tenders, signed by the proposed Contractor, with the name and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock on the said 9th AUGUST next. The contract deed will be provided by the Vestry. No Tender will be received or accepted unless made on the printed form ; and the Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, July, 1864.

TO CONTRACTORS.—Parties desirous of TENDERING for the several WORKS required in the proposed EXCHANGE, Bradford, are requested to forward, by letter, their names and addresses to us, not later than SATURDAY, AUGUST 13th, and to state whether a Tender will be delivered for the whole or for which department only of the work.

Post-office Buildings, Bradford. LOCKWOOD & MAWSON,
Lincoln's-inn Fields, London, Architects.

CONTRACTS.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will, at their meeting, to be held on the 18th day of AUGUST next, at the Town Hall, Church-street, Hackney, at ELEVEN o'clock in the forenoon precisely, be prepared to open TENDERS for the supply and delivery of 10,000 tons (more or less) of the best BLUE GUERNSEY GRANITE, broken to a gauge of 2½ inches, to be delivered and landed at their Wharfs, at Cambridge Heath and Kingsland Basen, in such quantities and manner as shall be directed by the Surveyor. Any further information may be obtained by applying to Mr JAMES LOVEGROVE, C.E. Surveyor to the Board, at his Office, Town Hall, Church-street, Hackney. Tenders, with samples, to be sent in on or before the 17th day of AUGUST last, addressed to the Clerk, and endorsed "Tender for Broken Granite." The Tender to state the difference (if any) in price for any portion that may be ordered after the 29th of SEPTEMBER. Persons contracting will be required to enter into a bond or security, with two approved sureties, for the due performance of the contract. The Board do not bind themselves to accept the lowest or any Tender. The parties tendering are expected to be in attendance at ELEVEN o'clock, a.m. (Signed) RICHARD ELLIS, Clerk.

Town Hall, Hackney, August 4, 1864.

TO BUILDERS and OTHERS.—TENDERS are required for the BUILDING of a NEW BRIDGE, in the parish of South Mimms, about one mile from the Potters Bar Station of the Great Northern Railway. Also a separate Tender for Widening another Bridge, at Mimms Hall, in the same parish. The plans and specifications are deposited for inspection at Mr BASKERVILLE'S, South Mimms, and may be seen any day between TEN and FOUR o'clock. The Tenders to be endorsed "Tender for Bridge," and are to be delivered to the undersigned on or before noon, on SATURDAY, the 13th day of AUGUST, 1864 The lowest or any Tender will not necessarily be accepted.

South Mimms, Middlesex. CHARLES COWLAND, Surveyor.

TO PAINTERS and CONTRACTORS.—PARISH of SAINT PANCRAS, in the County of Middlesex.—Notice is hereby given, that the Directors of the Poor will meet at the Vestry Hall, King's road, Pancras-road, on TUESDAY, the 23rd day of AUGUST instant, to receive TENDERS from Painters and Contractors for the PAINTING of the Exterior WOOD and IRON-WORK of the WORKHOUSE and adjacent Building, according to specifications, to be seen at the Office of the Clerk of Works, 10, Edward-street, Hampstead-road, where further particulars may be obtained. Security will be required for the due performance of the contract. Tenders, endorsed, "Tender for Painting," to be delivered at the Vestry Offices, before TWO o'clock in the afternoon of the said TUESDAY, the 23rd day of AUGUST next, after which hour no Tender will be received. Persons Tendering, or their agents, are expected to be in attendance at the said meeting, at THREE o'clock, but no travelling or other expenses will be paid on any occasion. The Directors do not bind themselves to accept the lowest or any Tender.

By order, FRANCIS PLAW, Clerk.

Vestry Offices, Pancras-road, 2nd August, 1864.

TO BUILDERS. — Persons willing to TENDER for the ERECTION of a VILLA RESIDENCE, at Padeswood near Mold, Flint-shire, can apply by letter for particulars before the 12th instant, to the Architect, Mr. T. BOWER, Jun. Nantwich.

BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a new BAPTIST CHAPEL at Acton, may inspect the plans and specification at my Office between the hours of TEN a.m. and FOUR p.m. from the 5th to the 13th instant. Tenders must be delivered to the Committee, at the School-rooms, Westbourne grove Chapel, at SIX o'clock in the evening of MONDAY, the 15th inst. The Committee do not bind themselves to accept the lowest Tender.

WM. MUMFORD, Architect, 10, Lincoln's-inn-fields.

TO BUILDERS.—TENDERS are required for the COMPLETION of Two VILLA RESIDENCES, Belvedere Park, Erith, Kent. —Drawings and specification may be seen, and all particulars obtained, at the Offices of the Architects, Messrs. W. G. HABERSHON & PITE, 33, Bloomsbury square.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland stone in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO BUILDERS.—TENDERS are required for BUILDING a Pair of Semi-detached VILLAS, at Shrewsbury-lane, near Shooter's Hill, Kent, for E. O. Harrison, Captain, Royal Artillery. Drawings and specifications may be seen, and copies of quantities obtained, at the Offices of Messrs. W. GOSLING & SON, 83, Wellington-street, Woolwich, Architects and Surveyors. Tenders to be sent in on FRIDAY next, the 12th instant, as Captain Harrison does not pledge himself to accept the lowest or any Tender

BOROUGH of WIGAN, in the County of Lancaster.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a GAOL, COURT-HOUSE, and BOROUGH OFFICES, for the said Borough of Wigan, may inspect the drawings and specifications at the Offices of Messrs. NUTTALL & COOK, Architects, 17, Lord-street, Liverpool, between the hours of TEN and FOUR, on and after THURSDAY, the 11th instant, until THURSDAY, the 1st of SEPTEMBER next (Sundays excepted). The quantities may be obtained on application to Messrs. NUTTALL & COOK on payment of the sum of 2l. 2s. which will be returned on delivery of a Tender. Tenders to be sent in on or before THURSDAY, the 1st day of SEPTEMBER next, under seal directed to C. HILTON, Town Clerk, Wigan, indorsed "Tender for Borough Gaol, &c." The Corporation do not pledge themselves to accept the lowest or any Tender sent in.

C. HILTON, Town Clerk.

Dated this 3rd day of August, 1864.

[For remainder of Contracts see next Page.

NENE NAVIGATION.—THIRD DIVISION.—To CONTRACTORS, EXCAVATORS, and OTHERS.—Persons willing to CONTRACT with the Commissioners of the Nene Navigation (Third Division) for DEEPENING the RIVER NENE, from Peterborough downwards, are requested to send or deliver to me, on or before WEDNESDAY, the 10th day of AUGUST instant, Sealed TENDERS for Executing the Work. The sections and specifications of the work may be seen on application to Mr. WM. ADAMS, Wisbech. The Tenders to be endorsed "Tender for Excavating the River Nene." The Commissioners are not pledged to accept the lowest or any Tender. By order,

PEA. JACKSON, Clerk to the Commissioners.

Wisbech, August 1, 1864.

TO BUILDERS.—The Committee of the Brighton National Schools are prepared to receive TENDERS for the ERECTION of a BRANCH SCHOOL in Richmond-buildings, according to plans, drawings and specifications, prepared by Messrs. SCOTT & SUTER, which may be seen at their Office, 34a, Regency-square, Brighton, where forms of the Tenders may be obtained. Sealed Tenders, addressed to the above Committee, may be sent in on or before the 12 h instant. The Committee do not bind themselves to accept the lowest or any Tender.

Central National Schools, Brighton, August 1, 1864.

CROYDON LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for FORMING, MAKING, and METALLING the ROADS, CONSTRUCTING the EARTHENWARE and IRON-PIPE SEWERS, and other Works on the Lands in Croydon Land Societies' Bensham Estate, at Thornton Heath and the adjoining district, in the parish of Croydon, in accordance with the plans and specification prepared by Mr. Baldwin Latham, C.E., the Engineer for the Croydon Local Board, can inspect the plans and specification, and obtain other information at the said Engineer's Office, at the Town Hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Roads and Sewers, Thornton Heath," are to be delivered at the Offices of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 9th day of AUGUST, instant. The Local Board do not bind themselves to accept the lowest or any Tender.

3rd August, 1864 HENRY RICHARDS, Clerk to the Board.

TO BUILDERS. — Persons willing to CONTRACT for the ERECTION of a new CHURCH at New Ferry, near Birkenhead, according to the drawings prepared by Mr. E. Haycock, jun. architect, Shrewsbury, may see the plans, specifications, and obtain the Notice Board Place, New Ferry, a quarter half a mile from Bebington Station, on and after this date. Sealed Tenders received by the Rev. G. R. PEILDEN, Bebington Rectory, Birkenhead, on or before MONDAY, the 22nd instant. The Committee do not bind themselves to accept the lowest or either Tender.

Bebington, August 1, 1864.

BUILDING GROUND.—TO BE LET, from Michaelmas next, a valuable PLOT of GROUND, adjoining the Lea Bridge Railway Station, with a frontage of 300 feet to the Lea Bridge-road, the total area being five acres and a half.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21 000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick-built manufactory of two floors, engine and boiler-houses, with 50-horse power steam-engine and three Cornish boilers, range of brick built offices, and joiners' shed with gateway entrance. There is a water frontage of about 207 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

PUTNEY.—To BUILDERS and OTHERS. Superior BUILDING LAND TO BE LET, on the Richmond-road, Putney, within 150 yards of the railway station. Lease, 99 years. Ground-rent moderate. Liberal allowance made.—For plans, &c. apply to J. H. ROWLEY, Esq. Architect, 35, Poultry, E.C.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company at Station, Essex, close to the Station and the High street: one portion with river frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London-wall.

FREEHOLD LAND TO BE SOLD or LET on BUILDING LEASES, in Glengall-road, Old Kent-road.

AND ALSO near Forest-hill Station.

ALSO FREEHOLD WHARF on the Surrey Canal, near Old Kent-road.—Apply to Mr. MAY, Acorn Timber Wharf, Old Kent-road.

SURBITON.—TO BE LET, on Building Leases, LAND within five minutes' walk of the Station, and close to the River, for HOUSES of not less than 80l. a year rent. If desired, a portion of the money so paired will be advanced. In case of Mr. MUDIE, Victoria terrace, Surbiton.

FREEHOLD BUILDING LAND TO BE LET, at Chislehurst, Kent, on long lease, at moderate ground-rents, suitable for villas, cottages, and shops. There being a great want of small-er dwellings, they would let immediately, and the sites offer a good investment. Also, LAND suitable for first class residences, commanding magnificent views, all within easy access to rail for City and West-end. The situation is celebrated for pure air and water, is high and dry, rich soil, and not to be surpassed in picturesque beauty.—Apply to Mr. F. THORNE, 4, Corbett-court, City; and Rose-bank, Lee-road, Lee, S.E.

TO BE LET, Large and Valuable PREMISES, with water communication, one mile north from the Bank. Formerly occupied by a hanging paper manufacturer, who realized a large fortune there.—Apply to E. & W. SIURGE, Bridge Wharf, City-road, E.C.

BUILDING LAND TO BE LET, situate at Vauxhall, Leytonstone, and Camberwell.—For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

FOREST HILL.—BUILDING LAND TO LET on this hill, commanding extensive views.—Apply to A. B. 192 Bermondsey-street, S.E.

TO BRICK and TILE MAKERS.—SIX ACRES of rich BRICK EARTH, capable of making millions, TO BE LET, on lease, or freehold sold, close to the Romford Station. Apply to Mr. GEORGE KNOX, Park Cottage, Romford, who will show the land.

YARD and PREMISES at BRIDGWATER.—The Directors of the Bristol and Exeter Railway Company are prepared TO LET, for a term of years or otherwise, from Michaelmas, 1864, the YARD and PREMISES known as Somerset Yard, adjoining the railway and near the station at Bridgwater, Somersetshire, at present in the occupation of Mr Cuthbert Ritson, Contractor and Timber Merchant. The Premises comprise about 4 acres, have a water frontage of about 720 feet to the river Parrett, and are connected with the railway by a line of rails running into the yard—as can be viewed on application at the Premises. Possession can be had at Michaelmas, 1864. Tenders to be addressed to the Secretary of the Bristol and Exeter Railway Company, at Bristol, from whom any necessary information may be obtained.

Bristol, 25th July, 1864 ARTHUR MOORE, Secretary.

THORNTON HEATH, CROYDON.—TO BE LET, for Building, a very desirable Plot of FREEHOLD LAND, 300 feet in depth, and 45 feet frontage to the London road, situate less than a mile from the healthy town of Croydon and the West Croydon Station at a moderate ground-rent.—For particulars, apply at Gloucester Cottage, Thornton Heath (adjoining the Land), or at Mr. HAYES'S, No. 18, Austin Friars.

TO LANDLORDS.—WANTED, a good commanding SHOP and HOUSE, suitable for a Cheesemonger, within a short distance of the City—Address, stating full particulars, U. P. Post-office, Bishopsgate Without, E.C.

SAFE INVESTMENT.—To Trustees and Others.—For SALE by PRIVATE CONTRACT, TWO FREEHOLD DETACHED VILLAS, situate in a high and dry neighbourhood, with large well stocked garden, conservatories, labbing, and carriage-way, close to a railway station. The vendor will take a lease of both villas for seven, fourteen, or twenty-one years. No agents need apply.—Address, X. 3, Oakfield terrace, Penge, Surrey.

TO BE SOLD, a valuable FREEHOLD PLOT of GROUND, Plot No. 317, frontage 25 ft. by 97 ft. deep, on the Ellis Estate, Mutley road, Waterlane, Lower Dulwich road, Bratton.—Apply to R JOHNSON, 65, Harrison-street, Gray's-inn-road

VICTORIA PARK ROAD, SOUTH HACKNEY.—TO BE LET, with or without a capital Residence, CONVENIENT PREMISES, at present used by a builder, comprising large yard, with commanding house, owner's shop, 65 feet by 33 feet, room under of the same dimensions, 25 feet high; painters' and masons' shops, three-stall stable, granary, cart-shed, and storerooms. Rent 90l per annum.—Further particulars to be had of Mr. A. RICHARDS, Auctioneer, Tottenham.

TO MARBLE MASONS.—WANTED to PURCHASE (for cash), a Quantity of MARBLE CHIMNEY PIECES, openings 2 ft. 6 in. to 3 ft. 10 in.—Address, stating price, to A. B. 32, Southampton buildings, Chancery-lane, W.C.

TO SCULPTORS, MASONS, BUILDERS, &c.

FABRINI, BROTHERS, Carrara Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE, a well selected Stock of Statuary, Veined, Sculptors' (or purple veined), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Grecotte, Breccia, Sienna, St. Ann's, Langnedoc, Vert des Alpes, Black, &c. &c.; and Alabaster, in Blocks, with slabs of several of those qualities. Also Solid Marble Baths and Mortars, and Vases and Figures, in Statuary and Sicilian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

TO ARCHITECTS, BUILDERS, and CONTRACTORS.

QUARRY FOR HEAVY MATERIALS.

Corgrig Quarry supplies Mountain Limest ne from beds which vary in thickness between eight inches and six feet. The length and the breadth of the slabs or blocks to order as required. The dip of the beds is favourable for quarrying. The quality of the stone is extreme toughness and freedom from flakes, making it equal to granite for bridges, embankments, quays, and all heavy work, besides having a fine and close texture, admitting the best polish. A first-rate road of but half a mile, connects the Quarry with the Harbour of Foynes, the River Shannon giving easy shipment on board sea-going vessels. Price, F. O. B. 6d. per cubic foot, roughly scabbled.

Apply to STEWARTS & KINCAID. 6, Leinster-street, Dublin; or O. N. KNOX, Esq. Corgrig Lodge, Foynes, Ireland.

SERPENTINE, large size and great variety, EQUAL TO GRANITE IN DURABILITY; adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used. Manufactured by THE LIZARD SERPENTINE COMPANY (Limited), Office, 34, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall. Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

G. MITCHELL, MARBLE, STONE, and GRANITE WORKS. SHOWROOMS: No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application. Estimates will meet with prompt attention. MANUFACTORY at WALTON STREET.

WEARDE STONE QUARRIES, LIMITED. The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes; also for Macadamising.—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

PATENT CONCRETE STONE COMPANY (Limited).—The Directors have granted LICENCES for six of the Counties of Great Britain, and are prepared to entertain further Propositions for LICENCES for the MANUFACTURE of this valuable MATERIAL.—Plans for the erection of Works, and full instructions, on application.—By order, THOMAS PIPER, Secretary.

36, Parliament-street, S.W. May, 1864.

POLISHED GRANITES.—TOMBS COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by WILLIAM & JOHN FREEMAN, 27, MILLBANK STREET, LONDON, S.W.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862, for the Polished Granite Work. Aberdeen Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes. Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depot, 404, Euston-road, N.W.—DAVID WILLET, Agent.

DARTMOOR GRANITE.—The Dartmoor Granite Quarries, lately belonging to the Haytor Granite Company, are now worked by the Dartmoor Granite Company, of Laira Wharf, Plymouth, and Portland Wharf, Grosvenor-road, Pimlico, London.—For prices, &c. apply to W. H. HOLLAND, Agent and Manager for the Company, Portland Wharf, 20, Grosvenor-road, Pimlico, S.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Working prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, STONE MERCHANTS and QUARRYMEN. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Office—10, Three Crown-square, Southwark.

LITTLE CASTERTON FREESTONE. Apply, for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD, The Owner; and see Specimen at the Museum of Practical Geology, Jermyn-street.

This stone (which is a perfect colite) is raised in blocks of any portable size and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to plane it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

* * * The above WEATHER STONE is used largely by London Builders.

RED MANSFIELD STONE, WHITE MANSFIELD STONE, YELLOW MAGNESIAN or BOLSOVER LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station. Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts. BANGOR, GARSTON, SALTNEY, CHESTER, and GLOUCESTER. Prices forwarded and estimates given on application. 1, BOLD TERRACE, CHESTER.

WELSH GREEN SLATES can now be obtained in unlimited quantities and at reduce rates.—For prices and samples apply to ALFRED BRABY, BANGOR WHARF, BELVEDERE ROAD, LAMBETH, S.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or uncreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames.

TO CONTRACTORS, QUARRY OWNERS, MINERS, &c.

BLAKE'S STONE BREAKER is recommended by the best Engineers in this and other countries to Break Stone of every description, of the best quality for Macadam Roads, Concrete, Ballasting Railways, &c. It takes in large blocks or round boulders, and reduces them to fine road metal, at a cost of from 2d. to 3d. per ton. If your pauper labourer costs 3l. per day, this machine will do more work, and do it better, at 2d.—For circular testimonials, &c. apply to H. R. MARSDEN, SOHO FOUNDRY, LEEDS.

PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, 1862.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELLATED TILES, 6 inches and 4 inches square, hexagonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs; plinths, friezes, string courses, pilasters, &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their NEW MANUFACTURE OF METALLINE TILES, 6 inches by 1 inch thick, in truck-loads of 4,000, from 63s. per 1,000, cash, delivered to Nine Elms. Also, sand kiln, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks. Specimens may be seen, and every information obtained, at the Offices, No. 35, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 35, Parliament-street, S.W.; or Poole, Dorset.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Finally, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 561, of the Great Exhibition 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls, and Lining Iron Houses, DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BRICK VIADUCTS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES THORN & CO. GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, EYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

FOUR-HORSE POWER VERTICAL STEAM BOILER for SALE. Second-hand.—Apply to JAMES ROBINSON & Co. 23, Villiers-street, Strand, W.C.

MOULDING and PLANING by MACHINERY IRONS.—Manufactured by D. STUART SPEIRS, 170, Walton road, Liverpool. Estimates supplied on application for large quantities of Moulding Irons.

ROBINSON'S PATENT STEAM-SAW SHARPENER and PUNCH. By the use of which Files are entirely dispensed with in sharpening Vertical and Circular Saws, thus combining economy, expedition, and mathematical precision, quantity and quality of cutting surpassing hand sharpening at a saving in files of 95l. per cent. 125, NEW KENT ROAD, LONDON, S.E.

TWO CAST-IRON COLUMNS FOR SALE, 20 feet long 10 inches diameter; Four Spring Girders, about 12 feet long; and about Twenty Candlivres, 7 feet long: also, 200 loads of good sharp Sand for Sale, lying in the City.—Apply at ENGINEER, Hartshorn court, Golden-lane.

JAMES ROBINSON & Co. Engineers, Iron Founders, &c. 23, Villiers-street, Strand, W.C. have the following surplus stock for immediate sale, at low prices. An 8-inch Cylinder Table Engine, a Punching and Shearing Machine for 3-inch iron, 3 Fire Engines, 8 Garden Force Pumps; a set of three 7-inch Gun Metal Pumps; 100 9 feet lengths, 5-inch Socket Pipes; complete sets of Well-boring Tools; Screw Water Valves, Gas Valves from 2-inch to 15-inch; Street Watering Posts, Stand Posts; Gas and Heating Stove; Traversing Crane, Oat Crushing Machine, 6 Gas Holder Columns, 18 feet long; 3 6-feet Fly Wheels, 2 12-feet Fly Wheels, shafting, Riggers, &c. &c. Full particulars and prices to be had on application.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

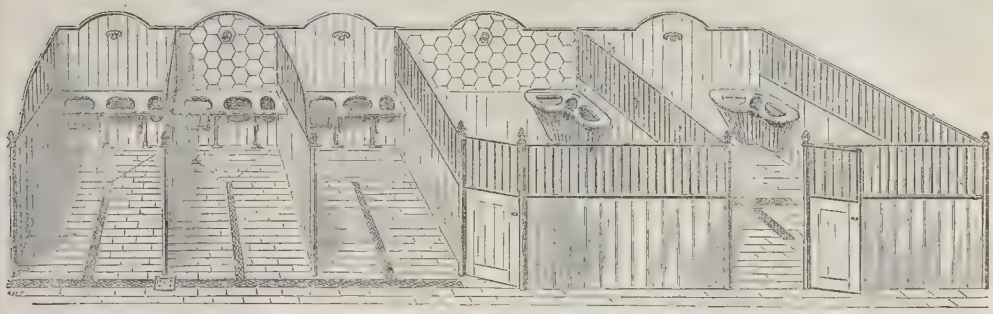
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THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

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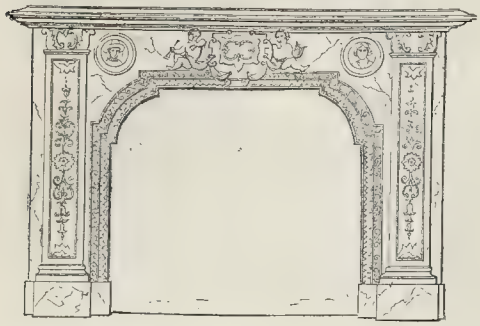
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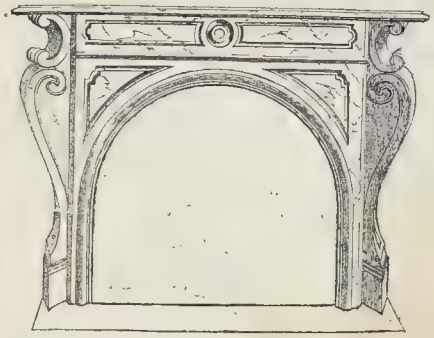
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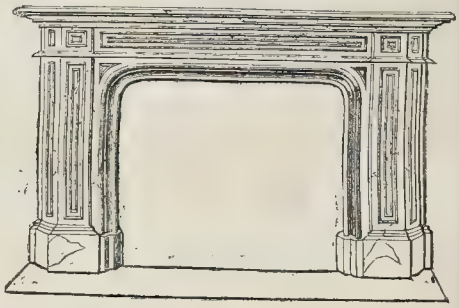
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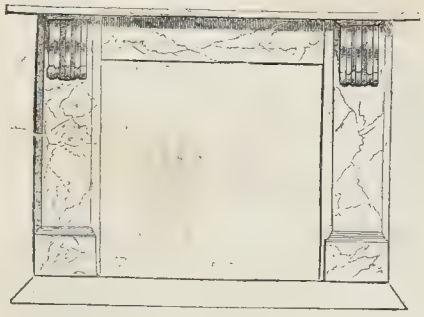
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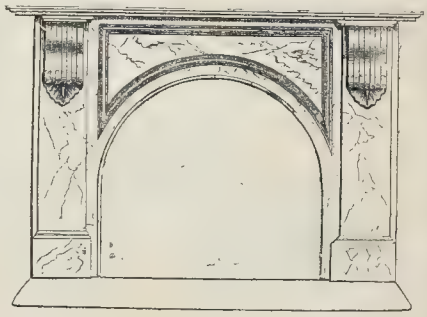












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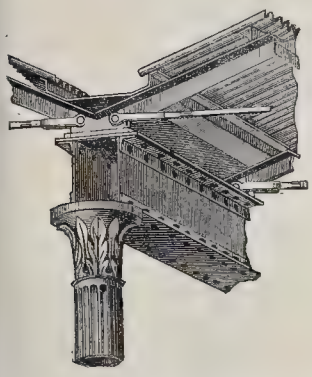
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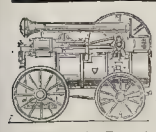
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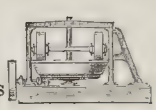


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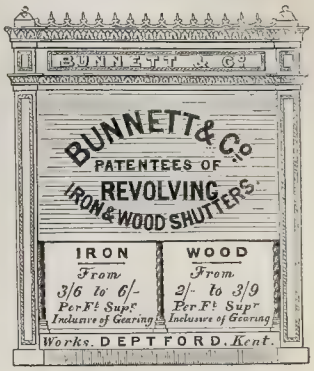
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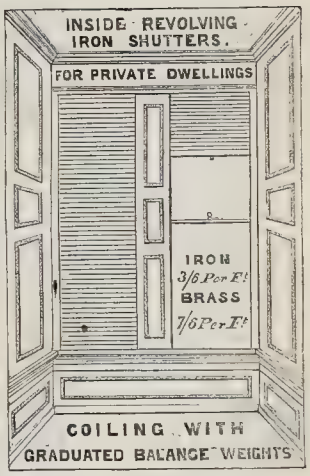
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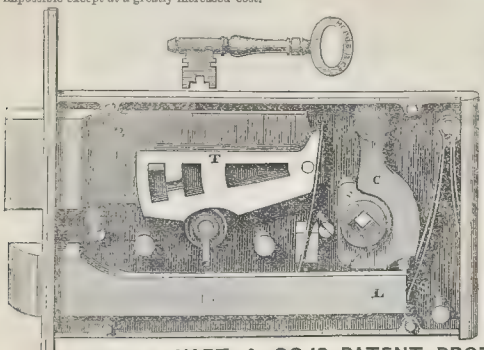
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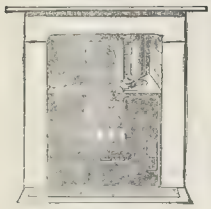
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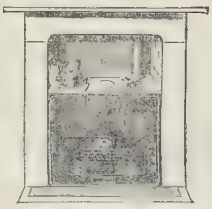
These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

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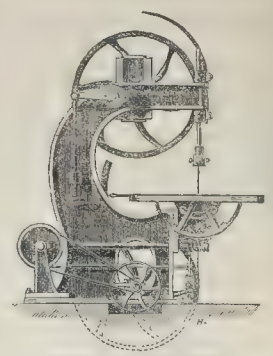
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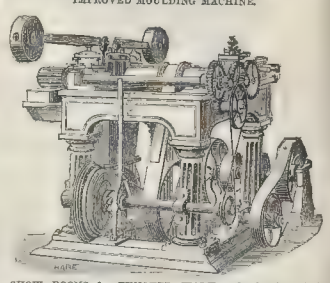
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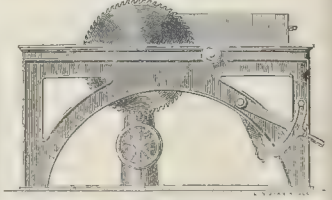
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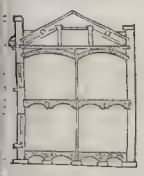
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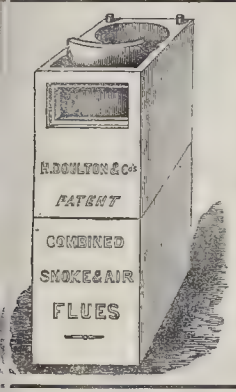
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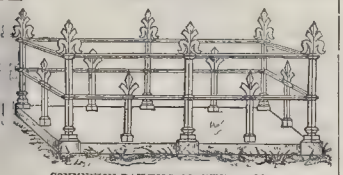
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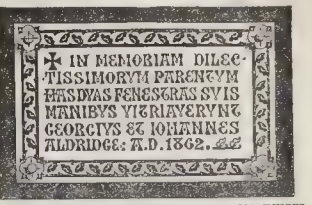
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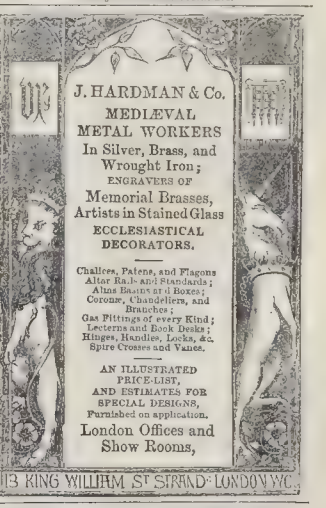
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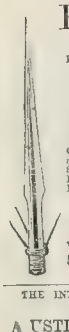
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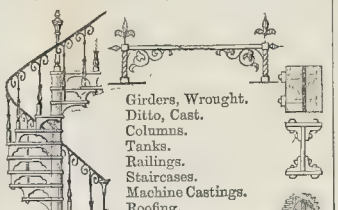
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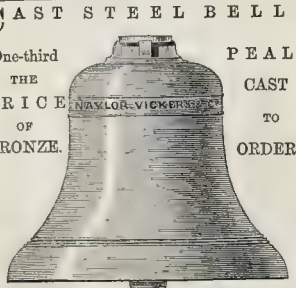
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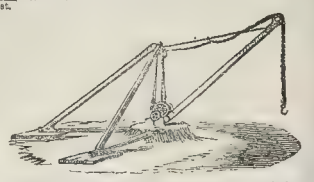
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in. in.	in. in.	in. in.	in. in.				
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VOL. XXII.—No. 1122.

The Thames Embankment.



IN describing the work of the Thames Embankment of the Middlesex side, we shall find convenience in dividing it, after the manner of the engineer in specifying the sewerage, into general and "special" construction. The first division will include the river-wall from Westminster to Whitefriars, —of one design throughout, or excepting where the *special construction* occurs, and now in progress, — and also the portion of the Low-level Sewer, the subway and the roadway, of the same length; the latter will include the steam-boat pier at Westminster Bridge, the two steam-boat piers at the Charing-Cross Railway Bridge, the two at Waterloo Bridge, which were shown in our view last week; the pier and landing-stairs near the Temple; the "York Gate" landing stairs opposite Whitehall Gardens, the stairs opposite Salisbury-street, the work for the maintenance of Waterloo Bridge; that for the outlets of the Victoria, Regent-street, Northumberland-street, Savoy-street, and Essex-street sewers, or storm-water outfalls; the junction of the Northumberland and Craven-street sewers; the different chambers, weirs, penstocks, and flaps; sewers of interception (almost as long as the sewer in the Embankment); work to the minor sewers and drains now discharging landward of the line of Embankment, which are something near fifty in number about the Temple alone; and the details of sewer-entrances and ventilating-shafts. Of one great division of the special construction, that just referred to, which is connected with the old sewers, some idea may now be gained on looking from the end of Norfolk-street, or the present Temple Pier, at the heavy work which is in progress between tides. Here also, the best idea may be formed of the earthwork of the Embankment, which is far advanced. It has been the cause of serious obstruction to the traffic of Fleet-street, but will materially aid the contractor's operations connected with the old sewers, by keeping out the tide. Still reserving notice, further than was given in our review of drawings in the Exhibition of the Royal Academy, of the decorative features of the piers and stairs, and description of much of the special construction, we proceed with our account of the works of the general division. Since the first stone was laid, the main intercepting, or Low-level, sewer has been commenced; but, necessarily as yet, the portion of the work is confined to the bit of the length of the Embankment, where the coffer-dam was constructed for the purpose of laying the stone. The general coffer-dam arrangement in the length of Mr. Furness's contract (for which Mr. T. Lovick is the resident engineer), will be different to this special construction, and less costly. We publish this week, a plan and section showing the special construction, as well as the river-wall, sewer, and subway, and serving also towards the explanation which we shall give of the general construction of the coffer-dam, or dams, in the length between Westminster Bridge and Somerset House.* In the plan, a portion of the return of one of the sides is broken off, our page not being large enough; and it must be distinctly understood that the old method of coffer-dam construction with a double row of sheet-piling and clay-puddle is, as to Mr. Furness's contract, confined to the one spot where there was a particular purpose to be served; though the new and more economic system makes use of the iron caissons in the line, on plan, in which we have shown them.

Before deciding upon the precise structure of the permanent Embankment, and the appliances which might be available in the work, it was necessary to consider the soil and substrata of the Thames. The deepening of the river-bed, commencing after the removal of old London Bridge; the failure of old Westminster Bridge and Blackfriars Bridge, from this cause; a certain apprehension as to Waterloo Bridge, and the expectation of an increased scour after embankment, have pointed to the necessity in all future structures on the Thames, for foundations laid at considerable depth. There has been some difference of opinion as to the necessity for going down to the London clay; and it has not always been clear at what depth the clay would be met with. Mr. Brunel, for the piers of Hungerford Bridge, which are at present the brick piers of the Charing-cross Railway bridge, chose to build upon the gravel; whilst Mr. Page, by a peculiar method of construction, in the case of new Westminster Bridge, may be said to have founded his piers partly on the gravel, and partly in the clay. Prior to the completion of the Westminster Bridge, certain referees of the Government, had reported strongly in favour of foundations in the clay, at whatever inconvenience and cost of a coffer-dam of the old form, which was adopted by Mr. Brunel in Hungerford Bridge; and was even used, by Mr. Fowler, more recently, in the case of the bridge for the Victoria Station and Crystal Palace Railway.

Mr. Bazalgette, however, has been served by inventions which have been attentively watched in these pages; he was able to decide upon dispensing with coffer-dam construction of the kind used on the building of the Houses of Parliament; and his work, or that of the contractors, has been further served by inventions of the last few months. At the commencement of last year, indeed, as shown by a report to the Metropolitan Board, he was able to decide upon a system of excavating within a "connected line of iron caissons," which were to be sunk below the bed of the river, to be filled with Portland cement concrete to within 6 ft. of low-water level, and to be otherwise "so constructed as to form a full tide dam." The work was to "be carried on in short lengths, so that the upper portion of the dam above low-water" could be removed on the completion of each length, and used in the formation of the one adjoining. The particular caisson now used in Mr. Furness's contract is the invention of a different engineer; but the date and authorship of the original suggestion seem to have been forgotten. At the date to which we have referred, Mr. Bazalgette was of opinion that a sufficient foundation could be obtained "upon the lower portion of the bed of gravel, at a depth of about 14 ft. below low-water mark, and 10 ft. above the London clay," which he said was "reached at a depth of about 42 ft. below Trinity High-water Mark," the gravel above "averaging from about 15 ft. to 25 ft. in thickness," and varying in coarseness and character, and the river-mud and sand averaging about 7 ft. We have some difficulty in exactly reconciling this information, said to be derived from the thirteen borings which had been made, with the sections given with the contract drawings, and each with experience in the works as it has been stated to us. However, at the starting-point near Whitehall Stairs, all the observations of facts seem to have been accordant; whilst, though perhaps exceptionally, the concrete foundation is there in the London clay.

Impermeability, as that of clay, or even of some portion of the Thames mud, constitutes a great advantage in sinking cylinders or caissons, safely and economically. The original method, introduced in France by Triger; subsequently used in the construction of Rochester Bridge, and afterwards with improvements and simplifications, for the piers of the Rhine Bridge, at Kehl, and the bridge at Argenteuil, near Paris, was the compressed-air system, or that of the diving-bell. We gave particular attention to it in 1862, in one of our articles on the Exhibition of that year. In sinking the cylinders for the Charing-Cross Railway Bridge, the compressed-air system was dispensed with; and the cylinders were sunk by the aid of divers, working inside, until such time as the cylinder had reached the clay, when it could be pumped dry, and the work be continued with comparative ease. In subsequent works, as Lambeth Suspension Bridge, the Railway Bridge at Blackfriars, and the bridge to the Cannon-street station of the Charing-Cross Railway, the compressed-air system has in like manner been unnecessary. In the last case, divers have not been employed; and the material from within the cylinders has been raised most economically by dredging. In the construction of the Cannon-street bridge, also, the weakness of the square form of caisson used in the abutments, as compared with the circular form used for the piers in the river, was established. Each of these matters of experience prior to the commencement of the Thames Embankment, has proved of much value. It was especially advantageous to be in the position to apply cylinder construction,—or that which is the actual construction, and which differs from the cylindrical only in form, and in the introduction of a method of junction, and to have at once a water-tight enclosure, and the means of depositing concrete in the caissons, as well as at the back of the wall, on the dry bed. Portland cement concrete will of course set under water; and for the foundations of Westminster Bridge, the material was deposited without pumping out the water, as it was at first in the case of the work of the Embankment. But there may be some advantage in cases where the concrete has to fill a particular space, in seeing that the space is filled. Therefore, as the water can be pumped out of the caissons, the practice now is to lay the concrete on the dry bed. Even though the cutting-edge of the cylinder, or caisson, may not have got down to the clay, the mud on the bed of the river is found to act as a lute, or like a leather washer, and to prevent the water from getting down to the bottom of the caisson, and rising within it.

It is time, however, to describe the form and dimensions of the permanent work, and the actual construction of the coffer-dam. And first of what will be permanent. Our section shows this, as well as the caissons forming the front of the general coffer-dam construction, and also the special coffer-dam construction in the single case of the spot near Whitehall Stairs. The permanent work includes not only the retaining-wall, sewer, and sub-way, and their foundation as shown, but the lower portion of the caissons; which last, filled with concrete, becomes an effi-

* See p. 582.

cient fender to the toe of the wall. This last-mentioned arrangement, and that of these iron caissons generally, has not been adopted up to the present time in the work in Mr. Ritson's contract, extending to Whitefriars, as will be shortly explained. Mr. E. Cooper is the resident engineer for this second contract.

The foundations of the river-wall were specified as to be carried down to 20 ft., at the least, below Ordnance datum, that is 32 ft. 6 in. below Trinity high-water level, or 14 ft. below low-water level. From that level, or the additional depth that might be required, the trenches were to be filled with concrete to 12 ft. 6 in. or thereabouts, below the datum (that is, to 6 ft. 6 in. below low-water level); and a bed was to be dressed to the proper slope and level for the footings of the brick wall. The recommendation of the Commission of 1861, as to an uniform low-water channel of 6 ft. in depth at ordinary spring-tides, is not followed. In the lower part of its course, or from Whitefriars to the Victoria-street sewer, which is just above the Charing Cross Railway Bridge, the Low-level sewer is to be 8 ft. 3 in. in clear diameter, and to be formed in brickwork of 13½ in. thick. To Westminster-bridge it is to be 7 ft. 9 in. in the clear. At the western extremity of Mr. Ritson's contract, the invert of the sewer will be, at the lowest part, 6 ft. 3 in. below Ordnance datum. The fall will be that generally adopted as the minimum, 1 in 2,640, or 2 ft. per mile. The sub-way will be over the sewer, with an interval of about 4 ft., and it will be 9 ft. in width, and 7 ft. 6 in. in height to the crown of the arch, and 3 ft. in the straight sides. The crown will be 2 ft. 1½ in. below the surface of the footway, which surface is 4 ft. above high-water line. The floor of the sub-way, to be gravelled, is to be about 5 ft. 6 in. below high-water, and is to be on a level, excepting where it crosses certain overflow-chambers near to Waterloo-bridge.

Besides the backing of brickwork to the masonry, as shown, there are 18-inch counter-forts of brickwork specified, intersecting the whole construction, six feet apart; the spaces left about the sewer and subway being filled with concrete. And there is an alternative method of construction, shewn in the drawings, wherein there is no backing of brickwork, the entire space being filled by concrete; which would be some of it in blocks.

A counterfort, 3 ft. thick, will be built over the arch of the sub-way at the back of each of the lamp-pedestals to receive the washer of a long mooring-bar which passes through the whole construction, and is attached to the mooring-rings upon the pedestals. Each ring, which is of cast and hammered gun-metal, will appear as held in a lion's mouth. There will be 58 of the lamp-pedestals and mooring-rings, besides those at the steamboat piers and landings.

The river-wall will be faced with granite, to a curved batter, from 2 ft. below low-water mark to about 1 ft. 6 in. below high-water mark, where there will be a chamfered plinth and surbace-mouldings, to a plain face of about 2 ft., forming the sub-plinth to the parapet, which will be formed with regular dado, plinth-mouldings, and cornice, projecting however but slightly on the inner face. The surbace-mouldings start from high-water level, as well as the block-pedestals for the lamps, by which the horizontal lines above the chamfer are cut. The parapet will be formed as a balustrade only where steam-boat piers and landing-stairs occur. Particular and judicious directions are given as to the masonry; which will contribute to the decorative effect. Joints are not to exceed one-eighth of an inch in thickness. The stones of the parapet, and those above a given level, are to be dowelled together in beds and joints with slate dowels each 2½ in. square.

Similar precise directions are given as to other divisions of the work, and for testing the materials. They may be suggestive as precedents.

The cement used is all to be Portland, ground extremely fine, and weighing not less than 112 lb. to the imperial (striked) bushel. It is to be brought on the works fit for use, and is not to be used until it has been on the ground three weeks at least, nor until tested, samples being taken out of every tenth sack, gauging the samples in moulds, and by apparatus similar to that heretofore used by the Board, placing the cement at once in water, in which it is to remain for seven clear days, and testing it at the end of that time by application of a weight. All cement that does not bear without breaking, 500 lb., is to be rejected. Lime that may be required is to be blue lias, from the lower beds, equal to Aberthaw, fresh from the kiln, and ground on the works in mills under edge-runners.

The concrete is to be formed of one measure of Portland cement to six measures of ballast, for the foundation works, and one of cement to eight of ballast for other works. The mixing is to be done by machines, generally: should any be allowed by hand, only six of ballast must be used. And should lime be used, one measure of it to six measures of ballast will be required. If concrete in blocks be required in place of the brickwork, there are to be seven measures of ballast to the one of Portland cement. But no such blocks are to be used till they shall have been made for three months.

The cast-iron is to be the best grey cold-blast pig-iron, free from cinder, mixed with one-fifth of best scrap-iron, and re-melted in the cupola. Bars, 2 in. deep and 1 in. broad, are to be cast for testing; and, placed on supports 3 ft. apart, are to bear without breaking 3,200 lb. in the centre. The wrought-iron, the best Staffordshire, is to bear 22 tons per square inch. Castings and wrought-iron are to be delivered free from paint; and all iron so sent, or with plugging in any part, will be rejected.

Sums amounting to 30,000*l.*, for ornamental figures and lamp-standards, are included in the contracts, as well as 22,500 cubic yards of extra Portland cement concrete, and similar items, and besides 75,000*l.* for meeting expenses of extra works not included in the specifications.

Relative to the ballast, or like material, for the backing of the Embankment, the specification in each case, says that if the contractor does not obtain the material "by the means aforesaid" (that is from the Conservators of the Thames, directly, or through the Board, or by raising the ballast himself from the river on the order of the Board), he shall obtain proper materials from other sources.

On delivering up the works, he is to return all drawings and documents before receiving the instalment payable; and the engineer and his assistants are to have always access to such documents.

As to the adjustment of claims for extras, the contractor is, within seven days after the signing of the contract, to deliver to the engineer full and true bills of quantities, with the rates and amounts of each item, or to incur a forfeit of 10*l.* for each day's delay; and, as to day-work, a precise account is to be kept, with the names of the workmen; and the account is to be given in daily,—the engineer, however, having power to decide whether the work is extra, and not capable of measurement. The contract is not to be assigned, or underlet; or there is to be a forfeit of 20,000*l.* There are numerous other conditions, bringing each contract to near a hundred clauses. The larger contract is to be completed in two years and six months, and the eastern contract in two years, from the time of commencement; or one per cent. on the amount of tender is to be deducted for each week's delay; though an exception is made as to strikes. A lengthy schedule of prices forms part of each document. In the day-labour, bricklayers, masons, carpenters, and smiths, are set down at 6s. 6d., excavators at 4s. 6d. or 4s., and labourers at 3s. 9d.

All mud and deposit from the foreshore, between the new line and the existing river-walls, is to be removed, as may have been understood; and the filling in with ballast, or other material, is to be brought to levels varying from 15 ft. above Ordnance datum, for a width of 120 ft. at the back of the line, to 13½ ft. for the remainder of the width.

As regards the system of coffer-dam, each specification said that the Embankment-wall was "to be formed with iron caissons, or coffer-dams,"—the latter expression doubtless referring to the old kind of construction,—as the engineer might direct; but, actually, each contractor has been allowed to adopt his own system, subject only to the original stipulation that "should caissons be adopted," "the backs and fronts" thereof were to be left in the ground, up to a level of 8 ft. below datum; and that should coffer-dams be adopted, the whole of the piles were to be cut off to a level which was to be pointed out,—and so, we may suppose, as to produce the same effect as that anticipated from the protection in the other case, by the caissons where filled with concrete as shown in our section. Mr. Ritson adopted the old system, and has used it for a considerable portion of the work, as may be seen. In driving piles through the bed of the Thames, however, cement-stones are apt to be met with; and the shoes of the piles get broken, and the timber blunted. Sometimes where, as supposed, there are no stones, and in case of piles that have had to be drawn for the purpose of driving afresh, the piles are found with the shoes broken off by the tenacity of the clay. These difficulties may not be important where piles are at considerable distances, as for staging for travelling-cranes; but, in the case of sheet-piling, they are very important, as increasing delay and expense. Mr. Furness has therefore adopted the arrangement of caissons shown in our plan and section; and Mr. Ritson may be at last obliged, for the sake of speed and economy, to adopt not the same system, but one equally making use of iron instead of timber. To this system, patented by Mr. R. P. Stockman and Mr. J. Sheppard Scott, we may give attention.

But we may mention that, as shown by drawings now before us, and as succinctly stated by one of the patentees, the nature of the invention is to sink cylinders, 8 ft. diameter with 10 ft. spaces between them, into the clay, the cylinders to be filled up, solid, with concrete; and upon them a massive and rigid system of cast-iron girders and plates, with caulked joints, is to be lowered in place complete, forming a "sealed platform." Round the margin of the platform there will be vertical sides and ends similar to those of an ordinary tank; and in the dry chamber thus formed the wall will be erected. When the portion of the wall inclosed is completed, the tank-sides and ends will be removed and the wall remain, founded on and inseparably connected with the massive platform, the whole being supported by the solid and numerous pillars of concrete in cylinders sunken down into the clay.

We have here only to complete an account of the system adopted by Mr. Furness.

It has been arrived at after several experiments. In one method, put aside, caissons of oblong shape on plan, were used. Each division was cast with a hemicylindrical indent down each end; so that when the ends of two divisions were brought together, a whole cylindrical space was formed; and this was intended to be filled with clay-puddle. Why these were discarded, we are not aware exactly; but from the form, and the manner in which they were made up in pieces, they were greatly wanting in the strength of the caissons adopted, which, moreover, are most conveniently fitted end to end, carrying on a line of them.

These latter caissons were contrived by Mr. Joseph Phillips, of Messrs. Cochrane's establishment, who has had the management of the sinking of the cylinders for the Charing-Cross Railway Bridge and the Cannon Street Station Bridge. They have an elliptical shape on plan, are 12 ft. 6 in. by 7 ft. outside measurement, and have a groove 6 in. in width and depth at each end. This groove, along with a similar one in the butted end of the next caisson, is to receive the timber pile which forms one of the guides to the descent of the caissons, as well as a joint, water-tight with packing. Each caisson is built in divisions of 4 ft. 6 in. in height; which are of wrought-and-rivetted boiler-plate iron, where to be below the bed of the river, and there left in, and of cast-iron, where above and intended merely to serve the purpose of the coffer-dam. There is necessarily a "cutting-edge" at the bottom of the pile or stack: but the other joints of the caisson are formed with angle-iron, or flanges; so that the divisions can be screwed together, inside, and with a packing of felt and tar to the joint, can be made water-tight. The thickness of the metal is ⅜-in., or 3-8ths; and the angle-iron is 5 in. by 3 in. by 5-8ths of an inch. The grooved portion of each of the lower or permanent caissons was, at first, made of cast-iron: but now, plate-iron is bent to the shape; so that, the whole of the division is of one material, as just now explained.

Before building up and sinking the caissons, the line of the face of the embankment is first got approximately, but with sufficient accuracy for the coffer-dam construction we are describing. About the middle of the length from one bridge to another, a point is fixed in the rear of the general line of staging, and marked by a pole or wand, set up on a small staging erected for the special purpose. The lines from this point, to two points on the bridges, form a large angle, in which the principal curve, which is of 9,000 ft. radius, is found by offsets. These are taken every 50 ft., that is to say, at the end of every length of four caissons. With the aid of the staging and travellers, partly shown in our illustration, the end guide-piles are

driven, as well as four others at the sides of the space which will be filled by the caisson. Whilst this is going on, the lower divisions of the caissons are being bolted together. These are then raised by the steam-crane, and dropped into the intended position on the river-bed, being guided by the piles. The end-pile is driven below the bottom of the caisson, which sinks slightly into the mud or soil by its own weight; and this pile is kept driven in advance of the sinking, so as to form a perfect guide. The caissons are then weighted at the top, and inside on the flanges, by numerous blocks of iron, each of which fits the curve of the ellipse. The materials of the strata, when not too hard, are scooped out of the inside of the caisson by the common contrivance called the "bag and spoon," which is used by ballast-heavers. It is simply a bag made of thick leather, and attached to a scooping-edge and a strong frame-work of iron. This "spoon" is drawn along by a chain, and guided by a strong pole, placed as the handle of the "spoon." In other cases, a common dredging-machine with the buckets working perpendicularly is used. A modification of the usual form of bucket has been made by Mr. Slater, one of the assistants of Mr. Furness. This bucket has a species of "false bottom," which is moved as the bucket is delivering its contents; whereby there is no sticking, and no duty of the machine lost. The improved machine to which we are referring, also includes an arrangement for lengthening, telescope-fashion, the stretch between the centres of revolution, or points of filling and delivery of the buckets. Much information on dredging machinery, and other contrivances, may be found in the "Recueil d'Appareils à Vapeur employés aux travaux de Navigation et de Chemins de Fer" of Mons. A. Castor, a work already noticed in these pages as containing illustrations of the method of putting in the foundations of the Kehl and Argenteuil bridges.

The dredging contrivance, whichever it may have been necessary to adopt, scoops up the gravel or other material from the middle of the elliptical space; the material from the sides keeps falling in; and the weight causes the caisson to sink. Any fresh lengths of the caisson are built on to make up the height required. As soon as the clay is entered, or even when the mud has been passed through, the caisson can be pumped dry. Murray's chain-pumps are used. By a simple contrivance, weight can be taken off at the moment when the caisson shall have sunk to the proper depth. Thus the top of the permanent work at the toe of the retaining-wall, will be everywhere level, without an additional division having had to be sunk to make up for descent of the lower divisions farther than the intended levels of the three to be filled with Portland cement concrete, in the manner already referred to, and as they are shown in our section. The labour of putting together and sinking one of these caissons, it has been found, occupies a week.

So far, here, we have only got the explanation of the frontage of the great area to be reclaimed, or appropriated to the retaining-wall and the other permanent works described, and of which area the greater part is still covered with water at every tide. It must be recollected however, that the area is at present being reduced by the large quantities of material which are daily being tipped; and shortly, even at high-water, there may be little more to be dealt with than the width of the construction shown in our section. Towards such period, convenient lengths of say 100 or 200 ft. of the line, will be inclosed by return-ends, either of ordinary cofferdam construction, or as the contractor may find best. Indeed, it is thought that a single row of sheet-piling might answer, with the earth thrown against it. However this might be, the inclosure being complete, the tidal water would be allowed to flow out; and then the large area would be kept dry as an ordinary cofferdam; and the foundation for the wall would be laid on the dried ground. Some method of sheet-piling however, parallel with the line of caissons, would be necessary for the support of the concrete backing; and brick counterforts on the land side, which are not shown on the drawings, would seem to be called for. It has been suggested that the particular construction adopted, allows no means of escape for the land-water which at present filtrates to the river; and that there may in that particular be advantages in the system, the old one, of timber piles, as adopted by Mr. Ritson; albeit the advantages of the solid protection to the toe of the wall in the other case are obvious.

On the completion of such length as we have referred to, of the wall, the upper divisions of the caissons,—those which are of *cast* iron, and not filled with concrete,—will be removed, and will be serviceable in another similar length of the work.

The coffer-dam construction, the backing to the wall, and the intercepting sewerage, are now making very active progress: about a month ago, Mr. Bazalgette's report stated that there were twenty-five steam-engines at work on one length, that contracted for by Mr. Furness, and seven steam-engines on the other; but after the years of discussion, it becomes almost surprising to see how rapidly the Embankment can be realized.

THE BASILICA OF ST. LAWRENCE, ROME.

The restorations, begun in the winter of '63-4, at the extramural basilica of *S. Lorenzo*, recall our attention to that fine old church, belonging to so many different periods, and connected with so many legendary as well as historic traditions. It is gratifying to learn that the project of the architect, Count Vespignani, is to renovate this edifice in a style in harmony with its older characteristics, throughout the details of the work entrusted to him, not to admit any new *norma* in the designs to be here carried out. If this intention, as officially stated, be really acted upon, the result will prove a happy exception to the generality of public works, where the antique has been, one cannot say *restored*, but rather disguised by modern undertakings in Rome. The architecture of recent growth within this city displays an incapacity to understand or feel the spirit of the Middle Ages; and in the metropolis of the church we have constantly to regret the ignoring of that which is noblest in the artistic expression, in the splendid external developments of Catholicism. The showy edifice, more Pagan than Christian, built for funeral rites in the centre of the great Cemetery (within late years much enlarged) adjacent to the above-named basilica, is an example of this. Another (still less excusable) is the Greek façade (by the architect, Guglielmutti) more like a club-house than anything sacred, thrown up before *S. Salvatore in Tauro*, a church of the fifteenth century, with unscrupulous sacrifice of a fine old façade, dating 1450, whose marble portal, with clustering pilasters, and *couchant* lions guarding the entrance at each side, were swept away, a few years ago, as so much useless material. Not long before the publication of the admirable *Beschreibung* (1836), by Bunsen and other German *savans*, the Mediæval cloisters of *S. Saba*, on the Aventine, were despoiled of their spiral and fluted marble colonnettes, resembling those in the cloisters of St. Paul's and the Lateran, to be replaced by supporters of wood! But it is vain to multiply the examples of what is manifest around us in the course of our studies of sacred antiquity at Rome, wherever we turn.

S. Lorenzo received its nucleus from an oratory built by Constantine over the tomb of the martyr St. Lawrence, in those catacombs excavated below this church which are mentioned by Prudentius in his hymn to the honour of St. Hippolytus. After this chapel had been embellished by different popes, and perhaps rebuilt by the Emperor Theodosius, it gave place to a stately basilica raised by Pelagius II. towards the end of the sixth century. At a later period, another pope, Adrian I. (as conjectured in the year 792), so enlarged this, that the earlier became the tribune or choir of the later church; and about the beginning of the thirteenth century a general restoration was effected, with new façade and portico, by Honorius IV. The actual building proves, as is observed by Bunsen, more perplexing than any other of Rome's churches; for though the point of separation between old and new (the sixth and thirteenth centuries), is sufficiently marked by the chancel arch, the architectural lines of the different sections do not correspond; and much alteration has been caused by the fatal interferences of modern restorers. On a frieze over the Ionic columns of the portico, is exemplified the manifest decline of mosaic art in some small figures, belonging to the time of Honorius III., representing the Saviour between St. Lawrence and a mitred prelate, probably that pontiff himself. Round the walls of this portico, and on the corresponding side of the nave internally, extends a most curious series of frescoes, representing the histories of St. Stephen and St. Lawrence, the coronation performed in this church by Pope Honorius of Peter de Courtenay, Count of Auxerre, and his wife, as Emperor and Empress of Constantinople; the communion of that Emperor from the hand of the Pope; and other legendary subjects. The tribune is the finest part of the interior; and its double colonnade of fluted pillars in Phrygian *pavonazzetta*, a magnificent example of the spoils applied from Pagan to the adornment of Christian edifices. We are here in the ancient church of Pelagius II., which, Ciampini supposes, had its entrance at what now forms the eastern extremity of the church, between two superb Corinthian columns still erect behind an episcopal throne and screen-work richly inlaid with coloured marbles; but Bunsen shows that, owing to the slope of the hill, cut away on this side for giving place to the buildings below, such could not have been the original plan. Over the chancel-arch, on the inner side, are the interesting, but much-injured mosaics of the sixth century, partly restored in indifferent painting: the Saviour, of youthful, but stern aspect, seated on a globe; to His right SS. Peter and Lawrence, and Pope Pelagius holding a model of this church; to His left, SS. Paul, Stephen, and Hippolytus, each holding either a book or a crown,—earliest symbol of martyrdom; the costumes, simple and classic; St. Peter distinguished by a wand (symbol of authority) in his hand; as also in that of the Saviour is held the wand implying distinct assertion of power and dignity. At the extremities of the two groups are the mystic cities, Jerusalem and Bethlehem, their names inscribed, as all these figures likewise have written names.

Most interesting, among other artistic objects in this church, are the two lofty ambones, opposite each other at about the centre of the nave, both alike rich in inlaid marbles, porphyry and serpentine,—perhaps the finest specimens of such Mediæval decorative work that Rome's sacred buildings contain. In other respects this interior is characterised by all the sombre severity and massive simplicity of forms peculiar to the early basilica. It impresses by attributes of antique, but somewhat sterile dignity; and the dim light admitted through narrow-arched windows, opening in the high attic above long lines of architrave, enhances the effect of the gravely harmonious *ensemble*. Whether this primitive character will be preserved intact by the restorers now engaged here, we may well doubt; nor do all details, in what is already complete, bear satisfactory promises,—for instance, the building up of several of those old windows, with concealment of their plain but curious tracery, and opening of others, much wider, in the intervals between them.

Under the high altar, in the dim-lit confessional, repose the relics of St. Stephen and St. Lawrence; the former first brought from Jerusalem to Constantinople by the Empress Eudocia, in 439; and, about 557, obtained by a Papal legate for Rome. Legends state that when the body of the protomartyr was laid beside that of St. Lawrence in this shrine, the latter moved to one side, giving place to so venerable a companion in death; also, that when this shrine was opened during the progress of the buildings of the sixth century, by workmen who unexpectedly found it after the precise spot had long been forgotten, all were punished for the unconscious sacrilege by death within ten days following, though none had dared even to look upon that sacred treasure. The antique church had been in the greater part filled up to form a solid foundation to the actual choir, elevated considerably above the nave; and from this higher level we look down to the bases of the classic columns that rise from the pavement of the earlier building, in that portion left for centuries useless. It is the best object proposed in the restorations now progressing, to clear out this lower and most venerable sanctuary around the shrine where the two martyrs repose, and give it back to the purposes of public worship.

Considering monuments as indices to the story of mind, we cannot pass unnoticed the series of frescoes in this basilica's porch, so full of meaning and importance, because fraught with the spirit of the past. Agincourt classes them among productions of the Greco-Italic school in Rome, probably from the period of Honorius IV., or but little later in the thirteenth century. We may begin with those on the lateral wall to our right before entering the church. A holy hermit was at prayer one night in his cell, when strange noises, like the tramp and shout of horsemen

passing by in tumultuous haste, aroused his attention, and led him to ask, leaning out of his narrow window, who thus disturbed his meditations at that hour?—"We are demons," was the answer. "The Emperor Henry has just expired, and we are bent on attaining our object by taking possession of his soul."—"I conjure thee," said the hermit, "to appear again to me on your return, and announce how you have fared in this serious business." The promise being given, that phantom-troop swept by; but the night had not waned before similar noises again disturbed the hermit, this time attended by violent knocking at the door.—"Now, tell me," asked the holy man, "how has it fared with the emperor?"—"Desperately ill," replied the demon, speaking from *his* point of view. "We came just in time. The emperor had that moment expired, and we began the asserting of our claims, when his good angel appeared, bent upon saving him. Our contention was long; but at last the angel laid the good and evil deeds of Henry together in a balance; after which for a time, our joy was great, seeing that on our side the scale sank visibly to the ground; but all at once came up that roasted fellow [thus did the evil one describe St. Lawrence], with a heavy golden pot in his hand, which he threw into the opposite scale, so that the other was made to kick the beam. We were thus forced to return in shame and confusion; and I could only vent my rage on the golden pot, one handle of which I broke off." After the discourse the demon troop departed, and the hermit could scarcely wait till morning to start for the nearest town, where the emperor had been residing in his last days, and had died. On arriving, he learned that Henry II. had expired, precisely at the hour of the first apparition before his cell, and that it had just been discovered how a gold chalice, presented by Henry to the church of St. Lawrence in that town, had unaccountably lost one of its handles.*

THE ARCHÆOLOGICAL INSTITUTE AT WARWICK.

If the most despairing Conservative, excited by what he might consider the progress of democratic institutions, would but refer to the papers to see the prices given at the recent sale of Mr. Daniel's for works of antiquarian value, he might be much relieved by the indication it gives of the increased desire to preserve the memorials of the past, and to cherish all that was good in old England. If he were not convinced by this, he should have attended our meeting at Warwick, where additional and unmistakable evidence was furnished by the ready assistance given by the inhabitants of the town and county to the object we had in view, and in the noble pride with which they have preserved, and in the honour they claim for, their monuments.

A more appropriate spot than Warwick for an illustration of the past could not have been chosen. In spite of railways and other transformers, it still retains the character of a town clinging round the castle of its feudal lord for support. A student could not find a calmer retreat: no bustle of business; no noisy children at play; and, whether this is owing to Mr. Bass's Bill cannot be said, not a single organ have I heard during the week. When I took a walk round the town the day before the meeting, not a footfall was to be heard, and the silence was something solemn and awful. A joke has been circulating among us, that a commercial traveller who arrived at the town for the first time inquired what the name of it was, and being told Warwick, he replied it would be a very pretty place if it had any inhabitants. It used, perhaps, to be a little more cheerful once, as there was a theatre; but upon the old principle, I suppose, of "the nearer the shrine," it has been converted into a police-station. However, the quiet of the town was amply compensated by the warmth and cordiality of our reception.

On Tuesday the inaugural meeting took place at the Assembly-rooms, where a flattering address of welcome was presented to us from the Corporation. The Marquis Camden resigned the office of president, and it was assumed with a warm-hearted speech by Lord Leigh. The usual routine of complimentary remarks was then gone through. The Bishop of Oxford made a "right merrie" speech, but impressing the necessity of studying the "velvety shadows of the past to enable us to live in the present and to anticipate the future." Mr. Bloxam then gave us a synoptical history of the county of Warwick, pointing out the most salient points of history, and directing our attention to the principal monuments that remain to illustrate it. A paper by Mr. Winston "On the Glass in the Beauchamp Chapel," was read by Mr. Petit. The author apologized for its being "necessarily dry and technical," as, judging by the emptying of the room, so the audience thought it. But there is a disadvantage in not reading a paper of this sort at the spot which it intends to elucidate. On the breaking up of the meeting we visited St. Mary's Church, which was briefly explained by the Rev. Herbert Hill, and we then entered the Beauchamp Chapel. Some complaint was made that no one was there to make any communication about it, but Mr. Gough Nichols justly replied, that "all information as to dates being given it would be better for every one to observe for himself;" a principle that may be often usefully laid down to prevent trivial discussion.

We then proceeded to visit the hospital founded by the Earl of Leicester in 1571, for the reception and support of twelve old soldiers or sailors and their wives. It is a most interesting specimen of a timber building of the period. Much of its ornamentation, in the shape of the escutcheons of the founder and his family, are modern. It is a gratifying thing to find that here the spirit of the founder is carried out more and the trust more sacredly fulfilled than with some charities. The income, which at the time of its foundation was about 200*l.*, now amounts to about 3,000*l.*, and the allowance to the brethren is now 80*l.* a year; and when sufficient accumulation has taken place the number of brethren is to be increased to twenty. It may tend to soften the indignation of those who only know Leicester from Sir Walter Scott's "Kenilworth" to learn that, though he feasted the queen, he "ne'er forgot the poor." There are preserved some pieces of embroidery, one a crest of a "bear and ragged staff," the other like a slipper before taken from its frame and made up, said to be worked by Amy Robsart when she was at Kenilworth. Whether this is on the authority of Scott, I don't know. We then went to view the remains of the ancient walls. At the evening meeting Mr. Bloxam, who was ever ready with his very valuable information, the result, evidently, of much study, read a paper on the "Sepulchral Monuments of Warwickshire of the thirteenth and fourteenth centuries;"* and the Rev. J. R. Green read a memoir on the siege of Kenilworth, a well considered paper, abounding in evidence, which he gave in the original Latin, and as on this occasion the majority of the audience was ladies, it is not for me to say whether they were interested or convinced.

On Wednesday there was a meeting of the historical section, when the Rev. C. H. Hartshorne read a paper on the "Parliament, or the Dictum of Kenilworth," travelling over a great portion of the ground occupied by Mr. Green on the previous evening, but with different conclusions. As doubtless both these papers will be published, it will be better to avoid discussion or comparison till then. A paper by Mr. Charles Twamley on the "Domesday Book for Warwickshire" was read, and we then adjourned to the Castle. How charmed and impressed every one was with the grandeur and beauty of this magnificent structure—how impressed with the beauty of the accessories! Cedars

> "High top bald with dry antiquity."

The castle showing, by its size, the splendour of the trees by which it is surrounded and embraced, and they, by their picturesque beauty, adding a charm to the building. The Rev. C. H. Hartshorne and Mr. Bloxam gave us all the historical evidence they were able to obtain in connexion with its erection. We then entered the castle, where our admiration was not diminished by viewing the treasures it contains. Mr. Scharf undertook to "discourse" on the pictures, and this he did in his usual fluent and agreeable way, unwearied and unwearying. Mr. Bloxam made some remarks in analysis of the "renowned Guy," tending much to explode that cherished legend. After viewing the lower apartments — dungeons of course—of the castle, we rushed, as archæologists can rush, to the carriages, and started for a visit to our president, Lord Leigh, at Stoneleigh Abbey. The present house is an Italian structure, built about a century since on the site of the abbey, of which there are very few remains. Mr. Bloxam produced a manuscript belonging to Lord Leigh, which was written by a monk, giving an account of the brethren, his contemporaries, and stated that it was as interesting and amusing as that of Joslyn, of Bury St. Edmund's: if so, let us hope it may be published. After being hospitably entertained by his lordship, we proceeded to Kenilworth. Mr. Hartshorne and Mr. Bloxam were again in request; but there was nothing to note more than has been written over and over again upon this ruin, which I cannot help thinking acquires more interest from Scott's romance, than from its picturesque beauty. The church, at which there is nothing but a Norman west door worth notice, and the church-plate at the house of the vicar, occupied our attention; "and so home."

On Thursday we went to Coventry, where we were received in St. Mary's Hall by the mayor and the corporation. The costumes of the mayor's sword-bearer, with the cap of maintenance, and the crier with modern habiliments, surmounted by a George III. wig, upon which was a Mediæval red velvet cap, very much like a cardinal's, excited some surprise, if not merriment; but the mirth of an archæologist does not, I hope, detract from his interest in the pursuit, or cause him to value less the efforts of those who entertain him. Here we also had an address of congratulation and welcome, accompanied by what must have produced more gratification to a true antiquary, a display of the muniments and manuscripts belonging to the corporation, a most interesting collection, containing documents from a very early date, royal autographs, guild books illustrating the customs and uses of trade, letters showing the political and social condition of the times when they were written, and also in connexion with the eccentric pageant for which this city has been so long celebrated. There is a bill of 1772, by which is shown that the corporation paid 2*l.* 2*s.* for a wig for my Lady Godiva. We then viewed St. Michael's Church, which is to be the cathedral when the inhabitants get their wish of a bishop being restored to them; Trinity Church, and the remains of the cathedral, which have been lately excavated. We also went to the White Friars, in the ambulatory of which we saw the present monks—the paupers belonging to the Union Workhouse. Ford's Hospital, St. John's Church, and Bond's Hospital, also occupied our attention. On our return to Warwick there was a *conversazione* in the Museum, which was an exceedingly good one, abounding in objects of interest contributed for the most part by those in the neighbourhood.

On Friday we started by special train to Lichfield, rather a long journey, but we were occupied, as Pepys would say, "with brave discourse by the way." On our arrival, we proceeded to the Guild-hall, where Professor Willis gave us a lecture on the Cathedral. In saying it was Willis who spoke it is sufficient to imply that everything was clear, instructive, and convincing. He was followed by Mr. Winston, who read a paper on the glass in the Cathedral, which is of the Renaissance character, and dates from 1534 to 1539. He maintained that the style of this glass, its tone and mode of treatment, should be the standard of all modern glass painting. This paper, like that on the Beauchamp Chapel, had the disadvantage of being delivered where it was not illustrated; but afterwards, in the Cathedral, Mr. Winston was able to add a few words to illustrate more fully his meaning; and if he did not make converts, he certainly modified the opposition that the admirers of more ancient glass were inclined to exhibit. The approach to the Cathedral by the west front is, as all know, remarkably striking. The style on this side is very foreign; the central west door most beautiful. The interior is impressive, and the restoration has been carried out with judgment and effect. Professor Willis then pointed out the features and marks illustrative of the history of its construction, for which he had prepared us by his previous lecture. Mr. Scott also made a short address, explaining the principles upon which he had made the restorations, and confirming the statements of Professor Willis. We returned to Warwick, and at the evening meeting, Dr. Wollaston read a paper on "Mosaics;" and Dr. Collingwood Bruce, "On the Concentric Circles on Rocks in Northumberland."

On Saturday there was a meeting of the historical section, when a paper was read by the Rev.

* Narrated in the "Deutsche Sagen" of Grimm.

* This we give elsewhere.

G. Dodd, on "Boscobel, and the Escape of Charles II." He was followed by the Dean of Chichester, who gave us *the* paper of the meeting, "The Life and Times of John de Stratford, Archbishop of Canterbury and Chancellor to King Edward III." The rev. dean, in eloquent language, gave us a picture of the times in which Stratford lived, and proved him to be one of the greatest patriots in the long list of which England can boast.

At the conclusion of this paper, we took coach for Stratford-on-Avon, visiting *en route* the church of Charlecote, where are the monuments, and in most excellent preservation, of the Lucy family, and we afterwards proceeded to Charlecote, the seat of the Lucys, an Elizabethan mansion, not unlike Cobham in some of its features, but with many modern additions, in a beautiful park most magnificently timbered. As this house is not usually shown to visitors, our reception on this occasion was much appreciated by the members. The objects, however, that most attracted attention were modern; some Florentine mosaics, and above all the grand sideboard, executed by the unfortunate Wilcox, as fine a piece of modern wood carving as can be seen.

We then proceeded to the birthplace of the immortal bard, and here I must confess to some disappointment. There is no old world air about Stratford, and, except for "the house" and "the monument," there would not be the slightest attraction. How the inhabitants trade on these may be guessed from the notice on the church door, that you are requested not to encourage persons in the churchyard who loiter there on pretence of finding the sexton. Mine hostess of a tavern insisted on showing some of us "Shakspeare's smoke-room," and a cupboard from Newplace, in which the poet used to keep his pipe! Shops for the sale of relics, busts, photographs, show how much material benefit he is to his native place. I am afraid the traders on his fame are not confined to the shopkeepers. I profess a great reverence for the poet; but I must say that the tea-gardens sort of style about the whole of the exhibitions was very depressing and disappointing.

In the evening there was another *conversazione* in the museum.

On Monday morning the papers read were, "Notes on the Early Mints of Warwick," by E. Hawkins; "On the Black Book of Warwick," by G. T. Robinson; "On the recent discoveries at St. Alban's," by S. Sharpe; and "On the bust portraits, mask, and monument of Shakspeare," by E. T. Craig.

In the afternoon the members visited Maxstoke Castle, by invitation from Mr. C. Fetherston Dilke, calling by the way at Coleshill Church, which is a large and commanding building of two styles, Decorated and Late Perpendicular. It has a good tower and spire, of lofty dimensions. The chancel is of good proportion, but of a late character; and there are some good effigy monuments near the east end. The font is a very fine specimen of the Florid Norman style, and is in a good state of preservation. At Maxstoke a lunch had been prepared for us, which in munificence far exceeded anything in archæological experience. This having been "greeted" by upwards of a hundred, "not with vain thanks, but in acceptance bounteous,"—for it must be acknowledged that archæology is a wonderful appetizer,—we were conducted by Mr. J. Fetherston, who did the honours in the absence of his brother, through the building. It partakes more of the character of a castellated and embattled mansion than that of a castle, as it is quadrangular in form, with an entrance tower flanked by turrets on one side. On the opposite side of the court are the modern buildings used as a habitation. A portion of these are being rebuilt, to harmonize with the style of the works generally, which were built by Sir William de Clinton, *temp.* Edward III. It has passed into several hands, until it came into the family of Dilke. Nothing remains but the four walls and the gate-house, and there is no evidence of any keep.

Mr. John Fetherston was an excellent cicerone: he read an account of the castle, and his treatment of the subject was such as to make dry narrative and chronology both interesting and amusing.

We then visited the remains of Maxstoke Priory, of which there is enough to show that it must have been very extensive. The enclosing walls remain, as well as a very fine gate-house, of the same date as the castle. And so back to Warwick rejoicing.

There were two sources of great regret to us in the absence of Lord Talbot de Malahide and Mr. Albert Way, that of the former caused by domestic affliction, and the latter by ill health. The kind feeling which both have always shown to the members could not fail to increase the sympathy which the causes of their absence evoked.

On Tuesday the usual meeting for the transaction of business was held; and so terminated one of the most pleasant meetings the Institute has ever had. The impartial and honest chronicler will have to say that it will be remembered more for the excursions than for the papers read, but most of all for the cordiality with which we were received, "and so, farewell to Warwick."

F.S.A.

CURIOUS SEPULCHRAL MONUMENTS IN WARWICKSHIRE, OF THE THIRTEENTH AND FOURTEENTH CENTURIES.

This is the memoir read by Mr. Bloxam, as we have elsewhere mentioned:—The most ancient of the sepulchral monuments in this county is undoubtedly that huge and unlettered monolith at Long Compton, called the King Stone, standing near the circle called the Rollright Stones, which, together with a cromlech in its vicinity, stand in the neighbouring county of Oxford. This is the maenhir of the earliest type of sepulchral monuments of the ancient British period, and in accordance with that memorial noticed in Holy Writ as placed over the grave of Rachel. We have no Roman, no inscribed British-Roman, and no Anglo-Saxon monument at present visible in this county. The earliest monumental records we have in our churches are of the early part of the thirteenth century. Of this period is the sculptured and recumbent, though much mutilated, effigy of a knight, formerly in the Abbey Church, Merivale, and now preserved in the chapel of the gatehouse to that monastery. This is an effigy of much interest: it now consists, however, of little more than the torso or trunk, the head and lower portions of the legs having been destroyed. The armour consists of the hawberk or tunic of mail, with chauses or close-fitting pantaloons of the same: the hands are protected by mufflers, the fingers not being divided: the right arm and hand are lying on the breast: the left hand appears beneath the shield hanging down on the left side. Over the hawberk is worn the long sleeveless surcoat of linen, belted round the waist with a narrow strap and buckle. Another strap or guige, somewhat broader than the former, to which the shield is attached, crosses diagonally over the right shoulder to the left side. The shield on the left side is unusually long—not less than 3 ft. 9 in. in length—extending from the shoulder to the knee: it is not flat on the face, but curved, or convex without and concave within. In outline it is heater-shaped. The position of the sword is somewhat singular, being on the right side, and fastened to a belt crossing the body diagonally from the right hip to just below the left hip. This effigy bears a resemblance to two of, apparently, the most ancient of the sepulchral effigies in the Temple Church, London, which likewise exhibit the long shield, as in this, and much the same arrangement of the drapery of the surcoat.

I think this effigy is commemorative of the fourth William, Earl of Ferrers, born about the year 1193, and who died A.D. 1254, and was buried in the Abbey Church at Merevale. This effigy, considered by itself, I should take to have been executed some thirty years earlier than the time of his death, but there is no one else to whom I can assign it.

In the little village church of Avon Dassett, in this county, a few miles east of Kineton, is the recumbent effigy, perhaps unique of its kind, of a former incumbent of that church, who appears to have died before he had attained Priest's Orders, he being represented in the full vestments of a Deacon. In the twelfth and thirteenth centuries, and also in the early part of the fourteenth, it was by no means unusual for ecclesiastics of the inferior grades, such as deacons, sub-deacons, and even acolytes to become incumbents. We may find innumerable instances of this in almost any county history, in the lists of the incumbents of the several parishes, and their different grades in and towards the priesthood. This was felt to be an abuse, and in the second general council of Lyons, held A.D. 1274, the thirteenth constitution obliges the curates, or incumbents, to residence and to take priest's orders in the first year of their promotion. In the Council of Buda, held A.D. 1274, the 20th canon imports, that all those who have benefices with the cure of souls shall be ordained priests.

The slab out of which this effigy is sculptured is of dark-coloured forest marble, the effigy being represented lying beneath a horizontal canopy composed of a semicircular arch with the representations of buildings above, and this is supported by shafts with plain bell-shaped caps, running down the sides of the tomb.

The effigy, which is sculptured in relief, represents the person commemorated in the full vestments of a deacon. He wears the ancient cassock or ordinary habit, over which appears the alb, and over that the Dalmatic: on the right side underneath the Dalmatic and over the alb are the two extremities of the stole. The sleeves of the cassock and alb are close fitting: those of the Dalmatic are wide. About the neck appears the amice, and the crown of the head is tonsured. The right hand, held downwards, is grasping a scroll, one of the few instances in which sepulchral effigies are thus represented. The left hand is upheld on the breast and hanging down from the wrist appears the maniple.

But this effigy does not constitute the whole of this monument, for it lies under a sepulchral arch within the north wall of the chancel, of later date by a century than the effigy, being of the fourteenth century. This arch is ogee-shaped, but not crocketted: it is, however, cinque-foiled within, and is ornamented with the ball flower in a hollow moulding. It appears to me that in the fourteenth century, when the chancel was rebuilt, this sepulchral arch was constructed to contain the effigy of a former age.

I can find mention of one incumbent only of this parish of the thirteenth century.

"Hugo Rector eccles de Avene
Derced mense Maie 1232."

I only know of one other sepulchral effigy of a deacon in this country. That is a mutilated recumbent effigy in relief lying amongst the ruins of Furness Abbey, Lancashire. This is somewhat rudely, at least formally, sculptured in relief from a block of lias or limestone, and from the hardness of the material the artist has altogether failed to give anything like effect or breadth to the drapery. The head has been broken off: the body of the effigy is represented vested in an alb with close-fitting sleeves: the alb is represented in parallel puckered folds. In front of the alb, near the skirt in front of the feet, appears the parura or apparel. The cuffs of the sleeves are also covered with parures or apparels; but these are quite plain. The alb is girt above the loins by the girdle, *cingulum, seu zona, seu balthæus*, the tasselled extremities of which hang down to the apparel at the skirt of the alb. This is the only instance I have met with in the sepulchral effigy of an ecclesiastic in which this vestment, the girdle, is apparent. From the wrist of the left arm hangs, in somewhat an oblique position, the maniple; and crossing diagonally from the left shoulder to the right hip, and thence falling straight down by the right side, with both extremities hanging down, is worn the stole. In front of the body a book is held with both hands. The slab out of which this effigy has been sculptured is coffin-shaped, wider at the upper part than at the lower, and I should infer is of the fourteenth century.

This effigy at Furness Abbey is illustrative of that at Avon Dassett, for the mode of wearing the stole over the left shoulder, with the extremities hanging down on the right side, was peculiar to the office of deacon, and is alluded to by Durandus, who, in treating of this office, tells us that the stole was placed upon the left shoulder, *supra sinistrum humerum stola imponitur*. The book represented is evidently that of the Gospels, for the same writer tells us that when the deacon was ordained there was delivered to him a stole, and the Book of the Gospels. *Diaconus cum ordinatur traditur sub certis verbis stola et codex Evangelii*. In a Manuscript Pontifical in my possession of the latter part of the fifteenth or early part of the sixteenth century, but which does not, probably, materially differ from the Pontificals of an earlier age, the bishop at the ordination of a deacon is represented as putting the stole over the left shoulder of the deacon and adjusting it under his right arm. *Hic Episcopus sedens cum mitrâ ponit stolam supra humerum sinistrum, reducens eam sub alam dextram*, &c. He, the bishop, is also represented as delivering

to the deacon the Book of the Gospels. *Hic tradit episcopus librum Evangeliorum.*

In these two effigies the Dalmatic is represented as worn on the one but not on the other; and this singularity may thus be accounted for: although the Dalmatic was worn over the alb by deacons, and the tunic was worn over the alb by sub-deacons, there were certain occasions on which neither the Dalmatic nor the tunic were thus worn. For, as Durandus writes, *non ergo diaconus dalmaticam nec subdiaconus tunicellam in diebus jejuniorum in officio missæ portant.* The maniple worn over the left arm was a vestment common to the various orders of the Church, from the sub-deacon upwards; for at the ordination of the sub-deacon, the bishop placed the maniple on his left arm, as appears by the Pontifical. *Hic episcopus sedens mittit manipulum in brachium sinistrum.*

The mode of wearing the stole by the deacon differed essentially from the mode in which it was worn by the priest, for in the case of the latter, the stole came over both shoulders and crossed the breast diagonally, or saltire-wise, in front, down to the girdle, from whence the two extremities, which were fringed, hung pendant, one on each side. This mode of wearing the stole is seldom visibly apparent on the effigies of priests, as the chasuble covers the alb, and the fringed ends of the stole only appear beneath the chasuble. In some few instances, however, as on a brass in Sudborough Church, Northamptonshire, the effigies of priests are represented without the chasuble, in the alb only, with the stole over, crossed in front, as if vested for the Sacrament of Baptism, or some other sacred office in which the chasuble was not required to be worn. This difference in the wearing of the stole between the priest and deacon is thus alluded to by Durandus:—*Orarium itaque jugum scilicet onus est jugum sacerdotibus, onus diaconibus. Unde fit est et sacerdotibus circa collum et diaconibus supra sinistrum humerum ponatur. Sicut enim jugum collo portatur sic et humeris onera feruntur.*

Of recumbent sepulchral effigies of priests I may briefly notice those at Hillmorton, Stoneleigh, and Kineton. These are represented in the vestments worn at the celebration of the Eucharistic Sacrifice in the amice, alb, stole, maniple, and chasuble. There is no peculiarity in any of these effigies: they are all of the usual type. In Newton Regis Church there is, however, a very curious monument of this era, consisting of a low tomb or slab rudely sculptured in low relief under a sepulchral arch in the north wall of the chancel. It represents in a trefoliated compartment the busto of a priest, with the missal or breviary on one side and a chalice on the other: above are angels waving thuribles, with the conventional representation of angels conveying a soul to Heaven in the likeness of a nude figure in a sheet. Two acolytes bearing tapers appear beneath the busto, whilst at the foot of the slab is sculptured the *Agnus Dei*, or symbolical representation of our blessed Lord under the type of a lamb, and at the head of the slab the *Spiritus Sanctus*, or Holy Ghost in the form of a dove. The execution of this monument is remarkably rude for the age in which it was executed.

In Polesworth Church, formerly conventual, is the very curious, and perhaps unique sculptured recumbent effigy of a prioress of that establishment,—a Benedictine nunnery. It is, I think, of the fourteenth century. Her head appears in a trefoil-shaped sinking. Round the head, chin, and neck is the coif and wimple, and over the head is worn the veil. She is habited in a large gown or cowl with wide hanging sleeves but without any mantle. In her right hand she held the pastoral staff, floriated within the crook, which is turned inwards, and in her left hand is held the *Horæ* or book of prayers, whilst beneath her feet is the figure of a hart or stag, perhaps in allusion to the verse in the psalms, "As the hart desireth the water brooks."

This is the only sculptured recumbent effigy of an abbess I have met with in this country. There are some few inlaid brass effigies, such as that at Elstow, in Bedfordshire, and some few statuettes, as those round the tomb of Lady Montacute, in Oxford Cathedral.

There is in the Church of Orton-on-the-Hill, Leicestershire, anciently a chapel belonging to the Abbey of Merivale, in this county, the recumbent effigy of a Cistercian monk, one of the abbots, I am inclined to think, of Merivale, and probably removed from the abbey church of Merivale to Orton on the suppression and destruction of the abbey church. It represents him in the *Cappa clausa*, or close cowl, with the mozetta and hood attached to it thrown back over the shoulders, whilst on the head is worn the coif or close-fitting scull-cap called the birretum. Over the head is an ogee canopy, which refers the date to the fourteenth century. This effigy is, as far as my knowledge extends, perfectly unique.

There is one more monument and effigy of the fourteenth century I consider greatly interesting. This is a rich high tomb, placed beneath a very rich canopied arch, at Cherrington Church, in the south of Warwickshire. The canopy or arch over that tomb takes in form that of a low and obtusely-pointed ogee arch, the interior mouldings of which are crocketted, whilst the under part or soffit is cinque-foiled. Hollow mouldings in the architrave contain a series of the ball and four-leaved flower, rich accessories in architectural details of the fourteenth century. The sides of the tomb are divided into a series of rich canopied recesses, ogee headed and crocketted, and trefoiled within the heads. On the north side of this tomb, which stands between the nave and eastern part of the north aisle, is a drain or piscina, into which the priest poured the water with which he washed his hands during the celebration of mass. This piscina, forming part of the monument itself, is a very curious arrangement, and I do not remember to have met with it elsewhere: it is, however, indicative of the fact that the east end of the north aisle had been converted into a chantry chapel.

The recumbent effigy on this tomb is very curious, and exhibits a singular specimen of the civil costume or ordinary dress of a gentleman, frankelein, or squire of a parish in the fourteenth century.

The dress is that which in ancient wills of this period is described as consisting of "*Tunica et Supertunica cum caputio*," that is, a long coat or tunic with close-fitting sleeves buttoned from the elbows to the wrists, the *manicæ botonatæ*: over this tunic is worn a supertunic or surcoat with loose sleeves hanging down. The supertunic is girt by a narrow belt buckled in front, and from this belt is suspended on the right side an anclace or knife. On the head, and covering the shoulders and breast, is a kind of tippet combined with a hood very like the modern cape, and called the caputium. The terms "cote and hood," two of the articles of apparel, are mentioned in Piers Plowmaa Crede, written in the fourteenth century, and also in the poems of Chaucer. On each side of the head of this effigy is an angel, and the feet rest against a lion.

Although this effigy is far from unique, there being many sculptured effigies of this class of the fourteenth century, which have not however been yet satisfactorily treated of or described, the whole of this monument is exceedingly rich and curious, and one of the most remarkable in the county of Warwick.

There are other monumental effigies of great interest and variety, of later date than the fourteenth century, to be met with in the county of Warwick, but these I do not now propose to dwell on, having limited my subject to a period not later than the fourteenth century.

FORMATIVE ETHICS, OR THE MORAL SCIENCE OF RECTIFYING ABERRATION, AND OF DEVELOPING THE PERFECT AND BEAUTIFUL.

After what has been just stated, therefore, it is not surprising to find that it is the character of all the higher laws of nature to assume exact numerical statement. All our knowledge of nature is derived through the subjective conditions of the five senses; and, as the fundamental form of sensation is quantity in power, space, and time, all science must be reducible to quantitative statement, and our knowledge of the ideally right, moral, beautiful, and perfect, should assume this form, or it can never lay claim to the title of "exact."

Aristotle's ethics are applications of the golden rule of the quantitative analysis of phenomena to morals, but only to ethics in their commonly accepted limited meaning, not as embracing in the wider sense herein attached to them the whole science of moral governance and formation; for, not only is human nature to be subjected to rectitude of thought, action and form educed to both spiritual and physical health and beauty, but the whole of terrestial nature committed to man's rule is to be compelled to its best issues, *i.e.*, its moral condition and form by the sovereign power of his right-mindedness. "The new man" restored in "righteousness and true holiness" is to be the re-creating spirit of the earth.

Ethics are to become the all comprehensive and exact records of those quantitative relations in which all things should consist, in their best or harmonious relations within themselves and to each other of that proportioned and measured at-one-ment or harmony of nature, of which every man's thoughts, and acts, are in a greater or less degree either constructive or destructive. This is the scope of Formative Ethics; it is also, let it be repeated, the scope of the sacred science which permeates the Scriptures. For, if we steadily and carefully contemplate the Christian mission, we shall find that its object is twofold. First, the spiritual regeneration of man,—the renewal of the mind or rectification of ideas; and, secondly, by means of the moral activity thereby produced, the rectification of organization and form.

This essay attempted, at its outset, to draw a closer attention to this secondary purpose of Christianity; and having emphatically pointed it out as the Formative Mission of man, now amplifies its expression according to the quantitative hypotheses to that of the Rectification of Nature according to Number and Measure. This amplification also is in accordance with Holy Writ.

Are not the references to measure in the sacred writings from the Mosaic records to the Revelations significant? Consider the lawgiver receiving the pattern "measure" or "number" whereby the typical tabernacle was to be constructed,—the vision of the prophets wherein they foresaw "a man with a measuring reed in his hand,"—the Christ who was exactly to define man's duty to his Creator and his neighbours, who was to reveal to whom understanding should be vouchsafed,—the ultimate harmony of the universe, the destined re-edification of the shattered temple of sensuous nature by the Holy Spirit of Truth.

The world has never profited by vagueness of expression: every great benefactor of the human race, like the master, has carried a rule in his hand, and has subdued his specific study to number and measure. Till exact, master minds grapple with a subject all is cloudy and empirical, the world is swayed hither and thither by guess-work and opinion. The master comes with the measuring compass of a precise intellect: he may be assailed, persecuted, but where darkness reigned there will be light.

The Pythagorean music of the spheres was but a glimmer of the fundamentally quantitative relations of phenomena, of that universal harmony, of that measured conformity of the material to the spiritual which is to come. "I am their music," saith Christ by the prophet, "the Christ who is the spiritual sun and centre of moral being, who hath given the measures to which nature is to be conformed, who hath measured the waters in the hollow of his hand, and meted out heaven with a span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in a balance, and hath laid the foundations of the earth and the measures thereof, and hath stretched the line upon it, and hath declared that judgment shall stay to the line and righteousness to the plummet, that divers weights and divers measures are an abomination, but that a perfect and just measure is His delight; that He will not make a full end of the aberrant world, but will correct it in measure, in measure will he debate with it, and the measuring line shall go forth upon it, and it shall be holy in its re-edification by the Spirit of Truth, nor plucked up, nor thrown down any more for ever."

These connected passages from Scripture abundantly prove the quantitative nature of the restoration of the world to be effected by Christianity: the golden rod or reed in the hand of the effulgent humanity of prophetic prevision symbolises the obedience and conformity to a measured standard required of the Christian, those limits of temperance and moderation within which all the aberrations of nature will be ultimately restricted; and what do those words moderation and temperance imply but quantitative relation, a mid path or mid measure between the extremes of the too little and too much?

In the dismembered confusion of ideas, of which the sum of popular knowledge is generally composed, the sciences appear to be isolated and without bond or union, but a quantitative philosophy brings all ideas and things together in one comprehensive grasp, and shows that

* See p. 561, *ante*.

all their differences are radically reducible to quantitative expression.

Every species of phenomena has its gamut of variation, between the limits of which lies its normal or mean condition, to which were we without other testimony the law of probability would give the preference. Man can only understand the limited. The powers of organic and inorganic being are fixed within limits, the bounds of which it is destruction to pass. There is a point beyond which there is no strength gained by adding thickness to iron, or wisdom by cramming the memory with facts. Stellar, climatic, political, ethical, and æsthetical phenomena oscillate within narrower or wider bounds, between which lies that tenor of moderation most desirable; and it is found that these aberrations, oscillations, or fluctuations of phenomena are inversely less and insignificant as we pass from the immediate sphere of human influence to the distant planetary spaces, where the periodical fluctuations of phenomena oscillate to and fro about a *mean value*, from which they never depart to any ruinous extent, but only within very moderate and reasonable limits,—but of this more anon.

We shall now rigorously enter upon the quantitative analysis of phenomena, of sensation, which presents three fundamental kinds of quantity. Force, Space, and Time at the basis of our ideas of any sensation, neither of which can possibly be conceived absent from it: abstract every phenomenon from sensation but these ideas and a sensation is still conceptible: withdraw either of them and it is not. At the basis of every visual sensation will be found the ideas of force, space, and time. 1. Force—in the strength or weakness of the light. 2. Space in the superficies and shapes of impressions. 3. Time—in the duration of the impressions. At the basis of every sensation of hearing: 1. Force—in the strength or feebleness of sounds. 2. Space—in the volume of sounds and notes. 3. Time—in the duration of sounds and notes. At the basis of every olfactory sensation: 1. Force—in strong or weak odours. 2. Space—in the extent of the sensorium impressed. 3. Time—in the duration of the sensation. At the basis of every sensation of taste: 1. Force—in strong or weak flavours. 2. Space—in the extent of the sensorium impressed. 3. Time — in the duration of the impression. At the basis of every sensation of touch: 1. Force—in the strength or feebleness of the impression. 2. Space—in the extent of the body impressed. 3. Time—in the duration of the impression. Without this categorical elaboration, perhaps, the fact of force, space, and time, being the fundamental form of sensation might be made more apparent by putting the following question:—Can any one conceive of a sensation independently of the ideas of the sensorium being moved (force), in a definite space during a certain time? These three fundamental ideas of sensation, of phenomena, are on the physical hypothesis of causation the three fundamental conditions of nomena, or on the dual hypothesis, of spirit and substance. Now, these three fundamental ideas of phenomena are quantifiable.

Quantification,* therefore, is a possibility to which all our ideas, and it is also supposed the nature external to us, may be subjected. The theory of the rectification of nature then, to be scientifically exact, resolves itself into the determination of rectitude in the forces, the spaces or forms, and the duration or times of phenomena, and the means of producing it. Here, then, is the fitting place to introduce the postulates of the science of quantitative ethics.

Postulates of Quantitative Ethics.

1. All phenomena are quantifiable. The idea of quantity lies at the basis of all our mental conceptions. It is on this account that the mathematics are of all the sciences the most rigorous and certain in their reasonings and conclusions, for all their premises and deductions exist in or are made from the nature and constitution of the mind itself.

2. Numbers are the symbols of quantities: every quantity may be numerically expressed.

3. The conditions of phenomena can only be definitely expressed by reference to number and measure.

4. All phenomena are either as they ought or ought not to be, and therefore exist in either right or wrong quantity or quantities. Perfection and imperfection, therefore, may be numerically expressed.

5. The Rectification of Nature can only be confidently proceeded with on the knowledge of the right quantitative condition or proportional relations of every species of phenomena. The Quantitative Rectification of Nature, therefore, definitely expresses man's Formative Mission.

6. As the three necessary quantitative concomitants of all phenomena are force, space, and duration; in which three kinds of quantity, from the planets to the minutest function of human, animal, and vegetable life, all things fluctuate. Quantitative Ethics have to determine which of all the possible fluctuations of every species of phenomena in these three kinds of quantity is the condition of rectitude.

7. As every variable species of phenomena fluctuates or aberrates within certain limits, the sum of the quantities of all its possible instances divided by the number of those possible instances gives a mean or average which is the numerical expression of the idea of phenomenal rectitude. For of all the possible instances, it might be argued, *a priori*, one-half of them would, in all probability, err in excess; the other in defect, either on the side of the *too little* or *too much*. This *mean* then is the quantitative expression of the ideally right—the moral, and of the sensuously good, beautiful, and perfect.

8. As all ideas and things must exist in definite quantities, he who denies the mean to be the quantitative expression of absolute rectitude, and of the measure of sensuous beauty and perfection, has to prove that they inhere in some other quantity, which must be of either excess or defect, which is absurd.

9. To realize this mean or average condition in every instance of every species of phenomena, would be to establish equality amongst all the instances of a species. Now, equality and greatest difference are the extremes or limits of ratio, between which all other ratios lie; and experience teaches us that either of these extremes of equality or of greatest possible difference existing between all the instances of any species of phenomena would be repugnant to human ideas as at present constituted. Although, therefore, the mean is the perfect mid-point of absolute rectitude; yet to realize this state in all the instances of every species of phenomena would be to produce an equality in nature which would be as objectionable to human ideas as the greatest possible difference between all the instances of every species of phenomena. If, therefore, variation or aberration be necessary,* to what extent may it be permitted from the perfect mean or mid-point of perfection? Applying a similar law to variation, the reply is that mean variation may be permitted, that is to say, variation within the *via media* of moderation.

10. The great compensating remedial or curative law for excess and defect in nature is the following:—That every aberration of any system in excess of its *mean state* must be compensated for at some time or other, by an equal and opposite one in defect, or the balance of that system will be impaired, or its very existence threatened. This holds good equally in human, animal, and vegetable organisms, as in the larger phenomena of the planetary system.

11. The variation or fluctuation of ratios between equality and greatest difference, between 1 : 1 and 1 : 0, forms a calculus whereby the mean of rectitude and the harmonic relations of quantity may be demonstrated.

12. The summary of the science of quantitative ethics, then, is that the Mean sometimes called the Golden and Immutable† is the quantitative expression for the moral ideal‡ and moral form of phenomena of the ideally and sensuously good, beautiful, and perfect, of those types which are the *beau ideals* of the arts; and that the great Remedial, Curative, or Restorative law of nature, the Law of Compensation, points out the method by which this *mean state* or *moral form* is to be re-established throughout the solar system.

The development of the hypothesis from its general conception to the precise and definite idea given by the introduction of the *exact* or scientific element may be traced in the various titles it has assumed in the progress of this essay:—

"Formative Ethics," "The Rectification of Nature by Mind," "The Rectification of Nature by Right Ideas and Action," "The Rectification of Nature by Moral Ideas and Action,"—which became on the introduction of the exact scientific element; "Quantitative Ethics," "The Quantitative Rectification of Nature by Mind," "The Quantitative Rectification of Nature by Right Ideas and Action," "The Quantitative Rectification of Nature by Moral Ideas and Action."—the end being to supply a criterion of judgment, to beget exactitude of mind, to develop the sensuously good, beautiful, and perfect in nature and art, and to restrict the fluctuations of all phenomena within the bounds of moderation.

We have now to seek confirmation of the leading principles of the quantitative hypothesis by interrogating nature. Let us inquire, then, if there be any facts in astronomical science, in the simplest and grandest phenomena of nature, in the laws of the planetary forces, spaces, and times, which point to the mean as the right quantitative expression of rectitude; for if there be, there is proof positive of its truth, and that it is of divine institution,—a law, an idea beyond human invention or caprice. The following quotations from the highest authorities place it beyond the sphere of doubt and debate:

Experience interrogated in reference to the Mean, being the quantitative expression of Rectitude, and the Measure of the Moral Form of Nature.

It lies in the path of development which science pursues, that that which long stood isolated becomes connected by degrees, and subjected to higher laws. The scientific man advances full of expectation that "Nature," as Plato tells us Socrates once observed, "shall have interpretations according to reason;" and as he traces the connexion of all phenomena, and observes their subjection to the same simple laws, becomes deeply impressed with a belief that both the spiritual and material forces subject to periodic perturbations, move in fixed and eternal cycles. Such a conception of the two spheres of being, the spiritual and material, leads to clearness and simplicity of view, and the discovery of laws which are the ultimate term of human inquiry.

The crude heap of physical dogmas which one age heaps on another is not merely injurious, because it cherishes individual errors, because it obstinately presents indifferently-observed facts for acceptance: it does more than this, it opposes everything like grand or comprehensive views of the fabric of the universe. Instead of investigating the *mean* or mid-point about which, despite the unfettered aspect of nature, all phenomena oscillate within fixed limits, it only takes cognizance of aberration. In all that is mobile, changeable in space, *Mean Numerical Values* are the ultimate object: they are, indeed, the quantitative expression of laws, and show us the immutable amidst the perturbations and fluctuations of phenomena. The quantitative or exact method pursued by modern science is pre-eminently distinguished by the attainment and correction of *Mean Values*.

This useful and valuable property of *The Average* of a great many observations, that it brings us nearer the truth than any single observation can be relied on as doing, renders it the most constant resource in all inquiries where accuracy is desired. And it is surprising what a rapid effect in equalising fluctuations and destroying deviations, a moderate multiplication of observations has. Geometers have demonstrated that in the midst of all the fluctuation which can possibly take place in the elements of the orbits of the planets by reason of their mutual attraction, the general balance of the parts of the system will always be preserved, and *every departure from a Mean State periodically compensated*.

It has been demonstrated, that all the changes which the mutual actions of the planets on each other can produce in the course of indefinite ages, are periodical, that is to say, increasing to a certain extent, and that never a very great one, and then again decreasing; so that the system can never be destroyed or subverted by the mutual action of its parts, but keeps constantly oscillating as it were round a certain *Mean State* from which it can never deviate to any ruinous extent. The researches of Laplace and Lagrange in particular have demonstrated *the absolute immutability of the Mean Distance* of

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* This may help to explain an expression attributed to Pythagoras, viz., "that things are the copies of numbers," which meant, perhaps, that all things might be quantitatively expressed, and symbolised by numbers.

* Observation of the larger phenomena of nature favours the belief that thus even small aberrations are diminishing.

† One of the books of Confucius is said to be entitled "The Immutable Mean."

‡ The moral ideal here referred to is, of course, that of human nature.

each planet from the sun and consequently of its periodic time. Observation shows *the Mean Eccentricity* of the moon's orbit to be the same now as in the earliest ages of Astronomy.

The time occupied by one complete rotation of the earth on its axis, or the *Mean Sidereal Day*, may be shewn on dynamical principles to be subject to no variation from any external cause; and although its duration would be shortened by the contraction in the dimensions of the globe itself, such as might arise from the gradual escape of its internal heat, and consequent refrigeration and shrinking of the whole mass, yet theory, on the one hand, has rendered it almost certain that this cause cannot have effected any perceptible amount of change during the history of the human race; and on the other, the comparison of ancient and modern observation affords every corroboration to this conclusion. From such comparisons Laplace has concluded that the sidereal day has not changed by so much as one hundredth of a second since the time of Hipparchus. The *Mean* sidereal day therefore possesses in perfection the essential quality of a standard unit, that of *complete invariability*. The same is true of the Mean Sidereal Year, if estimated upon an average sufficiently large to compensate the minute fluctuations arising from the periodical variations of the major axis of the earth's orbit due to planetary perturbations.

[The lecture is here amplified with numerous instances of the law of compensation by which the slight perturbations, fluctuations, aberrations, and eccentricities of planetary phenomena are periodically rectified, the balance of the various parts of the System Restored, and its Immutable Mean State preserved.]

The legacy of research, which Newton may be said to have left to his successors, was truly immense; yet Newton himself never entertained a conception of a demonstration of the stability and permanence of *the mean state* of the system, under all the accumulating influence of its internal perturbations: this labour and this triumph were reserved for the succeeding age, and have been shared in succession by Clairant, D'Alembert, Euler, La Grange, and Laplace.

In particular, the researches of Laplace, Lagrange, and Poisson have shown the ultimate invariability of the *Mean Distance* of each planet from the sun, and consequently of its periodic time.

Relying on these grand discoveries we are enabled to look forward from the point of time we now occupy many thousands of years into futurity, and predict the state of our system without fear of material error but such as may arise from causes whose existence at present we have no reason to suppose, or from interference we have no reason to anticipate.

In the foregoing conclusions of consummate geometricians in respect to the law of compensation and of the permanence of the *Mean State* of the solar system, the leading principles of Formative Ethics have been, as we anticipated, fully corroborated. The great Law of Compensation enunciated in postulate 10, and that of the *Mean* as the quantitative expression of phenomenal rectitude, postulate 8, have received ample confirmation.

We have learned that all the aberrations of the solar system in excess of its *Mean Conditions*, though they be but slight, must be compensated for at some time or other by equal and opposite ones in defect. This *Immutable Mean*, then, is the quantitative expression of the Moral Form, or in other words, of the perfect or ideal state of the solar system. These astronomical evidences of the truth of the theory of Formative Ethics have the greater weight, inasmuch as they were unknown to the writer when he framed it: he felt, however, that if his theory were correct, it would be confirmed by an examination of the scientific records of the larger phenomena of nature.

The universality of the leading principles of Formative Ethics has now to be traced by descending from the planetary spaces, to atmospheric, terrestrial, and human phenomena till the first purpose of this investigation be accomplished, and the fundamental principles of the fine arts of æsthetic proportion be left demonstrated and established in the last sections of Formative Ethics. W. Cave Thomas.

Newspaper Press Fund.—The general meeting was held on the 30th ult., Lord Houghton presiding, when a very satisfactory report was presented. The accounts showed a balance in hand of 1,346*l*.

NOTES OF A PROFESSIONAL TOUR IN THE COLONIES.

In the year 1858 I left Southampton for an extended residence in Central America and the West Indies, and I proceeded on my voyage in the ship *Atrato*, an iron vessel belonging to the extensive fleet of the Royal Mail Steam Packet Company, commanded by Capt. Woolley.

We had about 150 passengers on board, of almost all races: a motley collection of English, American, Spanish, French, Italian, Mexicans, coloured Creoles of the West Indies, *et hoc genus omne*. We passed the Azores on the sixth day, but it was too hazy to see them, and the weather was then getting very warm.

In this course across the mid-Atlantic the eye is seldom relieved by the sight of a "sail;" nothing but the heaving and swelling of the dark blue waves, and the fleeting and changeable character of the overhanging clouds; in fact, for a day or two after you leave Southampton until a day or two before you arrive at St. Thomas's, seldom are any vessels to be seen; and when seen on the horizon they look like mere spots or specs on the sun's disc.

On the tenth evening after embarkation I saw one of those gorgeous and brilliant sights, the setting sun at sea. The clouds just above the horizon presented such a splendid effect of various colours, warm and glowing tints, crimson and gold, and hues of all creation, that no language can adequately describe, and which would puzzle even the magic pencil of a Claude to accurately portray. As the poet says:—

> "Who can paint like nature?
> Can imagination boast amid the gay creation hues like these;
> Can it mix them with such matchless skill
> And blend them one in the other
> As it appears in every bud that blows?"

I had also a very splendid view of the comet, the tail showing itself very distinctly, from the clearness of the atmosphere, and the canopy of heaven was studded thickly over with innumerable stars of remarkable brilliancy. The rising of the moon is also an interesting phenomenon at sea: gradually and slowly emerging from the horizon she sheds her pale reflected light on the ever-varying waters of the deep, throwing them alternately into light and shade: and many amuse themselves by leaning over the bows of the vessel, as she ploughs her undeviating trackless course through the watery element, to see innumerable rays of phosphoric light thrown out by the medusa (or jelly) and other fish at the approach of danger and to light them to escape being run down: these vie with the heavens in vivid brilliancy. The seas in the tropics swarm with piscatorial life.

On the 13th we were all alarmed and thunderstruck by the sound of the fire-bell. This was to call up all hands to go through the fire-extinguishing exercise. It was all so quietly arranged that but few knew it, except the officers and crew; and judge the consternation it created: but the alarm was soon appeased when information of the cause was given.

On the 14th day we passed the group of Virgin Islands to the north of our course; we then slowed speed, and anchored for the night off St. Thomas's. At six a.m. steam was up, and we entered the harbour of St. Thomas, an island belonging to the Danish crown. It is situate on the south side of the island, and has rather a narrow channel for the entrance. It is perfectly land-locked, east, west, and north, and the entrance is fortified on each side with small batteries. There is a fortification, also, in the town, opposite the entrance, and a lighthouse on the point. The principal town, Charlotte Amalie, is situate on the side of the mountain facing you as you enter the harbour. It is built in the shape of three flat cones, their bases joining and commencing at the edges of the water in the harbour; and, tapering gradually up to their apexes, the houses appear from the harbour to be built one above another.

The principal buildings are the governor's house, in the Grecian style of architecture; the fort, Blue Beard's Castle (an ancient structure); the hospital, &c.; and many good private houses.

The absence of chimneys to the houses appears striking, and they have the advantage of a beautiful clear atmosphere, not dimmed with smoke, as with us at home. The windows and jalousies occupy nearly the whole fronts. The roofs are many of them covered with galvanized iron, or gaily painted shingle: these with the verandahs and balconies painted in bright colours, and the cream-coloured tint of the stones with a bright sun shining upon them, produce a dazzling and brilliant effect. The streets are rather narrow and not very well cleansed. There are some good stores and hotels in the place, also places of worship and residences.

The geological stratum of the island is a whitish limestone, of which the principal houses are built. The land at the back of the town rises to a considerable height, and is covered with stunted trees and bush.

The island, which is seventeen miles long and five broad, population about 13,000, is not very productive, yielding only a little sugar, rum, cotton, and coffee. In consequence of nearly all the timber being cut down, it is very much subject to drought; this occasions a scarcity of water, which interferes very seriously with the successful cultivation of the island; and the inhabitants have to depend principally on the trade produced by its being the central station for the royal mail steamers. The company have extensive works erected there—a patent slip, &c., for repairing their vessels. The inhabitants supplied us with fine alligator pears, pines, oranges, bananas, cocoanuts, &c., and also cigar-cases and cigars, fans, bracelets, and other fancy articles for ladies.

Before the last mail contract was entered into between the Government and the company, it was suggested to remove the station to Antigua, it being an English colony, an island with harbours every way adapted for an extensive trade; but the gaieties and allurements of St. Thomas's, "this gem of the tropics," it is said, prevailed over every other consideration, so that the intention was abandoned.

About two years ago I suggested in your pages the desirability of connecting this island with the West Indian Islands and the main land at Demerara by means of the submarine telegraph, so that the important colonies south of it could have better communication with England and each other. This, I am glad to see, is likely to be carried out, a company having been established for the purpose, which will have a very beneficial effect on trade and commerce. The harbour of St. Thomas is very unhealthy: the crews of the mail steamers suffer fearfully from yellow and other fevers; some vessels lose from thirty to thirty-six men when lying there only fourteen days waiting for the return mail. This heavy mortality might be considerably reduced or mitigated by strict sanitary arrangements, and by perfect temperance on the part of the crews. The *Atrato* is a splendid sea-boat for a smooth sea, but rather too narrow for heavy seas, or wind on the beam, when she rolls most unpleasantly. Our speed was very good; we made 11 knots at starting, and increased it to 14 knots and 14½ knots before we arrived at St. Thomas's—a very expeditious and satisfactory mode of transit. We arrived on the 1st of October, and on the morning of the 2nd we transhipped our luggage, &c., on board the *Derwent*, one of the old school of steamers that are employed in the intercolonial trade; and on leaving the harbour the signal-gun was fired, which echoed and reverberated from mountain to mountain, and, with three hearty cheers from our fellow voyagers on board the *Atrato*, bidding us God speed, and a merry tune from the bands, we steamed out of the harbour.

St. Thomas was soon lost to the view, and we passed Cat Island and the Island of Vieque, and made Porto Rico, a Spanish island. It appears to be mountainous in the interior, and to be well cultivated. Plantations and sugar-works are numerous, and the cocoa-nut trees fringe the margin of the island. The western part appears flat, and the best cultivated.

Our course lay to the north of Porto Rico, and we entered the harbour of St. Juan about sixteen hours after leaving St. Thomas's. It is a beautiful and capacious harbour, land-locked, and is well fortified at the entrance every way, mounting a large number of guns. At the entrance to the harbour there are two islands, the one being strongly fortified with a circular tower or castle upon it, to command the entrance and the whole of the harbour.

The town appears to be walled in and fortified at intervals; the houses are principally built of a whitish, slightly tinged with yellow, limestone, probably a similar stone to that of St. Thomas, and the sun shining full upon it gave it a bright and dazzling effect.

The houses are principally of the old Spanish type, having generally verandahs, balconies, jalousies, and other conveniences conducive to comfort in tropical climes. There are capacious barracks and hospital, and a large well-built

square residence occupied by the governor. We stopped there about one hour, delivering and receiving the mails, and then steamed on our way.

The island of Porto Rico, which is about 96 miles long and 36 miles broad, is very luxuriant and productive,—chiefly sugar, rum, &c., and it also breeds fine cattle, which command an extensive trade in the West India Islands. It must be a very valuable acquisition to the Spanish Crown.

The following day passed Mona Island, between Porto Rico and St. Domingo, which is very celebrated for turtle, and at nine a.m. saw the coast of St. Domingo in the distance. The following morning found us coasting along the island of St. Domingo, then presided over by the Emperor Solouque, a negro dignitary: he passed a decree to confiscate all the whiteman's property, and to stop their trading there, so as—to use a nigger phrase—that "the darkies may reign;" but their triumph was short-lived.

We entered the harbour of Jacmel, which is not very large, and is much exposed. The town is hid by a projecting point of land, so that not many houses are seen, and those that are seen are built of wood. The hills at the back of the town are covered with trees and brushwood, and some very fine cocoa-nut trees line the beach near the town.

I saw a kite flying on shore (reminding me of home), the handiwork of some little aspiring negro studying civilization.

We landed eight passengers and the mails, but the swell of the sea is so very heavy in the harbour, that the steamer could not lie to or anchor, and she had to be kept steaming in a rotary motion, to prevent her being washed ashore, the ground swell being so very heavy.

Left Jacmel and steamed slowly along, gradually losing sight of St. Domingo, which soon appeared like a cloud on the horizon, growing gradually fainter and fainter until lost to sight. A rainbow showed itself shortly after, which the sailors said indicated a squall: this came on very suddenly, and it rained heavily, the clouds showing themselves first, followed by sudden gusts of wind and rain, as peculiar to the tropics.

On the following morning we made the shores of Jamaica, "the Queen of the Antilles" looming in the distance; discerned the Morant Point Lighthouse on the east end erected by Mr. Gordon, coasted along the island of Jamaica, and a few hours brought us to Port Royal, where there is another lighthouse, and we were soon brought to anchor in the harbour of Kingston.

There are several small islands at the entrance, and the land at Port Royal, on which there is a military station, is low and flat: the deep water channel is narrow and circuitous, and we were obliged to take soundings to ascertain our course.

There were a frigate and three gun-boats lying at Port Royal, and the military authorities saluted us with two guns. On our arrival at Kingston harbour, we steamed up to the wharf with a merry tune from the band: we were received by a large concourse of people to welcome us, and learn tidings from home. A few passengers left us here, amongst them one colonel of the army, and two members of the Jamaica Assembly. The city of Kingston is a curiously built place; the houses are principally erected of wood, though there are many good brick and stone stores, and other buildings. The main streets run north and south, and at right angles to the harbour: other streets cross these at right angles, so that the town is uniformly laid out, but many of the streets are narrow.

There are numbers of trees amongst the houses, viz., cocoa-nut, cabbage, citron, star apple, papaw (whose fruit and leaves render the toughest meat tender), the mango, bread fruit, castor oil, banana, &c., which have a very curious effect, and are, doubtless, planted for shade as well as profit.

The principal streets are Harbour and King streets, and the Parade (a square) and several minor streets. The church is in the parade. The barracks, the theatre, a large Wesleyan Chapel, the Market-place (which is a square place surrounded with a wooden fence), Assembly Room (a perfect barn-looking place filled with old carriages, &c.); and near the Parade is the Roman Catholic Chapel, a large building with high-pitched gable-ended roof, circular-headed door and windows (the latter full of stained glass); and the Presbyterian Chapel, Gothic edifice of brick and stones,—the only building I saw with any pretensions to architectural merit. There are also Baptist, Independent, and Jewish places of worship.

The commander-in-chief's residence is situate in the northern suburb: a spacious house in the tropical style, with balconies and verandahs round filled in with jalousies, and the grounds are covered with beautiful shrubs and flowers,—the tamarind, orange, lemon, and lime trees, bamboo cane, Jerusalem thorn, oleander, African, Chinese, and other roses, jessamine, granadillos, scarlet cordias, mignionette-trees, Barbadoes pride, blue wreath, &c., in all their magnificent varieties of colours and tints.

The hotels in the place are very poor and miserable. The houses remind one very much of Chester: they are mostly built on wooden pillars, or the balconies and verandahs are supported on pillars in the front, and you walk under them as you would through the rows, except there are not always stores underneath. Some of the houses have square-headed windows, with outside Venetian blinds, and the spaces between the windows are filled in with jalousies, so that air may be freely admitted to the apartments,—in fact, the fronts look as if they were all windows.

To some of the houses there are corridors or balconies all around them. The principal entrance is sometimes the front and sometimes the back. If in the front, you enter the hall—the principal reception-room—through the gallery or balcony; if in the back, you pass through a passage between the bedrooms to approach the hall. The hall generally occupies the front of the floor, and the bedrooms are situate on each side the passage at the back part: this is the plan for one floor, and the others generally correspond. There is also here, as at St. Thomas's, a total absence of chimneys, except to the kitchens, which are detached from the residences.

The streets are generally in a very bad state; they are called macadamised, but they appear to me to be covered with loose sand or shingle, which in the wet season must be knee-deep in mud, and very dusty in dry and windy weather; the channels are in bad repair and badly laid out, and there is no under drainage; the scavengering is also very much neglected, except what Nature has provided in the black vulture, called "John Crows." Goats, pigs, dogs, &c. roam at large about the streets, which is a nuisance to the inhabitants, adding very much to the filth of the place. The authorities seem to think there is no remedy for the bad state of the streets in consequence of the heavy and destructive wash of the tropical rains; but if they were to visit some of the Danish islands, and even the English ones, Antigua for instance, they would see it was possible to have good and smooth street surfaces, also well-paved channels and an efficient mode of scavenging, even without the help of that useful and voracious bird the "John Crow."

The town is well supplied with water, works having been established to supply it from the streams collected at the base of the Blue Mountains. The principal station of the troops is at Newcastle, located in the mountains, 5,000 feet above the sea (the summit of the Blue Mountains is 6,739 feet above the level of the sea); they have there quite a European climate, and produce European vegetables and fruits of all sorts. This station is of immense advantage to the health of the troops.

The harbour of Kingston is capacious and land-locked, supposed to have been formed by an earthquake that swallowed up the site upon which old Port Royal stood, and it is said that the tops of the houses are to be seen now in the bed of the harbour on a calm day. It is sheltered by a natural breakwater or palisade, on the extremity of which Port Royal is situate, about six miles from Kingston; it is strongly fortified, that and other fortifications in the harbour mount about 150 guns.

The town, in the heat of the day, presents a very quiet and deserted appearance; the negro men and women lounge about all day in the streets, seeking the cool shade of the houses, some selling fruit, others cakes and sweetmeats; they appear to lead a very unprofitable and indolent life.

The public works do not appear to have been very well conducted. Great disputes have existed for some time past respecting the main roads, bridges, &c.; the expenditure on which, according to the last Blue Book, was 15,800*l*. They had also reconstructed the asylum, repaired the general and female penitentiaries, public hospital, and building in Spanish Town and Montego Bay, and bridges over the Rio Pedro and Rio Minho. The amount required to complete them was 7,050*l*.; and there has been already expended on them 16,175*l*.

Recently the colonial engineer has been discharged, in consequence of its being discovered he was improperly interested in a contract for a public tramway they were constructing, which has been alluded to recently in the House of Lords.

The island of Jamaica is about 150 miles long, and varies in width from 17 miles to 45 miles; its area is 4,292 square miles, and its population in 1851 was 465,000; in 1862, 441,225; showing a decrease of 23,775 in a period of about ten years. Many of the estates are thrown out of cultivation for the want of labour, and this evil is aggravated by the absentee proprietors, who leave their estates to the management of attorneys, managers, &c., to extract every penny from them and grind down the price of labour, at which the labouring population very naturally rebel. An able-bodied labourer would get from 10*d*. to 1*s*. per day. These remarks apply to most of our West India colonies, and I feel well convinced that a more liberal treatment on the part of the proprietors, &c., of estates, the scarcity of labour would not be so severely felt. The climate around Kingston is very warm: the maximum temperature is 89 degrees; minimum, 71 degrees. Hurricanes sometimes occur here, and the annual rainfall varies from 59 inches to 127 inches in a period of nine years. The geology of the island is slaty schist; above it, blue limestone; next, grauwacke, surmounted by red sandstone and clay. Recent investigators assert that the base is porphyry, sienite, and greenstone, supporting the deposition and transition rocks. White and blue limestone, bastard marble, quartz in some places, ribbon rock, formed of alternate porphyry, trap, hornstone, and petro silex, which varies in the different districts. Gold and silver, copper, lead, and iron, have been found in the Blue Mountain range and other places, which have opened a fine field for capital and enterprise, and which are as yet but little developed.

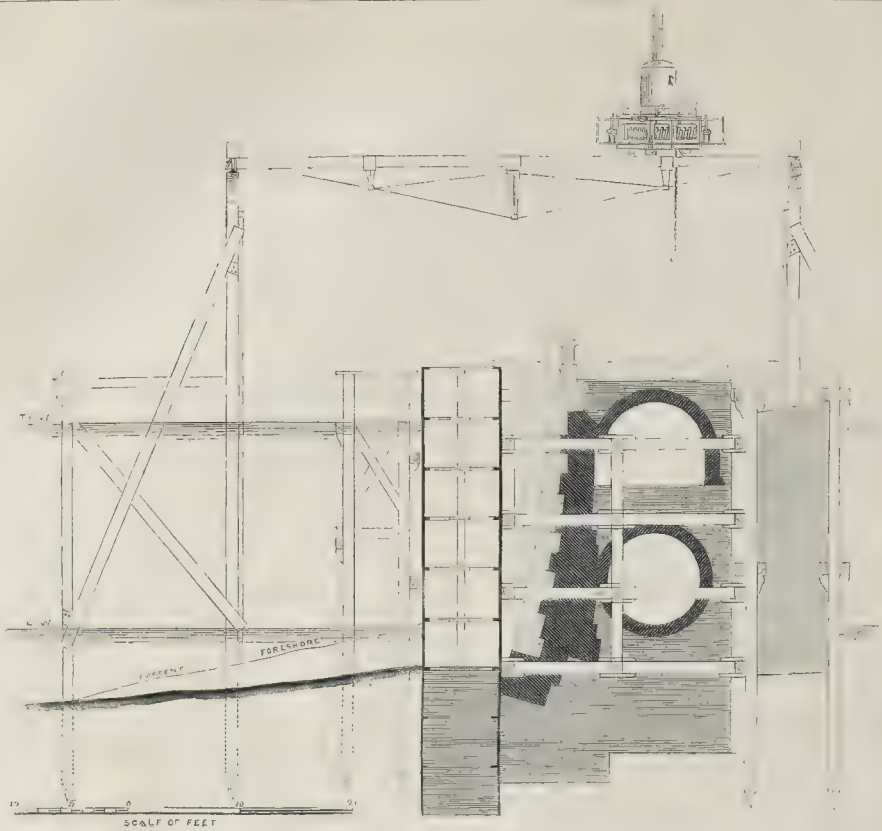
On the day following our arrival we were transhipped to the *Eagle*, a small steamer intended to carry us to our destination—Central America. My fellow-passengers were three ladies and one gentleman (five in all); these only, with the mails, were to traverse 700 miles of the Caribean Sea to British Honduras, which cannot form a very profitable speculation to the company.

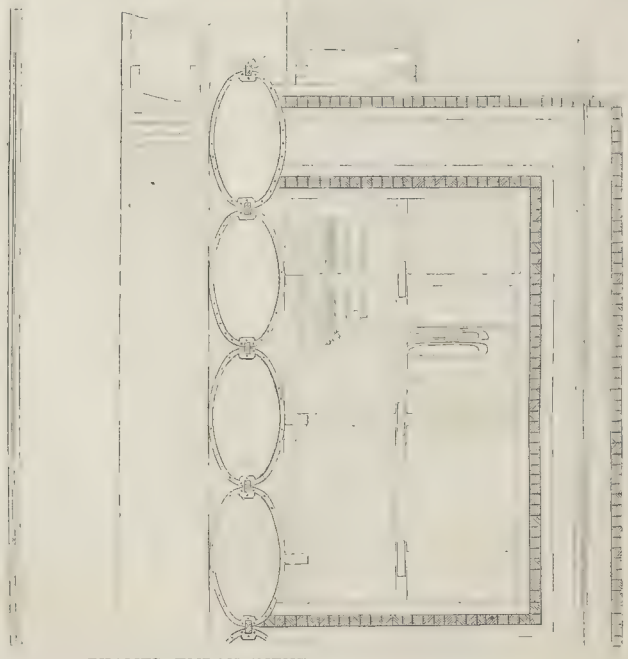
On the morning of the 6th, at five, the signal-gun was fired for sailing, after a stay of three clear days: as we got under weigh, we had another fine view of the harbour and the surrounding scenery; the sun rose resplendently, the east indicating another intensely hot day; that, with the sombre-looking mountains in the background, the shipping, a brig getting under weigh with all sails set, the picturesque houses of the town, the heavens presenting almost a cloudless aspect, with the exception of a few light fleecy-looking clouds to dim the azure canopy of heaven—presented a view of surpassing beauty worthy of the pencil of a painter or the theme of the poet.

On the 10th, Sunday, had divine service on board; and while we were at dinner Swan Island was announced as being in sight. It appeared to be unoccupied, except by a solitary fisherman, and is covered with trees and mangrove bushes. The Americans, I was informed, had planted their "stars and stripes" upon it; but what they intend to make of it I do not know, except as a depôt, from which they can at some future day intercept our Central American trade.

The Americans are very jealous of our possessing territory in Central America, and it was through their repeated protests that the Bay Islands (the rendezvous for General Walker and his fillibusters) were given up. On the 12th, we made half-moon Kay and the lighthouse, recently erected of iron at a cost of 2,100*l*., the contractor stating that he lost 400*l*. by the contract. It is 76 feet high, and is seen about sixteen miles distant; but notwithstanding that, wrecks frequently occur on the adjoining coral-reef. It is about sixty miles from Belize. B. C. E.

Steam Saw-mills destroyed by Fire. — In the Talbot-road, Ledbury-road, Paddington, the extensive range of premises belonging to Mr. W. Hide, steam saw-mill proprietor, have been burnt. The mills covered a space of ground nearly 100 ft. long and 40 ft. wide. The flames could not be extinguished until the mills were destroyed, as well as the machinery and stables, and the back part of the private residence is also seriously damaged. A charge of incendiarism has grown out of the destruction of the mills. At the Marylebone Police-court, a man who was employed as a labourer there has been accused of the offence.

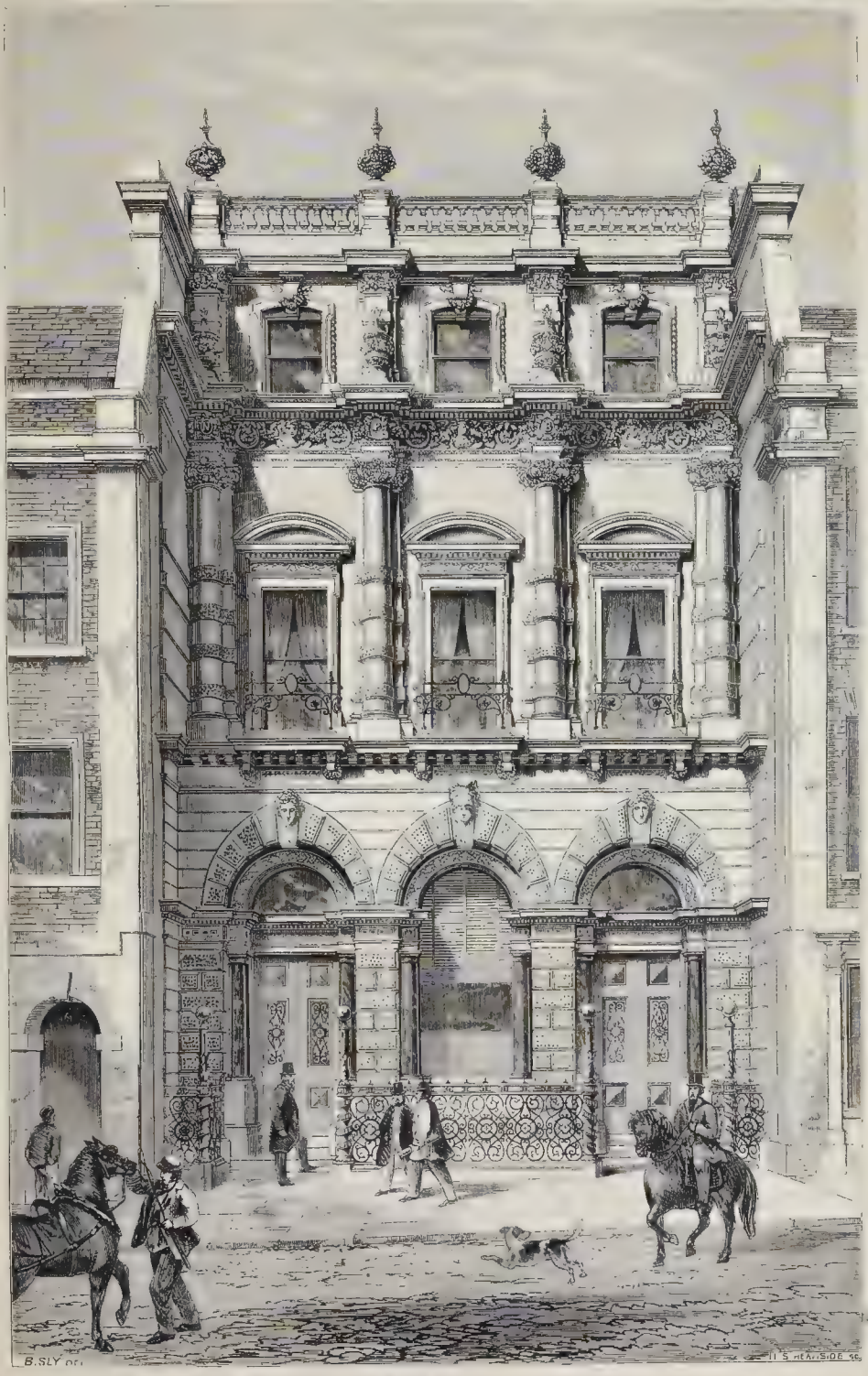




THAMES EMBANKMENT.

Plan and Section: Coffer-Dam used in laying the Foundation Stone; Retaining-Wall, Sewer, and Sub-way; and Caissons forming the Front of the general Coffer-dam Construction in the First Contract.

See p. 573, *ante*.



NATIONAL PROVINCIAL BANK OF ENGLAND, CORN STREET, BRISTOL.

MR. W. BRUCE GINGELL, ARCHITECT.

NATIONAL PROVINCIAL BANK OF ENGLAND, BRISTOL.

The façade is in the Italian style, and though of small dimensions, is bold and effective. The frontage was set back by the Improvement Committee for the future widening of the street; and in order to obtain light for some of the lowest rooms, the façade has been recessed 4 ft. further, and the architectural lines are returned upon the party walls, thus giving additional importance to the frontage. The sunk area will be surrounded with iron palisading and standards, upon a moulded kerb of blue pennant stone, with folding gates before each doorway.

The basement story stands upon a moulded plinth of blue pennant stone, and presents three sunk arched recesses, the piers and vonssoirs being decorated with moulded and vermiculated rustics; the arches springing from a denticulated entablature, having an enriched fret upon the frieze, and each keystone being sculptured into a female head. The side recesses are doorways having coupled Doric columns of Aberdeen red granite, highly polished, and standing on pedestals of rubbed blue pennant stone, the capitals and bases of the columns being of Bolsover stone, and enriched with guilloches, &c. The centre recess is a window lighting the front consulting-room. At the first-floor level is a bold entablature with a block cornice, broken before each window to carry ornamental iron balconies.

The principal story presents four three-quarter Ionic columns engaged to piers wrought as quarter-pilasters each side; the group having moulded and vermiculated rustics thereon for about two-thirds of the height, and finishing with carved capitals. The spaces between the piers contain three windows, with architraves and circular pediments, with enriched mouldings and panelled friezes filled with laurel-leaves and bands. Above the columns is a denticulated entablature, broken over with columns and pilasters, certain mouldings being enriched, and the frieze carved and sculptured, forming one of the most prominent features in the design. In this ornamentation the title of the company has been indicated—the central compartment showing a bust of her Majesty the Queen, with medallions on each side bearing the plume and motto of the Prince of Wales, the background having the sceptre and mace, and the paddle and anchor, crossed in pairs; the whole connected with ribands and swags of fruit and flowers. In the dexter compartment is a bust representing "Peace." The sinister compartment has a bust representing "Plenty." Upon the cornice over each break stands a vase, adding materially to the importance of the principal story in the façade.

The attic has three windows, with moulded and enriched architraves and carved keystones; and between the windows are piers, corresponding with the breaks below, all rusticated, and supporting a small entablature, having carved swags of flowers over the piers, and terminating with a balustrade and pedestals, whereon stand four vases.

The whole of the façade, except where granite and Pennant stone has been used, is executed with Combe Down and Box weather stone.

From the street a corridor is entered, the walls being finished with Corsham stone, and divided into four compartments by piers, having rusticated pilasters thereon, with carved capitals; above which is a denticulated entablature breaking over the piers and pilasters, and continued through the side recesses. The entablature forms an impost, from which springs a vaulted ceiling, with semicircular moulded and panelled beams across the bays and over the recesses, with riband and berry enrichments and panelled fans, each compartment finishing in a circular flat panel, with enrichments and a centre flower.

Passing through large folding glazed doors, a vestibule is entered, also finished in Corsham stone, and having recesses, with moulded and panelled dado all round, and denticulated entablature. The ceiling is coved and groined. This vestibule is lighted by a large top light, and will be glazed with ornamental tinted glass, of an azure ground with white and gold diaper and purple interlacing border.

From the vestibule large glazed doors lead into that part of the banking-room which will be devoted to the public before the counter; and this is in itself an ante-room, executed with Corsham stone, and having moulded dado and denticulated entablature all round, with three large recesses, over which are semi-elliptical archivolts. The plaster ceiling is in formedto a square compartment, by moulded beams, enriched with oak-leaves and bands, from which it is coved down to the stone entablature, the coves being diapered with moulded lozenges, each filled in with a set flower.

The banking-room is 38 ft. square and 30 ft. high, exclusive of a semi-circular apse at the north end, over which is a large semi-dome light. Corsham stone is used for the finished surface of all parts up to the ceiling. A moulded dado runs round the room, above which are coupled pilasters, each wall space being divided into three compartments, the centre being double the width of the side ones.

The ceiling is executed in plaster. Coupled panelled beams, corresponding with the pilasters and filled in with laurel leaves, run across from each side and form a square central compartment, out of which rises a dome light 15 ft. in diameter; the circular vertical space between it and the flat ceiling being divided into eight parts, with curved moulded panels, having rosettes and swags and drops of flowers over and between the same, and laurel enrichment round the opening.

Around the dome-light the ceiling forms four large semi-circular openings, each enriched with laurel-leaves and mouldings, and having therein a flat light, divided into eight panes by moulded radiating bars. The dome, semi-dome, and four flat lights are glazed with ornamental tinted glass of an azure ground, with gold and silver stars, and purple interlacing borders.

In the apse, stone stairs lead to the repositories, which are divided into separate cash, plate, and deed safes, fitted up with iron shelves, warmed and ventilated, and furnished with thief-proof iron doors and gates.

In addition to the business part of the premises, a dwelling-house is provided, suitable for the residence of a manager.

The whole of the structure is fireproof, upon the system patented by Messrs. Fox & Barrett, all the floors and roofs being formed with rolled-iron joists, carrying concrete finished with cement surfaces to rooms and asphalte to roofs.

All the floors in the business part of the premises are paved with ornamental tiles, by Messrs. Maw & Co.

The carving and sculpture, and the models for the enrichments, have been executed from the architect's designs by Mr. T. Colley, of London.

The building has been warmed and ventilated by Messrs. Haden & Son, of Trowbridge.

The general contractor was Mr. J. Broad, and his sub-contractors were Messrs. Lewis & Sons, plasterers; Osborne, plumber; Browning, painter; J. Harris, joiner; A. Harris, smith; and Swinburne & Slater, glaziers. Mr. Pilkington, of London, executed the asphalte work.

The architect was Mr. W. B. Gingell, of Bristol, who designed the West of England Bank and the General Hospital. Mr. W. Long, who was clerk of works at the General Hospital, under the same architect, has performed similar duties at this building.

THE CRIMEAN MEMORIAL AT NETLEY.

His Royal Highness the Prince of Wales has laid the chief stone of a memorial to the medical officers who fell in the Crimea. The site of the memorial at Netley Hospital is immediately in front of the medical officers' quarters, a little to the southward of the hospital. When completed, the monument will be a prominent object seen from the Southampton Water. It will be erected from the designs of Mr. T. H. Lewis, and will be carried out by Messrs. Myers, by whom Netley Hospital and the surrounding buildings were erected. The memorial will be a cross, in the style of the early part of the thirteenth century, and will be 56 ft. in height to the top of the cross, and below will be a series of arches, forming an octagonal arcade, supported by columns of marble and Portland stone. There will be a lower arcade, in which will be placed a number of tablets, on which will be inscribed the names of those medical officers who fell during the whole of the Crimean war in the performance of their duty.

In reply to an address by Colonel Wilbraham, previous to laying the stone, the Prince very gracefully expressed the interest felt in the memorial, as in the hospital, by the Queen and by himself, and alluded to the interest with which it was also regarded by the Prince Consort.

SHALL NOT SHAKSPEARE HAVE A NATIONAL MONUMENT?

The inhabitants of New York, notwithstanding their present troubled condition, have set an example to London in raising funds, seemingly with very little trouble, for the purpose of rearing an important monument to the memory of Shakspeare. In a pecuniary point of view, especially, the result of the Tercentenary celebration in England has been very unsatisfactory. Even at Stratford-on-Avon, there will not be any other monument to the great poet than the church of the Holy Trinity. But what, we have already asked, could be more fitting for its purpose than this noble shrine? As to the causes of failure, it must be admitted that one was the flow of a large amount of the public enthusiasm and excitement into another channel. There was, however, too much attempted; and, instead of the whole country concentrating its energies with a view towards the erection of one national monument, worthy of the poet, many towns set up a rivalry, and endeavoured to raise money for the purpose of erecting memorials in their own several localities. Even in London the councils were divided: there was no harmonious action; and notwithstanding the long array of influential names of persons who were willing to assist in the realization of a metropolitan monument, the matter was never brought with business-like energy before the general public.

The question now is, are we to be entirely disheartened by this failure? are we to despair entirely of being able to rear a national and central monument in honour of Shakspeare, on a proper site *in London*, which was for many years the field of the poet's active life? for it should not be forgotten that if Stratford-on-Avon had the honour of being the place which gave the poet birth, to which he retired after his life labours, and where his ashes rest, it was in London that most of his marvellous works were produced, and where his fame was established.

It is very desirable that another attempt should be made by this generation to do him honour; and although at the commencement such an endeavour may not be attended with much enthusiasm or highflown hope, it may end in more effectual results. With restored confidence on the part of the public, it does not seem likely that there would be much difficulty in gathering together, at a suitable season of the year, an influential meeting at which a considerable sum would be subscribed; and the matter once set properly moving, money for this purpose might be obtained from many sources,—not only from persons of rank, wealth, and education, but also from the great masses of the people.

But besides the public, it seems clear that the Government has also a duty to perform in connexion with this memorial. To aid in honouring the memory of eminent men, large grants have been made from time to time out of the national exchequer. In this way the exertions of the warrior, the statesman, the philosopher, and man of science obtain recognition; but to few other English worthies do the people and the governing powers owe so great a debt of gratitude and admiration as to the immortal bard of Avon.

Many who take a great interest in the erection of a national monument to Shakspeare, have complained that they were in the dark as to the present position of affairs, and have asked if there were any or what available funds which might be made the gathering point of a general subscription; and if there were an active and responsible executive committee still in existence? It is satisfactory, therefore, for us to be able to state that the executive committee have announced that the balance of the subscription-list amounts to the sum of 1,280*l.*, after deducting the expenditure, which was 970*l.*; and that they unanimously make the explicit proposal to the subscribers and the public, that this balance be now invested, with a view to its increase, till the Thames Embankment shall have been formed, when a noble and appropriate site for a memorial may be secured near the Temple Gardens; or they may again try for St. James's Park, which we should prefer.

It is still to some extent unfortunate, however, that two metropolitan schemes simultaneously offer themselves; and it would be very desirable that some means should be taken to amalgamate these two into one. The working men's Shakspeare committee propose a national penny

subscription to erect a monument on Primrose-hill, *or elsewhere* in the metropolis, to consist of a marble statue, 10 ft. or 11 ft. high, besides the pedestal, and to cost 1,500*l.* with an iron and glass ornamental shrine for its inclosure, to cost 1,000*l.* more; the sum total to be raised by 600,000 penny, 100,000 sixpenny, or 50,000 shilling subscriptions.

The working men's committee have thus the advantage of the—rival committee, must we call it, in point of explicitness and definite objects in view. Could the one committee only be induced to adopt the views of the other, we have little doubt but that the joint committee, or the two co-operative committees, would soon have the pleasant need to re-consider and extend the idea of the resultant monument, from sheer superflux of funds.

ST. PAUL'S CHURCH, WOKINGHAM.

The new church of St. Paul, Wokingham, built by Mr. Walter, M.P., has been consecrated by the Bishop of Oxford.

The edifice, which stands on a site of two acres, intended as a burying-ground for the new district, is in the Decorated style of the fourteenth and fifteenth centuries. It forms a conspicuous feature in the landscape, and in plan comprises a chancel, a nave, a vestry and organ-chamber, and a tower with spire 170 ft. in height.

The entrance to the church is under the tower, which is placed at the north-west angle. The doorway is deeply recessed and richly moulded, the face of the inner portion being covered by diaper work with running foliage in the mouldings. The tower, which is about 20 ft. square at the base, has angle buttresses and two tiers of grooved and foliated pinnacles with flying buttresses to support the spire. It is pierced by two tiers of windows. The tower is surmounted by an open traceried parapet, the panels being filled in with carved work and foliage. From this springs the spire, which is built entirely of Bath stone. The nave has an arcade of six arches on either side. Above runs a clerestory of six windows on the south and five on the north side.

The roof of the nave, about 50 ft. in height, is open-timbered, plastered between the rafters, and finished with a light blue tint. The aisles of the nave are lighted by six windows on either side, filled with traceried heads. The roof of the aisles has arched and moulded principals. The nave is lighted by a west window, about 24 ft. high, with moulded jambs and traceried heads. The chancel is entered under a moulded arch enriched with double wreaths of roses and foliage. On either side of the chancel there is an arcade of two arches. The organ is placed within the arcade on the north side. The arcade on the opposite side forms the founder's private chapel. The east window has reticulated tracery of two orders, with richly polished bordering, the mouldings being deeply recessed. There are two windows on the north side of the chancel, having each two lights, with moulded and traceried heads. The chancel has a clerestory on the south side of four windows. The altar is approached by five steps. Under the east window is a recessed and carved arch, flanked on either side by buttresses, surmounted by carved and fluted pinnacles entirely composed of roses. Above the arch runs a moulded, carved, and embattled cornice, the whole width of the chancel, the spandrels above the arch being filled in with tracery. The background is composed of alabaster. The reredos is executed in Caen stone. The altarpiece, carved in alabaster, in two panels, represents the Last Supper and the Crucifixion. The chancel is paved throughout with Minton's encaustic tiles; the aisles with Minton's and Poole tiles intermixed.

There is no gallery in the church. The pews, of deal stained and varnished, are open. The windows are filled with stained glass by Hardman, of Birmingham. The east window represents the Transfiguration; the west, the Conversion of St. Paul. The north and south aisles windows are emblazoned with subjects from the life of St. Paul. The architect was Mr. Wodyer, of Graffham, near Guildford; and the work has been superintended by Mr. G. Redfern, his clerk of the works. The builders are Messrs. Wheeler & Sons, of Reading. The heating apparatus was by Messrs. Haden & Sons, of Trowbridge. The sculpture and carving have been executed by Mr. T. Nicholls, of Lambeth. The organ was by Willis. The bells, eight in number, were by Messrs. Warner & Sons, of London. The tenor bell sounds note F, and the weight is 17¼ cwt. The weight of the whole peal is 75 cwt. The bells are hung in a cast-iron frame, which is said to answer very well. By using iron they get over the shrinkage of the timber during the summer time, which often causes much trouble. Messrs. Warner have also by this means been able to hang this peal of eight bells all on *one level*, in a chamber 12 ft. 7 in. by 12 ft. 7 in.

The walls of the church externally are built of Bristol blue stone, with dressings of Bath stone. The wall inclosing the ground on the north side is built of the same materials.

BUILDERS' BENEVOLENT INSTITUTION.

The seventeenth annual general meeting of the friends and subscribers to this institution was held on Thursday, the 28th ult., at the London Tavern, Bishopsgate-street, for the purpose of receiving the report for the past year, for the election of president, auditors, and other officers in connexion with the conduct of the institution. Mr. Alderman James C. Lawrence, the president, occupied the chair. Among the gentlemen present were, Mr. George Plucknett (treasurer), Messrs. Joseph Bird, T. Cozens (the founder), R. Head, R. Watts, J. Thorn, W. Hutchons, W. S. Simkin, T. Stirling, W. H. Cooper, M. Hall, T. Howard, and several other gentlemen connected with the various departments of the building trade.

The chairman, having referred to his connexion with the Builders' Benevolent Institution through the introduction of Mr. Lee, a former president, and his admiration of its conduct and principles, expressed his gratification at its present position, believing it to be one that deserved support for the general charity which it set forth to bestow on those who, from old age or other circumstances, became necessitated and required its assistance. He concluded by requesting Mr. Harris to read the report.

The secretary then read the following report:—

"In presenting to the supporters of the Builders' Benevolent Institution the annual report for the past year, the directors have the satisfaction to inform them that there has been an increase in the annual subscriptions, likewise to the stock purchased in the Three per Cent. Consols.

The increase in the annual subscriptions beyond last year amounts to 37*l.* 5*s.* 6*d.*, while 92*l.* 10*s.* 4*d.* has been added to the Stock account; making the sums now standing in the names of the trustees 7,332*l.* 11*s.* 10*d.* for the relief fund, and 2,529*l.* 18*s.* 6*d.* for the building fund, being a gross total of 9,862*l.* 10*s.* 4*d.* stock Three per Cent. Consols.

Since the last general meeting the directors have to acknowledge the sum of 50*l.* bequeathed to the institution by James Faulkner, esq., late of Somerset Villa, North Lee Park-road, Kent; and a donation of 100*l.* from Mrs. Cubitt, of Denbies, Dorking, Surrey; and the directors take this opportunity of publicly expressing their best thanks to Mrs. Cubitt for her kind and generous gift in aid of the funds of the charity, and their expression of gratitude for the bequest of the late James Faulkner, esq.

Eight pensioners have been elected, viz., five males and three females; and eight pensioners have died during the past year, four males and four females, which enables the directors to announce to the subscribers and donors that the funds of the institution justify another election in November next. The male pensioners elected were, in November, 1863, W. Standfast and W. Goodwin; and in May, 1864, R. Langstaff, J. Jenkins, and W. H. Walsham. The females elected were as follows:—In November, 1863, C. A. Deacon; and in May, 1864, E. Efford and S. Clements. The male deceased pensioners are A. Richards, elected November, 1855, died October, 1863; W. Goodfellow, elected May, 1859, died December, 1863; W. Williams, elected November, 1856, died February, 1864; and W. Palmer, elected November, 1861, died May, 1864. The females are—E. Wood, elected February, 1853, died July, 1863; S. Wright, elected May, 1862, died August, 1863; A. Fould, elected November, 1849, died September, 1863; and M. Furrian, elected May, 1859, died May, 1864.

The annual ball, under the kind superintendence of the honorary secretary, Mr. Joseph Bird, realized a profit to the institution of 103*l.* 14*s.*

In recording the transactions of any charity where the objects sought to be accomplished are unvarying and confined to the trades engaged in building operation, there must necessarily be a similarity in the annual reports, the most gratifying fact to communicate being the progress obtained. This the directors of the Builders' Benevolent Institution have the satisfaction of announcing to their supporters; and they hope, both by recommendation and personal influence, the promoters of the institution will endeavour to increase their funds, and thereby extend their sphere of usefulness.

Appreciating the kind and efficient services rendered to the charity by the president of the institution for the past year, the directors have the pleasure to announce that Thomas C. Lucas, esq., has kindly consented to become the president for the year ensuing."

The reception of the report was then put to the meeting, and unanimously adopted.

The president, Mr. Thos. C. Lucas, was then elected, as were also the various officers for the effective performances relative to the welfare of the institution.

The usual complimentary votes concluded the proceedings.

ROYAL PARKS AND GARDENS IN ENGLAND IN 1738.

At a time when a stir is being made in and out of Parliament, touching public parks, gardens, and thoroughfares,—their abridgment and their enlargement, the following royal sign manual warrant, now first published (George II. king), in which the dimensions of several of them are laid down to a nicety of acres, roods, and poles, will be read with interest. Possibly some reader of the *Builder* who is skilled in measuring land (and the *Builder* must have many so accomplished) will kindly compare the parks as they exist in 1864, with the parks as they existed in 1738.

Charles Bridgman died of a dropsy at his house at Kensington, on the 19th July, 1738, and Henry Wise (London & Wise), at Warwick, on the 15th of December in the same year. What became of their papers, plans, &c.? They must have been both curious and abundant. Wise, it was said, died worth 200,000*l.*! Who was Samuel Milward? John Kent was no doubt a relative of William Kent, the architect.

Peter Cunningham.

"George R.

Whereas, we are minded that our Royal Gardens at St. James's and at Kensington, which, with the rest of our Royal Gardens, were lately under the conduct, care, and maintenance of Charles Bridgman, *deceased*, shall for the future be severed from the rest of our said Royal Gardens, and be under the conduct, care, and maintenance of a person specially to be appointed for that service, and accordingly we are graciously pleased to nominate and appoint Samuel Milward to be our chief gardener of our said Royal Gardens at St. James's and Kensington, which contain 172 acres, according to the particulars thereof hereunder specified,—that is to say:—

	a.	r.	p.			
At St. James's.						
The Garden				1	3	11
At Kensington.						
The Old Gardens, from the greenhouse down to the road	17	1	22			
The new plantation, kitchen garden, conch-court, and piece before the stoves	38	0				
The new paddock, with all the walks, lawns, wood, and other quarters contained therein, together with 8*a.* 2*r.* 32*p.* of gardening, called Bays Water Gardens, some time since purchased of — Seymour, esq.	114	3	7			
Making in the whole				170	0	29
				172	0	0

And we are further graciously pleased to grant and allow that the said Samuel Milward shall have and receive after the rate of 15*l.* per acre for the whole charge of keeping, maintaining, and upholding the said 172 acres in the manner and method prescribed by the scheme executed under his hand and seal, which is hereunto annexed, and that the said allowance of 15*l.* per acre, which may be reckoned to amount to the sum of 2,580*l.* by the year, shall commence and be accounted payable unto him from the day of the death of the said Charles Bridgman exclusive; and we are further graciously pleased to grant and allow that the several garden-houses, sheds, and places heretofore used and possessed as belonging to our Royal Gardens afore described, shall be had, taken, used, and be, and remain in the possession of the said Samuel Milward, for the use of himself and servants during his continuance in the said office of chief gardener. And, moreover, our will and pleasure is, and we do hereby authorise, direct, and command you to pay, or cause to be paid, unto the said Samuel Milward or his assigns, by the hands of the 'paymaster of our works' for the time being, the said yearly sum of 2,580*l.*, from the day of the death of the said Charles Bridgman, as aforesaid, by quarterly or other payments, as you shall think fit, for and in consideration of his service, care, pains, and expenses in ordering, maintaining, and keeping up our Royal Gardens afore described, according to the terms, conditions, and agreements in the said scheme contained. And our further pleasure is, that this our warrant, and the scheme thereby referred to, be entered with the 'Surveyor of our Gardens,' to the end he may have full cognizance thereof, and take care, from time to time, that the said Samuel Milward do well, truly, and effectually comply with, execute, and perform the said scheme in all things thereby stipulated; and that we be not burthened with any expenses relating to our said Royal Gardens, contained within the said ad-

measurement as aforesaid, other than such as by the said scheme are agreed to be borne and defrayed by us; and that the said warrants and scheme be also entered in the 'office of our Works,' to the end of the officers of 'our Board of Works' may strictly regard our service in all things appertaining to them: and for so doing this shall be your warrant. Given at our Court at Kensington, the 17th day of August, 1738, in the twelfth year of our reign.

By his Majesty's command,
R. Walpole,
Sundon,
T. Winnington.

To the Commissioners of our Treasury."

"George R.

Whereas, we are minded that our Royal Gardens at Windsor and New Market, which with the rest of our Royal Gardens were lately under the conduct, care, and maintenance of Charles Bridgman, deceased, shall for the future be severed from the rest of our said Royal Gardens, and be under the conduct, care, and maintenance of a person specially to be appointed for that service; and accordingly we are graciously pleased to nominate and appoint John Kent to be our chief gardener of our said Royal Gardens at Windsor and New Market, which contain 6a. 3r. 16p., according to the particulars thereof hereunder specified,—That is to say:—

	a.	r.	p.
At Windsor.			
The Kitchen-garden	0	0	33
The Fruit plantation next the wall in Mastrick*	2	3	30
The little House-garden	3	0	33
	6	1	16
At New Market.			
The Gardens	0	2	0
	6	3	16

And we are further graciously pleased to grant and allow that the said John Kent shall have and receive after the rate of 15*l.* per acre for the whole charge of maintaining, keeping, and upholding the said 6a. 3r. 16p. in the manner and method prescribed by the scheme executed under his hand and seal, which is hereunto annexed, and that the said allowance of 15*l.* per acre, which may be reckoned to amount to the sum of 102*l.* 15*s.* by the year, shall commence and be accounted payable unto him from the day of the death of the said Charles Bridgman exclusive. And we are further graciously pleased to grant and allow that the several garden-houses, sheds, and places heretofore used and possessed as belonging to our Royal Gardens afore described shall be had, taken, used, and be and remain in the possession of the said John Kent, for the use of himself and servants during his continuance in the said office of chief gardener. And, moreover, our will and pleasure is, and we do hereby authorize, direct, and command you, to pay, or cause to be paid, unto the said John Kent, or his assigns, by the hands of the 'paymaster of our works' for the time being, the said yearly sum of 102*l.* 15*s.* from the day of the death of the said Charles Bridgman, as aforesaid, by quarterly or other payments as you shall think fit, for and in consideration of his service, care, pains, and expenses, in ordering, maintaining, and keeping up our Royal Gardens afore described, according to the terms, conditions, and agreements in the said scheme contained. And our further pleasure is that this our warrant and the scheme thereby referred to be entered with the 'surveyor of our gardens,' to the end he may have full cognizance thereof, and take care from time to time that the said John Kent do well, truly, and effectually comply with, execute, and perform the said scheme in all things thereby stipulated; and that we be not burthened with any expenses relating to the our said Royal Gardens, contained within the said admeasurement as aforesaid, other than such as by the said scheme agreed to have been borne and defrayed by us; and that the said warrant and scheme be also entered in the office of our Works, to the end the officers of our Board of Works may strictly regard our service in all things appertaining to them: and for so doing this shall be your warrant. Given at our Court, at Kensington, the 17th day of August, 1738, in the twelfth year of our reign.

By his Majesty's command,
R. Walpole,
Sundon,
T. Winnington.

To the Commissioners of our Treasury.

* A place so named by the Duke of Monmouth, and much ridiculed at the time and long after.

CHARING CROSS RESTORED.

An enthusiastic correspondent expresses wide wonder that we have not, "like all the rest of the press," praised the Charing Cross Hotel Company's "pretty idea" of setting up a restoration of Charing Cross (the cross of the *chère reine, perhaps*), in front of their hotel. Well, the fact is, we are not bound to speak of everything; and as we are unable to go with "the rest of the press" in this instance, we were contented to say nothing. It seems to us a mistake in two ways; pretty as the idea is. If Charing Cross is to be restored it has no business on this spot, unless it is to be regarded merely as a sign; and in the next place it is filling up space where there is none to spare, and will be found a nuisance before long. It will doubtless be done well: the name of the architect directing it is sufficient assurance of that; but, like the Wellington Clock Tower at London Bridge, its removal is merely a question of time.

ART-EXHIBITION AT MALINES.

An Exhibition of Works of Art, of the Mediæval and Renaissance periods, on loan from churches, convents, corporations, guilds, and private collections, will be held in Malines, to open on the 29th inst., and close on the 25th September. It will form the richest collection of works of Flemish art, we understand, ever yet brought together. Very many of those belonging to convents are not to be seen without great difficulty at other times. The practical carrying out of the Exhibition has been entrusted to Mr. Weale, of Bruges, who is also charged with the editing of a catalogue, divided into ten sections, each arranged chronologically. M. Edouard De Bleser is the secretary.

RACE-STUD-STABLES AT NEWMARKET.

An extensive range of stables for the accommodation of race-horses is about being built, under the direction of the Newmarket Hotels Company, who have commenced operations, and obtained possession of the Rutland Arms Hotel and land adjoining. The first block of buildings will consist of about 100 loose boxes and stalls, with residence for stable groom, coach-houses, granaries, boys' dormitories, drying room, boiling house, lavatories, and other conveniences, to render the establishment complete. The loose boxes are planned 18 ft. by 10 ft. and 13 ft. high, the stalls each 6 ft. 3 in. wide and 18 ft. deep. The whole are ventilated, and drainage is provided. The water supply will be formed by collecting the rain-water from the roofs in four large reservoirs, with filtering apparatus, and pumped up at different points as required. The mangers, fittings, division-heads, and sills, will be of iron enamelled, and will be constructed especially for these stables by Messrs. Johnson, Bros., of London. The total cost will be about 10,000*l.*, and there is little doubt they will bring income to the company, as superior accommodation is much wanted in this training nursery for English race-horses.

Plans have also been prepared for the entire remodelling and additional accommodation and improvements at the Rutland Arms Hotel.

The works are being carried out under the superintendence of Mr. John D. Ellis, architect, London.

RAILWAY REFORM.

THE TRIM OF TRAINS IN TRANSIT.

The two modes of ensuring something like safety to passengers, to which we lately drew attention as probably the best on the whole which can be suggested, namely, either a regular watchman's beat along the train, or, short of that, glass compartments, have both been adopted by the Board of Trade in a circular just issued to the secretaries of railways. In this communication the lords of the committee of Privy Council for Trade, by their secretary, Mr. Booth, say:—

"Several expedients have been suggested as calculated in some degree to further the desired object.

One expedient for guarding against offences in railway-carriages which has been proposed, is that of placing windows between the compartments of each carriage. As these windows might be provided with curtains (?), the privacy of the carriages need not ordinarily be interfered with.

As an expedient for providing means of communication between the *guard* and the *passengers*, it has been suggested that every vehicle forming part of a passenger train should be furnished with a footboard and handrails, which would admit of the guard (or, in case of emergency, other persons) passing along the train.

It appears to my lords deserving of consideration whether this expedient, guarded, of course, by carefully-framed regulations to prevent abuse, might not be generally adopted with very beneficial effects.

The use of a cord running along the train, by means of which the *guard* can attract the attention of the *engine-driver*, has now existed on some lines so long as to prove that there is no difficulty in *its* application.

I am to request that my lords may be favoured with the opinion of the directors as to the practical value of arrangements of the nature specified, and also with any suggestions which the directors may think adapted to accomplish the ends which my lords have in view.

I am also to request that my lords may be informed what means are in practice on your line for effecting communication between different portions of a train while in motion."

It is to be earnestly hoped that this communication will lead to a complete reform in the present mal-arrangements. Indeed, something *must* be done. The public will not submit any longer to be robbed and murdered merely that the pockets of railway shareholders may be spared. Should railway directors refuse to do anything effectual now, they may find themselves in the not very pleasant predicament of being charged with being accessory before the fact to some of those grave crimes which are only rendered possible by their inexcusable neglect to provide the public with the sure means of preventing them.

Before many years have passed, indeed, the working management of our railways must be greatly changed and improved in more ways than one in order to prevent a large and increasing loss of human life and damage to human limbs. To a remarkable extent the railway system is spreading in all directions, and the spaces which at one time were thought far more than sufficient for any traffic which might be required at termini, stations, and junctions, are now found to be dangerously restricted. In many instances the chief stations have become crowded scenes of confusion, and the junctions places of extreme danger; take, for instance, the Stepney junction on the North London Railway, through which the trains run to and fro in various directions with startling rapidity (we would like to know how many trains pass the platform in a day, and the average number of minutes which elapse between each). It is clear to the most casual observer, that, in order to prevent some terrible calamity, everything depends upon the vigilance of two or three persons: a single instance of want of carefulness or watchfulness on their part, or the least failure in the signals, must inevitably lead to serious damage. We are bound to say, however, that this station seems to be managed with both ability and watchfulness; and that the master, in his activity and politeness, is a sort of Palmerston of station-managers. It is satisfactory to observe throughout the length of this line, the improved civility of all the officials—since, in years past, we were obliged more than once to complain of want of attention and rudeness of manner. The announcement of the various stations is also far more distinct than formerly. But it is not specially with those who have direction of railway traffic that we have now particularly to do: it is rather with the general system, which causes congestion and confusion at so many points,—which, in an ill-judged spirit of economy, causes one junction or station to be applied to far too many uses, and prevents the introduction of necessary alterations in carriages and signals. The underpayment and overworking of those *employés* to whom, in the present state of affairs, the lives of the public are mainly intrusted, is another point urgently needing reform.

When glancing at the growth of the English railways, it is worth while to remark, that all the arrangements were in a great measure the result of chance, and the offspring of necessities which were developed by degrees, as an entirely new plan of conveyance was brought into working trim. Just as the noblest orders of our architecture are the development and improvement of the simple and rude wooden houses of antiquity, so the carriages, &c., on our railways are the promptings of peculiar requirements, which however, in principle, have been but little changed. When George Stephenson planned the Stockton and Darlington Railway, it was intended almost entirely for the conveyance of coal and other minerals. It was little thought, in those days, that the railway would supersede the stage-coach in the conveyance of passengers; but when this line was opened, workpeople and persons going to and fro on market-days, availed themselves, in the first instance, of a

passage on the trucks, without payment. The demand for this manner of travelling suddenly increased, and a charge was made; but, for a long time, there were not even covered carriages for passengers, although for goods which required care covered vans were provided, which were made without any attempt at ornament or the picturesque in form. They were simply large boxes made of sufficient strength to suit the intended purpose; and even now the chief part of the railway passenger-carriages have been but little changed in their general plan. In England, where the railway system was originated and brought into working order, the arrangement of the carriages is not so good as in many places abroad where improvements on our more antiquated system have been made. Here we, by chance, were led to adopt a plan of the moment, and have stuck to it, repudiating improvement. It is to this that attention should now be especially directed: the various incidents which have excited the public notice during the last month or two, show the necessity for this; and the pages of the newspapers contain all kinds of suggestions of means for meeting the evil. The chief difficulty seems to be the cost which would be required to alter the carriages now in use, or to replace them with those of a better construction; but, as we have said, something *must* be done; and it is to be hoped the Board of Trade will persist in the effort to induce railway directors to do what is so urgently requisite.

Sir,—The adoption of curtains in the carriages of the South-Western Railway to the glass panels which were proposed originally in your journal, appears to me to be quite unnecessary, and in some cases would destroy the whole proposition. For instance, in a second-class carriage there are four compartments: suppose there was a commotion in one of the middle compartments, the two adjoining ones might be empty, and then the passengers in the other could not see through because the curtains were drawn. The public had much better give up a little privacy for the sake of greater security. A. R.

ST. DAVID'S CATHEDRAL.

Renewed efforts are now being made to obtain funds for the reparation of the tower and the restoration of the choir. The tower is in a very dangerous condition, as may be judged of from the following passage in a report made by Mr. Scott in 1862, on which the chapter are now seeking to act:—

"The present condition of the tower is in the highest degree alarming, and till it is restored to a state of security, it is quite useless to think of any extensive reparation of other parts of the building.

The western piers consist each of two portions, the parts toward the nave belonging to De Leia's work of the twelfth century, and those toward the transepts having been added after the catastrophe of 1220. Of these, the elder or western portions are literally, at least so far as they are open to examination, shattered to fragments, and the same process has extended itself in a less degree into the later or eastern parts of each pier; in fact, the only security which the tower has from actually falling, is the buttressing it sustains from the walls of the transepts and the nave, though the latter have themselves severely suffered under the undue pressure thus brought upon them.

The arch facing the nave is very much injured, and the wall which it sustains, up to the commencement of the latter stages, is utterly disintegrated; so much so as to render it dangerous very closely to investigate the defects: and the same state of disintegration extends itself some feet into the north and south walls, but especially the former, which is at this point crushed throughout its whole thickness.

It will be seen from what I have stated, that the whole remaining portion of the first tower is crushed and left at the mercy of the various walls which abut against, and so to speak, bolster it up; and that this terrible failure extends itself to a certain distance into the later, and, in themselves, better constructed portions; in fact, that of the four supports of the tower, two are sound, and two wholly untrustworthy.

The upper stages of the tower appear to be, in themselves, strong and substantial; but, being well supported towards the east, and ill towards the west, it naturally follows that a frightful crack runs up the north and south sides.

These cracks, however formidable they may appear, need not cause alarm as to the actual strength of those upper walls through which they pass; but, as sympathetic of the radical evil which exists below, they are only too significant. I need hardly say, that to remedy the tremendous failure which I have just described, will be a very difficult and very costly operation. It would be madness, in such a case, to attempt any repairs without the previous introduction of such a system of shoring, as would, if necessary, be capable of sustaining the entire load which now rests upon the damaged piers. It would be useless in this report to give any detailed description of such a system of shoring. I have, however, most carefully considered it, and, I believe, see my way pretty clearly to its construction.

The general course to be followed would be this:—

First, to bind together the walls of the upper stages of the tower with massive ties of iron, aided by stays of timber, so as to render it impossible for the walls to spread. Then to construct incompressible foundations, on which the shoring is to rest. Thirdly, to erect shoring of the most massive description under the north and west arches (the south arch remaining walled up as at present) and against the two western piers,—constructed on such a system (as before stated) as would be capable, if necessary, of sustaining the whole weight of that side of the tower.

After this would commence the operation of reconstructing, in a greater or a less degree, as may be found requisite, the two western piers. This would be done very gradually, and in small portions at a time, a moveable system of shores being used to sustain the work in immediate contact with the parts operated on, and capable of being shifted from time to time as the work rises. In this manner one pier, with the walls immediately insisting on it would be repaired (indeed in a great measure reconstructed), and then the other would be undertaken in a similar manner, the main shoring remaining untouched till the entire work is accomplished.

This operation, I may mention, has been successfully performed in several instances, as at the cathedrals of Hereford and Bayeux; at Sherborne Minster; at the churches of St. Mary at Nottingham, St. Mary at Stafford, and at Aylesbury. The structural defects in the upper portions of the tower will be readily repaired when the supporting piers and arches have been rendered substantial."

At a meeting of the building committee, on the 23rd ult., it was reported that 8,309*l.* had been subscribed by 137 persons. There were four tenders produced, as follows:—

Names of Contractors.	First Division.	Second Division.	Third Division.	Fourth Division.	Total.
Pollard.....	8,468 0	2,120 0	2,883 0	510 0	13,990 0
Hood & Son...	9,550 6	2,355 14	3,363 19	544 0	15,813 19
Williams	10,238 19	2,472 16	3,442 11	485 1	16,639 6
James & Price	10,476 0	2,921 0	3,602 0	385 0	17,384 0

The first division comprised the lower part of the tower and the choir.

The second division comprised the upper part of the tower.

The third division comprised the choir aisles and the choir arcades.

The fourth division comprised the dry areas and drains.

Mr. Pollard's tender was accepted, with an instruction to complete the first and fourth divisions before proceeding with either of the other two divisions. The meeting resolved that the work should be commenced at once.

It is hoped that all friends to the restoration of the mother church of Wales, and of one of our noblest cathedrals, will lose no time in sending a subscription.

MEMORIAL TABLETS, LONDON HOUSES.

PRESERVATION OF SITES.

One of many correspondents on this subject writes,—Amongst notable residences let me remind you of the house where Milton resided in the latter period of his life in Petty France, Westminster. In an upstairs parlour in this house, overlooking St. James's Park, he wrote the last books of "Paradise Lost." It became the property of Jeremy Bentham, who placed a tablet over the door, with this inscription,—"Sacred to John Milton, Prince of Poets."

It is pleasant to read in your pages the notes of acquiescence which come in favour of a suggestion which has been so long since urged in the *Builder*. In the best of causes it is generally a difficult thing to move public opinion in its favour: it requires a strong force to put a large ball into motion; but the impetus once gained, the onward movement is comparatively easy: so it is hoped it will be in connexion with the subject which you now advocate. Just now twenty earnest persons banded together for the purpose of carrying out a system of marking the London houses of eminent men and *women*, would soon have the strength of their force increased, and a sufficient revenue at their disposal for carrying out any useful purpose.

Worthy as is the task of noting the houses of famed personages, the attention of such a society as you have hinted at might be well directed to the marking of the sites of buildings, &c., which, having a historical or other interest, have long since passed away. Why, for instance, should there not be placed on the old gateway of St. John's-square, Clerkenwell, not only some particulars of the *Gentleman's Magazine* (the most venerable of our monthly magazines), and of Dr. Johnson's connexion therewith, but also that "on the site where the modern houses to the north of the gate stand, there existed, in days gone by, the stately palace of the once powerful and wealthy order of the Knights of St. John of Jerusalem?" Scores of other sites might be mentioned, the marking of which would give rare interest to many of the metropolita thoroughfares. But besides these matters ther is another duty which the society of the preser generation owes to the next and succeedin ones, *and this is to endeavour to preserve the hi torical land-marks which now exist.* Within th boundaries of the City of London there are mar stone marks of very great interest, which, with out any effort being made for their preservatio are rapidly passing away from the view. number of these are most interesting records the Great Fire of 1666, and of important even of various dates. The variety of those stone re cords is as great as is their growing curiosit The *Builder* has referred to several of these, bu many more old historical land-marks should b attended to. The very circumstance of a societ being established for the preservation of thes things, would move even corporate authorities t do their duty.

Such a society as is shadowed forth, but whic it is hoped will soon become a substance, woul also affect the custodians of churches, chapel &c., in which are inscriptions which cannot b well made out. In consequence of the want attention to keeping clean the particulars these bequests, the poor are often cheated, an the intentions of kindly hearted individua frustrated.

Besides, if we in London set an example in th way, there is the hope that throughout th provinces there may be a spirit of the sam kind shown, and that in large towns not of famous interest may in the same way b preserved. There is more than I can say wi come to your mind in connexion with this su ject; but in conclusion I would suggest, tha notwithstanding the claims upon your tim you might be willing to act personally in co nexion with this movement.

A London Wayfare

SANITARY MATTERS.

Grantham.—The report of Dr. Bristow, th Government inspector, sent down to Granthar a short time ago, was read by the town clerk a recent meeting of the council. Dr. Bristo alludes to complaints, made by some inhabitan of the town, as to the water, the quality of th gas, and drainage. He considers that when th water was pumped from the river it may ha been injurious, but that on his visit it was good quality. He attributes the fever whi prevailed before he came to the state of some the cesspools, but states that the evil had be abated by the means adopted for the purpose. H recommends the adoption of the Local Gover ment Act, or the adoption of the Board Health Act; and that Spittlegate and Litt Gonerby should unite with Grantham in carr ing it into effect.

Whitehaven.—Mr. Hawkshaw's delay, sa the local *Herald*, in forwarding the plans a specifications for the sewerage of Whitehave has induced the trustees to pass a strong resol tion; and the writer then goes on to say: "Though we confess to a feeling that we shou not now like to see the streets of a town whi is veritably 'built upon one great middl opened up until the fierce dog-heats and dam of autumn are passed, yet we would urge up the trustees the propriety of having all ready begin the work as soon as may be advisab The fever of last year still hangs, we regret learn, over the whole union, though not in epidemic form; and the Board of Guardians, their meeting on Thursday, prudently resolv to issue placards, calling upon the public to s to the removal of all nuisances, and informi them how to proceed about it. We hope t Trustees' Sanitary Committee are directing the attention to the same thing in town."

Dronfield.—A correspondent of the *Sheffi Independent* requests liberty "to call the atte tion of that slumbering body, the Dronfield Loc Board of Health, to the fearful state of the to for the want of water. The chief supply depending upon one well; and during the fo and-twenty hours it is never without watche waiting for a supply, which has to be ladled o often mixed with mud. The Board has much answer for, on account of this great want of o of the most essential necessaries of life; and responsible, inasmuch as it could have been p vented, had the necessary duties, which call that Board into existence, been performed. T town has been taxed and rated, but its presc state will show that nothing has been done. T

people, without exception, regret the Act which gave them a Local Board."

Rotherham.—The inhabitants of this town, who, with new water-works, have suffered so much from want of water, have now every reason to hope that the works which are to bring into the town an abundant supply, will soon be commenced. The supplying of the pipes has been entrusted to the Stavely Iron Works Company. The contract of Messrs. Chadwick & Thirlwall, builders, Masbro', for constructing the reservoirs, excavating the trenches, &c., has been finally accepted. The Board of Health have succeeded in making arrangements for the possession of the land through which the pipes will pass, and the money required for executing the works has been obtained. The contemplated scheme promises a more plentiful supply of water than was at first anticipated. Cases of fever, however, especially in the neighbourhood of the Holmes, and other densely-populated parts, are, meantime, again becoming numerous, and doubtless will become more so should the present hot, dry weather continue. It is hoped the present board will use every exertion in pushing forward a scheme which promises to do so much for the cleanliness, health, and comfort of the inhabitants of the town.

Wallsend.—The inhabitants having determined on applying the provisions of the Local Government Act to their township, the necessary preliminary arrangements were taken; and a meeting for the purpose of settling the boundaries of the district has been held, Mr. Morgan, the inspector appointed by the Home Secretary, being present. The petitioners were represented by Mr. Hodge, of Newcastle: Mr. Kewney appeared on behalf of those who opposed the introduction of the Act. After the views of both parties had been set forth, it was agreed to endeavour to obtain the sanction of Sir George Grey to an arrangement that the whole of the township should be included in the boundaries.

Sevenoaks.—Few towns in England, with a greater need for a supply of water, have it yet more abundantly around them than Sevenoaks, and frequent unsuccessful attempts have been made to bring it into the town. A new company is now being formed to supply this necessary want, with a capital of 12,000*l.*, more than half of which has already been raised, and the directors only ask for two-thirds of the amount to commence with. The water is to be raised from a shaft connected with the tunnel on the new South Eastern Railway, the water, of which there is a most abundant supply, now running to waste. It has been analysed and found, it is said, to be of an excellent quality. The directors hold out the inducement of a 6 per cent. dividend to shareholders.

CONTINENTAL NEWS.

Vienna.—The cross which is to surmount the spire of St. Stephen's Cathedral will be fixed, with great ceremony, on the 15th of this month. We have already adverted to the enormous finial which is now being put up, and which measures 15 ft. across. The ball and cross which will surmount this finial are being manufactured at the works of the Southern Railway. The former consists of eight pieces of wrought iron, rivetted together, over which is laid a thick covering of copper: it is 3½ ft. in diameter, and weighs 12 cwt. The cross weighs 3 cwt. Before the present restoration the tower and spire rose to a height of 439 Vienna feet (455 ft. English), but now an additional height of 15 ft. has been gained, whereby it obtains the first place, in point of height, amongst the towers of Europe. Strasbourg is 466 ft.: Ulm would have been 491 ft. high, but was never finished.——The committee appointed to inquire into the proposed scheme for building new Houses of Parliament has given its opinion in favour of two separate buildings. They advise the erection of the upper house on what is called the Burg-ring, near the barracks of the Hungarian Guard, whilst the lower house is to be built opposite the Opera House.—— The Vienna Society of Arts has collected 15,000 florins for the purpose of ornamenting the Elizabeth Bridge with statues; but it is stated that 7,000 florins more will be required, making a total of over 1,800*l.* The stone chosen for the eight figures to be placed on this bridge, was taken from the quarries near Pola, in Dalmatia, and is now being worked by various Vienna artists.

Berlin.—Already the late success (?) of Prussian arms has produced a work of art intended to commemorate the Danish campaign, Schultz, a sculptor, of Berlin, having composed a group which will probably find a place in one of the parks. The subject is Borussia seated, and crowned by Victory. On either side are two warriors, sheathing their swords.——The new Orangery at Sanssouci is about to receive twelve marble statues, 8 ft. high, representing the months of the year.

Munich.—Mr. Schnorr von Carolsfeld, director of the Royal Academy of Painting at Dresden, has received the commission to finish the remaining frescoes in the Nibelungen galleries of the Palace at Munich.——The public subscription for the national monument to the late king had reached 16,000*l.* at the end of May.

Stuttgart.—The budget for 1864 contains an item of 66,000*l.* for the purpose of erecting a public library, and strong rooms for state papers. The sum was granted without opposition.

Holland.—At Valkenburg, between Aken and Maastricht, in Holland, the remains of an ancient camp have just been discovered. The work of excavation is being carried on systematically and with vigour, and has already led to some important results of antiquarian interest. A number of human bones, Roman helmets, swords, and other arms, have already been brought to light. Amongst the articles discovered is a valuable ring of massive gold, ornamented by a large ruby.

Gotha.—The first stone of the new museum was laid on the 9th of July. It is expected that the building will be completed in three years.

FROM SCOTLAND.

Perth.—Her Majesty will inaugurate the colossal statue of the Prince Consort, which is now nearly ready to leave the hands of the sculptor, Mr. William Brodie, R.S.A., Scotland. The statue, which is 9 ft. in height, is carved out of a single block of freestone from Redhall Quarry. It will stand upon a pedestal 13 ft. high, the total elevation being 22 ft. The site is on the North Inch, at the west end of the bridge—one of the most prominent and favourable in the town. The statue represents Prince Albert as attired in the robes of the Order of the Thistle. The right hand, which rests on a square-shaped column or pedestal, holds an open scroll, on which is traced an elevation of the Great Exhibition Building.

Selkirk.—Though for a year or two past no unusual activity has characterized the building trade here, there has been nothing like slackness either. The new bank of the British Linen Company, though somewhat ill situate, being only seen to advantage in front, has improved the appearance of the Market-place. Several of the old-fashioned houses have been taken down and replaced by new and better ones, particularly at the east end of High-street, the Back-row, and in the West Port. Then there are the waterworks for supplying the town with water; and there are to be alterations upon the county jail, estimated to cost about 1,100*l.*; a new burgh school, at a cost of about 600*l.*; and alterations on the parish school, at an expense of 200*l.*

Inverness.—New accommodation has been provided for the volunteer force of Inverness by the completion of the alterations and repairs on part of the old buildings at the citadel with the view of converting them into suitable barracks for the use of the artillery battalion. Many of the stones of which the walls of the building are composed are supposed to have been the last few remaining exposed of the ruins of Cromwell's fort erected on this site in 1652-7, and demolished at the time of the Restoration. The internal arrangements of the building comprise a lofty drill-hall, 62 ft. by 21 ft., and above a large armoury, with reading-room, to be supplied with periodicals for the constant use of the members of the force. Other small rooms are attached for the storing of material, and house accommodation is provided in the building for quartermaster and drill instructor.

Elgin.—The plans for the new court-house, prepared by the Messrs. Reid, architects, Elgin, having been formally approved, a meeting of the county was summoned for the 25th July, for authority to be given to enter into a contract for the construction of the works. The estimated expense is about 6,000*l.* The Treasury, before which the offers have been laid, recommend, that the estimate of Mr. Stewart, of Peterhead, is the one which the Treasury recommend shall be adopted for the whole of the works. Mr. Stewart is completing the Banffshire Lunatic Asylum, and has also the contracts for the Elgin Union Poor-House, and executed the recent additions to the Aberdeen University. The local *Courant* says,—The new buildings are in the Italian style of architecture, and will stand to the east of the present court-house, with its front to High-street. They will also have another front to the east—towards a new street which it is proposed to open up from High-street to Greyfriars'-street, and in a line with the Abbey-street, which will form a direct communication from the County Buildings to both the railway stations. The front of the new building to High-street, to the level of the second floor, will be rusticated ashlar, relieved with mouldings; and immediately above the first plinth, in the central part of the building, there will be a set of eight Ionic pillars, with cornice and full entablature, surmounted by sets of enriched vases. In both sides of this central part of the building the windows are to be furnished with architraves and ornamented capes, having cornices over them corresponding with the cornice of the central part. The front to the proposed new street will be all of dressed ashlar, but plain.

IRELAND.

In Upper Sackville-street, Dublin, extensive wine stores have just been commenced for the Messrs. Gilbey & Son, the front of which, when completed, will be conspicuous. They consist of two dwelling-houses of considerable size, occupying together a width of about 60 ft.: the total depth from front to rear will be about 196 ft. The style of the front is Italian, but of a character in the treatment which is peculiar to the office whence this design emanates, exhibiting great freedom in the treatment of the details. The materials in the front will be picked yellow stocks, with limestone dressings: foliated flat ornament will be introduced on the windows and strings. Mr. W. G. Murray, of Dublin, is the architect. The probable cost is over 4,000*l.*

The Archbishop of Dublin lately consecrated a new church at Greystones, in the county of Wicklow. It is in the Early English style. The means available necessitated plainness of character. It is built of limestone, with open timber work in the roof, which, together with the seating, &c., is stained and varnished. The design was furnished by the architects to the Ecclesiastical Commissioners.

Mr. Dunville, J.P., of Richmond Lodge, county of Down, having lately lost a sister by death, is anxious to raise a tribute to her memory, and has undertaken to allocate the sum of 10,000*l.* towards improving the dwellings of the working classes in Belfast, and otherwise benefiting them both physically and educationally. Houses of a better description than ordinary, and of approved sanitary construction, will be erected, and let at fair average rents. This property will, it is believed, under good management, yield a reasonable rate of interest on the investment, and thereby farther promote the building of improved dwellings for the working classes. The trust fund, and all property connected with it, are to be invested in trustees, who are to purchase land within the extended boundary of Belfast, and to "build thereon, say 60 to 100 houses" of the description mentioned, the annual income from which may be calculated at 500*l.* a year, or upwards. A portion of this income is to be "applied, within the extended boundary of Belfast, to the promotion of the recreation of the working classes of Belfast," by means of athletic and other invigorating exercises, and also for the cultivation of music amongst working men.

The contract has lately been signed for the erection of a coast-guard station at Upper Cove, Kinsale, to accommodate 8 boatmen; having also a chief officer's house, a watch-tower, and a boat-house. The cost is 2,150*l.* The plans, &c., were prepared at the office of public works; Mr. Kenefick, builder.

County Carlow.—A country mansion has lately been completed at Mount Wolseley in this county for Mr. J. W. Wolseley, in the Classic style; and, from the ingenuity of the planning, is attended with an effect exceedingly picturesque. The apartments are of good size and proportion; the decoration of a refined character. The cost is about 6,000*l.* Messrs. Lanyon, Lynn, & Lanyon were the architects. Mr. Faircloth was the builder.

CHURCH BUILDING NEWS.

Little Amwell (Herts).—Since the erection and opening of the little church at Hertford Heath, a new transept has been erected by Mr. H. Norris, at a cost of 200*l.*; and stained glass windows, by Messrs. Hughes & Ward, of London, have been placed in the transept and in the apse. Texts have been inscribed over the chancel arch and in other parts of the building. An organ has been placed in the transept. The organ is of small size, the frame of stained oak, and the pipes gilt. The organ, which cost 150*l.*, is by Mr. G. W. Walker.

Bedford.—At a recent meeting of the restoration committee of St. Paul's Church, it was unanimously resolved to consult Mr. G. E. Street, architect, as to the present security of the tower and spire of the church, and the practicability and advisability of so raising and widening the tower arches as to unite in a proper and stable manner the nave with the chancels.

Boxgrove (Sussex).—The Priory Church is now in course of restoration, under the superintendence of Mr. Scott. Apart from re-seating and warming the church, the task is mainly that of removing deformities and securing stability. The Duke of Richmond, the vicar (Rev. W. B. Burnett), and the parishioners have contributed to the work; but, to effect everything designed, an additional sum is necessary.

Boston.—The preparations for the erection of the new church of St. James, in George-street, have at length commenced. The work, which has been let by tender, has been given to Mr. R. Ranyell, builder. The amount of his tender, which does not include floors and fittings, is 2,616*l.* The other tenders sent in were,—Mr. Sherwin, 2,895*l.*; Mr. Baker, 2,990*l.*; Mr. Whitworth, 3,050*l.*

Hunslet.—On the site of the old church of St. Mary, in Hunslet, but extending much beyond the original boundary, an entirely new edifice has been erected, and was recently consecrated by the Bishop of Ripon. The cost of the new building has been nearly 8,000*l.*, including everything, and all the necessary funds have been provided by Mr. Ingham, of Palermo, and his two sisters, excepting 1,300*l.*, which have been subscribed by parishioners and their friends for the especial purpose of purchasing land to be added to the former site for building a boundary wall, and providing an organ, peal of eight bells, and clock. The church is built of broached sandstone, is in the Geometric style, and consists of chancel, nave, north and south aisles, transepts, south porch, organ chapel at the south side of the chancel, vestry at the north side of the chancel, and tower and spire at the north-west end of the north aisle. The tower is 20 ft. square and 72 ft. high, with spire 84 ft. high; making the entire altitude of tower and spire 156 ft. The tower contains a clock with three dials and a peal of eight bells. The chancel is 31 ft. by 21 ft., and 33 ft. high; nave, 86 ft. by 22 ft., and 48 ft. high to the apex of the roof. It is divided from the aisles and transepts by six arches on each side, supported by clustered shafts, with carved capitals. The north and south aisles are respectively 12 ft. wide and 24 ft. high, and the two transepts are 30 ft. by 26 ft., and 42 ft. high, with double gables, each containing a three-light window with tracery heads. Over the nave arcading rises a clerestory, with a three-light window in each compartment. The east window is of five lights, and the west window of six lights, with elaborate tracery. Both are filled with stained glass, by Messrs. Clayton & Bell, of London. The nave roof is open to the ridge, and formed with curved ribs resting upon hammer-beams, supported by shafts and carved corbels. The chancel roof is boarded under the collar by beams of an hexagonal form, divided into panels by small moulded ribs, and enriched by an embattled cornice. The whole of the roofing is stained and varnished. The pewing is of stained deal. The church floor is laid with encaustic tiles, by Messrs. Minton & Co. The reredos and font are of Caen stone, executed by Messrs. Burstall & Taylor, of Leeds, who have also done the whole of the stone carving. The church is lighted by gas, by twelve coronæ suspended by the roof timbers, these being supplied by Messrs. Peard & Jackson, of London. The church will accommodate 856 persons, 528 free. The building has been erected from the designs of Messrs. Perkin & Backhouse, of Leeds, architects. The organ, which cost about 600*l.*, has been supplied by Messrs. Conacher & Co., of Huddersfield; and the other portion of the work has been executed by the following contractors: Masons' work, Mr. J. Hardwick, Hunslet; joiners' work, Mr. Wm. Britton; slaters' work, Mr. J. Lawson; plumber and glaziers' work, Mr. Thomas Bedford; plasterers' work, Mr. J. P. Mountain; painters' work, Mr. Wm. Nelson; ironfounders' work, Messrs. Singleton & Tennant, Leeds.

Jarrow.—Lady James has offered to take upon herself the restoration of the chancel and tower of the church of Jarrow, an offer which has been accepted. The exertions of the committee will now be confined to the obtaining of funds for the nave—the amount still to be raised being about 1,500*l.*

DISSENTING CHURCH BUILDING NEWS.

Dalston.—The foundation-stone of a new Wesleyan chapel has been laid, in Mayfield-terrace, Dalston, London. The building will include, besides the chapel, a school-room, 13 ft. high and more than 50 ft. square; four good-sized class-rooms for church purposes; a committee-room, and three rooms and offices constituting a chapel-keeper's residence, besides the chamber and fuel-store for the heating apparatus. The chapel will seat altogether 1,277 adults, and will have on the same level a minister's vestry, with dressing-room, &c., attached. The plan comprises a nave with an apsidal projection at each end: that at the back, or east end, is semi-octagonal, and forms the chancel, and that at the front or west end, is semicircular at the end, and contains all the entrances and staircases. Having school and class rooms below, the chapel is necessarily elevated above the street level. The main building is divided into five bays, and the gallery, which is three pews deep, is stopped at the east end with a cant, so as to leave a complete bay on each side of the chancel without any gallery, giving somewhat the effect of a cruciform arrangement, with the gallery sloping at the end of the side aisles, and leaving the transepts open. The design is Gothic of the Early French character, freely treated, and with some elements of the modern eclectic school, rendered in the simplest and most available materials, viz., picked yellow stock brick walling, relieved with bands, arches, &c., in blue Staffordshire, black and yellow malms, Bath stone dressings, with a few sunk columns in red Mansfield. The main building is covered with blue and red Bangor, in bands, and the staircase apse with Witland Abbey slates. The roof is constructed with principals and intermediates, formed with rafters, cross-braces, and iron tie-rods, and king-bolt, with cast heads and shoes, and divided into panels about 6 ft. by 5 ft. by purlins. The chapel, school, and class-rooms can be warmed either together or separately, by hot-water apparatus. The contract, which is inclusive of warming, ventilation, gasfitting, and boundary-walls, has been taken by Messrs. Dove, Brothers, of Islington, at the sum of 4,135*l.* The architects are Messrs. Bassett, Keeling, & Tyrie, of Gray's-inn, whose design was selected in a limited competition with six others.

Worcester.—The Baptist Chapel, in Sansome Walk, has been opened for divine service. The chapel is in the Middle-Pointed style. Its form is that of a cross, and the interior arrangement comprises a nave, aisles, and transept—the pulpit being in the centre of the transept—with a gallery for the choir, and vestries underneath, behind the pulpit in the head of the cross. The aisles are divided from the nave by arcades constructed of slender cast-iron columns, having floriated roof and wood arches. The columns are painted a deep blue, relieved with gilding at the capitals. The roof of the nave is open two-thirds of the way up, the wood arches, which are slight and numerous, coloured dark oak, and contrasting with the white spaces of the roof seen between them. The woodwork throughout is stained dark oak varnished. The windows are glazed with amber-tinted glass; and in the head of the cross, behind the pulpit, there is a four-light double trefoil window of stained glass. Exteriorly the walls are of a dark bluish brown stone, rough on the face, and laid in irregular courses; while all the groins, windows, doors, pinnacles, &c., are of a white Bath stone. At the front, rising from the bay on the left hand, there is a tower and lantern spire, rising to the height of 110 feet. The tower rises with a gentle slope inwards, perfectly plain, and then breaks into an open square lantern, having arched lights and slender shafts, and is surmounted by a tapered spire finished with a gilded metal finial or vane. There is a considerable amount of ornament, carved in stone, about the spire, the great front window, and over the buttresses; and the building, with the ground on which it stands, is enclosed by a low stone wall, with pillars, and in the intermediate spaces an iron railing. The site is in an open locality close by the pleasure grounds. The chapel is seated to accommodate 800; and galleries can be added along the sides of the nave without interfering with the design. The plans were by Messrs. Prichett & Son, of Darlington; and the building has been erected by Messrs. Wood & Son, under the superintendence of Mr. Johnson, of this city. On the vacant space of ground at the back it is intended hereafter to erect schools.

Montgomery.—The plans for the new Wesleyan chapel here, we understand, were prepared by Mr. W. H. Spaull, architect, of Oswestry.

STAINED GLASS.

Llanymawddwy Church (Merionethshire).—A stained-glass window has been set up in the chancel of this little church. The figures are, the Saviour, with the Agnus Dei; St. Tydecho, the founder of the church; and St. David, the patron saint of Wales. The inhabitants are indebted for this to Mr. E. Buckley, of Bryn and Plas Dinas, Baron of the Lordships of Mawddwy. Mr. Buckley had previously contributed largely towards the restoration of the church.

York Guildhall.—Shortly after the death of Mr. Ald. Meek, the City Council resolved that a subscription memorial window to the deceased should be placed above the Sessions Court in the Guildhall, to supersede the stained glass window there situate and designed by Gyles, a citizen of York. A design for the new window was prepared by Mr. F. Bell, of York, architect, and the tender of Messrs. Hardman & Co., Birmingham, was accepted for the execution of the work. The new window has now been put in. The stained glass of the old window will be shortly placed in one of the side windows of the Guildhall. The stone-work of the old window was in a very dilapidated state, and new mullions and tracery were fixed before putting in the glass. The fact prominently represented is the granting of the charter by Richard II. on the 18th day of May, 1396, and in the 19th year of his reign. By this charter his Majesty confirmed all the former charters, rights, and privileges of the city, and formed the city into a county by itself. The centre light of the window contains a full-length figure of Richard II., his left hand resting on the mace, "which he had before given to the Mayor," to use the words of Torr. On the right hand of Richard II. is William de Selby, who was Mayor for the third time in 1388-89, and was the first Lord Mayor. He is represented as having just received the sword. On the King's left is the figure of Sir William Frost, knight, who was the Lord Mayor in 1396-97, when the great charter of the city was granted; and is represented as just having had the document presented to him. The extreme right and left lights of the window have figures of the first two city sheriffs, namely, John More and Thomas Howden, and are holding books to indicate the law. All the figures are represented in the costume of the period of Richard II., in their gowns of office, and with beards and hair as worn at that time. They are placed under canopies, and on diapers of the same period as the architecture of the Guildhall. In the tracery are the arms of Richard II., with the crown, crest, cypher, cognizance, and supporters; the arms of the city of York, backed by the sword and mace, and surmounted by the Spanish hat; and the city arms as before impaled with those of the late Alderman Meek as Lord Mayor. The lower part of the window is filled in with the arms of five of the witnesses to the charter.

St. Peter's, Newcastle.—This place of worship has received another stained glass window, executed by Messrs. Hardman, of Birmingham. The window is a memorial one, and the subject introduced is "Christ Blessing little Children." The window has been erected by Mr. M. C. Woods, in memory of his little boy, and fitted up by Messrs. Lawson & Sons, of Newcastle.

Berwick Parish Church.—An addition is about to be made to the number of stained glass windows by the churchwardens, who find that the funds, aided by a subscription amongst themselves, will allow of the renewal of the window on the west side of the south door. The work will be done in a plain style, and it has been entrusted to Mr. Ballantyne, of Edinburgh.

THE BUILDING TRADES' MOVEMENT.

Manchester.—The carpenters and joiners at Manchester have given the employers notice for an advance of wages.

Darlington. — The bricklayers' labourers of Darlington have given notice to their respective employers that on and after August 1st, they demand a rise of 1s. per week in their wages. They have hitherto been paid at the rate of 20s. per week.

Paisley.—There is a strike among the masons at Paisley. The only difference is as to whether the men should go to the masters to receive their pay or the masters should go to them at their work. Their demand for an advance had been conceded.

COMPETITIONS.

Chester Town Hall.—At a special meeting of the town council, and on the recommendation of the committee, the premium of 100*l.* was awarded to the author of the design marked "Love's Labour;" and the premium of 50*l.* to the author of the design marked "Deva," as suggested by Mr. Digby Wyatt, provided the authors could guarantee that their designs could be adopted for the sum named by the council (16,000*l.*), or thereabouts. On opening the letters accompanying the designs, it was found that the author of "Love's Labour" was Mr. W. H. Lynn, Belfast; and of "Deva," Mr. E. H. Heffa, of Liverpool.

Walsall.—The mayor and corporation have lately printed and issued conditions to be observed by architects sending in designs for a town hall and gaol, from which precious document I extract two paragraphs:—

1st. "The council will not be bound to adopt either of the designs to which premiums shall be awarded, nor any other design; nor to employ the competitor to whom either of the premiums shall be awarded; but the premiated designs shall become the absolute property of the council, who may make use of them as they shall think fit."

2nd. "The designs, including full and detailed specification, must be delivered at the office of the town clerk," &c.

This plainly speaks for itself; and I have only to add that the premiums offered are not 500*l.* and 300*l.*, but 50*l.* and 30*l.*

AN ARCHITECT,
who will not trust himself to the justice of the worthy Mayor and Corporation of Walsall.

Books Received.

VARIORUM.

"Holiday Papers. By Harry Jones, M.A. London: Hardwicke, 1864." Some of these popularly-written papers, by the incumbent of St. Luke's, Soho, appeared in *Chambers's Journal*, *Once a Week*, and the *Leisure Hour*. They are both amusing and instructive. Not a few of them are on subjects in natural history, such as on "Our Feathered Visitants," on "Bird-murder," "Larks," "Rooks," "Starlings;" on "Dogs I have Known," &c. There is a great variety, however, of subjects, such as "Dreams," "Association," "Sight-seeing," "Nursing," "Sea-side Life," "Mobs," &c. In one on "The Language of Flowers," the silly affectation of ultra-learned names is thus justly and ably ridiculed:—"Can you picture to yourself a man going a-wooing with a 'Delphinium Doukekerii' in his button-hole? Don't you think snapdragon hardly an august enough translation of 'Antirrhinum Caryophylloides'? No humble bee would venture to show its nose in an 'Indigofera-coccinea endecaphylla;' and I should like you to tell me, off hand, what a 'Guiterezia gymnospermoides' smells like, or a 'cucumus aradac.'"——"Letter to W. P. Andrews, Esq., Chairman of the Euphrates Valley Railway, on the Importance and Necessity of the Establishment of the Euphrates Route. By Captain W. B. Selby. London: Allen & Co." The very important subject of the Euphrates Valley route to and from India is ably treated of in this pamphlet, which no one, we should think, can read without being convinced of its great advantages over the old route by the Red Sea. Politically as well as commercially the scheme is a most desirable one; and the Government are fully alive to its advantages. Had such a route existed during the Crimean war and during the Indian rebellion it would have greatly aided our military power; and in a commercial view the cotton famine would have been considerably mitigated by it. The commercial advantages to Persia and Turkey also, as well as to India and this country, would be great and mutual by the opening of such a route. The Arabs, it appears, are favourably inclined to it as an English project, though they would oppose it were it Turkish in its origin.

Miscellanea.

THE ADMIRALTY.—We understand that Colonel Godfrey Thomas Greene, Director of Engineering and Architectural Works at the Admiralty, has resigned the appointment which he has held for many years.

DESTRUCTION OF A LONDON CHURCH.—The parish church of St. Clement Eastcheap, situate in St. Clement's-lane, King William-street, is to be destroyed, an arrangement having been made under the Union of City Benefices Act, and with the sanction of the Bishop of London, for uniting the parish with that of St. Mary Abchurch.

THE LUDGATE-HILL VIADUCT.—An accident has taken place on Ludgate-hill. Several workmen were engaged in raising one of the iron girders, when unfortunately the chain broke, and the girder fell. Several of the workmen sustained severe, and, in one or two cases, it is feared, mortal injuries.

PROPOSED PUBLIC PARK FOR HANLEY.—At a public meeting, called by the mayor on a requisition of upwards of 800 of the inhabitants, for the purpose of considering this subject, appropriate resolutions have been passed promotive of the formation of a public park, and requesting the town council to obtain ground for the purpose. The sum contemplated as requisite is about 8,000*l.*

ALBERT MEMORIAL AT LICENSED VICTUALLERS' ASYLUM.—The memorial statue of the late Prince Consort in the grounds of the Licensed Victuallers' Asylum, Old Kent-road, will be inaugurated on the 9th instant by the Prince of Wales. The figure is of Carrara marble, and is upwards of 8 ft. high, the pedestal on which it rests being a block of Sicilian marble, the weight of which is ten tons, and its height a little over 6 ft.; the whole standing upon a granite base of 1½ ft. in thickness. The Memorial itself is, consequently, little short of 16 ft. in height. His Royal Highness is represented in the costume in which he appeared when laying the foundation stone of the Albert Wing: one hand is resting on a part of a Corinthian column: the other holds a scroll. The whole was designed and executed by Mr. Thomas Earle, of Brompton, at a cost of between 600 and 700 guineas.

THE PRINCESS'S THEATRE.—Some very remarkable scenery has been prepared by Mr. F. Lloyds, for "The Streets of London," a sensational melodrama, arranged by Mr. Boucicault, which has been produced at this theatre with great success; notably a view of Charing-cross, after a fall of snow, including St. Martin's Church, Northumberland House, Parliament-street, and the gaslamps, all built up and painted in the most effective and clever manner. Cabs pass and repass at a distance. The usual frequenters of the streets in the evening give additional force to the deception. Of its kind it is one of the best things that has been done, and the same must be said of the representation of a house on fire, which closes the second act. These scenes alone should draw visitors for a long time to come; moreover, the piece is very interesting, and Mr. G. Vining acts with unflagging vigour.

THE OPENING OF HAMILTON-PLACE.—With reference to this subject, noticed in our last, a correspondence has been issued in the form of a return to the House of Commons, from which it appears that the Metropolitan Board of Works, in stating their opinion in a letter to the Chief Commissioner of Works, that the opening up of Hamilton-place into Park-lane would afford the readiest and most economical means of relieving that thoroughfare, remark that inasmuch as the proposition would affect property almost exclusively belonging to the Crown, it is one which can only be effectively carried out by the executive of her Majesty's Government. In reply, Mr. Cowper assures the Board that he desires to assist them so far as he can in any project they may adopt for remedying the evil; but reminds them of the inadequacy of Hamilton-place to receive the great and increasing traffic which encumbers Park-lane. In conclusion, the secretary says,—"If the Metropolitan Board should, on consideration, be of opinion that other alterations do not afford greater advantages than the prolongation of Hamilton-place, the First Commissioner would request to be informed, before entering further into the subject, whether the Board propose to take upon themselves the expense of the proposed improvement."

THE HOTEL MOVEMENT.—The half-yearly report of the Westminster Palace Hotel Company shows an available balance of 7,057*l.* 17s. 2d., out of which a dividend at the rate of 8 per cent. per annum has been declared, leaving a balance of 1,857*l.* 17s. 2d. to the new account.

RIPON CATHEDRAL: DAMAGE BY THE WIND.—About two-thirds of the temporary screen erected at the west-end of the nave has been blown down. The accident was caused by the glass being out of the whole of the lower and two of the upper windows of the western front, which is now under repair.

NIGHT-CLASSES FOR DRAWING AT SOUTH KENSINGTON.—A minute of the Lords of Committee of Council on Education, drawn up in consequence of the report of the select committee of the House of Commons, promises an inquiry into the feasibility of establishing night-classes at South Kensington to teach drawing to persons who cannot attend established schools of art.

THE SARCOPHAGUS IN SOANE'S MUSEUM.—Mr. Bonomi has completed his drawings of the sarcophagus, and the work will be published immediately. The sarcophagus has been in the museum forty years, and now, for the first time, the curious writings on its sides and floor will be given to the world. We may then expect they will soon be deciphered by continental students or our own.

NEARLY TWO MILES OF FIRE.—A short time since a portion of the furze growing on Keston Common, in Kent, was wilfully set on fire, and it continued to burn in patches; but the recent high wind fanned the smouldering fires into other portions of the common, until at length the flames covered an area of nearly two miles. It was apprehended it might extend to the Fox Tavern, and also to some dwelling houses. One hundred men have therefore been employed to cut trenches, so as to prevent any further extension of the mischief.

THE SCHOOLS OF ART QUESTION. — At the interview which the deputation of managers and masters of schools of art had with Earl Granville, referred to in our last number, Earl Granville said that the system of payments on results must remain in force until the end of the financial year, as it would be impossible to introduce alterations until the next session of parliament—since the estimates for the present year had been based upon the system now in force.

NON-LIABILITY FOR STOPPING WATERCOURSE.—In the case of Roberts *v.* Rose the plaintiffs had obtained leave from the occupier and agent of the owner of certain land to make a watercourse over it. The owner subsequently leased the land to the defendant, who, as well as the agent of the owner, gave the plaintiffs notice to discontinue the watercourse. On their refusal the defendant stopped it at the place where it left the plaintiffs' premises, and it came upon the land of the occupier, and so caused damage. It was held by the Court of Exchequer, firstly, that the lease was a revocation of the licence; secondly, that the defendant was right in stopping it where he did, as the plaintiffs had failed to show that it could have been stopped elsewhere with less damage to themselves, to the defendant and the occupier, or any third person.

GOVERNMENT SCHOOL OF SCIENCE, CHESTER AND CREWE.—The students, under the care of Mr. Ellis A. Davidson, at the Chester and Crewe Science School, which has been recently grafted on the local school of art, have again been very successful in the science examinations, held in May last. In the subject of plane and solid geometry, fourteen schools of science have competed throughout the kingdom, and between them have achieved 246 successes, or an average of about 17½ each, whilst Chester takes thirty-three. Thirty-six students were presented from the Chester and Crewe schools, and thirty-three have been successful, thus contributing only three to the sixty-six failures which have taken place amongst the entire number of schools. Again, in mechanical and machine drawing, 154 successes are divided amongst twelve schools, or about 12⅞ each, whilst Chester and Crewe take twenty-two successes. In building construction, four first-class prizes have been given throughout the United Kingdom, and of these Chester takes two. There have been two second-class, and Chester takes one of these: there have been thirteen third-class, and Chester and Crewe take three of them. Besides these, Chester and Crewe also take prizes for animal physiology and zoology.

Railway Traffic Returns.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 16th of July, on 11,335 miles, to 689,597*l.*, and for the corresponding week of last year, on 10,921 miles, to 617,677*l.*, showing an increase of 414 miles, and of 71,920*l.* in the receipts.

Fall of Cupola, Russia.—The recently-erected cupola of the Church of the Transfiguration of St. Petersburgh came down on the 18th ult. with a terrific crash. The loss of life would have been comparatively limited had not crowds of townspeople forced an entrance into the edifice beyond all control from the police or military in immediate attendance. The concussion created by the falling dome in a short time brought down the whole structure, overwhelming several hundreds in the ruin.

Progress of the Wesleyans.—At the recent conference in Bradford, it was stated that during the past eleven years nearly 59,000 members have been added to the societies, after filling up the vacancies occasioned by death and other causes. About 580 new chapels and 250 new schools have been built, at a cost of 746,000*l.*, and nearly 470,000*l.* of chapel debts liquidated. More than a million and a quarter of money has been raised for Foreign Missions, and the Home Missions have an increased annual income of 6,000*l.* The Theological Institutions have received augmented support, and more than 400 young men have been ordained to the work of the ministry.

Clifton Suspension Bridge.—The bridge, it is expected, will be open for traffic early in October. The foundation stone of the structure was laid on the 27th of August, 1836, by the Marquis of Northampton, as president, on the occasion of the meeting, in Bristol, of the British Association for the Advancement of Science. This year the association holds its meeting at Bath, in September, under the presidency of Sir Charles Lyell; and it would be an interesting addition to the proceedings of that body if the bridge could be opened under its auspices in 1864. Great progress is being made with the roadway. The framework of the bridge is being painted, and a portion of the railings for each side of the footpaths is in hand. The road leading to the bridge on the Leigh or Somersetshire side is finished, and that on the Clifton side is in a forward state.

St. Martin's-in-the-Fields.—The principal transaction preserved of Dr. Lloyd, as rector of this now densely populated parish of St. Martin's-in-the-Fields, was his negotiation with Richard Baxter for his meeting-house. Some curious traits of the times are revealed by it. Oxenden-street was then building; and Richard Baxter erected there a place of worship for the use of his sect, but found the speculation disastrous, for Mr. Secretary Coventry instigated the guards of Charles II. to come under the windows and flourish their trumpets and beat their drums whenever Richard preached. Finding that not a word he said could be heard, and that remonstrating with these gentry was dangerous, Baxter sought to dispose of the building. Dr. Lloyd kindly introduced the affair to the vestry of St. Martin's. By his mediation poor Baxter obtained the handsome rental of 40*l.* per annum for the building from the vestry, and it was forthwith consecrated as a "Tabernacle" to St. Martin's-in-the-Fields.—*Churchman's Family Magazine.*

Public Improvements in Preston.—At a recent meeting of the Preston town council, a motion was made to the effect that application be made to the Poor-law Board for an order authorising a further advance of the sum of 15,000*l.* under the Public Works Act. During the discussion which ensued, the town clerk stated that in August last year the corporation got authority to borrow 28,500*l.* The sum of 10,000*l.* was to be advanced at the date of the order, to be followed by further sums when needed. The 10,000*l.* named had been expended in block paving, flagging, improvements at the Ribble side, and alterations of corporate property. Relative to private improvement expenses, he observed that by an order dated 24th October, 1863, power was given to the corporation to borrow 19,739*l.* The order in connexion with this authorised an advance of 5,000*l.*, with the remainder to follow. The sum of 5,000*l.* had already been expended, and now it was thought desirable to ask for 3,000*l.* more. The council agreed to borrow the 15,000*l.* alluded to.

Chapel Royal, Savoy.—A correspondent suggests, that an opportunity is now afforded of bringing the Chapel Royal, Savoy, into public notice, by *not* rebuilding the house in the Strand, which was destroyed, but leaving an open space, and placing a flight of steps the whole width of the chapel, with an iron railing in the Strand, and a central gate.

The Materials of the Brighton Hotel.—Before the first brick was laid, 11,500 yards of excavation had to be carted away. There are 800 rods of brickwork, or 3,500,000 bricks; 12,500 cubic feet of York and Portland stone; 450 tons of wrought and cast-iron; 470 loads or 23,500 cubic feet of timber; 30 miles of flooring; an acre and a half of Minton's glazed tiles; a quarter of an acre of encaustic tiles; an acre of sheet and half an acre of British plate glass; 15 miles of paper-hanging; 13½ miles of bordering; 6 miles of gas piping; 12 miles of bell-wire, and 5 miles of tubing, in the building. In the hotel proper there are 260 rooms, containing 230 marble chimney pieces, and from the top to the bottom of the grand staircase there are 128 steps.

So much per Acre, how much per Yard? Divide the *pounds* per acre by twenty and the answer will be the price per yard in *pence, plus* one-tenth of a penny per each shilling; and similarly to find the price per acre, multiply the *pence* per yard (adding one-tenth of a penny for each shilling) by twenty, and the answer is the price per acre in pounds. Ex.—1,815*l.* per acre÷20 gives 90 pence per yard. The use of the above formula is when a quick answer is required, as in a sale room or otherwise, where the fractions may be disregarded, only bearing in mind on which side they lie. It arises from the accidental circumstance that the number of yards in an acre is within forty of the number of pence in a pound multiplied by twenty.—W. I.

Robin Hood.—At the Nottingham meeting of the Lincoln Diocesan Architectural Society, among the proceedings subsequent to our notice of last week, an interesting and curious paper by Mr. Planché, Rouge Croix, College of Arms, entitled "A Ramble with Robin Hood," concluded the proceedings in the Exchange Hall. Mr. Planché said he had pleasure in avowing himself a believer in Robin Hood, without holding "each strange tale" of that famous forester to be "devoutly true," or being fortunate enough to discover any very important fact in support of his opinion. He had satisfied himself that the objections of the dissenters are in no instance fatal, and that in many cases they were met by very singular circumstantial evidence. A good deal of this evidence Mr. Planché then went into; and in course of which he adduced the remarkable fact of the existence of a Robert Fitzooth, or Fitz Odo, of Loxley, in the reign of the second Henry. Indeed there was indisputable evidence, he remarked, of two Robert Fitz Odos or Fitzooths living in the twelfth and thirteenth centuries, the former of whom certainly, and the latter most probably, was lord of the manor of Loxley.

The Lenoir Gas Engine: "Steam superseded."—The engine invented by M. Lenoir, of Paris, under the auspices of the Imperial Gas Company of that city, and now in extensive use there, has been introduced into America, as appears from the *American Gas-Light Journal*, which thus describes it:—The Lenoir engine is in appearance and style very much like a horizontal steam-engine, having a cylinder, piston, crank-shaft, and fly wheel. The cylinder has the necessary slide arrangements for the admission of the gas (the ordinary city coal-gas, supplied from the service-pipes) and atmospheric air, in due proportions: the gas is ignited at the proper moment by the electric spark from a battery connected by wires to each end of the cylinder the connexion being made and detached by the rotary action of the crank-shaft. The expansive force consequent on the ignition, gives motion to the piston on each side alternately. The cylinder has a water-jacket surrounding it, through which a stream of water is kept gradually flowing, to keep it cool. The engine, once fixed, the battery charged, and the gas turned on, it is ready for action at any desired moment, needing no engineer to superintend its working; and as soon as the work required of it is completed, and the gas shut off, the engine instantly stops, and the expense ceases. The daily cost of gas and chemicals is trifling, and there is no boiler and no chimney. It can be worked on any floor of a house, and almost under any circumstances.

Selsey: Pulling down the Oldest Church in the South of England.—It having been agreed at a vestry meeting, by the consent of about six of the ratepayers, that the old church of Selsey should be pulled down, and a new one built near the village, the following remarks are made by one of the inhabitants:—On the site where the church now stands was a place where the ancient Britons performed their religious worship, as witness the mount. On the south eastern corner of the churchyard the Romans built their church, as witness old foundations if you dig below the surface. In England Christianity was first preached at Selsey, probably on the very site where the church now stands, and tradition says that one of the twelve apostles preached at Selsey. The site is one where religious service has been performed most probably for upwards of 2,000 years: can it be possible for the present generation to remove it! The church is the oldest church in the south of England, if not in England, and a few years since was put in good repair: at a trifling expense it would now last for ages.

Smoke-consuming Apparatus for Heating and Ventilating.—Lewal's patent apparatus for warming and ventilating large public and other buildings consists of a cold and warm air chamber, a coal and gas receptacle, a tank for water, and a number of tubes, and is placed in a brick chamber, which can be erected in the basement. The principal improvements claimed for this apparatus are,—that the smoke and gas generated by the combustion of the fuel are entirely consumed, thus increasing the heating powers of the apparatus without causing any additional consumption of fuel;—that no smoke being admitted into the chimney or flue, it is only required to cause the necessary draught of air to pass through the fire to promote combustion;—that by the constant passing through the apparatus of large quantities of pure warm atmospheric air into the building, a more healthy and better atmosphere is obtained;—that the apparatus being entirely surrounded by air the whole of the heat generated by the fire is absorbed in its passages through the pipes;—that the portion of the apparatus in which the heat is generated being surrounded by a jacket the space between being filled with air supplied from the ashpit, the air passing into the building does not come in contact with red-hot surfaces;—that by having in the interior of the apparatus a tank containing water, which becomes heated and gives off a small quantity of steam, the hot air absorbs it, and has thus restored to it the moisture of which it has been deprived in the course of heating. The apparatus has been erected in the new Congregational church of Pilgrim Fathers, in Buckenham-square, New Kent-road, Southwark.

TENDERS.

For residence, at Topsham, Devon, for Mr. E. H. Penny. Mr. W. F. Cross, architect:—

Kenshole	£2,414	0	0
Mauley	2,397	0	0
Periam	1,542	0	0

For City Offices, Clement's-lane. Messrs. F. & H. Francis, architects:—

Higgs*	£20,967	0	0
Patman & Fotheringham*	20,613	0	0
Hill & Keddell	20,350	0	0
Mansfield & Sons*	20,300	0	0
Lawrence	19,722	0	0
Colls & Co.	19,474	0	0
Myers & Sons (accepted)	19,275	0	0
Hill & Sons†	17,600	0	0

* These tenders not delivered in time.
† This tender subsequently withdrawn.

For two semi-detached houses, at Barnet. Mr. T. W. Goodman, architect:—

Cushing	£1,100	0	0
Wood	1,050	0	0
Pocock	1,047	0	0
Stephenson	1,025	0	0
Peskett	997	10	0
Marshall	991	5	0
Hardman	985	10	0
Ring & Warriman	965	0	0
Malley	950	0	0

For painting and sundry repairs to be done at No. 3 Mincing-lane, City. Mr. N. S. Joseph, architect:—

King & Sons	£233	0	0
Read & Son	229	0	0
Taylor	225	0	0
Foxley	224	0	0
Cohen	198	0	0
Young	187	0	0

For repairs, at the Pencutters' Arms, James-street, Lower Marsh, Lambeth. Mr. James Harrison, architect:—

Green	£120	0	0
A. & J. Smith	98	0	0
Haynes	79	0	0
Nind	61	15	0

For the tower of Putney New Church:—

Sims & Marten	£1,858	0	0
Warne & Co.	1,770	0	0
Patrick & Son	1,590	0	0
Gee	1,584	11	11
Humphries	1,543	0	0
Strudwick	1,519	0	0
Greig	1,477	0	0
Aviss	1,477	0	0
Kelly (accepted)	1,433	0	0

For repairs to a house in Banner-street, St. Luke's. Mr. S. Dyball, Architect:—

Dearsley	£670	0	0
Turner & Sons	657	0	0
Terry	590	0	0
Worm	568	0	0
Perry (accepted)	555	0	0

For building a house at Kingston. Wimble & Taylor, architects:—

Jones	£1,375	0	0
Sims & Marten	1,185	0	0
Woodruff	966	0	0
Wheatley	956	0	0
Colls & Co.	850	0	0
Brighton	836	0	0
Newman & Mann	816	0	0
Adamson & Sons	750	0	0
Boxall	735	0	0

For the erection of a parsonage-house, Lorrimore-square, Newington, for the Rev. Mr. Goring. Mr. Henry Jarvis, architect:—

Kent	£1,633	0	0
Henshaw	1,648	0	0
Sawyer	1,587	0	0
Glenn, Bros.	1,517	0	0
Hardiman & Sandon (accepted)	1,448	0	0

For a Primitive Methodist chapel and vestry, at Mexboro', near Rotherham, to accommodate 590 persons. Mr. Herbert Fippard, architect:—

Briggs & Walton	£964	17	7
Blenkhorne	919	0	0
Arnold (accepted)	800	0	0

For training schools (for 100 boys), offices, and farm buildings, Elmfield House, near York, for the Primitive Methodist Connexion. Quantities supplied. Mr. Herbert Fippard, architect. Forty-eight tenders received:—

Highest Tenders.

Biscombe (masonry, brickwork, and plastering)	£1,871	0	0
Nottingham Mills Company (joinery)	1,958	18	8
Prudames (plumbing and glazing)	400	0	0
Ellis & Wood (slating)	163	0	0
Gowland (painting)	119	9	6
Franklin (smith)	90	0	0
Weatherley (accepted)	3,620	0	0

Brickwork and Masonry.

Biscombe	1,514	0	0
Rayson	1,457	0	0
Meunell	1,440	0	0
Walker	1,419	0	0
Kettlewell	1,400	0	0
Shafto	1,390	0	0
Pulleston	1,333	0	0
Weatherley	1,268	0	0

For additions and alterations, at No. 20, Wimpole-street, for Professor Waley. Mr. N. S. Joseph, architect:—

Vernall (too late)	£1,532	0	0
Clarke & Mannosch	1,500	0	0
Newman & Mann	1,496	0	0
King & Sons	1,483	0	0

For additions to Hazel Bank, Malvern, for Mr. John Hehir. Mr. E. C. Alftatt, architect:—

Warner	£165	0	0
Hughes	150	0	0
Allen (accepted)	123	0	0

For manufactory, river-wall, and dock, at East Greenwich, for the Blakely Ordnance Company. Mr. A. Manning, architect. Quantities by Mr. W. H. Barber:—

Myers	£6,974	0	0
Hill & Keddell	6,480	0	0
Downs	6,403	0	0
Matthews	6,269	0	0

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AN Architect and Surveyor in the Country is desirous of Engaging an ASSISTANT, to take charge of the books, and fair copy specifications and reports. It will also be necessary that he should be able to trace. For particulars, apply to A. B. Printers' Hall, Old Broad-street, London.

ALEXANDRA HOTEL, HYDE PARK CORNER.—CLERK of the WORKS WANTED.—Applications in writing, stating age, where employed, and salary expected, to be sent to the Secretary of the above Company, endorsed "Clerk of Works," on or before WEDNESDAY, the 10th instant.—By order,

Alexandra Hotel Company (Limited),
Hyde Park Corner, 3rd August, 1864. GEO. BOLTON, Sec.

A FOREMAN WANTED for a JOB in the country. Must give good references to former employers. Apply, stating wages required, to H. J. SANDERS, Builder, Southampton.

BOROUGH of LIVERPOOL.—To ARCHITECTS and SURVEYORS.—The Town Council of the Borough of Liverpool desire to engage the services of a competent person to act as SURVEYOR of their Estate, and as ARCHITECT in the erection of any buildings required by them. An outline of the principal duties required will be forwarded on written application, addressed to the Town Clerk, Town Hall, Liverpool. The gentleman appointed must be experienced in his profession, and not more than forty years of age, and he will be required to abstain from all private practice, and to devote his whole time and attention to the business of the Corporation. The salary will be 300l. per annum; and suitable offices, with a competent staff of clerks, and all stationery, &c. will be provided by the Town Council. Applications, with testimonials, if any, and marked "Application for Office of Surveyor," and addressed to "The Chairman of the Real Estate Sub-committee, Town Hall, Liverpool," will be received at the Office of the Town Clerk of Liverpool, up to ONE o'clock on THURSDAY, the 11th day of AUGUST next, but not later. Each applicant must give full particulars of the present and previous employment of the applicant, and state how soon, if appointed, he could enter upon the duties of the office. No recommendation of any applicant will be taken into consideration unless it be stated therein that the writer is personally acquainted with the individual recommended, and that such writer can, of his own knowledge answer for the qualifications of the applicant. If the applicant, or any person recommending him, is not resident in Liverpool, a reference to a person of respectability and standing in Liverpool, who is acquainted with the applicant or person so recommending, as the case may be, will be required. It is requested that no personal or written application may be made to any member of the Council in reference to this appointment. The gentleman appointed will have the benefit of conferring and advising, and will be expected to co-operate with the present Surveyor of the Corporation, who will continue his services as Consulting Surveyor.—

By order, WM. SHUTTLEWORTH, Town Clerk.

Town Hall, Liverpool, July 15, 1864.

PORTLAND CEMENT.—WANTED, a FOREMAN, practically acquainted with the Manufacture of Portland Cement and Grey Lime. Applicants must have been proficient engaged in a similar capacity. Salary 2l. per week, with unfurnished apartments and coals.—Apply, by letter only, to Z. R. S Office of "The Builder."

WANTED, by a DESIGNER and DRAUGHTSMAN a YOUNG PERSON, age from 16 to 20, who can sketch or copy wood carvings, line in and trace well free hand and mechanical drawings. One having a knowledge of interior decoration would be preferred.—Apply personally or by letter, on or after TUESDAY next, August 9.—Address, C.E. Mr. COANEYS, 3, Church-street, St. George's, Borough.

TO ROAD SURVEYORS.—The Paving Committee of the Vestry of the Parish of St. Mary, Newington, Surrey, will meet at the VESTRY ROOM of the Parish Church, on MONDAY, the 8th day of AUGUST, at SEVEN o'clock in the evening precisely, to receive APPLICATIONS from CANDIDATES for the Office of SURVEYOR of ROADS for the before-mentioned parish, at a salary of 150l. per annum and 30l. for the keep of a horse, subject to determination upon three months' previous notice, ending at any time. The person elected to the office will be required to devote the whole of his time thereto, to reside in the parish, and not to engage in any other occupation whatever. Any further information required may be obtained from the Clerks to the Vestry.—Applications, with testimonials, to be forwarded to the Clerks to the Vestry, before FOUR o'clock in the afternoon of the above-mentioned day. Candidates will be informed when required to attend the Committee.—N.B. None but those who have had experience in road-making and repairing need apply.

H. & F. CHESTER, Clerks to the Vestry.
Church-row, Newington Butts.

TO GAS ENGINEERS.

WANTED, by the Dewsbury and Batley Gas Company, a MANAGER. He must understand and be capable of superintending the working of the concern and keep pg of the books, and be fully competent to draw plans and prepare specifications for works and gas much very. The present amount of gas manufactured is upwards of 100 millions of feet a year. Applications and testimonials, with salary required, to be sent in to the Dewsbury and Batley Gas Company's Office, Dewsbury, before the 18th of AUGUST next.

WATTS & SON.
Dewsbury, 21st July, 1864.

WANTED, a SHOP-FOREMAN of JOINERS. Must have filled a similar situation before, well up in staircasing and Gothic, and a fair draughtsman.—Apply, stating wages and reference, to W. S. Post-office, Shrewsbury.

WANTED, a FOREMAN or CLERK of WORKS accustomed to river-wall and tide work, with general building experience. Must have good references as to competence, sobriety, &c. Address, with names of previous employers, and stating salary expected, to M. M. Office of "The Builder."

TO BELLHANGERS.

WANTED, a good WORKMAN immediately, for a Job.—Apply to J. HALES, House Decorator, &c. Marlowes, Hemel Hempsted, Herts.

WANTED, some good CARPENTERS and JOINERS.—Apply to C. CLARIDGE, Builder, Banbury.

WANTED, in a Builder's and Surveyor's Office in the Country, an intelligent YOUTH, 16 to 18 years of age, who is an expeditious writer and quick at figures, and has had one or two years' experience in a similar office or otherwise, in the building trade.—Apply by letter only to J. J. Post-office, Sherborne, Dorset, stating present occupation, age, and experience, with references as to character and ability.

WANTED, immediately, an ASSISTANT who can trace well and quickly, to take copies of deposited railway plans.—Apply by letter, stating salary required, to Mr. RUTLEY, 16, Poultry, E.C.

TO STONE MASONS.

WANTED, a good WORKING FOREMAN for a Gothic Building.—Address, stating wages and reference (not testimonials), to X. Y. Z. Post-office, Banbury.

WANTED, a CARVER, experienced in foundry work.—Address, stating wages, &c. C. E. Post-office, Glasgow.

TO SASH MAKERS AND JOINERS.

WANTED, a few First-rate PIECE WORKMEN.—Apply to J. MILLS, 110, Broadwall, Stamford-street, S.

WANTED, in a Contractor's Firm in the City, a SHOP-FOREMAN of JOINERS, competent to superintend 100 men. He must have been accustomed to machinery.—Apply, by letter, to A. B. at Messrs Field & Tuer's, 135, Minories.

W. & C. JECKS, Timber Merchants, Norwich, require an active intelligent MAN as FOREMAN.

WANTED, in a London Builder's Office, a CLERK, to assist with the books and accounts, and competent to measure up work, and occasionally to take off quantities, &c.—Address, stating references and terms, to A. B. care of Mr. Osborne, 102, Newgate-street, City.

TO CABINET MAKERS.

WANTED, a respectable middle-aged Man, who well understands his business. One who can assist at the Upholstering would be preferred. If suited, a constant place offered.—Apply to GEO. WEST, Cabinet maker, &c. Stony Stratford.

WANTED, a Good MARBLE MASON.—Apply to FORD, BROS. Slate and Marble Works, Gloucester.

WANTED, for a SHORT TIME, a FIRST-RATE DRAUGHTSMAN, quick at either Gothic or Italian.—Apply to T. C. SORBY, 15, Bedford-row, before SIX this evening or TEN to ONE on Saturday.

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WANTED, a RE-ENGAGEMENT as CLERK OF WORKS, or as GENERAL FOREMAN, by a thoroughly practical man.—Address, A. J. 24, Herbert-street, Hoxton, N.

WANTED, a RE-ENGAGEMENT by a thoroughly competent MAN as GENERAL FOREMAN, or to take charge of a job, accustomed to levelling, estimating, or any counting house work. A joiner by trade. First rate testimonials.—Address, H. D. Norwich Coffee-house, 205, Shoreditch.

TO PARENTS AND GUARDIANS.

WANTED, an APPRENTICE to the PLUMBING and GASFITTING. Premium required.—Apply, A. Z. Post-office, Highgate.

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WANTED, a RE-ENGAGEMENT, by a thoroughly competent and systematical MANAGING SHOP FOREMAN, of Town experience, and able to give unexceptionable references.—Address, F. J. 9, Catherine-terrace, Lansdowne-road, S.

WANTED, by a Young Man, aged 31, a SITUATION in a Builder's Office. Is a good draughtsman and used to accounts, and has been eight years in an office of the same description in the country.—Address, A. B. Post-office, Woburn, Beds.

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WANTED, PIECEWORK, by a first-rate STAIRCASE HAND of twenty years' experience, either in Town or country. First rate reference if required.—Address, W. B. No. 11, York-place, Battersea Park.

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WANTED, by a Young Man, at present in the Building Trade, a SITUATION with either of the above. Can trace and draw well, and get out drawings. Is well acquainted with field-work, traversing, &c. and well up in figures.—Address, S. S. Post-office, Wandsworth, S.W.

TO BUILDERS, PLUMBERS, AND DECORATORS.

WANTED, by a Young Man, a SITUATION as PLUMBER, Three-branch Hand, or Working Foreman in all the Branches. Fifteen years' experience, and accustomed to the entire management of best work and men, in or near London. Wages moderate. References.—Address, W. W. Office of "The Builder."

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WANTED, by the Advertiser, a SITUATION in the Office of the above. Has been some years in the office of a London architect. Understands perspective, surveying, levelling, and the usual routine of an architect's office.—Address, A. C. 3, Albion-road, Dalston, N.E.

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WANTED, by an experienced ASSISTANT, an ENGAGEMENT with the above. Is fully competent to prepare working, detail, and competition drawings, and is quick at quantities. Good references, &c. Address, ALPHA, care of Mr. Sage, 11, Victoria Grove, South Kensington.

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WANTED, a permanent SITUATION as PLUMBER, by a respectable experienced Young Man. Is a good plumber, and has a thorough knowledge of the three branches. Good references. Country preferred.—Address, G. W. S. 16, Woodbridge street, Clerkenwell, E.C.

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WANTED, by a practical Carpenter and Joiner, a SITUATION as SHOP or OUT-DOOR FOREMAN, or the Advertiser will take Joiner's Work by the Piece, any quantity or quality. Ten years' experience as Foreman in one of the largest firms in London. Age 37.—Address, D. W. 20, Berlive, James-street, Kennington Park.

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WANTED, by a Young Man, a constant SITUATION as PLUMBER. No objection to fill up his time in painting and glazing.—Address, G. W. 51, Broad street, Lambeth Butts, S.

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WANTED, by the Advertiser, aged 44, no family, a SITUATION as WORKING FOREMAN, or to Take Charge of a Business or as Constant Hand. He well understands all the branches, with gasfitting, and can have good references. Address, PLUMBER, 65, Torriano Avenue, Camden Town, N.W.

WANTED, by a practical Man, a RE-ENGAGEMENT as GENERAL FOREMAN, or to Take Charge of Job, either in Town or country. Unexceptionable testimonials from past or present employers.—Address, T. K. 9, Church-street, Greenwich.

WANTED, by a Gentleman, aged 25, a SITUATION in London, as ENGINEER and SURVEYOR'S ASSISTANT. Two years with last employer in the above capacity, and who will give good reference. A fair draughtsman and colourist. Salary 1l. per week.—Address, BOYCE, Post-office, Peckham Rye, Surrey.

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WANTED, by a Young Man, a RE-ENGAGEMENT as GRAINER, &c. No objection to fill up time in Painting if required. In town or country.—Address, E. A. 23, Surrey-row, Blackfriars-road, S.E.

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WANTED, by a Young Man, aged 20, a SITUATION as IMPROVER in the Plumbing Can do Painting, Glazing, &c. Has been in the business five years. Wages not so much an object as an opportunity for improvement.—Address, J. S. 29, Acorn street, Bishopsgate, London.

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WANTED, by a good General Workman, aged 30, of steady habits, a Permanent SITUATION, in the PAINTING, WRITING, and GRAINING LINE.—Address, T. C. Mr. Ablewhite's, No. 10, Henley-street, Battersea Park, Surrey.

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WANTED, by a thoroughly practical Man, a carpenter, aged 41, a constant SITUATION as GENERAL, SHOP, or WORKING FOREMAN, or to take CHARGE of JOBS. Has carried out first-class jobs, both in town and country. Country not objected to.—Address, W. G. Mr. Barrows, grocer, 11, Morton-street, Pimlico, S.W.

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WANTED, by a Young Man, a SITUATION as IMPROVER. Can do good plain painting, gasfitting, and has a knowledge of zinc working. Town or country.—Address, A. CHANDLER, 91, Cromer-street, Brunswick-square, London.

TO BUILDERS, &c.

WANTED, a SITUATION, as GRAINER. Can fill up time with painting and glazing, or take charge of work if necessary.—Address, J. W. N. 11, James-street, Marlborough-road, Chelsea, S.W.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a practical PLUMBER, a SITUATION, or a JOB. Understands his business in all its branches; is willing to fill up time at glazing or plain painting, in or near London.—Address, R. B. 252, Goswell road, E.C.

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WANTED, by a Young Man who has just completed his Articles with a Civil Engineer and Surveyor of public works an ENGAGEMENT as an ASSISTANT in or out of office. Good references given.—Address, F. A. T. 104, Kingsland-road, London, N.E

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THE Advertiser, a young Man, who has studied the profession, is desirous of obtaining EMPLOYMENT in the Office of a Civil Engineer. References will be given.—Address, W. H. 39, Great Marlborough-street, W.

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A CLERK of WORKS open to a RE-ENGAGEMENT. Can measure, prepare details, and set out every description of work.—Address, A. Cosmopolitan Glass-works, 293, Oxford street, W.

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A YOUNG MAN, who has served his Articles for four years, wishes a SITUATION in a Surveyor's or Engineer's Office.—Address, A. B. care of William Collins, esq. Solicitor, Winchester.

TO LAND AGENTS AND SURVEYORS, &c.

A PERSON, duly qualified, wishes for an ENGAGEMENT, either with or without a view to a PARTNERSHIP.—Address, C. W. 9, Old Cavendish-street, Cavendish-square.

TO MASTER MASONS AND OTHERS.

A FIRST-CLASS MASON, accustomed to every description of general work, an excellent Gothic carver and letter cutter, can set out work and make working drawings, has been accustomed to manage a general business, desires a permanent ENGAGEMENT in the country.—Address, T. F. M. Office of "The Builder."

TO RAILWAY COMPANIES, SIGN-WRITERS, PAINTERS, AND WHEELWRIGHTS

A GOOD SIGN-WRITER, who can do gilding on glass, and is thoroughly acquainted with the trade, is open to an ENGAGEMENT, or would take work by the piece for terms.—Address, G. W. 11, Great Quebec street, Mary-le-bone-road.

A THOROUGHLY QUALIFIED ESTIMATING, QUANTITY, and MEASURING CLERK, of great practical experience in making up accounts and the general duties of a builder's and contractor's office, is open to an ENGAGEMENT, or would take the Management of a Business. Used to extensive works. References unexceptionable.—Address, W. W. Post-office, 31, Kingsland-crescent, N.E.

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A RESPECTABLE YOUNG Man, aged 23, desires a RE-ENGAGEMENT, as CLERK of WORKS, STORE, TIME, or BOOKKEEPER. Has had five years' experience as above in extensive sewer and other similar works. References to present employer. Salary 2l. per week.—Address, W. 45, Albert Cottages, Albert-road, Norbiton, Kingston.

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A YOUNG MAN is desirous of LEARNING the TRADE of a CARPENTER. No premium will be given, but consideration allowed in wages.—E. M. Barrett, Stationer, 3, New Church street, Alpha-road.

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A HANDY Young Man wants a SITUATION as WATER GILDER, PAPERHANGER, and could fill up his time with painting.—Address, A. B. 3, Hampton-street, Walworth-road, London.

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A YOUTH, aged 15, is desirous of being ENGAGED in an office of the above. Has a knowledge of geometry, drawing plans, &c. Salary not an object, as no premium will be given.—Address, T. S. H. Post-office, Clapham-common.

A DRAUGHTSMAN and COLOURIST desires EMPLOYMENT, either at his own rooms or in an Architect's office. Can prepare and colour perspectives. Would be willing to treat for a Partnership in a small practice.—Address, J. A. S. Post-office, Kennington Park.

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OLD BRICKS FOR SALE, near St. John's Gate, Clerkenwell.—Address, E. WILSON, Post-office, corner of Cowcross street.

OATES'S PATENT SOLID BRICK MACHINE.—To CONTRACTORS, BUILDERS, BRICK-MAKERS, and OTHERS.—Persons about to establish Brickworks, or any large Contract, are respectfully requested to thoroughly inspect the above Machines, which may be seen in operation at the undermentioned works. These Machines are guaranteed to produce at the rate of "Thirty Bricks" (and upwards) per minute, sufficiently dense to be wedged direct from the Machine to the kilns, and, with suitable clay, bricks can be made direct from the mine without any previous preparation.—To view, apply to the Government Dockyard Authorities, Portsmouth; GEORGE SMITH & Co. Contractors, 13, Bush-street, Grosvenor-square, London; JOHN GRUNDY, Esq. J.P. The Dales, Whitefield, Manchester; JOSEPH MARSDEN, Esq. Bolton-le-Moors, Lancashire; Mr. J. WALKER, Contractor, Patent Solid Brickworks, Crewe, Cheshire; Mr. GRADWELL, Hindpool Saw Mills, Barrow-in-Furness, Lancashire; or at the Works of the Stourbridge Solid Brick Company, Brettel-lane, near Stourbridge—parties who are working the same, and have kindly consented to give every information.—To treat, or for drawings of same, apply to the Patentee, Mr. J. F. OATES, Erdington, near Birmingham; or to Mr. T. S. CROSS, Sole Agent and General Manager, 46, Leamington-terrace, Ravenhurst street, Birmingham.

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Oak Varnish, 7s. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
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Every article for the Trade at the lowest prices.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
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KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

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C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graniers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

ROYAL POLYTECHNIC.—Patron H.R.H. the PRINCE of WALES.—The Christian Allegory of "The Knight Watching his Armour." The Ghost of the Diving Bell, Heinke's patent diving dress—The Lilliputian Ghost, a few inches high, in Professor PEPPER'S New Ghost Lecture Entertainment (JOHN HENRY PEPPER and HENRY DIRCKS, joint inventors) STORIES on Memory. Mr G. W. JESTER'S Ventriloquial Entertainment. Mr. GEORGE BUCKLAND'S new Musical Entertainment, daily at 4 and 9. Open 12 to 5, and 7 to 10. Admission (Saturday mornings inclusive) 1s. N.B.—The Laboratory is always open for Pupils and Analyses.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1860), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

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GREEN'S PREPARED ASPHALTE, for check damp cellars, &c. price 40s. per ton, on Midland or London and North Western Railway, Bedford.—Address DANIEL GREEN, Bedford. List of Prizes for Green's Asphalte Floors forwarded by post.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Tallotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.
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A LARGE ASSORTED STOCK always on HAND, of CLOTHS and BAIZES, In all widths, colours, and qualities, at HILL & SONS, 88 and 89, St. Martin's-lane, Charing Cross.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
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TO INVENTORS.—All intending Patentees. should procure the PRINTED INFORMATION regarding PATENTS—their cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

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TO ARCHITECTS AND BUILDERS.
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Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862. Books of designs sent free by post. No charge for taking plans and giving estimates.
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PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply machine-made patented solid PARQUET FLOORS 50 per cent cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

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BALLAST WAGGONS TO BE LET.—The Midland Waggon Company have a number of low-sided WAGGONS, suited for Ballasting, TO LET. They have also a few for SALE.
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Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
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CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways.
Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.
Price Lists on application.
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THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited). Capital 100,000l. in 10,000 shares of 10l. each. First issue, 5,000 shares, 2,500 of which have been subscribed for; the remainder are offered to the public. Deposit 1l. per share, and 1l. to be paid on allotment. In case of no allotment, deposit to be returned in full. Power to increase with the consent of the shareholders. No call to exceed 2l. per share, and an interval of three months must elapse between each call.

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Secretary (pro tem.)—H. P. Keighly, esq.
Temporary Offices—12, Charing-cross, W.C.

It is an admitted fact that, notwithstanding the constant endeavour on the part of the Metropolitan Water Companies to render their supply as pure as possible, impurities still exist, and especially in the summer months, as proved by the analysis of Dr. Robert Dundas Thomson, F.R.S. periodically published: and no engineering skill has hitherto been found to prevent the water acquiring fresh taint on its long passage through the mains and pipes, and from the stagnation and accumulation of filth in the cisterns.

The attention of the General Board of Health, and that of the public, has continually and for a long time past been directed to such impurity of the water supply. Edwin Lankester, esq. M.D. Henry Letheby, esq. M.D. R. D. Thomson, esq. M.D. and other sanitary authorities, have urged the necessity of improvement. Parliament has passed laws and regulations for the purpose, and the London water companies have spared neither money nor engineering skill to accomplish the object. It is, however, remarkable that no effectual remedy has heretofore been suggested. Upon the adoption of that proposed by the Company the patentee has been favoured by numerous testimonials, which can be inspected at the Offices of the Company. The space of a prospectus alone allows the following, dated 23rd September, 1863, from Arthur Hill Hassall, esq. M.D. to be given in extenso:—

"What I anticipated in the year 1850 has since been accomplished in the apparatus constructed by Mr. Danchell, which possesses besides several great advantages, which render it particularly practical and fit for general application. These advantages are:—

1. That the water is filtered at the last moment when required for use, and therefore not liable to acquire fresh taint by standing, as is the case with the usual methods of filtration.

2. That, filtering direct from the water of the cistern, any quantity of filtered water may be drawn, either for drinking, cooking, or other purposes, while in the common filters we are limited to the quantity poured into them from time to time.

3. That no attention to the apparatus is required on the part of servants in refilling or cleansing.

Having had one of these apparatus in daily use for a considerable period, I can testify with confidence to the advantages it affords.

If these filters be supplied on somewhat similar terms to those on which gas-meters are furnished, the patentee undertaking to keep them in working order, I cannot help thinking that householders and those who appreciate the luxury of pure water, and are at all aware of its importance to health, will gladly avail themselves of the advantages they undoubtedly afford."

The Company has been formed to purchase of Mr. F. H. Danchell the patent of his filter and softening apparatus for purifying water direct from the cistern and to carry out the suggestion of Dr. Hassall and other sanitary authorities. An apparatus will thus be placed in the cistern through which the water has to pass when being drawn. It will yield the water pure, limpid, and free from colour and taste; it will arrest the impurities in mechanical suspension, and deprive the water of all organic contamination and metallic oxides in solution. The apparatus will require no attention by those who use it; it will be fixed by the Company; and, as no filter can continue for a lengthened period to perform its duty without becoming clogged or foul, it will be periodically cleansed and otherwise kept in working order by the Company.

The charge to each householder will vary, according to the quantity of water requiring purification, from 5s. to 1l. 10s. paid annually in advance, beyond which no other expense will be incurred. The larger apparatus required for clubs, brewing, washing, hotels, schools, hospitals, barracks, workhouses, prisons, ice companies, and other large establishments at home and abroad, will be supplied upon terms to be agreed upon.

It should be remarked that the filtering and softening apparatus can be beneficially employed in the naval service and for steam boilers, particularly for those of river and canal steam-boats, and locomotive and portable engines, and as a prevention to disastrous explosions so frequently occurring. Portable filters of all sizes for household and other purposes will be provided upon the same principle.

No outlay is required to be invested in premises, machines, plant, or tools; so that the capital will remain as strictly working capital, which will be called for only as the operations of the Company require it. Careful estimates have been made, showing a highly remunerative percentage to the shareholders, and which can be inspected at the Company's offices.

Prospectuses may be had, and application for shares may be made to the bankers, brokers, solicitor, or secretary, at the offices of the Company. Applications from the country may be made by crossed cheques or post-office order, payable to the bankers, and addressed to the offices of the Company.

INTERNATIONAL FINANCIAL SOCIETY (Limited), 69, Threadneedle-street, London, E.C.

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The Directors have now made arrangements for taking deposits in sums of not less than 100l. for fixed periods and at a fixed rate of interest.—By order,
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Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 33s. per Load.	
Good Yellow Deals	£16	10	0	per 120, or 2½d. per foot.	
Spruce Deals	15	0	0	,,	2⅛ ,,
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

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[Established 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

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At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.
J. E. having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅞-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

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MAHOGANY, DEAL, & TIMBER MERCHANT,

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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.				Per 120 of 12 ft.		
WHITE BATTENS	£8	10		WHITE DEALS.. ..	£15	0	0
YELLOW ditto	9	10		¾-FLOORING from per Square	0	10	6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,

Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards	from 10s. 6d. per square	FIR TIMBER, 45s. PER LOAD.	
10,000 Dry Pine Plank	from 3s. 6d. each	WHITE BATTENS, from £8 10s. per 120.	
5,000 Yellow Battens	from £10 per 120	Wainscot Oak	from 6d. per foot
4,000 Spruce Deals	from 2s 6d. each	Oak Sills	from 2½d. per foot
Matched Lining	from 12s. per square	Honduras Mahogany	from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

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(FROM THE GENERAL WOOD-CUTTING COMPANY),
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

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AT THE VERY LOWEST PRICES, in quantities of not less than 20 at the Public Docks.

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At 6d. 7d. and 8d. per foot, at
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MAHOGANY, and WALNUT, in Plank and Board, at
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MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river-side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS,

&c. as low as advertised. White Battens, 8f. per 120, 12 feet. Yellow ditto, 10f. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 3s. 6d. per 100 feet superior. CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,

30,000 feet in Plank and Board, sawn three years.
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ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

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CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, colliers, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (ground), or ground, and in barrels and bags. The Limestone can be had in full cargoes; also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.

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DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

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CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for bold works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON

N.B. Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

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WORKS:—WOULDHAM and BURHAM, on the MEDWAY, near ROCHESTER, KENT; MERSTHAM (South-Eastern Railway), near RED HILL, SURREY.

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WILLIAM PETERS, in addition to his WOULDHAM HALL, BURHAM COURT, and SNODLAND ESTATES, of 1,000 acres of the best GREY STONE, CHALK, and CLAY, with KILNS and RIVER FRONTAGE of Two Miles, capable of manufacturing an unlimited quantity of LIME, CEMENT, and OTHER BUILDING MATERIALS, having secured for the extra accommodation of his friends the MERSTHAM GREY STONE LIME WORKS, with 100 acres of GREY STONE, &c., is prepared to enter into CONTRACTS for the SUPPLY of 3,000 or 4,000 cubic yards of WOULDHAM, BURHAM, and MERSTHAM GREY STONE LIME per week, on the lowest terms possible, either in BARGES of 100 yards, free on board, or in TRUCKS, of 10 yards, at Works; or delivered alongside WHARFS, on Medway, Thames, Canals, and Railway Stations.

In quantities of 2 yards, or less, at the Bricklayers' Arms Station and the above Wharfs, and to the Buildings.

Large Grey Stone free on board at Works ..... 1s. 9d. per ton.
Small ditto, the best material for the manufacture of the well-known Medway Portland Cement..... 8d. „
BARGES OF 100 TONS LOADED IN A FEW MINUTES.

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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

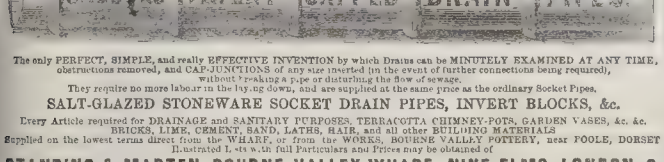
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They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

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PURE HYDRAULIC LIME, Manufactured

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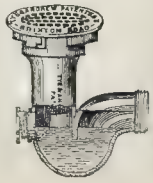
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HENRY CLAYTON & CO. Engineers and Ironfounders, on and after MONDAY, the 8th of AUGUST, will transfer the manufacture of their Patent Brick and Tile Machinery, Contractors' and Contractors' Machinery generally, from their Old Works at Upper Park-place, Dorset-square, to their spacious new "Atlas" Engineering Works, Foundry, and Offices in the
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H. C. & Co. invite the attention of Brick Manufacturers to their recently patent "Pneumatic" Drying Process.
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MAGNUS'S ENAMELLED SLAT obtained the Medal of the Society of Arts; the Prize Meda the Great Exhibition, 1851; Two First-class Medals at the P Exhibition; and Two Prize Medals at the International Exhibition 1862.
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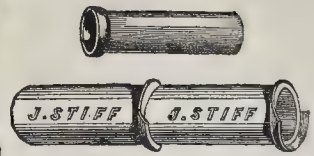
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IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

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The only MEDAL for "STONEWARE PIPES" has been awarded to

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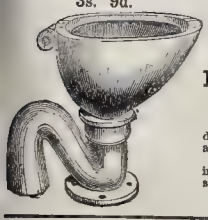
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

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LIVERPOOL POTTERY,

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TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



THOMAS LAMBERT & SON,





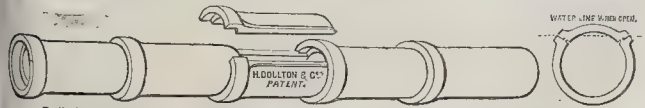


Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

DOULTON'S PATENT OPERCULAR PIPES.

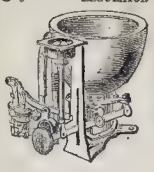


By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

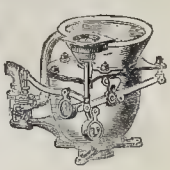
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J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



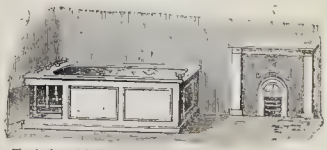
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one 3-inch pipe. No cistern valves, cranks, or wires required. The closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close throat pleasure. No brickwork setting for boiler required.

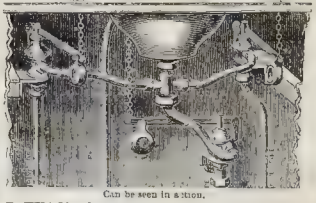
Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.

ILLUSTRATED CATALOGUES FREE.

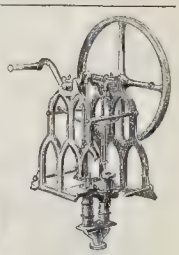




Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.





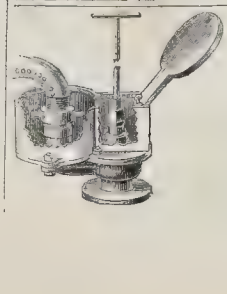


PUMPS

FOR

DEEP OR SHALLOW WELLS, WATER BOATS, &c.

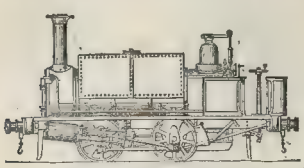
J. TYLOR & SONS,
MANUFACTURERS,
WARWICK LANE,
NEWGATE STREET,
LONDON.

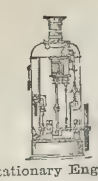


IMPROVED HYDRANT.

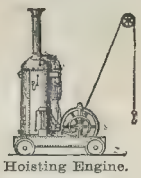
J. TYLOR & SONS,
WARWICK LANE,
NEWGATE ST.
LONDON.

NEW PATENT PORTABLE STEAM-ENGINES AND BOILERS


Contractors' Locomotive.


Stationary Engine.


Steam Crane.


Hoisting Engine.


Agricultural Engine.

PRICES OF ENGINES AND BOILERS COMPLETE, DELIVERED FREE IN LONDON.

Description of Engine as shown above.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Price.	Power.	Pri
Stationary.....	1-horse	£45	2 horse	£65	3-horse	£85	4-horse	£105	5-horse	£125	7-horse	£15
Steam Crane.....	To hoist 35 cwt.	190	To hoist 50 cwt.	235	To hoist 70 cwt.	285	To hoist 6 tons.	380				

The STATIONARY ENGINES require no chimney-shaft or building whatever, a cast-iron ash-pit forming the sole-plate, and they may be set up anywhere and started at on
The STEAM CRANES are mounted on carriage and wheels. The Engine and Boiler swing round and counterbalance the load.

EVERY ENGINE is GUARANTEED to be of the BEST MATERIALS and WORKMANSHIP, and to PERFORM its WORK SATISFACTORIL

J. B. BROWN & CO. 18, Cannon-street, City, London, E.C.

ARCHITECTS, BUILDERS, MERCHANTS, SHIPPERS, AND MASONS

Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the

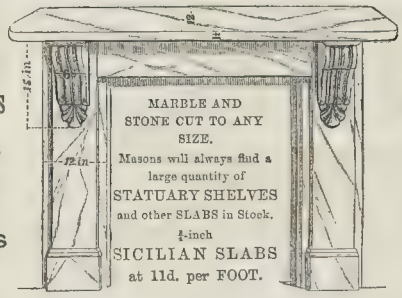
EMPORIUM, J. W. BIRD & CO.'s, 143½ and 145, EUSTON ROAD, N.W

BOX STONE CHIMNEY PIECES
for 5s. 6d.
Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS
in great variety, equally low in price.

MASONS' WORK OF ALL KINDS
CONTRACTED FOR,
AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF
500 CHIMNEY PIECES
always to choose from.
PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIE
for £1 5s.
First-class Bed-room ditto, £1 10s
FIRST-CLASS
TRUSS MARBLE CHIMNEY PIEC
from £2 5s. to £3 5s.
A WELL-CARVED
STATUARY CHIMNEY PIEC
with 13½-inch Piers,
suitable for a Drawing-room, which mu
be seen to be believed,
FOR THE SUM OF £6.
Net Prompt Cash.
PRICE LIST ON APPLICATION.

STATUARY AND OTHER MARBLE CHIMNEYPIECES.

ARCHITECTS, BUILDERS, and MASONS will find at

W. WILLETT'S SHOW-ROOMS, MARYLEBONE ROAD, N.W.

OPPOSITE THE YORKSHIRE STINGO,
A LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Ord
CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

1862.
INTERNATIONAL EXHIBITION.
HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

WILLIAM WHITE,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in

PAPIER MACHE,

COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGN
FOR THE
DECORATION OF
PUBLIC AND PRIVA
BUILDINGS
SUPPLIED WITHOUT CHARG

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATI

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOOD

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½	inches	£2 10
3	„	2 15
4	„	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guide-rods are unnecessary, rendering the price considerably less than Pumps made on the old plan.

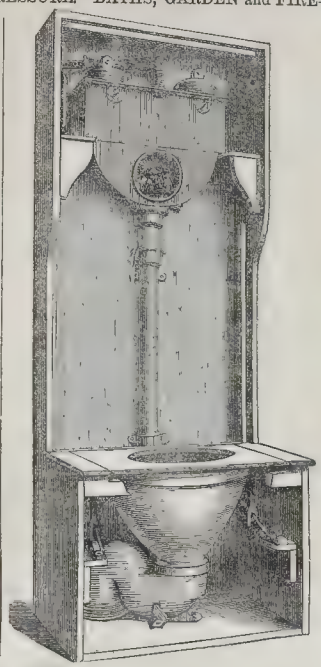
2½	inch	£4 4 0
3	„	5 5 0
3½	„	6 6 0

Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½	inch	£3 10 0
3	„	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4	10
Ditto Work without Wood Case	2	0
Basin and Trap, W.	0	5

Further Description, with Sectional Drawings will be sent on application.



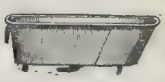
No. 146½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra 0 2 6

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

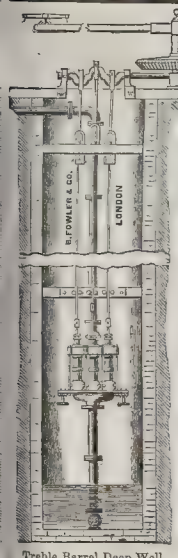
The above prices are subject to a liberal discount.



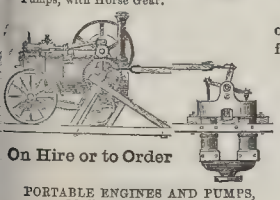
WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



Treble Barrel Deep Well Pumps, with Horse Gear.



On Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

CLINTON & OWENS

(LATE FOWLER & CO.),

WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF

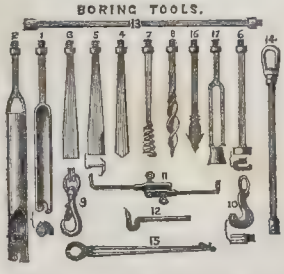
PUMPS OF ALL DESCRIPTIONS,

AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.







BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

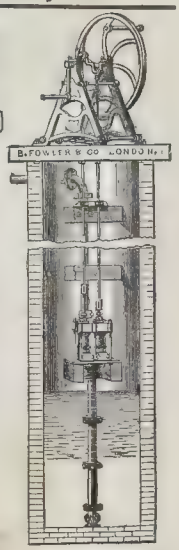
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

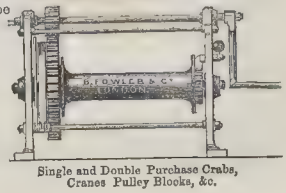
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

SALES BY AUCTION.

THE NEW METROPOLITAN MEAT AND POULTRY MARKET.—Capital Business Premises of the Foreign Printing and Publishing Company's late Premises, Smithfield, erected within the last four years.

PULLEN, HORNE, & EVERSFIELD are instructed by the Markets Improvement Committee of the Corporation of the City of London to SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 8, at TWELVE, in lots, all the capital and highly new BUILDING MATERIALS of the extensive Premises lately occupied by the London Printing and Publishing Company, situate at the corner of Charterhouse lane, Smithfield, and Warehouses and Stables in the rear, comprising 800,000 excellent stock bricks, seventy squares of slating, plain and pan tiles, 250 squares of boarded and timber floors, 100 metal frame and other sashes, doors, shutter fittings, York landings and staircases, sills and strings, seventy iron columns, wrought iron girders, eight iron doors, carved stone window-dressings and doorways, folding-gates, slate pavers, lead flats, gutters, and pipes, a large cast iron tank, expensive lavatory fittings and lavatories, cranes and jibs, iron railing, racks, mangers, and stable fittings, York and pebble pavings, stoves, gas fittings, and other useful fixtures and fittings up.—May be viewed Catalogues had at the Architect's Office, Guildhall; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

CHANCERY-LANE.—Building Materials of Ten large Houses.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Public Chambers Company, Limited, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 17, at TWELVE, the MATERIALS and FITTINGS of TEN LARGE HOUSES, being Nos. 10, 11, and 12, Chancery-lane, and Nos. 1 to 7, Cursitor-street, comprising a large quantity of red and stock bricks and tiles, doors, floor-boards, partitions, doors, sashes, and other fittings, stoves, ranges, iron railing, tiles and slates, stone coping, several tons of lead, and other materials.—May be viewed two days prior, and Catalogues had of JOSEPH LAVERTY, Esq. Architect, 1, Noble-street, Gresham-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO LAND SPECULATORS, MANUFACTURERS, BUILDERS, and OTHERS.—Sight of Freehold Land, in one lot, close to the Custom-house entrance of Victoria Docks.

MESSRS. J. WALLEN & CLUNN are instructed to SELL by AUCTION, in one lot, at GARRAWAY'S, London, on FRIDAY, AUGUST 19, at TWELVE, about EIGHT ACRES of FREEHOLD LAND, land-tax redeemed, within a stone's throw of the Victoria Docks. The amalgamation of these docks with the London and St. Katherine's cannot fail to establish them upon a larger and more prosperous and secure scale than ever, and land situate in it must partake of the additional value. The rare instance of so large a plot of land being sold in one lot affords to speculators a fine opportunity for realising the large profit gained in this locality by subdivision; and to manufacturers an admirable site for their purposes.—Particulars, with plans, in due time, of JOHN DINGWALL, Esq. Solicitor, 8, Tokenhouse-yard; at Garraway's; and of Messrs. J. WALLEN & CLUNN, 68, Old Broad-street, E.C. and Romford.

Highly important Building Estate, adjoining the Park Station (Tottenham), on the Great Eastern Railway, about to be extended to Liverpool-street.

MESSRS. J. WALLEN & CLUNN have received instructions to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, AUGUST 19th, at TWELVE, in numerous lots, a fine FREEHOLD ESTATE, of 113 acres, land-tax redeemed, surrounding the Park Station, and extending from thence to the town of Tottenham, only 6 miles from the City. Part of the property possessing a valuable frontage upon the road leading from the Park Station to the Tottenham and Edmonton-road, and in Willoughby-lane, being now ready for building, will be sold in plots for shops, villas, &c. and the remainder, which is rapidly ripening, in two large lots of 60 acres and 30 acres, for building opportunities of liberal speculation to both large and small capitalists. There are also a comfortable farmhouse (easily convertible into a residence for a city man), with garden, orchard, meadow, and a good homestead.—Particulars of JOHN DINGWALL, Esq. Solicitor, Tokenhouse-yard; and of the Auctioneers, 68, Old Broad-street, E.C.

Land for Manufactories, Wharfs, or Ship-yards, at Barking, on the Creek, and a short distance from the Railway Station.

MESSRS. J. WALLEN & CLUNN are instructed to SELL by AUCTION, at GARRAWAY'S, London, on FRIDAY, AUGUST 19, at TWELVE, in two lots, NINE and a HALF ACRES of FREEHOLD LAND, having considerable frontages to Barking-creek, navigable for vessels of 500 tons, and reached by a good roadway at the extreme end of Fisher-street, about half a mile from the railway station. It is believed that chemical factory may be here carried on without opposition, whilst the contiguity to the town of Barking, and the deep water navigation of the lower Thames on the other, are sources of great convenience.—Particulars, with plans, in due time, of EDMUND GRIFFIN, Esq. Solicitor, Ilford; at the Bull Inn, Barking; at the Place of Sale; and of Messrs. J. WALLEN & CLUNN, 68, Old Broad-street, E.C. and Romford.

NORTH LONDON RAILWAY.—CITY TERMINUS.—Materials.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on THURSDAY, AUGUST 11, at ONE, on the PREMISES, Skinner-street, Bishopsgate, the useful MATERIALS of TEN HOUSES, Shops and a Tavern, with fittings and fixtures. May be viewed day time, and catalogues had at the Auctioneer's Offices, Camden-town and Ringland-gate.

Eligible Investments.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, at GARRAWAY'S, AUGUST 18, at ONE, in Lots, SEVEN VILLA RESIDENCES, in Camden-town and Haverstock-hill; Two Small Leaseholds in Kentish-town; and Three neat Leasehold DWELLING Houses, Bedford-terrace, Old Ford-road.—Particulars and conditions of sale may be now had at the Auctioneer's Offices, Camden-town.

TOTTENHAM.—Freehold Cottages and Land.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY, AUGUST 18, 1864, at TWELVE for ONE o'clock, in lots, FOUR FREEHOLD COTTAGES, LAND, and PREMISES, situate on White Hart-lane and Queen-street, Tottenham, near the Compasses public house. Let to weekly tenants. May be viewed at any time, by permission of the tenants, and particulars obtained of the Sole Auctioneers, Messrs. FRASER & MAY, Solicitors, 78, Dean-street, Soho; and at the Auctioneers' Offices, Camden Town.

ON MONDAY, AUGUST 8, at TWELVE for ONE.—Contractors' and Builders' Stock.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, the STOCK, comprising 1,200 well-seasoned, white, and pine planks, deals and battens, 3-inch cube of Baltic timber, cut stuff, Lebanon flooring and lining boards, whitet, 6,000 feet white pine board, 14,000 feet quartering, mahogany, birch, fifteen ladders, fifty scaffold-poles, oak sills and quartering, slates, plain tiles, slate cistern, ovens, boiler, and useful building materials; also a capital spring van, with shafts, pole, and horse's spring cart, and three trolleys.—Auction Offices, 2, Carlingford-street, Hampstead-road.

ALDERSGATE-STREET.—First-rate Site for Warehouses or Manufacturing Premises.

MESSRS. EDWIN FOX & BOUSFIELD are directed to SELL by AUCTION, at GARRAWAY'S SALE Rooms, Change-alley, Cornhill, on WEDNESDAY, AUGUST 17, at TWELVE, a compact LEASEHOLD PROPERTY, very advantageously situate within the City of London, and exceedingly eligible for the erection of a warehouse or manufactory. It comprises a range of premises in Hare-court, Aldersgate-street, containing a superficial area of 1,800 square feet, with a cart entrance that can be used without forming with the ordinary street traffic, and having capital light on two sides. It is held by lease for a term of 104 years unexpired, at a ground-rent of 75l. per annum.—Particulars, with plans, of C. M. STRETTON, Esq. 18, Southampton-buildings, Chancery-lane; at Garraway's; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

To MANUFACTURING CHEMISTS and OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, 23rd AUGUST, at TWELVE o'clock precisely, on the PREMISES, Ferry-road West, Millwall, immediately after the Sale of the Lease, the PLANT and UTENSILS of the CHEMICAL WORKS, comprising two pairs 10-horse power high pressure horizontal steam engines, wrought iron Cornish boiler, 18 feet 6 inches long, 6 feet diameter; wagon ditto, 13 feet long by 5 feet and 6 feet deep; three hydraulic presses, with 8-inch and 12-inch rams, set of four plunger pumps, barrel, force, and lift pumps; three circular cast-iron tanks, 3 feet diameter; wrought and cast-iron tanks and pans; four wrought-iron mixing cylinders, nine iron-bound coolers, gas receiver, iron shafting, air cisterns, refrigerator cisterns and worm, 30-inch cast-iron retorts, forge and bellows, crab crane, office fittings, erection of lime kiln and chalk enclosure, and numerous other effects.—May be viewed two days prior, when Catalogues may be had on the Premises; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

MANUFACTURING WATERSIDE PREMISES, Millwall, Poplar on the banks of the Thames, with possession.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, AUGUST 23rd, at TWELVE o'clock precisely on the PREMISES, Millwall, Poplar, the valuable LEASE of extensive MANUFACTURING PREMISES, containing a superficial area of about 1a. or. 9p. with a frontage of 120 feet next the Thames. There is a wharf, brick and timber-built factory 95 feet by 70 feet, with two chimney-shafts, cooling-room, laboratory, counting-house, and yard, with well affording a supply of water. Held for an unexpired term of seven years, at a ground-rent of 65l. per annum. Immediate possession may be had.—To be viewed till the sale, and printed particulars had of Messrs. BISCHOFFF, COXE & BOMPAS, Solicitors, 19, Coleman street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

SOUTH NORWOOD.—First-class Freehold Building Land, in a very healthy and picturesque locality, within a few minutes' walk of the Norwood Junction Station, on the London, Brighton, and South Coast Railway, and only a short distance from the Addiscombe Station, on the Mid Kent Railway, affording access to London Bridge, Victoria, Charing-Cross, Crystal Palace, &c. at frequent intervals throughout the day.

MESSRS. WINSTANLEY & HORWOOD will offer for SALE by AUCTION, at the GUILDHALL HOTEL, Gresham-street, on TUESDAY, AUGUST 30, in 26 lots, a PORTION of the valuable FREEHOLD PROPERTY, known as Enmore Park. Land-tax redeemed, and great title rent-charge included. Most eligibly situate at Woodside green, in the parish of Croydon, and possessing the important advantage of the close contiguity to the Norwood Junction Station, with which it is in direct communication by the road now being made over the adjoining lands. The land is approached by capital roads, known as Birchanger, Howard, and Enmore roads, admirably adapted for the erection of detached villas or cottage residences, for which there is a great demand in this thriving and rapidly-increasing neighbourhood, and is divided into 24 plots of 60 feet each, by a depth of about 200 feet; and two others, of about 300 feet, by a cross decimable depth. The water mains of two companies are laid on to the Estate, and gas is already supplied at Woodside-green. Possession may be had on completion of the purchases; and the plots viewed at any time. Particulars, with plans, are being prepared and will be ready twenty days previous to the sale. In the meantime, further information will be afforded on application to Messrs. DRUMMONDS, ROBINSON, & JILL, Solicitors, Croydon, S.; and Messrs. WINSTANLEY & HORWOOD, Auctioneers, Surveyors, and House Agents, 10, Paternoster-row, St. Paul's, E.C.

PIMLICO IMPROVEMENTS.—Two days' sale of Capital Materials, Fixtures, and Block of Houses.

MR. GEO. HAINES, on the PREMISES, on TUESDAY, AUGUST 9, and MONDAY, AUGUST 15, at TWELVE o'clock, all the very excellent BUILDING MATERIALS of SEVEN NEW DWELLING HOUSES, with workshops and yards walls, &c. with the fixtures, comprising 1,000,000 stock bricks, 200 squares of slating, tiles, and timber, a very large quantity of prime stock brick work, slates, tiles, lead gutters, pipes, and cisterns, the usual internal fittings of the houses, several sets of fronts with doors and sashes complete, and useful fittings and fixtures.—May be viewed, catalogues of Messrs HAINES & SON, Auctioneers, Moorgate-street, and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High street, Kensington.

Important Sale of Ironmongery, 74, Mortimer-street, Cavendish-square.—To Ironmongers, Contractors, Shippers, Builders, Smiths, owners of House property, and Others.

MR. W. H. BETTS has received instructions to remove, and SELL by AUCTION, at the above Rooms, on THURSDAY, AUGUST 11, 1864, at TWELVE for ONE o'clock, the large and varied STOCK of an IRONMONGER: consisting of stoves, ranges, cast goods, cut, cast, and wrought nails, in bags and paper; locks and latches of all kinds, hinges, bolts and screws, in iron and brass; brass items in knobs, buttons, sash fastenings, rack pullies, castors, bell and lock furniture, &c.; also a large quantity of files, keys, tools, spades and shovels, rivets, coach bolts, back bands, glass paper, glue, sash-line, and a great variety of other builders' and cabinetmakers' requirements; also several lots of furnishing and miscellaneous items, nests of drawers, counter scales, weighing machine, weights, &c. &c.—On view day prior and morning of sale. Catalogues obtained at the Rooms; and at the Auctioneer's Offices, 68, Leadenhall street, City.

KENSINGTON.—Desirable Freehold Residence, with above an acre of land, prettily timbered, and available for building purposes, within five minutes' walk of the Kensington Railway Station

MR. MARSH has received instructions to SELL by AUCTION, at GARRAWAY'S, on THURSDAY next, AUGUST 11, at TWELVE, the detached FREEHOLD RESIDENCE, distinguished as Western Lodge, Holland place, Kensington, with large pleasure and kitchen gardens, beautifully timbered, containing above an acre, offering great advantages for building purposes, and in a well worthy the immediate attention of capitalists, builders, and others.—May be viewed on application, and particulars, with conditions of sale, with plans attached, may be obtained of TURNELL & SON, Solicitors, 7, King's-bench-walk, Temple, W.C.; at Garraway's; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House.

CHARING-CROSS RAILWAY, CITY TERMINUS.—To BUILDERS CONTRACTORS, PAVIORS, and OTHERS

MESSRS. WILLIS & HARROW have been favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 10th, 1864, at TWELVE for ONE o'clock precisely, the very superior MATERIALS of the substantially-erected range of Offices known as "Dowgate-hill Chambers," comprising the lead and zinc pipes, gutters and ridges, excellent flooring boards and timbers, plate-glass sashes and frames, folding, panelled, and glazed doors, Portland stone landings and staircases, mahogany hand-rails with iron supports, ornamental Portland stone cornices and string, several sets of Bunnett & Co.'s patent curvilinear iron shutters, iron safes, stoves, gasfittings, iron girders, and a variety of useful fixtures and fittings &c.—May be viewed the day prior and morning of Sale, and Catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-Court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

SUTTON, SURREY, in the immediate vicinity of the Sutton Station of the London and Epsom Railway.

MESSRS. BLAKE will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on FRIDAY, AUGUST 12th, at TWELVE o'clock, THIRTY highly attractive FREEHOLD BUILDING PLOTS, comprising the principal portion of the Sutton Park Estate, having with front frontages to the Cheam road, and to new roads, known as Grove and Church-roads. The land, which comprises an area of about seven acres, is elevated, and commands fine views. It has a substratum of chalk, and is admirably adapted for the erection of first-class residences. There is an early prospect of additional railway accommodation with the Metropolis, by which means the importance of the neighbourhood will be much enhanced.—Particulars, with plans, may be had fourteen days before the sale, at Garraway's Coffee-house; at the inns at Sutton, Epsom, Carshalton, and Reigate; of JOHN BERNEY, Esq. Surveyor, Croydon; of H. RICHARDS, Esq. Solicitor, Croydon; and of Messrs. BLAKE, Croydon.

CAMBERWELL.—Valuable Freehold Building Plots, in the midst of a thickly-populated neighbourhood, within two miles of London Bridge, and a few minutes' walk from the Camberwell Station.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE-HOUSE, near the Guildhall, on THURSDAY, AUGUST 18, at ONE o'clock precisely, in Eighty-two convenient Lots, including an eligible Plot for a Public-house, Seven Acres of valuable FREEHOLD BUILDING LAND, situate near the Rosemary Branch, Southampton-street, Camberwell, close to Peckham-grove, with frontages to Peckham-grove and Diamond-street, as well as to capital new roads now in course of formation. The subsoil includes a considerable portion of good gravel and sand, and the neighbourhood is one in which houses of a moderate size let readily at very remunerative rentals; also a neat Freehold House, having ten rooms and garden; and a Plot of Leasehold Land, with a frontage of 107 feet to Diamond-street.—Particulars and plans (now ready) of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion-house; and of the Auctioneers, 80, Cheapside.

TO BUILDERS, PERSONS REPAIRING, and OTHERS.—Second Portion of excellent Building Materials removed for Railway Improvements.—Adjoining the Bald Faced Stag, Finchley.

MR. RICHARDS will SELL, as above on THURSDAY, AUGUST 11, at ONE for TWO, exact time 200 lots, containing 10,000 feet of fresh cut quartering, 3,000 feet of floor boards, large girders, rafters, plates, joists, sashes and frames doors and frames, partitions, three capital mahogany desks, two capital wardrobes, 1,000 feet of York paving, stone coping sills, and fire-wood.—Catalogues on the ground, and of the Auctioneer, Tottenham.

150 Chimney-pieces, in nearly all the White and Coloured Marbles and Enamelled Slate; 5,000 pieces of good modern English and French Paperhangings; a few Decorations; 13 Water-closets, and 1,500 feet Gilt Room moulding.

MR. EDWIN WHITE will SELL by Public AUCTION, at his ROOMS, 12, Holborn-bars, an L. Cash-credit, Holborn, on TUESDAY next, at TWO o'clock punctually, PAPERHANGINGS and other ITEMS used in HOUSE FINISHING. The whole will be on view, and Catalogues may be had, three day previous and morning of Sale.

AT GARRAWAY'S COFFEE-HOUSE CORNHILL, WEDNESDAY, AUGUST 17, at THREE, TIMBER—500 loads, Foreign and Colonial. DEALS and BATTENS—100,000 pieces, ditto, ditto, and other wood goods. H. FREEMAN & Co. Brokers, 3, Crooked-lane, Cannon-street, E.C.

TO TIMBER MERCHANTS, CABINET MAKERS, BUILDERS, and OTHERS.—Absolute Sale of the Stock of a Timber Merchant.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, on the PREMISES, Willmer Garden, Horton-Old Town, on TUESDAY, AUGUST 9th, at ELEVEN, the above, comprising 30,000 feet Spanish, Honduras, and Cuba Mahogany; birch and other woods, dry pine planks, deals, and battens; laths, and numerous effects. Approved bills will be taken over 20. On view day prior to the day of sale.—Catalogues on the Premises and of the Auctioneers, 21, Holywell-row, Finsbury.

MAHOGANY AND TIMBER.
FOR SALE BY PUBLIC AUCTION.

ATF. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH BRISTOL, on WEDNESDAY the 10th day of AUGUST, 1864, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock. For account of Importers.

120 Logs Cuba Mahogany 44 Logs Spanish A Quantity of Log Ends	being the entire Cargo per Aral from Manzanilla direct
208 Logs Mexican Mahogany A Quantity of Log Ends	being the entire Cargo per Leo case, from Minatitlan direct

50 Logs of wn Walnut Oak
20 Logs Quebec Whitewood
180 Logs Fresh Elm
100 Logs Board Yellow Pine
2,000 Pine Deals

With other Goods.
Catalogues will be issued in the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, July 26th, 1864

N.B. The Cargo of Mexican Mahogany contains many logs of extremely large dimensions and suitable for machine purposes.

TO BUILDERS.—TO BE DISPOSED OF, an Old-established BUSINESS in the above Line, with good connection. This offers an excellent opportunity for an active and industrious man.—For particulars, apply to Mrs. TURNER, upon the Premises, at Marks Tey, Colchester.

FOR SALE, an OMNIBUS, built for the purpose of running on a railway, replete with every suitable convenience (nearly new).—May be seen on application at the Three Counties Asylum. Proposals, in writing, addressed to the Committee of Visitors, Three Counties Asylum, near Arlsey, Bedfordshire, to be sent by or before the 20th AUGUST, 1864

19, MILLBANK WHARF, WESTMINSTER, S.W.
JOHN CUDNY, SEN.
AGENT FOR COUNTS

N. LAZZONI & SON, of CARRARA begs respectfully to invite the attention and kind patronage of Sculptors, Engineers, Builders Masons, and others to his large STOCK of 1st and 2nd STATUARY, VEIN, and SICILIAN MARBLE just landed, ex *Crown* and *Progress*.

FOR SALE.—THREE CONSERVATORIES, TWO GREENHOUSES, and ONE PIT, TO BE SOLD at a great sacrifice.—Address, E. DENCH, Pomfret Villa, Oakfield road, Penge.

TO BUILDERS AND OTHERS.

WANTED, a Quantity of JOINER'S WORK, by the Piece.—Address, S. S. No. 11, Brewer street, Pimlico.

TO CONTRACTORS.—WANTED, several thousand loads of FILLING UP STUFF, King Henry's-road, Avenue-road, near Swiss Cottage, St. John's-wood.

GILT BORDERINGS for ROOMS, from 1d per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all its branches to the trade. 4-inch Gilt Bead, 7s. per dozen 6-feet lengths; best ditto, 12s.
GEORGE REES, 57, DRURY LANE.
Four doors from Drury-lane Theatre. Established in 1820.

INDIA-RUBBER MILL BANDS
WASHERS for STEAM JOINTS, HOSE PIPES, and
FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer street) LONDON, E.C.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1 York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 6, 1864.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1123. **AUGUST 13, 1864.** Price Fourpence. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

ANNUAL EXHIBITION of STAINED GLASS at the SOUTH KENSINGTON MUSEUM, MAY, 1865.

The Lords of the Committee of Privy Council on Education have placed at the disposal of the producers of Stained Glass in the United Kingdom a space in the South Kensington Museum for the Exhibition of Stained Glass of a highly artistic character in the year 1865. For the most part the space will be the same as this year.

Applications for place and particulars to be made on or before the 31st OCTOBER, 1864, addressed to the Secretary, Science and Art Department, South Kensington Museum, W

By order of the Lords of the
Committee of Privy Council on Education.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings. For prices, apply to the Manager, Mr TYLER, 12 Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREENE'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

73–74, Bishopsgate-street Within.

COMPETITIONS.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart are prepared to receive DESIGNS and ESTIMATES for the ERECTION of an OBELISK or COLUMN, on an elevated site on the Sledmere Estate, on the Yorkshire Wolds, near Driffield. Designs and Estimates to be sent to the Honorary Secretaries, on or before the 1st day of OCTOBER next. Twenty pounds will be given for the design considered the most suitable by the Committee, and ten pounds for the second-best design.—Particulars to be had on application to

WM. TOPHAM,
F. C. MATTHEWS, } Hon. Secs.

Driffield, 1st August, 1864.

TERRA-COTTA ENGINE CHIMNEY TOP.—WANTED, DESIGNS and PRICES for HEADING and TOP of an Octagon CHIMNEY, 90 feet high and 4 feet clear inside at top; 10-inch walls.—Address, SPEAR & JACKSON, Etna Works, Sheffield.

THE Town Council of Funchal, Island of Madeira, solicit PLANS and ESTIMATES for a BUILDING adapted to the following named purposes, viz. Town-hall, assize and law courts, police and local tax offices, &c. &c. The cost of the entire building or buildings not to exceed 8,300*l.* sterling. FIFTY Pounds will be paid for the most approved plan, and FIFTEEN Pounds for the next approved; the unapproved plans will be returned. A ground-plan of the site already prepared for the building or buildings can be seen, and further particulars may be obtained on application, at the Town Council Offices in Funchal, Lisbon, and Porto; or to C. R. BLANDY, 25, Crutched-friars, London, E.C.; GEORGE BORDINI, 19, Rue d'Hauteville, Paris; The BARON CONCEICAO, Walnut street, Philadelphia. The plans and estimates to be delivered in London, Paris, or Philadelphia, on or before 5th NOVEMBER, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for CARRYING OUT the ARTIFICERS' and LABOURERS' WORKS of an estimated value of three hundred pounds and under, at NETLEY, in the County of Hants, under a TRIENNIAL CONTRACT, from the 1st of OCTOBER next, determinable at any period after one year on either party giving to the other three months' notice in writing.

Copies of the Schedules (price seven shillings and sixpence) and Form of Tender may be obtained on application at this Office.

The Secretary of State for War does not bind himself to accept the lowest or any Tender. (Signed) P. RAVENHILL,

Major, Commanding Royal Engineer, Netley.

Royal Engineer Office Netley,
3rd August, 1864

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, IRONFOUNDERS, &c.

TENDERS are required for LAYING DOWN about 5,040 feet of Cast-iron FIRE MAIN, at the Gun Wharf, Portsmouth, County of Hants.

Persons desirous of Tendering for the execution of this Work must leave their names at this Office, on or before the 23rd AUGUST, 1864, and pay the sum of 1*s.* 6*d.* for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. J. W. GORDON, Col. C.R.E.

Royal Engineer Office, Portsmouth, 9th August, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Kingsdown, near Deal, in the county of Kent, may inspect the Drawings and Specifications at the Coast Guard Watch Room, Deal, or at this Office, between the hours of TEN and FOUR, from TUESDAY, the 2nd, to MONDAY, the 15th of AUGUST, now next ensuing, and both inclusive (Sundays excepted)

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 16th AUGUST, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Kingsdown."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 26th day of July, 1864, at the Admiralty, Coast-Guard Office, 13, Spring-gardens, London, S.W.

TO BUILDERS.—Mr. T. J. HILL has received instructions to make arrangements with one or more respectable Builders to FINISH an ESTATE in Surrey, about 9 miles from London. There are several pairs of villas in different stages of completion, some covered in and others ready; and to any one who can finish them out at once great pecuniary advantages will be offered.—Apply at the Offices, 70, Old-street, City road.

TO BUILDERS.—Persons desirous of TENDERING for the Works to be done in BUILDING New STABLING and ADDITIONS to HOUSE, at the Bedford Paddocks, Newmarket, for Mr. JOSEPH DAWSON, may see the Drawings and Specification at Messrs. CLARK & HOLLANDS' Offices, Newmarket. Tenders to be sent in to the Architect's Offices, on WEDNESDAY, the 24th of AUGUST next, and the lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—TENDERS are required for ALTERATIONS and ADDITIONS to BELVEDERE CHURCH, Erith, Kent.—Drawings and specifications may be seen, and all particulars obtained, at the Office of the Architects, Messrs. W. G. HABERSHON & PITE, 38, Bloomsbury-square.

TO ENGINEERS.—Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for a new STEAM ENGINE, PUMPS, and WELL for the Hastings Waterworks. The specification may be had on application at the Town Clerk's Office, High-street, Hastings, where Tenders, duly signed, must be delivered before TEN o'clock of the morning of FRIDAY, the 26th day of AUGUST instant. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT GROWSE, Town Clerk.

Hastings, 10th August, 1864.

TO BUILDERS and CONTRACTORS.—The Directors of the Greenwich Tannery Company (Limited) are prepared to receive TENDERS for the ERECTION of their WORKS, Plans and specification of which may be seen at the Company's Office, 26, Bishopsgate-street-within, E.C. between the hours of ELEVEN a.m. and FOUR p.m. Sealed Tenders, marked "Tender," must be delivered at the Company's Offices on or before the 30th AUGUST instant, by ELEVEN a.m. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

FREDERICK W. CHAPLIN, Secretary.

CONTRACTS.

TO CONTRACTORS.—The Trustees of the Town, Port, and Harbour of Whitehaven are prepared to receive TENDERS for SEWERAGE and OUTFALL WORKS for the drainage of the said town and neighbourhood. Drawings and specification, prepared by Mr. HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, may be seen at his Office, and at the Office of the Secretary to the Trustees, at the Town Hall, in Whitehaven (where bills of quantities and other particulars may be obtained), on and after MONDAY, the 1st day of AUGUST next. Sealed Tenders, addressed to the Secretary to the Trustees, must be delivered at his Office, in Whitehaven, on or before MONDAY, the 22nd day of AUGUST, but the Trustees do not pledge themselves to accept the lowest or other Tender, although they will do so unless there should appear to them to be sufficient reason for the contrary.

By order, JOHN COLLINS, Secretary to the said Trustees.

Queen-street, Whitehaven, 22nd July, 1864.

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will, at their meeting, to be held on the 18th day of AUGUST next, at the Town Hall, Church-street, Hackney, at ELEVEN o'clock in the forenoon precisely, be prepared to open TENDERS for the supply and delivery of 10,000 tons (more or less) of the best BLUE GUERNSEY GRANITE, broken to a gauge of 2½ inches, to be delivered and landed at their Wharfs, at Cambridge Heath and Kingsland Bason, in such quantities and manner as shall be directed by the surveyor. Any further information may be obtained by applying to Mr. JAMES LOVEGROVE, C.E. Surveyor to the Board, at his Office, Town Hall, Church street, Hackney. Tenders, with samples, to be sent in on or before the 17th day of AUGUST next, addressed to the Clerk, and endorsed "Tender for Broken Granite." The Tender to state the difference (if any) in price for any portion that may be ordered after the 29th of SEPTEMBER. Persons contracting will be required to enter into a bond or security, with two approved sureties, for the due performance of the contract. The Board do not bind themselves to accept the lowest or any Tender. The parties tendering are expected to be in attendance at ELEVEN o'clock, a.m. (Signed) RICHARD ELLIS, Clerk.

Town Hall, Hackney, August 4, 1864.

BOROUGH of WIGAN, in the County of Lancaster.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a GAOL, COURT-HOUSE, and BOROUGH OFFICES, for the said Borough of Wigan, may inspect the drawings and specifications at the Offices of Messrs. NUTTALL & COOK, Architects, 17, Lord-street, Liverpool, between the hours of TEN and FIVE, on and after THURSDAY, the 11th instant, until THURSDAY, the 1st of SEPTEMBER next (Sundays excepted). The quantities may be obtained on application to Messrs NUTTALL & COOK on payment of the sum of 2*l.* 2*s.*, which will be returned on delivery of a Tender. Tenders to be sent in on or before THURSDAY, the 1st day of SEPTEMBER next, under seal directed to C. HILTON, Town Clerk, Wigan, indorsed "Tender for Borough Gaol, &c." The Corporation do not pledge themselves to accept the lowest or any Tender sent in.

C. HILTON, Town Clerk.

Dated this 3rd day of August, 1864

CROYDON LOCAL BOARD of HEALTH.—TO CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for FORMING, MAKING, and METALLING the ROADS, CONSTRUCTING the EARTHENWARE and IRON PIPE SEWERS, and other Works upon the Lambeth Freehold Land Societies' Beulah Spa Estate, at Thornton Heath and the adjoining district, in the parish of Croydon, in accordance with the plans and specification prepared by Mr. Baldwin Latham, C.E. the Engineer for the Croydon Local Board, can inspect the plans and specification, and obtain other information at the said Engineer's Office, in the Town Hall, Croydon, on or after this date. Sealed tenders, endorsed, "Tender for Roads and Sewers, Thornton Heath," are to be delivered at the Offices of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock on the afternoon of TUESDAY, the 30th day of AUGUST, instant. The Local Board do not bind themselves to accept the lowest or any Tender.

3rd August, 1864. HENRY RICHARDS, Clerk to the Board.

BLACKFRIARS BRIDGE.—TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Ronch, Portland, and rough rubble. Also for the handsome columns, with carved bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of a new CHURCH at New Ferry, near Birkenhead, according to the drawings prepared by Mr. E. Haycock, jun. architect, Shrewsbury, may see the plans, specifications, and details at the National School House, New Ferry, about half a mile from Bebington Station, on and after this date. Sealed Tenders received by the Rev. G. R. FIELDEN, Bebington Rectory, Birkenhead, on or before MONDAY, the 22nd instant. The Committee do not bind themselves to accept the lowest or either Tender.

Bebington, August 1, 1864.

TO BUILDERS.—The Managers of the Stratford Presbyterian Church are prepared to receive TENDERS for the ERECTION of a CHURCH, LECTURE-HALL, and VESTRIES at Maryland Point, Stratford, E.—Builders desirous of Estimating for these works are requested to forward their names not later than WEDNESDAY, the 17th proximo, to the Architect, Mr. ALEXANDER PEEBLES, 3, Walbrook buildings, Mansion-House, E.C. where the drawings may be inspected and every information obtained. The Managers do not bind themselves to accept the lowest or any Tender.

PERSONS willing to TENDER for PAINTING COACHHOUSES and STABLING, at Blenheim-yard, Woodstock-street, Oxford street, can inspect the specification on the premises. Tenders to be delivered at the Architect's Office, on THURSDAY, AUGUST 18, at FOUR o'clock punctual.—Mr. Freeman reserves the right of rejecting the lowest or any Tender.

HENRY McCALLA, C.E. Architect,
25, Westbourne-place Eaton-square.

[For remainder of Contracts see next Page.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW WESLEYAN CHAPEL, in the Bow-road, may inspect the drawings, after WEDNESDAY next, at the Office of the Architect, Mr. W.W. POCOCK, 23, Craven-street, Strand, and obtain a bill of quantities on payment of one guinea, which will be returned to parties tendering. The Tenders are to be delivered at the Office of the Architect on TUESDAY, the 23rd inst. at THREE o'clock in the afternoon. The promoters do not bind themselves to accept the lowest or any Tender.

BUILDING of ST. FINBAR'S CATHEDRAL, CORK.—Builders desirous of TENDERING for the above BUILDING are requested to send in their names to the Architect or the Committee before the last day of AUGUST. The quantities will be supplied by that time, or as soon after as possible. A fortnight will then be allowed to make the estimate, during which time the drawings, specifications, and conditions of Contract can be seen at the Cathedral Committee-rooms, Cork; and at the Office of the Architect, Mr. W. BURGES, 15, Buckingham-street, Strand, London. The Committee do not pledge themselves to accept the lowest or any Tender.

LLANELLY NEW MARKET.—To CONTRACTORS, BUILDERS, and IRONFOUNDERS.—The Local Board of Health for the district of Llanelly are prepared to receive TENDERS for the following WORKS:—
CONTRACT No. 1.—For a stone-built boundary-wall, about 2,000 feet long.
CONTRACT No. 2.—For Cast-iron Pillars, about 200 in number.
CONTRACT No. 3.—For Materials and Labour, for roofing of sheds.
Plans, specifications, and forms of Tender may be seen at the Office of Mr. E. BAGOT, C.E. Surveyor to the Board, on and after the 10th instant. Tenders for the Works, endorsed "Llanelly Market Contract, No. 1, 2, or 3," are requested to be sent in to Mr. F. L. BROWN, Clerk to the said Board, not later than FRIDAY, the 26th instant, The Board do not pledge themselves to accept the lowest or any Tender.—By order, F. L. BROWN, Clerk.
Town Hall, Llanelly, August 2, 1864.

TO BUILDERS.—TENDERS are required for sundry ALTERATIONS, ADDITIONS, and REPAIRS to No. 5, Falcon-square, City. The drawings, specification, and conditions may be seen on the Premises, on and after THURSDAY next, the 18th instant. The lowest or any Tender will not necessarily be accepted.
Falcon square, City.

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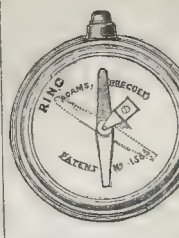
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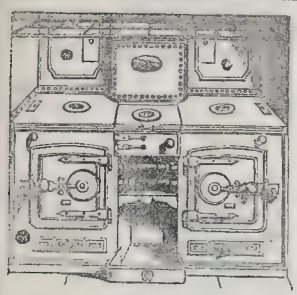


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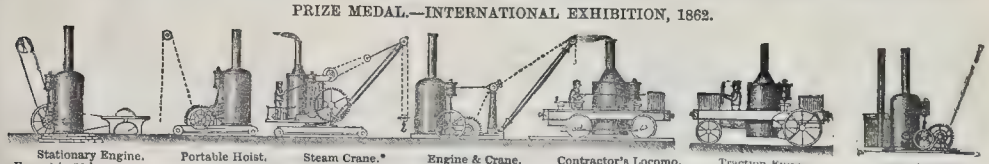
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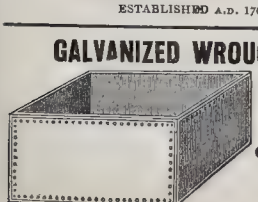
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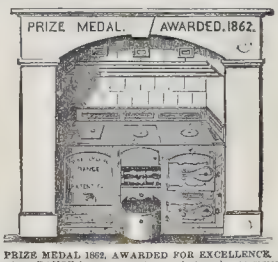
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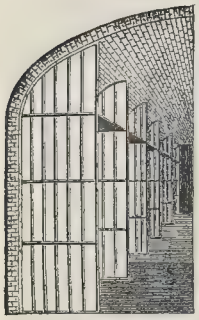
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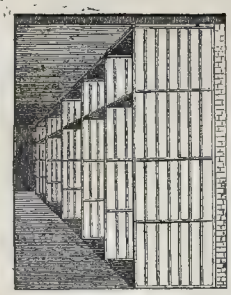
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Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING nearly FORTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

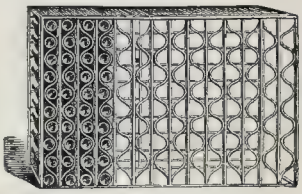
Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

ALSO THEIR

NEW REGISTERED IRON BINS,

Made any size or shape, to fit any spare corner, with
SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents o the Bin.

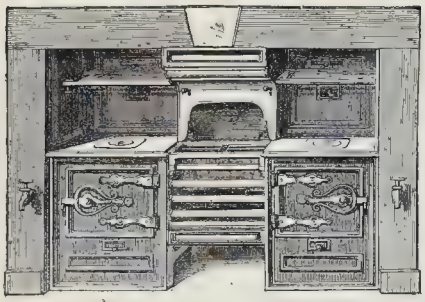


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FACTORY, 57 and 58, MANSELL STREET.

THE IMPROVED OPEN FIRE KITCHENER,

Manufactured by

WM. OWEN,
PHŒNIX IRON WORKS,
ROTHERHAM,



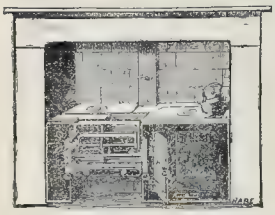
Possesses all the advantages of the ordinary Close Fire Kitchener, in having excellent Hot Plates on top of Ovens, for boiling, steaming, or stewing, with the additional advantage of having a thoroughly effective and deep OPEN Fire for roasting purposes.

The Ovens are heated upon Bradley's Patent Principle (under which W. O. possesses the sole right to manufacture), and by which a great economy of fuel is effected.

These Kitcheners are made of all qualities and sizes, suitable for all classes of houses, from the cottage to the mansion; and can be OBTAINED THROUGH ANY IRONMONGER in the UNITED KINGDOM.

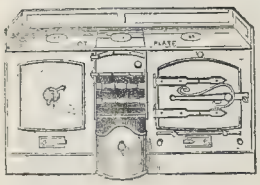
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This Range, also
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SEMI-CLOSE RANGE,
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PATENT COTTAGER'S KITCHENER;
Also CUNDY'S Patent Original FIRE-BRICK
Warm-Air Ventilating STOVE,
suitable for CHURCHES, HALLS, SCHOOLS,
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can be seen in operation daily at the
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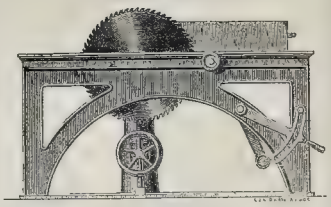
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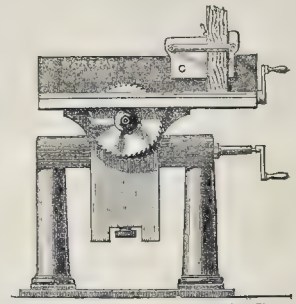
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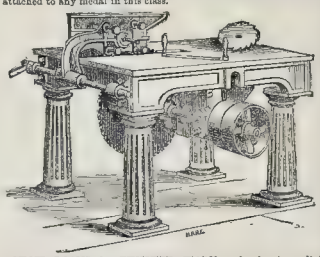


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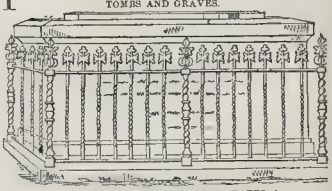
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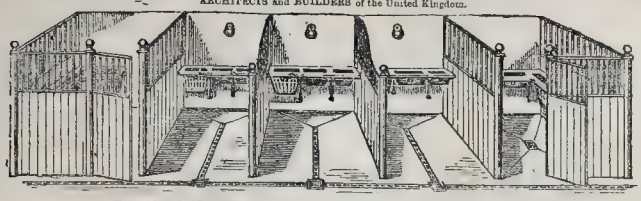
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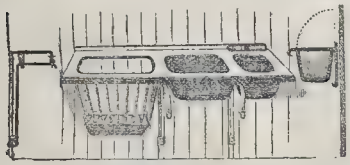
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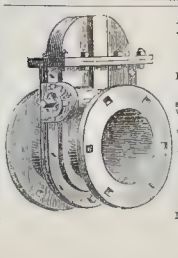
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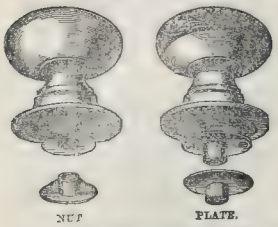
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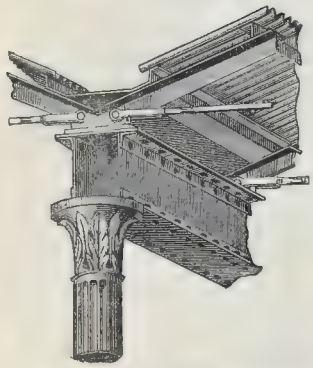
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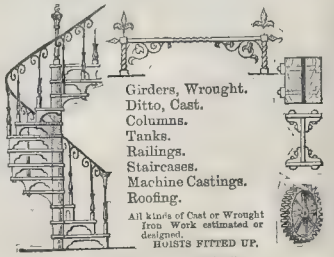
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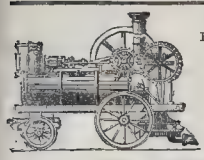
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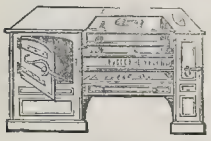
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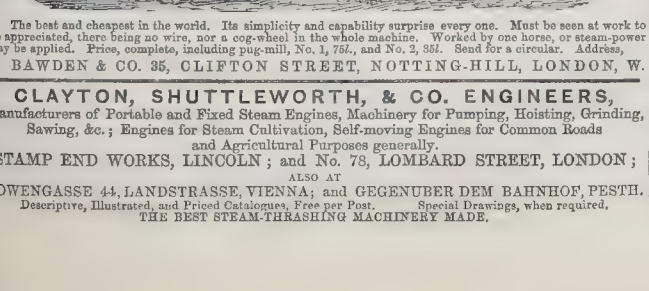
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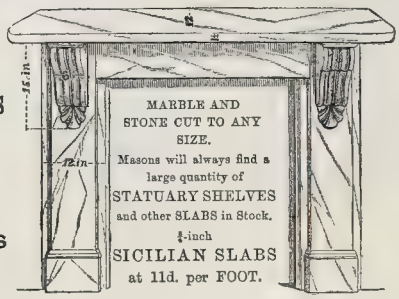
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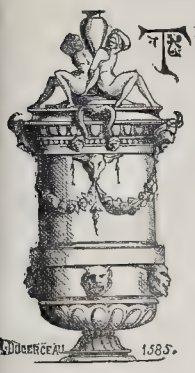
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VOL. XXII.—No. 1123.

*Exemplification by Art of the History of Our Lord.**



THE graceful addition made by Lady Eastlake and Mrs. Jameson to the literature of art, has the twofold interest, diversity and vigour of duality of authorship. It may be doubted whether this vast subject, spread over so many ages and so many lands, could have been grasped in a more masterly manner than it has been by the two writers in question; the peculiar training of the one and the position of the other having pre-eminently qualified them for the task. It will be remembered that Mrs. Jameson some twenty years ago issued the first two volumes of a series illustrating Christian art, and in the interval followed these up with further digests of her gleanings, entitled, "Monastic Orders," and ultimately, by the "Legends of the Madonna." This long labour in the same field necessarily enabled her to store up a large amount of the material required for a work she had reserved from the first as the head corner-stone of her undertaking. In the midst of her task, after she had drawn up in a programme the form and sequence this work should take, and written some 200 pages of it, she was removed. That her intentions should, nevertheless, be carried out, her family and publisher placed her notes and journals in the hands of Lady Eastlake, who has ably accomplished its completion.

As the notes left by Mrs. Jameson were for the most part descriptions of pictures, Lady Eastlake was left entirely unfettered in her judgment, and by far the larger portion of the work may be regarded as the expression of her own unbiassed opinions and independent criticism—the effort of her unassisted ability. Living in what may be called an art atmosphere, both in companionship and counsel, the wife of the president of the Royal Academy has enjoyed rare opportunities for acquiring fitness for the execution of a theme so exalted, and unequalled advantages in its prosecution; foreign galleries, libraries, and museums, as well as our own store-houses, being alike in her acquaintance and at her service. The selection of the very spirited and indispensable illustrations, some 300 in number, is entirely due to her taste and discrimination.

Mrs. Jameson proposed to relate the manner in which art has depicted the life of our Lord in the following mode:—First, without regard to the chronology of art, she placed upon her programme the ideal and devotional expression of our Lord's mission. In the next section she proposed to give the varied renderings of the life of our Lord on earth; and the last was to be devoted to the types from the Old Testament. While making use of Mrs. Jameson's conception of the range of subjects coming within the scope of the proposed history, Lady Eastlake has improved upon the sequence, by returning to the order followed by previous classifiers of Christian art. We are accordingly presented with a chronological arrangement of the incidents of our Lord's life, commencing with the fall of Lucifer and the Creation, and terminating with the visionary, vague, dreamy portraitures in which art has endeavoured to prefigure the awful grandeur of the last judgment. It was impossible to combine the chronology of art with that of the facts represented: this sequence is, therefore, the best compliance with the interests of the subject that was obtainable.

Although pictorial art has borne the chief burden in exemplifying the life of our Lord, a wider range of artist-labour has been carefully searched for the representations that will show us the sentiment of those who wrought so many centuries nearer to the occurrence of the facts depicted. The treasures of the catacombs, sculptures on sarcophagi, and mural paintings; mosaics, doors of churches, ivories, enamels, gems, glass, miniatures, and early wood-blocks, have been examined for the information they can yield. Ancient stained glass appears to have been the only vessel that Lady Eastlake has left sealed.

For many ages Christian art was to the mind as bread to the body. It was certainly possible to exist on other fare, but its acceptation yielded a nourishment otherwise unattainable. It fed, filled, and sustained. It was the accessory of all religious instruction, the ready exponent of all doctrine. All teaching took form, colour, and reality in men's minds by its aid. The preacher accosted the ear, the painter addressed the eye. In answer to what was required of it, Early Christian art was a literal depiction of Biblical facts with all the fidelity that the scant appliances at the command of the limners could compass. Mature art, or art after the introduction of printing, had loosened the chains that bound knowledge hand and foot, made no such immeasurable stride as might have been expected. If there was better anatomical drawing, there was also a looser rendering of facts and less earnestness. Art was no longer governed by truth, but bowed down before plastic, plausible Fancy. But before art had attained the former usefulness and dignity there was a period of some three centuries, in the first days of Christianity, in which it was unrecognized. The Jews, especially enjoined to abjure graven images, were not likely to have viewed with favour classic art; and to Gentile converts, newly repudiating the bondage of paganism, we may suppose it must have had peculiarly disagreeable associations. But as time wore on, and the Mosaic influence was lessened and the bitterness of repudiation had passed away, art began to take up the sacred story. Christian art, so to speak, was not a new birth, it was a new growth upon an old stem. That it was not given to any or either of the early Christians in the exercise of their creative faculty to produce anything of a very different nature to that with which the wreck of Rome had left them familiar we may assure ourselves by a rigid examination of the contents of the catacombs. The story was different, but the manner of telling it very similar. Those whose opinion should be of weight have agreed that the object preserving the earliest manifestation of an application of art to Christian purposes, is the sarcophagus of Junius Bassas, found in the catacombs when they were first explored in the sixteenth century. This, at first sight, might be easily mistaken for a pagan monument, there being nothing in the character of the drapery or ornament to indicate an entirely new birth; but a closer inspection shows in its ten compartments a consecutive series of Biblical incidents, commencing with the fall of man and ending with the denial of our Lord by St. Peter.

As mediæval art receded from classic trammels it appears to have girded its loins and set out on a fresh path. But it would be useless to deny that classic traditions paid it some service by the way. The apple, for instance, is but a reproduction of the golden fruit in the garden of the Hesperides; the serpent, of the dragon that guarded it. The Hebrew word given in the sacred text is the generic term for all fruit. Greek art represented figs as the particular fruit partaken of by our disobedient parents. Eastern and western art have occasionally shown oranges; and in Burgundy and Champagne the vine has been selected. Roman art was therefore free to choose, and, guided by classic tradition, it chose the apple.

Art has the difficulty to contend against that it can only represent one instant of time. In reality, the next would bring some changes to the action of the story. In this respect its capabilities are distanced by poetry. Conventionalism is the growth of this defect; the use of symbols one of its earliest expedients. It must be admitted that this difficulty occasionally called forth masterpieces of resource, as in the representation of the Seven Days, by an early master. This design is in mosaic, and may be seen in the cupola of the right hand vestibule of St. Mark's Cathedral, Venice. After showing the work of the six days, the Creator, as Christ, seated on a throne, with the six angels on his right hand and on his left, is blessing the seventh day, likewise in the form of an angel. To make this day distinctive from the others as a day of rest, the artist has made it wingless. Lady Eastlake, whose sympathies are with the earlier rather than the later masters, points to this ingenious typification of the inactivity of the Sabbath as an instance of felicitous expression on a par with the power of the most advanced periods. Symbolization found its way to embody the new ideas at first upon small objects, such as signet-rings and gems. The simplest figure frequently represented the most elaborate and abstract idea. Thus the favourite symbol of the fish alluded to the regenerating waters of baptism, and typified the convert caught by the Galilean fishermen, who were told to be fishers of men. Treated as an acrostic the Greek word for fish also represented "Jesus Christ, Son of God, Saviour." Here was a volume of thought compressed in one rude outline. A ship typified Noah's Ark, and that object in its turn symbolized the Church. The dove, anchor, and lyre, are also in the list of symbols mentioned by Clement of Alexandria (who died at the beginning of the third century), as being proper to be used on rings by Christians. The diagram, a figure composed of a multiplicity of symbols, gives a mystic interpretation that was in early favour. The signs by which art distinguishes the various personages in Sacred History are of much later adaptation than these symbols. The key, always placed in the hands of St. Peter, first appeared on a coin in the reign of the Emperor Charles the Bald (ninth century), but was not constantly used till the fourteenth century. Even the cross, originally a heathen symbol, was likewise not familiar in its simple form, in Christian art, till an advanced period. St. Chrysostom deposes to the frequent use of a cross in his time; but this has been ascertained to be the so-called monogram of Christ composed of the two Greek letters X or Ch and the P or R. In the days of Constantine the same monogram still appears on coins, and, in fine, the middle of the fifth century had arrived before the simple sign of the cross came into vogue. This is accounted for by the fact that death by crucifixion continued to be inflicted upon offenders up till within a century of this time. It required, at least, the lapse of a hundred years before the horrible associations could die out and the sign be looked upon in a devotional and mystical light as the emblem of the Christian

* "The History of Our Lord, as Exemplified in Works of Art; with that of His Types:—St. John the Baptist, and Other Persons of the Old and New Testament." Commenced by the late Mrs. Jameson, continued and completed by Lady Eastlake. In two vols. London: Longman, Green, Longman, Roberts, and Green, 1864.

faith. Lady Eastlake displays considerable research at all times, but this is particularly evident in the section of the work in which she traces the eventual use of the cross in its various forms with its development into the crucifix. She arrives at the conclusion that the cross symbolized the person of the Redeemer, and that the crucifix was intended to convey something akin to a realization of the crucifixion, but only in an abstract figurative way by no means identical with a representation of our Lord's Passion. Previous writers have alluded to an intermediate crucificial form in which the figure, devoid of signs of suffering or torture, might be a phantom hanging on the cross, thus shadowing out the substance of a Gnostic heresy. But Lady Eastlake has been able to find no such example. The nearest approach to this rendering belongs to a much later period of art, illustrated by the Hohenlohe Sigmaringen Crucifix. This, if we may be permitted to say so, might be construed into a corroboration of the tradition that earlier art had treated the subject in the same manner. The figure is young, beardless, and beautiful, reposing on the cross rather than fastened to it; although a belt passing over the waist connects the two together. The arms are outstretched with an air as of one about to embrace those who gazed upon it with joyous serenity: a sweet peace, rather than pain, or sacrifice, being the sentiment conveyed. A score, or more, of illustrations throw light upon this stage of the development of symbolization.

The direction taken by art most curious to follow is the endeavour to point out and render scenes and personages in the Old Testament as types of those in the New. This pathway has been as laboriously travelled by artists as by schoolmen; and consequently this phase of art's history of our Lord is treated at great length. Adam, Abel, Noah, Isaac, Jacob, Joseph, Moses, Joshua, Jephthah, Samson, David, Solomon, Elisha, and Job have been all given as types of our Lord in the same way that Elijah is represented to have been a prefiguration of John the Baptist. The Fall of Man must necessarily have preceded the occasion for atonement; these two facts are, therefore, frequently treated together as indissolubly connected with one another. Indeed, in most instances where the history of our Lord is rendered in a series, whether in sculpture or painting, it is commenced by a representation of Adam and Eve beneath the tree of knowledge; and the mystical association has been found to be still further worked out by giving the tree the form of a cross. Abel is accepted as a type of our Lord because he was the first of mankind who was righteous in the sight of God, the first who placed a sacrifice on an altar to God, and the first who was put to death unjustly. The scenes art has chosen to depict in these histories are not always strictly scriptural. Queen Mary's prayer-book, in the British Museum, shows Cain trying to cover up the dead body of his brother with leaves. A French bible of the end of the thirteenth century shows Cain leading Abel by the hand emerging from a castellated gateway furnished with a bridge over the most. In another instance, Lady Eastlake has detected Cain keeping his hat on in the presence of the Creator as a conventional expression of disrespect. Lucas van Leyden, following tradition, has left a fine engraving in which the end of Cain is given. The blind Lamech, accompanied by a boy bearing arrows, is in the act of bending his bow with the evident intention of shooting a human figure sitting crossed-legged beneath a distant tree and resting his head upon his hand in an attitude expressive of weariness of life. Similar versions of this rabbinical legend concerning the death of Cain are to be found on the stalls of the Cathedral of Amiens, in the Campo Santa, at Pisa, and on the north side of the cathedral at Modena. The mention of this fact leads us to remark upon one of the errors of Christian art. She is frequently to be found straying beyond the bounds of truth. With how much more respect we should have surveyed her creations if it had come out in the evidence of such an examination as that to which the present and similar works have given rise, that in no single instance had the plain scriptural truths been exceeded. But in many instances the oriental charms of tradition have proved too seductive, and labour that should have been spent on truth has been lavished on fable. Returning to the types, Noah, as the builder of the ark, was interpreted into the great founder of the Church, his ark into the Church, the deluge into baptism. Abraham and Isaac, from very early times, were looked upon as symbols of the great sacrifice. The great father of nations gave his son for a sacrifice, and that son carried the faggot with which to light the altar-fire, up the same path, on to the same mount, as that up which Jesus carried the cross. To intensify this abstraction, the wood carried by Isaac is generally placed crossways on his shoulders. St. Gregory of Nyssa alludes to the frequent rendering of this vivid type, and says he can hardly refrain from tears on beholding it. With such an acquiescence it is not to be wondered at that the same mystic meanings, once found, in the other numerous personages mentioned were much elaborated. This led to an exaggerated strain to twist every incident in the old writings into a foreshadowing of the events in the life of our Lord. The translation of Enoch was a prefiguration of the ascension. The three mighty men who penetrated into the camp of the Philistines to procure water from the well of Bethlehem are, under this influence, made to typify the three kings at the nativity. Allegory is doubtless an instinct of art, but the rendering of history is a more important object than a gratification of a feeling for the fanciful, and we would that the artists of old had borne this fact in mind.

Anachronisms appear to have been ever the pitfalls of art. In mediæval times we may see that art not unfrequently perpetrated the error of draping representations of Scriptural figures in what were then modern costumes, and of placing as accessories to sacred subjects modern every-day objects; and, not warned by the effects of this unpleasant shifting of time and place, modern artists reversed this practice, and with equal absurdity and for a long season depicted moderns in classic costumes. When Benjamin West announced his intention of giving the death of Wolfe in the actual regimentals worn at the time, Sir Joshua Reynolds endeavoured by every argument in his power to induce him to alter his mind, believing that the dignity of the subject would be ruined by such a course. The reverse of this treatment may be seen in a Flemish Bible of the fifteenth century in the Burgundian library at Brussels, where, in an illustration of the opening passage in the 69th Psalm, in which David cries, "Save me, O God, for the waters are come in unto my soul," David is seen floating in water, nude but crowned, with a line of comfortable Flemish houses fringing the shore. Again, in a painting upon the walls of the church of St. Angelo, in Formis, Adam and Eve are shown going from Paradise gorgeously dressed, the latter wearing a furred train so long that she is obliged to hold it up as she picks her way. In another instance, in a painting of the Paul Veronese school, Rebecca is represented alighting in the arms of Isaac, who is dressed as a Venetian cavalier. It may have been the frequency of these anachronisms that led to the practice of painting portraits in Scriptural subjects. Pointel, the banker, commissioned Poussin to paint him a picture showing the different styles of beauty of young women, who saw no want of reverence in choosing Rebecca at the well as his medium. In late art this sin was frequently committed. In the Psalter of Henry VIII., in the British Museum, King David is a portrait of Henry, and the fool a likeness of Somers, the court jester, in the illustration of the passage, "The fool hath said in his heart, There is no God." Titian painted the portraits of the Emperor Charles V., his son, afterwards Phillip II., and Cardinal Ximenes, in the "Supper at Emmaus;" and Paul Veronese painted his wife and family in the same subject. Perugino made his picture of the "Resurrection" the medium of handing down his own portrait and that of his pupil Raphael.

Another looseness to be detected in some stages of early art is the want of a due attention to details, such as has left Hagar to thirst in a green luxuriant country. Poussin, even, has given trees and pastures to the desert of the Israelites. Ancient anachronisms have, doubtless, their defenders; and in the case of architecture and furniture it would, perhaps, be difficult to decide whether it would be more desirable to find an approximate reproduction of the forms aimed at, or a bold replacement by those in daily use around the artist. The archæologist, studying Saxon missals, would, we may be sure, prefer the latter, deeming the first but of doubtful veracity, according to the learning of the miniaturist. But, taking Christian art as one vast scheme, not as a series of individual efforts and creations, it should be synonymous with truth. When the catacombs were first opened out after being lost to human knowledge for centuries, it was hoped that art would be able to reveal the opinions that men held upon certain doctrinal points, in the eras immediately succeeding the life of our Lord on earth. The inscriptions and sculptures were classified and anxiously examined, but art failed to yield a sufficing explicitness. This is an instance where a minute attention to a truthful rendering of facts would have been of great value. Perhaps the cunning of men made the difficulty greater, and mystified the truth.

The murder of the Innocents, though a scene in which neither the infant Jesus nor his mother were present, has been a favourite subject for the graces of Christian art. The forty children who may have been wickedly massacred at Herod's command, were unhesitatingly multiplied into fourteen thousand. Rosselli, Fra Angelico, Matteo di Giovanni di Siena, Raphael, Baccio Bandinelli, Daniel di Volterra, Guido, Rubens, Andrea Celesti, Poussin, Breughel, and Jan Steen, have all treated this episode. The miracles, the parables, have also found their numerous expositors, but the grandest expressions of human adoration must be looked for in the portraiture of those scenes, commencing with the Entry into Jerusalem, and including the Crucifixion, distinguished as the Passion of our Lord. Holbein gave the leading incidents of this eventful period in nine designs; Albert Durer depicted them in fifteen; Duccio arranged them in twenty-six. Lady Eastlake, going through them deliberately, gives the passage they depict, with the commentaries they suggest, and the modes taken by the various artists in various centuries, to realise their occurrence. She has also placed before her readers all the extraneous information bearing upon the subject that her researches have brought to her knowledge. Thus, amongst other matters, the nature of the crown of thorns is fully discussed, and the three-thorned acacia, a specimen of which is in the garden of the Bishop's Palace at Fulham, is accredited with the interest belonging to its supposed identity.. She also enters, with just discrimination, into protest against the degradation that art descended to when she permitted her teachers to represent Christ as falling beneath the cross, instead of encouragingly carrying it to the end, and in other ways to sacrifice truth for dramatic effect, errors never committed by masters of the devotional fervour and power of Fra Angelico. With much skill of diction she follows Christian art in its revolutions round its sacred centre, the head of Christ, through these and its extreme phases, the representation of that mystical Trinity which St. Bernard declared was a mystery, that it was "temerity to search into, piety to believe, and life eternal to know," till it culminates in that great test of imaginative power, the rendering of the Last Judgment. Aided by the clever etchings of Mr. Edward Poynter, and the drawings on wood by Miss Clara Lane, Lady Eastlake fulfils one of the first conditions of art. All that she has written can be easily understood by those seeking instruction, as we shall particularise in a further notice.

THE SANITARY STATE OF METROPOLITAN DWELLINGS.

No one who has had personal experience can doubt for a moment that the improved arrangement of the subdivided dwellings in the metropolis is a sanitary question loudly calling for careful attention. The evils of intramural interments, after a severe battle, have been brought to an end; the main drainage of this great city is approaching completion; and in other directions progress has been made; but as regards the dwellings in which vast multitudes are at present forced to reside, the state of things remains most unsatisfactory and serves to injure life and health to an extent which has not yet been sufficiently estimated. During a comparatively recent period, the removal of dilapidated and unwholesome dwellings throughout the London district has been enormous in extent; and up to the present time the houses provided in lieu have been quite insufficient, and the result has been, as we years ago stated would be the case necessarily, that great masses of people are driven into houses which were never intended for the use of numerous families. In one way the demolition of the dwellings which have given place to the construction of railways and other modern changes, is scarcely to be regretted, for it was not easy to overestimate the evil condition of

many of them; but the mischief is, that no sufficient provision of suitable dwellings for the industrious classes, and others of limited income, has been made in their place.

The last report of the Society for Improving the Condition of the Working Classes, which is presided over by the Earl of Shaftesbury, holds out more promise than those which have preceded it. The amount of profit is increasing; and in connexion with the rows and courts that have been altered and made wholesome at a very large cost, the account is satisfactory. In other ways we hear that property formerly unfit for the occupation of various families has been put into a good sanitary state, and at the same time made to afford a fair return to the owners. The so-called model buildings are also increasing in number, and making better returns. This seems to have been in part the result of a considerable advance in the rental of the rooms. Still it is very rare that those places are left unoccupied for many days; in fact, at most of these establishments, there are lists of the names of persons who are anxious for accommodation in them. Structures of this kind will increase in number; but, for several years to come, the health and amount of the death-rate of many thousands of the population of the metropolis will depend on the effective drainage, the prevention of overcrowding, attention to proper ventilation, and the extended inspection of those places, for which we have long earnestly called.

Walk in whatever direction you choose in the metropolitan suburbs, the extent of the building operations which are going forward is astonishing. From the centre of the capital armies of brickmakers and builders are marching on, and driving back the market-gardeners; and, as if by magic, the green fields and the lanes are giving way to rows of houses and macadamised roads. Even now, some of the suburban cemeteries—Highgate and Victoria Park—are becoming inclosed by dwellings; and if the same extent of progress go on, it may be necessary to look further abroad for places for the reception of the dead. Looking at these extensive operations, it is impossible to help feeling regret that so few of those buildings have been reared with a view towards the proper accommodation of workmen and their children. The chief part of the houses are on the old plan, intended for the use of a single family, and will let at the rate of from 30*l.* to 40*l.* a year. We should be glad to be able to report that some efforts equal to the occasion were made to provide suitable homes for the industrious classes of this vast city; and we look with anxiety to see the effect which the working of the metropolitan railways will have in causing the erection of a class of houses which are so much wanted. It has been found that since the opening of the Underground Railway, more than 60 per cent. have been third-class passengers; and, with a view towards still further meeting the wants of the labouring classes, the company have recently run especial trains for workmen, so as to enable them to get to their business before six o'clock in the morning; the fare for the double journey being only 3d.; so that a man may live in the open air about Paddington and reach the City or the other stations at the charge of 1s. 6d. a week.

As each year rolls on, a knowledge of the laws of health spreads more widely amongst the working classes; and when it becomes generally known to what a great extent the health and strength, and happiness and success, of themselves and children, depend upon the sanitary state of their homes, many of the rooms which are at present in use will be no longer tolerated; and there will be a competition amongst capitalists and builders to supply what will be extensively wanted. Much other work might be done usefully. Each parish should get a careful account of the present state of the drainage of streets and dwellings in connexion with the main drainage. We want to know how much branch work has been effectually done and what still remains to be completed.

A law for the proper inspection of metropolitan dwellings in which more than two families reside should be no longer delayed. The chief means now available for inspection are the parish sanitary officers, and a small section of the police, whose duty it is to attend to "common lodging-houses," and to buildings which have been pronounced dangerous and dilapidated, but with those houses which are not licensed the police seldom interfere except in cases when they receive some direct information of the illegal overcrowding of tenemented houses. This interference is not evoked by the numbers which dwell in one room or in the several rooms so long as each home is occupied by a family distinctly related. Thus an aged grandfather or grandmother, with sons and their wives and grown children, or even those borne to them of a fourth generation, may, in defiance of decency and the rules of health, herd together without police interference. But if it can be shown that strangers have been admitted to lodge, the person renting the place can be summoned before a magistrate and made to fit up the house in accordance with the lodging-house act.

It is clear that in the present condition of affairs, it would be impossible to alter many of the tenemented dwellings in use so as to meet the requirements of the Common Lodging-house Act, which is intended more especially for the good management of resting-places for single men who have no family ties; and where a good kitchen, with receptacles for the safe keeping of spare food, clothes, or other property, and the use of a commodious sitting-room, well lighted with gas at night, and supplied with newspapers and periodicals are required: water must also be served to the lavatories and closets, and the cleanliness of the beds, and occupation of the sleeping-rooms in proper numbers by lodgers be seen to. In a house of this description, in George-street, Drury-lane, as it is stated by Mr. Rigby in Mr. Twining's pamphlet, the profits are $14\frac{7}{10}$ per cent. on investment, and in Clark's-buildings, St. Giles's, as much as 10 per cent.* To return, however, to the subject of the inspection of dwellings *let in tenements:* it is certain that the police power of inspection is of but little use; we find, therefore, that while a class, for the most part adults, and who have few cares beyond their own, are protected by wise and necessary provisions, a multitude of the heads of families, who go to form the main power of British industry, and their children, are left without that care which is really under the present circumstances necessary for their safety. The parish sanitary officers, even in the best regulated London parishes, are insufficient for the labour which is needful. How can any one reasonably expect that two sanitary officers can attend to the wants of districts which contain a population of over 100,000 persons, and from 15,000 to 20,000 houses? No wonder that constant complaints are made of delay in the attention of the officers, with accounts of choked drains, overflowing cesspools, the want of water, &c.

The simple perambulation of a district in which 100,000 people dwell, is a labour of time and difficulty, and if the duty is to be confided to the parishes and unions, five sanitary inspectors, instead of two, would find plenty to do if they rightly attended to their work; and if suitable men were selected, the ratepayers would save money in the long run by the increase.

While watching the present system of sanitary inspection, we have noticed on the part of the police an unwillingness to interfere, and on the part of the parish authorities a still greater reluctance to move, unless they are forced to do so by the outbreak of some pestilence, the remarks of coroners and magistrates, or by the strictures of the Press. There is, in fact, a disposition shown to shift the duty from one department to another, and so the public are left in the doubtful and precarious position of a person sitting on two stools.

Matters are better within the City limits; but throughout the metropolitan district, by the want of the renewed inspection of places which have been brought under the notice of the magistrates who have ordered their alteration and improvement, many of these spots we have found either imperfectly attended to, or else, after a few months, in as bad a state of neglect as at the time of the complaint being made.

As we have before said—and increased knowledge on the matter confirms our opinion—the health of the poorer and industrious classes of this vast population, at any rate for a quarter of a century or more (while sanitary changes are going on, and the old, inconvenient, and unwholesome dwellings of the multitude are giving place to better arrangements), and the lives of thousands in each year, depend on the systematic examination of dwellings in a manner to which we have before referred. It is next to useless to wait till complaints come from the tenants and others: many have been reared in the midst of neglect, and know nothing better. With some of the poorest of the community, to be found in large numbers, there is a difficulty in obtaining accommodation of any kind at a rate which they can afford; and should they be led, by sickness and death in their families, to find fault, they are ordered away. Others are in arrears of rent, and fear the broker: thousands are careless of consequences; others do not know how to set about applying for attention; and many, although their children are lying on a bed of sickness and dying before their eyes of poisoned air, see in it only God's will, while in truth they are themselves committing murder.

* In connexion with the rate of the profits on property belonging to societies the cost of general as well as local management should be shown, and that divided in a proportionate rate over each set of houses, would show more clearly the true state of affairs than is now discoverable.

NOTES OF A PROFESSIONAL TOUR IN THE COLONIES.*

For nearly 60 miles to the east of Belize the course of vessels is through intricate passages, amongst innumerable islets, covered to the water's edge with an impervious mass of vegetation, principally mangrove trees, interspersed here and there with a few cocoa nuts, with their graceful, feathery-looking foliage; through narrow channels, on each side of which are steep and rugged walls of coral, and along smooth and unrippled water, which presents a variety of hues, sometimes the most heavenly blue, and sometimes of the brightest and most sombre green, and so clear and crystal-like, that you may see the various occupants of the briny deep, occasionally a shark of huge dimensions, which constantly hover about the ship, or dolphins gamboling and playing sportively around; then the flying fish, on swift and steady wing, and myriads of other fishes, of all shapes and forms, known and unknown to naturalists.

Some of the Kays present a beautiful appearance, rising above the bright blue waste of waters, covered with their bright and dark-green foliage; and the beaches where they are exposed, consisting of a fine white sand, the *débris* of the coral formation of dazzling whiteness: occasionally a small wooden house or hut peers up above the trees, but they are generally uninhabited, except St. George's Kay, which is the health station for Belize, where the sickly and fever-stricken patient seeks restored health, or the resident of Belize repose and the luxury of sea bathing.

There are some good houses erected on the island, which was formerly the seat of Government; but Government House is now disused, and is in a ruinous and dilapidated state, the glory of its former days departed. Attached to the houses are permanent bathing-places, and crawls are made outside them for protection from the depredations of sharks. They are close piled in with a species of palm, called "boutans," which endure long and well in sea water.

The town of Belize is situate at the mouth of the river of that name. The appearance from the harbour is picturesque and striking, and has been compared by Stephens to Venice; but, from what I have heard of the latter city, I cannot trace any resemblance, unless you can compare the marble palaces and elegant gondolas of that "Queen of the Seas" to the timber-built, shingle-covered houses, some of them with no pretensions to beauty, and rude pitpans and doreys covered with awnings.

It is almost like comparing the rough log hut of the squatter, with the well-finished, elegant built mansion of England; but I suppose we must set this down as a high-flown metaphor, the creation of a highly-wrought and inspired imagination. The embouchure of the river was originally crossed with a rude wooden bridge, erected about forty years ago; but it is now superseded by a trussed beam bridge of three spans (described in a previous Volume of the *Builder*, vol. 18, p. 757), which can be seen from the harbour. The account I sent you of the bridge was copied *verbatim* by the *New York Herald*, which was brought down by trading barques, and circulated in Belize, before the arrival of your number by the English mail containing it.

The Court-house is also seen from the harbour, with its flag-staff in front, and colours flying to indicate our flag and number; Government House to the south; a wooden erection, with verandahs and balconies around; and the Church of St. John at the back, with its brick tower, and low shingle-covered spire, embosomed in a grove of mahogany, tamarind, almond, bread-

See p. 590, *ante*.

fruit, and mango trees; and the houses of Front-street decked out in white, yellow, and red, with the graceful foliage of the cocoa nut and cabbage tree, and here and there an aloe overshading them: the whole combined has a pretty and picturesque effect.

The town of Belize contains about 10,000 inhabitants; Corosal, a town to the north of the colony, 4,000; and Stann Creek, to the south, 5,000; and the colony is said to contain 30,000 inhabitants: I am inclined to think that the population is greater, but very much scattered about. As there is no census, or registration of births and deaths, it is impossible to arrive at a correct opinion upon the subject; and it would be difficult to obtain it, as the inhabitants of the country lead a sort of wild, nomadic life, and the presence of an enumerator amongst them would be the signal for a general exodus.

The inhabitants are a motley group of almost all nations,—English, Scotch, Irish, French, German, Spanish, Russians, Belgians, Americans, Caribs, Africans, Mosquito Men, Indians, &c.: there are but few English, chiefly officials, plenty of Scotch, many of the old settlers, a great many Spaniards, doubtless the descendants of the legions of Columbus, and Africans, and a few of the other nations.

The Spaniards appear generally a degenerated race; while the Africans, the descendants of slaves, are many of them a fine, tall, well-made race of men and women.

The military force for the defence of the colony consists generally of about 300 men of one of the West Indian regiments, and a small number of artillery: the former wear the showy Zouave costume, and are a fine body of men. They call themselves the "Queen's Gentlemen;" and verily, if fine dress makes the gentleman, they are not unworthy of the appellation.

The town is about two miles long, from Yarborough on the south, to the barracks in the north, and extends about half a mile inland, with narrow streets running nearly parallel to the harbour, and others crossing these at right angles, also narrow. The river divides the town into north and south.

The streets are generally raised and formed by cutting ditches on each side, using the earth for that purpose, and the level of the land is not more than two or three feet above the sea; so that these ditches are constantly full of stagnant water, into which the inhabitants throw all their filth, and you may imagine the effect this produces on the health of the place, under a tropical sun. Those, perhaps, thoroughly acclimatised or seasoned to it, do not feel it, but the unhappy European rarely or ever fails to be stricken down by the terrible and fatal diseases of the place.

The roadway surfaces of the streets are repaired with the mud and sand dredged from the harbour, and this in time hardens under the power of the sun: no part is macadamised, although there are hundreds of tons of hard stone brought as ballast in the vessels that would do for the purpose, but these are thrown away into the harbour, where they are doing an injury.

When a proposition was made to macadamise them in consequence of a good supply of stone and cheap (prison) labour, the idea was quite scoffed at, and it was said,—"the roads had done before, and they would do again;" and this is the way the resources of our colonies are developed, and civilisation spread amongst them.

The only attempt they have made to form a road is up the banks of the River Belize to Haul Over Ferry (the ancient mouth of the river, the course to Belize being formed subsequently), six miles; and, I understand, 11,000*l.* have been spent in the attempt, and which, now, is all but a swamp, not passable in the rainy season; and they spend hundreds of pounds every year under the direction of a self-taught Negro road-maker (who, by the by, is a Member of Assembly and Assistant Judge), in the vain attempt to keep open the communication.

The traffic of Belize is conducted by water in pitpans, doreys, barges, and schooners, chiefly because the country has not been opened up with roads, and its vast resources developed and brought fairly into action.

The principal public buildings are Government House, and the Court-house (wooden erections in the tropical style), St. John's Church, a cruciform structure erected of London brick, with low tower and spire: the door and window heads are semicircular: the interior is fitted up with native mahogany pews, and a mahogany open Queen Post roof: it is 72 ft. long and 40 ft. wide, with centre and side aisles, and the entrances are through porches at the north side and west ends: there is a vestry on the south side. An apse has recently been erected at the east end, with a large circular-headed window, filled with stained glass, the subject being St. John the Baptist in the Wilderness. The floor is laid with tesselated pavement.

The other church is dedicated to St. Mary, originally sent out as an iron church, but it was placed in the hands of a 'cute Yankee carpenter, who, not understanding the mode and principles of construction, absolutely metamorphosed it into a wooden one, using up what iron he could find a place for.

The great difficulty you have to contend with in the colonies is the want of skilled artizans. They do not offer sufficient inducements for such men to settle amongst them, and the consequences that result are a great waste of money in materials and labour.

There is a large cemetery laid out at Yarborough, the south end of the town, in which the bones of Protestant, Dissenter, and Catholic repose and mingle their dust in peace, but the ground is low, the coffins being generally lowered into the water. There is also a Catholic church, a large rectangular building, erected of brick and stone, and without any architectural merit, although designed by a clerk of the works of the Royal Engineers. There are many Catholics in the colony, and a large sum is voted annually for its endowment. There are also Baptist, Wesleyan, and Presbyterian chapels, the first wooden erections, the last a temporary building, but they are about to erect one of brick and stone, from the design of a Scotch architect.

The barracks are large *wooden* erections, although belonging to the State; and notwithstanding there have been severe fires in 1854 and 1856, and since I left, still it is thought there is nothing like wood, although it can be shown that imperishable materials of stone, brick, and iron are much cheaper in the end, and may be made perfectly fireproof. There are several stores erected of galvanized iron, but from the moisture of the atmosphere and other causes, the material is a failure. One large store in the market-place is erected of brick, stone, and iron, in the Italian style of architecture, and a few others have been erected on the north side of the river, on sites that have been devastated, and cleared by fire.

There is a strong feeling in favour of slate as a roof covering to the houses, &c., instead of shingle, but the great price, 60 dols. per thousand (12*l.*), is an obstacle to their extensive use: several of the public buildings and some private are covered with them.

A gaol was erected about eight years ago, the old one having been burnt down: the materials used are London bricks and stone, and the foundation is laid on piles. It is a rectangular building, with wings at each end, 87 ft. long, and 38 feet wide; wings, 50 ft. by 23 ft. 6 in., and the cost of erection was about 8,800*l.*

The ground-floor of the body of the building contains fourteen cells on each side, 10 ft. by 5 ft. and 10 ft. high, with a passage up the centre, 12 ft. wide. The upper floor has thirty-two cells of the same dimensions. It is well ventilated, and the cells are divided by means of wood partitions, formed of pitch pine planks, and no system of classification or separation is adopted.

The north wing is occupied by the gaoler and family, the south wing by cells for females, debtors, and the hospital. The building is surrounded by a wooden fence on the north, west, and south sides, and open to the sea on the east side. The poor-house is also within this boundary fence. The prisoners are principally employed on the public works, dredging the harbour, &c., which is done by a machine procured from England, at a cost of 600*l.*, and is worked by hand labour, deepening the bar approaching the town, but its operations are of little avail: a steam dredging-machine is required that would dredge at least 1,000 cubic yards per day, to be of much service.

In this part of the world the tides are very small, scarcely more than 1 ft. or 1ft. 6 in. at the highest; but the effect of gales of wind, a "North" for instance, will lower the water 3 ft., and a south wind will raise it much above its ordinary level.

On this account I think it is difficult to obtain correct levels of seas, situate on each side of an isthmus, when the winds are so variable, as they must have a great effect upon the level of the water.

There is also a large and commodious iron market-house, about 100 ft. long and 60 ft. wide (see *Builder*, vol. iv. p. 190): it is one of the best, if not the best, in any of the British colonies in this part of the world. It was erected in 1846, and cost 11,000*l.*: in consequence of the foundation being improperly piled, it has been taken down and re-erected at a further cost of about 2,000*l.*, and the foundation is still bad, further settlements having taken place.

There are also good public schools: they were originally erected to form three sides of a large quadrangular piece of ground, with an open space between, but one has recently been removed on the American system, on rollers, &c., to form an assembly-room, police court, cells, &c., to supply wants much required. They are built of wood on brick pillars 11 ft. high, and are 84 ft. long and 43 ft. wide: the rooms inside are lofty, and the roof is boxed in underneath the collar beams. The west building has apartments erected over it for the head-master, mistress, &c., who are certificated teachers. Their cost of erection was 4,361*l.*

A slaughter-house has also been erected about one mile up the river from Belize, 45 ft. by 20 ft., at a cost of 600*l.* There is also an asylum and hospital. The latter building is not arranged according to the approved system of the present day. The ground-floor has one ward for patients, one for a surgery, and another for superintendent. The upper floor is all in one ward. The large staircase approaching it takes away part of it, and all sorts of patients, with all kinds of diseases, are mixed up indiscriminately together. There is an open gallery (or corridor) and verandah all round the building, for the exercise of patients approaching convalescence.

It is largely supported by dues from the shipping; but our British tars are timid to avail themselves of their privilege, as when prostrated by the deadly fevers of the country few escape its precincts with life.

An artesian well is also in course of sinking here. The works have been in operation about fifteen years, and they have not succeeded in obtaining water yet, although the boring reaches 135 ft. in depth. The first 20 ft. were through alluvial deposit and *débris*, accumulated from time to time by floods, the kind of strata on which Belize stands; then through 40 ft. of soft, light, cream-coloured limestone; then through 20 ft. of yellow or brownish clay; then through 40 ft. of chalk, and then 15 ft. of clay again. There has been no well sunk here previously to any depth, so that they have no knowledge of the geological strata; indeed, not any of the country generally, except what crops out on the surface, and is seen by travellers.

A contract was entered into with a Mr. Connor to sink the well, by the House of Assembly: his tender was 15,000 dols.,—and to find tools for sinking the well, and procuring good water; but nothing if he failed to obtain it; and the Assembly was to provide prison labour, but no stipulations were made as to when the contract was to terminate; and the contractor may, to emulate the Flying Dutchman, bore on and on to eternity.

A good supply of water for the town may be obtained from the River Siboom, about 6 miles south of Belize; but many are opposed to it, as there is a strange prejudice in favour of rain-water caught in tanks from the roofs of the houses, notwithstanding its liability to be injured by the deposits of birds (the black vulture, &c.). Many iron tanks, to hold 10,000 gallons each, are supplied by the Colonial Government for the use of the public; but in dry seasons the supply of water is very scarce.

The seasons, as in most tropical countries, are wet and dry. The former generally commences in the month of June and terminates at the beginning of February: the latter begins in February and terminates in June.

During the dry season there is scarcely ever a drop of rain; the ground becomes parched and hard, and vegetation almost ceases, except where streams and creeks irrigate the land. The wet season is usually ushered in with violent winds from the north-east and east, torrents of rain, and terrific thunder and lightning, which sometimes continues, night and day, for several days together.

The climate is very wet and moist, but as it is favourably influenced by being well exposed to the trade winds, the temperature of the place is therefore rendered endurable to Europeans. The land or westerly winds seldom blow, and when they do the smell is very unpleasant, pasg over many miles of low swampy land covered with decayed vegetable and other matter.

The highest range of thermometer I have seen is 96° in the month of May, and the lowest 60° in December. The rain-fall is said to be only 46 in., but I think it must be considerably in excess of that, as I have known 2 in. of rain fall in one tropical storm: it does not fall drop by drop, as in England, but regular sheets of water.

The physical condition of the country on the coast precludes the idea of salubrity, from its low and swampy character; but I understand, in the elevated regions of the interior the country is eminently healthy, epidemics are unknown, and cholera and yellow fever only prevail sporadically in the low and swampy parts of the coast, and they never assume an endemic character.

Yellow fever preys upon the Europeans not acclimatised, and rarely affects the negroes, mulattos, or coloured people, while I understand cholera commits sad havoc amongst them.

The trade of Honduras has hitherto been confined to mahogany and the dye-woods principally: no cultivation to any extent has been carried out, except a little sugar and rum at Corosal; but I believe it is the intention of the "Honduras Company," who have upwards of one million of acres of land in this colony, to turn their attention to the cultivation of sugar-cane, &c., and they have already broken ground near Indian Church, New River, where a Jamaica planter and hands accustomed to the work have commenced operations. The sugar produced there is generally of good quality, which may be supposed would be the case from the character of the soil,—virgin, rich, and luxuriant.

An impression has prevailed for some time past that the best part of the mahogany timber has been cut, and I believe there is some truth in it, as you do not see logs larger than 3 ft. or 3 ft. 6 in. when squared, and even these are scarce; although, I believe, logs of 5 ft. square (see *Builder*) have been cut formerly in this colony.

The good timber now remaining is too remote from the rivers and creeks, and it would be expensive to cut the best and truck them, so those trees of ready access are only taken.

When there was such a demand for ship-building wood, I have seen logs that would not square more than 9 in. or 10 in. brought into Belize. I consider this a very wanton and reckless destruction of a useful timber, to cut mere saplings for the market, and not allow the wood to grow to maturity and perfection. The best wood cut there is to the north of the river Belize. The cutting commences in the month of August, and is generally trucked in April and May, when the ground is hard and dry, to the creeks and rivers; and about the middle or end of June, when the rainy season sets in, it is floated in rafts down the river to Belize, or brought round from other rivers in vessels or rafts. It is generally trucked at night, the cattle not being able to perform such laborious work in the heat of the day. The midnight trucking is an interesting and picturesque scene. The truck paths are frequently a mile long, and cut 50 ft. or 60 ft. wide through the forest. The lowing of the oxen, the creaking of the huge wheels, the sharp and shrill cries of the men, the echoing and reverberating crack of their long-lashed whips, the lurid glare of their pitch-pine torches in the midst of the dense and dark forest, and in the dead of night, produce an effect almost amounting to sublimity.

There are other useful and hard woods in this country besides mahogany and the dye-woods. There is sappodilla, sumwood, ironwood, billy webb, bulley tree, dogwood, cabbage-tree wood, lancewood, and mangrove,—very hard and durable woods.

If ship-building wood is scarce at home, I would recommend the trial of some of the above woods. They have been used many years in local ship-carpentry, and endure exceedingly well: besides, it would be utilizing the productions of one of our infant colonies. I have many specimens of them. There are also a variety of gum-tree woods.

In fruit-trees there is the orange, lemon, lime, mango, cocoa-nut, sour sop, catechu, alligator pear, citron, pomegranate, tamarind, banana, bread-fruit, melons, pines, &c., &c.

In vegetables there is the yam, plantain (one acre produces as much as 133 acres of wheat and 44 acres of potatoes), maize, beans, rice, sweet potatoes, eddoes (a species of potatoes), ochros, and many English vegetables, besides cotton, tobacco, sarsaparilla, vanilla, chilies, pepper, pimento, indigo, arrow-root, cassava, ginger, &c., &c.

The average yearly amount of mahogany exported is about 8,000,000 feet, or 20,000 tons, for the last ten years at an average valuation of 55 dollars per ton.

Formerly the greater part of the trade between England and Central America and the coast of the Pacific passed through Belize; but this has been diverted by the Panama Railway across the isthmus. Many of the supplies of Belize, provisions, hardware, &c., are obtained from New Orleans and New York; jewelry from Mexico, rough, but pure gold, which is not much in request: Birmingham jewelry from its cheapness best suits the taste and pocket of the negro.

The geology of the country is very imperfectly known: several exploring expeditions have been made into the interior, principally up the rivers, but nothing satisfactory has resulted. It is said that gold and silver exist (which is found further south), also precious stones, iron and copper. The fatigue, exposure, and danger to life that attend these expeditions has hitherto deterred other parties from undertaking a more efficient survey, an object most devoutly to be wished, and which will doubtless be accomplished at some future day.

The geological formation on which the town of Belize stands I have already given, and up the river Belize there is a brownish clay; above that cream-coloured limestone; then schists of various kinds, and slate, which appear to extend through the mountain ranges. On this river there are some fine waterfalls.

In the Siboom river, south of Belize, they have yellow and brown clay, limestone, schists, whitish marble with dark veins, quartz, and slate in the upper part.

I understand, in one expedition up this river, quartz containing gold was found, which was sent to the United States for analysis; but the result never transpired,—doubtless kept secret for ulterior purposes. A great quantity of gravel and boulder stones are found in the upper level of the river, washed down from the mountain ranges.

In the Monkey river, south of Belize, the same formation exists, viz., the clays, limestone, schist, and slates; also granite, basalt, porphyry, and quartz, and indications of minerals. The Manati river, south of Belize, has the same formation on the lower level, but the upper part has indications of copper and lead.

In the rivers to the north of Belize (the Hondo, New river, &c.), a similar formation prevails, and it is generally thought that copper also exists there.

The manager of the Honduras Company proposed some time ago to send a geologist to travel over and examine into the formation of the country; but I have never heard whether it has been carried into effect. It would be very desirable that the mineral resources of our colonies should be thoroughly investigated; but I fear we shall wait some time before the Home Government move in the matter, as they prefer that the greatness of her Majesty's dominions shall be fostered and upheld by the spirit, capital, enterprise, and determination of the people.

In the expeditions that have been made in Honduras, they have proceeded up the rivers in doreys, pitpans, and canoes (some of these are made out of a solid log of wood), taking with them all the provisions they require for the trip, as far as the falls and rapids would permit them, then to walk, wade through the river, or cut their way through the impenetrable bush with "macheats"* almost every foot, to reach higher navigable levels; and at night turn up on a bank with fires lighted around them, to scare away wild beasts, serpents, &c., with the bright canopy of heaven bespangled with stars of great brilliancy for their tent, and Providence their protector and guide. The tardy steps taken by Government to develope and improve the internal resources of our colonies has been a frequent subject of argument with Americans that I have met with: they say, give us the West India Islands, and we will show you the way to make them most productive and flourishing: perhaps they would return to slavery. It certainly appears strange that, with everything lavished upon them by Nature they might require, a fine climate, soil, &c., that many of our colonies should continue so depressed and so little productive; but it may be accounted for in some measure by the want of capital in our planters to properly work the estates, from mismanagement, and from the indolence and scarcity of the labouring population.

"They manage these things better in France." In the French islands Martinique and Guadaloupe, the labouring population are required, under strict surveillance, to account, individually, for the way they obtain their living; and the consequences are, the agriculture of these islands is well conducted, and the estates are described to be "perfect gardens," an expression used to denote superior cultivation.

The same system is adopted in the Danish Islands, which leads to similar results.

The march of intellect has certainly worked wonders: the schoolmaster abroad has spread knowledge so far and wide that the memorable words of Pope are quite obsolete—

"Lo the poor negro, whose untutor'd mind;"

but the effect has been not to teach him the duty of labour, as they avoid it in every way they can, and prefer those occupations that are attended with the least physical energy.

Labour in Belize, I must say, is well paid. Mechanics get from 1½ dol. to 2 dols. per day, for nine working hours; and labourers 1 dol. per day for a similar time.

There is but little law in the colony; and it is blessed with almost a total absence of lawyers, the only ones being the Chief Justice and Attorney-General. All disputes are generally referred to arbitration, and it is seldom that civil suits are entered in the Grand Courts, which are held every three months. A Jamaica attorney has sometimes attended the courts, but the "devil's own" are not at all appreciated there, as in lawyer-ridden England: on the other hand, in the West Indies, litigation is rampant, and lawyers flourish, and that may account in some measure for their decadence. B. C. E.

* A species of cutlass.

HATFIELD TO GORHAMBURY.

The living representative of Sir Robert Cecil, Earl of Salisbury (who died in 1612) is busy on his way by *rail*, from Hatfield to Gorhambury (and for the first time by steam and rail) to shake hands, after leaving the *rail*, with the living representative,—at Gorhambury, Verulam, and St. Alban's,—of Sir Francis Bacon, Baron Verulam and Viscount St. Albans, who died in 1626. The founder of the Salisbury branch of the Cecil family, and the sole representative of the Bacon branch of the Verulam and St. Alban's family, had read one another with consummate penetration—one with lynx-like eyes, the other with viper-like eyes. 1864 it is thought will not have run into 1865 without seeing Mr. Secretary Cecil on his way to Mr. Attorney-General Bacon. They will have much to talk about: a good dialogue between them would suit the pen of Mr. Walter Savage Landor. The route is pleasant, the new line (a single one) skirts a bloody battle-field of the rival Roses (Keyfield it is called) bridges the Ver for the first time with a railway bridge, and affords in so doing a noble view of St. Alban's Abbey, St. Alban's Clock Tower, St. Peter's Church, little St. Stephen's, and a distant sky-line (fine in every respect) of the woods of Gorhambury. The whole district rings with York and Lancastrian "jars," and still seems perfumed with Red and White Roses. The new line commands the ruins of Sopwell Nunnery, rich in its memories of Lady Juliana Berners, her most rare little volume "The Boke of St. Alban's"—equally rich with recollections of the customs and rules of the Blessed Mary of Sopwell—and of Sir Richard Lea, master mason and master of the pioneers of Scotland, to whom, at the dissolution, King Henry VIII. was pleased to give the manor of Sopwell and certain rights, which the master mason was clever enough to turn to good account. Little is now known of Sir Richard and his seat, Lea's Place; or of the brazen font which he brought with him out of Scotland, in which the royal children of that kingdom had been christened. Let us add, that in the pretty little church of St. Stephen's at St. Alban's (Mr. G. G. Scott restorer, and in good taste) is to be seen a fine bronze ante-reformation eagle lectern, the gift, as the inscription shows, of George Creichtoun, Bishop of Dunkeld. Its travels and duties after leaving Scotland are imperfectly known and merit to be fully known. Bibliopoles and antiquaries will not be displeased at hearing that disfranchised St. Alban's possesses among its borough and liberty treasures a very good copy of Lady Juliana's very rare

volume (Wynkyn de Worde, printer), and a silver-gilt mace of the time of Charles II., in the same style and as good as the Royal Society mace. The new line passes underneath the London road, at the twentieth mile-stone from the Great Babel.

MR. HERBERT'S MONUMENTAL PICTURE.

"MOSES BRINGING DOWN THE TABLES OF THE LAW."

Out of the chaos of doubts and doubtful rumours as to what had been done, was going to be, and was known to have been undone in the process of mural picture-production at the House of Lords, the public have at length an earnest of Mr. Herbert's intentions, which may set at rest the most of them; and this testimony of his will account to the less unreasonable for continuous employment extending through several years.

The unfortunate discussion as to the money-worth of such produce, if it be unavoidable, could not take place at a better time than at this, when a really strong argument in favour of the artist is afforded in the general interest occasioned by the appearance of the picture, the unanimity with which it is admired, and the great number of its acceptors as an all-sufficient illustration of Scripture history.

But it would be nearly as difficult to legislate for the guidance of any jury of taste who might wish to arrive at a just verdict as to its merits, as it would be to embody in an individual apprehension of it such a subject as "Moses bringing down the Tables of the Law," although all Mr. Herbert's great abilities are evoked in the trial.

There are some undertakings that at their very commencement promise for those engaged in them but a partial acknowledgment, let the issue of them be as successful as possible. How much praise is due to them, therefore, who conscientiously pursue what they know to be their best course, with a right of election conceded to them by all equally entitled to it, knowing, as well they must, that, after the greatest effort, they must remain content with a very inadequate return for an inestimable amount of requisite learning, patient labour, and skill.

The question of success in this instance can only exist in the adaptations to the occurrence, not in the manner of carrying out the particular conception of it, which is far beyond all question. The composition is most admirably managed for affording prominent presentation of the chief Israelites distinguished in Exodus: Moses descending, with the inscribed tables, for the second time, is met by Aaron and the rulers of the congregation, who perceive with awe the mysterious light that illumines his visage, and appear in their expression of revived faith to deprecate recollection of their former want of it. Joshua and Nun, with the sceptical Nadab and Abihu, Bezaleel, and Caleb, are all designated, and are conspicuous in the groups that comprise it. Other figures, kneeling or reposing, form the foreground, in an arched form, Moses, the key-stone;—amongst them, Miriam; and, more immediately in front, a mother nursing a child, a shepherd, a Nazarite and a Levite;—the acacia-plant in front suggesting the crown of thorns.

Regarded in its abstract qualities, it is undeniably the finest exemplification of his power yet produced by the artist, and an honour to the nation. Its manipulative excellence is as remarkable as the conscientious care with which all matters of costume and accessory have been studied and made subservient to a great purpose; but the difficulty of rendering the theme clearly apparent must be nearly insuperable. Even the supernatural appearance of Moses can but suggest the revelation so lately witnessed by him, and there is no further indication of it the representation is strictly confined to the circumstantial associations of the occasion, leaving more to the imagination than some would expect to be necessary in lieu of something to accept as indicative enough where only positive demonstration was inadmissible.

Of the many who will see this fine performance, most will have taken with them a preconceived notion, their own realization of the occurrence, too long and impressively established to be regarded simply as an idea; consequently they will be satisfied or dissatisfied commensurately as another's conception is more or less identical with their own. How impossible it is to monopolise idea, and how absurd to forget the impossibility. Mural decoration has become a necessity; and if we are enabled to procure such as this after having induced painters like Mr. Herbert and Mr. Maclise to devote their ripest years to the practice of it, how illiberal and unwise to grudge them an increase of remuneration in proportion to their increased deserts. For such works as they are now known to be capable of from a matured knowledge of their materials in use, at least pay them Manchester prices, and secure the results of their experience to the metropolis. Results demand so much as that, even if all the preparatory hard work and brain-wear be not taken into consideration at all; for it would be no easy matter to estimate the cost in effort and reflection to the projectors of it, before perfecting so noble and convincing a proof that some of the present greatest painters of the world are British.

A VISIT TO THE "PALAIS DES THERMES," PARIS.

Crossing the Pont au Change and the smaller one of St. Michel, on the Boulevard Sebastopol, we reach what is left of the ancient palace of the Baths. At the time of the Romans, and soon after the stylus of Julius Cæsar had engraved the name of Lutetia Parisiorum on the iron tablets of history, a palace was erected here, surrounded by gardens, and reaching from the smaller arm of the Seine as far as the Sorbonne. Some have supposed that it was built by the Emperor Julian; but it is probably of more ancient date, and was in all likelihood erected by his grandfather, Constantine Chlorus, who reigned and resided in Gaul from 292 to 306; but Julian appears to have greatly enlarged the original structure, and lived there several years with his wife, the Empress Helena. The mistake probably arose from an anecdote told of him, how, during a very severe winter, both he and his empress were nearly suffocated in their sleep by the fumes of a charcoal fire constantly kept up *in order to dry the walls*. During the reign of the Merovingian kings this palace fell into disuse, for these had built a new fortified abode in the cité, which continued the residence of royalty down to the time of Clovis. The widowed queen Clotilda was the first to return to the old palace of the Cæsars. From that time down to 1180 we find no mention made of it. In that year Philip Augustus gave it to his chamberlain, Henry; and in 1360 it again changed hands, passing into the possession of Peter de Chalus, abbot of Cluny. Of the palace itself only the baths remain to us unto this day, and are known by the collective name Palais des Thermes.

In order to obtain an idea of the original area of these ruins, the visitor should stand up against the iron railing which divides the garden from the Boulevard Sebastopol. He will then be in the centre of what used to be the "Tepidarium," the side walls of which only now remain. They are built of stone, in square and equal courses, having courses of brick every 3 or 4 ft. in height. The third wall, parallel with the Boulevard, constituted the façade of the palace, and is pierced by four arched openings, three being doors, the fourth a window. A small room at the side led to the "Frigidarium," the only example left in all France. It is in the form of a large parallelogram, 65 ft. 7 in. by 44 ft. 7 in., and is vaulted at a height of 59 ft., partly by a single barrel vault, partly by groined arches, supported by eight columns, with capitals, in the shape of the rostrum or beak of a vessel. It is probable that the peculiar ornamentation chosen for these capitals was emblematic of the City of Paris, whose "nautæ," or merchants trading on the Seine, were powerful even in the days of Tiberius; and the ship has always been the distinctive emblem of the French capital. The eastern and western walls are in construction similar to those of the "Tepidarium," just described; but the southern wall is pierced by an arcade of two arches, opening into two other apartments of minor importance. To the north the "Frigidarium" is connected by a high-arched opening with the fish-pond, having a length of 32 ft. 9 in. by a breadth of 19 ft. 8 in. Not the least remarkable is the method by which the reservoir in the centre of the "Frigidarium" was supplied with water. A supply not only of good, but, if possible, of medicinal water was always a matter of paramount importance with the Romans; and accordingly, instead of leading the waters of the neighbouring Seine into these baths, they went to a distance of three miles for their supply. A spring of water containing medicinal properties had been discovered at a village named Rungis, now Arcueil, and from this spring the water was conducted underground, crossing the valley and stream of the Bièvre at a low level. The remains of this aqueduct were discovered in 1544, and are still to be seen. The ground beneath the palace is excavated and vaulted in three parallel rows 9 ft. 10 in. wide, the vaulting resting on walls 4 ft. thick, which are pierced with door-like openings varying from 3 ft. 3 in. to 4 ft. 4 in. in width. The remains of the drains indicate plainly that the water was let off from the baths into the Seine. Forgotten and neglected for centuries, the palace passed into possession of the City of Paris in 1831, and has since served as a museum of Gallo-Roman curiosities, a collection at first begun in 1818 by the Duc d'Angoulême.

Amongst the many objects of interest in this museum is an altar discovered under the pavement in the choir of Notre Dame in 1711. The Latin inscription runs thus:—"The Merchant Traders of Paris have publicly dedicated this altar to the mighty and benevolent Jupiter, in the reign of Tiberius Cæsar Augustus."

NEW INFIRMARY, BISHOP'S WALTHAM.

The first stone of the Royal Albert Infirmary, at Bishop's Waltham, in Hampshire, was laid on the 4th instant, by H.R.H. Prince Leopold, assisted by H.R.H. Prince Louis of Hesse. The undertaking commenced is one in which the Queen takes much interest; and some portion of the funds for the building are derived from a part of the profits of the publication of the Prince Consort's addresses, devoted to the object by Mr. Arthur Helps, who with her Majesty's aid edited the book. The building, so far as at present commenced, is designed to accommodate only about sixteen or twenty patients; but an extension is hoped for at a future period, so as to comprise quarters for convalescents from Southampton, Portsmouth, Winchester, and places further distant. This is certainly an object to which we have special reasons for wishing success. The site of the new building is well chosen; and the locality is healthy. Bishop's Waltham is a place which should interest an architect: for, here, in the palace of which there are now only ivy-covered walls, died William of Wykeham; and here has been lately established an important manufactory of bricks and other articles in clay. Gratifying evidence of progress was to be noticed in a recently-erected building labelled "Coffee House;" and the taste of the town's-people, shown by the decoration of their streets on the day of the ceremony, might be quoted as example for much more important places. Mr. R. B. Critchlow, of Southampton, is the architect of the new Infirmary.

Whatever the skill to be found at the hospitals of large towns, there is no doubt that the establishment of these "Cottage Hospitals" should be promoted. Apart from the hinderance to treatment and recovery of the sick, which results from distance of the large hospital, and the apprehension of removal from relatives, there is the argument in favour of country hospitals, that in the country alone will the patient have the benefit of those remedial influences which are as important as medical treatment.

THE HEAD-PIECE OF THE POLICE.

The new costume of Sir Richard Mayne's department of the police has, by this time, been circulated to an extent which enables most dwellers in the metropolis to judge of the artistic taste which is exhibited in the recent alteration. In connexion with the costume of the police, two main considerations are, fitness and neatness: there is also a need for some distinctive mark by which the men may be easily recognised; and one thing more is certain, that the civic force should not, in the style of their dress, resemble the military.

When Sir Robert Peel's new police was formed the measure was carried with much difficulty, and there was for some time a strong feeling of animosity against the freshly-appointed officials. Every effort was made to still the jealous spirit which existed: the day dress coat of the constables was fashioned after those usually worn by civilians, and the long tail was made available for concealing the staff, which was looked upon with dislike: the hat was also similar to those in general use, with the addition of a thick

crown glazed on the top. The advantage of this, in one particular way, seems doubtful, for while the shine was the means of enabling persons who required the aid of the police to see them from a distance, it was also a signal which enabled depredators to escape: the thick crown was useful in protecting the head, nevertheless the hat was a shocking bad one, being far too heavy and ill-ventilated for use during both summer and winter: besides, it was easily knocked off, and in consequence many policemen have been severely injured.

Great as was the need for improvement in this respect, we cannot admire the new head-piece which has been brought into use to supersede the old. It is of a helmet shape, fitting very closely to the head, with a sort of roll like a cock's comb upon the top, passing from the front to the back of the head. In front there is a black metal cross. The whole is of a dull, funereal black, which is very trying to the complexions of many of the force. The alteration for the worse which is made in the appearance of the countenances of many of the force is remarkable. In the general aspect there is an air of peculiar grimness, and something, moreover, that suggests Russian, Prussian, and Austrian authorities. In fact, the new head-dress is an unsightly article, which does not appear to have sufficient merits as respects usefulness to atone for its ugliness.

As regards the other change, few will regret that the long tails are to be done away with, although we had got so much accustomed to their form and to the deep blue colour of the coats, foiled by the bright white buttons. And it must be admitted that the appearance of the police in the old dress was clean and respectable. It unfortunately happens, however, that if the old coat-tails were too long, those of the new frock-coats are in the extreme of shortness. It is necessary that, as regards the dress of the police, there should be no impediment to swift locomotion; but this would be as well cared for if the coats had 6 or 7 inches of additional length. There being now no room in the pockets for the staff, it is carried in a sheath suspended behind, and does not ensure respect, for the boys are louder than ever in their suggestive comments. If the authorities of Scotland Yard had taken proper advice, the men of the police force would not have been disfigured as they are. They are made to look weak and foolish, and will, consequently, be less effective.

"THERMÆ ROMANO-BRITANNICÆ."

It is not a little singular that we so persistently ignore the real original of the "Turkish Bath," and attribute to an Eastern source the discovery of that very luxury which eighteen or twenty centuries ago was in constant use among the Romans who eventually conquered Britain, and who introduced it into our land for the double purpose of indulging themselves, and of taming our savage forefathers by an enervating process.

Yet so it is; the "Turkish bath" is not really Turkish, but Roman in its origin; and it bears the name of Turkish, because the Oriental nations have somehow or other the art of adhering to the customs of their forefathers, bequeathed to them by the descendants of the ancient Greeks and Romans, while we forget and neglect them; and because hot baths have been for centuries in constant use among the Turks, proving to them the special means of cleanliness, and one of the chief enjoyments of social life, to say nothing of their having well nigh answered the purposes of hospitals. So great was the popular aversion to them here that, when they were first introduced into England, some two or three centuries ago, they were called in derision "hot-houses," and the Londoners turned their Eastern name of "Hammaum" into "Hummum,"—a nickname which still survives, written in duplicate, on the piazza of Covent Garden.

The bath, as we have already hinted, entered largely into the daily life of the ancient Romans, who in their turn had derived it from the Greeks. Warm baths are frequently mentioned in the Homeric poems under the term *θερμὰ λουτρά*, or *λοετρά*,* and constant allusion is made to the practice of bathing by Pindar, Theocritus, and Moschus. Even the stern and hardy Spartans were not above the indulgence of a warm sudorific bath, and from them, as we shall see, the chamber used for that purpose by the Romans came to be called "Laconicum."

We do not know the precise date at which warm baths were first introduced at Rome; but Seneca tells us, in Epistle 86th, that Scipio had a warm bath in his villa at Liternum; but this, as remarked by Mr. Rich in the "Dictionary of Greek and Roman Antiquities," was simple in plan, and consisted of only a single chamber. Valerius Maximus, and Pliny, however, speak of "Balnea pensilia,"—a term which implies a greater amount of architectural design, and can be only understood as implying that the flooring of the chambers was raised over the hollow cells of the hypocaust, which Vitruvius calls "Suspensura caldariorum" (v. 11). Cicero incidentally mentions a vapour-bath in his house, in a letter to his brother Quintus (iii. i. 1); and in one of his speeches (Pro Cæl. 25, 26) he speaks of the Balneæ Senias as open to the public on the payment of a small fee, which, as Juvenal and Horace* tell us, was a *quadrans* (a coin answering to a farthing among ourselves), children below a certain age being admitted, not at half price, but free.

As long as the bath was used merely for the purposes of health and cleanliness, a single daily ablution was sufficient, and two o'clock in the afternoon appears from Martial to have been the usual time at Rome; but as luxury increased under the emperors, the uses of the balnea were extended, and they came to serve as places of meeting, and even of reciting "the last new poem" of every crack-brained and conceited poetaster who gave sufficiently good dinners to collect an admiring audience. A visit to the baths became now, not a mere sudden and temporary gratification, but half a day's pastime, and every art was called into play in order to add zest to the proceeding. Instead of contenting themselves with a single bath of either hot, or cold, or tepid water, the Romans went in succession through a course of baths, in which the agency of air was combined with water. Accordingly, in most of the twenty or five-and-twenty specimens of Roman baths which have been exhumed in England, we find observed the division of the balnea—or thermæ, as they came to be called—into four principal chambers:—(1) the atrium, vestiarium, or frigidarium; (2) the tepidarium; (3) the sudatorium; and (4) the lavatorium; while larger and more metropolitan structures, such as the Thermæ of Titus and of Constantine, added several other chambers, such as (5) the apodyterium, (6) the capsarium, (7) the unctuarium, (8) the conisterium, (9) the coreicum, (10) the exedræ, (11) the latrinarium, (12) the laconicum, (13) the piscina, and (14) the crypto-porticus. Many of these terms explain their own meaning; but it is obvious that the ministrations of luxury must have been taxed to their fullest extent, when the thermæ were so arranged as to contain a series of rooms at graduated stages of heat; when the bather went first into the tepidarium to get warm, and then was sent into the sudatorium to perspire freely, before being handed on to the tender mercies of the slave who presided over the laconicon, and took the final dive into the piscina, or cold plunge-bath, which concluded the ceremony, unless he wished afterwards to take a walk among the poets, philosophers, and literati of the day, in the crypto-porticus, or covered way which surrounded the edifice.

As might naturally be expected, most of the specimens of Roman baths have been discovered at Chester, at Cirencester, at Bath, and in London in a greater or less degree of completeness. Those at Woodchester, near Stroud, are well known to the antiquary, having been laid bare during the last century, and described pretty accurately by Lysons. Those at Wroxeter have only been exhumed within the last five years, and as yet we desiderate Mr. Thomas Wright's long-expected work upon the subject of them. But there are others scattered up and down England, which are well worth a visit from the scholar, the antiquary, and the professional architect. A visit to Bignor, near Petworth, or to the remains at Witcomb, near Cheltenham, or Caerwent, near Caerleon upon Usk, or at Crickley Hill, at the foot of the Cotswolds, would probably give any of our readers a far better idea of what a Roman bath was in the olden time than we could give in half a dozen columns of the *Builder*.

Those at Wroxeter are perhaps the most interesting of all, not only because they have been so very recently discovered, but also because in them the personal trinkets and appendages of the last bathers, including even such things as their hair-pins, their combs, and their strigiles, or flesh-scrapers, were found *in situ*. The thermæ at Caerwent have been already described by Mr. Octavius Morgan, in a work of his own, as corresponding so closely with other baths in the Lipari islands, off the Sicilian coast, that they were probably the work of the same architect. They are almost identical in plan; the arrangement of the chambers in each is the same; both have separate dressing-rooms opening into them from the frigidarium; and both have, what is even more unusual still, two hot chambers, one smaller (and therefore hotter) than the other. We may add, that in the *Archæological Journal* there is a full description of these Liparæan thermæ, from the pen of Admiral Smyth. The baths at Chester (a great part of which it appears is scarcely accessible) seem to be remarkable for a very accurate and spirited fresco on the walls, representing a gladiatorial combat, with the Mirmillones, or Retiarii, and the Secutores pourtrayed to the life. At Wroxeter, still more curiously, the lower part of the bath, probably owing to the water standing in it when the town was overwhelmed, shows no signs of the grey discolouration which is presented by its sides and by the adjoining pavement. At North Wraxall, in Wiltshire, the inside of the hypocaust was found, just as the Romans had left it, covered with a thick coating of soot (which was proved to be from wood fuel), and on one side of the furnace a recess was exhumed which was filled with soot to the depth of more than a foot. These relics of ages long gone by remind us that Herculaneum and Pompeii are by no means the only cities which, dug up from the earth after lying buried for centuries, give us pictures of the daily life of the leaders of those Roman armies which, for good or for evil, crossed over hither from Gallia, and partially at least subdued that barbarous nation whom their poets describe as—

—— *penitus toto divisos orbe Britannos.*

Many of these remains have been described in local journals, or enjoy an immortality of their own in the "Archæologia," or the *Gentleman's Magazine*. Dr. Wollaston has done good service in collecting these scattered accounts into a pleasant and readable volume,—written, no doubt, for the professional object of recommending the Turkish bath as a valuable auxiliary to other medical treatment, a therapeutic agent which ought to be called into play far more frequently than it is in our sanitary crusade against those ills to which human flesh is heir. The only glaring inaccuracies that we observe are those which occur in his classical quotations; but as these are foreign to our plan and purpose, we will pass them by without further notice. Should the work reach a second impression, we hope that Dr. Wollaston will kindly redeem his promise by adding a few illustrations, which he could easily do by the help of photography and chromo-lithography.

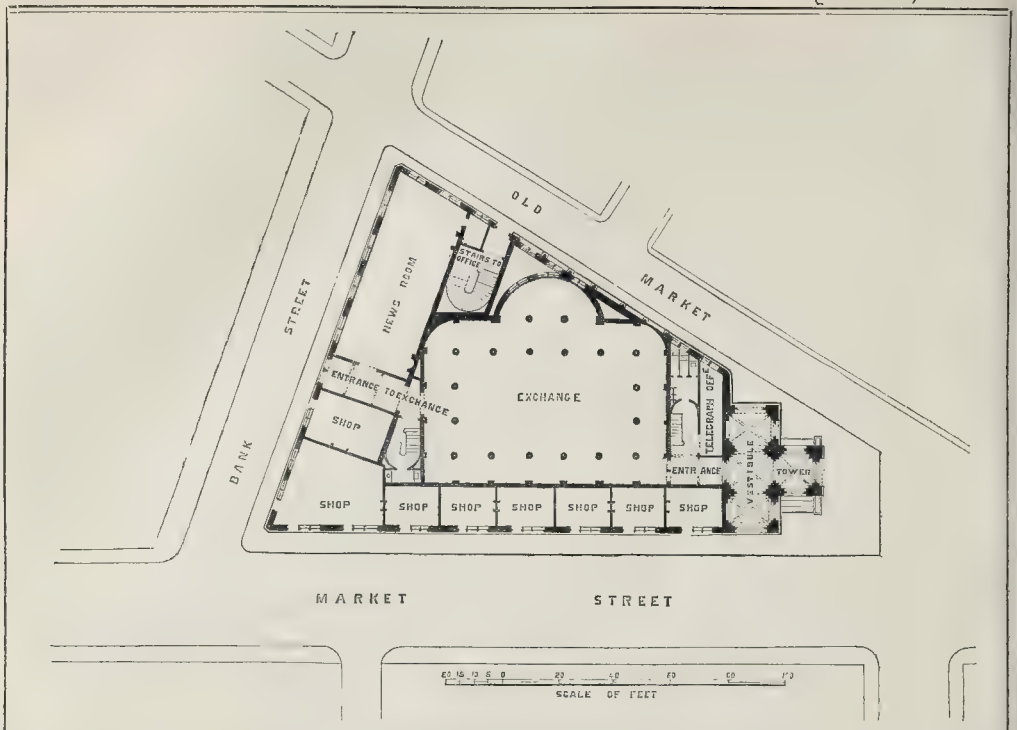
* See Hom. Il. xiv. 6. Od. x. 359—365; iv. 48; viii. 249.

* See Hor. I. S. iii. 137; Juv. S. ii. 152, vi. 447.

WORKMEN'S EXCURSIONS.

We have received accounts of a number of bean-feasts and excursions provided for workmen by their employers, but do not find it convenient to print them. Were we to do so, we should be flooded with further accounts, as on a previous occasion (the practice is fortunately so general), and give offence if we did not insert them. Messrs. Chubb & Son's workmen have had an excursion to Malvern, with a dinner and so forth. The workmen employed by Mr. G. Jennings at the South Western Pottery, had a day's outing at Castle Eve, Upper Parkstone, with racing and games, and appear to have enjoyed themselves fully; while, nearer home, the persons employed by Messrs. Dove, Brothers, Islington, with their wives, 300 in number, dined at the Rye House, Mr. Henry Dove taking the chair. The workmen in the employ of Messrs. Cox & Son, church decorators, held their annual bean feast at Sidcup, in Kent, when a cricket match was a feature, the wood-workers (carvers and joiners) playing against the workers in stone, metal, and painted glass.

Little Casterton Freestone Quarries.—The Little Casterton Freestone Quarries have been bought at public auction by Mr. O. N. Simpson, of Stamford, who is now the sole proprietor.



PROPOSED EXCHANGE, BRADFORD.—*Plan.*

THE PROPOSED EXCHANGE, BRADFORD, YORKSHIRE.

On Tuesday last, Lord Palmerston laid the first stone of the intended Exchange for Bradford, Yorkshire. In arranging the plan of this building, the object of the architect has been to avoid any sacrifice of the expensive and valuable ground on which it has to be erected; and yet, at the same time, to prevent the extreme irregularity of the site from being internally visible. The lines of the intended new and improved streets have also been kept in view.

The principal entrance to the Exchange is under the tower, and is combined with an open arcade, giving a picturesque effect to the approach, and affording also the advantage of a covered outer area during the hours of 'change. The Exchange itself is a large and spacious hall, containing on the floor upwards of 600 yards superficial. The inner parallelogram is surrounded by banded shafts of red polished granite, from the capitals of which spring arches filled in with tracery of Mediæval design, the gable ends being also filled with spandrel windows of appropriate character. The roof will be of open timberwork, with carved hammer-beams and wrought-iron spandrels, the design throughout having a strong constructional character, to which principle the decoration has been made subservient.

The news-room floor is on the same level as that of the exchange, and has an area of upwards of 200 yards. The entrance is from Bank-street, and the Exchange can also be approached from the same vestibule.

The valuable frontage to Market-street has been divided into eight good shops, each having a cellar under and show-room over.

On the upper floor a room for the Chamber of Commerce, 42 ft. by 24 ft., is provided, with a library and secretary's room attached. The remainder of the first-floor and the whole of the second-floor are divided into suites of first-class offices, for which a considerable demand exists. The basement is arched in throughout, and will be let off as wine or other storage vaults. From these several sources a considerable revenue to the company is anticipated. Careful arrangements are proposed throughout for lighting, ventilation, and warming. The estimated cost, exclusive of site, is about 27,000*l*. The design of the building was selected from six sets, submitted in a limited competition, and is by Messrs. Lockwood & Mawson, of Bradford and London.

Lord Palmerston during his stay in Bradford was the guest of Mr. H. W. Ripley, the chairman of the Exchange Company.

Referring to Bradford generally, considerable progress has been made within the last four years. A water supply has been carried out at a cost of three quarters of a million. The sewerage of the town has been commenced under the direction of Mr. Gott, the borough engineer; and an Act of Parliament has been obtained, and another applied for, for effecting great improvements in the present street lines, and for forming new ones of wide and handsome proportions. For acquiring the requisite land to carry into effect the street improvements, arbitrators are now, and have been some time, sitting on behalf of the corporation as claimants, and the several owners of the various properties.

SQUARES OF THE WEST.

To whom do these open spaces belong, is a question that will often present itself to strangers. There is no similarity nor uniformity in their shape or condition; and whether they have been reserved as secluded walks for valetudinarians, or for the adornment of the houses ranged in opposition, is a point not easily determined. Some there are, such as Onslow-square, which inclose fine trees, showing sparsely a few shrubs, and not too great an extent of devious walks: these are so arranged as to give importance and an agreeable view to the surrounding mansions. No great expense is lavished in horticultural embellishment, and yet it answers the purpose of a promenade to the keyholders, and of a pleasing view as regarded by the foot-passengers or residents.

In the flourishing Belgravian district there is a much larger tract of ground, railed about, and margined on three sides by large and fashionable houses, which has also the advantage of some fine-grown and ornate timber trees; and yet this most valuable inclosure presents no characteristic of importance, and is absolutely lost as a distinguishing largo to the surrounding abodes of fashion.

The boundary fence of iron railing is, like most of the old squares, lined by a privet hedge; in parts, grown to a height of 6 ft.; in others, 2 or 3 ft., with chasms, larger or smaller, under forest trees, at intervals. As is usual in our city squares, these are hogged or clipped, running in wavy lines, here towering above the height of rails, thick and impervious at top, scrubbed and straggling at bottom, concealing the view from the opposite causeway; and, at others, revealing the less pleasing portions of the inclosure.

Surely this is a mistake: if there is a hedge, it ought to be uniform; but the screen close to the boundary railing must always conceal that growth of grass, flower, or shrub, which, as viewed from either footways or houses, ought to present that which is pleasing at all seasons—the free growth of a neat, well-turfed, and ornate lawn.

There is one section on the north side of this large reserve which, 'bating only the miserable hedge-row, is not quite so despicable in its condition. The trees are vigorous and full grown; the thorns respectable, and the arrangement of walks not amiss; but for the rest, forest timber, thorns, and many shrubs of venerable standing, are allowed to interlace, overhang, and cripple each other; while long straight alleys, rarely trodden by residents, valetudinarians or recluses, reach from end to end of nearly a half mile range; within and under the drip of the lofty foresters, are long narrow beds of vegetables; then ranges of low glass forcing-frames, heaps of pots, sherds and compost! and snugly ensconced within the thicket of brushwood and scrub, are three mansions, which are barely discernible until autumn denudes the intervening coppice of its vari-coloured foliage. Within the misty depths of these urban wilds there is a Grove of



PROPOSED EXCHANGE, BRADFORD, YORKSHIRE.—Messrs. Lockwood & Mawson, Architects.

Academus, albeit unknown except by the inscription on the gate,—"School of Education!" There is the dwelling of some mystic professor! and what is still more astounding, there is the lodge, the conservatory, and the shop of the florist to her Majesty! There are, it is true, some fine flowers cultivated in Chelsea, near to Cremorne; but only think of floriculture in the heart of Belgravia!

If there is any open space of the west-end that would requite a little expenditure of labour it is this long enclosure, which skirts more than half the length of the great thoroughfare, Sloane-street, and confronts about 180 good houses.

In the smoky atmosphere of central London, it is hard to preserve the rich glow of flowers, and the fresh verdure of grass; still there is an example shown in the Temple garden, the most central of all, where, by the use of the hydropult, both the flowers and grass are maintained in fair condition; and although the turf is more trodden there than in any of the more secluded squares, the watering not only restores and nourishes the herbage, but saves it from being trampled until again dried up.

It is thus that the glowing flower-borders between Hyde Park Corner and the Marble Arch preserve their magical attractions. Some seedlings there are, which are sown and produced on the beds; but the great majority are planted out in the season, and the expense of cultivation and potting out is really not so heavy as might be thought,—the constant watering and attention throughout, by a practised hand, being the first essential. Seeing that miles of flower-border in Hyde Park and Kensington Gardens are kept in brilliant bloom, the condition of the squares generally is most disgraceful. The same attention to planting out, cutting away redundant trees and arborage, thinning and pruning some of the bosquets, renewing others, and above all, well watering the whole, would render the railed-in spaces, dignified by the names of squares, crescents, ovals, or circuses, truly ornamental, as well as more cheering and healthful to our teeming and still increasing population.

A wonderful improvement has certainly occurred since the Commissioners of Woods and Forests have set the example in the parks,—the Regent's, Victoria, Batterses, St. James's, &c. &c.; and a like stimulus has been given to window floral decoration by the extraordinary bloom and luxuriance of the flower-show in Lady Dysart's area and windows in Grosvenor-square. As inciting to refinement in domestic floriculture these are national benevolences; and it only needs to look at the multitudes who haunt the flower walks, and linger there, without harming a bud or leaf, to judge of the happy effect produced thereby; but as an evidence of highly refined and most tasteful floriculture, the Sub-Ranger's lodge in Kensington Gardens excels all.

To reflect upon the comparatively neglected state of nearly all the squares and open spaces is unnecessary, as they need only be contrasted with the precedents given. It is the interest of the inhabitants to make them as ornate as possible: the value of houses in Park-lane has doubled since the old walls were substituted by Elysian borders; and so it would be at every opening where a Llanover garden could be dressed out: it is not the extent of inclosure, but the care bestowed upon it that excites an interest, and there is ample scope for improvement in the widest and best we have: a little circus like Golden-square may become respectable, as Leicester-square is an abomination.

In the parks the neglected condition of the timber trees seems to be overlooked: there are in Hyde Park and Kensington Gardens *twenty trees* dead and leafless, which disfigure all the rest! The timber would more than defray the expense of clearance. Still, there are even dead trees we would not like to see cut down.

MONUMENTAL.

In the Stamford cemetery, a tomb has been erected to the memory of the late Mr. R. N. Newcomb. It has been designed and executed under the superintendence of Mr. J. M. Blashfield, of the Terra-cotta Works, Stamford. The tomb is of Early Norman character, the details being in the style of work of about the commencement of the twelfth century. It may be described as a sarcophagus or square tomb, standing on a marble plinth, 9 ft. long by 6 ft. 6 in. high; the tomb, inclusive of the plinth, being from the base to the summit 6 ft. high. Above the plinth it is 7 ft. 6 in. by 5 ft. at the lower members. The width arises from the tomb covering a double grave. The sides and ends are enriched with panels of dark red polished Aberdeen granite, surrounded by a broad, plain moulding and fillet. The angles of the tomb are cut back into square recesses, in which are placed small columns of polished granite. The shafts of the columns are dark red, and the bases and capitals grey. The design of the capital is from an ancient building in Normandy (circa 1100). The cornice is a bold fillet and hollow. The crowning feature is a cabled corona, from which radiates towards the ends and sides of the tomb a cross, such as is frequently found cut in the cavern tombs of the early Christians. Except the granite panels and columns the whole of the work is wrought out of solid blocks of Canal Bianco marble of a milky-white colour. It is of this marble that the Romans erected their most famous buildings, which have stood the ravages of some 2,000 years. At one end of the tomb, affixed to the granite panel, in brass gilt, are the arms, crest, and motto of the deceased; and on one of the sides, in incised gilt letters, an inscription. The carving of the cross, fixing of the tomb in its place, and formation of the vault to receive the tomb, were done by Messrs. Tinkler & Son, of Stamford.——A monumental fountain is about to be erected at Wolverhampton, in the front grounds of the Orphan Asylum, Goldthorn-hill. The design has been given by Mr. P. E. Masey, of London, and is intended to be executed by Mr. Farmer, of London. The Wolverhampton Waterworks Company have consented to supply the water free of cost. The amount required will be about 400*l*.——It is proposed to erect a memorial of the late Admiral Sir William Codrington, in Gloucestershire. The form of the memorial has not been decided on, but it has been suggested that a window should be placed in Gloucester Cathedral, and also, if sufficient funds be raised, in the Abbey churches of Cirencester and Tewkesbury.——King George of Greece, during his late tour through his kingdom, requested, on his arrival at Missolonghi, to be shown Byron's tomb; and on seeing its dilapidated condition, he gave orders for its immediate repair.——The laying of the first stone of the O'Connell monument took place on Monday, and was the occasion of a great popular demonstration. A procession of enormous length, and consisting of all the trades of the city, was formed in Stephen's-green, and thence marched to Sackville-street, where the Lord Mayor performed the ceremony. In the evening a grand banquet was held in the Rotunda. The demonstration passed off without the slightest disturbance.——At the Licensed Victuallers' Asylum, on the 9th instant, the Prince of Wales unveiled the statue of his illustrious and lamented father, which has been erected within the precincts of that institution, as stated in our last issue.

BIRKENHEAD CEMETERY.

The Church of England portion of the new cemetery at Flaybrick Hill, Birkenhead, has been consecrated by the Bishop of Chester. The cemetery has been formed on land belonging to the commissioners at Flay-brick Hill, the purchase having been effected many years ago for that purpose. It adjoins the great Flaybrick Hill Quarry, where the principal part of the stone for constructing the Birkenhead Docks has been obtained; and this quarry will hereafter be available for any required addition, while it furnishes means for disposing of the refuse from graves for many years to come. The site comprises at present about 21 acres, of which 17 acres are now laid out and appropriated, there being a nearly equal quantity of land that will eventually become available when necessary. The principal entrance is in Tollemache-road, terminating the broad unfinished street, called Bailey-street; and here the registrar's house and office have been placed. The consecrated and unconsecrated chapels stand on a terrace platform near the western entrance from Boundary-road, and are connected by an arcaded corridor, lighted by a clerestory, and intended for the reception of monuments and mural tablets. Over the archway, through the centre of this corridor, are the tower and spire, 120 ft. high, containing the clock and bells, for striking the hours and quarters. There is a peculiarity in the arrangement of the chapels, which has hitherto only been adopted at the Anfield Park Cemetery, Liverpool, by the same architects. The coffins, instead of being placed as usual in the midst of the assembled attendants, have separate aisles provided for them, divided from the chapel by screens of stone and glass. These are subjected to a thorough draught. Each chapel comprises vestry, waiting-room, and other conveniences, and is fitted up with sittings of polished pitch-pine, and reading-desk of oak. The chapels and all the other buildings are in the Gothic style of architecture of the thirteenth century, built of stone, from the Flaybrick Hill and Storeton quarries, the architects being Messrs. Lucy & Littler, of Birkenhead and Liverpool, whose designs were chosen in public competition. The laying-out and planting of the grounds have been executed under the direction of Mr. Kemp, of Birkenhead Park, assisted by Mr. Mills, late town surveyor in the engineering and surveying departments. That portion assigned to the Roman Catholics is almost severed from the rest, being on the western side of the quarry. The chapel is near the latter entrance, and stands on the top of a gentle slope to the westward. The accommodation in this chapel is generally similar to that in the other two, with only such variations as were necessary to adapt it to the Roman Catholic ritual. Its chief external feature is a spirelet on the south-west angle, rising to a height of 80 ft. The contractor for the buildings was Mr. John Middlehurst, of St. Helens; Mr. W. Rimmer, of Bidston, being the contractor for all the earthworks and laying out.

THE SANITARY CONDITION OF HOLBORN DISTRICT.

The eighth annual report of Dr. Gibbon, the medical officer of health for the Holborn district under the Metropolis Local Management Act, has been printed. According to this report, during 53 weeks of the year ending Saturday, January 2nd, 1864, 1,423 births and 1,279 deaths were registered in the Holborn district. In all London the average death-rate was 24·5, but in the central districts, of which Holborn is one, the average rate was 26·6, so that there was a mortality of two deaths less in every 10,000 of the population than in the adjoining districts, and 18 per 10,000 more than in the whole metropolis. During the past two years the death-rates have been enhanced by two epidemics, low fever which carried off 92 persons in 1862, and small-pox, which was accountable for 36 deaths in 1863. In the Holborn district, 1,224 of the deaths were thus distributed:—196 in the St. George the Martyr and the St. Andrew's western sub-district, 321 in the St. Andrew's eastern, 258 in the Saffron-hill, 25 in the liberty of Glass-house-yard. These are in the proportion of 20·4 per 1,000 of the population of the first-named district, 25·7 of the second, 21·4 of the third, and 17·8 of the last. These rates are only relatively correct: to be absolutely so they require to be increased by 80 deaths that occurred in the out-lying hospitals, and 151 in the union workhouse. The liberty of Glass-house-yard still maintains the pre-eminence in salubrity. The report contains some useful remarks on overcrowding, and also on consumption and other tubercular diseases, which Dr. Gibbon rightly, we think, attributes mainly to want of pure air and direct sunlight.

PADDINGTON SURVEYORSHIP.

A correspondent writes thus:—"Some seven weeks since the Paddington Vestry advertised in your pages for a surveyor, and referred the candidates to their offices for particulars. After receiving the necessary information appertaining to the duties, &c., of the proposed office, together with the assurance, in reply to my query, that it was a perfectly open election, I, sir, became candidate for the office of surveyor, with some twenty others; and after waiting the time above indicated, we received a circular, dated 2nd instant, 'That they have this day made arrangements with their existing staff of officers, so as to render the appointment of an additional surveyor unnecessary.' Now, sir, if the gentlemen of the Paddington Vestry possess proper qualifications as representatives of the system of local self-government, they ought to have discovered that their 'present staff of officers' were competent to undertake the duties of surveyor before advertising; and, not considering their own expenses, have thought of those of others, whereby twenty gentlemen have to trouble their twenty friends on their behalf needlessly."

THE AGE OF TREES.

It *was* (I should rather say *is*) a generally received opinion that in order to ascertain the age of any tree, when felled, it is only necessary to take a transverse section and count the number of (*annual*) rings. When writing my work on "British Timber Trees," which was published in 1859, I had examined so many trees whose ages were pretty accurately determined, that I knew no reliance in most cases could be placed on the method of counting the rings to ascertain the age. And, although in opposition to men older and better acquainted with the subject than myself, I could not altogether pass over the matter in silence, and at page 4 (First Edition) is the following observation on the subject:—"By counting the number of these so-called annual rings, which are very distinct in some species, it is supposed the age of the tree can be ascertained; but we are inclined to doubt this hypothesis, when we consider the immense number of these rings in some trees which bear no comparison to the time they may be supposed to have been growing." As corroborative of the accuracy of this statement, I read the following in the *Times* in the review of Mr. Wm. Menzies's great work, "The History of Windsor Great Park and Windsor Forest:"—"Having obtained permission to fell two or three trees in each plantation about which he entertained a doubt, he planed the stems smooth and counted the rings. When, however, he came to test this method of cutting down trees in plantations whose age was ascertained, he found that between trees whose ages varied one or two centuries there was perceptible only a difference of four or five years."

J. Blenkarn.

MEMORIAL TABLETS.

MRS. SIDDONS.

On the front of a house called the Siddons' Arms, in the town of Brecon, South Wales, there is a marble tablet fixed to remind the passer-by it was in that house the celebrated Mrs. Siddons, the tragedian, was born; and often with pleasure from my childhood have I looked up to it. I should like to be reminded in the same way of celebrated personages in London. W. D.

THE STRAND.

Let me call the attention of all whom it may concern, and who are earnest in their desire to benefit the public thoroughfares, to the east end of the Strand, beyond Somerset House, to Temple Bar, where extensive new buildings are being erected on the old sites of the very obnoxious and disreputable streets which disgrace this neighbourhood, and flank that part of the Strand known as Holywell- and Wych-streets, where an enormous building for a modern hotel company is fast rearing its gigantic proportions to the very extent of the former outlines of frontage in these narrow streets, in which *no two vehicles can pass*; and with the further intended encroachment upon free air and headway of uniting the front portion of the hotel which is to face the Strand at the corner of Newcastle-street with the main building, which abuts on Wych-street, with a communication at the level of the first-floor, thus confining the already fœtid and polluted purlieus of Holywell-street into an arcade.

Surely it would be better to clear all the block of houses from the south side of Holywell-street to the Strand, so as to widen this great thoroughfare to the same width as at Somerset House, and ultimately remove the "New Church," as it is called, from its present site to Broad-court, Catherine-street and Wych-street, thus widening it opposite the Olympic and the entrance to Drury-lane, and removing all the obnoxious houses of that locality; and by the houses being set back from Pickett-place to Chancery-lane, and the Temple Bar removed and placed as entrance to the proposed new Law Courts, a permanent benefit and relief to this crowded thoroughfare would not only be effected, but healthful air admitted to this "stench-trap" of London. This, and the removal of that blot of disgrace at Holborn Bars, which during the last forty years has been almost (*all*, progressively) rebuilt, requires only your very powerful aid, by exposure, to enforce these improvements being effected.

R. H. H.

SANITARY WORKS IN BOMBAY.

Seeing in the *Builder* of the 21st of May last a letter on the subject of "Sanitary Arrangements in India," I think it may be interesting to some of your subscribers to know what is at present being done in Bombay with a view to improving the sanitary condition of the island.

People are mistaken who suppose that deficient water-supply is the cause of the unsatisfactory state of sanitary works here. The great difficulty in the matter of rainfall is the unequal supply; for during the monsoon months a rainfall of 1 in. per hour and more has to be provided for, while for six months in the year not a drop of rain falls to assist in increasing the depth of flow in our large and filth-laden sewers; for large they must be to carry off the monsoon waters.

Fortunately, however, the authorities are not afraid of the task before them, but are already at work in earnest, carrying out an improved system of drainage. They have lately experienced a great loss in the death of their engineer, Mr. W. Tracey. Subsequently the following appointments have been made: — Mr. H. G. Wilcox, to be executive engineer to drainage, vice Mr. Tracey, deceased; Mr. T. A. Bulkley, assistant engineer, to be acting engineer to drainage works, vice Mr. Wilcox, on sick leave.

Another disadvantage of the unequal rainfall is, that during the monsoon anything in the shape of out-door work is much hindered.

But, where I anticipate the authorities will find the chief cause of the "unsatisfactory state of sanitary works in India," will be in the great objection which natives have to any sort of reformation in their house arrangements. I fear that, unless legislation interferes in the matter, it will be a long time before Hindoos are sufficiently educated to perceive the advantages of Mr. Jennings's manufactures. At present they certainly prefer filth and disease to efficient drainage and good ventilation.

Bombay. A Subscribing C.E.

THE HEALTH OF WATERING-PLACES.

I read an article in your paper recently on a most important subject, viz., the condition of health in watering-places. It is there proposed that the death-rate should be placed in some public place, such as Somerset House. Now the death-rate of a town would be no criterion unless the circumstances of the locality are known. Take a town like Whitby. The old town is situate in a narrow valley, and inhabited by a poor population in a very narrow street; consequently the death-rate may be high; but no visitors reside there. The lodging-houses are 200 ft. above the sea, standing on a plateau quite distinct from the town. Folkestone is very similarly situate. The visitors' houses are on a chalk cliff to the east of the town,—an important point, as the prevailing winds are westerly, driving the malaria that might arise from the harbour away from the visitors' houses.

The real cause of fever in seaside towns is the deficiency of town drainage. Why should not Brighton be compelled by Act of Parliament to do away with cesspools? This has been effected in London. Cesspools ought to be abolished at once in towns of 20,000 inhabitants.

The interiors of the houses are not easily dealt with. Cesspools are universal; badly constructed W.C.s; bad, if any, traps to the drains generally; and a great deficiency in the water-supply. The owners of these lodging-houses are for the most part poor. They only care for a rapid succession of lodgers; and, being yearly tenants, they have no interest in maintaining the houses in a good condition. The landlords are small tradesmen, who are but little disposed to spend their money as long as they can get a tenant.

A Sea-side Visitor.

A REFUGE FOR DESTITUTE BOYS.

The good resulting from the ragged schools has been great, but still something more was necessary so that homes might be provided for houseless boys, where they might learn habits of industry and morality, and eventually be saved from wreck and ruin, and be made useful members of society. To meet this want the Whitechapel Refuge was established, and since its opening 700 boys have been received within its walls. The results have been satisfactory. Of those who have passed through the training here, a considerable number have been sent to sea; more than one-seventh of the whole have been bound apprentice, going out not altogether unskilled. Another seventh have been provided with situations without being apprenticed; being old enough to earn wages at once: some have found their way into her Majesty's service: some have gone abroad: others have been restored to their friends, in the hope that the boys would prove a help rather than a hindrance. The Government has withdrawn the very moderate grant which was made as a contribution towards their support, and this has caused much difficulty in several of these homes, which are the means of saving many from the metropolitan prisons, and relieving the country of far more cost than the small pecuniary assistance which was afforded; and, in this instance, the grant of 200*l.* from the imperial exchequer had been a great aid; but this having been withdrawn, the committee could not turn out any of their 120 inmates, and were obliged to apply for voluntary subscriptions to make up the deficiency.

In the course of recent proceedings, the Earl of Shaftesbury said he had no doubt that the refuge had been productive of the most useful results, and the only deduction he could draw was that, seeing the great benefits arising from such institutions, they ought to exert themselves earnestly to multiply their number all over the country. It has been calculated lately that there were 30,000 children roaming about in the metropolis without any one to care for their mental or physical condition; and, from much personal observation, we believe that these terrible figures are under the actual extent. Lord Shaftesbury truly said that those children were the seed-plot of crime,—which it became the more imperative that we should deal with thus at its commencement. His lordship said, that during his lifetime he had had much to do with London thieves and burglars; and, in the course of conversation with them, he had heard but one opinion expressed, that, if the system of ragged schools and refuges was fully carried out, it would put a stop to the supply of youths for criminal occupation. These remarks apply to the large provincial towns as well as to the metropolis. The life of crime is a miserable one; and a majority of those who have been brought up in it would gladly, if they could, turn to other pursuits.

SANITARY MATTERS.

Margate.—A report on the sanitary condition of the town of Margate has been published by Mr. E. Mottley from statistics collected by the Board of Health, and also by the committee of medical men at Margate summoned by the mayor to make investigations as to the cause of the great increase of deaths among the inhabitants, visitors, and inmates of the Infirmary at Margate. The report is filled with comparative tables showing the increase in deaths of late in Margate compared with previous years, and also compared with other towns.

Sunderland.—The health of the borough of Sunderland has never probably been in a more satisfactory state than during the quarter ending June 30th. The Registrar-General's report of the births and deaths in England and Wales for the past quarter, just published, shows that the average mortality of town districts was at the rate of 23·69 per annum to every 1,000 living, while that of the country districts was 21·10 per 1,000. Now, the deaths in Sunderland being 473 in the quarter on the present population, which, allowing for the increase of births and deaths, amounts to 96,000, the rate is only 19·87 per 1,000, 2·23 less than the country districts, and 4·82 per 1,000 less than the average of the town districts, a very important difference, placing Sunderland in the first rank amongst the large towns in the kingdom.

Cockermouth. — The chairman of the local Board has received from Mr. Lawson, C.E., his estimates and opinions as to the various schemes for supplying the town with water. Mr. Lawson, in his report, says that the question of water-supply was considered as one of pumping from the Derwent *versus* gravitation; and after capitalizing the annual cost of pumping, it was shown that, so far as the works were concerned, the gravitation scheme would be the cheapest. He has taken into consideration four schemes of water-supply, viz.:—1. Wythop (gravitation); 2. Cocker (pumping); 3. Derwent (pumping south side); 4. Derwent (pumping north side). Mr. Lawson thus concludes his report:—As a principle, I prefer gravitation to pumping at equal cost. In this case the cost will be less,

and therefore if there is a certainty as to quantity of water, and if the Board are able to arrange with all parties interested in the water to be taken, and in the lands to be passed through, I recommend that the Wythop brook gravitation scheme be carried out. Failing this, I advise the Board to adopt the Cocker pumping scheme if satisfactory arrangements can be made for the necessary land; and if this cannot be done, then, certainly, as the most expensive, but at the same time as a scheme which will insure at all times an abundant supply of pure water to the town, I recommend the Derwent scheme, the reservoir being placed near Parkhouse.

Local Boards of Health.—It has been decided by the Court of Common Pleas, in the case of *Burgess* v. *Peacock*, that a Local Board of Health has no power under section 34 of the Local Government Act, 1858, to make a bye-law relating to buildings erected before the date of the constitution of the district, and to the closing of such buildings when unfit for human habitation and to the prohibition of their use for such habitation.

THE VENTILATION OF RUSSELL COURT.

A correspondence on the subject of a blind let down at times over the entrance to Russell-court, in Brydges-street, Drury-lane, by the occupier of the adjoining shop, is before us; and the objection made in it that the blind interferes with the ventilation of the court is backed up by correspondents. Mr. J. F. Lewis, clerk to the Strand Board of Works, replies to a letter from Mr. Dangerfield, the vestry clerk, on the subject,—

"I am directed to inform you that on inquiry my Board find that the said sun blind has been in use for more than twenty years past, and is only used during three or four of the hot summer months, when the sun in the middle of the day seriously affects Mr. Sayer's shop; and my Board totally disagree with the assertion that any injury is caused to the ventilation of the court by the use of the sun blind as above mentioned."

Of the first part of the reply we say nothing, though its truth is denied by an inhabitant of the court; but the second part is so obviously erroneous, that we can scarcely suppose the Board know the spot. The ventilation of the court, well known to us, is at the best very imperfect,—hurtfully so to the pent-up inhabitants of it,—and any further stoppage of its narrow outlet and inlet ought to be prevented on public grounds if possible. We imagined the Strand Board of Works was a Board of Health.

GAS.

The Banbury Gas Company have declared a dividend of 7½ per cent. for the past year, free of income tax; the Newcastle-under-Lyne Gas Company one of 10 per cent. for the past year, with a reduction in price from 5*s.* to 4*s.* 6*d.*, and a promise of further reduction. The Alcester Gas Company have also held their usual meeting, and have declared a dividend of 6*l.* per 75*l.* share. The Taunton Gas-light and Coke Company have declared one of 8 per cent. for the past year; and the York Gas Company one of 10 per cent. per annum for the last half-year. The Worcester Gas Company have declared a dividend at the rate of 10*l.* per cent. per annum for the last half year. The Malton Gas Company have declared one of 7½ per cent. per annum for the past year.——A new Company has been registered and incorporated under the title of the Knutsford Gas and Water Company, Limited. Negociations are in progress for the purchase of the works of the present water company; and should the old gas works, which are now in private hands, not be obtained on fair terms, new works of the most modern construction, it is promised, will be erected, so as to ensure to the consumers gas of the best quality that can be produced, and at charges that will be satisfactory to the consumers.——The directors of the Wisbech Gas Company have agreed to recommend a dividend of 8½ per cent. on the year ended 15th June. The price of gas, for prompt payment, is now 4*s.* 6*d.* per 1,000 cubic feet, and the quality is considered to be very good. The use of gas is rapidly extending in private houses, so that every year the company's income is increasing, and there is little doubt it is thought that the dividends will ere long be 10 per cent. ——The directors of the Kirkcaldy Gas Light Company have agreed to reduce the price of gas from 4*s.* 2*d.* to 4*s.* per 1,000 cubic feet. At the annual meeting of the company the balance-sheet showed a profit of about 28 per cent. on the capital, which amounts to 6,500*l.* The dividend on original shares was 14½ per cent.—— The Elgin Gas-light Company, at their thirty-fourth annual general meeting, have declared a dividend of 6 per cent.

THE BUILDING TRADES MOVEMENT.

Plymouth.—Some regulations having been agreed to for the formation of a sick club fund, the masters were requested by the men to deduct such payment from their earnings. The rule enjoining this payment upon the masons has been objected to by some of the society's men, who have ordered a strike till the wording of the regulations be altered.

Manchester.—A deputation from the joiners of this city had an interview with four of the employers, and agreed to split their differences and end the dispute, which had assumed a rather threatening aspect. The strike, therefore, came to an end, and the men resumed work on the understanding that their wages were to be raised from 28*s.* to 30*s.* per week, the first payment at the latter rate to be made on Saturday, the 1st of October next,—equal to a notice of three months.

Bradford.—The carpenters and joiners at Bradford struck work on Monday, but the strike terminated on Wednesday night by the masters yielding to the full demand of the men. They received an advance of 1*s.* per week a month ago, and the reduction of 3½ hours' work per week is equal to another addition of 1*s.* 6*d.* per week.

Alloa.—The operative masons of Alloa have struck work for an advance of wages. The men had given notice to their employers that they wished to have 5½*d.* per hour instead of 5*d.*, and as, to this demand, the masters gave no reply, their silence was looked upon as equivalent to a refusal.

RAILWAY COMPENSATION FOR A PUBLIC HOUSE.

Higgs v. *Metropolitan Railway.*—This case was tried at Guildhall, before Mr. Kerr, of the Sheriffs' Court, and a special jury.

Mr. Serjeant Parry, in opening the case for the claimant, said Mr. Higgs was the proprietor of the Flying Horse, situate in Milton-street, Finsbury, a few doors from Fore-street. The premises were held on lease for an unexpired term of thirty-seven years, at 65*l.* per annum. The question for the jury was, what sum as compensation should be paid by the railway company for possession of the premises.

The statement of trade payments having been agreed to on the other side, the learned serjeant called

Mr. Phillips, auctioneer, who said, after deduction of the outgoings, it left a clear annual balance which, calculated at five years' purchase, would make the lease and goodwill to be worth 2,500*l.*

Mr. Walter Knight stated that the payments in trade having been admitted, the profits, calculated at 50 per cent., would show an annual profit of 608*l.*; and, after deductions, with a calculation of five years' purchase, the value would be 1,810*l.*

This witness, in cross-examination, admitted the premises to be out of repair, and he was fully prepared to allow 150*l.* from the valuation on that head; and, allowing 10 per cent. for compulsory sale, his estimate would be 1,826*l.*

This was the case for the claimant.

Mr. Cooper said, in reply, he was in a position to prove that the valuation of the claimant was entirely erroneous.

Mr. Self, of the firm of Self, Son, & Hill, stated his opinion that the property was worth 730*l.*, calculated at three years' purchase.

The difference of valuation arose principally from the fact of Mr. Self having deducted from his valuation certain accounts for goods consumed, and also by increasing the out-goings.

Mr. Lovejoy, of Chancery-lane, adopted the same view as Mr. Self, with the exception of allowing five years' purchase, and made his valuation of the property 900*l.*

The Jury gave their verdict for 1,820*l.*

GUARANTEEING WORKMEN AGAINST ACCIDENT.

Penney v. *Reed.*—An action, described by the judge as one of a novel character, to recover damages for a serious accident to the plaintiff, has been decided by Mr. Justice Willes. The plaintiff's declaration contained two counts, one upon an alleged agreement to guarantee or indemnify the plaintiff if he should meet with injury during his employment on a particular piece of work for the defendant, and another count imputing to the defendant negligence.

The plaintiff had been employed by the defendant to dig the foundation of a house; and, as the soil was loose and sandy, plaintiff told the defendant of this fact, and thereupon, as plaintiff alleged, the defendant urged him to proceed, saying,—"It's all stuff: I'll guarantee it will stand. You go on." The plaintiff went on with his work accordingly; and, in the progress of it, the sides of the earthwork fell in and seriously injured him.

On the part of the defendant, it was denied that there was any such guarantee as had been spoken of; and it was also alleged that the plaintiff did not sufficiently slope the ground, and that he was provided with timber to shore up the sides but did not make use of it.

After a long inquiry, the jury returned a verdict for the plaintiff, with 25*l.* damages.

COMPENSATION FOR ACCIDENT.

"You can't do better than be interested in some lime-works anywhere down about Northfleet," says Mr. Inspector to Mortimer Lightwood in "Our Mutual Friend." But this may fairly be doubted when you happen to be defendant in an action for damages similar to one tried before Mr. Baron Martin, at Maidstone, on the 28th of last month. In the case to which we refer (Gay *v.* Knight and Another), Mr. Joseph Gay, a brick-maker at Northfleet, near Gravesend, sued the defendants, Messrs. Knight & Bevan, who are large Portland cement manufacturers at the same place, for the damage caused by the fall of part of the side of a chalk-pit adjoining the land in the occupation of the plaintiff. It appeared from the evidence of the plaintiff that he had excavated a large pond or "back," about 7 ft. deep, which extended to within 6 ft. of the defendants' ground, which he filled with washed earth for the purpose of making bricks. This "back" was cut down to the top of the chalk, and was not puddled. There was some conflict as to whether the chalk-pit had been dug before the excavation of the "back." The plaintiff alleged that it had not been dug, but the fact was not very important. At the close of last year, at any rate, the defendants' chalk-pit had been excavated to within 6 ft. or 7 ft. of his boundary fence, the sides of the pit, as is usual, being worked to a nearly perpendicular face. A few days before Christmas in last year, after some previous warnings in the shape of cracks, the bank of the "back" next the chalk-pit gave way and fell over into the pit, and a quantity of washed earth, in a semi-liquid state, ran away at the same time. It was for this occurrence that the plaintiff claimed compensation. For the defence it was alleged that the defendants were not liable, as they had worked their pit in the usual manner, leaving a slope of about 1 in 10; and the accident was caused by the presence of a number of faults in the chalk, technically called "pot-holes," which are funnel-shaped spaces, filled with gravel, running down deep into the chalk (several of which were shown to exist at the point the accident occurred, extending on to the plaintiff's ground), through which the water in the plaintiff's pond had drained away, and a frost supervening, the chalk had fallen down and caused the injury complained of. Professor Ansted was called for the defence, and gave his opinion that the water had insensibly percolated the chalk through the "pot-holes," and that he could not account for the slip upon any other hypothesis; and Mr. George Williams gave similar evidence. The judge told the jury that the plaintiff was clearly entitled to the support of the adjoining soil, and it was not a question whether the defendants had worked their pit negligently or carefully, as they were equally liable, provided it could be proved that it was their act that had caused the accident. The jury found for the plaintiff for the amount claimed, viz., 168*l.* Counsel for the plaintiff, Mr. Lush, Q.C., Mr. Hawkins, Q.C., and Mr. Lumley Smith; for the defendants, Mr. Bovill, Q.C., and Mr. Maude.

COMPETITIONS.

Birkenhead Albert Memorial Ragged Schools.—Mr. William Jackson, M.P., some time ago expressed his intention of presenting the town with a sum of 5,000*l.*, and a site for the erection of ragged schools, as a memorial of the late lamented Prince Consort. Designs were invited by the committee, to which twenty-three architects responded, and this has resulted in Mr. David Walker, Liverpool, obtaining the first premium; Mr. James Fisher, Birkenhead, the second; and Mr. Walter Scott, Liverpool, the third premium. The building, we understand, is to be commenced immediately, under Mr. Walker's superintendence.

Hexham.—Sir,—I have just seen in your publication that a competitor for the new town-hall, &c., here, is anxious to know what has been decided with reference to the premiums, and that another correspondent has been informed that the best design has been selected, and that it (in violation of the conditions) is coloured. Perhaps you will allow me space to state that a design by Mr. Johnston, of Newcastle, has been selected for the first prize, but that as one of the conditions of the competition required that proof of the cost should be furnished, the directors have not yet obtained that proof. Mr. Johnston, whether in violation of the rules of the competition or not I must leave it to the profession to decide, exhibited coloured perspective drawings, exterior and interior, with his plans, but at the same time he also furnished elevations in sepia.

J. Oswald Head, Secretary.

Sligo Town Hall.—A special meeting of the

town council, with the town and harbour commissioners, was held for the purpose "of receiving the report of the committee appointed to examine the different designs for the town hall, and select three of said designs according to advertisement." The report from the committee appointed to select the designs stated that, "It was resolved that the committee select the following for consideration, namely, No. 2, 1st plan; 3, plan B, 4, 6, 9, 14, 16, 19. That the committee consider it would be most desirable that all plans should be inspected by Sir John Benson, in order to obtain his opinion thereon, and that they recommend the corporation to engage his professional services for that purpose, and in the meantime that the mayor be requested to write to Sir John Benson to ascertain whether he is willing to accept the office." The meeting having ascertained that Sir John Benson would be willing to give his professional services, adopted the committee's report, and retained Sir John's services in the inspection of the plans.

Chester Town-hall.—We are asked to mention that the design "Love's Labour" was submitted by the firm Lanyon, Lynn, & Lanyon, and not by Mr. Lynn alone.

PROVINCIAL NEWS.

Brighton.—In speaking of the public works in progress at Brighton at present, the local *Herald* says, that never in the history of Brighton has there been such an extent of work of a public character in progress as at the present moment. The Junction-parade Outfall is on the point of successful completion; the widening of the Junction-road and the King's-road, from the entrance to the Chain Pier to the Old Ship Hotel, is proceeding rapidly; considerable improvements are being made in the King's-road, on the old Battery site opposite the Grand Hotel; the West-end Pier is rapidly progressing; the Norfolk Hotel and Club-house is in course of re-erection; the Grand Hotel is just completed, and on the point of being opened; the Pavilion is being repainted and decorated inside and out; three new groynes are in course of erection between the Chain Pier and Black Rock, with a view to widening the beach and forming a lower esplanade in front of the Marine Parade-wall, and some of the other groynes in front of the town are being heightened and extended; a public laundry, on a very large scale, is being constructed in the north part of the town, by a company formed for the purpose; a new church of the Establishment has just been opened at Cliftonville; a new Roman Catholic church, in Upper North-street, is nearly completed; large schools are being erected in Belgrave-street, by the Rev. Arthur Wagner. These are given as only a few of the more important works on hand.

Romsey.—The new Corn Exchange building has been commenced, and will, we believe, be completed by October, so that the farmers will be able to enjoy its shelter in the coming winter. The contract is taken by Messrs. Bull & Son, of Southampton, for 1,300*l.*

Coventry.—Lord Leigh, Lord-Lieutenant, and Provincial Grand Master of Warwickshire, will lay the foundation stone of the Coventry and Warwickshire Hospital, with Masonic honours, on the 9th of August. The hospital is in course of erection by Messrs. Nevill & Son, of Coventry.

Weston Point (*Cheshire*).—Mr. Pilling, of Bolton, contractor, has undertaken to contract for the construction of the intended docks at Weston Point, which will, it is expected, be proceeded with immediately. The cost is estimated at about 60,000*l.*

Bacup (*Lancashire*).—The local Board have determined upon the erection of a commodious market-house, at an estimated cost of 5,000*l.* The plans, prepared by Mr. Brierley, of Blackburn, embrace a clock-tower. A complete system of sewerage and street improvements, to cost about 15,000*l.*, is also being carried out for the Board by Mr. Brierley.

Stockport.—A new bridge is being erected over the river Mersey, on the estate of Mr. C. Howard. It is in one arch of 70 ft. span and 15 ft. rise. Estimated cost, 2,000*l.* The contractors are Messrs. Thackrah & Pierce, of Stockport. The engineer is Mr. Brierley, of Blackburn.

Newcastle-upon-Tyne. — Plans have been prepared for the Council by their surveyor, Mr. Lamb, for a new police-office, the erection of which is estimated to cost 5,000*l.* The present Manors Police Station is the proposed site.

IRELAND.

Cork has just had a visit from some of the Lords of the Admiralty, including the Duke of Somerset, with the view of reporting on the construction of a naval dockyard in the harbour at Queenstown; a committee of the Commons having reported in favour of such a dockyard.—— Extensive improvements have been made at the Victoria Hotel here. A wing of the hotel, with many suites of apartments, has been rebuilt and expensively fitted up. A commercial room has been lavishly decorated by Mr. Murphy, of Cork. The room is 50 ft. long, 16 ft. high, and 20 ft. wide. The decorations are chiefly in green, pink, drab, white, blue, crimson, cream, lavender, and gold, with cornices, bases, and pillars in various colours. The other fittings in the room are arranged in a corresponding style of elegance. A coffee-room for the special use of ladies has recently been also added to the hotel. Its dimensions are, — length 70 ft., width 20 ft., and height 16 ft. The gentlemen's coffee-room is also 70 ft. long, 50 ft. wide, and 16 ft. high.

The Dean and Chapter of St. Canice's Cathedral, Kilkenny, met on Thursday week, for the purpose of considering tenders and entering into a contract for the new roofing of the cathedral—the first step to be taken in the general work of restoration some time since resolved upon. The competition was limited, but there were several tenders, and that of Messrs. Cockburn & Son, Dublin, being considerably lower than any other, was accepted at 4,500*l.* The work is to commence at once. The architect is Mr. Thos. Newenham Deane.

The erection of the Drogheda new cotton factory has been contracted for by the local firm of Messrs. A. & N. Hammond. Numerous tenders were sent in.

It has been decided to revise the plans for the new lunatic asylum for county Down, in order to effect reductions in the cost of the building, and that contractors are to be invited to send in fresh tenders. The lowest of those received for completing the asylum, according to the original plans and specification, was for 47,000*l.*, while the highest ranged up to 70,000*l.* The committee seem to have considered the sum named in the lowest proposal too much,—a view in which the grand jury coincided; and Mr. Smyth, the architect, was requested to remodel his specification, so as to reduce the cost; and he has arrived at the conclusion that he will be able to make alterations in the specification, which, taking as data to go upon the figures in the lowest tender, will admit of a reduction to the amount of 10,000*l.* or 12,000*l.* The alterations will not, he says, so change the general character of the original design as to give in its place an establishment materially defective and unsuitable for the public wants, but the asylum will be deficient in many modern improvements, which is much to be regretted.

CHURCH-BUILDING NEWS.

Islington.—The new district church of St. Michael, Bingfield-street, Caledonian-road, has been consecrated. The church is built to accommodate about 750 persons, and its site, with an endowment of 200*l.* per annum, was provided by the will of the late Mr. John Randell. There are 400 free sittings. The cost of the edifice was about 3,000*l.* It is built of brick, with stone dressings. The exterior is very plain, but the interior is of brick and stone, with a large proportion of variegated brickwork in the arching. It has a gallery at the west end for children. Mr. R. L. Roumieu was the architect, and Messrs. Dove, Brothers, were the contractors. The towers have only been carried up porch high.

Newland (*near Great Malvern*). — The new church connected with the Beauchamp Almshouses has been consecrated. The site of the new foundation is about eight acres, near the old timbered church of Newland. The buildings form three sides of a quadrangle, the fourth being open to the south, commanding a near view of Malvern range. A large garden occupies the open space of the quadrangle, surrounded by terrace-walls. The north and west sides of the square consist of the almshouses. The church is at the north-east angle; and the east side of the square is a covered wooden cloister (temporary, but hereafter to be of stone and brick) connecting the church with the residence of the chaplain to the establishment; and there is close by this residence a board-room 35 ft. by 18 ft., having an open timber roof. Domesticated Gothic is the style in which the buildings are erected, with brick for the walls, Bath-stone dressings, ornamental barge-boards to gables, and twisted chimneys. The church, which is dedicated to St. Leonard, is in the Early Decorated style, having a chancel, chancel aisle with vestry, nave, north door and stone porch. There is also a porch on the south side of the chancel aisle, forming a kind of campanile, underneath which the almspeople will pass from the cloister into the church. An organ by Mr. Nicholson has been placed at the east end of the south aisle. The chancel has been arranged after the manner of collegiate churches, as set apart for the body attached to the establishment, the almsmen to occupy the chancel, the women the aisle adjoining, and the parishioners generally the nave. The present seats in the chancel are only temporary, and oak stalls will be provided: for the nave there are chairs. The columns to the arcade which divides the chancel aisle from the chancel are of Pyrenees marble, polished: the bases, bands, and caps are carved in alabaster. The marble was presented by Mr. G. Skinner, who brought it from Italy. The north and east walls are lined with bands of Mansfield stone, alabaster, and different coloured marbles. The marble work was done by Mr. White, of Westminster. There are about 230 sittings. Bisley rubble, with brick lining and Bath-stone dressing, are the materials used in the church. The nave is 49 ft. 6 in. long by 24 ft. wide, and roofed with open timbers. The chancel is 40 ft. long by 20 ft. 6 in. wide. The cornices and brackets supporting the open timber roofs are well carved. Mr. Purdy, of Gloucester, was the carver. There is a stone reredos, representing the Crucifixion, by Mr. Boulton, the figures being in high relief. Lady Beauchamp gave the east window, in memory of her husband, the founder: it is by Hardman, and in its three lights and geometrical tracery is represented Christ in glory, adored by Thrones, Principalities, and Powers, the angelic host playing an instrument of music. In the north wall of the chancel are two windows by Messrs. Clayton & Bell, presented by members of the Skinner family: Saints Simon, Elizabeth, Mary, &c., are depicted. Cathedral glass fills the nave windows, and at the top of the west wall is a wheel window. Beneath this window, and close to the S.W. angle of the building, is a large projecting oriel or bay window, opening into the church from the sick ward of the establishment, and which is so arranged that the patients can hear the service in the church without the fatigue of going there. This oriel is supported by a marble shaft on a bracket, and around the base of the window are represented the acts of mercy, Christ healing the Sick, &c. The chancel arch is supported by marble shafts sinking into the wall, and on the western face of the stone screen dividing the chancel from the nave are sunk panels, with incised figures of Temperance, Fortitude, Justice, and Prudence, and the screen is enriched with specimens of Californian and Belgian marble. The ancient Norman font (circular and cylindrical) from the old church has been placed on a new base of steps at the west end. The church is heated with hot water. Both chancel and nave have been covered with encaustic tiles, by Mr. Godwin, of Lugwardine. The spire is crocketed on the angles and canopies so as to destroy its outline. The principal entrance to the almshouses is from the north, fronting the Worcester road, by an arched gateway. A porter's lodge opens into the gateway, and within the quadrangle on the east side between the gateway and the church there are the matron's apartments, with dispensary attached. West from the gateway are the almshouses. The rooms for the single men are in the south wing, for the single women in the north wing, and for families in the west. The rooms for families or married couples are similar in plan to the other, with the exception of being a little larger. The entrance-hall is open from the quadrangle, with side doors to the basement set of rooms, and a staircase leading to those above. There is one entrance, porch, and yard, for each group of four residences, as also a workshop, bakehouse, and washhouse, in common. Infirm inmates will live down stairs, and the hale ones in the upper story. Provision is made for comfortably supporting sixteen single persons and eight married ones, and of these latter it is stipulated in the will that the wife must not be under fifty years of age, the age of the husband being fifty-five. For each occupant there are a sitting-room, bed-

room, and kitchen, those rooms for the married being made rather larger. Mr. Hardwick, of London, was the architect, and Mr. O. Estcourt, of Gloucester, the contractor. The entire cost of the establishment, including the church, carvings, reredos, and screens, but excluding the furniture for the almshouse people, gas, grates, &c., will be nearly 17,000*l.*

Cononley (*Yorkshire*).—The consecration of a church and churchyard took place in this village on St. James's-day. The church is a small edifice, in the geometrical style, and situate on rising ground above the village. It is calculated to accommodate 220 persons, all free. The architect was Mr. F. H. Pownall, of London, and the builder Mr. R. Sugden, of Keighley.

DISSENTING CHURCH-BUILDING NEWS.

Tollesbury (*Essex*).—The chief stone of a new Congregational Chapel has been laid in this village. The building, which partakes somewhat of the Romanesque in character, will occupy the site of the old chapel, and will adjoin the present school-room. The building is a parallelogram, the internal dimensions being 68 ft. by 37 ft. 6 in., and 30 ft. in height. In the rear of the chapel are the deacons' and minister's vestries, in contiguity with which it is intended to erect the minister's residence. The walls internally will be stuccoed with moulded strings and archivolts over doors and windows: the roof timbers will be partly visible below a semi-hexagonal plastered ceiling. The whole of the timbers, benches, and woodwork, will be stained and varnished. Externally, the building, which is now 18 feet above the ground, is of yellow stock bricks, with red strings and arches: the side walls are pierced with six semicircular-headed windows, a triplet window on either side forming the principal features in front. The building is designed to accommodate 550 persons, viz.—450 on ground-floor, and 100 in end gallery. The architect is Mr. C. Pertwee, of Chelmsford, under whose superintendence the works are in progress. Mr. M. Gardner, of Coggeshall, is the builder. The cost of the chapel is estimated at 1,165*l.*, and of the house at about 400*l.*

Blowwich.—The memorial stone of an enlargement of the Wesleyan Chapel, Leamore-lane, has been laid. The plans for the enlargement were prepared by Messrs. S. & J. Loxton, of Wednesbury, architects; and Mr. W. Wotton will carry out the work.

Llanelly.—The foundation stone of a new Congregational Chapel has been laid at Llanelly, by Mr. J. Crossley, of Halifax. The entire cost will be 2,000*l.* The new building will be in form a parallelogram, 58 ft. 6 in. long, and 38 ft. wide, inside measurement, exclusive of the porches in front, and the apex in the rear. The accommodation at present to be provided on the ground floor will be for 366 adults, and in the gallery 112, besides 60 children, making a total of 538, exclusive of space for organ and choir, with opportunity for two additional galleries holding about 150. The style is Early Decorated, and the materials to be used will be furnace-dressed rubble, with Bath stone dressings and occasional bands with Bridgwater grey bricks.

Great Horton.—The Bethel Primitive Methodist Chapel at Great Horton has become too small for the demands upon it, and the foundation-stone of an addition which is to be made to the present building has been formally laid by Captain H. J. McCulloch, of York. Instead of a trowel a small silver salver was presented to Captain McCulloch, as a memorial of the event. The plan includes raising the roof, advancing the front, making an addition at the back, &c. Mr. J. T. Fairbank, of Bradford, is the architect; and when completed the erection will afford pew accommodation for about 450 persons. The cost of enlargement is estimated at about 800*l.*

Bradford. — The foundation-stone of a new United Methodist free chapel and schools has been laid, in Otley-road. The general plan of the building is a parallelogram. The internal dimensions of the chapel will be 58 ft. by 41 ft., and it will seat 350. The school-room, which is under the chapel, will accommodate 200 children. There are to be class-rooms, minister's vestry, and chapel-keeper's apartments. The chapel will be lighted from the ceiling with star-lights, and heated with hot air on Haydon's principle. The cost of the buildings will be about 1,250*l.* The style is Italian, and the building is arranged for future extension. The architect is Mr. Thomas Clarke.

STAINED GLASS.

Weston Church, near Bath. — A memorial window has just been placed in the chancel of Weston Church, in memory of Mr. C. Batsford, and his son-in-law, Major-Gen. Home. The eight compartments of the window contain figures of the four Evangelists, and four other writers of the New Testament, under canopies. The window was given by Mrs. Batsford and Mrs. Home, the widows of the persons commemorated, and has been executed by Mr. Wailes, of Newcastle.

St. Thomas's, Radcliffe (*Lancashire*).—Messrs. R. B. Edmundson & Son, of Manchester, have completed a stained glass memorial window for the chancel of St. Thomas's New Church, Radcliffe. It is a five-light window, and in each light there are upper and lower compartments. In the upper row, the central and most prominent figure is that of St. Thomas (as the patron saint of the church), refusing to believe the statement of the other apostles, that they had seen the risen Lord. Beneath this is the scene which occurred eight days afterwards. Thomas touches with his finger the print of the nails, and is no longer faithless, but believing. On the right of the doubting Thomas are St. Matthew and St. Mark; and on the left, St. Luke and St. John. Beneath the Evangelists are Christ in the Manger, the Baptism of Christ by John, the Last Supper, and the Crucifixion. In the smaller compartment above the principal panels are the emblems of the Four Evangelists, and family arms. The subjects are rendered conventionally.

Bradford Church.—A stained glass window has been placed in the tower. As the whole length of the church, from east to west, has been thrown open, this embellishment adds to the effect produced by the length and numerous arches of the church. This window has been inserted by Mr. Wm. Wells, of this town, and his sister, Miss Wells, to the memory of two sisters; and consists (with the exception of the Saviour) of female Scriptural personages. The upper or tracery part of the window (the stone work of which is stiff and monotonous) is filled with figures, in two rows. In the upper, beginning from the spectator's left, are Elizabeth, the Virgin Mary, Mary Magdalene, and Martha. In the lower are Eve, Sarah, Miriam, Hannah, Ruth, Naomi, Esther, Joanna, Anna, and Dorcas. The window consists of six low and narrow lights. Beginning as before from the left, two lights are thrown together to make a subject. In the first compartment above is the Annunciation, Mary in one light, the angel in the other; below, the Saviour at the House of Mary and Martha, our Lord in one light, the sisters in the other. In the right compartment above, are our Lord and Mary in the Garden; and below, the Woman of Samaria. In the two middle lights are represented the Women at the Tomb. The window was done by Messrs. Heaton, Butler, & Bayne, of London.

SCHOOL-BUILDING NEWS.

Aylesford (*Kent*).—A new Sunday school has been opened here, in connexion with the enlargement of the Wesleyan chapel, which has been extended at the eastern end, so as to give room for seventy additional sittings. The school, which is built of similar material to the chapel (Kentish rag, with Bath stone facings), will accommodate about 150 scholars. It adjoins the chapel at the eastern end. The whole cost of the new building and enlargement of the chapel was 400*l.* The plans were designed by Messrs. Peck & Stephens, of Maidstone, and the work has been performed by Mr. Norris, the contractor, under the supervision of Messrs. Walter & Harrison, who gave their gratuitous services as surveyors.

Sutton Valence.—The London Clothworkers' Company's new Grammar School has been opened. The company have not only rebuilt, but re-endowed, to a great extent, the school originated by William Lambe, "citizen and clothworker." Their architect is Mr. Potter.

Reading.—The chief stone of the Grey Friars' National and Infant Schools, now being erected on a site near Grey Friars' Church, has been laid. The schools will be in the Early Decorated style of architecture, and built of flint and stone to harmonise with the church. It is intended there shall be two schools, one for boys and the other for girls, the dimensions being 37 ft. by 20 ft. The infant school will be 30 ft. long, and 16 ft. wide; and large class-rooms will be connected with the several schools. Mr. Woodman, of Reading, is the architect; and Messrs. Wheeler & Sons are the contractors.

Northchurch (*Herts*).—A new National School building at Northchurch has been publicly opened. The school consists of two large school-rooms, separated by a movable partition, and one large and one small class-room. They are designed to accommodate about 150 children. There are residences for the master and mistress, and boys' and girls' play-grounds. The school buildings are constructed of flint work and Bath stone externally, and the residences have red and buff facings. There is also a room for parochial purposes. In the west window of the boys' room are the arms of Earl Brownlow and Mr. Van de Wall. The flooring is of wood blocks laid in concrete. The roof is open-timbered, and plastered between the rafters. The cost has been 1,600*l.*

Chelveston (*Northants*).—The foundation stone of a new school has been laid in Chelveston-cum-Caldecott. Mr. E. F. Law, of Northampton, is the architect. The schools will accommodate about 130 scholars, and a master's house will be attached. The building, which is in the shape of a T on the plan, will have an open roof with stained timbers, and the windows will be the ordinary square-headed ones, with hood mouldings. The schools, when completed, it is estimated, will cost between 700*l.* and 800*l.* The site and the whole of the stone have been given by Mr. H. C. Wise, a large landowner in the parish.

Books Received.

A Popular Explanation of the System of Land Registration under Lord Westbury's Act. By Robert J. Abraham. Second edition. London: Routledge, 1864.

A knowledge of even the existence of the Land Registry, which is now law, is confined to so few, that the author of this pamphlet has considered a *résumé* of the subject of registration to be the best means of conveying the necessary information to the many. The *process*—unlike lawyers' "processes"—is exceedingly simple and expeditious, as well as economical: indeed, it is no doubt these very recommendations which have hitherto prevented lawyers from enlightening their landed clients on the subject; more especially since even what is requisite can be done without them. To all who are impatient of the interminable humbug of the old law as to the titles and title-deeds of landed property, the Lord Chancellor's excellent measure of 1862 gives an opportunity of shaking off the incubus at once and for ever, by the total disuse of long-winded musty title-deeds and the substitution of a brevity and completeness of title which adds security as well as clearness and economy to the transfer, mortgage, &c., of landed or house property. "The deposit of a land certificate," as Mr. Abraham remarks, "is as good a security as the deposit of title-deeds, and better; because it shows the entire condition of the property, while deeds can be suppressed,"—yes, or lost, as by accident, by burning, or otherwise. The Act expressly declares that the mere deposit of a land certificate with a person lending money shall create an equitable mortgage on the property, and bankers will therefore willingly make advances upon a security so perfect in its character. And yet so economical is the process that a mortgager may obtain 4,000*l.* on a registered title at an expense of 5*l.*, instead of being mulcted to the extent of hundreds of pounds, as heretofore. Such an Act, it will thus be seen, is calculated to do good; and as it is very desirable that it should be known, the public are indebted to Mr. Abraham for putting it in their power, by a perusal of his pamphlet, to inform themselves of the nature of the new Land Registry Act.

VARIORUM.

"The Art-Student" contains an interesting view of the cloisters adjoining the Basilica of San Paolo fuori le Mure, Rome, from a photograph. ——*Fraser's Magazine*, of the month, contains, amongst some interesting papers and very good writing, an article on "Elizabethan Gardening" that might be usefully conned by many of our readers. The writer deduces that the principles regulating Elizabethan gardening were as follows:—

"1. To lay out the garden in accordance with the domestic architecture of the period, viz., in long terraces and right lines (forthrights), to harmonise with the rectangular lines of the building, and the long galleries of

the interior; and, at the same time, to break up the monotony of the straight lines with knots and beds, often of intricate patterns; in like manner as the bay windows, clustered chimneys, intricate tracery, and ornamented gables relieved the straight lines of the ground plot of the building.

"2. To plant the beds with mixed flowers, and to let the colours so intermingle and blend together, that the whole should produce a mosaic of rich indeterminate colour; ever new and ever varying, as the flowers of different seasons succeeded each other.

"3. To produce a garden of flowers and shrubs for all seasons, to tempt the owner to take pleasure and exercise therein at all times."

—— The current number of the *Gentleman's Magazine* is a good one, from the architectural point of view, including Notes on the Architecture of Ireland; Art applied to Industry, in the matter of Furniture; an elaborate paper on the Runic Monuments of Denmark, and other articles.——"A Dictionary of Chemistry," by Henry Watts, B.A. (Longman & Co.), is fast advancing towards a successful completion. The last part before us (xviii.) has reached the letter L.——Part 3 of the photo-lithographic reproduction of "The First Folio Edition 1623" (Shakspeare), in course of publication by Day & Son, contains the conclusion of "Much adoe about Nothing," "Loves Labour's Lost," "A Midsommer Night's Dreame," and the commencement of "The Merchant of Venice." The price that was lately given for an original first folio edition may serve to increase the interest elt in this fac-simile.——"Bird's-eye Views of English Joint-Stock Banking," by Examiner. No. 1. July, 1864. London: Mann, Cornhill. It is well the public should know a little more as to the nature of joint-stock banks than they yet do, although the opposition which they met with on their first introduction, in 1833, has long since declined. The pamphlet under notice supplies the desideratum, and also shows the real nature of the position of the Bank of England with relation to other banks. Some persons imagine the Bank of England to be a national institution, for the transactions of which the country is security. This is a very erroneous view. It is true that the Bank of England holds an exceptional position with respect to the Government. This arises from the fact that she has made advances from time to time to the country, for national purposes, which amount altogether to 11,015,100*l.*, in consideration of which she is the banker of the Government. She always holds a large amount of Government deposits. She receives the public revenue, and pays dividends on the national debt. But, besides Government transactions, the Bank of England does business with the general public. She receives deposits, grants loans, and discounts, like other joint-stock banks. She allows no interest on deposits, nor does she permit accounts to be overdrawn. Customers, therefore, obtain more favourable terms for business at other banks. The London and Westminster Bank holds 15½ millions as deposits, and pays its shareholders 30 per cent. dividend per annum on one million of paid-up capital. The Union Bank of London holds 16½ millions as deposits, and pays its shareholders 15 per cent. per annum on 750,000*l.* of paid-up capital. The Bank of England holds 12¾ millions of deposits (exclusive of Government monies), and pays its shareholders 9 per cent. dividend per annum on 14½ millions of capital. The importance of branches in connexion with joint-stock banks, for mutual support under difficulties of local position, is pointed out in the pamphlet, together with a general view of the whole question.

Miscellanea.

British Archæological Association. — The members of this Association are holding a most successful Congress in Ipswich and the surrounding towns. We will give an account in our next.

London and County Banking Company.—If 6 per cent. for the half year and a bonus of 10 per cent. mean anything, it may be worth while to look to the report of this company, published in our advertising columns.

Mr. Louis Desanges.—Some years ago, Mr. Louis W. Desanges, the well-known artist, executed for the Town Hall at Nice, an equestrian portrait of his Majesty Victor Emanuel. By a royal decree, dated July 30 last, the king has conferred upon the artist the cross and title of Knight of St. Maurice and St. Lazarus, and the decree and decoration have been transmitted to London through the Minister of Foreign Affairs at Turin.

St. Peter's, Croydon.—The spire and portions of the interior of the Church of St. Peter, at Croydon, were destroyed by fire on Tuesday night. The carelessness of some workmen who were repairing the spire is considered the source of the mischief.

International Congress of Social Science. The International Congress for the Promotion of Social Science, which held its session at Ghent in 1863, has decided to meet at Amsterdam this year in September. The King has been pleased to place the Royal Palace of that city at the disposal of the congress for its sittings.

The Archæology of India.—Recent letters from Nagpore state that the Chief Commissioner of the Central Provinces, having been struck with the extent and richness of the archæological remains scattered throughout his satrapy, has founded an antiquarian society, which it is proposed to affiliate to the Asiatic Society in Bengal, in the same way as a somewhat similar society was formed a short time ago in the Punjab.

Discovery of a Roman Bridge on the Tyne. Mr. William Coulson, who some time ago discovered the mason-work of the approach to the Roman bridge across the North Tyne, on the bank opposite to the Chesters, has just succeeded in discovering the entrance on the north bank of the Tyne of another Roman bridge, by which the Watling-street crossed the river, a little to the west of Corbridge. The position of this bridge, hitherto laid down on maps hypothetically only, is thus fully determined, the entrance on the southern bank having been previously known.

Fatal Accident with a Cesspool.—A shocking accident has occurred at Gravesend, involving the loss of three lives. Two men were emptying a cesspool in Passenger's-court, West-street. One had been down but a few minutes when he was seen to fall off the ladder. His son volunteered to go down the hole, but another person, who had had more experience, did so, when the gas rendered him also insensible. A sergeant of police then rashly descended and also fell insensible. All three were killed. A police clerk then discharged into the cesspool a fire annihilator, which, it is said, expelled the foul air, and the bodies were then speedily recovered.

Widening of Cursitor-street.—At a meeting of the Metropolitan Board of Works, the following resolution was passed:—"That the Board do contribute one-third of the cost of effecting a public improvement, to be carried out by the joint committee of inhabitants of St. Andrew, Holborn-above-Bars, and Liberty of the Rolls, by the widening of Cursitor-street, Chancery-lane, as shown upon the plan marked C, submitted to the committee, at an estimated cost of 2,790*l.*; such contribution not to exceed 930*l.*, and that such amount be paid to the said committee, on a certificate from the architect of this Board of the completion of the work." The Holborn District Board of Works, on the 18th ult., agreed to contribute 500*l.*, and the Public Chambers' Company, 930*l.* There now remain only 430*l.* to make up the 2,790*l.* required, and it is hoped that the Strand District Board of Works will contribute 250*l.* of that sum.

The Decoration of Westminster Palace.—The report of the commission appointed to consider the agreements with the artists engaged on the wall-paintings of Westminster Palace has been printed. The commission think a further sum of 3,000*l.*, in addition to the 3,000*l.* he has already received, should be paid to Mr. Herbert for his "Moses," &c., and that the contract as to the remaining eight pictures should be cancelled, and a new contract entered into. They recommend that Mr. Maclise should receive 10,000*l.* in all for his two paintings already finished, instead of 7,000*l.*, the sum agreed upon, the contract for the remainder to be cancelled, and a new contract entered into. Messrs. Cope & Ward had eight pictures each to execute for 600*l.* each. Mr. Cope has completed six, and Mr. Ward five. They are recommended to complete the remainder with all convenient speed, and that they be paid 100*l.* additional for each picture. Mr. Dyce's work was left incomplete at his death, and the commission do not think the state of things calls for further interference. The commission express the opinion that in future there should be no deviation from the contract entered into, believing that nothing would more effectually discourage the country from giving important commissions to artists.

Progress in the East.—The King of Ava has granted a perpetual concession for railways, telegraphs, and collieries in Burmah.

A New Discovery in Scottish Mineralogy. The men employed at the old red sandstone quarry, at Wester Bardrill, observed a soft whiteish substance in veins traversing the upper portion of the rock. This substance turns out, it seems, to be meerschaum or keffekil.

Death of a French Sculptor.—The journals announce the death of M. Aristide Hasson, statuary, aged 61. The deceased was a pupil of David (d'Angers). His principal works in Paris are the statues of Bailly and Voltaire, in the façade of the Hôtel de Ville; Summer and Winter, two colossal figures in one of the fountains of the Place de la Concorde; and the statue of St. Bernard, at the Madeleine.

The New Opera House, Paris.—A commission of twelve engineers, scene painters, architects, &c., presided over by a member of the French Institute, has been appointed to examine the improvements to be introduced into the machinery and decorations of the new Opera House in Paris.

Water Supply for Vienna.—A stupendous aqueduct for the convenience of the Viennese is about to be commenced. Starting from the foot of the Semmering, the aqueduct will be constructed at a height of 250 ft., and will convey to Vienna—a distance of 12 miles—a pure and continuous stream of water. This desirable undertaking will require several years to complete; the estimated cost being more than a million and a half sterling.

Metropolitan Houseless Poor-law Act.—The new Act to make provision for distributing the charge of relief of certain classes of poor persons over the whole of the metropolis has been issued. After the 29th of September the guardians of parishes or unions in the metropolis may keep account of the relief afforded daily in food and articles to the houseless, from eight o'clock in the evening till eight o'clock in the morning; and, on a certificate of the Poor-law auditors and of the Poor-law Board, that proper wards had been provided, obtain payment from the Metropolitan Board of Works out of their general fund. Guardians may provide proper vagrant wards and casual wards, and be reimbursed the outlay under this Act. The new law is not to apply to any expenditure for relief received after Ladyday, 1865. The Act is to be cited as "The Metropolitan Houseless Poor Act, 1864."

Improved Dwellings for the Working Classes.—A meeting of the company recently formed for the purpose of erecting dwellings for the labouring classes in various parts of the metropolis, and of which Lord Stanley is chairman, was lately held at the Mansion House, Mr. Alderman Waterlow, the deputy chairman, presiding. The report for the half-year just ended stated that the subscribed capital of the company amounted to 30,000*l.*, in 300 shares of 100*l.* each. Three calls of 10*l.* per share had been paid, and 2,910*l.* remained in advance of future calls. 739*l.* odd had been paid in completion of the purchase of freehold property in Bagnigge Wells, and an agreement had been entered into for a lease of a large plot of ground in Old St. Pancras-road, close to the Great Northern Railway station at King's Cross, which will be large enough for five blocks of buildings similar to those being erected at Wapping and Southwark, each of which provides accommodation for twenty families — ten having three rooms and washhouses, and ten two rooms and washhouses each. The buildings already contracted for are being proceeded with in a satisfactory manner, and they will be probably ready for occupation about Christmas. It is proposed to expend 3,200*l.* in improved dwellings in Redcross-street, Southwark, for sixteen families, with two shops and basements, at a gross rental of 440*l.*; 7,200*l.* in Brewhouse-lane, Wapping, for sixty families, at a gross rental of 850*l.*; 14,200*l.* in Old St. Pancras-road, for 100 families, at a gross rental of 1,602*l.*; and 3,230*l.* in King's-cross-road, Bagnigge Wells, for twenty families, 382*l.* Notwithstanding the increased cost of the buildings, consequent upon the high price of bricks and the great demand for labour, the directors have undiminished confidence in the success of the enterprise. Numerous applications for the dwellings have already been received, although the buildings are not yet roofed in. The report was unanimously adopted.

Manchester Cathedral Tower.—The corner stone of the new tower of the Manchester Cathedral has been laid, with suitable ceremonial, by the Bishop of Manchester.

Clerkenwell Flower Show. — The third annual exhibition of plants and flowers, grown by the Ragged-school children and working classes of the parish of Clerkenwell, took place on Wednesday and Thursday in last week, at the Lamb and Flag Ragged-schools, Lamb-court, Clerkenwell-green. The prizes were divided into eight classes. The exhibition opened at twelve o'clock, and was visited during the day by a great number of persons, who much admired the taste with which it had been got up. The prizes varied from 5s. to 4d. There were 265 plants, and 90 exhibitors. The number of prizes awarded was 38. Among the chief objects of interest, and to the exhibitors of which two of the highest prizes were allotted, were some potatoes that had been grown in a tub, and also some French beans which had been reared in a box, by two of the children belonging to the schools.

Essex Archæological Society.—The twelfth annual meeting of this Society was held at Thaxted, when between fifty and sixty members, besides other gentlemen and many ladies, went to Horeham Hall, the residence of Mr. F. G. West. Mr. T. B. Western presided as chairman. The report was read, congratulating the members on the continued prosperity of the Society, which numbered about 160 members. Mr. West read a paper on Horeham Hall; the Rev. G. E. Symonds one on Thaxted; the Rev. B. Lodge one entitled "Some Account of an early MS. 'Translation of Palladius on Husbondrie,' in the Library of Colchester Castle;" a lady member, Miss Fry, of East Ham, a near relative of the celebrated Mrs. Fry, one entitled "Notes on Rainham Church;" and the Rev. J. M. Jephson one entitled "Some Additions to the Glossary of Essex." The party then went to Tilty and inspected the Abbey ruins, and the Rev. Mr. Spurrell made some remarks on the Abbey Church. The company then returned to Thaxted Church, where the Rev. G. E. Symonds read a paper on the edifice. Dinner was partaken of at the Sun Inn by about forty of the company.

The Society of Wood-carvers.—The general report of this society for the year ending July 7th, 1864, has been issued. It alludes to the very prosperous condition of the art during the past year, and says,—"The flourishing state of wood carving may in some measure be attributed to the increased taste for works of a decorative character, arising from the Exhibition of 1862, and the decided beneficial influence exercised upon the public taste by such very valuable institutions as the Society of Arts, the Kensington Museum, and the Architectural Museum; also to the strenuous efforts now being made to elevate the condition of the art workman by inculcating a true and healthy appreciation of art work, regarding which wood-carvers have yet much to learn, and will require much patient study and perseverance in order to enable them to take their place, as they should do, in the front rank of the art workmen of our country. The increased demand for stone carving has done much towards making wood-carvers busy, several of our members having transferred their services to that branch of the profession through the great demand for stone carving, a very large order being now in hand for the new Foreign Office, which will occupy some years to complete."

TENDERS.

For building seven three-story houses and shops, in the Humberstone-road, Leicester, for Mr. W. F. Bramley. Quantities supplied. Mr. Francis E. Drake, architect. Exclusive of plumbing, smiths' work, ironmongery, and gasfitters' work:—

Freeman	£1,497	0	0
Coltman	1,421	0	0
Clark	1,277	0	0
Porter	1,245	0	0
Hutchinson & Son	1,185	0	0
Glover	1,180	0	0
Chambers (accepted)	1,140	0	0

For new farm buildings, at Fishley Hall, Norfolk. Mr. John B. Pearce, architect:—

Brown & Bailey	£888	0	0
Curtis & Balls	798	0	0
Norfor	714	0	0
Parker & Wright (accepted)	710	0	0

For rebuilding a mill and factory, after a fire, George-street, Grosvenor-square. Mr. G. H. Simmonds, architect.—

Brown	£3,688	0	0

For building parsonage house, Lorrimore-square, for Rev. Mr. Goring. Mr. H. Jarvis, architect:—

Kent	£1,658	0	0
Henshaw	1,648	0	0
Sawyer	1,587	0	0
Glenn	1,517	0	0
Hardiman & Sandon	1,446	0	0

For the erection of workshops, &c., at Deptford, for the Granite and Hardstone Working Company. Mr. H. H. Collins, architect. Quantities supplied:—

Sharpington & Cole	£2,679	0	0
Brass	2,580	0	0
Ennor	2,578	0	0
Macey	2,482	0	0
Hill & Keddle	2,450	0	0
Newman & Mann	2,408	0	0
King & Sons	2,370	0	0

For sundry alterations, &c., at Crown-street, Finsbury, for Mr. A. Sion. Mr. H. H. Collins, architect:—

Ennor	£704	0	0
Eaton & Chapman	611	0	0
Cohen	597	0	0

For painting and repairs to the Marylebone Courthouse:—

Ransom & Son	£299	0	0
Allen	282	0	0
Aldred & Doulton	280	0	0
Southall & Watson	275	0	0
Wilkinson & Co.	273	14	0
Creswell	271	0	0
Smith & Roberts	243	0	0
Gribble	180	0	0
Rowten	165	0	0

For enlargement of farmhouse and premises, for the Rev. H. D. Blanchard, Middleton-on-the-Wold. Mr. Joseph Wright, architect:—

Dalton	£335	15	0
Hewson (accepted)	335	0	0

For the erection of a Primitive Methodist Chapel, with school and class-rooms, at Hornsea. Mr. Joseph Wright, architect. The following are accepted, with some alterations in the bricklayer's work and mason's work:—

Reynand, brick and plaster	£151	0	0
Waller, mason	135	15	0
Allman, carpenter and joiner	335	0	0
Wilde & Sons, slaters	28	10	0
Young & Poole, ironfounders	48	10	0
Gouldesborough, plumber, glazier, gaslitter, and painter's work	42	10	0

For St. Martin's Church and parsonage, Kentish Town. Mr. E. Lamb, architect:—

Fish	£8,489	0	0
Jackson & Shawe	7,907	0	0
Carter & Son	7,770	0	0
Dove, Brothers	7,665	0	0

For race-stand for the Alexandra Park. Messrs. Clarke & Holland, architects:—

Piper and Wheeler	£14,720	0	0
Sharpington & Cole	14,610	0	0
Dove, Brothers	14,600	0	0
Myers & Sons	14,359	0	0
Jackson & Shaw	12,170	0	0

For erecting premises on the site of 141 and 142, Church-street, Shoreditch. Messrs. Mathews & Son, architects. Quantities supplied by Mr. F. G. Widdows:—

Dennis	£1,998	0	0
Forrest	1,986	0	0
Higgs	1,800	0	0
Tully & Son (accepted)	1,760	0	0

For the erection of new house, at Odsey Park, Ashwell, Herts, for Mr. Herbert Fordham. Mr. Bates, architect:—

Gimson	£2,109	0	0
Culshaw	2,055	0	0
Twelvetrees (accepted)	1,974	0	0

For rebuilding Nos. 65 and 66, High-street, St. Marylebone, for Mr. James Rowe. Mr. Charles Bradley, architect. The quantities were supplied:—

Fish	£2,150	0	0
Howard	2,027	0	0
Brown	1,900	0	0
Strudwick	1,900	0	0
Tracey & Co.	1,867	0	0
Mills & Son (accepted)	1,805	0	0

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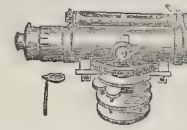
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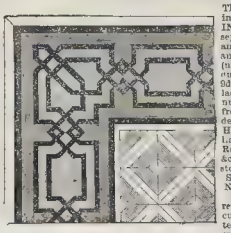
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Established 1836.
Subscribed Capital, 1,875,000. in 37,500 Shares of 50l. each.
Paid up Capital, 700,000l. Reserved Fund, 200,000l.

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Coles Child, esq.
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Inspectors of Branches—H. J. Lemon, esq. and C. Sherring, esq.
Secretary—F. Clapham, esq.
Head Office—21, Lombard-street.

At the HALF-YEARLY MEETING of the Proprietors, held on Thursday, the 4th of August, 1864, at the London Tavern, Bishopsgate-street, the following Report for the year ending the 30th of June, 1864, was read by the Secretary.

WILLIAM CHAMPION JONES, Esq. in the Chair.

REPORT.

The Directors, in submitting to the Proprietors the balance-sheet of the Bank for the half-year ending 30th June, 1864, have great pleasure in reporting that the net profit for the six months, after deducting all charges, amounts to 109,501l. 12s. 4d. which, added to 18,868l. 3s. 10d. brought forward from the last account, results in a total of 128,369l. 16s. 2d.

Out of this sum the Directors have declared a dividend of 6 per cent. and a bonus of 10 per cent. for the half-year, both free of income-tax, amounting together to 104,432l. leaving a balance of 21,736l. 16s. 2d. to be carried forward to profit and loss new account.

The dividend and bonus will be payable at the head office, or at any of the branches, on and after Monday the 15th August.

BALANCE SHEET

OF THE LONDON AND COUNTY BANKING COMPANY, 30TH JUNE, 1864.

Dr.			
To capital paid up			£699,913 15 0
To reserve fund			199,913 15 0
To amount due by the bank for customers' balances, &c.	£9,296,871 7 4		
To liabilities on acceptances, circular notes, &c.	2,868,012 11 11		
		1,2167,883 19 3	
To profit and loss balance brought from last account	16,668 3 10		
To gross profit for the half-year, after making provision for bad and doubtful debts	290,699 2 6		
		307,367 6 4	
		£13,361,078 15 7	
Cr.			
By cash on hand at head office, and branches	£1,419,613 7 10		
By cash placed at call and at notice	1,041,771 6 0		
		2,461,386 13 10	
Investments, viz :—			
By Government and guaranteed stocks	845,337 14 8		
By other stocks and securities	105,175 11 10		
		951,513 6 6	
By discounted bills, and advances to customers in town and country		9,677,873 17 10	
By freehold premises in Lombard-street and Nicholas-lane, freehold and lease-hold property at the branches, with fixtures and fittings		121 634 11 7	
By interest paid to customers		76,354 15 11	
By salaries and all other expenses at head office and branches, including income tax on profits and salaries		73,315 9 11	
		£13,361,078 15 7	

PROFIT AND LOSS ACCOUNT.

Dr.	
To interest paid to customers	£76,354 15 11
To expenses as above	73,315 9 11
To rebate on bills not due, carried to new account	33 237 4 4
To dividend of 6 per cent. for the half-year	39 166 2 6
To bonus of 10 per cent.	65,276 17 6
To balance carried forward	21,736 16 2
	£307,367 6 4
Cr.	
By balance brought forward from last account	£16,668 3 10
By gross profit for the half year, after making provision for bad and doubtful debts	290,699 2 6
	£307,367 6 4

We, the undersigned, have examined the foregoing balance-sheet, and have found the same to be correct.

(Signed) WILLIAM NORMAN, R. H. SWAINE, JOHN WRIGHT, } Auditors.

London and County Bank, July 28, 1864.

The foregoing report having been read by the Secretary, the following resolutions were proposed and unanimously adopted :—

1. That the report be received and adopted, and printed for the use of the shareholders.

2. That the cordial thanks of this meeting are due, and are hereby tendered to Philip Patton Blyth, esq. William Champion Jones, esq. and William Nicol, esq. M.P. for their special services and indefatigable exertions in promoting the interests of the bank, and that in grateful recognition thereof, a sum of fifteen hundred guineas be applied in the purchase of plate, and presented to them as a testimonial from the shareholders of the London and County Bank.

3. That the thanks of the meeting be given to the board of directors, for the able manner in which they have conducted the affairs of the Company.

4. That the thanks of this meeting be presented to William McKewan, esq. the general manager, and also to the principal and other officers of the establishment, for the zeal and ability with which they have discharged their respective duties.

(Signed) W. CHAMPION JONES, Chairman.

The chairman having quitted the chair, it was resolved, and carried unanimously—

5. That the cordial thanks of this meeting be presented to William Champion Jones, esq. for his able and courteous conduct in the chair.

(Signed) P. P. BLYTH, Deputy Chairman.

Extracted from the minutes,
(Signed) F. CLAPPHAM, Secretary.

LONDON and COUNTY BANKING COMPANY.

Notice is hereby given, that a DIVIDEND on the Capital of the Company of six per cent. together with a BONUS of ten per cent. for the half year ending 30th JUNE 1864, will be paid to the proprietors, either at the Head Office, 21, Lombard-street, or at any of the Company's branch banks, on and after MONDAY, the 15th instant.—By order of the Board,' W. M'KEWAN, General Manager.

21, Lombard street, August 4 1864.

INTERNATIONAL FINANCIAL SOCIETY (Limited), 60, Threadneedle-street, London, E.C.

DIRECTORS.

Robert Benson, esq (Messrs. Robert Benson & Co.)
John F. Blenmidt, esq. (Messrs. Frederick Huth & Co.)
Robert A. Heath, esq. (Messrs Heath & Co.)
Junius S. Morgan, esq. (Messrs. George Peabody & Co.)
William A Quetell, esq. (Messrs. Fruhling & Goschen).
Herman Stern, esq. (Messrs Stern, Brothers).

GENERAL MANAGER.
William Hope, esq. Y.C.

The Directors have now made arrangements for taking deposits in sums of not less than 100l. for fixed periods and at a fixed rate of interest.—By order, WALTER A. MICHAEL, Secretary.

WOOD PAVING.
MESSRS. THORN & CO.
CONTRACT to MANUFACTURE and LAY WOOD PAVING, of every description. It is particularly adapted for RAILWAY STATIONS, ENGINES, SHOPS, IRON BRIDGES, &c.
THORN & CO. STEAM SAW-MILLS, CREMORNE WHARF, CHELSEA, and GROSVENOR ROAD, PIMLICO.
Asphalte for Railway Arches and Iron Bridges.

HY. GEORGE & CO.
MARBLE IMPORTERS and SLATE DEALERS,
GENERAL STONE MERCHANTS,
CAEN WHARF, ROTHERHITHE, S.E. and WILLINGTON WHARF, RE-ENT'S PARK BASIN.
Caen, Ashpuy, Portland, Bath, Yorkshire, Granite, and all other stones, in block and slabs, sawn, self-faced, and worked to order. Tooled Paving, Landings, Steps, &c. At Depôts, and shipped direct by vessels, or railway.

VICTORIA MARBLE WORKS.
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall,
Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

G. MITCHELL,
MARBLE, STONE, and GRANITE WORKS.
SHOWROOMS:—
No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.
Estimates will meet with prompt attention.
MANUFACTORY at WALTON STREET.

WEARDE STONE QUARRIES, LIMITED.
The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes; also for Macadamising—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

PATENT CONCRETE STONE COMPANY (Limited).—The Directors have granted LICENCES for six of the Counties of Great Britain and are prepared to entertain further Propositions for LICENCES for the MANUFACTURE of this valuable MATERIAL.—Plans for the erection of Works, and full instructions, on application.—By order,
THOMAS PIPER, Secretary.
36, Parliament-street, S.W. May, 1864.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depôt, 404, Euston-road, N.W.—DAVID WILLET, Agent.

DARTMOOR GRANITE.—The Dartmoor Granite Quarries, lately belonging to the Haytor Granite Company, are now worked by the Dartmoor Granite Company, of Laira Wharf, Plymouth, and Portland Wharf, Grosvenor road, Pimlico, London.—For prices, &c apply to W. H HOLLAND, Agent and Manager for the Company, Portland Wharf, 20, Grosvenor-road, Pimlico, S.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS,
STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Office—10, Three Crown-square, Southwark.

LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD,
The Owner; and see Specimen at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the Kingdom.
*** The above WEATHER STONE is used largely by London Builders.

RED MANSFIELD STONE,
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
and
SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 20 per cent. in use, from its covering one-third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W.

PORTLAND STONE.
Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico.
THORN & CO. Stone Merchants and Contractors

TO CONTRACTORS, QUARRY OWNERS, MINERS, &c.
BLAKE'S STONE BREAKER
is recommended by the best Engineers in this and other countries to Break Stone of every description, of the best quality for Macadam Roads, Concrete, Ballasting Railways, &c. It takes in large blocks or round boulders, and reduces them to fine road metal, at a cost of from 2d. to 3d per ton. If your pauper labourer costs 3d. per day, this machine will do more work, and do it better, at 2d.—For circular testimonials, &c apply to
H. R. MARSDEN,
SOHO FOUNDRY, LEEDS.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts,
BANGOR, GARSTON, BALDNEY, CHESTER, and GLOUCESTER.
Prices forwarded and estimates given on application.
1, BOLD TERRACE, CHESTER.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also, on receipt of particulars, furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

STAINED GLASS for WINDOW DECORATION, GLASS MOSAIC and PAINTED OPAQUE GLASS for WALL DECORATION
J. T. LYON & CO.
13, BERNERS-STREET, OXFORD-STREET, W.
Price Lists, drawings, and estimates sent on application. Work executed on the most moderate terms compatible with excellence of design, material, and workmanship.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath-street, City-road, E.C. Extra strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

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STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.
HEATON, BUTLER, & BAYNE,
New King-street, Covent Garden, W.C. Removed from Cardington-street, Hampstead-road.
Specimens at the Exhibition of Stained Glass Windows, South Kensington Museum.

R. B. EDMUNDSON & SON, STAINED GLASS OF EVERY DESCRIPTION,
Ancient and Modern, for Ecclesiastical and Domestic purposes. Painting, Monumental Brasses, &c. &c. Designs and Estimates on application.—Specimens may now be seen at the Exhibition of Stained Glass, Kensington Museum, Nos. 25, 26, 27, and 28.
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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
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30 and 31, PRINCES STREET SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.
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311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

PURE SILVER LOOKING-GLASSES manufactured by NEW PROCESS.—Unequalled in brilliancy. Not liable to injury from damp, heat, or handling. EMBOSSED, ORNAMENTAL and BENT GLASS, SILVERED, at MODERATE RATES.
PATENT ILVERING COMPANY (LIMITED),
7, LOWER KENNINGTON LANE, S.

PAINTED DECORATION and STAINED GLASS.
CHARLES BLACKMORE,
372, EUSTON-ROAD, LONDON, N.W.
Designs and Estimates submitted.

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ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PAINTED GLASS WINDOWS and MURAL DECORATION.
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ENDELL STREET, BLOOMSBURY, LONDON, and 43, JOHN DALTON STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

NOTICE.—A good JOBBING CARPENTER and JOINERY BUSINESS TO BE DISPOSED OF, near Bishopsgate, City—A small premium required.—Inquire at 3, Denmark-terrace, Bonner road, Victoria Park.

TO BUILDERS and UNDERTAKERS, &c.—TO BE DISPOSED OF, an old established BUSINESS of a CARPENTER and UNDERTAKER; a large house and shop in a main road in a thorough state of repair; held on lease for twenty years unexpired, at the very low rent of 20l.—Apply, 44, Crown-street, Finsbury-square.

A BUILDER'S BUSINESS, with Dwelling-house and Premises, TO BE DISPOSED OF, upon very advantageous terms.—Address, H. F. H. Post-office, Maidenhead, Berks.

TO PLUMBERS, DECORATORS, PAINTERS, &c.—TO BE SOLD, the LEASE, GOOD-WILL, &c. FIXTURES, with PLANT, &c. of a PLUMBER, PAINTER, and DECORATOR'S SHOP, situated in a principal thoroughfare, west end. Rent, 60l.; lets off 30l. 19 years' lease. Good-will, fixtures, plant, &c. 200l.; stock at valuation. Ill-health the cause of leaving. Apply, 140, Praed-street, Paddington.

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EAST GREENWICH,
EDWIN HOLLICK,
MANUFACTURER OF PORTLAND CEMENT, OF THE BEST QUALITY ONLY, FOR THE ENGLISH AND FOREIGN MARKETS. VESSELS LOADED ALONGSIDE.
ESTABLISHED 1852.

J. B. WHITE & BROTHERS,
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For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL, 42, SEEL STREET.

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Prize Medal, 1851. THE MOST APPROVED INTERNAL STUCCO. Honourable Mention, 1862.
CAN BE PAINTED IN TWELVE HOURS.
J. C. PART, MANUFACTURER,
181, DRURY LANE, LONDON; and at DERBY.
THE BEST PLASTER OF PARIS. ESTABLISHED 1784.

HOWARD & CO.
MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.
This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
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FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.
SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.
Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.
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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. Fixed its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

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FREEN & COMPANY,
MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS; LIME BURNERS, AND LATH RENDERS.
MANUFACTORIES AND WHARFS:—
17, ABINGDON STREET, MILLBANK STREET, WESTMINSTER, S.W.
3, CANAL ROAD, KINGSLAND ROAD, N.; and FRINDSBURY, near STROOD, KENT.
FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at the Kingsland Works, of excellent quality and well burnt, may be had fresh from the kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal-road, Kingsland-road, or to 17, Abingdon-street, Millbank-street, Westminster, will receive prompt attention.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
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FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 131, Bishopsgate-street Within, E.C.

GREAVES'S BLUE LIAS LIME
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground and in barrels and bags. The Limestone can be had in full cargoes also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, block for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 3s. per Load.	
Good Yellow Deals	£16	10	0 per 120, or 2½d. per foot.		
Spruce Deals	15	0	0	,,	2¼ ,,
2½-inch Battens	9	0	0	,,	1¢ ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

J. MILLS,

JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.

List of Prices forwarded on receipt of postage stamp.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



JOHN EMERY,

MANUFACTURING JOINER,

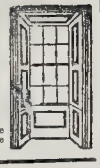
28, GRAY'S INN ROAD, W.C.

Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,

On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.

J. E. having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.
¾-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

C. B. N. SNEWIN,

MAHOGANY, DEAL, & TIMBER MERCHANT,

11, BACK HILL, HATTON GARDEN, E.C.

Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,

Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards	from 10s. 6d. per square	FIR TIMBER, 45s. PER LOAD.	
10,000 Dry Pine Plank	from 3s. 6d. each	WHITE BATTENS, from £8 10s. per 120.	
5,000 Yellow Battens	from £10 per 120	Wainscot Oak	from 6d. per foot
4,000 Spruce Deals	from 2s. 6d. each	Oak Sills	from 2½d. per foot
Matched Lining	from 12s. per square	Honduras Mahogany	from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,

STROOD DOCKS, on the River Medway, KENT.

MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

OLD JAMAICA WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN S-ROAD, CHELSEA.

LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be obtained, of the best quality:—

GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN PIPES, TILES, and CHIMNEY POTS.

TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.

The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

ABERTHAW BLUE LIAS LIME COMPANY.

WORKS near NEWPORT, Monmouthshire,

Manager—Mr. S. J. WOOD.

The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to

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W. C. HAWKER,

LIME, CEMENT, & PLASTER MERCHANT,

BELMONT LIME WHARF,

YORK ROAD (on the Canal Bridge), KING'S CROSS, N.

Nearly opposite Entrance to Goods Station, Great Northern Railway.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

TIMBER, DEALS, FLOORING,

AT THE VERY LOWEST PRICES. In quantities of not less than 30 at the Public Docks.

T. W. ELLSTON,

109, SNOW'S-FIELDS, KING-ST. BOROUGH, within three minutes' walk of London-bridge Railway Terminus (down steps Brighton side).

DRY WAINSCOT,

At 6d. 7d. and 8d. per foot, at

JOHN COLUMB'S,

LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,

MAHOGANY, and WALNUT, in Plank and Board, at

GEORGE ANGOLD'S,

27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

TIMBER, DEALS, FLOORING, and

MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS,

&c. as low as advertised, White Battens, 9f. per 12c, 12 feet; Yellow ditto, 10f. ditto ditto; 1 Floor Boards, well prepared, from 11s. 6d per square; Matched Lining, from 12s.; Venetian Blind Laths from 3s. 6d. per 100 feet super. CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,

20,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments :—
4, MARKET STREET, MANCHESTER;
GLASGOW,
67, BUCHANAN STREET;
DUBLIN,
9, TALBOT STREET.



CLARK'S PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE PROOF.
Branch Establishments :—
PARIS,
42, RUE NOTRE DAME DES VICTOIRES;
BRUSSELS,
RUE DE L'ECUYER;
AMSTERDAM,
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SYDNEY,
51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

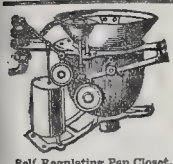
ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS,

CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

MARCUS BOURNE NEWTON, LONDON AGENT.

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THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 1l. 18s.



Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

READE & HEWITT'S PATENT PNEUMATIC PAN and SELF ACTING WATER CLOSETS, RAILWAY URINAL, and SEWER FLUSHING APPARATUS.

The simplest, strongest, and cheapest Closets manufactured, acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, workshops, and any situations where subjected to severe usage. Prevents waste of water, saves pump, cranks, wires, service-box, and all the complicated apparatus of self acting closets.

The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharges being regulated by a simple tap, thus saving an immense quantity of water, which ordinarily runs to waste.

Best Pan Closet, complete	£2 12 6
Best Self-acting Closet, complete	2 15 0
Railway Urinal Flushing Vessel, complete	3 3 0

LIVERPOOL, No. 5, WELLINGTON BUILDINGS, SOUTH CASTLE STREET.

An Agent is required for the sale of the above in London.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 3849.

3s. 9d.



FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

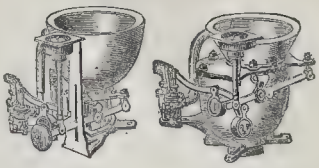
Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

GILT BORDERINGS for ROOMS, from 1d. per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all its branches to the trade. ¾-inch Gilt Beads, 7s. per dozen 6-feet lengths; best ditto, 12s.

GEORGE REES, 57, DRURY LANE.

Four doors from Drury-lane Theatre. Established in 1800.

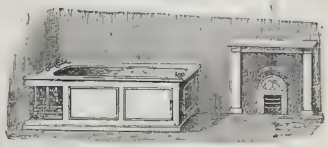
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.

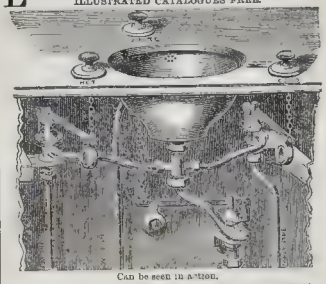


The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

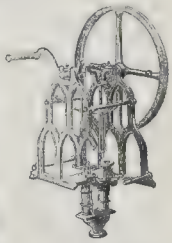
LAVATORY APPARATUS. ILLUSTRATED CATALOGUES FREE.



Can be seen in action.

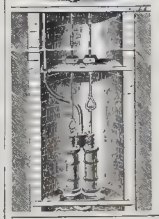
J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

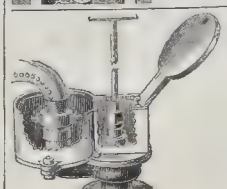




PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.





IMPROVED HYDRANT.

J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON

SALES BY AUCTION.

CHANCERY-LANE.—Building Materials of Ten large Houses.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Public Chambers Company, Limited, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, AUGUST 17, at TWELVE, the MATERIALS and FITTINGS of TEN LARGE HOUSES, being Nos. 39, 40, and 41, Chancery-lane, and Nos. 1 to 7, Cursitor-street, comprising a large quantity of sound timber in roofs and floors, floor-boards, partitions, doors, sashes, and other fittings, stoves, ranges, iron railing, tiles and slates, stone coping, several tons of lead, and other materials.—May be viewed one day previously, and catalogues had of JOHN BLYTH, Esq. Architect, 1, Noble-street, Gresham-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WESTMINSTER BRIDGE WORKS, STANGATE.—Travelling Cranes, Timber, Piles, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, as above, on FRIDAY, AUGUST 19th, at TWELVE for ONE, TWO very excellent TRAVELLING CRANES, one having a span of about 43 feet and the other of about 37 feet; also about 700 feet of Iron Rail, the stout Tin by Quarters, about 150 Beech and Fir Piles, Cast-Iron Plates, &c. May be viewed one week previously, and Catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

To LAND SPECULATORS, MANUFACTURERS, BUILDERS, and OTHERS.—Eight acres of Freehold Land, in one lot, close to the Custom-house entrance of Victoria Docks.

MESSRS. J. WALLEN & CLUNN are instructed to SELL by AUCTION, in one lot, at GARRAWAY'S, London, on FRIDAY, AUGUST 19, at TWELVE, about EIGHT ACRES of FREEHOLD LAND, land tax redeemed, with a stone's throw of the Victoria Docks. The amalgamation of these docks with the London and St. Katherine's cannot fail to establish them upon a larger and more proper as and secure scale than ever, and all surrounding land must partake of the additional value. The rare instance of so large a plot of land being sold in one lot affords to speculators a fine opportunity for realising the large profits gained in this locality by subdivision; and to manufacturers an admirable site for their purposes, if retained with plans in due time, of JOHN DINGWALL, Esq. Solicitor, 8, Tokenhouse yard; at Garraway's and of Messrs. J. WALLEN & CLUNN, 68, Old Broad-street, E.C. and Romford

Highly important Building Estate, adjoining the Park Station (Tottenham) on the Great Eastern Railway, about to be extended to Liverpool-street.

MESSRS. J. WALLEN & CLUNN have received instructions to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, AUGUST 19th, at TWELVE, in numerous lots, a fine FREEHOLD ESTATE, of 112 acres, land-tax redeemed, surrounding the Park Station, and extending from thence to the town of Tottenham, only 6 miles from the City. Part of the property possessing considerable frontage on the road leading from the Park Station to the Tottenham and Edmonton-road, and in Willoughby-lane, being now fully ripe for building, will be sold in plots for shops, villas, &c. and the remainder, which is rapidly ripening, in two large lots of 65 acres and 33 acres, thus affording opportunities of profitable speculation to both large and small capitalists. There are also a comfortable farmhouse (lately occupied as a residence for a city man), with gardens and meadow, and a good homestead.—Particulars of JOHN DINGWALL, Esq. Solicitor, Tokenhouse-yard; and of the Auctioneers, 68, Old Broad-street, E.C.

Land for Manufactories, Wharfs, or Ship-yards, at Barking, on the Creek, and a short distance from the Railway, and reached by a good road.

MESSRS. J. WALLEN & CLUNN are instructed to SELL by AUCTION, at GARRAWAY'S, London, on FRIDAY, AUGUST 19, at TWELVE, in two lots, NINE and a HALF ACRES of FREEHOLD LAND, having considerable frontages on Barking Creek (navigable for vessels of 200 tons), and reached by land by a good roadway at the extremity of Fisher-street, about half a mile from the railway station. It is believed that chemical factories may be here carried on with great approbation, whilst the contiguity to the town on the one hand, and the deep water navigation of the river Thames on the other, are such as of great convenience.—Particulars, with plans, in due time, of EDMUND GRIFFIN, Esq. Solicitor, Ilford; at the Bull Inn, Barking; at the Place of Sale; and of Messrs. J. WALLEN & CLUNN, 68, Old Broad-street, E.C. and Romford.

BARKING ROAD.—Valuable Freehold Building Land, on the new and direct line of communication between the high London and Barking Road and the Thames Ironworks and Shipbuilding Yard.

MESSRS. J. WALLEN & CLUNN will SELL by AUCTION, at the VICTORIA TAVERN, opposite the Barking Road Station, on FRIDAY, AUGUST 26th, at ONE o'clock, in numerous lots, the highly valuable FREEHOLD BUILDING FRONTAGES on both sides of Shirley-street, immediately contiguous to the Thames Ironworks and shipbuilding Yard, and in the most direct route therefrom to Hallsville and the high London road. This is an unusually favourable opportunity for profitable speculation, from the reconstruction and extension of the above works has increased the, at all times, great demand for dwellings for artizans, numbers of whom, for want of accommodation, are obliged to reside at considerable distances from their work, and houses let before completion. This would likewise be a good position for shops.—Particulars, in due time, at the place of sale; at the Hallsville Tavern, Hallsville; of JOHN DINGWALL, Esq. Solicitor, 8, Tokenhouse-yard, E.C.; and of Messrs. J. WALLEN & CLUNN, 68, Old Broad street, E.C. and Romford.

Eligible Investments.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, at GARRAWAY'S, AUGUST 19, at ONE, FIVE, SEVEN VILLA RESIDENCES, in Camden-town and Haverstock-hill; Two Small Leaseholds in Kentish-town; and Three neat Leasehold Dwelling-Houses, Bedford terrace, Old Ford-road. Particulars and conditions of sale may be now had at the Auctioneer's Offices, Cannon-street.

TOTTENHAM.—Freehold Cottages and Land.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change alley, Cornhill, on THURSDAY, AUGUST 18, 1864, at TWELVE for ONE o'clock, in lots, FOUR FREEHOLD COTTAGES, LAND and PREMISES, situate in White Hart lane, and Queen street, Tottenham, near the Compasses public house. Let to weekly tenants. May be viewed at any time, by permission of the tenants, and particulars and conditions of sale had of Messrs. FRASER & MAY, Solicitors, 78, Dean-street, Soho; and at the Auctioneers' Offices, Camden Town.

OLD BROAD STREET, LONDON.

MR. MARSH has been appointed by the Master of the Rolls to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change alley, Cornhill, in the city of London, on THURSDAY, the 25th day of AUGUST, 1864, at TWELVE o'clock at noon, in One Lot, pursuant to an Order of the High Court of Chancery, made in the matter of estates devised by the will of the late Henry Pinsbury, and in the matter of an Act of the Parliament of the 13th Victoria, intituled "An Act to Facilitate Leases and Sales of Settled Estates," subject to conditions of sale approved by his Honour the Master of the Rolls, all those TWO FREEHOLD MESSUAGES or TENEMENTS, with the piece of ground behind the same, on a portion of which piece of ground a range of offices is erected, situate on the south side of Old Broad-street, in the city of London, and being Nos. 35 and 36, in that street; held by Mr. Henry William Eaton, for a term which will expire at Michaelmas, 1872, at the annual rent of 76l. 15s. 0d. The said premises are now in the occupation of the said Mr Eaton or his under tenants, and are subject to land-tax. The said premises have a frontage into Old Broad-street of about 42 feet, with a depth of about 80 feet, and are most advantageously situate, being near to Gresham house, and immediately facing Great Winchester street. Printed particulars and conditions of Sale may be had of Messrs. WHITAKERS & WOOLBERT, Solicitors, 12, Lincoln's Inn Fields; Messrs. FREKE, CHOLMELEY, & FORSTER, Solicitors, 28, Lincoln's Inn Fields; at GARRAWAY'S; and of Mr. MARSH, the Auctioneer, in Cheviotte-row, Mansion-house.

E. B. CHURCH, Chief Clerk

Dated this 8th day of August, 1864.

MANUFACTURING WATERSIDE PREMISES, Millwall, Poplar, on the banks of the Thames, with possession.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, AUGUST 23rd, at TWELVE o'clock precisely, on the PREMISES, Millwall, Poplar, the valuable LEASE of extensive MANUFACTURING PREMISES, containing a superficial area of about 1a. 0r. 9p. with a frontage of 120 feet next the Thames. There is a wharf, brick and timber built factory 98 feet by 70 feet, with two chimney shafts, cooling-room, laboratory, counting-house, and yard, with well affording a supply of water. Held for an unexpired term of seventeen years, at a ground rent of 65l. per annum. Immediate possession may be had.

To be viewed till the sale, and printed particulars had of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

To MANUFACTURING CHEMISTS and OTHERS

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, 23rd AUGUST, at TWELVE o'clock precisely, on the PREMISES, Ferry-road West, Millwall, immediately after the Sale of the Lease, the PLANT and UTENSILS of the CHEMICAL WORKS, comprising two pairs 10 horse power high pressure horizontal steam engines, wrought-iron Cornish boiler, 18 feet 6 inches long, 6 feet diameter; waggon ditto, 13 feet long by 5 feet and 6 feet deep; three hydraulic presses, with 8-inch and 12-inch rams, 40 feet of four plunger pumps, barrel, force, and lift pumps; three circular cast iron tanks, 13 feet diameter; wrought and cast-iron tanks and pans; four wrought-iron mixing cylinders, mixing machine, coolers, gas receiver, iron shafting, fire-irons, refrigerator cisterns and worms, crushing mill, ten cast-iron retorts, forge and bellows, crab crane, office fittings, erection of lime kiln and chalk enclosure, and numerous other effects.—May be viewed the day preceding, when catalogues may be had on the Premises; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

CAMBERWELL.—Valuable Freehold Building Plots, in the midst of a thickly-populated neighbourhood, within two miles of London Bridge, and a few minutes' walk from the Camberwell Station.

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE-HOUSE, near the Guildhall, on THURSDAY next, AUGUST 18th, at ONE o'clock precisely, in Bleiby-two Lots, including an eligible Plot for a Public-house, SEVEN ACRES of valuable FREEHOLD BUILDING LAND, situate near the Rosemary Branch, Southampton-street, Camberwell, close to Peckham-rye, with frontages to Peckham-grove and Diamond street, as well as to capital new roads now in course of formation. The subsoil includes a considerable portion of good gravel and sand, and the neighbourhood is one in which houses of a moderate size let readily at very remunerative rentals; also a neat Freehold House, having ten rooms and garden; and a Plot of Leasehold Land, with a frontage of 102 feet to Diamond street.—Particulars and plans (now ready) of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion-house; and of the Auctioneers, 80, Cheapside.

UPPER TEDDINGTON and HAMILTON, MIDDLESEX.—About 64 acres of Freehold Building Land, overlooking Bushey Park, less than a mile from the Teddington Station, on the new Kingston line, and about five minutes' walk from the Hampton Station, on the Thames Valley line, the new nearly completed

MESSRS. DEBENHAM & TEWSON will SELL, at the GUILDHALL COFFEE-HOUSE, near Guildhall, on THURSDAY, AUGUST 25, at THREE punctually, in 22 lots, about 64 ACRES of valuable FREEHOLD BUILDING LAND (land-tax redeemed), part in the parish of Hampton, and part in Upper Teddington, very eligibly situate fronting the high road from Teddington to Hampton, and overlooking Bushey Park in the rear. The land lies high, the soil is a deep gravel, surface-water can be obtained at a moderate depth, water and gas services are laid along the road, and the land offers most desirable sites for the erection of first-class shops, or for villa or cottage residences. The demand for which in the neighbourhood is almost unlimited. Particulars, with plans, now ready, of Mr. W. WALKER, Surveyor, Hampton-wick; G. E. GUSTARD, Esq. Solicitor, 26, Lincoln's-inn-fields; and of the Auctioneers, No. 80, Cheapside.

SOUTH NORWOOD.—First-class Freehold Building Land, in a very healthy and picturesque locality, within five minutes' walk of the Norwood Junction Station, on the London, Brighton, and South Coast Railway, and about the same distance from the Addiscombe Station, on the Mid Kent Railway, affording access to London Bridge, Victoria, Charing-Cross, Crystal Palace, &c. at frequent intervals throughout the day

MESSRS. WINSTANLEY & HORWOOD will offer for SALE by AUCTION, at the GUILDHALL HOTEL, Gresham-street, on TUESDAY, AUGUST 30 to 2 o'clock, a PORTION of the valuable FREEHOLD PROPERTY, known as Elmore Park. Land tax redeemed, and great tithe rent charge. Lodge. Most eligibly situate at Woodside green, in the parish of Croydon, and possessing the important advantage of immediate contiguity to the Norwood Junction Station, with which it is in direct communication by the road now being made over the adjoining lands. The land is approached by capital roads, as at Birchanger, Howard, and Elmore roads, admirably adapted for the erection of detached villas or cottage residences, for which there is a great demand in this thriving and rapidly-increasing neighbourhood, and is divided into 24 plots of 50 feet each, by a depth of about 200 feet; and two others, of about 300 feet, by a cons derable depth. The water mains of two companies are laid on to the Estate, and gas is already supplied at Woodside-green. Possession may be had on completion of the purchases; and the plots viewed at any time.—Particulars, with plans, are being prepared and will be ready twenty days previous to the sale. In the meantime, further information will be afforded on application to Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon, S.; and Messrs. WINSTANLEY & HORWOOD, Auctioneers, Surveyors, and House Agents, 10, Paternoster-row, St. Paul's, E.C.

To BUILDERS and OTHERS.—2,500 Yellow Battens, used for the seats and temporary erections on the occasion of laying the foundation stone of the new wing of the London Hospital by H.R.H. the Prince of Wales

MR. A. RICHARDS will SELL by AUCTION, at BIRD'S YARD, Globe-road, Mile-end, where they have been removed for convenience of sale, by order of Messrs. Hill & Keddell, the Contractors, on MONDAY, AUGUST 15th, at ONE, 2,500 YELLOW BATTENS, 6½ inches by 2½ inches, in lengths from 10 feet to 24 feet, and a quantity of short ditto.—May be viewed. Catalogues obtained on the ground, and of the Auctioneer, Tottenham.

PIMLICO IMPROVEMENTS.—Materials of Five Dwelling-houses, with shop-fronts and back buildings.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 15, at TWELVE o'clock, all the excellent BUILDING MATERIALS of Nos. 23, 26, 27, 28, and 29, Lower Eaton-street, comprising a large quantity of prime bricks, sash, sound roofs, lead gutters, pipes and coverts, iron gratings, the complete fittings of the interior, the fittings of the usual description, stone sinks and paving, and useful fittings.—May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton square, and No. 13, High-street, Kensington.

CROYDON, SURREY.—Important Freehold Building Land, nearly contiguous to the Addiscombe Railway Station, and within a few minutes' walk of the other Croydon Stations.

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on WEDNESDAY, AUGUST 31, at SIX for SEVEN o'clock in the Evening, Eighty Lots of very Eligible BUILDING LAND, being the first portion of the Leslie Estate, having one hundred and fifty feet frontage to St. Augustine's road on the western side of the Heath Lodge Estate. The land is set out in lots of 15 and 20 feet frontages, respectively, to capital 40 feet roads, named Alexandra, Alfred, and Edward roads. The subsoil is a deep rock of gravel, and all sewers and drains are in all the roads, and the water main of the Local Board is in the adjoining high road. In order to preserve the respectability of the neighbourhood, the purchasers will be properly restricted as to the value of the houses to be erected, and the lines of building frontages to be observed.—Particulars, with plans, may be had fourteen days before the sale at the Greyhound Inn, Croydon; the Leslie Arms, Croydon Common; at Garraway's Coffee-house, Change-alley, Cornhill; of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon; and of Messrs. BLAKE, Croydon.

IRELANDS' ESTATE, Barking-road, Plaistow.—Valuable Building Land, equal to Freehold.

JOHN T. FISHER is instructed to SELL by AUCTION, at the ABBEY ARMS INN, Plaistow, adjoining the property, on TUESDAY, AUGUST 16th, 1864 at THREE o'clock in 32 Lots, about 1,500 Feet of Eligible FRONTAGES, with good depths, and abutting on streets made and severed in accordance with the requirements of the Local Board of Health. Several commanding corner plots are included in this sale. The immediate and continuall growing demand for houses in this locality, consequent on the establishment of the several important factories, renders this property a safe investment, and one possessing a certain and largely increasing value May be viewed, and Plans and particulars had of Messrs KINGSFORD & DORMAN, Solicitors, 29, Essex-street, Strand, W.C.; at the place of Sale, and of the Auctioneer, Plaistow, E.

AT GARRAWAY'S COFFEE-HOUSE CORNHILL, WEDNESDAY, AUGUST 17, at THREE,

TIMBER—300 loads, Foreign and Colonial.

DEALS and BATTENS—100,000 pieces, ditto, ditto, and other wood goods. H. FREEMAN & Co. Brokers, 3, Crooked-lane, Cannon-street, E.C.

MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY REVERSIONS and ANNUITIES, WINE, SPIRITS, and TIMBER WARRANTS, FURNITURE, SHARES, &c. Mr. RICHARD CROSSLEY, 17, Moorgate-street, Bank, E.C.

£1,000 IN CASE OF DEATH or an Allowance of 6l. per week while laid up by Injury caused by ACCIDENT OF ANY KIND, Whether Walking, Riding, Driving, Hunting, Shooting, Fishing, or at Home, may be secured by an Annual Payment of 3l. to the RAILWAY PASSENGERS' ASSURANCE COMPANY. MORE THAN 3,000 CLAIMS FOR COMPENSATION HAVE BEEN PROMPTLY AND LIBERALLY PAID. For particulars apply at the Offices, 10, REGENT-STREET, and 64, CORNHILL. WILLIAM J. VIAN, Secretary.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1859), 14, RUSSELL STREET, COVENT GARDEN, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property, for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deductions from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope EDWARD HARPER, Secretary.

ROYAL POLYTECHNIC.—Patron H.R.H. the PRINCE of WALES.—The Christian Allegory of "The Knight Watching his Armour." The Ghost of the Diving Bell, Heinke's patent diving dress—The Lilliputian Ghost, a few inches high, in Professor PEPPER'S New Ghost Lecture Entertainment (JOHN HENRY PEPPER and HENRY DIRCKS, joint inventors). STOKES in Memory. Mr. G. W. JESTER'S Ventriloquial Entertainment. Mr. GEORGE BUCKLAND'S new Musical Entertainment daily at 4 and 9. Open 12 to 5, 7 to 10. Admission (Saturday morning inclusive) 1s. N.B.—The Laboratory is always open for Pupils and Analyses.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, Tile, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economica substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, terrace, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, E.C. Kindly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietors; and lastly, that the "Reports of the Juries," page 281, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION, 1862. MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each slab.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 20 and 40, Upper Belgrave-place, Pimlico, S.W.

KAMPTULICON FLOOR CLOTH, DURABLE, COMFORTABLE, ECONOMICAL, and ORNAMENTAL, for CHURCHES, PUBLIC BUILDINGS, BILLIARD-ROOMS, and PRIVATE HOUSES. GOUGH & BOYCE, 76, CANNON-STREET WEST, E.C.

TO BUILDERS, &c. A LARGE ASSORTED STOCK always on HAND, of CLOTHS and BAIZES, In all widths, colours, and qualities, at HILL & SONS, 83 and 89, St. Martin's-lane, Charing Cross.

London:—Printed by CHARLES WYMAN, Printer, at the Printing office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's inn-fields, in the Parish of St. Giles in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, August 13, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1124. AUGUST 20, 1864. PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will, in the year 1865, be open to Public Competition.

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at the Office, on application, either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office, 14th July, 1864.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of PENSIONERS will take place in NOVEMBER next.—Candidates may obtain Forms of application (to be returned on or before 29th AUGUST), at the Offices, 2a, Southampton-street, Bloomsbury. Pensions, 21l. per annum for males; and 20l. for females.

A. G. HARRIS, Secretary.

July 29th, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

COMPETITIONS.

TO ARCHITECTS.—COMPETITION DESIGNS for ST. JAMES'S CHURCH, Waterloo-street, Little Bolton.—The Charitable Trustees, under the will of the late John Barrow, esq., are desirous of obtaining DESIGNS, &c. for a CHURCH, to be erected on land belonging to them in Waterloo-street, Little Bolton. The land for the site forms a parallelogram of 92½ yards long, by 41 yard's wide, and contains (including one-half of West-floor-street, of 14 yards wide, and the half of three other streets of 12 yards wide, each running along the other three sides of the land) 8,739 superficial square yards. The frontage to Waterloo street, which runs nearly east and west, is 221 yards. It is desired that the church shall afford comfortable sitting accommodation for 1,500 persons, and that the outlay shall not exceed 5,000l. The plans to be drawn in line only, to a scale of 10 feet to 1 inch. Each set of designs to comprise plan, interior, exterior, and sectional elevations, and a perspective view with the estimated cost of construction and completion of the design, exclusive of the land, but exclusive of all interior fittings and work. The designs to be forwarded to the Rev. HENRY POWELL, Vicar of Bolton (under motto or cypher only, accompanied by a sealed letter, containing the real name and address of the person or firm), on or before the 30th SEPTEMBER, 1864. A premium of 50l. will be given to he person whose design the Trustees shall deem the best, and such design shall be the property of the Trustees, who shall not be bound to employ the successful person as architect, though they will be disposed to treat with him for the purpose. The successful designer will be required to the addresses of the respective owners, by the usual modes of conveyance; but the Trustees will not be re-pon-sible for their safe delivery, nor for any payment to the owners in respect of such plans, or of the adoption of any part of any of them in the erection of the Church. Further particulars may be obtained from the Rev. HENRY POWELL, Vicar of Bolton; JOHN HICK, Esq., or THOMAS LEVER BUSHTON, Esq. three of the Charitable Trustees under the will of the late John Barrow, esq. deceased.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart. are prepared to receive DESIGNS and ESTIMATES for the ERECTION of an OBELISK or COLUMN, on an elevated site on the Sledmere Estate, on the Yorkshire Wolds, near Driffield. Designs and Estimates to be sent to the Honorary Secretaries, on or before the 1st day of OCTOBER next. Twenty pounds will be given for the design considered the most suitable by the Committee, and ten pounds for the second-best design.—Particulars to be had on application to

WM. TOPHAM, } Hon. Secs.
F. C. MATTHEWS, }

Driffield, 1st August, 1864.

BOROUGH of BOLTON. — COMPETITION PLANS for NEW TOWN HALL.—To ARCHITECTS, &c. &c. The Bolton Corporation purpose ERECTING in the Borough a TOWN HALL, covering an area of about 4,300 square yards, and are desirous of obtaining Plans, Sections, and Working Drawings for same. Premiums will be given as follows, viz.—120l. for the best, 80l. for the second best, and 40l. for the third best design in the opinion of the Council; but the Corporation will not be responsible for any payment for unsuccessful designs. The plans of the three successful competitors to be the property of the Corporation.—Applications to be made to Mr. BAYLIS, the Borough Surveyor, who will show the ground, and give any further information on the subject. The designs must be sent in, under seal, without signatures, with a private mark or motto, and a letter accompanying them, also under seal, containing the corresponding mark or motto, and the designer's name and address. They must be addressed to the Town Clerk, and delivered in on or before the 1st DECEMBER, 1864.

ROBT. G. HINNELL, Town Clerk.

Bolton, 11th August, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for CARRYING OUT the ARTIFICERS' and other WORKS of an estimated value of three hundred pounds and under, at NETLEY, in the County of Hants, under a TRIENNIAL CONTRACT, from the 1st of OCTOBER next, determinable at any period after one year on either party giving to the other three months' notice in writing.

Copies of the Schedules (price seven shillings and sixpence) and form of Tender may be obtained on application at this Office.

The Secretary of State for War does not bind himself to accept the lowest or any Tender. (Signed) P. RAVENHILL,

Major, Commanding Royal Engineer, Netley.

Royal Engineer Office Netley,
3rd August, 1864.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, IRONFOUNDERS, &c.

TENDERS are required for SAVING DOWN about 5,000 feet of Cast-iron PIPE MAIN, at the Gun Wharf, Portsmouth, County of Hants.

Persons desirous of Tendering for the execution of this Work must leave their names at this Office, on or before the 23rd AUGUST, 1864, and pay the sum of 10s. 6d. for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. J. W. GORDON, Col. C.B.E.

Royal Engineer Office, Portsmouth, 9th August, 1864.

TO BUILDERS.—TENDERS are required for ALTERATIONS and ADDITIONS to BELVEDERE CHURCH, Erith, Kent.—Drawings and specifications may be seen, and all particulars obtained, at the Office of the Architects, Messrs. W. G. HABERSHON & PITE, 38, Bloomsbury-square.

TO BUILDERS.—TENDERS are required for the COMPLETION of Two VILLA RESIDENCES, Belvedere Park, Erith, Kent.—Drawings and specification may be seen, and all particulars obtained, at the Offices of the Architects, Messrs W. G. HABERSHON & PITE, 38, Bloomsbury-square.

TO ENGINEERS.—Notice is hereby given, that the Hastings Local Board of Health are ready to receive TENDERS from persons desirous of CONTRACTING with them for a new STEAM ENGINE, PUMPS, and WELL for the Hastings Waterworks. The specification may be had on application at the Town Clerk's Office, High-street, Hastings, where Tenders, duly signed, must be delivered before TEN o'clock of the morning of FRIDAY, the 26th day of AUGUST instant. The Local Board do not bind themselves to accept the lowest or any Tender.

ROBERT GROWSE, Town Clerk.

Hastings, 10th August, 1864.

BUILDING of ST. FINBAR'S CATHEDRAL, CORK.—Builders desirous of TENDERING for the above BUILDING are requested to send in their names to the Architect or the Committee before the last day of AUGUST. The quantities will be supplied by that time, or as soon after as possible. A fortnight will then be allowed to make the estimates, during which time the drawings, specifications, and conditions of Contract can be seen at the Cathedral Committee-rooms, Cork; and at the Office of the Architect, Mr. W. BURGES, 15, Buckingham street, Strand, London. The Committee do not pledge themselves to accept the lowest or any Tender.

LLANELLY NEW MARKET.—To CONTRACTORS, BUILDERS, and IRONFOUNDERS.—The Local Board of Health for the district of Llanelly are prepared to receive TENDERS for the following WORKS:—

CONTRACT No. 1.—For a stone-built boundary-wall, about 2,000 feet long.

CONTRACT No. 2.—For Cast-iron Pillars, about 200 in number.

CONTRACT No. 3.—For Materials and Labour, for roofing of sheds.

Plans, specifications, and forms of Tender may be seen at the Office of Mr. E. BAGOT, C.E. Surveyor to the Board, on and after the 10th instant. Tenders for the Works, endorsed "Llanelly Market Contract, No. 1, 2, or 3," are to be delivered in to Mr. F. L. BROWN, Clerk to the said Board, not later than FRIDAY, the 26th instant. The Board do not pledge themselves to accept the lowest or any Tender.—By order, F. L. BROWN, Clerk.

Town Hall, Llanelly, August 2, 1864.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA RESIDENCE at Chertsey, are informed that the plans and specification may be seen at my Office from the 24th to the 30th instant, and at the Crown Brewery Office, Chertsey, from the 31st instant to the 6th proximo. Sealed Tenders to be sent in not later than the 8th of SEPTEMBER, to H. WETTON, Esq. Chertsey, Surrey. The lowest Tender not necessarily accepted. T. WONNACOTT, Architect.

Farnham, Surrey, August 20, 1864.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the County of Middlesex, hereby give notice that they will be ready at the Board Meeting, to be held at Broadway House, Hammersmith, on WEDNESDAY, the 7th day of SEPTEMBER, 1864, at TEN o'clock precisely, to receive sealed TENDERS from parties who may be willing to contract for the LAYING DOWN, CONSTRUCTING, and completely FINISHING certain intended BRICK SEWERS, viz:—A sewer across Brook-green, about 2,230 feet in length; another sewer, in King-street East, about 2,240 feet in length, both in the Parish of Hammersmith; and another sewer in Parson's Green lane, Fulham, about 1,000 feet in length, continued with about 1,000 feet of pipe sewer.—Plans, specifications, and detail drawings of the works can be seen and examined, and the form of Tender may, with other particulars, be obtained at Broadway House, Hammersmith, between the hours of TEN a.m. and FOUR p.m. on any day after MONDAY, the 22nd of AUGUST, 1864, previous to the 6th day of SEPTEMBER next. The Tenders must be for each sewer separately, and sent in sealed, addressed to the Chairman of the Board, on or before TEN o'clock of the said 7th day of SEPTEMBER, marked on the outside, "Tender for Sewers," and the party whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties for the due performance of the undertaking; such contract and bond to be prepared by the Solicitor to the Board, at the expense of the contractor. The Board does not pledge itself to accept the lowest or any Tender.—By order, W. LOVELY, Clerk.

NOTICE to BUILDERS.—TENDERS are required for ERECTING an INFANT SCHOOL and Quarters for a Schoolmistress, at Sheerness. Parties desiring to Tender for these Works, must leave their name at the Office, on or before the 3rd SEPTEMBER next, and pay the sum of 10s. for the bills of quantities, which will be forwarded to each party as soon as prepared by the War Department Surveyor.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness,
17th August, 1864.

TO BUILDERS.—FLADBURY, near Pershore.—Proposed new SCHOOLS and Master's HOUSE at Fladbury.—Plans and specification may be seen at the Office, on and after AUGUST 24th, until SEPTEMBER 10th, on application to the Rev. J. HAVILAND at the Rectory. Sealed Tenders endorsed "Tender for Fladbury School," with name and address free of expense, to be sent to the Rectory on or before SEPTEMBER 14th inst. The Committee do not bind themselves to accept the lowest or any Tender.

FREDERICK PREEDY, Architect,
13, York-place, Baker-street, London.

TO BUILDERS.—GLOUCESTER BELL HOTEL COMPANY (limited).—The time for delivery of TENDERS for REBUILDING this Hotel has been extended to the 3rd SEPTEMBER next. Full particulars may be obtained on application to Mr. Hy. JAMES, Architect, Eastgate-street, Gloucester.

THOMAS TAYNTON, Sec. pro tem.

CROYDON LOCAL BOARD of HEALTH.—TO CONTRACTORS and OTHERS.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for LAYING, MAKING, and METALLING the ROADS, CONSTRUCTING the EARTHENWARE and IRON PIPE SEWERS, and other Works upon the Lebanon Park Estate, Upper Norwood, Bell Green, Thornton Heath, and the adjoining district, in the parish of Croydon, in accordance with the plans and specification prepared by Mr. Baldwin Latham, C.E. the Engineer for the said Board, may see the plans and specification, and obtain other information at the said Engineer's Office, in the Town Hall, Croydon, on or after this date. Sealed tenders, endorsed, "Tender for Roads and Sewers, Thornton Heath," are to be delivered at the Office of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock on the afternoon of TUESDAY, the 30th day of AUGUST instant. The Local Board do not bind themselves to accept the lowest or any Tender.

3rd August, 1864. HENRY RICHARDS, Clerk to the Board.

THE Board of Guardians of St. Matthew, Bethnal-green, are willing to receive TENDERS for the ERECTION of a BOARD ROOM and OFFICES at their Parochial Workhouse, Bethnal green, from the recipients of their respective E. N. CLUTTON, 7, East-india-avenue, Leadenhall-street, E.C.; Copies of the quantities may be obtained of Messrs. WILLIAMS & SCHOFIELD, 12, Montague-street, Russell-square, W.C. The Board do not bind themselves to accept the lowest Tender, and will require the builder whose Tender is accepted to give the names of two sureties to be bound jointly with himself in the sum of 500l. for the due execution of the works. Tenders to be delivered at the Office, W.T. HOWARD, Esq. Clerk to the Board, Waterloo-road, Bethnal-green, before SIX o'clock, p.m. on MONDAY, the 12th of SEPTEMBER next; and personal attendance will be given by the Builder at the TUESDAY, SEPTEMBER 13, the following day, at FOUR o'clock precisely.

TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of New SCHOOLS and HEADMASTER'S RESIDENCE, at Bedford, near Bedford, from the plans and specification of the Architect, Mr. JAMES HORSFORD, Well-street, Bedford. Tenders to be sent in to the above address on or before WEDNESDAY, the 31st instant. The Trustees do not bind themselves to accept the lowest or any Tender.

Bedford, August 17, 1864.

[For remainder of Contracts see next Page.

TO CONTRACTORS.—The Trustees of the Town, Port, and Harbour of Whitehaven are prepared to receive TENDERS for NEW BRAGS, and OTHER WORKS for the drainage of the said Town and Port, according to Plans, Sections, and Specifications, prepared by Mr. HAWKSLEY, Civil Engineer, 30, Great George-street, Westminster, may be seen at his office, and at the Office of the Secretary to the Trustees, at the Town Hall, in Whitehaven (where bills of quantities and other particulars may be obtained on and after MONDAY, the 1st day of AUGUST next). Sealed Tenders, addressed to the Secretary to the Trustees, must be delivered at his office, in Whitehaven, on or before MONDAY, the 22nd day of AUGUST next, at which time the Trustees do not pledge themselves to accept the lowest or any other Tender, although they will do so unless there should appear to them to be sufficient reason for the contrary.

By order, JOHN COLLINS, Secretary to the said Trustees.

Queen's street, Whitehaven, 22nd July, 1864.

GREAT WESTERN RAILWAY. — To BUILDERS.—The Directors are prepared to receive TENDERS for the ERECTION of an ENGINE SHED at Pontypool Road. Also for the EXTENSION of their Carriage and Wagon REPAIRING SHOPS at Worcester. Plans and specifications may be seen on and after the 27th instant, at the Engineer's Office, Paddington, and Worcester, where also printed forms of Tender and specification may be obtained. Sealed Tenders, addressed to the Secretary, marked "Tender for Works, Pontypool Road," or "Worcester," must be delivered at the Secretary's Office, Paddington Station, not later than TEN o'clock on WEDNESDAY, the 24th instant. The Directors do not bind themselves to accept the lowest or any Tender.

F. G. SAUNDERS, Secretary.

Paddington Station, 10th August, 1864.

BUILDERS and OTHERS desirous of ERECTING PAIRS of DETACHED and SEMI-DETACHED VILLAS at Chiswick, may inspect the plans and particulars at the Offices of the Architects and Surveyors, Messrs. MANSELL & ELPHICK, 33a, Belgrave-square. If no proposal in the first instance, that Builders erect the Villas on their own account, as the roads are secure. The ground-rent moderate. Term, 99 years.

TO BUILDERS and CONTRACTORS.—The Committee for the Restoration and Enlargement of the Parish Church of Llangollen are desirous of obtaining TENDERS for the WORKS proposed to be done. The drawings and specification will be open to inspection between the hours of TEN and SIX, at Walton House, Llangollen. Tenders for the works to be sent on or before the last day of OCTOBER next, addressed to the Rev. HENRY PEIRCE EDWARDS, Llangollen. The Committee do not bind themselves to accept the lowest or any Tender.

S. POUNTNEY SMITH, Architect.

BIRKENHEAD INDUSTRIAL SCHOOLS (ALBERT MEMORIAL). — To BUILDERS.—Persons desirous of TENDERING for the above SCHOOLS, may inspect the plans and specifications, and obtain copies of the quantities, at the Offices of Mr. DAVID WALKER, Architect, 22, Lord-street, Liverpool, on and after TUESDAY, the 23rd inst. Tenders sealed as I endorsed, to be delivered to the undersigned, at the Temple, Dale-street, Liverpool, on or before the forenoon at TWELVE p.m.—Security will be required for the due performance of the contract, and the committee do not bind themselves to accept the lowest or any Tender.

August 18, 1864. WILLIAM JACKSON, Jun. Hon. Sec.

TO BUILDERS and CONTRACTORS.—Parties desirous of submitting TENDERS for a GENTLEMAN'S RESIDENCE, with STABLING, &c., within two miles of Bracknell Station (South-west Railway), are requested to communicate with me. The Works are to be commenced immediately, and finished within nine months.

W. H. WOODMAN, Architect.

Grey Friars, Reading, August, 1864.

TO BUILDERS and CONTRACTORS.—The Directors of the Greenwich Tannery Company (Limited) are prepared to receive TENDERS for the ERECTION of their WORKS, plans and specification of which may be seen at the Company's Office, 25, Bishopsgate-street within, E.C. between the hours of ELEVEN a.m. and FOUR p.m. Sealed Tenders, endorsed "Tender," must be delivered at the Company's Office, as aforesaid, before the 31st AUGUST instant, by ELEVEN a.m. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

FREDERICK W. CHAPLIN, Secretary.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, rubble backing and steps, Bath, Portland, and rough rubble. Also for the handsome columns, with moulded bases and curved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO ENGINEERS, MILLWRIGHTS, and OTHERS.—The Commercial Dock and Grand Surrey Docks and Canal Companies being about to construct a communication between the Commercial Dock, No. 3, and the Grand Surrey Dock, No. 2, and the Grand Surrey Upper Dock, at Rotherhithe, are prepared to receive TENDERS for the CONSTRUCTION of TWO PAIRS of GATES, a wrought-iron BALANCE BRIDGE, and the MACHINERY SLUICES, &c. connected therewith. The plans, specifications, conditions, and draft contract, may be seen at the Offices of the Commercial Dock Company, 101, Fenchurch-street, from AUGUST 22nd to SEPTEMBER 12th (Fridays excepted). Tenders to be delivered on the printed forms which will be supplied to intending contractors, to be addressed under cover, to the Secretaries of the Commercial and Grand Surrey Docks and Canal Companies, endorsed "Tenders for Lock Gates, &c." and delivered at the Office of the Commercial Dock Company, 101, Fenchurch-street, on or before NOON, on TUESDAY, the 13th SEPTEMBER.—Any further information may be obtained on application, in writing, to the Engineers, Messrs. McCLEAN & SPILEMAN, 25, Great George-street, Westminster. The Directors do not bind themselves to accept the lowest or any Tender.—By order

J. GRIFFIN,
G. W. HERSCH, } Secretaries

TO CONTRACTORS. — The Commercial Dock and Grand Surrey Docks and Canal Companies being about to construct a communication between the Commercial Dock, No. 3, and the Grand Surrey Dock, No. 2, and the Grand Surrey Upper Dock, at Rotherhithe, are prepared to receive TENDERS for the WORKS. The plans, specification, conditions, and draft contract may be seen at the Offices of the Commercial Dock Company, 101, Fenchurch-street, from AUGUST 22nd to SEPTEMBER 12th (Fridays excepted). Tenders to be delivered on the printed form, which will be supplied to intending contractors to be addressed, under cover, to the Secretaries of the Commercial and Grand Surrey Docks and Canal Companies, endorsed "Tenders for New Works," and delivered at the Office of the Commercial Dock Company, 101, Fenchurch-street, on or before NOON, on TUESDAY, the 13th SEPTEMBER. Any further information may be obtained on application in writing to the Engineers, Messrs. McCLEAN & SPILEMAN, 25, Great George-street, Westminster. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

J. GRIFFIN,
G. W. HERSCH, } Secretaries

SHOP-FRONT FITTERS willing to TENDER for FITTING UP a LINEN DRAPER'S SHOP at Chelsea, can inspect the drawings and specification at the Architect's Office. Mr. WILLIAMS cannot bind himself to accept the lowest or any Tender.

HENRY McCALLA, C.E. Architect,
7, Westbourne-place, Eaton-square.

PERSONS willing to TENDER for doing sundry REPAIRS and ALTERATIONS at No. 6, Shepherd-street, Mayfair, can inspect the drawings and specification at the Premises. Tenders are to be delivered at 211, Strand, the 23rd instant, at the Architect's Office, not later than FOUR p.m. A right is reserved of rejecting the lowest or any Tender.

HENRY McCALLA, C.E. Architect,
7, Westbourne-place, Eaton-square.

August 15, 1864.

BUILDERS willing to TENDER for making sundry ALTERATIONS and ADDITIONS at No. 99, Lancaster-street, for the height from Court Mews, can inspect the drawings and specification at the Office of the Architect, who reserves the right, on behalf of his Employer, of rejecting the lowest or any Tender.

HENRY McCALLA, C.E. Architect,
Westbourne-place, Eaton-square.

ALTERATION of SANDWICH CATTLE MARKET.—To BUILDERS, MASONS, IRONFOUNDERS and OTHERS. The Corporation of Sandwich invite TENDERS for RELAYING the CATTLE-MARKET at Sandwich, and erecting within Sheep-pens and Bullock-rails therein with other Works now required to be executed in connection with the Market. Plans and specifications of the required works may be seen at my Office on any day between the hours of TEN and FOUR p.m., and sealed Tenders marked "Tenders for Works at Sandwich Cattle-market," are to be sent to my Office on or before the 30th instant. The Corporation do not bind themselves to accept the lowest or any Tender.

Sandwich, August 12th, 1864. T. L. SURRAGE, Town Clerk.

MIDLAND RAILWAY.—TENDERS for WORKS at NORMANTON STATION.—The Directors are prepared to receive TENDERS, No. 1, for EARTHWORK and BUILDING RETAINING WALLS; and Tenders, No. 2, for the FORMATION and BUILDING of PASSENGER PLATFORMS. Drawings and specifications may be seen upon application at the Engineer's Office, Derby, on and after WEDNESDAY, the 24th instant. Tenders, upon the forms supplied, to be forwarded to the Secretary of the Normanton Joint Committee, Normanton Station, by TEN a.m. on MONDAY, the 29th instant. The Directors do not bind themselves to accept the lowest or any Tender.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—LONDON-BRIDGE STATION ENLARGEMENT.—CONTRACT for ROOFING.—The Directors of the London, Brighton and South Coast Railway are ready to receive TENDERS for the ERECTION of the COLUMNS, GIRDERS, and ROOF over the existing and enlarged station at the London-bridge Terminus, including the taking down and re-erecting a portion of the existing roof, according to the plans, drawings, and specifications, which may be seen, and bills of quantities obtained, at the Office of Mr. FRED. D. BANISTER, the Company's Engineer, London Bridge Station, on and after WEDNESDAY, the 17th inst. Tenders in the prescribed form only, addressed to the Secretary, must be delivered at his Office not later than ELEVEN o'clock in the morning of TUESDAY, the 30th inst. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.

London-bridge Terminus, August 11, 1864.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—ERECTION of GOODS WAREHOUSE at BRIGHTON.—To BUILDERS and CONTRACTORS.—The Directors of the London, Brighton, and South Coast Railway are ready to receive TENDERS for the ERECTION of a GOODS WAREHOUSE and STORE, at the Goods Depôt, at Brighton, according to plans, drawings, and specifications, which may be seen at the Office of Mr. FRED. D. BANISTER, the Company's Engineer, London Bridge Station, on and after MONDAY, the 15th instant. Tenders in the prescribed form only, and endorsed "Tender for Goods Warehouse," and addressed to the Secretary, must be left at his Office, not later than ELEVEN o'clock in the morning of TUESDAY, the 30th inst. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.

London Bridge Terminus, August 11, 1864.

NOTICE.—A good JOBBING CARPENTER and JOINERY BUSINESS to BE DISPOSED OF, near Bishopsgate, City.—A small premium required.—Inquire at 6, Denmark-terrace, Banner-road, Victoria Park.

TO CARPENTERS, BUILDERS, and OTHERS. — Old-established, valuable, and commanding BUSINESS PREMISES for immediate DISPOSAL. Long lease at 35*l.* per annum only.—Further particulars, apply to Mr. W. NEWSON, Auctioneer, &c. &c., Finsbury-square.

TO PAINTERS, DECORATORS, PLUMBERS, GAS-FITTERS, &c.—A BUSINESS TO BE DISPOSED OF, with the Lease of the Premises, in one of the best situations of the West end.—For particulars, apply at 16, Albert-terrace, Bishop's-road, Bayswater.

HIGH-STREET, ST. PETER'S, BEDFORD.—To BUILDERS STONEMASONS, CONTRACTORS, and OTHERS.—TO BE DISPOSED OF the excellent BUSINESS of a BUILDER and STONE and MARBLE MASON, carried on with success by Mr. G. H. Miller (who is now retiring), for a period of forty years. The complete and well-adapted business premises, and commodious residence commanding one of the most respectable positions in the town of Bedford, is to be let on lease.—For further particulars and terms apply to Mr. USHER, Architect, Surveyor, and Valuer Mill-street, Bedford.

TO BUILDERS, HOUSE DECORATORS, &c.—Through decease of Proprietor, the BUSINESS of a Painter, Grainer, Writer, &c. for immediate DISPOSAL, situate in a most flourishing London Suburb, N.W. Possession of the premises in the High street. Goodwill of excellent connexion, trade fixtures and implements, and stock, value about 70*l.* for 12*m.*—Apply to Mr. GRAY, Percy House, Holly Mount, Hampstead, N.W.

A BUSINESS to BE DISPOSED OF in the BUILDING TRADE, at Sheerness.—For particulars apply to H. NEWBY, Builder, Mile Town, Sheerness; or to J. OMER, Optician, 93, Minories, London. Satisfactory reasons for leaving can be given.

IMPORTANT TO BUILDERS.

GREEN'S PREPARED ASPHALTE, for check damp cellars, &c. price 6*s.* per ton, from 30 Midland or London and North Western Railway, Bedford.—Address DANIEL GREEN, Bedford. List of Prizes for Green's Asphalte Floors forwarded by post.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 2*in* to 30*in* feet long, render them superior to leather for almost all working purposes, and especially where corrosion occurs. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Hosses, Union joints, Flasks, Bottles, Bowls, Toilet trays, Curtain-rings, Galvanic Batteries, Telegraph Wires, &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES,
WHARF ROAD, CITY ROAD, LONDON.

FAIRER'S TURRET CLOCKS, 168, St. George-street East, London. By Special Appointment to Her Queen and Mother Royal Highness the Prince Consort, her Majesty's War Department, &c. Maker of the Great Clock of the Tower of London. The Village Clock, price 40 guineas.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. LENTAIGNE DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 30 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

ONE HUNDRED TARPAULIN COVERS for HIRE, also MARQUEES and TEMPORARY PAVILIONS for FOUNDATION STONES, &c.

FRED. EDGINGTON & CO.
THOMAS STREET, OLD KENT ROAD, LONDON.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
59, Bishopsgate-street Without, E.C., Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

GILT BORDERINGS for ROOMS, from 1*d.* per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all its branches to the trade. 4-inch Gilt Beads, 7*s.* per dozen 6 feet lengths; best quality, 12*s.*

GEORGE REES, 57, DRURY LANE.

Four doors from Drury-lane Theatre. Established in 1840.

TO INVENTORS.—All intending Patentees, should procure the PRINTED INFORMATION regarding PATENTS and their Cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

ARROWSMITH'S SOLID PARQUET FLOORS.—A SOLID INTERLACED OAK PARQUET FLOOR at 2*s.* per foot (including fixing), the same price as a plain oak floor. The speciality consists in each separate piece being solid, tongued, grooved, and tongued, and keyed at back in 4 reversals. References two hundred of the eminent in London, Messrs. W. Burn, B. Bucknall, P. C. Hardwick, G. G. Scott, A. Salvin, Sydney Smirke, and others, during the last ten years. Show rooms, 80, New Bond-street, W.

PARQUET FLOORING.
TO ARCHITECTS AND BUILDERS
JACKSON & GRAHAM
Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEHBE, of MAYENCKS & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Books of designs sent free by post. No charge for taking plans and giving estimates.
31, 34, 35, 37, and 38, OXFORD STREET, LONDON.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply machine-made patented solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

BALLAST WAGGONS TO BE LET.—The Midland Waggon Company have a number of low-sided WAGGONS, suited for Ballasting, TO LET. They have also a few for SALE.
Midland Works, Birmingham.

PRIZE WAGGONS and CARTS.—
HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.
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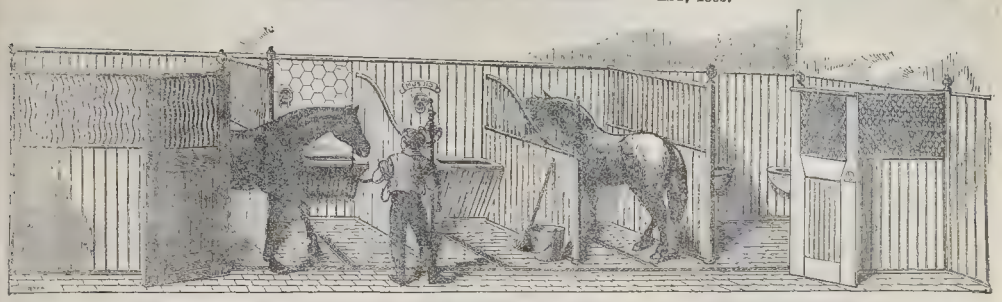
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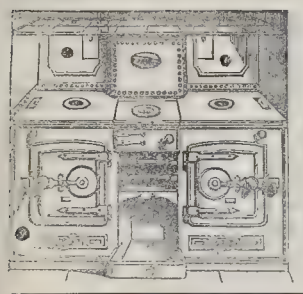
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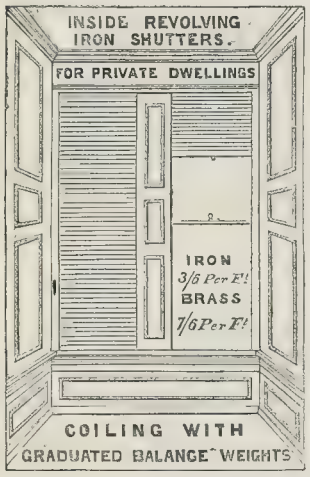
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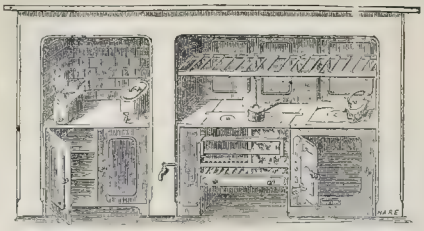






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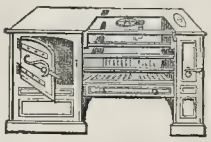
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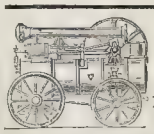
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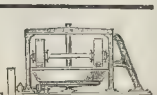
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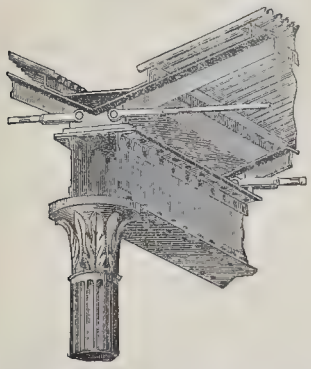
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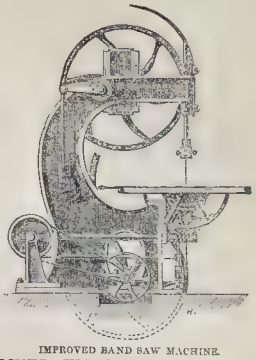
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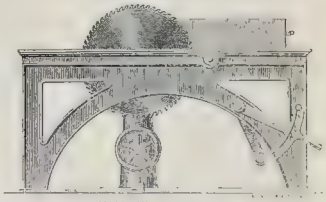
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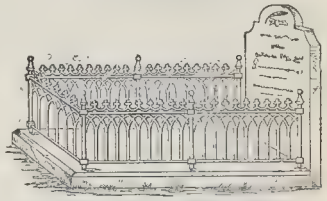
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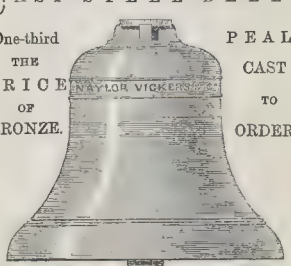


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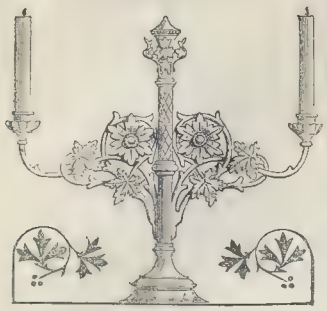
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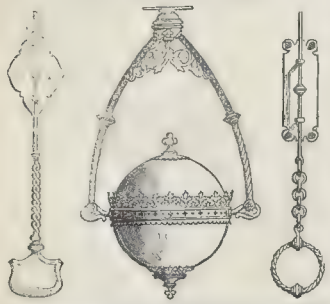
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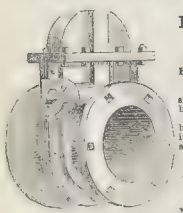
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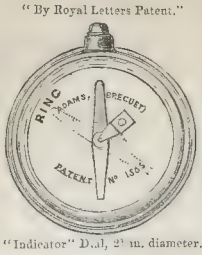


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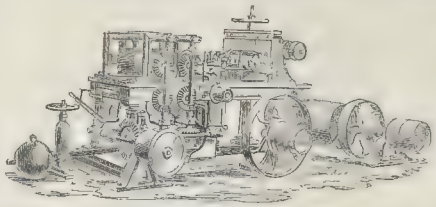
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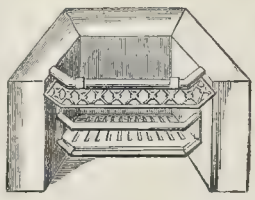
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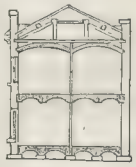


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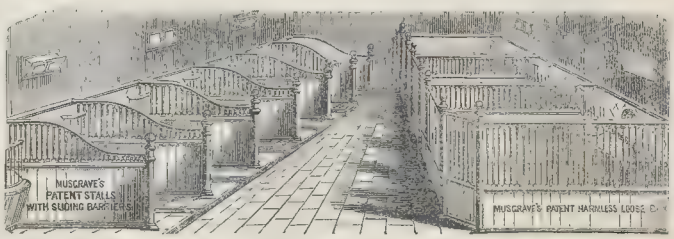
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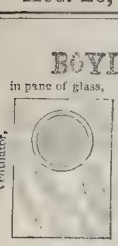


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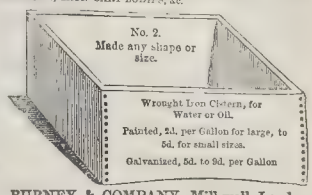
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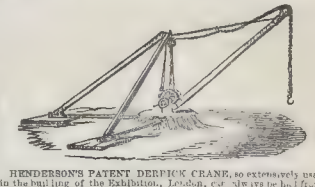


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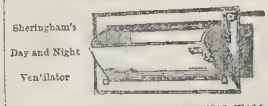
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The Builder.

VOL. XXII.—No. 1124.

Ipswich Congress of the British Archæological Association.

ALTOGETHER satisfactory must, we think, be the verdict;—not merely socially agreeable, but likely to be practically useful. The visitors from London were glad to see under good guidance the antiquities of Ipswich and the various other towns to which excursions were arranged, and the inhabitants of these towns were equally glad to have the opinions of their visitors respecting them. The papers read were all *àpropos*, and when printed will be found valuable materials for future county historians. Without attempting a complete account of the proceedings, we will note some of the more salient points. The Mayor of Ipswich (Mr. G. C. E. Bacon) and the Corporation met the members in the Town-hall on Monday (the 8th), and welcomed them. The Mayor regretted that they had not come some years earlier, to have preserved from destruction many of the ancient monuments of Ipswich, of which, he said, few now remained.

Lord Houghton, the president of the meeting last year at Leeds, being unable to attend, Mr. Pettigrew, F.R.S., as the oldest vice-president of the Association, introduced to the meeting Mr. George Tomline, M.P., as their president, and spoke of the work such associations had accomplished in diffusing a taste for archæological researches, and in preserving the monuments of past times, which throw much light on obscure parts of the history of the kingdom.

The President said he received with thanks the very hearty welcome which they had given the Association upon this, its first meeting in Suffolk, or, to use an archæological term, East Anglia, among the descendants of the Iceni. He observed with pleasure that gentlemen well versed in the details of the antiquities of the town and neighbourhood were prepared to discuss them at the meetings during the week. They had had amongst them the Roman, the Saxon, and the Dane, who had left behind them foot-prints, some clear enough, some obscure, and which had been traced with ability and success—sometimes, perhaps, upsetting legends and traditions that had been gradually manipulated into history. Pointing out the success of archæological pursuits, both at home and abroad, he said speculations were often wrong, but speculation was the mother of discovery; and the more wide, the more active, the more keen the interest men took in science, the more certain were they gradually to arrive at what might gratify their own ambition and add to their own knowledge of mankind. A day spent in the ruins at Bury St. Edmund's or Framlingham, would form a better lesson to the student of history than a much longer time spent in libraries, in reading the records written of them. We could not expect to surpass the intellectual strength of the time of Plato or of Galileo, but we had the advantage in intellectual freedom. The scientific progress that had been made, and the discoveries upon which they might congratulate themselves, and which had conferred as much happiness upon mankind as they had given knowledge to it, they owed in a great measure to the boldness and energy of the age in which they lived—to the increasing liberty demanded and the increasing honour paid to the courage and independence of the mind of man. The President quoted from memory a long passage from Borrow's "Spain," with reference to the universality of the so-called Druidical monuments, and dilated admirably on the truths likely to be derived from the study of them.

Mr. Cobbold, M.P., moved, and Mr. Godwin seconded, the thanks of the meeting to the president for his able and eloquent address. The motion was carried by acclamation, and the meeting having been brought to a close, the company proceeded, under the guidance of Mr. Phipson, one of the local secretaries, to examine some of the antiquities of Ipswich, including the town library, the well-known residence called "Sparrowe's House," the churches, and the museum. The oldest part of Sparrowe's House is a small chamber of the period of Henry VII. or early in Henry VIII.'s reign; which had been for a long period closed and concealed, and was not discovered till 1801. It is formed in the original roof of the house, a floor being put in at the level of the hammer-beam. When it was broken open a number of figures of angels were found distributed about the floor. The elaborate front of the house was built in 1567, by George Copping, and the house came into the hands of the Sparrowe family seven years later. The party then inspected Wolsey's Gate, dated 1528, and the only remaining portion of the great college which Cardinal Wolsey took so much pride in establishing. The next place visited was Key Church, whose roof of double hammer-beams is noticeable, and where the fine Powndor brass and the tomb of the charitable Tooley came in for examination and explanation. In this church Mr. Godwin took the opportunity of remarking that the roof wanted care on the part of the churchwardens to prevent its falling into decay, and he also observed that Wolsey's Gate required attention. If pointed and maintained under intelligent direction, the necessity for "restoration" would be avoided. A promise was given that the attention of the churchwardens should be called to the roof; and Mr. E. R. Turner, as owner of the property on which Wolsey's Gate stands, expressed his willingness to fall in with the wishes that had been expressed as to the maintenance of Wolsey's Gate in its present condition.

The party then took their course by Quay-street to St. Clement's, Fore-street, where they inspected the Neptune and other carved houses in this thoroughfare, which Mr. Phipson said must have been the High-street of the town in the days of the merchant princes of Queen Elizabeth's reign.

Amongst other places visited must be specially mentioned Christ Church, the residence of Mr. Fonnereau, which took many by surprise. The house is of red brick. There was originally a priory here. The rear of the house carries us back to the time of Edward VI., but the front brings us down as late as James. The entrance-hall, hung with paintings, with a chandelier formed of antlers in the centre, is the finest feature of the interior. A conspicuous object is the large chimney-piece, decorated with sculpture, prominent amongst which is the marble bust of a female, with a *veiled face*, brought from Rome 200 years ago, it was stated. A variety of antiquities was displayed for inspection. The billiard-room contains a finely-executed piece of tapestry, and a large clever cartoon, by a local artist, Mr. E. Smith, of the death of Sir P. Sidney, exhibited in the Westminster Hall competition, which led a number of artists to show their ability in a new line, and who were then allowed to fall back again into their former ways without hope of emergence. The adjoining church, St. Margaret's, has a remarkably handsome clerestory and parapet externally. A broad open staircase gives access to the first floor. A bed upon which Queen Elizabeth slept, when halting in Ipswich on some provincial tour, was a conspicuous object.*

At the evening meeting, the mayor presiding, Mr. Planché read a paper "On the Earls of East Anglia," in which he continued the subject of a former paper, read by him at the congress of the Association at Norwich. The principal object was to point out and endeavour to unravel the perplexities in which the genealogy of the earls of East Anglia is involved, and to expose some of the errors and contradictions that have been repeated again and again by historians. Mr. Planché having adverted to the origin of the family of Bigot, or Bygod, as it is indifferently written, proceeded to examine the contradictory evidence of the genealogy of the family contained in various charters, court rolls, fine rolls, &c., compared with the statement of former genealogists; and the extreme difficulty, if not impossibility, of reconciling the different authorities was thus humorously indicated at the conclusion of the paper:—

"We have to exculpate the venerable Earl Hugh, the first, from the charge of having left three widows to deplore his loss, and account for his having died originally about 1136, and subsequently in 1177. We have to identify two Margarets, each the daughter of a Robert de Sutton, or accuse William Bigot of breaking the law which declares that a man shall not marry his grandmother. We have to decide whether the first Earl Roger was twice married, or whether the earls who succeeded him were the issue of Isabella de Warren, the wife he does *not* mention, or of Ida, the wife he acknowledges; and if the latter—who was she? And, lastly, we have to discover the Hugh de Bigot, Earl of Norfolk and Suffolk, who had the charge of the sea coast of those counties in 1258, apparently during the lifetime of the second Earl Roger, who succeeded in 1225, and did not die before 1269, unless he was guilty of the same duplicity as his great grandfather, and died twice on purpose to puzzle us."

It is high time that something like a critical examination should take place of these Anglo-Norman pedigrees, which have been complacently copied for centuries without hesitation. By their correction and illustration a flood of light would be poured upon the early annals of England as well as on family history.

Mr. Edward Levien, M.A., then read a paper on the MS. collections relating to Suffolk in the British Museum. Mr. Levien cited examples to show the materials which these collections contain for elucidating local history; and incidentally mentioned that there were documents setting forth law points of great interest to this immediate neighbourhood. The most curious book of all was the Domesday Book of Ipswich, formerly belonging to the town, but now belonging to the trustees of the British Museum. How it left Ipswich was a mystery. Another book had reference to the river, the respective jurisdiction of the Corporation and the Admiralty; and there was also a valuable collection of charters, the whole collection being in fact an *embarras de richesses*, affording materials for a complete county history.

The Mayor said, with reference to Bacon's book in the town library, that he had taken measures to have it ready for inspection during the week, and he had some hope that it would be printed. Mr. Levien had mentioned it, and said it was probably well known to the people of Ipswich—he (the Mayor) was afraid it was not known to more than a dozen individuals.

Bury.

On Tuesday, Bury St. Edmunds was visited. The members were received at the Guildhall by the Ven. Lord Arthur Hervey, president of the Suffolk Archæological Institute, the Mayor (Mr. H. Le Grice) and corporation of the borough.

* During the week a neat and comprehensive little "Descriptive Handbook of Ipswich, the River Orwell, &c.," was published by Mr. Hunt. In future editions the antiquarian and architectural features of the town should be treated of at greater length. We may add that the *Ipswich Journal* and the *Suffolk Chronicle*, reported the proceedings of the congress very succinctly and correctly. The *Morning Post*, with a good general account, gave several of the papers *in extenso*.

After visiting the banqueting-hall, now used as the depository for the books of the West Suffolk Library, where an interesting collection of ancient drinking-glasses, belonging to Mr. J. C. Ford, and a model of Moyse's Hall, constructed by Mr. Ray, were exhibited, the company proceeded to the magistrates' room on the north of the entrance, where Lord Arthur Hervey bade the members of the British Association (who were headed by their president, Mr. G. Tomline), a very cordial welcome, and expressed a hope that they might be able to throw fresh light on many points of interest to the antiquary.

Mr. Gordon Hills then, with the assistance of a very large plan of the Abbey and adjacent churches, proceeded to give an interesting account of the church which successively occupied the site of the magnificent church of the Abbey, the remains of which are to be seen to this day, rich in historical associations. Mr. Hills traced the history of monastic establishments in Bury from the time when Sigebert, King of the East Angles, first built a church here and dedicated it to St. Mary, afterwards laying aside his kingly state and becoming a monk himself. Since that time a church of St. Mary had constantly reappeared in the annals of the town, even to our own day. In the course of his remarks Mr. Hills digressed into a dissertation upon the meaning of the termination of the ancient name of the town, Beodricsworth, leaning to the opinion that it served in Saxon nomenclature to mark the spot where two streams met, as was the case here and at other places mentioned. He not only pointed out the various parts of the sacred edifice itself, which he compared in size with several of our cathedrals, frequently to their disadvantage, but also traced the position and principal features of the adjacent monastic buildings, noting by the way many a point of interest connected with the remains yet to be seen in the Abbey grounds. Mr. Hills then took the party to the churches and gateway. In St. Mary's he called attention to the nave of the church and its roof, which he said was one of the most splendid in the country. The hammer-beams were the full-length figures of angels, and the corbels were figures of saints and martyrs, in pairs. The stained glass in the church was modern, 6,000*l.* having been spent upon the church at the time the windows were put in. The noble Norman Tower, the entrance to the ancient cemetery, was next visited, and Mr. Hills gave a great many interesting particulars of its history, its dilapidations, and its restorations. Mr. Hills discharged his self-imposed duties throughout the day very efficiently. At a luncheon which followed, he observed that it was very desirable the two parts into which the remains of the nave and choir of the old church had been divided should be thrown into one. He understood that they belonged to one owner, and that there was a possibility of their being thrown into one; and the Ven. Archdeacon Lord A. Hervey, in responding, said he agreed with Mr. Hills that it was desirable that the whole site of the ancient church should be thrown into one inclosure, and he hoped the British Archæological Association might visit the town again and find the suggestion carried out, as he believed it would be.

A visit was afterwards paid to Hengrave Hall and church.

At the evening meeting, in Ipswich, Mr. Edward Roberts gave an account of the day's proceedings. Amongst the papers read in the evening, Mr. Pettigrew in the chair, must be mentioned one by Mr. S. Westhorp, "On the Books and MSS. in the Town Library of Ipswich," which, he said, was one of the earliest town libraries extant. It appeared to have been founded by Thomas Smart, portman of the borough: the books left by him were placed with others in a room at Christ's Hospital School, afterwards used as the Grammar School-room. In the early part of the present century they were removed, and later placed in charge of the Literary Institution, but now taken charge of by the Corporation. The library contains 922 volumes, representing 659 works, of which only two are of the present century, and most of them theological. There are only ten MSS., all believed to have been given by Thos. Smart. Among the books Mr. Westhorp mentioned, was one printed in 1474, the year when the first book was printed from moveable types in England. Many of the rare books contained in the library were alluded to. It is very desirable that this library and that attached to the museum should be amalgamated and made the nucleus of a valuable library of reference, having the public documents arranged in chronological order, and under proper regulations, made accessible to the public. At the close, the mayor expressed his sorrow that so little care had been taken by the corporation to increase the library and render it available to the public, but he thought steps were about to be taken to erect a building in which to keep the books belonging to the town, and he hoped a few years hence the library would be of the greatest value. One of the advantges of the Congress of the Association being held in this town was found in the paper Mr. Westhorp had just read.

Afterwards Mr. Thomas Shave Gowing read a paper "On Suffolk Local Etymology," in which he showed the learning and acuteness he is known to possess. He said he was assisted in preparing this paper in a great degree by Domesday Book, which was made twenty years after the Conquest. There were very few remains of Roman nomenclature in the county. Some names of villages, &c., he derived from the names of tribes of Saxons and Danes; others he traced to the natural features of the places to which the names had been applied; some to Scandinavian theological terms; some to the customs of the places; and in this way he accounted for the name of almost every parish, hundred, river, &c., in the county and district.

Colchester.

Colchester occupied Wednesday, and proved, as might be expected, a mine of interest. The mayor having received the members in the Town-hall, the Rev. C. H. Hartshorne read a pithy paper "On the Population and Taxation of Colchester in the Time of Edward I." When that king held a parliament at Lincoln, in the twenty-ninth year of his reign, he was in great need of money to carry on the Scottish war. In consequence of certain concessions the Parliament granted him a quindime, or fifteenth, on all moveable goods, to be paid on the feast of St. Michael following. The particulars of the valuation of all the property in the town of Colchester, in the year 1296, when a seventh was collected, and also in 1301, when a fifteenth was collected, has been preserved on the rolls of Parliament, and of these he spoke:—

"By way of illustrating the nature of these returns," he said, "one entry purely of an agricultural character will show the worth of this kind of stock, and what was the value of property in the possession of a miller at that time.—William, the miller, had, on the aforesaid day of St. Michael last past in money one marc of silver; in treasure, one brooch of silver worth 9d., one ring worth 1s.; in his chamber, one robe worth 10s., one bed worth 3s., one cloth worth 9d., one towel worth 6d.; in the kitchen, one brass pot worth 2s., one brass plate worth 12d., one brass pipkin worth 8d., one hand-iron worth 6d., one tripod worth 4d.; in the granary, one quarter of corn, worth 4s., one quarter of barley, worth 3s.; two quarters of oat malt, worth 4s.; two pigs, worth 10s.; two porkets, worth 3s.; 1lb. of wool, worth 3s.; fagots for firewood, worth 2s. 6d. There are scarcely half-a-dozen burgesses whose tax was more. Take another specimen, one of the humblest kind:—Alicia Maynard had, on the aforesaid day, one brass pipkin, worth 10d.; one towel, worth 5d.—the value of which was 15d., and her tax of the quindime consequently 1d. There is but little variety in the movables that taxed for the gain time. Amongst the treasure the silver brooch is the chief thing. Of these there were 45. A few only possessed money. Two only had a ring of silver, usually valued at 6d.; some a mazer-cup, worth 1s. 6d., or a robe much worn (*roba debilis*). The town had 20 silver spoons, one coverlet, one gold ring, worth 8d., and two gold brooches. Upon making an analysis of the taxation-roll for collecting a quindime in 1301, the following facts occur:—Amongst 389 householders there appear to have been not half the number of beds. These scarcely exceeded 161, on the average valued at 2s. 6d. each. For these there were only 31 counterpanes and linen covers (*chalons et lintheamina*), probably sheets. The generality possessed a brazen pot, (*peneellus*) or pan. Fifteen had mazer-cups, usually valued at 2s. each. The clothing chiefly consisted of a robe, which is as frequently described as worn (*una roba debilis*). For instance, Elyas Aylwyne's taxable possessions consisted of only two things—one robe, worn, worth 4s. 6d., and a pig worth 1s." ..... "To recapitulate very briefly, we gain by this taxation of Colchester a very fair idea of the condition of the middle classes, such as tradesmen and artisans, as they existed in a borough town like Colchester in the year 1301. We have 389 as the number of the taxable householders. All those who really had anything worth taxing, like Alicia Maynard for instance, whose possessions where limited to a brazen pipkin and a cloth, worth together no more than 15d., were rated for the quindime. The assessment returned the value of all that these householders possessed at no more than 58*l.* 1s. 4½d., and the quindime due to the Crown as 34*l.* 12s. 7d. The contrast betwixt the state of Colchester in the reign of Edward I. and the present time shows how much the town has increased in population, in wealth, and in importance during the interval. So dissimilar, indeed, is the social condition of the inhabitants, that it would have been difficult to believe, without such evidence as that which I have used, that that class, now forming as it does the main support of England by its wealth, industry, and intelligence, could have ever struggled against such a want of the necessary conveniences of life. We find one-half of the town actually living without beds to lie upon, for most assuredly there would have been more beds taxed if they had existed."

At the conclusion of the paper, which was loudly applauded, Mr. Godwin observed that, as regarded the supply of beds, too much stress should not be laid on that, for the former inhabitants of Colchester might be considered rich compared with some portions of the population of London at the present day. He had, a short time ago, occasion to inspect the condition of the people in the metropolis, and could name a district where, with a population of 1,000, there were but eighty-nine beds.

The excursionists then proceeded, under the guidance of Mr. Hartshorne, to inspect some of the antiquities of Colchester. He conducted them, in the first instance, round a large portion of the town to show the remains of the Roman wall with which it is nearly surrounded, and a fine old Roman guard-house. After a walk he brought them to the castle, the keep of which, and part of the walls, still remain. In the keep there is a public library and a museum, which contains numerous Roman relics found in the castle and in the town. The "Colchester Vase" here is a very rare and interesting earthenware work, of what is called the Caistor ware, and has on it bas-reliefs of gladiators. The "Colchester Sphynx" is another remarkable item, and some of the bronzes and Roman glass are remarkable. A collection of original letters, addressed to the bailiffs and mayors of Colchester, were very tempting, but time would not permit an examination of them.

When the company were assembled in the library Mr. Hartshorne read a paper "On Colchester Castle." The castle is reputed to have been built by the Romans, the walls being composed of stones grouted together with mortar, with courses of bricks or tiles at intervals, in the manner of the undoubted Roman walls round the town. Mr. Hartshorne, however, contended that there was sufficient evidence to prove the castle to be Norman, and that it was built with materials from Roman edifices. The entrance-gate was, he said, undoubtedly Norman; and, having gone minutely over every portion of the structure that is left standing, he felt confident that the whole of the castle was built subsequently to the departure of the Romans. The keep was larger in diameter than any other Norman keep in the kingdom, but not so high, and the walls were 12 ft. thick. It was clear, he thought, that the castle was erected before the year 1130, and he inferred that the keep was complete in the year 1170, and in 1180 he believed the whole building to have been finished, as it appeared that it then required reparation. He was certain, from the character of the building, that no portion of it could be attributed to a period earlier than the Norman Conquest, and expressed his belief that it was erected in the reign of Henry I. In support of this opinion he quoted the record of the burial of an individual at that date, described as the builder of Colchester Castle. To use Mr. Hartshorne's own words,—

"No doubt while there exists a superabundant amount of evidence to show the Roman occupation of Colchester in the reign of Claudius, there is none to prove its antiquity as a settlement earlier than this nation made on the southern coast at Pevensey, Lymne, Dover, and Richborough. Roman settlement in Colchester is shown by its name alone. It is visible in some of the materials of which its castle is built, and by the numerous objects of art which have been discovered in its precincts. But it is equally true that no portion whatever of the present structure can be attributed to a period before the Conquest. No person in the least degree conversant with the common arrangements of a Norman castle, or with Norman architecture, will have the smallest hesitation in stating it to be the work of that period.

Yet if this were not conclusively established on architectural data, demonstrable by the deductions which naturally, as it were, spring from comparing one building with another, the history that has been transmitted is a sufficient proof of its age, as well as the name of its founder.

In a document, printed by Dugdale, in his 'Monasticon,' there occurs the following important passage, which must for ever set all doubt upon this controverted question at rest. The writer of the genealogy of the founder of Tintern Abbey, speaking of one closely connected with him, uses these words, '*Predicta Rohesia Superstes, et remapta Eudone Dapifero Regis Normannici, qui construxit Castrum Colcestræ, cum Canabia, in honore Sancti Johannis, ubi ipse fuit sepultus tempore Henrici primi.*' This genealogy shows that the Rohesia here mentioned was the daughter of Hascul de Harecourt, she married for her first husband Richard the son of Earl Gilbert, who was among the most leading of the Conqueror's followers. Her second husband was Eudo le Dapifer, who is here spoken of as the builder of the Castle of Colchester and the founder of the Abbey of St. John. Between the accession of Henry I. in 1100 and the death of Eudo Dapifer in 1120 there was ample time for him to construct the castle. Still more time in the reign of William Rufus is included, which would widen the conjectural period of its erection nearly thirteen years more, and extend the interval during which the building must be confined, between 1087 and 1120. It is not improbable that it was built in his reign."

A short discussion ensued, from which it appeared to be the general opinion that the castle is not Roman. Mr. Gordon Hills, Mr. Godwin, Mr. Roberts, and several other gentlemen con-

curred in that opinion, and nothing was adduced in proof of the theory which had been entertained in the neighbourhood that the castle is Roman. In the course of the conversation other known instances were quoted of Roman materials being used in later structures.

At St. Botolph's Abbey, Mr. Edward Roberts took the guidance and gave an outline of the history of this abbey. It was founded, he said, in the beginning of the twelfth century by a monk named Ernulph, who became the first prior, and the work of the remains was of about that date. Besides the ruins of the church, but little trace of the monastery remains, and he regretted that excavations had not been made, and the extent of the building ascertained by this means. It was said, although the assertion was disputed, that this was the first abbey inhabited by the Canons regular of St. Augustine. The dimensions of the church are about 100 ft. in length and 26 ft. in width, besides the aisles. There appeared to have been two towers at the west end, and a gallery all round the church. The principal feature in the ruins are the massive Norman round columns, which, as is the case with almost the whole of the remains, are constructed of old Roman materials, or tiles similar in form. The west front is a well-known example of the architecture of the period, showing interlacing arches in brick, and the centre doorway is exceedingly handsome. Immediately over this door are indications of a wheel window: whether contemporary or not is uncertain.

The next halting-place was St. John's Abbey Gate. This is the sole remnant of the once famous and powerful Abbey of St. John, which was founded in 1095 or 1096. The gateway is in the Perpendicular style, and built of cut flint stone.

At Holy Trinity Church the chief interest in the church is centred in the tower. Mr. Roberts said he thought it was not Saxon—it had every characteristic of a Norman tower built with old Roman materials. The point which had been chiefly relied upon to prove that it was Saxon was a pointed doorway in the west wall of the tower, made entirely of Roman bricks. Mr. Godwin observed that he could see no reason whatever why the doorway which had a straight-lined arch should not be regarded as a Saxon work. It was either very Early Norman or Saxon, and he did not see why it should not as well have been built before as after the Conquest. To this question we may perhaps return.

The Mayor gave a luncheon in the town-hall, at which Mr. Tomline, the president, Mr. Cobbold, M.P., Mr. Pettigrew, Mr. Hartshorne, Lord Alfred Hervey, Mr. Roberts, Mr. George R. Wright, and others, spoke. To Mr. G. R. Wright, we should say, much credit is due for the general management of the business of the week.

At the evening meeting in Ipswich, at which Mr. Tomline presided, Mr. Thomas Wright, M.A., read a paper on the manuscript songbook of an Ipswich minstrel of the fifteenth century. He said the late Mr. Fitch, of that town, had some years ago a manuscript of songs and carols, apparently of the age of Henry VI., and which, probably, constituted his stock-in-trade. This MS. book was found in the municipal records of the borough of Ipswich, and it being thought that it had no business there, it was taken away. Mr. Fitch gave it to him (Mr. Wright), but being persuaded that Mr. Fitch did so in ignorance of its real worth, he insisted on returning it, and it was now in a private collection. It was a very valuable MS.; indeed he knew of but one similar, which was in the British Museum, and was far inferior to it. This had been published by the Percy Society. Mr. Wright traced the history of mimers and minstrels from the earliest ages to the Mediæval *jougleurs* or *jonglers*, as they were erroneously called. The little volume of the Ipswich Minstrel contained good examples of how the minstrels at that time catered for the public taste.

In the course of the evening, the discussion as to the date of the castle of Colchester and of the tower of Trinity Church was renewed, when Mr. T. Wright expressed the opinion, and adduced evidence to prove it, that the tiles which enter so largely into the structure of the walls were not of Roman manufacture. The Saxons and Normans, he said, adopted the style of brick-making which had been practised by the Romans; but the structure of them was different, and they could be distinguished. Mr. Roberts said, no doubt the Normans made tiles, but he thought at Colchester Castle portions of old Roman mortar were distinctly to be traced sticking to the old tiles, which seemed to prove that they were old Roman tiles used by the Normans. Mr. Hartshorne thought there certainly were Norman tiles in the castle.

Mr. Roberts then read a paper, written by Mr. Raphael Brandon, on the "Timber Roofs of the Churches of Suffolk," with the assistance of some drawings of Suffolk timber roofs. The paper was of considerable length, and contained much interesting matter on the subject. Among the drawings on the wall was one of the roof of Grundisburgh Church, with double hammer-beams; and the writer observed that the double row of hammer-beams was almost, if not entirely, peculiar to Suffolk.

Framlingham.

On Thursday the Association went off to Framlingham, where Mr. Phipson acted as *cicerone*, and at the castle, of which the remains are very fine, he read a paper. There was, he asserted, a castle on this spot as early as the sixth century; and soon after its demolition, in 1174, the present castle was built. Roger Bigod was in possession, as was the same family of the preceding one. In 1215 King John appeared in arms, and Roger Bigod surrendered, but on the 21st of the following March was restored. It continued in the possession of the Bigods until the 25th of Edward I., when the family becoming extinct, it reverted to the Crown, and was by the king given to his second son, Thomas de Brotherton, Earl of Norfolk. On his death it descended to his daughters, Margaret and Alice, and on the marriage of the latter to Edward de Montacute it became his. He left it to his daughter, who married the Earl of Suffolk, whence it came to the Mowbrays, Dukes of Norfolk, and then to the Howards. On the attainder of Thomas, son of John Howard, it reverted to the Crown, and at the end of the reign of Henry VIII. Mary, who having been presented with the castle, retired here, made it the rallying point for her followers previous to asserting her right to the crown. Mary restored it to the duke, and upon his execution it passed into the hands of Elizabeth and James I., the latter of whom restored it to Thomas, Lord Howard. Subsequently it came into possession of Theophilus Howard, Earl of Suffolk, who sold it to Sir Robert Hitcham, whose utilitarian spirit prompted him to bequeath it for charitable purposes, directing that all the castle, excepting the stone buildings, should be pulled down,—a direction which has been only too faithfully followed. A great number of tubular perforations, both horizontal and vertical, which pervade every point of the outer walls, gave rise to a variety of conjectures as to the purposes for which they were intended. A man, who we suppose has charge of the castle, said he had pulled decayed wood out of some of them, which would seem to indicate that they were apertures in which wood had been inserted for bonding. Another suggestion was that they might have been intended for ventilating purposes.

The brick chimneys upon the towers were examined, and it was generally agreed that the ornamented bricks were not moulded, but cut into the pattern they are made to assume. It is probable that the bricks were cut before they were built up, and that this device was hit upon to avoid the difficulty of moulding an elaborate pattern. After making a circuit of the outer walls the party returned to the courtyard of the castle, and Mr. Hartshorne made a few observations, generally indorsing the conclusions Mr. Phipson had come to.

Framlingham Church was the next point, and the party was increased here by the addition of a large number of the inhabitants of the town. The church has recently been thoroughly cleaned, for the first time for thirty or forty years, and is now in good condition.

Dennington Church was afterwards visited: this is one of the finest parish churches in Suffolk. Mr. Phipson read a paper describing the wood benches with which part of the church is seated: these are fine specimens of wood carving. There are two chapels at the east end of the aisles, separated from them by screens, in the Perpendicular style. These screens are painted, and are in a good state of preservation. In the chapel on the south side is a handsome monument to Sir William Bardolph and his lady, Joan, the former of whom died in 1439, and the latter in 1445. Their effigies are upon the top of the tomb, and in excellent preservation. Mr. Planché gave a description of the armorial bearings on the tomb and the costume of these figures.

The Rev. E. C. Alston read a paper on Dennington, and the party then adjourned to the rectory, where they were hospitably entertained.

The members of the Association met at the Council-chamber of the Town-hall, Ipswich, in the evening, when Mr. Jas. Heywood, F.R.S., took the chair, and took occasion to caution the members against purchasing antiquities without a careful inspection. He related some anecdotes to show that a large trade in antiquities was carried on both in England and on the Continent. In one case he was told by a lad who was manipulating some recently made medals in a bowl, that he was "making antiquities." The boy was, in fact, stirring newly-made medals in a bowl of acid to give them an appearance of antiquity. Statues were in some instances steeped in acid for the same purpose, that of giving them an antique appearance. The chairman also took occasion, as they were approaching the end of the congress, to speak in high terms of the pleasure which the visit had given the members of the Association, both on account of the hospitality with which they had been received and the interesting antiquities they had been enabled to examine.

Mr. E. Roberts then read a paper "On the "Round Towers of Churches in East Anglia," which was illustrated by numerous sketches taken by himself. He stated that, with the exception of seven detached instances in various counties of England, the whole of that class of towers are to be found within the limits of the Saxon kingdom of East Anglia. Of the remainder, two are in Cambridgeshire, two in Berkshire, two in Sussex, and one in Northamptonshire. The materials of which these towers are constructed are generally local, as is, indeed, the case of nearly all Mediæval works, except in the most important materials of Caen stone and Purbeck marble. The flints in these towers are almost the only material; in others the cement stone is intermingled. Till within fifty years all early round arched work was called either Danish or Saxon, but Mr. Roberts believed that a nearer approach to their correct chronology was being arrived at by a rigid comparison of records with the remains. From the dedications of these churches it appeared that there was no Danish or Saxon saint among them, as would have been the case had they been constructed earlier than the eleventh century. He said he had examined a great number of the round towers, and in every case they have—though varying in diameter from 7 ft. 7 in. to 12 ft.—walls about 4 ft. thick, with only one entrance, viz., from the east, and therefore into the body of the church. The windows, where they remain unaltered, are narrow loophicles with plain arched heads pierced out of the stone. With few exceptions other windows have been inserted at every age since their erection, and either the churches have been rebuilt or they have been attached to the towers. In only one instance, that of Fitton, had he found what he believed to be the type nearly complete, though enlarged, of all these buildings. In that case the tower has a Norman billet moulding as well as a centre shaft to the windows. This proved it could not be Saxon, for a Saxon upper story could not have been placed on a Norman substructure. All these churches Mr. Roberts said he believed to be Early Norman, and to have been simple parish churches. The conclusions at which he had arrived were—1st. That these towers were probably built by one band of workmen, and are all of one age, as they have precisely the same characteristics, having the same materials, shape and size, and are without staircases. 2d. That they were built for use as bell-towers. 3rd. That the towers have remained, while the churches have been in many cases rebuilt. 4th. That they were erected about the year 1100 or 1120 to 1130 or 1150.

A discussion ensued after the reading of the paper, in which Mr. Phipson dissented from Mr. Robert's opinion as to the limited range of the period within which they were constructed. He said the reason of these towers being built round was that they could be erected more substantially of that form with the materials of the district, and it avoided the necessity of having large building stones for the angles.

Mr. Phipson then read a paper "On a Heart Burial at Holbrook Church, Suffolk."

In the discussion that took place on the paper, reference was made to the practice, at the time of the crusaders, of sending the hearts of those slain in battle to England to be buried in their native land; and it was thought that that practice had given rise to the custom of burying hearts separate from the bodies in other cases.

A paper on "Suffolk Emigrants to New England in 1634," contributed by Mr. Hopper, was read in his absence by Mr. G. R. Wright. The paper gave a sketch of the circumstances which induced upwards of 600 inhabitants of Ipswich and the neighbourhood to emigrate at the period in question. Mr. Reed stated the results of the emigration. The emigrants, he said, had settled in the state of Massachussets, where they founded a town they called Ipswich, and they prospered so well that the superabundant population made an offshoot also into the same state, and founded the town of New Ipswich. Daniel Webster, the celebrated senator of the United States, was a descendant from one of the Ipswich emigrants of 1634.

Mr. Levien took occasion, in reference to the alleged loss from the town library of the portrait of the preacher who had instigated the emigration, to charge the corporation of Ipswich with neglect of the records in their possession. He said in the British Museum there were more documents relating to the county of Suffolk than of any county in England, many of which had been stolen owing to the culpable neglect of the corporation. The Mayor said that as Mr. Levien, who was one of the officers of the British Museum, had admitted that his establishment was in possession of stolen goods, he hoped that he would take measures to restore the property to its rightful owners. Mr. R. N. Phillips, a member of the corporation of London, sympathised with the mayor of Ipswich on the reception of the town's property in that receptacle of stolen goods—the British Museum. He remembered that some valuable city records which had been surreptitiously removed had been traced to that place, and counsel's opinion was taken whether law proceedings should not be instituted for their recovery; but the opinion was against such a step.

Mr. Heywood mentioned the case of a Runic cross which had been stolen from a church in Lancaster, and is now in the Manchester Museum; and he said it was understood that when property was so appropriated it could not be reclaimed.

Helmingham and Orwell Park.

On Friday, early in the morning, the road, and not the rail, as on previous occasions, led us to Helmingham, the seat of Mr. J. Tollemache, M.P., where we were met by the rector, the Rev. G. Cardew. This house is a capital specimen of early Tudor architecture, built round a quadrangle, and surrounded by a moat, that is still filled with water, and the drawbridge of which is drawn up every night. Mr. Cardew said there was a tradition that it had been so for eight centuries, but it was certain that for 300 years the operation had not been once omitted. The Hall was, the rev. gentleman said, built in the reign of Henry VIII., by the second Lionel Tollemache. In Edward I.'s time it was probably the property of his queen, Eleanor. The present hall was built on the site of the old hall, which was erected in the twelfth century, by Bartholomew de Creyke, and he had no doubt that there was before that an Anglo-Saxon farm at this spot, and from the quantity of Roman remains he had found he believed that there had been a Roman villa there. He had found Roman remains in every part of the parish; he had no doubt whatever that there was a Roman village on that spot. One of the Tollemaches entertained Queen Elizabeth, in the year 1561. Several memorials of her visit, such as a lute which belonged to the queen, are preserved here. In the hall of the house there is a beautifully carved oak fireplace; indeed, the wood-carving throughout the house is very fine. In the dining-room were exhibited some leathern "black-jacks" of very formidable dimensions. The walls of the drawing-room, as are those of the dining-room, are hung with family portraits. The library contains many old and valuable books. The most curious is an Anglo-Saxon manuscript of the ninth century, a translation by Alfred the Great, and a copy of the first book printed in England by Caxton.

At the church, Mr. Cardew explained all the matters of interest connected with it. The contract for the erection of the tower of the church is, it appears, in existence—it is between the builder and John Talmidge, as the Tollemache family were then called, and the sum for which the tower was built was 30*l*. It is dated 1487, but the church was not completed till Henry VIII.'s time. The church was built on the old cemetery, and in digging the graves at the present time they dug through the old ones. Mr. Cardew showed his collection of pottery found during the excavations, and next led the party to a collection of drawings of the skeletons, and "The Wilderness," an enclosure on the north side of the churchyard, and last of all showed the skeletons *in situ*. In one case, a grave had been traversed by a moat, which is now filled up, and which was an ancient work in itself, and the skeleton which the grave contained is cut off at the knees; in another, a female skeleton lay with that of a child upon one arm; and in a third are the remains of a powerful man, who appears to have been carefully buried after suffering great mutilation. The fragments of pottery and other matters in the superincumbent earth are Roman, and that leads Mr. Cardew to suppose that the remains are Romano-British or even earlier. Roman remains abound on all sides. In the fields at a short distance from the rectory, Mr. Cardew has found traces which lead him to suppose that Roman villas existed there, and that houses were probably in existence upon their sites to as late a period as the reign of Henry VIII.

The enthusiasm of the visitors found vent in three hearty cheers for Mr. Cardew at leaving; and many would have remained longer but that the President expected all at his residence, Orwell Park. Here, 120 in number, they were received; and, after examining the pictures the house contains, wandering on the springy lawn overlooking the Orwell, and getting sea-breezes amongst beds of bright flowers, not a common occurrence, dined admirably in the conservatory cleared for the occasion. Dinner over, Mr. Pettigrew, in his usual happy manner, conveyed to the President the good opinion of the members; and Mr. Tomline, replying, drank the health of the ladies, and called for a volunteer to second it. Mr. Shave Gowing, as the oldest bachelor present, responded to the call, and left himself without an excuse for remaining so, by the opinions he expressed of the objects of the toast. But we must now gallop to a close. In the evening the mayor gave a *conversazione*, whereat Mr. Gordon Hills compared the round towers of Suffolk with those of Ireland, exhibiting his large collection of drawings of the latter; and this evening, although a visit to Lavenham and elsewhere was arranged for the next day, closed the real business of the congress, the President taking occasion to thank, in one general vote, the various persons and bodies who had contributed to the success of the meeting. We have omitted mention of several of the papers read, have referred but briefly to the places visited, and have not described the temporary museum of antiquities which were brought together; but we have probably said enough to give a general idea of the proceedings, and to justify us in terming them, in the words we used at starting, "altogether satisfactory."

TERRA-COTTA AND LUCA DELLA ROBBIA WARE, CONSIDERED ON THE PRINCIPLES OF DECORATIVE ART.*

Some five-and-thirty years ago, when living in the moorlands of Staffordshire, not many miles from the Potteries, it was my good fortune to become acquainted with that amiable and able man, the late Herbert Minton, and whenever anything brought him to Alton Towers, or I happened to go to Stoke-upon-Trent, our conversation, sooner or later, always got upon the subject ever uppermost in his thoughts, the potter's ancient, time-honoured art. His then ambition was to keep a place upon one of the topmost branches of the commercial tree, by manufacturing the finer sorts of hardware and porcelain, richly gilt and beautifully painted tea and dinner services in china, and other articles of household requirement. His first flight, in soaring after a higher kind, was the production of dressing-table candlesticks, wreathed with garlands, and plates with fruits and flowers in raised work, for the ornament of a lady's boudoir; probably the very first of the latter which was made by him, he sent over to me to look at, and the then Countess of Shrewsbury bought it; and at the sale, in 1857, at Alton Towers, it was sold under the catalogue number 1,228.

During one of those delightful chats I had with Minton, I urged upon him, specifying the various purposes to which they might be decoratively applied, the imitating of those coloured, glazed, Mediæval tiles once so generally used in flooring the chancels of our old English churches. "But where can one find them?" asked my friend. "In many places," I answered; "for instance, in Great Malvern Priory Church; many such are described and figured in the 'Archæologia' and other antiquarian books." "Though, perhaps, quite well enough for your studies, that will hardly do for my purpose," said Minton; "I want not merely to see but to handle—to turn over, to look at, on both sides, to closely examine specimens of unknown pottery and china; to find out, as much as may be, the way in which they were wrought and ornamented. So, too, do my workmen. But I will bear your suggestion in mind; and we will talk of it another time." We did; and he told me "it would not pay." A few years afterwards he tried, and the venture not only "paid," but paid splendidly; and so great was its success, that such a revival of olden pottery not only has got into very wide use, but in many places and with many people, the produce itself now goes by no other name than that of Minton tiles. The fact is that Minton, on more occasions than one, lamented to me the sad want in England of a history, in specimens, of the ceramic art in all its many branches—of all ages and nations—for the improvement of our own people, in its manufacture; and, at one period, his thought was to try and mend the want himself by beginning to bring together samples in a museum at Stoke-upon-Trent.

But, at the time, this deficiency of England was the deficiency of every other country in the world. Let us begin with a land where the potter's craft had been always held in high repute—with the great Italian art-centres. Of old, as well as ancient Sicily, Magna Græcia was famous for its beautiful vases of burned clay, elegantly shaped, and most artistically figured with passages from Homer and the Greek dramatic writers, in black upon a red ground, or in red upon black; in some instances, too, in various colours, but always overlaid with a fine thin delicate glazing; and that instructive case, on loan from Mr. Witt, shows us what was the care which the potters of those days took to bestow graceful shapes and becoming ornamentation not merely upon great, but little things—upon the common hardware vessels of every-day household use. What the ancient Parthenope was to Magna Græcia, Naples still is to those same portions of South Italy that composed it, its queen, its capital. Itself, too, not long ago, was celebrated for its Capo di Monte ware, as it still is for its imitation of the ancient fictile painted vases; and that curious figured and coloured sort of pottery that goes with some by the name, for want of a better, of Abruzzi ware, and just now creeping into English notice, some fine specimens of which are in Lady Holland's possession, was, and may be still is, the production of its provinces. Yet, putting aside its magnificent collection of old fictile vases, Naples neither has nor ever had a specimen-history of ceramic art. Coming northward, we get to Rome; and, casting a hasty glance at the Capitoline galleries, which in any other city would be looked upon as a first-class magnificent museum, we hurry to the Vatican,—the glorious Vatican, that hill of marvels, the art-world's sun, which has never been as yet eclipsed. Yet there, though we behold so many wonders, wrought by the ancient Heathen's chisel, so many master-pieces of the Christian pencil, we find, with the exception of a few fictile vases in the library, absolutely nothing that illustrates what has been done in burned clay, coloured or uncoloured. Yet in the Roman States was one of its most useful and beautiful branches invented, and carried to such high perfection that a city of the Papal patrimony, Faënza, gave, as far as France was concerned, name not merely to one, but all kinds of household earthenware, called to this day by the French "*faïence*;" and scholars of Raffaelle's are said to have furnished the drawings for the subjects figured on many of those pieces of earthenware done at Urbino, an ancient fief of the Holy See. But at Florence, once so renowned for its master-hands in all burned clay works, how fares it there? Though the vast halls of its magnificent public gallery are filled with so much that is beautiful of ancient and more modern art, it has no collection of earthenware.

Rich as is that fine city in that kind known by the name of Della Robbia ware, its numerous valuable specimens are scattered about among its several churches, not always placed in the best positions for study, and rendering

* By D. Rock, D.D. A lecture delivered at the South Kensington Museum, and briefly reported by us at the time.

the comparison of one piece with another very hard and unsatisfactory, if not quite impossible. In all and each one of the art-collections throughout the great cities in upper Italy we speed no better. Going to Germany, even at Vienna, in that very interesting and most ancient of all art-museums the delightful Ambras, we find nothing to our purpose. The same disappointment meets us at Munich, at Berlin, ay, too, at that city of china by pre-eminence, Dresden, with its green vaults and its japan palace. So also in Belgium and Holland. Getting nearer home, and halting at Paris, not even at that most charming place the Hôtel Cluny,—not even at the splendid Tuileries (and as we all know the word tuileries means simply a place where one kind of earthenware is made—a tilery); in fact, nowhere in that great capital,—shall we be able to come upon what we seek for. Reaching England at last, and hunting this land over, what should we have met with of the kind but only four or five years ago even in London, in the so-called British Museum — I say advisedly "so-called," for the trustees have, over and over again, refused to enrich its galleries with art-works wrought by Britons' and Anglo-Saxons' hands — scarcely anything better than the Hamiltonian collection of fictile vases, very fine and very precious of its class, it is true, but which, after all, affords but sorry help for training the people's taste and bringing up our workmen to know all the beauties and capabilities of the potter's art, which has become, is more and more becoming, so important and so profitable a branch among this country's manufactures.

Everywhere museums have been far too exclusive about the objects they collect, and thus, while catering for the refined tastes of a certain upper few, they have quite forgotten the requirements of the lower millions. But, mesecms, in storing such national establishments, not only people of classic education—those initiated into all the niceties of high art, either in ancient sculpture or the various schools of more modern painting—but other members of the community should find that they also had been cared for. Thus the historian, who, besides writing of battles and of politics, wanted to say how individuals dressed abroad and lived at home, and what, too, were the ornamental products of the period; as well as the person who was seeking the correct costume wherewith to clothe the characters of his picture or his play, and how to paint the scenery, might come at once upon what they needed. But the working classes, too, ought to be able to learn how, not merely Egypt, Greece, and Rome, but their own land and those other countries nigher home and people nearer the present times, thought and embodied their thoughts, not only in marble and on canvas, but in clay, in copper, and in wood; not only in gold and silver, and enamel, but in iron, in glass, in silk, in linen, and in leather.

There lived, for years had lived among us, a man who had a heart wide and warm with love for the land of his adoption, and a head full of thoughts for its material advancement and interests; wishful for the happiness and various comforts of its people, poor as well as rich, with tastes carefully ripened to a quick and exquisite perception of the beautiful in nature, of whatever was elevating or instructive in any of the arts. This man was the late and much lamented Prince Consort. Gifted with far-sightedness, he not only saw where lay our several art-deficiencies, and why they would still stubbornly linger among us, even amid our several social improvements; but he saw, too, how best and soonest those artistic shortcomings might be remedied. This great, good man,—great, not as some understand the word, on the battle-field, in strife and the shedding of blood, but in the far nobler works of peace and civilizing progress,—among his other meritorious deeds helped forwards, with an earnestness that never tired, the project for refining the public taste and raising the artistic character of the nation's produce, by the establishment of a museum that should be able, while it recreated, to afford instruction to every class. As a small, young thing, such a museum began its life at Marlborough House. The bantling soon outgrew its cradle, and had to seek another and a much wider sheltering-place. This it has found here, where the practical good sense of the nation is making for it a lasting home, worthy of its illustrious originator, worthy of its destination, worthy of the British people. Nowhere is art more splendidly palaced, nowhere are her many offsprings so advantageously displayed, as in those noble courts, so admirably contrived, and lighted so ingeniously by night, so magnificently ornamented, that form the South Kensington Museum.

Of the multifarious objects brought together, for study and comparison, within these walls, there is a very important class—I mean hardware, in all its several branches. So keenly alive to the importance, for the country, of this article, seems the department to have been that, at every opportunity, it has increased its specimens as much by their value as their number until they have, I do not hesitate in asserting, become the most magnificent series of hardware under its different forms in the world; for I can say, that neither in Italy, Germany, nor France is there such a complete instructive collection as we have in this Museum; and although it be not yet perfect, still it is most gratifying to behold how, year by year, it is growing towards completion. Burned clay, in all its many appliances, is represented—and then but poorly, in a few museums; in most, not at all. Here, however, this wide class of art-work is not merely the first in time and finest in sort of the kind in Europe, but so richly full of rare and instructive samples that, while hushing the laments, it would have awakened the admiration and won for its collectors the grateful thanks of Minton had he been given to live and witness these our days.

To notice, even hurriedly, in a lecture, the whole or any great part of the many interesting objects exhibited, would be impossible: for one occasion, a single section is enough to claim, and shall receive attention.

When honoured by the Lords of the Committee of Council on Education with an invitation to lecture before the students of the National Art Training School upon the objects of the Art-Museum, the invitation was accompanied by a wish that the subject might be so viewed as affording illustrations of the principles of decorative art. Indulged in my choice of discoursing upon the so-called Terra-cotta and Luca Della Robbia Ware, and agreeing most heartily in the practical wisdom of their lordships' suggestion, I shall seek from within the Museum itself such objects as more fittingly exemplify my observations; and if the things themselves are not immediately before your eyes upon the table, it is because several of them are too large, too precious, to ask for and have unfastened from the walls, where I hope they may hang, in their present well-arranged order, to delight and instruct the world for ages yet to come. At the outset I ought to say that, to singularize each and every valuable article belonging, in the museum, to our subject, would be as tiring as useless. When, therefore, I happen to select one specimen, it is not that all the others are less important in art, or under it in value, but only less apt, as I look upon them, to illustrate that particular point upon which I want to throw, as best I may, some little light.

"Terra-cotta," as you may know, is Italian, and signifies "cooked or baked earth," and we Anglicise the expression as "burned clay." Though, in strictness, applicable to all the appurtenances of household use—to everything, in fact, made out of that substance—the term is here employed in its restricted sense, and must be understood as referring solely to such of its manipulations as bear about them a decorative plastic character.

The so-called "Della Robbia Ware" is burned clay, presenting itself to us under the form of its very highest—most artistic development wherein, to all the beauties of statuary, it has given it the additional charm of colour heightened by bright glazing.

Begin we now with "burned clay," looked at in its first simple shape, that is, as a decorative ornament, with no other than its own natural self colour about it.

Among the materials employed by man in his earliest attempts at anything like decorative art, one—perhaps the very first—was burned clay; and of the use of it as such, we shall find proofs in every country. Passing by the land of Sennaar, with its Babel tower, and reaching the valley of the Nile, sure may we be, from the many curious fragments gathered there, that while the Hebrews were making their bricks, their Egyptian masters' hands were busy in fashioning more artistic works in clay. Like Egypt, Phœnicia, both at home and in all her settlements on the northern shores of Africa and in Spain, displayed the skill of her people in the use of the same material. In Greece, not the earliest of its worthies only, but the mightiest of its many mighty masters—Phidias himself, in all the full bloom of his fame, thought it not beneath his own glory nor the sculptor's art, like them, to work in clay. Go where you will, in Italy, and dig where once stood its oldest cities, and you will find specimens of decorative burned clay. That delightful writer on Italian art and artists, Vasari, tells us in his introduction to the "Lives," that at Chiusi, one of the ancient towns of old Etruria, tiles in burned clay have been dug up from the earth there, on which were figures in low relief, so admirably executed, and in so good a manner, that all might perceive the arts to be far from their first attempts when these were formed—nay, rather from the perfection of the work, it might be fairly inferred that they were nearer to their highest summit than to their origin. Had good Master George been treated, like ourselves, with the sight of that long lost but now unburied city of Pompeii, and walked its streets, he would have beheld the practical use to which those old Romans put works wrought in clay, as he found the shop-keeper's sign of his trade done in that material over his door: thus, the milkman showed a goat; the wine-seller displayed two men carrying between them, slung upon a pole, a narrow, long, two-handled pitcher, then called an amphora, in which the custom was to store their wine; nor would the observant George overlook in the museum the painting that the schoolmaster hung out, showing the animated scene of the idler or truant horsed upon another's back, or boy plaintive, in more senses than one, against birch, coloured to the life and quite in accordance, as the Austin friars at St. Giminiano's thought, with the discipline followed by the pedagogue of Madaura, for whipping Greek into the reluctant little Austin, afterwards so good, so great, so famous,—done, too, in such a manner as would have joyed the heart of any rod-loving Dr. Busby.

That our forefathers the Britons, even in their earliest or Celtic period, long before the coming hither of the Romans, knew somewhat of the potter's art, we learn from the vases and the beads of clay, ornamented after a manner, found in their cistvaens or cromlechs—so their stone-built graves are called. By the way, however, and as a caution, it may be well to notice how great have been the mistakes, on this point, committed by persons who, though otherwise well educated, have learned little of art and less of archæology. Writing, on the 1st of February, 1715, from the Charter House, London, to that laborious editor of England's mediæval Latin literature, Thos. Hearne, at Oxford, a Mr. Bagford says: "I shall take notice of a very great curiosity, a brick, found in Mark-lane, about fourty years since, 28 ft. below the pavement. Near to this place were dug up many quarters of wheat burnt very black, but yet sound, which were conjectured to have layn buried ever since the burning of this city about 800 years before. This brick is of a Roman make, and was a key-brick to the arch where the corn was found. 'Tis made of a curious red clay, and in bass-relief on the front hath the figure of Sampson putting fire to the foxes tayles, and driving them into a field of corn; and this brick is at this time preserved in the Museum belonging to the Royal Society in Fleet-street, from whence I have caused an accurate draught of it to be sent you," &c. So much did Hearne think of this discovery, that he printed the letter and engraved the drawing for the first volume of his Leland's "Collectanea." This brick is Flemish, of the seventeenth century, and one of several that together gave the history of Samson, as may be seen in that curious large old brick fireplace from a house at Antwerp, and now put up in the south-west corner of the south court in this Museum. Doubtless it formed an ornament to some house burned down A.D. 1666, during the great fire of London; but such is its style of design that, at the present day, no one who knew anything of art or antiquities would dream of its being old, much less of the Romano-British period.

The free and frequent use, in architecture, of decorative burned clay, during the Mediæval period, all over the Italian peninsula, is something astonishing, and deserves the close attention of every art-student who visits that instructive land. Though Alps and Apennines could give its people stone and marbles, yet the while we were building our churches and castles, everywhere throughout this country, of stone, even in the fens and roadless swamps of Lincolnshire, the Italians were erecting their edifices, sacred and secular, of brick, with their ornamentation in burned clay. The observant traveller who goes to Rome

brings back with him lasting recollections of its several fine, tall, many-storied belfries, built of brick, saving some few low marble columns with their imposts, to the two small arches of the windows. Near Vesta's Temple, by the Tiber, stands that curious old house, once Cola di Rienzi's, all of brick, elaborately wrought into so many kinds of decorative form. Ever and anon, in some of the old out-of-the-way churches at Rome, do we catch a glimpse of some nice piece of burned-clay work, which has been spared by the ruthless hand of the would-be Classic architects in the sixteenth and seventeenth centuries. All over Tuscany are scattered fine examples of this style, and the whole of Lombardy is full of them. In Verona they often start up before us. Pavia shows you the west front of St. Pantaleoné's; Cremona, its cathedral; Monza, its town-hall; Mantua, its ducal palace, and St. Andrew's, all rich in the splendid examples of what has been and yet may be done for architecture in its decorative members by the use of this material. Though last to be mentioned, almost the very first in importance is the great hospital at Milan, in all likelihood the finest specimen as a whole beyond the Alps of what decorative burned clay can do; and, perhaps, better still, how it should be done, as far as its manipulation goes, to bring out all its beauties. Here we find that the squeezing was but the first part of that process through which those ornaments were made to go. Thrown out of their moulds, and while yet soft enough, they were, as needed, wrought again by hand, before being fired, and thus had given them a softening grace and a crispy sharpness which the modelling stick of an artist can alone bestow.

Here, at home, we are not without several instructive instances of our own; and the way in which burned clay ornamentation, more especially in stacks of chimneys, was with great effect employed at Thornbury Castle, Gloucestershire, Eton College, and Hampton Court, besides other places, should not be overlooked. All over Sussex the chimney-stacks of its homesteads attract admiring notice.

Thus far, for the greatest number of samples in architectural decoration, we have wandered on the Continent, and have pointed mostly to what may be only seen abroad. For specimens in higher art, we happily need travel no further than the well-filled splendid halls of this museum, which will show us at a glance how burned clay, after all its manners, whether in its own native tint, or variously coloured and wearing a bright glaze, has been and may be, with the best results, applied to statuary.

As the subject we have before us falls of itself into two parts, we will begin it by taking in hand "burned clay," to look at it under its first simple shape, that is, as a decorative ornament with no other than its own natural self-colouring about it.

Upon brackets round three sides of the northern court is a series, in red clay, by Tuscan artists, of no fewer than twenty-one busts; some ideal of the saints; the others, the portraitures of individuals most of whom, be it said, were seemingly not over-well favoured by nature with beauty and winning features. All these busts show they were done by masters' hands, and the secular ones with such a life-like truthfulness as to let us know that if the Florentines of that time, however intellectual, were not a handsome race, those men who fashioned their likenesses in clay did not stoop to flatter them, nor lower their noble art to adulation. The busts of holy personages exhibit rather a naturalistic than a lofty type of the outward beautiful.

While on the subject of busts, it might seem an ungracious omission were I not to bring to mind three very remarkable ones exhibited amid the Loan Collection, brought together in this Museum during the ever-to-be-remembered year 1862. One of these busts represented Lorenzo the Magnificent, and now belongs to Lord Taunton; the other two, the property of Mr. J. C. Robinson, give us the portraitures of the father and mother of the Emperor Charles V. The Medici bust I look upon as one of the two most remarkable ones the world, ancient and modern, ever saw. The other is that of Caracalla. This Roman emperor's frowning effigy shows us the man inside and out. Upon his brow the murderer's brand is furrowed, and in that dark scowl of his we seem to see him as he bent his head and listened to the screeches of his dying brother Geta as with his own hand he dealt him the last death-stab: aptly is Caracalla's bust called by some the last sigh of the arts. Though the mark of Cain is not upon the forehead of Lorenzo's, there is that in its face, its leering eyes, its determined mouth, that crooked sneering nose, which makes us think this head would be no unfitting frontispiece to an edition of Machiavelli's book, "Il Principe." In each of Mr. J. C. Robinson's two busts we discover much individuality and character—mild, elevated, prepossessing, but the features are a little idealized and nicely rounded. Though brought into this country from Belgium, I make no doubt these fine busts originally came from the south of Spain, where for some time there existed a splendid school of art, many chief masters of which wrought, and wrought admirably, in burned clay; and such works are little or nothing known to Englishmen.

Arranged upon the sides of four large square stands, somewhat in the middle of this court, are, along with one valuable bust of a friar, several fine examples of whole though small figures, as well as subjects in low relief, almost all of a sacred character; and one of them—a monk at his studies—a most remarkable and very precious work.

To those recesses on the north of this court must we go, however, to behold some among the most daring and instructive productions of high art, left us by the great old masters in burned clay.

One of the earliest to work in clay of any sort, spoken of by Vasari, is Jacopo della Quercia, so called from the name of his birthplace, in the neighbourhood of Sienna, A.D. 1374. Telling of this sculptor, he says:—"The Sienese, deeply lamenting the death of their captain (Giovanni d'Azzo Ubaldini), they honoured him with a most superb and solemn funeral: they caused an edifice of woodwork to be constructed in the form of a pyramid, on the summit of which was placed a statue of Giovanni on horseback, larger than life. This work displayed considerable judgment, as well as fertility of invention, Jacopo having discovered a method of proceeding which had not been before in use. He formed the skeleton and body of the horse from pieces of wood and small planks, which were afterwards swathed and wrapped with hay, tow, and hemp, being well bound and secured with ropes, when all was covered with clay mixed with cement, formed of paste, glue, and the shearings of woollen cloth, &c." (Lives, i. 313). Though but sun-dried and unburnt, such was, from its lightness and the ease with which it could be wrought, the success of this group upon the top of what, in Medieval England, was of common use, and called a hearse, that, in all likelihood, it led Jacopo, and others after him, to employ for statues of all sorts clay made stronger and more lasting, though not more heavy, by being fired.

Hanging low enough to be well seen, upon the western wall, and numbered 7,613, we have, by the hand of this same Jacopo, one of the most precious art-works of the kind anywhere, telling us several things, and so many ways in which this sort of burned clay may be decoratively employed: this is a chest-front figured with the fall of our first parents, in three eight-sided panels let into a wooden frame, once richly gilt and elaborately ornamented with raised work.

Such trunks—to one of which this was once the front, as we perceive by the keyhole on it—were, in bygone times, important pieces of decorative furniture in great houses, all through Italy. Seemingly made for no other purpose than to carry to the young and noble bride, in her new home, her costly dresses and the presents given her by her friends upon her marriage, these chests were really meant to be abiding ornaments to the palace, and hoarded as the tokens of so many splendid alliances in the family. Often, therefore, were they blazoned with armorial shields, and had bestowed upon them the artistic beauty befitting such an article of furniture. Every one who has heard sung the "Mistletoe Bough," or read the poems of Rogers, will, on seeing one of these chests, bring to mind the sad story of poor Ginevra.

The once richly-gilt frame of wood, with its ornamentation in raised work, asks for our first attention, affording, as it does, a good example of a method very widely followed in the Middle Ages, here in England as well as Italy.

In his "Life of Margaritone" (1236—1313), Vasari says:—He appears to have been the first who considered the precautions required by him who paints on wood, to the end that the joinings should hold firmly, and that no clefts and fissures should become apparent after the completion of the painting. It was his custom to cover the whole surface with canvas, which he secured by means of a strong glue, made from the boiled shreds of parchment. Over this canvas he next applied a layer of gypsum,—on the gypsum, which was mixed with glue above described, he then formed diadems and other ornaments in relief. He was also the inventor of grounding in bolarmoniac whereon he laid leaf-gold, which he discovered the means of fixing and burnishing, &c. (Lives, i. 91.) Read as applicable to the frame before us, these words give an exact description of its decoration. But while later Italian writers justly disallow Margaritone's claim to the invention of this process, we, in our turn, may with truth assert that the method was known and followed here in England long before the end of the thirteenth century; and examples of one part of it—the raised work gilt and burnished—may be found, though of course in a very much smaller form, but after the same fashion, in plenty, among the MSS. written and illuminated by English hands many years before that time.

This wooden chest-front is divided into five compartments, of which two, one at each end, are narrow, with shields—the armorial bearings all gone—the other three, eight-sided, filled in with reliefs done in red burned clay, glazed. In the first of these three panels, we see the Almighty upbraiding Adam and Eve (Gen. iii.) for eating the forbidden fruit; in the second, an angel is driving forth Adam and Eve from Paradise; in the third, we have Adam leaning on a long hoe or mattock as he stands before Eve, who is seated on a rock and spinning from a distaff. That no hand but that of a very able master could have wrought the figures in these three compartments, must be clear to every one. The well-draped personage of the Almighty, with His upraised hand in mild threatenings, is full of majesty; and on the down-bent countenance of Adam, face to face with his Maker, sorrow is well expressed; though on earth, the angel scarcely seems to tread the ground, as he is casting our first parents out from the garden. But the head of Adam, taken evidently from the same model, is too much like that of the Almighty, while Eve's bears too great a resemblance to that of the angel. The perspective, especially in the limbs of Adam as he stands in the middle panel, is too receding; yet, altogether, in the style there is a something approaching the grand which makes this chest-front a very precious object.

Close by, we have a Crucifixion (5,786), with a crowd of people at Calvary; and among them a man on horseback, with the usual foreshortening of the horse's haunches, admirably executed: whether by Lorenzo Ghiberti or not, this fine work, in high and bold relief, is a valuable acquisition, and a beautiful example of good grouping and broad effective drapery: the red burned clay in which this splendid specimen is wrought, displays great smoothness in its treatment. Besides its art-worth, this fine piece of burned clay ought to have a peculiar interest for the student of symbolism and the hagiologist, who will see, at the top of the cross, a nest with the father-bird overhanging it, and with his bill ripping up his breast to bring to life his dead young ones slain by a serpent's bite, as he sprinkles them with his own warm heart-blood. This is the pelican in its piety, as it is called. Set forth here in its first and obvious meaning, this emblem tells us of the great atonement made by our Lord at Calvary, where He poured out His life-blood on the cross for fallen man's redemption.

Another admirable work (7,593) in the same material, is the small piece figured, in rather high relief, with the birth—a common subject among the Florentines—of St. John the Baptist (Luke i.). So wide, however, is the difference, in the style, between this and the Crucifixion just noticed, that they cannot be either of the same period, or the same master.

As a work struck off with wonderful ability, though, as it would seem, in great haste, and as a sketch for something of larger size, 7,619 ought not to be passed by, notwithstanding it be rough in very low relief, without a careful examination of those crowds of men and women quickened with strong, deep feelings of sorrow, the while, in one compartment, they look upon the scourging, within a vast architectural hall, of our Lord; in the other they are gathered about Calvary to witness, in wildest grief, His crucifixion. Done, as is evident, for some high personage, the artist has represented, after a somewhat classic manner, his patron's bust upon the sort of dado which serves as a basement to the whole of this double composition, as well as a shield of armorial bearings, of which the tints are unknown

though a fess, charged with three stars of six points, is discernible.

Though barely one foot and a half high, and less than that in width, No. 7,610, the likenesss of a monk, or perhaps a friar, seated at his studies and writing, has so many elements of the grand and majestic about it that, small in size as it is, it may be looked upon as one among the greatest works of its kind that have been wrought in burned clay, marble, or anything else. The inmate of the closter is there with well imagined head; the cast of features, far from being stern, has softened manliness; the brow is furrowed, the cheek haggard, not with age, but thoughtfulness, often watchings, fasting, and self-denial; the deep-set eyes, so keen, so quick, are all in earnest on their work, as if they had that moment caught the passage they had sought for in the open book, perhaps, of Holy Writ, which they are scanning; the hand so gracefully outstretched, with its slight, tapering fingers, is strong and sinewy withal. Hardly anywhere could we find better, broader, more majestic folds of drapery than those which his full flowing habit takes as it falls around his person. Head and hand—all the thinking man, seems quickened with one feeling—the highness of his hallowed occupation. Taken altogether, nothing that has come to us from the happiest times of Grecian sculpture can go before this little piece, in fitness, grace, and dignity.

From considering these few among the many works in high and low relief, let us go and view other burned clays of a more daring character, holding as they do a place in the loftiest class of statuary, that is, of groups done in the round. Of these, the first to which I want to draw your attention is No. 7,573, a group of the B. V. Mary sitting, with our Lord, as a naked baby, sleeping on her knee. It is ascribed, perhaps rightly so, to Jacopo della Quercia. Had this group represented a heathen woman with her boy, and been dug up in Athens, or found amid the ruins of old Rome, or in Adrian's villa at Tivoli, the classic world would have rung with its praises, and casts from it be set up in every museum, so admirably conceived and executed are both the figures. The virgin-mother is looking down, as much in worship as in love, upon that sweet son of hers, slumbering within her lap so fast asleep, asleep not only in eyes, but in hands, in feet, asleep all over His body, that is modelled so round, so soft. Though not thoroughly ideal in its forms, this admirable group shows a beginning of the Greek principle of choosing the finer shapes of nature found amid several individuals, and putting them in one, to give us human nature, not as it is, but as it might be, with more and greater beauties of the outward person about it than may be usually met united in the one same man or woman.

From a mere artistic point of view, the stark naked infant Lord may be scientifically and exquisitely modelled and so far admirable; but an inborn sense of the reverent and becoming, as well as seemly, whispers that, as in mediæval times, the body of our Lord as a babe should be somewhat clothed. An able artist needs not tax his invention very highly to find out the way for making a child beautiful in all its most beautiful parts and members, its head and face, its hands and feet, and yet know how, without hiding its limbs, to swathe its body in those garments with which, as the Gospel tells us, Luke ii., our Lord's blessed mother immediately wrapped Him at His birth before the shepherds came to find Him in the crib.

Quite near this fine work of Jacopo della Quercia, in the case behind it, is number 7,358, consisting of a group of four figures, almost life-size, that represent what in olden times we English used to call "Our Lady of Pity." In the centre is seated the Blessed Virgin Mary, bending over our Lord just taken down dead from the cross, and lying, full length, on His weeping mother's lap; to the right is, kneeling, the beloved disciple, St. John; upon the left side of our Lord, St. Mary Magdalen. To my thinking, this valuable work is, by a whole hundred years, older than the date given it; and instead of belonging to the seventeenth century, it was done very early in the sixteenth. Though there is very little or no attempt at the beautiful in these personages, and we be rather struck with the high cheek-bones, the rather over-bushiness in the head of hair upon St. John—a somewhat common Florentine fancy—a slight liking for the hard and sharp in the lines of the countenances, the too stiff position of our Lord, the want of pyramidal position in the figures, and consequent row of three heads almost on the same straight level; still, notwithstanding all these defects, there is so much deep, keen, heart-felt, dignified sorrow on the countenances, and so nicely and touchingly graduated too, with the strongest touch of all shown upon the down-bent face of the weeping mother, that the feelings of the spectator must be deeply stirred.

But, for our present purpose of seeking how burned clay may be made available as an object of decorative art, the teachings to be gathered from this group are very important. The figure of the B. Virgin Mary and that of our Lord, as far down as the end of the bust, seem to have been fired together; but each leg and thigh all in one piece—apart, and afterwards joined on to His body. So very smoothly has the clay been wrought, that the surface of all the figures has taken a glossy look: if this is in reality owing to a glaze, it must have been put on so slightly as to hinder that sparkle and glittering which, when the glaze is too bright, will hurt the eye.

After a narrow look at these burned clays, we find from the streaks yet remaining on a few of them that at one time or another some have been gilt, others coloured. In the instance of Lord Taunton's large bust of Lorenzo de' Medici, the colours were not, as in the ordinary practice, left to dry by themselves, but fixed in by fire. Not, however, having in them, nor put on them afterwards, any glaze, those colours look, as they must have always looked, dull, dirty, dusky. Bearing in mind that a glazing over clay which in its plain self is not a bad one, is about the worst grounding to be found for gold, there cannot be a doubt but that the beautiful chest-front was meant by Jacopo to stand in its first plain glazed condition; and therefore the gilding, some traces of which remaining on it, may still be found, was given it years, nay, a century, after its first owners had passed away.

This mention of colour brings us to the second subject of this lecture, the so-called Della Robbia Ware.*

* To be continued.

COURT NEWS.

THE BRUNSWICK SQUARE DISTRICT.

Gaspings for fresh air, cries for aid, and lamentations over evil conditions reach us from various quarters. We aid where we can. From the district of the Squares, for example, comes this humble plaint:

"We should be extremely obliged to you, Sir, if you would visit this place and see how we are treated by the sanitary officers of this parish. We are labouring men in the building line, and we have no one to appeal to but you. The dust has not been removed from before our windows for more than twelve months; and we look to you for redress. The spot we point to is Compton-place, Compton-street, Brunswick-square."

Between Burton-crescent on the north, and Guildford-street on the south, Woburn-place, west, and Brunswick-square, east, there are seven blocks of good houses fronting good streets, each block enclosing and hiding from view courts and mews. Of the evils of some of these, such as the Colonnade-mews, behind Bernard-street, we have before now spoken. Good men have been at work in the district since then, and it is quite possible that some improvements have been effected; indeed, we expect that this is the case. Our present business is with only one of them, namely, Compton-place, where, after the appeal we have printed, we went as a matter of course. The statement made was more than justified. Compton-place is one of a congeries of courts, opening out of Compton-street and into Hunter-street, with a police-station handy. Against a dead wall, in one part of the court, we found an enormous heap of "dust," vegetables, and other decomposing matter, including dead cats and dogs, leaving little room to doubt the assertion of our poor correspondents, that it had been accumulating there for months: indeed, unless the spot be the dust-heap of the neighbourhood beyond the precincts of the court, it is difficult to understand how the mass could have been produced. The smell was sickening: what this will be when the heap is dug into for removal is one of those things more easily imagined than described. Surely it only needs that this evil should be brought under the notice of the parish authorities to ensure a remedy, and to prevent a repetition of it. They must go farther, however, than this. In the centre of the court is a large grated gully-hole, apparently untrapped, and from it issues a filthy reek (we speak on the evidence of our own senses), poisoning the pure air, and unfitting it to sustain healthy life. At the time of our visit, the middle of a day, we counted more than ninety little children in this and the adjacent court; and a dozen of them were clustered around the very gully-hole in question. The injury such a vent as this must do, constantly pouring out deleterious fumes, is enormous, and calls at once for a remedy.

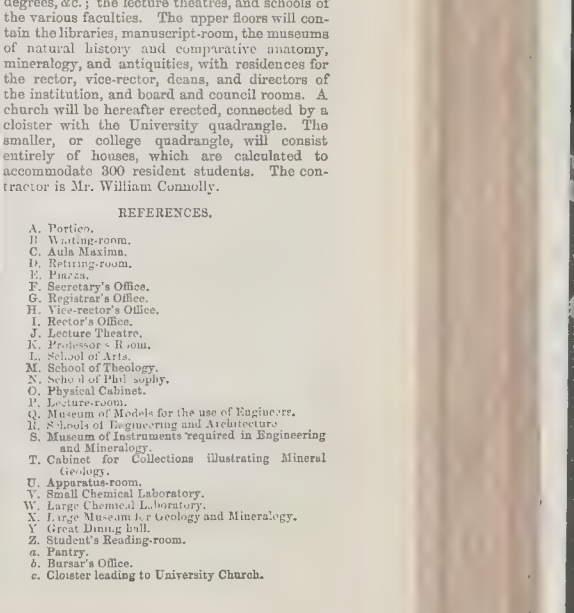
THE SHEFFIELD INUNDATION.

The report of the committee appointed by the Sheffield Council to watch over the Bill of the Sheffield Water-works Company, in Parliament, has been printed, together with the evidence of various civil engineers as to the design and construction of the Dale Dyke embankment and the causes of its failure. From this evidence, which comprises that of Sir John Rennie, Mr. Vignoles, Mr. Barlow, Mr. H. Conybeare, Mr. James Leslie, Mr. William Lee, and others, it appears that both in design and construction, as well as supervision, and even site, the embankment was defective; and the evidence, as a whole, corroborates the views taken in the *Builder* at the time. To the report is also appended the section of a proposed new site for the embankment. As a specimen of the evidence, we may quote a few lines from that of Sir John Rennie, who said,—

"On a retrospect of my evidence, and of the whole subject, I am of opinion that the large springs in the puddle-trench were one of the principal causes of the failure of the Bradfield or Dale Dyke reservoir. I do not consider that there has been evinced, in the construction of the works of the Sheffield Water-works Company, that degree of engineering skill which their importance and magnitude demanded. I think that the failure of the Dale Dyke reservoir and the similar construction of the Agden reservoir, now in progress, clearly establish such want of skill; and that the Corporation have just reason to doubt the safety of the other reservoirs."

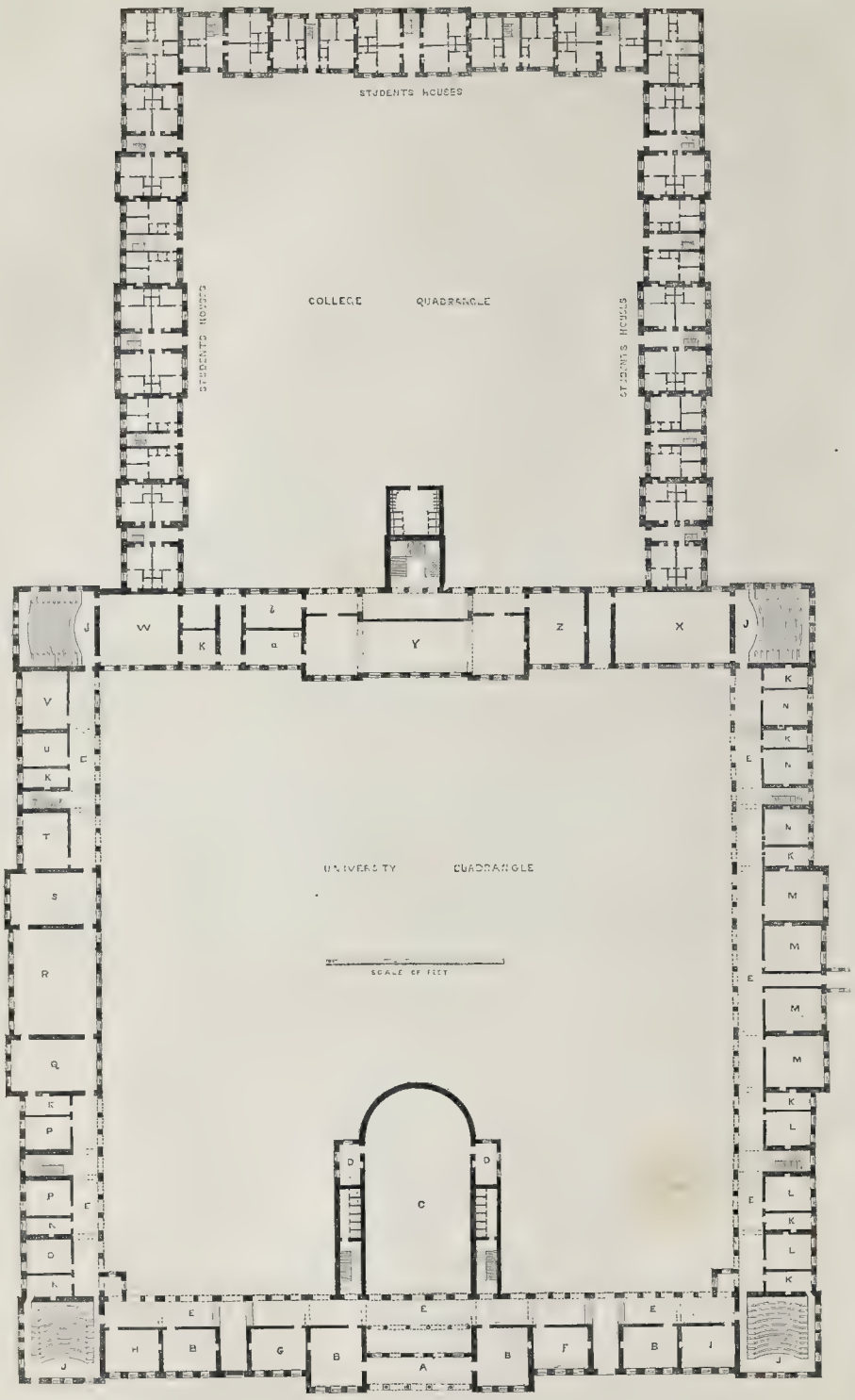
ROMAN CATHOLIC UNIVERSITY OF IRELAND.

The accompanying view and plan will serve to illustrate the new Roman Catholic University of Ireland, intended to be erected on the lands of Clonliffe, near Dublin, from the designs of Mr. J. J. McCarthy, R. H. A., architect, and professor of architecture in the University. The buildings will consist of two large quadrangles, the greater of which, called the University quadrangle, will contain, on the ground-floor, the principal entrance, the *aula maxima* for the public exhibitions, examinations, conferring of degrees, &c.; the lecture theatres, and schools of the various faculties. The upper floors will contain the libraries, manuscript-room, the museums of natural history and comparative anatomy, mineralogy, and antiquities, with residences for the rector, vice-rector, deans, and directors of the institution, and board and council rooms. A church will be hereafter erected, connected by a cloister with the University quadrangle. The smaller, or college quadrangle, will consist entirely of houses, which are calculated to accommodate 300 resident students. The contractor is Mr. William Connolly.



REFERENCES.

A. Portico.
B. Waiting-room.
C. Aula Maxima.
D. Retiring-room.
E. Piazza.
F. Secretary's Office.
G. Registrar's Office.
H. Vice-rector's Office.
I. Rector's Office.
J. Lecture Theatre.
K. Professor's Room.
L. School of Arts.
M. School of Theology.
N. School of Philosophy.
O. Physical Cabinet.
P. Lecture-room.
Q. Museum of Models for the use of Engineers.
R. Schools of Engineering and Architecture.
S. Museum of Instruments required in Engineering and Mineralogy.
T. Cabinet for Collections illustrating Mineral Geology.
U. Apparatus-room.
V. Small Chemical Laboratory.
W. Large Chemical Laboratory.
X. Large Museum for Geology and Mineralogy.
Y. Great Dining hall.
Z. Student's Reading-room.
a. Pantry.
b. Bursar's Office.
c. Cloister leading to University Church.



ROMAN CATHOLIC UNIVERSITY OF IRELAND.—*Plan of Principal Floor.*



PROPOSED ROMAN CATHOLIC UNIVERSITY OF IRELAND, CLONLIFE, NEAR DUBLIN.—Mr. J. J. McCarthy, Architect.

MIDDLESEX ANTIQUITIES.

On Tuesday, the 9th, the members of the London and Middlesex Archæological Society, to the number of about fifty, under the presidency of Mr. John Tyssen, F.S.A., chairman of the Society, made an excursion to Hayes, and spent an agreeable day in examining the churches in the neighbourhood. The first place visited was Hayes Church, the peculiarities of which were pointed out. The party proceeded next to Harlington, where Mr. White described the church and its monuments. This church has a fine Norman doorway on the south side, which has been recently embellished with a liberal coating of whitewash. An attempt was made, it was said, some short time since, to clean this door, but the result was so unsatisfactory that it was not persevered in, and the whitewash was applied to conceal the defects laid bare by the operation. The stonework, however, appears to be very well preserved; the carved heads and mouldings looking very clear and sharp even under their fresh coating, and there seems no reason why the removal of the wash should not be again essayed under proper superintendence. It may perhaps be sufficient to direct the attention of the De Salis family (who have a residence near) to this doorway as an object deserving their care and liberality, and offering an opportunity of partly atoning for the injury done to the church by the displacement of a very interesting fourteenth-century altar-tomb, which is now raised some 6 ft. from the ground, and stuck in front of a window in the chancel, blocking out the light; to which most improper and ridiculous position it was transferred some five years since, to make room for a monument to a Countess de Salis, which occupies the whole depth of the altar from the east wall to the altar railing. There is a stained glass window on the south side of the chancel, in memory of a young Count de Salis; but this, as well as the monument just referred to, has very little ecclesiastical spirit, and is quite out of keeping with the character of the building in which it is placed. A pleasant drive brought the party to Cranford Church, charmingly situate in the park belonging to Lord Berkeley. Here is a tablet to the memory of Thomas Fuller, author of "England's Worthies," who is described as rector of the church; but it does not appear that he ever resided there for any time; and there is another, to Sir Charles Scarborough, physician to Charles I., who is briefly characterized in his epitaph as "Hypocrates in physic and a Euclid in mathematics." There is also an imposing monument to Sir Roger Ashton, who died in 1613, and is represented life-size, kneeling, with his two wives and four daughters. This monument has been very much shaken by the explosion of a powder-mill, about three miles off; and although it has been clumsily repaired, is in a very insecure condition.

The last church visited was that of Heston, which brought the day to a very agreeable termination. Heston Church is rather larger than the others that had come under observation, having two aisles and a chancel arch,—features wanting in the other churches examined, as well as well-defined specimens of styles from Norman to Perpendicular. It is much to be regretted that it is proposed to rebuild this church, in consequence, as is alleged, of its being ruinous and insufficient to accommodate the present congregation. The danger is imminent, the drawings and specification having been already prepared, and as much as 4,000*l.* collected for the purpose of the rebuilding; and it behoves everybody interested in our antiquities to do all that is possible to prevent the destruction of this interesting historical monument. The excuse that the church is insecure is too absurd to be persisted in: it is actually a Norman church peeled down, and a single glance at it is sufficient to show its strength and stability. The roof timbers may probably want repair, or possibly a new roof may be necessary, but this need not involve the entire destruction of the church. The plea that it is too small is equally untenable, as it might be easily enlarged by the addition of an aisle to meet the wants of the congregation; but the fact is, that the church is encumbered with high-backed pews, which, if removed, and a judicious system of open benches introduced, would very considerably increase the accommodation. It is not long since that it was proposed to cart away the lych gate at the entrance to the churchyard, in consequence of the decay of a few of the timbers. It was, however, happily preserved through the timely remonstrance of a member of the London and Middlesex Archæological Society. A few pounds preserved the gate from destruction, and it is now in a remarkably good condition, and looks as if it would last for centuries. Let the zealous vicar and his supporters turn their attention to the embellishment and preservation of their interesting old church, and they will earn the good-will of every one interested in architecture and archæology; while, if they persist in their scheme of demolition, they will associate themselves with an act of vandalism quite unparalleled in these last days.

The antiquities of Heston Church were pointed out by Mr Alfred Heales; and an interesting account of a *camera* or farm of the Knights Hospitallers, at Moor Hall, Harefield, was given by the Rev. Thomas Hugo and Mr. Charles Baily.

"A CORNER OF KENT."*

Mr. Planché is not the only man who, thoroughly in love with the subject on which he is treating, has found what he thought would be a small book, a mere waif and stray on the waters of literature, grow before his eyes into a great book. But we must exempt the work before us from the sweeping censure which condemns all "great books" as "great evils;" for in it Mr. Planché has really made a valuable contribution to topographical literature, and, by treating of the antiquities of a single parish, has shown what rich stores of materials for local history still lie buried in our musty parish records and manor-rolls, and has set an example which, if generally followed by the clergyman or squire, or some educated individual in our rural parishes, would gather together a store of most valuable information for our county histories,—a branch of literature in which, in spite of all that has been compiled by our Streatfields, Morants, Bloomfields, Hasteds, and Brittons, we are still most lamentably deficient.

Mr. Planché, however, it must be owned, has been fortunate in the parish the past history of which it has fallen to his lot to exhume. It is not every parish in the kingdom that can boast, like Ash, that Saxon and English kings, and Roman emperors before them, have used it as a place of embarkation and debarkation; that the ruined castle which stands within its limits was probably built by Vespasian, and tenanted from time to time by a Titus, a Severus, and a Constantine; or that a saint of such note as Augustine landed on its shores, and there unfolded the knowledge of the truths of the Christian faith to the heathen sovereign Ethelbert. It is strange that, after the lapse of more than twelve centuries and a half, the local tradition of Richborough should have preserved a record of the very spot where the king and the saint met in solemn state; but so strong are the corroborations of the story, that it requires a stronger faith to reject it than to admit it.

Every one who has visited the east of Kent is no doubt aware that what is still called the Isle of Thanet was once really an island, separated from the main land, not as now, by a small stream like the Stour, which is navigable only for barges, but by an arm of the sea, through which the Roman galleys sailed on their way up the Thames to London, instead of weathering the stormy promontory of the North Foreland. The Castle of Richborough stood on the south side of this channel, commanding its entrance, and nearly 2,000 years ago, bore the name of Ritupis, or Ritupium, or Portus Rutupinus. That it was celebrated for its oysters we know from Juvenal, who speaks of

> —— "Rutupino edita fundo
> Ostrea."

and our readers may be interested by hearing that very recently, on making the necessary excavations for the railway between Minster and Sandwich, which winds under the walls of the castle, a large mass of oyster-shells was discovered which no doubt had lain *in situ* from a day anterior to the time when the Romans withdrew their legions from Britain, and their once victorious eagles flapped their wings and flew away.

The ruins of Richborough Castle have been often described before; but no one, we think, has treated the subject more satisfactorily than Mr. Planché, who is of opinion that nearly the whole of the basin which lies between Richborough and the town of Sandwich was once covered by houses inhabited by a Roman military population, and that this was the Rutupium to which ancient writers refer when they speak of that town conjointly with Londinium (London) and Dorovernum (Canterbury). We think that his arguments are conclusive against the identity of Sandwich itself with this Rutupium; though, no doubt, as the sea receded and left the old port high and dry, the port of Sandwich superseded the "Portus Rutupinus," and accordingly came to take rank among the Cinque Ports. He also shows that, like the Roman fortress at Burgh, on the Norfolk Coast, the walls of Richborough Castle extended along only the northern, western, and southern sides of the quadrangle; the fourth, or eastern side, being sufficiently defended from assault by the comparatively high cliff on which it stood, as well as by the sea which flowed immediately at its base, and the Roman galleys riding proudly at anchor in the deep waters of the port, or scouring the offing in search of the enemy. Some writers, indeed, have gone so far as to assert for Richborough the honour of being the place where Julius Cæsar first landed on the shores of Britain; but Mr. Planché dismisses the supposition as scarcely probable, placing against a mere unauthenticated tradition, the fact of our utter ignorance of the many changes which the coast-line of Kent has undergone during the last nineteen hundred years.

He says on this subject:—

"The frowning masses of masonry which have resisted the assaults of time, tempest, and man for eighteen centuries, are, after all, the great fact which is more valuable than a thousand theories. Whether a British fort, raised by a chief who has been called Arviragus, originally occupied the site of the *castrum*, may never be ascertainable; but that the walls still existing were reared by the masters of the ancient world; that through that nearly perfect postern gate Roman emperors have entered and departed; that the shouts of joyous multitudes mingled with reverential cries of 'Ave, Cæsar Imperator!' have arisen from that amphitheatre over which the corn now waves or the plough now passes, is as well known to us as if it were recorded in the pages of Tacitus.

Vespasian may not have built the castle; but as an officer serving in the army of Aulus Plautus, he must have entered the natural harbour it afterwards commanded. Claudius came over to Britain to partake the triumph of his general, took Maiden, in Essex, the Camalodunum of the Romans, and the capital of Cunobellin, remained sixteen days in the island, and returned to Rome, leaving Plautus to govern Britain. Titus, the future conqueror of Jerusalem, came hither as military tribune under his father Vespasian. Agricola with, possibly, Tacitus in his train, for there are expressions in his graphic account of the expedition that would justify our believing he was an eye-witness of some of the events he records; Hadrian; Severus, who is presumed to have completed the defences of Richborough, and died at York; Constantius, who also expired in Britain; his son, Constantine the Great, who was raised to the purple in this country; and Maximus, the competitor of Gratian, a Briton by birth, according to some historians, and who is stigmatized by Ausonius as 'the Robber of Rutupis,'—must all have passed through the water-gate of Rutupium, the common port of communication with Gaul. One still greater than emperor, general, or historian, is presumed to have landed at Richborough. There is a vague tradition that Christianity was first preached in Britain by St. Paul, the Apostle of the Gentiles, and much learning has been wasted in vain attempts to establish the fact. We must, however, be first satisfied that he, like those we have already named, actually *did* visit these shores, before we speculate on the place of his landing. Amongst the holy and canonized men who in these early ages must have seen Richborough in its glory, we may mention St. Germanus, Bishop of Auxerre, who twice encountered the perils of the ocean to combat the Pelagian heresy in Britain, narrowly escaping on his second voyage, in company with Lupus of Troyes, the fearful tempests raised, as the Venerable Bede assures us, 'by the malevolence of demons, who were jealous that such men should be sent to bring back the Britons to the faith.'"

Mr. Planché comments on the passage above quoted as follows:—

"With such materials for our fancy to work upon, we may stand upon that now deserted highland, and rebuild, in imagination, that celebrated fortress. We may still picture to ourselves 'the Channel fleet' of that period at anchor in the placid waters which then reflected its proud battlements, or seeking, by the light of its lofty Pharos, a refuge in that 'tranquil haven' from the dark and turbulent ocean without. Turning to the north, we may descry the Belgic Briton, in his wicker coracle, paddling over to the Isle of Thanet, divided from the mainland by the sea, at that point nearly a mile in breadth, and studded with trading vessels from Gaul, Greece, or Phœnicia. Or, looking westward, see the colonial city covering the slope of the hill; its busy streets, of which the tracks were visible in the reign of Elizabeth; the forum thronged by its mixed population, foreign merchants, curious travellers, idle mariners, and all the motley crowd that congregate in a thriving commercial seaport town. The temple of Æsculapius, the palace of the Prefect Sanctus, the villa of the opulent Contentus, of which, perhaps, that broken tile at our feet may be the last remaining relic. The reader may smile; but there is no exaggeration in the picture. There can be no doubt that such were the general features of the scene which once presented itself to the sight on this spot, and the probability is that our slight sketch is rather under than over-coloured. Even after the final departure of the Romans, Rutupia retained its importance for centuries, both as a mart and a haven. Vessels from the west found a safer and shorter passage to the mouth of the Thames by passing through the estuary, and the large quantities of *æramini* to which we have already alluded, as well as of Saxon coins which have been discovered here, from those

* "A Corner of Kent; or, Some Account of the Parish of Ash-next-Sandwich, its Historical Sites, and Existing Antiquities." By J. R. Planché, Rouge Croix Pursuivant. Hardwicke, 1864.

of the earliest description called *Sceattas*, down to some of the ninth century, prove the continuous occupation of the site to that period."

Mr. Planché next traces the history of Richborough through the Saxon era, when it appears to have been the head quarters of the navy; and he also claims for it the honour of having been the place where Hengist and Horsa, the Jutish chieftains, first touched our coasts, soon after which date Richborough became a royal residence, "its Roman name of Rutupis being transmuted," says Mr. Planché, "into Reptaceaster, and occasionally into Ricsburg, or the *King's Castle*, whence its modern appellation." If Mr. Planché means by this allusion to hint at a derivation from the Latin "Rex," we venture, with due submission, to suggest, that it is far more probable that the word "Ricsburg" came from Eric the son, or at all events the successor, of Hengist.

Mr. Planché has adorned his book with illustrations of the parish church, of the armorial bearings upon the tombs, and of the antiquities found within the limits of the parish. The engraving opposite to page 24, includes two very interesting specimens of Roman art, a fibula of silver gilt and bronze, and a buckle of girdle or sword-belt, of silver gilt with gold borders, which were dug up at Guilton, in Ash; as well as the hilt of a broadsword and a horse's bit, both of the Anglo-Saxon period. The latter has appended to it, by way of ornament, a Roman coin of the date of the Emperor Claudius. These remains alone, as Mr. Planché remarks, would go far to prove, if proof were needed, that a large and wealthy community lived and died in the immediate vicinity of Richborough, long previous to the conversion of the ancestors of the men of Kent to Christianity.

The monuments in the church are treated with the minute consideration which they deserve by Mr. Planché, who, aided by his extensive and scientific knowledge of Mediæval costume, has been enabled to throw considerable light on the descent of the twelve manors comprised within the limits of the parish, and on the pedigrees of several very important historic families, including the Levericks, Goshalls, Keriels, Cutherows, Septvans, Harflets, Tolderveys, and many others whose names have long slipped away into oblivion, and whose estates have passed into other hands by bequest, or by that great stumbling-block of antiquaries, the marriage of heiresses.

THE DUNDEE ALBERT INSTITUTE.

Mr. Gilbert Scott's designs for the Albert Institute at Dundee are now being exhibited to the public in the Royal Exchange Hall there. They have been unanimously approved of by the committee. Along with the plans a letter was forwarded by Mr. Scott, in which he says:—"The key-note of the design is the idea which was struck out when I met the committee, of making a great hall which will serve alike for public meetings, concerts, lectures, and for the principal portion of the library. This great hall is common to the two divisions of the Institution, though approached by the members of either by distinct entrances and staircases. On the ground floor the two divisions are wholly distinct, though *capable* of being united; and on the upper floor the whole belongs to the higher class Institute, excepting the great hall, which is common to the two. I have shown a range of museum-rooms, with a picture-gallery above, but so placed as to be capable of omission or postponement. In style I have followed that of the best period of Pointed architecture, taking pains to give it such national characteristics as will render it distinctly Scottish in its general feeling. I fear that the cost, even omitting the museum and picture-gallery, will be in excess of your funds. Nor do I see my way to rendering it otherwise. The amount for this part of the building seems to come to about 14,000*l.* as the design now stands. This is judging from cubic contents."

The shape of the proposed building is that of a T, to which, if the museum and picture-gallery were added, the tail would be lengthened out. The head of the T is to the west, and the desire of the architect, remarks the *Warder* in describing it, has evidently been to make that side the point from which most effectively to view the design. The principal entrance is from the north-east corner of the building. On the north side, immediately to the east of the wing forming the one side of the top of the T, there will be a tower, octagonal to the outside, and round within, in which will be a stair leading to the great hall, and rooms above for the members of the Institute. The elevation to the west will also show a massive tower, which will be in the centre. On the first floor, occupying the whole west front of the building from north to south, will be the great hall. This will be the principal feature in the structure. The hall is proposed to be used jointly by the subscribers and non-subscribers of the Albert Institute. This hall, with the exception of the Corn Exchange, will be the largest in Dundee, being intended to be 90 ft. long by 40 ft. broad; and, to the wall head, from which the arch of the roof springs, the perpendicular height will be 22 ft., and to the summit 38 ft.

NORTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

This movement is progressing favourably. A public meeting for the St. Pancras district, and another at Pentonville, have been held in promotion of the objects contemplated. The Rev. Canon Champneys, rector of St. Pancras, occupied the chair at the St. Pancras meeting. Mr. Watts explained the nature of the exhibition, and that it would be opened at the Agricultural Hall in October, at a uniform charge for admission of 2d. Resolutions in accordance with the objects of the meeting were unanimously adopted, and a local committee was appointed to assist in carrying out the movement for St. Pancras. As the time for the opening of the exhibition is not far distant, we would impress upon our readers who dwell in North London that the following classes are invited to exhibit, free of charge, articles of skill, novelty, or ingenuity:—1st. Working men or women in the receipt of wages. 2nd. Small masters. 3rd. Large masters, giving also the names of the workmen engaged in producing the article. We trust that in connexion with this exhibition young workmen will be well represented in their various crafts. Many may have something already finished which they might show with credit; but it is not too late for many to begin some example of their handiwork, for there will probably be over six weeks' time yet allowed before the articles are to be sent in. Many of the young stonemasons, and the workers in wood, might at leisure hours produce some piece of statuary or ornamentation, which would not only be interesting in the exhibition, but also prove of future benefit to themselves; for many employers of labour of various kinds will be looking here for skilled assistance.

PAPER MATERIAL.

The present transition state of the paper trade is especially worthy of consideration; not only in consequence of the difficulty which there seems to be in meeting the constantly-increasing demands, but from the anxiety felt by many that a material should be found which will ensure a permanency to the literature of the present and coming generations. There is a fear that in the introduction of large quantities of vegetable fibre, a kind of paper will be brought into the market which will be less permanent than that which was used by the early printers; and that, a hundred years hence, fine examples of typography of the Victorian era may in vain be looked for. Although we do not share so much as many do in these fears, still it is very important that an inquiry should be made into this matter by competent authorities; for certainly when we look at the beautiful examples of printing by the German and English workmen of a little more than three centuries ago, it seems doubtful, at least, whether we have made any great advance. In the early examples, both the paper and the printing ink are permanent and of beautiful quality. The most early writings are on a vegetable substance, and some of them, after the lapse of thousands of years, are perfectly distinct. Then came the ages of skins, in turn succeeded by vegetable fabrics again; for it must not be forgotten that rags are of a vegetable nature; and when we think of the extraordinary demand which there is for this material, one can scarcely have a doubt but that by means of ingenuity and the right application of capital, we shall be able to provide materials which will answer not only for the common, but also the very best descriptions of printing.

There ought not, however, to be any doubt whatever on this point.

BRISTOL SOCIETY OF ARCHITECTS.

EXCURSION TO CHEPSTOW AND TINTERN.

The third excursion for the present session was to Chepstow and Tintern. The party consisted of Mr. S. C. Fripp, the vice-president of the society; Mr. C. J. Phipps, of Bath, the honorary secretary; Messrs. J. Bindon, J. A. Clark, T. S. Hack, J. Foster, H. Lloyd, H. Masters, T. Pope, A. C. Ponton, T. Cross, Merry, Clifford, Buidley, Barnes, Bussell, Hughes, Harvey, A. Hazeland, E. Hazeland, and Wetmore. The abbey ruins were visited; and Mr. J. Foster read to them a paper upon "Tintern and the Cistercians," which had been prepared by Mr. T. Pope and himself. The paper was illustrated with a ground-plan. After the reading of the paper the ruins were inspected, under the guidance of Mr. Pope and Mr. Foster. The discussion commenced with the consideration of the question as to whether the roof of the refectory was groined or otherwise. The former opinion was expressed in the paper, but the opinion of the members seemed to be divided, the majority thinking it was a wooden roof. Several of the party proceeded to the Wyndcliff, and after a pleasant trip the whole of the excursionists met at the castle, when "Remarks on Chepstow," illustrated by a grand plan of the castle, were read by Mr. Phipps.

The castle was afterwards minutely inspected, and the party then adjourned to the Beaufort Arms Hotel, and dined.

CHESTER TOWN HALL COMPETITION.

We have received letters at the moment of going to press from half a dozen of the competitors (Mr. T. M. Lockwood, Messrs. E. Godwin & Crisp, Mr. Douglas, and others), asserting distinctly that the design "Love's Labour," to which the first premium has been awarded, is not in accordance with the conditions issued. Some of them suggest an immediate conference of the competitors, with a view to joint action.

COMPETITIONS.

Hartlepool New Markets.—The committee selected the design marked "Nota Bene," and the Board of Health having adopted their recommendation, the author is announced to be Mr. Chas. J. Adams, architect, of Stockton-on-Tees. The design is to be carried out under his superintendence.

Sligo Town Hall.—Sir John Benson, as we have already announced, was called in to report on the designs submitted; and the premiums have been awarded as follows:—1. No. 2, "L'Homme propose," William Hague, Great Brunswick-street, Dublin; 2. No. 3, "Love's Labour," W. J. Barr, Belfast; 3. No. 19, Lanyon, Lynn, & Lanyon, 64, Upper Sackville-street, Dublin. The amount to be expended is 5,000*l.*

CONDITION OF BETHNAL GREEN.

The terrible state of this district, and the evil way in which the relief of the poor is managed,—a mischief often referred to in these pages,—are again forced on us. At the coroner's inquest respecting the death of Henry Nash, aged eight years, it was stated that there were eight members of this family, and the whole occupied one room. The rooms of these houses are of the very smallest size, and it is no matter of wonder that typhus fever broke out in this place (No. 15, Half Nichol-street). The father, John Nash, who was so ill that he could scarcely speak, said that he was a labourer, and used to earn 2*s.* 6*d.* a day; but he had been for a fortnight out of employ, and could not work. He had not applied to the parish as he hoped to get better. Three years ago he was in great distress, and applied for relief. At first they gave him one shilling a week and a loaf of bread—*this for the out-door relief of a large family*,—but even this miserable stipend was stopped, and the people were offered no further assistance unless they would enter the *House*. This they refused to do, and then the authorities would give nothing. On a night recently the deceased was taken with "squeaking convulsions," and was in great pain. He died the next morning. The dead boy had a share of what came into the house; but there was very little, on account of their poverty.

Dr. William Gayton said that he had made a *post-mortem* examination of the body of the

deceased, who was dreadfully emaciated. The lungs, stomach, and other important parts were in a healthy state (the child might have lived to an old age), but in the stomach there was only about an ounce of fluid gruel. The cause of death was convulsions produced from the want of food; and the medical witness doubted if the parents were yet sufficiently recovered to understand what was passing around them. Such a case as this,—and they are unfortunately to be found in hundreds in Bethnal-green,—clearly shows that no time should be lost in altering the present system of parish relief. The matters which are constantly coming before the public notice in connexion with this district are painful to all, and a shame to those who have the management of the poor. There is poverty in all the metropolitan parishes, but we do not hear in Islington, for instance, of persons being allowed to die of actual starvation. The verdict of the jury was,—"That the deceased, being of tender age, and in charge of his parents, died from the mortal effects of convulsions, caused by want of nourishment."

THE WOLF ROCK LIGHTHOUSE.

For many years past the imperative necessity of a lighthouse on the Wolf Rock, which is about seven miles south-west of Land's End, has been generally acknowledged, and about three years ago the Trinity Board resolved to erect one. Since that time the preparatory works have been carried on at Penzance, under the superintendence of Mr. W. Douglass, the resident engineer, and a large quantity of granite has been cut and fitted, ready to be sent out to the rock when required. A landing-place for materials had to be prepared. This preparatory work is now pretty nearly completed. The irregularities of the Wolf Rock have been hewn down with great labour until a solid base was found for the immense stones which form the foundation of the lighthouse. The base stone has just been laid, as it were by stealth, after waiting off Land's End for three days. The dimensions of the lighthouse are as follows:—The extreme height of the masonry of the tower, 116 ft. 6 in.; from the base to the centre of the light, 126 ft. 6 in.; the height of the light above high-water, spring tide, average tide, 110 ft.; the diameter of the base, 40 ft. 1⅞ in.; and the diameter of the upper part of the tower under the cornice, 17 ft.; the diameter of the gallery round the lantern, 21 ft. The whole tower is to be built solid 42 ft. above the base, and the upper portion is divided into seven rooms in addition to the lantern. The granite for the masonry of the upper walls and the external part of the base is from Messrs. Freeman's Carnsew Quarry, near Penryn. The granite for the internal part of the solid work is from Messrs. Freeman's New Mill Quarry, near Penzance. It is calculated that the light from the top of this new lighthouse will be visible on board the deck of a ship at a distance of fourteen miles, and at the masthead of a large ship at a much greater distance.

RECIPE FOR (PERHAPS) MAKING DIAMONDS.

It may be remembered by our readers that we lately suggested the possibility of making artificial diamonds, if a solvent of carbon could be discovered, which would lift and deposit it as alum is lifted or solved in water, and deposited in the crystalline form of alum baskets. Thereupon a correspondent suggested that failing the obtainment of such a solvent, perhaps electricity could be brought to bear upon a carbonaceous solution, so as to cause the carbon to be deposited pure in a crystalline form. The subject seems to have excited some attention; and a writer in the *Dublin University Magazine*, thus deals with it:—"Diamond when fused by the heat in the open air, leaves a residue of pure carbon. Its attraction for solar light is so great that, after absorption, it is sure to give it off when placed in a dark room. Its extreme refrangibility shows it to have for its base an oily substance. It is a bad conductor of electricity, like all such substances. Suppose we take a portion of pure carbon (which is a powerful conductor of electricity), produced by burning to sooty residue a quantity of vegetable oil, say oil of origanum, which is the most inflammable; then place it in a close air-tight vessel constructed so as to admit a saturating supply of oxygen (which is a powerful conductor of electricity); then bring to bear on this intensely oxygenised piece of carbon a strong and constant electric current. While the latter produces volatilisation and intense molecular aggregations, it is very possible that the union of oxygen with the carbon, under such conditions, would result in the re-construction of diamond substance, which would take a crystallized form under the influence of the current; while the oxygen would restore to the diamond base the quality which it had lost. The instrument should be exposed constantly in the light of the sun, which exercises such influence on crystallisation; and as the harder the crystal the longer the time it takes to form, the process of the experiment would of necessity be extended over several or many years." So, it may be some little time ere we can report the result of such an experiment as this.

GLOUCESTER CATHEDRAL.

Operations have been commenced in this cathedral for the purpose of warming it. The plan which will be pursued is that of the London Warming and Ventilating Company, which has already been applied to fourteen cathedrals. The plan adopted is said to be comparatively inexpensive. It consists of a series of stoves so arranged as to be little if any eye-sore to the building. They are of a peculiar construction, being cylinders with radiating flanges or wings, the whole stove standing in water, and causing evaporation sufficient to prevent the stove being overheated on the one hand, or the air being dry on the other. This system is now adopted in the Houses of Parliament. The whole of the interior of the cathedral is to be kept at one general temperature—50° to 55°. Thus draughts will be prevented, and comfort secured.

A memorial window to Dr. Luxmore, formerly Dean of Gloucester, has been erected in the east cloister of the cathedral. The whole of the stone work had been previously restored. The window consists of tiers of eight lights. In the lower tier is decorated glass with coloured borders. The next tier is occupied by eight pictures illustrating the texts "Suffer little children to come unto me and forbid them not, for of such is the kingdom of heaven," and "Whosoever shall receive one of such children in my name receiveth me, and whosoever shall receive me, receiveth not me but Him that sent me." The artists were Messrs. Ballantine & Son, of Edinburgh.

SALES OF PROPERTY.

At the Guildhall Coffee-house, by Messrs. Norton, Hoggart, & Trist:—Freehold estate, known as Brenley House, situate in the parishes of Boughton-under-Blean and Selling, Kent, comprising a house, farmhouse, farm buildings, &c., and 214a. 2r. 4p. of arable, hop, orchard, and meadow land—sold for 18,150*l.*; freehold, three enclosures of marsh land, situate in Sea Salter Level, Graveney, Kent, containing 35a.—2,500*l.*; freehold dwelling-house, being No. 31, Charles-street, Westminster, let at 60*l.* per annum—1,000*l.*; freehold shop and dwelling-house, being No. 39, Charles-street, Westminster, also in the rear a dwelling and premises, No. 12, Gardiner's-lane, producing 70*l.* per annum—1,500*l.*; freehold shop and dwelling-house, being No. 40, Charles-street aforesaid, let at 45*l.* per annum—800*l.*; freehold rental of 107*l.* per annum, arising from property situate in Charles-street and Gardiner's-lane, Westminster—2,500*l.*; freehold rental of 70*l.* per annum, arising from property situate in Charles-street and Gardiner's-lane, Westminster—1,500*l.*; freehold shop and dwelling-house, being No. 44, Charles-street, Westminster, let at 40*l.* per annum—840*l.*; freehold dwelling-house and shop, situate No. 22, Gardiner's-lane, aforesaid, let at 28*l.* per annum, 500*l.*; Leasehold residence, being No. 13, Hyde Park-street, Hyde Park-square, with coach-house and stable, let at 230*l.* per annum, term 96½ years from Lady-day, 1836, at a ground-rent of 3*l.* per annum, sold for 3,700*l.* At Garraway's, by Messrs. Farebrother, Clark, & Lye:—Leasehold residence, being No. 64, Addison-road, Kensington, let at 160*l.* per annum, term ninety-nine years, from June 24th, 1852, at a ground-rent of 15*l.* per annum—1,780*l.*; Leasehold residence, being No. 29, Pembridge-crescent, Bayswater, with premises in the rear, producing 80*l.* per annum, term 90½ years from Lady-day, 1854, at a ground-rent of 16*l.* per annum—960*l.*

THE ACHILLES STATUE.

Apropos of the neglected state of many of the timber trees in Hyde Park and Kensington Gardens, mentioned in last week's *Builder* (p. 602), I would invite your attention to the curious state of the inscription on the lower plinth of the Achilles Statue, opposite Apsley House, in Hyde Park. Some time ago a man was punished for stealing some of the bronze letters. Now, I think you will find, on inspection, that the whole of them on this lower plinth, describing the part which George IV. took in the erection of the memorial to the great Duke, have been removed. Public statues, by a recent Act, are under the safeguard of her Majesty's First Commissioner of Woods, Works, and Public Buildings. Does he intend to restore the missing letters? Now that the palisading is removed, a sunk ha-ha fence round this monument would prevent further damage. Q.

THE NELSON LIONS.

Most certainly the long-expected royal animals are not travelling to Trafalgar-square by an express train: on the contrary, they seem to have been put into a remarkably "slow coach." On my asking, the other day, when they were likely to arrive, the reply was,—"As soon as the lion on Northumberland House wags his tail to welcome them." Badinage apart, the most essential question of all is,—How far, when it shall have been completed, is the Nelson Monument likely to prove satisfactory in its *ensemble?* The column itself shows no attempt at special adaptation to a special purpose. A lofty pillar, intended to stand by itself, ought surely to be so differently proportioned from a column which, with its associates, is in a building firmly "pinned down," as to show, at the very first glance, that it *does* stand quite firmly; or, in other words, the expression of stability ought to be energetically pronounced by such expansion as to render the diameter of the base twice that of the upper extremity of the shaft; warranty for which departure from "ready cut-and-dry" orthodoxy may, if required, be found in the graceful heterodoxy of the Ionic columns in the temple at Bassæ. Though not absolutely required constructively, an exaggerated base would be a decided æsthetic propriety in a column destined to stand unwedded and alone, without even so much as a single sympathizing friend or companion. Here suppressing remarks that might be deemed not only satirical, but also quite out of place, I simply give it as my own private opinion, that to station a monumental statue on the giddy eminence of a lofty column is a far too literal mode of *exalting* the individual intended to be thereby honoured; because, so placed, almost anything in the shape of a man will do.* One susceptible instance, indeed, we have—one we ought to be proud of—of a statue being employed architecturally as an emphatic anthropomorphic finial to a campanile. Yet strange, or, if not strange, mortifying, to say, so far from being hailed as a happy idea, it has been sneered at as an absurdity by that puny *petit-maître* critic, Horace Walpole, and those who have taken their cue from him. Hardly is it necessary to explain that the example alluded to is St. George's, Bloomsbury.

Here resisting a strong temptation to indulge in enlarging greatly upon what I have just been saying, I restrict myself to the simple query,—What is likely to be the general result of the monument when completed? Is the pedestal to be the capital part of it?—far more attractive, probably, than all the rest, because, so introduced, and modelled by a master hand, the animals will be very far more than ordinary filling-up accessories; but considered only with regard to architectural effect, they will confer something of distinct character on this one of the many Nelson columns. Apart from the artistic value and interest of the sculpture, there cannot fail to be the highly-desirable expression of both expansion and finish below. Attention to the finishing up of extremities ought to be as fully impressed upon the architect as on the painter. For a hundred who can paint faces, there is scarcely one who can paint hands well in ungloved nudity.

We have heard of late a great deal about sky-line, and it would not be amiss were some one

* The tar who exclaimed, on visiting Trafalgar-square,—"By Jove, they have mast-headed the Admiral," did not feel the position, so usual in the punishment of naval culprits, to be one of honour to the admiral.—Ed.

now to insist upon the importance of "ground-line,"—by which term is to be understood the decided architectural expression that may be given to the *footing* of a building; a point which, important as it is, has hitherto been overlooked by those who take upon them to be our architectural teachers, but who, whether Classicists or Gothicists, never call attention duly to the æsthetic value of a boldly-pronounced basis.* ART-LOVER.

FERRY ACROSS SERPENTINE.

ADVISED by the notice in the *Builder* that boats plied across the water,—on my Sunday's stroll in the park, with some companions, I applied at the Humane Society's Receiving-house, but found the skiffs all moored, and the boatmen gone! Now, Sunday is the only opportunity we mechanics have for a walk, or an airing; and, whether it were to cross the lake only, or to indulge in a spell of rowing, surely, after church-time, it need not be thought profane to give us that indulgence.

Of late, the equipages of gentry have discontinued the drive, which was formerly *most thronged on the Sunday*; still, however, they circulate freely through other parts of town, and set down very many of the congregation at the church-door; and the domestic works of the most sanctified are not suspended; for even the Episcopacy do not adhere to cold repasts on Sundays.

Seeing, therefore, that Puritanism is not the taste of the time, and that the innocent indulgence of a taste for aquatics may co-exist with decorous conduct, I would beg to inquire through you, Mr. Editor, wherefore are we debarred the advantage of a free sail, scull, or ferry across the waters, which are now *more verdant* than the park?

As to the water which is forced up from the St. James's springs, that is tainted with Westminster sewage from its source,—and that which is drawn back and circulated from the Serpentine itself is but a *ditto repeated*,—so that it is only by circulation or disturbance of the water that the weeds are kept down in the lake below bridge.

A remission of restraints is found by liberal governments to be wiser and more conducive to good order, while it is also consistent with that true spirit of religion, "*the service whereof is perfect freedom.*" ARTISAN.

HOW TO VISIT THE ART EXHIBITION AT MALINES.

SIR,—Could not one of your subscribers arrange a plan and route whereby one, or a small party of art-workmen, might both profitably and economically visit the above-named exhibition? I should have much pleasure in making one of the party, which, I think, would be mutually advantageous, in being the means of extending one's scientific acquaintance, exchanging ideas, and calling each other's attention to many subjects which might otherwise escape an individual's attention. The time is fast approaching. ASPIRANT.

ST. LUKE'S CHURCHYARD, CHELSEA.

IN the very densely peopled district intermediate between the high Fulham and King's roads, the church stands in the centre of a 6-acre square. The plot is railed round, and on all sides flanked by houses. On the west is Robert-street, a wide thoroughfare, with private dwellings of a better order, confronting the church: on the north and south are two smaller streets; and on the east the backs of houses, amongst which is a large parochial school, look upon the graveyard, now of course discontinued as a place of interment. Thus there are about 100 houses, with full view over this Golgotha *petræa*.

About one-fourth part of the space at the north-east corner is open, and covered with green herbage: the rest is like the old intramural cemeteries, bristling with tombstones, set on end, and so thickly planted as to conceal each other, somewhat like a mason's stoneyard. On the outer bounds, close to the line of railings, ranges of forest trees of about twenty and thirty years' growth are planted; lindens on the north, elms on the south and west, and a funereal row of poplars on the east. The space from house to house is about 180 yards by 160 yards; therefore this fine opening, with a lofty church and tower in the centre, might be made an ornamental as well as healthful point of attraction to its populous neighbourhood.

There is, however, but one way of dealing with an old cemetery. *Lay the tombstones horizontal*, level and turf over the intervals, cutting walks in suitable directions, and then planting shrubs in groups or detached,—not to overdo it by forming thickets; but here and there an arbutus, a lilac, a laburnam, and all the varieties of shrub; but also the white and red thorn, and votive flowers, wherever the owners of the narrow freehold may feel disposed to pay that seasonable tribute to severed affections.

* The necessity has been treated of at some length in our pages.

Although the ground is closed for interments, and the legends are confined to the titles, names, and epitaphs of those who sleep under the tombs, there are some who might oppose the levelling system recommended. Ought they not, however, to yield to the majority of a parochial meeting? No great beneficial change or reform was ever effected without some dissentients; and in this particular case, wherein the public health and convenience are concerned, the vestry is omnipotent to act. Such a change as might be thus wrought would enhance the value of surrounding property. The aspect of the place, instead of being repulsive and hideous, might be consoling even to the mourner; and the resting-places of the departed, whilst more accessible, would be none the less distinguished. M. A.

RAILWAY MATTERS.

THE traffic receipts of railways in the United Kingdom amounted, for the week ending the 23rd of July, on 11,335 miles, to 705,470*l.*; and for the corresponding week of last year, on 10,930 miles, to 631,289*l.*; showing an increase of 405 miles, and of 74,181*l.* in the receipts. The traffic receipts amounted for the week ending the 30th of July on 11,376 miles, to 714,989*l.*, and the corresponding week of last year, on 10,970 miles, to 658,047*l.*, showing an increase of 406 miles, and of 56,042*l.* in the receipts. —— A further sale and demolition of property required to complete the enlargement of the Brighton Company's terminus at London Bridge has taken place. The viaduct for this purpose, terminating at the back of the International Hotel, and to accommodate the company's South London as well as general traffic, is rapidly approaching completion. —— The Metropolitan Railway Company held their half-yearly general meeting on the 17th instant. The report stated that the net receipts of the railway for the past half-year enabled the directors to recommend a dividend at the rate of 5 per cent. per annum on the preference stock, and at the rate of 5½ per cent. per annum on the ordinary stock, carrying forward to the credit of next half-year a balance of 2,463*l.* 6s. 10d. The report congratulated the shareholders on the steady increase of traffic, and the satisfactory progress of the company's affairs.——The last girder of the iron bridge over the Thames at Blackfriars has been raised to its position; and it is expected that the line of the Chatham and Dover Company will be completed across the river by the 1st of October, and opened, together with the Ludgate Viaduct, through to St. Paul's Station.——It appears from a statistical return of the results of the session, that of the 332 railway bills deposited with Parliament 232 were for England, 43 for Wales, 30 for Scotland, and 27 for Ireland. Of these, 73 were withdrawn by the promoters, 50 were rejected in committee or by Parliament, and 209 received the royal assent.

CONTINENTAL NEWS.

Paris. — In accordance with the Emperor's "suggestion," the Hôtel Dieu is to be commenced forthwith. A committee is already engaged in considering site, plans, &c., and it is thought that the first stone will be laid before the autumn. The Emperor would have liked doing this on the 15th instant, but the preliminary work rendered this impossible.——A sad accident happened last week at the Church of the Jesuits in the Rue de Sèvres. Some workmen were engaged in restoring one of the side chapels: a ladder was being moved in an upright position, when it swayed and fell on the head of the Marquise de Polignac, who was attending mass. The lady was in her 77th year, and the blow struck her dead on the spot.

Limoges. — A joint-stock company has just been formed at Limoges, in the Department of Haute Vienne, in the south of France, for the purpose of building a new quarter for the manufacturing population of that growing city. The capital is to be 1,250,000 francs, in 2,500 shares of 500 francs each, and the directors are M. Michel Chevalier, senator of France and officer of the Legion of Honour (chairman); General Dalesme, commanding the division of Engineers; M. Laporte, member of the municipal council; M. Peconnet, the mayor of Limoges; and others.

Vichy.—M. Garnier, the architect of the New Opera at Paris, has been here in connexion with some important buildings to be forthwith erected. Among these are a museum and a library, to be built with the proceeds of a lottery, to which the Emperor has given his sanction.——Emil Pereire, the *financier*, has bought a large quantity of land, and intends erecting a series of comfortable hotels and elegant villas in this fast-rising watering-place. Madame de Sévigné was the first to call attention to Vichy as a bathing-place, and the Emperor has given orders for a monument to be erected to her memory.

Amsterdam. — The Permanent Exhibition of National Industry (Het Paleis voor Volksvlyt) is rapidly approaching its completion, and will probably be opened in September. The building has an area of 6,750 square mètres, and will cost a million and a quarter of florins—upwards of 100,000*l.*

Vienna.—The last stone of the finial on the top of St. Stephen's was fixed on the 28th of July. ——Baron Pasqualati, well known in this city for the interest he takes in all matters connected with the stage, has obtained a concession for the erection of a new and very large theatre.

Cologne has had a nine days' festival—the 700th anniversary of the arrival of the bones of the Three Magi from Milan. Every day brought thousands of people from all parts, and every hour there were processions of pilgrims, some amounting to 3,000 men and women, all come with the object of having their rosaries, charms, medals, or prayer-books touched by the miraculous bones. The last day was the greatest, and closed with an enormous procession, in which four bishops took a part. Are we *really* in the nineteenth century? —— The committee for selecting a design for a statue of King Frederick William III. of Prussia, to be placed on the "Neumarkt," at first decided in favour of that by Mr. Mohr, sculptor to the cathedral; but the decision was not very graciously received by the powers that be, on the ground that his design had a democratic tendency: he had represented the king surrounded by the heroes and statesmen of his time, by Kleist, Macdonald, Blücher, &c., from whom he receives back the crown, taken from him virtually, though not in reality, by the French. And so the second design, by Bläser, has been adopted, and Mr. Mohr receives the title of Professor, as a shin-plaister. Mr. Bläser's design is an equestrian statue—*pur et simple*.

FROM SCOTLAND.

Edinburgh.—As the spire of Barclay Church, Edinburgh, was being repaired, the cage, in being hoisted up with five men in it, gave way. Fortunately the cage was but 15 ft. from the ground. All the men, however, were bruised, and one had his ankle broken.

Moffat.—At a public meeting here, called by Mr. J. P. Trotter, sheriff-substitute of Dumfriesshire, to take into consideration the adoption, in whole or in part, of "the General Police and Improvement Act (Scotland) 1862," it has been resolved that the Act be adopted in whole.

Dundee.—The plan for the restoration of the old tower, it was believed, had been settled. The committee, however, have just reported to the council, that Mr. Scott, the town's architect, had conferred with Mr. Gilbert Scott, and that the latter, recollecting the decayed state of some of the finest features of the tower, thought it would be advisable, before deciding on the method of its restoration, to send down an assistant to inspect it, and take accurate measurements. Mr. James was indignant because Mr. Scott had not been sent to London by the committee, to see Mr. Gilbert Scott, but had acted on the unofficial authority of a portion of its members; and he moved that the minute be "expunged;" and the disapproval of the minute was carried by a majority of ten to four. It is most likely, the *Warder* thinks, that the majority of the members did not intend to disapprove of the restoring project, but merely to condemn the irregular method in which action had been taken. It is roughly estimated that the cost will approach to, if it does not exceed, 3,000*l.*; and some gentlemen, who are anxious for the restoration of the old steeple, which forms a characteristic feature of Dundee, intend immediately to set about obtaining subscriptions to effect that purpose.

Cowpar-Angus.—The foundation stone of a new United Presbyterian Church has been laid here. The building is from the plan of Mr. John Haggart, architect, Washington. The style is Norman. The building will be 65 ft. by 42 ft., outside measure. The minister's room and session house are at the west end. The east, being the front to the street, will be the principal elevation. The total height of the spire will be about 75 ft. There will be four windows in each of the side walls. The modern style of a platform for the minister has been adopted, and will be placed in the west end. There will be a slight eleva-

tion in the seats as they recede from the platform, and a gallery is to be placed in the east end. The beams of the roof will not be shown, the ceiling being decorated with an ornamental cornice. The building will accommodate 500 sitters.

Rothienorman.—The old mansion house of Rothie has been completely "Normanised" by the present proprietor, Colonel Leslie, and greatly enlarged into a castellated building, to which the ancient name of Rothienorman has been restored. The castle stands in a picturesque hollow, north-east of the Rothie station, and near the Home farm steading, also built by Colonel Leslie. Mr. Matheson was the architect of the castle, of which a view is given in the *Banffshire Journal*.

PROVINCIAL NEWS.

Oxford. — The foundation-stone of the new Masonic Lodge, about to be erected in conjunction with the Clarendon Hotel, Oxford, for the Apollo University Lodge of Freemasons, has been laid with the usual masonic rites. Mr. Edward G. Bruton, P.M., 340, P.Pr.G.W., is the architect, and Mr. Thomas Baker, the builder. The building will comprise a lodge-room, banqueting-rooms, ante-room, and waiting-rooms. The lodge-room will be 52 ft. long by 26 ft. wide, and have a vaulted roof, the room being 26 ft. high to the crown of the vault. The vault will be spanned by five ribs, which will be finished in rainbow tints; the plastering between being finished in blue colour. The room will be lighted, in the day time, by a lantern light, and at night by a series of gas jets above the cornice of the room. The central portion of the floor will be laid with tesselated tiles; the margin being left for carpeting. The room will be heated with hot water. —— The site of the old workhouse, 5a. 0r. 6p., has been sold for 8,000*l*. At auction 7,910*l*. had been offered, but the reserved price was 8,000*l*., and it was immediately afterwards sold for that sum to Mr. Ambrose Smith.

Bath.—A meeting of the watch committee was held, for the purpose of considering the tenders for the erection of a new police-station in the Orange-grove. The lowest tender sent in for the whole work amounted to 2,295*l*. By choosing separate tenders for different parts of the work, it was found that the cost would be 2,187*l*. 10s., showing a saving of 107*l*. 10s. The committee, it is reported, will accordingly recommend to the council the acceptance of the separate tenders. None of the tenders included locks, iron shutters, and gas apparatus, which are estimated to cost 128*l*., so that the entire amount of the contract will be 2,315*l*. 10s. The architect's estimate for the cost of construction is thus exceeded by 315*l*., and the new edifice will entail an expenditure of more than 4,000*l*.

Bristol.—The foundation-stone of a new building, to be devoted to the purposes of a workmen's hall, has been laid in St. James's-back. The building will be 80 ft. long by 40 ft. wide. The ground-floor will consist of a coffee-room, 28 ft. by 18 ft.; a smoking-room, 21 ft. by 18 ft.; a kitchen, 18 ft. by 12 ft.; besides which there will be bath-rooms, lavatory, vestibule, entrance-hall, &c. There will be a lecture-hall, 37 ft. by 18 ft., and 20 ft. high; class-rooms, and bedrooms for persons in charge of the building. By the side of the building there will be a gymnasium, 50 ft. by 30 ft.; and there will also be an open yard, 52 ft. by 23 ft. The cost of the hall will be about 1,000*l*. It is thought that the hall will be ready for opening about the first week in October. The plans were prepared by Mr. J. Lawrence, of Bristol; and Mr. J. P. Stephens is the contractor.

Truro.—A scheme is on foot for erecting a suite of public buildings in Truro on the limited liability principle. Promises have already been received of support to the extent of 4,000*l*. It is calculated 6,000*l*. will be required.

Knighton.—The contract for building a new hotel for the Knighton Hotel Company, from the designs of Mr. Thos. Nicholson, architect, Hereford, has been undertaken by Messrs. Drake & Co., builders, London.

Aberystwith.—Mr. Savin, the railway contractor, has just commenced to make extensive additions to the Castle, his Aberystwith residence. The additions will render the Castle a spacious edifice. The new portion will have the same castellated architectural characteristics as the old. Mr. Savin purposes extending the terrace fronting the sea, and making other improvements.

CHURCH-BUILDING NEWS.

Hoddesdon (Herts).—The first stone of the new building for the enlargement of Hoddesdon Church has been laid. The contractor for the work is Mr. John Hunt, of Hoddesdon. The building will be from designs by Mr. Joseph Clarke, the diocesan architect. The enlargement will give 280 additional sittings, which, with 500 in the old building, gives a total of 780. The cost of the new building, which will consist of a chancel with north and south chancel aisles, will be about 2,000*l*.; and the cost of re-seating, restoring, and re-furnishing the old building, about 500*l*.

Tenterden.—The works connected with the restoration of the parish church are progressing, the masonry and plastering being nearly completed, and the new floor and seats, although not yet in the building, are ready to go in as soon as the dwarf walls and concreting are ready to receive them. The tracery of the windows, ten in number, in the north and south aisles, is decorated, and the material is Bath stone. In place of the chancel arch, a Gothic one has been erected: this is also of Bath stone. By the removal of the organ-gallery and the screen which separated the tower from the nave, the west window has been thrown open to view, and also a perpendicular arch of Bethersden marble. The architect is Mr. E. Christian; and the mason is Mr. H. Pennel.

Little Langford (Wilts).—The Church of St. Nicholas has been re-opened by the Bishop of Salisbury. It has been entirely rebuilt on its old foundation, and the original architectural characteristics have been preserved. It consists of a nave, chancel, and south transept, which is of the Decorated period, the rest of the church being erected in the Perpendicular style, excepting the west end, which is Early English. The sanctus bell is placed over the chancel arch, in an open wooden turret. There are five painted windows, four of which were given by Lady Herbert, of Lea, the east window being placed in the church as a memorial of the late Lord Herbert. This window has three lights, the subject being the Crucifixion, and the Virgin and St. John. In the south window of the chancel the subjects are treated archaically, and are the Good Shepherd and Our Saviour Knocking at the Door. The east window of the chantry has a figure representing St. Nicholas, the patron saint of the church. The upper west window is filled with stained glass, the gift of Mr. T. H. Wyatt, the diocesan architect, the subject being the Baptism of Christ. All these windows were executed by Messrs. Lavers & Barraud. The roof of the nave and transept is open, the spaces between the rafters being tinted blue. The roof of the chancel is boarded. The old font, which is early Transition, has been preserved, and retains its original place at the west end of the nave. The chancel is paved with Minton's encaustic tiles, the tiling within the rails being partially glazed. The seats are of stained deal, and the church is heated by a warm-air apparatus. The south window of the transept is a Decorated one. On the south side of the nave is an ancient Norman doorway, which belonged to the original church, and which has been preserved. The arch displays the billet and zig-zag mouldings, and in the tympanum are some rude specimens of ancient sculpture, representing an ecclesiastic with a crosier, in the act of giving the Benediction, three birds on a tree, and some dogs hunting a wild boar. The capitals of the columns on each side of the doorway are carved with rude designs. The church is built of flint with stone dressings. The contractors were Messrs. Davis & Son, of Frome.

East Lulworth. The parish church has been so far completed that it has been re-opened for Divine service. Mr. J. Hicks, of Dorchester, is the architect employed; and the contractor is Mr. Wellspring, of the same place. In clearing away the ground, the foundations of the old chancel were discovered, and the new one has been carried out to the same extent, with a three-light Perpendicular window at the east end, the whole of the other windows also being restored in the same style. Traces were also found of the old north chancel aisle, where is a vault of the ancient family of the Welds; and here a vestry has been erected. A new south porch replaces that which previously existed. Instead of pews there are open benches; and notwithstanding the removal of the gallery, 59 additional seats have been obtained, the tower arch having been cleaned, and this part thrown into the church; so that, with a lofty chancel arch, the interior is open from end to end. T roof is open timbered, stone corbels supporti the arched ribs; and it has been raised in pite the outside being covered with tiles surmount with a ridge crest, and eaves gutters substituti the parapet, to avoid injury from the same cau that had been so injurious to the old roof. T tower has not been interfered with. It is nc nearly covered with ivy. A door was found the east end of the north wall, which no dou originally led to the rood-loft. Funds are st required for seating and completing the fittin of the chancel, as well as the ringing-floor of t tower.

Upton-on-Severn. — The residence of S Edmund Lechmere, Bart., at the Rhydd, h been undergoing some alterations and addition under the direction of Mr. Braddon, architec There is also a domestic chapel in the course erection, Mr. C. F. Hanson, of Clifton and Mr vern, being the architect. It is situate in th pleasure-grounds, and is connected with th house by an ornamental passage forming a co servatory. The interior of the edifice is divide into two parts: the eastern portion, which is f the family, is fitted up stall-wise; the oth portion being available for residents in the in mediate neighbourhood, who will enter by porch on the south side. There will be sitting for about 40 persons. The style is Early Englis having an apsidal termination at the east. Th chapel is divided into four bays by projectin buttresses, each bay having a couplet windo except the oriel window, which is a triplet. light iron screen separates the domestic fro the public portion of the chapel. On the nort side is an organ-chamber, opening by two arch into the chapel, and also a small vestry. It intended to have the porch and belfry of wood

Dudley.—It is proposed to restore the interi of St. Edmund's Church. At a recent vestr meeting Mr. Wm. Bourne, architect, read a repo showing that the roof, parapets, doors of tower ringing-room, porch, entrance gates, walls chancel, and floors of gallery wanted repair The windows throughout required alteration, an he suggested that the churchwardens should pu themselves in communication with the Messrs Chance, on purpose to learn what the cost improvement would be. The church wante thoroughly cleansing; but the colouring shoul certainly be abandoned, and painting substitute so that it could be afterwards cleaned at a sma cost. The estimate for this work would amour to about 220*l*., and if, as suggested, the old pew were altered or removed, a further outlay 120*l*. would be required. A committee was ap pointed to take steps to raise the requisi funds.

Stainby. — The church at Stainby, Lincol shire, is being enlarged and restored at th expense of the rector, the Rev. G. Osborne, wh on the 20th ult., laid the foundation-stone. T designs were supplied by Mr. Gillett; Mr. Coa of Mr. Scott's office, furnishing details. Th contract was taken by Messrs. Halliday & Cav of Greetham Oakham, for about 4,000*l*., includin restoring the church, and building new tow and spire. Mr. G. Walters is foreman of work

Books Received.

VARIORUM.

"Borough of Blackburn: Public Works (Manu facturing Districts) Act: Report on the Exper diture for the year ending June 30th, 1864. This report, by the Borough Surveyor of Black burn, Mr. Frederick Smith, shows the followin summary of works done in 1863-4:—

Sewerage works and house drainage, &c. ...	£15,773	1
Highways and private improvements	16,946	2
Improvements in the Park	490	0
	£33,209	4
Materials on hand belonging to the sewerage department	1,200	0
Materials on hand belonging to the highway department	3,100	0
	£37,509	4

There are also tables which show how far th Act has assisted in alleviating the recent di tress in the town; proving that it has in thi respect realized the intentions of the promoter irrespective of the many sanitary improvement which it has enabled the local authorities carry out, and which were much needed in th borough. The expenditure on sewerage an drainage alone enabled them to form ten mile of pipe sewers and 1½ mile of brick sewers: pr

vate drainage was completed in 355 houses, and prepared for to the line of building for 605 houses. ——"Railway Accidents: edited by C. Manby, M. Inst. C. E., Hon. Sec., and J. Forrest, Inst. C. E., Secretary. By permission of the Council. London: Clowes & Sons." This pamphlet comprises the following papers, read before the Institution of Civil Engineers during the session 1861-2:—Railway Accidents, their Causes and Means of Prevention. By James Brunlees. Railway Accidents,—showing the Bearing which existing Legislation has upon them. By Capt. Douglas Galton, R.E. There is also an abstract of the discussion upon the papers, in which Professor Airy, Mr. Babbage, Sir Joseph Paxton, Mr. Bidder, and others, took part. The pamphlet is an important one, in which many engineering questions are treated of with reference to the causes of railway accidents. We may quote a brief passage from Mr. Brunlees's paper, as appropriate to the present season of the year and to that on which we are about to enter:—

"Most railway accidents occur during the winter, and in this changeable and uncertain climate that is not surprising. It frequently happens that the early winter months are so wet as to render any attempt to repair the roads worse than useless. Frost then sets in, and the road remains in a bad state for weeks, if not for months, and, as a necessary consequence, it is in its worst condition, when the tyres and axles are most brittle and least able to encounter its inequalities. As this untoward state of affairs tends greatly to augment the number of accidents, it is evident, that during the months of September and October, an extra number of men should be employed to drain the ballast and beat up the road, in order that it might become consolidated, before the winter's rains and frosts set in. The pernicious effects of frost on wet ballast would thus be avoided, and although additional labour and outlay would for a time be required, it must be remembered that fewer repairs would be afterwards needed, and that throughout the winter a good and safe road would be secured."

Miscellanea.

Admiralty.—Captain Andrew Clarke, R.E., has been appointed Director of Engineering and Architectural Works, in the place of Colonel Greene, resigned.

Sussex Archæological Society.—The society had its usual excursion, to Seaford, on Thursday, the 11th, and visited the churches of Bishopstone, Blatchington, and Seaford, under the guidance of Mr. M. A. Lower.

State of the Steeples.—We are informed that the Bishop of London has caused inquiries to be made as to the condition of belfries mentioned in a recent communication in our pages, and that improvement may be hoped for.

Art Union of London.—The exhibition of prizes now open in Suffolk-street consists of 158 works, oil paintings, paintings in water-colour, statuettes, and metal work. We have already given a list of the principal pictures, and advise a visit. Next week the exhibition will be open to the public free, as usual.

Female School of Art, Queen's-square, Bloomsbury.—We are glad to learn, on the authority of Miss Gann, the indefatigable secretary of this school, that the recent efforts made in its favour have been very successful, and that the proceeds of the bazaar held at the Horticultural Gardens in June amount, together with donations received since January 1, to the sum of 2,412*l.* 8*s.* 2*d.*

Photography.—The London Stereoscopic Company have published some fresh portraits of Lord Palmerston. The one showing our Nestor of politicians nearest the spectator, the head larger therefore, is the best, but is marred by the large *open* book in his hand on the desk, of course an ugly white splotch. It often surprises us that men who are executing portraits all day long, and must know exactly what photography can do, and what it cannot, should so often make mistakes as they do in matters of arrangement and "pose."

Charing-cross.—Mr. G. J. de Wilde, of Northampton, writing to the *Reader*, states that the popular etymology of "Charing," from *Chère Reine*, cannot possible be correct. In the narrative of the quarrel between the merchants, of London and Northampton, in the *Liber de Antiquis Legibus*, the following passage, he says, occurs:—"Quibus literis impetratis, ecce! rumores quod predicti prisones fuerunt apud Cherringe juxta Westmonasterium ubi Maior et Vicecomes Norehamptone illos adduxerunt." This was in 1260, and Queen Eleanor (the *Chère Reine* in question) died in 1291.

The New Factory Act: Ventilation by Law. The New Factory Act has just been printed. Factories are to be ventilated under penalties, and no child under eleven years of age is to be employed. Meals are not to be taken in certain places, including a factory for the manufacture of lucifer matches.

New Act on Public Works in the Manufacturing Districts.—An Act was passed on the 29th ult., to extend the powers of the Public Works Act of last year in the manufacturing districts. By the former Act 1,200,000*l.* were authorised to be advanced, and a further sum of 350,000*l.* is now authorised to be advanced to complete the public works commenced.

Mr. Mellon's Concerts.—At the present moment, when nearly all places of public amusement are shut, the public have especial reason to be grateful to Mr. Alfred Mellon for the provision of good music at a low price. With an admirable orchestra, Mdlle. C. Patti, Mdlle. Krebs, Mr. Levy, and others as soloists, the Italian Opera House, Covent Garden, as the *soli*, and Mr. Mellon's own good taste and experience to guide the selection, success is of course attending the undertaking.

Adelphi Theatre.—"The Actor's Retreat," a little *pièce de circonstance* serves to introduce not merely the various Adelphi favourites in their proper person, but a view of the Dramatic College in its finished state. Mr. Toole is the central point of the action, and all turns smoothly round him. Mr. Benjamin Webster has resumed with excellent effect his very good part, *Triplet*, in "Masks and Faces," capitally supported, as originally, by Mrs. Stirling as *Peg Woffington*.

The Horticultural Gardens.—By command of the Queen, as we have already mentioned, the council have directed that these gardens shall be opened freely to the public on Friday, the 26th inst., the anniversary of the birthday of the Prince Consort. There will be entrances to the gardens at the east in Exhibition-road; west in Prince Albert's-road; and south in the Exhibition-road. The entrances will be opened at ten and closed at six o'clock. The conservatory, orchard houses, the arcades, and the maze will all be opened. The cascades and Minton's Fountain will play. The Old Hundredth Psalm, a hymn composed by the Prince Consort, and "God Save the Queen," will be sung by the visitors. Bands will perform at intervals during the day.

Discovery of Roman Remains at Bath.—During the excavations in Hot Bath-street for the new wing of the Bath United Hospital, the foundations of a large Roman building have been recently discovered. These foundations, according to the local *Chronicle*, are exceedingly strong, and indicate that the building to which they belonged must have been one of some importance. The base of a pillar, turned upside down, and built into the foundation, was likewise found, and appears to have formed part of even an older structure. A further discovery has been made, in excavating the site of the house lately in the occupation of Mr. William Foote, Lower Borough Walls. This discovery consists of a large portion of a tesselated pavement. In the centre is a rose, which is surrounded by several borders of geometrical pattern.

Drinking-fountain Movement. The committee of the Metropolitan Free Drinking Fountains Association have received a contribution of 60*l.* from a lady in Brompton, and of 100*l.* from a gentleman in Pimlico, towards the two fountains just opened by the Society outside the Kensington Museum, and in the high road leading to Battersea Park. A gentleman in Fifeshire has also offered to pay the cost of a fountain to be erected near the Kensington Potteries.——A fountain, the gift of Mr. T. J. Miller, M.P., is in the course of erection in Middleborough, Colchester, near the cattle market. A drinking-fountain has also been provided upon East Hill, by Mrs. George Round. The water flows through an aperture made in the brick wall adjoining that lady's greenhouse, so that the passers by may conveniently obtain a draught. The fountain consists of a stone placed in a niche in the brick wall, with a cast-iron bowl inlet in the stone, whence a stream of water issues from a small lion's mouth, and is caught and drunk out of an iron enamelled cup. Over the arch of the fountain is chiselled the text from the Psalms, "With joy shall ye draw water." The water is supplied from the waterworks to a tank in Mrs. Round's conservatory.

Water Supply of Naples.—The authorities at Naples are about to introduce a new supply of water for the use of that city. Mr. Bateman has reported on the project, which is to cost 750,000*l.* The water is to be conducted a distance of 47 miles, and the quantity to be served per head of the population is 20 gallons per day. The present supply is about 8 gallons per day.

Public Park for Farnworth.—Mr. Barnes, M.P. for Bolton, has just presented a park to the local Board, for the "free and recreative enjoyment of the inhabitants of the district of Farnworth," near Bolton. The park, which is about 11 acres, is laid out, beautified, and ornamented at the expense of Mr. Barnes; and it is estimated at between 12,000*l.* and 13,000*l.* in value.

Mausoleum at Roehampton.—The Bishop of London, on the 16th, consecrated the mausoleum erected by Mrs. Lyne Stephens, in the grounds of her residence at Roehampton, Surrey. The mausoleum immediately adjoins the parish church and consecrated ground of Roehampton. To this building are, we believe, to be removed the remains of the late Mr. Lyne Stephens, which were temporarily deposited in Kensal-green Cemetery, some years ago. The mausoleum is from the designs of Mr. William Burn.

Royal School of Naval Architecture.—This new school, under the control of the Lords of the Committee of Council on Education, in conjunction with the Admiralty, will be opened at South Kensington in November next. The Rev. J. Woolley, LL.D., of St. John's College, Cambridge, principal of the school of naval architecture at Portsmouth, has been appointed, with the concurrence of the Admiralty, inspector-general and director of studies; and Mr. C. W. Merrifield, F.R.S., principal of the school.

Accidents.—An accident, which proved fatal to one man and injurious to several others, has occurred at the Haigh Foundry Company's brick mill forge, Haigh, near Wigan. Seven or eight men were at work repairing a patent hammer, when suddenly the roof of the building gave way, and the workmen were covered with the *débris*. All were extricated safely except one, who sustained fatal injuries.——Whilst a quarryman was in the act of raising stones in the quarry of Mr. Morgan, at Corbally, Limerick, the quarry bank under which he had been working suddenly collapsed, killing him before he had time to effect his escape.

The Witcomb Reservoir, Gloucester.—One of the embankments of this reservoir appears to have given signs of displacement, and the waterworks committee of the local Board of Health employed Mr. Owen to report on the subject. This he has done; and in his report he attributes the signs of failure to an inherent weakness of the clay forming the embankment, and recommends a considerable counter weight at the base to prevent spreading. The report has been considered, together with the committee's, by the local Board; and they have passed a resolution to the effect that Mr. Owen's suggestion should be carried out. It was also resolved that a tender made for the depositing of the stone should be accepted, and it was understood that the clerk should telegraph for Mr. Richardson, the new surveyor, in order that the work might be set afoot as soon as possible. A resolution moved by Mr. Hawkins, that the Board should advertise for tenders, was not seconded.

The Carpenters' Company.—On Tuesday, the 9th, being the day appointed for the election of Master and Wardens of the Carpenters' Company, that ceremony took place at their ancient hall, where, according to the *City Press*, they elected for Master Mr. R. J. Stuckey; for Senior Warden, Mr. W. Biggerstaff; Middle Warden, Mr. J. Blyth; Junior Warden, Mr. G. Rasher. The custom of crowning the new Master and Wardens still exists in the Company, and the crowns or garlands used for the purpose are the same which were in their possession nearly three centuries ago. It was customary at one time for the Company to invite certain official personages to the entertainment on the election day. The King's Carpenter was a constant guest on that occasion and on others. The King's Surveyor also frequently honoured the Company with his presence, and in this capacity the books show that Sir Christopher Wren received an invitation to dinner together with his wife. The Company, to the number of about ninety, after the ceremony, dined at the Trafalgar, Greenwich.

Gas.—The Southampton gas company have announced a reduction in price to 4s. 6d. per 1,000 cubic feet.——The Taunton gas company have declared a dividend of 8 per cent. for the last year.——The Ludlow gas company have consented, at the instance of the consumers' committee, to reduce their price from 7s. to 6s., with a discount of 6d. per 1,000 ft. for payment, within a month.

How to trap Ants.—Houses that are infested with ants, black or red, may be disinfected by a little attention to trapping them. A sponge is one of the best things for the purpose. Sprinkle it with dry white sugar: the sponge being slightly moist, it will adhere. The ants will go into the cells of the sponge after the sugar in large numbers and can be destroyed in hot water, and the sponge squeezed out and sugared again, and returned to the closet for another haul, until all are caught.

Ancient Frescoes.—An important discovery has been made at Lucerne, consisting of frescoes which were laid bare during some restorations in the house Corrazioni, and which are ascribed to Hans Holbein. They represent, among other subjects, the Resurrection, the Ascension, John the Baptist, St. Beatus, and a bishop consecrating a chalice. They bear the date of 1523—the time when Holbein was engaged in decorating several houses in Lucerne with frescoes.—*The Reader.*

Rainfall of Last Quarter.—Mr. Glaisher reports to the Registrar-General that at the Royal Observatory, Greenwich, the rainfall in the quarter ending the 30th of June last was only 3·5 in., being 2·3 in. below the average since 1840. At places south of latitude 51 deg. the returns show a rainfall of 3·7 in. in the quarter, but a larger quantity fell in Cornwall and the Isle of Wight: between latitude 51 deg. and 52 deg.;—that is, up to Ipswich, Buckingham, and Tewkesbury, returns show a rainfall of 4·8 in.; thence up to latitude 53 deg., 4·5 in.; thence up to latitude 54 deg., 7·1 in.; thence up to latitude 55 deg., 6·3 in.; north of that line, 5·9 in.

New College, Dulwich.—The proposal of the governors of God's Gift College, at Dulwich, to erect a new college, at a cost of 40,000*l.*, has met with opposition in St. Luke's (Old-street), St. Botolph's (Bishopsgate), and St. Saviour's (Southwark), three out of the four parishes concerned; but the governors have applied to the Charity Commissioners for the sanction of a site of the proposed college, which is to be erected from plans by Mr. Charles Barry. The site submitted for the approval of the Charity Commissioners is near the Dulwich station of the London, Chatham, and Dover Railway, and there is here an available space of forty acres, about twenty-four of which will be covered by the new college and playgrounds for the accommodation of 570 lads,—320 in the upper school and 250 in the lower. The picture-gallery is to remain where it is, but all adjacent buildings are to be removed, to obviate the risk of fire. The chapel is to be enlarged, to make it capable of accommodating 752 persons, it being only available at present for 322. The cost of these alterations will amount to 19,500*l.*, which, with the 40,000*l.* for the new college, will make nearly 60,000*l.* to be expended.

Monumental. — Strenuous efforts are being made to raise subscriptions towards erecting a statue to Shakspeare in Melbourne. Several influential gentlemen have taken the matter in hand. A model has been prepared by Mr. Summers, sculptor. —— A committee for the erection of a statue of Béranger in Paris has been formed, consisting of writers and journalists of all kinds.——A statue, says the *Reader*, is to be erected to the celebrated French painter Greuze, the favourite of Marie Antoinette, at his birthplace, Tournois, in Bourgogne. Greuze, the favourite of the "Broken Pitcher," was once in very high renown and state in France; but he died in 1804, neglected and in deep miscry. When Napoleon I. accidentally heard of his death he said, "Why was he too proud to apply to me? I should have given him a pitcher of Sèvres filled with gold, wherewith he might have mended all his pitchers again!" It is the Emperor's wish that the dead master should now be honoured with a statue.——The memorial statue erected in the Abbey-yard, Tavistock, to the late Duke of Bedford, has been uncovered. The statue, 7 ft. high, is of bronze, and is placed on a circular pedestal of granite, 8 ft. high. The sculptor was Mr. E. B. Stephens, of London.

Archæological Discovery in Constantinople.—An accidental fire which took place a few weeks since has led to an interesting discovery, by clearing away a mass of houses which had concealed an important monument of Byzantine history hitherto but little observed,—the Coronation Hall of the Emperors from the time of Heraclius downward. It stands at the north-west angle of the city, near the so-called Adrianople Gate, and on the spot where the wall of Heraclius (with which this building was plainly contemporary) joins that of Theodosius.

Statues and Frescoes for the British Museum.—The greater part of the remnant of the once celebrated Farnese collection, belonging to the ex-King of Naples, is on its way to England, having been purchased, through Mr. Newton's agency, for the British Museum, for 4,000*l.* The Pontifical Government courteously consented to allow the exportation of these works of art without the usual duty of 20 per cent. *ad valorem*, which in the present case would have added 1,000*l.* to the price, or taken a similar sum out of the king's pocket, as the contract might have been stipulated. The collection of ancient sculpture in the British Museum will be much enriched by this addition. The gem of the collection is a Mercury, similar to the celebrated one in the Vatican, but with the hand and attributes complete.

TENDERS.

For Wesleyan Chapel, Market Drayton, Shropshire. Mr. George Bidlake, architect:—

Tranter	£1,150 0 0

For Christchurch Schools, Wellington, Shropshire. Mr. George Bidlake, architect:—

Oliver	£414 0 0

For Trinity Schools, Wolverhampton. Mr. George Bidlake, architect:—

Palmer	£670 0 0

For Herne Bay Congregational Chapel. Mr. W. F. Poulton, architect:—

Sawyer	£3,481 0 0
Simpson	3,178 7 3
Brown	3,135 0 0
Lancefield	3,058 0 0
Adams	3,035 0 0
Bonnett	2,861 5 0

For new warehouse, St. Dunstan's-hill, City, for Mr. W. S. Field. Mr. G. A. Young, architect. Quantities supplied by Messrs. Shoppee & D. Cubitt Nichols:—

W. Cubitt & Co.	£3,974 0 0
Lawrence & Sons	3,922 0 0
G. Mansfield & Son	3,900 0 0
Piper & Wheeler	3,699 0 0
Brass	3,683 0 0
Browne & Robinson	3,645 0 0
Adamson & Sons	3,546 0 0

For building a pair of semi-detached houses in Prestwich Park, near Manchester, for Mr. Jos. Kenyon. Mr. Thos. Dale, architect:—

Schofield (accepted)	£1,460 0 0

For building East London Bank, Cornhill. Messrs. Long & Bond, architects:—

Lawrence & Sons	£4,970 0 0
Piper & Wheeler	4,775 0 0
Lemon	4,700 0 0
Perry & Judson	4,655 0 0
Hill & Keddell	4,589 0 0
Brown & Son	4,539 0 0
Macers	4,489 0 0
Sanders	4,450 0 0
Pritchard	4,360 0 0
Eaton & Chapman	4,272 0 0
Hardiman & Sandon	4,254 0 0

For river wall, Weston Point, for the Weaver Navigation, Northwick. Mr. E. L. Williams, civil engineer:—

Worth	£11,555 0 0
Scott & Edwards	10,902 0 0
Meakin	10,740 0 0
Dean	10,486 0 0
Pilling (accepted)	10,339 0 0

For erecting seventeen houses in Oxbridge-lane, Stockton. Mr. Charles J. Adams, architect:—

Noble (exclusive of grates and papering)	£1,295 4 8

For house at Beckenham, for Mr. C. Edmeston. Mr. William Nunn, architect:—

Wills	£1,795 0 0
Dennis	1,689 0 0
Terrey	1,605 0 0
Newman & Mann	1,565 0 0
Anley (accepted)	1,539 0 0

For warehouse, Blackfriars, for Mr. J. Simpson. Mr. Wm. Nunn, architect:—

Terry (accepted)	£3,500 0 0

For new warehouse in Southwark-street, for Messrs. R. T. Tait & Co. Mr. R. J. Pope, architect. Quantities supplied by Mr. Poland:—

Lawrence & Sons	£9,736 0 0
Myers & Sons	9,330 0 0
Little	9,240 0 0
Mansfield & Sons	9,100 0 0
Axford & Co.	9,080 0 0
Watts	8,954 0 0
Sharpington & Cole	8,897 0 0
Browne & Robinson	8,780 0 0
Hart (accepted)	8,435 0 0

For rebuilding house No. 8, Crombies-row, Commercial-road East; raising a story upon No. 7; and erecting two houses and offices at the rear. Mr. G. H. Simmonds, architect:—

Macers	1,895 0 0
Kilby	1,867 0 0
Outhwaite	1,798 0 0
Eaton & Chapman	1,664 0 0
Wood, Messrs.	1,587 0 0
Jacobs	1,420 0 0

Accepted for a church at Anlaby, near Hull. Mr. Wm. Kerby, architect:—

Sergeant (bricklayer, &c.)	£307 0 0
Brown (carpenter and joiner)	242 5 0
Wallis & Tadman (masons)	157 10 0
King & Peach (ironmongers)	72 0 0
Smith (slater)	67 0 0
Halliday (plumber and glazier)	33 0 0
Wright & Dreyer (painters)	23 0 0

For a building to be erected in Southwark-street for the Hop Planters' Company. Mr. E. I'Anson, architect:—

Macey	£8,088 0 0
Axford	7,650 0 0
I'Anson	7,494 0 0
Hack	7,190 0 0
Conder	7,168 0 0
Gammon	7,340 0 0
Coleman	7,275 0 0
Ashby & Horner	7,260 0 0
Rider	7,140 0 0
Browne & Robinson	7,080 0 0
Downs (accepted)	6,961 0 0

For an entrance-lodge, Chase-side, Enfield, for Mr. C. Walford. Mr. F. G. Widdows, architect:—

Ennor	£326 0 0
Field & Sons	310 0 0
Cushing	299 0 0
Patman	295 0 0
Fairhead	283 10 0

For alterations to premises in Baker-street, Enfield, for Mr. P. Rumney. Mr. F. G. Widdows, architect:—

Field & Sons	£311 0 0
Patman	298 0 0
Fairhead	295 0 0
Cushing	289 0 0
Ennor	286 0 0

For rebuilding No. 3, Great Woodstock-street, Marylebone, for Mr. Benj. Colson. Mr. Charles Bradley, architect:—

Robinson	£815 0 0
Huggett (accepted)	700 0 0

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Sutton	1,853 0 0
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Foster	1,618 0 0
Tongue	1,600 0 0
Ring & Wainman	1,600 0 0
Peskett	1,460 0 0
Harding	1,458 0 0
Hubbard	1,321 0 0
Warner	1,318 0 0

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Berry	108 0 0
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Wood	1,087	0	0	...	54 0 0
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King	487 0 0
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HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and concreting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The Limestone can be had in blocks, and also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to K. & W. AARON, Agents, 66, South John-street, Liverpool.

MINTON & CO. Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
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PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
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GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.

MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stucco-ing, brick-work, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

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L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

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LIME, CEMENT, and BRICK MERCHANTS.
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MILLBANK-STREET, WESTMINSTER, S.W.
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Whereat can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
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STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
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WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.

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LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
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Nearly opposite Entrance to Goods Station, Great Northern Railway.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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AT THE VERY LOWEST PRICES, in quantities of not less than 30 at the Public Docks.
T. W. ELLSTON,
100, SNOW'S FIELDS, KING-ST. BOROUGH, within three minutes' walk of London-bridge Railway Terminus (down steps Brighton side)

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,
MAHOGANY, and WALNUT, in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

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SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
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LARGE OAK FOR SALE. — SEVEN TREES, containing from Four to Six Loads respectively.—Apply to JNO. WOOD, Gloversville, Reigate.

PITCH PINE and WALNUT TREE.—About 25 loads of PITCH PINE, and three large WALNUT TREES, FOR SALE.—Apply at 2, Bridge-wharf, Paddington.

BUILDERS AND CARPENTERS, AND OTHERS,
Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

	Laths, 31s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	
Good Yellow Deals ..... £16 10 0 per 120, or 2¾d. per foot.	
Spruce Deals ..... 15 0 0 „ 2¼ „	
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.
[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
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B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



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MANUFACTURING JOINER,
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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.
An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.
J. E having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to Him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
¾-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.
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MAHOGANY, DEAL, & TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.

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	Per 120 of 12 ft.		Per 120 of 12
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.
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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square	FIR TIMBER, 45s. PER LOAD.
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YELLOW DEALS, £15 10s. per 120.
SAMUEL PUTNEY,
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SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased the Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

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(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
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PORTLAND CEMENT AND GREY STONE LIME.

WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.

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This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

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ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

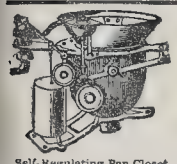
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" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.



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Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

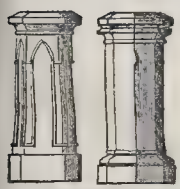
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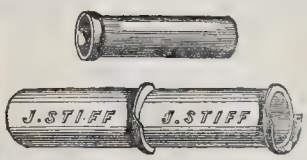
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

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Sample gallons may be obtained at the Manufacturers', price 4s.

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26, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 28s. per cwt. Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 8d. per Gallon. Turpentine, 6s. 6d. per Gallon. Oak Varnish, 7s. per Gallon. Fine Pale Oak Varnish, 9s. per Gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W. Every article for the Trade at the lowest prices.

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KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made

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Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

MEDIÆVAL PAPERHANGINGS, from the Thirteenth to the Sixteenth Centuries. Designed by G. T. ROBINSON, F.R.I.B.A. Manufactured by WM. WOOLLAMS & CO. 110, HIGH STREET, near Manchester-square, London, W. May be obtained of the principal Decorators.

Extracts from notices in the undermentioned publications:—

"Conventionalised patterns, often displaying great beauty of form, characterize the examples sent to us. With a few exceptions, the colouring of the specimens is commendable, in many it is worthy of the highest praise."—*Athenæum.*

"The designs are exceedingly elegant, and the colours good and well arranged. Some of the patterns are of strictly ecclesiastical character, suitable for mission churches and oratories, or they may be used as accessories in church decoration."—*Church Builder.*

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TO BUILDERS, &c.

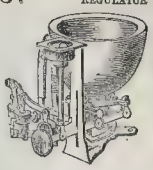
A LARGE ASSORTED STOCK always on HAND, of

CLOTHS and BAIZES,

In all widths, colours, and qualities, at

HILL & SONS, 88 and 89, St. Martin's-lane, Charing Cross.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



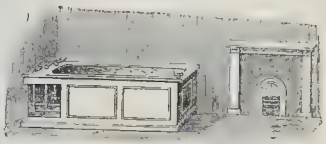
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No tantern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate-street, London

J. TYLOR & SONS' PATENT BATH APPARATUS.



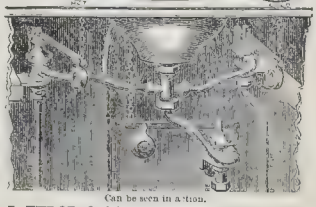
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

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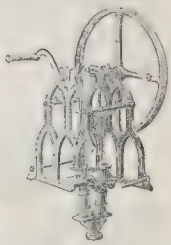


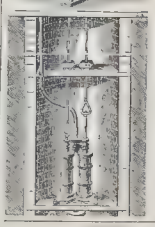


Can be seen in action.

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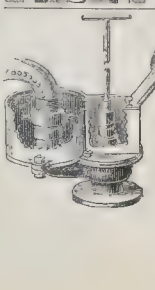






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REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments :—
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PRIVATE HOUSES,
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BURGLAR AND FIRE PROOF.
Branch Establishments :—
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SYDNEY,
51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
MARTIN & CO.

Respectfully invite the attention of Architects, Builders, and the Public to their superior IRON or WOOD REVOLVING SHUTTERS.
Wood Revolving Shutters, with all requisite gearing complete, from 2s. per foot super. Iron from 2s. 6d., with all requisite gearing complete, suitable for Banking Houses, Shop Fronts, Public Buildings, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at considerably reduced prices for best quality only.
ILLUSTRATED PROSPECTUS ON APPLICATION TO MARTIN & CO., 200, HIGH HOLBORN, W.C.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report :—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

POLONCEAU and SEYSSEL ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c., apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 9d. per cwt.

ASPHALT.—The TRINIDAD ASPHALTE is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BRICK VIADUCTS, and general Railway Work also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES.
THORN & CO.
GROSVENOR ROAD, PIMLICO, WOOD PAVING MANUFACTURERS.

PAN CLOSET and HYDRAULIC REGULATOR.
COMPLETE, 1l. 18s.

Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.
Any number can be supplied from one pipe.
W. PATTEN, 22, Old Fish-st. St. Paul's, London
A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION,

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

1862.
INTERNATIONAL EXHIBITION.

HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

WILLIAM WHITE,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in
PAPIER MACHE,
COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGNS
FOR THE
DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

DESACHY'S FIBROUS PLASTER.
GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of dlsaper, &c ; for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality ; it is not inflammable, and is ready to be painted immediately after it is made, it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

CARTON PIERRE AND PAPIER MACHE WORKS, 49, RATHBONE PLACE, LONDON, W.
(ESTABLISHED IN 1780.)

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

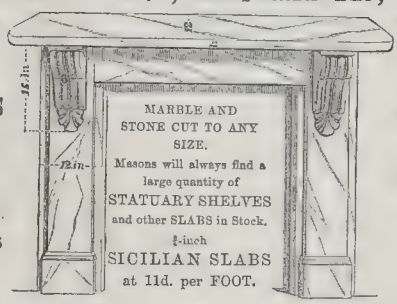
ARCHITECTS, BUILDERS, MERCHANTS, SHIPPERS, AND MASONS
Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the
EMPORIUM, J. W. BIRD & CO.'s, 143½ and 145, EUSTON ROAD, N.W.

BOX STONE CHIMNEY PIECES
for 5s. 6d.
Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS
in great variety, equally low in price.

MASONS' WORK OF ALL KINDS CONTRACTED FOR,
AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF
500 CHIMNEY PIECES
always to choose from.
PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIECE
for £1 5s.
First-class Bed-room ditto, £1 10s.

FIRST-CLASS
TRUSS MARBLE CHIMNEY PIECES
from £2 5s. to £3 5s.

A WELL-CARVED
STATUARY CHIMNEY PIECE,
with 13¾-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
FOR THE SUM OF £6.
Net Prompt Cash.
PRICE LIST ON APPLICATION.

STATUARY AND OTHER MARBLE CHIMNEYPIECES.
ARCHITECTS, BUILDERS, and MASONS will find at
W. WILLETT'S SHOW-ROOMS, MARYLEBONE ROAD, N.W.
OPPOSITE THE YORKSHIRE STINGO,
A LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Orders.
CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.
By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. We have used under the name of "Improved Zinc Paint," or as the manufacturer Two or three quantities, no workman can produce good work with such material. Workmen who have discovered the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Is cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

NOTICE of REMOVAL.—ATLAS WORKS.
HENRY CLAYTON & CO. Engineers and Ironfounders, on and after MONDAY, the 8th of AUGUST, will transfer the manufacture of their Patent Brick and Tile Machines, Contractors' and Constructive Machinery generally, from their Old Works at Upper Parkgate, Pimlico-square, to their spacious new "Atlas" Engineering Works, Foundry, and Offices in the
WOOLFIELD ROAD, HARROW ROAD, LONDON, W.
H. C. & Co. invite the attention of Brick Manufacturers to their recently patent "Pneumatic" Drying Process.
Catalogues free by post on application

BUILDING MATERIALS, BILLITER STREET, CITY.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, August 26th, at TWELVE for ONE, TWO very excellent TRAVELLING CRANES, one having a span of about 45 feet and the other of about 37 feet; also about 700 feet of Iron Rail, the stout Timber Guard-irons, about 100 Beech and Fir Piles, Cast-Iron Plates, &c. May be viewed one week previously, and Catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

WESTMINSTER BRIDGE WORKS, STANGATE.—Travelling Cranes, Timber, Piles, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, AUGUST 30th, at TWELVE for ONE, TWO very excellent TRAVELLING CRANES, one having a span of about 45 feet and the other of about 37 feet; also about 700 feet of Iron Rail, the stout Timber Guard-irons, about 100 Beech and Fir Piles, Cast-Iron Plates, &c. May be viewed one week previously, and Catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

To Builders, Dealers in Materials, Livery Stable Keepers, and Others. Twelfth Sale of Building Materials, Pimlico.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 22, 1864, at TWELVE o'clock, all the capital MATERIALS of SIX DWELLING-HOUSES, Nos. 29, 30, 31, 32, and 33, Upper Eaton-street, with back buildings and erections, and a stable-yard: comprising a large quantity of prime stock brick-work, spacious roofs with sound timbers and slates, parts of the numerous rooms of the usual description, lead and iron work, shop fronts, glazed roof of stable, part flooring, rack, mangers, and folding gates, pebble and other pavement, sound useful timber, and many thousands of superior bricks. Mr. HAINES & SON, Auctioneers, Moorgate-street, City, and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

HIGH-STREET, ST. PETER'S, BEDFORD.—To Builders, Contractors, and Others.—Notice of a Succession of Auction Sales.

MR. USHER begs to announce that he is favoured with instructions from Mr. G. H. Miller (who has determined on retiring from business), to dispose of the whole of his BUILDING PLANT STOCK-IN-TRADE, and Effects, by PUBLIC AUCTION: comprising a large quantity of scaffold poles, planks, cords, pulleys, hods, boards, barrows, rails, pulleys, and blocks, saw tackle, jacks, useful building materials, old doors, sashes and frames, centres, scantlings (various), a large quantity of block and other stone, York paving, slate and marble slabs, window and door sills, sink stones, hip stones, drain pipes, symbolos, cement, mouldings, crosses, and mural decorations, fifty marble chimneypieces, tablets, gravestones six hundredweight of vases, various ornaments in statuary adapted for garden decoration; also all the carts, waggons, trucks, cash, horses, harness, and numerous effects, the days of which sale will be given from time to time.—The first sale will be held on MONDAY, AUGUST 22nd 1864.

SOUTH NORWOOD.—First-class Freehold Building Land, in a very healthy and picturesque locality, within five minutes' walk of the North Quay Station, on the London, Brighton, and South Coast Railway, and only a short distance from the Addiscombe Station, on the Mid Kent Railway, affording access to London Bridge, Victoria, Charing Cross, Crystal Palace, &c. at frequent intervals throughout the day.

MESSRS. WINSTANLEY & HORWOOD will offer for SALE by AUCTION, at the GUILDHALL HOTEL, Gresham-street, on TUESDAY, AUGUST 30, in 25 lots, a PORTION of the valuable FREEHOLD PROPERTY, known as Elmore Park. Land tax redeemed, and great part thereof inclosed. Most eligibly situate at Woodside green, in the parish of Croydon, and possessing the important advantage of immediate contiguity to the Norwood Junction Station, with which it is in direct communication by the road now being made over the adjoining lands. The land is approached by eight roads, known as Passenger, Howard, and Elmore roads, admirably adapted for the erection of detached villas or cottage residences, for which there is a great demand in this thriving and rapidly increasing neighbourhood, and is divided into 24 plots of 60 feet each, by a depth of about 200 feet; and two others, of about 300 feet, by a convenient depth. The whole or any two or more of the said lots to be taken at the option of the Purchaser, or if one is already supplied Wood side green Possession may be had on completion of the purchases; and the plots viewed at any time. Particulars, with plans, are being prepared and will be ready for the purpose by the 1st of September next, after which time, further information will be afforded on application to Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon, S.; and Messrs. WINSTANLEY & HORWOOD, Auctioneers, Surveyors, and House Agents, 10, Paternoster-row, St. Paul's, E.C.

CROYDON, SURREY.—Important Freehold Building Land, nearly contiguous to the Addiscombe Railway Station, and within a few minutes' walk of the other Croydon Stations.

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on WEDNESDAY, AUGUST 31, at SIX for SEVEN o'clock in the Evening, Eighty Lots of very Eligible BUILDING LAND, being the first portion of the Leale Estate, lying on the northern side of St. James's road East and on the western side of the Birch Lodge Estate. The land is laid out in Lots 1, 2, and 20 to 37 (inclusive), respectively, to contain 40 feet roads, named Alexandra, Albert, and Freemasons roads. The surface is a deep rock of gravel, and sewers and drains are in all the roads, and the water main of the Lodge Estate is in the adjoining high road. In order to preserve the respectability of the neighbourhood, the purchasers will be precisely restricted as to the value of the houses to be erected, and the lines of building frontages to be observed.—Particulars, with plans, may be had fourteen days before the sale at the Greyhound Inn, Croydon; the Leslie Arms, Croydon Common; at Garraway's Coffee-house, Change-alley, Cornhill; of Messrs. DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon; and of Messrs. BLAKE, Croydon.

CAMDEN TOWN. To Builders, Cabinet makers, and Others.

MESSRS. LEREW & LEREW will SELL by AUCTION, at CAMDEN-TERRACE, near the Camden road Station, on MONDAY, AUGUST 29th, and following day, at TWELVE for ONE, about 18 pair of sashes, deals, and battens, 100 squares flooring, 50 yards wide pine board, 4000 feet mahogany, 2,000 feet oak, beech, and deal trees, 15,000 feet quartering dry cut stuff 30 new doors, 50 scaffold-poles, 10 ladders, builder's cart, horse, and harness, 3 trolleys, also a large quantity of excellent old materials, 4 capital baking ovens, 2 feet 3 inches by 5 feet 1 inch, and useful effects.—Auction Offices, 2, Christopher-street, Hampstead road, near the Euston Station.

CHARING CROSS RAILWAY, CITY TERMINUS.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on WEDNESDAY, 24th AUGUST, 1864, at TWO o'clock precisely, the SECOND PORTION of the well-seasoned STOCK, consisting of Spanish and Honduras Mahogany, planks and battens, Dantzic and Memel yellow deal, Archangel and Riga ditto, oak, teak, and pine planks, and part of English, Italian, and Polish timber, about 1,000 feet of cedar plank and boards, 50 feet of dry wainscot, 7 squares of prime yellow flooring boards, and yellow deal and battens, also 1 capital lever planer, &c. &c. To be viewed one day prior and morning of Sale. Catalogues to be had at the Place of Sale, and of the Auctioneers, 2, Billiter-street, E.C.

MANUFACTURING WATERSIDE PREMISES, Millwall, Poplar, on the banks of the Thames, with possession.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, AUGUST 23rd, at TWELVE o'clock precisely, on the PREMISES, Millwall, Poplar, the valuable LEASE of extensive MANUFACTURING PREMISES, containing a superficial area of about 1a. 0r. 9p. with a frontage of 120 feet next the Thames. There is a wharf, brick and timber-built factory 88 feet by 70 feet, with two chimney shafts, cooling-room laboratory, counting house, and yard, with well affording a supply of water. Held for an unexpired term of seventeen years, at a ground rent of 85l. per annum. Immediate possession may be had. To be viewed till the sale, and printed particulars had of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

TO MANUFACTURING CHEMISTS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, 23rd AUGUST, at TWELVE o'clock precisely, on the PREMISES, Ferry-road West, Millwall, unless previously sold by Private Contract, the PLANT and UTENSILS of the CHEMICAL WORKS, comprising two pairs 10-horse power high pressure horizontal steam engines, wrought-iron Cornish boiler, 18 feet 6 inches long, 6 feet diameter; waggon ditto, 13 feet long by 5 feet and 6 feet deep; three hydraulic presses, with 8-inch and 12-inch ram, set of four plunger pumps, barrel force, and lift pumps; three cylinder cast-iron tanks, of 5 feet diameter; wrought and cast-iron tanks and pans; four wrought-iron mixing cylinders, nine iron-bound coolers, gas receiver, iron shafting, fit cisterns, refrigerator, cisterns and moulds, crushing mill, cast-iron retorts, forge and bellows, crab crane, office fittings, erection of lime kiln and chalk enclosure, and numerous other effects.—May be viewed the day preceding; when catalogues may be had on the Premises; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, E.C.; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

UPPER TOOTING, near Balham and Wandsworth Common, Surrey. Valuable Freehold Property; comprising a detached Residence, with Offices, Gardens, and Paddocks, available for building purposes.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors of the late H. H. Mortimer, Esq. to offer for SALE, at the Guildhall Coffee House, near Guildhall, in the City of London, on WEDNESDAY, AUGUST 24, at ONE o'clock precisely (unless previously disposed of by private contract), a valuable FREEHOLD RESIDENCE, known as Warren House, for many years in the occupation of the late owner, pleasantly situate adjoining the property of — Bell, Esq. at Upper Tooting, in the parish of Streatham, Surrey, about a mile from the Balham Station on the Crystal Palace Railway, and within easy access of all parts of the metropolis. It is detached and approached from the high road by a carriage drive through a lawn, and contains excellent accommodation for a moderate-sized family, with stabling, coach-house, and other offices, and productive kitchen gardens, with an abundance of fruit trees in full bearing, and rich paddocks, extending to the private road in the rear, leading to Wandsworth Common; the whole containing about four acres. A more detailed advertisement will appear shortly, when particulars may be had of JOHN MORTIMER, Esq. Solicitor, 17, Clifford's-inn, W.C.; at the Guildhall Coffee House; and of Messrs. NORTON, HOGGART, & TRIST, No. 62, Old Broad-street, E.C.

WOOD GREEN, TOTTENHAM. Valuable Freehold Building Land, in lots to suit purchasers.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the GUILDHALL COFFEE HOUSE, near Guildhall, in the City of London, on WEDNESDAY, 24th AUGUST, at ONE o'clock precisely, about 28 acres of very valuable FREEHOLD LAND, available for building purposes, situate on White Hart Lane and Wood's lane, leading from the Green Lanes to Tottenham, about ten minutes' walk from the Wood-green Station on the Great Northern Railway, within an easy distance of Alexandra Park, about six miles from the metropolis, and eligible for the erection of villa residences.—May be viewed, and particulars, with plans, had of the Jolly Butchers, Green Lanes, Tottenham; at the Guildhall Coffee-house; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM.

A T F. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH, BRISTOL, on WEDNESDAY, the 24th day of AUGUST, 1864, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock. For account of whom it may concern.

2,000 Quebec Red Deals
2,000 Swedish Red Deals
200 St. Petersburg ditto
700 Quebec Fine Deals
300 Spruce Deals
20 Logs Dantzic Timber

For account of Importers

40,000 Spruce Deals, Battens, and Ends
2,000 4 to 6-inch X 7 to 14-inch Spruce
Quebec Pine and Spruce Deals
Quebec Red Deals, Battens, and Boards, fresh arrivals
3,000 4 by 9 inch Sundarne Red Deals
6,000 Swedish Redwood Deals, Battens, and Ends
400 Pipes Norway Redwood and Whitewood Battens
400 Loads Quebec Board Yellow Pine, fresh timber
40 Logs Quebec Oak
200 Loads Quebec Red Pine, fresh timber
500 Loads Quebec Pine
10 Loads Fresh Quebec Elm
70 Waney Cork Logs
350 Loads Swedish Timber
200 Fresh Norway Masts
600 Fresh 4 by 9-inch spars
1,400 Memel Planks
11 Fathoms Dantzic Lathwood
1500 Spruce Paving
50,000 Sawn Laths
Flooring

With other Goods.

Also,

50 Logs Mexican Mahogany, ex "Lacoste"
2 Logs Cedar
21 Logs St. Domingo Mahogany
18 Planks, ditto
70 Logs Quebec Birch

} Will be Sold on the different Lots

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, August 10th, 1864.

N.B. The Mexican Mahogany consists of a portion of the cargo not disposed of at time to be included with the Logs sold this day, and comprises some of the finest Logs of the entire Parcel.

WESTMINSTER BRIDGE APPROACHES.—Ninth Sale of Building Materials.

MESSRS. GLASIER & SONS are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 6th, at TWELVE for ONE, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS of Five Houses, being No. 1, New Palace-yard, 2 and 3, Parliament-street, and 14 and 15, Bridge-street, Westminster (part known as Parliament Hotel), comprising about 60 squares slating, and ridge, &c. slates, pan and plain tiles, sound timber in roofs, floors, &c. flooring, wainscoting, doors, sashes and frames, plate glass shop fronts and shutters, bar and counter fittings, iron pillars, cast-iron girder, staircase, and iron chimney-pieces and hearths, register and other stoves, range, water-closet apparatus, pewter, copper, sinks, lead in gutters, pipes, &c. and the buildings have been recently painted throughout, comfort, grates, brass and copper taps, and a great variety of other fittings of bar, capital York landings and baskets, gas fittings &c. May be viewed the day prior and morning of sale, and catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross, S.W.

To Builders, Contractors, Ironmongers, and Others.—Genuine Stock in Trade of an Ironmonger removed from Norwich, and sixty-two Cart Loads from Hatfield.

MR. W. H. BETTS (Auctioneer and Valuer to the Ironmongery and Metal Trades) will SELL by AUCTION, at Messrs. COWLAND'S ROOMS, 74, Minories-street, City, very near the Tower, on THURSDAY, AUGUST 25, at TWELVE o'clock, about 2 tons cut and wrought Nails, 4,700 gross Screws, 240 dozen Locks, 470 dozen tower and other bolts; brass goods of every description, iron bedsteads, shop fittings, &c. and an immense assortment of FURNISHING IRONMONGERY.—Catalogues at the Auctioneer's Offices, 63 Leadenhall-street, City.

BUILDING GROUND.—TO BE LET, from Michaelmas next, a valuable PLOT of GROUND, adjoining the London, Brighton, and South Coast Railway Station, with a frontage of 80 feet to the Lea Bridge-road, the total area being five acres and a half.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick built manufactory of two floors, engine and boiler-houses, with 50 horse power steam-engine and three Cornish boilers, range of brick-built offices, and paved yards with gateway entrances. There is a water frontage of about 207 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

FREEHOLD LAND TO BE SOLD or LET on BUILDING LEASES, in Glengall-road, Old Kent-road.

AND ALSO near Forest-hill Station.

ALSO FREEHOLD WHARF on the Surrey Canal, near Old Kent-road.—Apply to Mr. MAY, Acorn Timber Wharf, Old Kent-road.

SURBITON.—TO BE LET, on Building Leases, LAND within five minutes' walk of the Station, and close to the River, for HOUSES of not less than 80l. a year rent. If desired, a portion of the money required will be advanced.—Inquire of Mr. MODIS, Victoria-terrace, Surbiton.

FREEHOLD BUILDING LAND TO BE LET, at Chislehurst, Kent, on long lease, at moderate ground-rents, suitable for villas, cottages, and shops. There being a great want of smaller dwellings, they would let immediately, and the site offer a good investment. Also, LAND suitable for first class residences, commanding magnificent views, all within easy access to rail for City and West End. The situation is celebrated for pure air and water, is high and dry, rich soil, and not to be surpassed in picturesque beauty.—Apply to Mr. F. THORNE, 4, Corbett-court, City; and Rose bank, Lee-road, Lee, S.E.

TO BE LET, Large and Valuable PREMISES, with water communication, one mile north from the Bank. Formerly occupied by a mahogany merchant, who realized a large fortune there.—Apply to E. & W. STURGE, Bridge Wharf, City-road, E.C.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company, at Stratford, Essex, close to the Station on the High street; one portion with river frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London wall.

BLACKHEATH.—A Gentleman is desirous of DISPOSING of PLOTS of FREEHOLD and LEASEHOLD LAND, forming eligible sites for private residences, and being within three minutes' walk of the railway station. For terms and particulars, address, Mr. F. F. THORNE, Architect and Surveyor, 4, Corbett-court, Gracechurch-street, and Lee, Kent.

TWICKENHAM PARK near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Ninety-nine Years, in Large or Small Plots. Money advanced, if required. For particulars, apply to W. BACKHURST, at the Estate Office, Twickenham Park; or EDWARD GUILLAUME, Esq. 14, Gower-street, Bedford-square, Bloomsbury, London.

BUILDING LAND TO BE LET, situate at Vauxhall, Lewisham, and Camberwell.—For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

FOREST HILL.—BUILDING LAND TO LET on this hill, commanding extensive views.—Apply to A. B. 192 Bermondsey-street, S.E.

NEWLY and most substantially erected WAREHOUSES and LAND, occupying an area of nearly half an acre near the entrance of the London Docks, well adapted for a timber yard. TO BE LET on LEASE, or the Freehold to be sold.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception rooms, two being 24 feet in length; eleven best bedrooms; stabling for eight horses and coach-houses for four carriages; suitable and extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Buninigdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the West End Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

WHARF TO BE LET on LEASE, or SOLD, near Victoria Station, Pimlico, suitable for a marble or stone merchant, with offices, landing cranes, and trackway.—Apply to PULLEN, HORNE, & CO. 40, Parliament street, Westminster.

BUILDING GROUND TO BE LET by TENDER.—High Road, Lewisham. Land-tax redeemed. A PLOT of GROUND, 82 feet by the erection of Four Houses fronting the High Road. Frontage about 88 feet; average depth 150 feet. Term of years 81. One year's purchase rent. Within three minutes' walk of the Ladywell Station. Sealed Tenders, stating amount of ground-rent, description and value of each house, to be delivered on or before the 31st day of AUGUST, 1864, at Leathersellers' Hall, St. Helen's-place, E.C.

WHARF TO BE LET, on the Regent's Canal, with good frontage, and in good situation, near Hackney Great, Forty Gutteat.—Address, F. S. Post office, Mare street, Hackney.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1856), 14, RUSSELL STREET, COVENT GARDEN, W.C. Also on terms by which the borrower by small Leasehold Property, for any term not less than seven years, may effect a Mortgage repayable by the same instalments as he pays his rent. Parties desirous of realizing the houses they occupy, and thereby saving the payment of the advance of rent, direct from vantages are offered. Borrowers can in build themselves, have long or short terms to suit their convenience, and no delay from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

ROYAL POLYTECHNIC.—Patron H.R.H. the PRINCE of WALES.—Every Day at the Beast," daily at 4 and 8, and nightly at 9. Musical Entertainment, by GEORGE LEYLAND, Esq. Humorous effects, songs, &c. by the Gilbert Approved the JOHN HENRY PEPPER and HENRY D. DICKS. Just invented by Professor PEPPER, a New Optical Lecture daily at quarter to 3 and quarter to 8. Admission (Saturday mornings included) One 12 to 5, and 7 to 10. N.B.—The Laboratory is always open for Pupils and Analyses.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office, 74 & 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 14, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 20, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1125. AUGUST 27, 1864. PRICE FOURPENCE. By Post, 5d.

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THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving 20*l* and 10*l*

For Silver Work, 10*l*, and 5*l*. 5*s*. (the latter given by Mr. H. Heather Bigg, of Wimpole-street).

For Transparent Enamels, 10*l* (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10*l* (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Particulars may be had by inclosing a directed and stamped envelope to the Honorary Secretary, 13, Stratford-place, London, W.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

FREE EXHIBITION. — ART-UNION of LONDON.—The Exhibition of Works selected by the Prize Holders of 1864 WILL BE OPEN to the public, without tickets, daily from Ten till Six, at the Gallery of the Society of British Artists, Suffolk street, from MONDAY, 29th AUGUST, till SATURDAY, 3rd SEPTEMBER GEORGE GODWIN, } Hon. Secs.
August 27th, 1864. LEWIS POCOCK, }

ANNUAL EXHIBITION of STAINED GLASS at the SOUTH KENSINGTON MUSEUM, MAY, 1865.

The Lords of the Committee of Privy Council on Education have placed at the disposal of the producers of Stained Glass in the United Kingdom a space in the South Kensington Museum for the Exhibition of Stained Glass, of a highly artistic character, in the year 1865. For the most part the space will be the same as this year.

Applications for space and particulars to be made on or before the 31st OCTOBER, 1864, addressed to the Secretary, Science and Art Department, South Kensington Museum, W.

By order of the Lords of the Committee of Privy Council on Education.

ARCHITECTURAL DRAWING CLASSES, for Architects, Builders' Sons, Assistants, &c.—Conducted by Mr. T. J. HILL, Architect, for giving Day Instruction in Architectural, Perspective, Isometrical, and Geometrical Drawing; making Finished and Working Drawings, preparing Specifications, taking out Quantities, estimating Builders' Work, &c. Terms, Three Guineas per quarter.—Prospectuses and full particulars may be had at the Offices, 76, Old-street, City-road.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at the Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

THE Secretary of State for War is desirous of receiving COMMUNICATIONS from GUNMAKERS and OTHERS on the subject of the best means of CONVERTING the ENFIELD RIFLE into a BREACH-LOADER, under the following conditions:—

1st. Cost not to exceed 1*l*. per arm.

2nd. Shooting of the converted arm not to be inferior to that of the unaltered arm.

Descriptions of methods proposed, accompanied by specimen arms, should be sent to the Director of Ordnance, War-Office, Pall-mall, on or before SEPTEMBER 21.

These descriptions and specimens will then be considered by the Ordnance Select Committee, who will select such of the plans as appear to them *primâ facie* promising

Six rifles will be delivered for conversion to each of those gentlemen whose plans have been selected, as above.

They must be returned, altered, within five weeks of the date upon which they are sent, accompanied by 1,000 rounds of such ammunition, to be ignited in such manner as the competitors think most suitable.

A sum of 20*l*. will be paid to each of the selected competitors to cover the expense of converting the six rifles, and of the supply of ammunition required.

J. ST. GEORGE, Director of Ordnance.

War Office, August 23, 1864.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water bath, laundry, and steam work.

72 74, Bishopsgate street Within.

COMPETITIONS.

TO ARCHITECTS.—COMPETITION DESIGNS for ST. JAMES'S CHURCH, Waterloo-street, Little Bolton.—The Charitable Trustees, under the will of the late John Barrow, esq. are desirous of obtaining DESIGNS, &c. for a CHURCH, to be erected on land belonging to them in Waterloo street, Little Bolton. The land for the site forms a parallelogram of 82½ yards long, by 44 yards wide, and contains (including one half of Water-loo street, of 14 yards wide, and the half of three other streets of 12 yards wide, each running along the other three sides of the land) 2,750 superficial square yards. The frontage to Waterloo street, which runs nearly east and west, is 82½ yards. It is desired that the Church shall afford comfortable sitting accommodation for 1,000 persons, and that the outlay shall not exceed 5,000*l*. The plans to be drawn in line only, to a scale of 10 feet to 1 inch. Each set of designs to comprise plan, interior, exterior, and sectional elevations, and perspective view, with the estimated cost of construction and completion of the design, exclusive of the land, but inclusive of all interior fittings and work. The designs to be forwarded to the Rev HENRY POWELL, Vicar of Bolton under motto or cypher only, accompanied by a sealed letter, containing the real name and address of the person furnishing the designs, on or before the 30th SEPTEMBER, 1864. A premium of 50*l*. will be given to the person whose design the Trustees shall deem the best, and such design shall be the property of the Trustees, who shall not be bound to employ the successful person as architect, though they will be disposed to treat with him for the purpose. The unsuccessful designs will be returned to the addresses of the respective owners, by the usual modes of conveyance; but the Trustees will not be responsible for their safe delivery, nor for any payment to the owners in respect of such plans, or of the adoption of any part of them in the erection of the Church.—Further particulars may be obtained from the Rev. HENRY POWELL, Vicar of Bolton; JOHN HICK, Esq.; or THOMAS LEVER RUSHTON, Esq. three of the Charitable Trustees under the will of the late John Barrow, esq. deceased.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart. are prepared to receive DESIGNS and ESTIMATES for the ERECTION of an OBELISK or COLUMN, on an elevated site on the Sledmere Estate, on the Yorkshire Wolds near Driffield. Designs and Estimates to be sent to the Honorary Secretaries, on or before the 1st day of OCTOBER next. Twenty pounds will be given for the design considered the most suitable by the Committee, and ten pounds for the second-best design.—Particulars to be had on application to

WM. TOPHAM, } Hon. Secs.
Driffield, 1st August, 1864. F. C. MATTHEWS, }

THE Town Council of Funchal, Island of Madeira, solicit PLANS and ESTIMATES for a BUILDING adapted to the following named purposes, viz.: Town-hall, Assize and Law Courts, Police and Local Tax Offices, &c. The cost of the entire building or buildings not to exceed 8,000*l*. sterling. FIFTY POUNDS will be paid for the most approved plan, and FIFTEEN POUNDS for the next approved. The unapproved plans will be returned. A ground-plan of the site, already prepared for the building or buildings can be seen, and further particulars may be obtained on application at the Town Council Offices in Funchal, Lisbon, and Porto; or to C. R. BLANDY, 2, Crutched-friars, London, E.C.; GEORGE BOLDORINI, 19, Rue d'Hauteville, Paris; the BARON CONCEICAO, Walnut-street, Philadelphia. The plans and estimates to be delivered in London, Paris, or Philadelphia, on or before NOVEMBER 5th, 1864.

BOROUGH of BOLTON. — COMPETITION PLANS for NEW TOWN HALL.—To ARCHITECTS &c. &c.—The Bolton Corporation purpose ERECTING in the Borough a TOWN HALL, covering an area of about 4,300 square yards, and are desirous of obtaining Plans, Sections, and Working Drawings for same. Premiums will be given as follows, viz. 200*l*. for the best, 50*l*. for the second best, and 40*l*. for the third best design, in the opinion of the Council; but the Corporation will not be responsible for any payment for unsuccessful designs. The plans of the three successful competitors to be the property of the Corporation. Applications to be made to Mr. HAYLES, the Borough Surveyor, who will show the ground, and give any further information on the subject. The Designs must be sent in, under seal, with a signature, with a private mark or motto, and a letter accompanying them, also under seal, containing the corresponding mark or motto, and the designer's name and address. They must be addressed to the Town Clerk, and delivered in on or before the 1st DECEMBER, 1864.

ROBT. G. HINNELL, Town Clerk.

Bolton, 11th August, 1864.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Sandgate, near Folkestone, in the county of Kent, may inspect the Drawings and Specification, at the Coast Guard Watch Room, Sandgate, on at the Office, between the hours of TEN and FOUR, from THURSDAY, the 25th inst. to WEDNESDAY, the 7th day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 8th SEPTEMBER under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Sandgate."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 17th day of August, 1864, at the Admiralty, Coast-Guard Office, 12, Spring Gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for ERECTING an IRON SHED, 94 feet long and 40 feet wide, at the Gun Wharf, Portsmouth.

Persons desiring to Tender for the execution of the Work must leave their names at this Office on or before the 5th SEPTEMBER, 1864, and pay the sum of Ten Shillings and Sixpence for the Bills of Quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. J. W. GORDON, Colonel,
Commanding Royal Engineer,
Royal Engineer Office, Portsmouth,
24th August, 1864

NOTICE to BUILDERS.—TENDERS are required for ERECTING an INFANT SCHOOL and Quarters for a Schoolmistress, at Sheerness. Parties desiring to Tender for these Works, must leave their names at this Office, on or before the 3rd SEPTEMBER next, and pay the sum of 10*s*. for the bills of quantities, which will be forwarded to each party as soon as prepared by the War Department Surveyor

The Secretary of State for War does not bind himself to accept the lowest or any Tender

Royal Engineer Office, Sheerness,
17th August, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA RESIDENCE at Chertsey, are informed that the plans and specification may be seen at my Office from the 24th to the 30th instant, and at the Crown Brewery Office, Chertsey, from the 31st instant to the 4th proximo. Sealed Tenders to be sent in not later than the 5th of SEPTEMBER, to H. WETTON, Esq., Chertsey, Surrey. The lowest Tender not necessarily accepted. T. WONNACOTT, Architect.

Farnham, Surrey, August 20, 1864.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the County of Middlesex, hereby give notice that they will be ready at the Board Meeting, to be held at Broadway House, Hammersmith, on WEDNESDAY, the 7th day of SEPTEMBER, 1864, at TEN o'clock precisely, to receive sealed TENDERS from parties who may be willing to contract for the LAYING DOWN, CONSTRUCTING, and completely FINISHING certain intended BRICK SEWERS, viz.:—A sewer across Brook green, about 2,220 feet in length; another sewer, in King-street East, about 2,240 feet in length, both in the Parish of Hammersmith; and another sewer in Parish's Green-lane, Fulham, about 1,200 feet in length, connected with about 1,800 feet of pipe sewer. Plans, specifications, and detail drawings of the works can be seen and examined, and the form of Tender may, with other particulars, be obtained at Broadway House, Hammersmith, between the hours of TEN and FOUR on and after MONDAY, the 22nd of AUGUST, 1864, previously to the 6th day of SEPTEMBER next. The Tenders must be in separate envelopes, and sent in sealed, addressed to the Chairman of the Board, on or before TEN o'clock of the said 7th day of SEPTEMBER, marked on the outside, "Tender for Sewers," and the party whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties for the due performance of the undertaking; such contract and bond to be prepared by the Solicitor to the Board, at the expense of the contractor. The Board does not pledge itself to accept the lowest or any Tender. By order, W. LOVELY, Clerk.

THE Board of Guardians of St. Matthew, Bethnal-green, are willing to receive TENDERS for the ERECTION of BOARD ROOM and OFFICES at their Premises, Waterloo-road, Bethnal-green, from the designs of their Architect E. N. CLIFFORD, 7, East India-avenue, Leadenhall street, E.C. Copies of the quantities may be obtained of Messrs. WILLIAMS & SHOFIELD, 12, Montague street, Russell-square, W.C. The Board do not bind themselves to accept the lowest Tender, and will require the Builder whose Tender is accepted to give the names of two sureties to be bound formally with himself in the sum of 1,000*l*. for the due execution of the works. Tenders to be delivered at the Office of W. T. HOWARD, Esq. Clerk to the Board, Waterloo-road, Bethnal-green, before SIX o'clock, p.m. on MONDAY, the 12th of SEPTEMBER next, and personal attendance will be necessary at the Board on TUESDAY, SEPTEMBER 13, the following day, at FOUR o'clock precisely.

TO CONTRACTORS and FINANCIAL ASSOCIATIONS.—WEST GRINSTEAD, CUCKFIELD, and HAYWARD'S HEATH RAILWAY COMPANY.—The Directors of this Company are prepared to receive PROPOSALS for the CONSTRUCTION of the above RAILWAY in two sections: No. 1 from Haywards Heath to Rolvenden, and No. 2, from Bolney to West Grinstead (five miles). The Brighton Company have agreed to work the line, and the plans and sections can be inspected and further information can be obtained, from J. H. TOLME, Esq. the Engineer to the Company, 19, Duke-street, Westminster; of G. T. PORTER, Esq. 4, Victoria-street, Westminster; or of the Secretary. Proposals in writing, stating full particulars, must be sent to me on or before the 8th of SEPTEMBER next. EDWARD WAUGH, Secretary.

Cuckfield, 24th August, 1864.

[*For remainder of Contracts see next Page.*

BIRKENHEAD INDUSTRIAL SCHOOLS (ALBERT MEMORIAL).—TO BUILDERS. Persons desirous of TENDERING for the above SCHOOLS, may inspect the plans and specifications at Isleham, corner of the Quadrangles, at the Offices of Mr. DAVID WALLER, Architect, 69, Lord-street, Liverpool, on and after TUESDAY, 23rd inst. Tenders to be left at the time fixed, to be delivered at the Architect's Offices, at the Town Hall, Birkenhead, before Noon, on TUESDAY, the 27th inst., when they will be publicly opened. Security will be required for the due performance of the contract; and the Committee do not bind themselves to accept the lowest or any Tender.

Aug. 19, 1864. WILLIAM JACKSON, Hon. Sec.

BIRKENHEAD UNION.—The Guardians of the Poor of the Birkenhead Union in the County of Chester, are prepared to receive TENDERS for the ERECTION and COMPLETION of a HOSPITAL, to be built on the premises in connexion with the new Workhouse at Higher Tranmere. Separate and distinct Tenders will be required for the execution of the Works, namely, 1st, for the excavation of that part of the said premises, marked No. 1 on the Plan, for the erection of the Works as detailed in the specification marked No. 2—Persons desirous of Tendering are informed that the said excavation may be let, if desired, to the Contractor for the Boundary Wall, carried on contemporaneously with the Contractor will, for this purpose, be required to prosecute the last during the summer, so that the bricks may be taken from it, and the buildings proceeded with early in the ensuing spring.—2, for the erection of the said premises to extend only to the first portion before the month of April next; the second portion of the building to be constructed as soon afterwards as the Guardians may require. The Drawings and Specifications may be seen, and further information obtained, at the Office of Mr. HARRY LANGLEY, Architect, 19, North John-street, Liverpool. Sealed Tenders to be delivered, at my Office, 11, Castle-street, Birkenhead, not later than TWELVE o'clock, on the forenoon of FRIDAY, the 23rd day of SEPTEMBER next. The Guardians do not bind themselves to accept the lowest or any Tender.

PETER GREGORY, Clerk.

60, Lord-street, Birkenhead, 17th August, 1864.

BUILDING of ST. FINBAR'S CATHEDRAL, CORK.—Builders desirous of TENDERING for the above BUILDING are invited to send in their respective Architect's Estimates on or before the 1st day of SEPTEMBER next. The quantities will comprise every item, as soon after as possible. A fortnight will be allowed to the Builders for taking out, after which time the drawings, specifications, and forms of Contract for execution of the Cathedral Committee rooms, Cork, and at the Office of the Architect Mr. W. DOBSON, 1, Adam's place, Strand, London. The Committee do not hold themselves bound to accept the lowest or any Tender.

S. FOUNTNEY SMITH, Architect.

TO BUILDERS and CONTRACTORS.—The Committee for the Restoration and Enlargement of the Parish Church of Hartlepool, are about to invite TENDERS for the WORKS required to be done. The drawings and specification will be open for inspection, between the hours of TEN and SIX, at Walton House Drapery Establishment, Hartlepool. Tenders for the works to be received on or before the 10TH OCTOBER next, addressed to the Rev. HENRY EDWARDS, Hartlepool. The Committee do not bind themselves to accept the lowest or any Tender.

S. FOUNTNEY SMITH, Architect.

TO ENGINEERS, MILLWRIGHTS, and others.—The Commercial Dock and Grain Surrey Docks and Canal Companies being about to construct a connecting communication between the Commercial Docks, No. 5, and the Grand Surrey Upper Dock, at Redriffe-lee, are prepared to receive TENDERS for the CONSTRUCTION OF TWO PAIRS of GATES, a WROUGHT IRON BALANCE BRIDGE, the MACHINERY, SLUICES, &c., connected therewith. The gates are to be constructed, erected, and completed in accordance with the plans, specifications, and conditions of contract, that may be seen at the Commercial Dock Office, Deptford Pier, before Noon on TUESDAY, the 23rd of SEPTEMBER inst. (Professional assistance will be required on the part of the Tenderers, which will be supplied by the Company's Engineer, if desired, on their application.) Tenders to be delivered on the printed form, which will be supplied to intending Tenderers at the Secretary's Office, Commercial Dock Office, Deptford Pier, before Noon, on the 23rd of SEPTEMBER inst. (Parties tendering must be present at the opening of the Tenders.) Tenders to be addressed, under cover, to the Secretaries of the Commercial and Grand Surrey Docks and Canal Companies, endorsed "Tenders for New Works," and delivered at the Office of the Company, No. 4, Copthall Buildings, Finsbury-circus, not later than Noon, on TUESDAY, the 27TH SEPTEMBER. Any further information may be obtained on application in writing to the Engineers, Messrs. McCLEAN & STILEMAN, 26, Great George-street, Westminster. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

J. GRIFFIN,
G. W. HEISCH, } Secretaries.

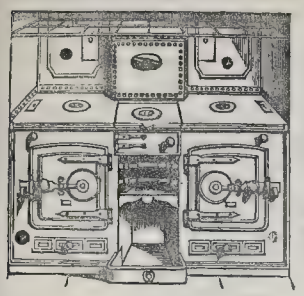
TO CONTRACTORS.—The Commercial Dock and Grand Surrey Docks and Canal Companies being about to construct a dock between the Commercial Docks, No. 5 and the Grand Surrey Upper Dock at Rotherhithe, are prepared to receive TENDERS for the WORKS. The plans, specifications, and draft contract may be seen at the Offices of the Commercial Docks Company, 109, Fenchurch-street, from AUGUST 22nd to SEPTEMBER 12th (Sundays excepted). Tenders to be delivered on the printed form, which will be supplied to intending Tenderers at the Secretary's Office, Commercial Dock Office, Deptford Pier, before Noon, on the 12th of SEPTEMBER inst. (Parties tendering must be present at the opening of the Tenders.) Tenders to be addressed, under cover, to the Secretaries of the Commercial and Grand Surrey Docks and Canal Companies, endorsed "Tenders for New Works," and delivered at the Office of the Company, No. 4, Copthall Buildings, Finsbury-circus, not later than Noon, on TUESDAY, the 27TH SEPTEMBER. Any further information may be obtained on application in writing to the Engineers, Messrs. McCLEAN & STILEMAN, 26, Great George-street, Westminster. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

J. GRIFFIN,
G. W. HEISCH, } Secretaries.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of a BRIDGE over the Canal at Waverton Station, in the County of Chester, and for the Enclosure Cattle Sheds at the same Station.—Parties desirous of Tendering may see the Drawings and obtain a Specification of the required Works upon application to Mr. WILLIAM BARNES, Engineer's Office, Euston Station, on and after WEDNESDAY, 31st inst., and Tenders must be delivered at the said Office on or before WEDNESDAY, the 7th day of SEPTEMBER next. The lowest or any Tender not necessarily accepted.—By order, HENRY OAKLEY, Secretary.

Euston Station, August 23rd, 1864.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for WATERING, SCAVENGING, and the LAMPLIGHT of the DIST. for the ensuing year, and the Week Contract for Watering, Scavenging, and the Removal of Dust.—TENDERS for WATERING the ROADS and SCAVENGING the same, for one Month, or Week, if dust in the intervening Months be required. Tenders for Watering, Scavenging, and the Removal of Dust, and for Lamplighting, for one year from the 29th of SEPTEMBER next. The Board will not be bound to accept the lowest or any Tender. Sealed Tenders, addressed to the Chairman of the Board, at the Vestry Hall, Limehouse, and endorsed "Tender for Watering, Scavenging, and the Removal of Dust," and "Tender for Lamplighting," must be delivered at the said Office not later than TWELVE o'clock on MONDAY, the 12th day of SEPTEMBER, 1864; and each Tender must be accompanied by the Name of the Surety or Sureties proposed for the due performance of the Contract. Tenders must be delivered in the Forms to be had of the Clerk, at the said Office, and not otherwise. The Board do not bind themselves to accept the lowest or any Tender. The Sureties must be approved by the Board, and enter into the usual Bond. Any Tender not accompanied by the Name of the Surety or Sureties will be rejected. The Contract will be subject to the Approval of the Metropolitan Board of Works. Any Tender may be withdrawn before the Meeting of the Board, at which it is to be considered. Any Tender not delivered in the Form, and at the Time and Place required, will be rejected. Any Tender containing any Qualification, Condition, or Reservation, will be rejected. Any Tender containing any Erasure or Alteration, not attested by the Signature of the Person tendering, will be rejected. Any Tender containing any Figure or Word illegibly written, will be rejected. Any Tender containing any Error in Figures, will be rejected. Any Tender containing any Error in Spelling, will be rejected. Any Tender containing any Error in Spelling, will be rejected. Any Tender containing any Error in Spelling



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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 160*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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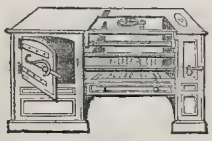
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32 ,,	.....	24*s.*
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Self-acting, with Bright Wrought Bars.

34 inches	.....	52*s.*
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2-in.	2½-in.	3-in.
8*d.*	10*d.*	1*s.* per yard.

Half-round Gutters, 4-in. 7*d.* per yard.

O G. Gutters, with Clips on.

4-in.	4½-in.
11*d.*	1*s.* per yard.

Improved New Pattern Register, with strong Bars and Trivets, 4*d.* per inch.

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Gas Connexions and Plumbers' Fittings.

Lackered and Bronzed Brackets, 16*s.* per dozen.

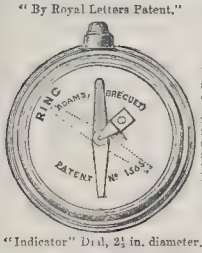
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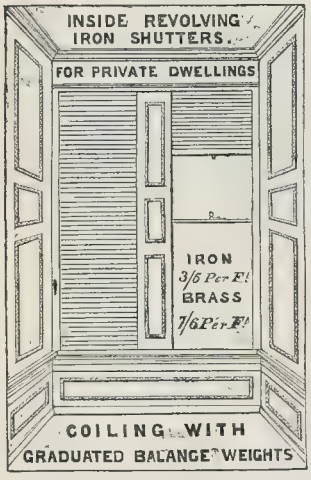
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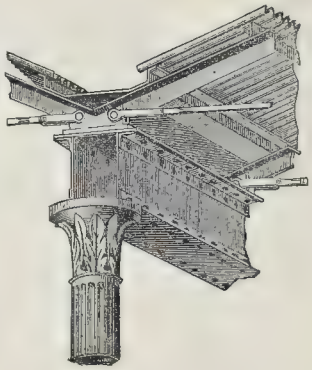
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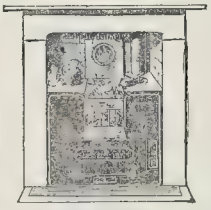
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CUNDY'S
PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.



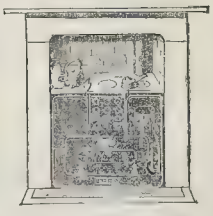
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These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also

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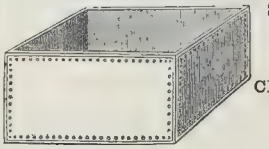
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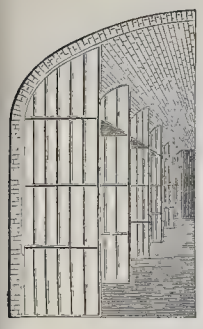


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*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

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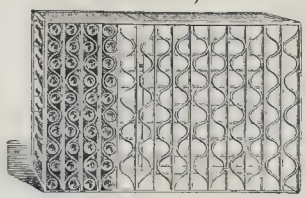
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Peculiarly adapted for Private Cellars.

No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents o the Bin.



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MANUFACTORY—LONG LANE, BERMONDSEY.

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GOTHIC, DROP, AND OTHER DOOR HANDLES.





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All Goods delivered free within Five Miles.

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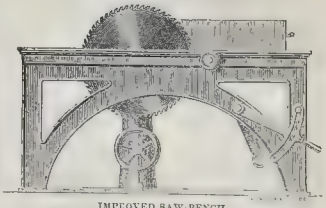
PRIZE MEDAL, LONDON, 1862.

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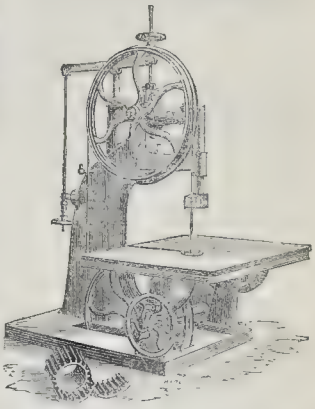
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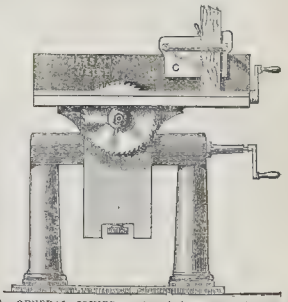


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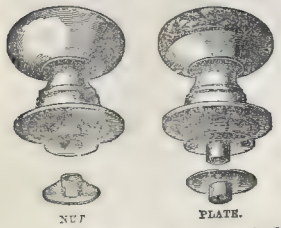
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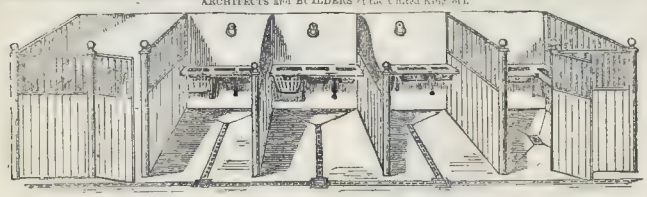
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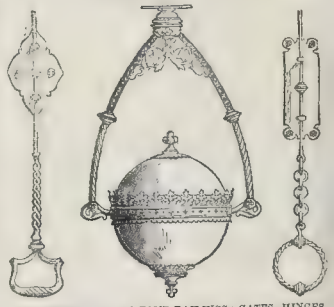
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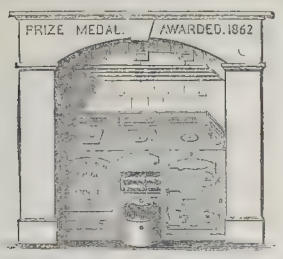
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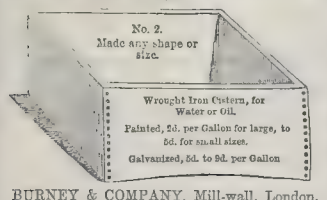
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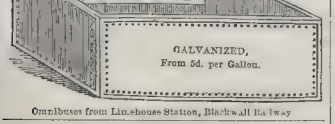
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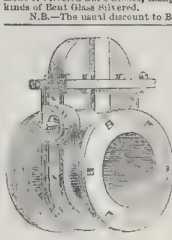


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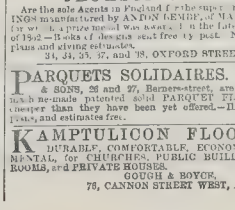
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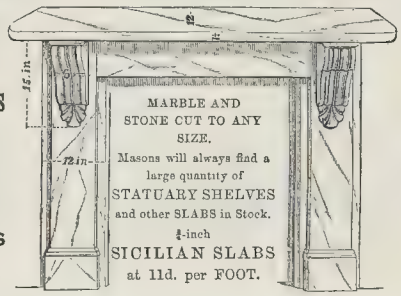
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VOL. XXII.—No. 1125.

*Lady Eastlake's History of our Lord as Exemplified in Works of Art.**



IN continuation of our notice of this work, we would draw the attention of our readers to Lady Eastlake's subtle distinctions of the modes with which different artists have treated certain subjects in successive ages. In the illuminations of MSS., especially in their immense variety, may be traced the periods where the old traditional forms give place to new renderings, where a new meaning has been attributed to certain facts, where legends gain ground, where heresy creeps in, all these differences being the indications of recognised stages in art. In the fourteenth century a fanciful class of religious work comes into notice, in which a succession of subjects and types from the Old and New Testaments was laid down, and which was conventionally repeated into the next century. Several of these types, however, are only made to correspond with one another by taking into account the most far-fetched resemblance. Absolom hanging on the tree is likened to the Saviour. The king of Ai, cut down from the tree on which Joshua had hanged him, is placed to correspond with the descent from the cross. Reuben searching for Joseph at the well is compared to the three Marys. The death of the sons of Eli to the murder of the innocents. Lady Eastlake has given the contents of the most important of these works, the "Biblia Pauperum" and the "Speculum Salvationis." In keeping with this feeling, which seems to have been an undercurrent in art from the beginning, the six days of the creation pointed to six periods of history. "The first from Adam to Noah, the evening of which was the deluge; the second from Noah to Abraham, the evening of which was the confusion of tongues; the third from Abraham to David, of which the evening was the wicked reign of Saul; the fourth, from David to the Babylonian captivity, the evening of which was the sins of the Jews which drew upon them the judgment; the fifth, from the Babylonian captivity to the coming of Christ, the evening of which was typified by the wickedness and blindness which hid the true Messiah from their sight; the sixth, from the first coming of Christ to his second coming to judge the world, the evening of which these ancient commentators express by the question, 'When the Son of Man cometh, shall he find faith upon the earth?'" We have, in the British Museum, the early MS. of the tenth century, from which a diagram showing "The Creation" is taken. It consists of a circle formed with three concentric lines beyond the limits of which the head and hands of the Creator protrude. From the mouth proceed two trumpet-like forms supposed to typify the double command, "Let there be a firmament in the midst of the waters, and let it divide the waters from the waters." The firmament is shown by the segment of a circle within the diagram, and the waters by wavy lines. A dove, with a cruciform nimbus, enveloped in part of a vesica, represents the Spirit of God moving upon the face of the waters. The right hand holds a pair of scales and a pair of compasses. This slight configuration, in the hands of those familiar with the system of symbolism, suggests a world of thought. In a series of the Days of the Creation, painted on the walls of the choir of the cathedral of Monreale, the same subject is treated in a very different way. The head and arms of Christ are seen in front of a series of shaded concentric circles, the symbol of the heavens. From the breast of Christ descends a straight ray to the surface of the waters depicted beneath. On this ray is a small dove with a nimbus round its head. At the base of it, in the waters, is a large face, the lines forming the hair and beard rippling away till they are lost in those forming the water. In these early forms it must be remarked that no limner attempted to produce a delineation of the Father. The Creator shown is always Christ. It was Michelangelo who first departed from this rule. In the Sistine Chapel in the Vatican he gave form to that idea, which till then it had not entered into the heart of man to conceive, now known in Italian art as "The Padre Eterno." Raffaelle's "Creation of Light" is given as an example of the powers of ripe art, and as embodying this new idea. In this the Almighty—a Jove-like figure in bold drapery—is seen riding on the clouds, and, with outstretched arms, thrusting great masses of mingled flames and clouds asunder. The increased power is gained at the expense of the preservation of the traditions perpetuated in the quaint symbols of former artists.

The first engraving of the "Creation of Man" is taken from the Orvieto sculpture. In this, Christ, as the Creator, is putting the last touches to Adam's face, who is standing in a passive attitude, as though undergoing an operation at the hands of an occulist. The mosaics at St. Mark's represent the youthful Christ, with His sceptre in His hand, infusing the living soul into the first man, the soul being represented by a small winged nude figure which, with outstretched arm, looks as though it would fly into his breast. Another cut shows Adam seated on a bank before the Creator, from whose lips to those of our first parent proceeds the breath of life, represented by a long ray. The last example given is from the Ghiberti gates. In these Adam, no longer a crude outline of humanity, but a full-aged, full-sized muscular figure, is being raised with one hand from a recumbent position by a benignant Creator, who blesses him with the other. Lady Eastlake cannot let the mightiest of the Florentines pass scot-free. "We see here," she says, "whence Michelangelo, with those gates constantly before him, took the figure of his Adam in the Sistine Gallery."

The illustrations representing "The Creation of Eve" mark the strides made by imagination in depicting this act. In the first, taken from the Orvieto sculpture, a nude figure is sleeping on the ground, while another, fully draped, with a strong resemblance to the first in feature, and identical arrangement of the beard and hair, is taking a bone out of an incision made in his side. Two stunted trees are the only accessories. A second illustration from the same series shows Eve created, seated on a bank, with her feet and ankles still confined within Adam's body. The same two trees are in sight, though one of them has been unaccountably removed to a considerable distance, and two angels are added to the scene. But Ghiberti grasps the subject with a very different result. A semicircle of angels fills the sky, contemplating the scene below, in which a graceful female form has been raised from the sleeping Adam's side by four angels, one of whom is guiding her arm, so that her hand may touch that of the Creator. All grotesqueness has vanished, and a sufficing beauty has taken its place. The only solecism is a wooden paling in the foreground, a piece of carpentry suggestive of "sweat of the brow" that Adam is not likely to have executed.

Art has illustrated the Scriptures so fully, that when by chance we come upon a gap, we are surprised. In many incidents, not only are the actual occurrences as related by the sacred writers given, but intervening moments and facts not mentioned, but which must have taken place, are represented. In the history of Moses, however, there was a singular gap of six hundred years in the delineation of one very beautiful fact, that from its power of touching the heart might have been expected to have been an every-day subject: we allude to the watch kept by the little sister of Moses upon the exposed infant, "to wit, what would be done to him." In a thirteenth century Bible, in the British Museum, we may see that the poetry of this affectionate care and curiosity was recognised by one artist, and then its capacity as a vehicle for feeling seems to have been overlooked till Paul de la Roche gave form to it anew.

Fulness of detail and diversity in the moment chosen to be delineated are, perhaps, most apparent in the representations of "The Crucifixion." This has been conceived in a dozen different lights altogether irrespective of the mannerism of different schools. Lady Eastlake points out that the accessories are the vehicles of this diversity, and has classified the various treatments under the following heads:—"*Symbolical*, when the abstract personifications of the sun and moon, earth and ocean, are present. *Sacrificially symbolical*, when the Eucharistic cup is seen below the cross, or the pelican feeding her young is placed above it. *Simply doctrinal*, when the Virgin and St. John stand on each side as solemn witnesses, or our Lord is drinking the cup, sometimes literally so represented, given Him of the Father, while the lance opens the sacramental font. *Historically ideal*, as when the thieves are joined to the scene and sorrowing angels throng the air. *Historically devotional*, as when the real features of the scene are preserved, and saints and devotees are introduced. *Legendary*, as when we see the Virgin fainting. *Allegorical and fantastic*, as when the tree is made the principal object, with its branches terminating in patriarchs and prophets, virtues and graces. *Realistic*, as when the mere event is rendered as through the eyes of an unenlightened looker on." And further variety may be counted in combinations of any two or more of these modes. The symbolical treatment was that adopted by the earliest artists. They aimed at depicting the darkness, the quaking of the earth, and the other signs of nature's commotion that St. Matthew records. Abstract personifications of the sun and moon, the earth, and ocean, are represented as being the grand witnesses of the scene. An etching from an ivory of the ninth century shows the figure on the cross without a nimbus, or nails, or wounds. A hand from heaven, assisted by two angels standing on the arms of the cross, is holding a crown a short distance above the head. The sun and moon, half-length figures seated in clouds, occupy the panels left by the arms of the cross in the upper part of the space. On a level with the foot of the cross stand four figures, two on either side. The figure on the right hand of the cross carries a banner in her hand, and represents the Church; that on the left turns her back upon Jesus, to represent the Synagogue. The figure behind the Church is that of the Virgin; the fourth that of St. John. Below all this is another line of symbols. Three figures are represented as rising from the dead,—two from classic tombs, one from the waves, and earth and ocean are seated in the two angles, the former nursing a serpent at her breast and

See p. 593, *ante*.

holding a branch in her hand; the latter supporting a fish with one hand, and with the other grasping the edge of an overturned urn, from which a stream is issuing. Some ivories of about the same period place the four Evangelists on the transverse beam of the cross. In others Earth nurses children at her breast, and has the serpent coiled round her arm, or a small human figure on her hand, supposed to represent the darkness on the face of the earth. A third figure occasionally occurs, seated between earth and water, representing the heavens,—"Heaven and earth are full of thy glory." Another female figure, crowned with towers, is supposed to personify Jerusalem, the scene of the tragedy. Coiled round the foot of the cross, "the old serpent," the origin of evil, may be seen looking up at the figure on the cross, in reverse of his triumphant position at the Fall when he looked down upon our first parents. This last, at a later stage, was replaced by a skull, supposed to be that of Adam. In combination with these leading features were many minute details, all intended to convey some meaning, and yet so remote in their association at first sight, as to require a practised skill to decipher them.

A more simple rendering is illustrated from a MS. in the Brussels library. In this Christ is nailed to the cross, clad in a loose-fitting garment, and below his feet on the plinth of the cross is depicted the eucharistic cup. From the ground the Virgin looks up, with hands outstretched, on the right, and St. John on the left. The sun and moon are shown, the one veiled, the other asleep, in circles over either arm of the cross. An eleventh century crucifixion (from the catacombs of Pope Julius) conveys the idea with the same five figures; but in this a battlemented wall is introduced in the background, and a few wedges stuck into the earth to steady the cross. The eucharistic cup is absent; but the inscription upon the head of the cross appears. Lorenzo di Credi has elaborated his background into a distant view of a city on the banks of a wide river. Michelangelo, while confining his figures to five, has substituted the heads of two angels looking out of two wreaths of clouds for the sun and moon. His virgin is more emphatically angry than sorrowful, and his St. John more deprecatingly crouching than sympathisingly sad. The principal figure is now nude, and the skull lies at the foot of the cross. Martin Schön limits his figures to three: a hooded virgin, with folded hands and eyes cast down, awaiting, as it were, the will of the Father, and a young St. John, gospel in hand. The figure on the cross is nude, with a length of drapery round the loins, the ends of which are outspread scroll-wise. So far the Virgin and St. John have stood in isolated positions at equal distances on either side of the cross, forming a pyramidal outline; but, in the crucifixion of M. Guffins, of Antwerp, they have approached the feet of the Saviour, clasping one another by the hand, while the Magdalen abandoning herself to grief, with her head bowed down to her knees, kneels before them.

The next variation in the accessories of the scene on Mount Calvary is the introduction of two figures, the one lifting a lance, the other a sponge, embodying the fulfilment of the prophecy. And here we may point to the curious manner in which legend has singled out some persons and written their histories in art. The individual who pierced the Lord's side was early distinguished by the name of Longinus. After a time he was pronounced to be the same centurion who was converted by the signs following the death of Christ. A legend in an Anglo-Saxon MS. (tenth century) in the British Museum describes Longinus as blind, and to have recovered his sight when some of the blood fell upon his eyes. The soldier holding the sponge has been named Stephaton, and then left in obscurity. The history of the thieves, too, the next accessories on the scene, has been elaborated by legend. The Venerable Bede says the good thief was called Matha; the bad thief, Joca. St. Xavier calls the one Vicimus, the other Justinus. Nicodemus names them Dismas and Gestas; the apocryphal gospel of the infancy of Christ supplies the fourth designation of each, Titus and Dumachas. The Roman martyrology elevates the good thief into Sanctus Latro. In the flight into Egypt the Holy Family are related to have met with a band of thieves, amongst whom were the two in question. "Titus, moved by some mysterious instinct, persuaded his companion not to arouse the other miscreants but to let the child and his parents pass, giving him as a bribe his girdle and the promise of forty groats. On this the Virgin, not knowing the meaning of what she uttered, prophesied that God would receive him at His right hand, and grant him the pardon of his sins. And the child Jesus added, that in thirty years they should both be crucified with Him, on His right hand and on His left, and that Titus should go with Him into Paradise." Jacob de Varagnie gives another version, to the effect that when the robbers rushed upon the Holy Family, one of the band exclaimed, "Surely if it were possible for God to be seen in the flesh, that boy must be God;" and this was the thief to whom Jesus said, "To day shalt thou be with me in Paradise." The good thief occupied a long share of attention from the circumstance of an inquiry being made as to his claim to be considered a martyr. SS. Jerome and Buonaventura both went into this question, and both awarded him that rank. Then came further inquiries into the cause of his conversion, attributed to the shadow of Christ having fallen upon him, and into the occasion of his baptism, as this sacrament was considered indispensable to salvation. His advocates urged that the water that flowed from the wound in our Lord's side must have regenerated him; and with this explanation inquiry seems to have been satisfied. The fainting of the Virgin at the death of her Son,—another episode not mentioned in Scripture,—has been taken up by legend and frequently illustrated by art. Angels perform a very important part in the mode some artists have rendered the scene. Early theologians,—St. Augustine and St. Bernard,—laid it down that angels had two powers, that of understanding and that of executing, the one being in their heads the other in their wings. Hence a conventional mode obtained of drawing angels with heads and wings only. The Renaissance masters added breasts, arms, and hands, Duccio having previously hidden their legless condition with graceful drapery. Gandenzio di Perrari, however, shook off the trammels rivetted on art by the subtleties of the disputations, and his angel kneeling, with clasped hands, on a cloud hanging over the cross in his picture of the Crucifixion, is deservedly pointed out as one of the most beautiful beings ever conceived.

In realization of what is called a *santa conversazione*, a goodly company of saints is sometimes grouped around the principal figures in the Crucifixion, differing in their identity according to the patron or locality of the church for which the picture was painted. Lady Eastlake notices an instance of this in the Ghigi chapel of the Church of St. Augustine, at Sienna. Besides the Virgin and St. John, the Magdalen, St. Mary Monica, and St. Augustin, are shown on one side of the cross; Mary of Cleophas, John the Baptist, and St. Jerome on the other, St. Augustin being introduced as patron of the edifice, and St. Jerome as a cardinal or ecclesiastic, as a representative of the clerical founder. The saints most frequently chosen to be present, on canvas, at this scene, are St. Jerome, St. Francis, St. Dominic, St. Rocco, and St. Sebastian, St. Catherine of Sienna, and St. Veronica. The Magdalen, the beautiful, loving, penitent mourner, always shown with more passionate gesture than any other figure, is seldom absent. Fra Angelico troubles not with her beauty: he places her in his grandly beautiful picture of the "Adoration of the Cross" (in the chapter-house of the Convent of St. Marco, Florence) on her knees, with her back to the spectator, tenderly supporting the fainting Virgin.

The allegorical taste of the fifteenth and sixteenth centuries gave living arms to the cross. One illustration of this disagreeable treatment of the subject shows the cross rising from a fragment of a rock from which protrudes an arm. The transverse beam terminates in two arms, and a fourth rises from behind the head of Christ, and, with a key in its hand, is unlocking the door of a mansion in the distance. On the right of the cross is a woman seated on a winged lion, having four different kinds of feet—a foot, a hoof, a claw, and a paw. She holds a chalice in her hand, in which she is catching the blood spirting from our Lord's side: on the left, another female figure, blindfold, is seated on an ass, three of whose legs are broken, denoting its speedy fall. These embody the idea of the triumphant church and wrecked synagogue. The arms proceeding from the cross are placing a crown upon the church, and thrusting a weapon into the head of the synagogue.

Velasquez has treated the crucifixion in a totally different manner, unsurpassed in feeling and suggestion; yet devoid of any accessory. The luminous figure of the dead Christ stands out supernaturally from a sea of darkness. There is no sign, no other figure to break the solemn silence of this desolate blank. The head has fallen forward in death, causing the hair to veil the features. Not a breath appears to be stirring; all is still and dark as though the earth had turned into one vast chamber of mourning.

An etching of Vandyck's picture of the solitary Christ is given on the same page. Here the background is the scene of elemental strife; the heavens are rent, &c., and a huge serpent holding an apple by a stem in its mouth is writhing round the foot of the cross. But the presence of these objects is not so telling as their absence in the utter gloom and loneliness of Valasquez's realization of desolation.

Besides all these modes of handling, there is the most complicated of all, those in which the crucifixion is treated as a whole. Full of figures, dramatic incidents, horsemen, soldiers, armour, glittering weapons, banners, plumes,—this, as offering facilities for gorgeous combinations, has been a favourite subject for large paintings. In the earliest known example of this class (Giunta Pisano), the crowd of spectators is divided as in ancient church congregations, the men on one side, the women on the other.

The cross which Art has figured in the various conceptions of this grand subject thus strung together, has been traced by legend into the garden of Paradise. The angel guarding the portals of Paradise gave three pips of the tree of which Adam and Eve had eaten to Seth, who placed them under his father's tongue when he buried him in the valley of Hebron. They sprung up into three saplings, which by the time of Moses had united and become one. It was with that he struck the rock, &c. David also possessed this tree, and, after having performed many wonders with it, planted it in his garden in Jerusalem. Solomon, finding it large and strong, had it cut down for one of the beams of the Temple, but the workmen were unable to make it fit in anywhere. It was ultimately thrown into a pond, where it rose to the surface and formed a bridge. When the Queen of Sheba saw it she told Solomon that One would hang on it who would be the Saviour of Adam and all his posterity, which caused him to have it overlaid with gold and silver and placed over the door of the Temple, that all who entered might bless it. Rehoboam, however, stole it for the sake of the gold and silver, and buried it out of sight. But a well was dug many years afterwards just over the spot, and up came the beam to the surface of the water. This was the pool of Bethesda. As it floated there it was seized by the Jews and fashioned into the cross upon which our Lord was nailed. After the crucifixion the cross was again buried, and lost sight of for three hundred years. At the end of that time the Empress Helena arrived at Jerusalem, and after some difficulty obliged the Jews to point out the spot where it was concealed. One Judas began to dig beneath the Temple of Venus, erected by Hadrian, over the buried cross, and at a depth of 20 ft. found three crosses. At the suggestion of Macarius, a dead man was laid upon them in succession, and as he came to life upon the third, this was known to be the true cross; whereupon the empress divided it in two, and leaving one portion in Jerusalem, took the other half to her son at Constantinople. He inserted a piece of it into the head of a statue of himself, and sent the rest to Rome, where it was deposited in the church of Santa Croce, in Gerusalemme, built on purpose for it. She also gave him two of the nails, one for his horse's bit, the other for his crown. The third she threw into the Adriatic to tranquillize the waters.

"The Ascension" is another grand subject that has been treated with singular frequency and diversity by art, notwithstanding the difficulties attending any adequate representation of an incident so supernatural. An early ivory shows our Lord in the act of flying, with extended arms, draped with a scarf, and a hand from above outstretched to welcome him. His back is turned, as though intent only on the joy awaiting him in heaven. A twelfth century ivory shows the principal figure with one foot still touching the earth, the apostles grouped on either side, two angels attending above, and the hand, as before, just visible, protruding from a cloud. One of the frescoes of Giotto (an illustration of which is given) shows the apostles, virgin, and angels, all adoring, arranged in groups, and the figure of our Lord, in mid-air, turning joyously to the glories of heaven.

Perugino, in a magnificent altar-painting, has designed our Lord, lingering and looking down lovingly on those he is leaving. Thirteen little bodyless angels have arranged themselves round him in a vesica-like frame, and six larger and limbed angels, four of whom are playing rapturously on musical instruments, form, as it were, spandrils in the background of the upper part of the composition. Raffaelle raised the glance again from earth to heaven, and rendered the apostles open-mouthed with consternation at the uplifted figure. Correggio has filled the air with little wingless angels, all manifesting the utmost delight, but certainly not conducing to a realization of the event.

Among the curiosities of Christian art may be placed the German ordering of the arms of Christ. In this the instruments of the Passion are wrought up into a shield, helmet, and crest, having our Lord and the Virgin as supporters. There is a class of pictures, too, the subject of which is called the mass of St. Gregory, that, in its far fetched scheme, must be regarded as singular. In this a bishop or priest is officiating at an altar, attended by other priests, upon the flat top of which our Lord has miraculously revealed Himself. The background is occupied by every instrument and object at all connected with the Passion, spotted about wherever there is room for them, comprising such articles as the basin and jug with which Pilate washed his hands; the hands that smote our Lord, one of them holding the plucked out hair; the ear of the servant of the high-priest and his lantern; the head of Judas with the bag round his neck; the rope with which the soldier dragged the Lord; the miraculous portrait given to St. Veronica; besides the more familiar garments, dice, hammer, nails, cock, sword, scourge, lance, sponge, &c. There are several versions of this subject in the museum at Cologne. It is supposed to have had its origin in a legend of the appearance of our Lord to St. Gregory whilst in the act of sacrificing.

Mr. Edward Poynter's etchings are executed with much exactness and delicacy. In his outline etching of the Earl of Dudley's picture of "The Last Judgment," by Fra Angelico, there are more than three hundred figures given in the compass of an illustration measuring 8¼ in. by 7 in., with a fidelity and grace that would have charmed the good Frater himself. The expression in the countenances of the figures in the "Pietà" of Ambrogio Lorenzetti is rendered with beautiful intensity. The light and shade of the more finished etchings are, for the most part, well managed. The woodcuts portraying various character of art in its different stages—the stiff, scanty, angular outlines of the earliest artists, the graceful economy and devotional exaltation of some masters, the powerful tumultuous profusion of others, speak for the patient skill of Miss Clara Lane. And the engravers, Miss Matéaux and Mr. Cooper, have done her justice. When we add, that the 170 different passages in the life of our Lord, and His types, have been illustrated from the innumerable works of upwards of 270 known artists, besides those of the unknown miniaturists and others of Greek and Byzantine art, and of the Anglo-Saxon period, and that these works are scattered over some eighty depositories and collections in various parts of Europe, it will be acknowledged that Lady Eastlake and her collaborateurs invite us to an intellectual feast of rare occurrence.

With this recommendation we close a notice that affords, perhaps, sufficient indication of the reverential spirit in which this work has been conceived; of the genuineness of the taste with which it is irradiated; and of the scholarship and love of art with which it has been executed.

THE NORTHERN LOW-LEVEL SEWERAGE, AND THE THAMES EMBANKMENT.

In the course of several articles on the Thames Embankment, we have described the designed general construction and decoration of the portion now in progress, of this great work, and have explained the arrangement of the sewer in the Embankment, and the connexion, so far as decided upon, of the portion of the Low-level Sewer, with the general line of the Northern Low-level sewerage reaching from Chiswick and Fulham to Abbey Hills on the Lea. But, the "special construction" necessary at particular points in the length from Westminster to Whitefriars, has been merely referred to; whilst the decorative features of the landing-stairs, and of the steam-boat piers,—excepting those at Waterloo Bridge, which we illustrated,—have been alluded to only as having been noticed by us in reviews of the architectural drawings in two different exhibitions of the Royal Academy. But the structural features at least, as designed, manifest so much ingenuity, that we ought to speak of them minutely: moreover, those of our readers who are acquainted with the old system of the sewerage, and with the shores of the Thames, will require explanation, to complete their conception of the new or future system for the northern portion of the metropolis.

The whole of the *special* construction may be divided into that which is necessarily connected with the provision of access to steam-boats, or other craft, and that which belongs properly to the sewerage of London. This distinction however is not maintained in fact: for, in some cases the mouth of an old sower and a storm-water outlet occur where a landing-place is required; and the construction for the former becomes part of the substructure of the latter. In connexion with all the landing-places moreover, there are special contrivances for flushing the recesses; and these too claim to be described. Let us first give attention to the sewerage-intercepting arrangements proper.

The main sewers now discharging into the river between Westminster and Whitefriars, are the Victoria-street and the Regent-street sewers, the Northumberland-street sewer, the Craven-street sewer, the Savoy-street sewer, the Norfolk-street sewer, and the Essex-street sewer; and besides these there are sewers of secondary importance in streets such as Villiers-street, running in the direction of the river, as well as the numerous channels and outfalls to which we alluded in our last article.

The secondary lines and the minor sewers and drains are all to be intercepted. As to the principal sewers, of which the names have been given, all are to be so altered that the sewage at ordinary times will be intercepted, whilst at times of extraordinary rainfall there may be a discharge direct into the river. This discharge will in each case be at a lower level than that of the Low-lever Sewer; and as it will take place only when the sewage is in the largest possible state of dilution, no sensible pollution of the river is apprehended; whilst it must be recollected that the alternative presented, was the construction of the intercepting sewers of enormous dimensions, to serve the requirements of only very few days in the year.

The Regent-street sewer, passing from Charing-cross through Great Scotland-yard, has one outfall at the head of the dock by Great Scotland-yard Wharf; but there is a diversion somewhat above this point, by means of iron pipes, to a spot between Middle Wharf and Percy Wharf, to which also comes the Victoria-street sewer from Middle Scotland-yard, and from which spot the two sewers are continued, as four lines of iron-piping, to near low-water mark. The other sewers, at the commencement of operations recently, were not found prolonged so far; though the Essex-street sewer had been extended considerably. Some of the sewers and drains were not provided with flaps. Those which were, because of their opening below high-water level, were, as is now well understood, "elongated cesspools" during a considerable portion of each tide; and the concurrence of considerable rainfall with the time of high-water, of course led to flooding of basements.

In connexion with the parallel channels of the Victoria-street and Regent-street sewers certain works are contemplated; whilst there is to be a separate storm-outlet connected with the other outfall of the Regent-street sewer. First, as to the construction connected with the four lines of piping at present conducting the sewage of the Regent-street and the Victoria-street sewers to the outfall near low-water mark. So much of the piping as may be necessary, is to be removed: a foundation is to be prepared, with 2 ft. or more in thickness of concrete; and a chamber with weir-walls, and a penstock-chamber are to be built. The weir-chamber will measure on plan 25 ft. 6 in. by 22 ft. in the clear; and the height to the crown of the arch will be 14 ft. 6 in., divided into two stories, so to speak, —an upper one of 11 ft. 6 in. with a flooring of cast-iron plates, and a basement-chamber of nearly 3 ft. in height. The surface of the iron plates at one end will be level, with the inverts of the existing four pipes, and at the other with the invert of the Low-level Sewer. The space which will form the basement-chamber is to be divided along the centre in the direction of its length, by a dwarf wall, pierced with low segmental arches,—to support the plates,—and at the distance of 2 ft. from each side, by the arched substructure of the weir-walls, 2 ft. 3 in. in thickness, of the upper chamber. The floor-plates are to be bolted together, and jointed with iron-cement; and further, bolted down to stones to be built in with the lowest courses of the brickwork. The 2-ft. space behind each weir-wall is to be divided into three lengths of 7 ft., by masses of brickwork, for the sake of strength. These and the weir-walls are to be capped with massive blocks of granite, cramped and dowelled together, and properly formed with cut-water tops. Under ordinary circumstances the sewage from the four outlets, each 3 ft. in diameter, above described as appropriated to the Victoria-street and Regent-street sewers, would pass through the weir-chamber direct to the Low-level sewer. But should the chamber be filled, either from the four channels or from the Low-level sewer itself, to a height of 7 ft. 6 in.,—that is, 9 in. below the crown of the Low-level Sewer,—the sewage would immediately flow over the weirs and fall into the basement; whence, as already explained, there is to be an outfall direct to the river. Penstocks, however, have been thought necessary; so that these would require to be raised. What object they are to serve, since there are to be tidal flaps, we have not discovered. The penstocks are to be two in number; and they are to be placed to openings, each of 5 ft. 9 in. in width by 2 ft. 9 in. in height, side by side, in a chamber of 16 ft. by 6 ft. on plan; and which will reach from somewhat below the level of the basement-chamber, up to the underside of the paving of the footway on the embankment. The lifting-gear of each penstock will consist of a worm keyed on a vertical spindle, and moving a tangent-wheel, with pinion gearing into a rack fixed on to a wrought-iron connecting-rod; and is to be worked from the surface, by a socket-spanner, without counterweights. Very precise directions are given in the specification, as to the construction and fitting of these penstocks, and others. The working-faces of the valves and the valve-seats are to be planed, or turned and scraped, to close water-tight; shafts, spindles, hooks, tail-pieces, and bridles, are to be of the best and toughest fagotted iron; and the hooks, tail-pieces, and bridles are to be filed, fitted, and case-hardened on their inclined surfaces. The jagged bolts for fixing are to be properly bedded into the masonry and run with sulphur. Every facility is to be afforded for examining the castings during progress and before painting; and the whole of the iron is to receive one coat priming of red lead and linseed oil, and three coats best coal-tar before fixing, and the accessible surfaces one further coat of coal-tar when the work is fixed.

The openings from the weir-chamber to the penstock-chamber will be formed with blocks of Bramley Fall stone. The two outlets from the penstock-chamber through the river-wall, with their flaps, will come just below low-water level; but the upper portion of an arched recess in which they will be placed, will appear at low-water. This recess will be 15 ft. in width, and covered by a segmental arch. The openings, with the flaps, will be each 5 ft. 9 in. by 2 ft. 9 in. Besides the penstocks and tidal flaps described, there will be a D valve to each of the four iron pipes, before it enters the weir or overflow chamber; and there will be means of working this valve from the surface. To allow space for the penstock-chamber, the line of the sewer is slightly diverted from its general course; and to allow of the requisite extension of the overflow-chamber where intersected by the sewer, the bottom of the sub-way is there formed with cast-iron plates, (7-8ths of an inch in general thickness, curved to the form of the arch below, and with flanges bolted and run with iron cement,) carrying the brickwork of the floor of the subway. We should observe that, as the floor of the overflow-chamber is flat, and level with the lowest portion of the sewer, which is of barrel-form, the sides of the chamber cut into the sewer in a manner to induce deposit, and otherwise to operate unfavourably to the current, whether of the main line or the tributary. Even having a segmental form of invert, a branch-sewer would now generally be made to enter the main sewer at some height above the bottom of the invert of the latter; and this arrangement has been adopted in many parts of the sewerage of London. Why, therefore, a different system should be reverted to, where, from the attendant

construction, there would seem to be unusual disadvantages from keeping the level of the branch-sewer no higher than the invert of the main-sewer, is not clear to us.

We mentioned that there was a distinct outfall to the Regent-street sewer. It is, we believe, the original one, of earlier construction than the iron-piping. The point at which it is situate must be about 550 ft. farther from low-water mark than are the outlets of later construction. This outfall is to be preserved, extended to the embankment-wall by four parallel lines of iron-piping, each pipe to be 2 ft. 6 in. in the clear diameter. The ground will be first excavated to solid foundations for the pipes, and for a chamber and storm-outlet to be described: concrete, of 12 in. in depth for the pipes, and 15 in. for all other works, will be filled in; and subsequently, concrete is to be filled round the pipes. At the existing outlet, a chamber 12 ft. by 6 ft. 6 in. on plan, and about 12 ft. in height, is to be formed of brickwork, and with a flooring of 3-in. York stone. In this chamber will be the present D flap of the sewer-mouth, which is at about 5 ft. 6 in. below high-water level. The four lines of piping will commence from the chamber, at a level of about 1 ft. 6 in. below that of low-water; and, crossing under the Victoria-street sewer, will fall to about 2 ft. 9 in. below, in the 530 ft. of their length. They will be put together in 9 ft. lengths; and the socket-joints will be caulked with yarn to one-third the depth of the socket, and run with lead for the remainder of the depth; and are to be tested to be water-tight under a head of 30 ft. at the least. The retaining-wall of the embankment is to be recessed; and four tidal-flaps are to be fixed to the mouths of the pipes. The Regent-street sewer, it should be explained to those who may not have read our original description of the Middle-level sewerage, has been so altered where it crosses the Circus, Oxford-street, that it will serve for the relief of the Middle-level Sewer when this becomes overcharged.

The Northumberland-street and Craven-street sewers are to be thus treated. The existing channels on the foreshore are to be destroyed; and a line in extension of the Craven-street sewer is to be joined into one in extension of the Northumberland-street line, which is to be constructed 320 ft. farther to a storm-outlet that is to be formed, in a central position, in the substructure of that one of the Charing-cross Bridge steamboat piers which will be on the south or up-stream side of the brick pier of the bridge. These two steamboat piers will be precisely similar to one another, excepting as to the construction mentioned, which of course will not appear. The decorative features of these piers also seem at present intended to be precisely similar, unless in the sculpture, to those at Waterloo Bridge, where there is a similar arrangement of a sewer, the Savoy-street sewer, in connexion with the substructure of the steamboat-pier, up-stream, to that which we are about to describe. Before speaking of the arrangement in the substructure of the Charing-cross Railway Bridge, however, it should be stated that the confluent streams, one from Craven-street and the other from Northumberland-street, reach the low-level, partly by falls of steps, starting in each case from the line of the present wharf-wall. These steps will serve likewise for descent from sewer-entrances, one of which is to be placed at the end of Craven-street, and the other at the end of Northumberland-street. It need scarcely be explained that the existing outlets of these sewers are below high-water level: the invert of the Northumberland-street sewer, indeed, is as much as 9 ft. 6 in. below. By the steps in each case the sewage will fall to the level of 2 ft. 6 in. above the level of low-water. From the bottom of the steps to the Northumberland-street sewer, that sewer, including the 320 ft. below the junction of the Craven-street line, will continue of the dimensions 5 ft. in width, and 6 ft. 3 in. in height from centre of invert to crown of vault. The sides will be perpendicular to the springing of the vault; and will be 18 in. thick, the vault and invert being each 9 in.; the whole brick-work being bedded on and covered with concrete. The Craven-street branch will be 3 ft. 9 in. by 2 ft. 6 in., egg-shaped, and of 9-in. work encased with concrete. There would be every advantage in placing this sewer at its entrance into the Northumberland-street line, some 18 in. higher. The arrangement of the overflow and penstock chambers to the Northumberland-street sewer, and the manner of working, here are somewhat different to what we have described; though the principle of getting an outfall for storm-waters crossing under the Low-level Sewer, may be the same. In the case of the Regent-street and Victoria-street sewers, the penstock-chamber, on plan, was placed between the Low-level Sewer and the wall in which was the outlet into the river. In the present case, the penstocks are to be in the opposite, or landward, side, of the sewer, and three in number. A combined arrangement of overflow-chamber and penstock-chamber will be divided by weir-walls into three channels, namely two lower, or basement, side-channels for discharging the storm-waters into the river, and an upper central channel for conveying the ordinary discharge into the Low-lewel Sewer. The weir-walls are to be capped with granite as before; and the penstocks are to be worked from the public footway. On lowering the penstock of the middle channel, or on any accumulation in the Low-level Sewer, the penstock being open, the sewage would rise in the chamber, and after having reached the height of the weir-walls it would fall down to the two lower or basement channels; and the penstocks of these being raised, it would flow on to the river. The final outlets would be four in number, two to each side channel, and each one 3 ft. in diameter, and closed with a tidal flap as in other cases. The bottom of these openings would be 4 ft. below low-water level; the paved bed of the recess, outside, being 1 ft. lower. The invert of the Low-level Sewer, where passing over these side-channels, will be formed of iron plates curved to the required form.

For the Savoy-street sewer, the old channel for 15 ft. landward of the old river-wall, and works connected with it, are to be removed; and a length of 105 ft. of new sewer, 5 ft. 6 in. by 3 ft., and with straight sides, is to be carried down to an overflow-chamber in the substructure of the steamboat pier west of Waterloo Bridge. In the course of the length, and starting from near the line of the present river-wall, will be seventeen steps, each 1 ft. 3 in. on the tread, similar to those described as connected with the Northumberland-street and Craven-street sewers. The arrangement of the overflow-chamber and the penstock chamber is the same in principle as that of the chamber of the Northumberland-street sewer; though the proportions and dimensions are different. In the length of 105 ft. there is a junction of one of the lines, to be noticed hereafter, which intercept the secondary and minor sewers and drains. In the penstocks and their lifting-gear there are some modifications.

The storm-outlets and chamber in connexion with the Norfolk-street sewer and the Essex-street sewer may be similarly described; though the Essex-street outlet, alone of the two, is connected with the substructure of a steamboat pier. The added length in this latter case, including 3 ft. in place of old sewer to be broken up, will amount to 220 ft. 6 in., the dimensions of the sewer being 5 ft. 6 in. by 3 ft.; and the length will include a flight of steps, 30 ft. 6 in., and also a double bell-mouth chamber to form junctions with the intended intercepting sewer for minor sewers and drains. The footings and concrete will be stepped up as the steps rise. Where the brickwork happens to come above the present level of the ground or foreshore, it will be covered with concrete, 6 in. thick, which will be sloped down at the sides to a slope of 1½ longitudinal to 1 vertical. The overflow-chamber will measure on plan 16 ft. by 20 ft.; the width, the latter dimension, being divided into three compartments, by the weir-walls, as in other cases. The penstock-chamber, also, of the same dimension 20 ft., in one direction, and 4 ft. in the other, connected with the overflow-chamber, resembles in the main the chambers of the other outfalls; and as in those cases, the weir-walls are continued across the 4 ft. The chief difference between the overflow-chamber of the Norfolk-street sewer, and that of the Essex-street sewer, is in the dimensions, the former being 4 ft. shorter than the latter. The extension of the Norfolk-street sewer is 200 ft. in length; and of that, the steps occupy 33 ft.

At last we come to the interception of the minor sewers and drains. These are not to be carried down straight to the Low-level Sewer; but a distinct intercepting sewer is in process of construction in each of several divisions of the length between Westminster and Whitefriars, and at a distance generally of not more than some 30 ft. to 40 ft. in advance of the old river-wall. This is the work for which the fires at night are lighted, that are seen by persons crossing Waterloo Bridge, or Westminster. For, the labour, or as much as the time will permit, must be got through between tides; and every tide undoes something that had been done after the tide before. Some of the material deposited for the embankment, even, has been washed away at each tide; and powerful pumping-machinery is required to get the trenches sufficiently free of water for the work to be proceeded with. The intercepting sewers referred to may be divided into four lengths, two in each contract. One of these divisions would reach between Westminster and a point nearly opposite Whitehall Place; another between the Villiers-street sewer and that of Savoy-street; a third between Waterloo Bridge and a point below Arundel Wharf; and the fourth would comprise the space between Milford Wharf and Whitefriars, which includes the frontage of the Temple. The fall in each of these four lengths, except the second mentioned, is from each end to an intermediate point, where there are curved junctions and the head of one transverse line: this last line joins into the main Low-level Sewer. One of the four lines connecting the minor intercepting sewer with the main Low-level Sewer will be opposite the eastern end of Montague House; another, for the division running past the Adelphi, the Salisbury estate, and the property of the Duchy of Lancaster, will be the Savoy-street sewer,—the fall of the intercepting sewer being in this case wholly in that direction; another line will be identical with the prolongation of the Norfolk-street sewer; and the fourth will be the prolongation of the Essex-street sewer. Each of the intercepting-sewers will be 4 ft. by 2 ft. 8 in., egg-shaped, and of 9-in. brickwork, bedded on 18 in. of concrete, as well as covered with the same material at the sides and top. The numerous existing sewers and drains are to be connected with the intercepting sewer, either by short lengths of the same dimensions, or by 12-in. stoneware pipes.

Besides side entrances, which are fitted with 3-inch York steps and landings, ladder-irons, and wrought-iron safety gratings, and besides ventilating shafts of the ordinary character, with gratings, there are to be in connexion with the four lengths of intercepting-sewer, fourteen entrance inspection-shafts, each 2 ft. 6 in. square and 8 ft. average height, fitted with ladder-irons and covered with 3-in. York stone. These inspection-shafts are intended to be placed each immediately in front of an old sewer-outlet,—one of those generally having a tidal-flap, to which means of access might be desired. This arrangement of the intercepting sewer, or of the shafts and entrances connected with it, however, would seem to imply that ground, the whole length corresponding with the face of the present river-wall, will be kept free of buildings. If not so, the "inspection-shafts" would become useless. But, as yet, it may be premature to say whether lines of street referred to in the Act of Parliament, or some modification of them, will be carried into effect. Much of the work of which we have just spoken as work of the future, is actually finished.

We have not described in this article, either the decorative character of the steam-boat piers and landing-stairs, or the structural provisions for flushing which we referred to as connected with these features of the Thames Embankment.

THE ENAMELLED SHIELD OF WILLIAM DE VALENCE.

WESTMINSTER ABBEY.

M. Labarte, in his "Handbook of the Arts of the Middle Ages," after quoting a document cited by Mr. Albert Way, which tells us that an artist of Limoges, "Magister Johannes Limovicensis," was employed about the year 1276, to construct the tomb and effigy of Walter de Merton, Bishop of Oxford, says,—"This curious monument was despoiled of its enamelled metal at the Reformation, but there still exists in England an evidence of the high repute in which the enamelled work of Limoges was held, in the effigy of William de Valence, in Westminster Abbey. There can be no doubt that this curious portraiture,* if not the work of Master John, who might have been employed in consequence of the previous display of his skill at Rochester,

* Though Labarte calls it "portraiture," the effigy (a poor one in form) is not to be viewed with any certainty as a likeness. Portrait-statues were not customary until somewhat later.

was produced by an artist of Limoges." Labarte, by some mistake, dates the earl's monument much too early, but that does not here concern us. The effigy is of wood, overlaid with enamelled and engraved copper, and includes an enamelled shield displaying twenty-eight bars, alternately *argent* and *azure*, diapered; or, rather, ornamented with inlaid scroll-work; and having nineteen martlets, *gules*, displayed around the circumference of the shield.

This shield, Mr. Berrington (one of the vergers of the abbey)* has drawn in *fac simile*, and Mr. Durlacher has chromo-lithographed. The enamel is of the kind known as *champ-levé*, the spaces filled in with enamel being formed by hollowing away the metal.

The representation is accompanied with a clear descriptive notice of the shield and monument, by the Rev. Chas. Boutell, M.A.

We have taken the trouble,—no, the pains,—to compare the chromo-lithograph with the beautiful original, on the spot, and will only take one exception to it, which is that the gold scroll-work on the *azure* bars is made too thick and leafy. If the shield be examined from above, and not from the ambulatory at the side, this gold scroll-work will be found to consist of a much finer line than in the drawing. We have reason to believe that the exaggeration is the work of the lithographer rather than of the draughtsman.

There is probably no earlier example of enamelled metal for monumental purposes in this country than this effigy displays. Besides the shield, the pillow on which the head of the earl rests, and the sword-belt, still display beautiful specimens of the art. The date given in Mr. Boutell's account, 1296, is that of the death of the earl. The date of the monument is probably a little later.

The wooden portion of the altar-tomb, now much mutilated, on which the effigy rests, was doubtless ornamented originally in the arcade surrounding it, with other enamels on metal plates, and with paintings and gilding.

The chapel in which the monument stands, St. Edmund's, is on the south side of the choir ambulatory, the second chapel shown by the vergers, and is rich in variety. It contains about twenty monuments, including one of the finest brasses in the abbey. There are some other interesting specimens of enamelling on the well-known fine monument to Edward III., with metal statuettes on the side opposite the entrance to this chapel. These enamels are of later date (Edward III. died in 1377), and are probably of English make. The abbey is indeed an overflowing storehouse of art-wealth. We are obliged to Mr. Berrington for bringing into prominence one of the evidences of this fact; and hope his venture in a pecuniary point of view will be successful.

With reference to one or two of his brother vergers, by the way, we would suggest to those who appoint vergers that, in filling future vacancies, a little amiability and discretion should be amongst the qualifications required.

A characteristic bust of Sir George Cornewall Lewis, by Mr. Weekes, R.A., has been erected in the south transept, to balance one of the late Charles Buller. Amongst the most recent works set up in the abbey must be mentioned, too, a small painted glass window, in the east aisle of that transept, by Lavers & Barrand, commemorative of the late Vincent Novello, composer. The subject is St. Cecilia; and, we may add, the window is agreeable to the eye, and does not offend the judgment.

* "The Enamelled Heraldic Shield of William de Valence, Earl of Pembroke, A.D. 1296. Drawn in Fac-simile by Luke Berrington, Verger, Westminster Abbey." Durlacher, Brewer-street, London. 1864.

OLD OAK PANELLING ONCE IN LONDON, NOW IN NORTH WALES.

If there be a really happy man in the whole principality of Wales, it is Morris Charles Jones, of Gungrog, near Welshpool, in North Wales, esquire. At the cost of a flea-bite or a song, he has carried from Cheapside, in London, to Gungrog, in Montgomeryshire, the carvings of a whole room—direct, he believes, from the cunning chisel of the inimitable Grinling Gibbons. For seventy-two pounds, ten shillings, and threepence (72*l.* 10*s.* 3*d.*), he has acquired what he calls "an oak-clad room," fit to be named in the same breath with Gibbons's other rooms, at Windsor, Hampton Court, Burleigh, Chatsworth, and Petworth; and this insignificant sum has in reality covered every expense from Cheapside to Gungrog. The room (for we shall speak of it as such), was the principal apartment of Sir Edward Waldo's house, in Cheapside, over against Bow Church. Sir Edward was of the Mercers' Company, and a Lord Mayor of London, in the reign of Charles II., and the room translated from Cheapside to Gungrog had heard not Bow bells alone, but the loud laugh and the coarse jest of the "Merry Monarch." We have little doubt of this, and think it incumbent on the squire of Gungrog to keep every Oak-apple day, and every Lord Mayor's day, with true Guildhall and Gog and Magog hospitality. The 9th of November, at Gungrog, should be especially dedicated to a baron of beef, huge custards, and loving cups, with "no allaying Thames."

The Lord of Gungrog has told pleasantly enough, in a pamphlet of thirty-nine pages (printed for private circulation only), the story of his purchase; and has sought with some skill to invest his Cheapside and Gungrog dining-room with kings and queens, and even Quakers, with King George III., Queen Charlotte, and the Barclays of Ure, with,—

> Pomps without guilt of bloodless swords and maces,
> Glad chains, warm furs, broad banners, and broad faces,

with real lord mayors in every sense; men like Sir Robert Clayton, Sir John Moore, Sir George Waterman, Sir John Lawrence, Sir Thomas Bludworth, Sir William Hooker, Sir William Pritchard, Sir Patience Ward, and Sir John Shorter, lord mayors of London, of "credit and renown," between the Restoration and the Revolution.

Mr. Morris Charles Jones shall now speak for himself. Lovers of old London localities will envy Mr. Jones, and find fault with what is called at times (improperly enough) improvement:—"Since the Great Fire," writes the Lord of Gungrog, "it is believed that it can be established, that the house on the other side of the street, and immediately opposite Bow Church, built by Sir Edward Waldo, and in recent times No. 108, Cheapside, has been visited by six reigning sovereigns, from Charles II. to George III. on the occasion of civic festivities, and for the purpose of visiting the Lord Mayor's show." Six visits from royalty on mayoralty occasions, running over a celebrated century of English history, cannot fail to invest a room with a regal halo of associations; and Mr. Jones, of Gungrog, can doubtless think down hours to moments with pleasant turtle and turbot associations, varied at times with banners and beef and men in armour, sheriffs, recorders and chaplains, City sword-bearers, City marshalls, common criers, City remembrancers, City barges, City chronologers, City architects, and *even* City poets, mixed with—

> Gun, drum, trumpet, blunderbuss, and thunder,

and wound up at last with town clerks and common serjeants of all ages and reputation for fair dealing and good living.

But the associations connected with the "old oak panelling" at Gungrog, are by no means our sole or main inducement for this corporation of London ramble about festive doings in London proper; our business is mainly with the writer's belief that seventy-two pounds and a few shillings, and his own good sense and knowledge of art, have been the means of making him the happy possessor of a room lined with panels and cornices carved by the great Grinling Gibbons. Mr. Jones is indeed to be envied if this be the case; but we doubt, however excellent the work may be, that Gibbons could possibly be the carver. In a long life—he was seventy-three when he died—his hands were never idle, and the known works from his hand will fully fill up all his years.

Except in St. Paul's, a crown and ecclesiastical structure, be it remembered—not a corporate one,—there is not a single certain example of Gibbons's art to be seen in the City of London proper. Finally, let us observe that, on Mr. Jones's assumption, Mr. Henry Cole and Mr. J. C. Robinson have been very remiss in suffering a genuine example of Gibbons's skill to pass into private hands; but those gentlemen, we suspect, can well defend themselves in this instance from any alleged neglect of their duty to the Committee of Council on Education, or of remissness in catering for the requirements of the public museum at South Kensington.

THE ALBERT INSTITUTE, DUNDEE.—The plans prepared by Mr. Scott have been approved, and it is expected that the work will be commenced shortly.

MEDIÆVAL RESTORATIONS IN FLORENCE.

FLORENCE, after the lapse of nearly two years since our last visit, seems improved in all that distinguishes and ever has distinguished her among Italian cities,—brilliant, beautiful, combining with happiest contrast the antique majesty of the past with the refinements and animated life of the present. Whether the project for giving her the preference as the future capital of united Italy be or be not carried into effect, we cannot doubt that an intellectual and social precedence, a *hegemony* (to use the favourite expression of Italian writers), will continue to be the rank awarded to, the honour deserved by, the "Etrurian Athens;" and the politician or philanthropist may now find more interesting than ever the aspects presented by her in the evidence therein afforded, that liberal institutions, by their natural action, tend to develop all that is wealthiest in national life; that freedom of conscience and guaranteed liberty in every walk of social interests must unfailingly secure the atmosphere in which all energies will have their healthful growth,—the *only* atmosphere in which true progress becomes possible. Rome and Florence are now the moral antipodes, the most striking examples of opposite systems and their results within the geographically narrow bounds of the Alp- and sea-girt peninsula.

Anxious to secure the pleasure of a first view by moonlight of the grandest public monument brought to completion since our last visit here,—the Santa Croce façade,—we set out a few hours after our arrival; and from the opposite end of the oblong piazza enjoyed to best advantage, though the moon's full face was at the moment partially overclouded, that noble example of the Tuscan Gothic, finished with such fine execution of details, so rich in its incrustation of coloured marbles, so harmonious in the blending of colour with form, of architecture with sculpture. Complete in all but the reliefs to occupy the tympana over the lateral doors, "The Elevation of the Cross," by Dupré, "The Vision of Constantine," by Zocchi, and "The Adoration of the Cross," over the great portal, now represented by chiaroscuro copies in the place of those sculptures not quite ready for their destined location, this façade has entailed an expense of 300,000 francs, therefore considerably above the estimated cost, 45,000 scudi. The heads, copied from Giotto, that stand in relief from gilt aureoles within quatrefoils round the archivolts of the portals, being the Saviour and Apostles, the principal Prophets and Patriarchs, enter well into the general design, and will bear examination, thanks to the merit of their artists. One must, however, regret that this splendid construction is but an adjunct, and serves merely to mask the front of an edifice whose exterior is otherwise plain even to sterility, whose modern campanile is utterly incongruous and almost an eyesore in its opposition to that magnificent elevation beside which it stands. On the spacious piazza in front is being prepared the basement for the monument of Dante, to be inaugurated on the occasion of the grand centenary celebration in the spring of next year, now a subject of universal interest for Florence, and the aim of many exertions undertaken in a patriotic—it seems also in a very liberal—spirit. *Two* weekly periodicals, one for the people, one for the more learned few, have been set on foot with a view to preparing and instructing the public mind as to the scope and *morale* of the proximate festival, as to all that concerns the *altissimo poeta** individually, the age he lived in, the spirit or philosophy of his writings. A more important publication, described by the editors, Cellini & Ghivizzani, as a "tribute from the nineteenth century to the poet of all centuries," has been promised, but not yet commenced, in a prospectus, containing the names of forty-five esteemed writers and the titles of the subjects severally chosen by them, all in reference to Dante, his age, the institutions, the social, moral, and religious condition of his time,—for volunteered contributions to a volume, the mere publishing costs of which (we learn from one of the editors) will be at least 1,000 ducats. In that list we are glad to see such high names as Cesare Canter, Mamiani, Guerrazzi, and Tommaseo; in the subjects to be treated, such promising ones as, "Dante and the Bible," "Dante and Shakspeare," "Monastic

* "Onarate l'altissimo poeta"—a line from the "Inferno," appropriately chiselled on the monument of Dante, at Sta. Croce.

Orders in the Age of Dante," "Europe, from 1250 to 1350," "The Fine Arts in relation to the Divine Comedy."

We rejoiced to find, on revisiting that magnificent centre of Mediæval art, the Or San Michele Church, that the project, entertained two years ago, of desecrating this edifice so far as to restore it to its ancient condition as an open arcade, surmounted by two stories of building (once used for archives), and removing the superbly beautiful tabernacle of Orcagna from its aisle to some church where it might be better seen than at present, has not been carried out—is indeed abandoned. Or San Michele is again open for public rites, and devoutly attended by worshippers still attracted, as in olden time, by the reputation and sanctity of the Madonna, so splendidly enshrined in Orcagna's structure; the only noticeable result obtained by the works ordered here in 1862, being the restoration to view of four fresco figures, the Evangelists, not without superior merit, by Londini (called Jacopo il Casentino), between the intersecting ribs of a bay in the vaulting.* Revisiting the grand old basilica of S. Miniato, we found the restoration both of its interior and façade now complete; but the frescoes along both walls of the aisles, by Taddeo Gaddi and other masters (in great part obliterated), have not yet been touched, though destined (as we learn), for the restoring process wherever their originals can be recognised with certainty. The mosaics on the front and in the apse (the latter with the date 1297), have been renovated, and their groundworks regilded.† The old monastery is left still in a dilapidated state; whilst the public cemetery has been gaining over the platform-terraces on every side, besides lining the nave, aisles, and crypt, with its pavement of tombs; and beneath the esplanade, where that majestic church-front rises, so conspicuous from the city and the Arno, opens a spacious sepulchral vault, flanked by columns, with double staircase leading to it from the higher level. Besides the custode, the only person resident in the adjacent buildings is a priest, employed to celebrate daily a requiem mass in this basilica; and that stately interior, all paved with tombstones, memorial crosses, and other funereal sculptures, many of them perpetually adorned by flowers and evergreens, now left to solitude save for funeral rites, and the occasional visits of those led by curiosity or piety to the deceased,—presents an aspect of forlorn solemnity that much enhances its architectural effect. On the evening we entered it, a few mourners were kneeling or seated motionless beside tombs, where lamps were lit, and fresh flowers strewn. No sound broke the stillness, no taper burnt on the altars; and the whole edifice seemed consecrated to the silent memory of the dead.

Another intelligent restoration of mediæval antiquity, that of the Bargello, or *Palazzo Pretorio*, is still in progress, as for the last three years. That sternly picturesque building, founded in the thirteenth century, but invested with its most distinctive features, by the architecture of Agnolo Gaddi, about a century later, impresses us, particularly in its interior, like a romance in masonry, and seems to transport the mind into another age. Walking through its solemn halls and under its vaulted roofs, all emblazoned with painted heraldry, we may fancy ourselves surrounded by the living and palpable realities of the olden time, of the days when Florence was a potent though indeed turbulent republic. The destination of this palace for a museum of Etruscan and mediæval antiquities has been decided on, but not yet carried out; its halls and corridors being still vacant: the restoration of architectural details and armorial paintings is almost complete, and all the unsightly incumbrances in the form of partitions, by which the interior had been converted into a common prison, have been removed. Never have we seen a grander example of the Gothic in *civic* architecture than the great hall, the largest in this palace, hitherto divided into three stories of prison-rooms, with its fine old windows walled up. Vast, lofty, magnificent, it seems the fitting scene for the gorgeous revels or high councils of the republican city. Though of immense scale, its roof is supported by no columns; but a single diametrical arch spans the whole width, resting on pilasters at opposite sides, and supporting alone the weight of the vaulting, divided into two ample bays with intersecting ribs, an effect of aerial loftiness singularly impressive being thus attained. Another smaller but stately room, whose walls are covered with painted shields, and with vault finely tinted in deep blue studded with gold stars, was the principal apartment of the hated Duke of Athens; and an epigraph, within the deep recess of one window, tells with patriotic pride how the municipality had ordered the armorial escutcheons of that defeated tyrant to be restored, 1861, though the Florentine people had decreed that they should be all effaced in 1343. Another curious part of this interior is the high square tower, formerly divided into numerous small cells for prisoners, one of which, corresponding to the first floor, is shown as that where Niccolo de' Lapi (the hero of Azeglio's romance, and of local history at the period of the siege in 1529) was confined. There is no trace of any ancient staircase, and the division into chambers, up to the compartment where hangs a great bell, is still left.

In respect to the restorations projected, but not yet even commenced, in Florence, we must say "the greatest is behind;" while the long-expected and much-discussed façade of her cathedral remains in the state of a single foundation stone, buried beneath a platform of stairs; though, indeed, much has been done in the way of collecting funds, and designing and criticising elevations. It is about a year since forty designs were presented to the judgment of the appointed committee, which deemed not one worthy of receiving the highest prize, or even any prize on the highest category. This being the result, the committee has chosen ten architects of high repute for a new competition, with the intention of positively fixing upon the best among their designs, to be presented in the next September, for the long-delayed execution. Up to this day the collection has amounted to about 400,000f.; about 1,200,000f. being the estimate of total costs. Several of the Florentine nobility have given their co-operation, and collectors have plied their task in the different wards of the city on a regulated system. The design which had most generally received the suffrages of the public, before the competition of last year, was that by Matas, architect of the Sta. Croce façade; but the judges did not take this into consideration, nor did that gentleman even compete among the artists whose drawings were presented. Unfinished façades remind us of the San Lorenzo Church and its renowned chapels, with the Medici monuments by Michelangelo, and the splendid adornments of the tomb, in art of decorative character. Still, looking gloomy and unfinished in spite of its pomps and all the toil devoted to it, the gorgeous domed octagon over the tombs of those grand-dukes is yet unprovided with the requisites for public worship; but an altar, encrusted with *pietra dura* of the highest price, is in preparation at the establishment for that species of workmanship, called "Florentine Mosaic," to be ultimately raised in the apse opposite the entrance of that sepulchral chapel, veritably "a pyramid of precious stones," as Byron describes it.

* This artist, who flourished about the middle of the fourteenth century, painted sixteen figures of Prophets and Patriarchs, Miracles of the Madonna, the Penitent Thief on the Cross, &c., on the walls of the same church, now much faded, and said by Vasari to have been "half spoiled," even in his time. The other bays of the vault, probably once painted, are still covered with dingy whitewash.

† The mosaics of the apse, the Saviour, the symbols of the Evangelists, the Virgin, and the martyred soldier St. Miniatus, have been supposed a restoration of some original earlier than the thirteenth century. Those on the façade, with another majestic figure of the Saviour, on a gold background, seem to belong to the same school and epoch.

A RUN TO THE LAKES.

It is one of the inestimable blessings of our modern system of travelling that we can get to the country easier than our forefathers could. For example, a poor Londoner who is sick unto death of the dust in Piccadilly, or the liquid manure of Oxford-street,—who wishes to get out of the way of the metropolitan sewers or the metropolitan railways,—who is apprehensive of a *coup-de-soleil* or a brain fever; in one word, he who wishes to get out of London during the dog-days, will find it an agreeable change to do as we did a week or two ago,—take a run to the Lakes. It is possible to breakfast in London, leave Euston-square about nine o'clock, and, after travelling over some 300 miles of country, to dine about five at Windermere, in the county of Westmoreland; in one of the nicest hotels in the north of England, in a cool, clear, bracing mountain atmosphere, and with a panorama spread out before the eye which recalls everything that we can conceive of an earthly paradise.

The first impression of Windermere is one which the traveller is not likely to forget. There is a sweet little modern-antique Anglo-Norman village in the foreground; a silver lake, richly wooded, half hid among hills of a dark purplish colour, in the distance, which overtop each other until the Cumberland mountains and the peak of the "Mighty Helvellyn" are seen towering in bold relief against the horizon. Numerous villages and cottages here and there gleaming amongst the exuberant foliage, impart an aspect of domestic beauty to the unrivalled landscape, and supply all that is necessary to complete the picture.

The picturesque element in this English fairy-land so strongly overshadows and dwarfs every other subject, that it will not be easy for us to bear in mind the object we have always more or less in view while travelling, viz., to obtain some personal information concerning the condition of the people. The readers of the *Builder* have had abundant evidence for concluding that the most beautiful and romantic district of a country is not necessarily the most salubrious and healthy; and, although we shall not be able to point to such flagrant cases of sanitary neglect in the Lake districts as we were unfortunately compelled to do in Buckinghamshire or Newcastle, still we think that the few observations we have been able to make will not be altogether useless. For one thing, these lovely lakes are very wet places, and, as all good meteorologists know, they are signalized by a rainfall which is beyond comparison the heaviest in England. This fact is of itself sufficiently interesting to admit of our devoting some consideration to the conditions of existence in the Lake district.

At the same time we must not be supposed to be insensible to the natural beauty and grandeur of the scenery. It is indeed impossible for an Englishman not to feel proud of his native country as he stands over the brink of Windermere, or climbs to the summit of Skiddaw or Helvellyn! A thousand associations arise to connect the romantic beauty with much that is memorable in English history; with the superstitions of the ancient Druids; the Roman encampments; the Anglo-Saxon kings; the Norman Conquest; the wars with the Scotch; and, finally, with the unfortunate fate of the last of the Earls of Derwentwater. Here we stand in presence of the *genius loci* of some of England's greatest modern poets, of whom Southey and Wordsworth have found in the old picturesque churchyards of the district their final resting-place; and here, too, are the veritable scenes of the labours of such philosophers as Dalton and Sedgwick, who endeavoured not unsuccessfully to educe from the chaos of physical phenomena the true theories of a well-ordered and harmonious universe. The stranger who traverses these regions for the first time will be at no loss, if he study the guide-books, to find such associations recalled. Not to speak of Wordsworth's admirable work on the scenery of the Lakes, we have in this quarter such a prolific crop of guide-books that we seriously question if any place in all England—the metropolis excepted—could boast of a literature so extensive. To judge from its popularity and compact information, we may reasonably suppose that Black's is the best for all practical purposes; still there is valuable stuff contained in them all. Miss Martineau, it is worth mentioning, has written a rather attractive account of the scenery in which she loves to dwell; of which account we might have been better satisfied had it contained less of that ingenious lady's peculiar opinions. For example, she tells the tourist "that he must spend a day on the mountains; and if alone, so much the better. If he knows what it is to spend a day so far above the every-day world, he is aware that it is good to be alone." * To this doctrine we are afraid we must decidedly demur; since long experience has taught us that it is better to travel *in pairs* through all such unfrequented passes either in the English Lakes or over the Scottish Highlands. There is only one other little objection we must make to the guide-books (in most of which, by the way, and as a matter of course, there are many scientific and even topographical inaccuracies), and that is the conceit of comparing the English Lakes with those of Switzerland and Italy. Thus Windermere is the English Zurich; Derwentwater is Lake Como; Ulleswater is Lucerne; and so on. Such fanciful analogies can serve no good purpose. Those who know the continental lakes best will pronounce that neither in "Lake,

* "Complete Guide to the English Lakes," p. 57.

slip, nor cloud," to use Mr. Ruskin's points, is there anything else than a very distant resemblance. The geological character is different; the sky is very different; the climate, of course, is entirely different. Equally out of place, in our opinion, is a comparison with the Scotch lochs, which are possessed of another and distinct order of grandeur. It is Pennant, the prince of tourists, who, if we recollect properly, somewhere very happily applies a story of Queen Elizabeth's time to this very subject. Sir James Melville, the Scotch ambassador at the English court, was one day asked in a jesting manner by the Queen, whether he thought she was as handsome as Mary Queen of Scots was reported to be? "Most gracious lady," replied the wily statesman, "your majesty is the most beautiful woman in England; and my mistress is the most beautiful woman in Scotland!"

It is often a matter of surprise on the part of travellers that the Lake district should be so destitute of those local traditions and ancient ballads with which the rest of the Border country is so profusely enriched. Southey tells us, indeed, by way of hypothesis, "that there is little or nothing of historical or romantic interest belonging to this region; for this part of the country was protected by the Solway and by its natural strength; nor does it appear at any time after it became English to have been troubled with feuds. The inhabitants being left in peace, had therefore neither ballad heroes nor ballad poets, happy in having afforded no field for the one and no materials of this kind for the other." But, with proper submission to so high an authority, we venture to doubt whether this be the true solution; and will continue to wonder that a region so naturally wild and romantic was aboriginally so barren of poetry and folk-lore. It was suggested to us that the whole thing may be accounted for by the destruction of the Derwentwater family; for it would seem that all the poetry and traditions of a highland people must cling, like the lay of the last minstrel, to the parent stock of the great baron or the feudal chief. If we suppose this to be the case, there may even yet be relics of forgotten lays and mountain lyrics still floating about the region. But Southey, unlike Sir Walter Scott, was not the man to collect them. We learned quite by accident in Keswick, that a long Jacobite lament on the gallant Earl of Derwentwater was orally recited by an old woman in the neighbourhood till the day of her death; and that a few stanzas are still remembered by a gentleman of that town who once had the good fortune to hear it.

But if there is a lack of ancient poetry and tradition, it must be owned that the moderns have certainly done their utmost to supply the deficiency. The materials, to be sure, were rich and abundant; but the quarry, if we may use a professional metaphor, has been uncommonly well worked,—particularly on the upper beds. The fact is, the poets have fairly run riot in these Elysian fields. There is scarcely a mountain, hill, or "pike;" there is not a lake, a waterfall, or rivulet; we might almost say there is hardly a tree or rock, on which some of "the Lakers," as Byron contemptuously styled them, have not contrived to affix their seal and superscription. Southey, Wordsworth, Coleridge, Christopher North, Sir Walter Scott, Thomas de Quincey, Hartley Coleridge, Mrs. Radcliffe, Felicia Hemans, Elizabeth Smith, Miss Jewsbury, and a whole legion of minor poets, whose very names would require a catalogue, have here succeeded, to a greater or less extent, in giving to their "airy nothings"

"A local habitation and a name."

Perhaps we shall be told that the gods have not made us poetical when we state, that in our opinion, even the master-minds do not show to the best advantage. We must own, that we got rather tired of Southey's hexameters and Wordsworth's pastorals, when studying them, as the geologist would say, *in situ*. As for the smaller minstrels who have chirped so melodiously on the margin of Grassmere or Buttermere, their rhymes are, for the most part, so licentious and their apostrophes so exaggerated, as to overpower and obliterate whatever meaning they might have otherwise possessed; and they are therefore altogether destructive of the effect which they were intended to produce. Besides, it is rather a hard task on the weary traveller to be told and expected to recollect the names of all the poets who have composed sonnets in praise of this lake or of that waterfall! And the truth is, the mere *description* of external nature, however life-like and beautiful, soon begins to pall even on the most voracious appetite. On the principle that "good wine needs no bush," we may safely assert that the English lakes require no extra-poetic stimulus to excite admiration. Even the most prosaic mind cannot be unconscious of a certain awe and astonishment as he traverses those regions of floods and volcanoes; and the true poet will, we suspect, always feel that the task of connecting such mysterious operations of nature with the beauty of the landscape or the course of human destiny is a task beyond the reach of our poetry, and perhaps of our philosophy.*

But to proceed. The ride from Windermere to Keswick—which is commonly accomplished by means of a mail-coach of the ancient type and three stout horses harnessed abreast, as in the Paddington omnibuses—is one which may well excite the astonishment of even an Alpine traveller. In place of winding round the bases of the mountains like General Wade's excellent military roads in the Scotch Highlands—it seems to have been abruptly led over the haunches of some of the lesser hills. Accordingly, the gradients are in some places so steep as to be rather dangerous, particularly at some of the narrow turnings, such as at Smethwaite Bridge, about five miles from Keswick. We may mention that the Lakers are rather proud of their bridges. "Travellers who may not have been accustomed to pay attention to things so unobtrusive," says Wordsworth, "will excuse me if I point out the proportions between the span and elevation of the arch, the lightness of the parapet, and *the graceful manner in which its curve follows faithfully that of the arch.*"† This may be a very poetical description, and it is almost literally true—the lines of the *extrados* and *entrados*, or of the roadway and archway, seem to be drawn from the same centre, and somewhat resemble the construction of a tubular drain or sewer. We need not point out that "such unobtrusive things" are very difficult to get across; and, indeed, as we have said, they are not unfrequently dangerous.

As we go jolting along this mountain pass, we have time to observe the "drystone dykes" or fences of the fields and enclosures. These are all constructed with the peculiar clay slate of the district; and one curious feature they possess is the sloping, flat-arched appearance of the coping, arising from the necessity of laying the stones on the angle of their natural cleavage, thus producing a very pretty *naturalistic* effect. The gate-posts are curious things. All the landed proprietors in the south of England know to their cost the difficulty and expense of providing substantial and durable gate-posts, particularly if the boys in the village are fond of swinging on the gates, after the model of Gainsborough's celebrated picture. But in the Lake district there is no difficulty. The purpose is served by a heavy monolith of clay-slate, for the most part undressed, varying from 2 in. to 4 in. thick, and the breadth of the section of the wall with the hinges sometimes batted in and sometimes fastened through with a bolt and nut. Many elegant and some common-place villas adorn the base of the mountains and the margin of the Lakes, of which we pass in succession Windermere, Rydal Water (where Wordsworth is buried), Grassmere, and Thirlmere or Leathes Water. Some of the churches are rather pretentious modern buildings, particularly that of St. Mary Ambleside, which was completed and consecrated by the Bishop of Chester in 1854. It stands near the centre of the valley, a little to the west of the town, and is built of the dark green stone of the neighbourhood. But the spire is of freestone, and the mullions of the windows, the copings of the buttresses, and the doorways, are also faced with the same material. The steeple is unusually large in proportion to the rest of the building, and has to our taste rather a clumsy effect. The interior is said to be handsome and commodious, consisting of a large central aisle and two smaller ones, and the north-east corner contains a memorial window of Wordsworth. Some of the older churches are very poor structures, particularly that at Wytheburn, hard by the Lake of Thirlmere, which is said to be one of the smallest churches in England; but it really possesses so very little of an ecclesiastical character, that one may easily mistake it for a cottage of the better class, or, at the very most, a school-house. It always occurs to us, regarding these little chapels scattered here and there in a mountain district and amidst a sparse population, to wish that their founders had been somewhat more liberal in the buildings as well as in the endowments. It should be remembered that as to inherent powers of support, they are not to be compared with the lowly *chapelle* of the Mediæval hermit, where prayers and benedictions were constantly required for travellers as well as natives. In Cumberland, we suspect, the architectural student will find the very *reductio ad absurdum* of English ecclesiastical architecture: but we need not dwell on the subject at present. As for the secular buildings, the farm-houses and cottages we passed, they present externally no remarkable feature. They are either built of the dark clay slate or greenstone of the district; sometimes with dressings of freestone in the higher types. Sometimes we observe the buildings are rough cast; sometimes the joints are neatly pointed; but more frequently the rough uneven edges of the untractable building materials are left to face the weather without any finishing. A very common form of chimney-pot, we may mention, consists in the odd-looking combination of four slates with mitred ends: quite an episcopal chimney-pot! There are very few thatched cottages in the district, a circumstance which is doubtless due to the abundance of the different sorts of slate.

At Dunmail Raise, on this road—remarkable as the grave of the last of the Cumbrian kings—just before we reach Thirlmere, we cross the boundary line between Westmoreland and Cumberland. A few miles farther on, after crossing the Naddle valley, the matchless glories of Derwentwater and Bassenthwaite Lake burst into view; and here we reach the picturesque market-town of Keswick, at once the centre and the metropolis of the Lake district; and, as we believe the poet Gray pronounced it, "the Elysium of the North."

Here we shall take a rest; or, rather, give our readers a rest for a day or two.

* We quote a single stanza from Coleridge, which is worth a cartload of the commonplace stuff one meets with so constantly at the Lakes. It is entitled, "A Thought suggested by a View of Saddleback:"—

"On stern Blencathra's perilous height
The winds are tyrannous and strong;
And flashing forth unsteady light
From stern Blencathra's skyey height,
How loud the torrents throng!
Beneath the moon in gentle weather,
They bind the earth and sky together;
But, oh! the sky and all its forms how quiet.
The things that seek the earth, how full of noise and riot!"

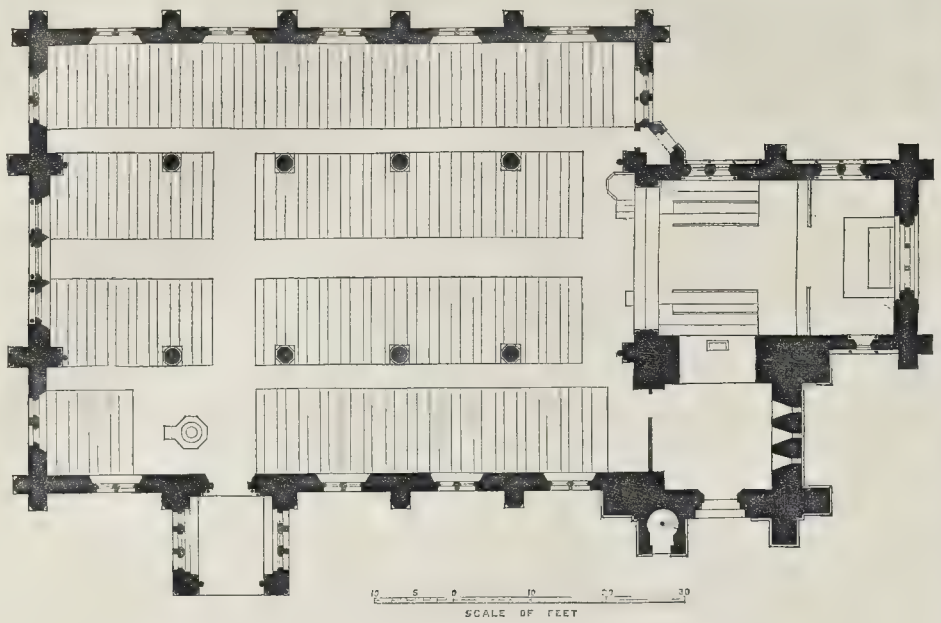
Saddleback, we may mention, is a hill of the Skiddaw range, which overlooks the valley of Threlkeld, about 2,800 feet in altitude. Its original and British name is *Blencathra*. The modern pseudonym arises from its peculiar shape when viewed from the neighbourhood of Penrith.

† "Scenery of the Lakes."

ANCIENT CROSSES AT ILKLEY, YORKSHIRE.

A CORRESPONDENT to be relied on, writing from Ilkley, in the West Riding, the *Alicana* of the Romans (where a Roman altar and the remains of forts were found years ago) writes,—"Here, in this out-of-the-way corner of the world—for we are a long journey from York—we have fallen upon the remains of three ancient crosses. They are standing erect on the south side of the churchyard, exposed to the tender mercies of all passers-by, and to the drippings from the overhanging trees. They are carved out of the sandstone abounding in the neighbourhood, a coarse-grained perishable material, and they look as if rapidly melting away even beneath one's gaze. We had previously bought a photograph of the crosses, judging from which, I expected to find them in a much better state of preservation; so that, I fear, if they have deteriorated so rapidly since the photo. was taken, they will soon vanish altogether, unless some speedy method of protecting them be adopted. They ought to have some shelter from the weather, as well as a railing all round to keep off injuries, wilful or accidental. I do not see how it is to be managed, but something ought to be done, and quickly too, to preserve these interesting relics. Ilkley church was lengthened, and the chancel built, some two years since. The ancient stones of which I am speaking are rectangular columns tapering to the top, not with cross-heads like those at Monasterboice; and are covered with knot and scroll work, including some human figures."

We commend our correspondent's letter to the attention of the incumbent and churchwardens of Ilkley in the first place; and of all who are interested in the preservation of our national antiquities, in the second.



ST. ANDREW'S, HILLINGDON.—*Plan.*

INDICATIONS OF HEALTH AND DISEASE.

The death-rate at this time of the year should be carefully watched, especially when we consider the peculiar nature of this year's summer. In the second week of August the number of deaths in the metropolis over the average was 63,—not a large number, certainly, when the immense extent of the population is taken into consideration. The deaths from diarrhœa were 228; and there were 22 deaths from cholera. It is worth while to consider the large number of deaths from diarrhœa which have occurred in the eastern districts of London, for instance. In Shoreditch there were 18 deaths; in Bethnal-green, 9; Whitechapel, 10; in St. George's-in-the-East, 9; in Stepney, 6; in Mile-end Old-town, 13; and in Poplar, 11: in all 76 deaths from diarrhœa; and it is to be observed that of the 228 deaths throughout the whole metropolis from diarrhœa, there were only 24 adults, and all the remainder were infants.

As a natural result of bad sanitary and other conditions, we find the deaths from diarrhœa large in some other districts. For example, there were 11 deaths in Lambeth, 13 in Greenwich, and 10 in Islington. The last-named parish, and, in fact, all the other places in which these deaths occur, should be carefully watched from week to week.

In addition to sanitary matters, the effect of meteorology on health is a matter which deserves far more study than it has yet obtained. Dr. Dundas Thomson—that able and active worker for the public good, and whose loss we deplore,—amongst his numerous and varied pursuits, earnestly directed his attention to this subject; and a section of the Manchester and Salford Association has done much in this way; but co-operation, and a central deposit where the reports could be classified and reduced to order, are still greatly needed. The inquiry should be divided into the following heads:—1. The meteorology of districts. 2. Influence of atmospheric changes upon disease. 3. Comparison between the health of Liverpool, Manchester, Leeds, Newcastle-on-Tyne, &c., &c., and the various London districts, as regards diarrhœa. It was observed, as far back as 1859—and the fact has since been in the main confirmed—that this complaint increases with the rise and fall of the temperature. When the temperature first rises above 60 degrees, the great impulse is given to this disease; and it is when the temperature remains long above that point, that a great number of cases of diarrhœa may be expected. Generally true as this is, it should not be forgotten that in all kinds of weather this disorder is rendered more fatal by sanitary neglects, and by a want of proper attention to food and clothing. We shall, as time passes on, increase and improve in this and other kinds of knowledge which affect not only human health, but also that of animals required for food. We have always had faith that ere long we shall acquire the means of discovering, in a tangible shape, those conditions of the atmosphere which produce disorders; and we are glad to see several indications of this: for, although men of science may be exploring other fields, their painstaking observation leads to the improvement of instruments, and affords hints to those who would fain be able to see the peculiarities of variously polluted atmospheres. As an instance, for five years a discussion has been going on respecting the theory of spontaneous generation. One of the last and most interesting papers on this subject, is by M. Pouchet. In connexion with this discussion, M. Coste, after stating that when a certain quantity of hay was left to macerate in the water, a pellicle was found on the surface, asserted that that did not generate monads, vibrios, or bacterias,—all animalcules as M. Pouchet affirmed,—because these infusoria made their appearance in the liquid before the pellicle was found. To this M. Pouchet replies, that the latter is the real generator, but that some infusoria do make their appearance in the water before the pellicle. The inference, however, which M. Coste draws from this, M. Pouchet declares to be erroneous. A meadow is but an immense field of maceration, where incalucable legions of infusoria pullulate. Their eggs and kysts or chrysales stick to the stems and leaves of the graminaceous plants that constitute hay, and may produce animalcules almost as soon as the latter are put into the water.* So far, then, there is no great difference between these conflicting authorities, except that M. Pouchet says the number of infusoria created in this way is very small in comparison with the animalcules issuing from the proligerous stroma. M. Pouchet advances several arguments which strongly support his theory, and which have much interest; but our present object is more especially to direct attention to the marvellous nature of the observations which have been made during the investigation of this matter by the Parisian naturalists, by means of the microscope. M. Pouchet reminds M. Coste of the peculiarities and appearance of those living creatures which are far more minute than the finest grain of sand to be found on the seashore.

* Have not the animalcules generated in hay something to do with the production of "hay fever?"

HILLINGDON NEW CHURCH.

The new church of St. Andrew, Hillingdon, the foundation stone of which was recently laid, is situate in the parish of Hillingdon, adjoining the township of Uxbridge, Middlesex, and is being erected on a very eligible site, close to the main road to London. The principal material of the walls is brick, procured from the locality, and of two colours, the yellow pavior bricks used for the surface work, and the best red kiln-burnt bricks for patterns and a portion of the quoins; the remainder, as well as such parts as were necessarily of stone, being from the Box quarries. The way in which these materials are employed can be judged of better by a reference to our engraving than by any mere description. The tower is placed at the end of the south aisle, and on the south side of the chancel, its lower part serving as a vestry. It is surmounted by a broach spire of oak shingles, ranged in horizontal bands, and having lucarnes upon the cardinal faces. The general arrangement of the building is shown on our ground plan, the accommodation being for about 700 persons. The total cost is expected to be about 8,000*l.*, and the fund is chiefly raised by voluntary subscription. The chancel, however, is to be erected as a memorial to a lady, by her sister, who has also promised stained glass for the east window, &c. The font will be given by the Vicar, the Rev. R. Croft; and the pulpit and lectern by the contractors. The church is expected to be finished in the May of next year. The architect is Mr. G. G. Scott; and the builders are Messrs. Fassnidge & Son, of Uxbridge, who have contracted for the whole of the work.



ST. ANDREW'S, HILLINGDON, MIDDLESEX.—Mr. G. G. Scott, R.A., Architect.

MORE INDUCEMENTS FOR ART WORKMEN.

THE ARCHITECTURAL MUSEUM.

We would point out, in case the advertisement should escape notice, that the council of the Architectural Museum offer a first prize of 20*l.* for the best, and a second prize of 10*l.* for the next best carving of a pulpit panel in oak, the subject being "The Good Samaritan," executed in relief, architecturally treated, and with appropriate mouldings. Note: The use of sand-paper will be considered as a disqualification for the prizes. They also offer a first prize of 10*l.* for the best, and Mr. H. Heather Bigg offers a second prize of 5*l.* 5s. for the next best reproduction in silver, on a reduced scale, of a cast in the Architectural Museum collection representing a group of leaves. The special object of this prize is to encourage hand-tooling or chasing.

A prize of 10*l.*, given by the Ecclesiological Society and Mr. Beresford Hope, is offered for a small rosette, executed in transparent enamels on silver. The colours are to be of not less than nine separate tints. The silver need not be sunk to a depth of more than 1-30th of an inch. Another prize of 10*l.*, given by Mr. Ruskin, is offered for a similar rosette, executed in opaque enamels on a ground of copper; the copper to be hollowed to the depth of not less than 1-16th of an inch, and the metal surfaces to be fire-gilt. It is to be hoped that some of our art-workmen will go in for these premiums, determined to win; not doing what they may think just enough, but everything possible. Any man of ability who does so, and produces a really good thing, may depend on its leading to advancement.

The specimens will remain the property of the art-workmen or their employers, and will be exhibited.

The advertisement will show where more precise particulars of the competition may be obtained.

CAUSES OF DEATH IN THE PRIME OF LIFE.

In submitting a list of candidates for election into the Infant Orphan Asylum, at Wanstead, an account is given of the causes of death and the pursuits in life of the fathers of the children for whom admission is sought. From this we gather some idea of the overwhelming majority of fatal cases of consumption in the prime of life. In the paper referred to, there are given the names and other particulars of the fathers of 118 children. Of these, 34 are reported to have died of consumption, 15 of disease of the heart, and 10 of fever,—in all from these causes, fifty-nine, or about half the number of deaths. And it is worth while to notice the pursuits of those who have died from the first and most extensive cause, and consider to what extent the fatal result has been produced by sedentary occupations, the ill effect of which has been increased by unwholesome shops, offices, &c. The subject is well worth far more extended inquiry than we can make at present; but believing, as we do, with some medical men, that consumption is much more affected by impure air and imperfect ventilation than has been generally supposed, we but glance at the subject, in the hope that it may lead to more extensive inquiry into this matter than is within the means of the present writer. Of those thirty-four deaths, there were two of saddlers; two of mercantile clerks; a baker and confectioner, boot-tree maker, surgeon, solicitor's clerk, draper, clerk to a proctor, butcher, solicitor's managing clerk, Trinity pilot, two builders, bank clerk, an accountant, chief commissioner of gold mines in the Brazils, innkeeper, statuary, secretary to gasworks, inspector of insurance agents, Government engineering clerk, mercantile clerk, warehouseman, another clerk, a machinist, a plumber and glazier, silversmith's assistant, commercial clerk, sergeant-major in the army, another commercial clerk, a merchant's clerk, and a lay vicar at a cathedral.

It is worth while to notice that no less than fourteen of the above number come under the class of clerks, secretaries, and such like.

Of those who died of disease of the heart there were two clergymen, a surgeon, a house decorator, a cheesemonger, a grocer, a banker's clerk, a law stationer and accountant, a master law-writer, clerk at a railway terminus, an organist and professor of music, a harness-maker, surveyor, bank clerk, and farmer.

Of those who died of fever, there were a clerk at the General Post Office, a warehouseman, an artist, a clerk of the Bank of England, schoolmaster at a reformatory, ribbon warehouseman, an officer of Inland Revenue, a chemist, and a schoolmaster.

Next in order of fatality is bronchitis, to which four deaths are attributed. Of the other causes of death there are—cancer, paralysis, drowning, epilepsy, sudden death, accident, cold, and other fatal causes; but in no case are there more than one, two, or three deaths from any one especial cause, except in the instances already mentioned,—a circumstance which seems to show that, as regards the death of male adults in the prime of life, consumption, heart-disease, and fever are the most dangerous enemies we have to contend with. We have looked at this very important matter from a limited point of view; but if it should be shown by more extensive statistics that our remarks are right, they should lead to inquiries which would have useful and practical results.

THE IMPROPER MANAGEMENT OF CHILDREN.

There can be no doubt that while neglected drainage and other evil sanitary conditions kill thousands, bad management and want of knowledge of the laws of health also destroy multitudes. In the nursing and rearing of children old-fashioned notions prevail. Fortunately some of these are passing away; but, in the meanwhile, their observance is attended with mischief and danger.

The medical attendants of the large masses of the industrious and poorer classes know the difficulty of getting the plainest rules attended to; and the physicians at the Children's Hospital, Great Ormond-street, could make curious revelations as to the food which is given to sick children. Matters which the strongest stomach could not well digest are given to delicate infants: there is loss of life by the narcotic preparations which are administered to promote *quietness:* infants sucking at the breast are supplied with draughts of porter, or drops of gin; and we know of cases in which children have been actually dwarfed in growth by such vile practices. Some children are kept at the breast until they are two years and sometimes three years of age, when this their chief supply of food becomes poison. In times of sickness, the directions of the medical attendant are often neglected; and, in a spirit of mistaken kindness, things are given to sick children which are perfectly preposterous; but the cause of the consequent aggravation of the disease is too often not known to the medical adviser. An idea that it is cruel to apply mustard poultices, blisters, &c., causes these applications when ordered, to be often so long delayed, or so ill-applied, that inflammation has got a-head and it is impossible to save life.

By the manner in which many children are clad danger is caused in this uncertain climate. Even with some to whom the cost is not much a matter of consideration, it is customary to leave a large part of the shoulders and chest of their children, as well as their lower limbs, exposed; and in this way is produced the germ of fatal diseases. When serious attacks of cold have resulted from such treatment, the chest is often covered with flannel; but it does not seem to be generally known that for the protection of the lungs the careful covering of the back between the shoulders is of quite as much importance.

Except amongst the most careless of mothers, it is usual to contrive somehow a bath for the infant every day; but when the child has grown to be about seven or eight years old, this healthy practice is neglected, and only the face and hands are washed, except on rare occasions. We know the difficulty which there is to do what is right in this way in thousands of the homes of the very poorest classes; but proper care in keeping the skin clean is far too often neglected, when by a little contrivance and trouble this important means of health might be made available. The same may be said about the clothing of children, a great portion of which is often left unwashed for weeks together. Sometimes it is allowed to wear away without the application of soap at all; and it is by no means uncommon to hear persons say, when choosing dresses, &c., for the children,—"Let me have something dark that will hide the dirt." With a supply of untainted air, well washed skins and clothing of proper form, and a judicious supply of food, we should not have one half of the present extent of mortality amongst children.

COUNTRY HOMES FOR ARTISANS.

By the Great Eastern Metropolitan Extension Act, which has recently become law, the company undertakes to run a train from Edmonton and Walthamstow to Liverpool-street, in the City, every morning before seven o'clock, and back again every evening at six o'clock, as may be most convenient for artisans, mechanics, and labourers, at a charge of not above a penny per journey; but they are not to be compelled to issue such tickets for a less period than one week, nor without reasonable satisfaction that applicants are of the working classes, for which they may demand name and address of both applicant and employer; and in case of accident, the company are not to be liable to any claim for compensation for injury of passengers beyond 100*l.* This arrangement will afford an opportunity of testing the possibility of providing homes for the working classes away from the smoke and overcrowding of London; and we hope that the occasion will not be lost sight of, and that by one means or another, and with the opening of the City terminus, there may be a number of suitable dwellings erected, affording accommodation to families at the rent of from 4s. to 5s. a week each. The price of land at Edmonton and Walthamstow at present should not prevent this from being easily carried out.

THE ACCIDENT ON THE NORTH LONDON RAILWAY.

Without wishing to say anything which may bias the verdict of the jury that has been empanelled to inquire into the cause of this remarkable accident, we will glance at some of the points of the evidence, which are not only curious but also well worthy of attention.

The explosion took place at the Camden Station, and the ponderous locomotive was precipitated from the viaduct on to the ground below. The fireman was found in a dying state not far from the scene of the accident.

Robert Grey, the foreman of the locomotive shop of the North London Railway, stated before the coroner, that the engine which exploded (No. 4) was about ten years old; and the company had ten other engines of the same age and class. In reply to the coroner, this witness said that he had never seen an accident of this description before; nor could he account for it. The engine was thoroughly repaired and tested two years ago: the engines were not examined more than once in two years. This engine had not been often under repair. He had examined the engine and found no defects in the structure. The inner copper fire-place had given way. The top stays were broken, and the rest was blown through to the copper. Notwithstanding this evidence, the witness says, that when the stays were examined two years ago, they were sound, *and so they are now.* At the back of the fire-box, there was a small star-crack that was repaired, and a copper patch put upon it, which is there now.

Mr. Adams, the locomotive superintendent, reported that he was well acquainted with the No. 4 engine, and was not aware of any defects in it. He, however, added that "he had examined the engine since the accident: *one side of the fire-box was torn away from the back and top sides.*" He could not see any thinning of the metals to account for the accident. The thickness of the fire-box plates varies from three-eighths to half an inch: this was originally three-eighths, and it was *worn away one-sixth.*

If in some locomotives it is considered necessary for safety that the fire-box plates be half an inch in thickness, this evidence shows that in the first instance the fire-box had been of the thinnest kind of plate in use for this purpose; and that it had been still further reduced, by wear, to the extent of a sixteenth of an inch. There was nothing to show that shortness of water or more than the usual pressure was the occasion of the explosion; but Mr. Adams said that if the fire-box gave, the water would rush in and cause the accident. This gentleman denied that the engines on the North London line do double the work of those on other lines. He reported that the average working is about sixteen hours per day, but that this engine had not run for sixteen hours per day for ten years. She had run about 291,508 miles. This enormous quantity of work for a single engine to perform will surprise many.

There can be little doubt that this venerable engine has been over-worked; and Mr. Adams

himself acknowledges that "it is heavy work for the working parts of the engines: our work is heavier than on the North-Western or Great Western Railways." A juror remarked, that he would not like to stand upon an engine that was five years of age, far less ten.

Old engines and, in fact, those of moderate age, should be inspected more frequently than once in two years, especially those in which thin plates are used; and were the whole system of railway management brought under public consideration, it would be an important question whether the periodical inspection of engines, on the good condition of which the public safety so much depends, should be entrusted to the servants of the companies themselves, and not rather to independent officials. This will be objected to in consequence of the expense; but it may, however, be worth while to consider whether the saving on the cost of accidents, and the increase of the number of passengers who would be attracted by the greater safety, would not cover the cost of doing what is right.

DRUIDICAL FESTIVAL AT LLANDUDNO.

The pavilion of the Eisteddfod, and the stone circle of the Gorsedd, have this year been erected at Llandudno. The pavilion is octagonal, and occupies an area of about 4,000 square yards. It is covered with felt; and in its construction there has been used 6,000 cubic ft. of wood, 5 tons of iron, 4,500 yards of felt, 250 yards of calico for windows, and as much red cloth for first-class seats. Mr. Pritchard is the contractor, and Mr. G. Felton the architect; both of Llandudno. The ancient Gorsedd, for conferring the bardic degrees of ovate, bard, and druid, for prose, poetry, and religion, consists of a circle of twelve stones, and a central slab, table, altar, or "stone of power," erected on four other stones, and called the throne. "Other three stones *run out of the circle*, towards the east," and are supposed to form, with the throne, or central one, the following geometrical and once highly sacred symbol:—



which very much resembles the Government's broad arrow (in this case pointing, as it were, to the centre of the circle); and it is a curious fact that the ancient Gorsedd formed the Parliament, whence the laws, emanating from the theocratic throne of the oracle, were promulgated. The bardic circle, or ancient House of *Lords*, as it were, is surrounded by an iron railing, "to protect its sacredness against the intrusion of the uninitiated multitude,"—the mere "Commons." The *North Wales Chronicle*, to which we are indebted for the description whence we extract these particulars, states that the object of this annual festival is "to excite mentality." It is said to have been annually held, for 1,200 years, "in the face of the *Sun* and the Eye of *Light*."

NEW DOCKS.

The large timber-dock, at Hartlepool, in connexion with the West Hartlepool Company, has been completed, and the water run into it, in the presence of numerous spectators. The dock is about three acres in extent, and connects the former dock with the large pond at the north of the Slake. The engineer was Mr. R. Murray, and the contractors were Messrs. Bell & Mitchell, of West Hartlepool.——The foundation-stone of the docks at Hubberston, Milford Haven, has been laid with some ceremony. Hubberston docks will contain a dry and graving dock, 420 ft. long by 60 ft. wide, and the enclosed waters of Hubberston Pill will furnish an area of ten acres below the present opening bridge, in which vessels of the greatest burthen may float and come alongside the quays, while about twenty-two acres of water area above the bridge will be available for craft of a smaller tonnage.——By the report of the select committee on dock accommodation at Devonport and Keyham, it appears that some of the witnesses think that two additional first-class docks are required here; others think three. The south basin, 7 acres 32 perches, has, during the last year, been deepened 6 ft.: it is now 25 ft. deep, but it can be deepened by pumping to 28 ft. The north basin, 5 acres, is being enlarged in a northerly direction to, say, 10 acres. The side of the northern boundary-wall next the basin has been finished with wrought stone, water-tight: the side to the north, distant 60 ft., is faced with the rough stone from the buildings of the old gunpowder magazine. There is some discussion about the possibility of placing one dock inside the other, as in some of the Russian arsenals, by which mode the level of the platform of the inner dock is considerably higher than that of the outer. Then there is a difference of opinion as to whether the dock should run north and south, parallel with the Hamoaze, or at right angles with that harbour, like those already constructed inside the basins both at Devonport and Keyham.

A HINT TO PARLIAMENT MEN.

We would say a word in season to members of both Houses who are wandering in search of renewed health and strength over their own broad acres, or travelling by steamships or by rail to distant climes: especially, however, to those who are enjoying their ease at home. Let them remember that there is great work to be done in rural districts. The game preserves have interest, and so have the gardens and the woods; but it would be well to look at the hamlets and villages where the working men and women live;—to inquire in the villages how the manure of all kinds can be removed, so that it may be beneficial to the land and not injurious to human life;—to study if villages could be supplied with good water at a cheap rate. Much good might be done in this way to man as well as to beasts. There is also a quantity of human game in the rural districts to be hunted up, and the amount of labour necessary for this purpose would be well repaid by the results. Schools, therefore, and other institutions of an improving nature, should be watched by Parliament men during the recess; nor should farmhouses and the general drainage of the land be neglected.

ARRAS.

This fine old city, now on the railway line from Paris to Calais, and ninety-one miles distant from the latter, is rarely visited by English tourists; yet it has some interesting and singular monuments well worth viewing. The most important are certainly the town-hall, and the place where it stands, called the Petite-place. This latter is remarkable, for the three sides of the parallelogram, being built on arcades, the columns of which, about 9 feet high, are all monoliths, diminish from the middle towards the base as well as towards the cap: in fact, they are of English rolling-pin form.

The houses built upon them are mostly narrow fronted, with gables, all of the same design.

Adjoining is another open place, called La Grande-place, also having three of its sides built on similar arcades, but the houses here have not the same regularity of frontage.

From the restoration of the Hôtel de Ville, the additions made and making to it, as well as the erection of a new church, nearly finished, and the completion of an elaborate chapel, Arras must be a wealthy city; and of these operations M. Gligny, architect, has the direction.

In the façade of the Hôtel de Ville, the great bay window and its balcony are renewed in its sculpture with extreme delicacy. Behind this, new erections of some extent have been added in the style of the Renaissance, with an almost overdone profusion of sculptured details. A similar addition to the right is intended, and tenders are invited, not to exceed 271,000 francs.

The Chapel of the Holy Sacrament, by the architect Gligny, has been finished and opened for public service. Externally it has no particular feature, excepting that a somewhat heavy spire, crocketed, is perched upon eight remarkably slender columns. The high altar, in the interior, is of the richest Gothic, the stonework being almost carved as lace. To the chapel is attached a convent for fifty ladies of good birth, some of whom are constantly at prayer, night and day, without intermission.

Near the Porte Napoleon, in the street leading from the railway station, M. Gligny is constructing a new church called the Ursulines'. The tower and church are completed as far as the stonework. The tower or spire is about 120 feet high, and as narrow, almost, as an obelisk, constructed in eight stories, including the pinnacle. The lower six stages are square, whence they become round: at the angles are placed large carved emblems of lions, tigers, and others. The whole of these stages or stories are decorated with Gothic arcading and crocketed pediments. The remarkable slenderness of this tower, in proportion to its height, makes it somewhat resemble that of St. Benigne, at Dijon, but the latter is constructed of wood and this is of stone.

The cathedral is also a new edifice of large dimensions, in the Roman style of architecture, entered by a flight of nearly forty steps. It has no feature worth noticing.

CHARITABLE COMMITTEES AND ARCHITECTS.

Did you, Mr. Editor, take a peep at one of the competition advertisements in the last number of your paper, wherein a certain party, calling themselves *charitable* trustees (Oh, shades of architects gone, that architects present should throw themselves upon such charity!), after describing the ground in yards, and saying that the church should accommodate 1,000 persons comfortably, and not cost more than 5,000*l.*, ask for five drawings, also an estimate of the cost, for which 50*l.* will be given to the lucky competitor whose design best meets with the charitable approval of the charitable trustees. Why need architects now complain of not getting rich with such charitable means thrust upon them to become so? But this is the old complaint. Hearken to what follows, youthful T squares. The charitable trustees "will not necessarily employ you, but will be disposed to *treat* with you for that purpose," whatever that may threaten. Listen, further. What rewards are the so-called unlucky T-squares (qy.) to receive? Why, this? Their drawings "will be returned by the usual conveyances, but the charitable trustees will not be responsible for their safe delivery, nor for any payment to the owners in respect of such plans, *or of the adoption of any part of any of them in the erection of the church.*" Do my wits deceive me? Is it possible that the charitable trustees intend picking out from one design (of course presuming they receive any) the tit-bits that may tickle their fancy, and adding them to another? Very honest, certainly; not to say charitable.

Sid.

INSTRUCTION IN BUILDING OPERATIONS.

Owing to the trades' unions, building workmen have become totally indifferent as to the manner in which they execute their work. It is high time some steps were taken to check this state of things; and, as a large portion of the contractors of the present day have risen from the ranks, our position as architects has become fearful. We add clause after clause to our specifications, until they become disagreeably voluminous, but all to no purpose; and litigation is commonly the result. It has occurred to me that a great service would be done to the profession and to the public, by the issue of a work on the mechanical operations of the several branches of the building trade; and as every county has some description of work peculiar to the locality, it should be included; which could easily be effected, as architectural associations have been established in all important towns throughout the kingdom, and their co-operation would be essential. This work, which should also have a copious glossary of terms, would be a standard book of reference, and could be made the means of settling many of the tiresome quibbles that arise between architects and ignorant or quirking contractors, by assuming that the descriptive matter in the same should, in the absence of anything to the contrary in specification, indicate the manner in which the work must be executed. Formerly, established custom decided the case, but now the *custom* is to scamp; and proper workmanship is the exception. There is also another grievance which might well be entertained at the same time. It has become common in every department to endeavour to set up new customs in reference to admeasurement. Should you perchance have appended to your contract a schedule of prices which may seem fair and reasonable, you will find on measuring day that the tradesman will insist upon some outrageous system of taking dimensions, that will give him an advantage of 10 to 20 per cent.; and, with many young architects who are inexperienced surveyors, he carries his point. There is much valuable matter in "Nicholson's Practical Builder" which might form the basis of the

work, selecting only the purely operative portion, and enlarging upon it in such a manner as to leave nothing unexplained. For instance, in joiners' and carpenters' work, the manner of seasoning and preparing timber for use, the quality of nails, screws, &c.; the proper quantity and description for the different kinds of work; in ironmongery, the several qualities to be properly described. Most articles in that department have three, as in hinges, which by the trade are classified as light, best, and best best. All this may seem trifling to the inexperienced, but with men of practical knowledge it is not unlikely it may lead to a serious consideration and some beneficial results. Z.

CASTELL DINAS BRÂN.

I think your correspondent who gives an account of Castell Dinas Brân, p. 545, *ante* (23rd July), is in error in supposing the remains of groining at the gateway to have been the chapel. It is without doubt the entrance gateway itself: and the rough vaulted passage beside it is a side-chamber of the gatehouse. The mouldings of the groining over the gateway entrance are now entirely defaced; but some of the voussoirs were some years ago preserved in a house near the foot of the castle-hill. One of them is in my possession, and shows a very fine and bold section of Early Decorated date. The foundations and part of the lower story of the two round towers flanking the gateway remain, but are not noticed by your correspondent: on one of them can be traced a corbel head, very much mutilated, to carry one of the outer arches of the entrance; and on one of the blocks of freestone under the two bays of groining is a trace of the groove for the portcullis. I have never been able to ascertain when or by whom the castle was destroyed; but as it has long lain in ruins, it has been suggested that it is one of those destroyed by Owain Glendwr, who was also educated as a squire within its walls. The evidences of a thorough and wilful destruction are everywhere apparent, the walls having been undermined and thrown outwards. The inner wall of the hall was probably of wood, as there are now no traces of a stone wall next the court-yard. Much of the freestone has been picked out of the walls, to build hearths and ovens for the neighbouring cottages, as it does not fracture with heat.

E. W. C.

SUGGESTIONS AND CALCULATIONS FOR PEALS OF BELLS.

It has occurred several times to the writer, a sexagenarian campanologist, that the dreary monotony of one bell (liberally changed by Mr. Walters, Miss Burdett Coutts, and a very limited number of new church builders) arises (here) from uninformed fear of expense, quite as much as from want of obtainable funds or of liberality. Worthy "George Herbert" says,—

> "Sundays revere; think when the bells—
> 'Tis angels' music"—do *chime*.

He could not, therefore, have referred to the half-funereal tone—omitting the "hollow mockery" of a tower, single, in a campanological sense,—of one Sunday bell; and that sometimes, as at "St. Matthew's, City-road," shrill to feebleness, perhaps weighing 6 cwt. "Ringing," also, is entirely pretermitted.

To humbly, therefore, offer a remedy for this, I have made calculations, which I believe to be quite sound, with experience of "proportions," for peals of quite moderate size and weight,—which could, of course, be increased in "round numbers." Bell-metal being usually 8*l.* 8s. per 112 lb., and "frames and fixings" averaging from 14*l.* to 18*l.* per bell, and I believe about 6*l.* per cwt. being allowed for old metal when that exists. Three bells, tenor 9 cwt., 230*l.*; four bells, 11 cwt. tenor, 335*l.*; six bells, 15 cwt. tenor, 580*l.*; eight bells, 21 cwt. tenor, 890*l.*

P.

RHYD COURT.

Sir,—I shall be obliged to you to insert in your next a slip which appeared in the last Number in reference to the alterations at Sir Edmund Lechmere's. A paragraph says,—

"The residence of Sir Edmund Lechmere, Bart., at the Rhyd, has been undergoing some alterations and additions under the direction of Mr. Brandon, architect."

The works at the Rhyd were carried out under my direction, at a cost of from 4,000*l.* to 5,000*l.*

A small chapel is now, I understand, being built there, under the direction of an architect engaged in the locality.

D. Brandon.

COMPETITIONS.

Chester Town-hall.—Messrs. Lanyon, Lynn, & Lanyon, having re-asserted their opinion, that the design, "Love's Labour" can be carried out for 16,000*l.*, and Mr. Heffer having sent a tender from a builder to execute "Deva" for 15,529*l.*, the Town Council have decided on paying the premiums to these gentlemen, and have authorised a committee to confer with the authors of the first design.

We have been called to an account by an intemperate correspondent for not condemning the decision. We will let "A Competitor" give our reason for not taking, at present, at any rate, an antagonistic position:—

After the cry that has been raised to have architectural competitions referred to members of the profession, where this has been adopted, and the report submitted has been acted upon, I cannot see what more can be expected of the Chester Town Council; while, if well-known members in the profession engaged on such occasions are to be censured for their decisions (not forgetting the late Kensington Museum Competition), these gentlemen, for whose judgment we, as architects, ought to pay the greatest deference, will have to decline the unenviable task of sitting in judgment on architects' designs, and leave the profession at the mercy of amateurs.—T. M.

Peterborough.—The Rev. E. Davys, of Peterborough, advertised a premium of 20*l.* for the best design for a pair of semi-detached villas, capable of being erected for 800*l.* A large number of designs were submitted, and that by Mr. T. C. Sorby, of London, has been selected, and is to be carried into execution at Peterborough, by Messrs. Ruddle & Thompson, builders.

Durham Permanent Investment Society.—Working Men's Cottages.—The first premium, 10*l.* 10s., has been awarded to "Severnonian;" and the second, 5*l.* 5s., to (motto, "Durham,") Messrs. Smith & Paine, architects, London.

WATER SUPPLY.

The Sowerby Bridge Water-works, Halifax, have been opened. These works have been laid out by the local Board of Health at the cost of about 6,000*l.* The water will be supplied by the Halifax corporation.——The inhabitants of Bradford, says the local *Observer*, may felicitate themselves upon their very favourable position at this juncture with regard to a supply of water. Whilst their neighbours on every hand are suffering from thirst, they have enough and to spare. At Halifax several establishments have been brought to a standstill for want of this necessary: the inhabitants are stinted in their supply, and cautioned against using improvidently what they get: the streets and the gardens go unwatered; and the corporation have been fain to borrow water-carts from their neighbours, in order to gather up from private sources water for the domestic use of the burgesses. We read in the papers of other places that are similarly suffering from a famine of water.—— At a recent meeting of the Cockermouth local Board to take into consideration the best means of supplying the town with water, from one of the schemes suggested by Mr. Lawson, C.E., Mr. Pearson proposed that the Cocker scheme be adopted, and Mr. Burnett seconded the motion. Mr. Walker was about to propose an amendment in favour of the Wythop scheme, when Mr. Bowerbank said that at first he was much in favour of the Wythop scheme, but since he had made inquiries he was convinced that there could not be an adequate quantity of water to supply the town. Mr. Walker replied that he was confident that there was enough water to supply all Cumberland. The motion was then put to the meeting, and passed unanimously. The clerk was instructed to communicate with Mr. Lawson, intimating the decision of the Board.

TARGETS.

Sir,—Allow me, through the medium of the *Builder*, to lay before the public the following simple method of marking which occurred to me some months ago, and the adoption of which could not fail to prevent a recurrence of such deplorable accidents as that which lately happened at the Wimbledon rifle-ground.

I propose that the ordinary shot-proof targets now used should be painted alike on both sides, and made to revolve on pivots in a strong framework of iron. I would then place the covering for the marker *beside* the target instead of in front of it, so that (as soon as the ring of a bullet announced to him that it had been hit) he might turn it completely round without leaving his post, thus presenting a fresh side to the shooters, and giving himself an opportunity of safely painting out the mark of the shot as soon as he had declared its effect by showing a flag in the usual manner.

The additional cost of adopting such a system would, I should think, be comparatively trifling, while it would place the marker in the most perfect safety.

An Amateur.

CHURCH-BUILDING NEWS.

Bacton (*Suffolk*).—The church of this parish has, during the past few months, undergone extensive renovation, both interior and exterior. A survey having been made by Mr. Butterfield, of London, architect, plans were prepared, and a contract was entered into by Mr. Elliston, of Sudbury. The external walls have been stripped of the plaster which disfigured them, and the stone work of several of the windows has been renewed. The roof of the nave was generally in good preservation, and wherever any defect existed it has been so restored that inspection is needed to distinguish the new from the old work. The first bay from the chancel has been painted a bright red and white. The spandrels of the chancel arch were formerly similarly decorated; and it is proposed, if possible, to restore the painting. The principal change made in the interior is the substitution of benches for the old pews, and new doors and a new pulpit will replace the old ones. The font has also been restored. The church will be re-opened in the course of a few weeks.

Tewkesbury.—The Abbey Church is to be restored by Mr. Scott. An influential meeting has been held in the vestry room of the church to take into consideration the best means to be adopted towards the restoration of the fabric. Mr. Scott attended, and gave an elaborate architectural history of the building, and his opinion of the repairs and restoration which would be necessary. He was not prepared with the estimate as to the cost, but promised to supply that at a future day. It was resolved: "That the most strenuous efforts should be made to raise sufficient funds to carry out, as far as practicable, the suggestions of Mr. Scott, by an appeal to the inhabitants of Tewkesbury and its surrounding neighbourhood, and to the admirers of church architecture throughout the kingdom, and that Mr. Scott be requested to make a careful and detailed estimate of the probable expenses of effecting the restoration in accordance with his views."

Bawtry (*Yorkshire*).—Scrooby Church has been restored and re-opened. All the interior has been swept away. The south aisle is divided from the nave by three arches. The east window, which was formerly square-headed, is now slightly perpendicular with Gothic arches, the pattern from a window in Henry VII.'s Chapel, Westminster. It contains four compartments below and eight above. The pillars sustaining the Gothic arch on the entrance into the chancel have some moulded caps. The tower arch is of the early perpendicular style. The west window, which was once blocked up, is of the same character, and is open. The pulpit is of Bath stone panelled, two compartments of which are carved. All the windows, with the exception of those mentioned, are of three lights, and are filled with cathedral-tinted glass, edged with plain crown glass. The altar-table is covered with crimson silk velvet with straw-coloured silk fringe. The architect employed was Mr. Neale, of Mansfield, and the contractors were Messrs. Lee & Tomlinson, of Retford. The expenditure exceeds 600*l.*

Kirkstall (*Yorkshire*).—St. Stephen's Church has been reopened for divine service. For upwards of twelve months workmen have been engaged in making alterations in the form, arrangement, and architectural character of this church. Its original form was a parallelogram, with high-backed pews, some square with brass rods and red curtains; plain flat plaster ceiling, three galleries, the west one being very deep, with the organ in it. These and other obstructions have been removed, and the interior made to consist of a nave 60 ft. in length, 23 ft. in width, and 42 ft. in height to the apex of the roof; north and south aisles, each 60 ft. by 12 ft. and 30 ft. high; north and south transepts 32 ft. by 21 ft. and 25 ft. high, with aisles on each side of them, and a chancel 38 ft. by 23 ft. and 38 ft. high. The nave arcades have each six bays with clustered piers, moulded capital arches and labels. The chancel arch is lofty, the piers clustered with moulded capitals, &c. The chancel is separated from the transepts by an arcade on each side of three bays, the piers, capitals, and arches being treated similar to those in the nave. The whole of the chancel is laid with tiles of a geometric pattern, red, black, and yellow. The new roofs to the chancel and transepts are open timbered with curved ribs resting on hammer-beam spandrels and braces, supported on carved corbels. The whole of the pewing is of new

deal, with cut-stall ends, sloping backs, book-boards, and doors. The pewing and all the roof timbers are stained. All the fittings in the chancel are of oak. The oak carving was executed by Mr. Adams. The church is lighted with gas by coronas suspended from the roofs. The windows in the aisles to the transepts (eight in number) are filled with stained glass, by Mr. Warrington, five of which are the gift of Mr. John Ellershaw, J.P., of Oakfield, Kirkstall, and the remaining three the gift of Mr. S. Clapham, of Burley. There is a memorial window in the south aisle by the same artist. In the north aisle, opposite the last-named window, is the Oastler memorial window, by Mr. Wailes; and in the south transept is the memorial window, by Mr. Prede, to the late Mr. William Beckett. The works have been executed by Messrs. Wright & Sons, joiners; executors of Thomas Hall & Co., joiners; Garlick & Son, plasterers; Naylor, plumber and gasfitter; Dickinson, painter; Messrs. Nelson, the hot-water apparatus. The whole has been from the designs of Messrs. Perkin & Backhouse, of Leeds, architects, and under the superintendence of Mr. Kaberry, clerk of works. The organ pipes have been decorated in the Mediæval style by Mr. Spence, of Leeds.

Weaste (near Eccles).—The foundation-stone of St. Luke's Church, at Weaste, has been laid on the site within the junction of the Eccles New-road and Weaste-lane. Sir Robert Gore Booth, bart., presented the site of the new church, together with half an acre of ground for the parsonage-house adjoining, and a money-gift of 2,000*l.* This sum has been supplemented by subscriptions from wealthy persons in the district, making a total of 11,050*l.*, which will fully meet the cost of the erection. The length of the building will be 128 ft., and its width about 58 feet. The sittings are to accommodate 500 persons, and will be principally free. The work is from designs by Mr. Scott; and Mr. William Huddleston, of Lincoln, is the contractor.

Newcastle-upon-Tyne.—The belfry of St. Nicholas's Church is said to be now more unsafe than ever, since it suffered from a recent storm. Mr. Dobson some time ago reported the steeple itself to be unsafe, and estimated the cost of the necessary alterations at 1,200*l.* or 1,400*l.* The town-council offered 500*l.* towards the restoration; but the rich parish of St. Nicholas repudiate all claims upon them for the cost of restoration, and the council threaten to try the question at law.

Chardstock (Dorset).—The restoration and partial rebuilding of the church of St. Andrew, in this parish, the foundation stone of which was laid in June, 1863, is progressing, and there is every probability that it will be ready for opening by the end of September. The nave and chancel have been rebuilt, and new north aisles added to both. New roofs have also been put to the south aisle and south transept, the walls of which have been allowed to remain. The church is to be reseated throughout, and tile floors laid in the nave as well as in the chancel. These, we hear, have been manufactured by Messrs. Minton & Co., expressly for this church, from the designs of Lord Alwyne Compton. The chancel is enriched with some serpentine and Devonshire marble shafts, which have been supplied by Mr. A. Blackler, of Dawlish. The architect is Mr. J. Mountford Allen, of Crewkerne.

DISSENTING CHURCH-BUILDING NEWS.

Henham (Essex).—A new Congregational Chapel has been opened here. Mr. Edward Sandford, of Bollington Hall, Ugley, bequeathed 1,500*l.* for the rebuilding and keeping in repair a new chapel at Henham, on the site of that in which he had been in the habit of worshipping. The trustees have consequently carried out his testamentary directions by pulling down the old chapel and erecting the new one. Irrespective of these circumstances, a new school-room, adjoining the chapel yard, has also been built, by voluntary contributions, and is nearly completed, and is intended to be used for the Sunday-school, for a lecture-room, and for adult classes. The chapel, which is calculated to seat about 700, is in the mixed Gothic and Italian styles, the dimensions being 53 ft. 10 in. by 37 ft., with a vestry 15 ft. 4 in. by 16 ft. The roof is open to the collar-beam, with plastering under the rafters. There is a gallery on either side and in front of the pulpit. In the front walls are three windows or bull's eyes, two of blue and one of crimson glass, and over the pulpit a semi-window of stained glass in three segments—ruby, purple, and amber. The other windows are of Millington's patent glass diamonded. There are three low pews on each side of the pulpit, and the rest of the area is in open benches, all of stained pitch pine. The aisles are paved with Minton's patent glazed tiles; and the pulpit is constructed of stained pitch pine. The schoolroom, in keeping with the chapel, is 53 ft. by 22 ft., the windows being of the same description of patent glass quarried. The builders' contract for chapel and school was 1,250*l.* The contractors for the works of both structures were Messrs. Thoday & Clayton, of Cambridge, builders; and the architect, Mr. Cowell, of London, a native of Henham.

Newbury.—The chief stone of the new church, at Cold Ash, Thatcham, has been laid. The materials are red and grey bricks, and white stone. The architect is Mr. R. Beesly, of London; the builder, Mr. Hollis, of Windsor. The cost will be about 1,700*l.*

Burslem.—A new Primitive Methodist Chapel has just been erected at Sneyd Green. The chapel, the foundation stone of which was laid on Martinmas Monday in last year, has been erected from the plans and designs, and under the superintendence, of Mr. R. Dain, of Burslem, architect. The building is in the Italian style, and is calculated to seat 120 adults and 230 children. There is an orchestra, and the walls are built high enough to admit of galleries being erected at a future time. The building is lighted with thirteen windows, having semicircular heads. The front is faced with white pressed brick, and between each tier of windows there are pilasters, with moulded stone bases and moulded carved caps, from which spring red brick arches over the windows and doorways. The upper part is finished with a stone cornice and pediment. The contract for the building, exclusive of boundary-walls and palisading, was taken by Mr. R. Hammersley, of Hanley, for 495*l.*, including the materials of the old chapel.

Middlesborough.—The foundation-stone of a new Presbyterian chapel has been laid here. The site of the intended edifice is at the corner of Newport-road and Hill-street. The plans comprise porch, chapel, school, vestry, minister's vestry, &c., and it will be built of white and coloured bricks. The building has been designed by Mr. Dearsley, of Middlesborough, as an adaptation of Early English to the requirements of the Presbyterian forms of worship. The interior of the chapel will be seated with open benches, and a gallery is included in the plans. The building will cost 2,100*l.*

Harrogate.—The foundation stone of a chapel about to be erected by the members of the United Methodist Free Church, Victoria Park, Harrogate, has been laid in the presence of a large concourse of persons. The chapel, which is in the Early English style, with tower and spire, will be erected with white stone (of which there are some quarries in Harrogate), and will accommodate 750 persons. The building will be decorated, both in the interior and exterior. The cost is estimated at 4,500*l.*, of which fully one-half has been already subscribed. Besides a chapel, the building will include class and band rooms, school-room for 300 children, &c.

PROVINCIAL NEWS.

Tunbridge.—Some steps are being taken in reference to the erection of a new town-hall here. A meeting, principally composed of the members of the Æsthetic and Choral Societies was held, at which Mr. W. Gorham presided, and Mr. W. Goddard produced a rough sketch of a plan of a town-hall, with baths, kitchen, institute, clubs, parochial vestry, and post-office, the estimated cost of which, including the buildings around, was 10,000*l.*; for the building itself, 3,050*l.* The plan was discussed by the meeting, and a formal resolution passed entertaining it, and expressing the opinion of the meeting that it was quite feasible. The site mentioned is that of the present Mechanics' Institute, down to the river.

Rochester.—At a meeting of the trustees of Watts's Charity the subject of providing public baths and washhouses, with a portion of the funds at the disposal of the trustees, was taken into consideration, and a committee appointed to take the necessary steps for carrying the proposal into effect.

Basingstoke (Hants).—The foundation-stone of the Basingstoke Corn Exchange has been laid. The site is at the corner of Wote-street and the lesser market, in close proximity to the old Corn Market and the Town-hall. The edifice will be in the Italian style, and will be faced with Bath stone and yellow bricks. The principal entrance will be from Wote-street, but a secondary one will be provided from the lesser market, and a future one is contemplated from Church-street. The building will consist of two floors—a basement and a ground-floor—the basement being intended to be used as corn and other stores. The Exchange will be approached by a side entrance, where carts and waggons can be drawn up not only for delivery of corn into the basement stores, but also to the ground-floor, by means of a door on a level with the top of a cart or waggon. On the basement, besides corn-stores, fire-engine houses will be provided, with exit to Wote-street; also a room for a heating-apparatus, if required; and in the front next to Wote-street an office for either telegraph or newspapers. On the ground-floor is the large Corn Exchange, which will be 90 ft. long, 57 ft. wide, and 33 ft. high to the skylight. It will be surrounded by iron columns, supporting an ornamental iron roof and skylight. A gallery will be constructed, which can be used for public speakers, or for musicians. The lighting has been provided for by means of side windows, and a large skylight over the body of the Exchange; and the ventilation has been arranged by means of forty-two swing windows, well above the heads of the assembly, all or any of which can be opened or closed at pleasure. The architects of the building are Messrs. Salter & Wyatt, of London; and the builders Messrs. H. & R. Holland & Hannen, of London.

Willenhall.—The foundation-stone of the new building for the Willenhall Literary Institution has been laid. The building will be erected from the designs of Mr. Veall, of Wolverhampton, architect, selected from a number submitted in competition. It is to be of a plain Gothic character, and will comprise on the ground-floor a library, reading-room, discussion-room, two class-rooms, and a residence for the attendant. The entrance to this portion of the building will be from Lichfield-street: towards Clemson-street will be an entrance-hall and staircase, leading to a lecture-hall on the first-floor, capable of accommodating about 400 persons. Attached to this hall are retiring-rooms, cloak-room, lavatory, and other conveniences. It is intended to execute the design in coloured bricks and stone. The principal staircase at the corner of Lichfield-street and Clemson-street will be carried up as a campanile, finished with a high-pitched slated roof. The tender of Mr. D. Evans, builder, Wolverhampton, is accepted at 761*l.*

Merthyr.—The Government having consented to advance 3,000*l.* towards a town-hall, upon condition of the remainder of the necessary sum being raised in Merthyr, there is now a probability of the building being shortly commenced, as the committee have experienced no difficulty in obtaining subscriptions to the requisite amount in the town.

Yeovil.—The town council have been considering a suggestion to purchase the whole of the property on the side of the Town-hall, and to sell the sites for the building of new shops thereon. The property can now be purchased, and it is estimated that it would cost 5,000*l.* For this the town would have a street running the whole length of the Market-house, and a number of building sites, which it is estimated might be sold at a sum equal to that paid by the corporation. A committee was appointed to inquire into, and report upon the matter.

Coventry.—The foundation-stone of the new Coventry and Warwickshire Hospital has been laid here. The building is in course of erection on the Stoney Stanton-road, and will be devoted to the purposes of a hospital for Coventry and Warwickshire, instead of the insufficient, incommodious, and comparatively insignificant premises in Little Park-street. Lord Leigh, Lord-Lieutenant of the County, as Provincial Grand Master of the Order of Freemasons, laid the stone with Masonic honours. The site of the new hospital is a piece of land about two acres in extent, which has been purchased of the trustees of Sir Thomas White's Charity. It is situate a short distance from the new Free Schools, within view of the new cotton factory, and in the neighbourhood of the new school of art. The new building has been designed by Messrs. Nevill & Son, of this city, architect. Its style is called Victorian Gothic. It is in the form of a cross, and will be two stories in height. There will be two ornamental towers, 63 ft. high,

in the fore part of the building. Over the entrance will be an oriel window. Including this large central window, there will be about eighty-five windows facing the road. Two large towers, similar to those in the centre, will rise at each end of the building. In the front will be a terrace, with three flights of steps, leading to the principal doors, and the ground will be inclosed by an ornamental palisading. The interior arrangements of the building are said to be planned according to the most modern and approved principles of hospital construction, care being taken to secure the best possible ventilation. The accommodation will include committee, consulting, and waiting rooms, a surgery, and other apartments on the ground-floor; students', matron's, surgeon's, and bath rooms; a library and a museum; an operating-room, 16 ft. by 18 ft., and 14 ft. high, and having an octagon roof; two rooms, one for male and the other for female patients, each 50 ft. by 25 ft., and 15 ft. in height, and for ten beds; rooms for special cases; two convalescent rooms, each 16 ft. by 13 ft.; and an accident ward, measuring 16 ft. by 14 ft. In addition to the above there will be baths, lavatories, kitchens, laundry, &c. The length of the edifice is about 260 ft., and its breadth 140 ft.; the fore wing projecting 64 ft. from the main structure. The total cost of the building will be something over 5,000*l*.

Sowerby-bridge (*Yorkshire*).—A new iron bridge, to be called the Victoria, built over the Ryburne, at Sowerby Bridge, has been opened. It is an iron girder bridge, 54 ft. span and 30 feet wide, erected at a cost of about 500*l*., and at the sole expense of Major Stansfield, of Field House, Sowerby.

Sunderland.—The contract for building Hutchinson's Almshouses has been let to Mr. Joseph Ridley, builder, for the sum of 2,465*l*. The works will be commenced immediately. The building will be a combination of the Gothic and Elizabethan styles of architecture, built of brick with stone dressings, and will contain accommodation for sixteen separate families, each family having three rooms. Each suite of apartments will be self-contained, and have separate conveniences. The front of the building will consist of three wings,—the right and left comprising the dwellings for the inmates, and the centre will consist solely of a large hall for the general use of the inmates, and will be so arranged that in case of an epidemic or fever breaking out in the house, it can be converted into an hospital; or it may be used as a public hall, for periodical meetings of the inmates at soirées, &c. The design was provided by Messrs. T. Mowbray & Son, of Sunderland. The site of the building is near the park. The ground has already been laid out.

FROM SCOTLAND.

Edinburgh.—St. Peter's Episcopal chapel, in Roxburgh-place, is being enlarged under a contract with Mr. Raffin, the original contractor for the edifice. A square tower and a spire will be erected at the north-west corner, rising to a height of 183 ft, the spire rising 74 ft. above the tower, and its surface enriched with ornamental bands alternating with rows of cinquefoil panels. The roof and ends of the former building will be incorporated in the new one, as was provided for when the original plans were modified; but the side walls will be removed, and in their stead a series of arches, supported on pillars of polished Peterhead granite with carved capitals will be inserted. Beyond these, on each side, will be an aisle divided into five bays by the pillars, each bay having a pointed-arched two-light window. A cloister, 9 ft. wide, connecting the aisles, will run across the west end of the church; and, beneath the south end of this cloister, the ground being low, a lady's waiting-room will be formed. The flat roof of the cloister will be supported on a series of pointed-arched open beams. From near the centre of the cloister the baptistery will extend. This latter is to be an octagonal structure, with a groined roof, and will be 28 ft. in diameter. The extreme external width of the church, exclusive of the tower, will be 65 ft., and the length, including the baptistery, about 160 ft. The chancel will remain as at present, and in front of it a space for the choir will be preserved, on one side of which the organ will be situate, and on the other the vestry, the latter being separated from the north aisle by an ornamental stone screen. The floors of the passages will be laid with tesselated tiles. The roof will be an open wood one, stained and varnished, and divided by open beams. It is intended to fill the windows of the building with painted glass, and several have already been subscribed for with a view to their being devoted to memorial subjects. Provision has also been made for a chime of bells. A large space of ground round the site of the building has been acquired by the congregation, which it is intended to lay out as a shrubbery, and enclose by a stone wall surmounted by an iron railing. The cost of the completed building will be about 9,000*l*. The architect is Mr. Slater, of London.——The town council have referred to the Lord Provost's committee a report by Mr. Cousins, the city architect, as to the widening of the thoroughfare between the South Bridge and George the Fourth's Bridge, as a principal entrance to the Government Industrial Museum.

Selkirk.—The ensuing season is likely to be a brisk one here for the building trade, as there are a great number of buildings in contemplation. Premises in the High-street, lately occupied by a plumber, have been purchased by the Hon. William Napier, of Broadmeadows, as a site for a commodious hall for the benefit of the inhabitants of the burgh. A new parish school is to be erected in a field above the Free Church, Tower-street. Alterations will be made on the Burgh School, which will cost 200*l*. There are also to be improvements on the county gaol, which will cost about 1,300*l*. On Millhaugh, a manufacturer from Galashiels is about to build a new factory; and a factory is about to be erected near the railway station.

Broughty Ferry (*near Dundee*).—The members of Dr. Murray Mitchell's congregation are erecting a new free church. The building is being rapidly proceeded with. The architect is Mr. Andrew Heiton, of Perth. The style is Decorated. The church is in the form of nave and transepts, and is 85 ft. long over walls from east to west, 41 ft. broad over walls at nave, and 66 ft. at the transepts. There are two principal entrances, one from the north and the other from the east. The roof will be open as far as the tier, which will be 37 ft. from the floor of the church, and the ridge 14 ft. above this. The entrance which will be most used is that facing the Monifieth road, above which it is proposed, when circumstances allow of its erection, to place a spire upwards of 150 ft. in height. The church will be heated with hot-water pipes. There will be seats for 591 persons. The walls externally are of uncoursed rouble of Carmyllie stones, with Fifeshire dressings. The contractors for the mason work are Messrs. Keith, Connel, & Co., and for the joiner work, Messrs. David Kidd & Son. The other works are not yet estimated. The clerk of works is Mr. James Dickie.——An Independent chapel has been opened here. The edifice is situate between Brook-street and the railway, a little to the east of the Free Church (Rev. Mr. Lyon's). The main entrance is in the south end of the building, which is the most ornamental part of the structure. In the interior the walls and roof are all lined with wood, varnished; while the windows at the north end, above the pulpit—or rather platform—are filled with stained glass. There are gasiliers hung from the roof. The organ-loft, in which the organ built by Messrs. Conacher & Co. is placed, is at the south end, above the vestibule. The church is seated for 320.

Perth.—The statue of the Prince Consort has been placed upon its pedestal at the foot of the North Inch without having sustained any injury. The magistrates recommend that the 30th inst. be observed by the citizens as a general holiday. It is understood that, in accordance with the wishes of her Majesty, the ceremony of the inauguration of the statue will be very short, and conducted with the greatest possible quietness.

LAW OF CONTRACTS.

Drake v. The Torquay Hotel Company.—From Mr Karslake's opening statement (Bristol Assizes), it appeared that a builder, living at Norwood, had sent in a tender for the erection of a hotel at Torquay. His tender was accepted, and he commenced the work, being present at laying the foundation stone. By direction of the directors, and of Mr. Clifton, their architect, he carried on the work as fast as he could, notwithstanding that he alone had signed the contract. Subsequently, for some reason which had not been explained, some one else was appointed by the directors to finish the building, and the plaintiff received a notice from them that unless he ceased the work and left the premises he would be forcibly removed. He did leave the premises, and he now sued to recover damages for the breach of contract, and also payment for the work done and the plant remaining. In answer to the latter claim, the defendants had paid into court the sum of 380*l*., but the plaintiff contended that he was entitled to considerably more than that amount. The case was referred to arbitration.

Books Received.

VARIORUM.

Two pamphlets have been published by Emily Faithfull, for the General Committee of the Social Science Association, on corruption and expenditure at elections; one by the Rev. F. D. Maurice, titled "Corruption at Elections: with Speeches of John Stuart Mill and Edward Chadwick, C.B., and Report of Standing Committee of Jurisprudence and Amendment of the Law;" and the other by Mr. W. D. Christie, late the Brazilian Minister, and which is titled "Suggestions for an Organization for Restraint of Corruption and Expenditure at Elections." Funds are still required for the furtherance of the useful object which the Committee of the Association have thus in view.——Mr. Stanford has published a map, showing the metropolitan railways and miscellaneous improvements sanctioned by Parliament in 1864; the first twenty-seven in number, the second eleven. Many of our readers will find it useful. ——"Tweedie's Handy-Book for Inventors and Patentees," instructs intending patentees how to proceed, and is exactly what it purports to be. ——The exploits of our soldiers, "*ubique per mare et terram*,"—are agreeably treated of by Mr. W. H. Davenport Adams, in "Famous Regiments of the British Army,"—published by Messrs. Hogg. It includes, too, some biographical sketches of eminent English generals, and is altogether a nice little book.

Miscellanea.

The Lewis Statue.—The bronze statue, from the cast of Baron Marochetti, to the memory of the late Sir G. C. Lewis, has arrived in Hereford. The 3rd of September is fixed for its inauguration. Lord Palmerston has promised to attend to deliver the inaugural address.

The Iron Trade.—In consequence of the demand for British iron in the United States, a considerable increase has been observable in the exports of iron of various kinds during the last two years. The value of the exports shows an immense increase, having been 6,996,510*l*. this year, against 5,916,867*l*. in 1863, and 5,071,354*l*. in 1862.

Cathedral in Tasmania.—This is intended to be the work of many years. Mr. Bodley, architect, has proposed a plan which, to carry out completely, may cost 20,000*l*. It is proposed to adopt his recommendation of first erecting the nave, at a little more than a third of the whole cost. As soon as 5,000*l*. can be raised as the joint contribution of home and colonial liberality, the structure will be commenced.

A Convalescent Hospital.—Mr. Banting, of anti-corpulence notoriety, has issued an appeal to the public for the erection of a hospital, to be named the "Middlesex County Convalescent Hospital." As a thank-offering for himself, and perhaps an appropriate expenditure of the profits of his 50,000 pamphlets sold, Mr. Banting heads the list with the very handsome sum of 500*l*. We hope it is not intended to erect the projected convalescent hospital in town.

Hotel Dieu, Paris.—The much-required removal of the great Hospital in front of Notre Dame now seems imminent. M. Haussman, Prefect of the Seine, has sent to the Mairie of the 4th arrondissement a plan of the new Hôtel-Dieu, which is to remain there for fifteen days, in order to give those who may feel injured by the change an opportunity to demand compensation. According to this plan the open space in front of the Cathedral of Notre Dame is to be enlarged.

Public Safety on French Railways.—At the suggestion of the government, the French railway directors are taking into consideration how best to prevent accident to railway trains, and annoyances, or worse, to the travellers by them. Each carriage is to have a window with curtains, on each side, and round every carriage is to run a sort of gallery with balustrades, which the guards can pass, and on to which any passenger can get if assailed or alarmed in his carriage. Thus France is taking the precedence of England, and is adopting almost precisely those two measures (urged in the *Builder*) which have been recommended by our own Board of Trade to English railway directors.

Sanitary Condition of Ballarat.—We hear sad accounts of the want of sanitary measures in Ballarat, and the consequent evil effects. This inland town has 25,000 inhabitants, and not the idea of drainage or sewerage. The *Ballarat Star*, their principal paper, never tires of writing about this important matter, and constantly points out the frightful rate of mortality prevailing there; but it is all of no use: the people will not understand the vital importance of sewerage and fresh air. They wait for the occurrence of some terrible epidemic to be convinced.

Bishop Stortford.—The erection of an iron bridge over the Stort, and a new approach to the railway station, are long-needed improvements now in a fair way of being carried out. At a public meeting, the plans of the proposed bridge were exhibited, and Mr. Perry, the architect of the bridge, stated that the width would be 18 feet. Mr. J. D. Taylor said the cost of the bridge and land would be from 1,500*l.* to 2,000*l.*, and Mr. Perry said that the lowest contract for bridge and approaches was 698*l.*, which would complete both. It was agreed that a subscription be opened forthwith for defraying the expenses of the bridge and its approaches. A committee was appointed.

Fearful Explosion at Vauxhall Foundry, Liverpool.—Two men have been killed and fourteen wounded, by an explosion, at the extensive works in the Vauxhall-road, Liverpool, known as the Vauxhall Foundry. It appears that a portion of the south wing of the foundry is used as a machine-shop, and that for the purpose of driving the lathes, &c., there is a powerful engine and a boiler of ninety horse power. In order that there may be no delay in generating steam when the men go to work in the morning, the boiler-fires are "banked" over-night, and a moderate pressure of steam always ready the first thing in the morning. On the occasion alluded to, about ten minutes or a quarter past six a.m. the boiler exploded, completely demolishing the building in which it was situate.

The Worcester Association for Building Dwellings.—This society has held its tenth annual meeting. The report of the governors states that "this their tenth annual report is of a more satisfactory character than any preceding one, insomuch as the receipts for the past year are somewhat increased and the expenditure considerably diminished, leaving a balance of 161*l.* 10*s.* 2*d.*" A dividend of 2 per cent. has been declared. Sir Charles Hastings, the chairman, stated that, looking at the work as one of philanthropy, the governors had every reason to be satisfied. The annual death-rate in the locality of the model lodging-houses before the society was formed was about twenty-four in a thousand, but now the annual mortality was not more than eleven in a thousand.

The Birmingham General Hospital.—An able paper on the sanitary and general condition of this hospital has appeared in the *Medical Times and Gazette*. The author is Dr. Richardson, and the paper forms one of a series on the medical history of England. He is of opinion that it is impossible to improve the Birmingham Hospital so as to obviate the necessity of rebuilding. "The hospital," he remarks, "is one of sixteen or seventeen others, in different parts of the country, built about the middle of the second half of last century, on what may be called an experimental plan, drawn out at a time when the great laws respecting physiology, the spread and communication of disease, and the best methods of ventilation were in their infancy and were scarcely appreciated. The foundation or design of these hospitals is consequently all false when compared with the knowledge of what is required, and which we at this present possess. The wards are built in such way that they cannot be lighted and ventilated from every point of the compass; the windows are too small; the doors and furnaces are incorrectly placed in relation to each other; the staircases communicate with the basement; the wards communicate; the sizes of the wards differ; the accommodation of the nurses and officers is forgotten; the water-closets and lavatories open into the wards, and the ceilings of all the apartments are too low. . . The presence of erysipelas and hospital gangrene, or pyæmia, as in this hospital, is a sure and certain indication of defective and, in most cases, incurable or irremediable construction." The erection of an entirely new hospital, on the pavilion principle, is the step required.

The Hotel Movement.—The well-known Bell Hotel, at Gloucester, the birth-place of George Whitfield, the religious revivalist of the last century, and of Henry Philpotts, the present Bishop of Exeter, has passed into the possession of the Gloucester Bell Hotel Company (Limited).

The Metal, Magnesium.—In the form of wire this metalloid may now be purchased, according to the *Telegraphic Journal*, at 3*d.* per foot at all the principal metallurgists, opticians, and photographic material dealers. If the end of a piece of the wire be held in the flame of gas or candle, it at once takes fire, and burns gently with a dazzling white light, by which a photograph may be taken with a perfection, it is said, equal to that of sunshine.

Accident.—The roof of a building in Lower Rushall-street, Walsall, used by Messrs. England & Son, as a spectacle manufactory, has fallen, bringing with it in its descent all the coping stones, spouting, and a portion of the walls of the buildings. Just about a second before the roof fell, eight girls, who were waiting to be admitted, were standing where several of the large coping stones were afterwards thrown. Had the factory door been a moment later in being opened, some, if not all, would have been seriously injured, if not killed.

Portraits of Confederate Generals.—Such as are interested in the fortunes of the South, or admire pluck and bravery in any quarter, may like to know that at Mr. Bowden's, 314, Oxford-street, they will find portraits, by Mr. John Robertson, an English artist, of Lee, Stonewall Jackson, Beauregard, and others of the Confederate generals. Without any great claim as works of art, they have the merit of being likenesses of men who have interested all Europe in their fortunes. We are not of those who think the South all right and the North all wrong, but for the courage and determination of the former we have an admiration not to be exceeded.

Reform of Dress.—A letter from Dresden states that a general meeting of the European Academy of Fashion (?) has just been held in that city. Nearly 200 members were present. The principal subject discussed was a project of erecting an edifice for a superior school to teach the arts relating to dress. The idea is that the establishment shall comprise a museum of costumes of all epochs, and a benefit fund for the relief of journeymen tailors unable to work. M. Müller, the director of the academy, offered to give the ground for the building. His offer was accepted, and the meeting voted the advance of 15,000 thalers (60,000 francs) to commence the works.

Fall of the Borough Saw Mills, London.—Considerable alarm was caused in the narrow thoroughfare known as Mermaid-court, High-street, Borough, owing to a report being heard similar to a clap of thunder. In March last the interior of the mills and the machinery were sold by public auction, and the mills were intended to be converted into large warehouses. The outer walls and roof belonged to Mr. Humble, of Hibernia-wharf, London Bridge. Owing to the removal of the interior fittings and machinery, the walls have for some time past been considered in a dangerous state. The roof on part of the old mill fell in and forced out the outer walls which fell into a court, burying, but not fatally injuring, a child.

Nottingham Architectural Association.—The members of this Association, with the mayor of Nottingham, and other gentlemen interested in architectural and archæological science, have just held their annual excursion meeting. The places selected for this year's visit were Bolsover Castle and Clumber. The party travelled in the saloon carriages of the Midland Railway Company to Mansfield, where breakfast had been prepared. Carriages left this place at 9·30, and after a drive through the border scenery of Derby and Nottingham, arrived at Bolsover Castle at eleven, and were cordially welcomed by the Rev. John Hamilton Gray and family, whose collection of antiquities and works of art were laid out for the inspection of the visitors. The party afterwards proceeded by way of Langwith and Cuckney, to Clumber, at which latter place the members and friends were received by Mr. Henry Heming, the agent to the Duke of Newcastle. The mansion was inspected; and after visiting the boat-house and other external features, the party returned to Mansfield and Nottingham.

Indian Progress.—The *Hurkaru* says:—"We cannot too much impress on agricultural engineers in England that at no distant period their machinery will be required in this country to a very great extent."——The Madras *Athenæum* has been given to understand that the introduction of one uniform standard of weights and measures throughout India is at present under consideration of the Government, and will soon be brought into operation.

Bi-Concave Tile.—Whitworth's registered bi-concave tile, for covering, roofs, &c., is said to possess the following advantages:—Each tile has two points of bearing upon the lath, also two knobs, and lies flatter on the roof than the old pantile. There are also two water-courses instead of one, as in the pantile, and the water during heavy rains will run more steadily into the eave-spouting, thereby preventing overflow, and keeping the walls dry.

The Emigration of Hand-loom Weavers from Scotland.—In Glasgow there is a kindly and charitable movement going forward in sending abroad the hand-loom weavers, who in these days are as much out of place in the busy city of Glasgow as the old-fashioned bow and arrow would be at the Horse Guards. In this great mercantile and manufacturing centre, which has "flourished" far more than Bailie Nichol Jarvie, in days gone by, anticipated, a society has been formed to promote the emigration of the hand-loom weavers and their families. Lately, a party by this means were enabled to proceed to Quebec, by the screw ship *St. Andrew*: it consisted of eighteen families, including sixty-eight adults. This makes the number whom the committee have sent out this season to Canada 103 families, including 367 adults; and in all 557 souls.

Charing-cross Hotel Company.—The second ordinary meeting of the shareholders of this company has been held at the offices of the South-Eastern Railway Company. The report stated that the directors had pleasure in drawing attention to the satisfactory progress made in the construction of the hotel. The directors, having reason to anticipate a larger demand for sleeping accommodation for visitors than was previously expected, have deemed it advisable to enlarge the building by adding another floor, consisting of about fifty extra bedrooms. The directors had to report that they had entered into a contract with Messrs. Lucas, Brothers, for the construction of the building, for the sum of 121,542*l.* 17*s.* 4*d.*, from which is to be deducted 10,000*l.*, repaid by the railway company for their booking-offices at the Charing-cross terminus. The directors were about to exercise the borrowing powers conferred by the articles of association, to the extent of 50,000*l.*, and were prepared to receive loans, in amounts of not less than 100*l.* each, in exchange for debentures for three or five years, at a rate of interest not exceeding 5*l.* per cent. per annum. The report of Mr. Barry, the architect, stated that, since the last report, rapid and satisfactory progress had been made with the company's works, which were being carried on with great ability by the contractors, Messrs. Lucas, Brothers. The report was adopted.

Paper Material.—It is stated that the trade in esparto grass, through its introduction for the manufacture of paper, has become so extensive that, though the accommodation for the warehousing of cargoes at the Tyne Docks is so ample, still more is required.——An innovation, slight in itself, but which in a few years may revolutionise the outward appearance of current literature, has very recently, says the *London Review*, been made in the binding of new books. Cloth has so increased in price, owing to the American war, that an enterprising firm has conceived the idea of forming a paper substance having all the strength and flexibility of cloth, to take its place on the outside of books. Some specimens of this prepared paper are now before us. This substance appears to receive gilt impressions with the distinctness of morocco, and, as it can be washed with soap and water when dirty, it may be surmised that, hereafter, the phrase "musty literature" will fall into disuse. It is said that its cost will be something like one-half of the present price of embossed cloth. Another paper states that Tennyson's new volume has made its appearance in this style of binding; but we suspect that this must be a mistake. Is not the "paper substance" in question some form of artificial vellum, such as paper is so readily converted into by dipping it into acidulated water?

Foul Air from the Sewers.—A correspondent, "N. Rigby," writes,—A few days ago, the inhabitants of Moorgate-street, City, and its neighbourhood, were seriously alarmed by an escape of gas-like effluvium into the houses; so much so, that they were afraid to take anything in the shape of a light about the premises; and the effect was most sickening. Upon examination, the only conclusion I could arrive at was that some gas-like chemical had been thrown down the sewers, from some manufactory or gas-works, proving beyond a doubt the want of a proper and efficient trapping, to prevent the escape of foulness from the sewers nto the dwellings generally.

Fires.—The extreme dryness of the season has been strikingly marked by the spread of vast fires in the country, destroying trees, crops, and other property. The Woolmer Forest has been thus devastated for seven miles in length by about three miles in breadth, and it required the exertions of 1,000 men, chiefly military, for three days and nights, to dig several miles of trenches merely to check the fire, which continued for a week to destroy an immense amount of property, chiefly belonging to the Government. A similar conflagration has spread through twelve miles of forest country in France, between Mede and Hyeres; and here, too, the military were called out to extinguish the fire, or rather to prevent its extension. The way in which such fires occur is shown by others, such as the destruction of five acres of standing barley near Newbury, which was fired by a spark from a locomotive. Other fires of this kind have also occurred.

Restoration of Worcester Cathedral.—Mr. Scott has just made a report to the dean and chapter of Worcester on the final work required for the completion of the restoration of the choir of this cathedral. The report is very lengthy, and is accompanied by plans which have been ordered to be exhibited in the cathedral. Mr. Scott divides the consideration of the subject into the following heads:—1. Whether it will be desirable so far to infringe upon the present arrangement as to open out the choir to the nave by the substitution of an open for the present solid screen. 2. Whether the organ should be moved, and, if so, where it should be placed. 3. Whether it will be proper to remove the canopy work of Queen Mary's time, and, if so, whether new canopies should be provided of a character according with the fourteenth century. 4. Whether the present altar-screen should be replaced by a reredos of a suitable character. The probable cost, including new reredos, grilles for side arches, the alterations in the organ, warming and lighting, and decoration of the Lady Chapel, is estimated at between 12,000*l.* and 13,000*l.* The tender of Mr. Wood, builder, Worcester, for the restoration of the tower and north side of the cathedral, has been accepted, but Mr. Wood has since withdrawn from it. The decision on the plans for warming the cathedral is postponed for the present.

Opening of the Fylde Waterworks.—The towns of the Fylde in Lancashire, including Fleetwood, Garstang, and Lytham, are now being supplied with water from new works which have just been opened though not yet completed. The Fylde Waterworks Company have a capital of 60,000*l.* The water is got from Grizedale fell, and is collected in a reservoir at Nickey Nook, a ravine which has been dammed up for the purpose. This dam or embankment is nearly completed. It is upwards of 70 ft. high, 370 ft. wide at the base, and 12 ft. wide at the top. It encloses a reservoir of fifteen statute acres surface area, and capable of storing 100 millions of gallons of water, which passes by 12-inch iron pipes to Weeton, where there is a circular service reservoir 408 ft. in diameter at the base and 468 at the top, with an embankment 70 ft. in diameter at the base and 12 ft. at the top. It is formed on the summit of a hill, the excavation being used in the circular embankment, and will hold about 15 million gallons. Mr. Foster, C.E., of Manchester, is the company's engineer; Mr. McGuire, C.E., of Accrington, the contractor for the formation of the Grizedale reservoir; Messrs. Cunliffe & Son, of Blackburn, the contractors for the Weeton reservoir; Mr. H. Ashcroft, of Preston, the contractor for the laying of the pipes from Grizedale to Weeton, and from Weeton to Lytham and Kirkham; and Mr. Bickerstaffe, of Preston, for laying the pipes from Weeton to Blackpool and Lytham.

Destruction of a new Building by Lightning.—At Partrick, near Glasgow, the buildings for the Western Cooking Depôt have been completely destroyed by a thunderstorm. The building was nearly finished, and was about 80 ft. long and 40 ft. broad. It was a brick erection, with a frontage of stone, and the roof composed of iron beams, the empty space being filled with wood. Immediately after a bright, vivid glare of lightning, the whole of the roofing and the brick walls fell, a portion of them on a wooden tenement used as a mission station in connexion with the Free Church, damaging it considerably. Only the stone frontage of the depôt was left standing.

Chimes for Boston Church.—A representative of the firm of Van Aerschodt Ainé & Co., bell-founders, from Louvain, Belgium, visited Boston last week, in order to inspect the present bells of the parish church and the capabilities of the tower for receiving a further number, sufficient to constitute a satisfactory and complete change of carillons, after the model of those in Antwerp, Liege, Bruges, and other foreign cathedrals. As the arrangements are at present only in *limine*, it is impossible to state what the authorities may ultimately decide; but the following may be taken as a general idea of the proposal, so far as the results of last week's interview proceeded, viz.:—To leave the present peal intact, adding thirty-nine smaller bells, making four complete gamuts; the hour of the clock to strike on the fifth or seventh bell of the present peal, and to substitute for the present quarters the changes of the carillons. The probable cost of the whole alteration is estimated at 600*l.*, which the present mayor, who is the main mover in the matter, is about to make efforts to collect.

Accidents Compensation Act Amendment.—One of the Acts passed in the last session of Parliament was that introduced by Mr. Ferrand, M.P., for extending the provisions of Lord Campbell's Act to the families of working people killed by accident. The 9th and 10th Victoria (Lord Campbell's Act) provided that, "every such action should be brought in the name of the executor or administrator of the person deceased;" but as the working classes rarely have occasion to appoint executors or administrators, the consequence has been, that however glaring the wrongful act, neglect, or default, which has caused the deaths of working people by accident, their families have been unable to obtain any redress. The present Act directs that "where there shall be no executor or administrator of the person deceased, then such action may be brought by and in the name or names of all or any of the persons for whose benefit such action would have been if it had been brought by and in the name of such executor or administrator." This general measure was introduced into Parliament more particularly to check the fearful destruction of human life by boiler explosions, which are chiefly caused by over-pressure and gross neglect.

TENDERS.

For enlargement of the workhouse at Kingswinford, for the Board of Guardians of the Poor. Mr. Gething, architect:—

Ife (builder)	£625	0	0
Jeakes & Co. (engineers)	518	0	0

For the finishing of eight cottages at Stratford, Essex, for Mr. J. Drew. Mr. Fred. Chadwick, architect:—

Rivett	£1,673	0	0
Brown	1,400	0	0
Hill & Gosshawk	1,286	0	0
Thomas & Jenkins	1,290	10	0
Hall	1,116	0	0

For the erection of the church and boundary walls of St. Michael and All Angels, Bromley, Middlesex. Mr. Jno. W. Monis, architect. Quantities supplied:—

Jeffrey	£8,365	0	0
Hack & Son	8,254	0	0
Sheffield	7,780	0	0
Kilby	7,240	0	0
Dove, Brothers	7,195	0	0
Myers	7,167	0	0
Watts (accepted)	6,976	0	0

For three houses, Whitehall-road, Woodford. Mr. Gliddon, architect:—

Roome, Brothers	£987	0	0
Skinner	987	0	0
Hewlet	980	0	0

For additions to house at Upton, near Bexley, Kent. Mr. P. Wells, architect:—

Wells	£1,516	0	0
Jackson & Shaw	1,505	0	0
Simms & Martin	1,500	0	0
Brown & Robinson	1,495	0	0
Macers	1,480	0	0
Dove, Brothers	1,425	0	0
Rhodes & Roberts	1,415	0	0

For the erection of a public-house, Bow-road, for the Bow Brewery Company, deducting value of old materials. Mr. Jno. W. Monis, architect. Quantities supplied:—

Hill & Keddall	£1,822	0	0
Rivett	1,793	0	0
Kilby	1,747	0	0
Hedges	1,688	0	0
Hack & Son	1,636	0	0
Salt	1,528	0	0
Watts	1,438	0	0
Atherton	1,400	0	0
Sheffield (accepted)	1,397	0	0

For new shop-front to a house at Kennington. Mr. S. Dyball, architect:—

Warne	£330	0	0
Perry	303	0	0
Terry	290	0	0
Worm	288	0	0
Osborne	258	0	0

For alterations and additions at No. 43, Edgware-road, for Mr. Brooks. Mr. Isaac Bird, architect. Quantities supplied:—

Carr	£1,357	0	0
Newman & Mann	1,249	0	0
Brown	1,230	0	0
Williams	1,220	0	0
Hebb & Son (accepted)	1,217	0	0

For buildings in Farringdon-road, for Mr. W. Dickes. Mr. H. Jarvis, architect:—

	Warehouses.			Back Building.		
Colls & Son	£3,945	0	0	£2,345	0	0
Gammon	3,594	0	0	2,243	0	0
Piper & Wheeler	3,475	0	0	2,320	0	0
Thompson	3,500	0	0	2,270	0	0
Higgs	3,483	0	0	2,180	0	0
Hack & Son	3,467	0	0	2,119	0	0
Sharpington & Cole	3,345	0	0	2,177	0	0
Myers & Son	3,353	0	0	2,144	0	0
Henshaw	3,280	0	0	2,068	0	0

For three new shops and houses in Great Portland-street and Great Castle-street, deducting value of old materials:—

Hollands & Hannen	£5,137	0	0
Saunders	4,660	0	0
Tracey & Co.	4,529	0	0
I'Anson	4,490	0	0

Messrs. I'Anson's tender being accepted, a second tender was opened, whereby Messrs. Vokin's premises, Nos. 14 and 16, Great Portland-street, under the superintendence of Messrs. George & Vaughan, architects, amounted to 2,823*l.*; and Miss Creswick's, No. 4, Great Castle-street, under Messrs. F. W. Bushill & Finlayson, 1,753*l.*

For new Wesleyan Chapel in the Bow-road. Mr. W. W. Pocock, architect:—

Thompson	£5,850	0	0
Dove, Brothers	5,685	0	0
Stevenson	5,684	0	0
Peskett	5,671	0	0
Manley & Rogers	5,593	0	0
Simms & Martin	5,574	0	0
Hart	5,566	0	0
Hack & Son	5,555	0	0
Myers & Sons	5,536	0	0
Reavell & Sons	5,479	0	0
Saunders	5,300	0	0
Sawyer	5,152	0	0
Ring & Co.	5,050	0	0

For the finishing of eight cottages at Stratford, Essex, for Mr. J. Drew. Mr. Fred. Chadwick, Surveyor:—

Rivett	£1,673	0	0
Brown	1,400	0	0
Hill & Gosshawk	1,298	0	0
Thomas & Jenkins	1,290	0	0
Hall	1,116	0	0

For painting external wood and iron work of the St. Pancras Workhouse, Pancras-road:

Vice	£255	0	0
Southall & Watson	225	0	0
Gardner	210	2	6
Mau	170	0	0
Thorpe*	140	0	0

* Brought testimonials, which were much required for the price.

For building a new inn, Littlehampton, for Messrs. Vallance, Cate, & Co., Brighton. Mr. T. J. Collins, architect:—

Bushby	£557	0	0
Blaker	523	0	0
Holloway	510	0	0
Suewin (accepted)	470	0	0

TO CORRESPONDENTS.

C. A.—L. & B. (architects who think their names should not be omitted may prevent the omission by giving us the information).—A Puzzled Individual (the architects of the Ashburne Markets Hall may have well deserved the compliment for anything we know to the contrary. At any rate, we cannot laugh at it on *ex parte* statement).—J. W. J. M. A. J. P. J.—Constant Reader (there is no composition we can safely recommend).—F. J.—G. & V. (very obscure).—W. T.—W. H.—D. R.—T. M.—J. R.—W. R.—S. D.—J. B. & Son.—L. B.—S. W.—Self acting Closets (in type).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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[Advertisement.]

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Town Hall, Salford, 16th August, 1864.

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BOROUGH of PLYMOUTH.—To CIVIL ENGINEERS, SURVEYORS, &c.—The Council being about to appoint a SURVEYOR to assist in superintending the general management of the Corporation Waterworks, CANDIDATES for the office are invited to send to the Town Clerk's Office, Guildhall, Plymouth, on or before THURSDAY, the 8th day of SEPTEMBER next, applications in writing specifying their names, ages, and addresses, with particulars of their present and previous occupations, accompanied by such testimonials as to character and competency for the office as they desire to submit to the council. The salary will be 200l per annum, and the person elected will be required to devote his whole time to the office.—Application forms and particulars may be obtained at the Town Clerk, Guildhall, Plymouth.
WHITEFORD, Town Clerk.
Town Clerk's Office, Plymouth, August 20, 1864.

DECORATIVE ARTIST WANTED, who can paint Arabesque ornament and flowers in a superior style, and who is competent also to design and draw ornament full size. A liberal salary given.—Apply, by letter only, addressed to Mr. C. No 14, Wigmore street, W.

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NOTICE to SURVEYORS and OTHERS.
The Town Council and Local Board of Health for the Borough of Weymouth and Melcombe Regis are desirous of receiving applications from parties duly qualified to fill the OFFICE of SURVEYOR. The person to be appointed must possess a good practical knowledge of building and surveying, as he will be occasionally required to furnish estimates of builders' work generally, and to make plain drawings of the same; and also to take levels of and survey the roads, sewers, and drains within the district; he must also write a good plain hand, and possess a general knowledge of accounts. Salary, 100l per annum.—Applications, enclosing testimonials of competency, to be sent to the Town Clerk's Office, on or before the 13th day of SEPTEMBER next. Canvassing the members of the Town Council or Local Board of Health either verbally or by letter strictly forbidden, and the doing so to be considered a disqualification for the Office. Further particulars may be obtained on application at the Town Clerk's Office, New-street, Melcombe Regis.
FREDK. CHAS. STEGGALL, Town Clerk.
Weymouth, 12th August, 1864.

PAINTERS' FOREMAN.—WANTED, an experienced FOREMAN, competent to take charge of the Painters' Department.—Apply by letter, stating age and previous employment, to WILLIAM CURRIE & CO. Gray's-inn-road, W.C.

ROCHESTER HIGHWAY DISTRICT.—The Highway Board for the above District will, at their meeting, to be held on the 13th day of SEPTEMBER next at the Bull Hotel, Rochester, at TWELVE o'clock, be prepared to receive APPLICATIONS from Candidates for the Offices of DISTRICT SURVEYOR and ASSISTANT SURVEYOR to this Board. A practical knowledge of the management and repair of highways will be requisite. The yearly salary, including travelling and all other expenses, will be, for the Surveyor, 150l; and for the Assistant Surveyor, 75l. They will have to devote their whole time to the performance of their duties, and must reside within some central position of the district, to be approved of by the Board. Candidates must state their age, and forward testimonials as to character and ability to Mr. CHARLES MARTIN, the Clerk to the Board, at his Office, in Strood, on or before the 12th day of SEPTEMBER next, and of whom further particulars may be obtained. Applications to be marked "District Surveyorship," or "Assistant Surveyorship." Applicants for the above offices must be in attendance at the Vine Inn, in the day above mentioned for the meeting of the Board, and the persons elected will be required to give satisfactory security for the due performance of the duties.—By order of the Board,
CHARLES MARTIN, Clerk.
Strood, August, 1864.

SURVEYOR for the Town of ROCHDALE.
WANTED, a person duly qualified to act as LOCAL SURVEYOR of the Paving, Drainage, and other works authorised under the provisions of the Rochdale Improvement Act, 1851, and the several Acts incorporated therewith. He must be thoroughly competent to take levels, make plans and designs, and have knowledge and had experience in the valuation of property. Salary, 200l per annum.—Applications, with testimonials, to be sent to my Office, Yorkshire-street, Rochdale, on or before the 1st day of SEPTEMBER next.—By order,
ZACH. MELLOR, Town Clerk.
Rochdale, 19th August, 1864.

TYNEMOUTH LOCAL BOARD of HEALTH.—WANTED, for about three months, an INSPECTOR, to superintend the construction of sewerage works at Cullercoats. One accustomed to level and prepare drawings preferred. Salary 1l. 10s. per week.—Apply to
THOMAS ROBSON, Borough Surveyor.
Borough of Tynemouth, August 17, 1864.

TO ENGINEERS.—The Guardians of the Poor of the City of Bristol intend to APPOINT an ENGINEER for their Workhouse, at Stapleton, near Bristol. Salary 60l. per year, with board, lodging, and washing, in the Workhouse. The duties of the Engineer will comprise the care and management of two large steam-boilers, and of the warm and cold water and steam supply; he must have a knowledge of plumbers' work, and will be required to do all the ordinary repairs wanting to the pumps, boilers, cisterns, cooking vessels; gas, water, and steam apparatus; pipes, cocks, and fittings, and all other ordinary repairs in the department of an Engineer and smith throughout the house; and to perform generally any duties which may be assigned to him conformable to the nature of his office. He will be required to devote his whole time to his duties, and to pay strict obedience to the regulations of the Poor Law Board, and the directions of the Guardians.—Applications, with testimonials, are to be sent to St. Peter's Hospital, Bristol on or before FRIDAY, the 9th of SEPTEMBER next; and the same will be considered by the Guardians at their meeting on FRIDAY, the 16th SEPTEMBER next. Preference will be given to a person possessed of knowledge and experience in the management of Gas works.—By order of the Board,
W. B. WILMOT, Clerk.
13th August, 1864.

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MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

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Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

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SCAGLIOLA MARBLE
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SUPERIOR PLASTER OF PARIS.

This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.

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Caen, Aubigny, Portland, Bath, Yorkshire, Granite, and all other stones, in block and slabs, sawn, self-faced, and worked to order. Tooled Paving, Landings, Steps, &c. At Depôts, and shipped direct by vessels, or railway.

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EQUAL TO GRANITE IN DURABILITY;
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Capital 200,000l. in 10,000 Shares of 20l. each,
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Not to exceed 2l. per Share, nor at less intervals than three months, and it is expected that not more than 12l. per Share will be required for the next two years.

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Matthew Gregson, esq. Chairman (Messrs. Gregson & Co), Mersey Steam Saw Mills Company, Liverpool.
Francis Bond, esq. (Director of the Liverpool Financial Association), Liverpool.
Frank Alexander Clint, esq. (Chairman of the West India and Pacific Steamship Company), Liverpool.
Thomas Dutton Fenwick, esq. (Chairman of the Mercantile and Exchange Banks, Liverpool.
Joseph Hitchcock, esq. (Vice-chairman of the Queen Insurance Company), Liverpool.
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Messrs. G. & T. Irving, Tokenhouse-buildings, Liverpool.

SURVEYORS.
Messrs. Lowndes & Co. 3, Brunswick-street, Liverpool.

TEMPORARY OFFICES.
The Liverpool Financial Association's Offices, 32, Castle street, Liverpool.

PROSPECTUS.

The Mersey Steam Saw Mills Company, Limited, have arranged to purchase, upon advantageous terms, from Matthew Gregson, esq. the extensive and most complete mills, known as the Mersey Steam Saw Mills and have also secured the powerful mills of the Brunswick Steam Saw Mills Company, a new and efficient operation, at the dock wall, very convenient. The purchase will embrace also the well-established and long-established business connexions of both extensive firms.

The object, therefore, of this Company is to purchase these important concerns, and to work them so as fully to meet, at all times, the great requirements of the vast timber trade of the port.

Mr. Matthew Gregson having consented to act as Chairman, the Company will have the advantage of his long experience of forty years in superintending the working of the mills.

These mills are driven by steam engines of a number of two hundred nominal horse power. They are in two divisions; the South Mills are contiguous to the Brunswick Dock, and within a short length of castage to the new docks of the Great Northern and Manchester, Sheffield, and Lincolnshire Railways, and also to the London and North-Western Railway, and to the docks of the inland water conveyances.

The North Mills lie directly opposite the yards and storage ground of the Timber Trade at the Canada Dock, and within a short radius of the stations of the London and North Western and Lancashire and Yorkshire Railway Companies, and the timber trade centres more conveniently at the Customs' Dock. The great ship-building yards and Graving Docks, both North and South, are within easy distance of the mills.

The admirable position of these Mills secures the easiest access to the great timber ports, and to the chief lines of internal communication, while the rapidity and economy of transit for the interchange of timber from one place to another by the various modes of shippers generally, as well as of the building trade created by the giant strides which the town is making at the north and south ends.

The Directors also propose to take power to erect Mills at Birkenhead.

In addition to the Mills mentioned above, the Company will come into possession of 35,000 yards and upwards of land, with valuable and extensive frontages near the docks, used as storage for timber, and daily receiving in value.

The Company, by entering thus at once upon a most valuable and profitable business, created during the long experience of its present proprietors, will be saved those delays usually incident to the bringing of a new company into active operation.

It is the desire of the Directors to devote special attention to the manufacture requisites for cutting hardwood and other furniture woods into veneers, in order to make provision for those branches of trade now largely increasing at this port.

A considerable number of shares are already subscribed for. The promoters of this Company desire to encourage the large and influential body of consumers of timber to take shares, and so to create that community of interest which at all times tends so much to the general benefit.

In the event of no allotment being made, the deposits will be returned in full. Should a less number of shares be allotted than is applied for, the deposit will be made available towards the payment on allotment, and the balance, if any, returned to the applicant.

Applications for prospectuses and forms to be made to the Liverpool Financial Association, at the temporary Offices, or to the Brokers or Solicitors of the Company (where copies of the Articles of Association may be seen); or at the Mills at the North and South.

FORM OF APPLICATION FOR SHARES.
To be retained by the Bankers.
To the Directors of the Mersey Steam Saw Mills Company, Limited.
Gentlemen,—Having paid to your bankers the sum of £ : : being a deposit of 1l. per share on shares in the above Company, I hereby request that you will allot me that number, and I agree to accept the same, or any less number you may allot me; to pay to your bankers the sum of 2l. per share on allotment, and to sign the Articles of Association of the Company when required, and I authorise you to place my name on the register of members for the number of shares allotted to me.

Usual Signature .....
Name in full .....
Address .....
Occupation .....
Date August, 1864.

TO BUILDERS AND OTHERS.
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This Company is prepared promptly to negotiate all kinds of Financial Business, including Loans on good Personal Security, Advances for terms of years on Mortgage of Freehold or Leasehold Property, repayable by instalments; the Discount of good Bills; Advances on Shares, Deposit of Deeds, &c.

The Directors are also prepared to receive Deposits at call or on short notice, for which 6 per cent. will be allowed until further announcement. E. BALCH, Secretary.

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WALTER A. MICHAEL, Secretary.

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THE MOST APPROVED INTERNAL STUCCO.
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CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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3, CANAL ROAD, KINGSLAND ROAD, N.; and FRINDSBURY, near STROOD, KENT.
FREEN & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality Strength, and Colour, supplied to Shippers and the Trade.
F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS
(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.
F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.
GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.
GREYSTONE LIME.
PLASTERERS' HAIR. LATHS.
PLAIN PAN RIDGE and FOOT TILES.
CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.
KEENE'S and MARTIN'S CEMENTS.
SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland-road; or to 17, Abingdon-street, Millbank street, Westminster, will receive prompt attention.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 23, New City Chambers, 121, Bishopsgate-street Within, E.C.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. Orders received at Great Scotland-yard, Whitehall, and at the Works.

GREAVES'S BLUE LIAS LIME,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

ABERTHAW BLUE LIAS LIME COMPANY,
WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.
The Company are now prepared to supply, at the shortest possible notice, their WELL KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities. All orders, inquiries, &c. to be addressed to
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W. C. HAWKER,
LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway

BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 3½. per Load.	
Good Yellow Deals	£16	10	0 per 120, or 2½d. per foot.		
Spruce Deals	15	0	0 „	2½	„
2½-inch Battens	9	0	0 „	1½	„

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

J. MILLS,

JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.

List of Prices forwarded on receipt of postage stamp.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



JOHN EMERY,

MANUFACTURING JOINER,

28, GRAY'S INN ROAD, W.C.

Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.

J. E having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.
¾-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

C. B. N. SNEWIN,

MAHOGANY, DEAL, & TIMBER MERCHANT,

11, BACK HILL, HATTON GARDEN, E.C.

Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.			Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15	0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0	10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,

Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING! DEALS! MAHOGANY!

100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square	FIR TIMBER, 45s. PER LOAD.
10,000 Dry Pine Plank ..... from 3s. 6d. each	WHITE BATTENS, from £8 10s. per 120.
5,000 Yellow Battens ..... from £10 per 120	Wainscot Oak ..... from 6d. per foot
4,000 Spruce Deals ..... from 2s. 6d. each	Oak Sills ..... from 2½d. per foot
Matched Lining ..... from 12s. per square	Honduras Mahogany ..... from 5½d. per foot

YELLOW DEALS, £15 10s. per 120.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.



MOULDING WORKS.



SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 6d.	13s. 6d. per square.
9 by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,

STROOD DOCKS, on the River Medway, KENT.

MESSRS. LARK & PARROCK,

Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

N B Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size loaded afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

TIMBER, DEALS, FLOORING,

AT THE VERY LOWEST PRICES, in quantities of not less than 30 at the Public Docks.

T. W. ELLSTON,

109, SNOW'S-FIELDS, KING-ST. BOROUGH, within three minutes' walk of London-bridge Railway Terminus (down steps Brighton side).

DRY WAINSCOT,

At 6d. 7d. and 8d. per foot, at

JOHN COUMBE'S,

LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,

MAHOGANY, and WALNUT, in Plank and Board, at

GEORGE ANGOLD'S,

27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

TIMBER, DEALS, FLOORING, and

MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river-side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS,

&c. as low as advertised, White Battens, 9d. per 12-0, 12 feet; Yellow ditto, 10d. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 5s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

LARGE OAK FOR SALE.—SEVEN

TREES, containing from Four to Six Loads respectively.—Apply to JNO. WOOD, Glovers-fields, Reigate.

STAIRCASE and HANDRAIL MAKERS,

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Materials found for Handrails, or Labour only. C. & E. ORSBORNE, 8, St. Mary's-terrace, Station yard, Fowke-street, Mile-end. Handrails for the Trade. Orders punctually attended to.

STAIRCASES and HAND-RAILS,

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A. & J. SUTTON, 162, Esmond-road, Grove-road, Victoria Park, E.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

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GILT BORDERINGS for ROOMS, from 1d

per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all its branches as to the trade. ¾ inch Gilt Beads, 7d. per dozen 6 feet lengths; best ditto, 12s.

GEORGE REES, 57, DRURY LANE.

Four doors from Drury-lane Theatre. Established in 1800.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

READE & HEWITT'S PATENT PNEU-

MATIC PAN and SELF-ACTING WATER CLOSETS, RAILWAY URINAL, and SEWER FLUSHING APPARATUS.

The simplest, strongest, and cheapest Closets in use, actuated efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, public buildings, workshops, and any situation where subject to severe usage. Prevents waste of water, saves piping, cranks, wires, service box, and all the complicated apparatus of self acting closets.

The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharge being regulated by a simple tap, thus saving an immense quantity of water, which ordinarily runs to waste

Best Pan Closet, complete	£2 12 6
Best Self-acting Closet, complete	2 15 0
Railway Urinal Flushing Vessel, complete	3 3 0

LIVERPOOL, No. 5, WELLINGTON BUILDINGS, SOUTH CASTLE STREET

An Agent is required for the sale of the above in London.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
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GLASGOW, 67, BUCHANAN STREET;
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CLARK'S PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE PROOF.
Branch Establishments :—
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CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,
From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

1862.
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HONOURABLE MENTION
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CEILING FLOWERS,
PANEL DECORATIONS, TRUSSES, CAPS, &c. IN PAPIER MACHE AND CARTON PIERRE.
WILLIAM WHITE,
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NEW DESIGNS FOR CEILING FLOWERS SENT ON APPLICATION.

SPECIAL DESIGNS
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DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.

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MARTIN & CO.
Respectfully invite the attention of Architects, Builders, and the Public to their superior IRON or WOOD REVOLVING SHUTTERS.
Wood Revolving Shutters, with all requisite gearing complete, from 2s. per foot super. Iron from 2s. 6d., with all requisite gearing complete, suitable for Banking Houses, Shop Fronts, Public Buildings, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at considerably reduced prices for best quality only.
ILLUSTRATED PROSPECTUS ON APPLICATION TO MARTIN & CO., 200, HIGH HOLBORN, W.C.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent Members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE for being the cheapest, neatest, and best article for roofing, also used for inner sheeting at the Royal Agricultural Society's House, Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is superior to tar, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers &c. is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the most means of being supplied with a good article, at the cheapest and best suited to their roofs. The Patent works where the above articles are made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found much below those usually charged. Second-hand Instruments of all kinds, by the best makers, always on sale.

GUTTA-PERCHA MILL-BANDS.—The Gutta Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.
THE GUTTA-PERCHA COMPANY, PATENTEES,
WHARF ROAD, CITY ROAD, LONDON.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

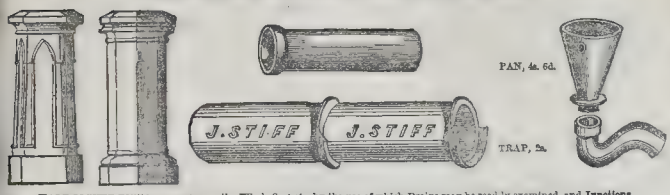
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

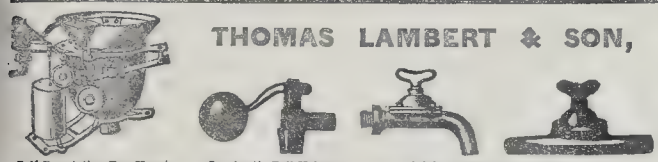


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,

Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

1851.



TERRA-COTTA WORKS,

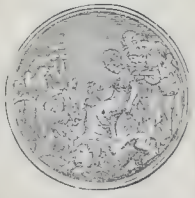
BLACKFRIARS ROAD,

LONDON, S.

MARKH. BLANCHARD & CO.

Successors to COADES.

1862.



Original Works established 1769. Terra-Cotta Manufacturers to her Majesty, the Commissioners of 1851, the Board of Works, the Trinity House, the Admiralty, the Royal Horticultural Society, and the Department of Science and Art, South Kensington, and the Recipient of the Prize Medal at the 1851 Exhibition for MATERIAL and WORKMANSHIP in TERRA-COTTA, and the only Recipient of Two Prize Medals at the 1862 Exhibition for TERRA-COTTA and POTTERY, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishments, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

A beautiful variety of Statues, Statuettes, Vases, Tazzæ, Fountains, Flower Pots, Balustrade Terminals, and other adornments, suitable for the Conservatory, Flower Garden, and Grounds, at prices unprecedented. Estimates furnished.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MEMO.—The whole of the TERRA-COTTA EMBELLISHMENTS to the NEW BUILDINGS, SOUTH KENSINGTON MUSEUM, CHARING-CROSS, and LANGHAM HOTELS, are being executed by us.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHER, sole Manufacturers, 187 and 189 (late 117 and 119), Upper-street, Islington, London.

PAN CLOSET,

and HYDRAULIC REGULATOR,

COMPLETE, 11. 18s.



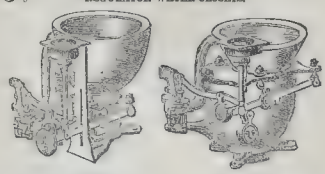
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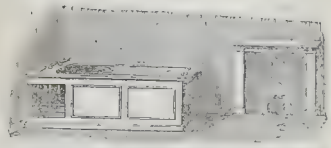
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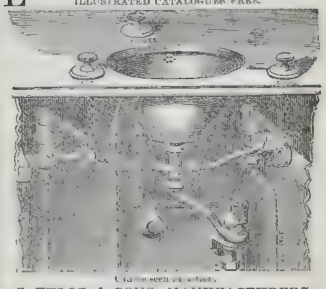
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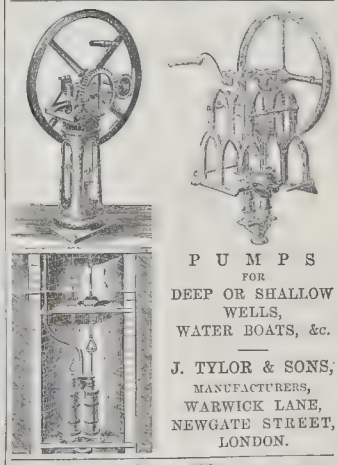
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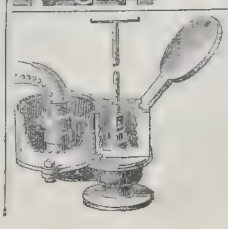
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WESTMINSTER BRIDGE WORKS, STANGATE.—Travelling Cranes, Timber, Piles, &c

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, as above on TUESDAY AUGUST 30th, at TWELVE for ONE, TWO very excellent TRAVELLING CRANES, one having a span of about 44 feet and the other of about 37 feet; also about 700 feet of Iron Rail, the strut Timber Guard-trees, about 100 Beech and Fir Piles, Cast-Iron Plates &c May be viewed, and Catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

CLEMENT'S LANE, CITY.—To Fixture Dealers and Others.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, 10, Clement's lane, on WEDNESDAY, SEPTEMBER 7th, at TWELVE (to clear the premises, which are about to be pulled down), Trade, House, and Office FIXTURES, and Miscellaneous EFFECTS, comprising 2 capital 8ft mahogany book-cases (8 feet and 10 feet wide), office desks and enclosures, mahogany tables and chairs, fitting up of strong room with wrought-iron doors, stoves and marble chimney-pieces, force-pump gas-fittings, weighing-machines, cranes and flue, set of 3-throw pumps, Gluman hand lamps, lathe, and various useful effects. —May be viewed the day previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

CORNHILL.—Materials of a House, with premises in the rear.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Commercial Union Fire Insurance Company to SELL by AUCTION, on the PREMISES, on WEDNESDAY SEPTEMBER 7th, at TWO, the excellent MATERIALS and FITTINGS of a large House and Shop, No. 30, Cornhill, and the Premises in the rear; comprising sound Brickwork, useful timber in roofs and floors, floor boards, panelled partitioning and linings, plate glass and other sashes, plate glass shop front with revolving iron shutters, glazed manhogany and other doors, stoves, chimney pieces, & several tons of lead in flats, gutters, cisterns, and pipes, plain tiles, coping, and other useful materials. May be viewed one day prior, and Catalogues had of BELCHER, Esq Architect, 5, Adelaide place London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, and 40, Parliament-street, Westminster.

WESTMINSTER BRIDGE APPROACHES.—Ninth Sale of Building Materials.

MESSRS. GLASIER & SONS are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 6th, at TWELVE for ONE, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS of Five Houses, being No. 1, New Palace yard, 32 and 33, Parliament-street, and 14 and 15, Bridge street, Westminster (part known as Fendall's Hotel); comprising about 500,000 capital stock bricks, slates, pan and plain tiles, well-timber in roofs, floors, &c. flooring, wainscoting, doors, sashes and frames, plate glass shop fronts and shutters, sash-gearing, counters and fittings, iron columns, cast-iron staircase, marble chimney-pieces and hearths, register and other stoves, ranges, water-closet apparatus, paving, coping, sinks, lead in gutters, pipes, &c. cast-iron and other hoarding and piping, metal top counter, fourteen transverse sprit taps, and metal tubing and other fittings of bar, capital York lamps and brackets, gas-fittings, &c. May be viewed 2 days and had on the morning of Sale, and Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross, S.W.

HIGH STREET, ST. PETER'S, BEDFORD. To Builders, Contractors, and Others. Notice of a Succession of Auction Sales.

MR. USHER begs to announce that he is favoured with instructions from Mr. G. H. Miller (who has determined on retiring from business), to dispose of the whole of a BUILDING PLANT, STOCK-IN-TRADE, and Effects, by PUBLIC AUCTION: comprising a large quantity of well-made pallet, plank, cords, puttogs, bills, boards, battens, pails, pail-eyes, and blocks, saw tackle, jacks, swell building materials, old doors, sashes and frames, centres, scantlings Harrison's large quantity of block and other stone, York pavings, slate and marble slabs, window and door sills, sink-stones, lamp-posts, drain eyes, gr tatestones, cement, monumental crosses, and mural devices; fifty marble chimney-pieces, tablets gravestones, six handsome marble vases, various ornaments in statuary adapted for garden decoration; also all the carts, waggons, trucks, crab, crane, harness, and numerous effects, due notice of which sales will be given from time to time

SOUTH NORWOOD.—First-class Freehold Building Land, in a very healthy and picturesque locality, within five minutes' walk of the Norwood Junction Station, on the London, Brighton, and South Coast Railway, only a short distance from the Anerley Station, on the Mid Kent Railway, affording access to London Bridge, Victoria, Charing-Cross, Crystal Palace, &c. at frequent intervals throughout the day

MESSRS. WINSTANLEY & HORWOOD will offer for SALE by AUCTION, at the GUILDHALL HOTEL, Gresham-street, on TUESDAY, AUGUST 30, in 26 lots, a PORTION of the valuable FREEHOLD PROPERTY, known as Elmore Park, Land tax redeemed, having a large frontage to the Norwood Junction Station, with which it is connected by a short road, and is now being made over the adjoining lands. The land is approached by capital roads, known as Birchanger, Howard, and Elmore roads, admirably adapted for the erection of detached villas or cottage residences, for which there is a great demand in this thriving and rapidly-increasing neighbourhood, and is divided into 24 plots of 50 feet each, by a depth of about 200 feet; and two of about 300 feet, by a cross depth. The water mains of two companies are laid on to the Estate, and gas is already supplied at Woodside green Possession may be had on completion of the purchase and the plots viewed at any time—Particulars, with plans, are being prepared and will be ready twenty days previous to the sale. In the meantime, further particulars may be obtained on application to Messrs DRUMMONDS, ROBINSON, & TILL, Solicitors, Croydon, S.; and Messrs. WINSTANLEY & HORWOOD, Auctioneers, Surveyors, and House Agents, 15, Paternoster-row, St Paul's, E.C.

KENNINGTON CROSS.—Norwood Drainage and Railway Cart Horses, Broad and Narrow Wheel Carts, Tilt and Chain Harness, &c.—To Contractors, Builders, Woodmen, and Others.

MR. J. GOWER will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, AUGUST 31, at TWELVE o'clock, without reserve, FIFTY Young, Powerful, Active CART HORSES, twenty carts, broad and narrow wheel, brick, rubbish, skip, and water; Chill and chain harness, &c. the property of Mr. Thos. Pearson. Have been employed on the drainage works at Norwood, and South London Railway, nearly completed.—On view two days prior. Catalogues on the Premises, and of the Auctioneer, at his Repository, Burtonn.

LEYTONSTONE, ESSEX.—Remaining portion of Estate, comprising Twelve Acres of Park-like Building Ground.

MR. JOHN M. DEAN will SELL by AUCTION, at the PLOUGH and HARROW TAVERN, Leytonstone, on THURSDAY, SEPTEMBER 1, at THREE, in lots, TWELVE ACRES of FREEHOLD BUILDING GROUND, about equally divided from land-tax, situate at Harrow green, on the high road from Stratford to Leytonstone, within a short distance of the Leyton Railway Station, having frontages to roads leading out of the Leytonstone high road. The land is rich and dry, with a gravelly subsoil, and is particularly eligible for the erection of good dwelling-houses.—May be viewed, and particulars and conditions of sale, with plans, had at the Place of Sale; of Messrs. GLYNES, EDELL, & GLYNES, Solicitors, No. 8, George-yard, Lombard-street; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

CAMDEN TOWN. To Builders, Cabinet-makers, and Others.

MESSRS. LEREW & LEREW will SELL by AUCTION, at CAMDEN-TERRACE, on MONDAY, AUGUST 29th, and following day, at TWELVE for ONE, 100 planks, deals, and battens, 50 squares flooring, 12 squares 9-inch tongue boards, 4,000 feet mahogany, 2½ tons cast iron, oak, beech, and deal timber, 12,000 feet quartering, joyce stuff, 80 new doors, 50 sashes, joists, 20 ladders, pony, van, 2 carts, harness, 3 trollers, also a large quantity of excellent oak materials, 4 capital baking ovens, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

TO TIMBER MERCHANTS, BARGE BUILDERS, WHEELWRIGHTS, CABINETMAKERS, ORGAN BUILDERS, &c.

THOMAS ROBERTS & CO. will SELL by AUCTION, on the PREMISES, Lett's Wharf, Commercial-road, Lambeth, on TUESDAY, the 6th of SEPTEMBER, 1864, at ELEVEN o'clock precisely, the SECOND PORTION of the well-seasoned STOCK; consisting of Spanish and Honduras Mahogany, in planks and boards, 5,000 feet dry American birch, 25,000 feet of long wide pine boards, 30,000 feet of English oak, in logs and plank; 50,000 feet of elm plank and boards, 5,000 feet of dry walnut, 70 squares of prime yellow floor pine boards, 6 yellow deals and battens, ash, lime-tree, poplar, &c. &c.—To be viewed one day prior and morning of Sale. Catalogues to be had at the Place of Sale, and of the Auctioneers, 9, Billiter-street, E.C.

TO BRICKMAKERS, BUILDERS, AND OTHERS.

MR. G. KEATS is instructed to SELL by AUCTION, at the SWAN INN, Stratford, Essex, on MONDAY, AUGUST 29, 1864, at TWO, in One Lot, a valuable ESTATE; consisting of 6a. 3r. 25p. the most part fine brick earth, with considerable building frontages to Romford-road, Green-lane, and Leytonstone-road. It offers a good investment to capitalists, as it is estimated that over fifty millions of bricks may be made and still leave the land available for building purposes.—Particulars, with plans and conditions of Sale, may be had at the Swan Inn, Stratford; of J. OTWAY, Esq. Solicitor, Stratford; T. INGHAM, Esq. on the Estate; the Plough and Harrow, Leytonstone; and of the Auctioneer, Grange Park-road, Leyton.

PIMLICO.—To Families, Licensed Victuallers, and Others.—Stock of Wines, Spirits, and capital Fittings of the "Wheatsheaf," the corner of Lower Grosvenor-place.

MR. GEO. HAINES is instructed by the Proprietor to peremptorily SELL by AUCTION, on the PREMISES, on WEDNESDAY, 31st AUGUST, at TWELVE precisely, the remaining STOCK of 86 dozen of choice old wines, 41 dozen Cognac brandy, rum, whisky, and gin; the complete fittings of the spacious bars, with a range of metal-top counters and 46 brass sprittaps, 9 beer-engines and fittings, 2 fine-toned pianofortes, furniture, wine and beer measures, refrigerator, 40 very large splrit vats and bar casks, carved pediments, chefoniers, show cases, pedestal desks, marble lamp, Royal coats of arms, numerous gas brackets, plate glass doors, brass taps, fixtures, useful fittings, and the *Times* paper for several years.—May be viewed on TUESDAY. Catalogues on the Premises; of Messrs. LEWIS & SON, Auctioneers, Moorgate-street; and at the Auctioneer's Offices, Grosvenor street West, Eaton-square, and No. 12, High-street, Kensington

CROYDON, SURREY.—Important Freehold Building Land, nearly contiguous to the Addiscombe Railway Station, and within a few minutes' walk of the other Croydon Stations

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on WEDNESDAY, AUGUST 31, at SIX for SEVEN o'clock in the Evening, Eighty Lots of very Eligible BUILDING LAND, being the first portion of the Leslie Estate, lying on the northern side of St. James's-road, and on the western side of the Heath Lodge Estate. The land is set out in lots of 15 and 20 feet frontages, respectively, to capital 40 feet roads, named Al xandra, Albert, and Frederick roads. The subsoil is a deep rock of gravel, and sewers and drains are in all the roads, and the water-main of the Local Board is in the adjoining high road. In order to preserve the respectability of the neighbourhood, the purchasers will be properly restricted as to the value of the houses to be erected and the lines of building frontages to be observed.—Particulars, with plans, may be had seven days before the sale at the Greyhound Inn, Croydon; the Leslie Arms, Croydon Common; at Garraway's Coffee-house, Change-alley, Cornhill; of Messrs. DRUMMOND, ROBINSON, & TILL, Solicitors, Croydon; and of Messrs. BLAKE, Croydon.

TO PAINTERS, DECORATORS, PLUMBERS, GAS FITTERS, &c.—A BUSINESS TO BE DISPOSED OF, with the Lease of the Premises, in one of the best situations of the West end.—For particulars, apply at 16, Albert terrace, Bishop's-road, Bayswater.

HIGH-STREET, ST. PETER'S, BEDFORD.—To BUILDERS STONEMASONS, CONTRACTORS, and OTHERS.—TO BE DISPOSED OF the excellent BUSINESS of a BUILDER and STONE and MARBLE MASON, carried on with success by Mr G. H. Miller (who is now retiring), for a series of years The complete and well adapted business premises, and commodious residence am nding one of the most respectable positions in the town of Bedford, is to be let on lease.—For further particulars and terms apply to Mr. USHER, Architect, Surveyor, and Valuer Mill street, Bedford.

TO PLUMBERS, PAINTERS, and GLAZIERS.—A good old-established BUSINESS FOR DISPOSAL, within fifteen miles of London, in an improving manufacturing neighbourhood. Terms moderate.—For particulars, apply to B. C. at Mr. Lovelace's, Bexley Heath, Kent, S E.

BUILDING GROUND.—TO BE LET, from Michaelmas next, a valuable PLOT of GROUND, adjoining the Lea Bridge Railway Station, with a frontage of 300 feet to the Lea Bridge-road: the land are sixteen acres and a half.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, covering a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and have lately undergone a complete and substantial modern brick-built manufactory of two floors, engine and boiler-houses, with 50 horse power steam engine and three tubular boilers, range of brick-built offices, and have yards with gateway entrance. There is a water frontage of about 200 feet.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

FREEHOLD LAND TO BE SOLD or LET on BUILDING LEASES, in Glengall-road, Old Kent-road.

AND ALSO near Forest hill Station.

ALSO FREEHOLD WHARF on the Surrey Canal, near Old Kent-road. Apply to Mr MAY, Acorn Timber Wharf, Old Kent-road

BLACKHEATH.—A Gentleman is desirous of DISPOSING of PLOTS of FREEHOLD and LEASEHOLD LAND, forming eligible sites for private residences, and being within three minutes' walk of the railway station.—For terms and particulars, address, Mr. F. P. THORNE, Architect and Surveyor, 4, Corbet-court, Gracechurch street, and Lee, Kent.

TWICKENHAM PARK near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Ninety-nine Years, in Lots or Small Plots Money advanced, if required.—For particulars, apply to W. BACKHURST, at the Estate Office, Twickenham Park; or EDWARD GUILLAUME, Esq. 11, George-street, Mansion House, London.

BUILDING GROUND TO BE LET by TENDER.—High Road, Lewisham. Land-tax redeemed A PLOT of GROUND, eligible for the erection of Four Houses fronting the High Road. Frontage about 88 feet; average depth 125 feet. Term of years 80. One year's ground rent. Within three minutes' walk of the Lady-well Station.—Sealed Tenders, stating amount of ground rent, description and value of each house to be delivered on or before the 31st day of AUGUST, 1864, at Leathersellers' Hall, St Helen's-place, E.C.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation There are four reception rooms, the latter 40 feet in length; eleven bed-rooms; stabling for eight horses and coach houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 57, Russell square.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company, at Stratford, Essex, close to the Station and the High-street; one portion with three frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London-wall.

BUILDING LAND TO BE LET, situate at Vauxhall, Leytonstone, and Camberwell. For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

NEWLY and most substantially erected WAREHOUSES and LAND, occupying an area of nearly half an acre, near the entrance to the London Docks, well adapted for bonded warehouses, TO BE LET on LEASE, or the Freehold to be sold.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

IRON FOUNDRY TO BE LET, with immediate possession, established thirteen years. Rent low, and requiring only a small capital for incoming—For particulars apply to H. CLAYTON & CO. Brick and Tile Machine Makers, Atlas Works, Upper Park-place, Dorset-square, London, N.W.

BROMLEY, KENT. — Beautiful FREEHOLD BUILDING SITES, with a registered title under the new Act, adjoining the Shortlands Station on the Mid Kent Railway. Messrs. DRIVER & TEWSON beg to announce that the title to the Shortlands Estate having been investigated and approved by the Court of Registry, they are now in a position to SELL any of the remaining LOTS, with a registered and indefeasible title; the effect of which will be to reduce the present and all future purchasers' legal expenses to an almost nominal amount, the immense advantages of which to all purchasers, and especially to those intending to deal with or build upon the land, can hardly be over-estimated, as not only will the title be each for be absolutely indisputable, but sales of the whole or any of the houses to be built thereon, will be as simple and inexpensive as the transfer of a share or money in the funds. The advantage, in addition to the proposed supply of water by the Kent Waterworks, and of gas by the Bromley Gas Company, cannot fail to render any building operations on an extensive scale an eminently successful speculation. The unsold lots vary in extent from 1 to 13 acres, with an undulating surface and a varying soil of gravel, sand, and clay. They are within a few minutes' walk of the Shortlands Station, and only ten miles from London Bridge.—For particulars and plans may be obtained of Messrs. DEBENHAM & TEWSON, 80, Cheapside,

TO RESPECTABLE BUILDERS of SMALLISH HOUSES.—Firstly, TO BE LET, a Piece of FREEHOLD BUILDING GROUND, for three pairs of Cottages, which are much wanted, at 3l. per pair ground-rent. Secondly, a beautiful Site for Houses, at 20l. and 30l. per year, at 2s. 6d. per foot. Thirdly, Shops, &c. Large Plans drawn on to the land at 1s. per yard Fair advances if required.—Apply, near the above, to Mr. FRAZER, Railway Hotel, Caterham, Surrey.

LAND TO BE LET, by TENDER, on the 20th SEPTEMBER, by the Fishmongers' Company, on a Building Lease for ninety years, situate on the east side of Pudding lane, in the centre of the fruit market, containing a frontage of 36 feet 9 inches, with a medium depth of about 76 feet, highly suitable for warehouses, shops, or other business premises.—Apply to Mr. W. B. TOWSE, Fishmongers' Hall, London Bridge; or to Mr RICHARD SUTER, Architect and Surveyor, 27, Gracechurch street, where plans and particulars may be seen. Tenders to be delivered before TWELVE o'clock on the 20th SEPTEMBER, 1864.

LARGE BUSINESS PREMISES, to BE LET, or the LEASE TO BE SOLD (near the Baker-street Station of the Metropolitan Railway) Have for many years been occupied by an engineer, are suitable for various manufacturing purposes, or for carrying on a builder or carpenter. Has waggon entrance, large covered shops and yard, with rooms and stores over. A steam engine and boiler upon the premises.—For particulars and to apply to CLAYTON & CO. Brick and Tile Machine Makers, Atlas Works, Upper Park place, Dorset-square, N.W

FREEHOLD BUILDING LAND, containing about 11,269 square feet, situate within a few yards of Bishopsgate-street-without and Manufacturing Premises, Warehouses, or Model Lodging-houses, TO BE SOLD or LET on Building Leases.—For terms and further particulars, apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside, where a plan can be seen

TO MANUFACTURERS REQUIRING SPACIOUS PREMISES near the City. — Messrs. J. J. CLEMMANS & SON have to LET PREMISES, occupying an area of about 9,000 feet. The premises are about being rebuilt, arrangements could be made to meet the requirements of any particular manufacture. Steam power can be supplied.—Apply at the AUCTION and ESTATE OFFICES, 21, Holywell-row, Finsbury-square, E.C.

TO BUILDERS and OTHERS.—A GREAT BARGAIN.—TO BE DISPOSED OF, with immediate possession, situate at Harefield green, four miles west of London, a HOUSE, with material, fixtures, &c. suitable for the trade. Rent about 10l. per annum Also two useful CART HORSES, ONE BRICK, TWO SPRING, and ONE DOG CART, present proprietor retiring from business. No reasonable offer refused.—Address, Mr. J. ROBERTS, Builder, Harlesden-green.

BUILDING LAND, WATFORD, HERTS. TO BE SOLD, FOUR ACRES and a HALF of FREEHOLD BUILDING LAND, at Watford (at Nascott, overlooking Cassiobury Park), with a frontage of nearly nine hundred feet to the Watford and Rickmansworth-road, suitable for the site of a first-class residence. Capital brick-built stables, coach house, &c. a building three rooms for a cowman, and shedding for stock, were erected on the land about three years since, in the most substantial manner.—Apply to Mr. HUMBERT, Land Agent, Watford, Herts.

TEDDINGTON, SURREY.—TO BE LET, on Building Lease, for ninety-nine years, with every advantage to the builder, a valuable Piece of FREEHOLD GROUND, with a river frontage, suitable for villas of a good class. Also a Piece of Land, with a frontage of nearly 300 feet to the high road and the railway, and close to the station. Money advanced.—For plans and particulars, apply to Mr. T. J. HILL, Architect, 70, Old-street, City-road

ADELPHI.—TO BE LET, Ground Floor OFFICES, suitable for a public Company or an Engineer or Surveyor. The nearly new Furniture and Fittings may be purchased.—Apply to Mr. H. O. MARTIN, 18, Adam street, Adelphi.

CHURCH and TURRET CLOCKS. BAIKMAN, BROTHERS, Manufacturers, 82, St. John street, London, E.C. Turret Clock, with 3-feet dial, to strike a bell of 1 cwt. fixed complete, 30l. Church Clock, with 5-feet dial, to strike bell 4 or 5 cwt. fixed complete, 35l. Church Clock, with 5-feet dial, to strike a bell 10 cwt. fixed complete, 50l. Bells extra. The above Clocks kept in stock. Larger sizes contracted for. Established over fifty years.

FAIRER'S TURRET CLOCKS, 183, St. George street East, London. By Special Appointment to the Queen and to Lucie Royal Highness the Prince Consort, her Majesty's War Department, &c. Maker of the Great Clock of the Tower of London. The Village Clock, price 40 guineas.

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The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1126. SEPTEMBER 3, 1864. PRICE FOURPENCE. By Post, 5d.

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ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, A. J. B. Beresford Hope, Esq.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. } Geo. Gilbert Scott, Esq. R.A,
Professor—William Tite, Esq. F.R.S. M.P.

The List of subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

NOTICE. — Mr. LUDWIG DENICKE, of Leipzig, has been appointed AGENT to receive Advertisements, and to supply "The BUILDER," in GERMANY AND EASTERN EUROPE.

NATIONAL ASSOCIATION for the PROMOTION of SOCIAL SCIENCE.—THE EIGHTH ANNUAL MEETING will be held in YORK, from THURSDAY, the 22nd, to THURSDAY, the 29th of SEPTEMBER, 1864.

President—The Right Hon. Lord Brougham.

General Secretary—George W. Hastings, esq. 3, Waterloo-place, Pall mall, London, S.W.

Member's Subscription, One Guinea; Associate's, 10s. The names of Members and Associates will be received, and Tickets issued, by S. W. NORTH, 31, Coulthgate, York, one of the Local Secretaries. Tickets will also be forwarded by return of post on receipt of cheque or post-office order, made payable to SAMUEL WILLIAM NORTH. Early application for Tickets is earnestly requested. Arrangements have been made with all the principal railway companies in Great Britain for passengers to York on this occasion travelling both ways for one fare, on production of a voucher, which may be obtained from the Local Secretaries, with any further information required.

THOMAS MYERS, } General
WM. PROCTER, } Local
York, August, 1864. S. W. NORTH, } Secretaries.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood-carving, 20s. and 10s.

For Sculptors' Work, 10l and 5l. (the latter given by Mr. H. Heather Bryan, of Wandle-street).

For Chasing, Gilt Enamels, 10l. (given by the Ecclesiological Society and Mr. Rodd Hope).

For Opus le Enamels, 10l (given by Mr. Rushall).

Small Prizes will be added at the discretion of the Council.

Parties may be had by enclosing a directed and stamped envelope to the Honorary Secretary, 11, Stratford-place, London, W.

A. J. B. BERESFORD HOPE, President.
G. G. SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

ARCHITECTURAL DRAWING

CLASSES, for Architects, Builders' Sons, Assistants, &c.—Conducted by Mr. T. J. HILL, Architect, for giving Day Instruction in Architectural, Perspective, Isometrical, and Geometrical Drawing; making Finished and Working Drawings, preparing Specifications, taking out Quantities, estimating Builders' Work, &c. Terms, Three Guineas per quarter.—Prospectuses and full particulars may be had at the Offices, 76, Old-street, City-road.

COMPETITIONS.

TO ARCHITECTS.—COMPETITION DESIGNS for St. JAMES'S CHURCH, Waterloo-street, Little Bolton.—The Charitable Trustees, under the will of the late John Barrow, esq. are desirous of obtaining DESIGNS, &c. for a CHURCH, to be erected on land belonging to them in Waterloo-street, Little Bolton. The land for the site forms a parallelogram of 62½ yards long, by 44 yards wide, and contains (including one half of Waterloo-street, of 14 yards wide, and the half of three other streets of 12 yards wide, each running along the other three sides of the land) 2,736 superficial square yards. The frontage to Waterloo-street, which runs near east and west, is 62½ yards. It is desired that the Church shall afford comfortable sitting accommodation for 1,000 persons, and that the outlay shall not exceed 5,000l. The plans to be drawn in line only, to a scale of 10 feet to 1 inch. Each set of designs to comprise plan, interior, exterior, and sectional elevations, and perspective view, with the estimated cost of construction and completion of the design, exclusive of the land, but inclusive of all internal fittings and work. The designs to be forwarded to the Rev. HENRY POWELL, Vicar of Bolton, under motto or cypher only, accompanied by a sealed letter, containing the real name and address of the person furnishing the design, on or before the 30th SEPTEMBER, 1864. A premium of 50l will be given to the person whose design the Trustees shall deem the best, and such design shall be the property of the Trustees, who shall not be bound to employ the successful person as architect, though they will be disposed to treat with him for the purpose. The unsuccessful designs will be returned to the addresses of the respective owners, by the usual modes of conveyance; but the Trustees will not be responsible for their safe delivery, nor for any payment to the owners in respect of such plans, or of the adoption of any part of any of them in the erection of the Church.—Further particulars may be obtained from the Rev. HENRY POWELL, Vicar of Bolton; JOHN RICK, Esq.; or THOMAS LEVER RUSHTON, Esq. three of the Charitable Trustees under the will of the late John Barrow, esq. deceased.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart. are prepared to receive DESIGNS and ESTIMATES for the ERECTION of an OBELISK or COLUMN, on an elevated site on the Sledmere Estate, on the Yorkshire Wolds, near Driffield. Designs and Estimates to be sent to the Honorary Secretaries, on or before the 1st day of OCTOBER next. Twenty pounds will be given for the design considered the most suitable by the Committee, and ten pounds for the second-best design.—Particulars to be had on application to

WM. TOPHAM, } Hon. Secs.
Driffield, 1st August, 1864. F. C. MATTHEWS, }

BOROUGH of BOLTON. — COMPETITION PLANS for NEW TOWN HALL.—To ARCHITECTS, &c. &c.—The Bolton Corporation purpose ERECTING in the Borough a TOWN HALL, covering an area of about 4,300 square yards, and are desirous of obtaining Plans, Sections, and Working Drawings for same. Premiums will be given as follows, viz.—75l. for the best, 50l. for the second best, and 40l. for the third best design in the opinion of the Council; but the Corporation will not be responsible for any payment for unsuccessful designs. The plans of the three successful competitors to be the property of the Corporation.—Applications to be made to Mr. BAYLIS, the Borough Surveyor, who will show the ground, and give any further information on the subject. The designs must be sent in, under seal, without signature, with a private mark or motto, and a letter accompanying them also under seal, containing the corresponding mark or motto, and the designer's name and address. They must be addressed to the Town Clerk, and delivered in on or before the 1st DECEMBER, 1864.

ROBT. G. HINNELL, Town Clerk.

Bolton, 11th August, 1864.

PROPOSED CEMETERY at BURTON-UPON-TRENT.—TO ARCHITECTS, LAND-SCAPE GARDENERS &c.—The Burton-upon-Trent Improvement Commissioners, who are also appointed a Burial Board for the town of Burton-upon-Trent, are desirous of receiving PLANS, ESTIMATES, and GENERAL SPECIFICATIONS for the ERECTION of TWO CHAPELS, Residences for the Registrar and Sexton and Walls; also for Laying out and Fencing the Grounds and Constructing Drains and Footpaths in the proposed Cemetery, consisting of 12 acres; the whole cost, exclusive of the purchase of the land, not to exceed 6,000l. A premium of 50l will be given for the most approved plans, estimates, and specifications, and 25l. for the second best. Should the author of the approved plans be employed in carrying out the works, the premium of 50l. will be deducted from the Architect's commission. A lithographed plan of the ground, and any information required, may be obtained on application to me on and after the 12th day of SEPTEMBER next; and the plans, &c. accompanied by a letter with a motto, are to be forwarded to me on or before the 12th day of OCTOBER, 1864.—By order of the Board,

WILLIAM COXON, Clerk.

Public Offices 53, High-street, Burton-on-Trent.

TO ENGINEERS, MILLWRIGHTS, &c. COMPETITION PLANS.—The Visiting Justices of the House of Correction at the Cold Bath Fields, Clerkenwell, are desirous of obtaining PLANS for the CONSTRUCTION of a SET of TREADWHEELS at that Prison, of sufficient extent and strength to work 150 men at one time. The length of the wheel in which the men are to be erected is 192 feet; breadth, 12 feet; height, 21 feet. Each plan is to be accompanied by an estimate of the cost, and a description of the proposed works; and must be forwarded to the Prison, with some motto or mark, and the name and address of the Tender, in a sealed letter, bearing the same motto or mark, by WEDNESDAY, the 5th of OCTOBER next. The Visiting Justices will give a premium of £20 to the author of the plan which shall be most approved of by them; and the plan is to become their property, but they do not bind themselves to adopt it, either partly or entirely, nor to employ the author to execute, improve, or alter, or amend the construction of the works.—Any further information may be obtained by application at the Prison, on any Monday, Tuesday, or Wednesday, between TEN and ONE.

JOHN S. SCAIFE, Clerk to the Visiting Justices.

August 29, 1864.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Sandgate, near Folkestone, in the county of Kent, may inspect the Drawings and Specification at the Coast Guard Watch Room, Sandgate, or at this Office, between the hours of TEN and FOUR, from THURSDAY, the 25th inst. to WEDNESDAY, the 7th day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 8th SEPTEMBER, under seal and directed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Sandgate."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 17th day of August, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS

TENDERS are required for ERECTING an IRON SHED, 94 feet long and 46 feet wide, at the Gun Wharf, Portsmouth.

Persons desiring to Tender for the execution of this Work must leave their names at this Office on or before the 6th SEPTEMBER, 1864, and pay the sum of Ten Shillings and Sixpence for the Bills of Quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. J. W. GORDON, Colonel,
Commanding Royal Engineer,

Royal Engineer Office, Portsmouth,
24th August, 1864.

TO BUILDERS.—The Board of Guardians of St. Matthew, Bethnal-green, are willing to receive TENDERS for the ERECTION of BOARD ROOM and OFFICES at the Workhouse, Weaver-road, Bethnal-green, from the designs of their Architect, F. N. CLIFTON, 7, East-India-avenue, Leadenhall-street, E.C. Copies of the quantities may be obtained of Messrs. WILLIAMS & SCHOFIELD, 12, Mecklenburgh-street, Russell-square, W.C. The Board do not bind themselves to accept the lowest Tender, and will require the builder whose Tender is accepted to give the names of two sureties to be bound formally with himself in the sum of £1000 for the due execution of the works. Tenders to be delivered at the Office of W. T. HOWARD, Esq. Clerk to the Board, Waterloo-road, Bethnal-green, before SIX o'clock, p.m. on MONDAY, the 12th of SEPTEMBER next; and personal attendance will be necessary at the Board on TUESDAY, SEPTEMBER 13, the following day, at FOUR o'clock precisely.

TO CONTRACTORS and FINANCIAL ASSOCIATIONS.—WEST GRINSTEAD, CUCKFIELD, and HAYWARD'S HEATH RAILWAY COMPANY. The Directors of this Company are prepared to receive PROPOSALS for the CONSTRUCTION of the above RAILWAY in two sections: No. 1 from Hayward's Heath to Bolney (about 6 miles), and No. 2 from Horsted to West Grinstead, (five miles). The Brighton Company have agreed to work the line, and the plans and sections can be inspected and further information can be obtained, from J. H. TOLME, Esq. the Engineer to the Company, 10, Duke-street, Westminster; of G. T. PORTER Esq. 4, Victoria-street, Westminster; or of the Secretary. Proposals in writing, stating full particulars, must be sent to us on or before the 20th of SEPTEMBER next.

EDWARD WAUGH, Secretary.

Cuckfield, 24th August, 1864.

BIRKENHEAD UNION.—The Guardians of the Poor of the Birkenhead Union, in the County of Chester, are desirous of receiving TENDERS for the ERECTION and COMPLETION of a HOSPITAL, to be built in close proximity with the new Workhouse at Higher Tranmere, Separate and distinct Tenders will be required for the execution of the Works, namely, 1st, for the execution of that part detailed in specification, marked No. 1; 2nd, for the erection of the Work as detailed in specification marked No. 2. Persons desirous of Tendering are informed that good brick clay may be obtained on the land belonging to the Board, and used on payment of a moderate royalty. For this purpose the Contractor will be required to prepare the clay during the autumn, so that the bricks may be manufactured and the buildings proceeded with early in the ensuing spring; it is also the intention of the guardians to execute only the first portion before the month of April next; the second portion of the building to be constructed as soon afterwards as the Guardians may determine. The drawings and specifications may be seen, and further information obtained, on and after the 10th of inst. at the Office of Mr. THOS. LAYLAND, Architect, 49, North John-street, Liverpool. Sealed Tenders to be delivered to me, at my Office, 60, Lord-street, Birkenhead, on or after TWELVE o'clock at noon on FRIDAY, the 30th day of SEPTEMBER next. The Guardians are not bound to receive or accept the lowest or any Tender. PLIFR GREGORY, Clerk.

60, Lord-street, Birkenhead, 17th August, 1864.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ENLARGEMENT of GRAYS THURROCK CHURCH, Essex, may see the drawings and specification at the Angel Hotel, Grays Thurrock, on and after the 17th inst. Tenders to be sent to the REV. W. H. RICHARDS, the Vicarage, Grays Thurrock, near Rochford before the 15th of OCTOBER next. The Committee do not pledge themselves to accept the lowest or any Tender.

TO BUILDERS. — Surrey County Lunatic Asylum.—Parties willing to CONTRACT for the ERECTION of a new BRICK WALL, being 1,480 feet (or 1,974 feet, including the Piling and Planking) after Wall-faced with Materials, are requested to send in sealed Tenders for the same on or before FRIDAY, the 9th day of SEPTEMBER next addressed to the Committee of Visitors, Surrey County Lunatic Asylum, Tooting, Surrey, and endorsed "Tender for Brickwork." Plans, specifications, and other particulars may be had on application to the Steward of the Asylum, any day between TEN and FOUR P.M.

N.B. The Committee do not bind themselves to accept the lowest or any Tender. By order,

J. BRIDGLAND, Clerk to the Committee of Visitors.

23rd August, 1864.

[For remainder of Contracts see next Page.

TO BUILDERS and OTHERS. — The Guardians of the Whitechapel Union will meet at their Board-room, at the Whitechapel Workhouse, Charles-street, Mile-end New-town, N.E. on TUESDAY, the 13th day of SEPTEMBER, at SIX o'clock in the Evening, to receive TENDERS and contract for the ERECTION of a BOILER HOUSE and CHIMNEY-SHAFT, setting of Boiler, Formation of a Tunnel, and other Works, at their Industrial School, Forest-lane, Stratford, Essex. Tenders to be sealed up, and endorsed "Tender for Bricklayers' Work." The plans and specification may be inspected at the Office of Mr. HUDSON, Surveyor, No. 40, Leman-street, Whitechapel. The Guardians will not be bound to accept the lowest or any Tender. G. ADAMS FARR, Clerk.

Clerk's Office, Whitechapel Workhouse, 27th August, 1864.

TO BOILER MAKERS and OTHERS. — The Guardians of the Whitechapel Union will meet in their Board Room, at the Whitechapel Workhouse, Charles-street, Mile End New Town, N.E. on TUESDAY, the 13th day of SEPTEMBER, at SIX o'clock in the evening, to receive TENDERS and CONTRACT for a NEW STEAM BOILER, &c. to be ERECTED and FIXED at their Industrial School, Forest-lane, Stratford, Essex.—Tenders to be sealed up and endorsed "Tender for Boiler." The plans and specification may be inspected at the Office of Mr. HUDSON, Surveyor, No. 40, Leman-street, Whitechapel. — The Guardians will not be bound to accept the lowest or any Tender.

G. ADAMS FARR, Clerk.

Clerks' Office, Whitechapel Workhouse, 27th August, 1864.

NOTICE.—LANDS belonging to the War Department, at Sheerness and Slough, in the parish of All-hallows, Isle of Grain, TO BE LET by TENDER.

TO BE LET, from Michaelmas, 1864, the undermentioned Plots and Lettings:—

Name of Present Tenant.	No. of Plot	Contents. A.	R.	P.
SHEERNESS.				
Mr Joseph Goodine ..... Stocton.	5	10	3	15
Mr. Simon Dunn	6	11	2	5

The Commanding Royal Engineer gives notice that sealed Tenders, addressed to the "Director General of Contracts," War Office, Pall-mall, London, and marked on the corner "Tender for Land at Sheerness or Slough," will be received until the 8th of SEPTEMBER next, and that printed forms of Tender, and every information, may be obtained at this Office between the hours of TEN and FOUR, and also at the Royal Engineer Office, Slough, on 3rd SEPTEMBER.

N.B.—No Tender will be received except on a printed form.

The Secretary of State for War does not bind himself to accept the highest or any Tender.

Royal Engineer Office, Sheerness. 19th August, 1864.

BURSLEM LOCAL BOARD of HEALTH. To PAINTERS, DECORATORS, &c.—The Burslem Local Board of Health are prepared to receive TENDERS for the PAINTING and DECORATION of the TOWN HALL, Burslem. Specifications and drawings may be inspected at the Town-hall, Burslem on and after THURSDAY, the 1st day of SEPTEMBER, 1864, and further information may be obtained, on application to the Architect, G. T. ROBINSON, Esq. F.R.I.B.A. Leamington. Tenders, sealed and endorsed to be forwarded to me at the Town-hall, Burslem, not later than TWELVE o'clock noon, on WEDNESDAY the 7th day of SEPTEMBER, 1864. The lowest tender not necessarily accepted.—By order. JOSEPH LOWNDES, Clerk.

Burslem, August 2 th, 1864.

HARTLEPOOL WATERWORKS. — To CONTRACTORS.—The Hartlepool Gas and Water Company are prepared to receive TENDERS from parties willing to contract for the CONSTRUCTION of TWO RESERVOIRS and other Works near Claxheugh, in the county of Durham. Inspection of plans and specification may now be seen, and other particulars obtained, at the Company's Offices, West Hartlepool, or at the Offices of Messrs. MARTIN & PEWTRESS, 15, Park-place, Leeds. N.B. — Tenders addressed to the secretary, Gas & Water Company, West Hartlepool, will be received up to SATURDAY, the 17th of SEPTEMBER next; but the Company do not bind themselves to accept the lowest or any Tender

August 29, 1864.

NOTICE. — To STONE MERCHANTS, PAVIORS, CONTRACTORS, and OTHERS.—The Woolwich Local Board of Health will meet at their Board-room, William street, at SEVEN o'clock in the evening of TUESDAY, the 13th instant, to receive TENDERS from parties desirous of SUPPLYING and LAYING in such streets within the parish, as may be directed, about 15,000 feet super of first-class 9-inch YORK PAVING, and about 600 lineal feet super of 24-inch YORK PAVING, both Kerb and Channel. Also for the SUPPLYING and LAYING of about 2,500 feet run of ABERDEEN GRANITE KERB, 12 inches by 6 inches, and about 500 yards super of ABERDEEN GRANITE PANNELLING in causeway sets, 4 inches by 6 inches.—Copies of the specification, with form of Tender, &c. &c. each, may be had by application to Mr. REED, Clerk to the Local Board, and further particulars secured on application to Mr. BARNETT, Surveyor to the said Board. Tenders endorsed "Tenders for Paving," &c. addressed to the Clerk, to be delivered at the Board room of the Local Board of Health, before SEVEN o'clock p.m. on TUESDAY, the 13th instant. Security will be required for the due performance of the Contract. The Board do not bind themselves to accept the lowest or any Tender.—By order,

ANDREW C. REED, Clerk.

Town hall, Woolwich, 1st September, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a CHAPEL at Delph, near Saddleworth, Yorkshire, for Additions to Schools, are requested to send in their names, without delay, as time is limited, to the Architects, Messrs. WM. G. HABERSHON & PITE, 38, Bloomsbury-square, London, W.C.

TO BUILDERS. — The Directors of the Gloucester Spread Eagle Hotel Company (Limited) are ready to receive TENDERS for the ERECTION of a NEW HOTEL, STABLING, and other BUILDINGS, on the site of the present Spread Eagle Hotel, Northgate street, Gloucester. Persons desirous of Contracting for the Works may see the drawings and specifications at the Offices of the Architects, Messrs MEDLAND, MASEBY, & MEDLAND, Clarence street, Gloucester, after MONDAY, the 5th inst. and may obtain Bills of Quantities and Form of Tender on payment of One Guinea. Tenders, sealed and indorsed "Tender for Hotel," to be sent under cover to the Secretary, King-street, Gloucester, not later than MONDAY, the 26th instant. The Directors do not pledge themselves to accept the lowest or any Tender. By order of the Directors, H. T. LOVEGROVE, Secretary pro. tem.

King-street, 1st September, 1864.

TO BUILDERS.—CROYDON UNION NEW WORKHOUSE.—The Guardians are desirous of receiving TENDERS for the ERECTION of a New WORKHOUSE at Queen's-road, Croydon. The plans and specification can be inspected, and other particulars obtained, on application to Mr. JOHN BERNEY, at his Office, Nethercid Croydon, on and after the 12th of SEPTEMBER next. Copies of the quantities may be obtained of Mr THOMAS F. FRANCIS, Clerk of Works, 3, Adelaide-place, London Bridge, up to the evening with him the sum of 3/. 3s. which will be returned after the delivery of the Tender. Sealed Tenders, addressed to me, and indorsed "Tender for a New Workhouse," to be delivered at my Office, as under, on or before MONDAY, the 26th day of SEPTEMBER next. The Guardians do not bind themselves to accept the lowest or any Tender. The Guardians will require the builder whose Tender is accepted to give the names of two responsible parties to be joint bound with himself in the sum of 3,000/. for the due execution of the works. By order,

ALFRED G. BLAKE, Clerk to the Guardians.

No. 23, George-street, Croydon, August 25, 1864.

TO BUILDERS.—Persons desirous of sending in TENDERS for the RESTORATION of CHAPEL HILL, near Tintern, can see the plans and specification at the Churchwardens', at Tintern, on and after 31st inst. Sealed Tenders to be sent to the Rev. GEORGE JONES, Tintern, near Chepstow, by SIX o'clock on the Evening of SEPTEMBER 20th. No Tender necessarily accepted JOHN PRICHARD, Diocesan Architect.

Llandaff, August 24th, 1864.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Bosch, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of a BRIDGE over the Canal at Wolverton Station, in the County of Bucks; also for the Erection of Carriage Sheds at the same Station.—Parties desirous of Tendering may see the drawings and obtain a statement of the quantity on upon application to Mr. WILLIAM BAKER, Engineer's Office, Euston Station, on and after WEDNESDAY, SEPTEMBER the 7th, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary, at Euston Station, to be sent in on or before WEDNESDAY, SEPTEMBER the 14th, at FOUR o'clock p.m. The Directors do not bind themselves to accept the lowest Tender.—By order. CHAS. E. STEWART, Secretary.

Euston Station, August, 1864.

TO STONEMASONS. — BRIGG LOCAL BOARD.—Persons desirous of CONTRACTING with the Local Board for PROVIDING the requisite MATERIALS and LABOUR in LAYING the several FOOTPATHS in the town of Glamford Brigg with tooled Yorkshire flag stones, kerbs, and gutters, and executing other works, may obtain particulars on applying to Mr HENRY GODDARD, Surveyor, Lincoln; or at my Office in Brigg, and must deliver a priced schedule to me on or before the twelfth day of SEPTEMBER next. The Board do not pledge themselves to accept the lowest or any Tender.—By order,

Brigg, August 22nd, 1864. ROBERT HETT, Clerk to the Board.

TO BUILDERS. — Persons desirous of giving TENDERS for the ERECTION of new CONGREGATIONAL CHAPEL, Week street, Maidstone, Kent, may inspect the drawings and specification, and obtain all particulars, at the Offices of Messrs W. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for WATERING, SCAVENGING, and the REMOVAL of DUST.—Notice is hereby given, that the Works Committee will meet on MONDAY, the 12th day of SEPTEMBER 1864, to receive TENDERS for WATERING the ROADS and STREETS, for SCAVENGERS' WORK, and for the REMOVAL of DUST in the abovenamed district. The whole of the above works to be let together. The Contract to be in two amounts, viz. one for Limehouse and Ratcliff, and one for Shadwell and Wapping; further particulars may be known, and printed forms and forms of Tender may be obtained, by application at the Office of the Board, in White Horse-street, Commercial road east, on and after the 5th day of SEPTEMBER, 1864, between the hours of TEN and FOUR o'clock, upon payment of the sum of 10s. which will be returned to the party tendering when Tenders are not accepted. Tenders, sealed up and endorsed "Tender for Watering, Scavenging, and the Removal of Dust," must be delivered at the said Office, not later than TWELVE o'clock on MONDAY, the 12th day of SEPTEMBER, 1864, and no Tender will be received unless accompanied by a 20l. Bank of England note, as evidence that the same is bond fide. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required, and the Contractors will have to pay the costs of the contracts. No Tender will be received after the time specified, nor unless strictly in accordance with the specification and conditions. By order,

August 22, 1864. THOS. W. RATCLIFF, Clerk of the Board.

THE WEDGWOOD INSTITUTE. — To BUILDERS. — The Committee invite TENDERS for the EXECUTION of the several WORKS shown in the Basement plans and specification of which may be inspected at the Town Hall, Burslem, on THURSDAY and FRIDAY next, the 9th and 10th of SEPTEMBER; after which particulars may be obtained at the Office of the Architect, Mr. G. B. NICHOLS, Heath Chambers, West Bromwich. The Tender is to be sealed, and addressed to the Chairman of the Institute Committee, Town Hall, Burslem, "Tender for Building," and to be delivered not later than WEDNESDAY, the 14 h inst. The Committee is not pledged to accept the lowest nor any Tender.

Burslem, 1st Sept 1864. W. WOODALL, Hon. Sec

TO BUILDERS and CONTRACTORS, and to GAS FITTERS.—PARISH of ST. PANCRAS, MIDDLESEX.—Notice is hereby given that the Directors of the Poor of this Parish will meet at the Vestry Hall, King's road, Pancras-road, on TUESDAY, the 20th day of SEPTEMBER next, at TWO o'clock in the afternoon, to receive and consider TENDERS from persons willing to CONTRACT for GENERAL REPAIRS of the Workhouse, and also for GAS-FITTERS' WORK, agreeably to the terms of specifications to be seen at the Vestry Offices as above, where further particulars, and form of Tender, may be obtained, and of the Clerk of Works for specification for general repairs. Surety will be required for the due performance of the contract. No Tender will be received or accepted unless made out on one of the printed forms. Tenders must be delivered, sealed and under cover, before TWO o'clock in the afternoon on the said 20th day of SEPTEMBER, marked "Tenders for ....." and the persons Tendering, or their agents, are required to be in attendance at the said Offices at THREE o'clock in the afternoon of the above mentioned day. The Directors do not bind themselves to accept the lowest or any Tender, nor will any travelling or other expenses be allowed.—By order of the Directors of the Poor,

FRANCIS PLAW, Clerk.

Vestry Offices, Pancras road, N.W. August 26, 1864.

TO CONTRACTORS and BUILDERS.—RESTORATION of the PARISH CHURCH of S. MARY, ARNOLD, near Nottingham.—TENDERS are required for the WORKS to be done in the RESTORATION and partial REBUILDING of the above CHURCH. Contractors or Builders desirous of Tendering for the Contracts for the above Works, are to send in their names, by letter only, to the Architects; and those selected may see the plans and specifications, and obtain bills of quantities, on and after MONDAY, the 12th day of SEPTEMBER 1864.—Tenders, properly endorsed, to be delivered at the Offices of the Architects, Derby road, Nottingham, on MONDAY, the 19th day of SEPTEMBER, 1864. The lowest or any Tender not necessarily accepted.

4, Lancaster-place, Strand, London; } Architects.
8, Derby-road, Nottingham, } H. WARDMAN, W. J. NEILD, } Hon. Secs.

August 31, 1864.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper and Zinc; Patent Locks of all descriptions, Chains, Grass, and Wood Furniture, of all Kinds, with Patent Shoot Bolts; and the Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

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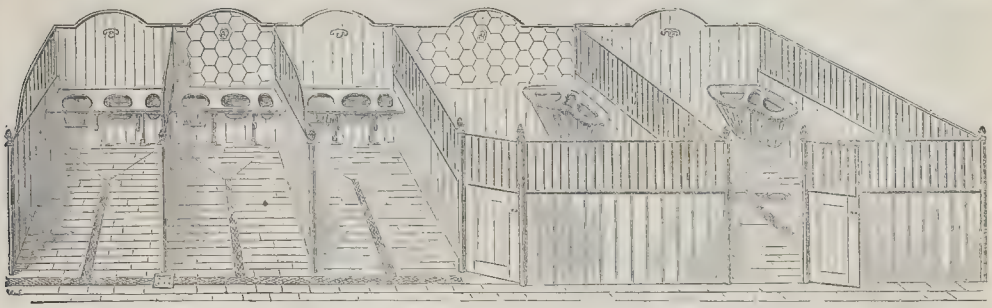
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PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



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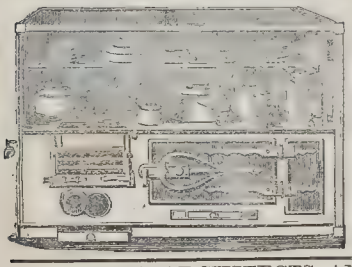
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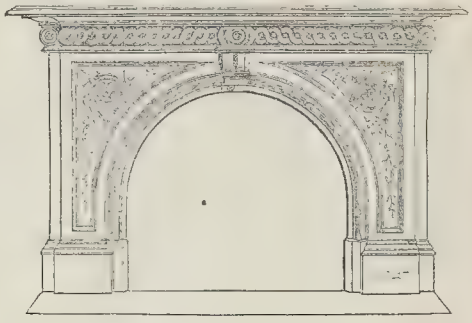
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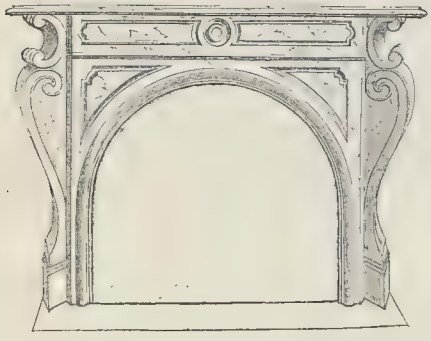
IS AT

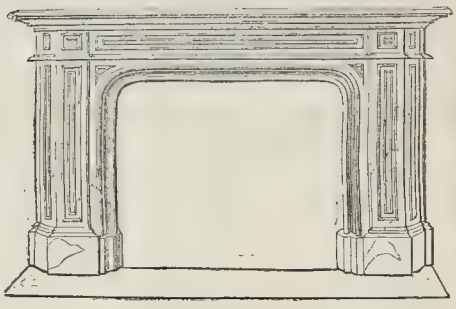
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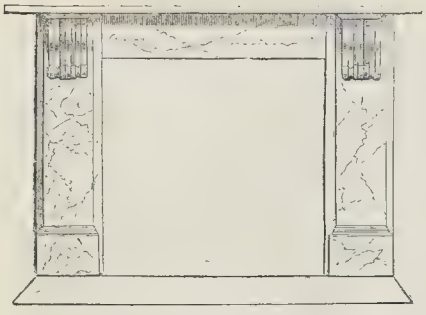
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8s. to 100*l.*













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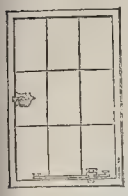
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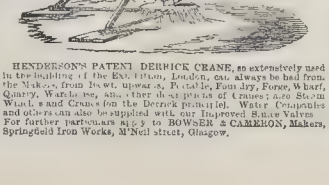
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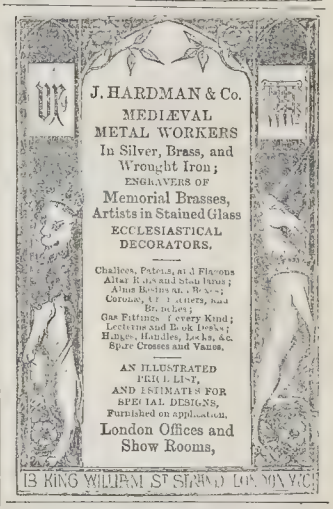
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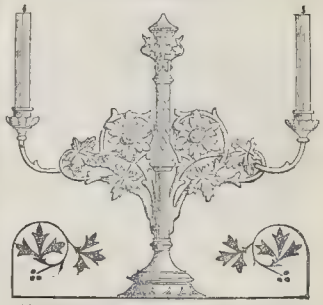
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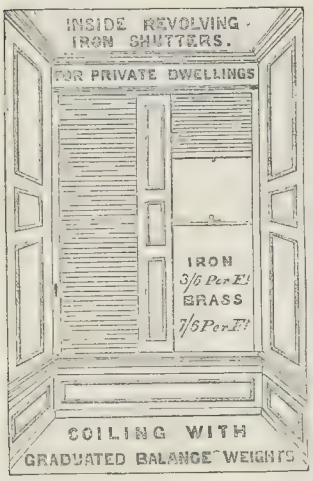
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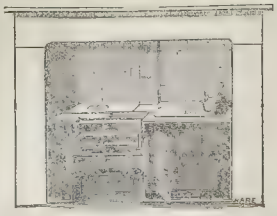






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CUNDY'S
PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE.

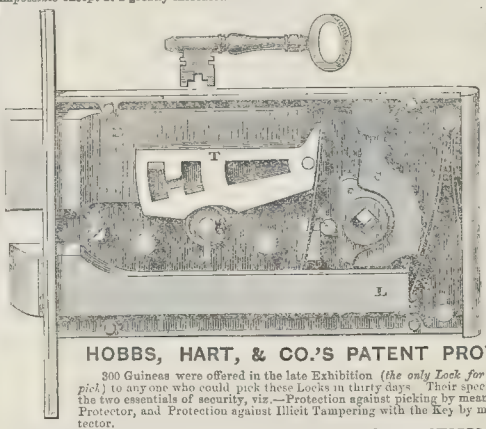


This Range, also
CUNDY'S PATENT BRICK OVEN SEMI-CLOSE RANGE,
and
PATENT COTTAGER'S KITCHENER;
Also CUNDY'S Patent Original FIRE-BRICK Warm-Air Ventilating STOVE,
suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,
can be seen in operation daily at the
SHOW-ROOMS of the MANUFACTURER,
Wm. ADDIS, Wholesale and Retail Ironmonger, Stove Grate and Range Manufacturer,
6, 7, & 15, LEICESTER STREET, LEICESTER SQUARE, LONDON.
A Prospectus, with full Description and Price of the above, will be sent per Post on application.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES, FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES-STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS
For Club Houses, Hotels, Restaurants, &c.

HOBBS, HART, & CO.'S
MACHINE-MADE LOCKS AND STREET-DOOR LATCHES.

These Locks are recommended for all purposes requiring good security combined with economy of price and durability of wear, as by means of machinery a faultless accuracy is arrived at, which by hand labour would be impossible except at a greatly increased cost.



Architects and Engineers are requested to note that the security of these Locks consists in a series of Levers, that have to be raised to unequal positions by the bits of the key before the bolt can pass. These will bear comparison with those at treble their cost.

These Locks are made with from Two to Five Levers, and can also be made in suits to differ with Master Keys to pass.

The retail prices of Locks for Cabinet purposes are from 2s. to 4s. each; for Room Doors, 4s. to 9s. 6d. each; Street Door Latches, 7s. 6d. to 18s. each.

This Illustration represents the Two-bolt Four-lever Mortise, with Hobbs & Co.'s Patent Follower, price 8s.

HOBBS, HART, & CO.'S PATENT PROTECTOR LOCKS.

300 Guineas were offered in the late Exhibition (*the only Lock for which a Premium was offered to pick*) to any one who could pick these Locks in thirty days. Their speciality consists in their combining the two essentials of security, viz.—Protection against picking by means of their Patent Moveable Lever Protector, and Protection against Illicit Tampering with the Key by means of their Patent Nozzle Protector.

These all-important principles are the special and peculiar features of HOBBS, HART, & CO.'S Patent Locks. These Locks vary in price from 10s. to 50s. each, with Solid Keys. For prices, with Changeable Keys, see 16-paged Illustrated List of Locks, Iron Doors, Safes, &c. which can be had on application.

HOBBS, HART, & CO. 76, CHEAPSIDE, LONDON, E.C.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

No. 159, SHOREDITCH, LONDON, N.E.

Keep in Stock a large Assortment of

BAR, SHEET, AND HOOP IRON, SHEAR, CAST, AND SPRING STEEL, RANGE AND STOVE METAL.

IMPROVED SELF-ACTING COTTAGE RANGES,

With Oven and Boiler complete.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.



SELF-ACTING OVEN AND BOILER RANGES,

With Bright Wrought Bars.

34 inches	52s.
36 ,,	54s.
38 ,,	56s.
42 ,,	58s.

Improved New Pattern Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from 6d. per inch.
Bright Stoves, with Two Sets of Bars, 40s. to 100s. each.

Best Cut Clasp and Rose.

1¼-in.	15s. per cwt.
1½-in.	15s. ,,
2-in.	14s. ,,
2½-in.	13s. 6d. ,,
3-in. and above	13s. ,,

Cast Rain-Water Pipe.

2-in.	8d. per yard.
2½-in.	10d. ,,
3-in.	1s. ,,
Cast Gutters, 4-in.	7d. ,,
O G Gutters, with Clips on, 4-in.	11d. ,,

Best Flooring Brads, 12s. 6d. per cwt. Cut Lath, 15s. per cwt.

Wrought Gas Tube ..... ¼-in. ⅜-in. 1-in. 1¼-in.
2d. 2½d. 3½d. 4½d. per foot.

Gas Connexions and Plumbers' Fittings. Laquered and Bronzed Brackets, 16s. per dozen. Pendants, 3s. each.
Two-Light Chandeliers, 16s. each. Brick Moulds kept in Stock, or made to order.

POST-OFFICE ORDERS PAYABLE AT SHOREDITCH.

A LARGE ASSORTMENT OF BEST BERLIN BLACK REGISTERS ON VIEW IN EXHIBITORS' DEPARTMENT, CRYSTAL PALACE.

"By Royal Letters Patent."



"Indicator" Dial, 2½ in. diameter.

ELECTRIC BELLS FOR DOMESTIC USE.

BREGUET'S PATENT INDICATOR SYSTEM, with a Dial which shows when the Bell is ringing, the same as in use at the Grand Hotel, Boulevard des Capucines, Jockey Club, &c. Paris.

The superiority of Electric Bells is already settled in America and in France. For all modern works at Paris they have as effectually superseded the old crank and pull plan as, for travelling, the railway has superseded the antiquated stage-coach.

ADAMS & SON have much pleasure in stating that they have made arrangements with Messrs. Breguet, of Paris, to become their sole Agents for the sale and fixing of their Patented Apparatus upon the "indicator system," which has great advantages over all others, and is especially adapted for hotels, public buildings, and other large establishments. The details of this ingenious instrument, together with a description of the various apparatus in use for Electric Bells, may be had upon application, or by post.

WILLIAM S. ADAMS & SON,
Ironmongers by appointment to the Queen and his Royal Highness the Prince of Wales, and also to the principal London Clubs,
Engineers and Manufacturers, 57, Haymarket, and 14, Norris-street, S.W.
Works—Marlborough-row, Marshall-street, W.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great rapidity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

MR. BARRETT,
12, YORK BUILDINGS, ADELPHI

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

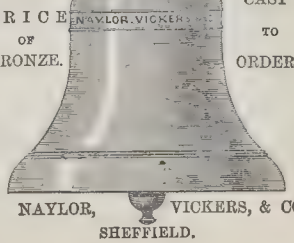
DAY and GAS LIGHT REFLECTOR

MANUFACTURER.—THOMAS FOX, 9., Hatton Garden, E.C. and 389, Charles-street, Hatton Garden, E.C. A large assortment of Silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Bent Glass Silvered.

N.B. The usual discount to BUILDERS and the TRADE.

CAST STEEL BELLS.

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

NEW TARIFF OF GLASS.

THOMAS MILLINGTON,

GLASS AND COLOUR MERCHANT,

No. 87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF OF SHEET GLASS.

SHEET GLASS.

IN SHEETS FOR CUTTING UP, AVERAGING FROM 6 TO 9 FEET SUPER.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Fourths quality, per 300 feet Case...	...	...	...	...	32s. 6d.	or about	1¾d.	per foot super.
Thirds	,,	,,	...	...	...	41 0	,,	1¾	,,	,,
Seconds	,,	,,	...	...	...	60 0	,,	2¼	,,	,,
Best	,,	,,	...	...	...	90 0	,,	3¼	,,	,,

AVERAGE THICKNESS, 21 OZ.

Fourths quality, per 200 feet Case ...	...	...	...	33s. 6d.	or about	2d.	per foot super.
Thirds	,,	,,	...	...	...	42 0	,,	2½	,,	,,
Seconds	,,	,,	...	...	...	63 0	,,	3¾	,,	,,
Best	,,	,,	...	...	...	89 0	,,	5½	,,	,,

AVERAGE THICKNESS, 26 OZ.

Fourths quality, per 200 feet Case...	...	...	44s. 6d.	or about	2¾d.	per foot super.
Thirds	,,	,,	...	...	...	56 0	,,	3¾	,,	,,
Seconds	,,	,,	...	...	...	84 0	,,	5	,,	,,
Best	,,	,,	...	...	...	116 0	,,	7	,,	,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

SHEET SQUARES (Cut to Order).

	Under 1 ft. super.	Under 2 ft.	Under 3 ft.	Under 4 ft.	Under 5 ft.	Under 6 ft.
AVERAGE THICKNESS, 15 OZ. TO 16 OZ.						
Fourths quality ...	1¼d.	1¾d.	2d.	2¾d.	2¼d.	2¾d.
Thirds ,, ...	1¾	2	2¼	2¾	3	3¼
Seconds ,, ...	2	2¼	2¾	3	3½	4
Best ,, ...	2½	3	3½	4	4½	5
AVERAGE THICKNESS, 21 OZ.						
Fourths quality ...	2¼d.	2¾d.	3d.	3¼d.	3½d.	3¾d.
Thirds ,, ...	2½	3¼	3½	3¾	4	4¼
Seconds ,, ...	3	3½	3¾	4¼	4½	4¾
Best ,, ...	4	4½	5	5¾	6	7
AVERAGE THICKNESS, 26 OZ.						
Fourths quality ...	3d.	3¾d.	3¾	4	4¼d.	4¾d.
Thirds ,, ...	3¾	4	4¼	4¾	5	5½
Seconds ,, ...	4¾	5	5½	5¾	6	6½
Best ,, ...	5½	6½	7	7¾	8	8½

EXTRA WHITE OR CRYSTAL SHEET GLASS,

Very superior, for Pictures and Best Glazing.

AVERAGE THICKNESS, 15 OZ. TO 16 OZ.

Thirds quality, per 200 feet Case ...	...	...	34s. 0d.	or about	2½d.	per foot super.
Seconds	,,	,,	...	...	...	66 0	,,	3¼	,,	,,
Best	,,	,,	...	...	...	77 6	,,	4¼	,,	,,

AVERAGE THICKNESS, 21 OZ.

Thirds quality, per 200 feet Case ...	...	...	51s. 0d.	or about	3½d.	per foot super.
Seconds	,,	,,	...	...	...	84 0	,,	5	,,	,,
Best	,,	,,	...	...	...	116 0	,,	7	,,	,,

GROUND OR OBSCURED.

15 oz. per 200 feet Case	40s.	In Sheets	3d. per foot super.
21 oz. ,, ,, ...	54	,, ...	4 ,,

If cut to size, 1d. per foot extra.

FLUTED SHEET.

15 oz. per 200 feet Case	50s.	In Sheets	3½d. per foot super.
21 oz. ,, ,, ...	75	,, ...	5 ,,

If cut to size, 1d. per foot extra.

MATTED or ENAMELLED (Various Patterns).

IN CASES, per 200 feet, 58s. IN SHEETS, 4½d. per foot super.

If cut to size, 1d. per foot extra.

ORNAMENTAL COLOURED GLASS.

Ruby, in Sheets ...	... 9d. per foot.	Cut to Size, 3d. per foot extra.
Green do. ...	... 9 do.	Ditto 3 do.
Blue do. ...	... 7 do.	Ditto 3 do.
Orange do. ...	... 7 do.	Ditto 3 do.
Purple do. ...	... 7 do.	Ditto 3 do.
Ruby Matted, in Sheets	... 1s. 2d. per foot.	Cut to Size, 3d. per foot extra.
Green do. do.	... 1 2 do.	Ditto 3 do.
Blue & Yellow do. do.	... 1 0 do.	Ditto 3 do.
Purple do. do.	... 1 0 do.	Ditto 3 do.
Cathedral, 15 oz. in Sheets...	3½d. per foot.	Cut to Size, 1d. per foot extra.
Ditto 21 do.	... 5 do.	Ditto 1 do.

Coloured Borders and Rosettes, Cut and Engraved to Various Designs and Patterns.

15 oz. Squares usually kept in Stock in 100 feet and 200 feet Boxes.

Stock Squares, per 100 Feet.

in.	in.	in.	in.	in.	in.	in.	in.						
6 by 4	7 by 5	8 by 6	9 by 7	Fourths.	Thirds.	Seconds.	Best.
6½ — 4½	7¼ — 5½	8½ — 6½	9½ — 7½	9s. 6d.	10s. 9d.	12s. 6d.	14s. 8d.
10 — 8	12 — 9	12½ — 10	14½ — 10½				
10½ — 8½	12½ — 9½	13 — 10½	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10	13 — 11				
11½ — 9½	13 — 10	14 — 10½	14 — 11				
16½ — 10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.

Stock Squares, per 100 feet.

in.	in.	in.	in.	in.	in.	in.	in.						
15½ by 11½	16 by 12	18 by 14	20 by 17	Fourths.	Thirds.	Seconds.	Best.
16 — 11	16½ — 12½	22 — 14	22 — 17	11s. 6d.	13s. 0d.	16s. 0d.	18s. 0d.
21 — 11	17 — 12	24 — 14	24 — 17				
13 — 12	18 — 12	22 — 15	20 — 18				
14 — 12	22 — 12	24 — 15	22 — 18				
15 — 12	17 — 13	22 — 16	24 — 18				
15½ — 12½	23 — 13	24 — 16					

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

AVERAGE THICKNESS, 15 OZ. to 16 OZ. Per 100 feet.

16½ in. by 12½ in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
20 ,, 12 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.
20 ,, 13 ,,	20 ,, 17 ,,				
20 ,, 14 ,,					

	20 in. by 12 in.				
	20 ,, 13 ,,	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
	20 ,, 14 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	24s. 0d.	27s. 6d.
		20 ,, 17 ,,				

AVERAGE THICKNESS, 21 OZ.

The above Prices are only for the Sizes stated, but if a quantity of any other Size be required, it can be supplied at about Five per Cent. additional, provided time be allowed to manufacture it.

GLASS TILES IN SHEET AND ROUGH PLATE, PLATE GLASS, PATENT PLATE, AND HARTLEY'S IMPROVED ROUGH PLATE.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ...	...	30s.	per cwt.
Seconds ,, ,,	...	28	,,
Linseed Oil Putty	...	9	,,
Fine Oak Varnish	...	10s. to 12s.	per gal.
,, Carriage Varnish		12 to 14	,,
,, Crystal or Paper do.		10 to 12	,,

Ground Patent Dryers	...	3d. to 4½d. per lb.
,, Oxford Ochre	...	3 to 4½ ,,
,, Raw Umber	...	4½ to 6 ,,
,, Burnt do.	...	6 to 9 ,,
Green paint, all shades	...	28s. to 60s. per cwt.
Black ditto	...	24 to 36 ,,

Linseed Oil ...	...	3s. 6d. per gal.
Boiled Oil ...	...	3 11 ,,
Turpentine ...	...	6 0 ,,
Mineral Turpentine ...	...	3 0 ,,
Prepared Oil for Anti-Corrosion		4 6 ,,

Brushes for ditto, &c. &c.

Very Accurate.

WHITE ZINC PAINT, 34s. per Cwt.

One hundredweight of pure Zinc Paint with three gallons of Linseed Oil, will cover as much as one hundredweight and a half of White Lead and six gallons of Linseed Oil.

Special Dryers for this Paint.

STUCCO PAINT, 24s. per Cwt.

This Paint adheres firmly to the walls, resists the weather, and is free from the glossy appearance of oil paint, resembling a stone surface, and can be made any required shade. It is mixed with rain or pure river water.

IMPROVED ANTI-CORROSION PAINT, 28s. to 34s. per Cwt.

Anti-corrosion paint is extensively used for all kinds of work in exposed situations, on Brick, Stone, Compo, Iron, Iron Bridges, Conservatories, Greenhouses, &c. and is easily laid on by any ordinary workman.

MILLED LEAD, IN SHEETS AND PIPES, OF ALL KINDS. OLD LEAD BOUGHT OR TAKEN IN EXCHANGE.

LIFT PUMPS, WATER CLOSETS, AND PLUMBERS' BRASS WORKS OF ALL KINDS.

NET CASH.

JUROR—Class XXVI.

GREAT EXHIBITION,

1851.

JUROR—Class XXX.

INTERNATIONAL EXHIBITION

1862.

DESACHY'S FIBROUS PLASTER.

GEORGE JACKSON & SONS,

HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN

DESACHY'S FIBROUS PLASTER,

Beg to call the attention of Architects to its Capabilities.

It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of draper, &c., for the linings of walls and ceilings, and for all purposes of ornamental plaster.

The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, &c.) for the ceiling of St. James's Hall; at Messrs. Osler's, Oxford street; Mr Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.

SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.

DESIGNS MADE FOR ANY WORKS.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

CARTON PIERRE AND PAPIER MACHE WORKS, 49, RATHBONE PLACE, LONDON, W.

(ESTABLISHED IN 1780.)

FIRST-CLASS MEDAL,

EXPOSITION UNIVERSELLE,

1855.

PRIZE MEDAL—Class X. (c)

INTERNATIONAL EXHIBITION

1862.

EXHIBITION PRIZE MEDAL, 1862, AND MEDAL OF ROYAL AGRICULTURAL SOCIETIES OF ENGLAND AND IRELAND.

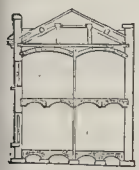
MUSGRAVE'S PATENT STABLE AND HARNESS FITTINGS.



MUSGRAVE'S PATENT HARMLESS LOOSE BOXES. MUSGRAVE'S PATENT IRON COW-STALLS AND PIGGERIES.

Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of the Trade in the Exhibition. They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting up several very large establishments under the sections of London Architects, noted for adopting only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to

MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.



THE DENNETT ARCH.

Allowed to be the cheapest fireproof construction known, and used with the greatest success for the last ten years in the Midland Counties, and has been adopted by G. G. Scott, esq. for the New Foreign Offices, used in any form of arch, groin or dome; turned to any length, width, or height, forming a perfect floor and ceiling in one mass, from 2½ inches in the crown to any required thickness.

Address to the Patentees, England and Canada,

A. & R. DENNETT & CO. NOTTINGHAM.

TESTIMONIAL.—"I have made use of Messrs. Dennett & Co.'s material for Fireproof Arching, and though I have, happily, had no practical experience of its efficiency as against fire, I can bear witness to its strength, and its extreme convenience of application. I have made use of it in positions in which I should have found it difficult to introduce any other fireproof material, and it has this advantage, that the arches constructed of it are so entirely in one mass that they cover the space like a compact shell or inverted basin, and are, consequently, almost wholly free from lateral pressure.

"GEO. GILBERT SCOTT, 20, Spring Gardens, London."

BROWN & GREEN'S
PATENT KITCHEN RANGES.

PRIZE MEDAL, 1862.

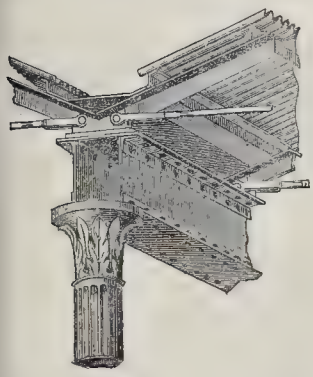
These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c they form the most complete appointment for good establishments. Designs, &c. may be had on application at THE LONDON WAREHOUSE,

72—74, BISHOPSGATE STREET WITHIN.

"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept. 6, 1862.



THE
TIVIDALE COMPANY
(LIMITED),

(Late JOHN H. PORTER & CO.)

7, ST. MILDRED'S-COURT,

POULTRY, LONDON, E.C.

MANUFACTURERS OF

IRON BRIDGES, ROOFS,

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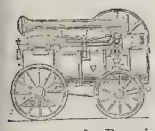
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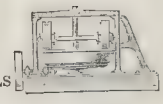


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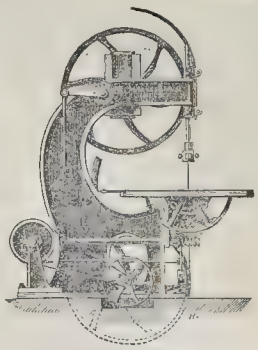
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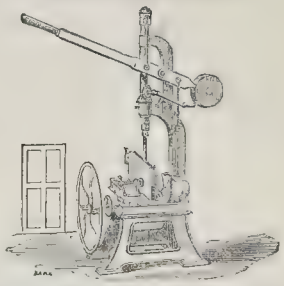
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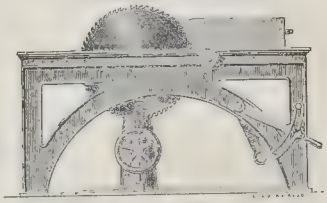
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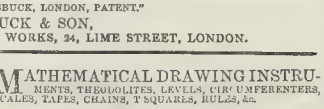
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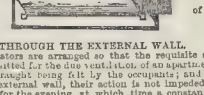
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The Builder.

VOL. XXII.—No. 1126.

The Pre-Historic incised Rock Symbols in Northumberland.



It is a rare event in the history of the world to come upon the tracks of a people concerning whose identity we cannot be certain, and who have left imprinted upon rocks a vast number of symbols the meaning of which we cannot decipher. But it has fallen to our day to make this rare discovery. The inscriptions recently uncovered on the Northumbrian rocks, on the wild hilly moors, must have been made 2,000 years ago, and have been lost to recognition for centuries. It would therefore have been singular if the event had not been viewed with interest. But it is only fair that those who have borne the heat and burden of the day in explorations and accumulations of facts should be accorded the first place, in proper quarters, amongst those who may hereafter take up the subject. This place should be assigned to the discoverers hereinafter mentioned and to the first historian of the stones, Mr. George Tate. Nor must we omit reference to the remarkable dissertation on the subject in our own pages, the first published theory, by Mr. J. E. Dove.*

One of the discoveries most tending to the unravelling of the mystery of the pre-historic sculptured stones scattered on the Northumbrian moors was made by the Rev. W. Greenwell, of Durham, when he found a similar series of concentric circles upon the covering of a sepulchral cist at Ford West-field, about a mile westward of Routing Linn. This discovery gave a clue to the meaning of certain artificial round hollows found, subsequently, upon another cist in the same neighbourhood. But it would be premature to point to this circumstance as conclusive. This information, as well as all that has been hitherto obtained bearing on the subject, has received minute attention at the hands of one of the secretaries of the Berwickshire Naturalists' Club, Mr. Tate, abovementioned, who, on the 25th ult., laid before the members of that body a report that embodied the labour of years. Mr. Tate announced that as many as fifty of these stones had been found in Northumberland; but not one in the district to which they are popularly assigned,—the Cheviot side. The Cheviot range is composed of porphyry, a substance that is untractable under stone tools, which circumstance at once accounts for their absence in that locality. These curious devices are found on exposed beds on different platforms of the thick sandstone which is near the base of the mountain limestone, and forms the substratum of the high moor lands of Northumberland. They occur on the upper surface of the cliff near Routing Linn, about six miles north of Wooler, at Harelaw, Horton, and Doddington moors, at Cuddy's Cove, at Whitsun Bank, Chatton Law, Old Bewick, Beanly Moor, Cartington Cove, near Rothbury, and some others, though not *in situ* at Stamfordham and Jedburgh.

The first was observed about forty years ago by Mr. J. C. Langlands, of Old Bewick. On a block of sandstone on the top of Old Bewick-hill, close to an ancient British camp, he perceived several eccentric configurations which must have taken both time and labour to effect. But it was not till some years afterwards, when another stone was found in the same locality, incised with similar characters, that it occurred to him to connect them with the ancient people who once inhabited the grass-grown camp close by. This association was dwelt upon by the local antiquaries, as likely to be fraught with meaning; but the facts were of so limited a nature that conjectures alone could be made. In 1852 the Rev. Wm. Greenwell found a third example of this old-world caligraphy. This consisted of about sixty figures incised on the grey scalp of a rock rising 10 feet from the ground, on the edge of a wild moorland, near to another camp about twelve miles to the north-west of Old Bewick, and close to the fall of water known as the Routing Linn, on the estate of the Earl of Tankerville and the Marchioness of Waterford. In the summer of that year this gentleman, with Mr. Tate, revisited this rock, and removed some of the turf which accumulations of heathery peat had suffered to bury parts of the sides, and they then exposed further figures, which appeared sharp and distinct, owing to the protection the peat had afforded them from the weather. They measured it, and found that it was 60 ft. in length by 40 feet in its broadest point, and counted fifty-five figures on its surface, and five on its southern face. After this the Rev. Wm. Proctor, Mr. W. Proctor, jun., Mr. Wm. Wightman, and Mr. Charles Rea discovered further examples of the same unknown symbols in different parts of North Northumberland and the eastern border. They are, generally, in the neighbourhood of pre-historic oppida; and in two instances have been, as related, found on a smaller scale, incised upon the coverings of ancient British cists. Mr. Tate and some of these gentlemen have spent days on the moors and hills with only negative results; the facts gleaned therefore, must be valued accordingly. Of the fifty stones now found no two are alike; yet there is a resemblance in all the sculptures that proclaim them to be of the same origin.

Mr. Tate finds that the most common form is composed of a series of incomplete concentric circles around a central round hollow, from which proceeds a radial gutter or groove through the series of circles (1).

There is a variation in the number of concentric circles in this typical form: sometimes there is only one circle; in other examples there are four; and in one case there are seven. The circles are seldom quite true, but are bulged out in breadth in the proportion of 13 and 14 to 12; others are pear-shaped. The radial groove is generally straight; but it is sometimes curved and wavy, and extended beyond the outer circle. A second form (2) consists of concentric circles around a hollow, with the groove passing through the entire diameter. This is not common. A third (3) form consists of incomplete concentric circles around a hollow, but having no groove. These circles sometimes end in hollows. A fourth (4) arrangement consists of concentric circles around a hollow, having a groove extending from the outer circle. A fifth form (5) noticed shows two grooves proceeding parallel from the innermost of the series of incomplete concentric circles round a central hollow. A sixth figure (6) differs from this in starting one of these two grooves from the central hollow, and a second from the outer circle. A seventh variety (7) is of an arched form. Here three semicircular concentric circles are thrown over a hollow, from which there is a straight groove. An eighth figure (8) is of a horse-shoe form, with a hollow in the centre.



Occasionally a circle is found; sometimes a circle and a series of circles around a hollow; and again, conjecture is puzzled with the occurrence of a series of concentric ovals. These various forms are frequently fantastically grouped together, sometimes branching out like conventional flowers from one stem. The hollows or pits occur without enclosing circles, in some instances, grouped in various numbers up to ten, as well as singly. One series of concentric circles sometimes merges into another; and, again the radial groove sometimes traverses two and three circles capriciously terminating in the central hollow of the furthermost one, or passing the outer boundary and proceeding to an independent hollow beyond it. When the term circle is used it must be understood that the figures are but approximations to that form, being in some instances bulged out or bent in, and when arranged concentrically they are not uniformly equi-distant. Some incisions are about half an inch deep, others about a quarter, others mere marks. The hollows, however, are deeper, some of them measuring 1½ in. in depth. The marks of blunt tools are visible on such figures as have been but recently denuded of their coverings of peat, and these are seen to be sometimes broader and blunter than at others. The rocks are left as nature left them,—their surfaces irregular, their outlines rugged. Some stones have but one figure; one stone has sixty; and all classification is impeded by equally broad marked distinctions notwithstanding a certain character in common that identifies them as the work of the same race.

An inscription on a stone at Dod-law differs so considerably from the common forms, that it requires especial mention. In 1858 the wife of a shepherd, while amusing her child, saw on a corner of this stone a mark, which induced her to examine it further. It was coated with turf. This she removed, and found a group of extraordinary configurations clearly marked. In the first we will notice a groove leads to a group of fourteen hollows, through another hollow, which is placed in the space left as an entrance through three rows of grooves following the outline of a rude square. At one angle of the square, outside the external groove, are three more hollows, and slightly removed from these two more. This singular sculpture so nearly resembles the plan of a camp, that it is difficult to imagine it can be meant for anything else. The hollows appear to represent the sites of Celtic huts, and the incisions surrounding them interpret themselves into three tiers of ramparts, with which Celtic camps are frequently fortified. On the same stone there is another square, consisting of a single rampart-like outline, from which three long grooves or roads depart. One of these roads traverses a two-fold circle, passes through the pit in the centre, and the entrance left at one place, and terminates in a second pit, about a foot farther off, facing the same opening. Another road, after it has entered the square

* See pp. 487, 532, *ante*.

inclosure, forks into two branches, and runs into two hollows. The third is a continuation of one side of the square. Scattered over the stone are eight fragments of circles, each containing its central little pit; and besides those we have mentioned there are eleven isolated hollows in different places. Mr. Greenwell was one of the first to adopt the view that these figures represented plans of camps. Mr. Tate observes that this opinion was echoed by the late Dr. Johnson, of Berwick, and adopted by Sir Gardner Wilkinson and Mr. Albert Way. But Mr. Greenwell was induced to abandon this view when he found the same kind of sculpture upon the lid of cists; and Sir Gardner Wilkinson, in 1860, repudiated his first formed idea.

When we turn to the more common forms, the supposition that they represent plans of camps, or even sites of the camps, over a district of country, is seen to be untenable. Of the sixty figures on the Routing Linn stone none could be thus viewed. These, with their feathery-like branches dotted with dark centres like the plumes in a peacock's tail, might be taken for symbols of vegetable life. One of its plant-like forms consists of a main stem, from which grooves branch out and terminate in circles, having a central hollow, whence proceeds a groove with nine lines radiating out of the outer circle, like the fringed lips of a zoophite. The directions of the outer of these rays were observed to be S. 20, E. to N. 20, W. and S. 15, W. to N. 15 E.; that of the central one, S. by E. to N. by W. The figures on this stone are pointed out as more gracefully executed than those on any other. The size of them varies from 3 in. in diameter to 2 ft. by 9 in. The peat removed from the covered portions of the stone was found to be 9 in. deeper,—an unmistakeable indication of the long period that must have elapsed since time began silently to bury them. The camp with which these symbols are associated consists of an inclosure surrounded by four strong rampiers or ditches; adjoining this is a second area, inclosed by a supplemental rampier, and in this is the inscribed rock. About 300 ft. northwards rises a barrow. Can we doubt that it covers the remains of a personage whom the survivors delighted to honour, and to whom the writings on the rock were as a graven page?

Half a mile north by west from Routing Linn the rock crops out in a high ridge, and more inscriptions present themselves; and near them are more barrows. A few have been opened and found to contain skeletons which had not been burnt, and urns that contained burnt bones, rude flint arrow-heads, and a bone that had been acted on by fire.

About two miles eastward of this locality, or half a mile northwards of Doddington, Miss Proctor discovered in 1859 a remarkable specimen in a field known as the High Chesters. The turf covering it was 12 in. thick, and had been the means of preserving the distinctness of the figures. It protrudes from the hill-side, sloping in every direction, a huge mass measuring 9 ft. by 7 ft. The surface is covered with the characteristic incisions grouped in various combinations by the depressed lines or grooves observable on other examples. Among some thirty figures two hooked-shaped grooves proceeding from one side of a circle inclosing a hollow are new forms. The blunt tool-marks are distinctly visible in the shallow grooves of this piece of early workmanship.

The stones found by Mr. Rea are also in the neighbourhood of Doddington, and lie about a mile northwards of Ringses Camp. They form part of Harelaw Craggs, and are inscribed with five groups of figures of the common type. Turf had grown over these. Mr. William Proctor found several inscriptions about a mile southwards of this cragg in the present year. They occur on an outbreak of rock on the Horton grounds, and, like all the others found, had a covering of turf over them. A curious variation is presented in one of the figures here observed. It consists of four concentric circles, in which are inclosed six hollows, and from the second circle of which issue two parallel curving grooves. The Ringses Camp in the neighbourhood of these inscriptions is of a circular shape, having three rampiers of earth and stone thrown up around it; and within it are the foundations of huts of a circular form. As in other camps, an additional area is inclosed by a semi-circular rampier.

Dod-law furnishes a few more inscriptions on the outbreak of rocks occurring on the escarpment of the hill. Eighteen feet northwards of the great camp there is a figure consisting of three concentric circles round a hollow. The outermost circle curves outwards, and a groove departs from the second circle to branch off into another groove at an angle. Seven groups of inscriptions were found on Gled-law, a rocky platform breaking out of the south-west escarpment of Dod-law, by Mr. Wm. Proctor, jun.

A mass of red sandstone projects from this same escarpment, in which is contained a small cavern called "Cuddy's Cove." The scalp of this projection possesses four figures, and Mr. Tate discovered on the western face of it several additional inscriptions differing from the common types. One of them resembles a cross, and another looks like the letter M, in Mediæval character. Of these Mr. Tate remarks,—"I believe them to be archaic, but it may be doubted whether they are of the same age as the figures on the top of the rock." It will be thus seen that the Harelaw, Horton, and Doddington districts are particularly rich in these unintelligible records. Mr. Tate considers it an important fact not to be lost sight of, that other remains of the ancient British people are also numerous in this district. There are remains of five camps in it. Near one of the camps, on the Horton grounds, are the remains of a still more rare relic, a circle of upright stones which, when complete, must have measured 100 ft. in circumference. Five huge monoliths still mark its confines; but only two of them are standing. Barrows are also frequent.

Mr. Henry McLauchlan discovered some inscribed stones at Chatton-law. This is a hill rising 603 feet above the sea-level, with a flat area on the top, at the western extremity of which is a small circular camp defended by three rampiers. One of the inscriptions mentioned, consisting of six figures of the common type, occurs on a stone within this camp. Outside the camp, about 200 yards to the east of it, on a large area of fine-grained sandstone, further figures were traceable. They are remarkable for their great size and geometrical forms. "One figure, 36 in. in diameter, is composed of seven concentric rings with a peculiar curved elevation or crown at the top. From its central hollow issues a long wavy groove, which had linked together other forms now obliterated; one, however, still remains of four concentric circles attached to the principal figures, and also joined to the grooves by a branch. Those who fancy that the figures symbolize the progression of life, might imagine the smaller circles to be buds or germinations from the larger, similarly as life among zoophites is generated by buds issuing from the old parents." The value of excessive minuteness in the descriptions of these sculptures is apparent when we add that of the thirteen figures traceable on these stones in 1859, when sketched, several have since been obliterated by the weather. Standing on this spot one may count six Ancient British camps within a radius of 2 miles, and a great number of barrows. And a bronze leaf-shaped sword was found in the same locality.

Two of the Bewick stones are also within a camp,—one close to the outer rampart and eastern entrance, the other 20 yards northwards of this. The incision on the former has a resemblance to the imprint of a horse's foot; the latter has two figures, one exhibiting the spiral treatment found on other inscribed stones in different parts of the British islands, but of which this is the solitary Northumbrian example. Mr. Tate, accompanied by Mr. Langlands and Mr. Robert Embleton, the able naturalist and secretary of the club, tested the truth of the conjecture that these inscribed stones marked places of sepulture, by digging beneath another block lying about 300 ft. from the camp. In his own words, "The stone was turned over, and the diggings were carried down to a depth beneath the natural and undisturbed soil; but no evidences of any interment could be seen, nor were any relics found." Standing at sunset on this hill-top, with a sky-line of purple heather contrasting with the gorgeous tints in the heavens, a soft golden light falls on the stones, and figures are visible where none can be seen at less favourable opportunities.

We quote Mr. Tate again to show how far Mr. Dove's interpretation of these symbols, elaborated in his communications to us, agrees with his:—"Imagination could revel amid these complicated figures. Life-budding might be seen,—the passage of a life to a higher life, the transmigration of souls, central suns, orbits of planets, attendant satellites, and, perhaps, too, divinity might be thought symbolised by the central hollow, as penetrating through the circles and beyond in all the realms of matter and spirit."

Another variety of mark occurs on these stones, namely, a row of hollows passing horizontally along its south and east sides, each round hollow being from 2½ in. to 3 in. in diameter, and ½ in. in depth, and about 12 in. distant from each other. Mr. Tate thinks it likely that the whole stone was once girded with them, although twenty-seven only are now visible. In the Pre-historic annals of Scotland, mention of similar indentations is made as occurring on the "Witches' Stone" at Bennington Mains, near Rath, in Mid-Lothian, which forms the cap stone of a cromlech. Others occur on a cromlech in Guernsey (*Arch. Journal*). The camp with which these blocks are associated consists of two distinct semicircular camps, each defended by two strong rampiers, and, around these, two more stout rampiers binding the two together. On the same hill, on its northern slope, are the remains of another ancient British village, in which the chief fortlet measures about 120 ft. in diameter, and the smaller huts from 9 ft. to 15 ft. Burying-places are also at hand; and various fragments of ancient pottery have been found around, including a bowl of coarse clay hid in a fissure of rock.

The facts accumulated show that all these inscribed stones are more or less intimately associated with ancient British remains. "Two of them formed the covers of cists; two more are within a few yards of barrows, beneath which are similar sepulchral chambers; four of them are within ancient British camps; eight of them are not more distant from such camp than 100 yards; most of the others are less distant than half a mile, and none further away than a mile. Their relation to the camps, forts, and hut circles, or dwellings of the ancient British race, is more apparent than to their sepulchres." But the additional facts amassed have not had the effect of altering the view first taken by Mr. Tate as to their purpose. An examination of the Egyptian hieroglyphics in the British Museum showed him the frequent use of a circle around a central dot, and the semicircle, with the addition of a short curve from the circumference; but yielded no instance of a circle around the hollow, along with the *radial groove*. Scottish symbols in Argyleshire present this feature; and, singularly, the Irish inscriptions give this significant groove. Lord Dunraven sent Mr. Tate sketches of two stones of marked relationship with those of Northumberland. Professor Simpson also supplied illustrations of similar inscriptions in Devonshire and Derbyshire, and at Lochgilphead, in Scotland. This goes to prove that the race to whom these sculptures belonged, either spread over the whole of the British Islands, in a tide of immigration, or peopled it at one and the same time. But the question whether this race was that which peopled Britain at the time of the invasion of Julius Cæsar, or a previous race of lower powers, whom the former had exterminated or driven forth, is yet unsolved. Mr. Tate ascribes the difficulty of settling this point to recent investigation into the ethnology of the people whose remains have been disinterred from the cists found in Northumberland. Some fourteen skulls obtained in the province of the Ottadini, were all found to be of the broad short form called Brachycephalic, which conformation does not correspond with that of modern Celts. The Brachycephalic type is that which ethnologists attribute to the men of the stone age, whose modern representatives now inhabit Lapland. This, taken in connexion with the recent discoveries in France, leads therefore to the inference that the tribes roaming over Europe in prehistoric times were the ancestors of the Laps, whom the tide of advancing civilization from the Aryan stock compelled to advance northwards; and that these incised stones are relics of the periods in which they sojourned in Great Britain ere they were driven still further north. On this point Mr. Tate observes, "There is a strong tendency at present to lengthen out the age of even old antiquities: against this we must guard, especially when it is connected with refined theorising, which would distort facts to suit artificial classification. Were we to take ethnology alone for our guide, we, perhaps, might refer the antiquities we have described to this old pre-Celtic race; but the basis is too narrow for such a conclusion: we must gather additional information from other lines of research. Language gives important evidence, for the old names of hills, rivers, and other prominent natural objects, names given by the aboriginal inhabitants, which oftentimes survive the revolutions of race, are Celtic." The discrepancy in the evidence of the skulls he attri-

butes to a gradual change, which admixture with other races, through the course of centuries, may have induced. If we assign these important remains to the remote and scanty tribes that may have preceded the Celtic race, he asks where are we to look for any traces of a people whom Cæsar found a formidable enemy?

The view taken by Mr. Tate in 1853, and maintained by him throughout his accession of information, is, that the sculptures are Celtic, and are symbolical figures representing religious thoughts. The Druids recognised a superior being ruling the world, the immortality of the soul and its passage, at death, into other bodies. With this was mixed up much superstition. Pliny made mention of the astonishing extent to which necromantic rites were carried by the British, and affirmed that they were capable of instructing even the Persians in these arts. They must have had sites for their incantations, and, perhaps, diagrams for their expositions. Altars, too, must have been indispensable. And that rocks were considered sacred, we have evidence in one of the edicts of Canute, who, in a list of forbidden objects of worship, includes them with rivers, trees, the sun, moon, and fire.

To quote the conclusion to which Mr. Tate has arrived: "As the functions of the Druids were varied, so might these sacred stones be used for several purposes. On them, as altars, sacrifices may have been slain to avert either personal or state calamities: some of the figures may be the hieroglyphics of the gods to whom they were dedicated: the philosophical views of the Druids might be hieroglyphically and even diagrammatically represented in the circles combined with circles on the Routing Linn Stone, which, situate in a wild district, and probably then in the midst of forests, would be probably such as the Druids would choose wherein to teach their occult doctrines, and practise their superstitious rites. Some of the groups of the concentric circles may show their idea of the motions of the heavenly bodies, and the radial lines might set forth 'the influence and ability of the immortal gods' as extending through and beyond the orbits of the heavenly bodies: the planet-like figures might enable them to expound 'the nature of things' as seen in vegetation: possibly the grooves passing from the centre of one system of circles to another might symbolize the passage of the soul from one state of being into another and a higher state. I cannot but think that one of the chief uses of these sacred stones was for magic and necromancy. The religious and philosophical significancy of the figure would add to their impressiveness in the popular mind when used for this purpose, and add to the mysterious power of the Druid priest or magician, when he cast a horoscope or endeavoured by incantation to avert personal or public calamities. I am sensible I am here wandering into the regions of speculations, or it may be of fancy; but these views are not derived from Assyrian, Egyptian, or Hebrew symbolisation, to which our antiquities have no relation: they are suggested by the records we have of the opinions and practices of the people who incised the mysterious-looking figures on our rocks." . . . . . "Those who are not content unless every mystery is fully explained, may feel dissatisfied that, after all the labour and research bestowed on these inscriptions, we cannot read them off as from a lettered book. Before, however, more definite results can be arrived at, further investigation must be made in other parts of the world. Two lines of research may yield information—among the Laps in the far north, or in the east, in the early home of the Aryan family. Something, however, has been achieved—materials for aiding in the fuller solution of the problem have been placed on record, an advanced starting-point made for future inquirers, and a description and representation preserved of marvellous sculptures which time and the elements will eventually obliterate."

METROPOLITAN BENEFIT SOCIETIES' ASYLUM.—The sixty-ninth half-yearly meeting of this Institution, in Ball's Pond-road, was held on Friday, at Salter's Hotel, Mr. Henry Campkin, F.S.A., presiding. Mr. Gawthorp read the report of the scrutineers of votes on the election of an inmate to the asylum, and James Judd, one of six candidates, was declared to have the highest number. Mr. Harris (secretary) read the report of the committee, which showed that in the past half-year a bequest of 50*l.* had been made to the asylum, and the subscriptions were steadily increasing, especially from societies.

ON HOUSE-PLANNING.*

THE habits and well-being of people are mainly influenced by the places in which they live; and the homes are productive of good or bad influences in conformity with the manner of their *planning*. Upon the matter of this or that arrangement of lines on paper, as upon other steps in the practice of his vocation by the architect, depend health, comfort, and morals of the units in a nation, and the collective welfare. There is need, therefore, for study of the subject; and were we to admit truth of some assertions touching a decline in professional skill in the one particular, we should urge the pressing need of the study now. The purpose in works like two which are before us, taken only as addressed to the architect and student, is always a most important one. One of these books, entitled "The Grammar of House-Planning," attempts to grasp the entire subject: the other relates to the particular division, "Cottage Construction," to which, at least, in the matter of planning, some considerable attention of late has been devoted.

The design of the first work comprehends the giving a great variety of plans, or suggestions for plans, of residences of various kinds, and brief essays on subjects connected with arrangement and construction, as a selection of material useful to the man of practice, the student, and the house-proprietor. With the plans are some elevations and sections of buildings, and details of fittings and well-known structural contrivances, and some decorative details, as of doors, windows, and chimneys. The majority of the plan-illustrations are "type diagrams," not drawn to scale, and are merely intended to exhibit general disposition, with occasional alternative or contrasted arrangement of the same features. An "antithetical or contrasted mode of treatment" in the book, is one of the grounds adduced for recognition of its particular utility. The work is put forth mainly as a collection of matter gathered from many sources, our journal amongst the number, and all honourably acknowledged.

There is need that the points that ought to be considered in planning should be stated, both didactically and for after-reference, more clearly than they have been, unless in the fugitive literature in which much that has been well said or written lies imbedded. And contrasted arrangements of plan, aiming at the same result of accommodation, may be made of great service in self-instruction. But that the house proprietor, supposing him to possess knowledge of the language of drawings, will derive what the compiler supposes from this book, we are not able to say. The doors and windows are not many of them good; and of all of them, the ultimate effect would of course depend upon details requiring a skilled hand and drawings the full size; and this, the compiler does not sufficiently point out. But, further, his idea that his diagrams of plan are nearly equal for the purpose he had in view, to plans "drawn to scale," involves misconception. If some of the plans before us were drawn to scale, and inserting the requisite thicknesses of walls, and the number of treads in stairs,—given by height, which the omission of sections allows to be nowhere stated,—they might come out very differently. In fact, for the practicability of one or another arrangement, thickness of the wall or partition is one of the *data* of the question. In the first arrangement of semi-detached residences in the second chapter of the second division of the book, where a drawing-room running from front to back of the house, (a gallery rather than a room,) is shown with one fire-place, out of the centre, and one door, it is impossible to tell how one could get up-stairs. In the same design, "a library or billiard-room" has a back-window close to the party-wall, without regard to any question of the proper mode or sufficiency of the lighting. This window would look into the end of a passage-way of, we may suppose, about 3 ft. 6 in. in width: though, erroneously, the line of division of the two properties is not shown at the back of the houses. To the memoranda of plans of labourers' cottages, in the preceding division, there is less objection: we have not to ask whether the plans have been worked to; and, the examples being given with the names, drawings elsewhere published, and sufficiently explanatory, can be looked at. These drawings, however, would testify to the existence of elements of the question that are left out of sight in the type-diagram method of illustration,—such as the matter of area covered, which influences the cost. This last point, so important as to dwellings of the class, the author puts aside altogether. The first division of the work treats, in six chapters, of "the Site, Aspect, Internal Arrangements, and the Sanitary Construction and Arrangement of the Mansion, Villa, Farm-house, Cottage, Stable, and Cow-house;" and the second division gives, in four chapters, "Examples and Analyses of Plans of Houses from the Cottage to the Mansion," and including "Plans of Farm-houses." What is said on different kinds of farm-buildings is insufficient; and the illustrations of building contrivances are too much confined to the productions of particular manufacturers. That portion of the book which treats of site may be read with advantage; and use may be made of the plans, if it be recollected that there are omissions in them, and sometimes in points that would affect entire arrangement.

The second work which we have before us, devoted to one branch of the subject of house-planning, has much practical information condensed in small space. Its contrasted plans of cottages, with the living-rooms the same size, and the area of each cottage and each room clearly noted, with the chapters on the arrangement of the plan, or details of construction, and on design, may contribute to the improvement of dwellings of the class referred to. The short concluding chapter, explanatory of a dedication to the author's "fellow-workmen in Christ's kingdom," for whose sake "he had studied the subject," however, contains an offensive allusion to men who enter into unions,—not distinguishing clearly between those whose "purpose" is "to bully their employers and to oppress their fellow-workmen," and the many worthy and industrious men who are members of unions,—which will warn off many from the book, who might derive benefit from it. The work is the result of study of a large number of plans that have been brought together at two different times in the last four years by the Yorkshire Agricultural Society, and which were placed in Mr. Strickland's hands to be reported upon. No estimates of cost are given, since an estimate based on Yorkshire prices would be of little value elsewhere. And, in common with the other writer, he regards the actual cost as secondary. He adopts the view that residences provided for workpeople by their employers, are as necessary a part of the establishment for the cultivation of the estate, or for the manufacture of the article to be sold, as the cow-house and pigsty, or the engine-house and factory; and that an increase in the value of property, through a diminished percentage of crime, as well as of differences between masters and workmen, is to be taken into the account.

Of the nineteen different arrangements of plan, eight have three bed-rooms upstairs, and a living-room (14 ft. by 12 ft.), a scullery, and a pantry, on the ground-floor. In each cottage, there is a passage-way, through the house, and a back entrance. The back-entrance, and space of the portion of passage connected with it, as the author perceives, might be taken into the scullery, in this class of house, with advantage in every respect; though, we may say, the same arrangement in many London houses of the lower class, is, in the manner of their occupation, very objectionable. The area covered varies from about 398 ft. superficial to 453 ft. Each plan has the oblong form with an addition at the side or back; and the chief difference between them results from the relative importance given to quarter-partitions between the bed-rooms, and division-walls carried by those of the floor below. The latter arrangement diminishes the area of two of the bed-rooms, and causes one portion of the plan where the pantry, or the scullery, would be placed, to be required to be so large that the space would allow a closet for coals, as in two of the plans before us: but it may be somewhat better for the fireplaces and the more effectual warming of the house; whilst it might (or rather, the author says it would) facilitate an "arrangement" referred to "for supplying hot-water in the scullery by a tap from the boiler in the living-room fireplace." Of course, a coal-hole would have been required in outbuildings.

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* "The Grammar of House-Planning: Hints on Arranging and Modifying Plans of Cottages, Street-Houses, Farm-Houses, Villas, Mansions, and Outbuildings. By an M. S. A., and M. R. A. S. With numerous illustrative woodcuts and plates. A. Fullarton & Co., Edinburgh; and 115, Newgate-street, London. 1864." 12mo., pp. x. & 190.

"On Cottage Construction and Design. By C. W. Strickland. London and Cambridge: Macmillan & Co. 1864." 8vo., pp. xi. & 121. 18 plates; and cuts.

These should form part of the question of any plan of the main building. The author proposes to group together a pigsty, a coal-house, and a privy, with open shed at the back of it, and with an opening at the base between the two. In the shed would be kept three or four barrow-loads of dry earth; and the privy-seat, opening on hinges, would be used as the ash-pit; and besides the ashes, a shovelful of earth out of the shed would be thrown in every day. If properly attended to, he says, the place might be kept free from smell, and the earth become a valuable manure. He regards a water-closet as in connexion with a cesspool, which must be the means of saturating the soil under and round the house; he thinks that the real deodorizer is dry earth, whilst that as soon as manure is mixed with water it is wasted, and moreover becomes a dangerous nuisance, and that whatever the difficulty in the case of towns, there can be none in the country, especially where the cottage stands in a garden, as it ought always to stand. As to the drain from the sink, it may be carried into the garden, and the drainage allowed to sink into the soil: passed through the privy into a cesspool, it will inevitably cause nuisance.

In the chapter on details of construction, the author describes the manner of laying wooden flooring on a solid bed, so that the boards may not be damp or liable to dry-rot, and so that thinner boarding might be used. He has found the method answer well in a school-room, as the floor is much less noisy than one of the ordinary kind; and we may ourselves add, that the necessary provision for a current of air under wooden floors of basements, is often the cause of a current between the boards, which produces coldness to the feet, especially near the fire-place. Amongst the requisites that the author includes, is an underground tank for rain-water; and for it, he says that an enclosure formed with two half-brick walls with a layer of clay between them, answers perfectly, if water be put into the tank as soon as it is finished, to prevent the clay from cracking. But we have not met with any reference in the work, to a bake-house. This feature of plan has been in many cases, advantageously provided as common to two cottages; and a similar arrangement would seem to be that for the rain-water tank and pump. Mr. Strickland gives two plans of cottages with a living-room, scullery, and pantry below, and with two bed-rooms upstairs. One of the plans he shows might have even three bed-rooms, and within four external walls, provided the third room were allowed to open from the larger bed-room. He next gives plans of cottages with a parlour or bedroom, a scullery, and a pantry, on the ground-floor, and with two, or three, upstairs bedrooms. Cottages with this sort of accommodation deserve to be studied: for, in some districts, the parlour is desired; or there may be very great advantage for the occupants of a cottage in having one of three bedrooms, on the ground-floor. Besides, it is by no means certain that the building may not be more economically arranged, by having only two bedrooms on the first-floor, the scullery and pantry being placed in a lean-to addition to the main structure. The remainder of the plans show pairs of cottages in which the rooms are arranged differently in the two cottages. For example, one of the cottages will have three upstairs bedrooms, and the other cottage two. In this case, the third bedroom of one cottage may be over the pantries of the two cottages. Besides the plans, the plates include different elevations; and these help to explain what is said of the modes of roofing. A sketch specification is given in an appendix.

We ought to observe that in some of the plans, headway would be attainable only by making the risers of the stairs higher than is desirable for old people and children; and that in some, it might be very difficult to get a coffin up and down; whilst that in several, the deduction of space from a room, by a bulk-head, or encroachment of the stairs, would be greater than is clearly shown.

That there is a right and a wrong way of using books of this class, our notice of the two works that we have had before us will have helped to show.

A HIGH-CHURCH SERMON.—A clergyman recently, on the completion of the Barclay Church spire, Edinburgh, says a contemporary, delivered a sermon from the summit. It had an advantage which many nearer earth have not,—it was nearly inaudible to those below.

TERRA-COTTA AND LUCA DELLA ROBBIA WARE, CONSIDERED ON THE PRINCIPLES OF DECORATIVE ART.*

HITHERTO we have looked at burned clay only as it shows itself under its own native tint, usually red, though fashioned with masters' skill into the most artistic forms. Now, let us view it in its very height of beauty, with all the limner's charms spread on it by the means of coloured glaze.

Luca della Robbia was born, A.D. 1400, at Florence, where, from his boyhood, he was, as many celebrated artists have been, brought up to the goldsmith's trade. In early youth he became a sculptor: years wore away, but brought him, in this profession, small gains as a reward to much labour. This hung upon his mind: by day had he long worked with his chisel; by night had he exercised himself in drawing; and often when his feet were numbed with cold in the night-time, did he keep them, for the sake of warmth, in a basket of shavings, that he might not be forced to leave off his sketching. So easily may clay be managed that, under an able hand, it takes little time and less trouble to work in it: its cost is infinitely lower than that of marble. But marble is lasting: how could clay be made so, and, hiding its own, take the look of marble too? Such were the thoughts, the untiring thoughts, of Luca. "After having made experiments innumerable, he found that if he covered his figures with a coating of glaze formed from the mixture of tin, litharge, antimony, and other minerals and mixtures, carefully prepared by the action of fire, in a furnace made for the purpose, the desired effect was produced to perfection, and that an almost endless durability might thus be secured to works in clay."—Vasari, i. 340. "Not satisfied with his remarkable, useful, and charming invention . . . . Luca still continued seeking something more, and instead of making his burned clay figures simply white, he added the further invention of giving them colour, to the astonishment and delight of all who beheld them."—*Ib.*, p. 341. In these few words have we the history, as Vasari writes it, of that charming branch of art in coloured burned clay, upon which the fashion is to bestow the name of Della Robbia ware, and which, for very many years after the first Luca's time, continued to be almost exclusively wrought, at least in Italy, by his family, and those scholars to whom he had made known the secrets of his craft.

Italians, in general, know nothing of the arts, and how they were followed abroad, after the fall of the Roman empire, but seem to think that art of every kind had no existence anywhere but among themselves. No wonder, then, that Vasari, though wrongly, claims for Luca the honour of being the inventor of applying coloured glazes to burned clay; and the only artist in it at the time.

The art of fixing by fire upon clay sun-dried, if not already baked, the two sorts of glaze—the colourless and the coloured—was well understood among the more cultivated nations in Europe, Asia, and Africa, from remote antiquity. Spread with great niceness, either partially or entirely, over those admirably-figured and beautifully-shaped fictile vases which Greece wrought at home, or by the hands of her colonists in Italy and Sicily, as well as upon that finer kind of hardware now generally known as Samian, do we observe a delicate, thin, colourless, transparent mineral glaze. A coarser sort of glazing was used by the Romans, who have bequeathed us such a mighty heap of pot-sherds, on the banks of the Tiber as to merit its present name Monte Testaccio. At a very early period the Egyptians ornamented many articles with a coloured glazing. In the Middle Ages, as early as the eleventh century, upon those fine belfries to the churches at Rome, and built during that period, do we see, let into the brickwork, those curious large round concave pieces of hardware that glisten again as bright as ever with their bright green glaze even now. Later, the art was brought to great perfection by the Saracens, and carried with them wherever they settled themselves around the basin and in the islands of the Mediterranean. Under them the south of Spain won for itself great reputation for its works in burned glazed clay, and more especially for its tiles, which, from being at first usually tinted with a bright purple glaze, bestowed their own specific name—Azulejos—just as Faënza did to pottery in France, upon tiles of all sorts, and as a generic denomination. Those who have seen the beautiful Alhambra must recall to mind how several of its splendid halls are floored with these same tiles still bright; and their walls, in part, skirted, after a tasty pattern, with cubes of various colours, in the same material. But in Tuscany itself, and not long before, Jacopo della Quercia had employed a glazing—a colourless glazing, it is true, but yet a glazing on burned clay as we have seen upon that valuable and instructive chest-front in the museum. Here, in England, the glazing by fire of sun-dried clay tiles, especially for church decoration, was known and followed at an early period; and the specimens that have come down to us from the thirteenth century, and found at Chertsey, Castle Acre, Woodpery, and several of our other old churches and minsters, show not only a great elegance in design, but disclose the process used in making them. While yet the well-fined and kneeded clay was soft enough, the design was deeply sunk into the face of the tile by a stamp, and the hollow thus struck filled up with white pipe-clay. Over all this was floated a metallic yellow glaze, that in the firing gave to the red a warm, full tone, and a rich golden hue to the pattern done in white clay. In Germany the same art, after a simpler way, was practised. The "Acta Sanctorum," by the Bollandists, furnish us with the cenotaph raised, in the old cathedral at Hamburg, to the memory of Pope Benedict V., who died A.D. 965; and, after the fashion of our English high tombs, its sides are skirted with glazed tiles, figured with sacred subjects and the persons of the apostles, the figures being white upon a green ground. Such a method was, therefore, very old and widely spread. While refusing, then, to recognise in Luca della Robbia the inventor of coloured glazes as applied to burned clay, we must not, cannot rob him of the glory of being the first to use them with such new, such bold, such marvellous effect. In going round those recesses in the northern side of the north court in the museum, to study and compare this great artist's and his followers' several works, well may we with warrantable pride congratulate ourselves and our country too, that at present there is nowhere else, not even in Italy, in Florence itself, brought together under the one same roof and crowding near the one same spot so many masterpieces, and after all its several styles, of the Della Robbia school. On looking at them a short time, we find they may be distributed into four distinct manners, consisting of,—

First, those that are overlaid with a thick, plain white glazing, so as to make them look like marble, but having the pupil of the eye, and brows shown in black; and, if in relief, the figures set upon a plain deep-blue ground.

Secondly, those in which the drapery on the figures is variously coloured.

Thirdly, those—and they are by far the most valuable—which have the fleshes, besides the drapery, all shown in their appropriate colouring; and the blue back-ground made to become the sky, with the foreground, and trees, green, the buildings of a proper tint, and the whole in perspective.

Fourthly, those in which the fleshes are left in their burned clay state without any coloured glaze upon them.

Of the first manner, some of the examples are very beautiful; and among the foremost which I would specify, from being, as I take it, the earliest we have, is number 4,411, representing the Blessed Virgin Mary seated on the ground with her divine babe stretched out upon her lap and gazing on her: nothing in heathen antiquity is more graceful. The "Adoration of the Wise Men," number 438, simple in its arrangement, is artistically done. A Franciscan friar, in the act of falling, is worthy of attention; so, too, are those several heads, almost life-size, standing well out and admirably modelled. A small figure (7,702) in the round, of Our Lord as a child, with His right hand uplifted in benediction, is nicely executed; so are those two angels, in the round, kneeling in the act of worship (7,614, 7,615), which, with the still larger statue of an apostle (1,248), furnish us valuable examples for study in this first manner of the school. No. 7,596 is noteworthy. This "Magnificat," as it may be called, represents Our Lord as a little baby lying on the ground. Kneeling, with hands clasped, and head bent reverently down in prayer at His feet, the Blessed Virgin Mary worships Him as her Maker and Redeemer, saying again those words, "My soul doth magnify the Lord: my spirit hath rejoiced in God my Saviour." Throughout all

* By Dr. Rock. See p. 612, *ante*.

Christendom, this has been a favourite subject, and it is not surprising that we have it in this collection several times, as in No. 4,032, and others. Though last upon our roll, No. 7,630 may be looked on as one of the finest of its kind in this collection or elsewhere. Within a splendid wreath of fruit and foliage, the Blessed Virgin Mary seated is nursing our infant Lord upon her lap, and the clear blue sky behind them is flecked with fleecy clouds: the shield of arms upon the bracket which upholds the group, tells us, by its blazon with the label, as it seems, of cadence among its seven balls, and its difference in tincture, that it was wrought for some younger member of the house of Medici. I happened to be in Rome when this piece arrived there from Florence, and was one of the many invited to view it for the first time at his house by its late owner, who had assigned it a room of its own, where it challenged and won the admiration of the crowd that went to see it.

As examples of the second manner, we may instance No. 1,090, the small but artistically modelled figure of St. Anatolia, who, by her prayers, is forcing the dragon at her feet to yield back Audax, just converted from heathenism to Christianity, and whom the evil one had partly swallowed. The veil upon her head is black, the palm-branch in her right hand is deep green, the book in her left, with golden bullions on it, purple, as are her shoes, and the ground and the dragon, green. No. 4,677, as the second, in which we have a little naked boy, admirably done, playing on a bagpipe, which instrument is coloured light blue.

As filling an intermediate space between the first and second manners, fitly may we place here that magnificent altar-piece (6,741), figured, in white upon a blue ground, with the "Assumption," where St. Thomas is catching her girdle, which the Blessed Virgin Mary has thrown down to him as she rises from her grave, now blooming with flowers, the stems of which are green; and the marble and porphyry in the panels of the tomb are in their natural colouring. Had not the artist's botanical knowledge been very small, never would he have given the lily but two instead of six stamens.

For illustrating the third manner, it will be quite enough to point out but two of the splendid specimens in this museum. Of these the first number (4,412), representing the "Adoration of the Wise Men," exhibits to us one of the greatest art-triumphs in coloured burned clay, combining, as it does, in one piece, the beauties of painting along with all the charms of sculpture. Its crowd of figures, above twenty in number, some on horseback, is broken into well-arranged groups, mostly in strong bold relief; those on the middle ground are much lower; and to carry out the perspective, the objects on the background are merely painted in, and the whole so admirably coloured as to give a life-like appearance to the people and the animals, and a look of realness to the scenery behind them. In his life of the elder Luca, Vasari says: "The master still sought to make further inventions, and laboured to discover a method by which figures and historical representations might be coloured on level surfaces of burned clay, proposing thereby to secure a more life-like effect to pictures."—T. i. 343. Those twelve shallow blue disks of the months in the museum are precious examples of this style, but upon the piece before us do we see it employed most successfully, so that here we behold, upon the one same work, all the means, modes, and appliances of Della Robbia and his school. The other illustration is (3,986) a "Last Supper," treated as the subject was usually treated then in Italy, as we find by many an example—Leonardo da Vinci's among the rest—and, like his painting, was placed upon the wall at the high table in the dinner-room of some religious house. Here, the heads, hands, and feet are all tinted more or less,—our Lord's being white. The glazing colour is put as thickly on the fleshes in one figure as in another; and being quite opaque, of course hinders anything like transparence of the red burned clay beneath. The faded, blackened nimb about the head of Judas well betokens that traitor from the rest of the Apostles; while the striking yellowness,—the Mediæval emblem of bile, deceit, treachery,—in the upper garment given him in the seated figure, in the glass case not far off, will be noticed by those who study the symbolism of colour.

Under this third class may be enumerated those examples of heraldry, and most especially that very splendid and effective one blazoned with the armorial bearings and devices of the far-famed René of Anjou.

Surprising is it that the Della Robbia family never hit upon the right way of producing either a red or a crimson glaze. The pigments needed lay within easy reach of their hands; the so-named Theophilus, in his "Diversarum Artium Schedula," had given the best known method for preparing them; and by the kindred trades of making stained glass and working enamel upon metals, these very colours had been commonly and effectively employed, without stint, many years before the time of Luca, who could not but have seen various specimens of both in the windows of old churches and the several liturgic vessels for the altar.

Of the fourth manner in which, while the rest of the figure is coloured, all the fleshes are left in their first unglazed clay state, it may be sufficient to note here, from amid a goodly number of examples, the following few, of which, among the first, shall be,—a very admirably modelled life-size bust of our Lord in His Passion. Though the crown of thorns is glazed green, and His garments of a fitting colour, His neck, face, and long hair are left in untouched red burned clay. Along with this may be joined those two admirably-executed figures,—one (2,413) of the protomartyr St. Stephen, vested as a deacon, but wearing the maniple on the wrong wrist; the other (2,414), St. Anthony of the Desert, in the habit of a monk. Another, but small sample, in low relief, is our Lord as a little child, gracefully plucking a lily while sitting on His mother's lap. A third, a relief, is St. Jerome in the wilderness, on his knees before a crucifix. The last (5,401), a beautiful Nativity, in which all the fleshes are in plain burned clay. In this relief, however, there is a circumstance which ought not to be overlooked. On the left-hand side is a little shepherd boy, whose cloak is not glazed, but stained purple, and with oil-colour put on before, and fixed in by the firing process, which accounts for its dull, heavy tone, reminding us of the colouring on Lord Taunton's fine large bust of Lorenzo de Medici. The tunic, too, of the Blessed Virgin Mary, a sweet figure, is done in red, after the same process, but in places the colouring has scaled off. It has been assumed that the unglazed fleshes, as well in these as in all other like examples, have been painted in brilliant distemper colours, now flown. This I doubt; and, to my thinking, the nude parts left unglazed were, before the firing of the piece, rubbed with a mixture of oil and emery, or brick-dust, for the double purpose of giving them a somewhat different tone, and a kind of smoothness. Some of the oil sucked up by the clay got fixed in through the fire, and accounts for that sort of grimy, greasy look which, in most cases, those unglazed portions now exhibit.

The moulded ornaments of a mere architectural nature were, as we have before observed, often re-touched by the artist, before being sent to the fire; but, by a near inspection of the burned clays, coloured and uncoloured, in this Museum, we learn how carefully have some of them been gone over after the first firing, and, when glazed, before the colours were laid on, and with some sharp instrument, wielded by a master-hand, cut and carved as to give them a peculiar beauty and expression, at a single touch.

Having thus noticed these four several manners in Luca Della Robbia and his school, a word must be said about the frames with which so many of them are bordered.

One thing sadly overlooked at the present time is the wretched taste amongst us upon the framing in which all sorts of art-work is usually set. If, till lately, we had carpenters' Gothic everywhere, we still have upholsterers' golden gaudiness running rampant all around us: the same shaped machine-cut moulding flashily gilt will do for every requirement, whether sacred or secular, for every place, drawing-room, or oratory. Not so was it during the Mediæval period; then, here in England, as well as in Italy, and everywhere else, the frame-work,—especially for subjects of a religious character,—was not only elaborate, but artistic; and by the greatest masters it was deemed not beneath their care to design, and so render it fitting for and worthy of the noble work it was intended to enshrine.

Those massive bushy wreaths with which, instead of frames, Luca loved to garland almost all his productions or to hang somewhere about them, were as new to art as they were singular, and struck the world at the time, as much as they must strike every one at present, by their beauty and admirable execution. Fruit and foliage were never so exquisitely wrought and tinted; and, up to the present hour, nothing that has been done of the kind at all comes near them, either for form, for grandeur, or for happiness of colour: who among our artists will get before Luca in this ornament?

From the fact that so many of the Della Robbia examples belonging to the first-class of plain white marble-like figures on a blue ground are wreathed with these garlands exhibiting in their fruits and foliage such varied colours, it would seem, notwithstanding what Vasari says, that at the very outset, Luca knew full well how to produce metallic glazes of different colours. Even when working after his first manner, he sets his pure white figures upon a deep blue ground. Getting beyond the idea of mere marble-like productions—perhaps, too, in obedience to the traditions and wishes of the period—he used the same tints he had heretofore employed upon his wreaths, and glazed at first the draperies; soon afterward the fleshes, too, as best he could, of his figures, in their proper tones. By doing so, he made his work become another link in that long bright chain of evidence which shows how, from the remotest antiquity, the highest masters in the art have always given colour to statuary—to images of every form, and style, and class. From the earliest ages, and all through the best period of her several schools, under such mighty men as Phidias and Praxiteles, in Athens—the very centre of refined taste and severe criticism—Greece gave a colouring to her statuary and carvings. All along the Mediæval period the images of the saints, whether set up outside or in a church, the reredoses on its altars, of alabaster, stone, or wood, as the case might be, both here in England, and elsewhere throughout Christendom, were artistically gilt, and as artistcally painted. Being done in distemper, this colouring has fallen off the sculptures of the Greek and Roman epochs, merely leaving faint streaks and traces here and there of what their coloured beauty must have been. The now empty sockets in the face of many an old statue tell us that, once, the missing eye-balls were of precious stones; and those pierced ears, that gold and jewelled earrings used to hang from them; while the various coloured marbles forming the draperies upon some of the Roman busts are all unmistakeable proofs of the ancients' love for colour upon marble. This colouring of carved work is even now continued in Spain, whose schools of art, especially in this sort, are little known by Englishmen, whose desire for other and more numerous specimens from that country will be quickened after viewing the few but admirable ones—especially in carved and coloured wood—added, but a few months ago, to the South Kensington Museum.

As nature gives a proper colour to everything, to the earth and skies, to the vegetable and animal existences it every day brings forth: as in man, the eyes receive their brightest flash of love or hate from their colour at the moment; the cheeks betray their sense of shame or rage by the blush upon them; the lips, the heart's fear, by their ashen whiteness; as living man himself never, but the ghost of man when seen, is seen all white—all colourless, let us then, with the authority of nature and the practice of all antiquity as our warrants, advocate the taste for coloured statuary, and rejoice in the samples we have of it in the works of Luca Della Robbia.

As far as their general style there is much to admire, but a good deal to lament and avoid in the productions of that master and his followers. Like all the rest of his countrymen at the period, Luca was dropping, one after the other, the reverential teachings, the lovely forms, the simple graces traditionary in the Umbrian school, which, in fact, was strongly akin, in its types and precepts, to all the other schools of sacred art in England, France, and other parts of Western Europe. Classicism, it is true, with its over-long necks for females, and its straight meaningless profiles, had not got hold on the Italians then; but, instead, a naturalistic feeling—a feeling towards a close copy of unselected nature to an almost forgetfulness of the beautiful in mankind; yet withal, a gleam from out the forsaken paradise—a something kept of the olden better time still hangs upon a few of Luca's figures—those of the blessed Virgin especially.

However much to be admired, from a chirurgical point of view, and praiseworthy as far as superficial anatomy is concerned, may be the

quite naked body of an infant, yet in all art-works, more so of our divine Lord, is it more seemly as well as respectful that some draping should be thrown about it. This, however, even of the scantiest sort, was forgotten by Luca, and, like him, too often by the artists of his day: the ablest man in art is he who, while he can represent the beautiful becomingly, knows full well how to make the true to nature look holy and reverential. Still, for their grouping, their modelling, their expression, many of the Della Robbia works are admirable.

It has been asserted that, during the Middle Ages, all the western countries of Europe produced remarkable works of sculpture; but it was in Italy alone that art attained to a perfection worthy of comparison with the antique, and in Italy alone can its monuments be thoroughly studied. Giving my most hearty assent to the first part of this judgment, I as heartily disagree with its other portions. Let any one go to Wells, Lincoln, Peterborough, Westminster Abbey, or several other of our glorious Mediæval churches and cathedrals,—without asking him to cross the sea, and wander over France and Germany,—sure am I that a first short view will give him magnificent examples of sculpture done by Englishmen, in England, better than anything of the time abroad; which, considered under the more essential aspects of art, were never surpassed, and not often equalled by the most celebrated productions of ancient Greece or modern Italy; and I hope the day is not far off when the country will awake and open its eyes to the value and perfection of its own home-wrought works of art, and have casts from the best of them to occupy a becoming place in this museum. What has been done may be done again in England by Englishmen. Richard II. granted a licence to Cosmo Gentili, the Pope's collector in England, in 1382, to export three great images of the Blessed Virgin Mary, St. Peter, St. Paul, and a small image of the Holy Trinity, without paying duty for them. Who can tell, but, some future day, London will, once more, send statuary to Rome?

After this short and hasty sketch of burned clay in its highest artistic developments, our next step will lead to

The Second Part,

the most important object of the lecture; and to view it as affording illustrations of the principles of decorative art.

Like the architect, the artist must think beforehand well of the sort of climate he has to deal with, for the better choice of his material. Now here in London have we thick fogs, with their dampness, smoke, and smuts, gas and its tarnishings; but if there be one thing better than another for bidding defiance to the spoiling effects of these agencies, it is glazed burned clay. Let us then see how and where it may be used, under its first and least expensive form, that of a colourless glazing.

How many a man whose means are small, with a strong love for art, who would like to have his little home decorated, to behold around him the busts of his wife, his children, his fast and faithful friends; the writers who have enriched his mind; the worthies in that profession he is following. Besides being far too expensive, marble, by its weight would crack his slim walls, and pull his slightly-built house to pieces. All these he can have in clay, even though his purse be shallow, and so artistically done as to make his house beautiful. Here and there in his little hall, up his staircase, along the landing-places, could he have a bracket and a bust. As well in his library as in his dining-room, the cornice might be storied in plain glazed burned clay; and fortunately for all such purposes, we have two kinds of material, the red and the white clay; and thus, the ground may be in white clay, the relief in red; the hollow holding the bust in white, the bust itself in red; or we may reverse them, so getting the agreeable contrast of colour as well as form. His wife, too, might have the nursery adorned with something to instruct as well as amuse the children, and put high enough to be beyond the reach of a knock, even which, if not very hard, would not break it. Servants' hall and kitchen might have their subject, telling its lessons of thriftiness and good housewifery. The panels under windows might be advantageously filled in with low reliefs; and not only with such panels in walls, but in articles of furniture. For such an application of plain red burned glazed clay, we fortunately have a splendid example in the front of a chest in this museum, done by the hands of a celebrated master, Jacopo della Quercia, and figured with the fall of Adam and Eve.

Too heavy a stress cannot be laid upon that same chest for its most valuable teachings regarding the very many decorative capabilities of red glazed burned clay. Of our furniture, take but a few examples. The larger those looking-glasses hung upon the walls of our reception-rooms, the narrower it seems to be the fashion now, to make their frames which, so far from being anywise artistic in design, are almost always after the one same machine-wrought pattern, very commonplace, not to say vulgar. Yet, few are there among the articles of decorative furniture upon which an able hand could better show the cunning of its craft. Divide those over wide-spread sheets of glass into compartments, making them architectural according to the house's style; give them the appropriate ornamentation in bold projections; let the whole of the frame be of a warm brown ground, to throw well up the gilding; and require it to be a work of one who can think of and do something beyond shallow moulding, and a bunch of flowers all in the one same garish gold; have the frame ornamented, like the old Italian chest-front, with real art, in red glazed clay.

Among people of taste, and knowing what was, whilom, the favourite custom in good houses everywhere through England, the side-board is being brought back to its first full old use, and has had given it, for the better display of rich pieces of plate, rows of shelves all up its high glazed back with its gracefully overarching head. Here, then, is another field for true art-work in burned clay: upon its lower panels, its sides, its overhanging canopy, a master may show such skill as to make this sometimes inconspicuous article of household goods, become by day and night a magnificent adornment of the dining-room.

If inside the house,—so, too, outside, might the same material artistically wrought, be well employed. The chimney-pots in London are generally ugliness itself. Often the short length of a glazed brown draining-pipe one sees doing duty for the nonce as a chimney-pot to the temporary shed run up for the foreman, has more beauty about it than those red or grey dull tubes lying near that are to be, ere long, put upon the house now building. Though chimney-pots, like that very fine one from a house of the last century, and lent to this Museum by Mr. Vaughan, would be too expensive, not to say out of place for most habitations; and those copied from Eton and other sixteenth century erections, out of character for houses of a different style; yet something could easily be done to free us of our ugly chimney-pots.

There is one exterior feature in our houses, large and small, to improve which red glazed burned clay is most applicable,—I mean the doors. Putting aside its expense, the painting of house-doors is no small annoyance; yet from sun and rain, and the varied action of our atmosphere, such very soon is the cracked and curdled shabby look of the new paint and varnish, as to need having them put on again at least every two years. Now, besides the artistic beauty it would bestow, the saving in money and convenience afforded by it ought to make us try the application of burned clay as a casing, after the manner of its use in Jacopo's chest-front. Though now so unartistic, our street-doors might readily be rendered ornamental, even less costly in the end, and be made a help in redeeming our domestic architecture from the blot which rests upon it. Long ere Virgil sang (Georg. iii. Æneid 6) of portals magnificently wrought and sculptured, and long afterwards might they be found in many places. In the Middle Ages, very many years before Florence could boast of either of those splendid gates to her baptistery, an Englishman, Master Hugh, who had surpassed every other artist of his day, surpassed himself in the beautiful doors he worked for the church at Bury St. Edmund's. At the present hour there is not one handsome street-door in the whole of London. However good as carpentry, in design, our house-doors are hardly better than the one the settler in the backwoods of Canada hangs upon his log-built hut. Put in panels, like Della Quercia's, figured with subjects; boss the frames with busts in bold relief, all wrought in glazed red burned clay, and you save your money at the time you get ornament. Not only would it be serviceable and artistic on and in private houses, but in all public institutions it might be advantageously employed.

In theatres, in music-halls, in lecture-rooms, in schools, in every sort of construction meant for the free circulation of sound, it is the very material to be used; for every one must know that, for singing and speaking, every kind of drapery-hangings, in any form, are bad. Now, if this material were employed in the decoration of such erections, the buildings themselves would have a cleanly, lasting ornament, which, while it beautified their walls, did not hinder the wished-for transmission of sound; nay, if managed well, and had given them the required hollowness, the reliefs and statues themselves, instead of deadening, will send back every sound clearly and without an echo. In regard to schools, why, for years perhaps, keep a boy in rooms so dull to him? Like one of the Dukes of Mantua, make the school a "joyful house,"—not forbidding, but gladsome. Let the pupils see around them the memorials and the busts of those who, in bygone times, sat as boys upon those same forms,—men who had made for themselves a name of renown in the army and navy, in Parliament, or at the bar, as inventors in science, great in the arts, famous as writers, distinguished for their success and honesty in trade, as benefactors to and worthy of the land that gave them birth; and let the boy know there is still an empty niche which, if he strives and lives as they did, his bust will some day occupy.

Those long, blank, dreary wards in our hospitals ought not to be forgotten. Why should the poor, but perhaps once wealthy and well educated, slow-recovering patient, be left with nothing better, nothing more healing to his ache of heart, to do, than day by day to reckon how many panes there may be in the window opposite, or find out the number of checkers in a foot square on the white and blue curtain by his bed. Most times to the sick it is very wearisome to listen five minutes together; but long to themselves alone can they think. Many a man and woman cannot spell a book; all can easily, without toil, read art-writing on the wall. Then let that writing be there, to speak of hope, to tell of comfort. This quickens convalescence. The cost would be small, and the public money never better spent.

But getting abroad among our streets in London and our large towns, and upon the road-side in the open country, we may notice in how many ways burned clay merely glazed can be cheaply employed as a decorative, and, at the same time, useful art.

Within a few years has grown up the praise-worthy custom of having street-fountains; but of those hitherto put up, almost one and all are wanting in artistic beauty, and lack one great requisite — a provision for the poor dog that wants to slake its thirst at all seasons as often, may be in summer time to hinder madness—often than its master. To show where milk is sold, the likeness of a cow is set up at the dairyman's window; while the vendor of horse-medicine displays an image of the animal in his shop; the little black boy and the big Highlander are the old and well-known signs of the tobacconist. This is a recognition of the utility so ancient of advertising by art-means. Now, not only these, but all other trades, at no great charge, might tell conspicuously upon the upper portion of their shop-fronts, and over their doors, in large art-characters, what wares they sold; and, in doing so, advantageously advertise their crafts, and at the same time beautify the houses in the humbler quarters of our cities. Wandering about our great thoroughfares, there do we find over several of them railroad-bridges throwing their huge, ungainly, lumpish selves—always very ugly—often quite black. Fill in the wide panels at their sides with reliefs; plant along the top a few statues, all in glazed red or white burned clay; and what was an eye-sore becomes, at a small expense, a pleasing ornament.

While still upon our stroll, and we reach our finest streets and widest, most majestic squares and terraces, we cannot but allow that the most lordly-looking residences there, and the most palatial of our noble club-houses and public buildings, would have new grandeur added to them were their fronts varied by reliefs, and their sky-line better broken and improved by statues in burned clay upon their parapets.

In the country, a squire would often like, but for the expense, to make the village school a pretty feature on his estate. Now, he may do this with the help of burned glazed clay, and without a deep dip into his pocket, or practising any sham in his materials. The burned clay will afford him good hard mullions and tracery for windows, a becoming porch, proper chimney-

pots, rightly-shaped tiles, and pleasing crestings for the roof.

Many a mother, many a widowed wife having, though poor, feelings as sharp as those of their more wealthy neighbours, would, if they might, erect a memorial over child and husband, and mark the grave by something more lasting than a flower. Wood soon rots; stone for them is too expensive: not so glazed burned clay, which will defy moss or lichen to overgrow it.

Everywhere finger-posts abound; often, however, in a moment of utmost need, they cannot guide our path, for the weather has done its wasting work, and the writing is clean washed out. In glazed clay we find a thing for all our wants, and upon which sun, and wind, and rain will harmlessly waste their obliterating powers. Here, too, a man of taste, and blessed with the means, can find an admirable opportunity for the display of art, and showing his thoughtfulness for others. Though not of duty, yet how gracious would it be for such a one, instead of the too often useless wooden tottering finger-post, to erect, after a good type, a Mediæval cross so built as not only to point the path to the neighbouring villages, but answer as a resting-place for the worn-out traveller, who might find a seat beneath its shade, and to quench his thirst, a draught at the spring hard by. Thus did our Anglo-Saxon forefathers; Venerable Beda tells (Hist., ii. 16), that King Edwin, A.D. 628, in very many places where he had seen clear springs of water by the wayside, caused stakes to be put up with brass basins hanging to them, for the refreshment of the wayfarer. This, then, was the custom a thousand years ago in this land, but now we are behind the Mahommedans in such kindness. May good old usages come back; but besides the cup for the man, let the dog have his pan, the horse a trough afforded him; and the lord of broad acres who so does, will be adding his dot of the beautiful as well in humanity as in art, on his native land, and at small cost too.

From the enumeration of these among a large number of other instances, how uncoloured but glazed burned clay may be aptly, and at no large outlay, brought into use for decorative purposes, we will now look upon it for a like object as it shows itself in its highest, most attractive form, with the additional beauties of colouring upon it.

While, of the instances just given, hardly is there a single one wherein coloured burned clay might not have been as fittingly employed. Some there are in which it is, by far, more becoming to the place and its occasions.

In a house of the slightest pretension, coloured burned clay finds an appropriate employment within every reception-room. Here, the flowered borders to the papering might well be replaced by a bold wreath of fruits, flowers, and foliage standing well up in the manner of those garlands hung round his works by Luca della Robbia. At the tops of walls, and around the edges of ceilings in dining and drawing rooms and ladies' own apartments, the fashion now is to have, run in plaster, mouldings more or less broad and elaborate, sometimes faintly coloured in one or more tints and pricked out in gold. Soon these colours fade, the gilding tarnishes, and the wide round ornamentation above the chandelier in the middle gets smirched—quite blackened by gas or smoke of oil, as it may be. Now, instead of all this plaster-work, put wreaths of coloured burned clay, and what will be the results? Along with the beautiful you will have cleanliness: any tidy servant with a light brush and a soft duster in hand, and by the help of a tall pair of steps, will, in a morning's time, make cornices and ceiling look as bright, as fresh, and as free from smuts and dust as they were that day when first they were so decorated. Upon the entablature from the destroyed church of Santa Chiara, at Florence, of its chancel, the whole of which, with its stone pilasters, is now set up again, and standing in the north court of this museum, we find a teaching application to architectural decoration of this material. In this specimen of the Italian fifteenth century style, the frieze is by the hand of the elder Della Robbia himself, who has figured it with cherubic heads, the Holy Lamb, and I.H.S., in white upon a blue ground; and though 400 years have passed over it, is all unhurt by their footsteps.

Ages before Chaucer sang so sweetly about the "Flower and the Leaf," flowers had been, as they still are, great favourites with English people; and in no other city do we find so many windows made gay and fragrant with them as in the streets of London. The plain red flowerpots, years ago, gave way to the long narrow wooden box that, in its turn, has lately been improved by changing its coat of green paint, for a facing of flat glazed coloured tiles, some good, but more bad in their design and contrast of colour, and all wanting in that charm of light and shade which they would have had were their smooth, even surface sunk into a design, or broken by a pattern in relief. Here, then, is a domestic appliance capable, in good hands, of being made beautiful and artistic. Many of our bettermost houses now are built with bow-windows. Take one of these bows; plan the outside boxes to all three windows in it to be but the parts of a connected whole, so that they rest not merely on the sill, but upheld by well-designed brackets, run all round with vases, or, better still, with groups of figures between them where the windows are parted; instead of flat tiles, use sunken, deeply-moulded, richly-coloured ones, like some in the Museum designed by Pugin, and of Minton's make; and thus, no matter the time of year, without, as well as with flowers in it, you have a thing of beauty at your windows, and a pretty feature on your house front.

The baldness in the walls of many a large house, the meanness in many a small one, might be well and easily removed by a few medallions, or a string-course in relief. If a good man's, or a good woman's name ought never to be let die, how gracious to the living,—how still more thankful to the mighty dead,—mighty in thoughts and words, as well as deeds—deeds of charity and kindness as well as hardihood,—would it be in those who live where lived those great ones once, to tell the world of it, by a bust over the door, or a relief upon the wall, with his or her armorial bearings—had they any—all in coloured burned clay.

It is, however, upon buildings for public purposes that this style of ornament may find a large employment. Theatres, music-halls, lecture-rooms, and, in general, every place intended for harmless amusement and healthful recreation, should be rendered as cheerful and as gay in their architecture as possible: their ornamentation ought to look as good by broad day, as well as night, capable of helping, not hindering, sound: so also of all those places of constant resort in a large city like London—its Guildhall, its Exchange, its especial trade-marts, its halls of the many particular companies, the termini of our railroads, and the waiting-rooms and large halls at them. In most, if not every one of these different buildings, might all the resources of coloured burned clay be most admirably employed, but amongst its appliances there is one—heraldry, fine examples of which are to be found in the Museum that would have a most telling effect; for armorial bearings, ever various through the great variety of their changes, and the tinctures on the shields, never fail to strike at the same time that they please the eye.*

A RUN TO THE LAKES: BORROWDALE.†

As we are not travellers in search of the picturesque merely, we must ask our readers to have patience with us while we try to describe some of the most prominent physical phenomena of the English Lake district.

We need scarcely repeat what everybody knows, that the Lake district consists of a series of mountain ridges and plateaux of the very highest altitude in England; although still the lowest in the scale of Great Britain and Ireland. Thus Scawfell Pike, in Cumberland, which is the highest mountain in England, is 3,166 ft.; Snowdon, in Carnarvonshire, the highest mountain in Wales, is 3,571 ft.; Ben Macdui,‡ in Aberdeenshire, the highest mountain in Scotland, is 4,418 ft; and Gurrane Tual, in county Kerry, the highest mountain in Ireland, is 3,404 ft. above the level of the sea.

It is no part of our business to enlarge on the cosmical theories of the various schools to which the Cumbrian mountains are correlated. The Plutonists have had their day; the Neptunists have lived to see their philosophy submerged; and the votaries of the Icebergs have long since been liquified or solved. Whether these *lacunæ* have been worn down by water or scooped out by ice, will be accepted just as we adopt the theories of a fluvial action (which is difficult) or a glacial action (which is more simple). Some of the lakes, as Ennerdale, do not exceed 80 ft. in extreme depth; Windermere is 240 ft.; and Wast Water, which is so deep as never to be frozen, is 270 feet. With regard to their altitude, this varies a good deal. Windermere is only 116 ft., Ulleswater is 380 ft., while Thirlmere is 473 ft. above the level of the sea. Some of the small receptacles of still water called *tarns* far exceed these measurements. For example, Sprinkling Tarn, in Borrowdale, and Red Tarn, on Helvellyn, lie at an altitude of 1,900 ft. and 2,400 ft. respectively.

The next point we must notice is the technical geology of the district. But no sooner do we begin to investigate this subject than we get into a perfect labyrinth of scientific miracles. The great *original* authority, we may state, is Professor Sedgwick, whose letters to Wordsworth form the basis of all the modern systems of the geology of the Lakes. From these letters, and other publications of Mr. Sedgwick, and particularly from the admirable synopsis of Professor Philips, appended to Black's "Guide-book," we are enabled at least to give the reader a rough idea of the subject.

The Lakes of the north of England, like those of Scotland, Wales, and some districts of Ireland, are situate among the most ancient of unstratified rocks, including slaty formations with organic remains, and others still older, which have not as yet yielded any fossils.* These strata form in a general sense one broad rugged dome, surrounded on the flanks by later deposits of old red sandstone, mountain limestone, millstone grit, coal, and new red sandstone. The map of these strata shows us the following superimposition:—

A. The mountainous district of slaty rocks, inclosing the Lakes.
B. The raised border of limestone grit, coal, &c.
C. The plains of red sandstone.

But the regularity of this rugged dome and its borders is disguised by a thousand inequalities of detail. The strata of the interior are not uplifted in a regular arch, but bent into innumerable complex curves, forming anticlinical ridges and synclinical hollows, and all so broken by "faults" that the originally continuous rocks are divided, and the parts changed in level from 10 yards to 1,000 yards! These great movements of the strata were accomplished with violence; and one of the coincident effects was the forcible injection of melted rocks into many of the fissures and void spaces left between the broken masses. Thus granite, porphyry, and other rocks produced by heat, and *not stratified*, have found their way amongst the older strata, and have produced on them, near the surfaces of contact, certain chemical and mechanical changes, converting the sunk and argillaceous masses into compounds which approach to the nature of the igneous rocks. To these the title of metamorphic rocks is assigned.†

These metamorphic rocks, however, as well as the vast chains of granitic and igneous rocks, are for all economical purposes next to useless, and the great mass of the sandstone, unless it be on the outskirts of the great field of clay slate, is unfit for building purposes. The few specimens we collected and examined, such as those from Tallantire, Lammonby, and a portion of the old red sandstone from Baggrow, were coarse in the grit, and very friable; although we have seen excellent specimens from the quarries of Cockermouth on the one hand, and Penrith on the other.

The clay slate, therefore, is, the rock of greatest importance in the central lake districts. In the original Cumbrian group of Sedgwick, it is divided into three great generic classes, as follows:—

1. Hornblendic clay slate (lower).
2. Chiastolite slate (middle).
3. Clay slate proper (upper).

The *first rocks* are of a uniform argillaceous character, except where the veins and their *laminæ* of quartz diversify their aspect; or where igneous rocks change their textures. The colour is usually dark, the surface glossy, and the mass

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* To be continued.

† See p. 630, *ante*.

‡ While we write, we perceive that the recent Ordnance survey has reduced the claim of Ben Macdui to be the highest mountain in Scotland, and restored Ben Nevis to its ancient supremacy.

* During the period of our visit a local geologist had discovered species of the *graphtolite* in Skiddaw slate. This fact will afford abundant materials for new generalizations of the clay slate groups.

† While stating thus the commonly accepted theories of the able authorities above cited, we may also add that there are chemico-physical investigators who account for the metamorphic rocks in a somewhat different manner.—Comp. Dr. Bischoff's Elements of Chem. and Physical Geology; Quarterly Journal of the Geological Society, &c.

irregularly laminated. They are more or less characterised by what is known as the slaty cleavage.

The boundaries of the district occupied by *middle slates* are on the north-west line from Egremont to Keswick. The face of the whole mass, as seen on Derwentwater, about Barrow, is a red mottled argillaceous rock, usually regarded as a breccia. The colour being considered accidental, we find similar brecciated structures and various grey tints among the rocks at the entrances of Borrowdale, around the north side of Grasmere, and other places. A close scrutiny of the circumstances under which the rocks are associated, suggests the idea of their being in part aggregates of volcanic mud and submarine streams of felspathic lava.

The *upper slates*, clay slate proper, or, rather, as they are termed, micaceous flags and slates, correspond in some parts of the series with the upper Ludlow slates and tile-stone beds of Shropshire and Caermarthenshire. In some places they yield excellent roofing-slates. As represented by the Kirby group, they somewhat resemble the flags of Llandeilo, in South Wales; or still more closely, as Professor Sedgwick has pointed out, the flags of Denbighshire, in North Wales.

This sketch will probably be sufficient to show that the economic geology of the district is chiefly concentrated in the groups of clay slate. It is these rocks which on disintegration yield the rich clayey soil of the valleys. From these rocks are also derived nearly the whole materials for building, from the pavement-flags to the roofing-slates; from the lintels and jambs to the rouble and the road metal. As to the analogous groups of fine-grained grey or green slaty rocks, as well as those porphyries which seem to be composed of indurated argillaceous matter, we must in the mean time refrain from describing them. But they are all to be referred in their geological classification to one or other of the above groups.

We strongly recommend all persons interested in the physical aspects of the country to take a ride up by Derwentwater, through Borrowdale. Thither we went, partly for the purpose of seeing that dreary valley (of which it may be mentioned that Earl Russell said, not long ago, that it was the most magnificent prospect in the district), partly to study the rocks, and also partly to inspect the village of Seathwaite, which, as we all know, is celebrated in modern story for its heavy rainfall. The first thing worth noticing is the waterfall at Lodore, which is chiefly remarkable for the enormous chasm that the water has worn through the rocks. After passing through "the Jaws of Borrowdale," as the entrance to the valley is not inappropriately termed, we ascend by one of the narrow and precipitous roads so common in the district to the quarry of Queyfoot, in which the "schistus" clay-slate is extensively worked, and altogether, it would seem, from the surface. From this quarry most of the buildings in Keswick and the neighbourhood are supplied. Further on we arrive at the celebrated "Bowder Stone," an immense block of basaltic green stone, which has evidently broken away from the overhanging cliff, and has been computed to weigh nearly 19,000 tons. Nearly opposite this "bowder," we observe the Castle Crag, famous as the site of a Roman fortification; and from this crag the view up Derwentwater, under a favourable aspect, is unapproachably beautiful. There is the calm and placid surface of the silent lake, the majestic hills which rise in graceful and irregular slopes on either side, the green islands, the projecting crags, the vapoury clouds, and the rich sunny hues,—

"That gild with yellow radiance all the vale."

Such a picture one seldom sees and long remembers. But, to turn again to Borrowdale, the geologist may easily observe the green mounds, covered with boulders of transported rocks, which mark the place where the glacier of a former period had melted away and deposited its burden. A more practised eye will also detect the surfaces of the *striated* and *polished* rocks, which record at once the character and the direction of a *force* which, as Agassiz has detected in our time, is still at work among the glaciers in the Alpine regions of Switzerland. After passing the pretty village of Rosthwaite, and the charming residence of Mr. Fisher, of Seatollar, we arrived at the head of the valley, at the village of Seathwaite. There are three phenomena to be observed here: first, the four magnificent yew-trees joined in one, commemorated by Wordsworth, in the lines beginning,—

"Fraternal four of Borrowdale;"

secondly, the celebrated lead mine, or plumbago mine, which lies right overhead, on the face of the hill; and, lastly, the rain-gauge. The yew-trees we saw; but the mine is not working at present; and unfortunately it did not rain that day, so that the respectable lady who makes the observations could not discourse of the rain-fall in operation. We learned, however, that for the last half-year it had been considerably under the average; and what is of greater consequence, that, although the greatest *quantity* of rain falls here in all England, there are many low-lying districts which are blessed with a far greater number of rainy days. We shall explain this paradox as we proceed.

In the year 1851, Mr. Otley, of Keswick, recorded a series of observations of local rain-fall from a rain-gauge kept near the town; and his results were highest in the year 1846, being 67·678 in.; lowest in the year 1844, being 40·629 in.; and on the average of ten years (1842-51), 57·162 in. About the same period, Mr. Millar, of Whitehaven, made an elaborate average of the principal stations in the Lake district, and a comparison of these averages with those of London, Edinburgh, Dublin, &c.; and from this computation we learn that while London was 24·800 in., Edinburgh 25·600 in., Dublin 30·087 in., Liverpool 34·700 in., and Manchester 37·300 in., the Lake district averaged respectively — Keswick, 57·162 in.; Great Gable, 89·400 in.; Styhead, 92·800 in.; Grasmere, 107·500 in.; and Leathwaite, 140·600 in. A still later average, quoted in one of the guide-books, gives us,—Keswick, 60 in.; Crummock, 85 in.; Ambleside, 82 in.; Kendal, 61 in.; and Troutbeck, 81 in. To these we will just add from our own observations, that in Keswick last year the rain-fall, as observed by Mr. Fisher Crosthwaite, was 71 in.; and in Seathwaite, in Borrowdale, the village we had the curiosity to go and see, 173 in.* It is highly proper to point out that, although there is more rain in the mountain districts than in low countries, there is also more brilliant weather. To quote the language of Dr. Leitch in the *Lancet*, "the rain comes down more heartily, and the weather clears up more cordially here than elsewhere."

The barometer has been very accurately observed in Keswick, and varies from 29 in. to 30 in. But we have not succeeded in procuring any trustworthy series of thermometrical returns. The temperature of the district, we should say, reasoning *à priori*, is lower in summer and higher in winter than any of the low-land districts. But we can speak from experience of the difference between noon and midnight, and more particularly of the difference between the temperature in the sun and in the shade, which latter, we imagine, is much greater than that of any other district in all England. For example, to pass from the direct action of the sun's rays on the side of a hill to the shadow of the neighbouring woods is something excessively like plunging into cold water on a very hot day. As to the force and direction of the wind, we regret that none of Admiral Fitzroy's nautical observers are stationed in the district: otherwise we might then compute the degree of force on Scawfell and Skiddaw of that Atlantic south-wester which carries with it all the moisture and deposits all the rain. But as it is, we can only state that the difference between the force of the wind on the surface of the lakes and on the tops of the mountains is so great as to bear comparison with the official idea of a calm breeze and a storm. We have just room to add here, that the county of Cumberland is deficient in ozone. Of the tabulated returns from fifty-four meteorological stations in the last quarterly return of the Registrar-general, Cockermouth and Carlisle stand lowest in the scale.

We must finish these dry statistics with a few physiological remarks. In the first place, with regard to the climate of the lake district, we may observe that from its altitude, its peculiar topography, its exposure to the great atmospheric current of the Atlantic Ocean, its exuberant vegetation, and its clayey soil, it is necessarily the most humid atmosphere in all England. Accordingly we might be prepared to find a preponderance of those diseases which are peculiar to an alpine country; and in this case we should not be altogether disappointed. The late Jonathan Otley, whom we have mentioned, relates that when he was a boy (about the period of Dalton's observations) *ague* was so common in the vale of Keswick, that every country lad coming to service from the low country had to go through a fit of "shaking" which lasted six weeks! An old shepherd whom we met on the hills in Borrowdale, informed us that there was plenty of ague, accompanied by fever, in his youth. And although there was nothing of that sort now, there was still plenty of rheumatism, as he happened to know! Although cases of goître are now exceedingly rare, these were by no means uncommon twenty or thirty years ago; and even yet, we were informed, a swelling of the glands of the neck is not an unfrequent malady. Colds, inflammation of the lungs, phthisis, and all the diseases which arise from excess of moisture and exposure to low and changing temperature, are of course more or less abundant. And it is impossible for the stranger fresh from the rural districts of Essex or Hampshire not to perceive that, when compared with the ruddy complexions of the Southern peasantry, the labouring people are, as it were, blanched and etiolated. Although the death-rate of Cumberland is lower than that of England and Wales (21), yet when we consider its sparse population it is relatively high. As far as our limited means of observation served us, we never saw a population among the lower classes so temperate and frugal in their habits. Indeed, it occurred to us once or twice, that they possibly "err on the safe side" in this direction; since we could scarcely conceive of a district in which a proper allowance of good cheer would be attended with so beneficial an effect. Their cottages are rapidly improving in construction, through the spirited competition of the landed proprietors. But there are still too many of the old-fashioned, diminutive, ill-lighted, and uncomfortable habitations in the district. Some of the farm-houses are even worse off than the labourers' cottages. A great many in the neighbourhood of Bassenthwaite and Threlkeld bear on their antique lintels dates varying from 1668 to 1724; and are constructed on the ground-floors with low oblong lattices, and in the upper rooms, with openings about 2½ ft. square. It is strange, in a climate where sunlight is so valuable, that it should be often so persistently shut out! For the rest there is plenty of fresh air and pure water in the district; and were it not for the natural drawbacks we have referred to, one could scarcely imagine "a better land," as Mrs. Heman sings. But even in these natural circumstances it is pleasing to report a gradual and silent improvement. The snow in winter no longer lies six months on the hills: it is seldom more than two, and never exceeds three even at the greatest altitudes. Sometimes in a mild winter there is no snow seen on the hills at all. The steady progress of agriculture, and particularly of the drainage of the land, has exercised a prodigious influence in clearing the valleys of surplus water. And the rain-fall, it must be observed, is decreasing, except at one or two remote heights. Whether it be that the principle of amelioration which originally reduced the horrible terrestrial convulsions which we see around to an equipoise, and produced those scenes of beauty and grandeur, which we all admire, from their very ashes;—whether this principle is still at work, it would be difficult and perhaps impossible to decide: but there cannot be a shadow of doubt that, from whatever cause, the lakes are rising perceptibly in the necessary conditions of public health.

Our next and concluding article will be devoted to Keswick.

* Those who wish to pursue this subject ought to consult an able monograph "Essay on the Meteorology of the Lake District." By J. F. Millar, Esq. London. 4to. 1859.

DRINKING FOUNTAIN IN MARYLEBONE.

A SIMPLE but not inelegant drinking-fountain, designed by Mr. H. Burton, and executed by Messrs. Purves & Norton, has been erected in Oxford-street, at the end of Marylebone-lane. The fountain, of Sicilian marble, and 5 ft. 6 in. in height, consists of a pillar with four sunk panels in it, with a pilaster between each, supporting a circular basin, about 3 ft. in diameter, in which is a pedestal, surmounted with an antique urn in Jeune Fleuri marble. An inscription around the basin declares very loudly that it is the gift of "David Salomons, Esq., Alderman and M.P."

We have been told,—

"Who builds a church to God, and not to fame,
Will never mark the marble with his name."

It seems to be different in fountains.

THE CATHEDRAL OF FLORENCE.

NEW interest attaches to the Cathedral of Florence now that it has become the object of an undertaking to rank among the greatest in the annals of modern Italian architecture. We have just been visiting the exhibition of the designs (forty in number), submitted last year to the committee of judges for the façade of this magnificent church, so long left discreditably unfinished. Only eleven of these designs are displayed with names attached to them; and of the artists thus made known, two only, a German and a Dane, are of countries beyond the Alps. One, a Florentine named Falcini, exhibits two, in many respects differing from each other; and the German competitor, Sommer, is the only one who completely sets aside all precedents and ideas of the Italian-Gothic, in a bold attempt to reconcile the Renaissance with the grand old style of Arnolfo and Brunelleschi. Generally speaking, the Italian artists, as here expressing themselves (their drawings, for the most part, highly finished in water-colours), luxuriate in a profusion of tracery, moulding, arcade galleries, canopies, pinnacles, and sculptured details, even beyond the precedents of any form peculiar to the Mediæval or other sacred architecture of this country; and we might describe as the characteristics of their creations in this exhibited series, an almost fairy-like magnificence, a gorgeous ideality that sometimes sacrifices the majesty of leading forms to the elaborate beauty of detail. In some designs we see the proposed elevation overloaded with sculptures, statues, and reliefs, with motives usually borrowed from the great classics of Italian art, from the Medici monuments, or others by Michelangelo. Besides statues of apostles and prophets, are introduced, in one instance, several figures in high relief, along the basement story, of national celebrities in art, letters, and arms, Dante and Galileo being conspicuous. In other designs ample fields are appropriated to mosaic, illustrating evangelic, or (more frequently) legendary and mystic subjects, as the oft-repeated Assumption and Coronation of the Virgin; so more than duly prominent, indeed, is Mary's figure, in several compositions, that one might object against the apparent purpose of representing *her* as the supreme centre, the being to whose worship the great temple is mainly dedicate,—a want of just religious feeling happily protested against by other artists among these competitors, who have given that chief place in the groupings of sculpture or mosaic to such nobler subjects as the Resurrection and Ascension, or the Saviour enthroned amidst adoring angels. In the mosaic groups also, alike with the sculptures, we recognise the motives of well-known works by Italy's great ones,—Titian, Raffaelle, Correggio. Though in all examples save one, the leading features are in accordance with the Italian-Gothic, and harmony between the old and new appears studiously aimed at, but few of these designs—only one of those with names affixed—propose what is assuredly the most appropriate finish to such an elevation, the gable summit for each of the three sections into which this façade is naturally directed, correspondent to the church's nave, lateral aisles, and portals. Several artists, indeed, propose such a gable summit as the central feature, above the roofing of the highest part, with sloping or horizontal summits to the lower sections, or aisles. One, disregarding the obvious harmony between the gable form and the ancient roofing, proposes three summits, a loftier central to two lower, *each* with horizontal termination.

Grandest among the ideas here manifested (though perhaps least practicable) is that of the artist who suggests *another* Campanile, the counterpart of Giotto's superb creation, at the opposite angle, united with the latter by a long horizontally-terminating front, with a gable-headed centre rising a little higher. From Giotto, indeed, many, and some of the best, details have been borrowed, with more or less exactness, in several of the designs; and the richly-varied ornamentation of portals and windows in Arnolfo's building have been, in many instances, almost copied from the lateral for the proposed front elevation of this cathedral. In their aggregate, these designs afford gratifying proof of the reawakened interest and studious consideration for a style of architecture long neglected in this country; and we may hail with pleasure such guarantee of an intelligent revival of the Tuscan Gothic. The report of the committee (ably drawn up by the secretary, Signor Guasti) divides all the works presented for this competition into three classes: *pendentive* façades, *i.e.*, with summits sloping in accordance with the inclined plane of the church's roofs: mono-cuspidal, and tri-cuspidal façades; and, while announcing that none were deemed worthy of the highest prizes—three prizes of such category, 10,080fr., 8,400fr., and 6,720fr. having been offered,—it signalizes three as alike entitled to the second prize, 1,680 fr., and six others as claiming equal share in the third, 1,120 fr., which the committee recommend should be distributed in equal portions among the artists of those designs. Out of forty presented, only sixteen are found worthy of being noticed in the report. Others are set aside with unqualified censure. The Renaissance project of the German is criticized, but pronounced unsuitable. Another is condemned on grounds that curiously display Italian feeling on the question here at issue, "because too decidedly partaking of the acute-arched Northern Gothic,"—a style, indeed, justly rejected in the application now considered. But one more claimant is to be remembered, in regard to whom we believe public opinion in Florence would be ready to declare, "the greatest is behind,"—the Chev. Matas, who has won deserved renown by the façade of S. Croce (his adaptation from an ancient design); that esteemed architect having presented a model for the cathedral-front so long since as 1842, which met with general applause, and created favourable impressions, inducing no fewer than eighty persons of pecuniary means to pledge their contributions on condition that this—and this only—should be the design ultimately carried out for completing this magnificent temple. Contented, it seems, with such suffrages, Matas has not chosen to enter the lists a second time; but can the committee reasonably expect to see his project, as well as all those of more recently-engaged competitors, surpassed by any one of the ten architects nominated for the honours of a final trial, the efforts of whose results are to be pronounced upon in September next?

THE ALBERT MEMORIAL AT PERTH.

HER MAJESTY went to Perth on Tuesday last, accompanied by some members of the Royal Family, and inaugurated the Albert Statue on the Inch, or Green, at Perth. She also knighted Lord Provost Ross, and then immediately left for Balmoral.

The statue was executed by Mr. Brodie, of Edinburgh. The material is Redhall freestone. The figure is 9 ft. in height, and the robe is that worn by the Prince when attired as a knight of the Ancient Order of the Thistle; the dress is the doublet and trunk-hose of the old Scottish court; and the figure bears not only the insignia of the Scottish, but also of the great English, order of knighthood, the garter being worn the below left knee. The right hand rests on a square column or pedestal, and holds an open scroll, on which the outlines of the Exhibition building of 1851 may be traced. The figure is set upon a pedestal 13 ft. high, making the whole height 22 ft.

Her Majesty was welcomed during her progress through the city with the greatest possible enthusiasm. A stand in front of the statue was erected for her Majesty. It was designed by Mr. Heiton, architect, and had a groined ceiling, with three arches embellished with evergreens and flowers. The central one was appropriated to her Majesty, and consisted of four shafts with floral capitals. The stand was covered with crimson cloth, and fitted with curtains in case of rain. A handsome drawing-room chair, made of walnut-wood, and covered with crimson velvet, with the royal arms on the back, was prepared for her Majesty by Mr. G. Scott, cabinet-maker. A stand, capable of holding 500 persons, was erected at a short distance from the statue for the subscribers to it of a guinea and upwards. The statue is surrounded by a malleable iron railing, consisting of stars and crosses, with floral balustrades.

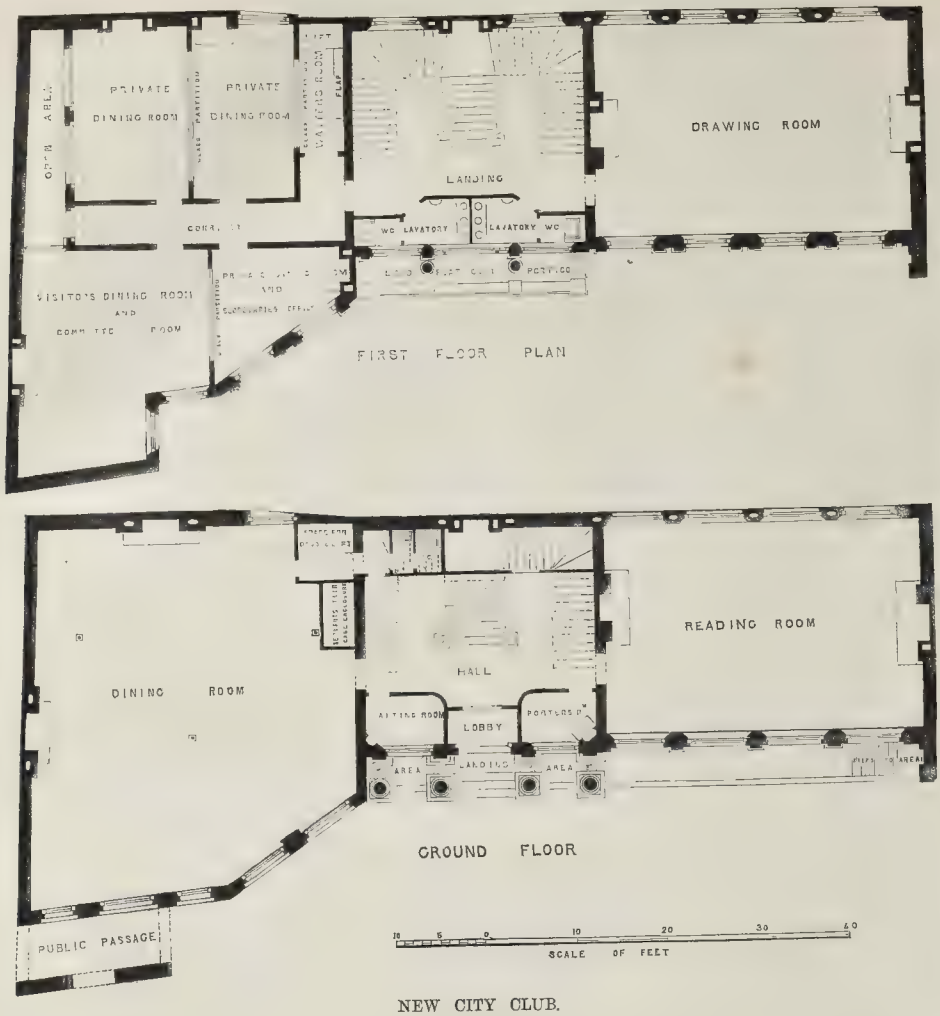
VALUE OF LAND IN THE CITY.—Two freehold houses, on the south side of Old Broad-street, London, were sold by Mr. Henry Marsh, on the 25th ult. The property is held for a term which will expire at Michaelmas, 1872, at the annual rent of 78*l.* 12*s.* 6*d.*, and yet realized 23,500*l.*, being at the rate of about 300,000*l.* per acre, or 560*l.* per foot frontage.

NEW BRIDGES.

The Trent Bridge at Wilford. — This bridge will be of stone and iron. The central portion consists of three large arches, of which the middle one is 100 ft. span, and the two side ones 85 ft. each. There are ten land arches, five at each side, of 18 ft., 17 ft., 16 ft., 15 ft., and 14 ft. span respectively—the two widest being those next the water. The works have so far progressed that it is probable before long the day will be fixed for laying the foundation-stone. A temporary foot-bridge will shortly be erected on the gearing for the main structure. The piles are now being driven for the foundations of the bridge, and when the gravel and soil inside them have been removed, blocks of brick and cement will be carried up to within 3 ft. 3 in. of the summer water-level. The superstructure of the piers will be Cromford stone from the Duke's quarries, and the blocks which surmount the piers, and from which the arches spring, will be about 12 ft. from the brick foundation and about 9 ft. from the summer level of the river. The two land arches nearest the water will have inverts; and beneath the water arch on the Nottingham side is the towing-path for the Trent Navigation Company's boats. A hexagonal toll-house will be erected at the Nottingham side of the bridge. The roadway over the river will be supported by iron girders connected with iron plates. It will be 34 ft. 4 in. in the clear, and will be divided into a carriage-way of 21 ft. wide, and two side-paths for foot passengers of 6 ft. 6 in. each. The balustrades will be also of iron. The engineer is Mr. Mylne, F.R.S., of London and Edinburgh; and Mr. Buxton is the contractor.

The Rixton and Warburton Bridge.—The first stone of the new bridge which is to connect the counties of Lancashire and Cheshire, near Warburton Church, and about half a mile from Hollins Green, has been laid by Captain Withington, of Culcheth Hall, amidst great demonstrations of rejoicing. The structure is promoted by a joint-stock company called the Rixton and Warburton Bridge Company, Limited; and it will be maintained by toll -equivalent to that now charged at the ferry. The bridge will be of iron, with stone abutments, and will cross the river in one large span of 130 ft., and 30 ft. 6 in. above the average flow of the river. There will be 28 ft. roadway betwixt the battlements, four girders in width, with transverse girders at proportionate distances, bolted together and covered with diagonal planks (creosoted). The abutments will be of Bolton stone, and that on the Rixton side will be constructed with a flood culvert to allow the flood waters to escape. The fencing of the bridge will be of cast iron, 4 ft. 6 in. high. The bridge will be approached by an intended new road, 10 yards wide, from the Warrington and Manchester turnpike road, at a point within 500 yards from Hollins Green, and terminating on the Cheshire side at Warburton Cross, and within a very short distance of the thriving towns of Altrincham, Bowdon, Knutsford, Lymm, &c. Mr. B. P. Coxton is the engineer, Mr. R. G. Brierley, assistant engineer, and Mr. A. Pilling, of Bolton, is the contractor. The cost will be under 4,500*l.*

Opening of the Salford Bridge. — The new bridge over the Irwell, erected by the Salford corporation, out of funds awarded to them from the Lancashire and Yorkshire Railway Company, has been opened to the public, who assembled in large numbers to witness the ceremonial. The new bridge is peculiar, but not very elegant in form—a circumstance that is attributed to the difficulties with which the corporation have had to deal in regard to the land on the Salford side of the river, involving a saving of 1,600*l.* The consequence is, that the bridge — a cast-iron structure, in one span—is in the form of a trapezium, with an area of 1,150 yards. It consists of twelve wrought-iron girders, resting upon stone abutments, and supporting twenty transverse floor-joists 4 ft. apart, that sustain the curved iron plates upon which the roadway is formed. The main girders are 9 ft. in depth. The pierced cast-iron parapet is 4 ft. 9 in. in height from the roadway; but the parapet, roadway, joists, and girders give a total depth to the sides of the bridge, as seen from the river, of 15 ft. From the centre of the new structure to Victoria Bridge the distance is 426 ft., and to Waterloo Bridge, on the other side, 838 ft. The contractors for the iron work were Messrs. W. & J. Galloway & Sons, of Manchester; and the contractor for the roadway and masonry was Mr. Abraham Pilling, of Bolton. The cost of



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the entire structure, including the approaches and abutments, has been about 20,000*l.*

Clifton Suspension Bridge.—The report of the directors at the seventh half-yearly ordinary meeting of the company states that Messrs. Hawkshaw & Barlow, the engineers, report as follows: "Since our last report great progress has been made towards the completion of the bridge. The main chains with the suspension rods, longitudinal girders, and roadway girders have been completed: the flooring of the roadway and the hand railing are in a forward state: the building of the toll-houses has been commenced: and, though there are yet many details which, in a work of this magnitude, require much care and consideration, yet there is every reason to expect that the bridge will be ready for traffic in the month of October." Looking at it on Tuesday last there seemed to be little needed to fit the bridge itself for traffic.

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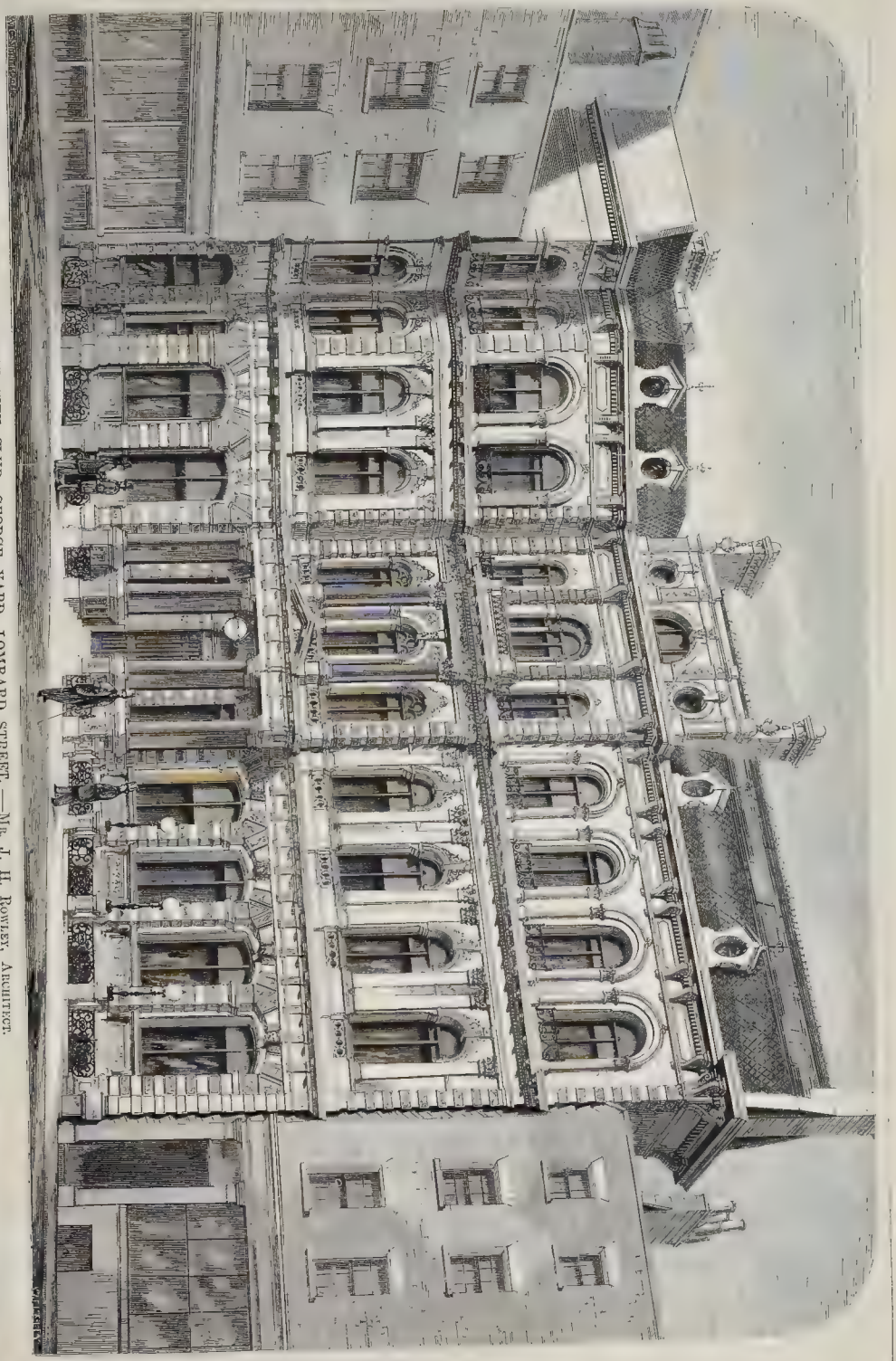
THIS new Club-house is now being erected in George-yard, Lombard-street, from the designs of Mr. J. H. Rowley, architect. The front is of Portland stone, and the centre displays polished red granite columns and pilasters.

The frontage in George-yard is upwards of 100 ft.; and there is also an additional frontage in Bell-yard, Gracechurch-street.

The Club-house is approached from George-yard through a Doric portico and vestibule, with granite columns and pilasters, and is enriched with appropriate carving. Entering the vestibule and entrance-hall, which is paved with tesselated paving, on the right-hand is the reading-room, 35 ft. by 24 ft.; and, on the left, the dining-saloon, 45 ft. by 35 ft. In the hall are the porter's rooms, waiting and cloak rooms, conveniently arranged. This floor is 20 ft. in height. The windows are segmental headed, and in the front have key-stones carved with representations of some of the heathen deities: the piers between are rusticated, and have Doric cappings: above comes a Doric cornice, running along the whole front.

A staircase of stone, with ornamental iron balusters, starts from the hall, and is continued to every floor: it is lighted by a large glass dome. On the first floor, above the reading-room, is the drawing-room. There are four private dining-rooms, 19 ft. by 13 ft. each, with a visitors' dining-room, committee-room, and secretary's office. This floor is 18 ft. in height. The windows are semicircular headed, with carved key-stones on the exterior, and clusters of carved fruits and flowers on either side, over the architraves. There are coupled Corinthian pilasters between the windows, with an enriched frieze and cornice above. On each floor there are lavatories and "closets."

The large smoking-room is above the drawing-room, while on the other side of the landing are three billiard-rooms, lighted by glass lanterns, and a card-room. This floor is 16 ft. in height. The windows are semicircular headed, with columns on either side, and architrave mouldings: an enriched cornice, with carved consoles, is carried along the front over these windows, with a sunk panelled frieze. On the third floor are dressing-rooms, bath-rooms, &c. The basement contains cellars, the kitchen, and other necessary offices, fitted up with modern improvements, and fire-proof. The walls and ceilings are all lined with white tiling. Endeavours have been made to prevent the smell from the kitchen pervading any part of the building. The lighting of the principal rooms will be carried out by means of Strode's patent sunlight burners. Each floor has its own lift from the basement. The awkward shape of the site called for some ingenuity on the part of the architect in planning. The amount of the contract is 19,000*l.*; and Messrs. Myers & Sons, of Lambeth, are the builders.



NEW CITY CLUB, GEORGE YARD, LOMBARD STREET.—MR. J. H. ROWLEY, ARCHITECT.

THE WORKMEN'S INDUSTRIAL EXHIBITIONS.

THE Space Committee of the North of London Exhibition report that they have received applications for space from 160 intending exhibitors, representing not less than 400 different objects. Of these the committee report favourably. A large number consist of interesting and ingenious productions, calculated, they believe, to render the exhibition attractive and entertaining. Up to the present time comparatively few articles have been offered as specimens of skilled workmanship. Most working men, as we have said, occupy their leisure time in the production of articles having no connexion with their trade; and these examples of industry and ingenuity will, no doubt, form the largest and most interesting portion of the exhibition. The committee have already granted space to forty exhibitors, and communicated with each one by letter. Previously to awarding space they have in most cases made personal visits to view the objects. The committee submit the following classification to the Central Committee:—Class 1, skilled workmanship; class 2, amateur workmanship; class 3, invention; class 4, mechanical models; class 5, ornamental models, &c.; class 6, artistic objects; class 7, ladies' work. The report has been adopted. Popular concerts are to be given in the Agricultural Hall, Islington, in connexion with the Exhibition.

For the East London Industrial Exhibition, between one and two hundred exhibitors have given in their names. The great obstacle in the way of the committee is the finding a place for the purposes of the Exhibition. One of the means by which they are attempting to carry it is, by the establishment of a guarantee fund; but they find a difficulty, even with a large guarantee fund, in securing any building fitting for the object. The idea of the erection of a building specially for the purpose is out of the question. Among the patrons of the project are Lord Ebury, Mr. Hanbury, M.P., and Mr. Buxton, M.P.

PERILS OF WELL SINKING.

AT Falkirk, a melancholy accident, whereby one man was killed and four others were more or less severely injured, has occurred on the premises of Messrs. J. Aitken & Co., of the Falkirk Brewery Company, where a new well was being sunk. The boring of the well was intrusted to Mr. William Borland, and the building of the interior brickwork to Mr. William Hume, builder, Falkirk. The depth of the well was 35 ft., and the additional bore extended to 150 ft. The building of the interior brick wall, the diameter of which was 4 ft. 6 in., commenced some time ago, and its height extended to 28 ft. It was found, however, to be insufficient, and it was resolved to sink it 7 ft. further; and this was attempted to be accomplished by excavating to that extent under the wall, with the view of building the extra 7 ft. beneath the portion already built. Messrs. Hume and Borland descended the shaft, accompanied by James Morrison, mason, and James Laurie, labourer; and shortly after they had commenced work the arched wall gave way, and they were enveloped in a mass of falling bricks. Numbers of experienced workmen proceeded to the spot to aid in extricating the sufferers. Laurie was first got out, and was found to be severely injured; and Borland, who was cut about the head and bruised on the back, was next brought to the surface. A number of willing men then ventured further down in the bucket, and succeeded in rescuing Morrison, who was buried up to the waist amidst the *débris*. Amongst the number who descended was Mr. Henry Hume, son of Mr. Hume, who was the first to discover that his father was dead, and the son was himself severely cut on the head when he was down by an additional fall of bricks. He was removed home with his skull almost fractured. His father's body was not recovered for some hours afterwards.

An accident of a similar kind, also terminating in loss of life, has just held the population of Sallamanches (Haute-Savoie) in a state of painful suspense for nearly four days. A well-sinker, named Périer, was being let down into an old well nearly 60 ft. deep, for the purpose of effecting some repairs, and had already reached within a short distance of the bottom, when a stone at the side, on which he had for a moment placed his foot, gave way and brought with it the whole of the masonry work lining the sides of the shaft. After about fourteen hours' labour, nearly 20 ft. of the stones and rubbish were removed, and the voice of the unfortunate man could be heard. Two mornings after, the removal of the rubbish was so far advanced that the workers had reached to within 6 ft. of Périer, and some broth was passed to him through an elastic tube. The work had, however, now become more dangerous. Twice the shoring partially gave way, and the clearing out of the materials had to be recommenced. On the evening of the next day the labourers in the well called out that the unfortunate man was at length reached, and at the same time asked for a cord to be let down, in order to draw him to the surface. Another moment and he would have been rescued, but the sides once more gave way, the man again disappearing beneath the stones. Three hours later the rubbish had been cleared away from Périer's head and shoulders, but it was now too late, as he had died from suffocation, after remaining buried alive and uninjured for eighty-six hours.

SOME HINTS FROM OVER THE WATER.

THE electric telegraph is yet but in the infancy of its usefulness in the metropolis, and other large towns; but the day will come when among all classes this marvellous agent of progress will be as much in use as the present penny-post. We require in London some such genius as Rowland Hill, who would in this way promote cheapness and swiftness. At present the way in which telegraphic messages are delivered in the large towns is much to be complained of. In London, for instance, while we see the rapid rate at which newsmen's carts pass, and also those of the Parcels' Delivery Company, even Pickford's and other railway vans moving with rapidity,—on the contrary, the telegraph boy who may be in charge of a message which has been flashed in no time from Holland, or Edinburgh, or Glasgow, crawls through the streets at a snail-pace. In France they are likely to manage better; and it is to be hoped that the example will not be without its use. In Paris they are to have fifty telegraphic messengers throughout that capital, warranted to deliver messages at the most distant part of the metropolis within half an hour. The Paris correspondent of the *Daily Telegraph* says,—"Thirty-five stations are to be devoted to this service, as the French detest writing notes. I predict that this will be a very popular and paying institution. Why? A commissionnaire—the usual agent of Paris communication—costs 75 centimes; and the 'chasseur' of a restaurant looks twice at a franc."

ART-WORKS IN DENMARK.

MY countrymen and I were highly pleased when reading your report of the remarks made by the Rev. J. M. Neale, on the Influence of Local Scenery on Architecture; and we were particularly gratified with the remarks made about the many lovely spots on which churches are erected in Denmark. I beg, through the medium of your widely-circulated periodical, to draw the attention of English artists and connoisseurs (according to Danish notions, architects count among artists) to the rich and comparatively unexplored art-treasures found in Denmark. As Mr. Neale particularly observes, the Mediæval builders of Denmark had to construct their edifices of bricks only; and although many fine brick churches have been destroyed, there still remains a large number of elaborate brick exteriors, well worth studying, now that stucco is becoming obsolete, and that people wish their brick houses to look like brick houses, and to be handsome brick houses. The oldest noteworthy Danish brick church is the Byzantine or Lombardic cathedral of Roeskilde, that is found depicted in "Fergusson's Handbook of Architecture," and that is now being restored to its original form as much as possible, without destroying later and equally remarkable additions. Of later brick churches I may mention St. Canute's Church, at Odense, that has a very imposing interior, although the effect is sadly marred by an unaccountable lot of suspicious pews, monuments and pictures of all materials and from all periods projecting into the nave. The Cathedral of Aarhems is another internally magnificent brick church; and other large churches are found at Maribo, Aalborg, Ribe, Schleswig, and many other towns; and besides these cathedrals, there are in every town and in most villages Mediæval brick churches of rather stereotype form, inasmuch as the eastern chancel end is always square, with a toothed gable, and the western end invariably is flanked by a square tower, with a high-pitched roof, and two toothed gables; but such an astonishing variety is displayed in the designs, that a whole volume could be compiled of them, and such a volume would form a valuable manual of plain but effective brick architecture. There is another respect in which Denmark presents a wide and new field for art-study, viz., that of wood-carving. A number of splendidly carved reredoses are preserved in the Museum for Northern Antiquities in Copenhagen; but a much larger number of these altar-backgrounds, as the Danes call them, is found scattered about in the churches of small towns and villages, where they remained unheeded by travellers and tourists, but forming the pride of the parishioners, who everywhere are fully alive to the beauty and importance of these memorials of bygone times. For information with regard to both churches and their contents, I would refer your readers to Trap's "Topographiske Beskrivelse af Kongeriget Danmark" (Topographical Description of the Kingdom of Denmark) which was published three or four years ago. In this voluminous work will be found the most minute information as to all churches, and furniture and monuments in and about all churches, throughout Denmark. If a gentleman who understands Danish would undertake to publish a catalogue of churches pointed out in the above-named book as being noteworthy, he would confer a lasting benefit on the daily increasing artistic travelling public of England. And it is not only the ancient brick architecture of Denmark that is deserving of notice; but lately a considerable number of large public buildings, with brick-front elevations, have been erected, such as the University Library, the Asylum for the Blind, and St. John's Church, all in Copenhagen, and the new town-hall in Elsinore. These four buildings are each in a distinct style, and yet, every one of them is widely different from any brick building that has lately been executed in Great Britain, so far as an Australian can judge from the illustrated periodicals and magazines, scores of which are always found on the tables of our mechanics' institutes and libraries. The above-mentioned town of Elsinore presents many interesting features to the architectural student. It possesses two Mediæval brick churches, the largest of which is dedicated to St. Olave, and is adorned externally by four different brick gables, and internally by a gorgeous reredos, about 40 ft. high, carved in oak, and gilt throughout. The other church, now called Sta. Maria, was formerly a Grey Friars' convent church, and the whole of the ancient convent buildings, with cloisters, refectory, and other appendages, are yet completely preserved, and used as a benevolent institution. About ten minutes' walk from the town is the Elizabethan castle of Kronborg, a large three-storied pile of Swedish sandstone, with a splendid Corinthian portico; a gable with five orders of columns, freely treated, above each other; and a dazzling chapel, lately restored. Half a mile from Elsinore is the pretty royal villa, Marienlyst, where a striking example of the effect of local scenery on architecture, or rather the adaptation of architecture to local scenery, may be observed. The villa, now converted into an hotel for a watering-place, is an unpretending three-storied building, in the Italian style, and situate on the slope of a hill. On both sides of the building symmetric walks conduct in zigzag to the top of the hill, that has been formed into three distinct hills with intervening gullies, spanned by wooden bridges. The whole is crowned by rows of tall chestnut-trees; and forms, when seen from below, a most lovely picture, which is further enlivened by the immediate proximity of the Sound, with its myriads of ships going into or coming from the Baltic. The above-mentioned Museum of Northern antiquities contains also an inexhaustible store of designs for goldsmiths' work, such as drinking-horns, cups, bracelets, earrings, brooches, and other ornaments, which are constantly being dug out of the many swamps and marshes of Denmark, and which always are conscientiously forwarded to the Museum authorities, who refund the metal value to the lucky finder. But it would be to trespass too much on the space of your valuable paper to enumerate all the art treasures in Copenhagen; and I therefore beg to conclude by expressing the hope that these remarks may induce some artists and amateurs to take due notice of the treasures

found in Denmark, and to investigate them for the permanent benefit of artistic development throughout the universe.

Ballarat. A DANE IN AUSTRALIA.

THE TOWER OF ST. NICHOLAS'S CHURCH, NEWCASTLE-ON-TYNE.

IT is with extreme regret that I read in the *Builder* of last week an account of the dangerous condition in which this beautiful structure has been placed by a heavy storm, which has rendered it necessary for its safety to expend, as Mr. Dobson, architect, estimates, a sum of 1,200*l.* or 1,400*l.*—a small amount, taking into consideration the wealth and prosperity of the town and neighbourhood, and that the tower and lantern of this church are the architectural pearl of the place, and the pride of all the district round. The lightness, elegance, and symmetry of the lantern can only be appreciated by those who have seen it. The tower of the church of St. Dunstan-in-the-East, London, has often been compared with the chief parish church of Newcastle-on-Tyne; but no one who has seen the two will for a moment consider this comparison as truthful, for the belfry is totally different in form, proportion, and construction from that at Newcastle-on-Tyne.* There are many fine spires and church towers in England. Some of the towers are surmounted by lanterns, but there are none of them to be compared to that on St. Nicholas's Church; and notwithstanding that the writer has had opportunities of studying delineations of the chief ecclesiastical structures in Europe, he has found nothing at all resembling this building, the dangerous condition of which so many deplore. The lantern at Edinburgh forms a fine massive crown, but it wants the refined elegance of the lantern at Newcastle.

That it is possible to allow this object to remain in danger for a single week for the consideration of money is remarkable; but such seems to be the fact; for although the town-council, as you report, have agreed to give 500*l.* towards the restoration, the parish of St. Nicholas refused to give a single penny. I have been for many years away from coally Tyne; but when I picture this fine tower, as I often do, in my mind's eye, it affords a real pleasure, and which is greatly enhanced when an opportunity occasionally is afforded of getting an actual peep at it.

This belfry has been exposed to many dangers: amongst others, tradition says, that when the Scotch were besieging the town they threatened to demolish the lantern and tower with their cannon: upon this the town authorities hoisted several renowned Scottish prisoners into this airy situation, and by that means the tower was at this time saved.

Thirty years, or it may be more ago, as has been already mentioned in the *Builder*, the tower had become much out of the perpendicular, and would have fallen altogether but that Mr. Dobson was called in, who pinned up this enormous mass of stonework, removed the old and decayed foundation, and set the structure straight again. At this time the tower underwent a general repair; large masses of the casing were removed, and replaced with new work; the springing of the lantern was attended to, and some of the pinnacles entirely removed and replaced with new ones; and most people of the coaling district hoped that their famous church would stand for many a hundred years to come. Under the circumstances, it is very important that we should have some scientific reason for this fresh indication of decay; and in the absence of this I will remark, in a common-sense way, that the stones of which the tower is built are of small size,—in fact, some country people, and even those in the town, believe, on this account, that it was erected by a company of little men called the Picts; and say that the figures,—one of which is placed at each corner of the top of the tower, and which look very little in consequence of the height at which they are placed from the ground,—are effigies of the original masons. Ridiculous as this is, it causes some to ask if these small stones, and the other means of facing—inside and outside—are sufficient to support the rubble with which the inner part of the walls seems to be filled. Moreover, the church stands upon a platform which descends, on one side especially, by a tremendously steep gradient towards the river; and all about this neighbourhood numbers of very old houses have been removed to make way for the high-level bridge. Is it likely that this may have caused the ground on which the church is built to shift in some degree?

But there is one thing to which more than the above causes mischief is to be attributed: this is the vibration of the great bell—called the "Major," in consequence of its having been left, by will, by the late Major Anderson, to be placed in the tower of this church for the use of the townspeople. This is a large bell, which has an exceedingly deep and solemn sound. Often when the writer has been in the church and belfry he has noticed the tremulous effect on the stonework caused by the striking of the hours upon the "Major;" and there can be no doubt that this action going on year after year must, as a natural consequence, impair any structure. It is therefore suggested, that until needful repairs be made, the "Major" should be mute.

But surely in Newcastle and the neighbourhood this need not be for long; indeed, it would be a disgrace if even the parish of St. Nicholas alone did not raise the needful fund: surely there is not one in ten who would refuse, if it should be necessary, to support a church-rate for this purpose. The parishioners ought to feel a pride in being the custodians of, and doing their duty to, this fine example of architectural skill. It would be a sad thing for the parish of St. Nicholas to be twitted as Banbury was formerly, with "having a church, but not a steeple."

A NEWCASTLE-ON-TYNE MAN.

* There is a very fair engraving of this tower in an earlier volume of the *Builder*.

MAYFIELD ABBEY, SUSSEX.

SIR,—The old abbey at Mayfield is being restored by Mr. Pugin, but it requires your attention. I saw a brick arch about to be stuccoed, and I have serious fears, from what I observed, that this piece of truly English architecture is about to be transformed into quasi-French Gothic, a vandalism I conceive rather worse than any other. A. W. TAYLOR.

WHICH IS THE HARVEST MOON?

IN our grandfathers' day, in ordinary seasons, the corn-harvests throughout England were much later in the year than they are at present; and so marked has become the change, that it fairly comes to be a question whether the moon of August or that of September, strictly and properly speaking, should be considered as the "harvest moon." In the years gone by, the last-named month, throughout the chief part of this country, was generally the time when the grain was gathered in; but now, improved drainage, a better system of husbandry, the scientific and more extensive application of manure, &c., have greatly hastened the ripening of the crops; so that by the time the month of August has ended, the chief part of the English grain is safe in the barns and stack-yards. In the present year this is particularly to be noted; and, during September, if the weather continue favourable, the late richly-covered fields will be lying in stubble, and the labour of the reaper at an end. It seems, therefore, that in England the moon of August should now be considered that of the harvest; but whichever way this may be determined, the moon-light of both of those months, in eight out of ten instances, is delightful,—especially so to the artistic eye, and particularly when

"The moon, sweet mistress of the night,"

is about the full: then she makes rare pictures, and shines with her silvery solemn light into cathedrals and churches, showing up many a rare sculpture and device, and glinting upon tombs and memorials of old-world days: she peeps also into quaint burial-grounds, and makes the shadows of the black yew-trees and elms wander amongst the graves, and silvers the grey lichen-covered walls: she shows with a mysterious charm the architectural outlines and features of ancient mansions; peeps into armouries, picture-galleries, and into curious chambers, dimly showing the tapestry and grotesquely-carved furnishings.

In many brooks, in lakes, and on the sea, the reflection of the harvest-moon is seen in wonderful brightness; and in the woods and forests the combinations of rocks and foliage form Rembrandtish and ever-changing pictures; nor are the snug farmhouses, the crowded stack-yards, and the rural cottages, to be passed over without notice; and even in the meadows and places which in the daytime present but an ordinary aspect, the peaceful subdued light of the moon gives a charming and indescribable effect.

It is well for those who in the autumn days have the opportunity of enjoying the effects of the harvest moon in the country; but the contented and careful observer will find much in the metropolis, lighted up by the harvest moon, which is both beautiful and interesting. Witness, for example, the fine proportions of St. Paul's Cathedral and Westminster Abbey; the cloisters of the latter; the mingling of the gas and moon-beams on the river; and a hundred other moon-light scenes, which will suggest themselves to the lovers of the picturesque.

STREET IMPROVEMENTS IN MELBOURNE, VICTORIA.

IN retail shops there is a great deal going on, according to the *Argus*, which gives the following as instances. Messrs. Alston & Brown, drapers, Collins-street, have lately erected on their old site premises equal to any in the country. The place is now fitted to hold stock to the value of 50,000*l.* or 60,000*l.* Another drapery establishment, erected nearly opposite the Bank of Victoria, by Messrs. Appleton & Littlewood, is an ornament to the city. The architects were Messrs. Crouch & Wilson. Among the Collins-street shops, that into which Mr. Watson, tailor, has lately removed, nearly opposite the new Bank of Victoria, exhibits an amount of ornament not at all common here. In the neighbourhood of Scott's Hotel, and opposite the Western Market, numerous suites of offices have been put up. At the corner opposite the Union Bank, hitherto occupied by Mr. Mooney, chemist, a fine tall row of buildings is being erected. In Bourke-street West a row of shops is filling up the space between Morton's Hotel and Queen-street. Near the Bull and Mouth, several three-storied houses, with commodious shop-fronts, are taking the place of a portion of the Union Hotel. In Swanston-street, some welcome additions are being made to the shops in the busiest part; and Galland's Old Cabbage-tree Hat Manufactory,—a one-story remnant of primæval Melbourne,—has disappeared, to give place to a tall edifice, which does honour to the city. Further northward, the John Knox Free Church has been rebuilt with advantage, with a highly respectable Odd Fellows' Hall alongside. In stores and wholesale business buildings the improvement is yet greater. Messrs. R. Goldsbrough's stores in William-street are being nearly doubled in size. Messrs. Stevenson & Sons, soft goods importers, are putting up a store which will be by far the largest single building of the kind. There are to be five stories, and the roof will be 72 ft. above the ground. The architect is Mr. F. M. White, and the cost over 20,000*l.* The same gentleman is erecting some stores, 100 ft. by 66 feet, in Bourke-street, between King and William Streets, for A. Macfarlane & Co., importers of machinery; another, for the Hon. W. Degraves, at the corner of Russell and Flinders Streets; and he has also prepared plans for the St. Kilda Royal Hotel Company. The city improvements are likely to continue for some time, unless the building trades interfere by striking for wages too high to afford profit to those who are now investing their money in building.

ICE AS AN ARTICLE OF COMMON SALE.

A FEW years ago ice, in the summer-time, was a luxury which could be enjoyed only by the rich; but now, by means of importation from over-the-sea lakes, blocks of ice as clear as crystal, and in some instances of large size, are brought to London and other great ports. But while we encourage the importation of this—which has now become an established branch of traffic—we do not neglect our own ice harvest; and from canals, ponds, and various streams in the neighbourhood of the metropolis, we have enormous quantities of this article gathered in, and stowed away in wells for summer use. Some of those wells are for convenience close to the premises of confectioners. In many places ice is kept in enormous quantities; and the advantage which results from this is great; for it is not only an article of luxury, but of utility: for instance, in the heat of the present splendid season, we have seen the street costermongers

disposing of mackerel packed in ice. In the fishmongers' shops of even poor neighbourhoods, it is used with good effect; and we have not the least doubt that in butchers' shops, and in places where perishable goods are collected for sale, the use of ice would have a beneficial effect. But we would particularly now hint at the advantage of the use of this article in ordinary homes,—especially those of the middle class, and the industrial classes below. Ice might be kept in larders and cupboards, and in other places; and by its cooling influence prevent the spoiling of food and the spread of putrefaction. It, however, takes a long while before the most useful ideas obtain the appreciation of those who would be much benefited by adopting them. If there were *ice shops* established in convenient positions where persons might purchase two pennyworth or three pennyworth of this article, it would be of advantage to both seller and buyer: for instance, ice in the keeping of butter is useful; and often in cases of fever and other diseases it is most valuable.

COMPETITIONS.

The Albert Institute, Dundee.—Some strong objections have been taken to portions of the plans submitted by Mr. Scott. Mr. Scott has replied, and will doubtless seek to meet the views of all parties so far as this can be done. A better staircase would certainly seem to be necessary, and further accommodation to admit of the use of the hall for public meetings and concerts.

SELF-ACTING CLOSETS.

IN addition to the description previously given in our columns of the improvements in closets by Messrs. Reade & Hewitt, of Liverpool, their patent includes a "self-actor," which we will now more particularly explain, premising our observations by stating, that hitherto, in all the cases we are acquainted with, the self-acting closet is worked with two distinct valves, or else with a duplex valve, which is simply two valves in one. By levers actuated from the seat and cranks and rods communicating movement to them, one valve is opened while the other is shut, so that when being used, a chamber fills with water, from which it is afterwards discharged into the basin, on the valves being reversed. It will be seen from this, that though the requirements of a self-actor are very simple, the machinery is complicated, and where the duplex valve is on the service flushing-pipe the flush is very defective. Expense and liability to get out of order have hitherto been the chief drawbacks to the use of self-actors, which otherwise are much more suited for the use of workshops and offices, where they are being constantly used by a miscellaneous company not overtroubled with refined notions of care and cleanliness.

The object of Messrs. Reade & Hewitt's improvement is, firstly, to dispense with the duplex valve, for which they substitute a single-acting valve of the simplest construction, screwed to the front riser, with counterbalance weight acting on both valve and seat. It must be understood, that this valve is not on the flushing supply, but merely acts as a *feeder* to their pneumatic vessel, which is a cylindrical chamber of lead, holding about a gallon and a half of water when full. The service-pipe for flushing the basin is a syphon carried from the bottom of the vessel to the level of its top, and thence downwards into the arm-pipe of the basin, at which point it is trapped to prevent any air entering at the mouth of the pipe. As a provision for the escape of the air from the vessel, without which it would not fill with water, 3 ft. of ¾-in. air-pipe is carried from the top of the vessel and joined to the flushing-pipe. On the top of the vessel is a small lead chamber, with brass coupling screws and washer, forming a valve-box, containing a ball and bell air-valve; and an orifice at the bottom, 1-8th in. diameter, connects the valve-box and vessel. From the bell of air-valve a safety-pipe is carried into an arm-pipe specially provided in the basin. The action is as follows:—When the seat is depressed, the water flows into the air-valve box, closes the air-valve, and gradually fills the vessel through the 1-8th in. orifice, the air confined in the vessel escaping by the supplemental air-pipe, and thence through the flushing-pipe: the water rising in the syphon-pipe fills it, and then slowly trickles down the back of the basin. By a stop-tap on the supply, the water may be regulated to fill the vessel in one, two, or three minutes. So long as the supply-valve is open, the water remains in the vessel, being in suspension like the mercury in a barometer-tube. When the seat rises, and the supply is cut off, the air-valve drops, and the air entering the vessel, the contents are discharged into the basin with sufficient force to thoroughly flush it: a ½ in. bore pipe from the main, or a small pipe from a cistern, is an amply sufficient supply.

The second peculiarity is the shape of the basin, which is formed with a nearly straight back, the hole being but 3 in. diameter, and is fitted with a "fountain" spreader, which distributes the flush over the surface of the basin, and secures a good flush down the back of the basin. From the hole in the basin to the surface of water in the trap, through a pipe 5 in. diameter, the flush falls vertically about 6 in., imparting additional driving power; and this, together with the small hole in the basin, and the certain flush after use, prevents it from getting choked up.

WATER-WORKS.

Rotherham.—The accepted contracts for the construction of the New Water-works were read over at a recent meeting of the Local Board of Health. Messrs. Chadwick & Thirlwall, of Masbro', builders, have been entrusted with the masonry work, laying pipes, &c. The contract, which amounts to about 3,000*l.*, stipulates that the whole of the works shall be completed in six months; a penalty of 5*l.* per day being inflicted for every day that period is exceeded. The contract of the Staveley Iron Company for the supplying of cast-iron pipes amounts to nearly 6,000*l.* The contract of Messrs. Chadwick & Thirlwall does not include the constructing of the large reservoir at Packman's Bridge. For the present, filtering-beds only will be made there. There will be a small reservoir at the junction of the two streams near Whiston. The Board have not yet ascertained what they will have to pay for possession of the land through which the pipes will be laid, nor how much will be required to meet the claims for compensation. The clerk was instructed to get the contracts signed by the contractors.

Wigton.—A large and influentially-attended meeting has taken place here, for the purpose of considering upon the desirability of supplying the town with water by means of water works, and to hear a report upon the best means of doing the same, prepared by Mr. Hawksley; also to hear an explanation of the Local Government Act, 1858. The feeling of the meeting appeared to be almost unanimous in favour of water-works, and of the report, as also of the adoption of the Local Government Act, 1858, under which the proposed works could be established, and any other requirements in the town carried out. Mr. Hawksley's report states that experience has shown that the summer delivery from well-managed water-works, for a population such as is located in Wigton, may amount to 25 gallons per head per day, which, to a population of 6,000, would be equal to 150,000 gallons per day; that the river Wiza offers all the facilities for the realization of the proposed undertaking. The estimated cost of works and land is 5,335*l.*, or, with preliminary and Parliamentary expenses, 6,000*l.* The annual income is estimated at 500*l.*, the annual expenditure 170*l.*, leaving 330*l.* for profit, being about 5½ per cent. upon the gross capital.

Scarcity of Water.—The Sheffield water-works company have found it necessary still further to reduce the supply of water to the town, in consequence of the drought; as, with a continuance of the present dry weather, the reservoirs would in the course of a few weeks become entirely empty. The directors have given notice that the supply will only be given every alternate day. There are complaints of scarcity of water from all parts of the country; and it is to be feared that the drought will bring ill health upon the community ere the close of the year. A memorial has been presented to the Home Secretary on the subject, as regards the general drainage of the country, though it is not easy to see what he can do towards remedying the evils which are pointed out. The memorial, however, prays for an inquiry into the water economy of the country. It is said that Asiatic cholera has occurred in the Lincolnshire fens from the drought, which has reduced the marshes to the state of stagnant pools.

PROVINCIAL NEWS.

Yarmouth.—At a council meeting recently, Mr. C. J. Palmer brought forward a motion for the construction of a new street from the Quay to King-street, so as to open a communication with the south part of the town. Two plans were proposed—one from St. Peter's-road and the other from Lancaster-road, the estimated expense of the first being 20,173*l.*, and of the second 14,946*l.*, including in both cases purchase of property, compensation, &c. The general feeling of the council was that such a road was required, but that the present time was inopportune for the undertaking. It was stated that they were in want of a new gaol, that a pauper lunatic asylum was looming in the distance, and that a fish wharf, which would cost 40,000*l.*, was in contemplation.

Hertford.—There is a great want of houses in Hertford, at rents ranging from 20*l.* to 50*l.* a-year, according to the local *Mercury*. Persons anxious to reside in Hertford, have been compelled to go elsewhere for want of such house accommodation. The villa residences which have lately sprung up at Bengeo are all occupied; and if the number were doubled, our authority thinks, tenants would be speedily found for them. But Bengeo is too far from the terminus of the Great Eastern Railway to be chosen as a place of residence by people who require to go daily to the city; and the approach to it by Port-hill is sufficiently inconvenient to be an objection with people whose business detains them in Hertford on the dark winter nights. There are, however, no residences of the class wanted, to be let either in Hertford or Bengeo; and there appear to be no persons enterprising enough to supply the obvious want. "The builder," adds the writer, "who should erect fifty houses in the Ware-road, not all of one class, but say at 20*l.*, 25*l.*, 30*l.*, 40*l.*, and 50*l.* a year, and therefore adapted to the wants of persons of limited as well as of ample means, would be a public benefactor."

Liverpool.—The execution of the new dock works at the south end of Liverpool, or what is known as the Herculaneum estate, and which, for the present, are mainly intended to give greatly increased graving-dock accommodation, are being carried forward with energy, there being, according to our authority, the local *Journal*, about 800 men employed in the excavating and masonry departments of the work. At present, the works extend from north to south, between Messrs. Jones, Quiggin, & Co.'s ship-building yard, to the boundary-wall of the Dingle property, and from the western river frontage to Sefton-street on the east, by which they are bounded, this space in itself occupying a very large area, and admitting of a floating-dock or basin at the north, from which the two graving-docks run parallel with each other southwards to the extent of about 800 feet in length, being the longest and most spacious docks of the kind ever constructed on the Mersey, and admitting of accommodation, at the same time, for from four to five ships each, of large tonnage. The floating-dock, which is of considerable dimensions, and large enough to accommodate several vessels, is nearly completed on the south and west sides; the excavations, which have been exceedingly heavy, being almost finished to the bottom, whilst the river walls westward, and the south wall, are both constructed, and the copings set. The dock is approached from the river through two entrances, one 80 ft. and the other 60 ft. wide, these entrances being respectively at the north and south of a large central pier, which has also been fully completed. The works at the north boundary of the floating-dock are not in so forward a state, the excavations being only partially effected, and the masonry of the boundary-wall not having yet been commenced; but the construction of another 80 ft. entrance at the north side has been commenced. This entrance is for the purpose of connecting the dock with another dock or basin, which the Dock Board ultimately contemplate forming on land immediately adjacent, northwards. The two graving-docks are being actively pushed forward, simultaneously with the floating-basin. A very large number, both of masons and excavators, have for some time been employed in this portion of the works; and not only has the whole of the excavation been accomplished, but the west dock is rapidly approaching completion, the masonry being nearly finished. The east dock is not in so forward a state, but the masonry and walls are in course of construction. The whole of the masonry of the works now going

on, as well as the excavation at the graving-docks, is being executed by the Board, under the superintendence of its engineer, Mr. Lyster; whilst the excavations at the floating-basin are being carried out by Mr. Monk, who has a contract for the same. The immense quantity of rock and earthwork taken out is conveyed in waggon-trains along the dock line of railway to Bootle, where it is brought into practical use in connexion with the river-wall and the artificial land now making on the strand of the river in Bootle Bay.——It is said that the Otterspool estate has been sold to the Great Northern Railway Company, at a price equal to about 24,000*l.* per statute acre; and that docks are to be constructed immediately, which will have the advantage of a deep water access from the channel between Knott's Hole and Garston. It seems likely that the south shore will shortly be as completely altered as the north shore has been, where mansions, villas, and terraces have given place to docks, timber-yards, and domiciles of trade and commerce.

West Derby (*Liverpool*).—Extensive alterations, improvements, and additions are about to be made at Croxteth Hall, West Derby, the seat of Earl Sefton, the lord-lieutenant of the county. The mansion is a spacious one, and part of it is ancient. The west wing will be entirely rebuilt: an additional story will be added to the east wing; and, running across the rear of the court-yard, a spacious ball-room will be erected. The plans have been prepared by a London architect, and it is calculated that the work will occupy several years, and will cost between 40,000*l.* and 50,000*l.*

Brighton.—The local *Herald* says he has misgivings for the result of the works going on at the Pavilion, as the scale of fees has been raised about 25 per cent. for private parties, and from 30 to 40 per cent. for public performances; one reason for the augmentation being the extra premium required for insurance, in consequence of the use of foot-lights. Could they not do without foot-lights by lighting from the ceiling at a proper angle, as suggested long since in the *Builder*? Foot-lights have a flaring and disagreeable effect on the faces and figures of performers, bringing into light (the nostrils, for example) what nature discreetly casts into shade; whereas a light cast on the human countenance from above its level always improves even the most ordinary or rugged features. By doing away with all necessity for foot-lights, the insurance would be reduced, as, in consequence, could be also the prices of admission.

Sunderland.—The architects of the Hutchinson Almshouses are Messrs. Thos. Moore & Sons, not Messrs. Mowbray & Son, as stated.

CHURCH BUILDING NEWS.

Stowmarket (*Suffolk*).—The restoration committee of Stowmarket Church have entered into a contract with Messrs. Betts & Rednall to proceed at once with the restoration of the entire interior. Before long it is thought very probable that sufficient money will have been subscribed to go on with the exterior.

Northampton.—A meeting of parishioners was recently held as to the restoration of All Saints' Church, when the report of the executive committee to the general committee was read, together with that of the general and executive committees combined. The latter stated that the estimated cost of the works required was 1,875*l.*, exclusive of the renewal of stonework on the exterior, which Mr. Law, the architect, stated, at the meeting, might be from 200*l.* to 400*l.* more, unless done in cement, which would cost from 40*l.* to 50*l.* The meeting resolved to issue a statement of the proposed alterations, and then call another meeting to open a subscription.

Evenley (*Northants*).—The foundation-stone of a new church has been laid at Evenley. A few months since Mrs. Pierrepont resolved, in memory of her late husband, the Hon. P. S. Pierrepont, to restore and reopen the old church; but on examination the ivy-clad walls were found extremely dilapidated, and she then determined to rebuild it, bearing the entire cost (about 3,000*l.*) herself. The church, which previously consisted of a nave, transepts, south aisle, and tower, will be enlarged by a north aisle, vestry, organ-loft, spire, and turret. The plans are by Mr. Woodyer, of Graffham, Surrey; and the contractor is Mr. Denny, of Rugby.

Maxey (*Northants*).—The church at this village has been formally reopened, after being restored and repewed. The restorations have been executed under the architectural superintendence of Mr. A. Sykes, of Milton. The north and south aisle and chancel roofs have been taken off, the two former being in a very decayed condition: the latter cut off the upper part of the chancel arch. Each has been replaced with new stained and varnished deal roofs. The whole of the old box pens have been cleared out, and new stained and varnished low seats substituted. The floor of church and belfry has been taken up, and relaid with new Ketton stone. The old singing-gallery, which obstructed the view of the Norman belfry-arch and west window, has been taken down, and the arch and pillars restored. The lath and plaster partition, dividing the vestry from the south aisle, has been taken down, and replaced with an Ancaster stone-pointed arch, terminating upon carved stone heads, and an oak screen made up from the remains of the rood loft. All the walls have been cleared of their loads of plaster, and the arches, and pillars, &c., of the accumulation of whitewash: the former have been restuccoed, and the latter generally repaired. The altar-rails (which were of wood) have been replaced with wrought iron, and oak-moulded and polished railings. The floor within the altar-rail has been relayed with Maw's encaustic tiles. In cleansing the walls several interesting relics were discovered, which have all been left open. On taking out the old pews, the foundations of the nave pillars were found to be in a dangerous condition: they have been strengthened.

Croydon.—The new temporary Church of St. Saviour, St. James's district, Croydon, has been opened. Its erection and finishing have been done in eight weeks by Messrs. King, Burton, and Hipwell. The design is that of Mr. W. Mullins, who is to be the architect of the intended new church; and though only between 300*l.* and 400*l.* have been spent on the building, it is fit in all respects for its present purpose. It is, of course, very simple in its details. The benches are of stained deal. All the windows are of stained glass. Coloured kamptulicon forms a covering for the floor. The seats are free, and accommodate about 200 persons.

Llanwarne (*Herefordshire*).—It was resolved upwards of two years ago to build a new church here on a new site; and Messrs. Elmslie, Franey, & Haddon, were requested to submit a design: the same was approved by the rector and parishioners, and Messrs. Niblet & King, of Gloucester, took the contract for its erection. The church has been erected on a site immediately adjoining the Llanwarne School, and was presented to the parish by Mr. J. Edwards, of the Cloughs, Staffordshire, one of the principal landowners. It is about 100 yards distant from the old church, going from Hereford. The cost of the church complete will be 2,350*l.*, and towards this sum 2,076*l.* have been raised. The new church is dedicated as "Christ Church," and is a cruciform building, consisting of nave, north and south transepts, north porch, chancel, vestry, and a tower surmounted by a spirelet. The nave is 56 ft. 6 in. long and 22 ft. in width. The chancel is 23 ft. in depth and 19 ft. wide. The transepts are 17 ft. in length by 17 ft. 6 in. in width. The height of the spirelet is 70 ft., height to wall-plate 17 ft., and the ridge attains a height of 36 ft. The style of the church is Geometrical. The edifice is entered under the tower, which serves as a north porch, through a moulded arch, which springs from blue forest stone shafts, surmounted by carved capitals representing natural foliage. The spirelet is octagonal, with traceried panels and moulded arches and drips. The upper portion is wholly of freestone, the cornice having at the angles gargoyles, the whole being surmounted by a finial. Above this arcade rises the spirelet, to the altitude already named. The covering of the church is Broseley tile in red and black bands, the ridge of nave being ornamented with Broseley crest, the chancel crest of ornamental ironwork. The walling is executed in stone quarried on the site, and is pointed with blue mortar. The quoins, plinths, windows, and door-dressings, &c., are of Bath stone,—the window tracery of Painswick stone. The porch is floored with Godwin's tiles, in black, buff, and red. The doors are of oak, and are hung with scroll hinges by Cormell, of Cheltenham, from a design specially supplied by the architects. The total accommodation provided is for 258 persons, the whole free. The nave roof is of steep pitch, supported by curved principals on moulded stone corbels. The entire roof is wrought, stained, and varnished. The nave is lighted by a three-light west window, with two three-light windows on the south side, and a single three-light window on the north side. The north transept has a pair of two-light side windows and a three-light window in gable. The south transept has a two-light side window, with two single-light windows and a wheel window in gable. The nave floor is laid with Godwin's tiles, in red, black, buff, and chocolate, with vandyked border. The heating apparatus is by Messrs. Jones & Son, of London. The walls are ashlared throughout with freestone, and the roof being wholly of wood, there is no plaster used in the church. The chancel is floored with Godwin's tiles, after a design supplied by the architects, the pattern increasing in richness as the east end is approached. The chancel-roof is waggon-shaped, with framed rafters, &c., stained and varnished. The font (given by the architects) and the pulpit were carved by Mr. W. Forsyth, of Worcester.

Arthington.—The new church of St. Peter, begun about eighteen months ago, by Mr. William Sheepshanks, has been consecrated by the Bishop of Ripon. The edifice is in the Early Decorated style (from designs by Messrs. Mallinson & Healy, of Bradford), and has three stained-glass windows; the east being by Mr. Hughes, the west by Messrs. Clayton & Bell, and the brass standards for lights by Messrs. Jones & Willis.

Huggate.—The church of Huggate, a village on the wolds of Yorkshire, between Pocklington and Driffield, has been re-opened after restoration. A new and commodious rectory-house has also been built. The tower and spire of the church, and the walls and arches of the nave, are the only portions of the old building left. The north and south aisles, chancel, porch, and vestry, have all been rebuilt in accordance with their original character. The internal plastering and white-wash of the walls, piers, and arches, have been removed, and the stone work is jointed and pointed. Open roofs, with chamfered timbers stained and varnished, are substituted for the old decayed roofs. The floors of the aisles are paved with Staffordshire tiles, except that within the communion rails, which is laid with Maw & Co.'s encaustic tiles. The old pews are discarded, and new open seats of plain design, occupy their places. The reading-desk and pulpit are also new, and the latter stands upon a moulded base of Ancaster stone. All the windows are glazed with cathedral glass, except the east window of the chancel, which is fitted with stained glass as a memorial, executed by Mr. Hodgson, of York. The external walling has been rebuilt principally with the stone arising from the old walls. The soil in the church-yard has been removed to the floor-level. All the works at the church and at the house have been carried into effect by Mr. J. W. Reeve, of Lincoln, builder, from the designs and under the superintendence of Mr. H. Goddard, of that city, architect.

STAINED GLASS.

Boxley Church (*Kent*).—Two stained-glass windows (one in the east and the other in the south) have been placed in this church. In the east window the subjects of "Baptism," the "Crucifixion," and the "Resurrection" are delineated. The subject in the south window is the "Angel of War," represented by St. Michael; and the "Messenger of Peace," represented by the Angel Gabriel. The whole was designed, and has been carried out by Messrs. Ward & Hughes, of London.

Seaford Church, Sussex.—Three stained glass windows have been put up in the south transept of this church. Two of them are erected to the memory of the late vicar. The windows were all executed by Mr. Wailes, of Newcastle.

St. Mary's, Taunton.—The new west window at St. Mary's Church is now completed. The subject is "The Last Judgment." The window comprises two rows of lights, five in each row, besides the traceries in the upper part. The central figure in the middle light of the upper row represents our Lord as the Judge of mankind. On His right hand and on His left are His assessors in judgment, representatives of the Old and New Testaments. On the right are the apostles: on the left are the prophets and kings. The foremost figure in the first light on the right hand of the Judge—a female form in a green robe—may either represent the virgin Church, as distinguished from the harlot elsewhere represented, or the mother of our Lord. Behind her is the figure of St. Paul. In the light beyond this—the extreme light on the right hand of the Judge—are St. Peter and St. John.

In the foreground of the group on the Judge's left hand is St. John the Baptist. Beside him is King David. In the light behind are Moses and some of the prophets. In the central light underneath is St. Michael the Archangel, the Angel of Judgment, represented as destroying the false and apostate Church, the scarlet woman of the Apocalypse. On the right, and under the New Testament Church, are the hosts of the saved, guided by angels, ascending through the air to the right hand of the Judge. The artist and manufacturer was Mr. Gibbs, of London.

Bromborough Church (*Cheshire*).—The altar window of this new church has been filled with stained glass. The subject is "The Crucifixion." The figures of our Lord and the two Marys only are seen, the distant city being visible under a lurid sky. The canopy, bordering, and ornamentation are all in the Early style. The window has been executed by Messrs. Ballantine & Son, of Edinburgh.

Leeds Parish Church.—A stained glass window has been fixed in the ante-chapel of this church, completing the series of stained glass windows in that portion of the edifice. The subjects are taken from the Creed,—viz. the birth, the burial, and the second coming of our Lord; and they were executed by Messrs. O'Connor.

St. Mary's Episcopal Church, Birnam, Dunkeld. The east window of this church has been filled with stained glass. There are three upright lights, containing "The Adoration of the Magi," "The Crucifixion," and "Christ appearing to Mary in the Garden," surmounted and surrounded by canopies and borderings. A head of the Virgin Mary, and angels with scrolls, with other appropriate emblems, are in the top tracery. A twin-light window, the gift of the clergyman, Mr. McMillan, has also been filled. To the right is "Moses with the Tables of the Law;" and to the left, "John the Baptist preaching in the Wilderness;" and in tracery a head of our Saviour is introduced. The artists were Messrs. Ballantine & Son, of Edinburgh.

SCHOOL-BUILDING NEWS.

Bristol.—The foundation-stone of new school-rooms, in connexion with the Wesleyan chapel, Portland-street, has been laid by the Rev. G. T. Perks, of London. The schools, which are to be built in Henrietta-street, at the back of the chapel, will, with the land, cost about 700*l.*; but, with certain contemplated alterations and improvements in the chapel, the total amount will be about 1,200*l.* The schools, it is calculated, will afford accommodation for upwards of 200 children; and the dimensions of the building will be 52 ft. by 32 ft.

Milborne Port (*Somerset*).—New schools have been erected and opened here. They are in the Tudor style, and built of native stone, with Forest marble plinths, and string courses, Bath stone windows and dressings. They comprise three rooms, 40 ft. by 20 ft. There is an ornamental clock-tower on the north side, and a stone arcade on the south front. The cost of the schools is about 2,000*l.*, nearly the whole of which has been borne by Sir Wm. Medlycott. The plans were supplied by Mr. H. Hall, of London, and the works have been carried out under the superintendence of Mr. A. Reynolds.

Brecon.—The new school-buildings of Christ's College and the Collegiate Church have been opened. The new school-buildings are situate on the Merthyr road. They are detached from the chapel, but to be connected with it by a cloister-like corridor. The school-buildings are in the Gothic style of architecture, the designs being furnished by Messrs. Pritchard & Seddon, architects, and carried out under the superintendence of Mr. Walton, Brecon. Besides the head-master's house, the school-building contains a dining-room for the students, the matron's room, and stone closets connected with it. This part of the building is separated from the other by a tower, which, when completed, is intended to form one of the principal architectural features of the building, but which is at present covered over below the roof, and then stopped for want of funds to finish it. Within this tower is the principal staircase, of stone steps, leading to the four dormitories, which are capable of containing about 50 beds for the accommodation of in-door students. The school-room, library, and class-room belonging to the old college buildings, have been repaired. The external walls of the building are of stone, the dressings being of Bath stone. The builders are the Messrs. Williams, of Llanfaes. The church referred to as having been opened after a process of restoration is 70 ft. by 30 ft. It has eleven lancet windows in the north side, four in the south side, and a large five-light east window, upon which is a representation of the Crucifixion. The windows are filled with glass of an ornamental character, supplied by Messrs. Clayton & Bell. The chapel was originally the chancel to a church, the rest of which, excepting a portion of the north aisle, is a ruin. The entire cost of the works already executed is about 10,000*l.*

Southport.—A building intended for Wesleyan day and Sunday schools has just been completed in Talbot-street, Southport. The schools, with playground and other buildings attached, measure 80 yards in length by 38 yards in width. The principal front is towards Talbot-street. The entrance, which leads into the infant school, is in the centre. To the right stands the school-master's house, provided with small bell-turret and spire. On the left is the chapel-keeper's house, the entrance to which is at the side looking towards the chapel. The buildings are in the Early English style of architecture.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Brighton.—Additions (including a spire) have been made to the new Roman Catholic Church of St. Mary Magdalene, which was opened for divine service, although incomplete, some two or three years since. The additions are now completed. The nave has now four arches on each side, supported by pillars, and above the arches there are ten clerestory windows on each side. At the springing of each arch there is a carved head. The roof is of oaken timber, stained and varnished, and the corbels which support the main principals consist in each instance of a carved figure of an angel. Similar figures adorn the pillars between the nave and the chancel: this latter has two arches on each side, and also a chapel, and there are four clerestory windows above. The organ has been removed to a gallery erected at the western end of the nave. By the extension of the nave (some 33 ft.), the total accommodation afforded will be about 500 sittings. The spire is said to be the highest in the town. The tower (58 ft. in height), is built of red brick with stone dressings, and has seven windows in it, for the accommodation chiefly of the belfry and ringing-loft. The buttresses which support the tower on the north side have two niches for figures; and at each of the four tops of the springing of the spire there is the figure of an angel, of large proportions. The spire itself is built of stone; and its height, from the springing to the top finial, is 63 ft. 6 in.; and it contains a dormer window and two smaller ones above. The vane at the top, painted and gilt, is 8 ft. in height; and the total height of the building, from the base of the tower to the top of the vane, is about 130 ft. Mr. Blunt, of London, was the architect of the church; and the work has been done by Mr. Fabian, of this town. The stone carving was by Mr. Farmer, of London.

Leamington.—The new Roman Catholic chapel at Leamington has been consecrated. The walls of the chapel were first sprinkled, outside and inside, with holy water, and afterwards the altar was consecrated. There was a Maltese cross in the nave, upon the two shafts of which the bishop wrote the letters of the Greek and Latin alphabet, signifying the union of Greek, barbarian, and different nations in the one fold of Christ. The celebration of mass brought the ceremony to a close. The chapel stands upon a large and eligible plot of land, in Dormer-place, opposite to the Royal Pump-room Gardens. It has been erected by Mr. W. G. Gascoyne, of Leamington, builder, from the designs of Mr. Clutton, of London.

Northwich (*Cheshire*).—The foundation stone of a new Roman Catholic church has been laid here. The edifice is dedicated to St. Wilfrid. The site is a square piece of ground in Witton-street, a short distance from the railway station. It is proposed that, if the subscriptions are sufficient, a church standing east and west shall be erected on the south side, and a presbytery for one priest on the east side; so that a large open space shall remain in front of the building. The cost of the entire structure would be 1,545*l.*; but the church, which will cost about 1,300*l.*, will be first proceeded with. The style of architecture will be Early English. The church will be 88 ft. 6 in. long, by 44 ft. 6 in. wide, and it will seat upwards of 400, besides affording standing accommodation at the west end for another 100. Great trouble has been experienced in adopting proper precautions against dangers that might result from the running brine, which at Northwich has a tendency to loosen the sand, to undermine foundations, and to weaken buildings. The foundations of the church have been made as secure, it is thought, as possible. The walls are to be very low; and the columns of wood after the model of some of the old Cheshire churches, have for greater safety been adopted in preference to stone pillars and arches. The exterior of the church (which is to be built of brick, the window sills over the coping alone being of stone) will be very plain, but the architect has endeavoured to secure breadth of effect in the roof, which will be in one span, and covered with Bangor red and blue slates. The church will consist of five bays, which will be divided by brick buttresses with moulded tops and weatherings. The difference between the chancel and the nave will be strongly marked, and at the junction of the two will be a spirelet bell turret, framed in wood, covered with slate, and surmounted with a metal cross. The church is to be entered by a large porch, ornamented with moulded bricks, on the north side, facing the street, and will consist of a nave and north and south aisles, with a space at west end railed off for baptistery. There are also to be a side chapel, sacristy, and presbytery. The roof, which will be lined with board stained and varnished, will be supported by columns of wood framed together with principals. The floor under the benches will be of wood, and the other portion of it will be tiled. The chancel will be entered by steps, will contain the altar now in use, and will be lighted with a triplet of lancets and by a vesica window. The aisles are to be lighted by lancet windows in couplets, and the nave by large windows in the east and west ends. The architect is Mr. Edmund Kirby, Birkenhead. Messrs. Lester & Drinkwater, of Northwich, are the contractors, and Mr. Holland is the clerk of the works.

Skelmersdale (*near Ormskirk*).—The foundation stone of a Roman Catholic Church has been laid in the rapidly-improving village of Skelmersdale, the site being on Know-brow. The style of the proposed edifice will be Gothic, and it will be built of brick with stone facings. The church, with the school and house, will stand on about 2,000 square yards of land, which has been given by Mr. William Rotherham, of Skelmersdale. Mr. John Middlehurst, of St. Helen's, has undertaken the contract; and the designs have been drawn by Mr. Pugin.

RAILWAY MATTERS.

THE Caledonian Railway has just adopted a plan for the transmission of single copies of newspapers by rail which is likely to prove of great use to newspaper readers on that line over the localities it traverses. The system is simply an issue of farthing stamps, prepared after the fashion of postage stamps: perforated and gummed like these, they are sold in sheets containing a dozen, the price of the sheet being of course threepence. The stamp bears the impress:—"Caledonian Railway. No. (say) 2,585. For one newspaper only. To be called for by consignee at the station on the Caledonian Railway to which it is addressed."

——The Great Northern Railway directors state in their half-yearly report that the capital account stands as follows:—Received to the 30th of June, 13,144,236*l.*, and expended 12,897,913*l.*, leaving a balance of 246,323*l.* The total expenditure on capital account during the half-year was 168,590*l.*, of which 31,120*l.* had been paid for land, and 46,145*l.* for works. Twenty new engines, and 500 new waggons, suitable for the carriage of goods and coal, had been contracted for to meet the requirements of the traffic. The gross receipts for the past half-year amounted to 833,814*l.*, the gross expenditure to 441,453*l.* leaving a balance of 392,361*l.* A net balance of 134,721*l.* would enable the proprietors to declare a dividend on the original stock at the rate of 5½ per cent. per annum. In the corresponding half of 1863 the dividend was at the rate of 4¼ per cent. per annum.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 20th August, on 11,430 miles, to 705,109*l.*, and for the corresponding week of last year, on 10,994 miles, to 643,817*l.*, showing an increase of 436 miles and of 61,292*l.* on the receipts.——The foundations

of the piers for the fifty arches over the Ditton Marsh on the Aston, Runcorn, and Ditton Railway (Runcorn Gap) are complete. Twenty of the piers are built to the height of the springing of the arch, and the rest to several feet above the surface of the ground. The foundations of eighteen piers out of thirty-three of the viaduct through the town of Runcorn are complete. At the bridge over the river Mersey, the masonry of the Cheshire abutment has been built to 6 ft. above the level of high-water mark. Of the forty-two caissons for the cast-iron coffer-dam for the river pier on the Cheshire side, thirty-four are to the rock, and eight others in process of sinking. At the river pier on the Lancashire side, the wrought-iron piling for the staging is being proceeded with. The five piers of the 60-ft. arches in the river have been commenced, and masonry of the three brought up from the rock to low-water mark.——Of late years the directors of the Stockton and Darlington Company have taken a large body of the more respectable and intelligent of their engine-drivers into co-operation with them. They allow them to work the engines themselves, the men finding all the material; and, instead of wages, they pay them so much per mile; thus enabling them to make more money per month than they could ever have earned by wages.——In Ireland there were on the 31st of December, 1863, 1,741 miles of railways open: 238,794 trains ran, of which 203,977 were passenger trains, carrying 11,162,191 passengers, which, taking the population at 6,000,000, gives nearly two journeys for each person. There were three accidents, by which twenty-one persons were injured, but no one was killed. The receipts from passenger traffic were 942,279*l.*; from goods traffic, 576,375*l.*; and from all sources, 1,518,654*l.* The gross working expenditure was 49 per cent., and amounted to 750,412*l.*, leaving net receipts 768,242*l.* The Irish lines yielded in 1863 net receipts giving 441*l.* 5s. 3d. for each mile open; the Scotch lines, 898*l.* 0s. 5d. per mile; while the English railways realised 1,572*l.* 9s. 6d. per mile.——The Pneumatic Railway at the Crystal Palace, Sydenham, already spoken of in the *Builder*, has been opened for passengers, by way of experimental illustration of its capabilities in this way no less than for parcels.

THE TRANMERE WATER SUPPLY.

ARBITRATION CASE.

In the Wirral Waterworks Company *v.* Lloyd, before a special jury, at Liverpool, the plaintiffs sued the defendant, as the clerk of the Tranmere Local Board of Health, for 8,260*l.*, the amount of an arbitrator's award in an arbitration between the Waterworks Company and the Local Board. The Attorney-General, Mr. James, Q.C., and Mr. Baylis appeared for the plaintiffs; Mr. Mellish, Q.C., and Mr. Crompton Hulton for the defendants.

The Attorney-General, in his opening, stated that, in the Tranmere Improvement Act, which passed in June, 1862, there was a provision, in section 51, that all the powers granted by the Wirral Waterworks Act of 1859, for the supply of water within the township of Tranmere, should cease. An arbitration was fixed, Mr. J. Brumlees being the arbitrator for the Local Board, Mr. Bancroft for the Waterworks Company, and Dr. W. Fairbairn, than whom there was no gentleman in this country more competent, was the umpire. A question then arose whether the arbitration had not lapsed, by efflux of time; and an Act was then obtained, giving full power to the arbitrators and umpire to proceed, and from time to time, as they thought fit, to enlarge the period within which their award might be made, the period not to exceed one year from the passing of the Act, and the award of the umpire to be final and binding on all parties. Dr. Fairbairn made an award of 8,260*l.*, and he also settled the costs, 861*l.* 3s. 3d., to be paid by the Local Board. The Board refused to comply with the award; and, in November last, his learned friend, Mr. Mellish, obtained from the Court of Common Pleas a rule to show cause why the award should not be set aside, on the ground that the umpire had exceeded his authority and jurisdiction. The company's counsel showed cause, and the court unanimously pronounced the award to have been made pursuant to the jurisdiction given to the arbitrators and the umpire. The board, however, thought they ought to have water at the cost of the company, and would not pay. This action was, therefore, brought to recover the amount of the award.

On the part of the defendants Mr. Mellish argued that the question at issue was the meaning of the word "value," with reference to the award. The plaintiffs held that the value of the mains and pipes included their productiveness, and the defendants argued that it meant the cost of the mains and pipes and the cost of laying them down, which would be 3,913*l.* 10s. 11*d.* The only material evidence in the arbitration referred to the latter, and upon that he contended the award ought to have been made.

The judge recommended that the parties should consent to a reference, and thus avoid further expense and litigation. He ruled, however, that there was evidence for the jury. The arbitrators ought not to give damages as compensation for profits; but they were bound to give the company the value of the mains and pipes as laid down.

The jury found that the umpire had not exceeded his authority; that there had been an enlargement of time; and that the award was the fair value of the mains and pipes. They found for the amount of award and costs, without interest, 9,123*l.* 3s. 3d.

THE BUILDING TRADES MOVEMENT.

Stourbridge. — At the local petty sessions several men have been charged with intimidation, and others with quitting their employment under threats from the intimidators. In some cases the magistrates allowed those charged with quitting their employment to pay the costs and return to their employment, without any other condition. In one case of intimidation the magistrates intimated that the threat was sufficient to convict upon; and in another the evidence was considered insufficient. In the latter case an advertisement to the following effect had been inserted in the *Daily Post*:—

"Notice.—To the Master Builders of Stourbridge and its Vicinity,—That we, as a branch of the Amalgamation Labourers' Society, do hereby give notice to Messrs. Ife, Brettle, Allsop, and others connected with the trade, that, if they do not come on friendly terms, according to our delegate's demand, at a meeting held July 4th, 1864, by the said master; and if they, the masters, do not come to some arrangement before the 15th day of August, 1864, we shall draw both bricklayers and labourers from those masters until the arrangement be made with our delegate who attended the last meeting convened by the masters; and we as labourers shall not work after Saturday next.—Dated this 8th day of August, 1864.—Martin M'Call."

Cardiff.—The operative carpenters on strike give the high scale of market prices and exorbitant house rents as a reason for insisting on their demands. The attempt to take contractors and others at an advantage by not giving due notice is complained of on the other hand.

Birmingham. — The carpenters and joiners have had meetings, at which resolutions have been unanimously passed against systematic overtime; and to the effect that where overtime is absolutely necessary, it shall be paid for, for the two first hours after half-past five p.m., at the rate of two hours for a quarter of a day; and after that time at the rate of time and a half up to six a.m.; and also on Saturday afternoon after four o'clock, and double time for Sunday work. Every member present pledged himself to work overtime only on these terms.

Carlisle.—Here the masons have obtained what they asked for, and the strike is at an end.

Edinburgh.—The operative joiners, from all parts of Scotland, have held a grand demonstration in Edinburgh. The gathering was specially to celebrate the successful termination of the movement amongst the Edinburgh joiners for a reduction of their hours of labour. They now work fifty-one hours weekly, and their minimum wage is 5d. an hour. There was a deputation from Dumfries; and, including the joiners, about 200 persons left by a cheap early train for Edinburgh per the Lockerby and Caledonian railways. There were also deputations from Carlisle, Glasgow (numbering 1,500), Partick, Govan, Renfrew, Greenock, Vale of Leven, Aberdeen, Dumbarton, Perth, &c. The various branches, on arriving by the different railways, proceeded to the Music-hall, where a procession, consisting of between 4,000 and 5,000 joiners, was formed, and, preceded by the Edinburgh society, marched through the principal streets of the town, accompanied by four bands of music, and with numerous flags and devices peculiar to the trade.

French Method of Extinguishing a Strike.—The Paris correspondent of the *Daily Telegraph* says,—"The law on coalitions continues to work as badly as ever. After the strike of the porcelain workmen at Limoges, we have the strike of the tobacco workwomen at Bordeaux. Ten or twelve hundred of these, discontented with some new regulations, assembled in the court of the factory, screamed, shouted, and declared that they would work no more till things were altered. Two fire-engines were brought into play, and water was pumped for a considerable time on these female rebels. They stood the showers with perfect composure, till at length, having lost their voices by protracted shouting, the noise grew fainter, and advantage was immediately taken of the lull to enforce obedience to the new order of things."

Books Received.

On the Application of Cast and Wrought Iron to Building Purposes. By William Fairbairn, C.E., F.R.S., &c. Third edition. London: Longman & Co. 1864.

THE increasing demand for this work is the best evidence of its utility. It has been out of print, it appears, ever since the death of Mr. Weale, who published the former editions. In the present issue, Dr. Fairbairn has brought his subject down to the present time, as regards constructive art, and has introduced several additions and improvements. In the preface to the third edition the author says:—

"It will be observed, when treating of fire-proof buildings, that wrought-iron beams and girders are to some extent superseding the use of cast-iron; and in that section will be found examples upon a scale sufficiently large to insure increased security for the support of arches, or any other description of flooring which the character of the building may require. In this department it is, however, to be regretted that architects do not avail themselves of a material so admirably adapted as wrought-iron is for strength and security from fire, to a much greater extent than has hitherto been adopted. The greatest number of our dwelling-houses and public buildings are not strictly fire-proof, but only partially so: and instead of making the whole free from risk, we appear to be content if the main beams of the different flats are of iron, whilst the floors, joists, &c., are chiefly composed of wood.

This appears to be an omission to which I am desirous to direct attention; and I trust the time is not far distant when the extended distribution of wrought-iron in all its forms and appliances may be calculated upon. Rolled iron joists, similar to those so extensively used by French architects, would render the whole construction fire-proof, save a high rate of insurance, and enhance the value and permanency of the structure."

The section on wrought-iron bridges has been enlarged with additions and examples, calculated to determine the value of the varied and different forms now in use. Those on the lattice principle the author has investigated experimentally; and in this edition there are formulæ by which to calculate the position and strains on the struts and tension-bars of these important structures. Every architect should have this book.

VARIORUM.

Messrs Cox & Son's "Illustrated Catalogue of Monuments, Tablets, and Rails," comprises a number of designs by several known architects, exhibiting various degrees of merit. The prices are given; and the publication will be found useful.——Mr. Geo. Measom's "Illustrated Guide to the London and South-Western Railway," and his "Guide to the Isle of Wight," have the merit of cheapness, especially the first-named, which gives 475 pages of letterpress, and 280 wood engravings, for a shilling. A large amount of surface information is pleasantly compiled.

Miscellanea.

THE LIVERPOOL EXHIBITIONS OF PAINTINGS.—The Liverpool Academy, now removed from Post-office-place, and occupying a smaller gallery at Griffiths's in Church-street, have opened their exhibition with about 160 works of a choice description, according to the local *Journal*. The Exhibition of Paintings and Sculpture in Slater-street is also open with, it is said, a fine collection, nearly all new.

SHAKSPEARE PENNY MEMORIAL.—The Workmen's Committee, for obtaining funds, and erecting a statue of Shakspeare, is formed, with an honorary council of advice, and has issued a precise programme of its intention. The sum sought to be raised is 2,400*l.*, viz.—1,200*l.* for statue, and 1,200*l.* for "an ornamental shrine of iron and glass to enclose it." A meeting will be held in the course of a few days to bring the intention before the public.

LAMBETH BRIDGE.—The directors reported to the shareholders that the balance in hand applicable to a dividend was 1,819*l.* 3s. 10d., and they recommended a dividend at the rate of 8 per cent. per annum for six months ending the 31st day of August, 1864, to be payable on the 30th September next. This left about 580*l.* to be carried to the next account. The recommendation was agreed to.

STEAM SAW MILLS COMPANY.—The prospectus of a new joint-stock company, under the title of the Mersey Steam Saw Mills Company, has been issued under the auspices of the Liverpool Financial Association. It is proposed to raise a capital of 200,000*l.* in 10,000 shares of 20*l.* each, and the object is to purchase and extend the saw mills which have hitherto been worked by Messrs. Matthew Gregson & Co. for a period of more than forty years; and also to take the works hitherto known as the Brunswick Steam Saw Mills Company, and formerly belonging to Mr. M'Nicol. Special attention is to be paid to the cutting of mahogany and other furniture-woods into veneers,—a branch of business which has latterly considerably increased in Liverpool, owing to a demand which has arisen from the manufacturing towns adjacent to the port.

ST. MARY'S CHURCH, ABERDEEN. — The Rev. F. G. Lee, whose proceedings in the erection of St. Mary's, Aberdeen, excited much comment, has appeared in the Bankruptcy Court. His liabilities amount to 5,000*l.*, mainly on account of the church, and as Mr. Lee states, jointly with the churchwardens.

AUSTRIAN ART ASSOCIATION. — Vienna announces an Art Exhibition, organised by the Austrian Artistic Association. The Exhibition is to be permanent, and, with certain exceptions, the works are to be changed once a month. Artists are required to send their works in only a week previously, but they must be approved by the council of admission. A novel item in the regulations is, that artists are not required to send frames, the association announcing that it is provided in this respect for pictures of all sizes.

VALUE OF LAND IN NORTH WALES.—Messrs. Leifchild & Cheffins offered a further portion of the Mostyn estates, at the Town-hall, Rhyl, on Tuesday, the 16th. They comprised several fine farms, valuable accommodation land, extensive woods and plantations, and nearly the entire ancient borough town of Caerwys, containing together about 2,200 acres. The estate was put up in one lot (though divided into 128 lots in the particulars of sale) at 70,000*l.*, and, after a spirited competition, was knocked down at 85,000*l.*, including the timber, to Mr. Hugh Jones, of Wood-street, Cheapside, who received the hearty congratulations of a very large company on his purchase. As a proof of the inadequate rentals at present received we are authorized to state, that forty-five years' purchase were realized at this sale.—*Cambria Daily Leader.*

BLASTING A CHALK CLIFF.—For several weeks past a number of Sappers and Miners from the Royal Engineer establishment at Chatham have been sapping and mining a portion of an immense cliff of chalk at Halling, in the occupation of Mr. Thomas Weekes, lime and cement manufacturer, near Rochester, the cliff being the property of the Earl of Darnley. The chalk to be removed is estimated to amount to about 100,000 tons. The quantity of gunpowder used in the operations weighed in the aggregate 5,400 pounds, distributed in five charges. There were four immense shafts bored in the summit of the cliff, and these were carried down to a depth varying from 64 ft. to 25 ft. in the chalk. The battery for transmitting the voltaic current to the charges was placed about 200 yards from the shafts, the sparks being conveyed by wires coated with 'gutta-percha from a Grove's battery of forty cells. The effect of the explosion was that the whole crown of the extensive rock was lifted up several feet. The chalk thus blown down is valuable.

MONUMENTAL.—It has at length been decided by the London Committee for the erection of a monument to the memory of the late Joseph Locke, M.P., F.R.S., that the monument shall be erected in the Locke Park, at Barnsley, of which town the deceased gentleman was a munificent benefactor. Baron Marochetti, the sculptor of the statue, has visited Barnsley for the purpose of selecting a suitable site for it, and appeared quite satisfied with that afforded in the grounds of the People's Park, for which park itself Barnsley is indebted to Mr. Locke and his widow.—— Nuremberg promises a monument to Stonewall Jackson. The way in which Nuremberg has come to promise it is rather curious. A young man from Nuremberg, named Volk, emigrated to America as a journeyman cooper. After arriving there his early passion for art grew stronger: he made sketches for illustrated papers; and gradually became a self-taught artist. The war found him at Baltimore, whence he wandered south, and was engaged as draughtsman on the staff of one of the Southern generals. He made a bust of Stonewall Jackson from a mask which he took from the dead face; and when the monument was put up to competition by the Southern Government the young German artist won the prize. But even then he had to find means for executing his work, and for this he ran a ship laden with cotton through the blockade, and brought it to Europe, where the sale of the cotton gave him the funds required. He is now at work on the monument, which represents the general on horseback, a fine Arabian steed, from Stuttgart, serving as a model for the horse.—— Father Mathew's statue, it is stated, has been successfully cast.

THE QUEEN'S HOTEL, ABERYSTWITH.— The ceremony of laying the inscription tablet over the principal entrance, and 23 ft. above the footings of this building, has been performed by the lord-lieutenant of the county. The building occupies a south-west aspect of 153 ft. to the Bay of Cardigan, by a mean depth of 92 feet: it will possess all the modern appliances of a first-class hotel, including a central assembly-room, and is expected to be opened in June next.

AN ELECTRIC TELEGRAPH WITHOUT WIRES.— Experiments are now in progress, both at Mont Valerien and Vincennes, says *Galignani*, for the purpose of testing a new system of electric telegraphy invented by M. Armant Douat, who, it is said, has found means to do away with electric wires altogether, and transmit despatches by the sole action of the earth. A zinc and a copper plate, bent in spindle-like shape, are buried in the ground, with their convexity turned in the direction in which the despatch is to be sent. If there be anything in this, it certainly excels the Dundee electro-telegrapher (now deceased), who sent messages across Portsmouth harbour without any crossing wire, but by means of wires and plates on either side, extending at right angles to the line of direction across the harbour. This gentleman (Mr. Lindsay, if we mistake not), was confident that merely by means of plates, with wires extending for many miles on either side, a Transatlantic telegraph might be made.

PROPOSED ALBERT MEMORIAL ORPHANAGE AND SCHOOLS AT NEWCASTLE.—Mr. Thomas Oliver, architect, has prepared a design for a proposed Albert Orphanage and Schools, intended to be erected in Bath-lane, Newcastle-upon-Tyne. The proposed structure is intended to be built on a plot of ground secured from the corporation behind the Bath-lane Church: it will be entirely of stone, and the style of the architecture adopted is the Middle Pointed Gothic. It will be a detached building, and between it and the church is a schoolmaster's house. The front elevation shows a building three stories in height, with gables at each end, and a projecting staircase, which terminates in a tower, and is intended to be used as an observatory. The windows are all pointed, and the principal ones have traceried heads, portions of which are to be used for ventilating purposes. The roof is broken by dormer gablets, and is surmounted in the centre by a large ornamental ventilator. On the ground floor, in addition to the playgrounds, are boys' schoolroom, infants' schoolroom, and class-rooms for both: on the upper floor, are girls' schoolroom and class-room; and above these are dormitories for the accommodation of about fifty orphans. The schools will accommodate 200 boys and 200 girls, with master's and mistress's residences attached. The estimated cost of the entire scheme is 4,000*l.*

NEW WESLEYAN CHAPEL, CORBRIDGE.—The foundation stone of a new Wesleyan Chapel has been laid at Corbridge. The erection has progressed considerably. The chapel—which is being erected at the north end of the village — is on the cruciform plan, in the Decorated style. At each end of the cross are to be erected galleries, that on the east side being appropriated to the use of the orchestra, whilst underneath will be the ministers' vestry. The entrances form wings on either side of the west end, namely, that nearest the road. The side passages internally will be separated from the main body of the building by pillars and arches. The total length of the chapel will be 62 ft.; width of nave, 19 ft. 6 in.; and extreme width of transept, 43 ft. 6 in. The roof is intended to be open and boarded, and will—together with the other woodwork,—be stained and varnished. The height from the floor to the ridge will be 31 ft. Externally, the principal ornament is confined to the west gable, in which are to be inserted two traceried windows forming with arches between and on either side of them an arcade across the front. The chapel will be heated by Gill stoves, and the lighting will be accomplished by pendant coronæ from the roof. The chapel will accommodate about 380 persons, or, with the proposed extension by means of galleries, about 520 persons. At the east end of the chapel is a school-room, capable of accommodating about 200 children. The chapel and schools are being erected by Mr. J. Harrison, contractor, Gateshead, from designs furnished by Mr. F. R. N. Haswell, architect, North Shields. The total cost will be somewhere about 1,000*l.*

IGNORANCE OF HYDRAULICS.—An amusing incident is described as having occurred at a late fire. Owing to a defect in the nearest hydrant, some delay took place before the hose was attached. In the interval a citizen, desirous of making himself useful, got possession of some hose, and succeeded in attaching it to the spout of an ordinary pump. His task accomplished, he shouted in triumph, "Now, then, men! We'll have plenty of water: pump away!"

ANTIQUARIAN CURIOSITY. — While excavating the soil at the Kettering Temperance-hall for the apartment beneath the platform, one of the workmen brought to light an ancient mattock, of singular construction, supposed to have been employed at the ironworks which—there is said to be evidence to prove—existed on this spot ages ago, probably in the Saxon era, or earlier. The eye of the implement is not welded, but appears to have been somewhat clumsily bent round to enclose the handle, and it is altogether a very curious tool, something like what are seen on the Egyptian sculptures. It is in possession of Mr. Joseph Hawthorn, builder.

THE SILVER USED IN PHOTOGRAPHY.—A series of papers addressed by MM. Davanne & Girard to the French Academy of Sciences, on the subject of photography, make some curious revelations with regard to the waste of the precious metals in the operation. The silver alone which is employed for photographs in Paris amounts to several millions of francs. Only 3 per cent. of this remains on the photograph, so that 97 per cent. will continue to be lost until some method be found for recovering it. MM. Davanne & Girard, who make this startling announcement, propose that plates of copper be put into the argentiferous liquid, whereby in the course of three or four days the silver will be precipitated in a spongy state.

THE DISPUTE IN THE IRON TRADE. -The sum the men in this trade have lost in weekly wages with what they have received from the Union, is thus contrasted by a Leeds paper: — The money lost to this district in weekly wages alone, since the commencement of the strike, amounts to 160,000*l.*; so that, deducting the 11,588*l.* received from the Union, there remains as a permanent loss to the workmen 148,412*l.* Large numbers of the hands have gone in at all the works, and a fair supply of iron, both as to quality and quantity, may now be obtained. One result of the strike has been the introduction of a number of foreign workmen. It seems these men only received one-half the remuneration at home which they get here, and large numbers more are desirous of coming.

BIRMINGHAM HEATH AND SMETHWICK CLUB AND INSTITUTE.—The new building for this club and institute has been opened with a public meeting and musical entertainment. The mayor presided. The building is a plain structure, having a central projecting gable and two wings. It is in a style of composite Gothic order. It has been erected, at a cost of 650*l.*, by Messrs. W. & J. Webb, builders, Hockley, on plans prepared by Mr. C. Clarke, architect, London. It contains a lecture-room for 350 people, a reading-room, committee-room or class-room, kitchen, sleeping-room, and bar. Attached to the building are grounds containing a gymnasium and a quoit-ground, skittle-alley, and a shooting-gallery. The entire premises occupy a plot measuring 1,500 square yards. To meet the cost the sum of 500*l.* was raised among the working men in the locality in shares, and a fourth call upon the shareholders will liquidate the deficit.

ROMAN REMAINS AT SHIELDS.—The workmen at present engaged in lowering the hill approaching Walbottle Dean have come upon a Roman gateway in perfect preservation. It is composed of massive blocks of stone, the free space for the gate, which had been apparently in two divisions, being 10 ft., and in a line with the wall. Traces of ornamentation are distinctly visible on some of the stones, more particularly on that portion of the pillars which, as the gate now stands, fronted the north; and it is curious to observe the rock-work now so generally used in railway masonry on the Roman remains. The workmen have left the gateway standing where they found it, but it must speedily be removed to make way for the improvement now being carried forward at Walbottle Dean. Perhaps the Duke of Northumberland, or the Society of Antiquaries, may be able to dispose of it in some convenient place.

EROSION OF LEAD BY INSECTS.—The fact that there are insects of different species which bore into lead has been heretofore known, but a correspondent of the *Times* recalls attention to the subject in a *resumé* of proceedings as to it in the *Comptes Rendus*. The insect which bored French bullets in the Crimea was not known in Russia, but is said to be common in the Jura, in France, and in Germany and Sweden, as well as in England. It is a wood insect, and usually attacks silver firs and pines. It is the larvæ of the insect which attack the lead—not the perfect insects, which die in the excavated passages even immediately after the metamorphosis, as very often occurs with insects in general. Roof and other sheet lead has been known to be bored by a species of Bostriche (*B. Capucinus*). The *Sirex gigas* also often cuts its way into lead by means of its mandibles, as also the *Callidium sanguineum*; and lead pipes have been known to be perforated by an insect named *Apate lunaralis*. The mandibles of some of these insects consist of a saw, toothed and cut like a file. Perforations in lead ascribed to corrosion may sometimes be the product of the mischievous industry of such insects.

VEGETATION IN THE CISTERNS AT THE WORCESTER WATER WORKS.—A very curious plant, says a correspondent of the *Gardeners' Chronicle*, "was sent to us lately from the cisterns supplied by the Severn water at Worcester, which (besides stopping up the pipes) made the water totally unfit for artificial fish breeding, as the threads surrounded the eggs and rendered them abortive. This fungus forms a gelatinous mass, consisting of an infinity of threads of different diameters, which, whether articulated or free from divisions, present in their cavities a series of globose bodies or nuclei. Notwithstanding the aquatic habit and resemblance to certain algæ, we feel convinced [he says] that it is the spawn of some mould, but of what species we are altogether ignorant, as the threads possess a character of their own different from anything we have seen before in fungi. We tried in vain to get it to grow on rice-paste. The threads showed no change, but seemed to act as a putrefactive ferment, separating with extreme rapidity the watery from the solid constituents of the paste, and emitting a most loathsome effluvium, an effect which was not surprising, as it proved fatal to fish, and was characterized when fresh by a smell resembling that of sulphuretted hydrogen. We regret extremely that we had no further opportunity of examining this substance, and the more so as we strongly believe that hospital gangrene and malignant ulcers arise from vegetable contagion."

NEW BRICK-MAKING MACHINERY.—This invention, by Mr. H. Clayton, has a peculiar combination of mechanism, part of which we shall describe:—A cylinder, carried by a horizontal axis, and having by preference four moulding recesses at equal distances apart of the periphery, is employed. These moulding recesses are in succession brought into and retained for a time in a horizontal position opposite a pressing plate. The lower edge of the pressing plate is caused to slide to and fro on a fixed plate or table, on which a moulded or partially-formed brick is placed when in a suitable condition to receive a finishing pressure. At the back of the fixed plate or table there is an upright plate or stop, against which the end of the brick which is about to receive its finishing pressure is placed, so that when one of the moulding recesses is at rest in a horizontal position, the pressing plate moves the brick into the mould, and gives it the finishing pressure. The fixed plate or table is of such length as to admit of two or more bricks, or partly-formed masses of brick earth, being on it at a time; so that when one has been moved forward into a mould, and the pressing plate has returned, the next brick or mass of brick earth on the plate or table may be moved up into position against the stop. The cylinder in which the moulds or moulding recesses are formed is caused to rotate one quarter round for each revolution of the driving-shaft or axis. In order to discharge the bricks from the moulds or moulding recesses, a plunger or piston-plate, connected to a cross head, is caused to enter the mould which for the time is uppermost, and to press on the movable bottom therein, by which the movable bottom of the mould containing the finished brick will be pressed or pushed through its mould. In the *Engineer*, the mechanism is fully illustrated by engravings.

GAS.—The Malvern Link Gas Company have declared a dividend of 5 per cent., for the last half-year, carrying over 150*l.* 2s. 5d. to the credit of the company.

VALUE OF BUILDING LAND AT WORTHING.—At the sale of the Alexandra estate, situate at the eastern extremity of the town, and almost contiguous to the sea; the first piece of ground offered for sale was that at the south-western corner of the estate, in Alexandra-square. It contained a frontage of 31 ft., and an average depth of 109 ft. 5 in. After a smart competition it realised 90*l.* The opposite piece to this, on the other side of the square, containing a frontage of 20 ft., and a depth of 115 ft. 2 in., fetched 110*l.* Lots 2, 3, 4, 5, 6, of nearly similar dimensions, were sold at 65*l.* each; 7, 8, 9, 10, at 60*l.*; 11, 12, 13, 14, 55*l.*; 15, 16, 17, 60*l.* The plots in Alexandra villas—lots 18 to 33—began at 75*l.*, fell to 60*l.*, went up to 80*l.*, and fell again to 75*l.* There were in all eighty lots, and only about a dozen lots were purchased by Worthing gentlemen. The land was bought last September for 3,000*l.*, and it realised about 4,300*l.*

TENDERS.

For the erection of a house at Wadhurst, Sussex, for Mr. William Gordon Thomson. Mr. Herbert Williams, architect. Quantities supplied by Mr. James Dudley:—

Winnifrith	£3,263 0 0
Newman & Mann	3,213 0 0
Adamson & Sons	3,057 0 0
Brass	3,050 0 0
Condor	2,977 0 0

Accepted for business premises, Northgate, Wakefield, for Mr. S. Denham. Mr. Wm. Watson, architect:—

Excavating Brick and Stonework.	
Flower	£595 0 0
Slating.	
Hill	22 0 0
Plastering.	
Driver	42 0 0
Carpenter and Joiners' Work.	
Scholey	430 0 0
Plumbing and Glazing.	
Backhouse	110 0 0
Ironwork and Bellhanging.	
Kirk	13 16 6
Painting.	
Rayner	17 0 0

For erecting proposed Parsonage House at Flamstead, Herts, for the Rev. W. H. F. Hinde, M.A. Mr. J. T. Christopher, architect:—

Mathews	£2,677 0 0
Harris	2,350 0 0
I'Anson	2,221 0 0
Ryder	2,208 0 0
Robinson	2,200 0 0
Little	2,220 0 0
Young	2,080 0 0
Bottam	2,020 0 0
Adamson	2,007 0 0
Cowland	1,953 0 0

For completing "Potter's Hotel," Thorne-road, South Lambeth (exclusive of bar fittings), for Mr. J. T. Potter. Mr. W. F. Potter, architect:—

Sabey & Son	£500 0 0
Niblett	496 0 0
Green	376 0 0
Honour (accepted)	375 0 0

For villa and offices, East Barnet. Mr. Josiah Houle, architect:—

Mansfield & Son	£2,190 0 0
J. & C. I'Anson	2,130 0 0
Clemence	2,018 0 0
Patman & Fotheringham	1,996 0 0
Rowe	1,949 0 0

For works of restoration at Lyminster Church, Sussex. Mr. George Truefitt, architect:—

Bushby (accepted)	£477 18 8

Accepted for Holy Trinity School, Marsh, Huddersfield. Mr. Tarn, architect:—

Mason's Work.	
T. & G. Rhodes	£289 0 0
Joiners' Work.	
Christie	109 10 0
Slaters' Work.	
Goodwin & Sons	43 15 0
Plumber and Gaziers' Work.	
Chadwick	33 10 0
Smiths' Work.	
Scholefield	13 13 0

For the re-erection of Haroldswood Lodge, Romford-common, deducting value of the old materials. Mr. Joseph Harris, jun., architect. Quantities not supplied:—

Withers	£1,630 0 0
Forrest	1,620 0 0
F. & F. Wood	1,598 0 0

For building a public-house at Sudbury, Middlesex, for Mr. H. Weston. Mr. Isaac Bird, architect. Quantities supplied:—

Tracey & Co.	£847 0 0
Woodbridge	789 0 0
Brown	780 0 0
Williams	698 10 0
Rowe	697 0 0

Accepted for St. Mary's School, Outlane Longwood, Yorkshire. Mr. E. W. Tarn, architect:—

Mason and Slater's Work.	
Holroyd & Son	£309 0 0
Joiner's Work.	
Balmford, jun.	105 0 0
Plumber and Glazier's Work.	
Garton	37 0 0
Plasterer's Work.	
Crowther	18 10 0

For additions and alterations at No. 52, Tottenham-court-road, for Messrs. Warner & Son. Mr. J. Dent, architect. Quantities not supplied:—

Hyde	£499 0 0
Williams	493 0 0
Tracey & Co.	487 0 0

For enlargement of the Alexandra Hotel, Hyde Park-corner. Mr. Francis H. Fowler, architect. Quantities by Mr. William Harris and Mr. James G. Smither:—

Fish	£26,000 0 0
Duncanson & Moultrie	23,320 0 0
Jackson & Shaw	23,678 0 0
P. & A. Thorn	20,000 0 0

For new Congregational Church, Cambridge Heath. Mr. Joseph James, architect:—

Maers	£9,511 0 0
Dove	8,687 0 0
Myers & Sons	8,599 0 0

For alterations and re-building front at Messrs. Mappin, Brothers, Nos. 67 and 68, King William-street, City. Messrs. Smith & Williams, architects. Quantities supplied by Mr. W. R. Gritten:—

Alldred & Dalton	£3,316 0 0
Lawrence & Sons	3,140 0 0
Myers	3,120 0 0
Cubitt	2,980 0 0
Browne & Robinson	2,946 0 0
Little	2,937 0 0

For building the Crown Life Assurance Office, Fleet-street. Mr. T. N. Deane, Dublin, architect. Quantities supplied by Messrs. Tillott & Chamberlain, and Messrs. Wilson & Son:—

I'Anson	£21,151 0 0
Lawrence	20,844 0 0
Holland	20,387 0 0
Cubitt	20,375 0 0
Patrick & Son	20,049 0 0
Piper & Wheeler	19,825 0 0

For residence and dormitories, King Edward Refuge, Albert-street, Spitalfields. Mr. James Harrison, architect. Quantities supplied by Mr. Arthur W. T. Nicoll:—

Perry & Judson	£1,192 0 0
Little	1,140 0 0
Browne & Robinson	1,090 0 0
Coleman	1,070 0 0
Hill & Keddell	1,047 0 0

For alterations to No. 7, Chapel-street, Tottenham-court-road, for Mr. Nodes. Mr. R. H. Burden, architect:—

Scrivener & White (accepted)	£373 0 0

For building a portion of Clay-hill Lodge, Enfield, for Mr. W. Upward. Mr. F. G. Widdows, architect:—

Farr	£1,680 0 0
Humphreys	1,650 0 0
Field & Son	1,631 0 0
Patman, Brothers	1,489 0 0

For finishing villa residence on Carlton-hill, Kilburn. Mr. Wm. Todd, architect. Quantities supplied by New & Cummings:—

Longmire & Burge	£1,250 0 0
Ebbs & Sons	1,247 0 0
Dansham (accepted)	1,025 0 0

For alterations and additions to Oakfield, Atherstone. Mr. Robert Jennings, architect:—

Bricklayer's and Mason's Work.	
Spencer	£354 0 0
Fox (accepted)	230 0 0
Carpenter and Joiner's Work.	
Potter	233 15 0
Fox (accepted)	205 0 0
Plumber's Work, &c.	
Stanton (accepted)	76 10 0

For the erection of a detached villa residence at Muswell Hill. Mr. Alexander Peebles, architect. Quantities supplied:—

Bradley & Egg	£1,210 0 0
Wheeler	1,198 0 0
Withers	1,196 0 0
Ashton	997 0 0
Grayston	994 0 0
Ennor	986 0 0
Wheen (accepted)	972 0 0

For the erection of a church, lecture-hall, and vestries, at Maryland Point, Stratford, Essex, for the Managers of the Stratford Presbyterian Church. Mr. Alexander Peebles, architect. Quantities supplied:—

	Lecture-hall and Vestries.		Church.		Total.		Boundary Walls.	
	£	s.	£	s.	£	s.	£	s.
Cushing	1,157	15	5,475	15	6,633	10	165	16
Wheeler	1,303	10	5,226	16	6,530	7	157	5
Manley & Rogers	1,090	0	4,902	0	5,992	0	135	0
Withers	1,040	0	4,923	0	5,963	0	130	0
Simms & Marten	1,155	0	4,734	0	5,889	0	118	0
Wilson & Raynham	1,082	0	4,684	0	5,766	0	125	0
Sawyer	1,057	0	4,572	16	5,629	0	119	0
Ennor	998	0	4,641	0	5,639	0	125	0

Mr. Sawyer having omitted to complete his tender, that of Mr. Ennor was accepted.

For new school building at Starch-green. Mr. R H. Burden, architect :—
H. & J. Ferguson (accepted) £437 0 0

In the tenders for *Church of St. Michael and All Angels', Bromley*, and for a *public house* for the *Bow Brewery Company*, printed in our last, the name of the architect should be *J. W. Morris*, not "Monis."

TO CORRESPONDENTS.

M. P.—Mr. M.—A. W. T.—E. A. H. (see the *Builder* of last week).—W. W.—J. H.—T. M. & Sons.—J. T.—Art Lover (will appear)—J. H.—T. N. D.—M. C. J.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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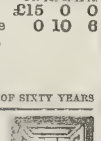
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6 inches by 1 inch thick, in truck-loads of 4,000, from 62s. per 1,000, cash, delivered to Metropolitan Railways. Also, matt tile, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks. Specimens may be seen, and every information obtained, at the Offices, No. 36, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street, Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament street, S.W.; or Poole, Dorset.

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For Damp Walls, and Living Iron Houses,
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GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
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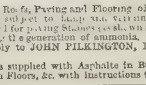
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Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
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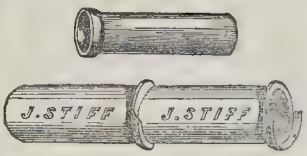
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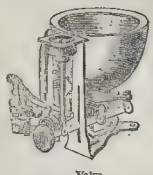
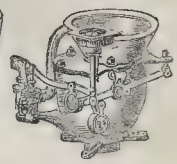

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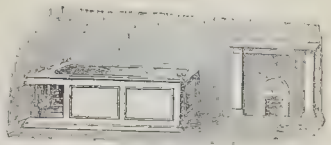


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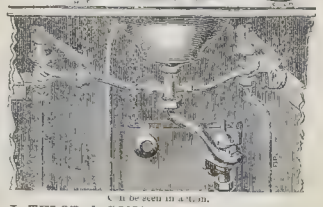


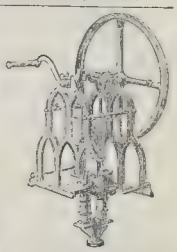
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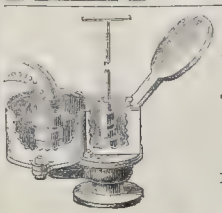
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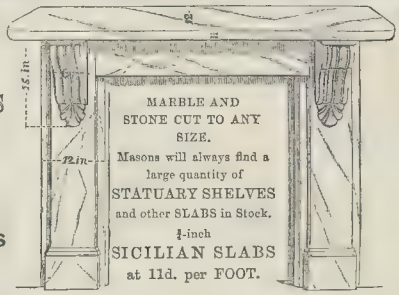
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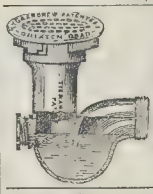


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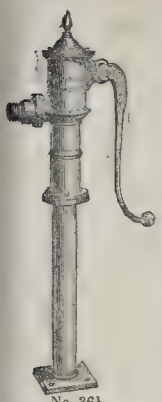
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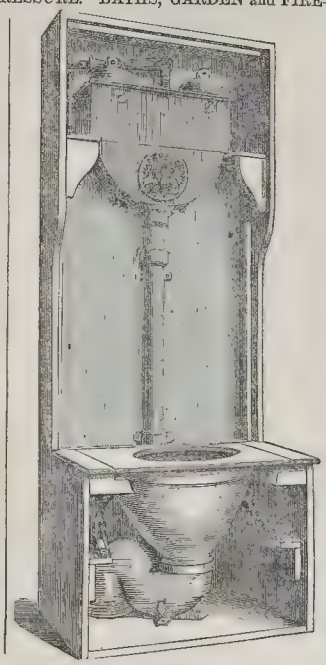
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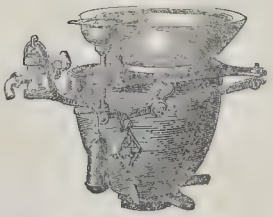


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WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Press, from 30/ 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

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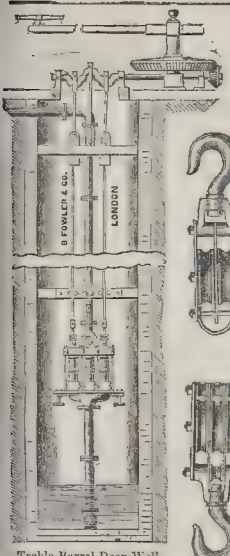
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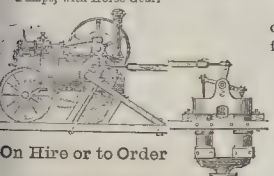
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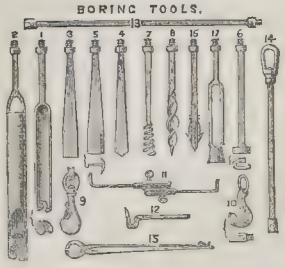




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For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

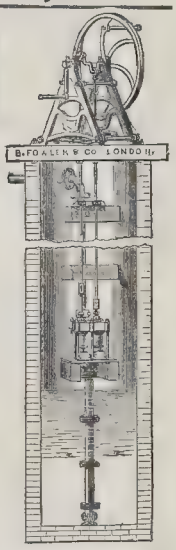
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

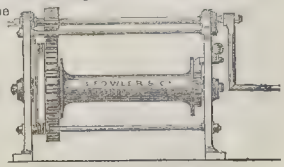
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

SALES BY AUCTION.

CLEMENT'S LANE, CITY.—To Fixture Dealers and Others.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, 16, Clement's-lane, on WEDNESDAY, SEPTEMBER 7th, at TWELVE (to clear the premises, which are about to be pulled down), Trade, House, and Office FIXTURES, and Miscellaneous EFFECTS, comprising 2 capital mahogany book-cases (8 feet and 10 feet wide), office desks and seats, mahogany tables and chairs, fitting up of strong room with wrought-iron doors, stoves and marble chimney-pieces, force-pump, &c.; also, weighing machines, crates and 1 pipe, set of 3 throw pumps, lubrication pumps, lathe, and various useful effects.—May be viewed the day previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 45, Parliament-street, S.W.

CORNHILL.—Materials of a House, with premises in the rear.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Commercial Union Assurance Company to SELL by AUCTION, on the PREMISES, on WEDNESDAY, SEPTEMBER 7th, at TWO, the excellent MATERIALS and FITTINGS of a large House and Shop, No. 20, Cornhill, and the Premises in the rear, comprising sound brickwork, useful timber in roofs and floors, floor boards, panelled partitioning and linings, plate-glass and other sashes, plate glass shop-front with revolving iron shutters, glazed sash-gear and other doors, stoves, chimney-pieces, &c. several tons of lead in flats, gutters, cisterns, and pipes; slate tiles, coping, and other useful materials.—May be viewed one day previous, and catalogues had of J. BELCHER, Esq. Architect, 5, Adelaide-place, London Bridge; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 45, Parliament street, Westminster.

HIGH-STREET, ST. PETER'S, BEDFORD. To Builders, Contractors, and Others.—Notice of a Succession of Auction Sales.

MR. USHER begs to announce that he is favored with instructions from Mr. G. H. Miller (who has determined on retiring from business), to dispose of the whole of his BUILDING PLANT, STOCK-IN-TRADE, and Effects, by PUBLIC AUCTION; comprising a large quantity of seasoned pitch, planks, scuntlings, and various; a large quantity of seasoned elm boards, deal boards, and battens, ash, lime-tree, poplar, &c.—To be viewed one day prior and morning of Sale.—Catalogues to be had at the Place of Sale, and of the Auctioneers, 9, Bolliter-street, E.C.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible Freehold Building Land, finely timbered, and admirably adapted for villa residences.

MR. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, London, on TUESDAY, the 27th of SEPTEMBER, 50 Lots of FREEHOLD BUILDING LAND, in Clapton-road, near to St. John's Church, Hackney, within a few minutes' walk of the Eastern Railway-station, and suitable for the erection of detached or semi-detached villas. Nine tenths of the purchase money may remain on mortgage for any term not exceeding seven, to be paid by quarterly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars and conditions of sale may be obtained on and after the 1st of September, at the Station House, Clapton; of T. W. ROGERS, Esq. Solicitor, 70, Fenchurch-street; at Messrs. HAMMACK & LAMBERTS, 29, Bishopsgate-street; at the Place of Sale; and of the Auctioneer, 7, Fenchurch street, London.

Renewal of Sale of Land, Clapham Junction Estate, which was suddenly stopped in the 27th July last, by the Directors of the South Western Railway Company, who by great effort, and regardless of the convenience of purchasers, prevented the same to suit its own purposes.

Mr. GEO. TODD has the pleasure to state that he has, with great care and regard to the interests of the Buyers, REPLOTTED the Land, having consequently the effect of that proposal taken by the Company; but it should be observed that the Company have a line of deviation, of which it may subsequently avail itself) over part of the Granted Land, and the buyers of that part will be liable to sell to the Company, should it choose to extend it permanent way or works in that direction.

The following is an partial description of the Property to be submitted to Public Auction:—IMPORTANT FREEHOLD INVESTMENTS, CLAPHAM JUNCTION ESTATE, Battersea, giving Votes for the County of Surrey.

MR. GEO. TODD has received instructions to SELL by AUCTION, on WEDNESDAY, 7th SEPTEMBER, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, at TWELVE for ONE o'clock, the above VALUABLE FREEHOLD ESTATE, having high-ways in nearly every direction. A pretty Rural Home, and about Fifteen Acres of Building Land, in Plots, free of land-tax, and suitable for the erection of villa, cottage, and shop property, including a few eligible plots for the erection of taverns, chapels, festival halls, manufactories, builders' premises, and livery stables, and well adapted for the creation of a considerable income in FREEHOLD GROUND RENTS. This large and valuable estate, is on the South Clapham Junction Railway station, and has ample frontage to the Falcon and Lavender Roads and Penham lane, and is situated in the large and improving parish of Battersea, a short distance from Clapham and West Brompton, and within an easy walking distance of the celebrated Park and Flower Gardens at Battersea. Particulars, with a plan, may be had two clear days prior to day of sale, of Messrs. H. & F. CHESTER, Solicitors, 1, Church-row, Newington Butts; or at the Auctioneer's Offices, Battersea Bridge-road, Battersea Park, S.W.

BATTERSEA, close to Clapham Junction Railway station.

GEO. TODD will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on WEDNESDAY, 7th SEPTEMBER, at TWELVE for ONE o'clock, a very pretty detached Rural COTTAGE, situate in Plough lane.—Particulars may be had of Messrs. H. & F. CHESTER, solicitors, 1, Church-row, Newington-butts; or at the Auctioneer's Office, Battersea Bridge-road, Battersea Park, S.W.

STRAND HOTEL.—Fourth Clearance Sale.—By order of the Directors.

MR. JOHN R. FOWLER will SELL by AUCTION, on TUESDAY next, SEPTEMBER 6th, at TWELVE for ONE precisely, the BUILDING MATERIALS of Lyon's Inn, Newcastle-street, Strand. Catalogues at the Offices of the Auctioneer, 24, St. Swithin's-lane, E.C.

PADDOCK WOOD, KENT, and eligible adjoining this important junction between the South Eastern Railway. Plots of Land with frontage to the said new line for immediate building.

MESSRS. DEBENHAM & TEWSON will SELL, at the MAIDSTONE-ROAD INN, Paddock Wood, on WEDNESDAY, SEPTEMBER 21st, at TWO for THREE, in Lots varying from a quarter of an acre to 2 acres in extent, about 14 acres of FREEHOLD LAND (land tax redeemed), being finely undulating and the Paddock Wood station for building purposes, nursery and market-garden ground, and accommodation land. Every lot will be sold with a perfect title under the new Act, affording a clear, simple, and indisputable title, at a small proportion of cost. Two-thirds of the purchase money can remain on mortgage at 5 per cent. if required, in three years.—Particulars of T. G. BULLEN, Esq. 19, Cannon-street West; and of the Auctioneers, 80, Cheapside.

PRELIMINARY ANNOUNCEMENT.—Patent Alkali Works, St. Helen's, Lancashire. Large Sale of Buildings, Materials, &c.

MR. KIRK respectfully announces that he is instructed to Catalogue and SELL by AUCTION, the latter end of the month of SEPTEMBER, the whole of the BUILDINGS, of every description (in order that the same may be taken down, removed, and the ground cleared), forming the extensive Works known as the far-famed PATENT ALKALI WORKS, at St. Helen's, Lancashire, including extensive ranges of substantial brick buildings, blue slated roofing of the very best Welsh slates, rafters, joists, beams, planking, &c. immense in quantity and excellent in quality; cast and wrought iron work in columns, girders, tie-rods, &c.; lead flashings, gutterings, shoots, &c.; flags, tiling, &c. Also a 30 horse condensing beam-engine, large cast-iron water-tank, together with a vast assemblage of other valuable materials and effects. Full particulars in future advertisements, and catalogues, which are in course of preparation, will be ready shortly; and, in the interim, address the Auctioneer, at his Offices, 8, Essex-street, King-street, Manchester.

PIMLICO.—To Dealers in Material, Plate Glass Fronts, and Others

MR. GEO. HAINES announces for SALE by AUCTION, on MONDAY, SEPTEMBER 5, at TWELVE o'clock, all the capital BUILDING MATERIALS of Four spacious Dwelling-houses and Business Premises, in King's-row and Lower Eaton-street, with a small House attached, comprising many thousands of capital stock bricks, large roofs, with slates, tiles, and strong timbers, with the internal fittings of the numerous rooms of the usual description; three noble shop fronts, with plates of glass of large dimensions, shutters, and fittings complete; lead gutters, pipes, and cisterns, iron columns, balconies, and railings, fixtures and useful articles.—May be viewed Catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate-street; and at the Auctioneer's Offices, Pimlico, and No. 12, High-street, Kensington.

BUSHY PARK ESTATE, Upper Teddington, abutting on the Royal Park.—About ten acres of most valuable Freehold Building Land in this favoured locality.

MESSRS. GADSDEN & ELLIS will SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, near the Guildhall, Gresham-street, on THURSDAY, OCTOBER 13, at TWELVE for ONE (unless an acceptable offer be previously made by private contract), in one lot; but if not sold it will immediately be offered in several lots, as shown in particulars, about TEN ACRES of FREEHOLD LAND, having a commanding frontage, abutting on and overlooking Bushy Park, on the road from Teddington to Hampton. Immediately opposite are several first class family residences, enjoying highly ornamental and botanical features, enclosed, and finished regardless of expense, securing the superior character of the neighbourhood. A new church also is in course of erection adjoining the estate. Spring water is readily obtained, and gas and water are laid up to the property. The access is most convenient to City or West-end, by two lines of railways.—Particulars may shortly be obtained of Messrs. PALMER & BULL, Solicitors, 84, Bedford-row; at the Guildhall Coffee-house, Gresham street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad street, E.C.

KEMPTON PARK ESTATE.—Hampton, on the high road to Sunbury, and adjacent to the River.—Twenty-four Acres of Freehold Building Land, full of the finest brick earth, fit to make the best stock bricks.

MESSRS. GADSDEN & ELLIS are instructed to SELL by AUCTION, at the GUILDHALL COFFEEHOUSE, near the Guildhall, Gresham-street, on THURSDAY, OCTOBER 13, at TWELVE for ONE, in one or more lots, TWENTY-FOUR ACRES of FREEHOLD LAND, with roads formed, and ready for immediate building operations, situate between the upper and lower roads from Hampton to Sunbury, and within five minutes' walk of the station on the Thames Valley Railway, which will be open almost immediately. The land lies close to several admired residences and estates, and commands fine views over the Thames and surrounding scenery, and is well deserving the attention of capitalists and builders.—Particulars may shortly be obtained of Messrs. PATERSON & LONGMAN, Solicitors, No. 3, Winchester-buildings, E.C.; at the Guildhall Coffee-house, Gresham street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street

On MONDAY, SEPTEMBER 12, at ELEVEN for TWELVE,

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-Town, near the Old Eagle, the STOCK, viz.—Ten loads of Swede timber, pine, yellow and white planks, deals and battens, prepared flooring and pine boards, quarter boards, mouldings, stuff, 2,000 feet run of cast-iron sash-frames, 10 ladders, 20 doors, and a large quantity of excellent building materials.—Auction Offices, Cardington-street, Hampstead-road

PRELIMINARY ANNOUNCEMENT.—Vulcan Works, Church, near Accrington and Blackburn.

MR. KIRK is favoured with instructions from the Assignees of Mr. Lupton, to arrange, catalogue, and SELL by AUCTION, under a deed of assignment, for the benefit of the creditors, early in SEPTEMBER, the whole of the valuable TOOLS, Utensils, Plant, Machinery, Steam-engines, Boilers, Stock-in-Trade, &c. in the works, foundry, fitting-shops, smiths' shops, stores, &c. on these extensive works.—Full particulars of which will be given in detailed catalogues, which are being prepared, and will be ready shortly; and may be had of Messrs. HALL & BALDWIN, Solicitors, Clitheroe, and also of the Auctioneer, at his Offices, 8, Essex-street, King street, Manchester

OLD BUILDING MATERIALS.—To BE SOLD by AUCTION, by

MR. B. ABBOTT, Jun. at Marlborough-place near the Load Nelson, Old Kent-road, on MONDAY next, the 5th of SEPTEMBER, a large quantity of first-rate BUILDING MATERIALS, consisting of 6-4 doors and linings, sashes and frames, modern cornices, stone paving, 7,000 best lime stocks, joists 9 inches by 3 inches, long sound oak and fir timber joists and plates, 1,000 feet run of strong boarding, modern iron railings, sashes, wardrobes, book-cases, &c. &c. &c.—Catalogues may be had on the Premises; or on application to Mr. B. ABBOTT, Jun. Auctioneer, Grace-church-street, City.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, on the PREMISES, Nos. 212 and 214, Rosemary-road, on WEDNESDAY, SEPTEMBER 14th, 1864, at SEVEN, by order of Mr. Rosemary, who is demolishing the retail trade, the remaining well-seasoned STOCK, comprising 80,000 feet of prime Spanish and Honduras Mahogany; 10,000 feet of walnut, rosewood, &c.; 50,000 walnut and other veneers; 1,000 planks and boards, useful cut stuff, &c. Approved bill will be taken over 20l.—On view the day prior.—Catalogues on the Premises, and of the Auctioneers, Holywell-row, Finsbury-square.—To Let or the unexpired Yard, with few Dwelling-houses, to be Sold.

BLACKHEATH.—A Gentleman is desirous of DISPOSING of PLOTS of FREEHOLD and LEASEHOLD LAND, forming eligible sites for private residences, and being within three minutes' walk of the railway station.—For terms and particulars, address Mr. F. F. HOPKINS, Architect and Surveyor, 4, Colebrooke-row, Grace-church street, and Lee, Kent.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception rooms, two being 36 feet in length, eleven bed-rooms; stabling for eight horses and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. solicitor, 6, Russel square.

LARGE BUSINESS PREMISES, TO BE LET, or the LEASE TO BE SOLD (near the Baker street station of the Metropolitan Railway). Held for many years, now occupied by an engineer, and suitable for various manufacturing purposes, or for occupation by a builder or carpenter. His waggon entrance, large workshops and yard, with lofts and stores over. A steam engine and boiler are in the premises. For particulars and to view, apply to H. CLAYTON & CO. Brick and Tile Machine Makers, Atlas Works, Upper Park place, Dorset square, N.W.

FREEHOLD LAND TO BE SOLD or LET on BUILDING LEASES, in Glengall-road, Old Kent-road,

AND ALSO near Forest-hill Station.

ALSO FREEHOLD WHARF on the Surrey Canal, near Old Kent-road.—Apply to Mr MAY, Acorn Timber Wharf, Old Kent-road.

TWICKENHAM PARK near RICHMOND. Most Eligible BUILDING LAND to BE LET on Lease, for Ninety-nine Years, in Large or Small Plots. Money advanced, if required.—For particulars, apply to W. BACKHURST, at the Estate Offices, Twickenham Park; or EDWARD GUILLAUME, Esq. 14, George-street, Mansion House, London.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company, at Stratford, Essex, close to the Station and the High-street; one portion with river frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London-wall.

IRON FOUNDRY TO BE LET, with immediate possession, established thirteen years. Rent low, and to suit only a small capital for meeting.—For particulars apply to H. CLAYTON & CO. Brick and Tile Machine Makers, Atlas Works, Upper Park-place, Dorset-square, London, N.W.

BROMLEY, KENT.—Beautiful FREEHOLD BUILDING SITES, with a registered title under the new Act, adjoining the Shortlands Station on the Mid Kent Railway. Messrs. DEBENHAM & TEWSON beg to announce that the title to the Shortlands Estate having been investigated and approved by the Court of Registry, they are now in a position to SELL any of the remaining LOTS, with a registered and indefeasible title; the effect of which will be to reduce the present and all future purchasers' legal expenses to an almost nominal amount, the immense advantage of which to all purchasers, and especially to those intending to deal with or build upon them, can hardly be over-estimated, as not only will the title henceforth be absolutely indisputable, but sales of the whole or any portion, or of leases to be built thereon, will be as simple and inexpensive as the transfer of a ship or money in the funds. This advantage, in addition to the proposed supply of water by the Kent Waterworks, and of gas by the Bromley Gas Company, cannot fail to render any building operations on an extensive scale an eminently remunerative one. The sites, which lie very high, vary in extent from 1 to 13 acres, with an undulating surface and a varying soil of gravel, sand, and clay. They are within a few minutes' walk of the Shortlands Station, and only ten miles from London Bridge.—For particulars and plans may be obtained of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

NEWLY and most substantially erected WAREHOUSES and LAND, occupying an area of nearly half an acre, near the entrance to the London Docks, well adapted for bonded warehouses, TO BE LET on LEASE, or the Freehold to be sold.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

SURBITON.—TO BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk from the station, and close to the river, for houses of not less than 30l. a year rent. A portion of the money will be advanced if required.—Apply to Mr. MUDIE, Victoria-rd, Surbiton.

TO TIMBER MERCHANTS or STONE MASONS.—A good HOUSE, with ground 150 feet in length, TO BE LET on LEASE, near the Canal.—Apply to A. B. care of Mr. Pearson, Stationer, Park-road, Peckham.

LONDON BRIDGE (NEAR).—TO BE SOLD, the LONG LEASE and possession of a large HOUSE and SHOP in the main road, with a newly erected large light Four-storied Warehouse behind, in the rear, suitable for any trade requiring both space and publicity. Will be let together or separately.—Apply at Estate Office, 21, Walbrook, City.

LAND TO BE LET, by Tender, on the 29th SEPTEMBER, by the Fishmongers' Company, on a BUILDING LEASE, for ninety years, situate on the east side of Pudding-lane, in the centre of the fruit market, containing a frontage of 36 feet 6 inches, with a medium depth of about 70 feet, highly suitable for warehouses, shops, or other business premises.—At, or to Mr. W. B. TOWSE, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SI TER, Architect and Surveyor, No. 29, Great-church-street, where plans and particulars may be seen. Tenders to be delivered before TWELVE o'clock on the 29th SEPTEMBER, 1864

FREEHOLD BUILDING LAND, on the Borders of the City.—TO BE LET, on a Building Lease, TWO Eligible SITES, in Bunhill-row and Chiswell-street, on the borders of the City of London, suitable for warehouses, manufacturing premises, or stabling. One extends 51 ft. 3 ins. more feet; the other 1,760 square feet.—Apply to Messrs. DEBENHAM & TEWSON, No 80, Cheapside.

VALUABLE and Extensive Waterside PREMISES, close to Queen street and Southwark Bridge, in the City of London.—To Wharfingers, Bonded Warehousemen, and Others.—TO BE LET, the Extensive BLOCK of Newly built WAREHOUSES known as Queenhithe Dock, having a frontage of 140 feet to the River Thames and almost entire use of the dock, where vessels of 150 tons can lay by.—Further particulars of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

WANTED to RENT, with option of Purchase, LAND, containing good brick earth.—Apply in writing, with full particulars, M. care of S. Hewitt, 101, Great Russell-street, Bloomsbury, W.C.

TO CAPITALISTS.—FREEHOLD PROPERTY in St. Leonard's road, Poplar To BE SOLD, suitable for any business, the building in good repair, substantial new.—For further share, apply by letter to J. T. E. Metropolitan Tavern, Great Western-terrace, Westbourne-park, Paddington. No agents need apply.

TO CARPENTERS, BUILDERS, and OTHERS.—TO BE SOLD (together or separately), FOUR TEN ROOM HOUSES, pleasantly situated, and close to the Kent-street town and Hampstead Railway. Easy direct from freeholder.—Apply to Mr. MOLL, 6, Furnival's-inn, or Mr. J. FURNELL, 1, Arthur-grove Oak Village, Kentish-town.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the improvements made in the Construction of CLOCKS, suitable for PARISH CHURCHES, and other large Buildings, by the late E. J. DENT and E. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, as Turret Clocks, with Compensation Pendulum, and keyless Watches of temperature, to work the hands of dials of any size, from 1 foot to 21 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

FAIRER'S TURRET CLOCKS,

188, St. George-street East, London. By Special Appointments to the Queen and to his late Royal Highness the Prince Consort, her Majesty's War Department, &c. Maker of the Great Clock of the Tower of London. The Vestry Clock, price 45 guineas.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, No. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Paul, Covent-garden, in the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 3, 1864.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1127. SEPTEMBER 10, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BENEVOLENT INSTITUTION. The SEVENTEENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, 27th OCTOBER, next, THOMAS C. LUCAS, Esq., President of the Institution, in the Chair. Gentlemen desirous of promoting the interests of this charity by becoming Stewards will be pleased to forward their names to the Treasurer, GEORGE PLUCKNETT, Esq. (Messrs. Wm. Cubitt & Co.), 28, Gray's Inn road, or to the Secretary, at the Offices, 24, Southampton-street, Bloomsbury, W.C. A. G. HARRIS, Sec.

ANNUAL EXHIBITION of STAINED GLASS at the SOUTH KENSINGTON MUSEUM, MAY, 1865. The Lords of the Committee of Privy Council on Education have placed at the disposal of the producers of Stained Glass in the United Kingdom a space in the South Kensington Museum for the Exhibition of Stained Glass, of a highly artistic character, in the year 1865. For the most part the space will be the same as this year.

Applications for space and particulars to be made on or before the 31st OCTOBER, 1864, addressed to the Secretary, Science and Art Department, South Kensington Museum, W.

By order of the Lords of the
Committee of Privy Council on Education

AUTUMN EXHIBITION of BUILDING MATERIALS, INVENTIONS, EXAMPLES of CONSTRUCTION, &c. at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street, Regent-street, W. Exhibitors are requested to fill up the Papers as soon as possible. The Exhibition will be open daily to the public free, from ELEVEN till FOUR, from SEPTEMBER to FEBRUARY.—For space, apply to Mr. MOODY, Secretary, on the Premises.

SCOTTISH NATIONAL MEMORIAL to H.R.H. the PRINCE CONSORT.—The Committee of Advice from nobility, by her Majesty are now prepared to receive DESIGNS to be submitted to her Majesty for the SCOTTISH NATIONAL MEMORIAL to the PRINCE CONSORT about to be erected in Edinburgh, or the immediate neighbourhood. Of the Sites which have been suggested for the Memorial, the most eligible appear to be—

1. A knoll on the Spur or Ridge running NNE. from Arthur's Seat, and about 540 feet above the sea.
2. West Princes-street Gardens, at the foot of Frederick street or Castle street.
3. Eastside of Calcdonia Square Garden, facing George-street.
4. The Queen's Park, in the immediate neighbourhood of Holyrood Palace.

The Committee, however, desire especially to direct the attention of artists to the first named of these sites, which offers many advantages. A national memorial in that commanding position would be seen by persons approaching Edinburgh at a greater distance, and from a wider circle both of the city and the country, than in any other available position. At the same time, it is not desired absolutely to preclude the suggestion of any other site which an artist may consider peculiarly suitable for his design. The amount of Fund at the disposal of the Committee for the erection of the Memorial is £2,000; and the Committee regret that they are therefore unable to offer premiums or remunerate any unsuccessful competitor for his design. It is requested that all models and drawings, not already prepared, may be furnished on a scale of one inch to the foot. No Designs can be received after the TENTH day of DECEMBER next.

12a, George-street, Edinburgh. W. S. WALKER, Hon. Sec.
31st August, 1864.

BILLING'S PATENTS. CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices, apply to the Manager, Mr. TYLER, 19, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical caring of Smoky Chimneys.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at the Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving 2*l.* and 1*o*.

For Silver Work, 1*o*. and 5*s*. (the latter given by Mr. H. Heather Bigg, of Wimpole street).

For Transparent Enamels, 10*s*. (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10*s*. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger Stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the establishment more extensive execution of all descriptions of hot water, bath, dairy, and steam work.

72—74, Bishopsgate street Within.

CONTRACTS.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland granite in Backing and Steps, Roach, Portland, and rough rubble. Also for the Balcony columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge

TO CONTRACTORS.—The Proprietors of Charlestown Harbour, near Saint Austell, Cornwall, are prepared to receive TENDERS for the ENLARGEMENT of the DOCK, and the CONSTRUCTION of a BRANCH RAILWAY to connect the Harbour with the Cornwall Railway.—Plans, sections, and specifications may be seen, on and after MONDAY, the 12th inst. at the Proprietors' Offices, Charlestown; at the Offices of OLIVER GREEN, Esq., 4, Mitre court Chambers, Temple, London; and at Mr. WM. ROBERTS, Llanelly. Tenders to be addressed to the care of OLIVER GREEN, Esq. as above, not later than the 5th of SEPTEMBER, 1864. The Proprietors do not bind themselves to accept the lowest or any Tender.

BUILDERS and CONTRACTORS willing to TENDER for REPAIRS and ERECTION of Additional BUILDINGS required at Sanitary Hall, near Stratford-on-Avon, may inspect plans, specification, and conditions of Contract, at the Office of Mr. JOSEPH LATIMER, Architect and Surveyor, Stratford-on-Avon. Particulars, Captain DOUGLAS GALTON, Royal Naval Hospital, Greenwich, to whom Tenders are to be forwarded. The Proprietor will not bind himself to accept the lowest or any Tender.

August 31st, 1864.

THE GREAT NORTHERN RAILWAY COMPANY. LINCOLN to HONINGTON LINE. CONTRACT for SLEEPERS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of REGULAR BALTIC SLEEPERS for the line, about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender on application at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders sealed up and marked "Tender for Sleepers" (Lincoln to Honington Line)," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—DONCASTER and GAINSBORO' LINE, and IMPROVEMENT of LOOP LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the DONCASTER and GAINSBORO' LINE and STATIONS, and for the IMPROVEMENT of the LOOP LINE, to accord with plans and specifications prepared by Mr. Cubitt and Mr. Bryde. The Line is 19 miles and 66 chains long, and the Loop is about 1½ miles, or if the Improvements on the Loop be extended about a distance of about two miles. Parties disposed to Tender may obtain the respective plans and forms of Tender for which forms only Tenders will be received at the Office of Mr. BRYDONE, 5, Whitehall, S.W. on and after MONDAY, the 19th SEPTEMBER, where also copies of the bridge drawings, and copies of the general plan and section, and other information, may be obtained, on payment of 5*s*. each set. Tenders, sealed up, and marked, "Tender for Doncaster and Gainsboro' Line and Improvement of Loop and Stations," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Station, King's-cross
Station, London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for CHAIRS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of CHAIRS for this Line, about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, the 12th SEPTEMBER. Tenders sealed up and marked "Tenders for Chairs," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for CHAIRS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of CHAIRS for the Line about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received), at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders sealed up and marked "Tenders for Chairs," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the LINCOLN to HONINGTON LINE (about 19¼ miles long) and STATIONS, in accordance with plans and specifications prepared by Mr. Cubitt and Mr. Brydone. Parties disposed to Tender may obtain the respective plans and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. BRYDONE, 5, Whitehall, S.W. on and after MONDAY, 12th SEPTEMBER, where, also, copies of the bridge drawings, and copies of the general plan and section, and other information may be obtained on payment of 5*s*. each set. Tenders sealed up and marked "Tender for Lincoln to Honington Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19¼ miles in length). Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders sealed up and marked "Tender for Rails and Fish Plates (Lincoln to Honington Line)," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19¼ miles in length). Parties disposed to TENDER may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, the 12th SEPTEMBER. Tenders sealed up and marked "Tender for Rails and Fish Plates (Lincoln to Honington Line)," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY. DONCASTER to GAINSBORO' LINE.—CONTRACT for SLEEPERS.—The Directors of the Great North of England Railway Company are prepared to receive TENDERS for the SUPPLY of REGULAR BALTIC SLEEPERS for the Line about 19¼ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender for which forms only Tenders will be received at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, the 12th SEPTEMBER. Tenders, sealed up and marked "Tenders for Sleepers," must be lodged at this Office before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER, when parties Tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.

Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO BUILDERS. — TENDERS are required for the ERECTION of a VILLA RESIDENCE at Tunbridge Wells, for Mr. [illegible] and further particulars may be obtained on applying at No. 1, Charlotte-street, Bedford-square, W.C. on and after FRIDAY, the 9th inst., at which place the TENDERS are to be delivered there on WEDNESDAY, the 14th instant, at TWELVE o'clock precisely. The lowest Tender not necessarily accepted, unless a Reference satisfactory.

September 8, 1864.

[For remainder of Contracts see next Page.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.

TENDERS are required for the ERECTION of a CORRUGATED IRON SHED, with Curved Roof, 24 feet long and 27 feet wide, at the Gun Wharf, Portsmouth.

Persons desiring to Tender for the execution of this Work must leave their names at this Office, in or before the 20th SEPTEMBER, 1864, and pay the sum of 10s. 6d. for the same or quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

J. W. GORDON,
Colonel-Commandant Royal Engineers.

Royal Engineer Office, Portsmouth, 7th September, 1864.

ARMY CONTRACTS.—TENDERS will be received at this Office until TWELVE o'clock at Noon, on WEDNESDAY, the 28th instant, from persons who may be willing to enter into CONTRACT for the

SUPPLY OF FORAGE,

in such quantities as may be required, for twelve months, from the 1st of NOVEMBER, 1864 to the 31st of OCTOBER, 1865, for the use of Her Majesty's Forces stationed at Aldershott Camp and within the Command.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter addressed to the Station Commissariat Officer, or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up, signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Forage"), and no Tenders will be noticed unless made on forms obtained from this Office, and duly sent before TWELVE o'clock (noon) on WEDNESDAY, the 28th of SEPTEMBER, 1864.

N.B. The contractor will not be required to pay the one penny per ration bill duty deducted from account of matters, in future, the amount will be taken by Government.

Commissariat Office, Aldershott, September 7, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Southsea, in the county of Hants, may inspect the Drawings and Specification at the Coast Guard Watch House, Southsea, at all times, between the hours of TEN and FOUR from TUESDAY (the 13th inst.) to WEDNESDAY, the 28th day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at the 30th of SEPTEMBER, under seal, directed to the Commissioners, and endorsed "Coast Guard Station" "Tender for Southsea."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any Tender.

Dated this 8th day of September, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

NOTICE to BUILDERS. TENDERS are required by WORKS to be EXECUTED under a schedule of prices at Devonport, in the county of Devon, in part COMPLETION of the EXTENSION of the GUN WHARF Works connected with the EXTENSION of the GUN WHARF Dock at Keyham Yard.

The schedules will be ready for delivery at this Office, on TUESDAY next, the 6th instant, and can be obtained until TUESDAY, the 13th instant, on which day, from TEN to NOON, Tenders can be received, if necessary information by attending at this Office, and all necessary schedules and the form of Tender, they will be forwarded with a blank forms of Tender, and letters how to proceed.

The Secretary of State for War does not bind himself to accept the lowest or any other Tenders.

Royal Engineer Office, Devonport, 2nd September, 1864.

VENTNOR LOCAL BOARD.—TENDERS are invited for MAKING a SEWER, of about 1,800 feet, in accordance with the plans, &c. which may be seen at the Office of Mr JOHN B. LIVE-AY, the Surveyor, Ventnor. The Board do not bind themselves to accept the lowest or any Tender. Tenders are to be sent to me on or before the 1st day of OCTOBER next.

T. HAMILTON URRY, Clerk.

Ventnor, Isle of Wight, 6th September, 1864.

BOROUGH of SCARBOROUGH. — To BUILDERS, CONTRACTORS, and OTHERS.—The Council of the Borough of Scarborough are prepared to receive TENDERS for the ERECTION of a NEW PIER, and Harbour of Refuge, at Scarborough, and specifications may be seen on application at the Town-hall, Scarborough, on or before FRIDAY, 30th SEPTEMBER instant. Tenders, addressed "The Town Clerk, Town-hall, Scarborough," and endorsed "Tender for Pier," to be sent to the Town-hall on or before FRIDAY, 30th SEPTEMBER instant. The Council do not bind themselves to accept the lowest or any Tender. By order,

J. J. P. MOODY, Town Clerk.

Town-hall, Scarborough, September 1, 1864.

TO SEWER CONTRACTORS.

BUILDERS, and OTHERS.—Notice is hereby given, that the Highways, Sewer and Public Works Committee of the Vestry of St. Pancras will meet at the Office of the Department of Works on MONDAY, the 19th day of SEPTEMBER, 1864, at SIX o'clock p.m. to receive and treat for TENDERS from persons willing to contract for the CONSTRUCTION of NEW SEWERS in John street and Camden Street, and Camden-mews, Kentish-town, in the Parish of St. Pancras, according with the terms of specification and plans to be seen at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. the Surveyor, as under. Good security will be required for the due performance of each Contract. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or considered unless made out on the printed forms. Tenders must be delivered by SIX o'clock p.m. on the said MONDAY, in SEPTEMBER next, but By order,

CHAS. WORRELL, Clerk of the Department of Works
19, Elsworth-st., Hampstead-road, September 7, 1864

BOROUGH of WOLVERHAMPTON, SEWERAGE WORKS.—CONTRACT No. 1.—To CONTRACTORS.—Parties desirous of TENDERING for about 2 MILES of MAIN SEWERS, including CULVERTS, MANHOLES, OVERFLOWS, TUMBLING BAYS, and other WORKS connected therewith, in the new Outfall, and intended plans, sections, detail drawings, and specification, at the Town Hall, Wolverhampton, on and after MONDAY, the 12th day of SEPTEMBER, and on FRIDAY, the 30th day of the Month, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon. Sealed Tenders, addressed to the Chairman of the Sewerage Committee, Town-hall, Wolverhampton," and endorsed "Tender for Sewerage Works, Contract No. 1," must be delivered to the Borough Surveyor, at the Town-hall, on or before SIX o'clock p.m. of the above-named day. No Tender will be received after SIX o'clock p.m. of the above-named day. Tenders must be addressed to the Borough Surveyor, and endorsed "Tender for Sewerage Works, Contract No. 1." The Committee do not bind themselves to accept the lowest or any Tender. No Tender will be considered unless made out on the printed forms, which may be obtained on application at the Borough Surveyor's Office, Wolverhampton.

E. J. PURNELL, Borough Surveyor.

Town-hall, Wolverhampton, September 1, 1864.

TO BRICKMAKERS, DUST COLLECTORS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish of St. Mary Abbotts, Kensington, in the county of Middlesex, will meet at the Vestry Hall, Kensington-gore, on FRIDAY, the 16th day of SEPTEMBER instant, at HALF-past SEVEN o'clock in the evening, to receive TENDERS for the SALE of the DUST, ASHES, CINDERS, and REFUSE that may be collected during the year ending the 25th day of MARCH, 1865, from the Houses and Premises within the Parish, and also for the Contract for the REMOVAL of the same.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter addressed to the Station Commissariat Officer, or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up, signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Forage"), and no Tenders will be noticed unless made on forms obtained from this Office, and duly sent before TWELVE o'clock (noon) on WEDNESDAY, the 28th of SEPTEMBER, 1864.

N.B. The contractor will not be required to pay the one penny per ration bill duty deducted from account of matters, in future, the amount will be taken by Government.

Commissariat Office, Aldershott, September 7, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Southsea, in the county of Hants, may inspect the Drawings and Specification at the Coast Guard Watch House, Southsea, at all times, between the hours of TEN and FOUR from TUESDAY (the 13th inst.) to WEDNESDAY, the 28th day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at the 30th of SEPTEMBER, under seal, directed to the Commissioners, and endorsed "Coast Guard Station" "Tender for Southsea."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any Tender.

Dated this 8th day of September, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

NOTICE to BUILDERS. TENDERS are required by WORKS to be EXECUTED under a schedule of prices at Devonport, in the county of Devon, in part COMPLETION of the EXTENSION of the GUN WHARF Works connected with the EXTENSION of the GUN WHARF Dock at Keyham Yard.

The schedules will be ready for delivery at this Office, on TUESDAY next, the 6th instant, and can be obtained until TUESDAY, the 13th instant, on which day, from TEN to NOON, Tenders can be received, if necessary information by attending at this Office, and all necessary schedules and the form of Tender, they will be forwarded with a blank forms of Tender, and letters how to proceed.

The Secretary of State for War does not bind himself to accept the lowest or any other Tenders.

Royal Engineer Office, Devonport, 2nd September, 1864.

VENTNOR LOCAL BOARD.—TENDERS are invited for MAKING a SEWER, of about 1,800 feet, in accordance with the plans, &c. which may be seen at the Office of Mr JOHN B. LIVE-AY, the Surveyor, Ventnor. The Board do not bind themselves to accept the lowest or any Tender. Tenders are to be sent to me on or before the 1st day of OCTOBER next.

T. HAMILTON URRY, Clerk.

Ventnor, Isle of Wight, 6th September, 1864.

BOROUGH of SCARBOROUGH. — To BUILDERS, CONTRACTORS, and OTHERS.—The Council of the Borough of Scarborough are prepared to receive TENDERS for the ERECTION of a NEW PIER, and Harbour of Refuge, at Scarborough, and specifications may be seen on application at the Town-hall, Scarborough, on or before FRIDAY, 30th SEPTEMBER instant. Tenders, addressed "The Town Clerk, Town-hall, Scarborough," and endorsed "Tender for Pier," to be sent to the Town-hall on or before FRIDAY, 30th SEPTEMBER instant. The Council do not bind themselves to accept the lowest or any Tender. By order,

J. J. P. MOODY, Town Clerk.

Town-hall, Scarborough, September 1, 1864.

TO SEWER CONTRACTORS.

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CHAS. WORRELL, Clerk of the Department of Works
19, Elsworth-st., Hampstead-road, September 7, 1864

BOROUGH of WOLVERHAMPTON, SEWERAGE WORKS.—CONTRACT No. 1.—To CONTRACTORS.—Parties desirous of TENDERING for about 2 MILES of MAIN SEWERS, including CULVERTS, MANHOLES, OVERFLOWS, TUMBLING BAYS, and other WORKS connected therewith, in the new Outfall, and intended plans, sections, detail drawings, and specification, at the Town Hall, Wolverhampton, on and after MONDAY, the 12th day of SEPTEMBER, and on FRIDAY, the 30th day of the Month, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon. Sealed Tenders, addressed to the Chairman of the Sewerage Committee, Town-hall, Wolverhampton," and endorsed "Tender for Sewerage Works, Contract No. 1," must be delivered to the Borough Surveyor, at the Town-hall, on or before SIX o'clock p.m. of the above-named day. No Tender will be received after SIX o'clock p.m. of the above-named day. Tenders must be addressed to the Borough Surveyor, and endorsed "Tender for Sewerage Works, Contract No. 1." The Committee do not bind themselves to accept the lowest or any Tender. No Tender will be considered unless made out on the printed forms, which may be obtained on application at the Borough Surveyor's Office, Wolverhampton.

E. J. PURNELL, Borough Surveyor.

Town-hall, Wolverhampton, September 1, 1864.

TO BRICKMAKERS, DUST COLLECTORS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of St. Mary Abbotts, Kensington, in the county of Middlesex, will meet at the Vestry Hall, Kensington-gore, on FRIDAY, the 16th day of SEPTEMBER instant, at HALF-past SEVEN o'clock in the evening, to receive TENDERS for the SALE of the DUST, ASHES, CINDERS, and REFUSE that may be collected during the year ending the 25th day of MARCH, 1865, from the Houses and Premises within the Parish, and also for the Contract for the REMOVAL of the same.

The Contractor will be required to enter into a written contract and [illegible] with sufficient sureties for the due performance of the [illegible] Tenders must be delivered at the Vestry Office, Vestry Hall, on or before SEVEN o'clock p.m. on the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender. The [illegible] Tenders must be made out in figures, and the Tenderers must attend personally or by their agents at the meeting of the Committee, when the Tenders will be opened. Forms of Tender may be obtained at the Vestry Office, Vestry Hall, Kensington-gore.

By order,

REUBEN GREEN, Clerk to the Vestry.

Vestry Hall, Kensington, Sept. 8, 1864.

TO BUILDERS.—The Board of Guardians of St Matthew, Bethnal-green, are willing to receive TENDERS for the ERECTION of a PUBLIC BATH and LAVATORY, in the Premises, Waterloo-road, Bethnal-green, for which the Architect, P. N. CLIFTON, 7, East-India-avenue, Leadenhall-street, E.C. Copies of the quantities may be obtained on Monday, WILLIAMS & SCHOFIELD, 12 Montague-street, Russell-square, W.C. The Board do not bind themselves to accept the lowest Tender, and will require the builder whose Tender is accepted to give the names of two sureties, who will be bound formally with himself in the sum of 1,000l. for the due execution of the works. Tenders to be addressed to the Rev. W. H. RICHARDS, the Vicarage, Great Thurrock, near Romford, before the 10th of OCTOBER next. The Committee do not pledge themselves to accept the Lowest or any Tender.

HARTLEPOOL WATERWORKS. — To CONTRACTORS.—The Hartlepool Gas and Water Company are prepared to receive TENDERS from parties willing to contract for the CONSTRUCTION of TWO RESERVOIRS and other Works near Hartlepool, in the county of Durham. The drawings and specification may now be seen, and other particulars obtained, at the Company's Offices, West Hartlepool, or at the Offices of Messrs. MARTIN & FENWICK, 1, Park-place, Leeds. N.B.—Tenders addressed to the Secretary, Gas & Water Company, West Hartlepool, will be received up to TWELVE o'clock at noon on the 20th inst., but the Company do not bind themselves to accept the lowest or any Tender.

August 29, 1864.

TO BUILDERS. — The Directors of the Gloucester Spread Eagle Hotel Company (Limited) are ready to receive TENDERS for the ERECTION of a NEW HOTEL, STABLING, and other BUILDINGS, on the site of the present Spread Eagle Inn, Northgate-street, Gloucester. Persons desirous of Contracting for the Works may see the drawings and specifications at the Offices of the Architects, Messrs. MEADLAND, MASKELL, & MEADLAND, Clarence-street, Gloucester, after MONDAY, the 29th inst. at which time a full set of quantities and form of Tender on payment of One Guinea. Tenders, sealed and indorsed "Tender for Hotel," to be sent in per cover to the Secretary, at the office, Gloucester, not later than MONDAY the 26th instant. The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors,

King-street 1st September, 1864. JOHN LOVEGROVE, Secretary pro. tem.

TO BUILDERS.—CROYDON UNION NEW WORKHOUSE.—The Guardians are desirous of receiving TENDERS for the ERECTION of a NEW WORKHOUSE at Croydon-road, Croydon. The plans and specification can be inspected, and other particulars obtained, on application to the Architect, M. JOHN BELNEY, at his office, Nortfield, Croydon, on and after the 12 h of SEPTEMBER next. Copies of the quantities may be obtained of Mr. THOMAS P. FRANKLIN, Surveyor, No. 5, Adelaide-place, London Bridge, upon depositing with him the sum of 5l. 5s. which will be returned after the delivery of the Tender. Sealed Tenders, addressed to me, and indorsed "Tender for a New Workhouse," to be delivered at my Office, as under, on or before MONDAY, the 26th day of SEPTEMBER next. The Guardians do not bind themselves to accept the lowest or any Tender. The Guardians will require the builder whose Tender is accepted to give the names of two responsible sureties to be bound jointly with himself in the sum of 3,000l. for the due execution of the works.—By order,

ALFRED G. BLAKE, Clerk to the Guardians.

No. 83, George-street, Croydon, August 25, 1864.

TO CONTRACTORS and BUILDERS.—RESTORATION of the PARISH CHURCH of S. MARY, ARNOLD, near Nottingham.—TENDERS are required for the WORKS to be done in the RESTORATION and partial REBUILDING of the above CHURCH. Contractors or Builders desirous of tendering for the Contracts for the above Works, are hereby informed that they can obtain the Architects' detailed specifications, and the plans and quantities, at the Office of the Architects, Messrs. CROSSLAND & PAWLEY, Leeds, on and after MONDAY, the 12th day of SEPTEMBER. Tenders to be delivered to the Honorary Secretaries of the Lover Mechanics' Institution, Saint Ann's Parade, not later than MONDAY, the 26th day of SEPTEMBER, inst. The lowest or any Tender will not necessarily be accepted.

HENRY CURREY, 4, Lamcaster-place, Strand, London;
S. DUTTON WALKER, 8, Derby-road, Nottingham, } Architects.

TO BUILDERS.—LEEDS MECHANICS' INSTITUTION and SCHOOLS of SCIENCE and ART.—CONTRACTORS are invited for the ERECTION and COMPLETION of the proposed NEW BUILDINGS for the above INSTITUTION. The Plans and Specifications may be seen, and bills of quantities obtained, at the Office of the Architect, Mr. W. H. CROSSLAND, New Coin Exchange, Leeds, on and after MONDAY, the 12th day of SEPTEMBER. Tenders to be delivered to the Honorary Secretaries of the Leeds Mechanics' Institution, Saint Ann's Parade, not later than MONDAY, the 26th day of SEPTEMBER, inst. The lowest or any Tender will not necessarily be accepted.—By order,

H. WADMAN, } Hon. Secs.
W. J. NEILD, }

August 25, 1864.

COMPETITIONS.

THE Town Council of Funchal, Island of Madeira, elect PLANS and ESTIMATES for a BUILDING adapted to the following Purposes, viz.:—The Vestry Room and Law Courts, Police and Local Tax Offices &c. The cost of the entire building, if all may not to exceed 8,000l. sterling. FIFTY POUNDS will be paid for the accepted plan, and FIFTEEN POUNDS for the next approved. The unapproved plans will be returned. A proper plan of the ground, proposed for the erecting of buildings, can be seen, and further particulars may be obtained on application at the Town Council Office in Funchal, Island, as before stated, to C. R. BLANDY, 25, Crutched-friars, London, E.C.; GEORGE BOLDERO, 19, Rue d'Hauteville, Paris, for London to ORCHARD, Wharf-street, Philadelphia. The plans and estimates to be delivered in London, Paris, or Philadelphia, on or before NOVEMBER 8th, 1864.

TO ARCHITECTS, &c.—COMPETITION PLANS for NEW MARKET-HOUSE and PUBLIC HALL for the town of Farnham, Surrey.—The Directors of the Farnham Market House and Public Hall Company (Limited), invite Architects to furnish PLANS, with SECTIONS, for the above, to be prepared all one, the cost of which is not to exceed 5,000l. A premium of 75l will be given for the plan selected to be adopted, and a premium of 25l for the second best. The plans of the successful competitor to be the property of the Company, and no payment will be made to unsuccessful designs. Should the author of the last-named be appointed Architect to the building, he is to receive a reward will be made upon the commission that may become payable to him. Full particulars may be obtained at Mr HENRY POTTER, Farnham Secretary to the Company. The plans must be sent to the undersigned, with the signatures, with a private mark, or motto, and a letter accompanying them, also to be sealed, containing the same mark or motto, and the designer's name and address. They must be addressed to the Chairman of the above Company, at the Castle-street, Farnham, and be received before the 31st day of NOVEMBER next.

Farnham, 31st August, 1864.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart. are prepared to receive DESIGNS and ESTIMATES for the ERECTION of a COLUMN, on an elevated site on the Sledmere Estate, on the York-Shire Wolds, near Driffield. Designs and Estimates to be sent to the Honorary Secretary, on or before the 3rd day of OCTOBER next. Twenty pounds will be given for the design considered the most suitable by the Committee, and ten pounds for the second-best design.—Particulars to be had on application to

WM. TOPHAM,
Driffield, 1st August, 1864. F. C. MATTHEWS, } Hon. Secs.

PROPOSED CEMETERY at BURTON-UPON-TRENT.—To ARCHITECTS, LANDSCAPE GARDENERS &c.—The Burton-upon-Trent Improvement Commissioners, who are now applying a Public Act for the town of Burton-upon-Trent, are about obtaining PLANS, ESTIMATES, and GENERAL SPECIFICATIONS for the ERECTION of TWO CHAPELS, Residences for the Resident Officers, Entrance Lodges, Gates, Railings, Fences and Walls; Laying out and Planting New Roads and Footpaths in the proposed Cemetery, consisting of 12 acres; the whole cost, exclusive of the purchase of the land, not to exceed 6,000l. A premium of 50l will be given for the most approved plans, estimates, and specifications, and 25l for the second best. Should the Author of the approved plans be employed in carrying out the works, the premium of 50l will be added to the Architect's commission. A liberal plan of laying out the ground, and any further information, may be obtained on application to me on and after the 12th day of SEPTEMBER next; and the plans, &c. are required to be sent in a letter with a motto, are to be forwarded to me on or before the 12th day of OCTOBER, 1864.—By order of the Board,

WILLIAM CONON, Clerk.

Public Offices, 77, High-street, Burton-upon-Trent.

TO ENGINEERS, MILLWRIGHTS, &c. COMPETITION PLANS.—The Visiting Justices of the House of Correction, at Cold Bath Fields, Clerkenwell, are desirous of obtaining PLANS for the CONSTRUCTION of a SET of TREADWHEELS at that Prison, of such efficient cost and strength as they may deem at one time. The length of the shed in which the wheels are to be erected is 102 feet; breadth, 19 feet; height, 21 feet. Each plan is to be accompanied by an estimate of the cost, and a description of the proposed works; and must be forwarded to the Prison, with some motto or mark, and the name and address of the Tender, in a sealed letter, bearing the same motto or mark, by WEDNESDAY, the 5th of OCTOBER next. The Visiting Justices will give a premium of 25l. to the author of the plan they shall deem to be approved of by them, and this plan is to become their property, but they do not hold themselves to adopt it, either partly or entirely, or to employ the author to construct, provide, or superintend the construction of the works.—Any further information may be obtained by application at the Prison, on any Monday, Tuesday, or Wednesday, between TEN and ONE.

JOHN S. SCALE, Clerk to the Visiting Justices.

August 25, 1864.

TO BUILDERS AND OTHERS.

THE GENERAL FINANCE, MORTGAGE, and DISCOUNT COMPANY (Limited).

Offices: 3, TENTONVILLE-ROAD, LONDON.

PETER GRAHAM, Esq. Oxford-street, Chairman.

Solicitors.

Messrs. BOULTON & SONS, Northampton-square.

This Company is prepared promptly to negotiate all kinds of Financial Business, including Loans on good Personal Security, Advances on terms of years on Mortgage of Freehold and Leasehold Property, repayable by instalments; the Discount of good Bills; Advances on Shares, Deposit of Deeds, &c.

The Directors are also prepared to receive Deposits at call or short dates, for which a per cent. will be allowed until further announcement.

E. BALCH, Secretary.

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No. 1, Old Broad street, and 37, Pall mall, London.

Established 1803.

Subscribed and Invested Capital, 1,600,000l.

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Herman Stern, esq. (Messrs. Stern, Brothers).
Henry Mason Morgan.—William Hopkins, esq. V.C.

In consequence of a large number of applications the Directors have agreed to accept deposits in sums as low as 50l. at a fixed rate of interest, and for periods not less than one year.—By order,

WALTER A. MICHAEL, Secretary.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



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Near Astley's Theatre.

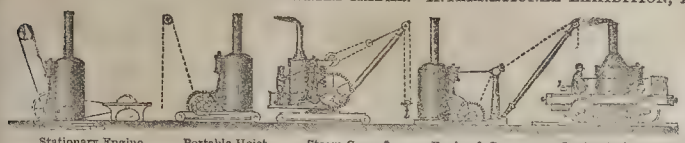
Respectfully inform the Profession and Trade that their Illustrated Price List will be forwarded free on application. Engineers will be found particularly serviceable, by the last-named, a Pocket Book containing a Table of Chain, by the late Mr. Gravatt, Assistant Surveyor-General.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS PLITCHES, and TANKS, Iron Roofing, and every description of Smith and Founders' work. Estimates given.

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WROUGHT AND CAST IRON
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Manufactured in WROUGHT and CAST IRON, and ERECTED.
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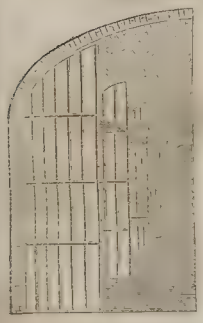


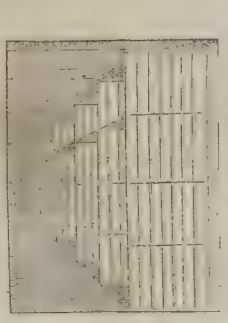
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WROUGHT IRON WINE BINS.





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Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING nearly FORTY YEARS.

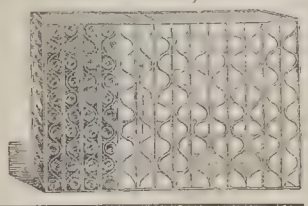
The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

ALSO THEIR

NEW REGISTERED IRON BINS,



Made any size or shape, to fit any spare corner, with SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents of the Bin.

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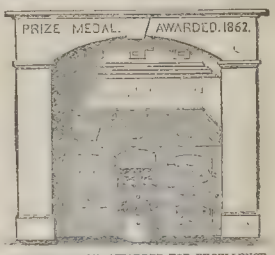
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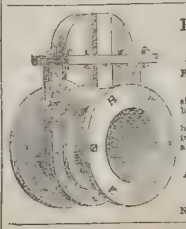
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It is entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide is equal to an ordinary Range 8 feet wide.
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Rain Water Pipes....	2½-in.	10d.	3-in.	1s. 0d.	per yard.
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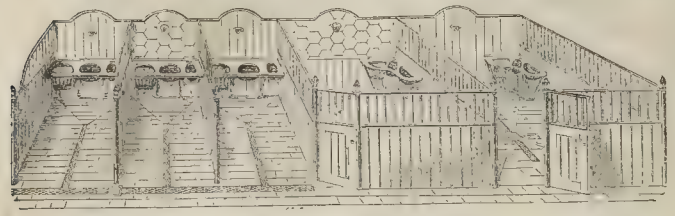
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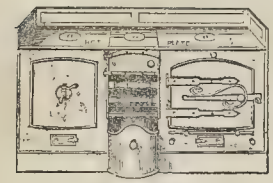
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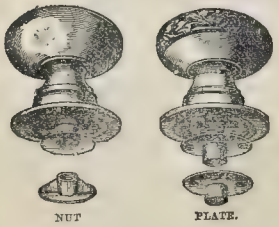


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A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
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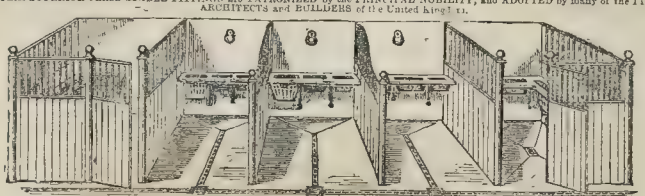

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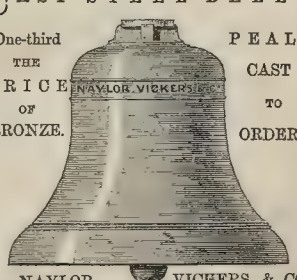
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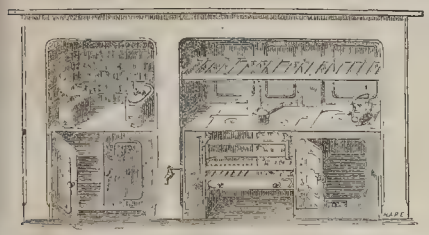
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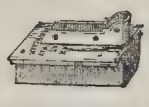
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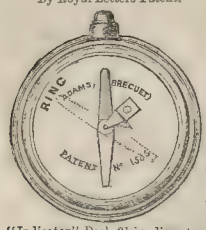
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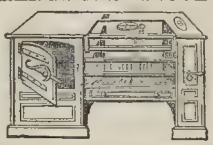
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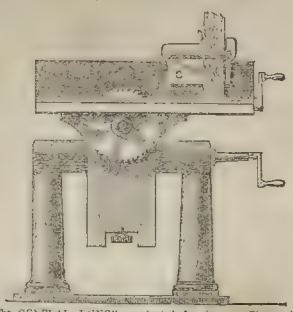
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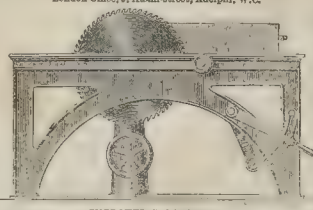


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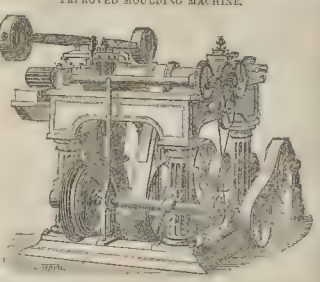
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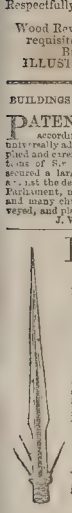
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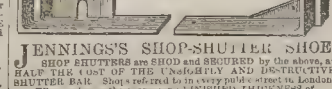
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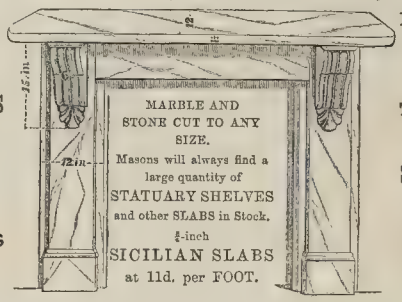
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VOL. XXII.—No. 1127.

Influence of Woman upon Architecture; and the Attributes of the Art.*

THE last instructions to a certain minister departing from a foreign capital to the place of assembly of a congress, were conveyed in the words, "*Soignez les femmes.*" The injunction at least implied an opinion of the importance of the influence of women in one direction. The influence is not limited to the sphere of diplomacy; but this might be a better world, as in common with others we have urged, were the original intention of a "Communion of Labour" recognised in the education of both sexes, and preparation for the duties of life, and then in the utilization of the *matériel* of advancement. One of the ablest of the noble band of female writers on subjects concerning the position and claims of women,—though not the late Mrs. Jameson, from one of whose books we have just quoted the words of the title,—has well argued that the efforts in every division of progress, even including those for the abandonment of war as a mode of settling disputes, would soonest attain their objects were the co-operation of women universally enlisted. Something of what is, after all, pervading truth regarding possible development of female influence, has occasionally dawned upon those who are striving for the progress of the art, architecture. The value of feminine appreciation, and even counsel, has been hinted at; and it has been suggested, that what has to do with the arrangements of a house is essentially of the mission of women, that art especially is of the nature of things that could receive illumination and be expressed by the female mind, and that the art, architecture, might be within the scope of the feminine study, and perhaps professional practice. Our own conclusion, at least on the point of the importance of feminine appreciation of art in architecture, need hardly be stated here. But, we would say, and urge, that there is in the mind of woman, a particular organization that would afford to architecture what is an element of the constitution of art, and one which the architecture of our time and country is just now in peril of entirely lacking. And, since we have taken some share in showing a necessity for rationality in architecture, or especially in the decorative art manufacture from which it was in danger of being exorcised, we are bound to warn against the other danger of forgetting, in the process of satisfying the reason, the emotional and poetic element of art, or what may be called sentiment.

M. César Daly, never more fortunate than when treating the æsthetics of our art, has just issued forty pages of a "*Causerie*" in which he gives a supposed conversation between a lady, a poet, and an architect, and referring to the general subject of the influence of women upon architecture, as on that of the eighteenth century, and to an iron *grille*, in the church of Saint-Germain-l'Auxerrois, in Paris, of which he has lately given an illustration in his "Revue." M. Daly, an Englishman in some of the things of which Englishmen may be proud, is the Frenchman both as *causeur* (that word which the dictionary cannot translate) and as gifted with power of analysis. In our friend's *Causerie*, indeed, we get as much of other matter out of the *grille-de-fer*, as of the influence of women upon the architecture of the eighteenth century, a subject the importance of which he has before shown, and which no one could better treat at the length which it deserves. However, as the "No. 1" on the box-lid turned up by Edie Ochiltree, implied according to that worthy, the existence of a "No. 2," the adjective "*Première*" on the title-page of the *brochure*, promises a second *causerie;* whilst, we doubt not, the promise will result differently from the digging as described in the novel. In the later pages of the *brochure*, the lady has to recall the Architect's attention to a request that she had addressed to him, to explain how the feminine influence, which she had estimated as likely to be somewhat capricious, had been able to modify the character of architecture. The Architect brings up the arrears of his explanation, in saying:—

"The influence of woman upon architecture is but one of the forms of her influence upon man. The will of the man, rough and personal, is softened by the warmth which the woman kindles in his heart. Even as the bronze of this *grille*, melted in the fire of the furnace, has been moulded at the pleasure of the artist, in like manner the will of the man is moulded upon the desires, the caprices even, of the beloved woman.

The first and the principal theatre of the victories of woman was the domestic hearth: from the slave, there, by insensible transitions, she has become the mistress. So, the history of domestic architecture, of the house of habitation, studied in the aspect of the successively increasing influence of woman over man and over art, offers a subject worthy of the theories of a genius at once the most supple and the most profound, worthy of a writer endowed with the qualities of the historian, the philosopher, and the artist. For the honour of the body of architects, I desire sincerely that there may be owing to it one day that history.

The social relations, friendship, hospitality, the noblest sentiments, have conspired with love and the family sentiments, in favour of this domestic emancipation of woman, and by a logical consequence, in favour of her general social influence."

Without further allusion to the manner in which the provision of a distinct part of the house, as in several periods, for the women, has modified the expression of domestic architecture, he goes on to speak of what even more characterizes the female influence in France, than in England.

"Since the *salon* has become the principal apartment, the pivot of the house, the sovereignty of woman is proclaimed. The government of the *salon* belongs in effect, exclusively to the woman; and it is the only modern government that is sheltered from revolutions. It is despotic, however: there is no charter of freedom [*pas de charte*]. Woman smiles, and man obeys.

It is a curious thing to read the dissertations of the learned architects of the last century, on the doctrines of the ancients, and the necessity of respecting the precepts of Vitruvius, and afterwards to look at their works, conceived and executed, the most frequently without their suspecting it, the blind men, under the influence of women, who then governed with so much of a sovereign power, politics, literature, and art, because they governed the politicians, the literary men, the artists, and even the learned who were the most illustrious. . . . ."

Having referred to the particular decorative character of the *grille*, he observes that in the eighteenth century, mundane and feminine grace invaded the temple, where soon it was enthroned, just as at Trianon and Versailles.

Speaking in his own person, M. Daly concludes, saying that the artist of the piece of metal-work, Pierre Dumicz, was an interpreter of the feminine genius of his time, and that it is truly an advantage for us in this age of science, industry, and positivism, to observe, by the study of the works of that artist and those of his illustrious contemporaries, how much advantage, sometimes, the arts, and architecture particularly, find in allowing themselves to imbibe a little of the feminine spirit. This, and the point of the motto from Vauvenargues ("Introduction à la Connaissance de l'Esprit Humain"), that to have taste, it is necessary to have soul, constitute the argument in the *brochure*. M. Daly winds up his epilogue to the *Causerie* thus:—

"The masculine spirit, rough and strong, easily takes science alone for guide; and under that exclusive influence, genius itself is produced often under forms which are too severe. The veritable architect causes life to spring forth everywhere, it is true. At his command there issues a voice from the most refractory stones and marbles, as from the hardest metals. But if the architect neglects to associate with his efforts of creation, not only Reason, that strength of man, but also Grace, that power of woman, the voice which he will cause to be born will be often hoarse or hissing, and repulsive as the north-east wind of winter.

Reader, if the conviction yet delays to enter into your mind, there is left to you one resource. turn yourself round a little, and consult that one who is by your side, your wife, or your daughter. To the lights of your lofty reason, she will add those of her natural instinct, and the inspirations of her heart. *Art*, to be born, demands that Inteligence be fecundified by Sentiment. From the single brain of the man, were he a Jupiter, can be born only the modern Minerva, Science."

At the opening of the conversation, the lady had remarked that she must refuse to recognise that as an art, of which the perception could escape her sex. She had always understood that it was sentiment that governed art: sentiment was the main point with women; and, without having studied an art, or being mistress of its processes, she thought that its successful works ought to awaken her sensibility,—that it was even by that that she recognised the productions as true works of art. The Poet agreed that *art*, of its nature, addressed itself before everything to our sentiment, and was born more directly of that than of the reason. The Architect coincided, and added that the object of a work of architecture should be manifest, and that the forms should be not only harmonious, but in perfect relation with the nature of the sentiment,—that, for example, a sentry-box in stone, and one of the little chapels such as there are over the graves of the cemeteries of Paris, of the same general form, should be at once distinguishable from one another. The theory which he defended, he said, was that of truth in art,—of material and moral truth, both and at once. But he claimed that a mistaken course should not be attributed to architecture solely: he remarked that imitation of works of another time or country had characterized certain periods in literature; and that there are in the lifetime of nations, periods of indecision, when the labourers are divided into forces, one under the banner of Progress, and the other of Tradition. Architecture had its fainting-fits, like everything that doubts; and modern architecture especially lacked faith in itself, which is strength.

To recover solid and durable convictions, architecture had addressed itself to Science; and he said:—

"From that was born the *rationalist* school, which considers architecture as 'ornamented construction,' and which has this strange character, namely, to exist without being well known by the greater part of its proper members. The adepts of this school are spread in effect amongst the groups of Gothic dilettanti, and eclecticists. Under colour of support, whether of one of the historic schools, or of eclecticism in architecture, they deny one another: the Gothic rationalist refuses to recognise the legitimacy of the classic or eclectic rationalist, and reciprocally. They have however a common principle, that of justifying the forms of art of the style which they adopt, in making them derive laws from science; and this common principle which binds them in after another manner fruitful in consequences, without many amongst them suspecting it, as that which separates them.

The rationalist school has already rendered and will again render services; but it bears a fatal mark of origin: born of a reaction against the idealist school, it is exaggerated and incomplete as everything that draws its vitality from a like source; and it will perish thereby.

The idealist school had too easily made abandonment of the rights of modern society to be represented in art: it was too completely enslaved to the historic forms of art, not to render indispensable and inevitable the advent of the rationalist school; the work of which will be to conciliate modern architecture with contemporary science and industry, a conciliation impossible with the system of blind imitation of the temple or the *château* that you just now bantered so roughly, but with so much reason. This necessary work of concord of architecture and science once accomplished, the rationalist school will disappear: not that it is destined to succumb in combating another school, but it will have no more reason to exist; the object of its existence attained by the alliance effected between architecture and modern science, it will be re-absorbed in a more elevated school, of which it will have prepared the advent, as the organs given by nature for the needs of a transitory and inferior existence, disappear when the animal that has been endowed with them passes to a superior mode of existence which renders them useless.

What is this school which is to come? It is easy to tell. The alliance of architecture and of reason concluded, thanks to the rationalist school, will leave still one progress to be realised, that which ALONE can deserve for architecture the name of *art* in its moral acceptation. I would speak of the alliance of architecture and *sentiment*. . . . . ."

* "Première Causerie d'Histoire et d'Esthétique,—Ce que peut raconter une Grille de Fer de l'Influence des Femmes sur l'Architecture au XVIIIe Siècle. Par M. César Daly, architecte du gouvernement, directeur-fondateur de la *Revue Générale de l'Architecture et des Travaux publics*. Dédié à M. Félix Duban, Membre de l'Institut, etc.—'Il faut avoir de l'âme pour avoir du goût.' Vauvenargues.—Paris; aux Bureaux de la Revue de l'Architecture, Rue Monsieur-le-Prince 60. 1864." 8vo. pp. 40.

The Architect concludes this exposition of his views by saying that the sentiment to which he referred was not that of antiquity, or of the Middle Ages, but that of modern times; for, that there is no architecture that does not express the genius of its epoch, the character of society contemporary with it, and even to the influence and social position of women. In a subsequent page, the distinction between the two elements of art is drawn in the words of the Poet, who is made to say that, if reason serves to enlighten, to cause us to see correctly, and to comprehend the things already perceived, it is especially sentiment and instinct that invent and discover.

We pass with simple allusion, matter which there is in the *Causerie*, of much interest, concerning the relations of science and the miraculous. We can merely note that an explanation is attempted of the fact of the curved form given to the lilies in the *grille*, instead of the straight lines of the stems as in nature. But we may point out one conclusion from such arguments as those which M. Daly has so well advanced. It is this: that the art of architecture is not complete,—that the thing might be said to be not architecture at all,—without the presence of sculpture. For, sculpture it is, rather than any mere mouldings, that would give the *sentiment* of the work, and speak its purpose to those, the general public, to whom we, no less than M. Daly, say that the art should be addressed in great degree, or indeed mainly, and by whom its works should be appreciated and continue to be. In fact, the architect should aim at an appreciation of his productions, somewhat akin to that which is given to those of the musician by persons even who are not acquainted with music. For such appreciation, something more than lines and conventional ornaments may be necessary; and we apprehend, it is much nearer to the correct view of what would constitute the best *architecture*, to say that sculpture is essential to the realization of the sentiment of it, than to adopt the view that there is no connexion between *sculpture* properly so called and *architecture*, that the Elgin marbles were not parts of the architecture of the Parthenon, and that architecture and sculpture were always treated as separate arts. M. Daly, at least, we are inclined to believe, would be of our way of thinking, and not of Mr. Fergusson's. At the same time, the amount, and the high art character of the sculpture displayed in the Parthenon, is not indispensable for our argument: a very small amount may explain the purpose of a building, and secure the *sentiment* which has been above contended for as an essential: but to expect that the sentiment will be apparent, or will even exist, in mouldings alone, seems to us to make failure very probable.

Referring to painting and sculpture as handmaids to architecture, we should mention that M. Daly has some useful remarks on principles which should be observed in their introduction. He says that the painter-decorator wishing to bring to recollection (the expression should be noted), architectural forms on the interior walls of an edifice, should not adopt *imitative painting*, but *interpretative painting*. The columns represented by the painter-decorator, should not enter into competition with the true columns of the edifice: the work of the painter ought to contribute to the unity of the architectural effect, and not to risk contradiction of it. He refers to an example of this "interpretative painting," given in the ninth volume of the "Revue de l'Architecture," &c. In the *grille* of Saint-Germain-l'Auxerrois, he says, the same principle is recognised. A medallion bearing a monogram, is carried by a console. Has the artist imitated a real medallion, a true console?

> "Not at all. He has interpreted these forms with his twisted and bent bars of iron. He has neither reproduced nor imitated them: he has recalled them; and it is in that way he has proved his great instinct of art, his high appreciation of the properties and of the limits of his special art, smith's work."

In short, the conditions of the production of the highest art of architecture, are perfect satisfaction to the reason, and the production of an emotion of pleasure, or sentiment, compatible therewith; or it may not be inaccurate to say, that the art will be the result of union between the masculine attributes and the feminine. It is because such a union has been from time to time effected, that fine and beautiful works in architecture, sculpture, and painting, and in music, poetry, and the drama, have been produced. Man, or woman, each was created incomplete; and the perfect mind is that of one complemented by the qualities of the other.

WEIGHING AND WEIGHBRIDGES.

THERE is no need to adduce statistics of the immense values that are daily changing hands under the arbitrament of weights, nor to point to the many operations in which, for instance, the builder has to call the weighing-machine to his aid, to show the great part played in social and technical life by the operation of weighing. Phrenologists assign a particular part of the forehead to the faculty for distinguishing the weights of objects, and there is no doubt that some people have a special power for very closely guessing the weight of anything after balancing it in the hand. This faculty is of great value to an artisan in handling his tools, and its possession will sometimes in a great measure make the difference between a good and a bad workman. It is not to be expected, however, that the result of a weighing of this kind could satisfy both buyer and seller, and accordingly, from time immemorial, apparatus of different forms have been in use for the purpose. A picturesque field is here open to the antiquary, and one of no less extent is yet to be explored by the social reformer. The manifold frauds practised by petty huxters on the most helpless portions of the population by means of false weighing and measuring have long engaged the attention of our legislators, and three Acts of Parliament have been passed during this century for reform in this direction. In truth, the interests involved are very great, as the sums paid by the poorer population for small portions of food doled out by means of weights and scale are immense in the aggregate, and it is conceivable that much misery could be caused by an extended system of fraudulent weighing and measuring, on which petty shopkeepers could batten like a spider in a corner. The last Act, passed in 1847, has undoubtedly done a great deal of good, but we think that much yet remains to be done.

All existing English weights have as a standard the standard brass weight now in the custody of the clerk of the House of Commons and made in 1758. In 1826 it was determined that "a cubic inch of distilled water, weighed in air by brass weights," at 62° Fahrenheit, the barometer being at 30 in., is 252·458 standard grains. Inspectors of weights and measures, appointed by the local authorities, have the right to enter any shop, to seize upon any false or unstamped weight or measure, and to summon the dealer before the magistrates, who adjudge a fine varying in amount from a few shillings to several pounds. In case the summons should fail, the inspector himself must pay the costs. These inspectors generally receive about 150*l.* per annum, and, by an excellent arrangement, are besides partly paid by results, as they get a portion of the fines. This puts these persons on the alert, and great numbers of shopkeepers are annually fined for defective weights, scales, and measures. The shopkeepers, however, are no less on the alert, and a rather long chapter could be written on what might be termed, not inappropriately, cheesemonger engineering. Hourly every day, from week to week, dealing out small bits of perhaps rancid cheese or bacon, in return for unsavoury discs of copper, can scarcely have a very elevating effect on the human mind; and, for our own part, we must confess to a prejudice for this sort of people, and to a professional preference for the artisan. The heroic Madame de la Rochefoucauld states in her Memoirs that, during the sanguinary carnival of the Great French Revolution, the most bloodthirsty lot were the petty shopkeepers. However this may be, the British huxter of our own time thirsts for more practical things, and, at the bottom of his heart, finding a parody to a famous saying, could whisper that weights and scales were not meant to weigh, but to conceal the true weight. The jealousy with which these people watch a suspicious eye examining the working of their scales, and truculent ferocity with which the quietest remark is met, can only be compared with the animus of a mastiff while crunching a bone.

With greasy ingenuity the cheesemonger or pork-butcher affixes a penny-piece, by means of a bit of lard, to the uttermost flat end (or "neck") of the scale-beam in which the pat of butter, the pennyworth of cheese or bacon, is to be weighed out. *Cela va sans dire* that the penny-piece is adjusted to the beam at the side which is turned towards the inside of the counter, and that, even after the inspector and his witness are in the shop, the copper piece may be easily slipped off the beam. With no less ingenuity and knowledge of statics, the butcher sometimes adjusts a short piece of one of his wooden skewers between the end of the beam and the top link of the chain from which depends the scale—thus increasing the static moment of the meat he puts into the buyer's side. Great facilities for fraud are afforded by the kind of small weighing-machines often used by fishmongers and bakers, on account of the greater number of fulcra (six), and the great areas of the disk and the scale-pan in which the comestibles or the weights are respectively placed. There is now an itinerant buyer and seller of gold and silver objects, travelling in the country districts of Buckinghamshire, who uses a small pair of steel scales specially made for country use. His weights are of course stamped, and are correct, but one arm of the beam of the scale is larger than the other. When he buys, he puts the article in the scale hanging from the short arm; when he sells, he puts the article in the scale fitted to the long arm. He manages to travel about, like an affable bagman that he is, with a horse and gig; and we only hope that a sharp horsedealer may some day manage to sell a horse with one leg longer than the other to this distinguished member of the gigocracy. Amongst some other engineering huxters, tobacconists have a particular preference for dynamical means of increasing their gains. Holding up the scales in the left hand, the two or three ounces of tobacco are briskly banged upon the scale, which has the effect of causing the whole to quickly vibrate up and down, and then, after two or three oscillations, producing an apparent balance, the scales are quickly banged on to the counter, and the parcel is wrapped up and sold. It is not an unusual thing to observe publicans' pewter pots with the bottoms struck up, so that what with this, and a careful development of froth on the top, the customer gets very much less than the "imperial pint." But, then, if the beer be adulterated with, say, *nux vomica*, these two negative frauds produce a positive benefit to the consumer, upon the same principle that a homœopathic quack is, perhaps, safer than an allopathic quack. In the same way the bottoms of dry measures are sometimes driven up, brass weights are filed away, and the leaden plugs of cast-iron weights are partly cut out. At the same time, these latter expedients are too clumsy to be at all safe, and are liable to be instantly detected by the inspector. The steelyards used by itinerant fruitsellers greatly facilitate fraud, even when correct weighs are used. As it is, weights—particularly brass weights—are continually liable to get light, and this is especially the case through the salt and grease furthering the effects of friction on the weights of sugar-bakers, grocers, oilmen, and salt merchants. A great number of the shopkeepers in the metropolis pay a kind of insurance premium against any unfortunate results of the visits of the inspectors of weights and measures. They pay a certain sum per quarter to some weight and scale maker in the neighbourhood, who examines at intervals the state of the weights and scales, and engages to pay any fine which may result from their honestly defective state. This plan is no doubt very practical, and for our own part, if we were inspecting weights and measures, we should pay very particular visits to the shops not under this kind of supervision.

It appears to us that several considerations might be adduced in favour of an amendment, or rather of an extension, of the law which provides for the use of only stamped weights. In the first place, it must be remembered that really accurate weighing, even with perfectly accurate weights, is a most delicate and difficult operation. Let any one read what is written on this subject by, for instance, Faraday, in his "Chemical Manipulation."

The weigh-beam of a good pair of scales ought, when not loaded on either side, to take a perfectly horizontal position. If the two scales be equally loaded, the beam ought to keep its horizontal position, but a very small difference should at once produce an effect. A good balance should have "stability," or the power of easily and quickly returning to, and oscillating about, the position of rest; and "sensibility," on the tendency to turn with a very small additional weight. The sensibility of any balance is expressed by a fraction, the denominator of which is the greatest load that it can bear without injury, while the numerator is the smallest weight that will produce a noticeable effect on the beam. A balance

intended for chemical investigations should indicate at least 1-200,000th of the load. In the first place, it is clear that the two arms of the balance should be perfectly equal in length as also in weight. At first sight this seems a simple condition, but it is not so easy of attainment in practice. Measurement alone is not to be trusted, but the length of the two arms should be also tested by weights. The beam should be as light as possible, -as light as is consistent with inflexibilty. The sensibility also evidently increases with the length of the beam. The stability is obtained by placing the centre of gravity of the beam at the point below and close to the central point of suspension; the points forming the axis of motion must be in a straight line, and at right angles to the beam; while a minimum of friction should be attained by lightness of the parts and by the use of knife-edges. The exactness of the lengths of the arms may be tested by changing the weight and thing weighed from one side to the other, but this is of course only a qualitative, not a quantitative test. By taking an accurate standard weight, and counterpoising it on the other scale by means of, for instance, small shot, after removing the standard weight, the thing to be accurately weighed can be exactly adjusted against the counterpoise. The statical conditions are thus exactly the same, and the same weight that once balanced the counterpoise must balance it again. By this means, first pointed out by the celebrated Borda, an inaccurate balance can be made to weigh with perfect accuracy. This plan, however, of course takes up too much time for common purposes, and, indeed, the more delicate the balance, and the more accurate its results are required to be, the longer the time that has to be spent in obtaining its results. A balance has therefore to be struck between perfect accuracy and practicability, in the construction of weighing scales intended for commercial purposes. But the shopkeeper should not be allowed to himself strike this balance. Badly-constructed scales are, in this way, an incitement to fraud, and an excuse for fraud. Of course, fraud can never be absolutely prevented; but, as in the case we have mentioned, of the country buyer and seller of gold and silver trinkets, there would have been greater difficulties to be overcome if the scales themselves had been stamped as well as the weights.

And this is indeed the improvement in the law that we would advocate. Let the weigh-beams of balances, and, in fact, all other weighing machines, be stamped and passed by the authorities. As a natural consequence, certain tests as to accuracy and sensibility should be determined by Government, to be carried out by the local authorities. This would have the consequence that, without causing a slavish adherence to particular forms, the best dimensions of scales for particular purposes would make their way into general usage. As a further consequence, not merely the weights, but also the scales and machines themselves, should be seizable by the inspector without a special warrant from the magistrate.

Those most important instruments, weigh-bridges, should thus be stamped. The larger specimens could certainly not be seized, but a penalty on any inaccuracy would enforce attention and cleanliness in the working parts. Stamping is all the more necessary in this case, as any defective construction would lead to most extensive frauds, which it would be very difficult to detect. We will give a slight instance, among many others, of the great extent to which discrepancies exist between different weigh-bridges. We described a certain portable engine, a short time ago, an engine which is now being used here in building the Foreign Office. As weighed by the weigh-bridge of the makers, this engine only weighs 2½ tons; in coming up to London, it was weighed by the Great Northern Company, who found that it weighed 4 tons, but they only charged for 3 tons. People's weighing-machines, like their judgments, thus appear to be affected by their special interests, for it is the interest of the company to find a high weight, and it is to the interest of the maker that his engines should weigh little. The main reason that the Acts of Parliament have paid no regard to weigh-bridges, is that these apparatūs were scarcely so widely known at the time that the laws were being framed. Substantially, as is often the case, these very ingenious and truly scientific machines were invented more than two centuries and a half ago. At least, the oldest weighing-machine in which the scale or platform, for the reception of the load, reposed on a combination of levers, is one described by the Venetian physician, Sanctorius, in his "Medicina Statica," published in 1614. The invention was forgotten, until revived towards the end of the last century in England, for the purpose of replacing the heavy scalebeams used for weighing hay and similar matters. A Strasburg mechanic, named Merlin, who had been long in England, imported these machines to the Continent, and they were afterwards greatly improved, and the principle adopted to smaller shapes in 1824, by Quintenz, a machine-maker, also of Strasburg, in Alsace. Indeed, the well-known form of small portable weighing-machines is known under the name of Quintenz on the Continent. Mr. D. K. Clark states that "the first engine-weighing table erected in England was placed at Crewe station, by Messrs. Pooley & Son, in 1847." The great impetus to the use of platform weighing-machines was in fact given by the introduction of railway transit in England. But, some years previously to this it had in America, almost entirely superseded the clumsy and inaccurate scale-beam.

To a person unacquainted with the mechanical principle of virtual velocities, the performance of an ordinary weigh-bridge must be a matter of some wonder. He sees a locomotive, perhaps, standing on a platform which scarcely appears to move, and remains almost exactly level with the ground; and yet, nevertheless, the operator can read off the 25 tons or so load to a few pounds. The mechanism is also mostly quite hidden, which increases the deception. The design and manufacture of these large weigh-bridges are, like most of the modern developments of machinery, now a speciality,—at any rate, in this country. It is important that all the knife-edges should be arranged in parallel planes, so that, when in action, their oscillations being in the same direction, there is not so much crossing and locking of the working centres. On account of durability, the knife-edges should have plenty of bearing surface. Apart from the usual requirements of simplicity and accuracy of construction, there are two principles in these machines, which are essential to their working well for a length of time. The first is:—Easy means of adjustment to any accidental influences; and, 2, relief from wear and tear of the working parts when the machine is not at work. We must do Messrs. Pooley, of Liverpool,—who first applied weigh-bridges to engine platforms and to cranes,—the justice to say that, as far as we can make out, they appear to have first adapted, nearly twenty years ago, the adjusting principle to the steelyards of weighing-machines. Reflection will show that the slightest variation in the proportional lengths of any one of the levers will cause an erroneous result at the steelyard. It is impossible to measure the relative lengths with absolute mathematical accuracy, so as to compare in correctness with the mathematical calculation on paper. On the other hand, a change in the weather, or other apparently slight cause, might effect a similar alteration. It has often happened in practice that weigh-bridges, giving correct results with slight loads, were wrong to the extent of many pounds with high loads. This could have happened through the knife-edge not being adjusted to the exact place on the lever, while the error was so slight as to be only noticeable when magnified by a heavy load. These accidental variations are counteracted by forming the steelyard with a chamber in the longer arm, so as to contain a compensating weight. This weight is made to slide to and fro by means of a rack and pinion connexion. In some of the machines a keyhole is formed within the point of the pinion, and the key being inserted by the person in charge, the equilibrium may be thus restored by a few turns. In the morning, at the beginning of the day's work, a standard weight may be placed on the platform of the machine, the proportionate fraction is adjusted on the steelyard, the apparatus brought to balance, and any accidental error may be corrected by the compensating weight. An ingenious improvement for weighing to a fraction, and for quickly reading off the amount, was applied by this firm to the locomotive engine weighing-table they sent to the Exhibition of 1862.

A recent patent (No. 903, A.D. 1862) specifies this very ingenious "compound poise" for showing the weight of a load to the fractional parts of the divisions on the steelyard; as also a subsidiary and distinct arrangement by which the steelyard itself is enabled to adjust the balance of the remainder of the weigh-bridge. The steelyard of the locomotive weighing-machine sent to the Exhibition of 1862 was made according to this patent. Though not complicated, it is, like most things of the kind, difficult to make clear without a drawing. The "compound poise" permits the absence of the loose sliding weights usually placed on a counterpoise scale depending from a knife-edge. The compound poise is made in three parts,—the weight itself, a graduated bar, and a revolving cylindrical weight. This cylindrical weight is adjustable on the graduated bar by means of a V-shaped worm catching into the diagonal notches cut on the upper edge of the graduated bar. "These diagonal notches are cut so as to form divisions or graduations representing hundred-weights, or the large fractional parts of the tons or other large divisions cut on the steelyard." A pointer is attached to one of the brackets supporting the cylindrical weight, which thus records its revolution, and thereby its position with reference to that of the main body of the counterpoise. When a load is to be weighed, the compound poise is moved along the steelyard as far as is required in order to indicate the principal portions of the load; the cylinder and its bracket are then slidden along the carriage to indicate the larger fraction; and then, by turning the small cylinder till the load is completely balanced, the total weight is at once seen. The whole machine itself is adjusted with nicety by means of a slot at the extreme end of the steelyard, into which is fitted an adjustable slide attached to a counterpoise weight, and set by means of a fine screw to any changes of condition in the machine.

The next important requirement is to relieve the mechanism from strain or wear except when actually working. This was neglected by the earlier makers, and even by Quintenz, and the oversight greatly hindered the general introduction of these machines. For some years weigh-bridges were so constructed as to be isolated by means of four screws. This plan was very inconvenient, as it took up much time, and with voluminous loads the screws could not be got at in order to put the machine into action. The plan now generally adopted is to suspend the fulcrum of the steelyard by means of a chain, reversed in direction by passing over a pulley at the head of the pillar in which are placed the fulcra of the steelyard. The levers are brought into action by raising the whole system into a state of suspension by means of the chain; and the machine is relieved by letting the steelyard down and lowering the platform on brackets prepared for it, while the under levers themselves are lowered out of contact with the platform. A most important matter, and one sometimes neglected in building in turn-tables and weighing machines, is the goodness of the foundations. Upon this point Mr. Clark says:—"The main condition of success about a large turn-table is a perfectly unyielding foundation. It is indispensable for proper action; as a want of rigidity about the foundation very greatly increases the labour of working the table. For large areas of 30 ft. to 40 ft. in diameter, it is impracticable to make the floor itself sufficiently rigid, independently of the foundation, without incurring an unwarrantable expenditure; and the proper course, where the soil is not reliable, is to lay a thick bed of concrete over the whole area, 2 ft. deep or thereabout, well cemented, and closed with iron borings rusted into the upper surface."

For many years the City of London authorities have found it to their interest to stamp the weighing-machines used in the coal trade, and we certainly cannot see why this should not be carried out universally. It seems an anomaly to carefully stamp the weights, while the scales and machines, the levers of which, perhaps, multiply the effect of the weights many hundred times, are disregarded, and only casually taken into account. In most continental countries, all balances, steelyards, and weighbridges are stamped, and certain tests of their accuracy are carefully specified. For instance, the Prussian Verordnung, with reference to small machines, determines that "when 5 centner [*circâ* cwt.] are placed on the bridge as far as possible forward, and ¼ cwt. as a counterweight on the scale," they must show a correct counterbalance after a few vibrations. The same must take place if the 5 cwt. be placed as far as possible towards the hinder end of the bridge. The loads must also be increased to 15 cwt., producing the same results. It is specified that the three points of suspension of the steelyard should be (at least, very nearly) in the same straight line

as the fulcrum, and this line must be horizontal when the machine is in equilibrio. The bearing lever must also have its knife-edges in a horizontal plane. The two steel knife-edges at the back of the bridge, and the two edges for carrying the lever, must be in a straight line. Of course, legislative interference may be carried too far; but there are very great numbers of ill-constructed and consequently deceptive balances, steelyards, and weighing machines in use, to the great loss of the poorer classes, who are obliged, from buying in small quantities, to have their purchases weighed many times oftener than more well-to-do people.

WINDSOR AND VERRIO.

AT a time when English artists (Victoria Regina) obtain unpredecented prices for pictures, on canvas, panel, and wall, and for so-called frescoes in Barry's great building (I use my epithet without offence), the readers of the *Builder* will not dislike to see the *paid* and *unpublished* accounts of an artist employed at Windsor Castle when Charles II. was king. The *sprawling* saints of Verrio and Laguerre (made immortal in verse) are now comparatively few. George and Jeffery destroyed them with an unsparing will and determined trowel. Will men of taste pardon a topographer who loves associations in wishing one withdrawing-room at Windsor, of the Verrio finish, had been spared:

"SEIGNIOR VERRIO.—*Aug.* 1678.

For painting work by him done in the ceiling of His Majᵗʸ Gardchamber, he finding all workmanship and colours for the same (excepting the gilding work), for which is allowed (according to contract and agreement thereof made) the sum of	£300
For painting the ceiling of His Majᵗʸ Presence-chamber (as above)	200
For painting His Majᵗʸ Privy Chamber	200
For painting His Majᵗʸ Withdrawing-room	250
For painting the ceiling of His Majᵗʸ Great Bedchamber	120
For painting the King's Little Bedchamber	50
For painting the ceiling of the King's Closet	50
For painting the ceiling of the King's Eating-room	250
For painting the ceiling of the Queen's Bedchamber	100
For painting His Majᵗʸ Withdrawing-room	250
For painting the ceiling of the Queen's Gallery	250
For painting the Queen's Chapel	110
For painting the ceiling of the King's Privy Back Stairs	100
And to the said Seignior Verrio, being His Majᵗʸ free gift to him for his extraordinary service and care in painting the ceilings of the King's and Queen's Lodgings House, and other works about the buildings	200
In all	£2,430"

Other entries relate pleasantly enough to Lord Arlington (of Arlington-street and Bennet-street), and, better still, to Nell Gwyn:—

"Seignior Verrio, for painting and adorning of the ceilings, side walls, end walls, and in the square and round windows in the King's Chapel, with several figures and other ornaments of painting; finding all workmanship and colours belonging to the painting and adorning thereof (gilding work excepted), according to agreement, 1,050*l.* More to him, in part for painting and adorning St. George's Hall, with several figures and other ornaments of painting, 1,000*l.* More to him for painting and adorning a staircase for Madam Gwin, in her house at Windsor, by his Maj.'s direction, 150*l.* And more to him for his pension of 200*l.*, granted by his Maj. for his extraordinary care and pains in painting and adorning of his Maj.'s Castle of Windsor, 2,600*l.*" —(*Works at Windsor*, 1 *Oct.*, 1680, *to* 30*th Sept.*, 1682.)

"Seignior Verrio, for painting and adorning St. George's Hall, in Windsor Castle, with several figures and other ornaments of painting, finding all workmanship and colours (the gilding work excepted), according to an agreement made by him with the late Lord Arlington, for one year ending at Midsummer, 1683, 1,000*l.* More to him for his pension, for two years, at 200*l.* per ann., 400*l.* More to him by his Majᵗʸ's appointment for painting and making several pictures over chimneys and doors in Madam Gwyn's house in Windsor, 170*l.* More to him for extraordinary painting in St. George's Hall, more than his first, 250*l.* More to him for the custome of several tierces of wine, according to the directions of the Lords of his Majᵗʸ's Treasury, 50*l.* More to him by virtue of his Majᵗʸ's warrᵗ dated 25 June, 1684, being thereby constituted first and chief painter to his Majᵗʸ, with the salary of 200*l.* per ann."—(*Works at Windsor*, 1*st Oct.*, 1682, *to* 30*th September*, 1684.)

"Seignior Verrio, for painting and adorning her Majᵗʸ's Round Drawing-room or closet upon the loads, at Windsor (done according to a design approved of by her Majesty), finding all workmanship and colours, gilding excepted,—250*l.*"—(*Works at Windsor*, 1*st Oct.*, 1684, *to* 30*th Sept.*, 1686).

"Seignior Verrio, for painting, adorning, and finishing the remaining parts of the ceilings, side-walls, and end-walls of King Henry VIII.'s Chapel, in Windsor Castle, according to an agreement made with him, for the sum of 1,000*l.*" —(*Works at Windsor*, 1*st Oct.*, 1686, *to* 25*th Sept.*, 1688).

A royal sign manual warrant, hitherto unpublished (Audit Office Enrolments, vol. D, p. 439), will be read with interest:—

"JAMES R.

Whereas we have been graciously pleased, by a warrᵗ undʳ Our Signet and Royall Signe Manuall, bearing date the xxᵗʰ day of March [1684-5], in the first yeare of our Reigne to constitute the Sieur Antonio Verrio to be Our *Chiefe and firste Painter*, To enjoy the said place withe the sallary of Two hundred pounds per ann.: Our will and pleasure is that out of such Our treasure as shall from time to time be remayning in yoʳ hands and custody, you pay or cause to be paid unto yᵉ said Sieur Antonio Verrio the said sallary of *Two Hundred Pounds per ann.* by equall quarterly payments, from Michᵃˢ now last dureing Our pleasure, and the sume of Three Hundred pounds forthwith for the yeare and halfe which comenced at Lady-day, 1685, and ended at Michᵃˢ last. And for so doeing this shal be yoʳ warrant. Given at Our Court at Whitehall, the Sixteenth day of November, in the second yeare of our Raigne, 1686.

By his Maᵗˢ comand,
SUNDERLAND.

To Our trusty and well-beloved
Edward Griffin, Esq.,
Treaᵗʳer of Our Chamber, &c."

This is a renewal (consequent on a new reign) of a like allowance of 200*l.* made to Verrio by King Charles II., on the 30th July, 1680;* renewed by William III., and again renewed by Queen Anne.

Verrio left two sons, John Baptist and Francisco. His will, which I have seen, made when "sick and weak of body," is dated the day before his death. He died Sunday, 17th June, 1707.

When working at Windsor, Verrio was lodged in the house of Charles Bowles, esq., and the rent, 65*l.* a year, was paid by the Crown.†

When in London in 1675 and 1676, he lived in Portugal-street (now part of Piccadilly), over against St. James's Church, next but one eastward to Sir Thomas Clarges, and next but one westward to the famous Sir William Petty.‡

The grant to Verrio of a gold chain "of the value of two hundred pounds or thereabouts," was made by a warrant of the Lord Chamberlain to the Master of the Jewel House, dated 24th January, 1676-7.§

PETER CUNNINGHAM.

THE DUBLIN INTERNATIONAL EXHIBITION FOR 1865.

AN influential committee has been formed in Ireland, animated by a desire to benefit their country, and to aid in the advancement of arts and manufactures, to organize and bring about an international exhibition next year in Dublin. The list includes the Lord Chancellor of Ireland, the Duke of Leinster, the Earl of Meath, the Earl of Charlemont, the Earl of Clancarty, Viscount Powerscourt, Lord Talbot de Malahide, Lord Annally, the Marquis of Kildare, Sir R. Shaw, bart.; Sir E. Grogan, bart., M.P.; Sir Percy Nugent, bart.; Sir J. J. Coghill, bart.; Sir Bernard Burke; Mr. B. L. Guiness, D.L.; Mr. Gilbert Sanders, chairman of the Executive Committee; Mr. F. W. Brady, Q.C.; Mr. M. Brooks; Mr. W. Dargan, D.L.; Sir R. Griffith, bart.; Sir G. Hodson, bart.; Sir R. Kane, F.R.S.; and many others.

Finding the necessity of a central body in London, the Dublin executive have applied to the Council of the Society of Arts for the use of a room, and such other aid as they might be willing to afford. The Council named a committee to inquire into the position of the proposal, and to report to them on the subject. At an adjourned meeting held on Wednesday last, Mr. W. Hawes in the chair, and when Lord Talbot de Malahide, Mr. Dargan, Mr. Gilbert Sanders, Sir Cusack Roney, Mr. Brady, Mr. Gresham, and several other gentlemen attended on the part of the executive, it was resolved that the explanations were perfectly satisfactory, and that the committee would recommend the Council to give active assistance to the undertaking. The fine building now in course of construction in Dublin for exhibitions by a company will be given over for this special purpose, the directors receiving a certain sum for rent out of the proceeds of the International Exhibition, and being recouped the cost of some additional buildings to be erected specially for the Exhibition. The distribution of any surplus profit is to rest with the general committee. The following gentlemen having agreed to act, were appointed as the London Committee of Advice, with power to add to their number:—Messrs. J. Anderson, R. K. Bowley, E. A. Bowring, C.B., Antonio Brady, Sir David Brewster, F.R.S., H. Cole, C.B., Sir C. W. Dilke, bart., Thos. Fairbairn, J. H. Foley, R.A., Geo. Godwin, F.R.S., G. Grove, W. Hawes, R. Hudson, F.R.S., Owen Jones, C. Manby, F.R.S., P. C. Owen, Hon. B. F. Primrose, S. Redgrave, Sir C. P. Roney, Sir F. R. Sandford, R. A. Thompson, E. Waterton, J. Way, G. F. Wilson, F.R.S., T. Winkworth, M. Digby Wyatt, and P. Le Neve Foster, M.A., Hon. Sec.

As it is intended that the Exhibition shall be opened in May, the utmost activity will be required to insure success, and it is to be hoped that manufacturers and others will immediately place themselves in communication with either the Dublin or the London Committee. The Exhibition will include works of fine art.

EDUCATION OF ART-WORKMEN.

WE have received a further communication from Mr. Bruce Allen, on the subject of his proposed Art-Result Society. We do not yet perceive, however, how its proceedings would be greatly distinguished from those of agencies at present in operation. Mr. Allen says of the present Art-schools,—"None will say there has been lack of effort and trial plans, for the system has varied year by year, and, indeed, it would seem, at first sight, not a little surprising and disappointing that more perceptible improvement in some one or other direction, or at least change, did not manifest itself. But there has been none. The Art-schools of the present hour are as void of practical and *material*, and even of artistic result, as were the Schools of Design when they were a year old, now more than a quarter of a century ago. The reason is plain enough, and it is this: that, according to a law of art and of nature, but a very *few* are, in each generation, gifted by nature with the art faculty in sufficient strength to make their work as copyists on flat surfaces and as makers of representations of existing things, of any art-value at all; so that the attempt to manufacture artists, and to urge ordinary men to display this high and rare faculty, has, as in the nature of things it must, ended in total failure. In every age, doubtless, a certain given number of minds are produced, capable, with cultivation, study and practice, of accomplishing that great and rare art of painting pictures, drawing, and engraving; but such minds are very limited in number, and cannot be added to from the common bulk of humanity by any process, possible or conceivable, of art education." The proposed Society, he says, would "always point to, and ask for, the great end of all art power, viz., the impress of it on material and in objects of common and every-day use, and it would then consequently be the object of all Art-schools, whe

* MS. Warrant Book of the Lords of the Treasury in the Public Record Office, Chancery-lane.
† Roll of Works at Windsor, 1 Oct., 1680, to 30 Sept., 1682.
‡ MS. Rate-books of St. Martin's-in-the-Fields.
§ MS. Warrant-book of the Lord Chamberlain, preserved in the Lord Chamberlain's Office. Let me here observe, with equal surprise and regret, that the portrait of Verrio, engraved for Walpole's own edition of his Anecdotes, was not engraved for the Dallaway and Wornum editions.

ther public schools or private schools, to give to their students the art means, and those *only* required by them in their daily work. This would not be picture painting or drawings on paper, but the power to draw on the material of each workman's own art trade, so as to enable him to add to his ordinary and necessary work some one or other artistic addition; in short, to make his work fine art work, as we see in the works of the past, and not merely ordinary labour and manufacture, or handicraft." And again,—"I think that the notion of encouraging men to *invent* all sorts of new things is a mistake, when we know how many *patents* are weekly taken out only to come to nothing. Does not the real secret lie in teaching the workman something he *can apply to his daily labour*, and thus to add to his *means* and capacity of work, *i.e.* his every-day work? This is true of all workmen, but still more certainly of artist-workmen; and the first step in a true and useful direction will be to teach our art-workmen to make for themselves and to understand a *working drawing*,—not a pretty picture or sketching." Pointing out, however, the mode in which the Society would work, he says,—

"The proposed Society would invite in one year our artists in the shops and art-factories to contribute in competition designs and working drawings of any art object which might be thought most suitable, and within the capacity of our present race of workmen; and such drawings would then, in the following year, be offered to the workmen in competition, to be worked from by them, and the combined results, the drawing and object, exhibited together as tests of the then state of designing and executive ability of both draughtsmen and workmen. Part of objects only need be demanded, so that but one drawing would be needed; such drawing, however, being a full-sized working drawing, and not a mere sketch. The more complete the subject, of course the better, as it would be more readily appreciated by artists and the public. Simplicity of subject at first, and easiness of execution, should be the guiding rules, till it be shown by the resultant work how much and what is now possible. Each year would doubtless add strength and facility, and it would very soon become evident that the art power of the past is not extinct, but only dormant for want of proper and honest exercise, and that the artistic strength of Donatello, Holbein, Fiamingo, Van Leyden, and others, whom the Society of Arts have now honoured by putting their good works before our modern workmen, are yet to be succeeded by modern and living men, if we but give them the same change, and encourage them to go to their work in the same way."

Some time ago the Council of the Art Union of London sought to obtain designs and working drawings for a large range of art objects by the offer of a number of premiums addressed to the students in the Art-schools, but the result was not very satisfactory. The Architectural Museum have for years offered inducements for designs and execution, and continue, with the Ecclesiological Society, to pursue the same course; and the Society of Arts are now annually placing designs before art-workmen and offering very liberal premiums to those who best translate them into wood, stone, metal, enamel, and so forth. The present Art-schools ought surely to afford workmen the opportunity of soon acquiring sufficient knowledge of drawing to enable them to prepare such working drawings as may be required in their special pursuits. If the system pursued in these schools is from that point of view not good, let this be shown, and changes asked for.

We would by no means, however, seek to oppose those who desire to establish fresh agencies for the advancement of the British workmen and the improvement of objects in daily use and always around us, for which there is most certainly plenty of room; and if Mr. Allen will make a little more clear the desirability of establishing a new Society, and state precisely how he would have it act, he may depend on our active assistance. For the improvement of our art-workmen and the extension of the application of art to manufactures, we have worked for many years, through many channels, and shall not be found wanting in any fresh endeavour with those ends in view. The best course he could take would be to call together a certain number of gentlemen interested in the object, and place his views and wishes clearly before them. If convinced, they might resolve themselves into a committee and proceed to organize a Society.

NOTES OF A PROFESSIONAL TOUR IN THE COLONIES.*

THE objects that most strike the European on landing in Central America, are the immense size of the trees, and the rank and luxuriant character of vegetation generally; everything appears on a large and magnified scale. Nowhere do the trees tower up to a greater altitude than in the forests of this country, and they are covered all the year round with bright green foliage; flowering creepers, with splendid blossoms, entwine themselves among the stems and branches even to the very summit, and hang in graceful festoons from tree to tree. So large are some of the trees, that canoes to hold eighteen or twenty men are frequently cut out of the solid butt.

As there appears to be a deficiency of material for paper-making in England, Honduras could supply largely the raw material for the purpose; the leaves and stems of the plantain and banana are convertible into the finest paper, and the waste leaves of the sugar-cane plant may be applied to a similar profitable use.

I must not omit to mention two other fibre products of Honduras which may be rendered available, some of which have already been exported: the one is the *Agave Sisilana*, used by the natives for making ropes, and for twine, and which is also much used to weave into hammocks; the other is of finer quality, the *Pita Bromeliaceæ*, which grows in great abundance, and is said to be superior to New Zealand flax, and capable of being converted into the finest fabrics.

I was glad when my time arrived for leaving Honduras, notwithstanding its many attractions and allurements, and notwithstanding the many friendships and social connexions I had formed; and that anxiety was hastened by the prevalence at that time, and many months previously, of that dread and deadly scourge to Europeans, the yellow fever.

My friends, one by one, fell victims, and were stricken down, and put just under the turf at Yarborough in twenty-four hours or less, after life had departed; some of them not acclimatised, others fully so, from a long residence: so the fatal epidemic is no respecter of persons; and after the deaths took place, I was so frequently accosted with "Old fellow, it's your turn next," that I was not sorry when the time arrived for departure, and the wings of steam propelled me once again in the direction of my native land.

I left Belize on the 16th, and arrived on the 20th at Kingston, Jamaica; had another inspection of the city, but did not see that any improvement had been made during my long absence, although the place offers plenty of scope for architects, engineers, building, improvement, and sanitary acts, to render it really and truly a desirable place of residence for highly civilized man.

During our stay at Kingston we shipped on board part of the wreck of the *Eagle*, that took us some years ago from Jamaica to Honduras, which had the misfortune to finish its course and come to grief on one of the numerous coral reefs that abound in those seas.

On the 25th weighed anchor, and quitted Kingston, and arrived at St. Thomas's about six p.m. on the 29th. Our arrival was signalled by rockets and guns, and we proceeded through the channel into the harbour, to make fast to the buoy alongside the *Atrato*, the identical vessel that carried me, three years before, across the Atlantic.

Shortly after leaving St. Thomas's we passed St. Croix, a very productive Danish island to the south-west of our course, and a few hours brought us within sight of St. Kitt's (or St. Christopher's); its shape is something like that of Italy—an outstretched leg—the upper and larger part, or the calf, being about five miles broad; the lower, or the foot, about four miles; and the ancle being represented by an isthmus not more than half a mile wide.

The chief town is Basseterre; it is situate low, and is therefore hot and dusty. It has a spacious square and a few good houses. Amongst the places of worship is the new church erected and consecrated in 1859, from the designs of Mr. Slater. The former church was destroyed by an earthquake (probably in 1843); the new church is of the Middle Pointed Gothic; broad but not lofty, about 120 ft. long by 65 ft. wide. Provision, I understand, is made against future vibrations and concussions by the introduction of timber framing to support the roof and other parts. The windows are filled with jalousies, to admit air and exclude the sun. The roof is lightly constructed with a tie beam, and rests upon slender pillars. The whole is well designed, and executed, and is considered a very successful specimen of ecclesiastical architecture for tropical countries in the present day. A memorial school, of Early English architecture, is now being erected to commemorate the public services of the late Archdeacon Pocer; the foundation-stone was laid, some time ago, by Lady Pine; and there has recently been erected a pier at Sandy Point, and water has been brought from the mountains for the supply of that town. Two forts have been constructed for the protection of Basseterre, so that there are now three forts; which, when supplied with the full complement of guns, will completely command the roadstead. There has also been erected a chapel at the cemetery, and the public roads have been much improved in places, by the construction of retaining walls and other works.

The island is divided into nine parishes, and each has a parish church, generally large and well arranged, situate near the sea, which command very fine views of the country, and are themselves pleasing objects in the landscape. There are also several Wesleyan and Moravian chapels, at picturesque points of the island.

After leaving St. Kitt's, a short passage brought us to Nevis, the islands being only separated by a small channel, called the Narrows,—a rocky strait, impeded by shoals. The appearance of Nevis from the sea is perhaps one of the most striking and beautiful in the West Indies.

Charlestown, the chief town, is situate in a wide curving bay, and is a place of some importance. "Queen's House," the president's residence, is a convenient and pleasant edifice, situate a little above the town, on the slope of the mountain. The "Queen's House" is a modern structure, erected on the site where the gaol formerly stood, and was previously a gaol and a barrack. The building is large and commodious. The principal entrance is in the south front, leading into a drawing-room of good proportions, and protected by a gallery on the outside. Adjacent to the drawing-room, and separated by large sliding doors, is the dining-room, an apartment of very ample dimensions, containing the portraits of the Queen, Prince Consort, and the Prince of Wales. Some of the windows are ornamented with stained glass. From the dining-room a short passage leads to the two principal bed-rooms. A broad gallery extends along the whole of the western front of the building, to correspond with the south side, and it terminates in the north by an octagonal tower, which serves as a finish to this part of the structure. The lower story contains two good bed-rooms; the rest is appropriated to a suite of offices, and communication is afforded between the two stories by means of two staircases. The grounds in front are laid out as flower-gardens, and a lofty flag-staff erected for the "Royal standard," indicates it to be a residence of the representative of royalty. The court-house is a handsome building, containing commodious offices for the assembly, courts of law, council-room, &c. There is a square in front.

The town church is small, and the churchyard around it is planted with evergreens, and surrounded with a wall. About half a mile to the south of the town are situate the mineral baths, on a rising ground near the margin of the sea. The establishment is large, and commodiously arranged. The island is divided into five parishes, each of which has a church, generally in excellent condition and pleasantly situate; that of St. John particularly, being placed half-way up the mountain, commands an extensive view. The roads are tolerably good, though liable in the low lands to be injured by floods; and the interior of the island is well cultivated, uniformly richly verdant and productive.

Our course from Nevis lay nearly due east, and we could faintly descry Antigua slightly south-east, in the distance, Montserrat to the south-east, and Barbuda, a large island, principally covered with forest, belonging to the Codrington family, to the north-east, and we entered English Harbour, Antigua, about five p.m. This is, without exception, one of the prettiest harbours I have ever seen; it has a narrow, crooked, and rocky channel for the entrance, and is only of sufficient depth of water to admit a first-class frigate, drawing, say, 22 ft. of water.

The harbour is perfectly land-locked, and has commanding eminences around it,—a perfect

* See pp. 589, 595, *ante*.

amphitheatre of hills. At the rocky "Ridge" which frowns over its mouth is a military station, well and perfectly protected with a battery.

Around the harbour are the naval arsenals, suitable for the repairs or the fitting out of a fleet, which formerly was in great request, and is now the rendezvous for our men-of-war during the hurricane months. On the eminences around are the barracks, officers' quarters, hospital, and magazine for a large garrison; but the island at present is without any military defence, except what the local militia inefficiently afford.

Besides English Harbour, there is another harbour in the same locality called "Falmouth," which has recently been surveyed by the Government, as it was thought it would make an admirable station for the West-Indian packets, instead of St. Thomas's, a Danish island.

The two harbours could be readily connected together by means of a short canal, and a passage made through for the purpose of repairs, supply of coals, &c.; but the negotiations were abruptly broken off, because the Packet Company's officers went over *en posse*, and reported strongly against it, preferring the gaieties and allurements of St. Thomas, to the quiet, retired, and sober steadiness of Antigua.

The entrance to Falmouth Harbour is slightly obstructed with a sand-bank, but that could be readily dredged away; and if a pier was erected to jut out a short distance to deep water, the steamers could lie alongside, and embark and disembark passengers, &c., and the whole fleet of the Royal Mail Steam Ship Company could lie there in safety, even from hurricanes, as the mouth of the harbour is only exposed to the south.

At present the company's officers frequently refuse to go into English Harbour; and passengers go out to the steamers in small boats, some 4 miles or 5 miles outside the harbour, to sea, at great risk and peril, as many serious accidents have occurred there.

The town of English Harbour was formerly in a very flourishing condition when the troops were at the Ridge, and the harbour was more frequented by men-of-war; but at the present time it is in a very depressed state, and many of the houses are in a dilapidated condition. The officers' quarters and buildings belonging to the Home Government being mostly unoccupied, gives the whole place a very forlorn and woe-begone appearance. Falmouth, adjoining English Harbour, was laid out originally for a large town, during the palmy days of slavery, when the island was in a flourishing condition, but the plan has never been carried out. Houses have been erected here and there, few and far between; but many of them are in a bad state, indicating too plainly the poverty of the place. The establishment of the packet station at this island, which is better situate than St. Thomas's from many points of view, the return of troops, the more frequent visits of our fleet, would restore these places to their ancient prosperity; and I see no reason at least why the former should not be carried out, if our trade and commerce in connexion with the West Indies be at all considered, and the prosperity of the colonies, as integral parts of the British dominions and valuable acquisitions to the British Crown, have their due weight in the councils of the Home Government. The distance from English Harbour to St. John's, the capital of the island, is about 12 miles, over a tolerably good road, across a hill-and-dale country. On your right, for some distance, you have the continuation of the precipitous mountain range on which the "Ridge" stands; and opposite Falmouth is the Monk's Hill Battery, which commands an extensive range of sea and land; and it is the signal-station for Goat's Hill, at the mouth of the harbour of St. John's, and the city of St. John's. At Falmouth, in the parish of St. Paul, there is a small timber-built church, of Carpenter's Gothic, neat, and nicely painted up; and the windows are partially filled with blue stained glass, which has a very bad effect.

Antigua, unlike St. Kitt's and other islands, has no central eminence, but is ramparted round by most magnificent cliffs, which slope inwards in gradual declivities. The central part is generally flat, relieved here and there by slight undulations of the surface. The whole island is of a rough oval shape, indented here and there with bays, coves, and creeks, some of them running into the centre of the plantations like canals, some swelling into estuaries, and others forming spacious harbours. The principal harbours, besides those I have mentioned, are St. John's, Parham, and Willoughby Bay. Beyond the margin an infinite variety of islands and islets stud the bosom of the blue sea, like so many advanced posts of defence against the invading waves; these are of all shapes and sizes, and are used principally for the raising of provisions and the maintenance of cattle.

From Falmouth the road winds up the side of the mountain, and crosses at a low point, and descends again to Buckthorn village, just beyond which, on a rising knoll, stands the new chapel of St. Barnabas, an elegant little structure, in the Early English style of architecture. The walls are built of green stones, in block and course, with door and window dressings of white limestone, and the buttresses of red bricks. The roof, which is an open queen-post roof, is covered with red and blue ornamental tiles, laid alternately, with an ornamental ridge-tile; there is also a stoneware cross at one end, and a bell gable at the other. The floor is laid with ornamental tiles; and the large east window is filled with stained glass. It is erected on the site of the old chapel, which was destroyed by the earthquake of 1843.

At the half-way house there is another chapel of ease to St. John's parish (All Saints'); it is of Early English architecture, and built, I believe, from the designs of Mr. Fuller. The building is a low erection, with shingle-covered roof, and bell gable. After passing All Saints', you ascend Dickey-hill, which commands an extensive view of nearly the whole island, Parham harbour and shipping, to the north-east, St. Philip's Church and Rectory to the east, with all the intervening plantations, houses, windmills, &c.; and, passing onward, you ascend Otto's-hill, where you have a magnificent panoramic view before you; the harbour, with its beautiful transparent blue covered with shipping, of all sizes, from the simple pleasure-boat, to the brig, schooner, and barques of large tonnage, with the cathedral of St. John's, a large, elegant erection, of cream-coloured limestone, and Government House, with the royal standard flying on your right; the quaint-looking and many-coloured houses of the city, the wharf-side stores of the merchants, with their private flags fluttering in the breeze; with Rat Island, a rough-shaped, conical eminence, rising, as it were, from the middle of the harbour, St. James's Fort in the distance to the west, on one side the entrance to the harbour, and Goat-hill Battery on the other, and the deep blue sea filling up the background.

And all these beautiful objects, with the bright azure canopy of heaven, almost cloudless above you, and the vivid rays of a tropical sun to lighten up and tint, embellish this unique landscape.

B. C. E.

THE THAMES AND ITS TRIBUTARIES.

SOME years ago, in a few memorials of "Father Thames," while directing attention to its general bad condition in the neighbourhood of London, and advocating the improvement of metropolitan drainage, we alluded to some of the numerous towns which, in addition to the capital, drained into our chief river. At a cost of several millions of money, we shall now have the means of intercepting the sewage of a vast district in which dwell nearly three millions of people. In consequence of this large outlay, the Thames, except on very rare occasions of excessive rainfall, will be no longer made pestilent by means of the metropolitan impurities which have for so many years been allowed to pass into the river. It is certain, however, that when this great work has been finished, we shall still have a flood of unwholesome water from the numerous towns and districts standing upon the streams which run into the Thames. A reference to the maps published by the Board of Ordnance, and the last census report of the Registrar-General, will show the extent and the increase of the population in these places; and in addition to this it should be borne in mind that during the last few years there have been extensive drainage works into the respective streams carried out in many of the country towns, but little has been done in the way of applying the sewage to the improvement of the land; and the consequence is, that rivers of poisonous water find their way into the Thames. There is no reason why this should be the case much longer; for, in almost every case, in towns of a moderate extent of population, the refuse, now wasted, and which is also becoming a dangerous nuisance, might be applied to the land in the several neighbourhoods with both safety and advantage.

From various quarters we hear accounts of the constantly-increasing impurity of the streams, caused in some instances by the house-drains, and in others by the refuse of gas-works and of various kinds of manufactories. This is an evil which is daily increasing in importance, and requires immediate attention. As regards the Medway, so unwholesome has that river become that an application has been made on the subject to the Government, who have sent a commissioner to inquire into and report on the subject. It would be useful to extend this investigation, and to let us know the actual extent of this evil, so far as the Thames is concerned; for, sooner or later, we *must* have the means of preventing the present mismanagement. It seems both unjust and unnatural that, after the metropolis, by means of such a large expenditure, has endeavoured to purify the Thames, we should still have reason for complaint in consequence of other towns neglecting to do a duty which would in most instances not only be a means of improving the general health, but also be attended with other advantages.

It is not to the Thames alone that the above observations apply, but also to the Tyne, the Weir, the Irwell, and many of our chief rivers: the increase of the surrounding populations, the opening of manufactories, &c., have rendered parts of these waters little better than open and offensive sewers.

In many instances the offensive outfall from gas factories, &c., has in the metropolis been prevented from passing either into the sewers or into the river. At Blackfriars, where the smell from the gasworks used to be so offensive, proper measures were taken, and we have not since heard of complaint in this neighbourhood. The same plan might readily be enforced with advantage elsewhere.

MONUMENTAL.

The 75th Regiment.—A monument of polished red Aberdeen granite, 13 ft. high, in the form of an ancient churchyard cross, has just been placed in the new cemetery at Stirling. It records the names of 9 officers, 13 sergeants, 9 corporals, 3 drummers, and 216 private soldiers of the 75th regiment, who fell during the Indan mutiny, 1857-58. All the inscriptions and the badges of the regiment are incised and gilt. The granite work has been carried out by Mr. J. Wright, of Aberdeen, from the designs of Mr. Edward Richardson, sculptor, London. The site chosen is one of the best in the new cemetery. Around the base, flowers are already planted.

Inauguration of Statue of Sir G. C. Lewis, at Hereford.—Lord Palmerston has inaugurated this statue, and, in doing so, passed an eloquent eulogy on the deceased. The statue, which was done by Baron Marochetti, is erected immediately in front of the Shire Hall, in St. Peter's-square, and has on its right-hand the Early English Church, from which the square takes its name. The base consists of a block of unpolished Penrhyn granite, on which rests a moulded polished pedestal, surmounted by the statue. The figure of Sir George is cast in bronze, and is 7 ft. 6 in. in height. He is represented as standing with his arms folded upon his breast. The total height of the memorial is 14 ft. The four sides of the pedestal bear the following inscriptions:—On the front—"Sir George Cornewall Lewis, a wise and honest statesman, a profound scholar, a kind and firm friend." On the left—"M.P. for the County of Hereford, from 1847 to 1852. Chief Steward of the City." On the right—"Chancellor of the Exchequer from 1855 to 1858; Home Secretary from 1859 to 1860; Secretary for War from 1860 to 1863." On the back—"Born 1806. Died 1863." The statue has been erected under the supervision of Mr. Chick, county surveyor.

COMPETITIONS.

Basingstoke Corn Exchange.—We omitted to state in our former notice that the design now being executed was selected in competition. The following gentlemen having been chosen to send designs under motto: Messrs. Wyatt & Salter, of London; Mr. Charles Smith, Mr. W. Brown, and Mr. Dodd, all of Reading; and Mr. Musselwhite, of Basingstoke, Messrs. Wyatt & Salter were selected to carry out the work, and the premium of twenty guineas was awarded to Mr. Charles Smith.

East Retford Town Hall and Markets.—Eighteen designs, set forth on nearly 100 sheets, have been received, and have been exhibited. The choice can be made from two or three only.

HESTON CHURCH, MIDDLESEX.

WE are glad to find that our protest against the threatened destruction of Heston Church * is bearing fruit, and that the committee will, at any rate, be forced to pause and reflect before pulling down this interesting old church. The *Times* has opened its columns to defenders of the church, and Mr. Scott has come into the field. He says,—"I do not pretend to a knowledge of what is intended by the 'Restoration Committee,' but I was told by two wholly independent authorities that it was to be rebuilt all but the tower. If less devastation is intended I rejoice, but I, nevertheless, take this opportunity of entering my solemn protest against anything short of the conservation of all which can be preserved, and I give my deliberate opinion that (subject to necessary additions) such is the case with nearly every part of the structure, though from the decay of the stone dressings much external restoration is needed."

THE LIVERPOOL SURVEYORSHIP.

IN reply to the advertisement which appeared in the *Builder* forty-three candidates entered the field. After consideration, the corporation selected five gentlemen, all strangers to Liverpool; viz., Mr. Holden, of London; Mr. Williams, of London; Mr. E. R. Robson, of Durham; Mr. Williamson, of Manchester; and Mr. Mackison, of Stirling; and requested their attendance on Thursday, the 1st instant. After separate interviews with each, the finance committee unanimously recommended Mr. E. R. Robson, of Durham, for election by the corporation.

As some members of the corporation considered it desirable that the department of the Architect should be amalgamated with that of the Engineer, a proposition was brought forward to that effect on Wednesday last. It was, however, rejected, and Mr. Robson appointed, by a majority of twenty-eight.

THE DUKE OF NORTHUMBERLAND'S CHURCHES.

ABOUT two years ago the Duke of Northumberland decided, with the sanction of the bishop of the diocese, on establishing five new ecclesiastical districts, to meet the spiritual wants of the rapidly-increasing population of the parish of Tynemouth. His Grace received the co-operation of the Ecclesiastical Commissioners, and contributed a handsome sum for the necessary endowments. In three successive days in September, 1862, the Bishop of Durham laid the foundation-stones of three churches, which were necessary for the new districts; two of the districts already having churches attached to them, — Holy Saviour, Tynemouth; and Trinity Church, North Shields. The new churches, with their respective parsonages, were to be at Percy Main, Whitley, and in North Shields; and the whole have now been erected and consecrated.

St. Peter's, North Shields.—The church in North Shields, which is situate in Borough-road, immediately opposite the Sailors' Home, is designated St. Peter's Church. The edifice, which is a plain but substantial stone building, in the Early English style, is from a design by Mr. A. Salvin, of London, his Grace's architect. It stands on the site of some old buildings, which were anything but an ornament to the street; and in making the foundations for it 30 ft. of the bank had to be cut away, and about 5,000 tons of earth removed. The church is broader than it is long. It consists of a nave with two aisles and chancel, the extreme length of the nave and chancel being 68 ft., while the breadth over both the aisles is 73 ft. The height of the roof, which is open woodwork, varnished, is, in the nave, 45 ft.; in the chancel, 38 ft.; the aisles being considerably lower. The nave is separated from the aisles by a series of arches,—four on each side,—springing from polished stone pillars; and above these runs the clere-story, which is pierced by a number of lancet windows. The aisles are also lighted with lancet windows, and the great windows in the west front are formed by a combination of lancets, all the windows being filled with toned glass. The chancel, which is formed at the end of the nave by arches springing from a slender column, is floored with Minton's encaustic tiles. In front of the chancel there is, at the one side, the reading-desk, while the other side is filled with a stone pulpit. The altar is behind the chancel, from which it is separated by a slight rail; and, there being no window at the east end, from its being built up against the neighbouring houses, the chancel is lighted by two long lancet windows at the sides. The monotony of the wall above the altar, where, in most churches, a window is placed, is relieved by seven niches. The principal entrance is in the west front, but there is also a side door, opening into Clive-street. At the south-west corner a tower rises to the height of 44 ft., at which height the spire commences, and it is carried up an additional 17 ft., the whole being surmounted by a gilt finial. The builders were Messrs. Smith & Co., of London, the successors of Messrs. Kelk & Lucas, and contractors for the International Exhibition. The church will accommodate about 800 persons, the seats being open pews, of varnished deal. The church will be lighted for evening service by seventeen brackets, designed by the incumbent, each carrying five lights, which have been supplied by Mr. Twizell; and provision has been made for heating.

St. Paul's, Whitley.—The original parish of Tynemouth, as said, has been subdivided, in consequence of his Grace's endowment, into five distinct parishes. One of these—that of Cullercoats—comprises the villages of Cullercoats, Whitley, and Monkseaton. The church of St. Paul, for Cullercoats, will accommodate 400 persons. The church stands on the west side of the road, at the junction of the three roads leading from North Shields, Tynemouth, and Monkseaton. The building is in the Early English style, and presents externally a simple appearance, devoid of ornamentation. The tower—with surmounting spire—has been cut short for the present, but it is fully determined to proceed with it shortly. The tower rises from the south-east corner of the nave, and is at present only 18 ft. high, but the designed height, including the spire, is 90 ft. The interior of the church, which consists of nave, aisles, and chancel, accords with the outside in the simplicity of its appearance. The nave is 84 ft. long, 45 ft. high, and 21 ft. wide. The side aisles are of the same length as the nave, and 12 ft. wide. The clere-story is supported on the north side by four columns with Gothic arches, and on the south by three—space being left clear at the east end of the south aisle for the entrance to the church. The edifice is lighted by twenty clerestory windows; three dormer and three small lancet windows in each aisle; two long lancet windows at the west end of the nave; and at the east end of the chancel there are three lancet windows. The centre window in the chancel is to be filled with stained glass, provided at the sole expense of the fishermen of Cullercoats, and the execution of which has been entrusted to Mr. Barnett, Newcastle. The principal design of the window represents the Saviour in the act of blessing; and, on a medallion underneath, there is a representation of St. Peter in the storm. The roof of the nave is supported by eleven large principals, with stained open rafters; and the principals are supported by moulded corbels. The nave is separated from the chancel by a large pointed Gothic arch, springing from two small columns with moulded cap, &c. The chancel, which has also a stained open rafter roof, is 36 ft. high, 30 ft. long, and 18½ ft. wide. The altar place is laid with Minton's tiles, and has an oak rail, with iron standards. The pulpit, which is on the left-hand side of the chancel, and the reading-desk, on the opposite side, are of Alnwick stone; and at the west end of the nave there is a small font of the same material. The vestry is at the north-east corner of the edifice. The church is to be heated by means of a patent Gill-stove, made by Messrs. Stewart & Smith, Sheffield. Around the church there is about an acre of ground, walled in, which is to be consecrated as a burial ground. Mr. Salvin was the architect of the building; and Messrs. George Smith & Co., London, were the builders. Mr. William Chapman was clerk of the works, and Mr. Tomes, foreman of the works. The stone required for the building was obtained from Messrs. Robson's quarries at Billy Mill. As with the other churches in the borough endowed by the duke, there is a parsonage, built at the sole expense of his Grace, in connexion with St. Paul's. The parsonage stands close to the church, and is a large building, surrounded by about three-quarters of an acre of ground. The architect for this, as for the other parsonages, was Mr. John Green, of Newcastle; and the contractor for the mason-work of the parsonage at Whitley, Mr. J. Robinson, of Tynemouth; for the joiner's work, Messrs. Scott & Hutchinson, Newcastle; and for the painting, &c., Mr. G. Cooper, Newcastle. A drinking fountain has been presented by Mr. George Smith, of London, the builder of the church. The fountain is being built into the churchyard wall, on the outside: it is small and unassuming. The North Shields Water Company have agreed to supply the water.

Expenditure in Improvements.—It is asserted pretty positively that the Duke of Northumberland's share of expenditure in church-building, now going on in North Shields, will not fall much short of 100,000*l.* Exclusive of this large outlay for churches and parsonage-houses, and the immense expenditure upon Alnwick Castle, the following sums, it is stated, have been expended by the duke on his estate since he came into possession in 1847. The amounts, under their respective heads, are made up to December 31st, 1863:—For roads, bridges, &c., 39,689*l.* 0s. 1d.; buildings, cottages, &c., 308,336*l.* 12s. 9d.; draining, 176,582*l.* 4s.—total, 524,607*l.* 16s. 10d.

* See p. 618, *ante*.

CONTINENTAL NEWS.

Vienna.—The new eagle, which surmounts the spire of St. Stephen's Cathedral, has been "consecrated," and raised, since our last notice from this place. The bird, which represents the Austrian two-necked eagle, is what is heraldically known as an "eagle displayed," measuring 9 ft. across from tip to tip of wings. It was manufactured of wrought-iron by Messrs. Brix & Anders, "artists in iron," from the designs of Mr. Schmidt, the architect to the church, and consists of no less than 2,500 separate pieces, of which 600 alone are feathers; which, again, are secured to the body and to one another with thousands of screws. The sceptre and globe have been carefully worked after the originals in the Imperial Jewel-house, and are gilt, 600 ducats having been melted down for the purpose.——The Imperial Museum of Arms is to receive a statue of Field Marshal Radetzky, now being executed at Munich by Greinwald, the sculptor.——Mr. Heinrich Ferstel is building a very large Protestant church at Brünn: the material used is a peculiar slaty stone found in the neighbourhood.

Berlin.—On the occasion of the inauguration of Rauch's celebrated Monument of Frederick the Great, *unter den Linden*, the late king commissioned Mr. Drake to execute a statue of the great sculptor. The figure, in Carrara marble, is described as treated freely, the dress being modern, yet devoid of that stiffness to which modern drapery is peculiarly liable.—— His Majesty has ordered that a number of guns, taken from the Danes in the late war, be cast into a monument, to be erected in the Park of the "Invalides."——The celebrated "Flensburg Lion" has, by this time, but little remaining of its stupendous body: it will be remembered that it was the sight of this monument of a former victory of the Danes over their invaders that caused the wrath of the Prussian soldiers to boil over, and the demolition of the harmless animal was the consequence. Even the pedestal, of Swedish granite, has been meddled with, and lies a wreck in the churchyard of Flensburg.

Munich.—The sum collected by public subscription for the memorial of the late King Maximilian now amounts to 204,000 florins. At a committee meeting lately held to discuss the manner in which this money should be appropriated, Herr von Lerchenfeld, representing the ancient city of Bamberg, made the following proposal, which was carried; "That 100,000 florins be employed in the erection of a monument in the capital, and that the remaining 104,000 florins be used to endow a new art institute, to be called the Maximilianum."——Professor Widnmann is engaged on a marble statue of the late Grand-duchess Matilda of Hesse-Darmstadt. The figure is recumbent, and the drapery easy and flowing. Widnmann has just finished a very life-like statuette of King Maximilian II.—— John Grobner, the sculptor, is busy with the statue of the terrible Tilly, which the Emperor of Austria has ordered for the arsenal at Vienna. The figure is life-size, and in marble.——The Hôtel de Ville has received a new zinc statue of Duke Henry the Lion, the founder of Munich.

The duke stands in the full armour "of the period," with helmet and shield. The design is that of Knoll, a native artist.——Mr. J. O. Enters, an artist of this city, has been fortunate enough to discover the original set of plans of the minster at Ulm, which was commenced in 1450, but was left unfinished in 1480. The British Museum has bought this curiosity, and people here are furious that it should have been permitted to leave the country.

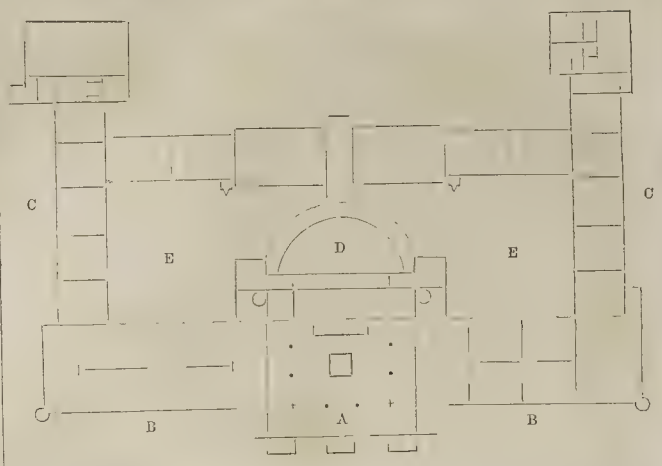
Hamburg.—The tower of St. Peter's Church, which is the last sad ruin of the great fire of 1842, is about to disappear, and will give place to a new tower and spire, from the designs of Mr. Maack, City Inspector of Buildings. The sum necessary for this purpose is estimated at 250,000 marks banco (about 19,000*l.*), of which one half is already subscribed. ——The contracts for the erection of the new academy are now being received. The mason's contract alone amounts to 15,000*l.*, the facing stone being supplied. The carcass is to be finished by the autumn of 1866.——A bell weighing rather over 2 cwt., is about to be cast at Bieber's bell foundry, for the Dutch Reformed Church, at Pieter Moritzburg (Natal).—— The commissioners of the German Diet have decided upon a new telegraphic line from Hamburg to England, down the right bank of the Elbe. This decision must, however, be again ratified by the town council.——Julius Lippelt, the sculptor, who was the successful competitor for the Schiller memorial to be erected here, has died at the age of thirty-five. The work, which he has left all but finished, will be completed by other hands.

Pesth.——The new Hungarian Academy, which is now in course of erection from the designs of Mr. Stüler, architect to the King of Prussia, is about to be ornamented with a series of statues in terra-cotta. Five of these,—Leibnitz, Newton, Descartes, Galileo, and Raffaelle, are by Berlin artists.——Some six years ago a church of very large dimensions was begun in the Leopold suburb, but owing to want of funds the works had been gradually suffered to stop. Sufficient, however, had been done to admit of the sacristy being employed as a temporary place of worship four years ago. Now a new effort has been made to finish the church, and, as it seems, with success, for hands are once more at work. The building is described as Byzantine in style, and Basilican in form, having four towers at the angles.

Amsterdam.—On the 17th ult. the Palace of Industry ("*Het Paleis voor Volksvlyt*") was inaugurated with much ceremony, and attracted crowds of folks from all parts of the country. The Palace is after the model of Sir Joseph Paxton's Crystal Palace of 1851, and contrasts strangely with the peculiar ugliness of all public and private buildings in Amsterdam. Dr. Sarphati, a gentleman of much enterprise and energy, started the idea as early as 1853; but the slowness and dislike to anything new, so justly attributed to the Dutch mind, threw all kinds of obstacles in his way, and it was not until 1858 that the works were really begun. But even then things went on but slowly, and the Doctor had to see the English repeat their first experiment after a lapse of eleven years before his palace was even roofed in. Prince Frederick, uncle of the king, is the patron of the undertaking, which, however, as far as the Exhibition is concerned, is strictly confined to Dutch industry; and Outshoorn is the architect. Dr. Sarphati received the Order of the Lion of the Netherlands from the hands of the Prince at the opening. In the evening the city was illuminated, and there were fireworks and gratis open air concerts.——The King has appointed Herr E. Gugel, architect, at Munich, to the Professorship of Civil Architecture at the recently organized École Polytechnique at Delft. This school is on the German model, and resembles the Polytechnic Schools of Hanover, Leipzig, Carlsruhe, and Munich, some of which have from 700 to 800 students, who are educated in architecture, civil engineering, mining, chemistry, and machine engineering, and pass thence to the Government examinations for civil appointments.

THE WILLIAM I. MUSEUM, AMSTERDAM.

IN 1863, Amsterdam determined on the erection of a monumental museum of works of art, to be consecrated to the memory of the first king of the Netherlands, and invited the architects of Europe to submit designs for the structure in competition. The programme required that the architectural style adopted should declare the monumental character of the building, and especially its purpose,—namely, to preserve the art-treasures of the Dutch school, particularly those of the sixteenth and seventeenth centuries. A number of designs were submitted to the jury, and from these in the first instance was selected a classical design by Mr. Lange, of Munich; but that being found impracticable, a Gothic design, by M. Cuypers, of Ruremonde, sent in under the motto "*Toute forme qui n'est pas indiquée par la structure doit être repoussée*," was selected. This design we illustrate in our present number.



The building forms a parallelogram 111 mètres one way and 80 mètres the other. A monumental vestibule, A, occupies the centre of the building, and on each side of it extends a parallelogram, B B, 40 mètres long and 15 mètres wide. The wings, C C, are divided into apartments, including one for archæological meetings. The monumental vestibule will contain a statue of King William: behind this is the grand staircase. The area of the vestibule is 600 square mètres: the total height from the pavement to the glazed ceiling, 38½ mètres. The apartment to the left of the vestibule, on the ground floor, is intended for engravings, and has a screen in the centre, in the direction of its length, to increase the accommodation. The various cabinets beyond are appropriated to small pictures, medals, and objects of archæological interest, each room being made to correspond in style with the date of the objects it is to contain.

To satisfy the requirement in the programme of a hall for large meetings, a hemicycle is provided, D, 19½ mètres in diameter. The open court on each side of this, E, is to be appropriated to architectural relics and sculpture.

On the first-floor, right and left of the centre, is a spacious gallery, 16½ mètres in height, for pictures of large dimensions, and in the wings are various other galleries and cabinets, two of which will receive statues and busts of great benefactors, and pictures commemorating events or *souvenirs* connected with them. The large galleries will be lighted by the dormer-windows seen in the view, the architect preferring these, for several reasons, to skylights.

The arrangement of the plan is such as to enable visitors to go through and out of the museum without returning on their footsteps.

By the external arrangement of the façade the architect has sought to express the purpose of the building, and to force on all looking at it the inquiry,—"What are the large pictures they have, then, behind those gigantic walls?"

Statues over the entrance-doors and against the buttresses midway, seen in the view, will represent the great men of the Netherlands, and heroes of the fine arts.

The walls will present variety of colour, produced by stone and bricks of different tints, wood and metal work; and the roofs will be covered with vari-coloured tiles, "so as to form an exterior in harmony with the *chefs-d'œuvre* of painting within." The walls will be mainly of brick.

The other façades will be similar in character, and present other statues. The walls of the vestibule interiorly will afford space for paintings commemorative of events nationally interesting, such as the Coronation of King William I.; the Formation of the Lake of Haarlem, finished in the reign of William III.; the Inundation that occurred in the year 1861; and similar subjects; and the various galleries and cabinets will be appropriately decorated with colour and friezes in relief.

ST. MARY'S CHURCH, HORSHAM.

As our readers already know, the inhabitants of Horsham are about restoring their interesting parish church. They and their friends have subscribed 5,700*l.*, and they want 1,000*l.* more, for which they look to the public. The vicar sends the following brief account of the church:—

This building (156 ft. long) consists of tower, with lofty spire, nave, chancel, and aisles. The tower is of Norman foundation, and belonged to an earlier church, which was replaced, about 1247, by the present spacious edifice, through the munificence (as is supposed) of the nuns of Rusper convent, who were then in possession of the rectorial tithes. The chancel and the nave (although the former is more elaborate in its details) are remarkable, as being of the same width and height, with side aisles extending in uniform and unbroken lines from end to end. The clerestory (one of unusual height, furnished with nine lancet windows on either side) stands on a noble arcade of eight bays, the whole crowned by a spacious arched oak ceiling, intersected with ribs and bosses, the latter elaborately carved with heraldic and other devices. The west tower opens into the nave with a spacious arch, hitherto entirely concealed from view by a hideous gallery. The effect of the restored church, as entered by this approach, will be singularly imposing. The aisle windows (originally lancet, and corresponding with the clerestory) have been in every instance replaced, as have also the east windows, by others of more recent date. Adjacent to the north aisle was erected, in 1307, an unusually beautiful specimen of a chantry chapel, a portion of which was adapted so as to form the principal entrance to the church. This, together with an elegant building of a similar description on the south side, called the 'Brotherhood,' and founded by Henry VI., it is now proposed to restore and render available for seat-room in the church. On the whole a more interesting specimen of the Early English style it would be difficult to find; but, unhappily, in addition to the usual evils brought about by decay, neglect, and ill-advised attempts at repair, the entire nave has considerably receded from the upright,—in the worst part nearly 2 ft.,—and the expedients resorted to for support are unsightly and inconvenient in the extreme. This part of the church, therefore (being, in fact, the larger half), it is proposed now to rebuild, whence alone may be gathered the arduous character of the work in hand. This is, undoubtedly, one of the most spirited local attempts at the effectual restoration of such venerable monuments of the taste, the piety, and the munificence of a former age.



SELECTED DESIGN FOR THE WILLIAM I. MUSEUM, AMSTERDAM.—MR. CUYPERS, ARCHITECT.

AN INVASION OF KENT.

THE men of Kent have been startled by a recent visit, which shows the advantages gained by the progress of science. A short time since "The Fly-by-Night" started on an experimental trip from the distillery of its owner, Mr. Hodges, of Lambeth, at ten o'clock p.m. The ground gone over seems to have been somewhat the same as that by which, at a slow pace, Chaucer's Pilgrims are said to have wandered to the ancient shrine at Canterbury. The first journey, to Dartford, was managed in less than three hours; the second journey, from Dartford to Sittingbourne, in seven hours; but in this time must be included the delay of two hours' duration at Rochester. Up the incline of Chatham Hill, for the most part a gradient of 1 ft. in 10, the engine, which weighed upwards of six tons, was moved at the rate of 6 miles an hour with the greatest ease. From Sittingbourne to Canterbury, a distance of 16 miles, occupied two hours and a half. In this part of the journey was the steep gradient at Boughton Hill, about 1 ft. in 12. From Canterbury to Margate was also well done, notwithstanding that at the last-named place there was a difficulty, owing to the extreme drought, in obtaining a sufficient supply of water. This experiment shows how readily steam power can be applied with good effect to the ordinary country roads. It would be useful, in connexion with this, to have an estimate of the cost of fuel, attendance, &c., so that we might be able to compare the cost with that of horse-labour for a similar journey.

TENT LIFE IN THE METROPOLITAN SUBURBS.

AN ancient woman, whose age was upwards of ninety years, and who was commonly said to be the gipsy queen of the district, has recently died in her tent, which was pitched in the neighbourhood of the Victoria Park. In the course of the evidence which was given before Mr. Humphreys, the coroner, it appeared that the aged dame had walked from Wandsworth on the previous day, and was in her usual health; but she was taken ill in the night, and by the time medical aid could be obtained the poor old woman was dead. A woman, one of the tribe, and who seemed to have more than a usual share of intelligence, said that she considered living in tents healthful, although they were sometimes at night overcrowded by families. In this instance it was not so; and in consequence of the gipsy's illness a fire had been lighted outside, which kept the air at a comfortable temperature. This death, at a very advanced age, was evidently the result of natural causes. In answer to a question, one of the witnesses said that the deceased was no queen of the gipsies, for the same Royal Lady who reigned over English people was in the same way acknowledged by their race. One of the dead woman's companions expressed a firm belief that if she had been removed to the workhouse her death would have taken place long ago; and the coroner remarked that those tent-dwellings must be infinitely superior to the houses of the poor in Bethnal-green and elsewhere. Of this we feel convinced, particularly when the tents are pitched in the favourable situations which long experience has taught the tenants to select. But the poetry and romance which have been attached to the gipsies is fast passing away. The exertions of the regularly-established county constabulary, game-keepers, and others, are driving them into the debatable lands which surround towns, where it would be no easy matter to get a hare or two, a plump partridge, a fat capon, or any such toothful matters for the pot; and they complain of poverty and want of the ordinary kind.

The profession of fortune-telling is not so good as it was formerly, and both men and women are forced to turn their attention to various kinds of settled employment, in the same way as ordinary people. At the Potteries there is a colony of gipsies, which seems to have become permanently fixed. Here the men, boys, and women work at basket-making and other trades. Several of the men are employed in the horse-fair, and some have followed the occupation of horse-dealing with considerable success and profit. In other ways there are indications of the gipsies falling into conditions of civilization.

But, as regards the health of tent-dwellings, the matter would be a subject well worthy of more attention than has yet been bestowed upon it. By means of the Registrar-General, we might get at the rate of infant and other mortality in proportion to the population in some of those situations. The health of the men under tents at Aldershott is reported to have been good; and we have heard few complaints, except as to the earwigs, at Wimbledon; but this was in the summer time.

AN ARCHITECTURAL CONUNDRUM.

ENCOURAGED by the example of the late excellent Archbishop Whately, who did not consider it either at all *infra dig.* or unbecoming his cloth to indulge in puns and conundrums in his hours of relaxation, I put here, in conundrum form, a question that ought not to be without instruction:—What is that which, though it does not show itself in an elevation—not at all in a mere outline one—contributes, though not loudly, so largely to general architectural character? By "not loudly" is to be understood that, notwithstanding its value, so far from any *noise* being made about it, no notice is taken of it by those who ought to call attention to it. Because it does not enter into the category of ornament, it is accounted a mere nothing; and yet, in one respect, it is almost everything; for, besides that it breaks up flatness and what may be called *superficiality*, it stamps a building with the impress of strength and durability, inasmuch as it gives evidence of thickness of wall.

This last observation will, perhaps, at once unriddle the matter by giving the reader to understand that what I am speaking of can be no other than depth of *reveal*, by deeply recessing the plane of the glazing of windows. Though Garbett, in his excellent little treatise, lays so much stress upon *depth*, it is the very quality which is least of all noticed even when its influence is felt. One recommendation of it is, that it confers an air of nobleness that cannot possibly be counterfeited: it admits of no mockery; for, where it exists not, its appearance cannot be simulated. No doubt, dress and cosmetics can do much for a dowdy woman; but, after doing their best, they leave her a dowdy still,—it being not in their power to impart even to beauty's self the fascination of *manner*:—

"La grace plus belle que la beauté."

So is it, also, in architecture; what is constitutionally dowdy cannot by mere surface ornamentation be rendered dignified.

As is the case with many other things, the worth of window-reveal may be best appreciated by its absence; as when the sashes, or whatever the glazing might be, used to be in the same plane as the face of the wall, of which now happily by-gone mode the houses in Bedford-row afford examples.

Besides *depth*, there is another most excellent quality in noble design, which, if it exists not in reality, cannot possibly be counterfeited, namely, *largeness*—a very different thing, by-the-by, from mere bigness, which latter may be produced by merely piling up "heaps of littleness."

Besides *depth*, there is another thing which, although something wholly unconnected with decoration, except that it affords space for it, which imparts to a façade the more enviable than every-day quality of *muscularity*, and is consequently what, where it exists not, cannot be feigned or counterfeited. It is, in fact, just the reverse of the ordinary "skin and bone" style of house construction. Breadth of pier and depth of reveal together insure a certain air of nobleness which, however simple it may be, contrasts so forcibly with the character of our general street architecture, whether it be of the nude or bedizened out, as to be positively striking. I need not be here told, as I was once by an ignorant prig,—who, though calling himself a critic, let it be seen that he was a mere penny-a-liner,—that what I spoke of with recommendation could not possibly be generally adopted. Of course, it could not: neither did I think that any one would be donkey enough to suppose, or else malicious enough to pretend to misunderstand me, and represent me as supposing that what I spoke of could by any possibility be for the many. Excellent well it is that consideration should be given to the requirements and comforts not only of the many, but, as far as practicable, to those of the million also. At the same time, let us allow those who can afford them to indulge without reproach in the luxuries of architecture, with this sole proviso, that they do so under the guidance of cultivated taste and due æsthetic study.

ART-LOVER.

DENMARK.

IN July, 1863, I happened to be at Copenhagen, and had an opportunity of seeing the Museum for Northern Antiquities referred to by your correspondent "A Dane in Australia." It is said to be, and those who have seen it must admit that it is, one of the best museums of its kind in Europe; and what must make it most interesting to the Danes is, that all its contents have been obtained in Denmark, a large portion on the various early battle-fields in that country. The museum is open free; and I happened on one of my visits to have arrived about one hour after its opening, and was surprised to find it well filled, not with staring passers through, but with an intelligent public anxiously enjoying it, and discussing in groups the interest and merits of the various wonderful things around them; interesting from the associations attaching to them, and wonderful, it struck me, from the perfection of artistic merit displayed in the designs of most, especially the Scandinavian trinkets. In the midst of those groups of intelligent individuals above referred to (and you will find all the Danes, even of the lower classes, intelligent) was to be seen a silvery-headed venerable old gentleman with sparkling eyes, his face beaming with pleasurable excitement, his whole soul evidently engaged in the matter as he explained to each, as he saw them interested, the whole history of the various articles under contemplation.

In one of the inner rooms I was examining a very curiously-carved reredos, when the old gentleman came up to me, and, spoke in Danish. I at once asked him a question in English, and when he saw I was interested in the museum, he took me off to the entrance, and then led me through the various rooms, explaining in beautiful English the various historical interest attached to the principal things in the museum, taking most rare things out of the cases for closer inspection, and this he did for others as we passed along. He was so pleased to show me the Dagmar cross, and make me take it into my hand, and tell me that was the cross of which a copy was given by the king (then living) to our Princess of Wales. This most amiable and kind-hearted man was Professor Thomson, who is well known to most antiquaries in Europe, to whose care this most valuable collection is intrusted, and to whose exertions, I am told, it owes its present extensive collection. I would advise any of your readers, if ever they find themselves in this museum, to look out for Professor Thomson: he is always there, and he will show them everything.

But, sir, I cannot say much for the architecture of Copenhagen. I do not think there is a corner of the city and its suburbs that I have not hunted up, and the only building that attracted my attention was the "Rosenborg Slot," or palace, in the "Rosenborg Haue." It is a red brick building, with stone dressings, of the style of James, picturesque in outline, the rest of Copenhagen being of modern date, since the bombardment by Nelson, and several times nearly burnt down by large fires. This Rosenborg Slot contains also a very valuable museum of northern antiquities,—some beautifully-carved furniture, better than I have ever before seen in any other place. There is also the Thorwaldsen Museum, close to the Christiansborg Slot, an Egyptian sort of buildings, with large frescoes on the exterior, representing the mode of bringing the stone from the quarry to Thorwaldsen's studio; also his landing and reception in Copenhagen; but on entering the building, one is astonished to see how it was possible for one man, even in a long lifetime, to execute such a collection of first-class works: there is also room in the building devoted to his private pictures and furniture. There is a small collection of pictures by native artists, in the upper rooms of the palace, of a first-class character; and yet it is strange, that notwithstanding the first-class art displayed in these pictures, with the provision of such a school of sculpture, and with such artistic qualities displayed in the furniture and metal-work in the two antiquarian museums, the arts in Copenhagen at present are in a deplorable state. The architecture is ugly and commonplace in the extreme; and you will see no pictures in the houses of the upper classes equal to those to be seen in the third-class auction-rooms of London. Its sculpture, displayed in pediments, &c., about the city, is monstrous; and the furniture, even in the best of the houses, is of a rude and commonplace description; and yet the people are well educated, and not poor. At the time

of my visit the king's summer residence at Elsinore, which was burnt down some time ago, was being rebuilt in the style of the old building, under the superintendence of Professor Meldahl, the Government architect, and I was pleased to find that the amiable president of the Institute of British Architects was known and respected as far north as Copenhagen; for, at an interview I had with Professor Meldahl, he asked after Professor Donaldson in a very kind and flattering manner.

Shortly before I left Copenhagen I had an opportunity of visiting one of the forts then building, about one mile in front of the Naval Arsenal. It was a row of casemates pierced towards the sea for ten guns, with a platform over the whole, rising out of the sea, about 20 ft. It was constructed entirely of concrete, composed of broken Swedish granite in small pieces, and cement made in the neighbourhood, and was one solid mass, without joint of any kind, and it was easier to break a solid lump of the granite than a piece of equal size of the concrete. The officer who took me over the forts stated that that mode of building the fort was decided upon after various experiments. There are many things of great interest to be seen in Copenhagen, both in its naval and military arsenals, the Palace of Charlottenburg, l'Eglise de Notre Sauveur, &c.; but I have occupied too much of your space already, and I must conclude by saying that I have never met with a more genuine, honest, hospitable, and intelligent people, even among the lower classes, than I have in Denmark. Those who have been accustomed to the fleecing, &c., of Continental towns, will be amazed at the change directly they get into Denmark. If any of your readers should go to Denmark through Hanover, it would be well to stay a half-day there, to see some good brickwork; also, not to forget to look at Mr. G. G. Scott's church at Hamburg. It is one of the best specimens of ecclesiastical work on the route, and one of Mr. Scott's best.

J. P. JONES.

FROM SCOTLAND.

Largo Law.—The tumulus on Norries Law, on the estate of Largo, has been an object of especial interest to archæologists since the discovery of some curious silver relics there more than forty years ago. Mrs. Dundas Durham has caused excavations to be made by her workmen, under the eye of Mr. Howie, of Largo, who has been employed in similar researches at St. Andrews and elsewhere. From the excavations it appeared that a circular foundation of stones had been placed at the outside, with appearances of a lesser one within. A cairn seemed to have been raised on the latter, many of the stones of which bore marks of fire. A small triangular cist, containing incinerated human bones, was found in the foundations of the external wall, and at a spot outside of this an urn appeared, surrounded by bits of calcined wood. The whole structure seemed to have been surrounded by a ditch and earthen rampart. The silver relics were discovered in a sandhill on the west side of Norries Law. They are in every way of great interest and importance, as on some of them the mysterious symbols peculiar to the sculptured stones of Scotland (such as what has erroneously been called the broken sceptre, which has been shown, in the *Builder*, to be a modification of the universal N symbol) are engraved, thus affording a connecting link between two different classes of early Scottish remains. Mrs. Durham, according to the *Scotsman*, has presented them to the National Museum of Antiquities.

Kelso.—It has now been determined to commence forthwith the building operations for the north church, on the site some time ago secured by the congregation, a little below the "Beech Tent." The various contracts for the work were let some time ago. The architect is Mr. Pilkington.

Dundee.—The continuance of good weather is being made the most of at the harbour, and the operations, which have progressed during the summer, are now fast nearing completion. The founding of the whole walls of the dock has been completed, and there are now only two portions, the southern ends of the east and west walls, which are not ready for the coping. The west wall, to the north of the lock of Victoria Dock, is being formed into a round head,—a proceeding rendered necessary by the rebuilding of this wall some 15 or 16 ft. back from the old foundation. At the south end of the east wall the workmen are dovetailing it with the end of the south wall, so that, of the building, only the lock will then remain to be done. The lock will be finished for coping within less than six weeks from this date, and the excavation of the dock will then be proceeded with. The east wall of the lock is now rebuilt up to some 16 ft. above the foundations, with the scouring tunnels formed; and the contractor does not seem to have discovered any of those quicksands which some time ago gave rise to much anxiety.

Arbroath.—The efforts of the committee of management on the Townhead water scheme have been so responded to that, after having secured a plentiful supply of water at Townhead, they were able to hand over the wells to the charge of the town council; and, having a balance over, it was agreed that it should be devoted towards erecting an ornamental drinking fountain. It was resolved that the fountain should be erected at the Tower Nook,—a site which would be of great benefit to the inhabitants. A public meeting to further this object has been held, and a polished granite, or partly granite and cast-iron fountain, varying in price from 120*l.* to 165*l.*, appears to be under consideration. It was resolved to get bills printed and circulated, calling the attention of the inhabitants to the movement; and also that subscription-lists, headed by a short appeal, be got and circulated by a sub-committee, which was accordingly appointed.

PROVINCIAL NEWS.

Winchester.—The collections made by the sub-committee in aid of the restoration of the City Cross, have brought the amount up to and above 500*l.*; and it is expected that 600*l.*, the sum required, will soon be forthcoming. As regards the three vacant niches in the principal group of statues, a suggestion has been made by a local antiquary that the following Winchester worthies should be represented there in stone, viz., Alfred the Great, who was buried in the Newan Minstre, and whose remains during the episcopate of Giffard, A.D. 1110, were removed to St. Grimbald's, in Hyde Abbey, where some years ago they were discovered by some workmen and scattered to the winds; Florence de Luim, first Mayor of Winchester, in the reign of Henry II.; and William of Wykeham, the illustrious Bishop and Chancellor of Edward III.

Cardiff.—The directors of the Cardiff Hotel Company (Limited) have given the contract for the erection of the new hotel to Mr. D. Jones, at the sum of 11,750*l.* The building is to be completed and ready for occupation by the 30th of September, 1865. Mr. Jones has already completed the excavations for the cellars and basement kitchens of the hotel, on a separate contract. The two or three thousand loads of dirt which have been taken out have been employed in helping to fill up to the proper grade the new road from Temperance town to the Castle Lodge, on the Canton-road, which runs past the back entrance of the new hotel. The directors have resolved on some changes in the internal arrangements, which will add to the sleeping accommodation, so that the hotel will have between fifty and sixty bed-rooms.

Erdington (Birmingham).—Some five years ago a wealthy Birmingham manufacturer conceived the idea of making some provision for orphans, and erected an institution capable of accommodating fifty children, and engaged proper teachers and managers to superintend their education and industrial training. So successful has been the operation of the present institution that its founder and supporter—Mr. Josiah Mason, of Lancaster-street, has now in course of erection, a much larger building, capable of accommodating between 300 and 400 children. It is rapidly approaching completion. It is built of red brick, with stone dressings, and the clock-tower at the entrance, and the spire at the south end, give the building a distinctive appearance. It is being executed under the immediate supervision of the founder, from the designs of Mr. Botham. Though a great amount of work remains to be done, it is expected that it will be ready for occupation during the ensuing year. All the fire-places are fitted with descending flues, and the smoke is carried to one tall double-cased shaft erected to the east of the institution. The lavatories, dining-hall, and kitchen are in close proximity. The ground floor of the south wing is open to the play-ground, and is intended to be boarded and appropriated for the children when the weather will not permit of their playing in the open air. It is also intended to erect a gymnasium. The probable estimated expenditure of the new institution—which is intended for the accommodation of boys as well as girls—will be about 3,000*l.* per annum, with which sum we believe it will be endowed by its founder. This endowment will, of course, necessitate the expenditure of a large fortune.

Holbeck.—A new workhouse for the township of Holbeck has been opened. The site of the building is a plot of land situate between Holbeck Moor and the Beeston-road; the main structure fronting the moor being set back from the road about 50 yards. The total length of this portion of the building is 158 ft. A corridor 7 ft. wide occupies the centre of the ground and first floor, and extends through the whole length of the building. The master's office and sitting-room, matron's store-room and cutting-out room, occupy the centre on the ground floor, the day-rooms for females being arranged to the left, and those for males to the right. The classes of aged and infirm persons, able-bodied persons, and children, are kept distinct from each other, having separate day-rooms and dormitories. The respective day-rooms have direct stair-case communication with the dormitories on the first floor, and have also attached to them baths and lavatories for the use of the various classes of inmates. The outbuildings, including the kitchen department and infirmaries, are arranged to the back of the main building. The dining-hall, which is also used as a chapel, has an open timber roof. At the east end is an oriel window, which is to be filled with stained glass by Mr. Barnett, of Newcastle. It will contain the figure of "Charity," and set forth the names of the guardians, who will defray the cost of it out of their private purses. At the main entrance will be a block of detached offices, including board-room, clerk's and superintendent registrar's offices, porter's lodge, waiting-room, receiving-room, vagrant ward, baths, &c., but this portion of the work is not yet finished. The style of architecture adopted is the Elizabethan, the main building being relieved with a tower and slated turret. The total cost of the workhouse will be about 6,000*l.* Mr. Wm. Hill, of Leeds, was the architect. Messrs. B. Woolley & Son were the bricklayers and masons; Messrs. T. Hall & Co. the carpenters and joiners; Messrs. E. Garlick & Son the plasterers; Mr. George Wilson the plumber and glazier; Mr. F. Sutcliffe the painter; and Messrs. Atkinson the slaters.

THORESBY PARK, OLLERTON, NOTTS.

THORESBY PARK, the seat of Earl Manvers, owing to its low situation, and other objectionable features, is to be built on a more elevated position. The House will be of very large dimensions, and ornamented in the Elizabethan style, from the designs of Mr. A. Salvin. The foundations have just been put in for the principal portion of the building, and last week the Earl himself laid the first stone. Mr. Geo. Smith is the builder. The stone to be used in the erection will be Steetley for the dressings and other ornamental parts, filled in with Mansfield Woodhouse ashlar left natural faced. The building may take six or seven years to complete.

The Earl gave the whole of the workmen employed (upwards of 100) a half-holiday and dinner, which was presided over by Mr. Oldreive, clerk of the works; Mr. Batten, the general foreman, in the vice-chair. Mr. G. Wiltshire, sen., is acting as foreman of masons.

BRADFORD NEW EXCHANGE.

A MEETING of the directors of the Bradford New Exchange Company was held on Saturday, the 3rd of September, when the plans of Messrs. Lockwood & Mawson for the proposed new building (recently illustrated in our pages) were formally approved, and the following tenders for the work were accepted:—

	£.
Mason and Joiner's Work.	
Messrs. Beanland	19,687
Plumber and Glazier's Work.	
Messrs. Keighley	1,820
Plasterer's Work.	
Mr. B. Dixon	1,170
Ironfounder's Work.	
Messrs. Cliff	2,073
Slater's Work.	
Messrs. Smithies	437
Painter's Work.	
Messrs. Briggs & Mensforth	269

An additional sum of 1,326*l.* for making the building fire-proof has been included, making a total outlay of 26,782*l.*

WATER SUPPLY.

Grantham.—The Waterworks Company have determined to borrow 1,000*l.*, with the object of enlarging the works at Stroxton, where they obtain the water, for the purpose of increasing the supply to the town.

Stalybridge.—At a special meeting of the Stalybridge town council, it has been determined to apply to the Poor-Law Board for an order, under the authority of the Public Works Act, for a loan of 65,000*l.*, to be made to the corporation, for carrying out the Aston and Stalybridge Waterworks Act of 1864.

Hartlepool.—At the annual meeting of the Gas and Water Company, the plans and specifications for the erection of the new reservoirs at Hart, for the supply of the two towns with soft water, by Messrs. Martin & Fenwick, of Leeds, were laid on the table, and they showed that the two reservoirs would cover an extent of sixteen acres, and would be capable of holding 20,000,000 gallons of water. The contract for the erection of the embankments, &c., will be let on the 17th inst. A dividend of 6½ per cent. was declared, free of income-tax.

Crewe.—The works in connexion with the supply of water to the town and the works belonging to the London and North-Western Railway Company, at Crewe, have been formally opened. The supply has been obtained from a well sunk near the Whitmore Station on the company's line, where a plentiful yield of good water has been met with. The well is 70 ft. deep below the rail level, and 18 feet bore hole, being carried to a further depth of 150 ft. The works consist of pumping-engine and boiler-house at Whitmore, and storeage reservoir at Madeley, the water being conveyed from the well to the reservoir, and on to Crewe, through cast-iron pipes laid along the line, forming altogether a main about 11½ miles long, which is capable of passing upwards of one million gallons of water per diem.

Sheffield.—An extraordinary meeting of the proprietors of the waterworks has been held, for "the determination of the remuneration of the directors of the said company." The actual purpose was to agree upon the allowance of 1,000*l.* a year to Mr. Waterfall, the newly-appointed chairman, who would in return be expected to discharge all the duties of managing director. Mr. A. Smith, the law clerk, explained that the meeting was only intended to get over a legal difficulty, one of the clauses of their Act providing that no director should hold any "office of profit" under the company. The chairman stated that the claims against the company would be 4,000 or 5,000 in number, and the amount of damage probably from 300,000*l.* to 350,000*l.* He also stated that it was intended that the affairs of the company should in future be managed much more energetically than hitherto, and that they should be put in a more practical and business-like shape. The proposition was adopted.

Brighton.—The local guardians now find that the costly well sunk for the supply of the Industrial Schools, so far from affording a supply to their projected new workhouse on the Race-hill, as expected, will not suffice for the future requirements of the Industrial School itself, nor will it enable them to fulfil their agreement with others to supply water from this well. It is even thought the well must be shut up, as the water can be more cheaply supplied by the local company than by their well engine. In testing the well and its capabilities lately, the steam-pump was set to work to draw off the water; and in one hour and thirty-three minutes, the engine drew air instead of water. All the water to the extent of the supply-pipe had been exhausted. At the depth of about 400 ft., a horizontal chamber was excavated, as our readers may recollect, and the second well was then sunk. The supply-pipe runs diagonally from near the bottom of the first well into the second well to a depth of something like 10 ft. All the water to this depth was drawn out; and the quantity, as measured in the reservoir, was 1,700 gallons. In plumbing the first well the depth to the water was found to be 416 ft.; to the bottom of the shaft 18 in. more, making 417 ft. 6 in. From the top of the second well the depth was 691 ft. According to the diagram in the office, the depth of the first well was 437 ft. 9 in.; of the second 864 ft.; so that, either from the actual upheaving of the bottoms of the shafts, or from the falling of *débris* from the sides of the wells, there had been a diminution of depth to the extent of 173 ft.; or there was a reported depth never reached by the well-sinkers. The water, when first drawn from the well, was full of earthy matter, to such an enormous extent, that the subsidence of water in a glass was one-fourth of the whole contents, or one-fourth of earthy matter to three of water. Mr. Bonner, plumber, reported that, from watching the progress of the pumping, he found that the supply was derived principally from land springs in the upper well, and that only a small part came from the lower well. His opinion was that the supply from the well was not sufficient unless lowered 200 ft., which would entail a heavy outlay, and that even then it would be questionable whether the result would compensate for the cost, amounting perhaps to 1,000*l.* A descent was made three hours and a-half after the pumping had exhausted all the water at the depth of the end of the supply-pipe. In that period the water had risen to the extent of 3 ft. only, equivalent to 250 gallons. Strong opinions were expressed that the water in the well comes from the chalk, and not from the Wealden formation on which the chalk rests, and which is pierced at the lower part of the second well. Mr. Wright, being asked his opinion, said the geological dip of the strata in this neighbourhood was towards the south, and water was obtained towards the sea level; but in digging the well in question the important fact was overlooked that the Bevendean Valley intercepted the flow of water and carried it down to the Water-works in the Lewes-road. The water they had been getting was from the chalk, a little below the sea level. A mistake was made in comparing this well with the artesian at Paris, as there was a difference of 500 ft. in favour of the well at the Bois de Boulogne.

The Chairman asked what he would suggest should be done?

Mr. Wright said nothing could be done. The utmost you can get is 1,700 ft. only; and the expense of pumping it is twenty times more than the Water Company would supply it for. He would close up the well.

Mr. Woollett regretted that the advice of Mr. Wright, who was practically acquainted with the geology of the district, was not acted upon originally, in which case a very large sum would have been saved to the parish.

CHURCH BUILDING NEWS.

Ringmer (*Sussex*).—The parish church, having been for a long time in a very dilapidated condition, has been repaired and renovated, under Mr. Joseph Miller, the contractor. The interior walls are now stuccoed, and the woodwork stained, thus bringing to light many features of its old architecture, which have hitherto been buried in whitewash.

Steyning (*Sussex*).—The work of restoring the church here has been carried out and the edifice re-opened. Last year cracks were observed in some of the arches; and, as it was found they were gradually enlarging, it was thought advisable to call in an architect to examine into their cause and tendency. Mr. G. M. Mills was the gentleman selected, and from his report it appeared that many important parts of the building, among them the lofty Norman chancel arch, were in a precarious condition, and required immediate repairs. The parishioners at once determined to carry out these repairs, and, at the same time, to re-pew the church, and make the free sittings for the poor in the centre of the church. The vestry voted 800*l.* for the purpose; but the cost, which was estimated at 1,700*l.*, has reached nearly 2,000*l.* Subscriptions were contributed by the landlords and parishioners to make up this amount. The new pews are of stained wood. A stained glass window in the chancel, over the communion-table, has been put up by the family of Ingram, to the memory of the late Mr. Hugh Ingram, of Steyning. It is in the Early English style, having three lights or sections. The centre-piece represents "The Crucifixion," the north side "The Nativity," and the south side "The Resurrection." The glass is by Messrs. Hardman, of Birmingham. Mrs. Ingram is also a very large contributor to the restoration funds.

Brighton.—The new church in Washington-street is built in the most densely populated part of Brighton, the north-east. It is at the back of Hanover-crescent. Its exterior is perfectly unpretending. Within, the unplastered walls are simply whitewashed, and all the timbers—the pillars, beams, rafters, and laths,—are unpainted, and the tiling is visible between the interstices of the latter. The seats are unpolished Windsor chairs, each of which is provided with a hassock. At the western end of the church is an elevated dais, surrounded by a crimson drapery with yellow flowers, on which stands the communion-table, draped. Beneath the church (and accessible from Coleman-street) are extensive school-rooms, shortly to be opened.

Worcester.—Christ Church, Worcester, has been consecrated by the Bishop of Winchester. It is a simple building, in the style of the period of the transition from Early English to Decorated, and consists of a chancel and nave, with a south aisle and porch. The walls are built of Bargate stone, with Bath stone dressings. The chancel is paved with Maw's tiles, and the east window glazed with stained glass, representing the Nativity, the Crucifixion, and the Resurrection. The church, which affords accommodation for 300 persons, has cost about 1,500*l.* The works have been carried out by Mr. Mitchell, of Shalford, under the direction of the architect, Mr. Howell, of Lancaster-place. The stained glass was supplied by Messrs. Lavers & Barraud, and the stone carving was entrusted to Mr. Earp.

Clifton.—The Society of Merchant Venturers have granted the donation of 500*l.* towards the erection of All Saints' Church, on the Pembroke road, in which all the seats are to be free. The purchase of the land (part of the field lying on the Pembroke and Alma roads, between Chandos-place and Pembroke House) has been completed, and the site for the church conveyed to the ecclesiastical commissioners. The excavations have already been commenced, and the works will be at once proceeded with under the superintendence of Mr. G. E. Street, of London, architect.

Cheltenham.—A contract has been made with Messrs. Wingate, of Gloucester, for the erection of the tower and spire of St. Mark's Church for the sum of 800*l.*

Banwell (*Somerset*).—The church, which has been for the past twelve months undergoing renovation, has been re-opened. Notwithstanding repairs have been going on since last July, the edifice has only been closed a fortnight. The Rev. W. H. Turner, the vicar, has been acting as architect, aided by Mr. R. H. Trickey, painter, &c., of Banwell. The roofing has been restored and gilded, at a cost of over 300*l.*: the previous high pews have been taken down, and replaced by modern ones: a screen, gilded, has been erected between the nave and the chancel. The expense of this, amounting to upwards of 100*l.*, has been defrayed by Mr. H. N. Pigeon. The chancel has been decorated, the flooring laid with encaustic tiles, and filled with seats; and there are other slight improvements, such as cleansing the walls, renovating the pulpit, and illuminating the caps of the columns, at a cost of about 200*l.* The cost of these repairs, amounting in the aggregate to rather more than 500*l.*, has been defrayed by voluntary subscriptions, excepting about 14*l.* for altering seats and cleansing walls.

Alnwick.—The fund for the restoration of St. Michael's Church, Alnwick, has just been closed. The whole of the estimates amount to 943*l.* 15*s.* 4*d.* To meet this there have been subscribed by voluntary rate, public subscriptions, and by sale of old building materials, 945*l.* 9*s.* 5*d.* The fund was originally started for the purpose of restoring the south front, together with three of the windows, and also to have the nave and aisles re-seated with open benches. After this was done, the minister and churchwardens found they had the means to accomplish more; they therefore caused the parish portion to be heated with hot water. They also spent 50*l.* in inserting a new window at the west end of the church, of the Perpendicular period. The vestry was found to be in a very dilapidated state: to put it into thorough repair, it was found advisable to take the entire roof off: this was done, and the plaster was taken off the walls, and the whole put into repair. They also spent about 140*l.* in making the roof of the nave more secure. The churchyard has been levelled, as very few interments now take place in it, the falling tombstones having been put upright, and a uniform verdure now covers the sod.

Brecon.—St. Michael's Church, situate in the parish of Llanvihangel, and distant about six miles from Brecon, has been recently opened after a process of restoration. The work of restoration is in the Gothic style, the designs being prepared by Mr. T. Nicholson, diocesan architect, Hereford. The builders were Messrs. Williams & Sons, Brecon.

SCHOOL-BUILDING NEWS.

Brighton.—Tenders for the erection of St. Peter's district schools, in Richmond-buildings, in accordance with plans and specifications prepared by Messrs. Scott & Suter, architects, have been received and opened. With the first five contractors it will be seen the tendering was close, there being a variation of only 30*l.* The tenders were—Messrs. Sims (London), 1,543*l.*; Patching, 1,512*l.*; Dallimore, 1,510*l.*; Lynn, 1,520*l.*; Cheesman & Co., 1,513*l.*; Fabian, 1,387*l.*; Chappel (Steyning), 1,318*l.* The last tender was accepted.

Leicester.—The chief stone of the new Green Coat (or Alderman Newton's) school, has been laid on a site near St. Martin's Church. Mr. D. J. Vaughan is the architect. The building is Gothic, of red bricks with stone dressings, windows with tracery heads, and panelled underneath. On the front is an oriel window, to be used as a class-room, and a hat and cloak room, and porch, with stone crubattled parapets. The school-room is 60 ft. by 25 ft., with a high-pitched open roof, and a crocketed bell turret, and there is a class-room at the back, 24 ft. by 14 ft. Mr. T. Porter is the contractor, Mr. Firn the stonemason, and Messrs. Goddard & Son, the architects. The cost will be about 1,500*l.*

Hallaton (*Leicestershire*).—A new school and school-house are in course of erection. It is of red brick, with Bath stone dressings, and blue bricks introduced in patterns. In the gable ends of the school are three-light Pointed Gothic windows, with plate tracery. Messrs. Goddard & Son, of Leicester, have been employed to superintend the works. Mr. Loveday, of Kibworth, is the builder.

Codsall.—New school-rooms and a master's residence have long been wanting in this parish. A suitable piece of ground near the church having at length been obtained, the buildings were commenced in the spring, and have just been completed, at a cost (including the site) of 800*l.* or 900*l.* The work has been done by Mr. Bowater, of Wolverhampton, contractor, under the superintendence of Mr. E. Banks, architect.

Bowdon Close.—A British school has been opened at Bowdon Close, a colliery village, distant about 2½ miles from Willington, Durham. The foundation stone of the school was laid on the 29th of January, by Mr. J. W. Pease. The school has been erected from the plans prepared by Mr. John Graham, architect, Hedley Hope. The contractors were Messrs. Hare & Walton, Crook. The building is of firebrick. The dimensions are 50 ft. by 20 ft., and the building will accommodate about 150 children. The structure has been built at the sole expense of Mr. Joseph Pease and partners, to meet the educational wants of the children of the men employed at their extensive collieries.

SANITARY MATTERS IN DUNDEE.

At a recent meeting of the local police commissioners it was stated that a sub-committee recommended that a number of halting-places and other conveniences should be erected in various parts of the town; and also that elegant drinking-fountains should be erected at the Greenmarket and the West Port. In connexion with this subject a letter, addressed to the Convener of the Sanitary Board, by Dr. Allan, was read, in which the writer called attention to the increase of fever at present in the town, and to the necessity of sanitary means being at once employed to check the progress of disease. While visiting the dispensary patients of the Dundee Royal Infirmary, he remarked, "I frequently find that many of their houses are overcrowded and ill-ventilated: numerous accumulations of filth are also lying exposed around these crowded dwellings, which contaminate the atmosphere, and may lead to serious consequences unless speedily removed. In various parts of the Chapelshade, Hilltown, and Foundry-lane, where fever now prevails, such evils chiefly exist, and which can be pointed out. I would most respectfully suggest that the examination and cleansing of these districts be immediately proceeded with; that, in proper positions, large iron boxes be placed, where refuse could be deposited by the occupants, and removed once a day by the bell-cart; and that, wherever overcrowding, or anything injurious to health is seen, medical authority should be obtained to enforce the carrying out of sanitary laws."

DISCOVERY OF A SORCERY HALL (?) AT TORWOOD, IN SCOTLAND.

An interesting discovery has just been made on Tappock-hill, in Torwood Forest, parish of Dunipace. The discoveries, says the *Scotsman*, include a large circular building, *entombed in a mound, a subterranean passage leading therefrom*; the upper portion of a Scottish quern; a small iron hammer of ancient make; with other remains. The building is circular, and the diameter is 32 ft. 6 in., with a depth of 10 ft. What may be termed the main entrance is situate at the south-west side, and the descent to the chamber is accomplished by a stair consisting of ten steps. The staircase is elbow-shaped, and at the bottom it measures 4 ft. 3 in. wide, at the top 2 ft. 10 in. Adjoining it is the entrance to the subterranean passage, which is supposed to communicate with Torwood Castle. The sides of the entrances to the chamber and subterranean passages are surmounted by compound lintels, and the whole building indicates a regular principle of construction. The stones have evidently undergone a rubbing down and dressing, so as to form tolerably regular blocks. A "bing" (or heap) of stones, weighing from 1 lb. to 2 lb. each, and nearly all of one shape, was discovered in a part of the chamber. It is quite apparent that these had been selected for some object, possibly for using with the sling. One of the large stones with which the chamber was filled up is ornamented in two corners by a character or figure resembling a ram's horn [the Volute? such as those among the rock symbols, and at the sorcery hall of New Grange, in Ireland]. The bottom of the chamber is covered, to a depth of 2 in., with what appears to be ashes or charred wood; and at intervals round the walls are cavities measuring 6 in. by 9 in. The chamber in some of its details corresponds very closely with those ancient habitations (called Picts' houses?) which have been found elsewhere in Scotland.

BRIGHTON BUILDERS AND THEIR BUILDING ACT.

The attention of the town council having been called by the Home Secretary to the illegality of one part of the 33rd clause of their bye-laws for regulating the width, &c., of new streets and sewerage thereof, they resolved to invite suggestions for alterations from the builders and architects living in the town. Agreeably with this invitation, a meeting of those interested in building operations was held. Mr. John Davey was called to the chair, and having briefly opened the meeting, Mr. R. Mason rose and said he had an objection to make to one clause which pressed very hard upon builders of small property; and that was the compulsory extra thickness for the walls of houses of 20 ft. high and two stories. 14 in. were now required for party walls and for back and front walls, and he thought a foot for party walls and 9 in. for back and front, of brick, for houses of this description, would be quite sufficient, and he had no doubt that others besides himself had found it difficult to build them more than that. He would therefore move "That it be suggested to the town council to amend their bye-laws in this respect accordingly." This was seconded by Mr. Holloway, and a protracted discussion ensued. Eventually Mr. Mason withdrew his motion in favour of a resolution of Mr. Scrase to the effect that a committee should be appointed to consider the bye-laws, and report to an adjourned meeting what suggestions should be made to the council."

Mr. Woodman, architect, in a letter, defends the Act. He says,—

"To return to rickety, ill-ventilated, badly-drained habitations,—an undue proportion of bricks and mortar to air space; to erect tenements inviting accidents by fire; and, in short, possessing every possible defect both sanitary and constructional,—and that, too, for a class of householders unable to protect themselves,—would be reverting to a condition of things in vogue in the 'good old days,' but not to be tolerated now; and the town council will, no doubt, recognise other claims than those represented by the 'breeches pocket' interest of the speculative builders."

MASTERS AND MEN.

At the Doncaster West Riding Petty Sessions, before Mr. Aldam and other magistrates, Mr. Harold Arnold, builder, was summoned by a workman named Simpson, for two days' wages, 9s., due to him under these circumstances:—Mr. Arnold is the contractor for the building of a Primitive Methodist chapel, at Mexborough, and the complainant was employed there, on his own statement, at the rate of 4s. 6d. per day, but upon Mr. Arnold's evidence at the rate of 27s. per week. The complainant obtained another job, and left Mr. Arnold, after working on Monday and Tuesday, and without giving any notice. Mr. Arnold thereupon refused to pay him his wages, and the question turned upon the custom of the trade. Complainant stated, that it was the custom to leave without giving notice, as the engagement was by the day; whilst the defendant stated that the invariable custom was to give and take a week's notice.

The magistrates, after consideration of the case, decided that the claim made by the complainant must be paid, it not being proved to their satisfaction that the custom of the country required a week's notice.

Mr. Aldam remarked that such cases as these, and the inconvenience they must of necessity create, would be avoided if a written agreement were made when engagements between masters and workmen were entered into.

ENTERTAINMENTS.

Gallery of Illustration.—The *Opera di Camera* having pleased the public, Mr. German Reed has produced a new work by Balfe, entitled "The Sleeping Queen," and a comic adaptation by himself, from Offenbach, called "Too Many Cooks." For exponents these have Miss d'Este Finlayson (her first appearance), Miss Poole, Mr. Whiffin, Mr. R. Wilkinson, and Mr. J. A. Shaw (his first appearance). For the first, Mr. John O'Connor has painted an effective Spanish scene. Both works have proved successful.

St. James's Hall.—Mr. Anderson is doing magic here on a great scale, after an absence of seven years from England, not at present introducing any fresh deceits, but giving to old ones new and, we may fairly add, effective faces. His daughters aid him prettily, and the eldest shows, in her part of the entertainment—pseudo-second sight,—a capital memory, and great facility in spelling backwards. The "Wizard" still denounces the spirit-rappers energetically.

The Polytechnic Institution.—When the Polytechnic re-opens on the 19th, Professor Pepper will produce an entirely new lecture, which it is expected will be a companion one to his fortunate ghost entertainment. The subject he has selected is "Sound and Acoustic Wonders," such as the Talking Heads The Telephonic Concerts—The Invisible Girl, &c.

Miscellanea.

Another Palace in the North of Scotland. The Prince of Wales is about to erect a new palace at Abergeldie. Mr. Smith, of Aberdeen, the architect of Balmoral Castle, is engaged in the design.

Memorial Tablets: Mrs. Siddons.—Messrs. Edwards & Son write,—"It may interest some of your readers to know which was the house in Great Marlborough-street formerly occupied by Mrs. Siddons. It is No. 49, now in our occupation."

Crieff: Gift of a Public Park.—We understand that the Right Hon. Lord Willoughby d'Eresby has resolved to give a park to the inhabitants of Crieff. The ground selected stretches from the upper part of Burrell-street west to the Wool Mills, and extends to about twelve acres.

Workmen's Shakspeare Memorial.—A public meeting is fixed to take place at the Whittington Club, Arundel-street, Strand, on Wednesday evening next, the 14th instant, with a view to place the movement before the working men of the country. To raise a memorial to our great poet will be an honourable thing for workmen to do.

The London General Omnibus Company.—At the usual meeting of the General Omnibus Company, a dividend and bonus equal to 6½ per cent. per annum has been declared for the half-year ending 30th of June, and a sum of 4,990*l.* 1s. 10d. carried forward to the next account.

A Valuable Invention.—Mr. Benvenuti's patent for elliptical or oval compasses, the sale of which was lately announced to Messrs. Rowney & Son, of London, is thus spoken of in the *Swansea Cambrian*. "It describes an elliptical circle of any form or size from egg-shaped oval to the true ellipsis, even the circle, and with the same accuracy as those obtained with geometrical process. This invention will doubtless prove a boon to the artisan. It is ingenious in contrivance and simple in its construction."

The New Magnesium Light.—The great difficulty which has hitherto stood in the way of the utilisation of this very brilliant light has been the want of some means for its easy application. This difficulty is said to be now entirely surmounted. Mr. A. G. Grant, an American gentleman, resident at Nottingham, has patented an apparatus for effecting the object in view. The wire is coiled on spools, and thence is drawn between cylinders to a tube through which it is said to be thrust at precisely the rate at which it burns. The apparatus will form a hand-lamp, or may be applied for other purposes,—such as the lighting of theatres, the making of fog-signals, or signals of any kind. The hand-lamp will be especially useful to photographers. The increasing cheapness of the magnesium wire may soon cause it to be generally adopted where a very brilliant light is required.

LADY PAINTERS IN FRANCE.—It is stated that the Prefect of the Seine has commissioned Mademoiselle Nelly Jacquemart to decorate the Church of Suresne, near Paris. The young lady belongs to a family which has more than one artist besides herself amongst its members.

ST. PETERSBURG A PORT.—Sir Morton Peto has, it is said, contracted with the Russian Government for the construction of a port at St. Petersburg, which will permit vessels to load and unload there, and make the capital independent of Cronstadt, except for fighting purposes.

PRESERVATION OF MEAT.—M. Runge gives the following process for the preservation of meat:—He takes an earthenware vessel, of convenient size, with a well-fitting cover, and at the bottom he pours twenty to thirty grammes of concentrated acetic acid, and places over it, at a distance of about 5 centimetres, a small grating made of wood, on which the meat is laid, and the lid is put on. The result of this arrangement is, that the meat is surrounded by an atmosphere of acetic acid vapour, and is preserved from putrefaction for twelve or fourteen days.

FROM INDIA.—Two spans of the railway bridge over the Nerbudda at Broach, have been carried away by heavy floods; and another bridge, on the same line, near Unklesur, has been destroyed. All traffic between Surat and Broach had in consequence been stopped.——Mr. Latham, a civil engineer at Bombay, has entered into negotiations with the Government of Goa, and the Portuguese Government at Lisbon, for permission to be allowed to construct a line of light railway from Pangim to the interior, for about forty miles to the foot of the Ghauts.

ST. IVES.—The foundation stone of a new pier has been laid at St. Ives. It is intended that the pier shall extend 615 ft. in a south-easterly direction, running into a depth of water of 30 ft. at high-water, and 6 ft. at low-water mark spring tides. The pier will consist of two parts,—a sea-wall next the shore, 191 ft. in length, formed wholly of stone, and a breakwater similar to that now being constructed at Falmouth, consisting of timber frames filled with rubble stone. The end of the pier will be round, and of strong basket-work of timber, also filled with stone, the foundation of which will be 60 ft. in diameter and 10 ft. 6 in. in depth, constructed of brickwork with concrete hearting.

FATAL FALL OF A "STEEPLE JACK" FROM A CHIMNEY.—John Delooze, late of Dalton-street, Chorlton-upon-Medlock, known as "Steeple Jack," was a bricklayer, and was employed in "pointing" a chimney at Adlington, near Chorley. He was seated on a stage to which was attached a rope which passed through blocks at the top of the chimney. A labourer named Bagnall was raising the stage, when the rope broke, and the deceased fell from a height of 20 yards. Bagnall was knocked down, but not seriously hurt. The deceased sufficiently recovered consciousness to request that he might be taken home to Manchester to his wife, but afterwards died. The rope was considered sound and strong, and Mr. W. S. Whisker, of Rochdale-road, a witness at the inquest, said he could only account for its breaking by the friction against the corner of the chimney during the high wind on the previous night. The jury returned a verdict of "accidental death."

WELL WORTH POWDER AND SHOT.—The Skidmore Art Manufactures Company have just completed a handsome goblet, which is intended as a prize to be competed for annually by the Nottingham Robin Hood Rifle Company. It has been made for, and will be presented to, the company by the Duke of St. Alban's, the honorary colonel. In this example of art workmanship, Mr. Skidmore has united various metals, translucent enamels, also the amethyst, carbuncle, and crystals. The body of the tankard is of iron, lined with silver. Externally it is decorated with massive ornaments of silver and gilt bronze, which are saw-pierced, enamelled set with precious stones, and elaborately engraved: filagree is also used to enrich the gilt bronze surroundings and settings of the precious stones. The cover is surmounted with a crystal, and crystals also add to the attractions of the base and the handle, the grip of which is formed of ivory, inlaid and embraced by ferrules of silver, on which the names of the successful competitors in the annual contests will be engraved. The result is very satisfactory.

NEW RAILWAY HOTEL AT LIVERPOOL.—The hotel to be erected at the Lime-street Station, Liverpool, by the London and North-Western Railway, will cost 50,000*l.*

COST OF BELLS.—More than one bell-founder, including Messrs. Warner & Sons, say, with reference to a recent letter in our pages on the cost of peals of bells, that at the present time church bells can be had for much less than 8*l.* 8s. per cwt.

TENDERS FOR THE NEW WORKHOUSE, BRIGHTON. At the last meeting a report was read from the New Workhouse Committee, who stated that they had carefully considered the question of taking out the bills of quantities for the proposed new workhouse, and they recommended that Messrs. J. C. & G. Lansdown, of London, surveyors, be employed, conjointly with Mr. G. Maynard, to perform the work, at a charge of 1½ per cent. upon the amount of the accepted tender, for the services of both parties. The report was received and adopted.

SALE OF THE GREAT BED OF WARE.—Last week, the Great Bed of Ware was sold by auction by Mr. E. Jackson, at the Saracen's Head Inn, Ware. Mr. H. Wilmott, of the Railway Tavern, Hertford, made a bid of 100 guineas, and after a few minutes' pause, during which there was the utmost stillness in the thronged room, the bed was knocked down for that sum. Shakespeare's allusion to this bed in "Twelfth Night" is well known.

THE IRON TRADE.—The trade, both at Wolverhampton and Birmingham markets, evinces a better feeling than it has done of late, according to *Eylands's Circular*. The weakness of the market has evidently passed, and buyers express themselves safe in making their purchases for next quarter. For best hot-air mine pigs, 3*l.* 15s. is named; second quality, 3*l.* 10s. to 3*l.* 5s.; pigs, with slight admixture of cinder, 3*l.* and 2*l.* 17s. 6d.; melting pigs, 3*l.* to 3*l.* 5s. As to manufactured iron,—marked bars, 9*l.* 10s.; hoops, 9*l.* 10s. Sheets,—singles, 10*l.*; doubles, 11*l.* 10s.; lattens, 13*l.* Second-rated makers are quoting 5s to 10s. per ton less. In Scotch pig-iron the advance of 3d. per ton in the beginning of the week is just supported and no more,—prices stand nominally at 58s. 3d. cash sellers, and 59s. 6d. three months.

BATH IMPROVEMENTS.—The Corporation has passed this subject under review, at a meeting convened for the purpose, and has pronounced it to be "essential to the health and welfare of the city" that the river shall be purified and the water-supply increased; that these great works shall be executed "with all possible speed;" and that a new Act of Parliament shall be applied for if the desirable improvements cannot be otherwise effected. It happens that these much-needed improvements can be obtained without adding materially to the burdens of the ratepayers. In about five years, or at the period when the charges for the contemplated works will fall heaviest upon the borough, debts will have been paid off and property acquired, so as to leave at the disposal of the Corporation, according to the local *Chronicle*, from 3,500*l.* to 4,000*l.* yearly, which sum will go far towards meeting the charges for principal and interest of the loans to be borrowed.

CHURCHES STRUCK BY LIGHTNING.—The church of Stoke-by-Nayland was recently struck by lightning in a severe thunderstorm during the morning service. One of the pinnacles on the summit of the tower of the church was struck off, and the parapet also of the tower was injured. A strong sulphurous smell was noticeable in different parts of the church, and more particularly in the organ gallery, behind the organ. A wire attached to the clock bell on the roof of the tower was severed and almost fused by the lightning, but no one was injured, though great alarm was felt among the congregation.——A few days ago, says a Tyrolese paper, a thunderstorm discharged its fury on the village of Worgel, in the valley of the Inn. True sons of holy Church, the villagers at once flocked to the steeple to attract their saint's attention by ringing the bells; and this the more readily as they had the good luck of numbering among them a bell reported miraculous. But the laws of nature do not always agree with the superstitions of the Church. The lightning struck the bell, came down upon the ringers, and killed six of them on the spot. If this sad accident should lead to lessen the amount of ringing there it would not be useless.

SALE OF PROPERTY AT RAINFORD.—The little estate, known as the "Orrett's," of six acres, situate in Rainford, and producing a rental of about 30*l.* per year, has been sold by auction to extraordinary advantage. The first offer was 600*l.*, and the bids progressed up to 1,700*l.*, when the auctioneer announced the reserve bid of 2,200*l.* The biddings were again immediately taken up, and in a brief space of time the property reached the sum of 5,100*l.*, at which price it was knocked down.

THE DRINKING FOUNTAIN MOVEMENT.—A drinking-fountain, which has been erected near the cattle-market, in Middleborough, Colchester, at the cost of Mr. T. J. Miller, M.P., has been opened with befitting ceremony, by the mayor and corporation of the borough. The fountain stands about 10 ft. high, and is built of white brick, with stone base, ornamented with four square polished granite pillars, and capped with Portland stone, upon the top of which there is to be a lamp. The water issues from a white marble shell, and falls into a black marble bowl, where it is caught with drinking-cups. At the foot there is a stone drinking-pan for dogs. The architect was Mr. H. W. Hayward; and the builder, Mr. S. Mansfield, of Colchester. The cost was about 100*l.*

PROPOSED INDUSTRIAL EXHIBITION IN MARYLEBONE.—The All Souls' (St. Marylebone) Club is said to be one of the greatest successes yet achieved in this movement, in connexion with the co-operative principle. Twopence per week, with no entrance-fee, gives the use of two bagatelle-rooms with three boards, of a suite of rooms for reading, chess, draughts, &c., over a pipe, and of a suite for non-smokers. There is also a large room where elocution, singing, and other classes are held and concerts given. A co-operative store has been started, and now shows a profit, it is said, of 19 per cent. on the first month's working. The members also obtain good and cheap coals by co-operation. There are 910 members on the books. The committee, according to the *Marylebone Mercury*, now invite the working men of Marylebone to join in holding a working-class industrial exhibition at Christmas time in the school-room of Great Portland-street, where a public meeting will shortly be held on the subject, with Mr. Peter Graham as chairman.

ST. JOHN'S COLLEGE, CAMBRIDGE.—The new chapel of St. John's College, Cambridge, which is being erected from the designs of Mr. G. G. Scott, is to receive an important alteration, from the liberality of Mr. Henry Hoare, of Fleet-street, formerly a distinguished student of the college. Soon after the work was begun it was suggested to Mr. Scott that a massive stone tower, as a substitute for the *flèche*, or wooden spire, would be a great improvement in the design of the building. Mr. Scott warmly espoused this idea, and prepared a design of a tower upwards of 160 ft. high, and open within the building to the height of the second set of windows. The authorities of the college, however, finding that the proposed change would involve an additional expenditure of between 5,000*l.* and 6,000*l.*, decided that they could not in prudence adopt it, and resolved to proceed with the work according to the original design. Mr. Hoare has recently proposed to the college, in a spirit of princely munificence, to erect the tower at his own expense. The offer has been accepted by the college, and the requisite changes in the plan of the building have been already commenced.

ACCIDENTS.—At Alnwick Castle there are hydraulic lifts for removing heavy articles from the lower to the upper apartments. When the lift arrives at its highest point there is only about the space of a foot between the iron framework of the cage and the ceiling. Two men were lately employed at the lifts, when, from some misunderstanding, one was crushed dead against the ceiling on the ascending lift. The accident was not discovered until some hours later.——On the new line of railway now in course of construction by the South-Eastern Railway Company between Deptford and Lewisham, a party of excavators were at work cutting away a portion of the chalk embankment, and had just completed their work, when, without any warning, a mass weighing nearly 100 tons suddenly fell, burying four of the unfortunate fellows. A truck was completely smashed. After a short time two of them were reached, still alive, and conveyed to Guy's Hospital. The other two were dead.

THE SANITARY CONDITION OF OUR WATERING-PLACES.—Visitors, having had their attention turned to this subject, probably by what was recently said in the *Builder*, and largely quoted in the newspapers, are complaining to the *Times* and other papers of the sanitary state of Cromer in Norfolk, Tenby in Pembrokeshire, and Penmaenmawr in Carnarvonshire. Cromer is drained into its own "delightful sands:" Tenby is partly drained into some "attractive caves;" and Penmaenmawr is drained not only into the beach, but into numerous open ditches, between the villas and the lodging-houses on the hill-side. It is to be hoped that the authorities of these and other well-frequented watering-places will, for their own interests, no less than for the benefit of their visitors, now do something to put an end to such injurious proceedings.

ALUMINIUM.—A new method for obtaining this metal at a very small cost has just been discovered, says *Galignani*, by M. Corbelli. He takes a certain quantity of pure clay, say 100 grammes, and dissolves it in six times its weight of concentrated sulphuric, nitric, or hydrochloric acid. The solution is then allowed to stand, and afterwards decanted. The residue is first dried and then heated to 450 or 500 degrees centigrade; after which it is mixed with 200 grammes of prussiate of potash, which may be increased or diminished according to the quantity of silica contained in the clay. To this mixture 150 grammes of common salt are added. The whole is then put into a crucible and heated until the mixture becomes white: when cool, a button of pure aluminium is found at the bottom of the crucible.

LIVERPOOL INSTITUTION OF FINE ARTS.—The annual meeting has been held, Mr. John Torr presiding. The committee reported that the first exhibition had proved most satisfactory, having been visited by nearly 20,000 persons. The treasurer's account showed a clear balance of profit of 182*l.* 11s. 4d., of which 71*l.* 8s. 5d. was in favour of the exhibition account. The committee had resolved to offer a prize of 50*l.* for the best picture in the Exhibition now open. The committee hoped in future to receive the more unanimous co-operation of the artists of the Liverpool Academy. The chairman regretted the want of unanimity, which had led to there being three exhibitions instead of a concentration of effort in one. He saw no reason to fear, by proper management and courteous demeanour, by asking them what was the real cause of their severance, and on what terms they would join them, that an amalgamation might take place, and the two exhibitions be successfully united. Mr. Baruchson, recurring to a paragraph in the report in allusion to a permanent Exhibition, said he trusted that the project which they had so long had before them of obtaining for the town a splendid building worthy of art, in which they could have their annual Exhibition, and in which also there could be a permanent gallery, would soon be accomplished. The report was adopted.

THE BUILDING TRADES MOVEMENT.—The bricklayers, joiners, plasterers, and slaters, of Chester, have struck work. The number of men out of employment by the strike is very nearly 1,000. The ground of complaint appears to be, that the men are not at once allowed, as they have lately required of the masters, to leave off work at twelve o'clock on Saturday, instead of four o'clock, as at present, and to be paid their full wages at one o'clock. One firm of the town, the Messrs. Hitchens, of Canal Wharf, have granted the request. Several deputations from the men on strike have waited upon the various firms, but as yet no definite arrangement has been come to. A correspondent of the *Chester Chronicle* says, "There is not in Chester an employer of twelve men that is not at the present time under engagements with contracts that will extend considerably over six months. These contracts were taken long before a reduction of the hours of labour was mooted. Should the masters concede to the most unreasonable request of the men, they of course must pay for the alteration out of their own pockets, which you will, I am sure, agree with me in saying is most unfair, and which imposition, I am very glad to find, the masters are determined at any cost to *resist*. If the men wish for a reduction to be made in the hours of labour, by leaving off at half-past twelve on Saturday, instead of four, let them give the employers six months' notice to that effect, and I feel sure their request will be amicably complied with."

LIABILITY FOR OBSTRUCTION OF ANCIENT LIGHTS.—The Lord Chancellor, in the case of Jackson *v.* The Duke of Newcastle, decided that an injunction to restrain an infringement of ancient lights ought not to be granted unless the infringement materially injures the comfort of the existence of those who dwell in the building, or renders the building to a material extent less suitable for the purpose or business to which it is applied. The Court will, however, afford redress by an assessment of compensation in damages, which the Lord Chancellor did in this case.

RIVER IMPROVEMENTS AT BRISTOL.—The plans for the proposed improvement of the river Avon have been completed by Mr. Howard, the engineer of the docks, and the Docks Committee are expected shortly to lay a report on them before the Corporation. The scheme proposed consists of the construction of a large lock from the Cumberland Basin into the floating-harbour, to enable steamers to "lock-in" earlier and get out later than at present, and another large lock from the river into Cumberland Basin, by which steamers may be enabled to "lock-in" earlier on the tide, and a much easier entrance and departure for large steamers would be afforded. With respect to the improvements in the river, it is proposed to cut away the Hotwell-house Point, all the points down to what is called the Pheasant Quarry, which is situate opposite the Black Rock, and to effect the partial removal of the Round Point and the Tea and Coffee-house Point. These improvements would remove the obstructions alleged to have caused the accidents to ships in the river. Facilities will also be thereby afforded for steamers of larger burthen coming up the river and entering the harbour than now. The whole scheme, it is estimated, would not exceed 300,000*l.*

TENDERS.

For stabling, &c., to be erected at Shadwell, for Mr. G. Painter, of the Ship and Turtle Tavern, Lead-enhall-street. Messrs. Smith & Williams, architects. Quantities not supplied:—

Cocks	£773	0	0
Little	611	0	0
Ennor	529	0	0

For works at the estate of the Greenwich Tannery Company at Barking. Mr. James Edmeston, architect:—

Manly & Rogers	£2,269	0	0
Killby	2,247	0	0
Watts	2,183	0	0
Hill & Keddell	2,175	0	0
Sims & Marten	2,077	0	0
Stephenson	2,039	0	0
Holmes	2,038	0	0
Dover	2,000	0	0
Cordery	1,975	0	0
Tongue	1,950	0	0
Donelly	1,934	0	0
Lucas	1,905	0	0
Fisher	1,903	0	0
Sutton	1,850	0	0
Hubbard	1,827	0	0
Ring & Company	1,679	0	0

For parsonage house, Holy Trinity district, Lambeth. Mr. Ewan Christian, architect. Quantities by Mr. Rickman:—

Lathey, Brothers	£1,845	0	0
Rhodes & Roberts	1,797	0	0
Meears	1,790	0	0
Sharpington & Cole	1,789	0	0
Jackson & Shaw	1,788	0	0
Dove, Brothers	1,795	10	0

For Goldington schools, near Bedford. Mr. James Horsford, architect:—

Houghton	£1,253	0	0
Canvin	1,185	0	0
Winn & Foster	1,183	0	0
Dickins	1,097	0	0
Warren, Tysoe, & Gestick	1,091	0	0
Haynes	1,089	0	0
Jackson	1,087	0	0
Bryant	1,072	0	0
Hinton	1,071	0	0
Coo & Hale	980	0	0

For Bell Hotel, Gloucester:—

Dutton	£11,500	0	0
Griffiths	10,850	17	0
Cutterick	10,770	0	0
Warburton, Brothers	10,250	0	0
Sheppard & Meredith	9,925	4	0
Estcourt	9,650	0	0
King & Godwin	9,488	0	0
Jones & Co.	9,200	0	0

For alterations and additions to No. 75, Upper-street, Islington, for Mr. H. S. Symons. Mr. Thomas Hill, architect:—

King & Sons	£695	0	0
Dove, Brothers (accepted)	675	0	0

For building dwelling-house at Sydenham. Mr. Nicholas Lake, architect:—

Amer	£624	0	0
Lugg	606	0	0
Heath	593	0	0
Barrett	593	0	0
Wood & Munn	587	0	0
Wills	579	0	0

For building cottage at Sydenham. Mr. N. Lake, architect:—

Barrett	£227	0	0
Amer	215	0	0
Lake	179	0	0

For repairs to St. James's Church, Bermondsey. Mr. N. Lake, architect:—

Wills	£210	0	0
Kent	191	0	0
Lugg	179	0	0

Accepted for enlarging the Bolland Industrial Schools, Morpeth, for the Hon. and Rev. F. R. Grey, rector. Mr. F. R. Wilson, architect:—

Masonry and Brickwork.

Hudspeth	£209	13	0

Joinery, Painting, and Glazing.

Forster	103	5	6

Slater's Work.

J. Cranston	23	0	0

Plumbing, Gasfitting, &c.

T. Cranston	19	2	6

Accepted for new kitchen wing to Mrs. Taylor's residence, Beadnell, Northumberland. Mr. F. R. Wilson, architect:—

Mason's Work.

Brewis	£247	11	0

Joiners' Work.

Summers	133	10	0

Plumbing, Glazing, and Smith's Work.

Wilkin & Dickman	144	6	6

Slater's Work.

Wood	18	0	0

Plasterer's Work.

Coldwell	33	10	8

Accepted for new entrance porch, enlarging conservatory, &c., at Newton Hall, Northumberland, for Mrs. Widdrington. Mr. F. R. Wilson, architect:—

Mason's Work.

Wharrier	£116	9	0

Joiner's Work.

Forster	23	17	6

Smith's Work.

Bowey	36	16	0

Slater's Work.

Jeffrey	13	14	0

Model for Heraldic Panel.

Bulletti	9	5	9

Stone Carving.

King	14	5	9

For alterations to No. 14, North-street, Brighton, for the Hampshire Banking Company. Mr. Horatio N. Goulty, architect:—

Dancy	£702	0	0
Chappell	690	0	0
Reynolds (accepted)	670	0	0

For sundry alterations and additions to the Limes, North Brixton. Mr. C. Couchman, architect:—

A. M. Cohen & Co. (accepted)	£337	0	0

For villa and stables at Sutton, Surrey. Mr. Woodthorpe, architect.—

	House.	Stables.
Rider	£2,180	£190
Turner & Son	2,132	505
Deards	2,063	495
Dove, Brothers	1,975	505
Grose & Co.	1,670	460

For villa at Wandsworth. Mr. E. Saunders, architect:—

Aries	£1,569	0	0
Nicholson & Sons	1,560	0	0
Hill & Sons	1,554	0	0
Sharpington & Cole	1,497	0	0
Unwin	1,486	0	0
Dove, Brothers	1,455	0	0

For parsonage-house at Turnham Green. Mr. E. Christian, architect:—

Patman & Co.	£1,777	0	0
Sharpington & Cole	1,677	0	0
Maers	1,640	0	0
Dove, Brothers	1,635	0	0
Adamson & Son	1,593	0	0
Jackson & Shaw	1,580	0	0
Wilson	1,570	0	0

TO CORRESPONDENTS.

G B S. (This would seem to be rather a "merchant's mark" than a "mason's mark." What is the size of it?)—J. W. T.—M—H. & P. (shall have attention)—J. S—B. J—C. S—E. E.—M.—P. C—M. P.—W. & Son—W. O. T. T. (the charges for work of small amount must be regulated by circumstances,—the commission varying,—Messrs. F. (address "The Architect" at the works).—C. E. (write to secretary).—H. N. H.—W. B.

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Stroud, August, 1864

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With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
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Whereat can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, RUBS BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
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LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

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KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

TIMBER, DEALS, FLOORING,
AT THE VERY LOWEST PRICES, in quantities of not less than 3 at the Public Docks.
T. W. ELLSTON,
109, SNOW'S-FIELDS, KING-ST. BOROUGH, within three minutes' walk of London Bridge Railway Terminus (down steps Brighton side)

DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
JOHN COUMBE'S,
LADY LAKE'S GROVE, MILE-END GATE.

DRY RIGA WAINSCOT,
MAHOGANY, and WALNUT, in Plank and Board, at
GEORGE ANGOLD'S,
27, TOTTENHAM STREET, TOTTENHAM COURT ROAD.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised, White Batten, 8/. per 120, 12 feet; Yellow ditto, 10/. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 9s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,
80,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

STAIRCASE and HANDRAIL MAKERS,
IN TOWN AND COUNTRY.
Materials found for Handrails, or Labour only.—C. & E. OSBORNE, 8, St. Mary's terrace, Station-road, Tenterden, Middlesex.
Handrails for the Trade. Orders punctually attended to.

STAIRCASES and HAND-RAILS,
OFFICE FITTINGS, and all kinds of JOINERS' WORK.
Estimates given. All orders punctually attended to.
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MAHOGANY and GENERAL FOREIGN WOOD and VENEER WAREHOUSES,
6, BURY-STREET, BLOOMSBURY, LONDON, W.C.
And 46, CHURCH-STREET, LIVERPOOL.
Choice Veneers of every description, Wholesale and Retail.

TO SAWYERS.—A quantity of MAHOGANY SAWDUST WANTED.—Address, LEWIS WRIGHT, 2, Stangate, Westminster Bridge, enclosing a stamped addressed envelope. Send price at per dozen bags.

IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 23s. per cwt.
Linseed Oil, 3s. 4d. per Gallon; Boiled Oil, 3s. 8d. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
Pine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE
superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
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KENT'S PAINTING BRUSHES
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And are manufactured solely by G. B. KENT & CO.
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Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

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Is continued by his successors,
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Where the TRADE is supplied with the same superior quality made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

DO NOT BURN OFF OLD PAINT,
but use NAENIARE & CO.'s LETHICUM, which will remove clean to the wood in twenty minutes.—Sold at 3s. per gallon, at 81, Andrew's-hill, Doctors'-commons, E.C. Brushes, 2s. Success guaranteed.—N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at
MARLBOROUGH HOUSE.

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HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
J. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPROVED GASWORKS for MANSIONS and ISOLATED BUILDINGS. Several medals and prizes have been awarded by various societies for excellence of construction and efficiency. References to the nobility, &c.
J. T. B. PORTER & CO., Lincoln,
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N.B.—Plans, specifications, &c. for towns and other works of any magnitude.

STEAM ENGINE.—Seven-horse, Portable. TO BE SOLD, for Sixty Guineas, a High-pressure Portable Steam Engine, by Gough. Cost 150/. In perfect condition and working order.—To be seen at J. WEEKS & CO.'S, King's-road, Chelsea.

SECOND-HAND PORTABLE STEAM WINCH FOR SALE, in excellent condition. Diameter of Cylinder, 6½ inches. Boiler, engine, and tank complete. Price 95/.—Apply to J. CAMPBELL EVANS, East Greenwich.

FLOORING! DEALS! MAHOGANY!
YELLOW BATTENS, £9 per 120.

YELLOW DEALS, £15 10s. per 120.
100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square
10,000 Dry Pine Planks .....from 3s. 6d. each
Matched Lining ..... from 12s. per square

WHITE BATTENS, £8 10s. per 120.
SPRUCE DEALS, £15 per 120.
Oak Sills ..... from 2½d. per foot.
Honduras Mahogany .....from 5½d. per foot

SAMUEL PUTNEY,
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BUILDERS AND CARPENTERS, AND OTHERS,

Have sumitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities

	Laths, 31s. per Load.
Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	
Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.	
Spruce Deals ..... 15 0 0 „ 2¼ „	
2½-inch Battens ..... 9 0 0 „ 1¾ „	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

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JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]
For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.
List of Prices forwarded on receipt of postage stamp.

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Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,
No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.



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MANUFACTURING JOINER,
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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices.
An ILLUSTRATED LIST of PRICES forwarded on receipt of stamp. ESTIMATES on application.
J. E. having taken the Business of "The Temple Joinery Works," which are closed through the illness of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS

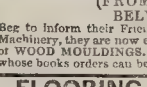


FLOORING, DEALS, BATTENS, &c.

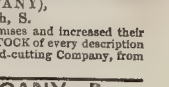
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
½-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

C. B. N. SNEWIN,
MAHOGANY, DEAL, & TIMBER MERCHANT,
11, BACK HILL, HATTON GARDEN, E.C.
Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given. Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 0d.	13s. 6d. per square.
6 by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments :—
4, MARKET STREET, MANCHESTER;
GLASGOW,
67, BUCHANAN STREET;
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9, TALBOT STREET.



CLARK'S PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE PROOF.
Branch Establishments :—
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BRUSSELS,
RUE DE L'ECUYER;
AMSTERDAM,
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51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

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"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

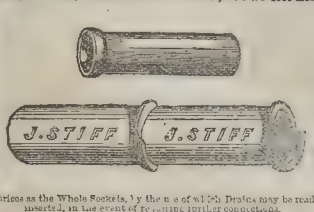
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,





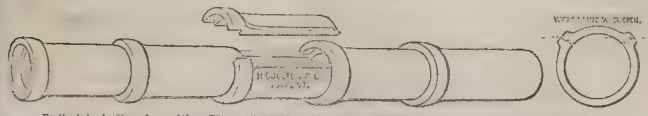


Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

PLASTER ENRICHMENTS,

CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAST CASES,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

212, STATION ROAD, ST. PANCRAS.

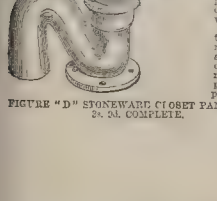
Best Gelatine, prepared, as it really for modelling 2s. per lb.

Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 9d. per cwt.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No 6343.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their CAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that it is one of the most simple and efficient, and the cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PEADE & HEWITT'S PATENT PNEUMATIC PAN and SELF-ACTING WATER CLOSETS, RAILWAY URINAL, and SEWER FLUSHING APPARATUS.

The simplest, improved, and cheapest Closets manufactured, acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, workshops, and baths and dairies where supplied to severe usage. Prevents waste of water, saves piping, cranks, wires, service-box, and all the complicated apparatus of most other closets.

The self-acting Automatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharge being regulated by a simple tap, thus saving an immense quantity of water, which is usually run to waste.

Best Pan Closet, complete	£2 12 6
Best Self-acting Closet, complete	2 15 0
Railway Urinal Flushing Vessel, complete	3 3 0

LIVERPOOL, No. 5, WELLINGTON BUILDINGS, SOUTH CASTLE STREET.

An Agent is required for the sale of the above in London.

PAN CLOSET,

and HYDRAULIC REGULATOR.

COMPLETE, 1*l.* 18*s.*



Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

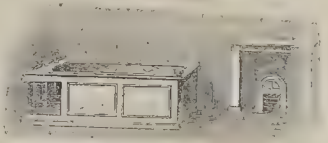
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, the closet is perfectly supplied. Any number can be worked by one cistern. No screw valves, cranks, or wires required. To Closets in use at the Mansion-house, and Houses of Parliament, and supplied to the Manufactures, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



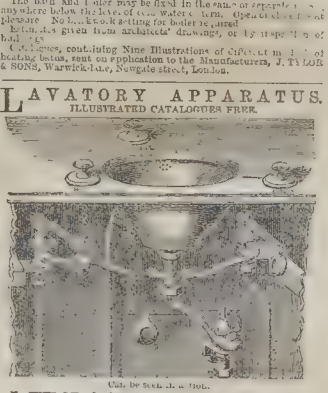
The bath and boiler may be fixed in the same or separate rooms anywhere below the level of the water cistern. Open fire at the pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of bath room.

Copy of plates, containing Nine Illustrations of different modes of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATUS.

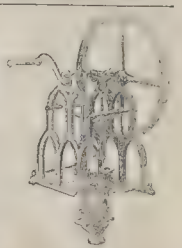
ILLUSTRATED CATALOGUES FREE.



Can be seen at the Show Room.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



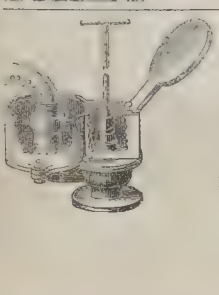




PUMPS

FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



IMPROVED HYDRANT.

J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.

SALES BY AUCTION.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible Freehold Building Land, finely situated, and admirably adapted for villas, shops, factories and terraces.

MR. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, London, on TUESDAY, the 20th of SEPTEMBER, at TWELVE for ONE o'clock, in 5 Lots of FREEHOLD BUILDING LAND, in all 11 A. 1 R. 10 P., in Upper Clapton-road, near to St. John's Church, Hackney, within a few minutes' walk of the Hackney Railway station; suitable for the erection of detached or semi-detached villas. Nine-tenths of the purchase money may remain on mortgage or otherwise, at 5 per cent. to be paid by quarterly instalments; but the whole or any part of the balance may be prepaid at any time without notice.—Particulars and conditions of sale may be obtained at the Pountney Inn, Clapton: of T. W. ROGERS, Esq. Solicitor, 70, Fenchurch-street; at Messrs. HAMMACK & LAMBERT'S, 20, Bishopsgate-street; at the Place of Sale; and of the Auctioneer, 70, Fenchurch-street, London.

PRELIMINARY ANNOUNCEMENT.—Iveson Works, Church, near Accrington and Blackburn.

MR. KIRK is favoured with instructions from the Assignees of Mr. Lupton, to arrange, catalogue, and SELL by AUCTION, under a deed of assignment, for the benefit of the creditors, early in SEPTEMBER, the whole of the valuable TOOLS, Utensils, Plant, Machinery, Steam-engines, Boilers, Stock in Trade, &c. in the works, foundry, fitting-shops, smiths' shops, stores, &c. on these extensive works.—Full particulars of which will be given in detailed catalogues, which are being prepared, and will be ready shortly; and may be had of Messrs. HALL & BALDWIN, Solicitors, Clitheroe; and also of the Auctioneer, at his Offices, 8, Essex street, Manchester.

PRELIMINARY ANNOUNCEMENT.—Patent Alkali Works, St. Helen's, Lancashire.—Large Sale of Buildings, Materials, &c.

MR. KIRK respectfully announces that he is instructed to Catalogue and SELL by AUCTION, the latter end of the month of SEPTEMBER, the whole of the BUILDINGS, of every description (in order that the whole may be taken down), removed, and the ground cleared), forming the extensive Works known as the far-famed PATENT ALKALI WORKS, at St. Helen's, Lancashire, including a large number of substantial brick buildings, nine detached roofing of the very best Welsh blue slate; rafters, joists, beams, planking, &c. immense in quantity and excellent in quality; cast and wrought iron work in cottages, gutters, &c. &c.; good flashings, gutterings, shoots, &c.; flags, tiling, &c. Also a 25 horse condensing engine, large cast iron water tank together with a vast assemblage of other valuable materials and effects. Full particulars in future advertisements, and catalogues, which are in course of preparation, will be ready shortly; and, in the interim, address to the Auctioneer, at his Offices, 8, Essex street, King-street, Manchester.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, on the PREMISES, Nos. 213 and 214, Hackney-road, on WEDNESDAY, SEPTEMBER 14th, 1864, at ELEVEN, by order of Mr. Appelbee, who is declining the retail trade, the remaining well seasoned STOCK: comprising 60,000 feet of yellow pine, and Baltic deal planks; 12,000 feet of walnut, rosewood, and other ornamental veneers; 10 thousand sash, door, and other mouldings; 2 capital circular saw benches, with 24-inch and 30-inch saws; and other valuable effects of smaller dimensions; a large quantity of lights of all dimensions, upper ranged for ventilation, a blacksmith's forge, bar vice, anvil, and small fittings; a weighbridge, and other items.—Also, a capital set of fixtures and counters, &c. May be viewed two days prior, and nothing to be sold, unless seen on the Premises; and of the Auctioneer, the Lodge, Nutbrook, Derby.

SURREY.—Pursuant to an Order of the High Court of Chancery made in the matter of the Bethell Estate Act, 1857, and in the matter of Edmund Bethell, Infant, with the approbation of the Master of the Rolls, in the said Act.

MR. ALFRED ALLEN DAVIS, the person appointed by the said Judge, at GARRAWAY'S Coffee House, Change-alley, in the City of London, on WEDNESDAY, the 21st day of SEPTEMBER, 1864, at TWELVE for ONE o'clock precisely, a valuable Freehold Corner-piece of BUILDING LAND, near Kingston upon-Thames, in the County of Surrey, with frontage to the Leatherhead and Long Ditton Roads, comprising 2 a. 3 p. and admirably adapted for the erection of Villas.—Particulars whereof may be had (gratis) of A. COPE, Esq. Solicitor, 3, Crown court, Old Broad-street, City; Messrs. MASON, BURT, & MASON, Solicitors, No. 7, Gresham-street, City; H. P. PAIN, Esq. solicitor, No. 5, Surrey-street, Strand; of the Auctioneer, Nos. 9 & 10, Basinghall-street, City; and at GARRAWAY'S Coffee House aforesaid.

PIMLICO IMPROVEMENTS.—Fourteenth Sale of Building Materials.

MR. GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 19th, at TWELVE o'clock, the whole of the valuable block of five large family DWELLING HOUSES, with back buildings, the corner of Upper Eaton-street and Grosvenor-street West: comprising many thousands of prime stock bricks, tiling and slating, large sound timber, deals, the handsome fittings of a mansion, cisterns, lead, bollers, &c.; the handsome and other stoves, with large chandeliers, stair-rods with hanging handrails, marble chimney-pieces, stoves, grates, range, and quantity of old ironwork and new, fixtures and fittings. May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Morgan's-road, City; at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

MAIN DRAINAGE AND RAILWAY CART HORSES.—By direction of Thomas Bayley, esq. Contractor.

MR. J. GOWER will SELL by AUCTION, on the PREMISES, Barbican, on FRIDAY, SEPTEMBER 9, at ONE o'clock, TWELVE valuable CART HORSES, some five years old, others aged, including a pair of fine active Lightermen's Horses, and the Middle-level Main Drainage Works, now completed.—On view two days prior.

SOUTH KENSINGTON, Cromwell-road, site of the late Exhibition.—Important and Unreserved Sale of Contract Cart Horses, Waggons, Timber Carriages, &c. By direction of Messrs. Howe & Lucas, the eminent Contractors,

MR. J. GOWER will SELL by AUCTION, on the PREMISES as above, on THURSDAY, SEPTEMBER 22, at TWELVE o'clock, SIXTY young powerful active CART HORSES, principally in-foal mares, and well-matched pairs, a few aged and certain Lurchers. Have been employed principally on the late Exhibition Alterations Works, and completely broken-in to the London work, and are of the best description, regardless of expense; the vans, &c. built expressly for this contract, within the last three months, the whole being intended for sale.—On view two days prior. Catalogues on the Premises, and of the Auctioneer, at his Repository, Barbican.

RAILWAY CART HORSES, Brick or Rubbish Carts, Timber carriages, Stone-trucks, &c. — In consequence of the completion of the Thame and Oxford Railway, Mr. R. Brotherhood (the known Contractor) has instructed

MR. J. GOWER to SELL by AUCTION, at his REPOSITORY, Barbican, on FRIDAY, SEPTEMBER 2nd, Thirty first class young CART HORSES, among them are powerful shafters and some active tippers, nearly new 50-inch and 54-inch Brick carts, Timber carriages, Stone trucks, Tilt and Chain Harness, &c.—On view two days prior.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM, AT F. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH, BRISTOL, on WEDNESDAY, the 21st day of SEPTEMBER, 1864, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock.

For account of whom it may concern.

3,400 Archangel Red Deals and Ends
3,700 Swedish Red Deals.

For account of Importers.

35,000 Spruce Deals, Battens, and Ends
9,000 4 to 6-inch by 7 to 14 inch Spruce
8,000 Quebec Pine and Spruce Deals
10,000 Quebec Red Deals, Battens, and Boards, fresh arrivals
3,000 4 by 9 inch Standard Red Deals
3,000 Swedish Redwood Deals, Battens, and Ends
2,000 French Norway Redwood and Whitewood Battens
40 Logs Quebec Board Yellow Pine, fresh timber
30 Logs Quebec Oak
30 Logs Quebec Birch
200 Loads Quebec Red Pine, fresh timber
300 Loads Quebec Pine
11 Loads fresh Quebec Elm
30 Waincot Oak Logs
500 Loads Swedish Tar
500 Fresh Norway Slate
600 Fresh 4 by 6-inch spars
1,200 Memel Pipe Staves
Do. Pattern Planks Lathwood
20,000 Spruce Palings
Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, September 6th, 1864.

FREEHOLD BUILDING LAND, ten miles by rail from London Bridge, in KENT, part of the Estate of the late Western Wood, esq.

MR. ABBOTT is instructed to SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, in the City of London, on WEDNESDAY, the 28th of SEPTEMBER, 1864, at ONE o'clock precisely, TWELVE ACRES and a HALF, in one Plot, of FREEHOLD LAND, another Freehold nearly adjoining, containing One Acre and Fifteen Perches, both with extensive building frontages to the old roads, in the immediate vicinity of the London and Dartford Railway, now nearly completed, and close to the land upon which it is proposed to build a first-class station, situate on the north side of the London-road, at Sidcup, a hamlet in the parish of Foots Cray, affording really eligible sites for building, with cheap and easy access to the Metropolis. Printed particulars, with plans and conditions of sale, may be had of F. WILMOT, Esq. Solicitor, 82, Highstreet, Borough of Southwark; of Mr. KEELEY, of Sidcup, who will show the land; and of Mr. ABBOTT, 26 Bedford-row, Gray's-inn, London, and Eynesbury, St. Neots, Huntingdonshire.

ROYAL MILITARY HOSPITAL, NETLEY, HANTS.—Clearance Sale—To Builders and Others.

E. & W. TRIGG are favoured with instructions from the Contractors, Messrs Myers & Sons, of London, to SELL by AUCTION, on the GROUND, as above on WEDNESDAY, SEPTEMBER 14th, 1864, at ELEVEN o'clock, without reserve, about 130,000 capital BUILDING BRICKS, together with ten bricks and timber-built COTTAGES, a large quantity of useful timber, wrought and cast scantling, numerous benches, wheelbarrows, ladders, and miscellaneous property.—May be viewed on and after Monday, the 12th, upon application to Mr. ADDIS, of whom Catalogues may be had; or of the Auctioneers, at their Temporary Offices, 5, High street (during alterations at the Hampshire Bank), Southampton.

BERKSHIRE.—Building Land, opposite to the Wellington College and close to the Railway station, with important frontage, for the erection of Villas or Public Institutions.

MR. ROBINS having disposed of the first portion of the estate, is instructed to SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on FRIDAY, OCTOBER 14, at TWELVE for ONE o'clock in three or more lots, unless an acceptable offer be previously made by private contract, FREEHOLD BUILDING LAND, containing about 100 acres, lying unusually compact, with an important and most valuable south frontage, for the erection of villas, immediately opposite the Wellington College, adjoining the village of Crowthorne, but three miles from the market town of Wokingham. The land offers great attention to the choosers of villa residences, as strong lots of 20 acres, and to builders, tradesmen, gentlemen, &c. as small lots of 2

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1128. SEPTEMBER 17, 1864. PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.—The SEVENTEENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, 27th OCTOBER, next, THOMAS C. LUCAS, Esq., President of the Institution, in the Chair. Gentlemen locally promoting the interests of the Charity by becoming Stewards will be pleased to forward their names to the Treasurer, GEORGE PLUCKNETT, Esq. (Messrs. Wm. Cubitt & Co.), 98, Grey's Inn-road, or to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury, W.C. A. G. HARRIS, Sec.

BY Order of the Secretary of State for India in Council.

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will in the year 1865, be open to Public Competition.

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office 14th July, 1864.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART WORKMEN are now offered:—

For Wood carving 2*l*. and 1*l*.

For Silver Work, 10*l*. and 5*l*. 5*s*. (the latter given by Mr. H. Heather Bigg, of Wimpole-street)

For Transparent Enamels, 10*l*. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

SCOTTISH NATIONAL MEMORIAL to HER THE PRINCE CONSORT.—The Committee of Advice nominated by her Majesty are now prepared to receive DESIGNS to be submitted to her Majesty for the SCOTTISH NATIONAL MEMORIAL to the PRINCE CONSORT about to be erected in Edinburgh or its immediate neighbourhood. Of the Sites which have been suggested for the Memorial, the most eligible appear to be:—

1. A knoll on the Spur or Ridge running NNE. from Arthur's Seat, and about 240 feet above the sea.
2. West Princes-street Gardens, at the foot of Frederick-street or Castle street.
3. East side of Charlotte-square Garden, facing George-street.
4. The Queen's Park, in the immediate neighbourhood of Holyrood Palace.

The Committee, however, desire especially to direct the attention of artists to the first named of these sites, which offers many advantages. A national memorial in that commanding position would be seen by persons approaching Edinburgh at a greater distance, and from a wider circle both of the city and the country, than almost any other available station. At the same time, it is not desired absolutely to restrict the suggestion of any other site which an artist may consider specially suitable for his design. The amount of funds at the disposal of the Committee for the erection of the memorial is limited; and the Committee regret that they are therefore unable to offer premiums or to remunerate any unsuccessful competitor for his design. It is requested that all models and drawings, not already prepared, may be furnished on a scale of one inch to the foot. No Design can be received after the TENTH day of DECEMBER.

125, George-street, Edinburgh, 5th September, 1864. W. S. WALKER, Hon. Sec.

BATH MEETING of the BRITISH ASSOCIATION.—At the close of the Meeting of the British Association in Bath, the "Bath Daily Chronicle" SPECIAL REPORTS of the Sections, Soirées, Meetings, Excursions, Banquets &c. will be reprinted in Book Form, royal 8vo. size. The volume will be bound in an illustrated cover, and will form the completest and most compact record of any meeting of the Association yet published. It will be delivered (by permission) to Sir Charles Lyell, Bart. President of the British Association. A portrait of Sir Charles Lyell (after a photograph by Mayall), will be the frontispiece of the volume. Price 5*s*. Orders received at the "Chronicle" Office, Bath.

London Publishers: KENT & CO. Paternoster-row.

QUEEN'S COLLEGE, LIVERPOOL.—A CLASS for the STUDY of ENGINEERING and APPLIED MECHANICS will be OPENED on MONDAY, 3rd OCTOBER. The subjects taught in the College are Mathematics, Natural Philosophy, Chemistry, Geology, Drawing, Greek, Latin, French, German, English Language and Literature, History, Logic, Arabic, Hebrew, Sanskrit, Physiology, and Political Economy.—For prospectuses, apply to ASHRUP CARISS, Secretary, The College, Mount-street, Liverpool.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION, South Kensington.—The ANNUAL EXAMINATIONS for Science Certificates for Teachers will take place in London, Dublin, and Edinburgh, in NOVEMBER. A Table of the days and hours appointed for each subject, and the places of examination, will be sent on application by letter to the Secretary, Science and Art Department, South Kensington, London, W. All applications for examination must be made before the 15th OCTOBER.

By order of the Lords of the
Committee of Council on Education.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within.

COMPETITIONS.

TO ARCHITECTS.—The SIR TATTON SYKES MEMORIAL.—The Committee for the Erection of a Memorial to the late Sir Tatton Sykes, Bart. are prepared to receive DESIGNS and ESTIMATES for the ERECTION of an OBELISK or COLUMN, on an elevated site on the Sledmere Estate, on the Wolds, in the shire Works, near Driffield. Designs and Estimates to be sent to the Honorary Secretaries, on or before the 1st day of OCTOBER next. Twenty guineas will be given for the design considered the most suitable by the Committee, and ten guineas for the second-best design.—Particulars to be had on application to

WM. TOPHAM,
F. C. MATTHEWS, } Hon. Secs.

Driffield, 1st August, 1864.

TO ENGINEERS, MILLWRIGHTS, &c. COMPETITION PLANS.—The Visiting Justices of the House of Correction, at Cold Bath Fields, Clerkenwell, are desirous of obtaining PLANS for the CONSTRUCTION of a SET of TREADWHEELS at that Prison, of sufficient extent and strength to work 24 mills at once. The length of the shaft in which the same are to be erected is 102 feet; breadth, 18 feet; height, 21 feet. Each plan is to be accompanied by an estimate of the cost, and a description of the proposed works; and must be forwarded to the Prison, with some motto or mark, and the name and address of the Tender, in a sealed letter, bearing the same motto or mark, by WEDNESDAY, the 5th of OCTOBER next. The Visiting Justices will give a premium of 75*l*. for the author of the plan which shall be most approved of by them; and this plan is to become their property, but they do not bind themselves to adopt it, either partly or entirely, nor to employ the author to construct, provide, or superintend the construction of the works.—Any further information may be obtained by application at the Prison, on any Monday, Tuesday, or Wednesday, between 11 and 1 o'clock.

JOHN S. SCAIFE, Clerk to the Visiting Justices.

August 26, 1864.

DESIGNS for FULFORD CHURCH.—A PREMIUM of FIFTEEN GUINEAS is offered for the best SET of DESIGNS for the new CHURCH at Fulford. Selection to be made by the Committee and the design selected to become the property of the parish. Extreme estimate 3,000*l*.; to seat not less than 450. Road frontage, west. The designs must be sent in to the Incumbent, care of the Postmaster, Fulford, on or before FRIDAY, OCTOBER 7th.

TO CONTRACTORS.—WANTED, ESTIMATES for the CONSTRUCTION of a WOODEN JETTY or PIER, at the Works of the Cunard's Quay Cheshire Coal Company, limited, at Cunard's Quay, near Flint. The specification and drawings, with full particulars, may be seen at the Company's Works, at Cunard's Quay, near Flint, or at the Office of the Engineer, JAMES WRIGHT, 12, Copthall-court, Throgmorton-street, London, from whom all particulars may be had. The Engineer will be at the Works on the 22nd and 23rd inst.

TO ARCHITECTS.—The Building Committee of the Presbyterian CHURCH and SCHOOLS proposed to be ERECTED in Prince's Park road, corner of Hill street, require Plans and Specification, and offer Premiums of 50*l*. and 10*l*. respectively, in order of merit, for the three best designs. The Committee confine the competition to Architects in LIVERPOOL and its immediate vicinity, and reserve to themselves the right of withholding the first prize, unless there be among the designs submitted one which they may deem advisable to adopt.—For printed instructions and further particulars, apply, by letter, to Mr. JOHN LLOYD, 12a, Catharine-street, Liverpool.

TO ARCHITECTS.—The Town Council of the City and Borough of Bath invite DESIGNS for the proposed NEW BUILDINGS, upon the site of the late White Hart Hotel, Bath, which are intended to comprise suites of rooms for families, together with hot and cold baths, mineral water, and Turkish baths in connexion with the present bathing establishment. The cost of the buildings not to exceed 15,000*l*. A premium of 250*l*. will be paid to the author of the design, to which the Town Council shall award the first place, and a premium of 100*l*. to the author of the design which they shall consider second in merit, and in the event of either of these designs being carried out, the premium of the author competing, if he be employed, will be deducted from the usual commission. The designs are to be delivered free of cost, at the Guildhall, Bath, properly endorsed, on or before NOVEMBER 29th, and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. All designs to have the name of the author or authors attached, and to be coloured in accordance with the plans and are also to be drawn to a scale of 8 ft of an inch to a foot. A copy of the conditions to be observed by architects, with a plan of the site, and other particulars, may be obtained of the undersigned, on the payment of 10*s*. 6*d*. which will be returned to those forwarding designs.—By order,

JOHN STONE, Town Clerk.

Guildhall, Bath, September 8, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS, at Aldershott Camp, and Permanent Barracks, in the counties of Hants including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tender, may be obtained on application at this Office.

Although the said schedules include prices for Work done and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left-hand corner, "Tender for Works at Aldershott," on or before SATURDAY next, 24th NOVEMBER, by 4.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders

Royal Engineer Office, Aldershott,
14th September, 1864.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for the ERECTION of a CORRUGATED IRON SHED, with Curved Roof, 234 feet long and 27 feet wide, at the Gun Wharf, Portsmouth

Persons desiring to Tender for the execution of this Work will please leave their names at this Office, on or before the 20th SEPTEMBER, 1864, and pay the sum of 1*s*. 6*d*. for the Scale of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. J. W. GORDON,

Colonel Commanding Royal Engineers

Royal Engineer Office, Portsmouth, 7th September, 1864.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Southsea, in the county of Hants, may inspect the Drawings and Specification at the Coast Guard Office, Southsea, or at this Office, between the hours of TEN and FOUR from THURSDAY, the 15th inst. to WEDNESDAY, the 21st day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 29th SEPTEMBER, under seal, directed to the Commissioners Controller General of Coast Guard, and endorsed "Tender for Southsea."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 6th day of September, 1864, at the Admiralty, Coast-Guard Office, 13, Spring-gardens, London, S.W.

NOTICE to BUILDERS.—TENDERS are required for WORKS to be EXECUTED under a schedule of prices at Devonport, in the county of Devon, by the 1st COMPLETION of the LINES, and in certain WORKS connected with the EXTENSION of the GUN WHARF, near Newpassage Hill.

The schedules will be ready for delivery at this Office, on TUESDAY next, the 13th instant, at which time forms of Tender and Bond can obtain all necessary information by attending at this Office, and the sealed Tenders, addressed to the undersigned, will be furnished with schedules, forms of Tender, and notices how to proceed.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders

Royal Engineer Office, Devonport, 2nd September, 1864.

TO BUILDERS and CONTRACTORS.—BUILDERS desirous of TENDERING for the ALTERATIONS and ADDITIONS to the MONTAGUE ARMS, Basildon, may obtain the ESTIMATES by the 21st day of SEPTEMBER, and Plans and Specification to be seen at Mr. G. MARTIN'S, South-parade, Trafalgar-square, Brompton, from ONE till FIVE p.m.

TO BUILDERS. — Persons desirous of giving TENDERS for the ERECTION of a CONGREGATIONAL CHURCH, Green-lane, Liverpool, may see the drawings, and obtain all information, by application to the Architects,

Messrs. WM. G. HABRISON & PITE,
38, Bloomsbury-square, London, W.C.

[For remainder of Contracts see next Page.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for SLEEPERS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for this line, about 16½ miles in length. Parties disposed to Tender may obtain the specification and form of Tender, and the Improvements on the Loop-line extended over a distance of about 8¾ miles. Parties disposed to Tender may obtain the specification and form of Tender on which forms only Tenders will be received, at the Office of Mr. HENRY OAKLEY, 37, Great George-street, Westminster, S.W. on and after MONDAY the 12th SEPTEMBER, where all copies of the bridge drawings, and plans of the general plan and section, and other information may be obtained, on payment of £2 2s. each set. Tenders carefully sealed, and marked "Tender for Sleepers" (Lincoln to Honington Line), must be lodged at this Office before TWELVE o'clock at Noon on TUESDAY, 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.

By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS.—The GREAT NORTHERN RAILWAY COMPANY.—DONCASTER and GAINSBORO' LINE, and IMPROVEMENT of LOOP LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the DONCASTER and GAINSBORO' LINE, and STATIONS, and the IMPROVEMENT of the LOOP LINE, in accordance with plans and specifications prepared by Mr. Cubitt and Mr. Rigbye. The length of the Doncaster and Gainsboro' Line is about 18¾ miles, and the Improvements on the Loop-line extend over a distance of about 8¾ miles. Parties disposed to Tender may obtain the specification and form of Tender on which forms only Tenders will be received, at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on and after MONDAY the 12th SEPTEMBER, where all copies of the bridge drawings, and plans of the general plan and section, and other information may be obtained, on payment of £2 2s. each set. Tenders, sealed up, and marked, "Tender for Doncaster and Gainsboro' Line, and Improvement of Loop and Stations," must be lodged at this Office before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.

N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for CHAIRS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of CHAIRS for this Line, about 18¾ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received), at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up, and marked "Tenders for Chairs," must be lodged at this Office before TWELVE o'clock at noon, on TUESDAY, 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender—By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the LINCOLN and HONINGTON LINE (about 19¼ miles long) and STATIONS, in accordance with plans and specifications prepared by Mr. Cubitt and Mr. Brydone. Parties disposed to Tender may obtain the specifications and form of Tender on which forms only Tenders will be received, at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER, where, also, copies of the bridge drawings, and plans of the general plan and section, and other information may be obtained on payment of £2 2s. each set. Tenders carefully sealed, and marked "Tender for Lincoln to Honington Railway and Stations," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender or Tenders.

By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 18¾ miles in length). Parties disposed to TENDER may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, the 12th SEPTEMBER. Tenders sealed up, and marked "Tender for Rails and Fish Plates," must be lodged at this Office before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 19¼ miles in length). Parties disposed to TENDER may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, the 12th SEPTEMBER. Tenders sealed up, and marked "Tender for Rails and Fish Plates," must be lodged at this Office before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER, when parties tendering are requested to be present.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for SLEEPERS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for the line—about 18¾ miles in length. Parties disposed to Tender may obtain the specification and form of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up, and marked "Tender for Sleepers" must be lodged at this Office before TWELVE o'clock at noon on 4th OCTOBER.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order,
HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

WOOD and IRON FENCING.—The Directors of the Blackpool Land, Building, and Hotel Company, Limited, are prepared to receive TENDERS, with drawings and specifications, for the SUPPLY of about two miles in length of WOOD and IRON FENCING, to be delivered at the Black-pool Railway Station. Parties tendering can, if they think proper, examine the paper and fix upon their fencing on the Estate—for Company at Blackpool. Tenders to be addressed to Mr. W. H. JOHNSON, Engineer to the Company, at his Office, Alma Chambers, Dalkeith-street, Manchester. The Directors do not bind themselves to accept the lowest or any Tender.

BOROUGH of SCARBOROUGH.—To BUILDERS, CONTRACTORS, and OTHERS.—The Council of the Borough of Scarborough are prepared to receive TENDERS for the ERECTION of a NEW CEMETERY CHAPEL. Plans and specifications may be seen on a election at the Town-hall, Scarborough, on and after FRIDAY, 16th SEPTEMBER instant. Tenders addressed "Tenders for Chapel," to be sent to the Town Hall on or before FRIDAY, 23rd SEPTEMBER instant. The Council do not bind themselves to accept the lowest or any Tender.

J. J. P. MOODY, Town Clerk.
Town-hall, Scarborough, September 1, 1864.

TO BUILDERS.—Parties desirous of TENDERING for the several WORKS required to be done in ERECTING the proposed New PRISON, Scarborough, may procure bills of quantities, and obtain all particulars, by applying to me, on and after SATURDAY, the 17th instant.

W. B. STEWART, Architect and Surveyor.
62, Claremont crescent, Scarborough, September 13, 1864.

BOROUGH of WOLVERHAMPTON, SEWERAGE WORKS.—CONTRACT No. 1.—TO CONTRACTORS.—Parties desirous of TENDERING for abt. 2½ MILES of MAIN SEWER, and the VENTILATING SHAFTS, MANHOLES, OVERFLOWS, TUMBLING BAYS, and other WORKS connected therewith, in the said borough, may inspect the plans, sections, detail drawings and specification, at the Office of the Borough Surveyor, Town Hall, North-street, on and after FRIDAY, the 9th day of SEPTEMBER, between the hours of ELEVEN o'clock in the forenoon and FOUR o'clock in the afternoon. Sealed Tenders to be sent in on or before THURSDAY, the 6th day of OCTOBER next, addressed to the "Sewerage Committee, Town-hall, Wolverhampton," and endorsed "Tender for Sewerage Works, Contract No. 1." The Committee do not bind themselves to be bound by the lowest or any Tender. No Tender will be received after SIX o'clock p.m. of the above named day. Security will be required for the due performance of the work. Printed copies of the specification and form of Tender may be obtained at the Borough Surveyor's Office, on payment of 5s.

E. J. PURNELL, Borough Surveyor.
Town-hall, Wolverhampton, September 5, 1864.

BUILDERS and CONTRACTORS willing to TENDER for REPAIRS and ERECTION of Additional BUILDINGS, required at Shottery Hall, near Stratford on Avon, may inspect plans, specification, and conditions of Contract, at the Offices of Mr. JOSEPH LATTIMER, Architect and Surveyor, Stratford on-Avon. Proprietor, Captain DOUGLAS CURRY, Royal Naval Hospital, Plymouth, to whom Tenders are to be forwarded. The Proprietor will not bind himself to accept the lowest or any Tender.

August 31st, 1864.

TO DUST CONTRACTORS and OTHERS.—The Vestry of St. Giles, Camberwell, The Committee for General Purposes hereby give notice, that they will meet at the Vestry Hall, Camberwell, on MONDAY, the 3rd OCTOBER next, at FIVE o'clock, to receive TENDERS for one, two, or three years, if the contractor so desired, the Vestry reserving to themselves the right of determining the contract at either of the periods, for the PURCHASE, COLLECTION, and REMOVAL of all ASHES, CINDERS, RUBBISH, DUST, BREEZE, REFUSE, FILTH, SOIL, &c. made or to be made from the several houses, streets, &c. in the districts of the parish—namely, the district of St. Giles, comprising Cumberwell Ward (except Peckham), and Camden Ward; the district of St. George, being St. George's Wards, Nos. 1 and 2; the district of Peckham, being Wards Nos. 4 and 5; and the district of Dulwich, being the Ward of Dulwich. Approved sureties will be required for the due performance of the contract, and the names and addresses of the parties proposed as such sureties must be delivered with the Tenders. The parties Tendering may be present at the Vestry when the Tenders are opened. The Committee do not pledge themselves to accept the lowest or any Tender. The form of contract may be seen at the Vestry Clerk's Office. The parties Tendering must insert in the Tender, and leave the same at the Vestry Clerk's Office, and deposit 25l for each district of the said Tender—Sureties.

GEO. WM. MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell 13th September, 1864.

THE WEDGWOOD INSTITUTE.—TO BUILDERS.—EXTENSION of TIME.—The Committee invite TENDERS for the ERECTION of the INSTITUTE according to plans and specification, prepared by Mr. G. B. NICHOLS, of West Bromwich, which may be seen at the Town Hall, Burslem, on MONDAY, the 12th inst. and following days. The Tenders to be sealed, and addressed to "The Chairman of the Institute Committee, Town Hall, Burslem," endorsed "Tender for Building," and to be delivered not later than TUESDAY, the 20th. The Committee is not pledged to accept the lowest or any Tender.

Burslem, September 7, 1864. W. WOODALL, Hon. Sec.

PARISH of CHELSEA, in the County of Middlesex.—FLINTS.—The Vestry of the Parish will meet at the Vestry Hall, King's-road Chelsea, on TUESDAY, the 27th day of SEPTEMBER instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT for TWELVE MONTHS, from the 30th day of SEPTEMBER up to and inclusive of the 29th day of SEPTEMBER 1865, for the SUPPLY of the BEST CLEAN GREY BROKEN FLINT ROAD FLINTS, according to the sample to be seen here, to be delivered at the Free Dock, at Cheyne Walk, at such times and in such quantities as may be required. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders addressed to the proposed contractor, with the names and description of two sufficient sureties for the performance of the contract, to be delivered to the Clerk, by or before TWELVE o'clock, on TUESDAY, the 27th day of SEPTEMBER instant. No Tender will be received unless made on one of the printed forms, to be obtained at my office.—By order,

CHARLES LAHEE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, September, 1864.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, on TUESDAY, the 27th SEPTEMBER instant, at THREE o'clock in the afternoon, to receive TENDERS from Persons willing to Contract, for Twelve months, for the EXECUTION of WORKS, and for the SUPPLY of MATERIALS come and into the Parish during the same time, as may be required and directed. Further particulars, with the form of Tender, may be had on application at the Office. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient Sureties for the performance of the contract, to be delivered to the Clerk, by or before TWELVE o'clock, on the succeeding SEPTEMBER instant. The deed of contract will be prepared at the expense of the Vestry. No Tender will be received or accepted unless made on the printed form.—By order,

CHAS. LAHEE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, September, 1864.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of Chelsea will meet on TUESDAY, the 27th instant, at the Vestry Hall, King's-road, Chelsea, at THREE o'clock in the afternoon to receive TENDERS from persons willing to CONTRACT for Twelve months for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to a schedule of prices now lying at the Office. Copies of the schedule of the Contract and form of Tenders may be had upon payment of 10s. to be returned to parties Tendering. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making special Contracts if they shall see fit. Parties Tendering must be prepared to execute a Contract, to be prepared at the expense of the Vestry, and to provide sureties for the performance of the same if required. Tenders must be upon the printed form, and delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 27th instant. By order,

CHARLES LAHEE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, September, 1864.

TO BUILDERS.—QUEEN'S HOTEL COMPANY, ABINGDON (Limited).—Persons desirous of TENDERING for the ERECTION of an HOTEL STABLING TAP, &c. at Abingdon, may inspect plans and specifications either at the Office of Mr. BARTLETT, Abingdon, the Company's Solicitor, or on application to Mr. WILLIAM FISHER, Architect, Oxford.—Sealed Tenders to be sent to Mr. BARTLETT, properly indorsed, on or before MONDAY, the 26th instant. The lowest or any Tender not necessarily accepted.—By order of the Directors,

A. D. BARTLETT, Solicitor and Secretary.
Abingdon, Sept. 1, 1864.

BLACKFRIARS BRIDGE.—TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Kelch, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TEMPLE COMBE, SOMERSETSHIRE.—The Restoration of this Church having been POSTPONED in consequence of the lateness of the season, and some Additional Works being also contemplated, NEW TENDERS are invited for carrying on operations in the ensuing spring. The plans may be seen at the Rectory, Temple Combe, and the Tenders are to be sent in by WEDNESDAY, the 21st inst.

WEAR NAVIGATION and SUNDERLAND DOCKS.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the ERECTION of a NEW GRANARY at the South Docks, Sunderland. The drawings and specifications may be seen in application at Mr. THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 15th SEPTEMBER, 1864. Tenders, in printed forms, which may be obtained at the Engineer's Office, and which only will be received, to be addressed under cover, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," at 19, Fawcett-street, Sunderland, not later than NOON on TUESDAY, 4th of OCTOBER, 1864. The Commissioners do not bind themselves to accept the lowest or any Tender—By order,

19, Fawcett-street, Sunderland, September 7th 1864.

GAS TANK and HOLDER.—The Directors of the Gosport Gas and Coke Company are ready to receive separate TENDERS for the CONSTRUCTION of a TANK, and for the MAKING and ERECTION of a GAS HOLDER, at the Company's Works, Lear Gosport. The Tank to be about 75 feet diameter inside, and 20 feet deep. And the Gas Holder to be about 72 feet 6 inches by about 20 feet deep. The drawings and specifications are ready, and may be seen at the Office of the Company on the Works. Tenders to be sent to the Secretary, on or before TUESDAY, the 4th day of OCTOBER next. The Directors do not bind themselves to accept the lowest or any Tender—Dated 14th September, 1864.

HENRY COMPTON, Secretary and Treasurer, Gas Works, Newtown, near Gosport, Hants.

TO BUILDERS and CONTRACTORS.—NEW EXCHANGE BUILDINGS, HULL.—The Directors of the Hull Exchange Company (Limited) are prepared to receive TENDERS for the ERECTION and COMPLETION of their PROPOSED NEW BUILDINGS, in Lowgate and Bowl alley lane, Hull. The plans, specifications, and conditions of contract may be examined, and bill of quantities obtained on payment of one guinea, at the Offices of the Architect, Mr. WILLIAM BOTTERILL, 23, Parliament street, Hull, after TUESDAY, the 20th instant. Sealed Tenders, properly endorsed to be addressed to the Chairman, and delivered at the Temporary Offices of the Company, 22 High street, Hull, on or before WEDNESDAY, the 12th OCTOBER next. The Directors do not pledge themselves to accept the lowest or any Tender.

T. W. FLINT, Chairman.
Hull, 14th September, 1864. W. H. MINES, Secretary.

TO BUILDERS. — Persons desirous of TENDERING for the WORKS required in the ERECTION of a new CHURCH at Pilley, Yorkshire, may inspect the plans at North Bank, Beulah road, Ecclesall, near Sheffield, where bills of quantities may be obtained, from MONDAY, the 19th day of SEPTEMBER, to WEDNESDAY, the 28th inst. Sealed Tenders addressed to the Rev. ARTHUR PETTIT, Pilley Vicarage, Sheffield, will be received at the Vestry Room, Pilley, until FIVE o'clock p.m. on TUESDAY, the 4th day of OCTOBER next. Persons Tendering must give references to accept the lowest or any Tender. No pledge is given that the lowest or any other Tender will be accepted.

BLACKMOOR & MITCHELL-WATHERS, Architects.
Sheffield and Rotherham.

TO BUILDERS.—TENDERS are invited for the ERECTION of a CHAPEL and SCHOOLS at Halstead, Essex. Plans and specifications may be seen at the Vestry of the Old Independent Chapel, on the 20th, 21st, 22nd, and 23rd instant, from 10 till five each day. The Tenders to be sent to Mr. J. ROBERTS, Halstead, in a sealed envelope, marked "Tender for Chapel and Schools," on or before TUESDAY the 4th of OCTOBER next. Two sum Tenders must be given—the one to accept the lowest or any Tender, the other to be required from the contractors for the due performance of the work.

Halstead, Essex, September 8, 1864.

TO BUILDERS.—Persons wishing to give in TENDERS for the ERECTION of SCHOOL and CLASS ROOMS, at the rear of the Independent Chapel at Cupping Gogar, Essex, may see the plans and specifications at the Vestry of the said Chapel, from the 19th to the 24th of SEPTEMBER, and between the hours of TEN a.m. and FIVE p.m. each day. The Tenders to be sent in to the Rev. S. CONWAY, Ongar, on or before MONDAY, the 26th of SEPTEMBER. The Committee do not bind themselves to accept the lowest or any Tender.

TO SEWER CONTRACTORS and OTHERS.—The Local Board of Health for the District of Watford are prepared to receive TENDERS for the CONSTRUCTION of about 1,568 feet of 15-inch PIPE-SEWER, and about 600 feet in length of smaller Pipe sewer, with the necessary ancillary drawings, section of the existing sluice Drain and specifications may be seen, and printed copies of the specification, schedule of prices, and form of Tender, on payment of 5s. to be obtained, at my Office, in Watford, on and after the 17th SEPTEMBER instant; and such Tenders, endorsed "Tenders for Drainage," must be delivered or sent to me on or before the 4th OCTOBER next. The Board do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of subdividing the contract, and letting separately one or more of the divisions mentioned in the specification.

JOHN SEDGWICK, Clerk to the Local Board.
Watford, September 16, 1864

TO BUILDERS.—CROYDON UNION NEW WORKHOUSE.—The Guardians are desirous of receiving TENDERS for the ERECTION of a New WORKHOUSE at Quadrant road, Croydon. The plans and specification can be inspected, and other particulars obtained, at the Architect, Mr. JOHN BERNEY, at his Office, North-end, Croydon, on and after the 12th of SEPTEMBER next. Copies of the quantities may be obtained of Mr. THOMAS P. BOWMAN, Surveyor, No. 5, Adelaide-place, London Bridge, upon depositing with him the sum of 5l. 5s. which will be returned after the delivery of the Tender received Tenders, addressed to me, and endorsed "Tender for a New Workhouse," to be delivered at my office, as under, on or before MONDAY, the 26th day of SEPTEMBER next. The Guardians do not bind themselves to accept the lowest or any Tender. The Guardians will require the Builder whose Tender is accepted to give the names of two responsible sureties to be jointly bound with himself in the sum of 3,000l. for the due execution of the works.—By order,

ALFRED G. BLAKE, Clerk to the Guardians.
No. 23, George-street, Croydon, August 25, 1864.

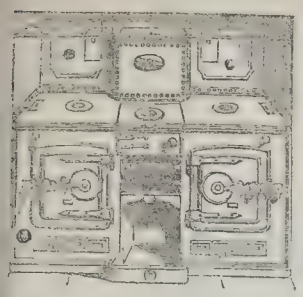
TO BUILDERS. LEEDS MECHANICS' INSTITUTION and SCHOOLS of SCIENCE and ART.—CONTRACTS are required for the ERECTION and COMPLETION of the proposed NEW BUILDING for the above INSTITUTION. The plans and specifications may be seen, and bills of quantities obtained, at the Office of the Architect, Mr. W. H. CROSSLAND, New Corn Exchange, Leeds, on and after MONDAY, the 19th day of SEPTEMBER. Tenders to be delivered to the Honorary Secretaries of the Leeds Mechanics' Institution, South Parade, not later than MONDAY, OCTOBER the 3rd. The lowest or any Tender will not necessarily be accepted.—By order,

H. WARDMAN, } Hon. Secs.
W. J. NEILD, }
August 31, 1864.

GRAVEL and HOGGIN, of the best quality and colour from the well-known DAWLEY GRAVEL PITS, near Hayes, Middlesex.

To BUILDERS and ROAD CONTRACTORS
Sifted Stones for roads, unsifted Gravel for concrete, Hoggin for paths, may now be had in any quantity, delivered alongside by the Grand Junction and Regent's Canals.

THOMAS MAYNARD, PROPRIETOR,
Dawley, near Hayes, Middlesex.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 160*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

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39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
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RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
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ROLLED WROUGHT-IRON FLITCH PLATES
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CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
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AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

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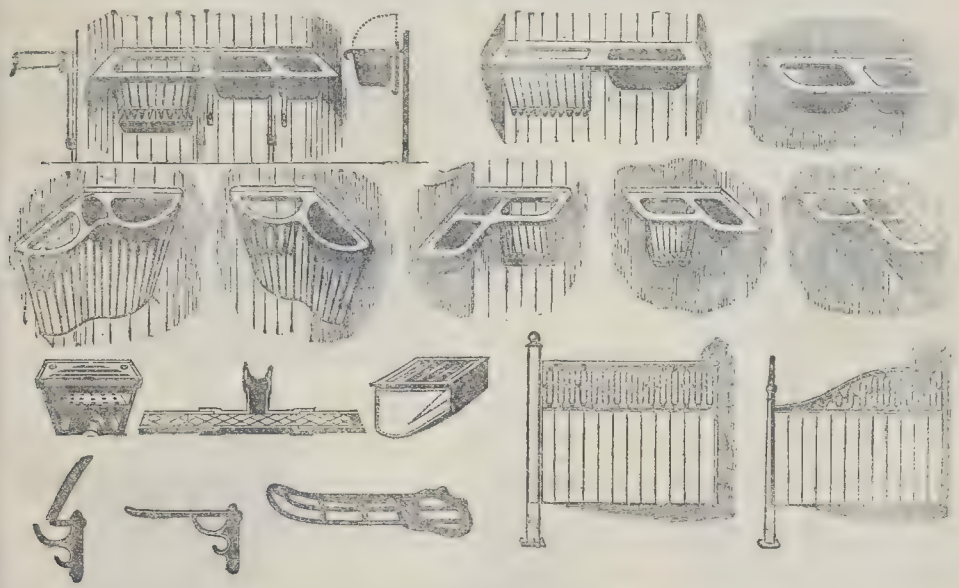
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PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



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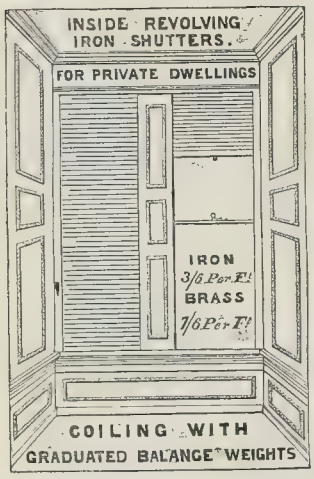
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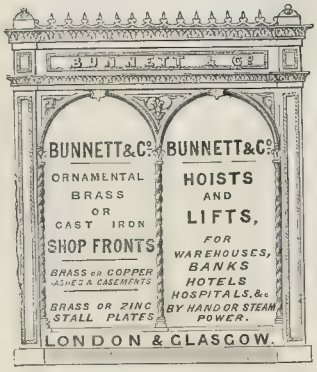
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BUNNETT & Co.

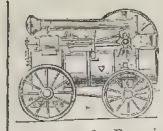
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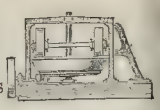


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17, QUEEN STREET, CITY;
GLASGOW OFFICE,
199, BUCHANAN STREET.



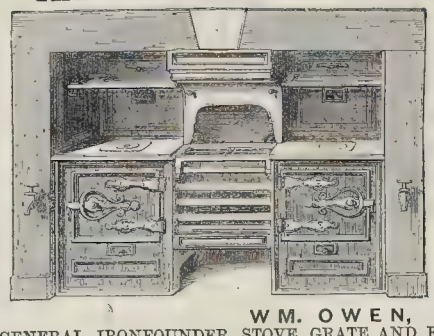
HENRY SYKES,

67, UPPER THAMES STREET, LONDON
(In connexion with RUSTON, PROCTOR, & Co.),
Has on hand several ENGINES and MORTAR MILLS for SALE or HIRE.



Contractor for Pumping, Sawing, Mortar Grinding, and other work where Steam Power is required.
A 30-cwt., 2-ton, and 3-ton Steam Crane ready for delivery.

THE IMPROVED OPEN FIRE KITCHENER,



Manufactured by
WM. OWEN,
PHŒNIX IRON WORKS,
ROTHERHAM,

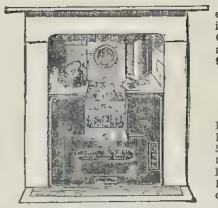
Possesses all the advantages of the ordinary Close Fire Kitchener, in having excellent Hot Plates on top of Ovens, for boiling, steaming, or stewing, with the additional advantage of having a thoroughly effective and deep OPEN Fire for roasting purposes.

The Ovens are heated upon Bradley's Patent Principle (under which W. O. possesses the sole right to manufacture), and by which a great economy of fuel is effected.

These Kitchens are made of all qualities and sizes, suitable for all classes of houses, from the cottage to the mansion; and can be OBTAINED THROUGH ANY IRONMONGER in the UNITED KINGDOM.

WM. OWEN,
GENERAL IRONFOUNDER, STOVE GRATE AND FENDER MANUFACTURER,
PHŒNIX WORKS, ROTHERHAM.

CUNDY'S
PATENT ECONOMIC COTTAGER'S COOKING AND IRONING STOVES.

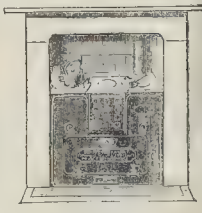


WHEN USED OPEN.

These Engravings represent the Smallest Size Stove, viz. 24 inches long, 24 inches high, and 15 inches deep. The Oven is 18 inches long, 14 inches deep, and 11 inches high. The Boiler contains three pails of water.

This Stove, also
CUNDY'S PATENT BRICK OVEN

Double Fall-down Bar KITCHEN-RANGE, and PATENT BRICK OVEN, Semi-close Range, also CUNDY's Patent Original FIRE BRICK Warm Air Ventilating STOVE, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES, can be seen in operation daily, at the SHOW-ROOMS of the



WHEN CLOSED FOR BAKING.

Manufacturer, Wm. ADDIS, 6, 7, & 15, Leicester-street, Leicester-square, London.

A Prospectus, with full description and price of the above, will be sent per Post on application.

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No. 159, SHOREDITCH, LONDON, N.E.

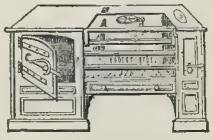
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IMPROVED SELF-ACTING COTTAGE RANGES,

With Oven and Boiler complete.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.



SELF-ACTING OVEN AND BOILER RANGES,

With Bright Wrought Bars.

34 inches	52s.
36 ,,	54s.
38 ,,	56s.
42 ,,	58s.

Improved New Pattern Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from 6d per inch.
Bright Stoves, with Two Sets of Bars, 40s. to 100s. each.

Best Cut Clasp and Rose.

1¼-in.	15s. per cwt.
1½-in.	15s. ,,
2-in.	14s. ,,
2½-in.	13s. 6d. ,,
3-in. and above	13s. ,,

Cast Rain-Water Pipe.

2-in.	8d. per yard.
2½-in.	10d. ,,
3 in.	1s. ,,
Cast Gutters, 4-in.	7d. ,,
O G Gutters, with Clips on, 4-in.	11d. ,,

Best Flooring Brads, 12s. 6d. per cwt. Cut Lath, 15s. per cwt.

Wrought Gas Tube	¾-in.	1-in.	1¼-in.
	2d.	2½d.	3½d. 4½d. per foot.

Gas Connexions and Plumbers' Fittings. Lacquered and Bronzed Brackets, 16s. per dozen. Pendants, 3s. each.
Two-Light Chandeliers, 16s. each. Brick Moulds kept in Stock, or made to order.

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A LARGE ASSORTMENT OF BEST BERLIN BLACK REGISTERS ON VIEW IN EXHIBITORS' DEPARTMENT, CRYSTAL PALACE.

CLAYTON, SHUTTLEWORTH, & CO. ENGINEERS,

Manufacturers of Portable and Fixed Steam Engines, Machinery for Pumping, Hoisting, Grinding, Sawing, &c.; Engines for Steam Cultivation, Self-moving Engines for Common Roads and Agricultural Purposes generally.

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ALSO AT
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Descriptive, Illustrated, and Priced Catalogues, Free per Post. Special Drawings, when required.
THE BEST STEAM-THRASHING MACHINERY MADE.

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APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION.——INSPECTION OF SHOW-ROOM REQUESTED.

ST. PANCRAS IRON WORK COMPANY,

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DRAUGHTLESS VENTILATION INFALLIBLY SECURED BY

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UPPER ST. MARTIN'S LANE,

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Draughtless, Dustless, Inexpensive,

and universally applicable.

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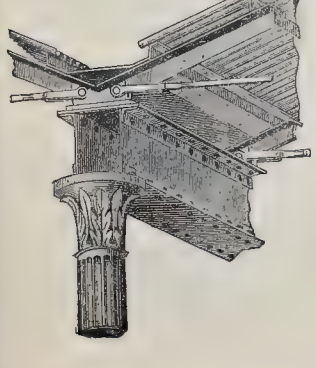
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WALSALL, THE ALPHA TUBE & FITTING WORKS, **STAFFORDSHIRE**

LONDON: THOMAS LAMBERT & SON, LAMBETH.



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(Late JOHN H. PORTER & CO.)

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IRONFOUNDERS, SMITHS, AND BOILER MAKERS;

BUILDERS OF

IRON LIGHTHOUSES, &c.

WORKS:

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FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private. The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as ensuring the great desideratum of fire-proof construction, even for ordinary dwellings, houses and domestic buildings, within the reach of every one.

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THE INTERNATIONAL EXHIBITION PRIZE MEDAL, AWARDED 1862

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To BUILDERS, CARPENTERS, and BLIND MAKERS.

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IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

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Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

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MANUFACTURERS: — THOMAS PERRY & SONS, BIRMINGHAM, BILSTON
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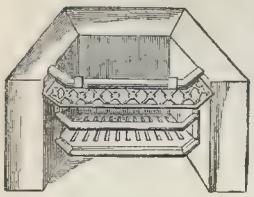
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Every description of Iron Work Galvanized.

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FIRE-LUMP GRATES,

FOR BED-ROOMS, COTTAGES, SERVANTS' OFFICES, BARRACKS, SCHOOLROOMS, WAREHOUSES, CHARITABLE INSTITUTIONS, &c.



With hanging trivet.

				s. d.		s. d.
18 inches wide, 10[illegible] deep				7 6	.....	9 6
21	,,	12	,,	8 6	.....	12 0
24	,,	13	,,	10 0	.....	15 0
27	,,	13	,,	10 0	.....	15 0
30	,,	21	,,	12 0	.....	—
36	,,	24	,,	14 0		
28	,,	27	,,	16 0	} Extra strong.	
42	,,	30	,,	42 0		

These Stoves give a consi[illegible] annual consumption of coal.

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STOVE, GRATE & KITCHEN RANGE MANUFACTURERS,
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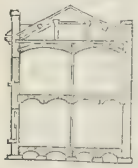
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Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first-class stables in almost every county in England, and MUSGRAVE, BROTHERS, are now [illegible] several very large establishments under directions of London Architects, noted for adopting only what is the best of its kind. Particulars of these, as well as MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to

MUSGRAVE, BROTHERS, ANN STREET IRON WORKS, BELFAST.



THE DENNETT ARCH.

Allowed to be the cheapest fireproof construction known, and used with the greatest success for the last ten years in the Midland Counties, and has been adopted by G. G. Scott, esq. for the New Foreign Offices, used in any form of arch, groin or dome; turned to any length, width, or height, forming a perfect floor and ceiling in one mass, from 2½ inches in the crown to any required thickness.

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These Ranges combine the latest improvements with great simplicity and durability. They afford facility for roasting meat in front of the fire without interruption to the action of the oven, hot plate, boiler, &c. The Ovens are well ventilated, and perfect either as roasters, or for baking bread or pastry. For Efficiency, Economy, and Ventilation, and

CURE OF SMOKY CHIMNEYS,

these Ranges are unequalled. They are of all sizes and prices; and when fitted with Bath and Steam Apparatus, &c. they form the most complete apparatus for good establishments. Designs, &c. may be had on application at THE LONDON WAREHOUSE,

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"One of the best arrangements of the 'Kitchener.'"—See *Builder*, Sept. 6, 1862.

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JONES & BLAXTON,

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HOT WATER PIPES,
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RANGES — CLOSE AND OPEN FIRE,
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RAILING BARS, GATES, AND PANELS,
SASH WEIGHTS, &c.
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IMPROVED GAS VALVES,
With Wrought-iron Pinions.
From 2 in. to 18 in. price 9s. 6d to 12s per in. diameter.
List of prices, with full dimensions of all sizes up to 36 in. to be had on application.
These Valves are all proved on both sides to 30lb. on the square inch before leaving the works and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun-metal faces.
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Near Grange-road, Bermondsey

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Ornamental Metal workers in Silver, Brass, and Iron.

Coronæ, standards, and brackets for gas, oil, & candles; grilles, gates, lecterns, altar, tomb, & other railing; locks, hinges, door handles, bell levers and pulls, memorial brasses, &c. &c.

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MEDIÆVAL METAL WORKERS AND GASFITTERS,



Manufactory, 190, High Holborn, London.
Drawings and Estimates furnished.

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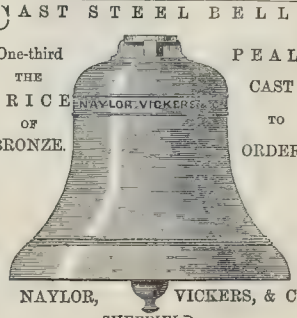
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CARVING. A great variety executed with the assistance of the Patented Machinery
GOTHIC JOINERS' WORK and FURNITURE.
GOTHIC METAL WORK, of every description, both in Silver, Brass, and Iron.
ESTIMATES FURNISHED to the Clergy, Architects, and the Trade, for Carving or any Design
THE WHOLE OF THE WORK DONE ON THE PREMISES.
COX & SON'S Illustrated Catalogue, with 300 Wood Blocks of Church Furniture, Painted Glass, and Decoration, forwarded for six stamps.
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SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
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Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

DAY and GAS LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. and 383, Charles-street, Hatton Garden, E.C. A large assortment of Silvered Glass Globes, Lamp Spires, &c. always on hand. All kinds of Bent Glass Silvered.
N.B.—The usual discount to BUILDERS and the TRADE.

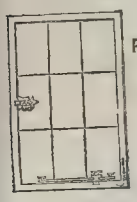
CAST STEEL BELLS.

One-third THE PRICE OF BRONZE.



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PATENT WROUGHT IRON WATER-TIGHT WINDOW AND FRAME,

SUITABLE FOR CHURCHES, CHAPELS, PARSONAGE HOUSES, SCHOOLS, PUBLIC BUILDINGS, OR PRIVATE HOUSES.



THEY CAN BE MADE TO ANY DESIGN.
FULL PARTICULARS AND PRICES ON APPLICATION.
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PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,



which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

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"By Royal Letters Patent."

ELECTRIC BELLS FOR DOMESTIC USE.



"Indicator" Dial, 2½ in. diameter.

BREGUET'S PATENT INDICATOR SYSTEM, with a Dial which shows when the Bell is ringing, the same as in use at the Grand Hotel, Boulevard des Capucines, Jockey Club, &c. Paris.

The superiority of Electric Bells is already settled in America and in France. For all modern works at Paris they have as effectually superseded the old crank and pull plan as, for travelling, the railway has superseded the antiquated stage-coach.

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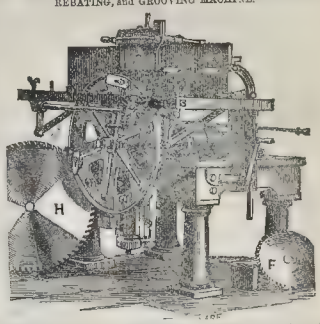
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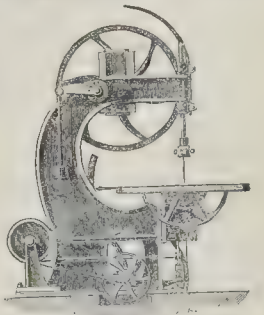
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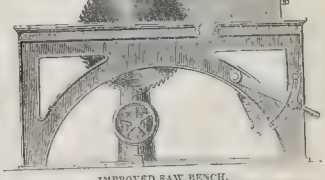
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PRIZE MEDAL, LONDON, 1862.

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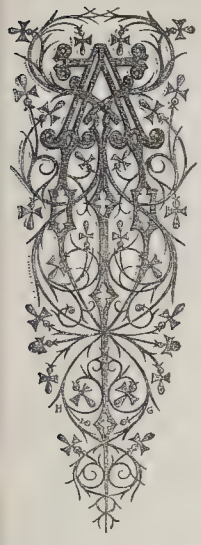
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The Builder.

VOL. XXII.—No. 1128.

*Patent Law in America.**



T a time when our own patent laws are undergoing a wholesome discussion, and when even the total abolition of all protection to inventors, strange to say, is being urged in influential quarters, it might be useful to look into the working of the patent law of the United States as annually recorded in the Reports to Congress. The Report for 1863 is now before us; and although we do not mean to use it with any definite purpose as regards the discussion, we may dip into it here and, there and extract what we can that may interest our readers.

The number of patents, &c., and the receipts and expenses of the office for the year were as under:—

Number of applications made during the year 1863	6,014
" patents granted, including reissues and designs	4,170
" caveats filed during the year	787
" applications for extension of patents	40
" patents extended	48
" patents expired 31st December, 1863	968
Of the patents granted, there were to—	
Citizens of the United States	4,048
Subjects of Great Britain	58
Subjects of French Empire	37
Subjects of other foreign governments	27
	4,170

Statement of Money received during the Year 1863.

	Dollars.
On applications for patents, reissues, &c.	178,617 00
For copies and for recording assignments	16,976 29
	195,593 29

Statement of Expenditures from the Patent Fund.

For salaries	85,559 94
For contingent expenses	42,715 29
For temporary clerks	54,438 41
For withdrawals	1,680 00
For refunding money paid by mistake	720 50
For judges in appeal cases	300 00
	189,414 14

Statement of the Patent Fund.

Amount to the credit of the Patent Fund, January 1, 1863	38,361 15
Amount paid during the year	195,593 29
Total	233,954 44
Deduct amount of expenditures during the year	189,414 14
Leaving to the credit of the Patent Fund, January 1, 1864, the sum of	44,540 30

The number of patents issued in 1843 was 531: in 1853, the number was 958; and in 1863, as we have seen, it was 4,170. During the last twenty years, therefore, the number of patents issued has been greatly and steadily on the increase. The first year on the record is 1837, when there were 435.

The report calls attention to the policy of any system of protection by patents; the advantages of the American system; and the state of the industrial arts as exhibited by the records of the Patent Office.

The feeling on the first question may be deduced from the preliminary remark in the report that, "to most inventors in this country it would seem not less preposterous to question the right of property, or the fundamental laws of morality, than to inquire into the right and policy of granting patents for inventions; but we cannot shut our eyes to the fact, that within the last few years the policy of patent laws has been the subject of grave discussion in Europe." The reporter then enters fully on the evidence before the Committee of the House of Lords, in 1852. In adducing from this evidence illustrations of the beneficial influence of the protection afforded by patents, the report gives similar illustrations of American patents, and especially of one relating to india-rubber, the extensive American manufacture of which was founded upon the stimulus which the patent privilege gave to the inventors, and the protection which the patents have given to the manufacturers. In this case, however, the original inventor of the most important discovery connected with it, that of sulphurization, was not the person who reaped much advantage from it, even though he patented it. The story is thus told:—

"Upon their introduction into market it was found that the goods became clammy and sticky when exposed to heat, and were stiffened by the cold. They were, therefore, useless. In consequence of these defects, in 1839 all the companies and individuals engaged in the manufacture were ruined. The manufacture was utterly prostrated. At this time a simple workman in Connecticut, named Hayward, who had undertaken to carry on this manufacture by himself,—who, to use his own words, hired the shop he worked in, and whose only income from the uncertain profits of his business was about 500 dollars a year, sought, day and night, to discover some substance which might be combined with the india-rubber, and cure its defects. Absorbed in the search of what to him was the philosopher's stone, 'he dreamed at night,' as he asserts, that the desired solvent was sulphur. He combined the rubber with sulphur; and, to his delight, discovered that the defects in the goods were almost wholly overcome. He had miraculously, as it were, discovered a substance which combined chemically with the rubber, making, in fact, a sulphuret of rubber,—indeed, a new substance, whose structure is fibrous, like horn; whereas, the structure of rubber alone is granular, or molecular. He obtained a patent for his discovery; but, being heavily in debt, and, perhaps, unable to conceive of the vast consequences which would result from his invention, he sold the right to his invention, for a mere pittance, to Mr. Goodyear. The latter experimented upon the new compound discovered by Hayward, and discovered the art of vulcanising it."

Other illustrations of extensive manufactures fostered by the American patent law are given, such as the inventions connected with labour-saving agricultural implements and war appliances.

As to the former, the Report states, that in 1860 "a thrashing-machine, in Ohio, worked by three men, with some assistance from the farm hands, did the work of seventy flails; and that thirty steam thrashers only were required to prepare for market the wheat-crop of two counties in Ohio, which would have required the labour of 40,000 men." Whether it be a public or national advantage that 40,000 men should be let loose from agriculture, and plunged into savage warfare, to be slain like bullocks, only without the immediate utility of such a slaughter, is quite another question, and one with which the patent law has little or nothing, necessarily or essentially, to do.

As to war appliances, the Report remarks that just before the commencement of the present war there was throughout the whole North, from no apparent cause, "but, as it seemed, by an inspiration of Providence (!) a revival of military enthusiasm which had slumbered for years." An inspiration of the Devil surely would have been a more fitting expression than one ascribing to the God of mercy and of love the origin of such diabolical proceedings either on the part of the North or of the South. Then follow some flourishes evidently designed for the Federal Congress, introductory to the intimation that "within the last year there have been patented 240 inventions in implements of war." It is so far consolatory, however, to know that during the same year there have been patented 490 inventions of agricultural implements, even although a single implement can let loose upon the South nearly 40,000 men, from two counties alone.

The next section of the Report is titled "Justification of the United States Patent System." It opens with the following remarks as to novelty of inventions:—

"The next question which I propose to discuss is the comparison of our own system of patents with those of the great industrial nations. Our patent system is founded mainly upon the statute of 1836, framed under the advice of the most experienced lawyers of the period, but carried through by the energy and wisdom of a distinguished senator of Maine, Mr. Ruggles, who deserves the grateful acknowledgments of the country for securing the passage of an act which has proved one of the most beneficial in our legislative history. The characteristic feature of our patent policy is the system of examination as to the novelty of inventions conducted by the commissioner of patents through an examining corps, selected for their special accomplishments in the arts which it is their duty to examine. No system of examination like our own exists in Europe, except to a very limited extent. I have before me a synopsis of the patent laws of nearly all the countries in Europe. In Great Britain, France, Austria, Belgium, Spain, the Roman States, Sardinia, and the Sicilies and Saxony, there is no examination as to novelty. In Prussia, Russia, the Netherlands, Hanover, and Bavaria, there is an examination by learned societies and commercial boards, instituted mainly for other purposes; but the whole number of patents granted in the last-named countries in 1858 was only 173; while in the first-named countries, in the same year, there were issued 10,297 patents; so that, considering the number of patents issued, our own peculiar system stands comparatively alone among those of all civilised nations. The system of granting patents in Great Britain without previous examination as to novelty, has led to the granting of a great number of patents for the same thing,—an evil which became so great as to lead to the publication of all the specifications, which only partially remedies the evil."

Another favourable point of comparison of the American with the English policy, continues the Report,—

"Is the cheapness with which patents are obtained in the States, the cost being limited to the amount necessary to create a fund for reimbursing the expenses of the Patent Office, while in Great Britain the cost of obtaining a patent is 175*l.*,—over twenty-two times the cost in this country. The acknowledged object of subjecting patentees to these enormous charges is the prevention of the multiplication of worthless or frivolous patents, and patents for small improvements on valuable inventions, or combinations thereon.

The objections to the frivolity and multiplicity of patents are so often thoughtlessly made, even in this country, as to be worthy of refutation.

The apparent insignificance of an invention is no measure of its value. Inventions in the meanest of household arts, such as improvements in washing and wringing-machines, have not only contributed most materially to domestic comfort, but have given rise to single manufacturing establishments employing over half a million of dollars of capital. Improvements in articles so trivial as hooks and eyes, and pins for infants' clothing, have been the foundation of patents which have produced tens of thousands of dollars.

The application of a *pencil-mark* in submarine blasting, and the explosion of military mines by the electric current, enable the operator to dispense with cumbersome and costly batteries and machinery formerly indispensable. A spring for holding the deflector and chimney upon a coal-oil lamp, consisting simply of a bent strip of brass, has gone into universal use, and through a tariff of a few mills upon each lamp to which the invention is applied, has yielded several hundred thousand dollars to the inventor. The more minutely the arts are studied, the more will the conviction be forced upon the mind that, as the distinction between great and small appears to be unrecognized by Providence, the distinction between important and trivial, and useful and worthless, should never be applied to any original work of human ingenuity."

The Report then enters upon a lengthened review of the progress of the arts in the States, beginning with agriculture. In the division on Civil Engineering (a very brief one) all that the Report says is:—

"Under this classification of inventions may be found improvements in architecture, bridges, canals, dams, wharfs, roads, &c. For the last year the inventions have in this class been confined in a great degree to the use of iron in its various forms and adaptations to building purposes, such as houses, bridges, &c. The very rapid development of iron mines, the improvements in machinery, and the greater durability of iron structures, seem to have awakened the attention of inventors to the more general application of iron in all structures to which it can be applied. A patent for the construction of domes for public buildings has been issued by the office, in which iron is used exclusively, giving them a light and airy appearance, and great strength. This invention has been tested upon one of the largest buildings in St. Louis, Missouri, and the principle applied in the construction of turrets for iron-clad vessels."

There are a few lines more, however, on engineering in the following division,—on Railroad Engineering.

Under the head of Lumber, it is stated that during the year 1863, there were 224 applications for patents diversified among the different machines (such as saw mills) and tools comprising the class.

"With all the rapid strides of improvement in this direction, the old method of sawing lumber by the 'up

* Introductory Report of the Commissioners of Patents for 1863.

and down' saw is becoming less used, and the circular-saw is supplying its place, as a great proportion of the lumber is now cut by means of this saw.

As the forests that have hitherto supplied our wants in timber of the choicest kind begin to fail, invention comes to our aid, and by means of improved sawing-machines now in use, ship timber can be sawed from crooked or curved logs, that, with the old process, could not be made available except by hand-sawing.

Planing-machines have become indispensable in most of the branches of wood-working, and with the best machines now used the mechanic has his lumber given into his hands with only the *smoothing* wanting, it having been wrought to the right size and shape, or may be tongued and grooved, or beaded, or a moulding may be cut thereon more perfect than can be done by hand-tools.

Lathes for wood-turning and working have been much improved, by which we are enabled without additional attention to turn wood in various forms, such as round, oval, nearly square, hexagonal, any number of sides or angles, and to almost any desired pattern, even to irregular forms, and in many lathes this is done nearly automatically. Wagon spokes are formed to shape, with square or round tenons cut upon the ends; screw-threads and spirals are also cut with great facility and exactness; a perfect sphere can be turned without placing the thing to be turned between points or centres at all, so perfect is the machinery now in use for these purposes.

Staves and heading for coopers' work that once required the best of timber, with the straightest grain, are now made from timber regardless of crooks, curves, or twists in the grain, as they are either *sawed* or *cut* from indifferent timber into the desired shape; or if split, the twist in the grain is no objection, as a machine will dress such a stave without loss of timber by reason of the twist.

The improvement in the machines and tools for the working of wood into various forms, and fashioned to the wants of all, is nowhere else to be found in the same state of perfection as in the United States."

On the subject of Glass, Stone, and Clay, it is said that

"Inventions in this class have displayed much ingenuity, although no very important results can be referred to. In the manufacture of glass, one object sought for has been the substitution of machinery for hand labour in polishing, dressing, and ornamenting glass. Improvements in this direction have so far succeeded that several articles, such as globes, vases, goblets, &c., may be operated upon simultaneously by a single workman. Great perfection in the execution of the work has been attained by the use of the new machinery. The most elaborate designs, tracery, or lettering, previously delineated on paper, are reproduced upon the surface of the glass by machine-work. The particular form of the glass is immaterial for the successful operation, the designs being executed with equal facility upon flat, cylindrical, or angular forms.

In machinery for drilling rocks there are improved devices for holding and rotating the drill, and adjusting it in a more or less inclined position. By another device the drill is made to act upon the rock by uniform blows throughout the entire depth of the hole to be drilled, the drill being rotated and fed to its work by automatic machinery."

The last subject considered in the Report is "proposed modifications." On this subject the Reporter is very brief: "No laws materially affecting our present system are expedient," he says; and the only modification he recommends is a minor one as to forfeiture of patents for non-payment of fees.

In conclusion the Reporter says:

"I am impelled to present in prominent relief the important fact that, although the country has been engaged in a war which would have seemed to tax to the utmost all its energies, the applications for patents for the last year have been equalled in only two former years; and yet one-half of our territory, shrouded in the cloud of rebellion, has contributed nothing to invention or human improvement."

Together with these annual reports to Congress two very useful yearly volumes are printed, one containing specifications of the various patents, and the other consisting wholly of engraved illustrations of them.

LONDON ARCHITECTURE, AND THE CITY.

SOME few years ago, in the most prominent position in our pages, when giving attention to the features of important buildings then recently erected near the Bank and the Royal Exchange, we registered an appreciation of the architecture in that quarter of the City, more favourable than we are able generally to express concerning street-architecture in London. The fact was, we recognized, as others may have since, contrast that was great and suggestive, as between one portion of a metropolis and the rest, and between the art-produce, on the one hand, from the expenditure on particular classes of buildings by companies and by persons engaged in monetary transactions and commerce, and that, on the other, from outlay by Government and by private individuals on other kinds of buildings, and in parts of London not within the locality which we have specified. Since the date of that appreciation of the architectural movement in the City, the number of structures which evince effort after art has been increased; and we have from time to time given illustrations of some of these new works, and mentioned others. But, the period has again arrived for a review of the position of architecture in London, reinforced as it has become, by the fresh contingents of strength. The movement, in the City, still continues; indeed, now whilst we write, preparations are made for an amount of building which would seem very great, compared even with what has been done in each of the last few years. Many gaps are to be seen in the sides of the principal streets; and scaffolding and materials are in possession of courts, and of so much of footpaths and passage-ways as the watchful authorities will permit to be temporarily appropriated, and that is sometimes of all the space over the height required for passengers. Certain streets, as for example Clement's-lane, which leads from Lombard-street to King William-street, are in a state which reminds us rather of the demolitions in Paris, than of anything we have ever before seen in this metropolis. Of the street named, nearly the whole of the eastern side is down, or being pulled down.

The works now in hand, in the City, however, do not extend to a modification of the plan of the streets, otherwise than may be the case at the Cannon-street Station of the Charing-Cross and London Bridge Railway, and in the line of the London, Chatham, and Dover Railway parallel with Bridge-street and Farringdon-street, and in that of the extension of the Metropolitan Railway eastward to Tower-hill. The street-improvements about to be commenced, include those in connexion with the crossing of the Holborn Valley, and those with the street from the Thames Embankment to the Mansion House. The line of the railway through the City, to join with the extension of the Metropolitan, is, we suppose, still intended to be generally or entirely underground.

As shown in our article to which we have referred, it is very important in any treatment of the subject, architecture of the City, to note that the streets in which are the chief works, remain as they have been, that is to say, both in width and in line on plan, most unfavourable to any effort after good architecture, and in fact in many instances destructive of success. But, whatever be our regret that the pulling-down and rebuilding is not accompanied by certain improvements that might serve the art-result, and the other objects of street-communication which should be especially appreciated in the City of London,—and whilst we see that those improvements are rendered more difficult by every fresh building operation,—we are able to note the importance, if not merit, of the buildings themselves, in the architectural art-work of our time.

In Lombard-street there are as many as three buildings of great size, just now in hand; and others have been very recently completed. Each of these works is characterised by elaborate decoration, not merely of mouldings and columns, but of carved ornament in consoles and other portions of the doors and windows, and in string-courses and cornices. Not only in Lombard-street, but in Broad-street, Bishopsgate-street, Gracechurch-street, Leadenhall-street, and Cornhill; Fenchurch-street, Mincing-lane, and Eastcheap; the Poultry and Cheapside, and in more streets than we can here name, buildings are in progress, or have been lately finished. The region of the Bank and the Exchange, however, seems to be the chief location of the art-work; but that of Mincing-lane is not unimportant, so far as the fact of effort is the thing to be acknowledged. In Ludgate-hill there are some recently completed works; and the girders of the railway-bridge already span the thoroughfare: the pulling-down of the greater number of the houses on the east side of Bridge-street, and the construction of the railway-station, have made a striking alteration in the appearance there; and at the western end of Fleet-street, after a long gap, the effort after art in architecture recommences, with varying success, and turns up Chancery-lane, which narrow route is still receiving additions to its buildings of noteworthy character.

Whilst this art-movement is to be seen in the building-work in the City, it is certainly not so easily discoverable in the area of London round-about. Indeed, looking at the general architecture of the streets, at the houses in which even the possessors of wealth are content to reside, and at the majority of those which are built in the environs, it is sometimes difficult to avoid thinking that true art-architecture is retrograding. Such features as dressings to windows, and others, have become common; and if the circumstance be taken to show that there is demand for decoration, it may be deemed evidence of progress. But the buildings that are really designed, and in which the features intended to be decorative, and capable of being so, are proportioned to their situations, and are decorative, are few in comparison with the amount of building; the builder, and his assistant the cement-man, still control the work; the artist-hand governs the lines and forms in but few cases. Even where architects are engaged, their works are now characterized by so many different manners of design, that the public capacity for appreciating any art which there may be in the works, is not equal to the need: the pleasure from that appreciation is not realized; the end or aim of the *art* is not attained. But, in many cases where features are in the greatest number, there is not really any art-work: there is at best, only clever imitation. The strong doses of colour, of ornament that is merely elaborate in carving, of forms that are only novel and various, and of styles and systems of design that are totally different from one another for buildings which are of one description of use and of the same locality of site,—whilst all are of nineteenth century date,—are doing much to injure the public taste, and to weaken the power of perception of the thing which should be esteemed of greatest value in work of the time, namely the art in that work.

The smoke-nuisance, so often dwelt upon in these pages, and which we cannot discover to be at all diminished since the legislation, is operating most disadvantageously for art in architecture, and in many more ways than we have indicated. Indeed, what surprises us most of all as to the exceptional quarter of London to which we have above directed special attention,—and there, what gives us almost the only hope of future progress,—is that there should be a desire for architectural decoration, whilst the evidence stares in the face, that the work elaborated and offered to public notice must under the existing state of things be passed by, after the expiration of about five or six years, scarcely noticed at all. In the City for example,—unless to the architect who happens to look, and will take trouble to pick up the details in his observation, and to realize in his mind's eye the effect of buildings as when erected,—as much, almost every year, is lost by the smoke-nuisance, as is for the time gained by the efforts after architecture. As in some other things, so in building, there is enough spent every year in this country to attain the object twice over. To look at the amount of decorative carving, the proportion of which seems to be increasing every year, one would think there could be no need for us now to put forth the doctrine of the usefulness of the beautiful, that is, that every work designed to serve a purpose, utilitarian in the commonly-received sense, should equally be from the first designed to gratify the sense of perception of the beautiful also. Supposing the carving to be generally of high-art character, which unfortunately it is not, what a waste of labour and cost does there not seem to be in providing it for the duration of effect of only some very few years? The same deterioration is undergone in the case of mouldings, indeed of everything that can be blackened. Glazed and polished surfaces alone retain their original appearance: thus, by contrasting, they make the later effect of the building, as compared with the original effect, worse than it would have been if evenly discoloured, or at least make it further removed from what was the design of the architect. But where coloured materials are used, and not glazed or polished, no architect can satisfy himself exactly on what principle he should design. He may follow the present, and we fear most pernicious, fashion of strong colours, saying that the smoke of two or three years will tone them down: or he may make colour subordinate and a pleasing variation, instead of dominant over form; in which case, that part of his design which was expressed through the element colour, will after similar interval of time disappear altogether. In short, as we have before this, and very lately, observed, the theories once so prominently advanced, and still generally received, as to coloured materials in architecture, and which were specially advanced with reference to the architecture of towns, must be considered as by no means justified in and by

experience. It is true that there is means of renovating the appearance of a brick-building; but the work is expensive: thus it is not to be done so often as mere decorative effect would require. Now, there is a means of economically cleansing the fronts of stone buildings, used in the case of the Bank; and which has been more than once applied to the Mansion House,—the last occasion being prior to the entrance into London of the Princess Alexandra, when it was also used for the portico of the Royal Exchange. Of course, we mean by the fire-engine. We pointedly adverted to the method at the time,—when the success of the operation was complete; and we had spoken of it often before. Why the method is not in use for other buildings, as the Sun Fire Office,—the beautiful detail of which is so obscured that it contributes nothing to the effect,—and why not much more frequently for the Mansion House and the Exchange, it is beyond our power to discover, more than why it is not tried for St. Paul's Cathedral. The first sight of this latter building from any of the surrounding streets, by a stranger to London, or by any one arriving after a long absence, produces so much disgust as to interfere with the appreciation of the art that there is. Even though the observer be an architect, some part of the impression is retarded; and whatever would be put together to make the impression in the mind's eye, is fought with by that which is in actual sight. It has been argued, reasonably enough, that one of the attributes of a successful work of architecture should be the power of striking the observer at once, and at first sight. If so, we place our buildings under such conditions, either that the power is lost by the work, in half a dozen years, or that the effect is totally opposed to that which the designer intended.

The use of cement that requires colouring, or painting, has added to the evil referred to, as it has otherwise operated disadvantageously upon architectural effect. Even when all the houses of a row are painted at the same time, the result is that the whole is either shiny or of one colour and tone, instead of the reverse, or of many hues. The same reason, whatever it may be, which leads to the preference for flatted work in house-painting, apart from the question of durability, leads to that in favour of a general dead surface in external architecture; where polish or glaze is to be used only for contrast, and with due consideration of the permanence of the relation of the two forces. As to the practice of painting the different houses in a row with cemented fronts, not at the same time, whereby a pilaster is constantly to be seen divided down the middle, so much has been said of it, that the practice should long ago have come to an end by arrangement between adjoining owners. But, that practice continues, even where leases are said to contain clauses to ensure the simultaneous painting or colouring. We have not, however, now to speak of these results of the use of cement; possibly they are inevitable from the material, and from the system of combining what are really distinct houses together in one design. The matter is referred to here, only to show how much a mere depth of shade, or blackness, will prevail over and extinguish the effect sought to be produced by the forms and mouldings first designed. Two or three illustrations of this occur to us. The front of the buildings, on the western side of Trafalgar-square, belonging to the Union Club and the College of Physicians, was designed as one composition. Yet it is scarcely recognizable as such, without examination; and, consequently, there is not the impression at first sight, which has been alluded to as one required of good architecture, or that calculated upon. The last-named building is of stone, and the other is cemented; and the inevitable contrast is kept more glaring by the never-cleansing the latter building, and the periodic and somewhat costly painting of the former. Again, in the Strand, the front of Exeter Hall, and the buildings for some distance on each side of it, were originally designed as one composition. Besides the continuity of cornice-lines, there are breaks in the fronts of the houses on the one side, symmetrical with those on the other side of the entrance to the Hall. But owing to the equal blackness of the stone centre, and a portion of the cemented work on one side, and to the recent colouring of the other work, part of one side groups with the Hall, instead of the whole of both sides with it. The edge of the black occurs not where the break is; and it is curious to note that this break, which was of the essence of the design, has become undiscoverable without searching for it: its little line of shadow is lost by the overpowering contrast of the blackness elsewhere. The Royal Arcade, in New Oxford-street, when we last saw it, afforded illustration of all the defects of cementitious architecture that have been referred to. The composition includes eleven arches; and over the piers, or in the second story, are niches; whilst in the third story, over each niche, is a panel with the Royal arms. The entire front was divided into six different shades, from newly-painted cream-colour to dirty black; and each niche and panel was divided into two halves, as well as each pier and spandrel. The best-designed composition in the world could not stand against that sort of destructive treatment. It were much to be desired that delineators of Views in London, would give these things as they really appear. Eaton-square would afford a fitting subject.

Even where stone is used, the effects which result from smoke-nuisance are not confined to the general blackening, and production of a sombre appearance opposed to life in architectural effect, and to the intended expression by shaded parts and shadows. In the front of the Alliance Fire Office in Bartholomew-lane, lines of black and white, caused by soot, and rain divided into streams by the water-leaf ornament, are marked on the facia below, so as to give the appearance of bad, or painted imitation of, fluting. In the country, beyond the influence of town-smoke, buildings receive new beauty by time and weather; in London, the work of the architect is merely distorted, when it is not blotted out altogether. Even to the limit of the suburbs, or wherever coal is burnt, the fuel is alike wasted, and to the destruction of some of the calculated effect of architecture. And, of the northern and midland manufacturing towns, what shall we say? Building, or architecture, is no longer "*decori urbium*," but is the medium for exciting disgust, or melancholy, and of warring against the healthful emotions which are excited by natural scenery, and against the imagination, which affords the greatest sense of delight.

So much of the evil in one direction, as may be connected with the use of cement, is not lessening, but increasing. Portland cement seems to be of all materials, the worst for a smoke-laden atmosphere. Witness the repulsive appearance of Victoria-street; and even of the new Palace Hotel (excellent in its details, were they only stone), and some of the other buildings near to Buckingham Palace.

Thus from many causes, there is constantly being thrown away, much material which might be that of good architecture, and much effort on the part of architects. For this waste, cement and the smoke-nuisance are greatly chargeable. Cement is extending in use on many estates, as the Bedford, in a manner which there is reason to regret. Introduction of decorative mouldings and dressings is no set-off to the positive gloomy appearance, ultimately, of these cement fronts as compared even with grey-stock brickwork. Harley-street, Baker-street, and Gower-street, have been the favourite examples of hideousness, with hasty talkers; but really we prefer the old material to the new, the dingy but somewhat varied gray to the absolute black, or even tone at which the Portland cement arrives,—and no dressings, and the no result on perception of beauty, to the ready-made bad dressings, and the active operation upon the public, of a deteriorating agency.

Briefly, concerning cement, even supposed used not imitative of stone, and leaving unconsidered the question whether it leads to bad brickwork, the case is that it induces a system of the application of ready-made patterns in lieu of design, and thus helps to vitiate the public sense of proportion and fitness, and to induce disgust for the very features of old works which should be ever the most beautiful; that it is not susceptible of the weather-stains which are so valuable as variation to the effect from the right lines of architecture where stone is used; and that for smoky towns, painting only adds to the disadvantages of it which have been named, whilst clogging up all hollows and rounding off all arrises; whilst left to become black, its effect is worse after the same time, than that of stone. Concerning the smoke-nuisance, it conceals objects in nature, upon the effect of which that of architecture depends, as does even architecture in towns,—as upon the effect of sky and clouds, as well as upon that of foliage, in the same field of view, or held in recollection: it clogs up portions of the work which were calculated to have a certain force; and it so blackens the whole as to interfere with the relief of parts by shadows, and to induce disgust or melancholy, rather than to attract attention and to cause delight; it converts the very air-space between spectator and object, into a medium through which much of any beauty that may be in the work, cannot be seen; and by the deprivation of natural beauty, and the mental depression, the power to produce art, and that to appreciate it, are each injuriously affected. Thus we can have no hope that the practice or the appreciation of architecture will respond to exertions, so long as the nuisance continues; and we might go on to find that the vice of drunkenness in our towns had some connexion with the feeling or state that the appearance of these places incites, and that the aptitude of the French in art was not uninfluenced by the clearness of their atmosphere. Till the nuisance be abated, it scarcely seems that the architect is fair with the public in inducing even such expenditure as there is at present upon decoration. In Paris, where every quarter of an inch projection pencils its defined shadow, and where buildings of the time of Louis XV. are less darkened by smoke than those which have had a six years' life in London, he may reasonably claim his position; and in fact, his art *is* appreciated, whilst his own claim is allowed.

In spite of the disadvantages however, in London, and by what we must regard as an anomaly, art is putting in an appearance, and progressingly, in the building-work of the City. Some of the causes of this, or of the amount of the work, may be discovered. There is no doubt of the present prosperity of the British dominions; and in the area which is within the radius of half-a-mile, or even a quarter of a mile, from the Royal Exchange, are concentrated transactions of every part of the world. The concentration is illustrated by the necessity which lately arose for some regulation of traffic, and by the fact that railway companies have now seen fit to encounter the enormous cost of land anywhere in the City, in order to get to the skirts of the little area in question. The last few years have been remarkable for the number of the companies established. Banks, insurance companies, associations, and agencies of all kinds, have needed, and still need, premises in the City; so that, now, one company promises itself large returns by the business of building and letting offices. Any company wanting only a ground-floor, and able to obtain ground, can always calculate upon letting the floors above in a building. The ground is much of it freehold; and it is the purchasers or owners of freehold ground, mostly, who are giving to the City its now marked and distinctive character. In the search for causes to which to attribute the short-coming of architecture in London, the leasehold system has turned up often; and many have considered it quite sufficient in itself to account for any prevalence of bad art, and bad building. Though the cost of such decoration as is now indulged in is considerable, the great cost of ground makes the per-centage come out but small; and a City banking-house at least may calculate upon surviving what would have been the term of an ordinary London lease. Some sort of architectural effect may be advantageous commercially, by attracting attention; and in the case of a bank, a particular sort can help the impression of stability of the concern.

Emulation will help to keep up the movement in the future, as it has a similar one in several of the northern towns; where it happens that the case as to the manner in which ground is held, is much the same as that of the City portion of London; at least, leases for very short terms are not common.

There is one slight deduction to be made, speaking of the favourable conditions for our art in the City: some of the undertakings that become possessed of premises, are not permanent, or vacate them. The change of occupancy destroys the allusiveness of sculpture and emblems. Thus the building originally erected for the Hall of Commerce, in Threadneedle-street, is now the Bank of London; and the frieze, by Watson, is not exactly in place, as it was. The character of some other buildings has suffered by alterations required by increase of business.

The circumstance most unfavourable to the realisation and effect of good architecture in the City of London, however, is the confined

space. It is in the streets which are the narrowest, as Lombard-street, and even in courts, that the premises which are being converted into elaborate architecture, are found. This fact, and the probability now increased that these particular streets will not be widened, would seem to point to particular treatment of the architecture. Those conditions, however, have not been made to rule the compositions; and the result is, that some of the buildings, designed in a manner suitable for streets of four times the width, are less effective than they might have been made: part of their decoration, indeed, is to be considered as thrown away. Both the nature of the site and that of the occupancy, should dictate in such cases the decoration of the ground-story as principal, rather than that of the floor above. The system induced by precedent, and reflected in the common London house, may be right enough there, where the whole height of the front could be compassed in the observation, the head remaining fixed; but where the street is narrow, and the building lofty, the impossibility which there is of correctly representing the latter by a perspective view as it is seen, should be held to infer the need of special principles of design. Bold projections of features such as balconies, in narrow streets, must conceal features which are above them; and a cornice of great projection, helps to darken the street.

A peculiarity of site in the City, that is more difficult to get over, is that of the deviation from right lines in such streets as Lombard-street, where not an inch of ground is to be sacrificed. Where the line of frontage for only part of the length of the building, sweeps round, and with no regular curve, the case would seem hopeless; and we know not what architect is competent to overcome such a difficulty.

Then, the architect, with work in the City, has more than any other the difficulty of "ancient lights." The law of this question can be understood by nobody.

With the impediments of various kinds, and the time absorbed in meeting this person's surveyor, and that, and in seeing what can be done with the public authorities, it is almost surprising that the result ever is of the nature of art. But, if there were not art, there is, it must be allowed, in these buildings in the City, much of the material which should be the vehicle for it. Stone, not cement, is the material employed, with the addition often of marbles and granites; and as we have said, buildings, instead of being remarkable for the absence of architectural members, are becoming so for the opposite quality of elaboration in mouldings and ornament. In a future number we may speak in detail, of some of the chief of the recent works.

WINDSOR.

THE enamel mosaic work by Dr. Salviati in the vaulted roof of the Royal Tomb House at the east end of St. George's Chapel, is now completed, and produces a very satisfactory effect. This tomb-house was erected by King Henry VII., who intended it, in the first instance, for his own burial-place, but afterwards changed his mind, and preferred Westminster Abbey. Henry VIII. gave it to Wolsey, who began a never-completed monument in it for himself, which, during civil war, was knocked to pieces, and remained in that state, until in after time the sarcophagus was taken to St. Paul's, to form part of the tomb of Nelson. In the time of James II. the tomb-house was decorated by Verrio, and again defaced; and in the reign of George III. other decorators gave it adornment. The works now going on in it are, as our readers know, at the cost of the Royal sons and daughters of Albert the Good, and in honour of their illustrious father. At the beginning of the year we gave some particulars of the mosaic work in the vaulting then in progress, but part of that account, now that the ceiling is finished, it may be well to repeat. The roof is groined, and the spaces between the groins are filled with enamel-mosaic pictures, on gold-enamel ground. Each long panel has a half-length figure of an angel whose head is surrounded by a gold nimbus, and beneath and above every figure, there are ornaments representing foliage and clouds. The other panels along the centre of the ceiling contain the Prince Consort's crests, with the motto "*Treu und fest*," his initial, medallions, devices, and other ornaments. The roof is divided into two parts: the first we may call the *secular* or *heraldic* part, and the second (at the east end of the chapel) the *sacred*. In the whole there are 92 angels. The 64 angels of the first portion are holding shields bearing the arms of the Prince Consort and his family, and the other 28 angels of the second part hold shields with the various emblems of Our Lord's Passion. At first sight the work has a *dusty* aspect, but this wears off on examination: the foliage especially is very effective, and the whole is rich without being garish. It has occupied a little more than a year, dating from the day the first cartoons were delivered to the mosaicist,—a very short time for such a work. When the windows are filled with stained glass, the walls covered with other mosaic work and marbles, and the floor with tiles or vari-coloured marbles, as will be the case, it will form a splendid apartment and worthy memorial. We shall be glad to find on the walls less uniformity of mild expression than is apparent in the vaulting-work; some interesting story to unravel, or some powerful head to rivet attention. Much of the gold enamel is very good: that with a green tint is, as it seems to us, to be avoided, not striven for. We hail with gratification the re-introduction of enamel mosaics into England, and look to see much advantage follow it.* The lower part of the chapel walls, that below the cills of the windows, will be encrusted with incised vari-coloured marbles by another artist.

Within the Castle, men are at work under the direction of Mr. Turnbull, improving its appearance bit by bit. They are at present on the staircase, removing the stone-colour paint with which the oak roof is covered, preparatory to a more fitting decoration. The staircase, as well as other parts of the interior of the Castle, greatly needs colour. The Grand Dining-room, formerly called the Waterloo Chamber, decorated not long ago by Mr. Crace, under the special supervision of the lamented Prince Consort, shows strikingly what improvement might be thus gained. There is no denying the fact, that much of the interior is wholly unworthy of our Sovereign.

Our correspondent, Mr. Cunningham, will be glad to be told that his fear, expressed in our last issue, that not one of the rooms "of the Verrio finish" has been spared, is premature. The ceiling of the Audience Room still shows Verrio's representation of Queen Catherine of Braganza, as Britannia, attended by the goddesses to the Temple of Virtue; and the ceiling of the Presence Chamber is covered with another of the Seignior's works, for which he received in 1678, according to contract and agreement thereof made, the sum of 200*l*. How long these two out of many will remain where they are, we will not pretend to say, for the wood-work to which they are indissolubly attached, beyond divorce-court power, is said to be in a very bad state, so that ingenuity will one day be taxed to maintain them in their places. In some of the rooms whence Verrio's "saints" were torn, their loss is not compensated for by the inanities of Wyattville. Sir Jeffrey seems to have determined that nothing by any one else should remain in the modernized castle; it was to be all Wyattville; and, unfortunately, he was able to carry out this desire very completely. Who shall now tell what then found its way from Windsor to Wardour-street? How much more interesting would the pile have been had he contrived to leave in it the handwriting of the various centuries, beginning with the time of William the Conqueror, during which the Castle has been the scene of stirring events and the residence of our kings and queens, and other powerful people. Nevertheless, we must give him credit, remembering especially the period at which the work was done, for the way in which he preserved the grand external features of the Mediæval fortress. Seen from a distance the effect is glorious.

A hundred and fifty years ago Swift wrote,—"Windsor is a delicious situation, but the town is scoundrel." It has been improved since then, though still unsatisfactory, and we would confine the epithet to the hotels there, the owners whereof, with a blind fatuity, persist in making charges the report of which leads many visitors to return dinnerless to town rather than subject themselves to imposition. A sensible little company, "limited," who will open a convenient (not costly) building there, and charge moderately for the best things, will realize a good per-centage.

* The same mosaicist has in hand a ceiling for the Royal Mausoleum at Frogmore, and some mosaic work to be placed in a recess over the chancel arch in All Saints' Church, Windsor.

WOLVERTON AND CALVERTON.

THERE is considerable movement evident in these places, mainly, as it would seem, from the energetic working of the vicar, the Rev. W. P. Trevelyan, his clergy, and two or three of the parishioners. At Wolverton, where large bodies of men in the employ of the North-Western Railway are congregated, an "Institution," with large hall for lectures and concerts has been built, at the cost of about 2,200*l*. It is in connexion with the Government Department of Art, but at present art is not fully attended to. The building, erected from the designs of Mr. Street, is of red brick and stone, and has a more satisfactory appearance seen close than it has at a distance, when the roof, which is ugly, comes into view.

Internally the brick walls are left without plaster or colour, and have a comfortless aspect; at any rate, in wet weather. The same architect has been more successful in a new church hard by,—a very agreeable structure, with the tower yet to finish, and arrangement for the addition of a north aisle when needed. Near to the church some good schools have been built. A lodging-house for men, near to the station, with general kitchen, reading-room, and so forth, is well filled.

At Wolverton end, where it adjoins Calverton, a new church was consecrated a few weeks ago,—St. Mary's. Mr. Scott designed it, and Mr. Aveline built it, entirely at the cost of Mr. Trevelyan, and Miss Perceval, a power in the neighbourhood, and daughter of the late Rector of Calverton. The larger portion of the site was given by the Radcliffe trustees. The chapel, in style First Pointed, consists of nave and chancel (under the same roof) with apsidal termination; and bell gable, containing two bells, at the junction of nave and chancel. It is seated throughout with oak benches of simple design, accommodating 150 worshippers; and is paved with tiles, plain red and black in the nave, figured encaustic in the chancel, increasing in richness eastwards; the step of the foot-pace on which the altar stands being of polished marble. On the north side is the credence, and on the south the sedile. The roof of the chancel is stencilled between the rafters with different-coloured devices, and the wall of the sacrarium as high as the string-course is diapered in colours in incised stucco, the prevailing ornament being the *fleur-de-lys*. The prayers are said from one of the chancel-seats, and the lessons read from an oak lectern. The five lancet windows in the apse, are dedicated by Miss Perceval to the memory of her parents. In the nave there is another stained glass window from the Hon. Mrs. Perceval, a memorial of a daughter who died in infancy. The reredos, an offering from the clergy of the deanery, is of Caen stone. The pulpit, of Caen stone, stands at the north-east angle of the nave, and, together with the font, also of Caen stone, was the gift of the Rev. R. N. Russell, rural dean. The small window at the west end was given by the Rev. T. R. J. Laugharne, the energetic and excellent curate of Calverton, who deserves a larger sphere. The altar-cloth was worked by Miss Perceval, the cushion for the sedile by Mrs. Laugharne. Close to the chapel is a house for a curate, towards the endowment for whose support Miss Perceval gives 500*l*. Adjoining is a small schoolroom; but larger schools will be necessary.

The seats in the church are free, and open for the use of all parishioners. A collection is made, in *bags*, after each service, to defray necessary expenses for the due celebration of divine service, and the maintenance of the chapel.

THE RAILWAY BRIDGE AT BLACKFRIARS.—On Tuesday evening last an engine, with a long train of carriages attached to it, and weighted for the occasion, steamed from out of the London, Chatham, and Dover Railway station in Blackfriars-road, half-way across the new bridge towards the northern side. It is expected that another month will elapse before the whole of the way of the bridge will be ready for examination by the Government inspector, and the passenger station, to be called the "Ludgate Station," now building in Bridge-street, Blackfriars, will be ready for the public accommodation. On the same day mentioned above one of the workmen, whilst engaged under the arches for the railway bridge, fell over into the Thames, and notwithstanding all assistance from a Citizen steamboat, the poor fellow was drowned.

A RUN TO THE LAKES: KESWICK.*

THE picturesque little town of Keswick has been justly considered at once the centre and the metropolis of the English Lakes. From this point the surrounding regions are most conveniently studied. Skiddaw lies in close proximity; Scawfell and Helvellyn within easy access. Romantic valleys and mountain passes, secluded dales and deep glens, abound everywhere in the neighbourhood. A richly diversified landscape of mingled woodland and pasture is seen all around the slopes of the neighbouring hills. In the valley below lies Derwentwater, the Queen of the English Lakes: its silver water studded with green islands; and its verdant banks adorned with luxuriant foliage. It is not without reason that the poet pronounced the vale of Keswick the Elysium of the North.†

Of its early history we have almost nothing to relate. Very little can be gathered from the public records. At the period of the Roman invasion, it was probably a rude collection of British *burghs*; as it might, with equal probability, have been the seat of some early lacustrine dwellings. The progress of civilization, the mixture of races, and the gradual extension of intercourse, have done much to obliterate its aboriginal character. But a large admixture of Celtic blood is still discernible throughout the district; and it is singularly remarkable, but it is clearly established, that in Bassenthwaite and Borrowdale there are numbers of pastoral farms which are owned by the farmers themselves who can trace their lineage and their title back to the Norman Conquest. The prevalence of the ancient British language in its topographical nomenclature clearly supports the English chroniclers in their statement, that it was a place of refuge for the unsubdued Britons retiring before the Saxon and Danish invaders; and there, it is supposed, they continued. The Norman Conquest exercised very little influence on the character of the people. The contest of the great barons with the Crown, the wars of the Roses, the civil wars, the restoration, the revolution; all these convulsions produced scarcely a ripple on the surface of the lakes. It is not until we come to the year 1715 when James, the third Earl of Derwentwater, was attainted for rebellion and beheaded on Tower-hill, that we find a noticeable incident in the local history; and with this incident the history culminates. The Derwentwater estates were forfeited to the Crown, and applied to the support of Greenwich Hospital, from which they were purchased during the period of Sir James Graham's administration at the Admiralty, by the Marshalls, of Leeds, the eminent manufacturers, about-five-and twenty years ago. The fate of the gallant and chivalrous Derwentwater is a theme which poets may seldom meet with. Yet none of the Lakers, as far as we remember, have sung his *requiem* or mourned his untimely end.

Camden found Keswick inhabited by miners. Leland before him described it as "A little poor market town called Keswike, a mile from St. Herbert's Isle that Bede speaketh of." The saint referred to is one immortal in story from the circumstance of having constantly prayed that he might not survive his patron, St. Cuthbert. His prayers, we are told, were literally answered; for both these holy men died on the same day! The few records we possess of population seem to fluctuate considerably: agues and fevers, of a character now happily extinct, arising from its proximity to the swamps and undrained marsh lands, periodically carried off a large number of the inhabitants. The registers of Crosthwaite Church show that the number of interments for the year 1623 amounted to 258, probably a tenth part of the whole population of the parish at that period. Hutchison, the antiquary, writing in 1790, describes the town as it then existed in anything but flattering terms. Most of the houses, he said, were low and meanly built. The best part of the town was obstructed by gloomy and ugly shambles; and there was little appearance of trade or manufactures, excepting some coarse woollen goods and some linen. A cotton-mill had been lately erected on the river Greta. The town, he adds, has a considerable weekly market, in which is exposed to sale a variety of fresh-water fish—salmon, pike, eels, and trout; and also the finest mutton in the island of Great Britain.*

The parish of Crosthwaite,† which comprehends the township of Keswick, possesses a fine old church, beautifully situate in the centre of the vale of Keswick, about half a mile from the town. There is no record to show the date of its erection. The building consists of a nave, north and south aisles, chancel, tower, and porch. Externally the walls are rough cast, with the exception of the tower; and its interior has been handsomely restored by Mr. Gilbert Scott, at an expense of 4,500*l.*, nearly all contributed by a private gentleman in the neighbourhood, Mr. James Stanger, of Lairthwaite. In the chancel we saw an antique monument of the Ratcliffe family of Derwentwater, with an inscription in bronze admirably preserved; and right in front of the principal doorway reposes, in solemn grandeur, the magnificent recumbent statue, in white marble, of the poet Southey.

> "His joys, his griefs, have vanish'd like a cloud,
> From Skiddaw's top."‡

As for the town itself, it is rather irregularly built, consisting of one principal street, with a number of smaller streets intersected by lanes, enclosed courts, yards, and narrow passages. Most of the houses are built with the clay slate rubble of the district, and many are rough-cast and limewashed on the outside. The plan of the town, as seen in a bird's-eye view from any of the surrounding hills, somewhat resembles the three-legged figure on a Manx penny. The public buildings are small and unimportant. The town-hall is an ugly black rubble building, erected in 1813, of the Scotch Presbyterian Church type; St. John's Church, erected and endowed by the lord of the manor, Mr. Marshall, is a rather neat Early English structure, built of a light pink freestone ashlar, from the quarry near Greystoke; and the Cumberland Union Bank, which is the only other building worth mentioning, is a handsome square block, built of Borrowdale greenstone, with tasteful quoins, string-courses, window-openings, and door-posts of white sandstone, from Cockermouth. In the town-hall is exhibited Mr. Flintoff's elaborate model of the Lake district, which we strongly recommend to the study of all visitors who wish to master the topography of the country; and in Crosthwaite's Museum there is a perfect mine of mineral wealth and antiquarian relics peculiar to the district. One Roman sword and one cinary urn we saw were in a state of perfect preservation, and were pronounced by Sir E. B. Lytton to be the best specimens he had seen. The founder of this museum was the ingenious meteorologist who is mentioned in connexion with Dalton. He was the original inventor of the life-boat; of an improved species of Æolian harp; and also of a series of musical stones, composed of rough flat sonorous boulders, of the native Hornblendic slate, upon which the lady in attendance plays very pretty polkas and Scotch strathspeys. Specimens of the rocks and minerals of the district, we may mention, may be procured at this museum for a very moderate sum. Keswick also possesses an excellent grammar-school, a public library, and a mechanics' institute.

The population in Keswick in 1801 was 1,350; in 1821, 1,901; in 1841, 2,375; and in 1861, 2,610. Of course, this does not convey a proper idea of the surrounding population, which is growing more rapidly. The valuation of Keswick township in 1864 is as follows:—Crosthwaite division, 2,880*l.*; St. John's division, 4,948*l.* 10s.: total, 7,828*l.* 10s. There is a gas company (established in the year 1845), which supplies the town with gas at 6s. per cubic foot. There is also a water company (established in 1856), which derives its supply from the streams and springs on Skiddaw, and delivers it, on the constant service system, at a moderate rate—to the poorer cottages, we were told, at a penny a week. What a boon would such a thing as this be for Bethnal-green! Finally, Keswick is at this very moment being furnished with a system of main drainage, from the plans of Mr. Lawson, C.E., and at a cost of about 1,000*l.* Few every-day tourists, we dare say, care about visiting a place under the operation of drainage for the first time; but to us it awakens a feeling something like that which a tired and thirsty pilgrim in the desert is said to experience when he discovers a well which has been dug by some previous traveller.

Our predecessor in this case was Mr. Rawlinson, whose very able report to the Board of Health in 1852 is now before us. To recapitulate the sanitary condition of Keswick as set forth in that report would be to describe a condition of things which, fortunately for the inhabitants, has passed away. Twelve years have elapsed before the unwelcome truths which he told, and the unanswerable statistics which he produced, have fully done their work. But in that period Keswick has been purged from its horrible nuisances, supplied with water, and at length sufficiently drained. A physician of the district, Dr. Leitch, who was mainly instrumental in organising the preliminary inquiry and opposing the narrow and confined ideas of the local authority, deserves, we think, a public acknowledgment of his valuable services. There were lanes and alleys in Keswick at that time whose rate of mortality was higher than that of the most densely populated manufacturing districts; and he could point out, within a circuit of a few miles, localities in which scrofula, measles, small-pox, and typhus fever had left their ravages, which districts, with proper sanitary precautions, might have altogether escaped. It will be an interesting task to compare the local death-rate a year hence with that which represented the mortality of Keswick even a few years ago. And to this end we must still urge the local sanitary reformers not to abate one jot or tittle of their exertions; for a long experience of the municipal obstructive malady has taught us to be constantly careful of its tendency to relapse.

The Cockermouth, Keswick, and Penrith Railway, which is now in process of construction, is the next great improvement we must note in the district. It will connect the hitherto isolated capital of the Lakes with two important main lines, and will afford incalculable advantages in facilities of travelling, as well as in the transport of commodities. At present it costs as much nearly to convey a ton of dry goods from Keswick to Windermere, as it does from Windermere to London. This railway consists of a single line 31¼ miles in length. It is estimated to cost 300,000*l.* The engineer is Mr. Bouch, of Edinburgh. During the past week, we understand, the Government inspector, Capt. Rich, R.E., has been engaged in inspecting this new railway; and it is expected it will be opened almost immediately.

We took some notes of the local manufactures. The cotton-mill described by Hutchison had long been out of work before the supply of cotton failed. The woollen trade has dwindled away almost to nothing. The only flourishing manufacture in Keswick is the pencil-mills, which, however, it would require a separate article to describe. We may just mention that Mr. Wilson, of the Greta pencil-mills, informed us that the manufacture in Keswick employs about 100 hands; and that from 10,000*l.* to 12,000*l.* worth of pencils are annually turned out, and exported to all parts of the world. The celebrated mutton ham of Cumberland and the delicious char, which are indigenous to the Lakes (the char is chiefly potted for the London market), still constitute a considerable item of the revenue of the district.

But, after all, the greatest source of wealth in the Lake district resides in the Lakes themselves. It has been calculated by a gentleman in the neighbourhood, who gave evidence to that effect before Mr. Rawlinson, that the number of tourists visiting Keswick during a season was, on the average, from 12,000 to 15,000. Nor is there any reason to suppose that this estimate is too high. Our readers may attach any hypothetical sum to this as the average travelling expenses, and it will then be seen that a tolerable quantity of English gold is every year showered on the district of the Lakes. Tourists, we ought to point out, will do well to visit the district in May and June. There is less rain about this period; the atmosphere is clear; and the beautiful scenery is seen to the best advantage. The month of July is generally wet. After this, there is often a month or five weeks of continued fine weather (locally called "a Michaelmas summer"). Then the foliage begins to vary in colour; but the oak, birch,

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* See pp. 330, 647, *ante*.

† The name, it has been conjectured, is derived from its site, which must have been originally a swamp abounding in sedges. *Kesh* is a local appellative for water hemlock; and *wick* in Ang. Sax. for village. Hence *Kesh* or *Sedgewick*, *i.e.*, the village by the sedges.

* Hist of Cumberland, vol. ii. p. 156.

† The word *Thwaite*, which is a very common postfix to the names of places in this quarter, signifies, according to Dr. Whitaker, "stubbed ground;" according to Ingram, "a watery, washy place." But Mr. Crosthwaite, of Keswick, who ought to know something about his patronymic, states that it signifies "a clearing,"—with the additional meaning contained of "wood grubbed up," *i.e.* "a forest made into a farm." It is curious that the corresponding Danish word has also this signification.

‡ Quoted from the inscription on the monument by Wordsworth. The statue was executed by Lough, and cost altogether, with the pedestal of Caen stone, 1,100*l.* It is said to be a faithful likeness, and is exquisitely modelled.

and other forest trees retain their leaves till the first severe frost, followed by high wind, when it occasionally happens that the whole is stripped off in a day or two, and the wintry aspect is seen at once. But even in winter, we are told, the scenery is beautiful; and the climate far from uncongenial, particularly in the valleys, which are sheltered from the prevailing winds.

We must now conclude our hurried observations. We have purposely abstained from dwelling on the picturesque beauty of the Lakes. How we climbed over the mountains during the day, and rowed on the Lakes by moonlight; fished for trout in the streams and perch in the Lakes, with other adventures of a similar kind, would probably not be interesting to those who have either visited or who mean to visit the district and find their own experience of a tourist's enjoyment. Nor is it necessary to dwell on the invigorating influences which "a run to the Lakes" is calculated to exercise on the health and spirits. We can only add, that such scenery is calculated, among other things, to awaken the highest emotions of our nature. The last view, as it happened, we had of Derwentwater, was on a lovely evening in July. The sun was setting behind Skiddaw, and gilding with a purple glory the placid and silver water of the lake. The stillness was undisturbed except by the faint ripple of a solitary oar in the distance. Suddenly the band of the rifle corps in Keswick, which separates from drill at ten o'clock, struck up the Queen's anthem, and the effect, as the sound reverberated among the hills and in such a scene, was singularly grand and even solemn. We could scarcely help the reflection, that the little town of these loyal and demonstrative subjects of Queen Victoria was also the last of the strongholds of the subjects of Queen Boadicea; that between these two periods of British history, several empires, republics, kingdoms, and principalities had sunk into oblivion; but that the little territory of those island queens was still the favourite haunt of the genius of liberty; and that it had carried its arms and its arts triumphantly through every quarter of the civilized globe!

The next morning saw us travelling through the valley of Threlkeld, on our way to Penrith, in which ancient town we took rail, and so bade adieu for the present to the district of the Lakes.

TERRA-COTTA AND LUCA DELLA ROBBIA WARE, CONSIDERED ON THE PRINCIPLES OF DECORATIVE ART.*

THOUGH warranted by the custom of the classic ages in Greece and Italy, but few attempts have hitherto been made to revive the use of colour upon statuary. Our own Gibson has had the boldness not to heed the critics, and given tints, though of the faintest, to some of his works; and a slight attempt in gilding and colour has been tried on the tympanum in front of the British Museum. Let us hope that the example in these times of him who is one of the greatest sculptors of this or any other land, may have its speedy followers: a beginning may be started in reliefs and figures in the round of hardware put up all about, inside and out, our public as well as private buildings. For the effect, I would call to mind an instance in the public hospital at Pistoja. There at every step you take in that long broad street facing which it stands, its fine entablature the frieze, in which is figured in relief and variously coloured, with groups, half life-size, setting forth the works of mercy corporal—that is, done to man's body, distinguished from those wrought for his soul,—grows upon your admiration; and, while astonished at the undimmed, unsullied freshness of its tints, all as bright and beautiful, after three hundred years' exposure to the rain and sun, as on the day they were laid on, you cannot but admit the fitness, especially under a sky like ours, of such a mode of decorative art for our buildings. In a grand public botanical garden is it that this sort of highly ornamented hardware would be at home. To every such establishment must, by necessity, belong various offices,—a theatre or large hall for lectures being one; and whether the grounds be laid out in the landscape style, like the Botanical in Regent's Park, or after the geometrical, as in the Horticultural, at South Kensington, the mass of the building is incomplete if not flanked, as at the Crystal Palace, by two high towers,—always beautiful in themselves, but here most especially needed for their utility. The perfection of a garden, with its fountains and canals, and flower-beds, and terraces, all set out after the geometric manner, is to show itself, in all its symmetry, to the eye at once. Failing to do so, it lacks its very essential property, as far as its design. In the Villa Pamfili Doria, at Rome, from the terrace before the house, one looks straight down from a good height on the geometrical garden below, and beholds the whole at once. This is still a want at the Horticultural; for, go up to the terraces, and from no one spot upon them can the eye take in the whole at one view. Walk to the south end, and upstairs to the rooms for refreshment in the late Exhibition buildings, and from no window there can you satisfactorily see the upper or northern portions of the garden. Two tall towers, one at each end of the semicircular arcades, arising up as gracefully, and quite as high as those fine old belfries at Rome, would give, far and near, new beauties to the sky-line, and admit of all the richness of decorative hardware being lavished on them, standing in glorious companionship, with the most magnificent of all fountains,—Minton's,—below them; and as you mounted up their stairs, at every story, the gardens, in all their width and length and design, would burst upon the eye in full and gathered beauty.

The hall for lectures in this (the Kensington Museum) and kindred institutions—call it lecture-room or theatre—more especially lends itself to an elaborate ornamentation in coloured burned clay. Following out the grand true principle that all good architecture is decorated utility, the architect's first thought for such an erection must be to make his building the best he can to answer its especial purpose, or that the words of the speaker as he stands in his place may be well heard at all parts. Though the law of sound in such edifices is still a riddle, yet there are some known facts, among which one is that earthenware, fashioned after certain shapes, is a great help for the clear and distinct circulation of sounds, whether of musical instruments or the human voice. During years was it a puzzle among archæologists to afford any satisfactory reason for the use of those hollow earthen vases found built into the lower sides of several old chancel-walls, till the other day, when this passage in the "Chronicle of the Order of the Celestines at Metz" for the year 1432, turned up:—"It was ordered that pots should be made for the choir of the Church of Caens, Brother Odo stating that he had seen such in another church, and thinking that they caused the chanting to resound more strongly." Coupling this with other acoustic properties that belong to burned clay, the usefulness of it, not to say need for its employment, in all sorts of theatres, wants no proof; and from the numerous fine specimens after so many kinds brought together in this Museum, its easy readiness in yielding such powerful help as a decorative art is undeniable. To my seeming, a hall intended for the utterance of British thought, for the rearing of the British youth in arts and literature, that very spot itself should show upon it, all about it, the workings of the British mind, and speak of Britain: while wrought by British hands, it ought to tell, as far as may be, of two among the other now great staples of British industry and manufacture, pottery and iron. After a stroll in the Horticultural Gardens, and gazing again and again at its glorious St. George's fountain; after wandering thence through the new splendid courts of this Museum; looking around upon what had been done, centuries ago; what was even now doing abroad and at home, in coloured burned clay; and seating myself by one of those peeps into that delicious fern-house with the afternoon's green sunshine on it, I there bethought myself of a hall for lectures. Theatral in figure, its roof, like that of St. Peter's dome, might be ribbed—here with ribs in iron gilt; if not of mosaic, the spaces could be filled in with tiles larger and finer than those round blue plates of the months in the Museum, made by Luca for Piero di Cosimo de' Medici, to put up in the ceiling of a circular study (Vasari, i., 341). Around the lantern at top would look admirably a garland, bolder and richer than any of the wreaths by the Della Robbia school: the stage, with its high tribunal-like shape and broad recess behind, should have much and thoughtful care bestowed upon it; for, in every such erection always must the stage become a striking feature. But it opens, in the present instance, a wide field for the display of our countrymen's power to put forth all those many capabilities in coloured burned clay for decorative purposes, and that, too, under the forms of highest art. Here, then, the most stirring passage, whole and unbroken, in the legend of the nation's patron saint would find a fitting place. To hide the stairs at each side, and yet afford room enough above for the lecturer and all his possible requirements, throw up a grand well-broken front of massive rock fringed with ferns and foliage; show St. George, on horseback, duly armoured, with spear in rest, and his steed properly caparisoned, bounding, full tilt, at the rageful dragon, as it hurries from its den to swallow up alive the fair princess at prayer on her bended knees hard by, with the king and queen, her parents, looking down upon their child from the turrets of their castle overhead: why not a streamlet of water, too, trickling noiselessly among the flowers? In such a place the other patrons of our empire are not to be forgotten: St. Patrick, therefore, must have his legend properly and artistically set forth; so, too, St. Andrew; so St. David, each in his own conspicuous spot. All our men of mark in the arts, the sciences, and literature, may be gratefully remembered in a bust, or statue, or a low relief. Saying, with the poet,—

> "Let merry England proudly wear
> Her blended roses bought so dear;
> On favour'd Erin's brow be seen
> The flow'r she loves of emerald green,
> Let Albin bind her bonnet blue
> With heath and hare-bell dipp'd in dew;"

with free full hand will the architect sprinkle all about the walls the peculiar floral emblems of our different peoples, so that Celt and Saxon may find shining there the flower that each loves best, and all of those symbols blended into one harmonious garland. Outside, the roof-tiles for such a building might be very fine, handsome and gay by moonlight as under the glare of sunshine: instead of the kinds hitherto in use, let them be coloured lightish blue, starred with gold, and brightly glazed. Talking of roof-tiles, what can be so unartistic, so very ugly as those now in general use upon our houses? True is it that for their thinness and lightness slates are valuable substitutes for the old heavy red tile, flat or ridged, and its colour a pleasing variety; but at best its tones are dull. If we had tiles—and for the sake of their lightness, slates—glazed of all colours, and furthermore, some of them streaked with two or three tones of the same tint,—then would the present ugliness be got rid of, and we might have roofs tiled or slated in patterns and after designs more or less elaborate; and, when dulled by dust or befouled with smuts, the first good shower of rain would make them clean and sparkling.

Till a few years back, our shops—large and small—were of the plainest with regard to their ornamentation inside and out, however valuable the goods in their windows and upon their shelves. Now, besides the splendours of large plate-glass, a few display great architectural taste; and some of these might be pointed to as little gems of elegance, especially for their internal decoration and arrangement. But very much still remains to be done among them. If a single picture can draw crowds of travellers a thousand miles to gaze upon it in the town where it happens to be kept, a man in trade may be assured that, to make his place of business inside and out as artistically beautiful as he can afford, is one of the best and readiest modes of advertising the wares in which he deals. Though the shutters be up, a fine shop-front, if well and properly designed, immediately tells the business of its owner, and, while bespeaking the favour, may secure a visit, some other day, of the passer-by. For such shop-ornamentation, nothing can be better than coloured burned clay, especially in the dust and dirt of a great thoroughfare. From many let us select but one as an example. Take a large fishmonger's, with its fine white slabs of marble. Suppose a bold wide border, composed of all sorts of seaweed, among which are lurking fish of various kinds—fish such as Bernard Palissy would have done—along with branches of coral and sea-shells. Such shops, and others like them, are often seen with all their inside walls sheathed with simple white tiling, well glazed; and most cool and cleanly do they look, besides being so wholesome for the eatables sold there. Divide the shining wide walls into panels by other flat glazed tiles, figured in colour with subjects connected with the owner's trade; give them, as a cornice, an appropriate wreath in relief, and, from being plain, the whole place becomes beautiful. Imagine, again, the master

* By Dr. Rock. See pp. 612, 644, *ante*.

of the house to be a royal tradesman, and allowed to have above his shop the royal arms: make those arms, as well as the supporters, artistically done in the round, in coloured burned clay, and the flat shield properly blazoned. A bucket of water and a sponge at the beginning of the London season will be quite enough to cleanse the whole from the griminess laid on them by the dirt of the last twelve months, and leave them as bright and glittering as ever, to enliven the appearance of the street. If nothing beyond the owner's name and trade be thought of, let it not be done, unless for an undertaker, in mournful black and white, but in gladsome tones and garlanded with flowers.

I say nothing of the numerous pretty fountains—never forgetting the poor dogs—which we might have everywhere erected; but, hastening away from our streets, and getting into our fine, wide, well-planted squares, and our lovely unrivalled parks, how many are the opportunities we find there of employing this material in all its decorative forms and beauty. In no one city in the world are there to be found such magnificent open spaces with grass and trees, as London can show in her many grand squares; yet of them all, hardly is there one as flowery as it might be with the flowers that are known to stand a London atmosphere; not one among them can boast of the slightest adornment saving a solitary statue, and that as black as smoke can make it. Suppose one of these squares dotted all about with busts and statues, having its fountains, and in the middle of it an open domed erection for shelter and for shade. To the crowds of little ones, and their elders who have the right of going thither, how recreating, nay useful, would this be in summer; and for all, even the humblest foot-passenger as much as to those who dwelt in the houses around, how pleasing to have such objects, all executed in coloured burned clay, to look upon, even through the dreary dulness of a foggy mizzling day in November. Going into the parks, instead of that heavy lump of over-strength in the shape of a suspension-bridge to a foot-way across the water in St. James's Park, we might have had another, light, elegant, and adorned in a manner fitting the situation, and this with the help, in the ornamental part, of burned clay; for why not have the spandrels of arches in a bridge—this one, for example; but as a better instance, that over the Serpentine, Kensington Gardens—filled in with hollows holding busts, or with reliefs, in coloured clay? Why not, too, have the latter's parapet surmounted by statues in the same material? The refreshment-room close by would be better arrayed, artistically speaking, in a third-rate suburban tea-garden, and is far beneath the dignity of the place in its appearance, which, at a small outlay, might be made to change its actual shabbiness for elegance and beauty. While in these so admirably kept and charming gardens, it would almost seem a wilful omission not to cast an admiring look upon that small though beautiful building, with its wide enclosure, for the waterworks and fountains at the Bayswater end of the Serpentine. At a glance one perceives that what scant ornament it has, was given it by an able master of his craft, and the hands that wrought it seem to have been meddling rather with the softest wax than with stone, so nicely and so smoothly is everything chiselled; yet to my eyes, one element of the beautiful, to render it still more beauteous, is wanting to it—colour soberly applied. Put upon its roof, a tiling in light green, or blue, or pale pink; let in, here and there, reliefs in quiet tones; and methinks we should have in a work which, as it stands now, is justly entitled to our applause, a stronger claim upon our admiration. What life and variety are thrown into every kind of park, if a bust or statue, a fountain, or any erected ornament that catches the white light, be set up midway, and so be seen at each end in the green avenues and shaded alleys formed by trees. Take, as an instance, the trivial thing in the centre of that little sunk garden, once a hollow filled with water, at the east side of Hyde Park, near those lovely flower-borders running, a long way, parallel with Park-lane. Many are the great names we have to be proud of, now forgotten to the people; yet, while we thus commemorated our country's worthies, much beauty, at small cost, would be added to our public walks.

Among those various purposes to which the material under notice may be easily applied, none is there where it would be more suitable than in a decorated dairy. Who has not heard of the many instances in which a fond husband has so contrived that, during a short absence from a favourite home, on her return, an agreeable surprise should be waiting to welcome back his well-beloved wife. Those who have seen that little gem of elegance and high artistic taste at Windsor Castle,—that small chamber there, the whole fitting up of which and every ornament in it, even the hinges to the doors, had, for such a work of love, been planned and wrought after the designs and sketches done by the late Prince Consort's own hand,—will understand my meaning. Let us imagine such a purpose, and that it so happens that the lady's baptismal name or names have a floral significance,—that she is called Rose, or Margaret (Daisy), or Lilian,—the latter for example. This circumstance may be turned to good account. For the building of his dairy, the architect will look about him for a little grove of trees to shade it well in summer. If, for the outside walls, instead of stone, he may have bricks, he will get them of several tones in greyish white, and, to save his elevation from the reproach of tameness, he will checker it with the sober use,—but not streaky,—of red bricks, they, too, in different tones. For the reliefs, in plain burned clay, to be let into the entablature, when cows at pasture or being milked are thought of, a good artist can have no difficulty in selecting subjects; and for the caps of pillars, our English meadow-flowers, and our English woodlands will furnish appropriate types of ornament. For the roof, the tiles will be green, and fashioned to the shape of our native water-lily leaf, slightly crisped at both edges, as it often is when a gentle breeze is curling the water where it grows. Here and there among the leaves a water-lily with its many-petalled head may be put; but the cresting all along the roof will be a row of these flowers, made large and in the round. Thus the whole, with its pan-tiles in ridges glazed in green, and its white flower-crest, besides colour, will have given it the additional charm of light and shade. Inside, its coved ceiling, its walls, its pavement will be all tiled, and with tiles for the floor as white as morrow milk; for the walls, of the tone of Witsun cream; for the ceiling, of the softest yellow buttercup. Made to gurgle by the roughness of its rocky bed nicely sunk in the floor, down all its length will run a stream of clear spring water, overhung by a border on each side of ferns, forget-me-nots, but most especially of the various flowers of the water-lily tribe. Upheld by large, bold brackets, in the shape of lily-stems, the shelves will be thick slabs of white glazed clay, bordered with a wreath of lilies of the valley, tulips, fritillaries, and other kindred flowers, not raised but painted; and of the same material, and in the same style, will be the milk-pans resting on them. Instead of the common-place lattice-work over its many windows, hang wreaths, like Luca's, there, but so contrived, with spaces between the leaves, as to freely let in plenty of fresh air in summer; and let these drooping garlands be made up of all the milk-wort family of flowers, to which must be added the bugloss (*Anchusa tinctoria*), and the graceful arnatto, those two flowering-plants which give the English dairy-maid the colouring for her cheeses.

If not already warned upon the subject, I would put you on your guard not to sink, in those of your works that are meant to stand the outside weather, any hollows which can hold water. If you do, the likelihood is that the first winter they are exposed they will be severely hurt by frost. While becoming ice, water crystallizes, and with such mighty action that, no matter the smallness of the quantity, nothing can withstand its strength; and as the ice after is larger in bulk than the water before freezing, the hollow being too small—too narrow for it in its new state—cracks; and when the thaw sets in, the broken piece falls off, and thus many a valuable production is deformed. In Mediæval architecture, not a moulding but one holds water; and in that one which does, the shallow is of such lines that, in freezing, the water has room enough, while outspreading itself, to rise upwards. Hence comes it that, although hundreds of harsh sharp winters have gone over them, those splendid monuments of our forefathers' munificence and wary thought, exuberant though those buildings be in deep-cut mouldings, roving crockets fashioned like leaves and flowers, and bunchy finials, still remain in wonderful preservation.

Turn we now from suggestions to realities, and let us see what has been done—what is now doing—with this material, in all its several branches.

Without needing to go further than this Museum and its neighbourhood, we come upon various interesting instances respecting decorative unglazed burned clay. Some works in white, done by Mr. Blanchard, of Blackfriars-road, possessed by the Museum, as well as those sharp, well-brought-out casts from the bronze flag-stands before St. Mark's, Venice, doing the same duty now in the Horticultural Gardens; but more especially the ornamentation in red upon the western wing for the residential houses attached to this establishment, tell us loudly how admirably an Englishman of the day can execute anything asked of him after this fashion. But a masterpiece of English pottery in high art is the life-size statue of the great James Watt, that came from the hands of the same able manufacturer. Red clays, in a variety of tones, from a deep to comparatively a light one, can be got, and so nicely graduated as, when wrought together, to give a most powerful effect to an elaborate design. Had Mr. Blanchard availed himself of such an artistic colouring help upon his otherwise fine work in the west wing, just now noticed, all of it would have been much more telling, and stronger renderings given to all the lines in its ornamentation, which is somewhat too small to have all its beauty seen and appreciated at its present height. The large statue of Galileo Galilei, from the workshops of Signor Boni, of Milan, besides a section of an elaborate architectural elevation from the same artist, in red clay, show us what Italy can produce. In this latter admirable piece, the ornamentation is sharp and distinct in all its outlines, and those beautiful and exquisitely modelled busts, in the round, come forth well. The whole is so managed as, though very ornate, its parts are not too small, and its surface not crowded, but everything is boldly but not overmuch, thrown up so as to be advantageously beheld from below, and at a distance, having thus a light and shade of its own,—properties to be wished for everywhere, but more especially in a land like England, with its often overclouded sun, and beneath a sky that, months long, darkens London.

Signor Boni's works remind us of Milan, and Milan, of its magnificent hospital, about which we have before spoken, so beautifully fraught with burned clay ornamentation. But if Milan may justly boast of an erection as one of the finest of its kind at the period, London can show a building in progress which, when finished, with all its decorative burned clay upon it, will not only stand, for grandeur, beauty, and vastness, before the Milan hospital, but anything else after that manner that has been done since. What the great Hospital at Milan is to Italy, we foretell the South Kensington Museum will be, not to England only, but to Europe, one of the finest among the fine erections in that style; and the man who built it, Captain Fowke, will take a high place upon the roll of England's distinguished architects; and his name, along with that of Mr. Sykes, who made the drawings and models for the decorative parts in burned clay, as well as that of Mr. Blanchard, who executed them, will go down to admiring future ages.

In the front of the late International Exhibition, towards the Horticultural Gardens, burned clay, as far as it is called upon for help, is very efficient, and constitutes the most pleasing feature upon that building, which might have been much improved by a more extensive employment of its enrichments. All about the Horticultural Gardens themselves burned clay architectural ornamentation is brought in, and more especially upon the inside of its noble conservatory, but by no means as much and as artistically as might have been. In such a wide and favourable field, still open to the adaptation of our national pottery in all its several branches as a decorative art, let us hope to behold, ere long, its employment there in garlands, friezes, busts and reliefs, and statues,—all, like its thus far unrivalled fountain, in artistically wrought and beautifully coloured clay. Nothing would better show the world what may be done in this material.

Going to hardware glazed and variously coloured, we find that, for walls and flooring, the tiles produced by Minton, by Maw, and others, are what we want. Those especially with a pattern deeply sunk, manufactured by Minton after Pugin's designs, are admirably adapted for walls upon which a diapering like any of those beautiful ones we admire so much in Westminster Abbey, Canterbury Cathedral, Selby Church, and Lincoln Minster is required.

The productions of M. Devers, a Parisian manufacturer, are very good both for their mo-

delling and their smooth, even, well-chosen colour; but the bust by another French artist, of Luca della Robbia, is sadly at fault regarding costume, and most egregiously so in its garish colours, daubed upon it so blotchy.

For all ornamental domestic purposes, Minton's pottery has won for itself not only an English, but a European reputation, so that it is needless to point out the many fine specimens of it in this Museum; but as we began, so will we end this lecture with the mention of that man's name, and that, too, in connexion with the largest and most elegant work of its sort ever produced in this or any other country, that splendid fountain now in the Gardens of the Horticultural Society. The land that wrought this great work could, we are sure, if asked, send forth still mightier works of the kind. On looking on that splendid figure of St. George, and all the several accessories of so diversified a character around him, confident are we that the hands that modelled, coloured, and fired everything there, are well able to people our squares, our streets, our edifices, public and private, to the world's delight and instruction, with thousands of statues in coloured burned clay.

All through this lecture I have tried to guard myself against the use, while dealing with my own words, of such terms as terra-cotta,—enamelled terra-cotta,—encaustic tiles,—Luca della Robbia ware,—and for the reasons following. Always are such expressions outlandish; and, though such hard words, with their learned length, may astound the crowd the more they are not understood by them, those very words fail in their object, which is, or ought to be, to afford people information: quite wrong in their application to hardware, they mystify the better educated, whom they lead astray respecting the various and oftentimes totally different methods and materials which art employs in her several productions. Take, as an instance, the term "encaustic." This means, and among the ancients was assigned to, quite another craft and process essentially apart from that of colouring and firing tiles or any other kind of pottery. For true enamel, other ingredients are required; and are laid upon metals, not clay. Again, the making of figures out of earth, giving to them a coloured glaze, and fixing it by fire, belongs, of right, to the early Egyptians far more than to Luca della Robbia or to Minton: nay, as much as priority of time in use or invention can bestow a title, more fittingly is such an appellation of honour rendered to that ancient people than to the Italian or to the Englishman, of whom neither the one nor the other can with fairness attach his name as the originator of that specific sort of hardware.

When old Chaucer, in sketching his pilgrims, tells us of one of them "cleped Hubert," and how:—

> "Somewhat he lispèd for his wantonnesse
> To make his English swete upon his tonge,"

we laugh, like the poet, at this foolish limitour's childishness and silly affectation; but ought we to smile or frown the while we read the catalogues to some of the national museums, and find page after page bespattered with words and phrases borrowed, and without the slightest need, from French and Italian, as if it were the advertisement of a Parisian curiosity shopkeeper, or the bill of fare of a Neapolitan pastry-cook. Of a truth, our dear old mother-tongue, while it has about it the strength of iron, can take the burnish and the brightness of glittering steel, and be made as bendable as the wants of any pen can need. If English undefiled was able enough for a long and large race of men who have by their writings "in words that burn and thoughts that breathe"—raised our literature to be among the finest that mankind either ever had or has, surely it ought to be good and full enough to answer all the wants even of the compilers of our art-museum catalogues.

For the description of art-works, ancient and modern, I am aware, a particular set of terms—a phraseology of its own—is required; but it easily can, and ought to be, in unmistakable English for English folks, of whom not the thousands only, but the millions, know nothing of any foreign language, words borrowed from which are so much gibberish to them,—and not to them only, but to the better educated. As, among a crowd of others, I happened, a few weeks ago, to be looking at a collection of antiquities labelled by one of those who have adopted the modern style of wording, a gentleman of classical acquirements—an Oxford, M.A.,—asked why a small piece of stone figured with Egyptian hieroglyphics should be called "an Egyptian plague?" There was a laugh, and he was told it was an Egyptian "placque:" the second and, as far as the label spoke, correct reading, that was meant to scatter, only thickened, the mist upon this scholar's mind.

If a cure for such a vanity is to be wrought, it must be begun by a department which is bound up with science and education, as well as art; and among those who work under it there are those who might very soon draw up a fitting set of terms in pure good English, for the description of anything of an artistic nature that could possibly find its way to our museums. Then, instead of, as now, taking at second-hand, more especially from France, terms which the best French writers reject as unfitting and inadequate for their purpose, we should have an art-language of our own, as clear and as expressive as it was English, and to be understood by all. Not unoften do our smatterers in art-words bring to mind the poet's Madame Eglentine, of whom he says,—

> "And Frenche she spake ful fayre and fetisly
> After the scholé of Stratford-atte-bowe,
> For Frenche of Paris was to hire unknowe."

Having these appliances within easy reach, it remains with our patrons of art to ask for, and with our artists to make themselves able to quickly answer such a call for their employment. Augustus was wont to say that he found Rome of brick, and left it of marble. For myself, I would much rather behold our houses built of brick, yet with all that ornament upon them which those very bricks themselves can have, along with the other various beauties that burned clay, uncoloured and coloured, can so easily bestow, than witness large blocks of marble, bought at great cost, heaped up into so-called palaces, and unartistically adorned. The sentiment of that good old English monk, Matthew Paris, who, while setting down the works done for the abbey church of St. Alban's, by the handicraft of his brother monks there, and telling, as it might be, of a silver frontal for the altar, a jewelled shrine for the patron saint, or a golden image of the blessed Virgin Mary, says, *In quo divus materiam superabat opus*,—holds good here. It is not because a house is made of marble that we should at once admire it, or think little of another built in brick: our admiration ought to be for the art-work bestowed upon its materials, whatever they may be—slabs from Hymettus and Carrara, or clay from the potteries.

It was the boast of Cicero that his country-houses, small as they might be, were the gems of Italy,—*ocelli Italiæ, villulæ meæ*. This could only have been from the artist's handicraft judiciously applied to these residences. Let every Englishman, with wealth enough at his command, try and make his house one among the ornaments of his country in the provinces; and however small it be, one of the stars in the square or street in London where he lives, and thus show that, like the old Roman, he is glad to lend new beauties to his native land, and solace to his fellow citizens.

The good result of this will be, that our most dingy streets, our dullest thoroughfares, will put on an everlasting look of gladsomeness; and those who have every day to walk them,—if in health and happiness, will be still more cheered; if in sickness and in sorrow—and sorrow and sickness betide us all—will not be still more saddened by their appearance: instead of our present rather wide-spread meanness, we, too, shall have, everywhere about this vast metropolis, "our streets of palaces and walks of state,"—palaces not merely so because they are the dwellings of nobility, but palaces of literature, or arts, of sciences, and of trade. With our roofs all tiled in tiles well glazed, various in colour, starred in gold, or diapered in a pattern and artistically set out, we shall have, instead of grimy miles of dull red tiling and ugly chimney-pots, something beautiful to gaze upon as we look down from the top of Hampstead-hill or Highgate over the vast city sparkling beneath the sunshine, or as it twinkles in the moonlight as if it were all overspread with glass like some huge crystal palace.

Not long ago we had the New Zealander among us. When next he comes again,—when century after century he comes,—it will be, let us hope, each time to find London—England—richer, greater, more adorned, than before. Instead of becoming the fulfiller of Macaulay's dream, and seeing in the shattered dome of St. Paul's a picturesque ruin to sketch from a broken arch of crumbling London Bridge, it will be to discover fresh splendours all about him there. Standing on now new Westminster Bridge, wide and beautiful as it is, he will observe that, above and below it, others wider and more stupendous are bestriding our noble Thames. Instead of shivered cupolas and mouldering walls, he will behold, as fitting objects for the drawings he wishes to take back with him, the magnificent streets, the splendid palaces, the glittering roofs, the artistic gardens, the majestic buildings of renovated and architectural London.

But to this important end I must recall to mind that soul-stirring, noble charge which Nelson, just before meeting the foe, and his glorious victory over him at Trafalgar, is said to have sent round all the fleet, in this short sentence,—"England expects every man to do his duty." Wishful that the cry I here utter may go forth hence and reach the ears of English, Irish, Scotch, and Welsh noblemen and gentlefolks, and awaken them to take their part in this great national work; remembering, too, that of my audience there may be present individuals from every quarter of the empire, I fain would somewhat vary Nelson's wording and say,—"Britain expects every man—ay, every woman, too,—to do their duty." I say *woman*, for I believe the instincts of woman are quicker than man's in spelling on the face the feelings of the hidden heart; I believe her light hands better able than his to write upon the clay her own keen readings of our humanity; and we know what a few good strokes, however slightly made, can do in bringing out all the truth and all the beauty of expression. Genius, like the soul, is of no gender; and at all times there have been women who excelled in all the arts and sciences. As a witness of his own days, Vasari, in his life of Madonna Properzia de' Rossi, observes,—"There are women who have not disdained to contend, as it were, with us (men) for the vaunt and palm of superiority in a different arena (of literature), and have set themselves, with their white and delicate hands, to mechanical, or, speaking more exactly, to manual labours; forcing from the rigidity of marble, and from the sharp asperity of iron, that fame which was the desire of their hearts, and succeeding in the attainment of its highest eminence, as did our Properzia de' Rossi of Bologna, a maiden of rich gifts, who was equally excellent with others in the disposition of all household matters, while she gained a point of distinction in many sciences well calculated to awaken the envy, not of women only, but of men also (Lives, ii., 238). Within our own remembrance, there have been many distinguished lady-artists. Princess Mary of Orleans gave to the world that beautiful statue of the famous but unfortunate maiden warrior, Joan of Arc, which she not only modelled, but chiselled, too, with her own hands in marble. Miss Hosmer, the pupil of our Gibson, lately charmed us all with the exhibition of her fine statue of Zenobia. Among our aristocracy there are high-born dames who, I know, can model exquisitely. Lady artists, you belong to an ancient, an illustrious, a noble sisterhood; for you it is, in these our days, to lengthen this brilliant succession, and add, by your artistic talents new glory and fresh honours to your honourably and highly honoured pedigree; and, ladies and gentlemen, as I say farewell, let me bid God speed to the great, the glorious, the national work before you.

THE COLOURED DECORATION OF CHURCHES.

THERE is, perhaps, no department of the Gothic revival in which we are so behindhand as in the knowledge and practice of the application of decorative colour to the interior of our Gothic buildings. In the course of our restorations during the present generation, we have so generally found traces of decorative colouring on the walls and arcades of the churches which have been wholly or partially stripped of their accumulated coats of whitewash, that we may take it for granted that it was the usual, if not the universal custom, of the Mediæval architects,—our masters in the art. The public would not tolerate the want of decent finish in the plain plastered walls of our churches; architects would not submit to the want of additional force which a little judicious colouring would give to the architectural details of their buildings, if we had not all been brought up in the school of whitewash. Perhaps we should have been further advanced in the restoration of decorative colour if some of the early experiments in it had not been so unfortunate as we must admit they

were. These experiments were usually the work of enthusiastic amateurs, who, finding traces of the ancient colouring on some portion of a church, or on some item of its furniture, set to work incontinently to restore it; and the result was commonly anything but satisfactory.

We are free to admit that we have studied a good many such examples of the ancient polychromy of churches and their furniture with a great deal of perplexity of mind, and are prepared to confess honestly that we do not always appreciate them. That they did not look harmonious and pleasing when surrounded with all their Mediæval accessories, we hesitate to say; but we venture to say that many of them look very strange and *bizarre* now; and, when they were coarsely and crudely restored, and the glaring patch of colour was seen amidst the plain stone and whitewash of the rest of the church, they were so utterly incomprehensible and gaudy that they discouraged the experimenters from any further essays in the same direction, and created a public outcry against the very notion of attempting to revive the Mediæval system of decorative colour.

But the fact remains that our ecclesiastical buildings, with their unrelieved stone and plain surfaces of plastered wall, are unfinished and unsatisfactory; and it is high time we took it in hand to try to ascertain what are the principles on which we may obtain the relief and finished effect which we cannot doubt that colour, rightly applied, would give to the interiors of our churches. Notwithstanding what we have thus frankly admitted, as to the failure of experimental attempts to restore bits of ancient Gothic colouring, we venture to assert that the first step towards any serious endeavour to discover a system of colouring which shall be satisfactory to our modern taste, is to ascertain more thoroughly than we have yet done, what was the general system on which the Mediæval architects applied colour to their buildings. We know, if only from their stained-glass windows and their illuminated MSS., that they were great masters of the art of arranging positive colour so as to produce a harmonious effect. We all admit that they were great masters in the art of architecture, and we should expect, *à priori*, that men who were such architects and such colourists, would know better than to spoil their buildings by a barbarous application of crude inharmonious patches of colour. We should expect that even if we found it necessary to modify their system to suit our modern taste, we should at least find some valuable principles as a basis for the development of a modern system, and a good many suggestive hints, which would help us in the details of our designs. We submit that at present we have not evidence enough before us to form an opinion upon. All that has yet been published on the subject of polychromatic decoration is of small portions of the building, or special items of its furniture, or the scraps of wall painting which have been engraved in the transactions of our various archæological and architectural societies. We want more evidence, especially of the few lines and touches distributed over the whole building, which helped to bring the spots of more elaborate colour into a general system. Having ourselves collected some evidence of this character, much of which is hitherto unpublished, we propose to lay it before the reader as our quota towards a more thorough examination of the subject. A considerable proportion of the notes which we shall be able to give will be fragmentary; if others will contribute to the fragmentary notes out of their own sketch-books, we shall probably find ourselves in possession of fragments enough to afford the data for some general conclusions. But in one or two instances we shall be able to give indications of the whole system of decoration in particular churches; the systems will be found to be of the simplest kind of decoration; but perhaps they will not be the less valuable for our purpose on that account; since we shall be the better able to understand the more complex systems of colouring when we have once mastered a few examples of a simpler kind; and because it is the simpler application of colour that we want to begin with in any attempt to introduce it in our own practice.

We first of all look through the whole series of examples which lie before us, in order to ascertain if they will fall into any natural arrangement or classification. We see at once that there are two great classes into which we might divide the whole series. In one class the painting is merely decorative: it is applied to give emphasis and additional enrichment to the principal architectural features of the building, viz., to the pillars and arches of the arcades, and to the doors and windows; to bring out the details of the moulded and carved features with greater distinctness, and give them the heightened charm of colour; and to break the monotony of the plain wall spaces by bands and diapers. Into another class we may place all the painting which contains pictures of divine and saintly personages, and Scriptural and legendary subjects; though these pictures were probably always combined with painting which was merely decorative.

If, again, we arrange our examples chronologically, we do not observe any very striking differences of style corresponding with the architectural styles, the Norman, Early English, Decorated, and Perpendicular. There are some peculiarities in the earlier examples, which embrace those of the Norman and extend some way down into the Early English period of architecture. The rest of the series, down to the end of the Perpendicular period, does not seem to present any differences sufficiently characteristic to justify us in attempting to break them up into different styles; for though the details vary in fashion, the principles of treatment are very much the same throughout the pure Gothic period. It is only when we arrive at the Jacobean period that we find a really new style of decoration introduced.

The earliest style of decorative colouring seems to have extended over the Norman period, and some way down into the Early English period of architecture, viz., to about the time of Henry III. The change in the style of colouring does not, therefore, coincide with the change in the style of architecture. In glass-painting we find the same thing, the Norman style of windows extending some way down into the thirteenth century. It might, perhaps, have been expected *à priori*, that there should be this correspondence between glass-painting and mural-painting, since it is very likely that the same class of artists designed both.

The walls are very commonly covered with lines in imitation of the joints of masonry. The lines are sometimes single, and these are nearly always dark red. Sometimes the lines are double, and then not uncommonly one line is light and the other dark red, or one is red and the other black. Some of our readers may be disposed to cry out against this mode of treatment as sham masonry; but though the pattern is undeniably derived from masonry jointing, there is no attempt to deceive the beholder into the belief that the walls are of fine hewn stone, and the pattern seems to be used honestly as a simple diaper pattern, for the sake of relieving the monotony of the plain plastered surface. Often an ornament is introduced in the middle of each rectangle of the pattern, which very much enriches the effect. There is an example of a Norman pattern of this class on the walls of the church of St. Cross Hospital, Winchester; another, from the staircase of the crypt in the church of St. Radegonde, Poitiers, is here engraved. (Fig. 1.)

A glance at any extensive series of drawings of mural paintings is enough to show that the use of this "masonry pattern," with and without the central ornament, is common in the plain wall spaces of every period of Gothic architecture. But in this first Norman period the effect of masonry is also aimed at in the decoration of the arches and other architectural features of the building, particularly of masonry in which different coloured stones are used. It looks as if the decoration had been designed to satisfy eyes which had been accustomed to the constructive colour obtained by the use of different coloured stones and marbles. It would be natural to us in colouring a circular arch to treat it like a great bended bow, and carry continuous lines of colour or ornament round it. If there were mouldings carved round the arch, we should certainly take them as the *motif* of our colouring; and if there were not, we should probably imitate the effect of continuous mouldings by continuous lines of light and shade, or of contrasted colour. But in the Norman artists picked out the arch in regular voussoirs, and very frequently painted the voussoirs of different colours. Even when there are carved mouldings running round the arch, the arch is still often picked out in different coloured voussoirs, the colour of each voussoir running through the whole suite of mouldings carved upon it. And where there is a projecting hood moulding over the arch, the hood is also picked out in short lengths, and each length is painted of a colour which contrasts with that of the voussoir with which it is in contact.

The system of colour is very simple. The walls are generally prepared with a coat of fine plaster, of a pale buff colour, which forms the ground of the ornamentation. The lines which mark out the stones are usually red, the voussoirs are usually pale buff, yellow, dull red, and black; a little further decoration is sometimes added, in which a brighter red and blue and green are sparingly used.

These are some of the examples of this style of decoration which have come under our notice. In Rochester Cathedral, the whole of the Norman work seems to have been covered with colour, the stones of the shafts and arches being alternately red, green, and yellow, regardless of the mouldings upon them. There is a Norman arch in the south transept of this cathedral covered with plaster, which is picked out in alternate voussoirs of green, red, and yellow; while the label moulding is picked out in similar short lengths of colour which contrasts with that of the voussoir with which it is in contact: thus, if the voussoir is green, the bit of label over it is red or yellow. The arches of early Norman date at Winchester Cathedral have a coat of plaster over the masonry which retains indications of colour. On the side of one of the arches that faces eastward are radiating lines to represent voussoirs, and in each voussoir are intersecting bands of red, which form a kind of cross pattern, which bands are dotted with spots of a deeper red. The opposite side of the same arch is ornamented with a different design, of the same colour, with a scroll pattern running round parallel with the arch. Again, on a screen at Winchester Cathedral against the south wall of the lady-chapel which has triplets of shafts, the centre shaft of each triplet is painted alternately red and black, while the shafts on either side are of the contrasting colour; and there is no relief of the whole colour except that there is a black band round the red shafts at about every foot of their height.

At St. Alban's Abbey Church we are so fortunate as to have a considerable number of Norman arches in the nave, in which the original decoration may still be traced; and they afford us an extensive and valuable series of examples of design in this style of decoration. They have only lately been discovered, and are, we believe, yet unpublished: we therefore describe the whole series as well as we can with the assistance of two illustrations.

The piers and arches on which the decoration appears are of the work of Paul of Caen, 1077-1088, and are built in great part of the Roman bricks obtained from the adjoining ruins of Verulam. They are covered over with fine plaster, of the usual pale-buff colour, which forms the ground of the decoration.

Each arch is plainly recessed, of three orders, which we shall describe as the outer angle, the middle angle, and the soffit angle. In No. 1 the original colouring of the outer and middle angle seems to have been effaced, and we have only the decoration of the soffit left, which, however, is interesting. The angles are marked off in voussoirs by dark-red lines, the stones being alternately buff and yellow; the remainder of the face of the soffit is marked out with a masonry pattern, and further ornamented by the insertion of dark-red ornaments in the middle of each rectangle, the ornaments are a star on each stone of one row and a circle surrounded by dots in each stone of the alternate row.

The capitals are also ornamented with colour. Under the abacus is a broad stripe of different colours, grey, yellow, brown-red, yellow and grey, each $\frac{3}{4}$ in. wide; then 3 in. deep of red bounded by black.

The second pier (Fig. 2) has its decoration more perfectly preserved. The outer angle is divided into voussoirs, which are alternately white and yellow. The middle angle is divided into voussoirs, which are yellow, white, and *black*, alternately. The soffit angle is divided into voussoirs of the same colours as the middle angle, and arranged in the same order, but of unequal size, so that they do not coincide with them. The face of the soffit is divided into masonry patterns, as in No. 1, and each stone is ornamented with a flower, which is set on a curved stalk which springs from the base of one of the jointing lines. We give the flower in the margin to a larger scale; the stems are red, the flower lavender, strongly outlined at the base of each petal with black; the effect of the pattern is very pretty.

THE COLOURED DECORATION OF CHURCHES.



Fig. 1.—From St. Radegonde, Poitiers.

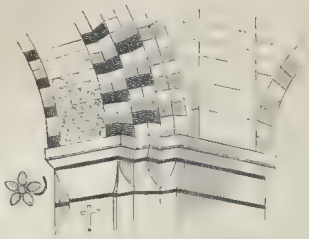


Fig. 2.—St. Alban's Abbey Church.

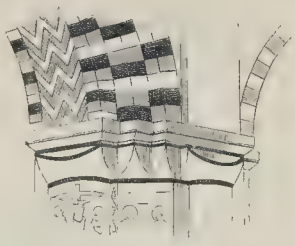


Fig. 3.—St. Alban's Abbey Church.



Fig. 4. Window Decoration: St. Alban's Abbey.

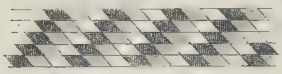


Fig. 5.—Wall Pattern: Carlisle Cathedral.



Fig. 6.—Norman Doorway from Cloister Court, Fountains.

No. 3 (Fig. 3) has the outer edge of white, yellow, and black voussoirs, the middle edge of the same colours, but differently arranged, viz., white, *black*, and yellow, and the soffit edge of white, yellow, and black again; the voussoirs coincide all through. The soffit is ornamented with a double chevron pattern, alternately white and red; the chevrons meeting on the apex of the arch in a double lozenge. In the capital of this pier, the band of colour used in the abacus divides, as shown in the cut, and the lower portion (which is red) hangs in loops on the segmental faces of the cushion capital.

In No. 4 the outer edge is of white and yellow voussoirs, the middle edge of white, yellow, and *black*, the soffit edge again of white and yellow; but the stones do not coincide. The soffit is ornamented in a way which may be described heraldically as lozengy, the rows of lozenges being alternately white and yellow.

In No. 5 the outer edge is of yellow and white voussoirs, the middle edge of red and white, the soffit edge of *black* and white, and the face of the soffit is ornamented with large thin chevrons, alternately white and red, which form a St. Andrew's Cross at the apex of the arch.

No. 6 has the outer edge of white and yellow voussoirs, the middle of red and white, the soffit edge of *black* and white, the face of the soffit of chevrons as in No. 5, but turned in the opposite direction, so that they form lozenges where they meet in the centre, as shown in the margin of the woodcut. In all these examples the spandrels between the arches have been picked out in a plain masonry pattern; in some of them, *e. g.*, on the north pier nearest the transept, the pier itself has been picked out with angle voussoirs of white jointing lines on a yellow ground, while the face of the pier has been picked out in masonry pattern in red lines, like that on the face of the soffit in No. 1, only that the stones have no central ornament.

In the south transept we find some other varieties of ornament. In the arcade on the east side, between the transept and the chapel, in the pier and arch nearest to the tower pier, the voussoirs are more elaborately jointed. The stones themselves are yellow, the joints between are white, and the lines which mark out the stones are black on two sides, and red on the other two, as indicated in the woodcut. Over the arch is a band of ornament, in a white pattern on a dark red ground. The other two arches in the same arcade have red voussoirs with wide white jointing lines. The plain masonry pattern is marked out with red lines as usual.

Two other fragments help us still further to the attainment of the complete scheme of decoration. One is a fragment of decoration round the window next to the north-west pier in the transept, which is represented in Fig. 4. The ornamentation is entirely in black. Again, under a south window in the nave, is a long band of colour, 30 in. wide, which looks like a kind of stringcourse, carried under the nave windows.

An example (Fig. 5) in the south transept clerestory of Carlisle Cathedral will illustrate the masonry wall pattern, and the division of the arch into regular voussoirs, of which we have spoken above. In the small side arches of the triplet the painting proceeds a step beyond the mere division into voussoirs. The right-hand arch, for example, is really composed of two stones. The ray-like lines are scratched on the stone with a chisel, and then painted with red. But this triplet also gives us an example of the way in which the capitals of pillars often have their carving brought forward and heightened in effect by the use of colour. The plain part of the capitals is coloured red, and the carving of the lower part of the capitals is brought out with red, as indicated by the tinting of the woodcut. A line of red is also run in the quirk of the abacus, and of the base, and of the imposts of the jambs.

At Rochester Cathedral, in the triforial arches of the nave, we have also some traces of this more ornate style of decoration. The sculptured enrichments which fill the spandrel spaces between the double arches and the containing arch are picked out in different colours. In the recent restoration of Carlisle Cathedral, some painted stones, parts of the Norman building, which had been built up into the wall of the Early English north transept, were brought to light again, and supply us with additional examples of elaborate Norman painting. Of these examples of the chevron moulding round an arch, the first has the chevron coloured yellow upon a ground of red, the *fleurs-de-lys* and pellets being white; the second is a more elaborate example: the middle part of the stone has a claret-red ground, the roll-moulding on it is orange, with central stripe of blue, in which the beads are white; the plain roll at the angle of the stone has red ovals edged with orange, on a ground of blue. At Fountains Abbey there are traces of painting on one of the Norman doors from the cloister into what is now called the "brothers' room," which supply us with another example of a different kind, and is represented in the accompanying wood-cut. (Fig. 6.) It will be observed that the points of the chevrons on the hood do not coincide with the edge of the moulding, but fall upon the face of the chamfer. The broad face of the arch is picked out into voussoirs by red lines, which do not coincide with the actual joints of the masonry. On the walls of the room into which this doorway leads are traces of red, which seems to be the ground-colour of its painted decoration. In addition to the two capitals from the clerestory of Carlisle already mentioned, another larger example, from the tower pier, in which the plain upper portion of a common cushion capital is enriched with a painted pattern. At St. Alban's is a loose Norman capital lying in the south transept, on which two animals are carved; the ground has been painted red, so as to throw up the carving; and this seems to be a common mode of relieving bas-relief architectural carving.

Our Norman examples have hitherto been taken from cathedrals: there is an example of the same style (though, perhaps, late in the style), at East Ham, near London, from which we may, perhaps, gather the whole scheme of the original decoration of an apsidal chancel of a little Norman church. The apse is lighted by three round-headed lights. Under these windows runs a broad stripe of brown, which looks as if it had been painted over again in modern time. Beneath this stripe there are indications of a plain masonry pattern in red lines. Round each window is a red line parallel with the edge of the window splay, leaving a margin of 3 in. or 4 in. wide, which is divided by double red lines into alternate long and short: the smaller stones are coloured red, the others left of the buff colour of the ground. Within the splay another line runs round parallel with the edge of the splay, and 3 in. or 4 in. from it, so as to leave a plain margin,* and all the rest of the splay is covered with a plain masonry pattern of red lines. The rest of the wall space is also covered

* One is inclined to suspect that this margin must have been originally divided into red and buff stones to match the adjoining outer margin.



CHAPEL OF THE RUSSIAN EMBASSY, WELBECK STREET, LONDON.—Mr. JAMES THOMSON, ARCHITECT.

with a masonry pattern, but enriched with a red sexfoil ("voided" of the ground colour), on each stone. A scroll foliage pattern runs round the top of the wall, and gives an appropriate finish to the wall decoration. The chancel arch has the margins of its soffit treated like the outer margin of the window, and within these margins runs a scroll foliage pattern of Early English character, with a rudely drawn head in the apex of the arch. Mr. G. Buckler, who saw these paintings when newly discovered, says that these marginal squares were filled with some pattern now so indistinct as not easily to be recognised, and that the predominating colour in the border was verditer green. There were also life-size paintings of figures on the spandrels of the chancel arch, which have now been obliterated. There is another example of early decoration in the little village church of Little Braxted, Essex. It is a picturesque little Norman building, with a semicircular eastern apse. A slight difference in the thickness of the wall, on the north side only, serves to show that a rather large proportion of the building was divided off for a chancel. It seems to have had originally three small round-headed lights at the east end, and a large one on each side of the apse. A Decorated two-light window was subsequently inserted for an east window; and all the rest of the windows are irregular insertions of later date than the walls; but at the west end are two original pointed lancets with a plain round window over. In the course of recent restoration three different dates of wall-painting were brought to light. The first was probably coeval with the building. The walls had been washed over with a thin coat of buff-coloured plaster, and then painted with masonry pattern in double lines of dark red colour. The pattern was continued in the splays of the original windows, the lines converging in the arch of the splay. Of the same date, no doubt, were two dedication crosses, which still remained under the two original windows at the east end. These crosses were of the form called *botonnée* within a circle. The cross was of dark red colour; the circular margin is now of a dirty neutral tint, which, perhaps, was blue or green; and the ground is of a slightly pink tinge.* Over this appeared another wall decoration, which had been done subsequently to the blocking up of the two round-headed original lights on each side of the eastern triplet, and was, perhaps, coeval with the insertion of the Decorated windows at the east end, and elsewhere. It consists of a diaper of large flowers, of a very dark red colour. The flowers were not disposed with any very great care to keep them in horizontal lines or at equal distances. How far the pattern extended could not be ascertained; the most considerable remaining portion of it was on the east wall. A third series of painting consisted of texts in black letter, with ornamental borders of Jacobean character.

In the ruined and since destroyed church of St. Mary Magdalene, Doncaster, there were traces of decorative painting on the Norman arches of the nave. The cushion capitals were relieved with red, and there were scroll patterns round the chancel arch and other arches, of which a drawing is given in the plates of a work on the church by the Rev. J. E. Jackson.†

CHAPEL OF THE RUSSIAN EMBASSY, WELBECK-STREET.

THIS chapel has lately been rebuilt, under the direction of Mr. James Thomson, architect. It has some points of special interest, not only on account of being one of the only two places in the metropolis devoted to divine service according to the Greek ritual, the other being in London-wall; but also in a class of architecture of which we have fewer examples than of most others.

The style is Byzantine, and the distinctive feature it aims to embody, is that of firmamental expanse, as contradistinguished from the flat ceilings of the Latin or pointed roofs of Gothic churches. This is effected by means of arched ceilings throughout, the centre having a domical roof or cupola superimposed upon a polygonal tambour. It is true all this is attempted on a small scale, it being a sort of private chapel belonging to the embassy; but it is not without its results, and the initiative is due to a suggestion received from St. Petersburg. Mr. Thomson has embraced the idea, and contrived to manage both the practical difficulties of a confined position and space, with the obligations of the Metropolitan Building Act, and also in details to work out features which characterise the style.

The chapel consists of a parallelogram, not exceeding 50 ft. by 24 ft. including walls, and of a height varying from 20 ft. to 40 ft. The length is divided into three compartments, of which two are devoted to the auditorium, and the third, formed into an apse, is limited to the sanctum. This latter is raised and approached by three circular steps, on each side of which is a small platform for the choristers, the whole being enclosed with a dwarf metal railing. Between this and the altar is erected an ornamental screen formed of solid masonry, with carved mouldings and marble pillars, having alabaster caps and bases: this, while on the one hand it represents the veil of the temple, separating the body of the chapel from the "Holy of Holies," serves also as an Iconostasis, not for *sculptured* images, but for *paintings*, which are the production of Russian artists of considerable talent. They are chiefly reduced copies of some of the most celebrated pictures in the Cathedral of St. Izaak, and in the chapel of her Imperial Highness the Grand Duchess Marie, who has taken great interest in the work.

The pictures in niches severally represent the Saviour, the Virgin, St. Nicholas (the patron saint of Russia), St. George, and the archangels Gabriel and St. Michael, and in the crowning panel of the screen is a picture of the Holy Supper, after the eminent Russian painter, Bruloff. The centre of the screen has elaborately-carved and gilt folding doors, the panels of which are filled with small paintings of the four Evangelists and the Annunciation of the Virgin. The base of the screen has mosaic panels formed of alabaster, marble, and polychromatic tiles.

On the flank walls of the chapel, are to be placed pictures representing St. Mary Magdalene and St. Alexander. The whole of the paintings and screen are the gift of H. Basil Gromoff, a Russian gentleman of high position and esteem in St. Petersburg. Behind the screen doors, will be the customary curtain of damask silk, which, when drawn aside, displays the sacred altar and its insignia.

The Russian mode of worship being wholly a standing or kneeling service, there are no pews or stall seats provided, but a plain solid oak bench skirts the side of the chapel for the use of those worshippers whose age or infirmity may claim that relief.

The cupola is constructed of iron, and contains twelve lunettes 5 ft. high, in which it has been suggested to have glass paintings, representing figures of the four great prophets, Isaiah, Jeremiah, Daniel, and Ezekiel, and eight of the minor prophets; above these, in mural painting, heads of the twelve Apostles, upon gold discs. The ventilation is effected by an aperture 2 ft. in diameter, in the centre of the cupola, the covering of which is acted upon by a balance-weight connected with a coronal or chandelier for lighting the chapel.

The chapel, could it have been seen, would have assumed an architectural exterior; but as it is placed in the rear of the residence of the Very Rev. Eugène Popoff (the priest), that has not been attempted. It is approached through the house by a corridor and circular vestibule, terminated by an arched doorcase of freestone, for which a pair of elaborate and massive bronze gates have been prepared. It is ultimately proposed to erect a suitable porch in Welbeck-street, to identify the entrance to this place of Russian worship. The interior of the building is in progress of painting and decoration, from drawings prepared by Mr. Thomson, jun., under whose personal superintendence they will be carried out, so that the chapel may be ready for service at an early day.

The building is provided with a hot-water apparatus for warming, by Messrs. Bailey. The bronze gates are by Mr. Potter, the iconostasis by Mr. Field, and the rest of the work by Mr. Howard, the builder.

* Similar dedication crosses have been found elsewhere, and of different dates—*e.g.*, at St. John's, Winchester; Wiston, Suffolk; Coggeshall, Essex, &c. all of the same pattern and colours

† To be continued.

WATER SUPPLY FOR PARIS. The municipal authorities in Paris are just about to undertake the supplying of the city with pure water. To this end a reservoir, capable of supplying 40,000 cubic feet of water every twenty-four hours, is now being constructed at Menilmontant, at an expense of 40,000,000 francs. The water is to be brought from the Marne.

ARCHÆOLOGICAL MEETINGS.

Somerset Archæological Society.—The sixteenth annual meeting of this association was held at Burnham on this occasion. A temporary museum was opened, but the collection was of a very limited character. An interesting contribution was sent by the Rev. J. Yatman, of Winscombe-hill. In pulling down the walls of Rowberrow Church, which were in a dangerous state, the remains of an old churchyard cross were found, of the very oldest type of architecture found in Britain, resembling the intertwining serpents' tails which are found in monuments only of Irish, or Manx, or Welsh origin. These remains are said to be nearer to the well-known urn at Carew Castle, Pembrokeshire, and of the date of 800 or 900, or even earlier, resembling the Scandinavian carvings of a later date, and very much resembling the Mexican antiquities discovered by Stephens and others in Central America. They are ruthlessly cut up by restorers, who, in the sixteenth century, "restored" this church. The carvings were curious, and attracted some attention. The proceedings of the day commenced with the annual business meeting, after which, the Rev. T. Hugo read a paper "On the History of the Religious House of Whitehall, at Ilchester," and Mr. Serel one "On the Wellesley Family and Somersetshire," written with the view of showing that there was good ground for believing that the family of the Duke of Wellington was connected with Somerset, and especially with Wells. "The Duke" had a farm in the county, took his title from Wellington there, and always spoke of himself as a Somerset man, though born in Ireland. Mr. Roach Smith read an address upon the antiquity of man, illustrating his remarks by drawings of the head of the *Bos Primigenus* and flint implements, bones found in some caves at Tenby, and by quotations from the works of many eminent writers. In the middle of his address the company rose to visit Burnham Church, Mr. Smith to finish his paper at the evening meeting. On arriving at the church the party inspected the various parts of the building, and explanations were given by Mr. E. A. Freeman, the Rev. T. Hugo, and Dr. Giles. At the evening meeting Mr. Smith concluded his paper, and there was some discussion on it. Next day an excursion was made by sixty or seventy of the party to South Brent Church, Brent Knoll, and East Brent; also to Lympsham Church, Mr. Freeman and other gentlemen describing the buildings. Brean Down was then visited. On the return it was intended to visit the churches of Braen and Berrow; but the lateness of the hour and approaching darkness prevented this being done. In the evening some papers were read; and on the following day a second excursion took place, when Burtle, and the sand banks, the Abbot's Way, Wedmore, Mark, and other places, were visited.

Beds Archæological and Architectural Society.—The members of this society made their usual summer excursion on the 25th ult. The starting point was Marston Station, and the party visited the churches of Millbrook, Steppingley, Flitwick, Westoning, Flitton, Maulden, and Houghton Conquest.

Bucks Architectural and Archæological Association.—The annual excursion and meeting of the members of this society was held in the district including Waddesdon, Quainton, Denham Court, and Doddershall. The "meet" was at Waddesdon Church, where a restoration has lately been effected. The annual meeting was held in the hall of Doddershall House, where a paper on Doddershall was read by the Rev. C. Lowndes, who also read a paper by the Rev. W. H. Kelke on "Ancient Stone Crosses," with especial reference to those in the county of Buckingham. Stone pillars (Mr. Kelke observes) bearing the figure of the cross, appear to have been occasionally in use among the unconverted Romans; but in such cases it is generally apparent from the devices on them, or from other indications, that they are of Pagan extraction. Christian crosses may be divided into the three heads of churchyard, wayside, and market crosses. The churchyard cross is probably the earliest form known in Britain. The first missionaries usually erected a cross to mark the place where they assembled the congregation; and these places, being inclosed by a wall or ditch, constituted open-air sanctuaries. Churches were often built within these inclosures; but even after the first wooden crosses had decayed, others were erected, sometimes two in the same churchyard, either to afford additional kneeling-room, or being special

memorials of eminent persons, or perhaps dedicated to some particular saint. Some were not more than 3 ft. high: others towered above the church. Some were quite plain; others richly ornamented. Buckinghamshire still possesses remains of these crosses at Hillesden, Wing, Boarstall, Mursley, and Dinton. Market crosses, as they are commonly called, were erected during the Mediæval period in every town, and almost every village, in some conspicuous place. The paper was illustrated by several drawings of crosses in various parts of the country, by E. J. Payne, of High Wycombe. A discussion took place on the subject of the paper.

The Rev. W. F. Norris then read a paper, by the Rev. H. Roundell, on "The Civil War in the Neighbourhood."

SUSSEX SQUARE AND SUSSEX GARDENS.

IN these days of thoroughfare reform, it is singular to find, in a fashionable neighbourhood, two localities greatly needing a touch of the improver's wand, so strangely passed over from year to year, as Sussex-square, Hyde Park, and the road from Sussex-gardens eastward.

In the former, from some antiquated prejudice, iron gates have been allowed to obstruct the principal entrance into the square (and the readiest access to all the adjoining streets and squares) from the park and the high road. Surely it is time for people to become more liberal in their ideas, than to imagine they have any right, for their own private convenience, to hinder the accommodation of some hundreds of their fellow-creatures. By this gate being closed, the inhabitants of numberless surrounding houses, including those of Sussex-square itself, have to drive every day out of their way, either to the right-hand or to the left, to get into the park and the Oxford-street road.

Just now, the offensive gates are out of repair, having been partially thrown down, probably by some cart driving against them. They are half-boarded up, and look most deplorable. *Now* would be the time to urge their removal, before any money or trouble is spent upon restoring them. Surely the *Builder*, which is so powerful in reforming abuses, can raise its trumpet voice, and blow a blast strong enough to sweep away this useless obstruction to circulation.

The second reform needed in the neighbourhood is, as I have said, in the road leading from Sussex-gardens eastward from Westbourne-terrace.

On one side of it lies Cambridge-terrace, and on the other Sussex-terrace. Between these two rows of houses run *three* roads, *four* footpaths, and *two* narrow strips of shabby, mangy, disreputable-looking garden. The gardens are never fit to be seen, being too narrow for any other purpose than as receptacles for orange-peel, waste paper, stray straws, old bottles, and such like: the foot-paths are narrow and ill-paved,—two of them; and two are gravelled and are very wretched to walk upon: the central road is not sufficiently wide for the traffic upon it; and the two supplementary side-roads are solely for the convenience of the two rows of houses, being blocked up at intervals by iron railings. A public thoroughfare is for the use of the public, and must not be treated as private property. When this part of town was laid out, and population was scanty, it mattered little how the road was filled; but, now that we elbow our neighbours on all sides, as much space as possible must be given us, or we shall fall out and fight.

The alteration I propose seems very feasible, and could scarcely be costly. First, the iron railings on each side of the "mangy gardens" are to be cleared away; and as there must be about a mile of them in all, they being four rows deep, they might be sold, and the proceeds would help to defray the expense of the alterations. Next, every tree, and every stick that can now, or may some day, claim to be a tree, to be carefully preserved; but all ragged bushes and shrubs to be cleared away; the ground under the trees to be levelled, and either flagged, laid with asphalte, or gravelled, as may be thought best, to form pathways, in exchange for the two footpaths now bordering the central road, and which are to be thrown into the road to widen it, as required. There would still be a spare slip of ground from the gardens, that would serve to widen the two side-roads, which must be opened all along and made available for general traffic; and they, in their turn, could then spare a few inches to the paved footpaths under the houses, to render them a convenient width for foot-passengers, which they are not at present. The whole road would then have somewhat the appearance of the foreign boulevards, and it would be quite a novelty—and a very charming one, too—amongst English streets. If well carried out, it would no doubt start a new fashion in what may be termed our landscape-street-gardening.

AN OLD INHABITANT OF PADDINGTON.

WORKING MEN'S SHAKSPEARE MEMORIAL.

A MEETING of working men was held on Monday evening last, at the Whittington Club, for the purpose of bringing before the public the scheme set on foot by the working men of London, to erect a memorial of Shakspeare, on Primrose-hill. Mr. R. Moore was called to the chair. Resolutions approving of the steps taken, and appealing to the public for subscriptions of 1d. and upwards, were proposed and seconded by Mr. Bainbridge, Mr. Linnæus Banks, Mr. Dunning, Mr. Howell, Mr. Wheeler, and Mr. Hoppy, and carried unanimously; Mr. H. Marston, Mr. Godwin, and Mr. George Cruikshank, at the invitation of the committee, supporting the several propositions. We cordially approve the proposition, and hope to see it carried out satisfactorily. We will take an early opportunity to recur to the subject.

STATE OF THE RIVER WENSUM AT NORWICH.

THE city surveyor, Mr. T. D. Barry, C.E., has reported to the local Board of Health on this subject. The report says as to the river:—"It is my decided opinion that, so far as it is subjected to the reception of sewage and other fluid or deposited matter, it is *thoroughly* and *irremediably polluted*, presenting all the features of a large sewer, without any available means of being cleansed. . . . . Next, with regard to the cause, it chiefly consists in the deposits of mud and inorganic and insoluble matter in the bottom of the river from sewers and other sources, and in the products of those deposits. . . . . Feeling most confidently that no efforts short of taking the whole of the offensive matter away from the river will satisfactorily remedy the present evil, I consider it my duty to recommend the council to provide two intercepting sewers, of sufficient size to receive the whole sewage, &c., of the district, and to carry the same to the marshes into proper depositing tanks prepared for that purpose. I am now engaged on the plans and levels of the two routes which I have in contemplation."

The report is accompanied by another report by Mr. F. Sutton, F.C.S., London, on the chemical nature of the pollution of the river from various factories, &c.; and the reporter also states that the only remedy is to divert the sewage from the river, which is a sluggish one, the channel and banks of which are grossly polluted as well as the water itself.

OLD VERULAM.

A WALK of half a mile along the banks of the Ver will conduct our visitor, by way of the boat-house, to the ruins of Verulamium. Built as the city was on the old Watling-street which led from London to the north, it is not to be wondered at that, even in the desolation of their present ruined state, they bear on their fronts abundant testimony that they were erected at a date as early as the commencement of the Christian era, though any inquiry, as to their locality, addressed to the country people, is generally met by a vacant stare of wonder and ignorance, which shows that our English rural population is far less poetical than practical. But alas! when we arrive at Verulamium, how shattered are all our previous bright imaginings. The red brick carcases of five small cottages and those huge masses of grey stone all overgrown with ivy, do these constitute all that remains of that once great Roman town? Did Caius, and Lucius, and Publius, and Marcus, and Quintus, inhabit these miserable hovels? The floors are overgrown with weeds: the walls are dilapidated and roofless; yet still it is somewhat strange to remember that the Romans, whom we know only in history, were actually living men and women when these walls were built, just the same as we who now look at them, after nearly two thousand years, are living men and women. And perhaps that archway in the long wall attracted the eyes of Julius Cæsar in the same way that it now attracts the eyes of Mr. and Mrs. John Smith. It is almost needless to add that Roman coins and pieces of tesselated pavements have been found in Verulamium in great abundance, and that antiquaries have discovered *in situ*, close to St. Michael's Church, the entire outlines of a Roman amphitheatre. These remains were opened some few years since under the auspices of the St. Alban's Archæological Society, but, having lain open for some time, were filled in again. Perhaps the day will come when we shall see exhumed the ancient Thermæ, and the floors of Roman mansions, as has been the case at Wroxeter; and let us hope that if such a day should come, the necessary researches may be carried on with equal public spirit and equal success.—*Once a Week.*

ACCIDENTS TO PROPERTY AND PERSON.

WE have a considerable "chapter of accidents" to record this week.

At Barking Creek, a stonemason employed at a stone-preparing yard was engaged in raising a stone 10 ft. long, and weighing *two tons*, but failed to put a particular support under it. Finding that it was falling, he put his back under it to keep it up, but he was instantly crushed to death beneath its weight. His ribs were broken and driven into his lungs, and, according to the medical evidence his body was "smashed to atoms." The foreman of the works was also knocked down by the stone, and with difficulty escaped with life. The coroner's jury returned a verdict of death by misfortune.

In Lime-street Ward, where a serious fire has occurred, the walls of a building fell in while the firemen were engaged in extricating iron safes from the premises. Fortunately they had just brought out one, and thus escaped otherwise certain death.

The Lewisham chalk-cutting accident has resulted in a verdict—"That the deceased men lost their lives by an accidental and unforeseen fall of earth on the line of railway between Deptford and Lewisham; and the jury wish to express their regret that, on this occasion, no inspection was made of the top by the foreman or ganger, to ascertain the true condition of the work, or if any danger existed."

At Weaman's-row, Birmingham, a perilous accident has occurred in the removal of between twenty and thirty old houses, to make way for an extensive range of new shopping. The back wall of a number of these houses was left standing, as it formed a boundary. Against this wall was some shopping which was used as stamping shops. The foreman of the works had scarcely given orders for the cessation of work, at the dinner-hour on Saturday, and the men had only moved a few yards from the spot, when the boundary wall fell. The whole length of wall had fallen inwards, bringing with it the range of shopping erected against it. Had the accident occurred a few moments earlier, several men would in all probability have been killed; or had it taken place a few minutes later, a number of boys, playing among the newly-made foundations, would doubtless have been severely injured by the *débris*.

At Friar's-green, Warrington, a great portion of a factory premises has fallen. The building was six stories high, but it had not been occupied as a factory for fifteen years. About twelve months since it was occupied as a store warehouse, but, it is said, not heavily loaded. The whole building will require to be re-erected. The accident occurred during the night, when no one was in the building, in which about a dozen men usually worked. A telegraph pole had been affixed to the top of the building the day before.

At Liverpool a female penitentiary, in Mason-street, Edge-hill, has been destroyed by fire. About forty or fifty inmates were with difficulty rescued. The fire is supposed to have originated in the laundry, where clothes were drying through the night.

The Castlegate Church of St. Mary, at York, has been struck by lightning, which travelled down the conductor the whole length of the steeple, passed thence from *a breakage therein* into the stonework of one of the buttresses, breaking and to some extent displacing it, but

doing no material damage to the edifice. It seems then to have entered the church and broken one of the windows, and in a singular manner to have lifted one of the bricks of the floor, and removed it some short distance. As the church is very old and dilapidated, considerable apprehension was excited as to the safety of the steeple, which, however, is reported to be unharmed.

At a smithy, near the Bradley Colliery, there has been an explosion from gunpowder, which killed the blacksmith, who had actually kept a chest of gunpowder in his smithy, and within reach of the sparks from his forge! A witness at the inquest stated that "deceased was filing a red-hot iron bar, and the sparks were flying in the direction of the iron chest which contained the blasting powder," which at length exploded. The butty's son who had the powder removed into the blacksmith's shop, was informed by the coroner that "a little more evidence would have warranted his committal to Stafford to be tried for manslaughter."

THE NEW BANK IN HUDDERSFIELD.

THE West Riding Union Banking Company have taken down the old banking-house in Huddersfield, on account of its insecure condition, and erected on its site a new building for their business. Mr. Cocking was the architect. The general character of the structure, which stands in the market-place, is of the modern Italian style. The ground or principal floor has six fluted pilasters, with carved Corinthian capitals and Aberdeen granite columns, and a carved and moulded entablature, upon which rest the podia of the five first-floor windows. This story is composed of panelled pilasters, with carved capitals, and stonework suited to the design. The second floor has five elliptical arch-headed windows. The whole is surmounted by a modillion and dentilled cornice, upon which rests a balustrade divided into compartments by pedestals and vases. The masonry is executed in white ashlar. The entrance is through a vestibule laid with Minton & Co.'s encaustic tiles. The banking-room is 40 ft. by 24 ft., and 16½ ft. high. The ceiling is finished with eight compartments or sunk panels, with ornamented cornices, oval centre flowers, and relieved with colour. There is a private room leading to the board-room 18 ft. by 16 ft., with cloak-room, closet, and lavatories on the ground floor. The strong-room is 14 ft. by 12 ft., and 16 ft. high, with solid ashlar walls, with firebrick floor and ceiling, with intermediate perforated iron floor and shelving. The iron doors to this room are case-hardened, and secured with Price & Co.'s thief and powder-proof locks. All the windows on the ground floor are fitted with Bunnett & Co.'s patent iron revolving shutters. The ground floor and floor over bank-room are fireproof—wrought-iron beams and firebrick arches. The following were the contractors for the works:—J. & W. Radcliffe, masons; J. Christie, joiner; H. Garton, plumber and glazier; D. Tunnacliffe, plasterer; Manvers & Ingle, of Leeds, stone carvers; G. Brighouse, painter; W. Goodwin & Sons, slaters; R. Armitage & Co., ironfounders; G. Schofield, smith's work; mahogany fittings, by W. H. A. Roebuck. The whole of the works have been carried out under the superintendence of the architect.

THE BUILDING TRADES MOVEMENT.

Chester.—The strike of joiners, plasterers, and labourers in Chester still continues, the employers rigidly adhering to the determination not to yield to the demands of the men, and the men being unwilling to accept the masters' propositions. Meetings have been held by both parties, but apparently without any satisfactory result. At a meeting of the masters and the delegates of the workmen, the deputation on behalf of the men stated that they were willing to resume their work conditionally, viz., that the half-day be granted them on Saturdays in six weeks from that date. The employers, however, finally determined not to yield to anything but a three months' notice, and issued the following resolutions:—"That we, the employers of the building trades, give to the operatives the half-holiday at one o'clock, and that half-holiday to commence in three months from the date the operatives accede to these terms."

Hartlepool.—As was anticipated, after the master builders had acceded to the demands of the masons at West Hartlepool, by giving them an increase of wages, the Irish labourers and others who assist the masons have now struck for a rise of 2s. per week. Of late their wages have been 20s. It was said the masters will have to give the advance, as there is a scarcity of labourers in the district.

Reddish.—Government have expressed their desire to co-operate with the local authorities in endeavouring to discover the accessories to the late murderous assault by brickmakers on Thos. Wild at Reddish, and have accordingly offered a reward of 50*l.* to any person who shall give such information as will lead to the conviction of any of the four men concerned, and who are still at large, as well as a pardon to any accomplice, excepting either of the two already in custody, giving like evidence.

THE SEWAGE QUESTION.

REPORT OF THE COMMONS COMMITTEE.

HAVING fairly and fully established a public opinion in favour of sewerage, house drainage, and water-closets, sanitary reformers must now turn their attention energetically to the cleansing of our rivers, and the final disposal of town sewage as manure upon the land, since no other way out of the present difficulty presents itself. The efforts of sanitary reformers are now reinforced by the result of the examination of a great many witnesses, and of much consideration, on the part of the select committee of the House of Commons, during the months of May, June, and July last, on the various plans proposed for dealing with the sewage of the metropolis and other large towns, with a view to its utilization in agriculture. The report says:—

"Your committee have come to the conclusion that it is not only possible to utilise the sewage of towns, by conveying it, in a liquid state, through mains and pipes to the country, but that such an undertaking may be made to result in pecuniary benefit to the ratepayers of the towns whose sewage is thus utilised.

The benefit may, in a few years, be greatly increased; for the amount of artificial manures is even at present insufficient, and the sources whence some of the most important are obtained will, in a few years, be exhausted. Other means of fertilising land must therefore be resorted to.

Your committee, having examined the chairman and engineer of the Metropolitan Board of Works, are of opinion that more might have been done by that Board towards the profitable use of the sewage of London; and that the completion of the outfall sewerage of the Metropolis ought, at the earliest possible moment, to be followed by the adoption of a system which may convert that sewage from a nuisance into a permanent and increasing source of agricultural fertility.

There can be no doubt as to the injury which results from the practice of conducting sewage and other refuse matters into the rivers, from whence numerous towns, villages, and country populations derive their water-supply.

It is imperatively necessary that such a practice should be discontinued. No efficient artificial method has been discovered to purify, for drinking and culinary purposes, water which has been once infected by town sewage. By no known mechanical or chemical means can such water be more than partially cleansed: it is always liable to putrefy again. Processes of filtering and deodorisation cannot, therefore, be relied upon to do more than mitigate the evil. Water which appears perfectly pure to the eye is sufficient, under certain conditions, to breed serious epidemics in the population which drinks it.

If the sewage of towns is no longer to flow into rivers, the only alternative which remains is to dispose of it on the land.

The removal of house refuse to the land would now be much easier and cheaper than it was formerly, because carriage by suspension in a liquid is the cheapest mode of transport.

Dwelling-houses in the metropolis and many parts of England have already been freed, which has caused the increasing pollution of rivers. This latter evil is becoming worse every year in proportion to the adoption of a better water supply, of a more perfect system of house drainage, and the increase of the population. Dr. Acland and other witnesses believe that rivers can be effectually freed from pollution only by extending the Local Government Act to entire watersheds. They furthermore hold that it should be the duty of the Home Secretary to see that the law as to the pollution of streams is strictly enforced by these Watershed Boards.

We recommend that the important object of completely freeing the entire basins of rivers from pollution should be rendered possible by general legislative enactment, enabling the inhabitants of such entire districts to adopt some controlling power for that purpose; but it should include a provision for compelling Local Boards to render the sewage of their districts innocuous by application to the land for agricultural purposes. The case of the valley of the Thames (where the purification of the river, which has been sought by the expenditure of enormous sums, is to a considerable extent, counteracted by the increased discharge of sewage from towns higher up the stream) requires special and immediate attention."

Engineers of great experience and reputation combined in explaining the machinery required for the purposes in view, and the charge likely to be entailed. Not only was there nothing impracticable in the process, but nothing forbidding in the expense. The work could be done even at the present time with an actual profit rather than a loss on doing it; and as the demand for the manure became greater, and the system was improved, the profit would be materially enhanced. The committee, indeed, are of opinion that the great metropolitan drainage scheme must be regarded as defective in so far as it omits the utilization of the sewage, but that this imperfection can probably be remedied without much difficulty when once the demand has been established, and the system of supply arranged. The first object should be the discontinuance of mischief. If it be found that the ratepayers of a town experience a pecuniary benefit in addition to a sanitary gain, so much the better; but the first thing is to restore our streams to their natural purity, whether without positive money profit, or even with an actual money loss, which latter, however, there seems to be no reason to fear.

FROM IRELAND.

Sligo.—At a special meeting of the Town Council, Mr. Haighe, the architect, whose plan for a new town-hall has been selected, entered into a minute explanation of the details of his plans, and concluded by expressing his opinion that the building could be erected for 5,000*l.* After some conversation, a building committee was appointed to collect subscriptions and confer with the architect. Mr. Doherty said that the mayor should write to Sir John Benson respecting Sir John's professional charges. The mayor said that Sir John was engaged professionally, but doubtless, was aware that there are no funds to pay him at present. There was a vote of thanks passed to Sir John.

County Down.—The committee appointed by the late Grand Jury of the County Down to arrange as to the erection of a new district Hospital for the Insane, have held a meeting for the purpose of considering the tenders of the several contractors for the erection of the proposed hospital at Downpatrick, and the various alterations suggested by the local authorities on the plans of Mr. Smith, the architect of the new institution.——The Downpatrick Gas Company have declared a dividend of 6 per cent. for the last year.

Drogheda.—The local *Argus* complains that, although Mr. Whitworth has subscribed 9,000*l.*, being one-half the probable cost of waterworks for Drogheda, while the remainder is forthcoming from other sources, leaving only about 4,000*l.* to be subscribed; and although the Act for carrying out the works has been obtained; still the whole affair seems to be now in abeyance.

FROM SCOTLAND.

Glasgow.—An underground railway on the London plan has been projected in Glasgow. The intended line will be nearly 7 miles in length, and by branches to the harbour and otherwise, will have a large amount of goods and mineral traffic. It is urged that the construction of a line running east and west through the city will afford a ready outlet to the populous and fast-increasing suburbs, and enable many to live in these suburbs who are now confined to the more densely-built parts of the city. The course of the proposed line will also admit of branches being thrown out to connect the north and south railways, and likewise, if circumstances invite, the formation of a central terminus.

Cathcart.—The foundation stone of a new place of worship in connexion with the Free Church—the first in the district has been laid at Cathcart. The church is being built on the right of the public road leading from Glasgow, within some minutes' walk of Cathcart village, and also within comparatively easy access from Mount Florida and other rising suburbs. It is in the Early English style, and remarkably plain in detail. The plan is cruciform, the east end having an apsidal termination, and the west being surmounted by a timber belfry. The interior will be fitted up with wide passages and pews. The pews rise considerably towards the end, and the gables of transepts, and the floor of the pulpit, will only be raised about 3 ft. The church will be seated to accommodate about 500, but provision will be made for the erection of galleries in the transepts hereafter if required. The session-house and vestry are to be at the west end. The architect is Mr. Honeyman, of Glasgow; the contractor, Mr. A. Fraser; and the clerk of works, Mr. J. M. Robertson.

Kelso.—The works connected with the town

drainage and the introduction of water from the Tweed, the first of which has been, at intervals, in operation for nearly two years, have now been completed. The plans for both were supplied by Mr. Brunlees, of London, C.E., a native of Kelso. The drainage works will cost upwards of 4,000*l.*, while the cost of the introduction of the water is estimated at about 3,000*l.*; the half of which latter sum is, however, to be saved to the burgh by a donation of 1,500*l.* from the Duke of Roxburghe. The supply of water is taken from the Tweed at a point near the head of the town, where it is pumped up by a force-engine into a tank capable of containing upwards of 60,000 gallons, whence it is distributed through the town. Regarding this source of supply, some dissatisfaction prevails. The pipes are taken into the Tweed on the Kelso side of the river, and it is supposed by some that they have not been laid far enough into the bed of the river, so that it is feared that the water will not be received so free from the river-side impurities as is desirable.

Railways in the Highlands.—The Highlands and Islands of Scotland are now within twenty-four hours' distance from London, whence so many now make a run to the far north in summer. There is every prospect, it appears, that before the close of another year there will be an iron road literally from the Land's End to John o'Groat's. By the extension of the Aberdeen and Inverness Junction and the Inverness and Perth Railway from Perth, where they both converge, there is direct communication with Dingwall and Tain, the two principal towns in Rossshire; and it is now proposed to carry forward the coast line on the one hand to Wick, and to make a new line from Dingwall direct on through the western district to the Isle of Skye. The eastern line will bring the great fisheries of the Caithness coast into proximity with all the southern markets, while the western line will open up the whole of the West Highlands, and enable the sheep farmers and graziers to send their stock to London and intermediate towns. The fisheries of Skye and the West Highland lochs will also be developed by this new means of conveyance. The principal portion of the required capital has already been raised, and chiefly by the landlords through whose property the lines will pass. The estimated cost of the railway is under 6,000*l.* a mile. All the railways in the north of Scotland are single lines, but have hitherto been entirely free of accident.

PROVINCIAL NEWS.

Beckenham (Kent).—A great many houses of respectable appearance have been built, and are now building, in this parish. Those now in course of construction on Fox Grove Farm are on the spot, or very near to it, on which, three centuries since, potatoes were first cultivated by Sir Walter Raleigh, whose residence was close by where Fox Grove Farmhouse now is. A great part of the moat which once, in all probability, surrounded it, still remains.

Ledbury (Worcestershire).—It is in contemplation to erect a corn exchange in this town, on a site in the High-street occupied at present by houses. Mr. J. Hartland, land agent, has had plans prepared, and a limited company is to be established. The front of the design is of a composite character, the Gothic style prevailing, with a roof somewhat after the manner of the Louvre. There will be two windows on the ground floor, with shafts of red granite, surmounted with Corinthian capitals in Bath stone, and two windows on the upper floor. The front will be of brick, dressed with Bath stone, to be carried up in three pointed gables, the middle one doing duty as a clock tower. The elevation from the street to the crest of the roof will be about 55 ft. The cost of purchasing the site and erection is estimated at about 2,500*l.*, which it is proposed to raise by a capital of 3,000*l.* in 300 10*l.* shares.

Beverley (Yorkshire).—The construction of the new cattle-market will be completed in a short time. It occupies a site in Morton-lane, and is in close proximity to the railway station. The market is inclosed on the east side of a wall, and the several main and intersecting roads, which are nearly finished, have been prepared with chalk foundations. The drainage is nearly complete, and the posts and inclosure for the pens are now being erected, provision being made, according to the original plan, for about 500 head of cattle, and upwards of 3,000 sheep. The cost of the land amounted to about 1,000*l.*, and the estimate for construction expenses was about 2,000*l.*; making a total cost of—say 3,000*l.*

Jarrow (Durhamshire).—A new mechanics' institute has been opened at Jarrow. The building was intended to serve the various requirements of the people as a mechanics' institute, with its necessary adjuncts,—a public lecture-room, and a coffee and reading room. Mr. Charles M. Palmer headed the list of subscriptions with 500*l.*; Sir Walter James gave a site for the new building, in Ellison-street, at a merely nominal rate; and Lady James promised to bear the expense of fitting up a public clock in the tower of the building. The plans for the new building by Mr. A. Dunn, architect, Newcastle, were selected; and the foundation-stone of the new edifice was laid by Mrs. Palmer. The building is entirely of brick, in the Elizabethan style, which has been modified so as to give abundance of light. The building, which is of two stories, is about 100 ft. in length by 34 ft. in width. The entrance-hall stands out 11 ft. beyond the line of the rest of the building, and it is carried up, forming the basement of the clock-tower, which rises to a height from the ground of 150 ft. The ground-floor of the building is divided into two by a wide passage, running from the entrance-door right across the building. To the left of this passage is a room, 41 ft. by 42 ft., which will be occupied as a public reading-room and refreshment-room; and behind it is the kitchen, filled with all the requisite utensils. The portion of the building to the right of the passage has been divided into three rooms,—a library-room, 18 ft. by 34 ft.; a public-room, 20 ft. by 16 ft.; and a committee-room. The lecture-room occupies the whole length and breadth of the building. At the south end is a sort of stage, with retiring-rooms adjoining. The gas-fittings of the room consist of three lights, each carrying forty burners. Above the flat rises the clock and bell tower. The clock was fitted up by Mr. Cook, of York. The bell was supplied by Messrs. Warner & Sons, of London, and weighs 16 cwt. To the rear of the building are hot and cold baths, with other conveniences. The builder is Mr. Kennedy, of Jarrow. The total cost of the building is about 2,000*l.*, of which only 1,200*l.* have yet been obtained.

CHURCH-BUILDING NEWS.

Watford.—The church of St. Andrew (New Town), Watford, having become far too small for the rapidly-increasing population of the district, it was resolved to enlarge the building by the erection of a south aisle, and thus to provide additional accommodation for upwards of 200 persons. The estimated cost of the alteration is 1,000*l.*, but the amount of the subscriptions already given or promised shows that there will not be much difficulty in defraying the expense. The contract of Mr. G. Allen, of Watford, builder, was accepted, the architect being Mr. T. Bury, who superintended the building of the schools. The improvements now being made have long been needed.

Bury St. Edmund's.—St. James's Church, which has recently been restored under the direction of Mr. G. G. Scott, has been re-opened for divine service. The principal feature of the restorations is a new oaken roof, which consists of nineteen pairs of principals (corresponding in number with the pillars on each side of the nave), hammer-beams, wall-pieces, moulded collars, purlins, ribs, and ridge-braces. The cornice consists of six enrichments,—viz., 1st, a plain moulded wall-piece; 2nd, three designs of ribbon and ragged staff mouldings; 3rd, embattled moulding; 4th, Strawberry-leaf ditto; 5th, pierced trefoliated moulding. The strawberry-leaf moulding is continued round the hammer-beams, and every alternate one has a carved angel, supporting an emblematic shield, bearing the devices of St. James and St. John, to both of whom we believe the church is dedicated, such as the pilgrim's staff and wallet, the cockleshell, &c. The spandrels between the collars, king-posts, and ridge, are also filled with tracery of varied design. The clerestory windows, six-and-thirty in number, have all been re-filled with designs in Messrs. Heaton & Butler's stained glass. The gable at the east end is partially filled with a three-bayed window, given by the executors of the Rev. G. J. Haggitt, the late incumbent, which is to be filled with stained glass as a memorial of Mrs. Haggitt. There was already a memorial window to Mr. Haggitt in the chancel. After the new roof had been finished the committee obtained leave to take down the west gallery; and after two or three months the same fate awaited the north gallery and all the pews on the floor of the church. The whole of the stonework was thereupon cleaned and restored, and the interior walls stuccoed throughout. In many places the botels were cut entirely through to receive the memorial tablets on the walls, which have been re-fixed in other positions. The whole of the old pavement and soil of the church have also been cleared away to the depth of one foot, and an entirely new floor has been laid, the aisles being covered with Minton's 4-inch black and red tiles, whilst battened flooring has been laid beneath the sittings. A clear space has been left around each of the pillars of the nave, and also laid with Minton's tiles. The sittings themselves consist of oaken benches, with carved open ends and close-boarded backs. With respect to the exterior of the church the east and west gables have been carried up to the height of the high-pitched roof, with new coping and stone crosses, &c. The roof is covered with green Welsh slate, and above the great west window is a stone niche corresponding with those on either side of the doorway. The whole of the restorations have been effected under the direction of Mr. Scott, who has been represented by his assistant, Mr. J. D. Wyatt. Mr. Darkin, of Bury, has acted as general superintendent of the works. A restoration of the organ having been decided on, the contract for the work was taken by Mr. J. Last, and the instrument has been re-built by Mr. J. W. Walker, of London, at a cost of something like 700*l.* The total expense has been very nearly 5,000*l.* The old gallery and pews produced 100*l.* The contract for the first portion of the roof was taken by Mr. Farrow, at 1,290*l.* 1s. 4d., and the second half at 1,197*l.* 10s. 4d. The benches were contracted for by Mr. Tooley, at 700*l.* The tiled portion of the floor has cost 289*l.* 2s. 6d., and the boarded portion and joists, 209*l.* 17s. 6d.; the scraping and stuccoing, 186*l.* 11s. 4d.; the two buttresses supporting the chancel arch, steps to chancel, refixing of monuments, making good the columns of the nave and other stonework, additional tile flooring round the columns, and sundry other work, about 400*l.*; stonework for window over the chancel arch, 110*l.*; the lobby, 80*l.*; concrete for floor, 60*l.* The total receipts were about 3,611*l.*, leaving a deficiency of something like 1,400*l.* to be met.

Leintwardine.—The ancient church of St. Mary Magdalene, Leintwardine, is to be restored, according to the *Hereford Journal*. The roof is in a bad state, and in the windows the stonework is going to decay. It was proposed that the whole should be surveyed by Mr. Nicholson, architect, of Hereford, and that advertisements for tenders to do the work should be made. A subscription was immediately entered into, and about 90*l.* were subscribed, the parish agreeing to pay 90*l.* by rate. A meeting has since been held in the vestry to receive the tenders. There were five sent in; the highest 2,375*l.*, the lowest 1,625*l.*: the latter was accepted, being the tender of Messrs. Merrick & Taylor, Hereford. The church is to be new-roofed with lead; all the pews and galleries taken out, and to be repewed, the one-half to be free sittings; all the windows to be fresh glazed, and the stonework restored; the walls, pillars, and arches, to be clear of mortar, whitewash, &c.; the whole to be heated with hot air. The works to be commenced as soon as agreement, &c., are signed. The old chancel was taken down about four or five years ago, and a new one built at the expense of Mr. A. J. R. B. Knight, and last year the churchyard was enlarged. It is hoped that some of the gentry in the parish will present a window or two of stained glass.

Sale (Cheshire).—St. Ann's Church has been re-opened after the completion of alterations and additions, comprising a new aisle to the south side of the nave. The alterations have been carried out uniform with the church. Additional accommodation has been obtained for about 200 persons, at an outlay of about 600*l.* The contract has been executed by Messrs. Davis & Mawdsley, builders, Manchester, under the superintendence of Mr. John Lowe, architect.

Odd Rode (Cheshire).—A memorial church here, erected in remembrance of the late Mr. Randle Wilbraham, has been consecrated. The new church is dedicated to All Saints. It occupies a site near to Rode Park, at the angle of the cross lane, leading to the Wilmslow and Lawton turnpike road. The edifice has been built from designs by Mr. Scott, in the Early Decorated style. It consists of a nave 66 ft. by 24 ft. 9 in.,

and a chancel 33 ft. by 18 ft. 6 in., each of which has an aisle on the south side,—that in the nave being for the accommodation of the congregation, that in the chancel being for the use of the Wilbraham family. The chancel is separated from the nave by an arch, with deep stone carvings of vine foliage, which also adorn the capitals of the two marble columns of the arches dividing the chancel from the family chapel. The east window is filled with stained glass (by Mr. O'Connor), the gift of the Hon. Catherine Arden. It represents the Adoration of All Saints. The floors of the aisles are inlaid with Minton's tiles, and the high pitched roof is of pine timber. The seats are all open, and rest on a boarded floor. The main entrance to the church is by the west door, and there is also an entrance through a stone porch on the south side. The font is of alabaster, and has been executed by Mr. J. B. Phillips, of London. The west gable of the church is surmounted by a double bell-turret. The carving of the church, both inside and out, is the work of Mr. Farmer, of London. Externally the building is composed of Kerridge stone, with Mow Cop stone dressings; internally, of Hollington stone and dressings of Mow Cop ashlar; the chief part of the marble used in the internal ornamentations being Derbyshire marble. The contract was let to Mr. Gallimore, of Newcastle, for 5,000*l.*; but the elaborations that have been added since will probably raise that amount to 6,000*l.*, nearly the whole of which has been defrayed by the Wilbraham family. The edifice will seat nearly 500, and, together with the burial-ground surrounding, occupies an area of about 1a. 20p. of land.

Southport (Lancashire).—The peal of bells made by Messrs. Mears & Co., of London, has been hoisted into the steeple of Christ Church. The tenor bell, which is in the key of G, weighs 10 cwt. 4 lb., and the weight of the entire peal is about two tons. There appears to be plenty of room in the interior of the tower, so that the six bells will all be hung on one level. The cost of the bells is calculated at 450*l.* A good portion of this amount is already subscribed.

Lazonby (Cumberland).—The parish church of St. Nicholas, Lazonby, is about to be rebuilt. Not a very long time ago the edifice was renovated, but it was the desire of the late Colonel Maclean that an edifice more in accordance with modern ideas of comfort and convenience should replace it, and his widow has carried out his desire. The new church, the design for which has been prepared by Mr. Salvin, of London, will be considerably larger than the old one; and the whole work has been intrusted to Mr. W. Grisenthwaite, builder, Penrith. The foundation stone has been laid by Mrs. Maclean, of Lazonby Hall.

RAILWAY MATTERS.

A MANCHESTER man, Mr. Turner, has obtained provisional protection for improvements in communicating between one part of a railway train and another. The principle is that of the gutta-percha speaking-tube. A whistle gives warning, and the ear applied to the other end of the tube enables the person addressed to hear the message. Mr. Turner proposes to apply the tube on the same plan as the Lancashire and Yorkshire Railway Company convey their gas.

The new station of the Stockport and Timperley railway, at Tiviot Dale, is progressing. The preparation of the site has been a work of some magnitude; over 100,000 cube yards of earth and rock having been removed. The station is in the Elizabethan style. The architect is Mr. Mangnall, of Manchester. The stone, brickwork, and excavating have been undertaken by Mr. Forrester, of Stockport; and the other part of the work by Mr. D. Cochrane, of Manchester. The building, it is supposed, will cost about 8,000*l.*

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 27th of August on 11,440 miles, to 703,876*l.*, and for the corresponding week of last year, on 11,001 miles, to 642,314*l.*, showing an increase of 439 miles, and of 61,562*l.* in the receipts.

The total working expenses of the railways of England and Wales, in 1863, amounted to 12,653,618*l.*, against 12,050,581*l.* in 1862; of the railways of Scotland to 5,618,204*l.*, against 1,520,056*l.* in 1863; and of the railways of Ireland to 760,412*l.*, against 679,772*l.* in 1862. The aggregate for the United Kingdom was thus 15,037,234*l.* in 1863, against 14,268,409*l.* in 1862. The length of line in operation at the close of 1863, was 12,322 miles, and at the close of 1862, 11,551 miles. The ratio of expenses to receipts appears to have been reduced last year to 48 per cent., against 49 per cent. in 1862.

The number of train miles run on the railways of the United Kingdom continues to increase year by year. Thus in 1860 the aggregate distance accomplished was 102,243,692 miles; in 1861, 105,141,440 miles; in 1862, 108,061,797 miles; and in 1863, 116,592,161 miles. As the earth is 95,000,000 miles from the sun [the distance was shortened two or three millions last year by the astronomers, it may be recollected] it follows that the aggregate number of trains run last year would, if each had started where another stopped, not only have reached the great centre, but have got nearly a fourth of the way back again. The English and Welsh railway trains ran last year 97,424,179 miles, against 89,329,482 miles in 1862; the Scotch trains, 12,559,048 miles, against 12,309,443 miles in 1862; and the Irish trains, 6,608,934 miles, against 6,422,872 miles in 1862.

There are at present ten railways in India either opened for a portion of their whole distance or in process of construction, and some of these have branch lines. Two lines, the Scinde (114 miles) and the Eastern Bengal (115 miles), are finished their whole length. The total length of line now opened for traffic is 2,687¾ miles, and 2,100 miles yet remain to be constructed before the system, as far as sanctioned, will be completed. Since the 1st of January, 1863, 358¼ miles have been finished and opened up to January last. Last year, 279 ships carried out from this country 106,850 tons of goods, valued at 1,285,464*l.*, for the railways, while nearly a like quantity was sent during the previous twelve months. The shipments of railway materials to India from this country have altogether amounted to 2,764,781 tons, of the value of 5,128,856*l.* Most of the servants of the companies are at present Europeans, of whom there are now 2,800; but it is thought that in process of time the natives may be brought to discharge many of the duties, which will tend greatly to facilitate the more economical working of the line.

The *Corriere dell' Emilia* of Bologna says:—"On the evening of the 31st of August there only remained 10 metres of the tunnel beneath the Apennines to be pierced. The passage will therefore be completed about the 10th of September, but from thirty to forty days more will be necessary to terminate the widening of the gallery and the masonry. The works on the southern slope of the mountain are so far terminated that the engineers of the company have been able to run down the incline in small waggons set in motion by their own weight. The line is expected to be opened about the 1st of November. Tuscany will then be united, not only to Bologna, but to Milan, Turin, &c."

Extension of the Metropolitan Railway to Tower-hill.—The preparatory works for this extension have been commenced. The ground scheduled for the Finsbury extension to Little Moorfields has been cleared, with the exception of a small portion between Whitecross-street on the eastern side and Moor-lane on the west, and a few houses in the Pavement. In order to enable the contractors for the making of the extension to proceed across Finsbury-circus, it has been found necessary to deepen the sewers considerably in Fore-street and Moorgate-street, near the Albion Presbyterian Chapel. When this work, which is progressing under the contractor, Mr. J. Jay, on the part of the railway, and Mr. Lidstone on the part of the City Sewers Commission, is completed, the extension of the Tower-hill line through Finsbury-circus, will be proceeded with as rapidly as possible.

GAS.

THE Manchester Corporation have resolved to reduce the price of gas within the city, from 3s. 6d. to 3s. 2d., large consumers paying a trifle less, and consumers beyond the city a higher rate. "The plan of lowering the price gradually," says a local paper, "has worked exceedingly well, for with each successive reduction the income has increased. A profit of nearly 60,000*l.* was made last year, and of this sum about 28,000*l.* will be devoted to improvement purposes."

The West Ham Gas Company have declared a dividend of 4 per cent. for the six months ending 30th June last, in addition to ½ per cent. to make up for deposit dividends previously paid by the company. The report states, that during the past six months three millions of cubic feet of gas had been consumed more than in the corresponding period in 1863. The new offices are now nearly completed.

The annual meeting of the Sherborne Gas Company has been held for the first time in the company's own building. Although the report shows a profit of 468*l.*, and a 7½ per cent. dividend absorbed only 300*l.*, the report is not so favourable as last year. The balance of profit and loss, however, was so large last year, that 1,000*l.* were transferred to capital account, new shares to that amount being distributed among the proprietors. The usual dividend of 7½ per cent. was declared on both old and new shares, and a balance of nearly 100*l.* will then be carried over. The company are laying down a new main, and have announced a reduction in the price of gas from 6s. 3d. to 5s. 10d. per 1,000, with a discount of 10d. per 1,000 off for cash.

The Hanley Gas Consumers' Company (Limited) are making progress towards the establishment of gas works. The question of a site for the works is being discussed.

Books Received.

Nesbitt's Practical Land Surveying. Edited by William Burness, F.R.A.S. London: Longman, Green, & Co. 1864.

THIS excellent book needs no commendation from us. Ten editions have been sold, and this, the eleventh, now before us, is an improvement on all that have gone before. Mr. Burness has revised and enlarged the book, especially in the parts devoted to railway surveying, to which the treatise works up gradually from definitions and descriptions of instruments required. There is no part of the subject that is not treated of in this book, and the man who masters it has mastered the art of land-surveying.

Mathematical Exercises. With Tables, Formulæ, Answers, and References. By S. A. Winter, F.R.A.S., Military Tutor. London: Longman & Co. 1864.

THESE exercises comprise 3,500 examples in the various branches of pure mathematics, statics, dynamics, and hydrostatics, and are taken from military, civil service, and other examination papers, used at Woolwich, Sandhurst, &c., and collected and arranged in sets for the use of students preparing for examination. This volume, therefore, differs from any with which we are acquainted, and must be of especial utility to students about to undergo examinations in which they will encounter similar questions arranged in the same way.

VARIORUM.

The current number of the *Art Journal* contains an illustrated paper by Professor Ansted, on "Cyclopean Structures in Sardinia and Italy." The writer attributes them to the same predecessors of the *Greeks* who erected similar works in Ithaca and Cephalonia, at a period concerning which we have no written record. The engravings in the number, especially one by Lightfoot, after O'Neill's "Foundling," are very good. The subject of Mr. Dafforne's chapter on "British Artists," is Miss Osborn, of whose excellent works three examples are given.—— "How I won my Spurs; or, a Boy's Adventures in the Barons' Wars," by Mr. J. G. Edgar (S. O. Beeton), is an amusing tale, of the G. P. R. James class, very fully illustrated, and including a number of views of old buildings referred to in the story.——"The New Gymnastics for Families and Schools. By Dio Lewis, M.D., Boston. Tweedie, Strand, London. 1864." Though an American treatise, this volume has been reprinted for the London publisher from the sixth American edition, with an introduction by Mr. Tyler, who is styled "Principal of the London School of Physical Education." The volume, besides gymnastics, contains subdivisions on the dumb-bells, and what is called the Pangymnastikon. There are no less than 300 illustrations. The peculiarities of Dr. Lewis's system consist in the use of light and simple apparatus; and he does not approve of any but light and moderate exercises, as the muscular system may be cultivated into "a magnificent shell" at the cost of the vital and cerebral functions. The movements on this system are regulated and stimulated by music, and it is an object to excite the spirits as well as the body, and to render the

system attractive and promotive of cheerfulness and good humour in its practice. Mr. Tyler seems to have been a pupil of Dr. Lewis, and he speaks of him as "the leader of a great gymnastic reformation in America, as distinct, as profound, as memorable, as that of Ling in Sweden, or of Jahn in Germany."—"The History and Antiquities of Northamptonshire. By the Rev. Thos. James, M.A., late Vicar of Sibbertoft. London: Murray. 1864." This small volume is reprinted from the *Quarterly Review*, and has been before noticed in the *Builder*. It is well written, and contains an interesting account of Northants. We may quote a short passage on its sanitary condition as an example of the book:—"Remarkably free from epidemics, its high average elevation makes it a trying climate for pulmonary complaints. Consumption and rheumatism are its prevalent scourges. A subsoil of stiff clay and the abundance of grazing land foster damp. 'Cold singly, or damp singly,' says Dr. Robertson, the great medical authority of the county, 'may be successfully resisted by the human frame, but when they act in concert they constitute the pestilence that walketh in noon-day.' The extensive system of drainage which is being adopted in every direction, and for the outlet of which the ground is remarkably favourable, will soon reduce the latter of these two evils. The writer of the 'Magna Britannia,' in 1738, assigns as a reason for the healthiness of the country, one which would hardly be accepted in these coast-frequenting days. 'The air of Northants is exceedingly pleasant and wholesome, the sea being so remote that it is not *infected with its noisome fumes.*'"——A Dictionary of Chemistry and allied Branches of other Sciences, founded on that of the late Dr. Ure. By H. Watts, B.A., F.C.S., editor of the *Journal of the Chemical Society*, assisted by eminent contributors. Part XIX. Lactucarium—Leucates. London: Longman & Co. 1864." The part now before us of this valuable dictionary contains an elaborate account of lead, both as a chemical substance and as an article of manufacture, with engravings of apparatus for the conversion of ores into metal, oxides, &c. The work is now pretty well through, this being the nineteenth monthly part, many of which nineteen were double or 5s. parts, while the remainder of the thirty-three parts, of which the work consists, are only half-crown parts. It still sustains its character as a work destined to form a standard dictionary of chemistry and allied sciences.

Miscellanea.

BRITISH ASSOCIATION.—The congress of the British Association was formally opened at Bath on Wednesday evening last. Sir Charles Lyell, the president of the Association, delivered the inaugural address. Commencing with an allusion to the hot springs of Bath, he went at length into an account of the changes which have occurred, from time to time, in the condition and arrangement of the globe.

NORTHAMPTON TOWN HALL.—In our mention of the opening of this building we omitted to state that the builder was Mr. John Watkin, of that town. At a dinner given last week by the corporation to the workmen who had been employed in the erection of it, the mayor in the chair, the toasts to the health of the architect and the health of the builder were drunk with much warmth. Mr. Peebles, too, clerk of the works, was not forgotten.

DEATH OF MR. RISHTON, THE BUILDING SURVEYOR TO THE LIVERPOOL CORPORATION.—We regret to hear of this well-known gentleman's death. The mayor, in announcing it to the council, said Mr. Rishton had been a faithful servant of the corporation for about thirty years: he had come in contact with a great number of individuals of a peculiar class: he had always endeavoured to discharge his duties efficiently, faithfully, zealously, and well; and he felt quite assured that the council would consider it nothing more than due to a servant of tried capacity to express their regret at the melancholy circumstance of his death, and to convey a statement of that regret to the family of Mr. Rishton. Various members of the council endorsed the encomiums passed on the deceased by the mayor, and it was arranged that he should write a letter of condolence to Mr. Rishton's family.

SCULPTURE FOR THE SULTAN'S HAREM.—Several of the first artists in Paris are busily employed in sculpturing a collection of beasts, destined to be placed in the gardens of the Harem at Constantinople. Twenty-two animals are already completed,—crocodiles, porcupines, tigers, and serpents, "so lifelike one scarcely feels safe in their neighbourhood."

FALL OF A SUSPENSION-BRIDGE.—The suspension-bridge over the Oise at Verberie gave way a few days ago, and a loaded waggon with five horses and the driver were precipitated into the river. Two of the animals saved themselves by swimming ashore. The bridge has been built twenty-eight years, and must have been in a very bad condition, as the weight of the waggon under which it gave way was only from 5,000 to 6,000 kilogs., which is much less than the limit of weight fixed by the engineers.

THE EXHIBITION OF MEDIÆVAL ART AT MALINES.—The recommendation in the *Builder* to Englishmen interested in Mediæval art to visit this exhibition is justified, it appears, by a Fellow of the Society of Antiquaries, who writes from Brussels to draw attention to this "magnificent exhibition," as he calls it, and which will be open till the 25th of this month. The exhibition is especially rich in ecclesiastical relics of Mediæval art; and there are many that are historically interesting.

THE NORTH LONDON INDUSTRIAL EXHIBITION. As recommended by the opening committee, the opening ceremony will take place on Monday, the 17th of October, at three o'clock, in the Agricultural Hall, the directors of which have acted in a liberal manner as to the holding of the Exhibition in the large hall. There will be music and other ceremonial observances at the opening; the charge for admittance to which will be half-a-crown for the body of the hall, and one shilling for the galleries. After the opening ceremonial, and on the same day, the charge will be one shilling.

PROPOSED NORTH LONDON SCHOOL OF ART.—We are sorry to hear that the endeavours which were made some time ago to raise funds for a building for this purpose have not proved successful, and that the honorary secretary, Mr. Houle, having lost several of the most active members of the committee by illness and otherwise, finds himself compelled to abandon the undertaking after expending, himself, nearly 70*l.* in the attempt. This is much to be regretted; and, considering the extent of the district, and the interests involved, is not creditable to the inhabitants and proprietors. Lord Granville, it will be remembered, took the chair at a public meeting held to promote the scheme.

RESTORATION OF WORCESTER CATHEDRAL.—The appeal made to the public at the recent public meetings held at Worcester, Warwick, and Birmingham, in the diocese of Worcester, has resulted in a very liberal sum being raised towards the completion of the restoration of this cathedral. The amount estimated to be required, in addition to the 30,000*l.* already spent, is 32,000*l.*, and there has already been subscribed one-half of that amount, 16,223*l.* 19*s.* being the present amount of subscription. The estimate of Mr. Hughes, of Bristol, for the restoration of the tower was accepted, and the work will be proceeded with forthwith.

BURNHAM BEECHES.—Such of our readers as know the picturesque and weird-like scene the Burnham Beeches present, will be interested with this paragraph, by a writer in *Notes and Queries*:—Some years ago I stumbled on an interesting *souvenir* when visiting this fine bit of forest land. In the middle of a noble natural amphitheatre, around which the trees had grouped themselves, so as to make it specially secluded, I found a simple white stone, inscribed, "F. M. B.," with a date, and some verses commemorative of the many gifts and graces, intellectual and moral, of an eminent musician. I at once recognised the lamented Felix Mendelssohn Bartholdy as the subject; and, on inquiry, I found that this spot had been the favourite haunt of the poet-musician when visiting at the neighbouring seat of Mr. Grote, the historian of Greece; and that the erection of this memorial, and the lines which it bore, were the feeling tribute of that well-known friend of musical genius, Mrs. Grote. Certainly no fitter place could have been chosen to inspire the "wood-notes wild," which Nature taught her favourite child, and which of all his strains he loved best to utter.

A NEW LIVERPOOL THEATRE.—Operations for the erection of the Alexandra Theatre at Liverpool will be at once commenced. Its site is in Lime-street, almost immediately adjoining the terminus of the London and North-western Railway, and facing St. George's Hall.

ROOFING BRIDGES WITH GLASS.—The Mersey Dock Board, following the example of the arrangements at the Birkenhead Ferry, have in contemplation to roof with glass the bridges which at present communicate between the piers and the St. George's landing-stage on the Liverpool side.

TYNE BRIDGE.—The removal of the premises at the Newcastle end of Tyne Bridge, for the purpose of approach to the temporary bridge, during the pulling down and rebuilding of the present structure, is being proceeded with. By the demolition of the buildings immediately west of the toll-house, a portion of the old bridge, on which the toll-house seems to have been built, has been exposed to view, and is worth looking at by the curious, as it will very soon disappear

SAFETY IN RAILWAY TRAVELLING. -Two or three gentlemen wish us to tell the public they have invented much better plans for communicating between guard and passenger than any yet set forth. We will wait and see if they be so. Mr. T. M. Feist, of Brighton, on the other hand, sends us full particulars of an invention with the same end in view. It seems, however, much too elaborate. A quite simple arrangement will suffice.

THE FLINT GLASS MAKERS.—The United Flint Glass Makers' Friendly Society extends throughout England, and to Scotland and Ireland, and is gradually accumulating a large sum of money. After having just added another thousand pounds to three thousand which they had funded last year, they still possess a fifth thousand which is kept in hand for "trade purposes." Their organization is mainly devoted to "protective" objects, though, as the secretary observed at the recent Stourbridge meeting, there has not been a strike in the trade for some years past.

CROYDON WATER SUPPLY.—During the past week a series of testings have taken place at the new well, Mr. Docwra, the contractor, having completed the undertaking, the depth of the boring being 150 ft. It has been ascertained that a continual supply of water, amounting to about 840,000 gallons can be obtained in the space of twenty-four hours, and this without in any way interfering with the yielding of the old well, from which, at the same time, one million gallons and a half per day can be supplied.

HOW TO DESTROY ANTS.—An agriculturist, M. Garnier, has just announced an infallible method for getting rid of ants. In a corner of his garden infected with legions of these insects he placed four saucers containing sugar and water, with the tenth of its weight of arsenic in the mixture. A number of ants immediately invaded the saucers, but were soon after perceived staggering away, as it were, and some being even engaged in dragging their dead comrades away. From that moment, they disappeared from the garden, and on the following day not a single one was to be seen. How and whither this immense population emigrated in so short a time is a mystery which M. Garnier has been unable to clear up, and is inclined to attribute it to some mysterious instinct.—*Paris Letter.*

NEW PROCESS FOR HARDENING TIMBER.—A native of Russia has discovered a process by which timber, though newly felled, may become so hard as to resist the influences of the most trying climate for an almost indefinite period. The most curious part of the invention is, that it does not involve the use of chemicals of any sort, such as steeping in creosote, &c., and that the process is applied to the tree while growing. The inventor is now making arrangements for the supply of his timber to railway contractors in England, and will not require any remuneration further than the amount which would be paid for ordinary timber, until the period shall have elapsed beyond which the ordinary railway sleepers, telegraph-poles, &c., require to be replaced. The best railway sleepers require renewing at intervals of from four to six years; but the inventor of the new process of preparing timber asserts that he will supply an article which need not be disturbed for fifty years.

TRACES OF LAKE DWELLINGS.—Dr. Lioy has discovered the remains of habitations in the old bed of the Lake of Fimon, four miles from Vicenza. A number of flint implements, others made of bone, the remains of stags, and other animals which have now disappeared from those parts, have also been found.

THE BIRKENHEAD STREET RAILWAY.—Birkenhead, which resembles many American cities in having the advantage of a street railway system, is to be subjected to law, for this reason. Mr. Gough, hotel proprietor, and Mr. Evans, omnibus proprietor (whose traffic the street railway interferes with), have intimated that, unless the line of rails in Bridge-street is at once taken up, they will take such steps to enforce their removal as the solicitors acting for them may advise.

PROPOSED NEW TOWN-HALL FOR MANCHESTER.—The erection of a new town-hall for Manchester has long been regarded as indispensable, and a sub-committee, appointed in November last, to consider the subject, have reported in favour of Albert-square as the place best adapted on all grounds for the proposed new building, and their recommendation will be taken into consideration at the October meeting of the city council. The cost of the land and buildings which will have to be purchased in the event of this site being chosen will be about 127,000*l.*, but one-third of this will be incurred in widening Princess-street and in the completion of Albert-square.

NON-LIABILITY FOR NEGLIGENCE OF WORKMEN.—The defendant in the case of Williams *v.* Jones had employed a carpenter to make a signboard for him out of some wood which he had bought of the plaintiff; and thereupon the plaintiff gave the defendant permission to use his shed, with a carpenter's bench which was in it, for the purpose of this work. The carpenter accordingly proceeded with his work in the plaintiff's shed, and while doing so he lighted his pipe, and set fire to some wood shavings, which set fire to the shed, which was thus totally destroyed, and other damage was done. The jury found,—First, that the shed was lent to the defendant, and that the carpenter used it as his servant; and, secondly, that the fire was caused by the carpenter's negligence. The Court of Exchequer, under these circumstances, held that this action could not be maintained, the negligence not being that of the defendant, nor an act of the carpenter within the scope of his employment by the defendant.

THE STEEPLE OF ST. NICHOLAS'S CHURCH, NEWCASTLE-UPON-TYNE.—The dispute between the council and the churchwardens still goes on. The churchwardens "decline to do or concur in any act calculated to cast the very serious responsibility and heavy burden of repairing the steeple of St. Nicholas upon the parishioners," as "their predecessors were advised by counsel that the corporation of Newcastle are liable to make the repairs, the corporation having from time immemorial repaired the steeple." The council, after some discussion on the subject, have written to the churchwardens, not denying what they say, but asking "whether they agree to have the question of liability settled by a joint case for the opinion of the Court of Queen's Bench; or in case they decline that proposition, whether they will contribute, and to what extent, to any general subscription for the repair of the steeple. The council, we understand, would contribute 500*l.* The estimated cost of repairs is about 1,600*l.* It is to be hoped that while the parties are disputing, the steeple will not come down.

LIMOGES ENAMELS.—The late Sir F. E. Scott's bequest to the Midland Institute, at Birmingham, has now been placed in the cabinet designed for the fine collection of enamels, chiefly painted, of which this valuable bequest consists. There are twenty-one specimens, mostly plaques. Sir Francis Scott having not only a love of art, but also a practical knowledge of its many branches, saw how important it might be to Birmingham if this art of enamelling could be revived, because as a means of decoration it is peculiarly applicable to many of our manufactures. It is frequently attempted in our jewelry, but hitherto not with much success. Should a taste for it arise, there are many branches of our manufactures in which it might be profitably used. No greater boon could, from this point of view, have been conferred upon such a town as Birmingham, than this gift of Sir Francis Scott's, which contains some of the best examples of the art.

AN ODD FACT.—A shock of earthquake was felt in the neighbourhood of Hankelow, in Cheshire, lately, the inhabitants feeling it so distinctly as to be shaken in their beds. On the following morning, says a local paper, a farm servant, passing with some horses, heard a noise in a small plantation; and, in going to the place whence it proceeded, he discovered a large volume of water issuing from an orifice in the ground in a spot where there never had been water before. The opening was 12 in. or 14 in. in diameter, and the water spurted out to about 6 in. from the ground, and continued running into an adjoining rivulet.

MONUMENT TO THE BROTHERS VAN EYCK.—An interesting ceremony recently took place at Maeseyck, in Belgium, on the occasion of the inauguration, in the presence of King Leopold and the Count de Flandre, of a monument to the brothers Van Eyck, the well-known painters. The sculptor is M. Wiener, and the group, which is in white marble, represents the brothers at the period of the discovery of painting in oil. Jean Van Eyck has just terminated his first picture by the new method, and has submitted it for approval to his brother Hubert, his master. The king, in congratulating the sculptor, made him an Officer in the Order of Leopold.

OPENING OF BARROWS IN CAITHNESS.—Mr. Laing proposes to explore certain mounds in his neighbourhood; and, to begin with, has been excavating at two of them, called the Birklehills or Castles Singlass. The remains of a human skeleton, a great many bones of various animals, and a curiously-formed piece of old red sandstone, of an oval shape, with a groove an inch wide cut round its edge, were soon found. These mounds, and others near the castle, are to be further explored. The *John o'Groat's Journal*, while speaking of these explorations, alludes to ancient refuse-heaps in Caithness, with sea-shells, chiefly limpets and periwinkles, *of larger size than now exist on the coast*, which is *many miles* from the refuse-heap; and states that fragments of very large bones, such as those of a whale, were also found. The writer wonders at the ancient people who produced those mounds travelling so many weary miles to the sea to gather shell-fish when short of those animals of the chase which they killed with such flint arrows and sling-stones as were also found associated with them. But did they travel so many miles for such a purpose? Did they drag whale-bones so far inland? Is it not more likely that the sea then travelled inland to them?

STABLE VENTILATION.—Stables should have plenty of ventilators in the ridge of the roof, and a number of openings in the walls above the horses' heads: the heated air would then escape by the highest openings, and cold air enter by the lower ones, and immediately take the place of that escaping above, thus not blowing down on the horses at all. If this plan were thoroughly carried out, I think it would be sufficient; but where, from a loft being over, this plan cannot be adopted, and you could not conveniently carry ventilators through the loft, try two rows of holes in the walls, both above the horses' heads; and if this is not sufficient, holes must be made along the bottom of the walls furthest from the horses. Do not be afraid of the draught: it has been proved that animals in a state of nature require very little more than food and shelter to preserve them in a healthy condition; but go into almost any stable you please, and what do you think of it? I suspect you will find more than shelter there: it probably is so warm and stifling that you can hardly breathe. You look at the ventilators, if there are any, and you will find them stuffed with straw, and every crack or hole in the wall or window effectually closed, for fear the horses should take cold. Continue this, and you will continue to have influenza, coughs, ophthalmia, and a variety of other diseases in your stables, and perhaps employ me to cure them; but if you wish never to have a case of the kind, take my advice, and thoroughly ventilate: far better have too much air than too little. You must have plenty of pure air at any sacrifice: however inconveniently the ventilators may be placed, they are better than none. I would rather have a stable full of cracks and holes, what you call tumbling down, to preserve the health of a horse, than the majority of stables throughout the country. There are times when, from the heat and stillness of the external atmosphere, the ventilation becomes stagnant: in such case of course you must have adventitious aids, opening all your doors, windows, &c.—*Lecture by Mr. Willis, V.S.*

TENDERS.

For building a villa residence at Chertsey, for Mr. H. Wetton. Mr. T. Wonnacott, architect:—

Elliott	£2,307 0 0
Duke	1,215 0 0
Forster	1,135 0 0
Chappell (accepted)	900 0 0

[Some strange mistake here!]

For new Baptist chapel (the Surrey Tabernacle), Walworth. Mr. Edgar P. Loftus Brock, architect:—

T'Anson & Co.	£10,170 0 0
Simpson	9,447 0 0
Carter & Son	9,325 0 0
Coleman	9,105 0 0
Rider	8,880 0 0
Newman & Mann	8,766 0 0
Harding	8,710 0 0
Myers & Co.	8,653 0 0
Wells	8,600 0 0
Colls & Co.	8,445 0 0
Perry & Judson	8,363 0 0
Sharpington & Cole	8,333 0 0
Downs	7,963 0 0
Manley & Rogers	7,917 0 0
Sawyer (accepted)	7,771 0 0

For house, at Worcester Park, for Mr. W. Maxwell. Mr. Alfred Smith, architect. Quantities furnished:—

Clemence	£6,312 0 0
Macey	6,281 0 0
Mansfield & Sons	5,530 0 0
Hill & Sons	5,510 0 0
Gammon	5,359 0 0
Nicholson & Sons	5,330 0 0
Patman & Fotheringham	5,258 0 0
Woodward	5,105 0 0
Foster	4,970 0 0
Adamson & Sons	4,899 0 0

For house and shop, in the Wandsworth-road, for Mr. Surman. Mr. Peacock, architect. Quantities not supplied:—

Green	£360 0 0
Booth	395 16 0
Owen	375 0 0
Ott	368 0 0
Lathey, Brothers	323 0 0
Eastman	265 0 0

For roads and sewers on the Lambeth Freehold Estate, Thornton Heath, for the Croydon Local Board of Health. Mr. Baldwin Latham, engineer:—

Neave	£4,970 0 0
Porter	4,810 0 0
Roddis	4,670 0 0
Bull	4,350 0 0
Bound	4,275 0 0
Pizzey	4,240 0 0
Cole	4,240 0 0
Hartland & Bloomfield	3,883 0 0
Clark	3,835 0 0
Holledge	3,537 0 0
Leeks	3,500 0 0
Hayr (accepted)	3,398 0 0

For the erection of a new chapel, at Peterborough Union. Mr. R. Hutchinson, architect:—

Peach & Wallis	£845 0 0
Allen & Smith	791 0 0
Peed	764 0 0
Bunting & Son	760 0 0
Bennett & Son	718 18 0

For the erection of a new farm-house, Stow Bardolph. Mr. R. Hutchinson, architect:—

Elsworthy	£587 5 0
Peed	559 0 0
Bennett	550 0 0
Alflat	540 0 0
Bridge & Whiteman	529 10 0
Clare	520 0 0
Bennett	514 0 0

For erecting a pair of semi-detached cottages, at Chase Side, Enfield, for Mr. J. Whaley. Mr. F. G. Widdows, architect:—

Ennor	£578 0 0
Cushing	549 0 0
Field & Sons	525 0 0
Patman	519 0 0

For houses, at Stratford. Mr. Fred. Chadwick, architect:—

Thomas & Jenkins	£984 0 0
Tolley	963 0 0
Roberts	850 0 0
Hopper	785 0 0
Roome, Brothers	768 10 0
Mansfield & Co.	737 0 0
Blackmore & Morley	733 0 0
Uzard & Woods	700 10 0
Clare	700 0 0
Thwaites	666 0 0
Hampton (accepted)	655 0 0

For two warehouses, in White Hart-court, City. Mr. Robert W. Edis, architect:—

Worm	£3,186 10 0
Scrivener & White	2,897 0 0
Auley	2,805 0 0
Bell	2,781 5 0
Conder	2,781 0 0
Hardiman & Sandon	2,763 0 0
Smith	2,754 0 0
Sharpington & Cole	2,736 0 0

For Congregational church and school, at Ashford, Kent. Mr. W. F. Poulton, architect:—

Simpson	£2,650 0 0
Sawyer	2,463 0 0
Bourne	2,400 0 0
Steddy	2,300 0 0
Peters	2,202 0 0

For the erection of warehouse building, &c., in the rear of 53 & 54, Grange-road, Bermondsey. Messrs. New & Cumings, architects :—

Wood & Munn	£499	0	0
Saunders (accepted)	464	0	0

TO CORRESPONDENTS.

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BRICKS.—SIXTY THOUSAND good GRAY STOCKS WANTED, at Vauxhall or Norwood. State lowest price to W. CRESSELL, Builder, 41, Renton-street, W.C.

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IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
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Thames Embankment, Cannon Wharf, Westminster.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Pavings, 55s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s per 1,000.
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Cash Prices. Delivered in Trucks in London, or along the Line of the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

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BRICKS, TILES, SLATES,
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GLAZED DRAIN-PIPES AND RED GOODS,
TERRA CUTTA,
SPLAY, JAMB, AND COPING BRICKS;
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MALM CUTTERS, PICKINGS,
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A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.
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Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

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FINE WHITE BRICKS.
BEST RED BRICKS.
White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Plain and Ornamental ROOFING and RIDGE TILES, Delivered to Vessels in the Dock alongside the Kilns, in the River Medina.
Pattern Sheets, and all information, may be had of E. LANGLEY, Agent, East Cowes-park, Isle of Wight.

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J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of the plan are two fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

NORWICH UNION FIRE OFFICE.—THE BONUS YEAR.
THREE-FIFTHS of the Profits of the Company are periodically distributed as a Bonus to parties insuring, who have thus from time to time received from the Society sums amounting in the aggregate to nearly 440,000l.
A FURTHER BONUS of 52,057l. has now been declared, and will be paid on the renewal of existing Insurances at Michaelmas, 1864, and the three following Quarters.
EXAMPLES OF PREMIUMS REDUCED BY THIS BONUS.

No. of Policy.	Sum Insured.	Annual Premium	Reduced Premium for 1864
	£	£. s. d.	£ s. d.
441,411	22,540	222 4 4	120 19 2
451,191	12,000	61 0 0	25 0 0
484,174	6,340	35 14 0	19 16 8
500,367	3,000	7 10 0	4 6 4

THE RATES OF PREMIUM ARE IN NO CASE HIGHER than those charged by the other principal offices giving no Bonus to their Insurers.
No charge is made for the Policy or Stamp when the Insurance exceeds 200l. or for Insurances transferred from other Offices.
The Business of the Company exceeds Seventy Millions, and, owing to the liberality with which its engagements have been performed, is rapidly increasing. The duty paid to Government for the year 1863 was 84,142l. 11s. 9d.; the amount insured on Farming Stock was 10,942,0?.
The Norwich Union Fire Office is the LARGEST OFFICE making a return to its Insurers.
For Prospectuses, apply to the Society's Offices, 29, Fleet-street, E.C.; and Surrey street, Norwich.

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Solicitors,
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This Company is prepared promptly to negotiate all kinds of Financial Business, including Loans on good Personal Security, Advances for terms of years on Mortgage of Freehold and Leasehold Property, repayable by Instalments; the Discount of good Bills; Advances on Shares, Deposit of Deeds, &c.
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E. DALCH, Secretary.

IMPERIAL FIRE INSURANCE COMPANY.
No. 1, Old Broad-street, and 16 and 17, Pall-mall, London,
Established 1803
Subscribed and Invested Capital, 1,600,000l.
Total Losses Paid, 2,568,000l.
FIRE INSURANCES granted on every description of property at home and abroad at moderate rates.
CLAIMS liberally and promptly settled.
INSURANCES on stock, machinery, utensils, and fixtures in trade effected at a reduction of ONE HALF the DUTY.
ANDREW BADEN, Superintendent.

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William A. Quantell, esq. (Messrs. Frühling & Goschen).
Herman Stern, esq. (Messrs. Stern, Brothers).
General Manager—William Hope, esq. V.C.
In consequence of numerous applications the Directors have agreed to accept deposits in sums as low as 50l. at a fixed rate of interest, and for periods not less than one year.—By order,
WALTER A. MICHAEL, Secretary.

ROYAL POLYTECHNIC.—Patron H.R.H. the Prince of WALES.—Completion of the Repairs and Ornamental Decorations, and REOPENING of the Institution on MONDAY, 19th SEPTEMBER. New Lecture by Professor J. H. PEPPER, F.C.S. A. Inst. C.E. "On Sound and Acoustic Illusions." This lecture, it is hoped, may be a fitting companion to the celebrated Ghost Lecture, and will include, among other curious acoustic deceptions and experiments, an imitation of the Brazen Talking Head of Albertus Magnus, Professor Wheatstone's Telephonic Concert, the principles of genuine Talking Machines, Harmony and Discord will be exhibited on the screen, by a new and beautiful arrangement, devised by Mr. Pepper. The Ghost Illusions and Scenes as usual (J. H. Pepper and Henry Dircks, joint inventors), by J. L. King, Esq. New Musical Entertainment, by Mr. R. Coote, illustrating the story of "Sindbad the Sailor."

A BARGAIN.—COMPULSORY SALE.—A large, powerful, and quite new WHARF CRANE, suitable for an open yard or jetty, 4-ton lift, 18-ft. radius, wrought-iron jib, swivelling gear, foundations, and all fixings complete. Price 150l.—Apply, by letter, to A. B. C. care of Mr. John Draper, Printer, Little Tower-street, London.

TO CONTRACTORS, &c.—TO BE SOLD by PRIVATE CONTRACT, one new 10-horse power Portable STEAM-ENGINE, with screw-reversing gear, large heavy copper tube plate, and mounted on wood wheels. Made by Wilkinson & Co. with their improvable Patent Fire-box.—For price, apply at the Perseverance Foundry, Scarborough, Yorkshire.—THOS. WILKINSON & CO.

TO CONTRACTORS and OTHERS.—For SALE, WILKINSON & CO.'S PATENT PORTABLE STEAM-ENGINES, from 4 to 30 horse power. These engines are made with invaluable improvements, and are sold at Market prices. For further particulars, apply to WILKINSON & CO. Perseverance Foundry, Scarborough, Yorkshire.

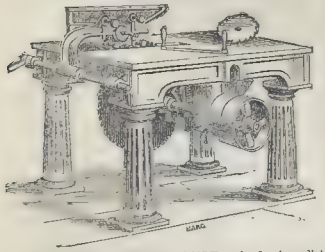
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TO CONTRACTORS and OTHERS.—FOR SALE, a Portable 8-Horse power STEAM-ENGINE and BOILER, with strong Crab and extra Gear for Pumping and Boring. Price 125l.; or, without Crab and extra Gear, 95l.—Apply to M. KEARTLAND & SONS, 14, Mill-street, Lambeth.

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SAW MILL ENGINEERS,
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PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.
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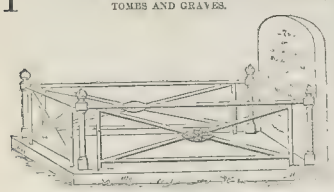
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Consumes the Smoke, Warms the Building with pure Atmospheric Air, and saves Coal and Labour;
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Saves 50 per cent in Fuel, cures Smoky Chimneys, shows always a Cheerful Fire, and one Fire will warm other Rooms.
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Works: MARTIN STREET, STRATFORD, E.

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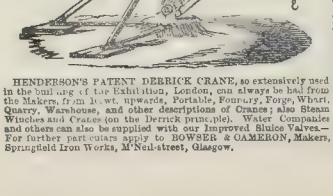
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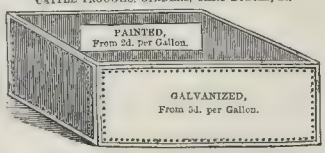
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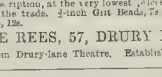
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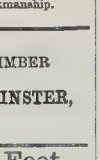
	Per 120 of 12 ft.				Per 120 of 12 ft.		
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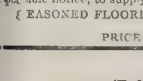


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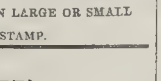


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SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments:—
4, MARKET STREET, MANCHESTER;
GLASGOW,
67, BUCHANAN STREET;
DUBLIN,
9, TALBOT STREET.



CLARK'S PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE PROOF.
Branch Establishments:—
PARIS,
42, RUE NOTRE DAME DES VICTOIRES;
BRUSSELS,
RUE DE L'ECUYER;
AMSTERDAM,
BINNEN AMSTEL;
SYDNEY,
51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

STATUARY AND OTHER MARBLE CHIMNEYPIECES.

ARCHITECTS, BUILDERS, and MASONS will find at
W. WILLETT'S SHOW-ROOMS, MARYLEBONE ROAD, N.W.
OPPOSITE THE YORKSHIRE STINGO,
A LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Orders.
CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

ARCHITECTS, BUILDERS, MERCHANTS, SHIPPERS, AND MASONS

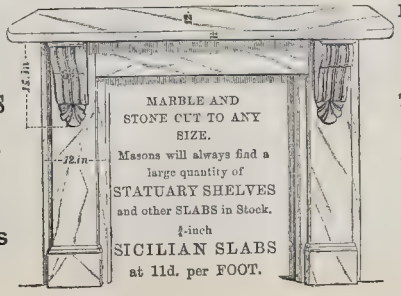
Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the
EMPORIUM, J. W. BIRD & CO.'s, 143½ and 145, EUSTON ROAD, N.W.

BOX STONE CHIMNEY PIECES
for 5s. 6d.
Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS
in great variety, equally low in price.

MASONS' WORK OF ALL KINDS CONTRACTED FOR,
AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF
500 CHIMNEY PIECES
always to choose from.
PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIECE
for £1 5s.
First-class Bed-room ditto, £1 10s.

FIRST-CLASS
TRUSS MARBLE CHIMNEY PIECES
from £2 5s. to £3 5s.

A WELL-CARVED
STATUARY CHIMNEY PIECE
with 13½-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
FOR THE SUM OF £6.
Net Prompt Cash.
PRICE LIST ON APPLICATION.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
See Advertisement first Saturday in the Month, or on application.
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

HOWARD & CO.

MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HONDURAS WHARF AND FALCON WHARF,

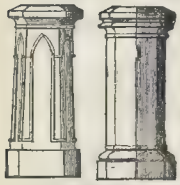
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

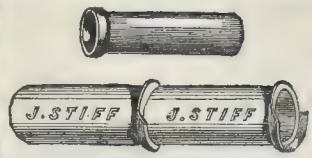


INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths,







PAN, 4s. 6d.
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







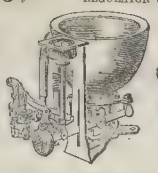
Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, sands, steadies, or water; and the facility with which the only joint required can be made in bands of feet 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pumpbuckets, Fire buckets, Bosses, Universal Joints, Flasks, Bottles, Bowls, Teapot-trays Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.
THE GUTTA PERCHA COMPANY, PATENTEES,
WHARF ROAD, CITY ROAD, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the flow of water, perfect flushing is insured. Any number can be supplied from one cistern. No stop-valves, cranks, or screw-pipes required. Full details in Illustration at the Manufactory, and list of testimonials forwarded on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



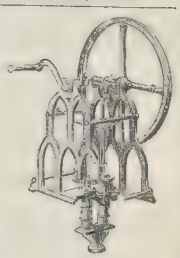
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open to view for pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different models of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

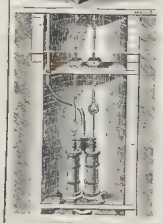
LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.



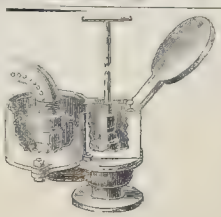
Can be seen in action
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.







PUMPS
FOR
DEEP OR SHALLOW WELLS,
WATER BOATS, &c.
J. TYLOR & SONS,
MANUFACTURERS,
WARWICK LANE,
NEWGATE STREET,
LONDON.



IMPROVED HYDRANT.
J. TYLOR & SONS,
WARWICK LANE,
NEWGATE ST.
LONDON.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches £2 10
3 „ 2 15
4 „ 3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth, From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

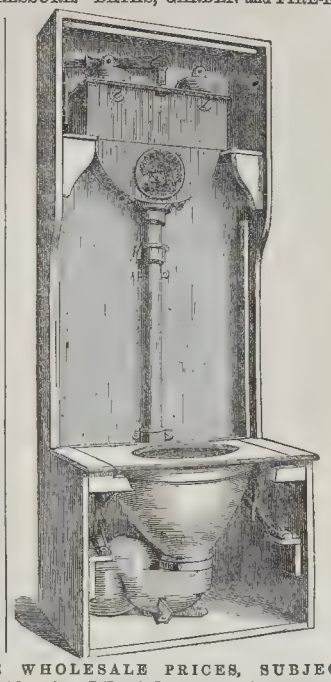
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch .... £4 4 0 } Larger sizes when
3 „ .... 5 5 0 } required.
3½ „ .... 6 6 0 }

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... .... .. £3 10 0
3 „ 4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete £4 10
Ditto Work without Wood Case 3 0
Basin and Trap, W. 0 5

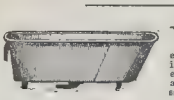
Further Description, with Sectional Drawings will be sent on application.



No. 145.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... ... . £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

No. 145.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron Do. do. from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, **JOSEPH CLIFF & SON,** NEAR LEEDS

ESTABLISHED 1795.

MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES, TERRA-COTTA CHIMNEY TOPS, CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.

MARCUS BOURNE NEWTON, LONDON AGENT.

DEPOT, No. 4, GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

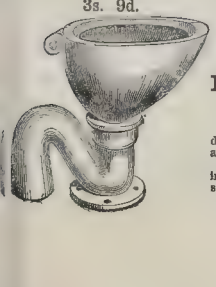
ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 1l. 18s.



Disposing with Cranks, Wires, Ball, Lever, Service box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

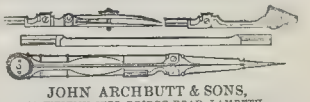
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS.

Engineering Depot, Palace Wharf, Stangate, Lambeth, S.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, of the best makers, always in stock.

PLASTER ENRICHMENTS,

CENTER FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

242, EUSTON ROAD, ST. PANCRAS.

Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 3d. per cwt.

SALES BY AUCTION.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible Freehold Building Land, finely timbered, and admirably adapted for villa residences; land-tax and tithe free.

MR. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, London, on TUESDAY, the 20th of SEPTEMBER, at TWELVE for ONE o'clock, 50 Lots of FREEHOLD BUILDING LAND, in Clapton-road, near to St. John's Church, Hackney, within a few minutes' walk of the Hackney Railway station, suitable for the erection of detached or semi detached villas. Nine-tenths of the purchase money may remain on mortgage or contract, at 5 per cent to be paid by quarterly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars and a plan of the estate may be obtained at the Premises in Clapton; of T. W. ROGERS, Esq. Solicitor, 70, Fenchurch-street; at Messrs. HAMMACK & LAMBERTS, 59, Bishopsgate-street; at the Place of Sale; and of the Auctioneer, 70, Fenchurch-street, London.

PIMLICO IMPROVEMENTS. Fourteenth Sale of Building Materials.

MR. GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 19th, at TWELVE o'clock, the whole of the valuable block of five large family DWELLING-HOUSES, with back buildings, the corner of Upper Eaton-street and Grosvenor-street West; comprising many thousands of prime stock bricks, tiling and slating, large sound timbers in roofs, the usual fittings of two numerous rooms, clean lath and plaster throughout, mahogany and other doors, sash and plate glass doors, staircases with mahogany handrails, marble and stone chimney pieces, large quantity of lead, iron and stone work, fixtures and fittings. May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton square, and No. 12, High-street, Kensington.

PURLEY, near Croydon, contiguous to the Caterham Junction Station, on the main line of the Brighton and South Eastern Railways, about 1¼ mile from the South Croydon Terminus, and 12 miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on THURSDAY, OCTOBER 13, at FORTY-FIVE o'clock, Twenty Valuable FREEHOLD BUILDING PLOTS and Two Cottages with Gardens, being a portion of the Purley Lodge Estate, the whole having capital frontages to the turnpike road, and to a new and spacious private road. The land has a substratum of gravel and chalk, and is in a delightful rural and healthy situation. The proximity of the railway station, and ready means of communication with the metropolis, render the land of a safe and sterling character for the carrying out of extensive building operations.—Particulars, with plans, may be had at the Greyhound Inn, Croydon; at Garraway's Coffee-house, Change-alley; of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion House; and of Messrs. BLAKE, Croydon.

DUPPAS-HILL, CROYDON.—Important Sale of valuable Freehold Building Land at Duppas Hill, offering attractive Building Sites.

MESSRS. CRISPE & DRACOTT and CHARLES SMITH & SONS (who are jointly concerned on this occasion) will OFFER by AUCTION, at the GREYHOUND HOTEL, Croydon, on TUESDAY, OCTOBER 11th, 1864, at THREE for FOUR o'clock, Forty-four Plots of FREEHOLD BUILDING LAND, delightfully situate upon a beautiful elevation near the flourishing market-town of Croydon, within two minutes of the Waddon Station, an easy distance from the East and West Croydon and Addiscombe Stations, and about twenty minutes from London. These charming sites for villa residences have south and such lovely aspects, and are open to Duppas Hill, which has been appropriated by the Board of Health to the purposes of a public park. The soil is gravel and sand, the drainage is perfect, water and gas are laid through, and sewerage will be very shortly completed, and the whole of the land is free from tithe or rent charge. The Auctioneers strongly recommend this property to the notice of the public, as the healthful and picturesque situation, its contiguity to the railway, and the charming walks and drives in the neighbourhood, render it particularly desirable for families from the metropolis. The terms of payment are the most liberal, offering an unusually favourable opportunity for the profitable employment of capital. Particulars, with plans and conditions, may be had shortly at the Inns in the neighbourhood; at the Place of Sale; of C. FRANKISH, Esq. Solicitor, 23, Parliament-street, Westminster; and of the Auctioneers, CHARLES SMITH & SONS, 2, Broad-street-buildings, London, E.C. and Messrs CRISPE & DRACOTT, Auction and Land Agency Offices, 141, High-street, Croydon.

Railway Co.'s Horses, Brick and Rubbish Carts, Timber Carriages, Stone Trucks, &c. (in consequence of completion of the Thame and Oxford Railway) Mr R. Brotherhood (the known contractor) has instructed

MR. J. GOWER to SELL by AUCTION, at his REPOSITORY, Barbican, on FRIDAY, SEPTEMBER 23, THIRTY first-class young CART HORSES, among them are powerful shafters and active nippers; nearly new 30 and 1,000 brick carts, timber carriages, stone trucks, harness, &c. On view two days prior.

SOUTH KENSINGTON, INTERNATIONAL EXHIBITION, CROMWELL ROAD.—Important and Unreserved Sale of Van and Cart Horses, Vans, Timber Carriages, &c. By direction of Messrs Keck & Lucas, the eminent Contractors,

MR. J. GOWER will SELL by AUCTION, on the PREMISES (as above), on THURSDAY, the 22nd of SEPTEMBER at TWELVE o'clock, SIXTY first-class young active CART or VAN HORSES; twenty-two nearly new vans, timber carriages, &c.; chill and chain harness. Have been employed removing materials from the late Exhibition to Alexandra Park, now completed. The stock is worthy the notice of builders, contractors, and others. The horses, universally admired, selected with every care, regardless of cost; the vans, of light and heavy construction, built expressly for this contract, within the last few months; the whole of unreserved sale. On view two days prior. Catalogues on the Premises, and of the Auctioneer, at his Repository, Barbican.

HORNSEY, near the Railway station and Church, and in close proximity to the Alexandra Park. Very valuable and desirable Building Estate, adapted for the erection of first-class villa residences, and presenting to Land Societies and others a profitable and extensive building scheme.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to OFFER FOR SALE, at the GUILDHALL COFFEE-HOUSE, near Guildhall, in the city of London, on FRIDAY, the 7th of OCTOBER next (unless previously sold by private contract), a most important and valuable FREEHOLD BUILDING ESTATE, of about 14 acres in the whole (the free and land tax redeemed), situate adjoining the property of F. Fletcher and H. Wood, esqrs. and glebe lands, in the rural village of Hornsey, at the foot of Muswell Hill, close to the church, only seven minutes' walk of the station on the Great Northern Railway, and within half an hour's ride of the metropolis. The property, which includes part of some nursery grounds, with the greenhouses and buildings thereon, is capitally adapted for a villa road from the Guildhall Coffee-house; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange, E.C.

EARLY SALE at ELEVEN for TWELVE o'clock, on account of the LIMITS of LOTS.—To Timber Merchants, Builders, Cabinet Makers, &c.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, near the Old Eagle, on MONDAY, 26th SEPTEMBER, at ELEVEN o'clock, nearly 150 Lots of Capital STOCK, comprising Twenty loads of dis square, 1,500 planks, deals, and battens, flooring, 3,000 feet mahogany, larch, lime tree, beech, elm, dry cut pine, mantels, doors, useful stuff, 8 marble chimney-pieces, scaffolding, ladders, building materials, &c.—Auction Offices, 3, Cardington-street, Hampstead-road.

Vulcan Works, Church, near Accrington and Blackburn.

MR. KIRK is favoured with instructions from the Assignees of Mr Lupton, roller maker, machinist, & carriage catalogue, to OFFER by AUCTION, under a deed of assignment, for the benefit of the creditors, on WEDNESDAY, THURSDAY, and FRIDAY, the 21st, 22nd, and 23rd days of SEPTEMBER, the whole of the valuable TOOLS, Utensils, Plant, Machinery, Steam-engines, Boilers, Stock-in-Trade, &c. in the works, foundry, fitting-shops, smiths' shops, stores, &c. on these extensive works.—Full particulars of which will be given in detailed catalogues, which are being prepared, and will be ready shortly; and may be had of Messrs. HALL & BALDWIN, Solicitors, Clitheroe; or of the Auctioneer, at his Offices, 8, Essex-street, King-street, Manchester.

By Order of the Liquidators.—Preliminary Announcement.—Patent Alkali Works, St. Helen's, Lancashire.—Large Sale of Buildings, Materials, &c.

MR. KIRK respectfully announces that he is instructed to Catalogue and SELL by AUCTION, on WEDNESDAY, THURSDAY, and FRIDAY, the 28th, 29th, and 30th days of SEPTEMBER, the whole of the BUILDINGS, of every description (in order that the whole may be taken down, removed, and the ground cleared), forming the extensive Works known as the far-famed PATENT ALKALI WORKS, at St. Helen's, Lancashire, including extensive ranges of substantial brick buildings, to be slated roofing of the very best Welsh blue slates, rafters, joists, beams, planking, &c. immense in quantity and excellent in quality; cast and wrought iron work in columns, girders, tie rods, &c.; lead flashings, gutterings, shoots, &c.; flags, tiling, &c. Also a 2-horse condensing beam engine, 3 upright cylinder waterwheels, together with a vast assortment of valuable materials and effects.—Full particulars in future advertisements, and detailed ones, which are in course of preparation, will be ready shortly; and, in the interim, address the Auctioneer, at his Offices 8, Essex-street, King-street, Manchester.

Contractors' Plant, Machinery, Four Portable Steam-Engines, and Effects

MR. GAIRDNER is instructed by Messrs. Brassey, Ogilvie, & Harrison, having nearly completed the works of the Northern Mid Lever Sewer, to SELL by AUCTION, on the PREMISES, in Bishopsgate-street (adjoining the Great Eastern Railway), on MONDAY, the 26th SEPTEMBER, at TWELVE, FOUR portable 10-horse power STEAM ENGINES, tunnel pumps, mortar mill, Woodford's patent riveted skips, ten portable offices, engineer's observatories, and store-houses, fourteen brick and rubbish carts, timber in balk and plank, ladders, stacks of fire-wood, scrap and old iron, gas-pipes, sinks, drain-pipes, York paving, and numerous effects.—On view two days prior. Catalogues forwarded per post, and at Mr. GAIRDNER'S Offices, 159, Tottenham court-road, W.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, WEDNESDAY, 28th SEPTEMBER at TWO o'clock TIMBER..... 500 loads sorted and Colonial.
Deals and Battens ... In good pieces do. do.
And other Wood Goods.

H. FREEMAN & CO Brokers, 3, Crooked-lane, Cannon street, E.C.

BUSHY PARK ESTATE, Upper Teddington, abutting on the Royal Park.—About ten acres of most valuable Freehold Building Land in this favoured locality

MESSRS. GADSDEN & ELLIS will SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, near the Guildhall, Gresham-street, on THURSDAY, OCTOBER 13, at TWELVE for ONE (unless an acceptable offer be previously made by private contract) in one lot; but if not sold it will immediately be offered in several lots, as shown on particulars, a CAPITAL TEN ACRES of FREEHOLD LAND, handsomely timbered, adjoining and overlooking Bushy Park, on the road from Teddington to Hampton. Immediately opposite are several fine mansions of the first class, containing highly ornamental architectural features, enclosed and finished regardless of expense to ensure the superior character of the neighbourhood. A new church also is in course of erection adjoining the estate. Spring water is readily obtained, and gas and water are laid to the property. The site is most convenient to City or West end, by the Hampton Railway.—Particulars may be had of CHARLES LAWS, Esq. Architect, 11, Bucklersbury, E.C. and Park road, Teddington; of Messrs. PALMER, PALMER, & BULL, Solicitors, 14, Bedford-row; at the Guildhall Coffee-house, Gresham-street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street, E.C.

KEMPTON PARK ESTATE, Hampton, on the high road to Sunbury, and adjoining to the River. Twenty-four Acres of Freehold Building Land, unsurpassed there is the finest brick earth in the district, and has good main drainage.

MESSRS. GADSDEN & ELLIS are instructed to SELL by AUCTION, at the GUILDHALL COFFEEHOUSE, near the Guildhall, Gresham street, on THURSDAY, OCTOBER 13, at TWELVE for ONE, in 1, 2, or more lots, TWENTY FOUR ACRES of FREEHOLD LAND with road formed, and ready for immediate building operations, and unsurpassed in the upper and lower road from Hampton to Sunbury, and within the district walk of the station on the Thames Valley Railway, which will be open almost immediately. The land has been let to several eminent residences and gardens, and commands fine views over the Thames and surrounding scenery, and is well deserving the attention of capitalists and builders.—Particulars may shortly be obtained of CHARLES LAWS, Esq. Architect, 11, Bucklersbury, E.C. and Park road, Teddington; of Messrs. PATERSON & LONGMAN, Solicitors, No. 3, Winchester-buildings, Winchester-street, E.C.; at the Guildhall Coffeehouse, Gresham-street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street, E.C.

TWICKENHAM PARK, near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Ninety nine Years, in Large or Small Plots. Money advanced, if required. For particulars, apply to W. BACKHURST, at the Estate Office, Twickenham; or to EDWARD GUILLAUME, Esq. 14, George-street, Mansion House, London.

SURBITON.—TO BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk of the station, and 20 minutes from the City, at a rent less than 50s. a year rent. A portion of the money will be advanced if required. Apply to MR. MUDIE, Victoria-road, Surbiton.

LAND TO BE LET, by Tender, on the 29th SEPTEMBER, by the Fishmongers' Company, on a BUILDING LEASE, for ninety years, site the on the east side of Pudding-lane, in the centre of the fruit market, containing a frontage of 36 feet 6 inches to the said lane, and a depth of about 76 feet, fit for suitable fruit warehouses, shops or other business premises. Apply to Mr. W. B TOWSE, Fishmongers' Hall, London Bridge; or to Mr. RICHARD SUTTON, Architect and Surveyor, No. 25, Gracechurch-street, where plans and particulars may be seen. Tenders to be delivered before TWELVE o'clock on the 30th SEPTEMBER, 1864.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunninghill Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell square.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company, at Stratford, Essex, close to the Station and the High-street; one portion with river frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London-wall.

TO LET, the GALLERY of the SOCIETY of BRITISH ARTISTS, consisting of five large Rooms, until the end of February.—Inquire on the Premises.
THOS. ROBERTS, Secretary.

BUILDING LAND TO BE LET, situate at Vauxhall, Lewisham, and Camberwell.—For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

RAMSGATE.—To BUILDERS, CAPITALISTS, and OTHERS.—TO BE SOLD or LET, several valuable Plots of FREEHOLD LAND, situate on the East Cliff, and adjoining the site of the proposed new Hotel.—Apply to WALLER & SON, 4, Lyall-street, Belgrave square, London; or of Messrs. FRIEND & VINTEN, House-agents, Ramsgate.

WIMBLEDON.—Valuable FREEHOLD BUILDING LAND, in a beautiful and notably healthy situation about a mile from the Putney Station, and only a pleasant drive from Richmond Park and the West End of London, TO BE SOLD as a whole or in plots, offering a selection of choice sites to any gentleman desirous of building for his own occupation; whilst as a building speculation it presents unusual advantages from the constant and increasing demand for houses in the neighbourhood, which is one of the most favourite within so short, convenient, and accessible a distance of town. The land affords ample space for the erection of about thirteen detached residences, or a greater number of semi detached villas, and the chief part is land tax redeemed.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

WHARF PREMISES TO BE LET, on the Regent's Canal (N.W.), close to the London and North Western Goods Depôt, well situated for a Slate Depôt, &c. A long lease would be granted to a suitable tenant.—Address, D. F. Office of "The Builder."

WATERSIDE MANUFACTURING PREMISES, at the West end.—TO BE SOLD, the LEASE of a WHARF and PREMISES, held for an unexpired term of about seventeen years, at a low ground rent. The above premises have been fitted within the last two years with all new machinery, which, together with the rolling stock, must be taken at a valuation. The proprietor withdraws solely in consequence of his having entered into contracts abroad, which will require all his attention. Part of the purchase money may remain on mortgage.—Address, A. Messrs. Simpson & Cullingford, Solicitors, 81, Gracechurch-street.

TO ENGINEERS or ARCHITECTS.—TO BE LET, a FIRST-FLOOR, well adapted for a Gentleman's Private Office or Residence. Rent moderate.—Apply at N. BAILEY'S, Tailor, 13, Cannon-row, Westminster.

FREEHOLD LAND TO BE SOLD, or TO LET on Building Leases, in Old-gravel-road, Old Kent road. And also near Forest Hill Station. Also, FREEHOLD WHARF, on the Surrey Canal, near Old Kent road.—Apply to Mr. MAY, Acorn Timber Wharf, Old Kent-road.

TO BRICK and TILE MAKERS and OTHERS.—TO BE LET, for a term, BRICK KILN, FOREMAN'S COTTAGE, and LAND, containing stock earth, at Sunninghill, Berks. There is a great demand for bricks, in consequence of the formation of the Railway from Sunningdale to Cambridge Town, and also to carry on building operations in the neighbourhood, therefore the Owners of a large Estate at Sunninghill are prepared to Let part of their Land, with Kiln, and Foreman's Cottage, for Brick and Tile making. The use of a private siding on the Staines and Wokingham Railway, very near the ground, and other advantages, will be accorded to any one taking the Land.—For particulars, apply to Messrs. DRIVER & CO. Surveyors, Land-agents, and Auctioneers, 4, Whitehall, London, S.W.

FREEHOLD LAND, near the City, a corner piece, containing over a quarter of an acre, five minutes' walk from Old Broad street, TO BE LET, on a Building Lease. It is suitable for a lasting frontages on wide streets, and is adjacent to one of the main arteries of London; and its situation and shape render it extremely eligible for a manufactory or warehouse.—For particulars, apply to Mr. WILLIAM EVE, Surveyor, 3, Union court, Old Board street, E.C.

TO BUILDERS.—PLOTS of LAND adjoining the most beautiful part of the River Thames and within 400 yards of the Taplow Station, thirty five minutes from London, TO BE LET on Building Leases, at low ground rent. Villas of 1,000 a year or more. In great demand. Advances of 70 per cent. to responsible builders.—Apply to R. A. WARD, solicitor, Maidenhead.

GOLDEN SQUARE, Regent-street.—TO BE LET, on Lease, from Midsummer, 1865, together or separately, those very Eligible PREMISES, Nos. 3 and 4, Upper James-street, Golden-square. A plan of the property, and other particulars, may be seen on application to the Vestry Clerk; and a Committee of Estates of the Parish of St Sepulchre, London, will meet in the Vestry-room of the Church, on FRIDAY, OCTOBER 21, 1864, at TWELVE o'clock at Noon precisely, to receive TENDERS. The Committee do not bind themselves to accept the highest or any Tender.
STEP. JNO. JONES, Vestry Clerk.
No. 1, Church-porch, Skinner-street, Snowhill.

GOLDEN SQUARE, Regent-street.—CROWN TAVERN.—TO BE LET, on LEASE, for twenty-one years, from Midsummer, 1865, the very eligible PREMISES, known as the Crown Tavern, close to the corner of Silver-street, Upper James-street, Golden-square, in the midst of a thickly-populated district. A plan of the property, and other particulars, may be seen on application to the Vestry Clerk; and a Committee of Estates of the Parish of St. Sepulchre, London, will meet in the Vestry-room of the Church, on FRIDAY, OCTOBER 21, 1864, at TWELVE o'clock at Noon precisely, to receive TENDERS. The Committee do not bind themselves to accept the highest or any Tender.
STEP. JNO. JONES, Vestry Clerk.
1, Church-porch, Skinner-street, Snowhill.

GOLDEN SQUARE, Regent-street.—TO BE LET on Lease, for twenty-one years from Midsummer, 1865, those very eligible and extensive PREMISES (now and for many years past in the occupation of Messrs. Bridwood & Sons, Pianoforte Makers), situate at 1, Rupert-court, on the eastern frontage in Bridle-lane, near to Golden square. A plan of the property and other particulars may be seen on application to the Vestry Clerk; and a Committee of the Estates of the Parish of Saint Sepulchre, London, will meet in the Vestry-room of the Church, on FRIDAY, the 21st OCTOBER, 1864, at TWELVE o'clock at Noon precisely, to receive TENDERS. The Committee do not bind themselves to accept the highest or any Tender.
STEP. JNO JONES, Vestry Clerk.
1, Church-porch, Skinner-street, Snow-hill.

TO BUILDERS.—A SMALL CITY BUSINESS, with excellent connexion, TO BE DISPOSED OF, together with the PLANT and STOCK. The ill health of the proprietor is the sole reason for relinquishing it. Address, A. B. C. at C. H. May's Advertising Offices, 5, St. Benet place, Gracechurch-street, E.C.

TO BUILDERS.—TO BE DISPOSED OF, on account of the death of the Proprietor, an excellent old-established BUILDER'S BUSINESS, for many years successfully carried on by the late Mr. ROBERT CRISP, at KINGSTON. For particulars apply to Mr. S. FLETCHER, Auctioneer, Kingston, Surrey.

A TRUSTEE for some ladies wishes to INVEST a few thousand pounds in small HOUSES, to pay a good per centage. As the money can be had at once, fix particulars and lowest price must be sent to Mr. COUSENS, 63, Charlotte-street, Caledonian-road.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, September 17, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1129. SEPTEMBER 24, 1864. PRICE FOURPENCE. By Post, 5d.

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BY ORDER of the SECRETARY of STATE for INDIA.

DESIGN FOR COMPETITION.—PRESIDENCY COLLEGE AND SENATE HOUSE.

The Madras Government are prepared to receive DESIGNS for a new PRESIDENCY COLLEGE, and for a SENATE HOUSE, to be built at Chepauk, Madras

A schedule of measurements, together with a plan of the proposed site, can be had on application to the UNDER SECRETARY of STATE for INDIA, India Office, Westminster.

The rates on which the work is to be calculated will also be furnished at that Office. The gross estimate is not to exceed Rupees 2,50,000 for the College, and Rupees 1,50,000 for the Senate House

The buildings will be erected on contiguous sites, and both should therefore be planned in the same style of architecture

There must be ample provision for proper ventilation, and the walls must be protected, as far as possible, from the direct rays of the sun.

The designs are unrestricted, firstly, as to the style, provided it is suited to the climate, and to the use to which the buildings are to be devoted; and secondly, as to materials, provided they are procurable in Madras, at prices which will admit of their being used in the buildings as designed

The designs must include,—

1st.—Ground-plan, and plan of each story.

2nd.—Elevation of each of the four faces, if not alike.

3rd.—Transverse sections.

The plans and elevations to be on a scale of 8 feet to an inch. A specification, in sufficient detail, to accompany each plan, to enable the Judges to decide whether the plans can be carried out within the sum allowed.

A prize of Rupees 3,000 will be awarded for the best design, provided it fairly fulfils the above conditions.

If the best designs, in an artistic point of view, fail to fulfil any of the above essential conditions, the Judges will be empowered to reduce or withhold the prize; and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.

The drawings and estimates, &c. should be sent in on or before the 1st of JANUARY, 1865, in the usual manner with motto on envelope, containing the name and address of the artist to the Secretary to Government, Public Works Department, Madras, by whom the envelopes will be opened after the prizes have been adjudged

It would be well and to Government to avail themselves of the services of the author in altering or executing the design selected, and that design will remain the absolute property of Government.

The design will be selected and the prize awarded by a Committee consisting of,

The Secretary to Government, Public Works Department.

The Director of Public Instruction.

The Chief Engineer, Madras Railway Company,

who will be asked to aid Government in the adjudication.

Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication.

April 21, 1864. (Signed) CHARLES A. ORR, Colonel, R.E.
Secretary to Government.

India Office, September 21, 1864.

BY Order of the Secretary of State for India

in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent street, W.—H. LEE, Esq. Governor.

THE ANNIVERSARY DINNER of the Members and friends of the above Institution will take place at the London Tavern, Bishopsgate-street, on TUESDAY, SEPTEMBER 27th, 1864 JOSEPH TAYLOR, Esq. in the chair. Dinner on the table at SIX o'clock precisely. Tickets Half-a Guinea, exclusively of wine.

JOSEPH KAY, Secretary.

THE NATIONAL ART TRAINING SCHOOLS at SOUTH KENSINGTON, for Male and Female Students, will RE-OPEN on MONDAY, the 3rd day of OCTOBER. For information respecting fees, &c. apply to the Schools, or to the Secretary, Science and Art Department, South Kensington, W.

By order of the Lords of the Committee of Council on Education.

LAMBETH SCHOOL of ART.—This School will RE-OPEN on MONDAY, the 3rd of OCTOBER, and the Distribution of Medals, Prizes, &c. will take place on THURSDAY, the 27th.

WEST LONDON SCHOOL of ART, 204, Great Portland-street, W.

President—A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. &c. &c.
Treasurer—PETER GRAHAM, Esq.

The School RE-OPENS for the Winter Session on OCTOBER 3; after which date admission cannot be guaranteed to new students.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood-carving, 2*l.* and 1*l.*

For Silver Work, 10*l.* and 5*l.* 5*s.* (the latter given by Mr H. Heather Bigg, of Wimpole-street).

For Transparent Enamels, 10*l.* (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10*l.* (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

SCOTTISH NATIONAL MEMORIAL to H.R.H. THE PRINCE CONSORT.—The Committee of Advice nominated by her Majesty are now prepared to receive DESIGNS to be submitted to her Majesty for the SCOTTISH NATIONAL MEMORIAL to the PRINCE CONSORT about to be erected in Edinburgh or its immediate neighbourhood. Of the Sites which have been suggested for the Memorial, the most eligible appear to be—

1. A knoll on the Spur or Ridge running NNE. from Arthur's Seat, and about 240 feet above the sea.
2. West Princes-street Gardens, at the foot of Frederick street or Castle street
3. East side of Charlotte-square Garden, facing George street
4. The Queen's Park, in the immediate neighbourhood of Holyrood Palace.

The Committee, however, desire especially to direct the attention of artists to the first named of these sites, which offers many advantages A national memorial in that commanding position would be seen by persons approaching Edinburgh at a greater distance, and from a wider circle both of the city and the country, than in any other available situation At the same time, it is not desired absolutely to preclude the suggestion of any other site which an artist may consider specially suitable for his design. The amount of funds at the disposal of the Committee for the erection of the memorial is 12,000*l.*; and the Committee regret that they are therefore unable to offer premiums or to remunerate any unsuccessful competitor for his design. It is requested that all models and drawings, not already prepared, may be furnished on a scale of one inch to the foot. No Design can be received after the TENTH day of DECEMBER.

125, George street, Edinburgh, W. S. WALKER, Hon. Sec.
5th September, 1864.

QUEEN'S COLLEGE, LIVERPOOL.—A CLASS for the STUDY of ENGINEERING and APPLIED MECHANICS will be OPENED on MONDAY, 3rd OCTOBER. The subjects taught in the College are Mathematics, Natural Philosophy, Chemistry, Geology, Drawing, Greek, Latin, French, German, English Language and Literature, History, Logic, Arabic, Hebrew, Sanskrit, Physiology, and Political Economy.—For prospectuses, apply to ASHUR CARUS, Secretary, The College, Mount-street, Liverpool.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices, apply to the Manager, Mr. TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate street Within.

BUILDERS or CONTRACTORS requiring "SURETIES" for the execution of Works of any magnitude, are requested to communicate with Messrs. TREGO, Architects, 12, Abingdon-street, Westminster.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of the City and Borough of Bath invite DESIGNS for the proposed NEW BUILDINGS, upon the site of the late White Hart Hotel, Bath, which are intended to comprise suites of rooms for families, together with hot and cold baths, mineral water, and Turkish baths in connexion with the present bathing establishment. The cost of the buildings not to exceed 15,000*l.* A premium of 250*l.* will be paid to the author of the design, to which the Town Council shall award the first place, and a premium of 100*l.* to the author of the design which they shall consider second in merit, and in the event of either of these designs being carried out, the premium of the architect competing, if he be employed, will be deducted from the usual commission. The designs are to be delivered free of cost, at the Guildhall, Bath, properly endorsed, on or before NOVEMBER 29th, and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. All designs to have the name of the author or authors attached, and to be coloured in monotone; the plans and elevations to be drawn to a scale of 1/8th of an inch to a foot. A copy of the conditions to be observed by architects, with a plan of the site, and other particulars, may be obtained of the undersigned, on the payment of 10*s.* 6*d.* which will be returned to those forwarding designs.

By order,
JOHN STONE, Town Clerk.

Guildhall, Bath, September 8, 1864.

TO ARCHITECTS and OTHERS.—DESIGNS for the METROPOLITAN MEAT and POULTRY MARKET, SMITHFIELD.—Notice is hereby given, that the Markets Improvements are prepared to receive DESIGNS for a MEAT and POULTRY MARKET, to be erected at Smithfield The block plan, with all conditions and information as to the several requirements may be obtained at the Architect's Office, Guildhall, upon payment of 5*s.* Premiums of 300*l.* and 200*l.* respectively will be given for the two most approved Designs, such designs to become the property of the Corporation. The Corporation do not engage to carry out either of the Designs which may receive the premiums, or to employ in the execution of the works either of the persons to whom the premiums may be awarded The several Designs, with all accompanying documents, must be delivered at the Town Clerk's Office by TWELVE o'clock on THURSDAY, the 1st of DECEMBER next, sealed up and endorsed "Metropolitan Meat and Poultry Market."

Guildhall, 22nd September, 1864. WOODTHORPE.

DESIGNS for FULFORD CHURCH.—FURTHER EXTENSION of TIME.—A PREMIUM of Fifteen Guineas is offered for the best SET of DESIGNS for the New Church at Fulford. Selections to be made by the Committee, and the design selected to become the property of the Committee. Extreme estimate 3,000*l.*; to seat not less than 450. Site, 60 yards square; Frontage, West—the York-road. Tower or Spire. Outside Wall, Hammered Stone The designs must be sent in, free of expense, to the Postmaster, Fulford, on or before THURSDAY, the 20th OCTOBER.

TO ARCHITECTS, &c.—COMPETITION PLANS for NEW MARKET-HOUSE and PUBLIC HALL for the town of Farnham, Surrey.—The Directors of the Farnham Market-house and Town hall Company (Limited) invite Architects to furnish PLANS, with SECTIONS, for the above proposed building, the cost of which is not to exceed 3,500*l.* A premium of 5*l.* will be given for the plan selected as the best, and a premium of 20*l.* for the second best. The plans of the two successful competitors to be the property of the Company, and no payment will be made for unsuccessful designs. Should the author of the best design be appointed Architect to the building, the premium awarded will be included in the commission that may be agreed to be paid to him.—Full particulars may be obtained of Mr. HENRY POTTER, Parish Secretary to the Company The designs must be sent in under seal, without signatures, with a private mark or motto, and a letter accompanying them, also under seal, containing the corresponding mark or motto, and the designer's name and address. They must be addressed to the Chairman of the above Company, 5, Castle-street, Farnham, and delivered before the 4th day of NOVEMBER next.

Farnham, 31st of August, 1864

TO ENGINEERS and OTHERS.—The Corporation of Okehampton contemplate BRINGING WATER into the town for the use of the inhabitants of the borough, and are desirous of receiving Plans, specifications, and Estimates for the WORKS proposed; patterns of which may be obtained at my Office. The Corporation will pay to the person whose plan shall be approved and adopted the sum of 20*l.*; but in case such person shall afterwards become the Contractor for effecting the work, that sum will be deducted from the amount of such Contract. The plans, &c. to be delivered to me within a month from this date.

JOHN MARSH BURD, Town Clerk.

Okehampton, Sept. 12th, 1864.

CONTRACTS.

WEAR NAVIGATION and SUNDERLAND DOCKS.—TO CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the ERECTION of a NEW GRANARY at the South Docks, Sunderland. The drawings and specification may be seen on application at the THOMAS MEIK, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 19th SEPTEMBER, 1864. Tenders, on printed forms, which may be obtained at the Engineer's Office, and which only will be received, to be delivered under cover, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," at 19, Fawcett street, Sunderland, not later than NOON on TUESDAY, 4th of OCTOBER, 1864. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. A. ROBINSON, Clerk to the Commissioners.

19, Fawcett-street, Sunderland, September 7th, 1864.

BLACKFRIARS BRIDGE.—TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and dressed, Bath, Portland, and rough rubble Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

[For remainder of Contracts see next Page.

WAR DEPARTMENT CONTRACTS.—
NOTICE to BUILDERS.
TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Depositn at WORKS, at Aldershott Camp and Pennhurst, at Byfleet, on the Line of Hants, in lieu of Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after One Year, on either party giving to the other three months' notice in writing.
Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid in cash, together with forms of Tender may be obtained on application at this Office.
Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.
The Tenders to be addressed, under cover, to the Director of Contract Works, Pall Mall, London, S.W. endorsed, in the left hand corner, "Tender for Works at Aldershott," on or before SATURDAY the 5th NOVEMBER, 1864.
The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders
Royal Engineer Office, Aldershott,
10th September, 1864

COAST GUARD CONTRACT.—
NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Southsea, in the county of Hants, may inspect the Drawings and Specification at the Coast Guard Watch House, Southsea, or at this Office, between the hours of TEN and FOUR from TUESDAY, the 13th inst. to WEDNESDAY, the 28th day of SEPTEMBER, now next ensuing, and both inclusive (Sundays excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 29th SEPTEMBER, in due seal, directed to the Commissioners Controller General of Coast-Guard, and endorsed "Tender for Southsea."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 6th day of September, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

TO BUILDERS. — Persons desirous of giving TENDERS for the ERECTION of a CONGREGATIONAL CHURCH, Forest Lane, Leytonstone, may see the drawings, and obtain all information, by application to the Architects,
Messrs. WM. G. HABERSHON & PITE,
28, Bloomsbury-square, London, W.C.

BOROUGH of WOLVERHAMPTON,
SEWERAGE WORKS CONTRACT No. 1.—To CONTRACTORS.—Persons desirous of TENDERING to execute about 3½ MILES of MAIN SEWERS, including VENTILATING SHAFTS, MANHOLES, OVERFLOWS, TUMBLING BAYS, and other WORKS connected therewith, in the said Borough, may inspect the plans sections, details, and specification, at the offices of the Borough Surveyor, Town-hall, North-street, on and after FRIDAY, the 9th day of SEPTEMBER, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon. Sealed Tenders to be sent in on or before THURSDAY, the 6th day of OCTOBER next, addressed to the "Sewerage Committee, Town-hall, Wolverhampton," and endorsed "Tender for Sewerage Works, Contract No. 1." The Committee do not bind themselves to accept the lowest or any Tender. No Tender will be received after SIX o'clock p.m. of the above named day. Each Tender to specify the due performance of the work. Printed copies of the specification and form of Tender may be obtained at the Borough Surveyor's Office on payment of 5s.
E. J. PERNELL, Borough Surveyor.
Town-hall, Wolverhampton, September 5, 1864.

BUILDERS and CONTRACTORS willing to TENDER for REPAIRS and ERECTION of Additional BUILDINGS proposed at Shottery Hall near Stratford-on-Avon, may inspect the specification, and send in their Offers, at the Office of Mr. JOSEPH LANGTON, Architect and Surveyor, Stratford-on-Avon. Proposals to open on DOUGLAS CURRY, Royal Naval Hospital, Plymouth, to whom Tenders are to be delivered on or before the 3rd day of OCTOBER next. The Proprietor will not bind himself to accept the lowest or any Tender.
August 31st, 1864.

PARISH of CHELSEA, in the County of Middlesex.—LINTS.—The Vestry of the Parish will meet at the Vestry Hall, King's road Chelsea, on TUESDAY, the 27th day of SEPTEMBER next, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT for TWELVE MONTHS, from the 29th day of SEPTEMBER, up to and inclusive of the 31st day of AUGUST, 1865, for the SUPPLY of the BEST CLEAN GREY BROKEN PITCHAD FLINTS, according to the sample to be seen here, to be delivered at the Free Dock, at Cremorne Walk, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock, on TUESDAY, the 27th day of SEPTEMBER instant. No Tender will be received or accepted unless made on one of the printed forms, to be obtained at my Office—By order,
CHARLES LAHEE, Vestry Clerk.
Vestry Hall, King's road, Chelsea, September, 1864.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's road, on TUESDAY, the 27th SEPTEMBER next, at THREE o'clock in the afternoon, to receive TENDERS from Persons willing to Contract, for twelve months, for the EXECUTION of WORKS, and for the SUPPLY of MATERIALS connected with those works, in the said Parish, as may be required and ordered. Further particulars, with the form of Tender, may be had on application at the Office. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of a contract, to be delivered to the Clerk by or before TWELVE o'clock on the said 27th SEPTEMBER instant. The form of Contract will be prepared at the expense of the Vestry. No Tender will be received or accepted unless made on the printed form.—By order,
CHAS. LAHEE, Vestry Clerk.
Vestry Hall, King's road, Chelsea, September, 1864.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's road, on TUESDAY, the 27th SEPTEMBER instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for Twelve months, for the EXECUTION of such BRICK and STONE WORKS connected with the SEWERAGE WORKS, according to a schedule of prices now in use at the Office. Copies of the specification of the Contract, and form of Tender may be had on application at the Office. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making the Contract in parts, if they think fit. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making Special Contracts for any part or parts of the Works. Each Tender to be signed by the party tendering, with the names and description of two sufficient sureties for the performance of a contract, to be delivered to the Clerk by or before TWELVE o'clock on the said 27th SEPTEMBER instant. The Contract will be prepared at the expense of the Vestry. No Tender will be received or accepted unless made on the printed form.—By order,
CHARLES LAHEE, Vestry Clerk.
Vestry Hall, King's-road, Chelsea, September, 1864.

FURNESS GAS and WATER WORKS COMPANY.—The Directors of the Furness Gas and Water Works Company are prepared to receive TENDERS for the CONSTRUCTION of an IMPOUNDING RESERVOIR and other WORKS. Plans, specifications, and every information may be had, and forms of Tender applied for, at the Office of the Company, Barrow-in-Furness, or at the Office of the Company's Engineers, Messrs. M'CLEAN & STILEMAN, 21, Great George-street, Westminster, S.W., or of the Secretary's Office, Broadway, Westminster. Tenders must be delivered at the Secretary's Office before the 1st day of October next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,
JAMES RAMSDEN, Secretary.
Barrow-in-Furness, September, 1864.

TO EXCAVATORS.—Tenders are required for REMOVING 3,000 yards of EARTH, and FORMING an EMBANKMENT, about 3 chains in the parish of Lewisham. The Tenders must be delivered at the Office of the Board of Works for the District of Lewisham, Lee, Kent, on or before the 30th instant. Plans and specification may be obtained on application to Mr. NORRINGTON, Clerk of the Works, Brick Cottage, South Lee; or 1, Trinity-place, Charing-cross, London.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for SLEEPERS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for the above line, about 18½ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender on which forms only Tenders will be received at the office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up and marked "Tender for Sleepers, Lincoln to Honington Line" must be lodged at the Office before TWELVE o'clock at Noon on TUESDAY, 4th OCTOBER
N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS. — The GREAT NORTHERN RAILWAY COMPANY.—DONCASTER and GAINSBORO' LINE, and IMPROVEMENT of LOOP LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the DONCASTER and GAINSBORO' LINE and STATIONS, and for the IMPROVEMENT of the LOOP-LINE, in accordance with plans and specification prepared by Mr CUBITT and by Brunlees. The length of the Doncaster and Gainsboro' Line is 23 miles, and the improvements on the Loop Line extend over a distance of about 8½ miles. Parties disposed to Tender may obtain the separate forms and Tender upon which forms only Tenders will be received at the office of Mr. CUBITT, 37, Westminster, S.W. on behalf after MONDAY the 12th SEPTEMBER, where also copies of the drawings, and copies of the general plan and section, and other information may be had, on payment of 5s. each set. Tenders, sealed up, and marked, "Tender for Doncaster and Gainsboro' Line, and Improvement of Loop and Stations," must be lodged at the Office, before TWELVE o'clock at noon, on TUESDAY, the 4th OCTOBER.
N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for CHAIRS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of CHAIRS for this Line, about 18½ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up, and marked "Tenders for Chairs," must be lodged at the Office, before TWELVE o'clock at noon on TUESDAY, 4th OCTOBER.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for CHAIRS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of CHAIRS for this line—about 19½ miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received, at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up, and marked "Tenders for Chairs," must be lodged at this Office, before TWELVE o'clock at noon, on TUESDAY, 4th OCTOBER.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO RAILWAY CONTRACTORS. — The GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for WORKS and STATIONS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the LINCOLN to HONINGTON LINE (about 19½ miles long) and STATIONS, in accordance with plans and specifications prepared by Mr. Cubitt and Mr. Brydone. Parties disposed to Tender may obtain the specifications and forms of Tender (which forms only Tenders will be received) at the Office of Mr. BRYDONE, 5, Whitehall, S.W. on and after MONDAY, 12th SEPTEMBER, where, also, copies of the bridge drawings, and copies of the general plan and section and other information may be obtained on payment of 5s. each set. Tenders sealed up and marked "Tender for Lincoln to Honington Railway and Stations," must be lodged at this office before TWELVE o'clock at noon on TUESDAY, the 4th OCTOBER.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this Line (about 18½ miles in length). Parties disposed to Tender may obtain the specifications and form of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up and marked "Tender for Rails and Fish Plates," must be lodged at the Office, before TWELVE o'clock at Noon, on TUESDAY, the 4th OCTOBER, when parties Tendering may be in attendance.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY COMPANY.—LINCOLN to HONINGTON LINE.—CONTRACT for RAILS and FISH PLATES.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS and FISH PLATES for this line (about 19½ miles in length). Parties disposed to Tender may obtain the specifications and form of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up and marked "Tender for Rails and Fish Plates," must be lodged at the Office before TWELVE o'clock at Noon, on TUESDAY, the 4th OCTOBER, when parties Tendering may be in attendance.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

THE GREAT NORTHERN RAILWAY.—DONCASTER to GAINSBORO' LINE.—CONTRACT for SLEEPERS.—The Directors of the Great Northern Railway Company are prepared to receive TENDERS for the SUPPLY of RECTANGULAR BALTIC SLEEPERS for the above—about 23 miles in length. Parties disposed to Tender may obtain the specifications and forms of Tender (on which forms only Tenders will be received) at the Office of Mr. CUBITT, 37, Great George-street, Westminster, S.W. on or after MONDAY, 12th SEPTEMBER. Tenders, sealed up and marked "Tender for Sleepers" must be lodged at the Office before TWELVE o'clock at noon, on TUESDAY, 4th OCTOBER.
N.B.—The Directors do not bind themselves to accept the lowest or any Tender. By order, HENRY OAKLEY, Secretary.
Secretary's Office, Great Northern Railway, King's-cross
Station, London, N. 25th August, 1864.

TO BUILDERS. — QUEEN'S HOTEL COMPANY, ABINGDON (Limited). — Persons desirous of TENDERING for the ERECTION of an HOTEL, STABLING, TAP, &c. at Abingdon, may inspect plans and specifications either at the Office of Mr. BARTLETT, Abingdon, the Company's Solicitor, or on application to Mr WILLIAM FISHER, Architect, Oxford—Sealed Tenders to be sent to Mr. BARTLETT, properly indorsed, on or before MONDAY, the 10th instant. The lowest or any Tender not necessarily accepted.—By order of the Directors,
A. D. BARTLETT, Solicitor and Secretary
Abingdon, Sept. 1, 1864.

TO BUILDERS. — Persons desirous of TENDERING for the WORKS required in the ERECTION of a NEW CHURCH at Ilkley, Yorkshire, may inspect the plans at North End Villa, Ilkley, or at our Offices, St. James's-street, Sheffield, where bills of quantities may be obtained, from MONDAY, the 19th day of SEPTEMBER to WEDNESDAY, the 28th, on which latter day Tenders are to be delivered, addressed to the Rev. ARTHUR PETTIT, Ilkley. No pledge is given that the lowest or any other Tender will be accepted.
BLACK OOR & MITCHELL WITHERS, Architects.
Sheffield and Rotherham.

TO SEWER CONTRACTORS and OTHERS.—The Local Board of Health for the District of Watford respectfully invite TENDERS for the CONSTRUCTION of about 7,000 feet of 12-inch PIPE SEWER, and about 2,000 feet in length of smaller Pipe sewer, with the necessary gully gratings, inverted and vaulting Shafts. Plans and specifications may be seen, and printed copies of the specification, schedule of prices, and form of Tender, on payment of 1s. obtained, at my Office, in Watford, on and after the 19th SEPTEMBER instant; and sealed Tenders, endorsed "Tenders for Drainage," must be delivered free to me on or before the 6th OCTOBER next. The Board do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of subdividing the contract, and letting separately one or more of the divisions described in the specification.
JOHN REDGWICK, Clerk to the Local Board.
Watford, September 15, 1864.

CONTRACT for LAYING GRANITE CURB and SETS, and YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties willing, from time to time, to REMOVE the above-named materials from the Victoria Docks or Wharfs on the River Lea, and to LAY the same on the Roads, Paths, and Public Streets in the district, in accordance with specifications and conditions, which may be examined at the office of Mr. MARSHALL, the Surveyor to the Board, at his Office, in Rokeby House, Stratford, E. and the Tenders are to be sent addressed to me, and indorsed "Tender for Pavement, &c." on or before MONDAY, the 10th OCTOBER next.—By order of the Board.
CHAS. WILSON, Clerk to the Board.
Rokeby House, Stratford, 13th September, 1864.

GRANITE CURB and SETS of YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties who may be willing to DELIVER any of the 6 MATERIALS, either in the Victoria (London) Docks, or on the Wharfs on the River Lea as may be named. Forms of Tenders, with any particulars and information required, may be obtained by application to Mr. MARSHALL, the Surveyor to the Board, at his Office, in Rokeby House, Stratford, E. and the Tenders are to be sent addressed to me, and indorsed "Tender for Pavement, &c." on or before MONDAY, the 10th OCTOBER next.—By order of the Board.
CHAS. WILSON, Clerk to the Board.
Rokeby House, Stratford, 13th September, 1864.

ST. GILES'S, CAMBERWELL.—To STONE MERCHANTS, MASONS, PAVIORS, KENTISH RAG, GRANITE, and GRAVEL MERCHANTS, CARTERS, SMITHS, IRONMONGERS, BRICKLAYERS STONEMERS, PLASTERERS, and OTHERS.—Notice is hereby given, that the General Purposes Committee of the Parish will meet on MONDAY, the 10th of OCTOBER next, at FOUR o'clock in the afternoon precisely, to receive TENDERS from such persons as may be desirous of entering into a CONTRACT for the SUPPLY of the undermentioned MATERIALS and LABOUR in connexion with the above trades, and as may be required to be executed and supplied in the several districts of the said parish. Separate Tenders for the supply and performance of the above-named Works will be required, the forms of which, and other particulars, may be had on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Walworth-road, Southwark, or at 1, Camberwell, between the hours of ELEVEN and THREE o'clock. Approved sureties will be required for the due performance of the contract, the names and addresses of the parties proposed as such sureties must be delivered with the tenders. The Committee do not profess themselves to accept the lowest or any tender. The parties Tendering, or their agents on their behalf, must attend at the time above named, or their Tender will not be received.
GEO WM. MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, September, 1864.

PARISH of ST. GILES, CAMBERWELL.
TO SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee will meet to receive TENDERS for the EXECUTION of Joining and General WORKS connected with the Sewers and Drains of this Parish, on TUESDAY, the 4th day of OCTOBER, at Half-past SIX o'clock precisely, at the Vestry Hall, Camberwell. Printed forms of Tender will be supplied, and no Tender will be received unless in accordance with the instructions contained in the specification and conditions, and the parties Tendering must be in attendance when the Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender.—Particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Walworth-road, Southwark, Camberwell, between the hours of ELEVEN and THREE o'clock.
GEORGE WM. MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, September 21, 1864.

LLANDUDNO NEW CHURCH. — To CONTRACTORS and BUILDERS.—Persons willing to TENDER for the several WORKS required in the ERECTION of the NEW CHURCH at Llandudno, comprising the whole of the foundations, nave, north and south aisles, transepts, chancel, and portion of the tower (as much portion thereof as may be needful), and may inspect the drawings and specifications, and obtain the necessary information, at the Offices of the Architect, Mr GEORGE PENSON, at Llandudno, on and after FRIDAY, the 23rd of SEPTEMBER, between the hours of TEN and SIX o'clock precisely, to whom the Tender for New Church at Llandudno," and addressed to the Rev. the Vicar of Llandudno, is to be delivered free of carriage, on or before the 14th of OCTOBER next, marked Tender for Contract," and sealed with the Seal of the Tenderer. The Tenderer will be required to enter into a bond to the Honorary Secretaries for the due performance of contract, in the sum of £ to the Honorary Secretaries by FRIDAY, the 14th of OCTOBER, 1864. The lowest or any Tender will not necessarily be accepted
JOHN WILLIAMS, } Hon. Secretaries.
T. C. RODEN,
Llandudno, September 15th.

TO BUILDERS and CONTRACTORS.—
PARISH of SAINT PANCRAS, MIDDLESEX.—Notice is hereby given, that the Directors of the Poor of the Parish will meet at the Vestry-hall, King's-road, Pancras, on TUESDAY, the 11th day of OCTOBER next, at TWO o'clock in the afternoon precisely, and come or TENDERS from persons willing to CONTRACT for General REPAIRS at the Workhouse premises to the terms of which Tenders to be sent to the Vestry Office, addressed to the Porter particulars with form of Tender, may be obtained, on the 1st proximo. Security will be required for the due performance of the Contract. No Tender will be received or accepted unless made out on one of the printed forms. Tenders must be delivered sealed and under cover before TWO o'clock in the afternoon on the said 11th day of OCTOBER next, marked "Tender for general repairs," and persons Tendering, or their agents, are required to be in attendance at the said Office at that time, in the afternoon of the above-named day. The Directors do not bind themselves to accept the lowest or any Tender, nor will any travelling or other expenses be allowed.—By order,
Vestry Offices, Pancras-road, F. PLAW, Clerk.
Sept ember 20th, 1864

TO BUILDERS. — KENTISH TOWN ROAD.—TENDERS are required for sundry ALTERATIONS, ADDITIONS, and REPAIRS to No. 220, Kentish Town-road. The drawings, specification, and conditions may be seen on the Premises, on and after FRIDAY, the 23rd SEPTEMBER instant. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—TENDERS are invited for the ERECTION of a CHAPEL and SCHOOLS at Halstead, Essex. The plans and specifications may be seen at the Office of the Rural Sanitary District, Earls Colne, on and after the 22nd instant, at which Office TENDERS are to be delivered by TEN o'clock A.M. on Friday, the 30th of SEPTEMBER next. The Committee do not pledge themselves to accept the lowest or any Tender necessarily, but reserve to themselves the power of selecting such Tender as may be considered most eligible for the due performance of the work.
Halstead, Essex, September 20, 1864

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



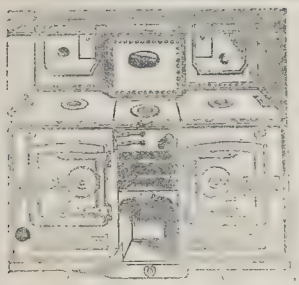
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

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Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 43*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 2*l.* 2*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-piece, from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth plates.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER,
BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES,

Sends a Catalogue, gratis, and post-paid. It contains upwards of 350 illustrations of his illimited stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

TO BUILDERS and CONTRACTORS.—NEW EXCHANGE BUILDINGS, HULL.—The Directors of the Hull Exchange Company (Limited) are prepared to receive TENDERS for the ERECTION and COMPLETION of their PROPOSED NEW BUILDINGS, in Lowgate and Bowl-alley lane, Hull. The plans, specifications, and conditions of contract may be examined, and Bill of quantities obtained on payment of one guinea, at the Offices of the Architect, Mr WILLIAM BOTTERILL, 23, Parliament-street, Hull, after TUESDAY, the 27th instant. Sealed Tenders, properly endorsed, to be addressed to the Chairman, and delivered at the Temporary Offices of the Company, 22 High-street, Hull, on or before WEDNESDAY, the 12th OCTOBER next. The Directors do not pledge themselves to accept the lowest or any Tender.

T. W. FLINT, Chairman.
Hull, 14th September, 1864. W. H. MINES, Secretary.

TO BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the EXECUTION of ADDITIONS and ALTERATIONS to the ROYAL OAK HOTEL, Sevenoaks, Kent, can apply, by letter only, to HARRY R. NEWTON, Architect, 6, Argyll street, Regent street, London, W.

TO BUILDERS and OTHERS.—POPLAR UNION, MIDDLESEX.—The Guardians of the Poor of this Union will, at their meeting, to be held at the Workhouse, High-street, Poplar, on TUESDAY, the 4th day of OCTOBER next, at TWO o'clock in the afternoon precisely, be willing to receive TENDERS for making certain ALTERATIONS and ADDITIONS to the CASUAL WARDS of the Workhouse, plans and specifications of which may be seen at the Office, High-street, Poplar, on and after the 26th day of SEPTEMBER next, between the hours of TEN and FOUR. The party contracting will be required to enter into a written contract, and require a bond, with two sufficient sureties, to be approved of by the Guardians for the due and punctual performance of the works under the terms, conditions, and stipulations contained in the specifications. Tenders must state the names and addresses of the proposed sureties, and be delivered at the Workhouse, sealed and endorsed "Tender for Works," not later than ONE o'clock of the day of meeting, and the party Tendering, or some authorised person on his behalf, must be in attendance at the meeting. The Guardians do not bind themselves to accept the Lowest Tender, nor hold themselves liable to any charge connected with the preparation of the estimate.—By order of the Board.

JAMES R. COLLINS, Clerk.
September 20th, 1864.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

IRON STABLE FITTINGS,
HOT WATER PIPES,
RAIN WATER PIPES AND GUTTERS,
RANGES — CLOSE AND OPEN FIRE,
REGISTER AND ELLIPTIC STOVES,
RAILING BARS, GATES, AND PANELS,
SASH WEIGHTS, &c.
ANDREW McLAREN & CO.
are the cheapest Ironfounders and the best makers of these and General Castings, and keep a large Stock at
LONDON WAREHOUSE,
174, UPPER THAMES STREET,
LONDON.

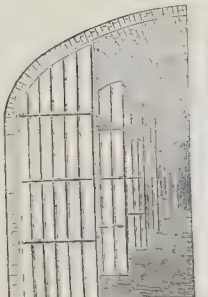
TO BRICKMAKERS.—TO BE SOLD, in consequence of the field being taken by the Brighton Railway Company, a 3 horse WASHING MILL, THREE PUG MILLS, and other Plant, all in good condition. Apply to Mr. MITCHELL, opposite the Horse and Groom, Streatham, S. or to Messrs. TROLLOPE, 1, Eccleston road, Pimlico.

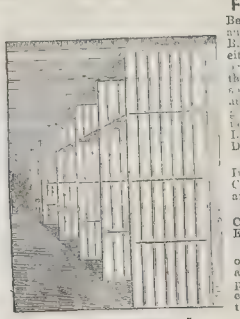
BENCHES.—TO BE SOLD, a number of JOINERS' BENCHES, in good condition.—Apply at Thames Bank Works, Grosvenor road, Pimlico.

TO RAILWAY CONTRACTORS, BUILDERS, and OTHERS.—WANTED, a quantity of IRON RAILS, in straight lengths, each 15 feet long, and weighing about 180 lb. per rail, to be delivered by barge at Chiswick. The price per ton and quantity to be forwarded to Messrs. FULLER & CO. Griffin Brewery, Chiswick; also where they may be seen.

WROUGHT-IRON GIRDERS and CAST HOLLOW COLUMNS, fifty of each, FOR SALE, cheap, nearly new. To be seen at D. ISAACS', Iron Merchant, Smith square, Westminster.—Old iron taken in exchange.

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FARROW & JACKSON

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The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

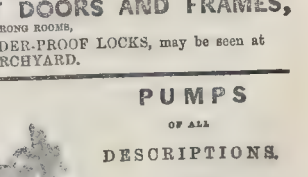
Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.

*** As these Bins were the invention of the late Mr. FARROW, and great attention has been given to them by the present Firm, long practical experience enables FARROW & JACKSON to offer the best advice as to arrangement.

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Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents of the Bin.



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WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
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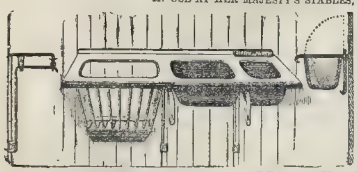
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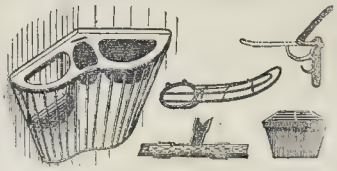
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COTTAM'S PATENT PERMANENT ATTACHED DROP COVER for the above is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

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can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.



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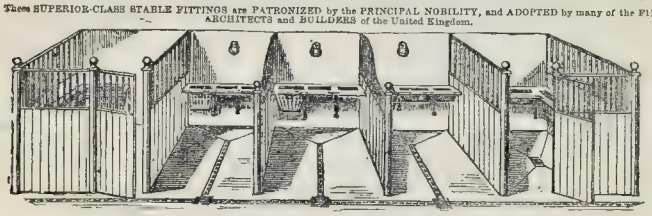
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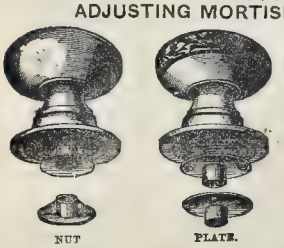
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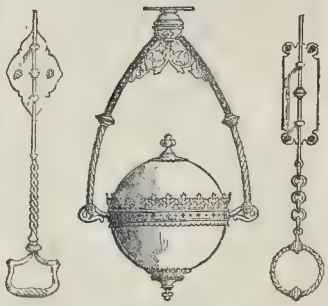
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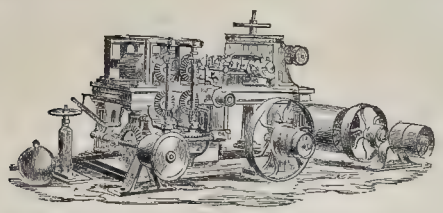


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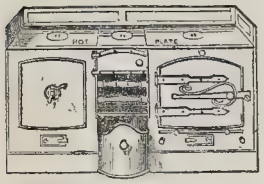
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The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

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IN EVERY VARIETY OF DESIGN AND COST,

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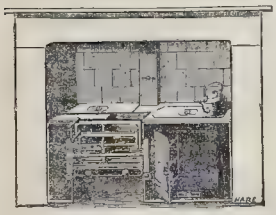
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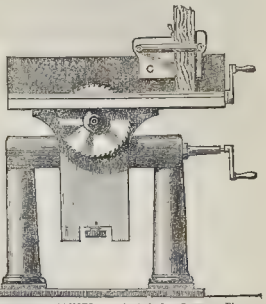
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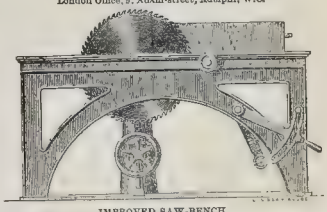
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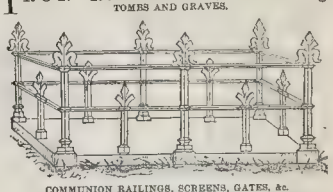
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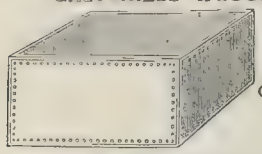
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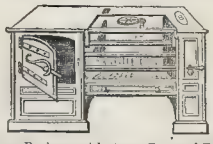
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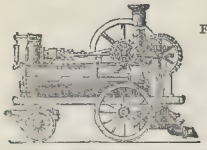
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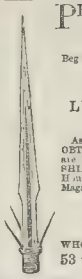
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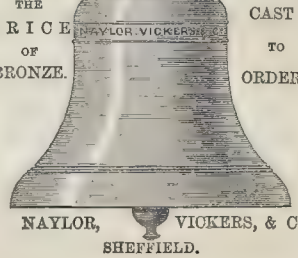
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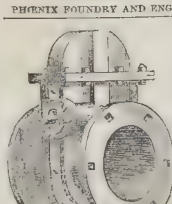
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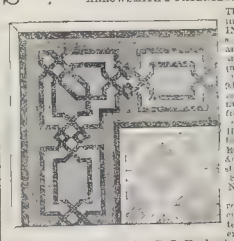
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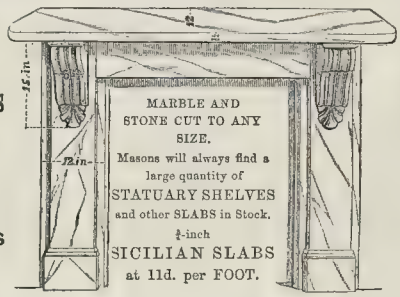
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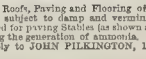
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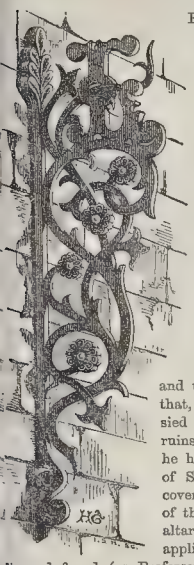
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VOL. XXII.—No. 1129.

The Great Pyramid: Is it a Standard Measure Office?*



ET us suppose that Macaulay's celebrated but now somewhat hackneyed *protégé*, — the civilised New Zealander of some future age, — Astronomer Royal, perhaps, of one of the two great "sister isles" which were taken, once on a time, from his savage forefathers by a people not much more civilised,—had just arrived from Dun-Edin, *viâ* Egypt and the Pyramids; and that, after the prophesied rumination on the ruins of London Bridge, he had visited the ruins of St. Paul's; and discovering, in the midst of these ruins, a solitary altar, or a tomb, of stone, applied his foot-rule to it, and found (as Professor Greaves did with the "pyramid coffer," as Professor Smyth calls it) that "the hollow therein" was precisely "in length, on the west side, 6 ft. and 488 parts of the English foot, divided into a thousand parts; (that is [interjects Professor Smyth] 6 ft. and 488 of 1,000 parts of a foot;) in breadth,† at the north end, 2 ft. and 218 parts of the foot divided into 1,000 parts; (that is [interjects Professor Smyth,] 2 feet and 218 of 1,000 parts of the English foot;)" and so on; would the Dun-Edin professor be justified in concluding that *because* such a "coffer" would hold almost precisely four quarters, or a chaldron, of wheat, New Zealand measure; *therefore* the St. Paul's coffer was specially given, by divine inspiration, as a standard measure of capacity, for the use of all nations? Moreover, on finding that the foot-rule whereby the workmen who built St. Paul's must, as he conceived, have been guided in their measurements, was probably made up of a certain number of inches, each *nearly* (but not quite) of the same length with those of his own foot-rule, would he be justified in jumping at once to the conclusion that the architect of St. Paul's must have therefore intended, under divine inspiration, to *originate* the British inch, not only as a universal standard measure of length for the use thenceforth of all nations, but as the 500,000,000th part of the earth's polar axis?

If the New Zealand professor were to be so absurd a reasoner, then might he announce that St. Paul's had been from the first, and then still remained, a standard measure office, built under divine inspiration, for the use of all nations; and write an ingenious treatise, based on mensuration-run-mad principles, for the New Zealanders, on their "Inheritance in the Great St. Paul's."

This is truly what Professor Smyth, with great ingenuity, has done for the Great Pyramid. His views are not quite original, however; as he admittedly follows in the footsteps of Mr. John Taylor, whose no less curious book, titled "The Great Pyramid,—why was it built,—and who built it?" was reviewed in the *Builder* on 17th December, 1859 (to which we must here refer). Professor Smyth, however, out-Taylors even Taylor, and finds out a number of singular astronomical coincidences* in the angles of the passages, including even a reference to the shape and density of the earth in the rounded grooves and square granite block or portcullis in the vestibule or outer closet leading to the metric office where the corn measure stands.

Professor Smyth himself speaks of the many strange hypotheses which have been started to account for the certainly very strange and mysterious conformation of the Great Pyramid; but really his own hypothesis of a corn-measure office, though perhaps a natural suggestion, considering the celebrity of ancient Egypt as a corn country, does not appear to us to be much more probable than the preposterous one that this nearly solid mountain of masonry was Pharaoh's corn granary. By the way, did not Mr. Jopling intend to quiz such geometricans as Messrs. Taylor and Smyth with *his* hypothesis or theory of the coffer, and its "numerous definite and peculiar proportions," all "geometrically accurate," — so that "it was a treasure *chest* of science," based on "squares inscribed or to be inscribed in the circles of the human *eye*," as an invariable unit of length, whence, according to Professor Symth, "astonishing results were brought out, in the play of arithmetical numerations?" Was not all this just equivalent, in Mr. Jopling's estimation, to the vulgar saying, "It's all in my eye?"

How the strange hypothesis of Mr. Taylor and Professor Smyth arose we think we can pretty clearly see. The idea was not quite original, even on the part of Mr. Taylor. We shall not say that Hekekyan Bey, of Constantinople, C.E., in his work titled "The Chronology of the Siridiac Monuments," in which he alludes to the Great Pyramid "coffer," or coffin, as "*the King's Stone* [of power?] deposited by the *Arions* in the *sanctuary* of the *first* pyramid as a *record* of *their standard* metric system," was giving utterance to any old Eastern idea of the supposed meaning of the monolithic chest, that is (Scotticè) kist, in the sanctuary of the pyramid, because his work rather betrays, on the contrary, the influence of Western ideas on an Eastern mind; and, besides, his book was only published in 1863. But, in the celebrated "*Description de l'Egypte*," we find M. Jomard suggesting to other members of the French Academy, then in Egypt, that he even fancied that the lidless chest might have something to do with a standard measure of length; and hinting that he thought he had detected an analogy to the then new French mètre on one part of the coffer side. Even M. Jomard, however, was by no means the first who had dreamt of such a hypothesis. Sir Isaac Newton himself had dabbled a little in such notions, but had finally rejected them, although he did recognise, as was to be expected in so sagacious a mind, certain harmonious proportions of *a fixed measure of length*, which were very rigidly adhered to, in the formation of many of the pyramid's passages and chambers;—or, in other words, in short, he had recognised the traces of the ancient "foot-rule," as we may call it,—the cubit, or other measuring reed,—with which the builders and the architect or designer worked.

A still earlier astronomer than Sir Isaac, and who had purposely visited the pyramid, and taken great trouble to obtain accurate measurements of the kist or "monument of the king" in the "consecrated oratory," as he called it, and of the oratory or chamber itself, and other parts of the interior of the pyramid, had a special object in view relating to standard measures; but *his* purpose was simply to use the kist and oratory as well-protected and unalterable *reference* measures, whereby to fix, thenceforth and for all *future* time, the precise dimensions of the English foot-rule. That this was the object of John Greaves, Savilian Professor of Astronomy in Oxford, A.D. 1643, is evident from what he himself says in the *Pyramidographia*:—

> "I am of opinion that, as this pyramid hath stood 3,000 years almost, and is no whit decayed within, so it may continne many thousand years longer; and, therefore, that after-times, measuring these places by me assigned, may hereby find out the just dimensions of the *English* feet. Had some of the ancient mathematicians thought of this way, these times would not have been so much perplexed in discovering the measures of the Hebrews, Babylonians, Egyptians, Greeks, and other nations."

Greaves is the great authority both of Taylor and of Smyth; although, in "picking and choosing,"—from among the much less "alarming" than convenient list of variations of measurement given by many different visitors,—just what was suitable to the foregone conclusion,—even Greaves is not held to be immaculate. Taylor and Smyth's hypothesis of a divine metric office, however, appears really to be little else than an attempt to invoke divine aid, or rather the aid of religious or even superstitious feeling, in support of Greaves's very sensible object, by attributing to divine inspiration, in "a chosen race," of extreme antiquity, what was really a mere scientific inspiration, in an Oxford professor, of the seventeenth century.

But if this new hypothesis must go the way of all the others, is there no possibility of otherwise accounting for the certainly strange and mysterious conformation of the Great Pyramid? This we will say,—that if the mystery shall ever be revealed, this must be done through a consideration of the ancient practices and doctrines, as well as structures, of the ancient Egyptians themselves; aided, probably, by a like consideration of structures analogous or similar to the Egyptian pyramids, and of practices and doctrines connected with such structures, among other nations.

But what *are* the peculiarities of the Egyptian Pyramids, and especially of the Great Pyramid?

To whatever other purposes these pyramids (perhaps the Great Pyramid excepted) may have been originally devoted,—at least in their first design,—we believe there can be no doubt that they were used for the burial of kings or other great persons. Generally speaking, they were built of solid masonry, with comparatively little open space in their interior: indeed, *a long low narrow passage, or "transe," leading downwards to a subterranean chamber, in which was a sarcophagus, or stone coffin, occupied by a mummy, and covered by a ponderous lid, cemented down,* may be said to have essentially constituted the entire arrangement. As for the Great Pyramid, however, there is this peculiarity, that, while it possesses the *descending* passage and the subterranean or sepulchral chamber, another and *ascending* passage strikes off out of the descending one, far short of its sepulchral issue; and, after opening up suddenly into a still ascending or sloping and magnificent gallery, of great height, ends in the vestibule or outer chamber leading to the hall, or large and well-ventilated apartment, in which stands the "open chest without a lid," which has so often been visited and described. This

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* "Our Inheritance in the Great Pyramid." By Professor C. Piazzi Smyth, F.R.SS. L. & E.; Astronomer Royal for Scotland. London: Strahan & Co. 1864.

† Notwithstanding the excessive care and accuracy of the author, in his anxiety not to be here mistaken or misunderstood, he puts his semicolon not, where it ought to be, at the word *parts*, but at the word *breadth*, leaving not even a comma at *parts*; and thus making mere nonsense both of Greaves's words and of his own.

* There appears to be no doubt that the orientation of the pyramid is correct; and it is even supposed that the angle of the passage into the interior, together with the angle of the northern air-channel, point out correctly the position of the axis of the earth with reference to the pole star of the time of the pyramid's construction. The reference to the air-channel, however, which it is impossible to see through, casts a doubt upon this so far as it is concerned, and had there been such purpose in view, would not the mean position of the pole star of the time have been marked in some way? We do not insist upon this point, however: those capable of placing a building due north and south, were certainly capable of pointing to the pole-star of the time at which it was erected.

chest, or kist, then, "the one only thing in the pyramid's huge entrails," as Sandys has it, is the evident analogue of the subterranean sarcophagus or coffin of the other pyramids; but it is without a sign of ever having had a lid, and is the sole occupant of a splendid hall of polished granite, 34 ft. 3 in. long, 17 ft. 1 in. broad, 19 ft. 1 in. high, and placed 138 ft. up from the ground-base of the pyramid on the rock; beneath which base, still 90 ft. 8 in. further down, is the subterranean or sepulchral chamber. The King's-hall, moreover, is most skilfully and thoroughly well ventilated by two air channels, running upwards, one to the northern surface of the pyramid, 233 ft. long, and the other to the southern, 174 ft. long; so that the chamber is regarded as one *much more likely to have been used by the living than by the dead.* Still, the likeness to the other pyramids might lead us to consider it merely as the abode of that *death* on which the Egyptians were ever meditating, were it not that there are historical records, such as that of Diodorus, that it never was used for burial; and there are no traces of grooves, catch-pins, or other fastenings for a lid, nor of any process of cementation, whereby the lid of a sarcophagus was as usual fastened down.*

If this noble apartment never was the abode of death, however, it must undoubtedly have been used for an *analogous* purpose; and, considering the known practices of magicians, such as the ancient Egyptian hierophants were, the very obvious purpose of using it in that *similitude of death*—the oracular entrancement of initiation—(in those "*dead* in the flesh but *quickened* by the spirit," in fact), which they are known to have practised in what was called "the temple sleep," and "the blessed life of the gods," at once presents itself. This similitude of death was the *psychopompos*, or "death in a higher sense," which they ascribed to their Hermetic or Mercurial god. The death of "the pit of corruption" beneath, was thus probably contrasted with the holy death of the god-possessed hierophants above; and, in the attainment of the higher state, or the "exchange of this life for the blessed life of the gods," as Iamblichus, on the Egyptian Mysteries, describes it, the novitiates incurred certain obstacles and terrors of darkness and light, and ran certain risks of falling into the pit, or of otherwise ending their career far short of the high and grand ulterior object which the Hierophants had in view.

But do we find anything similar to such magical structures and practices amongst other nations? Unquestionably we do.

The Mithraic cavern, or cell, of the Cabiri, according to Faber, though sometimes subterraneous, also sometimes lay concealed in the centre of enormous buildings of the pyramidal form; or, as in the tower of Belus at Babylon, in a *temple* at the top of the pyramid, with a *shrine* at the bottom. The temple of Belus, which was reached by a winding passage round the pyramid, stood exactly in such a position as the temple of Buddha now does in modern Chaityas in Ava and Siam,—at the top of *seven* stories. Like the Great Pyramid itself, the tower of Belus, at that great centre of sorcery or magical practices, Babylon, has been erroneously supposed to have been devoted to astronomy. That is quite inconsistent with what Herodotus tells us of it. He says that the *temple* above the *shrine*—the *apartment* for the *living*, in fact, above the *tomb* of the *dead*—contained a golden table and an elegant bedstead (like the "beautiful couch" of the Egyptian god-possessed); and that a chosen priestess lay upon the bed and was there visited by the god Belus (or Baal), by night, which obviously means that the priestess became god-possessed, in this "high-place of Baal,"—this *temple* of the *pyramid*, -by night, through entrancement, as an oracle, whose responses, while in "holy rest," or (Buddhist) "repose,"† were probably written down, as Sibyline leaves, at the golden table.

Pyramidal barrows, with temples at the top which were called "the *house* of the *god*," are common even in America; and such barrows, though without the outward temple, are scattered all over Asia and Europe, and are to be found even in this country and in Ireland. Such is the immense one at New Grange, which has one known and curious central chamber, or sorcery-hall, as the similar one at Maeshowe is runically inscribed. This central hall is, in all cases, reached by a long, low, narrow passage, or transe, just such as that of the Egyptian pyramids. The plan of the central chamber, or sorcery-hall, at New Grange, is cruciform; and at one side is a rude stone "bason," as it has been called, on the earth, with an inscription (in Ogham or in Runic characters) which has been translated as,—"The *tomb* of the hero;" (the abode of the *dead*;) while at the other side of the cross is another stone "bason," standing—not on the earth, but—on the rock of the site, with an inscription which has been translated as—"the *house* of the god" (the abode of the *living* god). The chamber is dedicated "to the Great Mother, Ops." *

That the Great Pyramid was a temple,—or rather, contained a temple,—seems to have been a very general idea; and even Professor Smyth himself calls it a temple. A section of the "consecrated oratory," as Greaves calls the high chamber, or sorcery hall, has, together with its outer apartment, all the appearance of a section of an Egyptian temple; and the inner chamber has been even called the sanctuary, as well as the oratory. On the supposition that the lowest chamber in the subterranean was devoted to death, and the highest to life in the "similitude of death,"—or, to god-possession, or the oracle, in entrancement,—it is probable that the middle chamber, between these two, had some relationship to that other similitude and "brother" of death which is neither the accursed death of corruption nor the holy and blessed death of entrancement, but the natural and daily death of sleep, the "brother" both of death, on the one hand, and of entrancement, on the other.

Keeping in view the *deathlessness* to which the god-possessed aspired, as among the Druidical "deathless brotherhood," the Greek and other immortal gods,† and the Buddhist undecaying illuminati in the "salvation" of Nirvana;‡ the conclusion, as to the origin of the Great Pyramid, to which Professor Smyth comes, from a consideration of historical records, is rather remarkable.

The "Hyksos," or "Shepherd Kings," were an historical race, who invaded Egypt as conquerors at a period of extreme antiquity,—long before the sojourn of the Israelites in Egypt. Manetho, who lived some centuries after Herodotus, says of these Hyksos,—"There came up from the east, in a strange manner, men of an ignoble race, who had the confidence to invade our country, and easily subdued it by their [magical ?] power, without a battle;" and, after several reigns, they capitulated with a valorous Egyptian monarch, and left the country "quietly, and entirely, with all their people and goods; and did so leave it going by way of the Desert, towards Syria, *where they built Jerusalem.*" That these Hyksos were not the Israelites is evident, not only from what Manetho says of their invasion, but also from his separate and subsequent allusion to the Israelites. Still, they would appear to have been of a kindred race; and Professor Smyth ingeniously suggests that that most mysterious character, Melchizedec, King of *Salem* [or *Jerusalem ?*], King of Peace and Righteousness, to whom Abram did obeisance as to his superior, and who was a high priest of the "order" to which, according to St. Paul,* even Jesus himself belonged, was probably the very king who invaded Egypt, and built the Great Pyramid as one of those grievous tasks to which the Hyksos put the Egyptians. And accordingly, Professor Smyth finds allusions to the pyramidal form in scriptural passages such as those which refer to Jesus Christ as the head stone of the corner, the chief corner stone, and "the head stone of the great mountain." That the Great Pyramid was not designed (though it was built) by the Egyptians themselves, Professor Smyth concludes not only from the utter want in this pyramid of those hieroglyphics of which the Egyptians were (afterwards ?) so fond, but also from what Herodotus says of its immediate directors or orderers, that they were hated by the native Egyptians.

Now the origination of the pyramidal form in Egypt from the farther east would be quite in accordance with the numerous traces of the spread of such structures westwards even from India, whence it is probable also that the Egyptian doctrines emanated; and, in reference to "the deathless brotherhood" who constructed and used such pyramids or barrows for religious purposes, or as sorcery halls, in this country,—or at least in Ireland and in Orkney,—it is a notable circumstance, of which Professor Smyth takes no account, that it is said of the mysterious Melchizedec, King of Salem, or Jeru-salem, that he had "the power of an endless life;"‡ or was, in fact, of "the order" of that "deathless brotherhood" of eternity, and children of "the divine mother,"—"children of the light,"—"children of the evening," as with the Druids,—or initiated and immortal brothers, as with the Nocturnal Society (Societas Noctis) of more classical times;—and hence (being a *new man* and also a God, or a son of God‡) he was "without [natural] father or mother." To this "deathless brotherhood" of "the order of Melchizedec," as we have said, even Jesus of Nazareth, the Son of God, *par excellence*, belonged.

* On this question see also review of Taylor's work in *Builder* of 17th December, 1859.

† See *Builder* of 16th October, 1858, on Wing Symbols.

* For further remarks on this subject, see letter by J. E. Dove, "On Wing and other Symbols," in *Builder* of 16th October, 1858.

† Science, genius, and *immortality* were said to be the fruits of initiation into the mysteries of the Greek Ceres and the Egyptian Isis;—not so much the fruits of the mere initiation into the life of entrancement, or "life of the gods," however, as of the continued and daily or nightly practice of that life, or the "often exchanging this life for the blessed life of the gods," as Iamblichus expresses it. Thus initiation was merely the initiative; and it was this initiative through which Triptolemus, or Demophōōn, was said by Homer to be passing when the divine mother, Ceres, or Isis, was interrupted, by the terror of his natural mother, during the goddess's immortalizing work upon her son's dying body, every night, upon his bed, in her temple, at his father's house. Under the divine influence of the goddess, as Homer's hymn, "In Cererem," has it, the novitiate (of the *second birth*, or *Child* of "the Great *Mother*,"—

> Grew like an offspring of ethereal race:
> Health crown'd his frame and beauty deck'd his face:
> No mortal food he ate: the Queen, adored,
> Around him oft ambrosial odours pour'd.
> *Oft* as the *child* was *on her bosom* laid,
> She *heavenly influence to his soul* convey'd.
> *At night*, to purge from earthly dross his frame
> She *kindled* on the earth the *unconsuming Flame*;
> And, like a brand, unmark'd by human view,
> *Amid the Fire*, wide blazing, *frequent* threw
> The *unconscious* Child: his parents wond'ring trace
> Something *divine*,—a more than mortal grace,—
> *Shine* in his form,—

until "one fatal night," when his mother saw "Consuming Flames around his body roll," and then "Wrath seized the goddess," and she,—

> Furious thus began: Oh, mortals vain!
> Whose folly counteracts what Gods ordain:
> Who, lost in error's maze, will never know,
> *Approaching blessings* from impending woe!
> Long, for the rashness that thy Soul possess'd,
> Shall keen reflexion agonize thy breast;
> For, by that oath which binds the powers supreme,
> I swear;—by sable Styx—infernal stream;—
> Else, had thy son, *in Youth's perpetual prime*,
> *Shared heavenly joys*, and mock'd the rage of Time.
> But now 'tis past! from fate he cannot fly:
> Man's common lot is his: he breathes to die.

‡ See on Bird and other Symbols in *Builder* of 15th January, 1859.

MODERN SCULPTURE IN FLORENCE.

ONE interesting circumstance to be observed in the modern sculpture of Florence is the reality and progressive excellence manifest in the superior character of recent as compared with earlier works. Though this school was, unhappily, deprived by death, a few years ago, of its most esteemed master, Bartolini, it owns, among the living, representatives who may be allowed very high places, and who have produced creations scarcely surpassed by anything of recent origin in Italian art. Fedi, Dupre, Santarelli, may not be considered equal, as artists, to Tenerani or Benzoni, but the finest achievements of the Florentines might vie with many of those most admired among works by their contemporary competitors at Rome. In portrait-statuary we know of nothing finer than Bartolini's "Machiavelli," the last-erected of the twenty-eight statues of Tuscan celebrities in niches along Vasari's portico under the Uffigi: a figure, indeed, wonderful for individuality and calm concentrated thought, conveyed with the noblest simplicity of treatment. The sainted Archbishop of Florence, Antoninus, in the same series, also does great credit to its artist, Fedi. Most admirable of the works to be classed with novelties, and yet to be seen only in the studios of sculptors here, is one that has received a high tribute from public opinion, having been (much to the honour of Florentine citizens) purchased by popular subscription to fill an illustrious place in the majestic loggia of Orcagna, and consequently be associated with the bronzes of Cellini and Donatello, with the marble grouping of Giovanni Bologna, and (we might also say) with the proximate "David" of Buonarotti, the "Hercules" of Randinelli, as well as with the fine old architecture of the Palazzo Vecchio. Such the destination of the colossal group by Fedi (expected to reach completeness within about six months) of "Pyrrhus and Polyxena," the tragic moment represented being that when the

* Hebrews, v. 6.

† Hebrews, vii.

‡ "As many as are led by the Spirit of God, *they* are the Sons of God."

fierce conqueror seizes the Trojan virgin, to sacrifice her on the tomb of Achilles, in order thus to appease the Manes of him she was to have wedded, while Hecuba, prostrate before the haughty warrior, in vain intercedes for her hapless child,—a subject purely painful and horrific, illustrating all that is darkest in superstition and most hatefully ferocious in war, only capable of being rendered poetic or impressive through such treatment as the artist has triumphantly attained, by investing the personages with ideal beauty of so high an order, and so ennobling the action by vigour and grace, the expression by power and pathos, that the moral odiousness of that action itself is lost sight of, admiration and astonishment subduing every other emotion as we look on this masterly creation. By the same artist is a statue, ordered by royalty, of "Tuscan Civilization," personified as a female, of majestic, but rather too proudly self-conscious aspect; and we may dwell with more pleasure on his group of "Love consoling the Soul," allegorized as Cupid welcoming to life and joy the reanimated Psyche,—a truly poetic and finely conceived composition. By Pazzi (a native of Ravenna), is the colossal "Dante," for the monument to be inaugurated on the piazza before Sta. Croce, during the celebrations of the tercentenary festival, next May. Nearly completed in the marble, this statue represents the great poet erect, stepping forward, as in slow and stately and suddenly arrested movement, the laurel crown on his head, an eagle beside his feet, the draperies falling in ample folds well disposed around the person; the expression, conveyed with much skill and truthfulness, that of profound thought and lofty feeling in which indignation predominates over other attributes, still living, though retiring and subdued. The sentiment of this fine statue reminds us of Byron's "Prophecy of Dante," not in respect to any particular passage, but the general tone, the pervading emotion of that magnificent poem. Dupre is now finishing his reliefs for the tympana of the portals of Sta. Croce, the "Invention," and "Elevation of the Cross," both treated with a largeness of conception and imaginative power that approach the epic in character; and particularly impressive is the assembly of the great, the gifted, and saintly ones — Charlemagne, Constantine, Dante, St. Thomas Aquinas, females of the New Testament, and others—united with angels to worship before the sign of Redemption. The "Mater Dolorosa," by the same artist, already in its place under a canopy above the chief portal, is a figure marked by all the dignity of sorrow tempered by the tenderness of resignation. A large monument, lately erected in a chapel at S. Lorenzo, has been much spoken of, and often admired in the studio before its transfer—certainly one of Dupre's most beautifully-finished works,—the memorial of a wife cut off by early death, a Polish lady whose widower is the Commendatore Ferrari Corelli. The principal group, above a sarcophagus, representing the deceased borne away by an angel who clasps her with one arm, and is soaring with her from the ground, so that, through a difficult technical achievement, both figures appear detached, the feet of neither having any apparent support, the draperies alone resting on the sarcophagus. Below, laterally, stand the figures of two females, alike graceful and distinguished by serene loveliness, one in the act of giving food to a little naked boy,—these being the personified virtues of the deceased, Modesty and Charity. Other statues of children, very pleasing and naïve, hold up draperies over the archway that surmounts this monument. We have only to object that the group of the angel and lady is conceived too like a scene of earthly love, wanting religious dignity, and altogether reminding, but too naturally, of a romantic *enlèvement*. Dupre's "Sappho," much admired at the National Italian Exhibition in 1861, is still (we are surprised to see) in his studio, and uncommissioned. Santarelli is finishing in the marble a "Corinne," in act of improvising, seated, with her lyre in one hand, not striking that instrument, but looking upward in earnest expectancy and rapture; a melancholy enthusiasm, appropriate indeed to the subject, the distinguishing expression of this statue, which has not, however, sufficient intellectual fervour to remind us of Madame de Staël's heroine. "St. Francis" (colossal), with the cross in one hand, calling down the Divine benediction on his first followers, is another vigorous and original statue, now to be seen in the same studio, and destined to stand in the open air within the Franciscan cloisters of the Ognissanti church. In figures of children Santarelli is happy and truthful, as evinced in recent works—the youthful "St. John;" "Cupid tormenting the Soul," in form a butterfly, which he wounds with his arrow; "Innocence Endangered," a young girl (beyond childhood, indeed), to whose feet a serpent is approaching through the flowers among which she sits, with an open rose in her hand—a subject too painful, for it seems the Innocence that is about to be inevitably lost. Costoli is executing a monument to Madame Catalani, to be placed in the Campo Santo of Pisa—the composition including figures of St. Cecilia, Indigence (why here introduced?), and an angel: the saintly patroness of Music standing alone on a basement, her form and action graceful, dignified: the angel seated below, on one side, writing a record of the virtues of the dead; Indigence, a female, seated at the other side; on the front a portrait-relief of the celebrated songstress from a bust, plain but expressive. This artist competed for the monument to Columbus, erected last year at Genoa; not successfully, but the design he presented has so far obtained suffrages in private, that three reproductions of his group, "Columbus, with the personified Quarters of the World," have been ordered for America. His relief of Columbus planting the cross after landing, surrounded by his comrades and by native Indians, was accepted, and is now one of the sculptures adorning the quadrate basement of that monument, for which Freccia executed the principal figure, and Santarelli the figure of Fortitude, one of the colossal personifications introduced around that central object. In the relief by Costoli, the principal figure is least satisfying, indeed undignified; the others, more ably treated. We believe that general consent must assign to Fedi and Dupre decidedly the highest ranks among living Tuscan sculptors.

MURRAY'S HANDBOOK TO PARIS.*

MR. MURRAY'S services to travellers have been so great, and his Handbook for France is so valuable as a book of reference as well as a guide, that his Handbook for Paris, some years announced as in preparation, and which has just appeared, will command an extensive circulation, which the utility of the work will justify. It is not, however, so decidedly superior to several recent guide-books as might have been anticipated; though it has certain advantages in portability, and in arrangement for reference. It is assuredly inferior to the smaller Handbook for London, particularly through not having type-diagram plans such as formed an especial and excellent feature in that work, indicating the exact position of objects of interest. We have heretofore given some attention to principles of the compilation of travellers' guides; and we are glad to notice Mr. Murray's efforts to reduce the bulk of his volumes. This reduction, merely, preserving the necessary information, could scarcely go farther with advantage, than in the volume which is before us; but we are inclined to think that abbreviation and excision of words, and tabulation, as after the system of the section headed "Palaces and Objects of General Interest," wherein the objects interesting to the architect are divided (not always correctly, however,) into the heads Roman, Gothic, Renaissance, &c., and of that headed "History," which is in the form of a chronological table, might have been made more use of, so as to have allowed room for other matter. The general alphabetical arrangement, which is that of the volume, has not the advantage over the arrangement in routes, with a good index, and a reference list of streets also supplied, that might be supposed without actual experience. Suppose the visitor to be walking along any street, he will come to some building of striking appearance, but which has not its name written upon it. Unless he can inquire of a passenger, which often he will not be able to do, the Handbook will be useless at the time. His only chance will be to note the name of the street, and the number of the building,—fortunately visible in Paris on public building as on private house,—and as ought to be the case in London; and, when he gets back to his hotel, he may turn out in Didot, the name for which he should be able to look in the Handbook. Of guide-books yet published, none quite meet this difficulty. Those which adopt the itinerary might well take a hint from the typographic arrangement with conspicuous headings, of the alphabetical plan as we find it in Mr. Murray's volume. We have not seen the last edition of Galignani's Paris Guide; however, judging from that which preceded it, even with the bulk, and the occasional diffuseness, that work is not less necessary than it was. We have had occasion to make much use not only of those portions of it which describe the various objects of interest, but also the portion giving the statistical and general information. The intellectual advantages to be derived from travel, and the too general blindness and presumption of our countrymen when abroad, have been fittingly spoken of in more than one of Mr. Murray's Handbooks. In one of the earliest, we find, to the point in question, an extract from the *Quarterly Review*, wherein is quoted Johnson's saying that "A man must carry knowledge with him, if he would bring home knowledge." To that end, in our thinking, the visitor to such a place as Paris should find in his guide-book, either the general information which may be necessary to his appreciation of the great subject, which is more than that of "sights," or find at least the direction where to gather the information. The manner of visiting the French capital, along with the appreciation of a great nation which is evinced, by the large majority of our countrymen, simply fills us with shame. It is no defence, or proper excuse, to say that Frenchmen also have "the idea of the amazing superiority" of their own country "above all other countries, in all respects," similar to that which the Handbook just now quoted from, ascribed to ourselves. Like the Turks who have been to Europe, and return more bigoted and narrow-minded Turks than before (though we have known exceptions), our travellers, the majority of them, speaking not sufficient of any foreign language to learn anything thereby, and more than ever bent on getting over the ground, return not with prejudices removed but confirmed. Too many of the "excursionists" are of this class; and their demeanour in the streets of Paris is often not what a good patriot should desire. Such visitors require a portable guide; and, indeed, we want something of the portable and ready-reference kind for ourselves; but the better sort of travellers, our own readers, and those travellers who have most highly appreciated Mr. Murray's Handbooks, will desire something more than a dictionary of sights, and to "carry knowledge" of the country and the people "with" them, in order that they may "bring home knowledge." In the Handbook that is now before us, we must admit that there is under many of the separate headings, information of the kind that we desire to see, and altogether that the volume contains much of it. And the fact that there is ground, throughout the volume, for the assertion of the Preface, that "The notices of the different monuments and public establishments have been carefully brought down, from personal examination, to the present time," gives a certain value to the work as compared with some others. There are, however, rather more mistakes in the information, and of the press, than we expect to find in a second edition; and these errors seem to be exactly of the kind that, for our readers whom we advise to get the volume, we ought to point out. Some of them touch questions on which we have written. Thus, the Handbook gives the population of Paris as 1,696,141, "in May, 1863;" whereas, that was the population of 1861; to which, for 1862 alone, there should be added, judging from previous experience, the number 34,000. Our readers know how important is accuracy in such statistics, to right conclusions in some of the questions that are just now the most interesting for the visitor to Paris who is not a mere idler. The Handbook, similarly, misstates the figures of the births and deaths,—giving for 1863, those of 1862. The cattle-market spoken of as at Sceaux, is only called *Marché de Sceaux*: those who wish to visit it will find it on the road, at Bourg-la-Reine. When going east along the Boulevart St. Denis, the Boulevart de Strasbourg opens left only; the line to the right bears the name Boulevart de Sebastopol, which elsewhere in the Handbook is given to the whole line including the Boulevart de Strasbourg. The Arc du Carrousel should not be spoken of, without qualification, as in imitation of the arch of Severus: the resemblance is scarcely more than that between any two monuments of the Roman triumphal arch character, and having three

* "A Handbook for Visitors to Paris; containing a description of the most remarkable objects in Paris, with general advice and information for English Travellers in that Metropolis, and on the way to it. With Map and Plans. London: John Murray, Albemarle-street. 1864." 12mo., pp. iv. & 260.

openings; whilst the sculpture is original, and highly creditable to French art. We should certainly class the Madeleine as Roman, and not "Italian," and Ste. Clotilde not as Early Perpendicular. We do not think that the models and machines in the Conservatoire des Arts et Métiers include nothing "really interesting to the man of practical science or the general visitor:" we think rather that they abundantly justify the desire of all English men of science who have visited the Conservatoire, that we had something of the same kind in this country. The fortifications are not faced with brick, but stone. The remains of Napoleon *have* been placed in the tomb: they were placed there either in 1861, or the commencement of the year following. The sewers along the quays, and the outfall, spoken of as works for the future, have been some time in operation; though the whole system for the south side may be incomplete. M. Davioud is architect of the two theatres of the Place du Châtelet; and the *Folies Dramatiques* and the *Délassements Comiques* have disappeared from the Boulevart du Temple, and are elsewhere. The matter under the head "Army," in the Handbook, is very defective, even taking in Paris alone. We should be disposed to write down the one franc as the fraction which it is over "9½d.": the traveller may do well to call it 9½d.; but using a table where opposite some of the other denominations in French money, the minute fractions appear, he would be less confused with a self-consistent system. The maps and plans in the Handbook are not all so clearly engraved as they should be; the Parc de Vincennes appears neither as a separate plan, nor in that of Paris; and the latter plan is scarcely such that "the stranger may dispense with any other," at least if there be one on sale in Paris,—as lately there was not, at least correct. As this plan is referred to throughout the Handbook, it should have been mounted, or printed on cloth, like most of Mr. Murray's maps. And there are not only omissions in the plan, but there is such confusion between new lines of street, and old, as amounts to inaccuracy: in fact, some of the new lines are shown with buildings obstructing the route; though the lines are really open. We may observe that the scale appended, showing one mile the same as 1,600 *mètres*, may serve the purpose; but the fact that the mile is more by 9·3149 *mètres*, should have been stated. The Bièvre runs into the Seine, not out of it.

We have mentioned these inaccuracies in the work, and what we have considered to be some of the desiderata, with the hope of contributing to the production of a good as well as portable guide to Paris, and aiding that appreciation of what is interesting in the capital, and worthy of admiration in the French people, which we have referred to as in the spirit generally of the treatment of Mr. Murray's Handbooks. However, we could have easily found in this one of them, as many passages with the same bent, and claiming therefore our approval, as we have portions which seem defective or incomplete. The whole of the defects can be easily remedied; and even looking at the Handbook as it is, certainly we are disposed both to have it for reference, and to take it with us, as well as the better known, but more ponderous volume.

MASTER MASONS: EDWARD STRONG, &c.

My father possessed, and was proud of possessing, a copy of Small's "Treatise on Ploughs," carrying on its title-page, in a rough, free, manly hand, these memorable words, "Robert Burns, Poet." The book is now mine, and by its side stands a companion volume, precious in my eyes, of "Poems, chiefly in the Scottish Dialect. By Robert Burns;" on the title-page of which is written "Allan Cunningham, Mason, 6th April, 1804." My father was then in his twenty-first year. The writing is the handwriting of each. "Burns had an unmistakable right so to describe himself," my father once observed to me, on my calling his attention to the contrast in the descriptions. "There is no apprenticeship to poetry. I was apprenticed to a mason—to my brother James—and I am sure I am a mason, ay, a master-mason, and a good one:—when I was last in Edinburgh I could trace the marks of my chisel on many a stone in Charlotte-square. Yes," he added, after a pause, and with an air of pride, "and the stones were well and truly wrought."*

* The *Builder* has called attention to the Masons' Marks still existing upon stones squared centuries since.

Masons have been architects, and occasionally good ones (the York water-gate, on the Thames, has recently been taken from Inigo Jones, architect, and given to Nicholas Stone, mason); but there is no instance, I believe, of an architect *proper* having ever been a mason *proper*.

In the church of St. Peter, in the disfranchised borough of St. Alban's, is a large well-wrought monument of marble (and good marble, too) carrying beneath a life-sized bust of the deceased (sculptor unknown) this suggestive inscription:—

"Near to this stone are deposited the Remains
of
EDWARD STRONG,
Citizen and Mason, of London,
whose masterly Abilities and Skill in his Profession the many public structures he
was employed in raising will most justly
manifest to Posterity.
In erecting the edifice of St. Paul's several years
of his life were spent, even from its
foundation to his laying the last stone.
And herein,
equally with its ingenious Architect,
Sir Christopher Wren,
and its truly pious Diocesan, Bishop Compton,
he shared the felicity of seeing both the
beginning and finishing of that stupendous
Fabric.
In piety to his God, in justice, fidelity, kindness,
and charity to his neighbour;
In temperance, humility, contempt of the
world, and the due government of all
his appetites and passions;
In conjugal and paternal affection, in every
relation, every action,
and scene of life, He was what the best man,
the best Christian,
would desire to be at the hour of Death.
He Died the 8th of February, MDCCXXIII.,
In the 72nd year of his Age.

Near Him lieth
Martha,
49 years his most beloved Wife:
A Wife in all respects worthy of such an Husband.
She Died
Ye 15th of June, 1725, aged 72 years."

Their only Daughter,
Elizabeth New, of Newbarns, Widow,
died 26th October, 1747, aged 71 years.

The bust *seems* a fine one. I say seems; for, shame to say, the monument is *now* buried beneath a cumbrous west end gallery at a distance of some five-and-twenty feet from the spectator; so that the chin, mouth, and nostrils of Sir Christopher Wren's Master Mason at St. Paul's, "from its foundation to his laying the last stone," are alone seen.

I had the pleasure of seeing (half-seeing, rather) this fine monument in company with a skilled Master Mason—an old Pimlico acquaintance of mine from boyhood—Mr. Samuel Cundy. Need I tell you how much we joined in a mutual regret that a monument in every way so interesting should be thus buried? A small sum, he said, would cover the cost of moving it to a better site in the church, and it would then be once more a monument to be seen and admired. Perhaps the *Builder*, for so good a purpose, would undertake to receive subscriptions from one and all towards so good an end. I will vouch for obtaining the consent of the worthy vicar, the Rev. H. N. Dudding; and to see that men of skill and care (I was almost born in Chantrey's marble-yard) remove it with reverence to a proper site. There are masons, I may here observe, busy in replacing the compo-covered Perpendicular tracery of the south-west windows of the church with well-wrought stone; so that skilled men are at hand to effect what is necessary. Nor do I doubt of seeing it soon and well done, with your all-influential assistance, Mr. *Builder*.

The fate of monuments erected to English architects has been a little unfortunate. The monument to Inigo Jones, in the church of St. Benet, Paul's Wharf, was destroyed in the Great Fire, and the tomb-stone of Nicholas Hawksmoor (Wren's celebrated pupil) is to be seen in the churchyard of Shenley, shamefully broken in the middle, and its inscription scarcely legible.

The sister art of Sculpture, whatever she may have done or overdone in aid of Architecture, has done little for architects. Wren has a cheap "*circumspice*" in St. Paul's; Vanbrugh lies in the vaults of St. Stephen's, Walbrook, *without* a monument; Gibbs reposes not in his own fine church of St. Martin's, but in the little brick-built church of old Marylebone, with a stone-cutter's slab to record the circumstance. Kent and Lord Burlington sleep together in Chiswick Church, each without a monument; Sir William Chambers has a blue leger in the south transept of Westminster Abbey; and Sir Charles Barry a *bastard* brass in its nave. Painters and sculptors have fared better, though Sir Peter Lely's monumental bust, by Grinling Gibbons, perished in the fire that destroyed Covent Garden Church; Cooper, that prince of miniature-painters, has a monument in old St. Pancras; Sir Godfrey Kneller has a monument and bust in Westminster Abbey; Reynolds has a statue (by Flaxman) in St. Paul's; and Flaxman a statue (by Watson) in London University.

Another person of the name of Strong (Thomas Strong) was employed in rebuilding St. Paul's, under Wren. His prices deserve quotation and may challenge comparison with the prices of to-day:—

"For plain Portland stone-work, of the pilasters and rustics, window-jambs, architraves, and bosks, sixteen-pence halfpenny per foot.

For carving faces of impost capitals, 6*l.* each; panels with flowers and enrichments, 3*l.* 5*s.* each; escalops in the heads of the outside niches, 3*l.* 10*s.*

Two large compartments and festoons, each 12 ft. in length, 45*l.*; seventy-five great flowers, in the soffits of the five windows at the west end, 15*s.* each; and sixty smaller, 5*s.* each.

Pendant strings, 3 ft. 9 in. in length, and 1 ft. in breadth, 5*l.* each.

Cherubim, 10*s.*; flowers in the architrave, 9*s.* each.

Four festoons, over the two straight windows at the east end, 20*l.* each.

Six festoons, over the three circular windows at the east end, 20*l.* each.

Five cherubim, on the key-stones of the five east windows, at 13*l.* each key-stone.

Three shields, each 3 ft. high and 4 ft. wide, 7*l.* each."

Is a Portland stone cherubim cheap at twenty shillings? I would ask a classic-church-architect, if such a rarity can be found in Gothic England at this day.

The dislike which *Radcliffe Library* Gibbs showed on all occasions to monuments in churches is curiously exhibited in his finely proportioned church of St. Martin's-in-the-Fields. The curious monuments in the patched-and-added-to little church he was *required* to replace, he either destroyed or banished to a Siberian cellar or Cimmerian gloom underneath his own noble new building. The monuments to the celebrated sculptors, who called Inigo friend, and rendered Inigo good *masonic* service,—Nicholas Stone and his son,—he destroyed or sold with a savage fidelity to the rules he laid down. As a proof of his rigid adherence to his rules, in the vaults of the present building may still be *found* (I cannot say seen) the monument (the bust finely coloured to the life) of Sir Theodore Mayerne, the famous physician, with whom Rubens and Vandyck loved to talk touching the composition and duration of the pigments they should employ to resist the hand of Time. And here, by way of a Montaigne ramble, allow me to suggest that the authorities of St. Martin's might be asked to make a present of Sir Theodore to the neighbouring College of Physicians. They recently suffered all that remains of flesh and bone of the great John Hunter to be removed to St. Paul's; and Her Majesty, to gratify the Scottish nation, has recently transferred the pictures of James III. and his queen from Hampton Court to Holyrood. There is royal precedent for it, and St. Martin's is a royal and loyal parish.

New Barns, in Hertfordshire, the house of Sir Christopher's master-mason at St. Paul's from the beginning even unto the end thereof, is a straggling-like structure, patched, vamped, and compoed since Strong lived in it, and almost defying description. It is most pleasantly situate on the banks of the Ver, has noble trees worthy of Longleat or Sion, and of rare character, planted by the master-mason himself, when he dropped the mason's trowel for the gardener's spade. The "trim gardens themselves" would receive critical commendation from a Loudon, a Lindley, or a Paxton. When I tell you (perhaps only remind you), that New Barns is the property and residence of Mrs. Worley, a wealthy and unworldly lady, and that Christ Church, St. Alban's, was built and endowed by her benevolence and munificence, the subscriptions I seek in aid of the Old Mortality task I undertake will not be without "a something," and something more from Mrs. Worley.

With the noble abbey we possess to inflame and inspire us; with the remembrances awakened by the ruins of Sopwell Nunnery,—they were

given to a master mason;—I do not doubt of success. Remember, the greatest individual subscriber to Sir Christopher's St. Paul's was a Hertfordshire lady. PETER CUNNINGHAM.*

THE FOURTEENTH MEETING OF GERMAN ARCHITECTS AND ENGINEERS.

THESE meetings have been held every two years since 1836, and that for 1864 has just taken place in Vienna, beginning on the 30th August, and lasting three days. Of these the first and last were the most important, the second being spent in excursions to the palaces and parks in the neighbourhood of the Austrian capital. On the 30th of August upwards of 1,400 gentlemen met at breakfast in the Volks Garten, after which they broke up into two sections, the architects proceeding to inspect what more immediately interested them, under the guidance of Professor v. Siccardsburg and Mr. Zettel, whilst the engineers were headed by Messrs. Rittinger & Rupert. The architects inspected the Heinrichshof, the Opera, several palaces, and a new bridge, now in course of construction, where the strangers were not a little surprised to find a number of women at work as labourers. The park and buildings of the Horticultural Society were next visited, and then the "Dom" of St. Stephen, to the restoration of which we have lately several times alluded. Some disappointment was felt at the amount of Renaissance and Rococo work which had been permitted to remain to disfigure the interior of this Gothic edifice, and a hope was very generally expressed that at no distant time these, too, would be removed. At eleven o'clock the Minister of Public Works, Freiherr v. Mecséry, Field Marshal v. Frank, and Freiherr v. Kalchberg as representative of the Board of Trade, received the guests, numbering 1392, in the saloons of the Imperial Redoute. The opening address was made by Herr v. Engerth, who commented upon the importance and advantage of these meetings, as conducive to the furtherance of the arts and to German unity, and spoke with much feeling of the careers of Förster, of Vienna, and Hübsch, of Carlsruhe. The meeting then divided into sections for the purpose of discussion, and the subjects proposed were,—Architecture, Civil Engineering, Machinery, and Heating and Ventilation. Chairmen having been chosen, the meeting repaired *en masse* to the Polytechnic Institute, where the visitors were received with great enthusiasm by the scholars, and then began the debates, which lasted until five o'clock. Next day a hundred omnibuses took the guests to the Imperial Summer Palace of Schönbrunn, where a banquet was provided by the city of Vienna. The last day was chiefly spent in debates in the various sections, in one of which Herr Kormarsch, from Hanover, advocated the introduction of the French mètre as a common measure, a proposition which found many supporters. At the close of the proceedings several cities were proposed as the place of meeting in 1866. Amongst these were Berlin, Potsdam, Frankfort, Dresden, Dantzig, Cologne, and Hamburg. The last of these was finally determined on, and the meeting separated, well pleased with what they had seen and heard, and with the reception they met in the city of the Kaisers.

CONTINENTAL NEWS.

Vienna.—On the occasion of the late meeting of German architects and engineers, an exhibition of designs and other drawings was arranged at the Polytechnic Institute. So great was the number of drawings contributed, that the walls of seventeen large lecture-rooms were hung with them, besides a number of models, &c., which were placed on tables.——Prince Alexander of Wirtemberg is causing a palace to be built, which promises to be a very imposing building. The ball-room is situate over the chief entrance, and goes through two stories. All other rooms are 20 ft. high.——The sculptor, Vincenz Pilz, has just completed the model of a statue of Prince Leichenstein, celebrated in history for raising the siege of Regensburg, which was besieged by the French. It is described as a very faithful likeness, and will be placed in the military museum in Vienna.

Teplitz. — The well-known Spa in Bohemia has just received a new and very large church. It is in the form of a basilica.

Prague.—The cathedral of Prague, dedicated to St. Vitus (Sanct Veit), is closed for restoration, and will probably remain so for the next three years, although the side chapels will be re-opened for mass, &c., as soon as the scaffolding is complete.

Salzburg.—A new Protestant church is about to be erected at Salzburg; the funds for this purpose will be chiefly derived from a lottery of works of art. 345 artists, from fifty different cities and towns in Germany, have sent in their contributions, which are now exhibited in the palace in Weimar.

Baden. — An interesting discovery has just been made here. Several years ago a hypocaust, evidently of Roman origin, was discovered, and was roofed in with oak boards and slate, and was and is one of the sights of the town for those who can tear themselves away from the seductions of M. Bénazet. A new roof had become necessary, and the old one was taken down, when an underground passage, about 100 ft. long, was discovered, leading under a building in the garden of the present convent of the Holy Sepulchre to a large chamber 160 ft. long, 50 ft. broad, but only 3 ft. high. The walls of this chamber are built in brick, and the space is almost filled with piers in brick, 15 in. apart, carrying flat thick tiles, which form the covering. The proximity to the hypocaust leads the Director of the Museum of Antiquities at Carlsruhe to suppose that the space just discovered formed the basement of a Roman house or villa, which has now entirely disappeared, and of which the hypocaust formed a part.

Mannheim. —The old king of Bavaria has presented the city with two statues, those of Iffland and von Dalberg. The former arrived about a fortnight ago, and was uncovered on the Schiller-platz, with some ceremony. One of Iffland's plays was performed in the evening.

Stuttgart.—The new market, ordered by the late king, is now completed. It encloses a space of 20,000 superficial feet, besides affording 6,000 superficial feet of cellarage, and is divided into a nave and two side aisles. The roofs are carried by sixty-four columns in four rows, the columns of the two inner rows having a height of 35 ft., including caps, whilst those of the side aisles measure 24 ft. The style is Renaissance, and Mr. Morlock, architect to the king, furnished the plans. The building will be formally opened shortly, on the occasion of the yearly Exhibition of Garden Produce and Implements.——Schaeffer, a local sculptor, has finished a bust of King Carl: it is said to be very like and well treated.

Madrid is about to erect a monument to Columbus. Better late than never. The municipality has voted 800,000 reals: the committee has subscribed a part; and the rest will be paid for by the State. The place selected is in the street De los Recoletos, opposite the Mint,—a very appropriate place, considering the wealth which Spain acquired by the discovery of the New World. A late decree confirms the committee, and gives them power to take the necessary steps.

Italy.—Rossini's statue was inaugurated at Pesano on the 21st of August. Mr. Peruzzi, the Minister of the Interior, made a speech in presence of an enormous crowd of spectators, after which Mercadante's Cantata was sung by 500 voices. Rossini's fear and dislike of railroads are well known; and it is curious that his new villa at Passy is close to the station, whilst his statue, which represents him comfortably seated in an arm-chair, has been erected opposite the station at Pesano.

VENDOR AND PURCHASER. — Vice-Chancellor Kindersley lately held, in the case of Poole *v.* Adams, that where a house under a contract for sale, having been insured against damage by fire, is burnt down after signing of the contract, but before completion of the purchase, the purchaser is not entitled to the benefit of the insurance, in the absence of any express stipulation to that effect contained in the agreement.

PARK PRECINCTS AND ESPLANADES.

As there is no city of Europe possessing within its bounds finer parks and reserves than the Hyde, Regent's, St. James's, Battersea, and Victoria, &c., there is none that is characterized by more miserable routes or esplanades *d'entourage*. Originally St. James's Park was so planned as to form a mall of four expansive routes, divided only by ranges of forest trees, planted open and at long intervals, and this has ever since been regarded as its chief distinction. Of late years Hyde Park has been intersected with carriage drives and rides of suitable width, running the whole circuit, as well as the extent from Hyde Park-corner, nearly a mile and a half, to Kensington. And now, to meet the growing occasions of an increased population and of greatly-extended public buildings, the Commissioners of Woods and Forests are forming most judiciously a grand route from the Houses of Parliament, along the Birdcage-walk, to Buckingham Palace: the whole interval between two rows of trees, nearly as wide as the Mall on the north side is being added to the old causeway;—one portion to form a carriage thoroughfare; the other alley, under the shade, to be reserved for the use of equestrians.

As this new route is at present demarcated, the exit would be out of the narrow gates at present giving issue into Pimlico, just opposite the Prince of Wales's office. The width of the new addition is 36 ft., which, added to 48 ft., the mean breadth of the old walk, will open a noble thoroughfare for increased traffic between Westminster Bridge and Buckingham Palace; but to complete the plan and establish an esplanade truly worthy of the situation and of our times, it ought to be continued over the wide arena opposite to Buckingham Palace, and thus, without violence to any existing plantation, be conducted by only slight curvatures into the continuous line of Constitution Hill.

For this purpose the comparatively narrow drive along the wall of Buckingham gardens, ought also to be widened to an extent assimilated to that of the Birdcage-walk now in progress; and at the north-west end of the Green Park, instead of deviating westward, as the present carriageway does, the esplanade should be continued in a straight line (perhaps tending a few feet eastward), so as to have issue into Piccadilly, at the *open lie-by* beside the Wellington Arch, and just opposite Hyde Park-corner gate.

The issue at Hyde Park-corner, under the Wellington colossal statue, might still be maintained; but the main entrance would be on the east side thereof, opposite to the park-gate next Apsley House.

Thus opened, this noble esplanade would tend in a right line from Westminster Bridge to Hyde Park; and if thrown open, as it ought to be, for the public, would afford an easement in the most important part of the West-end, where most needed.

The present aspect of the wall of Buckingham Palace gardens, although beautifully clothed in ivy, is now dull enough; although, if the wall were abated, the union of those gardens and plantation with the Green Park, would lend a charm to this fine reserve, adding scope to scenery which would really enhance the value of both the grounds, now screened as by a drop-curtain, and the noble houses of Grosvenor-place.

Of course, the removal of the Buckingham garden-wall could never be thought of so long as her Majesty continued to occupy that palace or to prefer it; but some allusions have been made to the possibility of erecting a wholly new royal palace in Kensington Gardens, and the throwing open of the Buckingham gardens, in exchange for an equal quantity of ground in the central and highest portion of Kensington Gardens; thus, by such an arrangement, a truly royal palace might be provided in a more healthy and suitable position, whilst breathing-room and improved expansion would be given to the now least effective but most valuable portion of the public parks.

Whilst the position of Buckingham Palace is not salubrious, its immediate vicinage of Pimlico is anything but consistent with the objects of a Royal court; and the structure, which, originally a nobleman's mansion, was from time to time enlarged, reflects, as a whole, no credit on architectural taste, and offers but little inducements for a royal sojourn in London.

In elevation, the round pond offers the finest and most open site; or a little eastward, at the point *where all the glades concentrate*, the most

* I have a "note" that Richard Jennings, "the Master Builder of St. Paul's Cathedral," is buried in the churchyard of Henley-upon-Thames. He lived at Badgemore,—now Mr. Grote's, the historian. How many masters are there now, I would ask, in the building trade? I write about master masons, and have read or know of master bricklayers, master carpenters, master smiths, &c., and of Master-man the Banker; and I remember the old adage, "Jack of all trades, and master of none." Employer is a hateful word. I had the high pleasure of hearing the illustrious Duke of Wellington recognize the portrait by Sir Joshua of George IV., when Prince of Wales, with the words, "Ah! my old Master, and very like him." Proper words properly applied. The recognition and remark were made at Sir Robert Peel's house, in Privy Gardens.

healthy, convenient, and beautiful position presents itself for the erection of a palace that might give satisfaction to our gracious Sovereign, and do honour to the architectural profession. An exchange of Buckingham gardens for an equal quantity in Kensington would be a good equivalent, considering the extreme value of those central and finely-timbered grounds; and at the same time, the routes and esplanades proposed and in progress would offer the most suitable lines of access to a palace worthy of this metropolis.

Already approached by the two most leading roads of Bayswater and Kensington, and intermediate between these two aristocratic suburbs, no site of the metropolis offers the same advantages as to scenery, accessibility, and healthfulness, finely-timbered and embellished park-grounds being continuous for three miles from the Horse Guards to Kensington Old Palace.

It is true that Regent's Park is, for its scope of view, its terraces, and surrounding roads, an improvement upon the old style of circumjacent thoroughfares; but, although of late well drained, it is too cold and restricted for a royal palace. Besides that, there is hardly width to spare for thoroughfares and esplanades, such as ought to characterize the palace of England's Sovereign.

As to the trifling abatement from park borders required to give dignity to surrounding roads or esplanades, those which have been already formed prove that the grounds, whether viewed within or without the pale, give a sense of expansion and enlargement, improving the openness of aspect, and enhancing the value of all house property near the boundaries.

THE BRITISH ASSOCIATION.

THE Bath meeting has been a highly successful one in point of attendance. The opening address, by Sir C. Lyell, in the Theatre, was read before a brilliant assemblage, 2,300 tickets having been taken for the occasion; and the number of members who attended during the week had reached, on Wednesday morning last, a total of 2,769, made up of,—Old life members, 281; new life do., 36; old annual do., 179; new annual, 99; associates, 1,119; ladies, 1,055. At the close the total number present was estimated at 2,965, and the sum raised 2,789*l*.

The address was one ostensibly on the Bath mineral waters; but, like Bishop Berkeley in his treatise on "Tar Water," who gradually rises up out of his lowly subject to the most sublime and abstract spiritual and metaphysical heights of speculation; so Sir Charles Lyell gradually merged the mineral waters of Bath into highly speculative and general questions in geology as affecting the whole globe.

There was not much matter of special interest, so far as regards our professional province, in the proceedings of this meeting.

On Thursday, in Section B (Chemical Science), Dr. Miller read a letter from Mr. Prentice, describing the blasting operations with gun-cotton in Wales, as being very successful. Mr. Able then gave a brief account of the manufacture of gun-cotton, and by experiments showed how gun-cotton in a loose state burnt instantaneously, and according to the tightness with which it was twisted into strands, the combustion became more gradual and regular. Admiral Maury explained that, while he could not desert his old friend gunpowder, there were many cases in actual warfare where the use of gun-cotton would be preferable. Mr. Scott Russell, at considerable length and with much detail, described its uses in mechanics as a means of blasting or removing rock. He agreed that for that purpose it had six times the power of gunpowder, and was in every way its superior. He approved the use of gun-cotton for throwing projectiles. Some further discussion ensued, which tended to show that the general feeling of the meeting was that, in every qualification but stability, gun-cotton is superior to powder.

In Section F. (Economic Science and Statistics), under the presidency of Dr. Farr, there was a goodly attendance, including Mr. Tite, M.P. for Bath, Sir John Bowring, Bishop Colenso, Colonel Sykes, and others; and Mr. Saunders, Recorder of Bath, read a paper on the "Statistics of Crime and Criminals." He referred to some very early statistics of crime, showing that in the reign of Henry VIII., when the population was under 4,000,000, 72,000 (or 2,000 a year), were put to death for theft and robbery; and that in the reign of Elizabeth, always considered a flourishing one, the country was overrun with criminals; and even in comparatively modern times the Legislature had declared that the worst offences had greatly increased. He then adverted to the improved condition of the country in this respect. He alluded to the establishment of the police throughout the country and the judicial statistics for many years past, and showed that whereas the criminal classes at large numbered in 1858, 134,922, they had gradually diminished in 1863 to 126,139; and if vagrants and tramps were excluded, not being necessarily criminal, the numbers would be, in 1858, 112,363, and in 1863, 92,957, showing a decrease in the last five years of nearly 20,000. This fact was the more important when it was considered that during the last five years the system of penal servitude had been in full operation, by which no fewer than 12,281 convicts who had been subjected to that punishment had been set at liberty. The increase of crime on the whole had not kept pace with the increase of population. There had certainly been an increase in crimes of violence, though in this particular the country was better off than a few years back, such crimes in 1857 being greatly in excess of the last year.

Mr. M. D. Hill agreed with Mr. Saunders in the general results, but when he came to the details he was afraid, he said, there would be found considerable discrepancy between them. Judicial statistics had been too recently established to furnish satisfactory materials to govern our conduct in the practical treatment of criminals.

In the same section, we may here add, Professor Levi read a paper entitled "Statistics of the Number and Occupation of Foreigners in England." The census of 1861 showed that there were in England 84,000 foreigners in a total population of 20,000,000, or in the proportion of 0·41 foreigners for every 100 natives, or 261 British subjects for every foreigner. In France there were 506,000 foreigners in a population of 37,000,000, or 1·35 foreigner for every 100 natives, or 73 natives for every foreigner. In the United States there were 4,000,000 foreigners in a population of 27,000,000, or 15 foreigners to 100 natives, or about 7 natives to 1 foreigner. In Spain there were 35,000 foreigners in a population of 16,000,000, or in the proportion of 0·22 foreigners for 100 natives, or 447 natives to every 1 foreigner. The proportion of foreigners in New York was nearly as 2 to 1 of the natives. Professor Levi dwelt on the occupations of foreigners in England, and it appeared that nearly a fifth of the whole number consisted of seamen, and generally foreigners were engaged in useful industries. There were about 1,700 foreigners in prisons in a total of 120,000. Of 92 persons who suffered the penalty of death from 1857 to 1863, six were foreigners.

Mr. Tite moved a vote of thanks to Professor Levi for his paper. The excellent example set by the learned professor, he said, and the great success which had deservedly followed his career, showed that they could not only tolerate an Italian, but were delighted to receive instruction from him.

In sub-Section D (Physiology), a paper was read, "On the Dietary Question," by the president, Dr. E. Smith, F.R.S., which led to an interesting discussion. Alluding, in course of his paper, to the question as it affected the labouring classes, Dr. Smith observed, that an inquiry of a character unique, at least in extent, has just been completed by him for the Government, which would afford a clearer insight than had hitherto been obtained into the dietary of our labouring population. It had been made at the houses of the agricultural labourers in every county in England, in Wales, the west and north of Ireland, and the west and south of Scotland; at the houses of certain town populations, silk and cotton weavers, &c., with all the care and minuteness which science could suggest; the details of which might be found in the sixth report of the medical officer of the Privy Council. The coarse kinds of bread which were in ordinary use by our forefathers, even to the early part of the present century, were now very rarely eaten. Barley bread was still eaten in the houses of labourers in South Wales, and in the farm-houses of North and South Wales and Anglesea; also in Northumberland and Cornwall, and Devon, and in the southern parts of Scotland; but except in certain poor districts in South Wales, it was not now used as a principal member of the class of bread stuffs. Rye bread was nowhere eaten alone. Oatmeal was used by 20 per cent. of the farm labourers in England. Indian corn was used exclusively in the south of Ireland. Pea meal was never eaten alone as a bread, but in the north of Scotland it was sometimes added to oatmeal for that purpose. . . . Rice was used by about 50 per cent. of the population, but never in the place of bread as a bread-stuff. The average weekly dietary of farm labourers was for each adult and child 13½ lb. of bread-stuff, 6½ oz. of sugar, 5 oz. of fats, 14 oz. of meat, 52 oz. of milk, 5 oz. of cheese, and ½ oz. of tea; whilst indoor labourers obtained 9½ lb. of bread-stuffs, 8 oz. of sugar, 5 oz. of fats, 13½ oz. of meat, 18 oz. of milk, and ¾ oz. of tea for each adult weekly. In the dietaries of the poor, the wives and children are ill-fed,—much more so than the husbands; and a large part of the infant mortality, and of the deaths at puberty from consumption, is due to an insufficient supply of milk and of other good food, and the almost exclusive use of slops. He also insisted that a man's first duty is to provide sufficient nourishment for his family, even if it were only dry bread; and that until this has been effected nothing should be spent merely to please the taste. In order to turn the labourer's overtime to profitable account, it was very desirable that he should have the opportunity of growing plenty of potatoes.

At the close of the paper, Dr. Crisp said he doubted if an agricultural labourer in the receipt of 7s. per week could maintain his family upon meat, tea and coffee, and bread. Mr. Rolleston considered the use of beer and cider decidedly injurious. Dr. Grierson calculated that 1½d. a-day per head was the cost at which a Scotch agricultural labourer was able to feed himself and family.

The result of some inquiries made by the Bishop of Bath and Wells showed that the average consumption by farm labourers was 300 grains, that by in-door labourers was less than 200 grains; and thus, contrary to general belief, the inhabitants of country districts obtain more food than those of towns. A sub-division of the class of farm labourers showed that those living at the farm-houses obtain far more food than the above quantities represent, and are, doubtless, amongst the most fully fed persons in the kingdom. In Yorkshire they eat 19½ lb. of bread, 7¼ lb. of meat, 1 ounce of butter, 28 pints of new or skimmed milk, and 7 lb. of vegetables weekly, besides fruit in summer, and beer at all times *ad libitum*.

Mr. C. H. Bracebridge said that in the military prison in Dublin it was the practice to test the weight and muscles of every man on entering the prison, and to make a similar examination upon his discharge, and if any deterioration in either respect was found, a long correspondence ensued, and blame was visited where it was merited. He had been shown the dietaries, and, to his surprise, they included no meat at all, except a little on Sundays, and that on other days the diet consisted of a large quantity of milk, a large quantity of oatmeal made into porridge, and a large quantity of Indian corn meal. The men were returned in a most satisfactory manner: they had to work exceedingly hard, but not of an exhausting nature; and out of the number about 90 per cent. came up to the same weight and muscle as when they entered, only 10 per cent. showing a small defalcation.

The President said that vegetarians, so far as he understood, indulged in milk and fats,—important elements of food, and only excluded that kind of animal food which required the life of the animal to be taken. The custom in Ireland was for labourers to take with them 3½ lb. of potatoes for dinner, a pint and a half of skim milk, and they took three pints of skim milk in the course of the day. In Scotland there was the same large quantity of milk taken, and in that way the so-called vegetable diet became a highly animal diet. One or two cases amongst the Lancashire operatives which had come under his notice deserved attention. In one case a woman lived on 1s. 9d. a week. She had an allowance of 2s., but of that she applied 3d. a week to redeeming her clothes from pawn. This woman bought 12 lb. of bread and half a pound of treacle, a quarter of a pound of bacon, three herrings, and one ounce of coffee; so that she was able to get bacon or herrings five days in the week. In another case a woman lived upon 2s. 0½d. a week, upon a dietary made up of 8 lb. of bread, 1¼ lb. of oatmeal, 1 lb. of treacle, 1½ lb. of bacon, half a pound of sugar, two pints of skim milk, and 1 ounce of coffee per week.

In Section F (Economic Science and Statistics), on Friday, Dr. Farr stated that the first business was the reading of an important report, not of the section, but of the British Associa-

tion, on the subject of the uniformity of weights and measures. The committee consisted of Lord Wrottesley, Mr. Adderley, Sir W. Armstrong, the Astronomer Royal, Mr. Samuel Brown, Mr. William Ewart, M.P. (who was chairman of the committee in the House of Commons, and who conducted the measure with reference to the metric system through Parliament), the Master of the Mint, Sir John Hay, Professor Hennessey, Mr. James Heywood, Dr. Lee, Professor Levi, Professor Miller, Professor Rankine, Rev. Dr. Robinson, Colonel Sykes, M.P., Mr. Tite, M.P., Professor Williamson, Mr. Purdy, and Mr. Yates. A deputation attended from the Chemical Section to express their opinion on the report. Before the paper was read he would lay on the table the meter,—a brass rod, which was the proposed standard of measure. It was thought to be a very mysterious thing; but, as they would observe, it looked very much like an English yard, but rather better measure. Mr. Heywood, before reading the report, stated that the meter was 3 ft. 3⅜ in. long, and derived its name from the Greek word *μέτρον*, a measure. The following are the recommendations of the committee:—

"1. That it is desirable, in the interests of science, to adopt a decimal system of weights and measures.

2. That in furtherance of this proposal it is desirable, from its scientific capabilities, to adopt the metric system.

3. That as the weights and measures of this country are gradually undergoing a process of decimalization, it would be more advantageous, instead of drifting by degrees into a heterogeneous variety of systems, to change at once to a really convenient system.

4. That it be recommended to the Government, in all cases in which statistical documents issued by them relate to questions of international interest, to give the metric equivalents to English weights and measures.

5. That in communications respecting weights and measures presented to foreign countries which have adopted the metric system, equivalents in the metric system be given for the ordinary English expressions for length, capacity, bulk, and weight.

6. That it be recommended to the authors of scientific communications, in all cases where the expense or labour involved would not be too great, to give the metric equivalents of the weights and measures mentioned.

7. That the influence of the British Association would be beneficially exerted in obtaining from Paris an authorized set of metric weights and measures, to be placed in some public and frequented building in London.

8. That advantage will be derived from the recent publication of metric tables, by Mr. C. H. Dowling, C.E., in which British standard weights and measures are compared with those of the metric system. That treatises explaining the metric system, with diagrams, should be forthwith laid before the public. That works on arithmetic should contain metric tables of weights and measures, with suitable exercises on those tables; and that inspectors of schools should examine candidates for pupil-teachers in the metric system.

9. On the subject of temperature, it is recommended that the authors of reports to be presented to the British Association relative to temperature be requested to give the degrees of heat or cold according to both the Centigrade and Fahrenheit thermometer.

10. It is recommended that the scales of thermometers constructed for scientific purposes be divided both according to the Centigrade and Fahrenheit scales, and that barometric scales be divided into fractions of the meter, as well as into those of the foot and inch.

11. That a committee on uniformity of weights and measures be re-appointed."

Sir J. Bowring said he wished to mention two facts connected with this subject. The first was, that at the recent postal congress at Paris, at which sixteen governments of Europe and America were represented, a resolution was unanimously adopted that the metric system should be universally adopted for postal communication; and that if adopted as a principle it would afford the greatest possible facility for the settlement of accounts and intercommunication generally. The second fact was this, that in China, where there were agglomerated no less than 400,000,000 human beings, the decimal system universally prevailed, and he had never heard of a boy of seven years who made a mistake in any account. He had even heard savages say that the decimal and metric system must have come from God. They found it the greatest blessing, because, having their ten fingers, they always carried with them the means of settling their accounts.

Mr. Ewart, M.P., referred to the great difficulties experienced in teaching and learning arithmetic in our schools, and observed that science, education, commerce, and, he might add, common sense, alike called for the adoption of the metric system.

Bishop Colenso said,—I have glanced over the report sufficiently to see that as a whole I should heartily assent to it. I believe that the time is come when a step may be taken, and ought to be taken decisively, to promote the introduction of the metric system into general use among our people. Mr. Ewart has described very humorously the difficulties encountered by young arithmeticians. I hope that things have changed a little for the better in this respect since Mr. Ewart was a boy. I remember well my own schoolboy days, and the difficulties which I found in mastering the details of "Bonycastle" and other dreary books with which boys were plagued in those days. The remembrances of past misery compelled me, when I became a man, and was engaged myself in teaching boys, at Harrow, to endeavour to relieve the pains of others; and I trust that my efforts, with those of other writers who have laboured in the same field, have not been altogether in vain. But, although matters are somewhat simplified in these days, they would be vastly more simplified if the metrical system were fully adopted among us. With respect to adopting French names, I do not think that that is of much consequence, or that we have any right to complain of being obliged to adopt them to some extent in consequence of their having been already introduced so extensively among almost all the nations of Europe. We are among the last of civilized nations to reform our system, or rather our want of system, in this respect, and we must submit to the consequences. As it is, most probably these longer names of decimetre, dikametre, hectometre, will be cut down to some shorter forms by practical Englishmen; but I imagine we must accept the mètre, though we may make it English if we like by dropping the accent, and spelling it differently. Especially, however, I wish to express my hearty concurrence with the proposition which has just been made, that the influence of the Association should be used with the Government to induce them to require that in all schools assisted by the State the metrical system shall be regularly taught. At present I see no practical difficulty, except the want of elementary books adapted to the new system; and these would, of course, be prepared when the impetus is given by making such teaching compulsory in schools receiving State support. This would not be making the adoption of the metrical system compulsory on the nation at large, but practically it would insure the adoption of it very generally, and would enable us to get rid entirely of the old cumbrous system in the next generation.

The discussion was continued by Mr. S. Brown, Sir B. Brodie, Mr. Fellowes, Professor Hennessey, M. Ansas, and Sir W. Armstrong, who stated that he had found the adoption of the metric system an absolute necessity in his establishment, in order to enable them to work up to the precision and nicety required by the present times.

The report of the committee was unanimously adopted.

Mr. Bracebridge moved that the section recommend its committee to suggest to the Committee of Council on Education the importance of requiring that the metric system be taught in the schools receiving public grants.

Mr. Tite, M.P., said that an important practical suggestion had been made by the chairman, and he thought it was likely to be the means of introducing the thin end of the wedge; for the introduction of this change or any other in England could only be a matter of progress. He thought it important that Government should adopt the metric system in levying the duties on goods imported from France and other countries which use that system. As an architect he had, which was that of twenty years ago, had a great deal to do in France, and he found the adoption of the metric system of the greatest use in facilitating his operations, both in matters of minute measurement and account.

Sir B. Brodie recommended the adoption of the system in all national observatories and scientific institutions.

Colonel Sykes supported the motion.

Dr. Lee said he was an old advocate for the adoption of the decimal system, but he preferred the old English yard to the metre.

The motion was adopted.

Professor Levi said the metric system, it ought to be known, was not a French, but a cosmopolitan system.

We must return to the proceedings. They were closed with a grand banquet, given by Mr. Tite, M.P., in the Guildhall, to the president, vice-presidents, presidents of sections, and the more distinguished members of the Association.

A RELIC OF ANCIENT CARDIFF. — Some alterations were being made in premises in Duke-street, when the workmen discovered a subterranean passage, with a Tudor arch at the entrance. An ancient fire-place was also discovered on the same premises during recent alterations.

THE NEW EXCHANGE, LIVERPOOL.

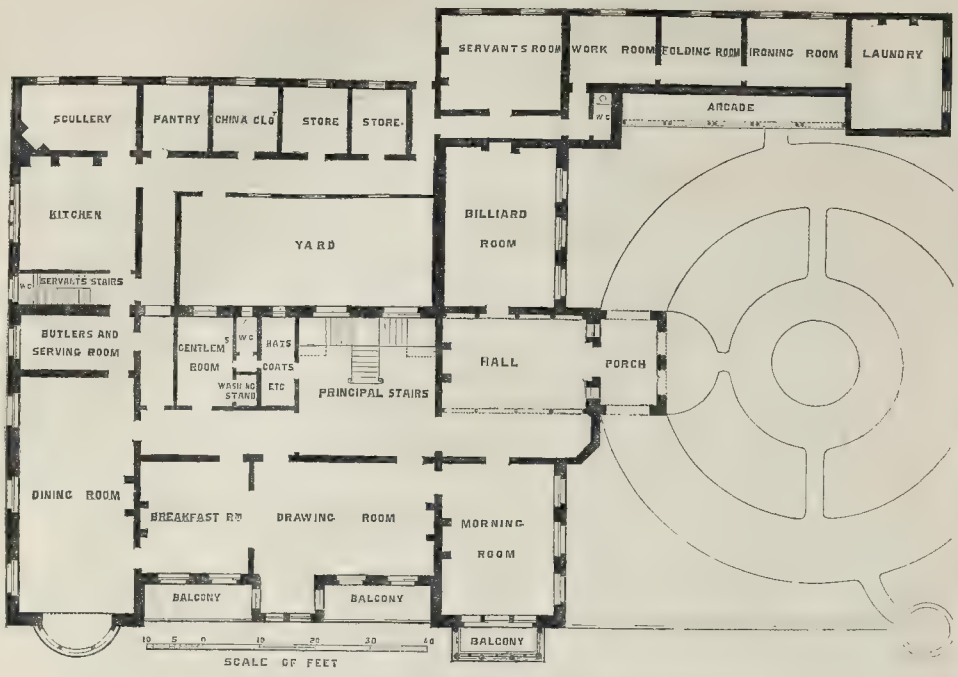
THE foundation-stone of the western wing of the new Exchange buildings has been laid by Mr. C. S. Parker, the chairman of the New Exchange Company. The buildings, when completed, will occupy a space of nearly two acres, but the western wing is all that is yet being proceeded with. This wing will contain the newsroom, with an area of upwards of 1,045 square yards, or, with its accessories, of 1,500 yards. It is to be 82 ft. in height, from the floor to the apex of the roof, and will not be completed for about two years. The other wings will then be rebuilt in accordance with the plans of the architect. The cost of this western wing will be 70,000*l.*, but the cost of the whole buildings is to be 150,000*l.*, and the cost to the new company of the land buildings in the first instance was 400,000*l.* Mr. T. H. Wyatt, of London, is the architect. Messrs. Holme & Nicol are the contractors; and Mr. Parsons, of London, is to fill the office of superintendent of the works.

PROPOSED TOWN HALL FOR MANCHESTER.

OUR readers have been informed that the Council of that city have determined to build a new Town-hall. Six sites have been looked at, and the General Purposes Committee have agreed to recommend to the Council the adoption of the site known as the Town's Yard site. The merit of this site is that a large portion of the land belongs to the Corporation; but it is very far inferior architecturally, and, as some think, in convenience, present and prospective, to the Piccadilly site. The Piccadilly site is exactly opposite to the Infirmary front; and, as the probability increases of the Exchange being removed to the site of the present Infirmary, it is more incumbent upon the Corporation to consider well the locality.

SUSPENSION BRIDGES.

AN account of the Clifton Suspension Bridge, just now published in Bristol, has the following comparative statement:—It may be interesting to compare the dimensions of the Clifton Suspension Bridge with those of some others more or less celebrated. The span of the Clifton chains, from saddle to saddle, is 702 ft. 3 in. The span of the Lambeth Suspension Bridge, lately completed from the designs of Mr. Barlow, one of the engineers of the present bridge, is 1,040 ft.; but in this case four piers or towers are employed, and the bridge consists, therefore, of three equal arches or spans. This immense space has, however, been crossed in a single span. The Queenston and Lewiston Suspension Bridge, constructed by Lieutenant Serrell, crossing the Niagara, is one span of 1,040 ft. There is another bridge over the Niagara of 798 ft., which, besides a roadway for foot-passengers and carriages, supports above this a railroad track, and is daily crossed by passenger and goods trains. Another American suspension bridge crosses the Ohio, with a span of 1,010 ft. Nearer home, the best known examples are the celebrated Menai Bridge, of Telford, and the beautiful Fribourg Bridge, built by M. Challey. The Menai Bridge is 560 ft. in span, and about 100 ft. above high-water. The bridge over the Sarine, at Fribourg, is much more imposing, being 860 ft. in span, and 167 ft. above the river. Several bridges have been constructed of greater span than the present; but still, there are considerations which place the Clifton Bridge in the first rank, both as to its grandeur of effect and its importance as a great work of engineering. In the latter point of view, it must be remembered that all the bridges we have mentioned, except the Menai, which is much shorter, are suspended from cables of wire, which, as they suffer much from oxidization, must be regarded as far inferior to iron chains, although lately, from their lightness and economy, they have been often substituted. The Clifton Suspension Bridge is the most magnificent chain bridge ever constructed, and for strength and durability may be pronounced unequalled. The Queenston Bridge, with its immense span of 1,040 ft., does indeed exceed it in dimensions; but its effect is marred by its low position, and the roadway is only 20 ft. wide. The Fribourg Bridge is by far the grandest in effect of all that have been enumerated; but even that is only 167 ft. above the river which it spans; while the Clifton Suspension Bridge is 245 ft. above high-water.



CLERVAUX HOUSE, HAMPSHIRE.—*Plan of Principal Floor.*

MANSION FOR COL. W. THOMSON, NEAR ANDOVER, HAMPSHIRE.

THIS mansion is now in course of erection, from the designs and under the superintendence of Mr. J. P. Jones, of Whitehall-place.

The external walls are to be of a grey stone, with dressings and bands of Portland stone. The shafts to the windows are to be of Purbeck marble, and the columns of arcades to be of red polished granite. The dining-room and billiard-room will be fitted up with oak panelling about 5 ft. high, with carved panels, and the mouldings of walnut. The ceiling will be panelled with walnut, box, oak, and ebony, intermixed, and the walls above the dado are to be stencilled. The floors are to be bordered with parquetry, and the entrance-hall and staircase-hall and passages are to be laid with ornamental tiles. All the doors on the ground-floor are to be of walnut and oak, and the chimney-pieces are to be of statuary marble in drawing-room and coloured marbles in dining-room.

The total expenditure will probably be about 20,000*l.*

THE INTERIORS OF MODERN CHURCHES, AND THE REQUIREMENTS OF MODERN CIVILIZATION.

HOWEVER much the artistic forms of Mediæval architecture may be superior to those which followed them, especially at the epoch immediately preceding the *Renaissance*, and however delightful to the artistic eye may be that revival of so-called Gothic art which prevails in the present day, it is yet quite certain that the interior arrangements of Mediæval buildings, both public and private, were lamentably deficient in all those accessories which constitute the very basis of ordinary comfort, as that word is now understood. Every tourist in Wales, for instance, must have seen the wretched little den, in Caernarvon Castle, in which Eleanor of Castille gave birth to the first English prince of Wales. This rude little dormitory, without the common comfort of a fireplace, even after it had been made smart and stuffy with tapestry on the walls and straw on the floor, for the reception of the royal inmate, must still have remained, to modern ideas, totally unfit for a regal or any other guest; and, in fact, must have been such a bedroom as would have been regarded with scorn by any respectable housemaid of the present day as unfit for a Christian woman; and yet with such wretched arrangements for domestic comfort the general external aspect of the castle was of an imposing character, and its dining-hall, of grand proportions, though its floor was of rough-hewn stone, only covered with rushes instead of Turkey carpeting. Similar objections may be justly urged against all other structures of that and later ages; and yet under the prevailing Mediæval mania we persist in imitating them in all their comfortless details, more especially in our recently built churches, and those now in course of construction. Let us hear what our lamented Thackeray says about the domestic arrangements of our ancestors in their colleges, inns of court, and other public buildings. In "Pendennis," he has the following graphic and interesting passage:—"A well-ordained workhouse or prison [of the present day] is much better provided with the appliances of health, and comfort, and cleanliness, than a respectable foundation school, a venerable college, or a learned inn. In the latter place of residence men are contented to sleep in dingy closets, and to pay, for the sitting-room, and the cupboard which is their dormitory, the price of a good villa and garden in the suburbs, or of a roomy house in the neglected squares of the town. The poorest mechanic in Smithfield has a supply of water at his command; but the gentlemen of the inns of court, and the gentlemen of the universities, have their supply of this cosmetic fetched in jugs by laundresses and bedmakers, and live in abodes which were erected long before the custom of cleanliness and decency obtained among us. There are individuals still alive who sneer at the "people," and speak of them with epithets of scorn; but, gentlemen, there can be very little doubt that your own ancestors were the great unwashed; and in the Temple, especially, it is pretty certain that only under the greatest difficulties and restrictions could the virtue which has been pronounced as next to godliness be practised at all."

And yet this absence, or at all events very scanty presence, of those appliances for common cleanliness which we deem so absolutely necessary, appears to have satisfied the desires in that direction of our forefathers, even in very recent times; and in matters of every other kind of general comfort the arrangements of past times were equally deficient.

In public buildings, more especially, there existed but a rude and wretched nakedness in place of all the refinement and luxurious contrivances modern civilization has invented; a state of things which seems to prove that our ancestors were as robust as they are reported to have been, and as indifferent to the luxuries of ease and comfort as they were careless about the practice of effective ablutions. Yet this absence of all the appliances of what we should call mere ordinary comfort existed in the midst of a display of artistic beauty and many kinds of mechanical skill which have not since been equalled. In the cathedrals of Western Europe, beneath fretted roofs, lace-like in the richness of their sculptural embellishments, and at the feet of columns whose capitals were masterpieces of carving, and whose shafts were often of polished marble, was a rude stone floor,* upon which devotees knelt with bare knees, fearless of rheumatism and all its attendant train of aches and pains; but then, this kind of accommodation was in accordance with the general mode of life, and did not disagree with the devotee. The castle hall was no more luxurious; and the comforts of the hostelry were infinitely less so; therefore, the want of what we should now call comfort in the churches of Mediæval times was not felt. But as general civilization progressed, the church arrangements advanced, more or less, and kept themselves tolerably in accordance with it; chairs, priedieus, and other arrange-

* Richly inlaid marble floors, as at Sienna, were, however, adopted at a later period in Italy.



CLERVAUX HOUSE, HAMPSHIRE.—MR. J. P. JONES, ARCHITECT.

ments having gradually appeared to keep the knees of worshippers from the bare stone pavement; while tapestry clothed the walls, and huge curtains were hung across the doors to shut out draughts of cold winter winds.

At the time of the Reformation, however, when pictures, tapestries, and other decorations of the later Catholic times, which clothed the bare walls, and tended to give a certain amount of warmth to the building, had been swept away as idolatrous, leaving all bleak and bare once more, some means became absolutely necessary for replacing the partial degree of warmth and seeming comfort afforded by the rejected kind of church furniture; and it was in consequence of this difficulty that those high pews were submitted to, the origin of which is traceable to other circumstances. In these separate wooden citadels each family found a certain amount of warmth and comfort, and a degree of protection from the cold currents of air which swept round the bared walls of the reformed churches. The leading families in many villages and country towns, indeed, went so far as to have fire-places in their pews, and to curtain them round to a considerable height above the high wooden walls themselves. By such means and others the cold wretchedness of the stripped churches was much abated; but yet no general system of warming was attempted, and doubtless the sons and daughters of families passing six days of the week in rooms with well carpeted floors, papered walls, and warmly curtained windows, when exposed on the seventh to the inclemency of a stone-floored church, without a fire, even in the depth of winter, often sowed there the seeds of consumption in their constitutions, along with the germs of a long list of other painful diseases.

Yet, with all this plainly in view, and frequently alluded to in the works of medical writers, one of the best innovations of the restorers of "Gothic art" has been the removal of even the partial protection of the pews. In place of that slight shield from draughts and cold, low unprotected benches are being very generally adopted, and the old pews entirely swept away. While this is doing, no attempt is made to re-clothe the stone walls with pictures and tapestry as in the later Roman Catholic times, and the only measures taken for giving something in exchange for what is taken away is a general system of warming by hot air, or hot water, which is far from supplying the place of the boarded floors, and flock papers, and thick carpets, and warm window-curtains of our private rooms. In fact, with a stone floor, no apartment can be made generally and comfortably warm. In the old London kitchens, for instance, with stone floors, even where great fires were kept constantly burning for cooking purposes, female servants almost invariably suffered from peculiar diseases which had their origin in the cold which struck to the feet from the always damp and cold stones, which the general warmth of the kitchen could but slightly modify. This must be more or less the case in stone-floored churches, however much the stone may be disguised by a few strips of matting up the nave and aisles, and by foot-boards in front of the sittings. And then, it is to be observed and noted, that such warmth as is obtainable from the hot-water pipes, and the matting and partial boarding, is, in many churches, to a very great extent, neutralised by the violent means resorted to for the purposes of what is called ventilation; which generally consists in the introduction of severe draughts of cold air in various directions. This, in conjunction with the cold given out by the bare stone walls, renders the interior of a church about as different a thing as possible from the cosy, warm, and every way comfortable drawing-room from which delicate girls go forth to sit for two or three hours in these desolate interiors, where they too often catch their death: and yet they would never admit it. Such is the devotion of the female character to what it deems right, that were the risk twice as great, few would hesitate to incur it. It is the business of the other sex, therefore, to see that this devotion is not made unnecessarily self-sacrificing, and it is with this view that the present article has been written.

There can be no necessity for continuing for ever to make all interior church arrangements precisely what they were in rude ages. Yet, that there is a disposition to do so, both on the part of architects and a certain section of our clergy, and also an influential portion of the public, there can be no denying. The simple fact being, that in some minds forms become unduly blended with principles,—and then arise such absurd terms as "Christian architecture." The cure for this error should be sought for in the period of the Church's greatest predominance and influence, when it will be found that ecclesiastical art was not stationary, as it is now sought to make it, but was ever actively assuming a splendid series of new forms, each successive phase of which was governed by the spirit of the age in which it found its expression, and from which it derived its epochal impress. There can be no greater mistake than to suppose that the revival of obsolete forms, however excellent in themselves, can aid the progress of either secular or religious teaching. The spirit of religion, as of philosophy, is above all things expansive, suiting itself to the requirements and intellectual cravings consequent upon general progress; and when, therefore, it is sought to accompany its administration by rigid observation of antiquated forms in its temples, that expansive quality which would adopt the truths of religion to all time is cramped and impeded.

These are a few of the reasons why it should seem that the time has come for a thorough revision of the general character of our church architecture, especially as regards its internal arrangements. In other public buildings, where numbers of people of both sexes have to be accommodated for several hours at a time, the arrangements for personal comfort and for health are to a great extent in accordance with those of our private homes. In our principal theatres, the floors of the boxes are carpeted, the seats are commodiously stuffed, and the boxes themselves, at the operas, curtained in front and painted or papered at the back; while the sofa stalls are positively luxurious, and the ventilation is more or less well attended to. Of our great concert-halls the same may be said. And the Reading-room of the British Museum may also be cited as an additional example of well-considered arrangements for public comfort, except in regard to ventilation, to be spoken of further on. There the entire floor is covered with kamptulicon, which has not only the advantage of producing a comfortable sensation of warmth to the feet, but preventing the slightest noise from the occasional footsteps of either attendants or readers. The chairs, too, and the reading-tables, are of the most comfortable kind, so that persons may remain at their studies for several hours, without having the unavoidable amount of fatigue increased by comfortless seats and desks, as in churches.

In order to remedy this state of unwholesome discomfort which at present prevents many persons of delicate constitution from attending our churches, while to those who do attend, and are not of extremely robust constitution, bad colds, the forerunner of many more severe and dangerous forms of disease, are almost a certain consequence, our leading architects must be appealed to. There is no reason why our churches should be the only places of public assemblage where bare walls and stone floors are the most comfortable form of accommodation afforded to the public. So far from being inferior to a private drawing-room, or a public concert-room, our churches should display the very highest forms of our social and domestic civilization. The flooring should be of the rarest and most beautiful woods, richly inlaid in parqueterie, if not completely covered with the richest carpeting, of suitable design and character. The walls should be clothed with tapestries, exhibiting well-wrought Scripture subjects,—or, when that was objected to, with magnificently-designed patterns of a sacred character; the windows should be curtained with the most costly velvet or silken damask, which should be made to draw at night, as in private dwellings. In short, the temples of religion should exhibit the highest examples of human ingenuity and genius, instead of being, as they are in their interior arrangements, inferior to those of a private home. In preceding ages, the temples of national religion have always exhibited in the highest degree examples of all the arts of their respective periods,—whilst now, in the nineteenth century, by reviving obsolete forms, the church alone, which ought to be an example of our most consummate skill in the higher, as well as in the domestic arts—remains behind all other classes of public buildings in its internal arrangements.

Ventilation especially is most clumsily applied, in almost all cases. During the daylight services it is true that a sufficient supply of fresh air is generally obtained, though by such reckless means as render the supply oftentimes more dangerous than its absence; for in such lofty interiors as those of most of our modern churches, so large a supply of air is naturally provided, without resorting to artificial methods of renewal, that during the day little more would be required; while the cold currents produced by the forced introduction of free external air, often without any attempt to warm it in its passage, are frequently productive of the very worst effects on the systems of delicate persons. It is well known to plant-growers, that when a constant current of air exists in a greenhouse or conservatory, the plants within the influence of that current suffer greatly, have their growth checked, and frequently die; and such currents are scarcely less injurious to the human subject than to plants. Some better manner of introducing fresh supplies of air is therefore necessary. All present methods are too violent and sudden. The fresh air should find its way gradually and imperceptibly, or bad effects are sure to ensue. The ventilation of the reading-room at the British Museum has the defect just described, of being too violently introduced. The consequence is that readers in certain parts of the room are subject to the action of nearly constant cold currents. This is so palpably the case, that it is unsafe to sit without a hat; and many readers keep on an overcoat, or even put on one while in the room, to take it off when outside and beyond the reach of those inclement winds. Perhaps it is with a view to realise the term *ventilation* literally, that these blasts are resorted to. If so the term had better be altered to aëration at once, so as not to lead our punctiliously etymological architects astray any longer.

But it is at night that the question of church aëration becomes most important, for it may be said that no system whatever has been adopted to prevent or even mitigate the bad effect on the surrounding atmosphere produced by a vast number of flaring gaslights. The measures resorted to by daylight, good or bad, become altogether inapplicable at night; and the heat, closeness, and uncomfortable sensation of the presence of foul air become not only something more than unpleasant, but absolutely and actively dangerous. Scarcely a private dining-room lighted with gas is without a tolerably perfect aërating apparatus attached to each gas-burner, and connected by proper tubes with the external air, which is ingeniously warmed as it comes in by passing through a larger tube that surrounds the small pipe carrying away the hot and deteriorated air from above the burner. This has been found necessary in rooms where only one gaselier is used: while in a church, where there are dozens, not to say scores, the pollution and burning of the air are allowed to go on unchecked, and the consequence is that our gas-lighted churches are about the most dangerous places for generating diseases arising from foul air that could be named; scarcely excepting the back courts of Drury-lane.

To remedy this state of things, let the most elegant and richly fitted-up drawing-room of Buckingham Palace or Stafford House, or the most luxuriously arrayed public hall, be taken as the fundamental type of what is desirable in our churches; and let all the appliances of comfort and beauty thus selected for adoption be elevated in style, and increased in beauty; and let them be refined, dignified, and stamped with a solemn and sacred grandeur of character, making them in every way worthy of the high purpose to which it is intended to devote them. It would seem quite impossible, even as a matter of religious feeling, that the house of God should be allowed to remain inferior to private dwellings; and yet, plenty of trite reasons are urged to prove that our churches had better remain as they are. It is urged, for instance, that the appurtenances of ordinary life could not be made otherwise than inconsistent with church architecture, and the solemnity of aspect which befits a building of sacred character. Such, and many other existing crotchets of the kind, are invariably brought to bear upon any attempt at innovations of the sort proposed. For instance, a well-known French critic, whose fiat in matters of art was generally considered conclusive, once declared that mahogany could not, without the grossest impropriety, be used for the rostrum of the chamber of peers. It, forsooth, had been vulgarized in the form of the dining-table, the wardrobe, and the chest of drawers. Ebony and oak were, he maintained, the only woods that could be used for the purpose in question. This sounds well, and there are doubtless associations connected with oak and ebony which seem to render their adoption for state or sacred purposes

more legitimate than other woods. Nevertheless, it is quite certain that a mahogany rostrum might have been designed which would have been equally grand and dignified as one of ebony or oak, in spite of the artistic superstitions in favour of those materials. However this may be, it cannot be right that our churches should be allowed to remain, from their inferiority to other buildings, absolutely unhealthy, and the direct cause, in a multitude of instances, of originating disease.

MEDIÆVAL ART EXHIBITION, MALINES.

THE Exhibition will remain open till October 15th. Up to this time it has excited less attention than it deserves. Mr. J. C. Robinson writes concerning it,—I need not remind your readers that Malines is a most accessible place, but it is not so generally known, even to those who may have passed it on the railway over and over again, that it is also one of the finest and least altered old cities of the Low Countries; to the architect, the archæologist, and the lover of the picturesque, indeed, this old imperial city is full of interest. It has a noble metropolitan cathedral, several first-rate Gothic churches, unusually well preserved and rich in detail, a museum containing some most curious pictures and other relics illustrative of local history and manners. Three great master-pieces of Vandyck and Rubens still adorn the altars of churches for which they were originally painted. Nowhere else can the really great school of Flemish seventeenth century wood and ivory carving, at the head of which stands Lucos Faidherbe, the Rubens of this art, and a native of the town, be studied to greater advantage; and, finally, some hundreds of ancient houses of all dates and styles give to the streets and quays that indescribable old-world charm which, alas! now lingers so rarely elsewhere.

The Exhibition itself contains an admirable series of book covers, chalices, and reliquaries of every style and type, from that of the humblest village church to the magnificent gifts of crowned heads to the great abbeys and cathedrals of the richest country of Mediæval Europe; also an unrivalled series of works in brass known as Dinanderies, from the pre-eminence of the town of Dinant as the seat of fabrication. At the head of these may be cited the great paschal candelabrum of the Church of Léan, standing upwards of 17 ft. high, carvings in ivory from the early ecclesiastical diptychs, and book-covers of the eighth and ninth centuries, down to the florid and masterly works of the school of Brabant, of the age of Rubens, the productions of the Duquesnoys, Faidherbes, and Guellins of the seventeenth century—splendid embroidered vestments, tapestry, illuminated manuscripts, &c.

MEDLÆVAL BRISTOL.

ON the 7th instant, the Bristol Society of Architects walked round their own city. Previously to starting, Mr. E. W. Godwin read an introductory paper, of which an abstract has reached us. Having remarked that there are four classes of towns—military, baronial, ecclesiastical, and commercial—the writer said that the great towns of the Middle Ages belonged chiefly to the commercial class. They were mostly seaport towns. Self-dependent, self-contained, self-governed—perhaps savouring a little too strongly of self—they exercised in the end the greatest influence, because they were the greatest workers in the State. The Roman walls have long since crumbled into dust, and, having served their purpose, their military cities have settled into quiet country towns, or, what is as bad, have degenerated into mere haunts of fashion. The baron's hall is now a rag and bone shop: the vaulting ribs of his proud lady's chamber bend over the blacksmith's forge; and the highest battlement of the loftiest tower is crumbling under our feet. The great monasteries, too, are no better off: cabbages are growing where the abbot and his royal guests sat at meat; and there is a merry hay-making, once a year, over the very foundations of the high altar. Through all these changes most of the great commercial cities have lived and flourished. Where marshes once existed wide streets and squares have risen, and the hard-working arms of commercial enterprise have pushed the boundaries of one of these grand old towns to ten times the compass of its first walls. The inner town of Bristol lies between St. Nicholas Church, south, St. John's Church, north, St. Peter's Church, east, and Messrs. Stuckey's bank, west. These points give the extent of the first walled Saxon town, and show that before the Norman conquest the town of Bristol was of no mean importance. That the relics of this Saxon town which have been spared should consist merely of ways or streets, and perhaps a few portions of the wall, is to be mainly attributed to the fact that the private houses were built altogether of wood and plaster covered with thatch or shingle—a thick mass of low whitewashed tenements. He saw no reason to doubt, however, that the churches, town walls, and gate towers were of stone.

At this early period the aspect of Bristol externally would be a crenellated wall following an irregular curve, with four principal gate-towers, north, south, east, and west, and three smaller ones on the north side. Entering the town, we should find a street leading from each chief gate to the centre of the town,—Corn-street from the west gate; Wine-street, or Wynch-street, from the east; High-street from the south; and Broad-street from the north. Inside the wall, from gate to gate, was a lane or way, and on the larger side of the town this lane communicated with the main street from the west, viz., Corn-street, by Small-street, which is almost parallel to Broad-street, and at the end of which was a gate-tower. He would not pretend to point out the site of the Saxon churches. Saxon Bristol may or may not have contained ten or a dozen churches. They could not stay to inquire. Four centuries must be passed over; and they would renew their acquaintance with Bristol at the time when William de Wyrcester tended his herbs by the gate of St. Philip's churchyard. Great changes have taken place in the appearance of the town. From the concluding words of King John's charter, it may fairly be argued that the first extension of the town walls took place soon after the year 1188, the space between the old town wall and the river Froom (north), and the ground lying between the town and the castle (east), being taken in by the new wall. This was of considerable advantage to the town; for, by reserving the old wall, it became possessed of a double line of fortifications on its weakest side. The new gate towards the castle was erected close by the Castle Mill, and to this day two or three of the houses in Castle Mill-street are still known by the words "under Newgate." Then followed the extension southwards towards the Marsh, as Queen-square, with its neighbourhood, was then called. Before Edward I. had ascended the throne, a continuous chain of religious houses stretched from beyond Newgate, or the eastern gate of the town, along the north and west banks of the Froom to where the sun went down over the low marshes at the confluence of the two rivers. Nor did they end here; for behind and above these, to the north, rose the nunnery of St. Mary Magdalene and the tower of St. Michael; whilst, to the west—strange gloom against the western sky, still stranger in its likeness to Calvary—stood the chapel-crowned hill, St. Brendan.

They could not sufficiently understand in the compass of a single morning the character of Bristol in the afternoon light of its Mediæval glory. The great danger of commercial towns is wrapped up like a viper, in the bundle of their life. Out of their very strength grows the tyranny which is their weakness. Everything must depend upon the one question, "will it pay?" The inquiry is not will this thing be profitable to our understanding, or have a wholesome influence on our hearts? but will it fill our pockets? Thus it was that soon after the lordship of Redcliffe was added to the town, when its commercial power and grandeur rivalled the baronial and ecclesiastical powers on each side of it; when its inhabitants began to think more and more of spices and cloths, and ships and warehouses, and fine dresses and high houses; becoming every day less simple in their manners, their conversation, and their wants—the sun of Bristol's Mediæval day began to decline; then it was that in architecture mere size and superficial ornament gradually encroached upon the field which had before been occupied by purity of form and the real poetry of art, until the gloomy night arrived, when the title of artist became a term of reproach, and art was meted out by the yard. He had said thus much in order to prevent them from accepting as gospel all the old works they were to see that day. For in the middle of the fifteenth century, when Wyrcester wrote, there were two powers in the city, which were in the full blossom of their maturity. For a century they had been growing and gradually exercising greater and greater influence. These two powers were money and a mania for building. To the first we owed such works as the church of St. Mary at Redcliffe and the towers of St. Werburg and St. Stephen, and to the last we were indebted for destroying right and left the less showy, but more lovely, works of what is acknowledged, by every one whose opinion is worth having, to have been the finest or purest period of European art.

PICTURE HANGING AND FIRES.

AMONGST losses by fire we have lately had to regret the destruction of numerous paintings and other works of art. This is a circumstance always to be regretted; for even by money we cannot replace the productions of famous masters who are dead. It is, therefore, important to consider if there be any means by which pictures could be hung, so that, in case of fire, they might be more readily removed than at present. A large picture—a full-length portrait, for instance, in its massive frame,—is a heavy and unwieldy object, which needs the exertions of several men to carry it; and as now hung there have been accidents with such pictures, owing to the rottenness of walls, the breaking of the iron fastenings, &c. The late Earl Grey had a narrow escape, at Howick Hall, from the fall of the effigy of one of his ancestors. Safety in this respect may be generally secured by care in the first instance, and by occasional examinations; but it unfortunately happens that paintings fixed in the usual way are comparatively unmovable, except after considerable labour and time, so that in case of fire it is almost impossible to get them out. It is advisable, in the hanging of pictures, to use iron rods, which should be so fixed as to allow the works to be at the proper angle for sight; while they could be readily lowered by means of cords and pulleys. There should also be facilities for removing the paintings from the massive frames. This might be so contrived that although the canvas might be strained tight, it might be removed, rolled, or folded; and, in case of danger, taken to a place of safety.

During a comparatively short space of time several important mansions, together with their contents, have been destroyed by fire; and this shows the necessity to which we have referred of having the means of extinguishing fires conveniently at hand. There are few situations in which this cannot be managed at a moderate cost. In the *Builder* there was some time since an account of Hatfield House, in which reference was made to a disastrous fire which occurred there. Since then water has been raised to the roof, and kept in large cisterns, and matters are so managed that, with ordinary care in this stately mansion, the ravages of an extensive fire are scarcely possible. When the great and growing interest of many of the homes of the English gentry is considered, it is to be regretted that more especial care is not taken for their preservation; and it is worth while, at the present season of the year, when many country homes are fully occupied, to direct the attention of the proprietors and those interested in them to this important matter.

SANITARY MATTERS.

Henley-on-Thames.—It has been decided, nearly unanimously, at a public meeting of the ratepayers in the town-hall, to adopt the Local Government Act within the boundaries of the recently-formed Henley district.

Croydon.—An account of a recent visit to the Beddington sewage meadows, near Croydon, is given in the *Oxford Journal*. It appears that a hot dry summer is not favourable to succulent vegetable growth, even where the soil is soaked with sewage-water. The tendency of the Italian rye-grass to throw up its seed-stem is irresistible under such circumstances; and the great first cutting of thirteen or fourteen tons per acre, grown under the cool moist air of March, April, and May, has this year been followed by cuttings of not more than five or six tons per acre grown in June, July, and August. Those who speculate on the possibility of turning London sewage to account on the low-lying lands of such a dry hot district as the counties of Kent and Essex generally are in Midsummer, must

consider this diminished efficiency of their manure at that season. It is to some extent a counterbalance to this deficiency of power of sewage-water, however, to find that it has this year proved remarkably efficient at Beddington in growing mangel wurzel. There was an extremely promising young crop of mangels, full of growth and without a blank. The writer says he had never seen anything like so good a plant after so late a sowing.

Wolverhampton.—There appears now every probability of the sewerage being commenced. Tenders for the execution of two miles and a quarter of main sewer are advertised for, and the sewerage committee are authorised to cause all necessary notices to be given to the owners and occupiers of land into, through, and under which certain of the sewers are to be carried, and also to make all necessary arrangements with such owners and occupiers relative to such sewers. The general plan of the sewerage, which has been approved by the Secretary of State, and also the working drawings, sections, &c., now lie at the office of Mr. Purnell, the borough surveyor.

Liverpool.—The Local Health Committee have had under consideration certain fever cases in the workhouse, and inquiry is being made whether the patients have been resident in the town. One member stated, that many fever-patients of this class were merely strangers, and sojourners for a short time in the town. The Committee have taken their first procedure under the new Improvement Act. The Chairman said that a visit had been made by the General Purposes Sub-Committee to some of the courts at the south end of the town, on the invitation of the medical officer of health. There were plans on the table showing what the courts were, and suggesting three different modes by which the borough engineer and the medical officer proposed to deal with them under the new Act, in order to make them fit for habitation. Mr. Newlands, the borough engineer, then explained the plans, which were for the improvement of Roberts-street and Mann-street, Toxteth Park. The expense by the first plan would be 3,000*l.*, by the second, 5,000*l.*, and by the third (which embraced the demolition of the most of the property, and the erection of new houses), 15,000*l.* The Chairman explained that they had the power to spend 100,000*l.*, which was at the rate of 6,000*l.* a year. Mr. Newland stated that according to the plans they would remove sixty-five houses. Dr. Trench said he did not think that the worst part of the town. Mr. Newlands suggested that they should take bad courts in every district, operate at once, and spend the 100,000*l.* as fast as they could. A long discussion followed.

Whitehaven.—The Whitehaven Trustees have let the construction of the sewerage of the town to Messrs. Nawell & Docwra. It was stated by the chairman at a recent meeting that the whole cost would probably be about 30,000*l.*

Carlisle.—A letter from the town clerk of Birmingham to the Carlisle town clerk, lately read at a council meeting, says,—"I am instructed, by the Public Works Committee of the Council of this borough, to inquire whether the Council of your borough will join us in making an urgent request by memorial, or otherwise, and by the representations of your borough members, to Sir George Grey, praying that he will give immediate instructions for the preparation of a bill, to be introduced in the ensuing session of Parliament, to enable local authorities to execute the works necessary for the distribution of sewage in the manner recommended by the Select Committee. The matter is one of incalculable importance to this borough and many others, and the Council will feel greatly indebted to your Council for its cordial co-operation."

Miscellaneous. — A London contemporary, while discussing the merits of the report of the Metropolitan Sewage Committee, makes the following remarks:—It would be a slovenly housemaid who should throw all the sweepings of the house into the water-butt. Yet that is what we have been doing, and we have appointed a parliamentary committee to show us how wrong it is. The Naiads cry shame upon us, the fishes fling themselves on their backs in despair, and die drunk. We begin to feel sick ourselves, and ask each other, "What next?" We have now our answer for the fiftieth time, but never so clear and distinct as now. Croydon once drained itself into a fever; but it now fertilises a farm of 250 acres and clears 250*l.* a year! Who and what are the men of Croydon that they should thus have the laugh of all the nation? It appears that they have had the good luck to be driven, *nolens volens*, into doing a very clever and sensible and spirited thing. Blessings in disguise came upon them in the shape of costly injunctions against pouring their sewage into the Wandle. Costs and damages were growing ruinous. The Croydon authorities grew desperate. They hired some land, and rented it on lease to a farmer on condition that he allowed the sewage to flow over his land before it entered the river. Little or much, day by day, Mr. Marriage was forced to let this filthy stuff flow over his fields, and the result was that when the sewage reached the river it was quite free from offensive properties, and left behind it such tremendous crops that the local board only wish they had a chance to raise the rent. Purification and profit thus go hand-in-hand, and the right use of sewage is made palpable. The Croydon plan—modified according to circumstances, and improved according to experience—is required all over the kingdom.

EVILS OF NEW HOUSES.

Great mischief is produced by the occupation of new and damp houses. Medical authorities have traced outbreaks of diphtheria to this cause. A recent death, which has been attributed to this too early occupation of a new house, is worthy of notice. At No. 11, Park-road, Mile-end, a boat-builder said that he had only been in the occupation of the house a fortnight: his wife and children were then in good health. When a fire was lighted in the rooms the water would run down the walls, and the back yard was flooded with water through bad and deficient drainage. [How did this occur in connexion with newly-built premises?] He had complained to his landlord, who said that all new houses were damp. On Thursday morning this man's son, seven years of age, was left in bed, apparently asleep, and after the father had taken his breakfast he went to the bedroom and found the boy dead. Dr. Talbot was called in, and could not account for the death. The body was clean, and well nourished. He had since made a *post-mortem* examination, and found the lungs highly congested; and the death, he had no doubt, had been accelerated by living in a damp house, not fit for occupation. The jury returned a verdict that the deceased died from congestion and inflammation of the lungs, brought on by living in a damp and newly-built house. The coroner's officer was requested to report the verdict to the officer of health.

During the school-boy days of the writer, a newly-built school-room, which had not been rightly aired, was taken possession of, and in the course of a few days afterwards twenty-five boys out of thirty were detained at home by illness.

COST OF CHURCH BELLS, 1680: SALISBURY.

As I have recently read an article in your paper on the cost of church bells, I think the following, which shows the cost to the dean and chapter of Salisbury Cathedral for recasting two of the bells which belonged to the belfry that was taken down and the materials sold at the end of the last century, may be interesting to some of your readers:—

"1680.	£	s.	d.
Aug. 16. Item, articles of agreement between the Dean and Chapter and Clement Towser, of the city of New Sarum, bell-founder, and Elizabeth Flowry, of the same city, widow, agreed to recast the 7th and 8th bells, and to find metal necessary, which metal to be composed of 8 parts of the best copper and 2 parts of the shortest tin. To be paid 20s. per cwt. for the casting, and 6*l.* for every cwt. for extra weight of the bells.			
Aug. 19. Charge for taking down and waying the 2 great bells, and drinks	0	12	6
Sept. 4. For carrying the bells to the founders	0	10	0
Oct. 25. Charge for meat and drinke at the casting the bells	1	2	0
For bringing them down into the close	0	10	0
Charge in waying them and pulling them up into the tower, and beere	0	14	6"

The charge for labour may appear very low; but from the clerk of the works' accounts at this time I find the master-mason received 1s. 8d. per day; a workman, 1s. 6d.; a labourer, 10d.; a plumber, 1s. 8d.; his man, 1s. 6d.; a carpenter, 1s. 6d.; his master, 1s. 8d.; a glazier, 1s. 6d.

In 1474, a carpenter was paid only 6d. per day; a labourer, 4d.; and a plumber, 7d. per day.

F. R. Fisher.

THE WILLIAM I. MUSEUM, AMSTERDAM.

Sir,—In the number for the 10th inst., of your excellent publication, you publish a perspective view and ground-plan of one of the designs for the William I. Museum presented at the late competition. You add to the admirable reproduction of the design the information that it was this which, after the one by Messrs. Lange had been laid aside, had been adopted by the Commission, and was to be executed.

Permit me to rectify this statement. Two architects received prizes. First, Messrs. Lange, father and son, of Munich, for a "Doricoionic" design; secondly, M. Cuypers, of Ruremonde, for an "*interpretation*" *in the Renaissance of the sixteenth century* of the *Gothic composition*, of which you reproduced the principal features. As the Lange design did not come up to the area required by the programme; and as M. Cuypers' system of lighting did not conform to the stipulations of the Commission, neither of the prize designs was selected for execution.

Every one would have supposed that the Commission would have put itself into communication with the prizemen (whether MM. Lange or M. Cuypers) to alter one of their designs, at the discretion of the Commission; but a different arrangement was chosen, and another architect, M. Godfroy (a member of the jury which decided the competition) was named to make a fresh plan.

I have, therefore, sir, to request you to have the kindness to erase the word "selected," which appears under the national and grandiose design of M. Cuypers.

Respectfully yours,
J. A. Alberdingk Thijm,
Late Secretary of the Commission for the King William I. Museum.

Amsterdam.

*** The information as we gave it came to us from friends of the architect. The determination of the Commission, as stated in this letter, is not creditable.

SECURING ROOFING SLATES TO OPEN BATTENS.

My attention has been directed to the diagrams in "Weale's Rudiments of Building," p. 116; and again to similar diagrams in "Tomlinson's Cyclopædia of Useful Arts," p. 637, as showing the usual and proper mode of nailing roofing slates to open battens. Both these diagrams show the two nails close to the top of each slate, which is, I believe, at variance with the usual practice nowadays of putting the two nails near the middle of the slate, viz. the distance of the gauge plus the lap or weather from the bottom edge, which for duchess slates 24 in. long would be, say gauge, 10½ in. + lap 3 in. = 13½ in. from the bottom.

This nailing of the slates near the middle seems to be much the best to resist the action of the wind on and under the slating, and there is no chance of wet penetrating through the nail-holes more than through the open vertical joint of the under course of slates, whilst slates fixed at the top edge only would be liable to be lifted and torn off by a strong wind.

Will some of your readers give an opinion as to the *best and usual mode* of nailing the slates on open battens; whether 13½ in. from the bottom for duchess, or close to the top edge?

It is presumed that the latter mode, if ever practised, is now quite obsolete, and if so, the two works in question require revision in this particular.

Surveyor.

ACCIDENTS.

On Monday morning a fire broke out in Gresham-street, one of the densest mercantile quarters in the city of London, which in little more than an hour destroyed property and merchandise of immense value, including the more interesting parts of one of the most ancient halls—that of the Haberdashers' Company. Of the building in which it originated, and which was erected a few years ago at the cost of some 20,000*l.*, only the bare charred walls and portions of the floors remain. The damage done to the hall of the Haberdashers' Company is said to exceed 10,000*l.*, and the fire spread to other buildings right and left, destroying property of great value. The original hall of the Haberdashers' Company was destroyed in the Great Fire of London in 1666, except that

part of it called the strong-room, in which the ancient muniments and plate of the company were deposited. The present hall was erected in 1668, two years afterwards, and portions of it had been restored and decorated in the present year, at a cost of from 4,000*l.* to 5,000*l.* The banqueting-hall, of which nothing now remains but the four walls, is about 60 ft. long by 30 ft. in width. The roof and ceiling have been entirely destroyed, and the hall is now open to the sky. The cause of the fire is at present unknown.

In Little Bush-lane, Thames-street, where the City terminus of the Charing-cross railway is to be erected, some dilapidated houses are in course of being pulled down. The walls have suddenly fallen, carrying with them the scaffolding reared against the walls, and seriously injuring several persons.

A hundred houses have been burnt in a fire of obscure origin at Chatteris, Cambridge; and one-half of the village of Billinghay, near Tattershall, in Lincolnshire, with a chapel and a number of farm buildings, with a great deal of agricultural and other property, have been destroyed by a fire originating in the chimney of a carpenter's shop.

At the Vauxhall Foundry, Liverpool, a large cylinder was being hoisted out of the pit in which it was cast, when a chain ring broke and the cylinder fell back into the pit, and was allowed to remain there till next evening, when it was found that one of the workmen was missing, and on examining the pit his feet were seen among the sand. The cylinder was hoisted out and the poor fellow's remains removed. The coroner's jury attributed great carelessness to the deceased's fellow-workmen, and considered that the accident arose from insufficient strength in the ring of the tackle.

In a cutting of the Stockport and Timperley railway at Gatley, a mass of earth of about 50 tons weight fell while some navvies were at work, and although one of them was set to watch for such a fall, a navvy was driven against a waggon and had his brains dashed out, while two others were seriously injured.

At the theatre of Madgeburg, in Prussia, during the performance of "Robert and Bertram," the scene of a part of the first act passes in a tower raised at a considerable height above the stage; and while the play was in progress the tower suddenly fell to the ground with two actors who were in it at the moment. These men were both killed on the spot: an actress had her arms separated from her body; and a number of other persons received injuries from the fall of the beams and planks of which the tower was constructed.

PROVINCIAL NEWS.

West Ham.—Messrs. Curtis & Son have presented their report for the enlargement of the union-house. It is proposed to erect a new infirmary, capable of holding 100 men and 100 women, to enlarge the infectious and recovery wards and the boys' and girls' school-room, build store-rooms and officers' rooms. The cost is 5,795*l.* The estimate for holding 250 additional inmates is 5,795*l.*, or 23*l.* per head. It has been resolved by the local guardians to adopt the plans and report of Messrs. Curtis, and to apply to the Poor-law Board for leave to carry out the proposed enlargement of the house.

Brentwood (Essex).—The new town-hall has been formally opened. The building is erected in the Italian style of architecture, the portico being composed of four fluted columns of the Corinthian order. The first-floor windows on either side are Ionic, and the base or ground story rusticated, the whole being surmounted with enriched cornice and balustrade. A bracketed and illuminated clock projects from the centre of the pediment, and the front of the building is executed in Portland cement. The hall is 74 ft. long by 37 ft. 6 in. wide, with open roof 29 ft. in height to the ridge. The main timbers of the roof are stained and varnished, the ceiling being divided into panels or compartments by means of moulded ribs, which, together with the moulded deal cornice, are also varnished. A feature in the roof is the tie-rods, which are of iron, while the spandrels formed by them are filled in with ornamental ironwork, all of which is pricked out in colour. The hall is ventilated by means of eight octagon panels in the ceiling (which also serve to light the centre of the hall), by perforations through the entire length of the cornice and by the windows. Ornamental gas stars light the hall, which is approached by a wide stone staircase, built externally so as not to destroy the space in the hall. The ground story possesses reading-room, shop, shop parlour, ladies' retiring-room, committee-room, &c., back staircase entrance, and back halls, hall of communication, and house for the parish engines, while the basement is devoted to cellarage. The entire cost of the building, including the orchestra, has been about 1,800*l.*, the capital of the company being limited to this sum. The works have been executed by Mr. Conder, builder, London, from the designs and under the direction of Mr. Bartleet, of Brentwood, architect.

Brighton.—Among the attractions that Brighton offers to its visitors, the absence has often been remarked of a general lounge or promenade, where, during inclement or unfavourable weather, they might assemble with opportunities for exercise, &c. when the open parades or esplanades are unavailable. To meet this want, a company, entitled, "The Brighton Arcade Company (Limited)," has been formed under favourable auspices. It proposes to erect, on a piece of land between Middle-street and West-street, an arcade and bazaar, some 200 ft. by 50 ft., and which will also form a new public thoroughfare. Everything is to be done to form an agreeable lounge for visitors. In addition to musical entertainments, there are to be a public restaurant, library and reading-rooms, club-rooms, &c. It is not intended to make this arcade a mere emporium for toys, but to apportion it among various trades and professions. The designs by Messrs. Wimble & Taylor, architects, of the eastern and western entrances of the proposed arcade, show the style to be Italian. The western end of the arcade in West-street will face Vallance & Catt's Brewery; the eastern, in Middle-street, the residence of Mr. Rugg, surgeon. The building, we understand, will be commenced at once, as it is the intention of the promoters to open the arcade in the spring of 1865.——A fourpenny rate has been ordered by the council, to pay for the Pavilion, or, rather, to repay the money borrowed for its purchase. The Pavilion has been insured for 25,000*l.*, instead of 15,000*l.*, as heretofore. The council, by the casting vote of the mayor, have refused the Pavilion committee's request, that Mr. Pantaenius be paid 100*l.* on account of his commission for superintending the decorations of the Pavilion, and for his travelling expenses. The council had on a previous occasion paid travelling expenses, and it was urged by the town-clerk and Mr. Alderman Burrows that they ought to pay such expenses. Mr. Burrows said, this was not like building a large house or a church: Mr. Pantaenius had to spend hours and days in watching the work going on and what would be the effect of it when done, also to attend the committee meetings on many days; thus his duties were different from where a church was being built, where the architect could come once a fortnight or three weeks just to see that the brickwork was being done creditably. He believed Mr. Pantaenius was not overpaid: he opposed his appointment, thinking that Mr. Crace ought to have been employed; but he was perfectly satisfied with what had been done. Mr. Pantaenius had to give up appointments in London, and he did not believe he was a gainer in any way, except in reputation.

Weston-super-Mare.—At a recent meeting of the building committee of the proposed hospital, Mr. H. F. Price, architect, presented plans, and stated that he estimated the cost of the erection at about 1,700*l.* The committee said, that the cost was more than they would be able to meet. Mr. Price then produced plans of a smaller building, which would suit as a dispensary and casualty ward fit for the present requirements, and stated he estimated the cost of that building at about 300*l.* After some discussion it was proposed that the site marked out by Mr. Price, and the situation of the building, should be adopted, and Mr. Price was requested to make the latter plans so as to admit of an extension in the building when necessary at any future period.

Liverpool.—The extensive new buildings which have been erected at Woodside Ferry by the Birkenhead Commissioners have been opened for the receipt of tolls. These buildings have been designed to meet the requirements of the largely increasing passenger traffic, as well as to concentrate the arrangements. The buildings are approached by a new road 100 ft. wide, a portion only of which is as yet opened for traffic. The main building, which is entered by doorways of 6 ft. and 12 ft. wide from the approach shed, is 100 ft. long and 50 ft. wide, and forms, with the covered passage leading to the bridge, a commodious apartment. The buildings, owing to the peculiarity of the site, on land but recently reclaimed from the river, and with the view of obtaining a large amount of space at a moderate cost, have been erected of timber, the outer faces sheltered by overhanging eaves. Interior effect has been obtained by the division of the wall space into panels, which will become available for advertisements. The approaches and buildings were designed by Mr. Mills (late surveyor to the commissioners), and Messrs. Lucy & Littler, architects, and the buildings have been erected under their superintendence by Messrs. Holme & Nicol. The approach-road is being completed under the direction of Mr. Thorburn, the present township surveyor.

Sheffield.—The town-council have resolved upon the erection of a police-station adjoining the present Town-hall, preparatory to the enlargement and improvement of that building for judicial purposes.

NEW FREE CHURCH, ST. IVES, HUNTS.

A HANDSOME free church has been opened in St. Ives. The extreme length of it outside is 113 ft.; the extreme width inside, 57 ft. 8 in. The body of the church inside is 74 ft. 6 in. long, and 44 ft. 6 in. wide. The height from floor to the highest point in ceiling is 41 ft. The disposition of the plan in the front consists of an outer open porch, having columns on each side capped with carved capitals. This entrance leads to an inner porch, which has a stone groined ceiling. On each side of this porch are doors communicating with side lobbies and the body of the church. The gallery staircase occupies the right angle, the left being reserved for the side galleries when erected.

At the back of the church is an apse, about 17 ft. deep, the lower part of which is formed into a large vestry, the upper part being an organ and singers' gallery. On one side of this apse is the minister's vestry, and on the other is a staircase, warming chamber, &c. In the front of the apse is arranged a raised platform, which extends the whole width of the church, instead of the usual pulpit. At each angle is a pedestal supporting a brass gas standard, and in the centre the book-board for the minister, which is supported on panelling of tracery. At the rear a cushioned seat extends the whole width of the platform, having a carved back.

There is a gallery at one end of the church. The accommodation is now arranged for about 750 persons.

The main feature of the building externally is a tower and spire of 150 ft. high, which occupies the centre of the front elevation.

The cost of the building, including warming and lighting, will be about 4,000*l.*

The style of architecture is Gothic, of the Decorated period. Four of the windows in the back part of the church have been filled with stained glass of appropriate pattern, by Messrs. Ward & Hughes, of London.

Mr. John Tarring, of Bucklersbury, London, is the architect. The works have been carried out by Mr. Sanders, builder, of London; and Mr. Rothwell, also of London, has put up the gasfittings.

As the church occupies a prominent position in the town, viz., Market-hill, the inhabitants have subscribed a sufficient sum for a new town clock, to be placed in the tower; and a fine clock and bell have therefore been made and fixed by Messrs. Smith & Sons, of St. John's-square, London: the face fronting Market-hill is illuminated.

The church was opened on the 14th inst.

CHURCH-BUILDING NEWS.

Greenwich (East).—Christchurch, Greenwich, East, after being closed for cleansing and repairs, has been re-opened for Divine service. The entire interior has been decorated upon the design of Messrs. Hayward & Pitman, of London. The primitive and complementary colours are blended and toned down. The roof of the church is supported by five beams, placed on brackets abutting from the walls, and extending across the entire width, with the queen-post support, the central part being flat, and having sides shelving to the walls. The entire roof is principally of stained oak, divided into nine rows of twenty-eight panels

each. The central row has a dark ground, each panel being ornamented with a large circle of gold, and on either side the panels are of blue sprinkled with stars. The shelving sides on either side of the flat part of the roof have alternate red and white roses, with corners in blue and white forming quatrefoils, the centre row of panels having an emblem of the Trinity in red, green, and gold, alternately, each panel throughout the roof being bordered in vellum white. A cornice subtends the roof: the mouldings are picked in colour, and a scroll border is painted upon the wall in black and red. The supports upon the beams have vellum-coloured borders, with the chamfers alternately red and green, while the pendants are painted white, blue, and gold. The stone brackets supporting the beams are ornamented. The gallery is of stained oak, having a continuous border of gold, blue, maroon, and white, along the top of the panelling, and similarly ornamented at the bottom. The upright posts between the panels are diapered red and gold alternately, and one side of each post is painted blue, the other maroon. The iron pillars supporting the galleries have capitals decorated, in character with the pendants of the roof. Around the walls, about 5 ft. from the ground, an ornamental border extends of green and red, underneath: the wall is of light green, and above to the roof sage green. The lower part of the chancel wall is painted red, and about 4½ ft. from the ground there is a gold border. Above, this wall has a warm tinted ground powdered with gold crowns and fleur-de-lys, and roses of green and blue alternately.

Ferday Bridge (Ely).—The chief stone of the new parish church of this village has been laid by the Bishop of Ely. The church was commenced on the 25th of April last, and the walls are now nearly ready for the roof. The central stone, laid by the bishop, is said to be "exactly what its name imports, being a plain stone immediately under the middle of the east window, and just above the line of the Communion-table. Its dimensions are 4 ft. 6 in. in length, 1 ft. 9 in. in height, and 2 ft. 5 in. in depth, passing through the thickness of the wall, and appearing on both sides. Its inner face, which is made to project somewhat beyond the face of the wall, is to be carved hereafter so as to form a reredos, should funds be forthcoming." The stonework in general is also for the present to be left in block, the committee desiring to do first such necessary things only as will render the building available in some sort for public use at the earliest period possible. The style of the church is Early Decorated, the materials used being brick and stone; and when completed it will accommodate nearly 300 persons. The interior is not to be plastered, and two string courses of red bricks are introduced among the white, defining the sills and springers of the windows, and continued over their heads. The ground plan forms a Latin cross, comprising the chancel, 24 ft. long by 20 ft. wide, with sacristy on the north and chantry-chapel on the south side, nave 60 ft. long by 25 ft. wide, south-west porch, and north-west clock-tower to be surmounted by a spire. The tower is deferred for the present for want of funds, but the incumbent, at his own expense, has put in the concrete platform on which it will have to be erected; and his brother-in-law, the architect, who has given the plans and specifications and his professional assistance, promises the upper portion of the spire. Owing to the spongy character of the soil, great precautions were necessary to secure the foundations, &c., by means of concrete, cement, and hoop iron, and by making the walls more massive. The architect is Mr. J. H. Owen, of the Board of Public Works, Dublin; and the builder, Mr. C. Bennett, of Lynn. The estimated expense approaches 2,000*l.*

Stafford.—Mr. James Tyrer, of Tixall Hall, has determined to erect, at his own cost, a church for this growing suburb of Stafford, named Castletown, and mainly inhabited by persons employed on the North-Western Railway. The new church is to be erected on a plot of land contiguous to the infant school. The architect is Mr. W. Culshaw, of Liverpool, and the plans and elevations show that it is to be a plain Gothic building, with a bell-turret surmounting the western gable. The windows, except the east and west, are generally single lights. The exterior is to be of gray bricks with bands of blue bricks, the relieving arches of the windows of red bricks, and the dressings of stone. The nave is 75 ft. 6 in. by 37 ft., and the chancel 30 ft. by 20 ft. inside, with vestry and organ-chamber projecting from the opposite sides. The building will apparently seat upwards of 400 persons. The interior of the walls will be plastered, and the roof is to be open, of deal stained.

Chichester.—The re-building of the tower of the cathedral is still progressing rapidly. The new work is now upwards of 120 ft. from the surface of the ground: 6 ft. or 7 ft. more masonry added will carry the work to the level of the walk round the base of the spire. The height of the tower will be (without the embattled parapets and turrets) 127 ft. 3 in., and of the spire, 149 ft. 9 in.; making a total to the top of the capstone of 227 ft. The windows on each face of the tower, which, as in the original, are each distinct in design, are now finished, and the platform upon which the men are employed has been again raised. As soon as the tower is carried to the height above mentioned, the whole of the scaffolding, the value of which is said to be between 1,600*l.* and 1,700*l.*, will be taken down, and the operation of connecting the old work and the new will be commenced.

Winford (Bristol).—The chief stone of a school-church has been laid at Ridgehill, near Winford. This mission- or school-church, is much required, on account of the population of the hamlet being situate nearly two miles from the parish church of Winford. The building will be erected on land purchased by the rector, the Rev. Mr. Tripp, who also defrays the cost of the building, and when finished it will be conveyed to trustees for church purposes. The building has been designed by Mr. Robinson, architect, Leamington; and the work will be carried out by Messrs. Whitcombe & Cutler, of Ridgehill. The church, which is 40 feet by 19 feet, is designed to accommodate 100 persons, and will be of a plain character, the cost being estimated at 200*l.*

Llanfwrog.—The new church here has been opened by the Bishop of Bangor. The edifice has been rebuilt from the foundation. It replaces a small dilapidated single-bodied church, 50 ft. by 15 ft. The orientation is nearly due east, and the church is dedicated to St. Mwrog. The style of the new building is Second Pointed. The walls are built with rubble masonry, the material for which was procured in the neighbourhood, the dressings or ornamental parts being built of Stourton Hill stone. The church comprises a nave, 37 ft. by 17 ft. 6 in.; a chancel, 22 ft. by 15 ft. 6 in., divided from the nave by a stone arch; a south porch; a robing-room, and a bell turret on the west gable. The roofs are of red pine, stained and covered with Carnarvonshire slates. The nave is lighted by two treble-lighted and two double-lighted arch-headed windows; the chancel by a three-lighted arch-headed window in the east gable; and of two windows in the south wall one is a single and the other a double light. The floor within the altar rails is laid with encaustic tiles by Messrs. Maw & Co.; the foliated iron rails, as well as the ornamental ironwork throughout, being from the works of Mr. Brawn, of Birmingham. The passages are laid with black and red tiles, set anglewise, with a buff border. The open seats, pulpit, and reading-desk, which are respectively placed in the north and south piers of the chancel arch, and altar table, are of red pine, stained. The building will accommodate 135 persons. The cost of the undertaking will be about 600*l.* Messrs. Kennedy & Rogers, of Bangor and London, were the architects; and Mr. T. Davies, of Llanerchymedd, the builder.

Reading.—The repairs now going on in the upper part of the tower of St. Lawrence's Church have been rendered necessary by the discovery that the massive oak beams used in the structure have become entirely decayed and little better than touchwood: this has resulted from flaws in the lead roof, through which for many years the rain has penetrated, and by degrees completely rotted the whole of the wood. The beams weigh nearly a ton each. The period of the building is calculated to have been about 1434. The repairs are being carried out by Mr. Matthews, builder, of Reading. The expenses, according to the local *Mercury*, will be defrayed from funds derivable from Church property. St. Lawrence's tower is 90 ft. high, exclusive of the pinnacles; and most of the bells have been recast since the year 1574.

Beverley (Yorkshire).—Steps having been taken since last Christmas for the complete restoration of the nave of St. Mary's Church (the chancel having recently been completed), Mr. Scott was consulted; and the work is now commenced under his instructions. The whole of the interior fittings (except the two pews, organ, and loft) have been removed, and the floor of the nave entirely bared. The flags, many of them bearing old inscriptions, one not less than 200 years old, have been temporarily taken up, and the level of the church will be somewhat altered. The inner surfaces of the walls have been found in bad condition, and require large repairs. The bases of the pillars are much out of order; but this, with the other repairs, will occupy some months. The church is to be refitted with open stalls, and the pulpit is to be fixed at the north-east angle, and the reading-desk on the opposite side. The ceiling is to be painted blue, and studded with stars.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Sheerness.—The new Roman Catholic Church at Sheerness has been formally opened for divine service. The edifice is situate near the sea-wall which borders the whole of this portion of the coast. It is in the Transition style, and has been erected from designs furnished by Mr. Pugin, of Ramsgate. The ground plan comprises a nave and chancel, together 112 ft. long and 48 ft. wide, including side chapel and aisles; and the building is erected of pricked stock bricks, with dressings externally of Bath, and internally of Caen stone. The nave and aisles are extremely simple, nothing being expended on mere ornament. The chancel terminates in an apse, and contains seven tracery windows, which are enriched by moulded columns, hood-moulds, and caps, the latter supporting the ribs, which carry the groined ceiling. The nave roof measures 57 ft. from the apex to the floor-line, and is divided by main and intermediate principals in each bay, which are again partly subdivided by ribs and panels, and partly open. The roof of the aisles is open, and framed with knee-pieces, resting on wall-plate. The whole of the timbers have wrought-iron roses, painted and gilt. The lady-chapel contains a rose window and three lancets. The roof is panelled. The altar is worked in Caen stone, enriched with marbles, and was executed by Mr. Earp, of London. The organ gallery is supported by a simple stone arch, going the entire width of the nave, springing from stone corbels and abutments. The cost, which includes everything connected with the building, from the sacristy fittings to the high altar, amounts to nearly 1,000*l.* The work has been executed by Messrs. Smith & Son, of Ramsgate. The internal metal-work, which is simple in design, was by Mr. Hardman, of Birmingham.

Stourbridge.—A new church has been opened here for divine service. The edifice is situate nearly in the centre of the town, at a junction of two streets, the west front facing Kidderminster-street. It is designed in the full Decorated period of the Gothic style, and has been built from the designs of Mr. Pugin. The ground-plan comprises nave and aisles, tower at the north-west angle, chancel, two side chapels, and a sacristy. The dimensions are,—Length, 120 ft.; breadth, 52 ft.; height, 57 ft. The building is principally erected of Stourbridge red firebrick, with dressings of Bath stone. The work has been entirely carried out by Mr. Ife, of Stourbridge.

COMPENSATION CASES.

At the Lord Mayor's Court, last week, before Mr Commissioner Kerr and a special jury, a compensation case, "Jones and Cohen v. The London, Chatham, and Dover Railway Company," occupied the whole day in assessing the amount to be awarded for three freehold houses in Fleet-lane, of which the claimants were trustees. Mr. Serjeant Parry and Mr. Raymond were for the claimants, and Mr. Hawkins, Q.C., with whom was Mr. Gadsden, for the company. A peculiar circumstance was disclosed in this case. It appeared that some negotiations had taken place between the surveyor of the company and a gentleman on the other side, and that the houses were actually pulled down some time since without the knowledge of Mr. Cohen, the acting trustee. A sum of 1,760*l.* had been agreed upon, but Mr. Cohen repudiated that sum as totally insufficient, and claimed 5,000*l.* Evidence was given of the rise of property in the City, and that three companies had been established to purchase property in the City for the purpose of selling it again at a good profit. On the part of the claimants, the highest value put on the property was 2,600*l.*, which includes 10 per cent. for compulsory sale. On the part of the company, 1,760*l.* was proved by witnesses to be the full value, and that sum had been paid into court. As the property would have been sold next year, the 10 per cent. was alleged not to be necessary. Mr. Commissioner Kerr, in placing the case before a jury, remarked on the difference in the evidence of valuers where railway companies were concerned. For his own part he should like to see valuations made as between John Jones and Thomas Smith. As to 10 per cent. for a compulsory sale, he could not see why it should be allowed in all cases, but it was a question for the jury. The jury awarded as compensation 2,450*l.*

Miscellanea.

PROVIDENT INSTITUTION OF FOREMEN AND CLERKS OF WORKS.—The dinner in aid of this Institution will be held on the 27th inst. at the London Tavern, and deserves support. Mr. J. Taylor will preside, and Mr. S. Tricket will occupy the vice-chair.

MEMORIAL OF SHAKSPEARE. — A drinking-fountain has been erected at Black Gang, at the back of the Isle of Wight, dedicated in an inscription "to the memory of Shakspeare." The fountain has been erected by Mr. Letts, a gentleman residing at Black Gang.

ROYAL SCHOOL OF NAVAL ARCHITECTURE, SOUTH KENSINGTON.—The Committee of Council on Education having appointed Dr. Woolley as Inspector and Director of Studies, and Mr. C. Merrifield as Principal, have named as Vice-principal Mr. Parkiss, the Senior Wrangler and First Smith's Prizeman in the present year.

FATAL ACCIDENT TO AN ARCHITECT.—At York, recently, Mr. Hornsey, architect, while measuring some old walls of a tile-kiln which were to be taken down and rebuilt, was killed by the fall of the roof upon him. The local papers state that he was much respected, and that his untimely death will be regretted by a large circle of friends.

ST. MARY'S TOWER, TAUNTON, STRUCK BY LIGHTNING.—On Saturday in last week a very severe thunder-storm burst over Taunton, accompanied by torrents of hail and rain. Whilst the storm was at its height, the pinnacles and parapet of St. Mary's tower were struck by lightning, and large quantities of the ornamental stonework were thrown to the ground, and a quantity of lead roofing melted. The tower, as our readers will recollect, has only been completed a year or so, having been just rebuilt at a cost of 9,000*l.* or 10,000*l.* So far as the damage can at present be ascertained, it is estimated that it will cost only about 40*l.* to restore it.

STATUE FOR THE THAMES EMBANKMENT. The Metropolitan Board of Works, at their meeting to-morrow (23rd), are to receive a report from the Thames Embankment Committee, stating,—That having considered the letter from the First Commissioners of Her Majesty's Works, &c., relative to the erection of a statue of Sir James Outram, on land reclaimed by the Thames Embankment, they are of opinion that the application should receive the most favourable consideration of the Board, the question of the exact site, and other details, being reserved for future determination.

DISCOVERY AT ST. BARTHOLOMEW'S, SMITHFIELD.—During the works now in progress for the enlargement and restoration of St. Bartholomew's, the workmen engaged in excavating on the north side of the parochial boys' school, which bears the appearance of great antiquity, in order to lay bare the immense and massive buttresses of the priory walls, and also in excavating in the interior of the chancel, discovered several leaden coffins, no doubt containing the remains of the monks and friars belonging to the priory. The coffins being securely soldered it is not intended to have them opened, and they will consequently be removed to a place of sepulture. Large quantities of remains have been dug up.

THE FITZROY MARKET RAGGED SCHOOLS, TOTTENHAM COURT ROAD.—The ragged schools are doing so much good, in a quiet and unpretentious way, that we are always glad to hear of their success, and as sorry to hear of their adversity. The Fitzroy Market schools, we much regret to learn, have been robbed to what is to them a serious extent, and efforts are being made to replace what the thieves have stolen. The most grievous circumstance in the affair is, that all the articles of clothing belonging to the poor mothers, and to the night industrial classes, have been stolen, as well as the reserve stock of sheeting, calico, flannel, and a good deal of other property; and the funds of the society had all been expended on that stock. The ladies' committee, therefore, earnestly appeal to the generosity of the public for help in this strait; so that the poor women, especially, who have been sufferers by this heartless robbery, may have their clothing replaced. Miss Oxley, the hon. sec., 16, Grafton-street, Fitzroy-square, W., will receive contributions; also Miss Stableford, the treasurer, at 59, Devonshire-street, Portland-place, W.

THE SOCIAL SCIENCE CONGRESS IN YORK.—As already announced the eighth annual meeting of the National Social Science Association will commence in this city, on, this, Thursday, and will terminate on the Thursday following. The questions for discussion by the members of the Congress are very numerous and important, and the meeting promises to be a good one.

ARCHITECTURAL PRIZE, PARIS.—The Duc de Valmy has placed at the disposal of the Academy of Fine Arts the sum of 1,500 francs, to be given to the author of the best essay on a general question of architecture. The Academy has in consequence published the following theme:—"To explain principles and rules of architecture; to develop the theory of the art as applicable to our epoch." The essays are to be sent in on or before the 15th July, 1865.

MONUMENTAL.—The bronze equestrian statue of the Prince Consort has been formally inaugurated at Halifax. The cost of the statue was met by public subscription some time ago; and when the form which the memorial was to take had been decided upon, the work was put into the hands of Mr. Thornycroft, of London. The statue and pedestal measure 18 ft. from the ground. The horse has been modelled from one in the possession of her Majesty, named Nimrod. The statue has been cast by Messrs. Elkington, Birmingham, and weighs a ton and a half. The ancient sand process was employed. Messrs. M'Donald & Field, of Aberdeen, have supplied the pedestal, which is of unpolished grey granite. The total cost of the statue is 1,300 guineas.——An obelisk in memory of the late Mr. J. R. Farquharson, of Invercauld, has been erected in the grounds of Invercauld. The Brethren of St. Nathalan Lodge of Freemasons (No. 259), Tullich-in-Mar, of which Lodge the deceased gentleman had held the position of Right Worshipful Master for many years, laid the foundation-stone of the monument with full Masonic honours.

THE OLDEST CHURCH IN THE SOUTH OF ENGLAND. It having been agreed at a vestry meeting, by the consent of about six of the ratepayers, that the old church of Selsey should be torn down, and a new one built near the village, the following remarks were made by one of the inhabitants:—"On the site where the church now stands was a place where the ancient Britons performed their religious worship, as witness the mount. On the south-eastern corner of the churchyard the Romans built their church, as witness old foundations if you dig below the surface. In England, Christianity was first preached at Selsey, probably on the very site where the church now stands, and tradition says that one of the twelve apostles preached at Selsey. The site is one where religious service has been performed most probably for upwards of 2,000 years. Can it be possible for the present generation to remove it? The church is the oldest in the south of England, if not in England, and a few years since was put in good repair: at a trifling expense it would now last for ages."

THE OLDEST PAVEMENT IN OR NEAR THE CITY. By far the most ancient paving either in or near the city of London is to be found in Trinity-square, Tower-hill. There are portions of the early roadway still remaining in the four angles of the irregular-shaped plot of ground forming the so-called "square," at each of the corners, where they may now be seen; and forming, as they undoubtedly do, from the rubble of which they are composed, with the boulders, coggles, limestone, and cement ordinarily used in the erection of walls and bastions in the early times, these remains may be considered as furnishing most interesting, and probably unrivalled, specimens of road-making in the City and its more immediate precincts long before the Great Fire, in 1666. There are also closely contiguous to these peculiar spots of pavement some very old houses, especially the Coopers' Arms, at the corner of the square (or rather oval) nearest Barking Church, and at the companion corner, near George-street, still stands the Old George Tavern, which is shown upon the maps published before the Great Fire. This "hostelrie" possesses all the features of antiquity. It is of timber, with a penthouse front forming a balcony, still used as a pleasant retreat, with trees before it, looking over the gardens and the (now dry) moat of the Tower and within full view of which stood the block and the gallows in the sixteenth century, as shown in Ogilvy's and other maps of the period. *City Press.*

THE LATE DESTRUCTION OF PROPERTY AT LIMOGES.—The Council of State has just authorized the town of Limoges to make a loan of ten million francs for the purpose of reconstructing the quarter that was burnt, and executing other important works.

A DISPENSARY FOR BARNSLEY.—This place has just had the good fortune to have presented to it a large building for a dispensary, and a sum of 5,000*l.* for its maintenance. The gift is from Mr. Staniforth Beckett, of The Knoll, Torquay.

THE WORKING CLASS INDUSTRIAL EXHIBITION FOR MARYLEBONE.—A public meeting has been held in Great Portland-street School-room, to promote this Exhibition, when resolutions were, after discussion, unanimously passed, pledging the meeting to promote the same to the utmost of its power; soliciting the co-operation of the gentry; and appointing a committee to carry out the details. The promoters propose that the Exhibition should take place about Christmas time.

RAILWAY BRIDGE BETWEEN SOUTHWARK AND THE CITY.—During the last week the contractors commenced fixing the first girders for the railway bridge between Bankside and Thames-street, intended to carry the South-Eastern Railway at London-bridge, and the Charing-cross Railway in the Strand, to the Central City terminus of those companies in Cannon-street, City. The land, arches, and abutments on both sides of the river are completed, and the sinking of the cylinders is progressing.

ALTERATION IN THE NAMES OF THE METROPOLITAN THOROUGHFARES.—The following alteration in the names of some of the principal metropolitan thoroughfares has just been effected by the Metropolitan Board of Works:—Bricklane and York-street, St. Luke's, Finsbury, is now Central-street; and John's-row and Wilmington-street, in the same locality, are merged into one thoroughfare, and named Levers-street. Southampton-street, Russell-square, is now called Cosmo-place. The distinction of Great and Little Russell-street, Covent Garden, is abolished, and the two are now Russell-street. Holloway-road now extends from Upper-street, Islington, to the Great Northern railway, and the host of terraces, places, buildings, &c., are all merged into one common nomenclature, Holloway-road. The road has been entirely renumbered, the numbers running from north to south, the odd numbers on the west, and the even on the east. Pitfield-street, Hoxton, now extends from Old-street-road to the New North-road, and Haberdashers' Walk and Place no longer exist. Foley-place, Marylebone, has been renamed Langham-place. Marylebone-street, Regent-street, is now called Glasshouse-street; and Queen-street, Golden-square, is now Denman-street. Numerous other alterations are in contemplation.

THE CASTLE HOWARD TUMULI.—An examination of the British graves on the Castle Howard estate, in the North Riding of Yorkshire, has been commenced. In one tumulus, about 30 yards in diameter, and having an altitude of about 8 ft., which had never previously been disturbed, the excavation was commenced on the north side, and was driven, about 9 ft. in width, completely through to the south. The evidences of fire increased towards the centre until twelve distinct sections of charcoal layers, interspersed with others of burnt earth and stones, but with very few bones, were discernible. About the centre, burnt stones and a few bones were found as a distinct deposit, about 3 ft. deep, and here the workmen were surprised to find a layer of concrete material increase so rapidly in thickness that it presented all the appearance of a concrete floor, hard as a flag,—indeed, the construction of the tumulus was very remarkable, and altogether unusual. In the centre of this large concrete floor or platform a magnificent scalloped or pectinated urn was found, but there were no bones along with it. From beneath the urn, attached by clay to the bottom, a flint implement was taken, having a dentate edge, yet sharp as a saw, which it resembled. The large area and magnitude of the burning, of which the evidences were profuse, seemed to account for the almost entire consuming of the body, of which hardly a vestige was discoverable. But a rabbit-burrow also passed right through the barrow and just over the urn, and in this way bones may have been removed from their intended resting-place. The platform or floor upon which the burial had been made appeared to have been constructed with great care.

WORKMEN'S INDUSTRIAL EXHIBITION AT TUNBRIDGE WELLS.—This exhibition, which was under consideration, it seems, even prior to the opening of the Lambeth Exhibition, has now been opened. The town-hall was intended to have been used, but it was found too small, and Cramp's Riding-school has been taken for the purpose. The ex-Queen of the French was present at the opening. The inaugural address was delivered by the Hon. F. G. Molyneaux, and in the evening a concert was given by the Choral Society. The articles exhibited are said to be very numerous.

THE BRIGHTON ART SOCIETY'S EXHIBITION.—The eleventh annual exhibition of paintings of the Brighton Art Society, has been opened to the public, as usual, in the two rooms at the Pavilion, which were some years ago fitted up for the purpose by the town surveyor. The number of pictures is 442, of which 238 are in oil: the remainder are in water-colour; and there are also a few specimens of statuary. The number of artists who contribute to the exhibition is about 160, among whom there is a goodly sprinkling of natives of the county. Speaking generally, the exhibition is regarded, says the local *Herald*, as fully sustaining the character of the society. The interest of the exhibition was enhanced by the presence of a selection of pictures from the Sheepshanks Collection, at South Kensington.

CHESTER TOWN HALL.—The town council have resolved "that the design 'Love's Labour,' by Messrs. Lanyon, Lynn, & Lanyon, be adopted, and that the same be carried out; but that the council defer deciding on erecting the tower till tenders are obtained; that Messrs. Lanyon, Lynn, & Lanyon be requested to prepare the working drawings and specification with and without the tower; and that the committee be authorized to advertise for tenders in stone, and brick and stone, as soon as the working drawings and specifications are ready." The building committee had previously requested Messrs. Lanyon, Lynn, & Lanyon to send in an elevation both in brick and in stone, with an estimate of cost; and the architects did so, stating that they estimated the cost in brick, without a tower, at about 15,000*l.*, or with the tower 1,500*l.* more; but advising the construction to be of stone, which could be had from the neighbourhood, and could be used at not much greater cost. In speaking of the cost in brick, the architects say,—"The estimate of the cost per cubic foot has been arrived at from information derived from builders and others in Chester, on whose judgment we believe reliance may be placed. The contractor for the new hotel in Eastgate-street, states that the building on which he is there engaged is being carried out at the rate of 4¼d. per cubic foot. By reference to the accompanying elevation, it may be seen that the style of work therein proposed (with the exception of the stone balustrade and cornice round the building) is not in any way more expensive than that of the hotel. However, to learn what may be considered to be a full margin, we have calculated the whole of the front building at 5d., or ¾d. more per cubic foot than the hotel. The central tower, as here assigned, though not much more expensive in proportion, is calculated at 9d. per foot, to allow for extra cost of scaffolding, labour, &c.; the octagonal tower at 6d.; and the remainder of the building, courts, &c., at 4d." Mr. Lynn was of opinion, though no estimate had been made, that the building could be erected in stone for 20,000*l.* We agree with the architects in thinking that the council ought to build their new town-hall in stone.

TENDERS.

For alterations at 303, Kentish-town-road, for Mr. Robinson. Mr. Manning, architect:—

Kent	£175	0	0
Allen	158	0	0
Abbott	148	0	0

For three houses at Peckham, for Mr. Noldwritt. Mr. Henry Jarvis, architect:—

Marsland & Son	£2,660	0	0
Sawyer	2,487	0	0
Aldred & Doulton	2,380	0	0
Henshaw	2,300	0	0

For alterations at the Norwich Equitable Fire Office. Mr. T. D. Barry, architect:—

Lacey (accepted)	£730	0	0

For enlargement of the schools, Thorpe Hamlet, Norwich. Mr. T. D. Barry, architect:—

Plummer & Bloom (accepted)	£538	0	0

For new premises, London-street, Norwich, for Mr. G. C. Stevens. Mr. T. D. Barry, architect:—

Lacey (accepted)	£740	0	0

For the erection of Birkenhead Industrial Schools, "Albert Memorial." Mr. David Walker, architect. Quantities supplied by Mr. W. M. Boden:—

Jones & Lewis	£6,824	0	0
Harkness & Dempstie	5,989	0	0
Chester & Co.	5,950	0	0
Black	5,919	0	0
Cameron	5,899	0	0
Neill (accepted)	5,700	0	0
Roberts	5,683	0	0
McKenzie	5,330	0	0

For building a house, offices, and stabling at Streatham, for Mr. James McGrouther. Messrs. Scurry & Wright, architects:—

Fish	£4,360	0	0
Patman & Fotheringham	4,277	0	0
Piper & Wheeler	4,160	0	0
Candler	4,099	0	0
Henshaw	4,080	0	0
Chapman	3,957	0	0
Maeers	3,790	0	0

For alterations at "The Grove," Cringleford, Norfolk, for Mr. Alfred Massey. Mr. T. D. Barry, architect:—

	House.			Lodge.		
Farrow	£1,488	0	0	£241	10	0
Stanley	1,454	0	0	—		
Ford	1,421	0	0	187	0	0
Lacey	1,285	0	0	227	10	0
Wales	1,147	0	0	187	0	0
Gilbert	1,099	0	0	187	0	0
Plummer & Bloom	1,000	0	0	181	0	0

For pulling down and rebuilding three houses in Hare Marsh-street, Bethnal-green, for Mr. J. Smith. Mr. D. Gylby, architect. Quantities not supplied:—

Simmonds	£830	0	0
Allen (accepted)	791	0	0
Curtis	630	0	0

For new county police-office, with court-room, lockups and superintendent's and office-keeper's residences:—

Rowbotham	£2,126	0	0
Worth	2,097	0	0
Brown	1,895	0	0
Blackshaw (accepted)	1,850	0	0

For drill hall, stores, armoury, and quarters for the First Gloucester Volunteer Artillery Corps, Bristol. Mr. C. F. Rumley, architect. Quantities supplied:—

Brown	£1,190	0	0
Banner	1,181	0	0
Lewis	1,160	0	0
Beaven & Son	1,153	0	0
Lowest Separates	1,134	0	0
Brock	1,129	0	0

For additions to farm premises on the estate of Sir G. E. Welby Gregory, bart. Mr. R. W. Johnson, architect:—

Dixon	£243	16	11
Barnes & Wakerly	238	18	0
Fast	224	9	4
Pearson & Whait	203	13	9

For taking down and rebuilding house at South Croxton, Leicestershire. Mr. R. W. Johnson, architect:—

Clifton	327	0	0
Robinson & Knight	294	0	0

For rebuilding house and making additions to premises in Bourne Fen, Lincolnshire. Mr. R. W. Johnson, architect:—

Bradshaw	£420	0	0
Story & Normsa	342	0	0

For additions to house and premises, at Blaston, Leicestershire. Mr. R. W. Johnson, architect:—

Buttress (accepted)	£239	6	6

For sewers at Hammersmith, in connexion with the Main Drainage:—

King-street, Hammersmith.

Elsey	£3,034	0	0
Wigmore & Whittick	3,775	0	0
Nowell & Docwra	3,720	0	0
Bird	3,719	0	0
Moxon	3,671	0	0
Thurst	3,515	0	0
Mann	3,500	0	0
Reddin	3,285	0	0
Wood	3,254	0	0
Williams (accepted)	3,150	0	0

Parson's Green.

Elsey	£2,650	0	0
Wigmore & Whittick	2,500	0	0
Pound	2,379	0	0
Nowell & Docwra	2,277	0	0
Mann	2,147	0	0
Bird	2,136	0	0
Wood	2,116	0	0
Moxon	2,067	7	0
Thurst	1,976	0	0
Reddin (accepted)	1,702	0	0

Brook's Green, Hammersmith.

Elsey	£3,770	0	0
Wigmore & Whittick	3,493	0	0
Merry	3,456	0	0
Moxon	3,418	0	0
Pound	3,415	0	0
Nowell & Docwra	3,402	0	0
Bird	3,393	0	0
Mann	3,300	0	0
Wood	3,296	0	0
Thurst	3,206	0	0
Reddin	2,942	0	0
Williams (accepted)	2,730	0	0

For additions to Messrs. Corben's carriage factory, at Twickenham. Mr. George Truefitt, architect:—

		Wood shutters.		Revolving shutters.	
	With		With		
Rooke	£1,734	12	0	£1,775	1 3
Stimpson	1,695	0	0	1,740	0 0
Patrick	1,670	0	0	1,719	0 0
Allen	1,625	0	0	1,665	0 0
Warne	1,500	0	0	1,555	0 0

For a cottage, at Worthing. Mr. George Truefitt, architect:—

Blaker (accepted)	£428	0	0

For alteration to the Coach and Horses, Clapham-road, for Mr. Clark. Quantities not supplied:—

Jeffs, Brothers	£1,045	0	0
Kilby	939	0	0

For new Congregational chapel, Week-street, Maidstone. Messrs. Habershon & Pite, architects:—

Jennings	3,685	0	0
Bridge & Son	3,646	0	0
Cobb	3,615	0	0
Pell	3,480	0	0
Norris	3,400	0	0
Stump	3,371	0	0
Clements & Wallis	3,299	0	0
Naylar & Son	3,207	0	0
Anscomb (accepted)	3,190	0	0
Chambers*	3,070	0	0

* Made error and withdrew Tender.

For additional story to the Railway Tavern, Dartford. Messrs. Aston & Nicoll, architects. Quantities supplied by Mr. A. W. Q. Nicoll:—

Meton (accepted)	£255	0	0

For new counter at The Railway Tavern, Dartford, Kent. Messrs. Aston & Nicoll, architects:—

Bentley	£97	0	0
Gilder & Hodgson (accepted)	92	0	0

For Independent church and school, Oundle, Northamptonshire, in addition to old materials. Mr. W. F. Poulton, architect:—

Gann & Berridge	£1,793	4	7
Boddington	1,731	0	0
Watkin	1,570	0	0
Pattinson (accepted)	1,320	0	0
Sharpe & Co.	1,148	10	0

For repairing and enlarging Whittey Church, Cheshire. Mr. R. Jenning, architect:—

Beckett	£980	0	0
Fairhurst	825	10	0
Fox & Brother	740	0	0

For the erection of two villas in the Norfolk-road, Edgbaston, for Mr. Manton. Mr. F. B. Osborn, architect:—

Parker & Son (accepted)	£1,980	0	0

For new infirmaries, Orphan Working School, Haverstock-hill. Mr. James Harrison, architect. Quantities supplied by Mr. James Marsland:—

Coleman	£1,540	0	0
Carter & Sons	1,345	0	0
Browne & Robinson	1,345	0	0
Ashby & Sons	1,340	0	0
Brass	1,335	0	0
Dove, Brothers	1,325	0	0
Jackson & Shaw (accepted)	1,300	0	0

Sanitary Works.

Jennings	£158	5	6

Devaux's Vieille Montagne Roofing Zinc.

Tyler	£198	0	0

New Stable and Coach-house.

Baugh & Bryant	£217	0	0
Haynes	175	0	0
Carter & Sons	168	0	0
Thurlow	79	10	0!

For new church, at Camberwell. Mr. Joseph Peacock, architect:—

	Bath Stone.			Whitby Stone.		
Thompson	£7,620	0	0	£8,030	0	0
Scrivener & White	7,469	0	0	8,093	0	0
Simms & Martin	7,366	0	0	8,189	0	0
Mansfield	7,346	0	0	7,792	0	0
Patman & Co.	7,300	0	0	7,770	0	0
Carter & Son	7,290	0	0	8,279	0	0
Dove, Brothers	7,170	0	0	7,610	0	0
Jackson & Shaw	7,153	0	0	7,480	0	0
Sawyer	6,738	0	0	7,238	0	0
Myers	6,685	0	0	7,321	0	0
Manley & Rogers	6,457	0	0	7,167	0	0

For repairs, &c., Batchworth House, Herts, for the Right Hon. Lord Ebury. Mr. T. Pearson, architect. Quantities supplied:—

Sharpington & Cole (accepted)	£1,240	0	0

For alterations, Abingdon, for the Provincial Banking Corporation. Mr. Pearson, architect:—

Townsend (accepted)	£310	0	0

For the erection of a boiler-house, boiler chimney-shaft, and sundry works at the Industrial Schools, Forest Gate, Stratford, for the Guardians of the Whitechapel Union. Mr. John Hudson, architect:—

Hall	£519	0	0
Langtree	468	0	0
Langmead (accepted)	465	0	0

For the erection of four houses in Blue Anchor-lane, Bermondsey, for Mr. Hayden:—

West & Morse (accepted)	£840	0	0

For the erection of three houses in Blue Anchor-lane, Bermondsey, for Mr. Owen:—

West & Morse (accepted)	£630	0	0

For the erection of a shop, in Alexander-road, Bermondsey, for Mrs. Cooper:—

West & Morse (accepted)	£218	0	0

For cellars, warehouse, stables, &c., at The Brecknock Arms, Camden Town. Mr. James Harrison, architect:—

Ball	£999	11	0
Patman & Fotheringham	943	0	0
Marsland & Son	890	0	0
Allen	695	0	0

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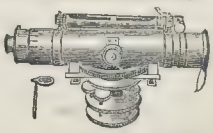
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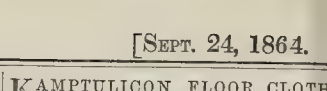


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DEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Caledonia-field-street North, City-road Basin, N. Finally, that the trade may, "TERRO METALLIC," is the exclusive right of the Proprietor; and briefly, that the "Reports of the Juries," page 281, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the manufactures known so long as "The Tileries," Tunstall, Staffordshire, as "the first of the kind in the world."

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals, 1855 Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
Worthless imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Works, 20 and 40, Upper Belgrave-place, Pimlico, S.W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.
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London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

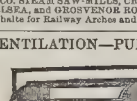
HARDEN WALLS.—FOXLEY'S Patent Corrugated BRICKS are ornamental, cheap, and durable, and the most complete remedy against all the evils attending the present system of training Fruit Trees.—Particulars on application to the Patentee, J. FOXLEY, Stony Stratford, Bucks.—Agents for London, Messrs. EASTWOOD, Lambeth

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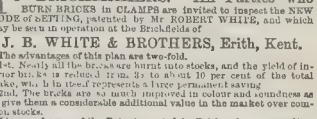
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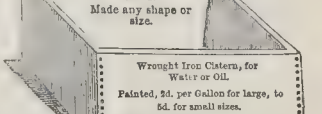
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The advantages of this plan are two-fold.
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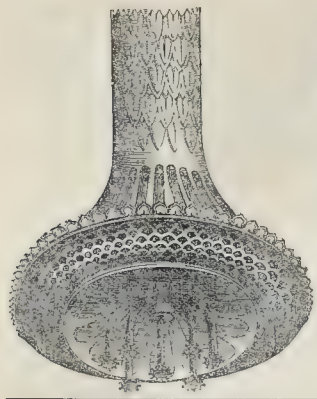
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large size and great variety,
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The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes; also for Macadamising.—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

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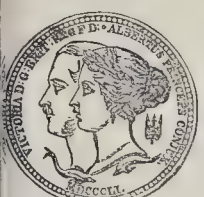
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THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

ENCOURAGE COUNTRY MANUFACTURE.

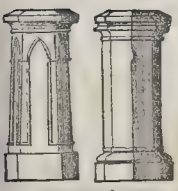
WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

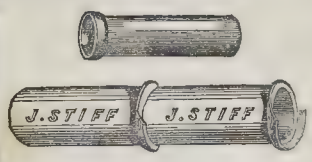
ESTABLISHED 1795.
MANUFACTURERS OF SALT-GLAZED STONEWARE SOCKETED PIPES,
TERRA-COTTA CHIMNEY TOPS,
CLAY RETORTS AND FIRE-CLAY GOODS OF ALL DESCRIPTIONS.
MARCUS BOURNE NEWTON,
LONDON AGENT.
DEPOT, No. 4, GREAT NORTHERN GOODS STATION,
KING'S CROSS, N.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

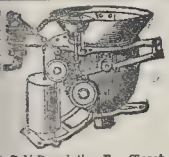






PAN, 4s. 6d.
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for all Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.
Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 9d. per cwt.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, No. 6849.
3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanness it cannot be surpassed by the most expensive closets.
FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PAN CLOSET,
and HYDRAULIC REGULATOR.
COMPLETE, 1l. 18s.



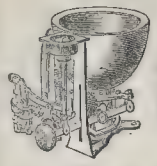
Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.
Any number can be supplied from one pipe.
W. PATTEN, 22, Old Fish-st. St. Paul's, London.
A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.

READE & HEWITT'S PATENT PNEUMATIC PAN and SELF-ACTING WATER CLOSETS, RAILWAY URINAL, and SEWER FLUSHING APPARATUS.
The simplest, strongest, and cheapest Closets manufactured, acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, work-shops, and any situations where subjected to severe usage. Prevents waste of water, saves piping, cranks, wires, service-box, and all the complicated apparatus of self acting closets.
The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharge being regulated by a simple tap, thus saving an immense quantity of water, which ordinarily runs to waste.

Best Pan Closet, complete	£2 12 6
Best Self-acting Closet, complete	2 15 0
Railway Urinal Flushing Vessel, complete	3 3 0

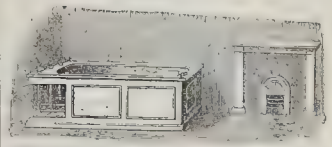
LIVERPOOL, No. 5, WELLINGTON BUILDINGS, SOUTH CASTLE STREET.
An Agent is required for the sale of the above in London.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cisterns, valves, cranks, or wires are used. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



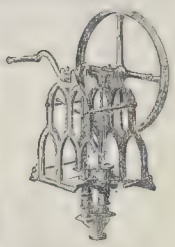
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

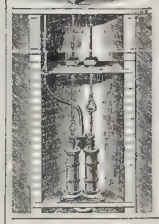
LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.



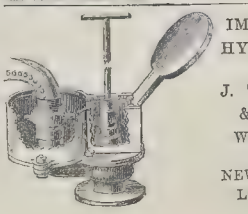
Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.







PUMPS
FOR
DEEP OR SHALLOW WELLS,
WATER BOATS, &c.
J. TYLOR & SONS,
MANUFACTURERS,
WARWICK LANE,
NEWGATE STREET,
LONDON.



IMPROVED HYDRANT.
J. TYLOR & SONS,
WARWICK LANE,
NEWGATE ST.
LONDON.

SALES BY AUCTION.

PIMLICO.—To Coal Merchants, Contractors, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Proprietor, who is retiring from business, to SELL by AUCTION, on the PREMISES, Fynl co wharf, Grosvenor road on TUESDAY, SEPTEMBER 27, at TWELVE for ONE o'clock, FOUR powerful CART HORSES, several sets of van and cart harness, spring vans, wagons and carts, wharf and wagcon weighing machines and rods of weights, about 240 coal sacks, hand truck, large pump, ladders, planks, new headfast, and all the usual trade implements May be viewed. Catalogues had on the Premises; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 81, Fore-street, City.

BUILDING MATERIALS.—AUSTINFRIARS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 3, at TWELVE, in Lots, the Valuable BUILDING MATERIALS and FITTINGS-UP of a large House and Offices, No. 27, Austinfriars, comprising sound brickwork, stout rafters, joists, and other useful timber; plain tiles, sashes, doors, partitions, chimney-pieces, and interior fittings; sound floor-boards, several tons of lead in flats, gutters, cisterns, and pipes; stone-paving, iron book-safes, panelled and railed partitions, inclosures of presses, stoves, and various useful fittings-up.—May be viewed on Saturday previous. Catalogues had of C. J. CORBETT, Esq. and THOS. NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

Steam-engines, Silk Calendering Machines, Rice Stones and Machines, and other valuable Machinery.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway Company at THE MILLS, Poplar, and Shoreditch, on WEDNESDAY, OCTOBER 5, 1864, at TWELVE o'clock, the valuable PLANT and MACHINERY of the Steam Rice and Silk Mills.—May be viewed at any time; and catalogues had on the Premises; and at the Auctioneers' Offices, Camden Town.

NORTH LONDON RAILWAY.—Materials of Houses, Shops, Tavern, &c. (Preliminary Advertisement.)

MESSRS. KENNEDY & BONNY will SELL by AUCTION, in the EAGLE YARD, Kingsland-road, on THURSDAY, the day of OCTOBER, 1864, at TWELVE, the MATERIALS and FITTINGS of the Houses, Shops, and Tavern at the corner of Old-street road; also other Houses and Buildings at different parts of the line of railway. See future advertisement.

Camden Town, Sept. 23, 1864.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, WEDNESDAY, 28th SEPTEMBER, at TWO o'clock, for account of the Underwriters, &c.

3,387 Yellow Pine Deals, &c. } Ex Private from Miramichi.
4,141 White Spruce do. } Sea damaged.

Also

TIMBER ..... 1,000 loads Foreign and Colonial.
Deals and Battens..... 150,000 pieces do. do.
And other Wood Goods.

H. FREEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street, E.C.

PURLEY, near Croydon, contiguous to the Caterham Junction Station, on the main line of the Brighton and South Eastern Railways, about 1¼ mile from the South Croydon Terminus, and 12 miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on THURSDAY, OCTOBER 13, at FOUR for FIVE o'clock, Twenty Valuable FREEHOLD BUILDING PLOTS, and Two Cottages, with Gardens, being a portion of the Purley Lodge Estate, the whole having capital frontages to the turnpike road, and to a new road through the estate. The land has a substratum of gravel and chalk, and is in a delightful rural and healthy situation. The proximity of the railway station, and ready means of communication with the metropolis, render the land of a safe and sterling character for the carrying out of extensive building operations.—Particulars, with plans, may be had at the Greyhound Inn, Croydon; at Garraway's Coffee-house, Change-alley; of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion House; and of Messrs. BLAKE, Croydon.

By Order of the Liquidators.—Patent Alkali, Blue Vitriol, and Metal Works, St. Helen's, Lancashire.—Large Sale of Building Materials, &c.

MR. KIRK respectfully announces that he is instructed to Catalogue and SELL by AUCTION, on WEDNESDAY, THURSDAY, and FRIDAY, the 28th 29th, and 30th days of SEPTEMBER, the whole of the BUILDINGS, of every description (in order that the whole may be taken down, removed, and the ground cleared), forming the extensive Works known as the Patent ALKALI and METAL WORKS, at St. Helen's, Lancashire, including extensive ranges of substantial brick buildings, blue slated roofing of the very best Welsh blue slates, rafters, joists, beams, planking, &c. Immediately available and excellent in quality; cast and wrought iron work in columns, girders, tie-rods, &c.; lead flashings, gutterings, shoots, &c.; flags, tiling, &c. Also a 30-horse condensing steam engine, large cast iron water-tank, together with a vast assemblage of other valuable materials and effects.—Full particulars in catalogues, which are now ready, and may be had of the Auctioneer, at his Offices, No. 8, Essex-street, King-street, Manchester.

Contractors' Plant, Machinery, Four Portable Steam-Engines, and Effects.

MR. GAIRDNER is instructed by Messrs. Brassey, Ogilvie, & Harrison, having nearly completed the whole of the Northern Mid Lever Sewer, to SELL by AUCTION, on the PREMISES, on Bishopsgate-street (adjoining the Great Eastern Railway), on MONDAY, the 26th SEPTEMBER, at TWELVE, FOUR portable 10 nominal power STEAM ENGINES, tunnel pumps, mortar mill, Woodford's patent riveted shoring, ten portable offices, engineer's observatories, and store-houses, fourteen brick and rubbish carts, timber in balk and plank, ladders, stacks of fire-wood, scrap and old iron, 4 cwt. of bolts and fastenings, and numerous miscellaneous effects.—On view two days prior. Catalogues forwarded per post, and at Mr. GAIRDNER'S Offices, 189, Tottenham-court-road, W.

To CONTRACTORS, COAL MERCHANTS, BREWERS, and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor for the Charing Cross and City Extension Lines, to SELL by AUCTION, at the STABLES, PARK STREET, BOROUGH, on WEDNESDAY, SEPTEMBER 28th, at TWO for TWO o'clock, Twenty-five superior and powerful DRAUGHT HORSES, at present working on the above line, but on account of the work being now completed, are no longer required.—May be viewed the morning of sale, and catalogues obtained at the Offices of the Contractor, Worcester street, Southwark; and of Messrs. WILLIS & HARROW, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

EARLY SALE at ELEVEN for TWELVE o'clock, on account of the number of Lots.—To Timber Merchants, Builders, Cabinet Makers, &c.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-Town, on MONDAY, SEPTEMBER 26, at ELEVEN o'clock, nearly 400 Lots of Capital STOCK comprising 1 well-built pair of dessert, 1,200 planks, deals, and battens; 150 squares flooring, all 7 feet mahogany, birch, lime tree, beech, elm, dry cut pine, quartering, doors, sheets, stuff, 10,000 feet moulding, 8 marble chimney-pieces, scaffolding, ladders, building materials, &c.—Auction Offices, 2, Carlington-street, Hampstead-road.

PIMLICO.—Capital Materials of Six Dwelling houses.

MR. GEO. HAINES will SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 27th, at TWELVE o'clock, all those the BUILDING MATERIALS of the old King's Head Wine Vaults, and Five other Houses in Rarlett-street and Arabella-row, comprising a very large quantity of prime brickwork, slate and tiled coverings, sound timbers in the roofs, the usual fittings of the numerous rooms, clean batten floors and joists, mahogany shop fronts with plate glass, lead and iron work, stone paving, fixtures, and useful fittings.—May be viewed. Catalogues of Messrs. HAINES & SON, Auctioneers, Mourgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton-square, and No. 12, High-street, Kensington.

Beautiful Park-like Freehold Land, at Farnborough, Hants, with a charming Site for a Mansion, in a ring fence, undulating, and ornamentally timbered, 35 acres in extent, in one lot.

MESSRS. EDWIN FOX & BOUSFIELD are favoured with instructions from the Directors of the Farnborough and Aldershot Freehold Land and Ground-rent Society (Limited), to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19th, at THREE precisely, a valuable and important FREEHOLD ESTATE, comprising a beautiful Close of Land, about fifty-five acres in extent, approached by capital roads, and within one mile of the Lynchford Station, on the South-Eastern Railway, and about the same distance from the Farnborough Station, on the South Western Railway. It is magnificently timbered, of an undulating character, and entirely surrounded by a belt of beautifully grown firs. There is a fine Site for a Mansion, whence views of great extent and beauty are obtained, and meadows slope gently to the Blackwater River; Nature has done much for the spot, judgment and taste are now only required in its development.—May be viewed, and particulars had of Messrs. PATTESON & COBBOLD, Solicitors, 17 and 18, New Bridge-street, Blackfriars; of Mr EDWARD CHATFIELD, Managing Director of the Society, 17, New Bridge street; of Mr. HENRY CURREY, Surveyor, 7, Lancaster-place, Strand; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street.

NORTH CAMP, FARNBOROUGH HANTS.—Valuable Freehold Building Land, with unusual facilities for payment of the purchase-money.

MESSRS. EDWIN FOX & BOUSFIELD are favoured with instructions from the Directors of the Farnborough and Aldershott Freehold Land and Ground-rent Society (Limited) to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19, at ELEVEN for TWELVE o'clock, in 130 Lots, the third portion of their very valuable and important FREEHOLD ESTATE most advantageously situate, at Farnborough, adjoining the North Camp, consisting of a variety of charming sites for villa residences, varying in extent from a quarter of an acre to an acre each, many of them studded with ornamental timber, and in close proximity to the site of the new church, together with numerous plots for cottages and some first-rate positions for shops, fronting the high road, and other capitally-made and well drained roadways, all of which will, from the judicious manner in which they are laid out, and their proximity to the great military camps and to the railway stations, become important leading thoroughfares. The demand for houses of every class is very great, and high rentals are readily obtained. Within the last ten years the civil population of Aldershot has increased tenfold. There is excellent water, and plenty of sand and gravel. No rates. The terms of payment will be remarkably easy, viz. a deposit of 5 per cent, and the remainder by instalments, extending over ten years, with interest at only 4 per cent and subject to the most moderate and fair restrictions as to the buildings to be erected thereon. The great success which has attended the two previous sales has induced the Directors to submit the third portion this season, and which will be the last sale during this year. The estate may be viewed, and particulars had of Messrs. PATTESON & COBBOLD, Solicitors, Nos. 17 and 18, New Bridge-street, Blackfriars; of EDWARD CHATFIELD, Esq. the Society's Managing Director, 17, New Bridge-street; of HENRY CURREY, Esq. Surveyor, Lancaster-place, Strand; at Garraway's Sale-rooms, Change-alley, Cornhill; at the Place of Sale; at the Inns at Farnborough, Aldershott, Guildford, and Reading; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

PLAISTOW, ESSEX.—Twelve superior Freehold Residences producing 320l per annum; and Thirty Plots of eligible Freehold Building Land, near the church and railway-station.

MR. JOHN M. DEAN will SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on FRIDAY OCTOBER 7th, at TWELVE, in Forty-two lots, Twelve FREEHOLD RESIDENCES, of handsome elevation, let at inadequate rents to highly respectable tenants, producing 320l. per annum; and Thirty Lots of eligible FREEHOLD BUILDING LAND, the whole encircled from Lady-lane, pleasantly situate in Park road, Upper Plaistow, Parish of West Ham, close to the Parish Church, and within a short distance of the railway station. The land is high and dry, with a gravelly subsoil, and suitable for the erection of superior dwelling-houses.—Particulars, with plan, may be had at the Auctioneer's Offices, 11, Guildford, and Reading; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

FREEHOLD BUILDING LAND, ten miles by rail from London Bridge, in KENT, part of the Estate of the late Western Wood, esq.

MR. ABBOTT is instructed to SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, in the City of London, on WEDNESDAY, the 28th of SEPTEMBER, 1864, at ONE for TWELVE precisely, in TWELVE LOTS, in one Plot, of FREEHOLD LAND, and another Plot leasily adjoining, containing One Acre and Fifteen Perches, both with extensive building frontages to the old Kent road, the property of the Society of Ironmongers, and to the Ford Railway, now nearly completed, and close to the land upon which it is proposed to build a first-class station, situate on the north side of the Landmere-lane, in the parish of Lee, in the parish of Foots Cray, affording really eligible sites for building, with cheap and easy access to the Metropolis.—Printed particulars, with plans and conditions of sale, may be had of Messrs. HAWKS, WILLMOTT, & STOKES, Solicitors, 82, High-street, Borough of Southwark; of Mr. KEELER, of Sidcup, who will show the land; and of Mr ABBOTT, 26, Bedford-row, Gray's-inn, London, and Eynesbury, St. Neots, Huntingdonshire.

23,000 Pieces of Paperhangings, 150 Sicilian Marbls and Stone Chimney-pieces, 3½ tons White Lead, Dryers, Glass, Paints, and Effects.

MR. KEMP begs to announce that he will REMOVE from Moorfields for the City improvements, and SELL by AUCTION, at his ROOMS, 67, Colemau-street, City, on MONDAY next, at TWELVE precisely, without reserve, the above STOCK. View and catalogue at the Rooms.

THE TILERIES, SPRIN FIELDS, NEWCASTLE UNDER-LYME, in the county of Stafford.—To CONTRACTORS, BUILDERS, and OTHERS.—Extensive SALE of STOCK IN TRADE

MESSRS. C. & H. GILLARD have been instructed to SELL by AUCTION, upon the PREMISES, Springfields, Newcastle, Staffordshire, on TUESDAY and WEDNESDAY, SEPTEMBER 27th and 28th 1864 a large quantity of BRICKS, TILES, PIPES, QUARRIES, and other new materials, being the stock of the late Mr William Jones, which will be sold in convenient lots, and by arrangement can be placed upon rails or boats, as the canal closely adjoins the works. The sale will commence each day at ELEVEN o'clock.—Catalogues may be obtained from the Auctioneers, Stafford; and from Mr. JONES, at the Tileries.

12,000 Pieces of French and English PAPER HANGINGS 200 Marble and Enamell'd Slate Chimney pieces, 1,500 feet Gilt Room mouldings, Stoves, Water closets, and Effects.

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at his ROOMS, 13, Holborn bars, and 1, Castle street, Holborn hill, on TUESDAY next, at ONE, the above Items for House Furnishing.—View and catalogues Monday and Morning of Sale.

REPOSITORY, BARBICAN.—Railway Cart Horses.

MR. J. GOWER will SELL by AUCTION, on FRIDAY, the 30th SEPTEMBER, TWELVE young, active CART or VAN HORSES, the property of Mr. Thomas Lansbury (now employed on the Crystal Palace and South London line, now completed. On view two days prior.

TWICKENHAM PARK, near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Nine, Twelve, or Fourteen Years, in Large or Small Plots. Money advanced, if required. For particulars, apply to W. BACKHOUSE, at the Estate Offices, Twickenham Park; or EDWARD GUILLAUME, Esq. 14, George street, Mansion House, London.

SURBITON.—TO BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk from the station, and close to the river, for houses of not less than 80l a year rent. A portion of the money will be advanced if required.—Apply to Mr. MUDLE, Victoria-road, Surbiton.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length, eleven bed-rooms; stabling for eight horses and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres, gravelly soil; near Sunningdale Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

FREEHOLD LAND TO BE LET, on Building Leases, at low ground-rents, on the estate of the Carpenters' Company, at Stratford, Essex, close to the Station and the High-street; one portion with river frontage, for the erection of manufactories, and another for small houses or cottages.—For plans and particulars, apply at the Clerk's Office, Carpenters' Hall, London-wall.

BUILDING LAND TO BE LET, situate at Vauxhall, Leytonstone, and Camberwell.—For particulars apply to Messrs. DRIVER & CO. 4, Whitehall, London, S.W.

RAMSGATE.—To BUILDERS, CAPITALISTS, and OTHERS.—TO BE SOLD or LET, several valuable Plots of FREEHOLD LAND, situate on the East Cliff, and adjoining the site of the proposed new Hotel.—Apply to WALLER & SON, 4, Lyall-street, Belgrave-square, London; or of Messrs. FRIEND & VINTEN, House agents, Ramsgate.

WHARF PREMISES TO BE LET, on the Regent's Canal (N.W.), close to the London and North Western Goods Depôt, well situated for a Slate Depôt, &c. A long lease would be granted to a suitable tenant.—Address, D. F. Office of "The Builder."

FREEHOLD LAND TO BE SOLD, or LET on Building Leases, in Glengall-road, Old Kent-road. And also, near Forest Hill Station. Also, FREEHOLD WHARF, on the Surrey Canal, near Old Kent-road.—Apply to Mr. MAY, Acorn Timber Wharf, Old Kent-road.

TO BRICK and TILE MAKERS and OTHERS.—TO BE LET, for a term, BRICK KILN, FOREMAN'S COTTAGE, and LAND, containing brick earth, at Sunningbill, Berks. There is a great demand for bricks, in consequence of the formation of the Railway from Sunningdale to Cambridge Town, and a so to carry on building operations in the neighbourhood; therefore the Owners of a large Estate at Sunningdill are prepared to Let a portion of Land, with Kiln, and Foreman's Cottage, for Brick and Tile making. The use of a private siding on the Staines and Wokingham Railway, very near the ground, and other advantages, will be accorded to any one taking the Land.—For particulars, apply to Messrs. DRIVER & CO. Surveyors, Land-agents, and Auctioneers, 4, Whitehall, London, S.W.

TO BUILDERS.—PLOTS of LAND adjoining the most beautiful part of the River Thames and within 600 yards of the Taplow Station, thirty-five minutes from London. TO BE LET on Building Leases, at low ground rent Villas of 1001. a year are in great demand. Advances of 70 per cent. to respectable builders.—Apply to R. A. WARD, Solicitor, Maidenhead.

VALUABLE and extensive WATERSIDE PREMISES, close to Queen-street and Southwark Bridge, in the City of London. To WHARFINGERS BONDED WAREHOUSEMEN, and OTHERS.—TO BE LET, the extensive BLOCK of newly built WAREHOUSES, known as Queenhithe Dock, having frontage to the river Thames, of 140 feet of a depth exclusive of the dock, where vessels of 150 tons can lay by. Further particulars of Messrs. DEBENHAM & TEWSON, 80, Cheapside.

STRATFORD, ESSEX.—TO BE LET, by Tender, on a repairing lease, for a term of years, all those ELEVEN DWELLING-HOUSES and PREMISES, situate in the Broadway, Stratford, and known as Essex buildings. Also a DWELLING-HOUSE, with double shop front, situate in the High-street, Stratford, near Channel sea court.—Apply to Mr. W. H. DEAN, Auctioneer and Surveyor, 43, Fenchurch-street, London, E.C.

YARD and PREMISES at BRIDGWATER.—The Directors of the Bristol and Exeter Railway Company are prepared TO LET, for a term of years or otherwise, from Michaelmas next, the YARD and PREMISES known as SOMERSET-YARD, adjoining the Railway and near the Station at Bridgwater, Somersetshire, at present in the occupation of Mr Cuthbert Adams, Contractor and Merchant. The premises comprise about 3½ acres, have a water-frontage of about 520 feet to the river Parrett, and are connected with the railway by a line of rails running into the yard.—Tenders to be addressed to the Secretary of the Bristol and Exeter Railway Company, at Bristol, from whom any necessary information may be obtained.

ARTHUR MOORE, Secretary.

TO BE LET, the GALLERY of the SOCIETY of BRITISH ARTISTS, consisting of five large rooms, until the end of FEBRUARY.—Inquire on the Premises.—T. ROBERTS, Secretary.

BUILDING GROUND, GREEN LANES, STOKE NEWINGTON, N.—Several FRONTAGES TO BE LET, for the ERECTION of Semi-detached VILLAS, in this improving locality. Width 60 feet for a pair. 150 feet deep. The sewer is made.—For particulars, apply at the Office, Green Lanes, Stoke Newington, N. or 24, Clifton Villas, Paddington, W.

TO TIMBER MERCANTS, BUILDERS, and SAW MILL PROPRIETORS.—TO BE LET, the old-established SAW MILL and TIMBER YARD, Pump-court, Union-street, Borough, which have been pulled down, re-modelled, and fitted with new machinery.—For terms and particulars apply to D. EADES, on the Premises.

BLACKHEATH.—First-class BUILDING LAND TO BE LET. Within a few minutes of the Station.—Apply to FRANCIS FULLER, 8, Adelphi-terrace, Strand.

POULTRY, CHEAPSIDE.—TO BE LET, on a Building Lease, with possession at Midsummer, 1865, the extensive FREEHOLD PREMISES, No. 28, Poultry, newly pulled down and proposed new street, in the occupation of Mr. Ford and also two HOUSES in Bow-court; and at Midsummer, 1867, the PREMISES No. 4, Old Jewry, the whole being connected and forming an extensive plot of ground adapted for the erection of Offices, or for a Public Company. Plans may be inspected and particulars obtained of Messrs. ELLIS & SON, Auctioneers and Estate Agents, 49, Fenchurch-street.

EXTENSIVE MANUFACTURING PREMISES TO BE LET, about three miles from London Bridge, with every facility for land and water carriage. They enclose a square about 300 feet by 150 feet, and comprise a 3-story Warehouse, with Workshops, Chimney shaft standing, or with or without two or four Acres of Land.—For particulars, apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside.

FAIRER'S TURRET CLOCKS, 188, St George-street East, London. By Special Appointment to the Queen and to her Royal Highness the Prince Consort, her Majesty's War Department, &c. Maker of the Great Clock of the Tower of London. Tea Village Clock, price 40 guineas.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 24, 1864.

The Builder.

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1130. OCTOBER 1, 1864. PRICE FOURPENCE. By Post, 5d.

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BY ORDER of the SECRETARY of STATE for INDIA.

DESIGN FOR COMPETITION—PRESIDENCY COLLEGE AND SENATE HOUSE.

The Madras Government are prepared to receive DESIGNS for a new PRESIDENCY COLLEGE, and for a SENATE HOUSE, to be built at Chepauk, Madras.

A schedule of measurements, together with a plan of the proposed site, can be had on application to the UNDER SECRETARY of STATE for INDIA, India Office, Westminster.

The rates on which the work is to be calculated will also be furnished at that Office. The gross estimate is not to exceed Rupees 2,50,000 for the College, and Rupees 1,50,000 for the Senate House.

The buildings will be erected on contiguous sites, and both should therefore be planned in the same style of architecture.

There must be ample provision for proper ventilation, and the walls must be protected, as far as possible, from the direct rays of the sun.

The designs are unrestricted, firstly, as to the style, provided it is suited to the climate, and to the use to which the buildings are to be devoted; and secondly, as to materials, provided they are procurable in Madras, at prices which will admit of their being used in the buildings as designed.

The designs must include,—

1st.—Ground-plan, and plan of each story.

2nd.—Elevation of each of the four faces, if not alike.

3rd.—Transverse sections.

The plans and elevations to be on a scale of 8 feet to an inch. A specification, in sufficient detail, to accompany each plan, to enable the Judges to decide whether the plans can be carried out within the sum allowed.

A prize of Rupees 3,000 will be awarded for the best design, provided it fairly fulfils the above conditions.

If the best designs, in an artistic point of view, fail to fulfil any of the above essential conditions, the Judges will be empowered to reduce or withhold the prize; and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.

The designs and estimates, &c. should be sent in on or before the 1st of JANUARY, 1865, in the name, manner with motto and envelope, containing the name and address of the artist, to the Secretary to Government, Public Works Department, Madras, in whom the envelopes will be deposited after the prizes have been adjudged.

It will be optional to Government to avail themselves of the services of the architect in carrying the design selected, and that design will remain the absolute property of Government.

The plans will be selected and the prize awarded by a Committee consisting of,

The Secretary to Government, Public Works Department.

The Director of Public Instruction.

The Chief Engineer, Madras Railway Company,

who will be asked to aid Government in the adjudication.

Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication.

April 21, 1864. (Signed) CHARLES A. ORR, Colonel, R.E. Secretary to Government.

India Office, September 21, 1864.

THE NATIONAL ART TRAINING SCHOOLS at SOUTH KENSINGTON, for Male and Female Students, will BE OPEN on MONDAY, the 3rd day of OCTOBER. For information respecting fees, &c. apply to the Schools, or to the Secretary, Science and Art Department, South Kensington, W.

By order of the Lords of the Committee of Council on Education.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, CONDUIT STREET, Hanover-square, W.—VOLUNTARY EXAMINATION, 1865.—The LAST DAY for sending in Application Papers and Preliminary Work is SATURDAY, NOVEMBER 26th, 1864.—Further particulars of the scheme, together with precise papers and other information, can be obtained on application to the Librarian.—The Book of Regulations for the next year is now published, price 2s.; if posted, 2s 2stamps

JOHN P. SEDDON, C. F. HAYWARD, } Hon. Secs.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. St. Helen's-place; or by Mr. ALFRED HILL, 38, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton street.

MINERALOGY. — KING'S COLLEGE, LONDON.—Professor TENNANT, F.G.S. will give, during the ensuing season, TWO COURSES of LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the application of mineral substances in the Arts. One course will be given on WEDNESDAY Evenings, from EIGHT till NINE, beginning OCTOBER 12th.—Fee, £1. 11s. 6d. A more extended course will be given on WEDNESDAY and FRIDAY Mornings, from NINE till TEN, beginning on FRIDAY, OCTOBER 7th.—Fee, £2. 2s.

R. W. JELF, D.D. Principal.

PROFESSOR DONALDSON'S LECTURES on ARCHITECTURE and CONSTRUCTION, at University College, commence on TUESDAY, the 18th OCTOBER. Particulars can be had at the College Office. The classes will meet on this TUESDAY, at SIX in the evening, for both divisions to arrange details.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving, 2l. and 1l.

For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimpole-street).

For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope).

For Original Designs, 10l. (given by Mr. Ruskin).

Similar Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent garden

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

WEST LONDON SCHOOL of ART, 24a, Great Portland-street, W.

President—A. J. B. BERESFORD HOPE, Esq. M.A. D.C.L. &c. &c.

Principal—PETER GRAHAM, Esq.

The School RE-OPENS for the Winter Session on OCTOBER 3; after which date admission cannot be guaranteed to new students.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72 74, Bishopsgate street Within.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of the City and Borough of Bath invite DESIGNS for the proposed NEW BUILDINGS, upon the site of the late White Hart Hotel, Bath, which are intended to comprise suites of rooms for families, together with hot and cold baths, mineral water, and Turkish baths in connexion with the present bathing establishment. The cost of the buildings not to exceed 25,000l. A premium of 500l. will be paid to the author of the design, to which the Town Council shall award the first place, and a premium of 100l. to the author of the design which they shall consider second in merit, and in the event of either of these designs being carried out, the premium of the architect or author of it to be employed, will be deducted from the usual commission. The designs are to be delivered free of cost, at the Guildhall, Bath, properly endorsed, on or before NOVEMBER 29th, and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. All designs to have the name of the author or authors attached, and to be coloured in monotone; the plans and elevations to be drawn to a scale of 1 8th of an inch to a foot. A copy of the conditions to be observed by architects, with a plan of the site, and other particulars, may be obtained of the undersigned, on the payment of 1l. 1s. which will be returned to those not forwarding designs

By order, JOHN STONE, Town Clerk.

Guildhall, Bath, September 8, 1864.

DESIGNS for FULFORD CHURCH.—FURTHER EXTENSION of TIME.—A PREMIUM of Fifteen Guineas is offered for the best SET of DESIGNS for the New Church at Fulford. Selections to be made by the Committee, and the Design selected to become the property of the Parish. Extreme estimate not to exceed 3,000l. Site, 60 yards square; Frontage, West—the York-road. Tower or Spire. Outside Wall, Hammered Stone. The Designs must be sent in to the Incumbent, care of the Postmaster, Fulford, on or before THURSDAY, the 20th OCTOBER.

TO ENGINEERS and OTHERS.—The Corporation of Okehampton contemplate BRINGING WATER into the town for the use of the inhabitants of the borough, and are desirous of receiving Plans, Specifications, and Estimates for the WORKS proposed, particulars of which may be obtained at my office. The Corporation will pay to the person whose plan shall be approved and adopted the sum of 20l.; but in case such person shall afterwards become the Contractor for effecting the work, that sum will be deducted from the amount of such Contract. The plans, &c. to be delivered to me within a month from this date.

JOHN MARSH BURD, Town Clerk.

Okehampton, Sept 19th, 1864.

CITY of COVENTRY.—MARKET HOUSE.—To ARCHITECTS. The Corporation of Coventry invite DESIGNS, PLANS, SECTIONS, ELEVATIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a MARKET HOUSE. The Plans to be of a uniform scale of 8 feet to an inch. The cost of the entire Building, with Fittings, not to exceed 8,000l. The architect who, in the opinion of the Council of the said City, produces the best Designs, &c. to receive 50l.; the second best, 40l.; and the third best, 20l. The Designs, &c. for which premiums are awarded to become the property of the Corporation, and the architect of the Designs taking the first premium to supply the Corporation with Working Drawings, if required, for the same, for the remuneration as with the premium will amount to 5 per cent. on the outlay. The Corporation will not bind themselves to employ the architect in carrying out his designs, or to employ them at all, and if the plans sent in should fail, in the opinion of the Council, to be sufficient merit, the premium will not be awarded, nor will they be awarded unless the Council should be satisfied that the same can be executed within the estimate. Each set of designs, &c. must be distinguished by a motto, accompanied with a sealed envelope, containing the name and address of the competitor, and bearing a similar motto to that on the designs, &c. which envelopes will not be opened until after the plans are decided upon. The designs, &c. must be received in a sealed cover, endorsed "Plan for Coventry Market-house," and addressed to THOMAS BROWETT, Town Clerk, Coventry, and delivered on or before the 23rd day of NOVEMBER next. A block plan of the site, with approaches, levels, statement of conveniences required, and of the conditions to be observed by competitors, can be had on application personally or by letter, to J. E. GREATOREX, City Surveyor, St. Mary's Hall, Coventry.

THOMAS BROWETT, Town Clerk.

Coventry, September 23, 1864

DESIGNS for the O'CONNELL NATIONAL MONUMENT, in SACKVILLE STREET, DUBLIN.—The Committee for the Erection of the O'Connell National Monument, in Sackville-street, Dublin, are prepared to receive DESIGNS from Architects, Artists, &c. for a TESTIMONIAL or MONUMENT to O'CONNELL. Intending Competitors will receive, on application to the Honorary Secretaries of the Committee, at the City Hall, Dublin, a printed statement of the views of the Committee, the condition of the competition, and a ground-plan of the locality. Prizes of 100l. and 50l. are at the disposal of the Committee, to be awarded for designs, subject to the conditions above referred to. All designs must be received at the Committee-room, free of expense, on or before the 1st of JANUARY, 1865.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for the following SERVICE at Chatham, viz.—

Erecting Latrines and Urinals, and diverting part of Sewer, &c. at Gravelson Barracks.

Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before SATURDAY, the 8th day of OCTOBER, 1864, and pay the sum of half a guinea for the bills of quantities, which will be sent to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, 26th September, 1864.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS at Aldershott Camp and Permanent Barracks, in the county of Hants, including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tender, may be obtained on application at this Office

Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left hand corner, "Tenders for Works at Aldershott," on or before SATURDAY the 29th NOVEMBER, 1864.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders.

Royal Engineer Office, Aldershott, 14th September, 1864

WEAR NAVIGATION and SUNDERLAND DOCKS.—To CONTRACTORS.—The River Wear Commissioners are prepared to receive TENDERS for the ERECTION of a NEW GRANARY at the South Docks, Sunderland. Plans, drawings and specification may be seen at the Office of Mr. THOMAS MARA, Esq. C.E. Engineer's Office, Harbour and Dock Works, Sunderland, on and after the 19th SEPTEMBER, 1864. Tenders, on printed forms, which may be obtained at the Engineer's Office, and Dock Office, will be received, to be delivered under cover, addressed to the "Chairman of the Executive Committee, River Wear Commissioners," at 19, Fawcett-street, Sunderland, not later than NOON on TUESDAY 27th of OCTOBER, 1864. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

J. S. ROBINSON, Clerk to the Commissioners.

19, Fawcett-street, Sunderland, September 7th, 1864.

[For remainder of Contracts see next Page.

CONTRACT for LAYING GRANITE CURB and SETS, and YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties willing, from time to time, to REMOVE the above-mentioned materials from the Victoria Docks or Wharfs on the River Lea, and to LAY the same on the Roads, Paths, and Gutters, which may be examined at the Office of Mr. MARSHALL, the Surveyor to the Board, Rokeby House, Stratford, E. where also forms of Tender may be procured, and any further information may be obtained. The Tenders, endorsed "Laying Pavement, &c." are to be sent to me on or before MONDAY the 10th OCTOBER next. By order of the Board

CHARLES WILSON Clerk to the Board.

Rokeby House, Stratford, 17th September, 1864.

GRANITE CURB and SETS of YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties who may be willing to DELIVER any of the MATERIALS, either in the Victoria (London) Docks, or on the Wharfs on the River Lea as may be named. Forms of Tenders, with any part. ulars or information required, may be obtained by application to Mr MARSHALL, the Surveyor to the Board, at his Office in Rokeby House, Stratford, E. and the Tenders are to be sent addressed to me, and indorsed "Tender for Pavement, &c." on or before MONDAY, the 10th OCTOBER next. By order of the Board

CHAS WILSON, Clerk to the Board.

Rokeby House, Stratford, 15th September, 1864.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of the Bridge, consisting of Portland, granite in blocks and in rubble, Kentish Rock, Portland, and rough rubble. Also for the handsome columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

TO BUILDERS and OTHERS.—POPLAR UNION, MIDDLESEX.—The Guardians of the Poor of this Union will, at the meeting, to be held at the Workhouse, Bigh-street, Poplar, on TUESDAY, the 4th day of OCTOBER next, at TWO o'clock in the afternoon precisely, be willing to receive TENDERS for making certain ALTERATIONS and ADDITIONS to the CASUAL WARDS of the Workhouse, plans and specifications of which may be seen at my office, Higb-street Poplar, on and after the 20th day of SEPTEMBER next, between the hours of TEN and FOUR. The party contracting will be required to enter into a written contract, and require a bond, with two sufficient sureties, to be approved of by the Guardians for the due and punctual performance of the works under the terms, conditions, and stipulations contained in the specifications. Tenders must state the names and addresses of the proposed sureties, and be delivered at the Workhouse, sealed and endorsed "Tender for Workhouse," on or before the day of meeting, and the party Tendering, or some authorised person on his behalf, must be in attendance at the meeting. The Guardians do not bind themselves to accept the lowest Tender nor bind themselves liable to any charge connected with the preparation of the est mate.—By order of the Board,

JAMES R. COLLINS, Clerk.

September 20th, 1864.

BOROUGH of WOLVERHAMPTON, SEWERAGE WORKS.—CONTRACT No. 1.—To CONTRACTORS.—Parties desirous of TENDERING for about 23 MILES of MAIN SEWER, including VENTILATING SHAFTS, MANHOLES, OVERFLOWS, TUMBLING BAYS, and other WORKS connected therewith, in the said borough, may inspect the plans, sections, detail drawings and specification, at the Office of the Borough Surveyor, Town-hall, North-street, on and after FRIDAY, the 9th day of SEPTEMBER next, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon. Sealed Tenders to be sent in on or before THURSDAY, the 6th day of OCTOBER next, and endorsed "The Sewerage Committee, Town-hall, Wolverhampton," and endorsed "Tender for Sewerage Works, Contract No. 1." The Committee do not bind themselves to accept the lowest or any Tender No Tender will be received after SIX o'clock p.m. of the above named day. Security will be required for the due performance of the work Printed copies of the specification and form of Tender may be obtained at the Borough Surveyor's Office on payment of 5s.

E. J. PURNELL, Borough Surveyor.

Town-hall, Wolverhampton, September 5, 1864.

FURNESS GAS and WATER WORKS COMPANY. The Directors of the Furness Gas and Water Works are prepared to receive TENDERS for the CONSTRUCTION of an IMPOUNDING RESERVOIR and other WORKS. Plans, sections, working drawings, and specification may be seen, and forms of Tender and bond obtained, on and after the 20th inst. at the Office of the Company's Engineers, Messrs. M'CLEAN & STILEMAN, 23, Great George-street, Westminster, S.W.; or at the Secretary's Office, Barrow-in-Furness, Lancashire. Tenders to be addressed to the Secretary, on or before the 13th of OCTOBER next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

JAMES RAMSDEN, Secretary.

Barrow-in-Furness, September, 1864.

LLANDUDNO NEW CHURCH. — To CONTRACTORS and BUILDERS.—Persons willing to TENDER for the several WORKS required in the ERECTION of the first portion of the NEW CHURCH at Llandudno, comprising the whole of the foundations, nave, north and south aisles, transepts, porch, and part of the tower (or such portion thereof as may be decided upon), may inspect the drawings and specifications, and obtain all necessary information, at the Offices of the Architect, Mr. GEORGE FELTON, at Llandudno, on and after FRIDAY, the 23rd of SEPTEMBER, between the hours of TEN and SIX Sealed Tenders, addressed "Tender for New Church at Llandudno," and accompanied by the names of two sureties for due performance of Contract, must be sent in to the Honorary Secretaries by FRIDAY, the 14th of OCTOBER, 1864. The lowest or any Tender will not necessarily be accepted.

JOHN WILLIAMS, } Hon. Secretaries
T. C. RODEN, }

Llandudno, September 13th.

TO BUILDERS and CONTRACTORS. NEW EXCHANGE BUILDINGS, HULL.—The Directors of the Hull Exchange Company (Limited) are prepared to receive TENDERS for the ERECTION and COMPLETION of their PROPOSED NEW BUILDINGS, in Lowgate and Bowl-alley-lane, Hull. The plans, specifications, and conditions of contract may be examined, and bills of quantities obtained on payment of one guinea, at the Offices of the Architect, Mr. WILLIAM BOTTERILL, 23, Parliament-street, Hull, after TUESDAY, the 27th instant. Sealed Tenders properly endorsed to be addressed to the Chairman, at the Office at the Temporary offices of the Company, 32, High-street, Hull, on or before WEDNESDAY, the 12th OCTOBER next. The Directors do not pledge themselves to accept the lowest or any Tender.

T. W. FLINT, Chairman.
W. H. MINES, Secretary.

Hull, 14th September, 1864

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of TWO PAIRS of semi-detached VILLAS for F. J. Bailey, Esq., at Tulse Hill, may see the plans and specification, at the Office of Mr. FREDERICK CHADWICK Surveyor, 11, Crooked-lane, E.C. and after THURSDAY, the 6th OCTOBER. No plans is given that the lowest or any Tender will be accepted.

HALIFAX CORPORATION WATER WORKS. — WORKS in the LUDDENDEN VALLEY. — To CONTRACTORS.—Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following Contracts:—

No. 1.—EMBANKMENT CONTRACT, comprising the formation of three Reservoirs, a Gauge Basin, and the Weirs, Watercourses, Roads, and other works connected therewith. The Reservoir Embankments are 27 feet, 74 feet, and 50 feet in height respectively, and the gross amount of Embankment is about 35,000,000 cubic yards.

The plans, sections, and drawings may be seen, and specifications and forms of Tender obtained, at the Town-hall, Halifax; and at the Office of the Engineer, J. F. BATEMAN, Esq. No. 9, Saint James's-place, Manchester, and 1, No. 16, Great George-street, Westminster, on and after MONDAY, the 26th OCTOBER 1864 next. Tenders not to be delivered to, and left with, JAMES EDWARD NORRIS, Esq. Town Clerk, Halifax, on or before MONDAY, the 21st OCTOBER 1864 endorsed with the name of the particular contract for which each Tender is sent. The Corporation do not bind themselves to accept the lowest or any Tender, and they may, if they see fit, let the whole work in one or more contract or contracts.

N.B.—No 3 Contract is withdrawn.

By order,
J. E. NORRIS, Town Clerk.

Town-Hall, September 23rd, 1864.

TO SEWER CONTRACTORS, BUILDERS, &c.—St. Marylebone, September 22nd, 1864.—Notice is hereby given, that the Vestry of the Parish of Saint Marylebone, in the county of Middlesex, will meet in the Board Room of the Court House of the said parish, on THURSDAY, the 13th OCTOBER, 1864, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of NEW PIPE and BRICK SEWERS, in Upper Gloucester-street, in the said parish of St. Marylebone. Further particulars may be known, and drawings, specifications, and forms of Tender seen on application to the Vestry Surveyor, Mr. ROBERT SCALE, at his daily attendance at the Court House, from Twelve till One o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court House, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 13th day of OCTOBER, sealed and addressed, "Tenders for New Sewerage Works," and in Tender will be received after that hour. The Contractor to find satisfactory securities for the performance of the works, and to pay the expenses of the bond and contract The Vestry will expect the parties tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any Tender. By order

W. E. GREENWELL, Vestry Clerk.

TO CONTRACTORS, BUILDERS, &c.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of St. Pancras will meet at the Offices of the Department of Works on MONDAY, OCTOBER 3, 18 4, at SIX o'clock p.m. to receive and consider TENDERS from persons willing to CONTRACT for the EXECUTION of GENERAL WORKS to Sewers, Gullies, and Buildings in charge of the said Vestry, agreeably with the terms of specification. Schedule and Plan to be obtained on the deposit of £1 at the Office of Mr. WILLIAM ROOTE SCOTT, C.E. Chief Surveyor, as under Good security will be required for the due performance of each Contract. The Vestry do not bind themselves to accept the lowest or any Tender No Tender will be received or considered unless made out on the printed forms Tenders must be delivered by SIX o'clock p.m. on the said MONDAY, OCTOBER 3, 1864.—By order,

CHAS. WORRELL, Chief Clerk of the Department of Works, 1, Edward-street, Hampstead-road, September, 1864

TO CONTRACTORS and OTHERS.—LEADON VALLEY COMMISSION.—COUNTY of GLOUCESTER.—The Commissioners of Sewers hereby give notice, that they are desirous of entering into a CONTRACT for the execution of certain Works, in connexion with the WIDENING and DEEPENING of the RIVER LEADON, in the county and they hereby invite any person willing to undertake the same to make proposals for that purpose to the Commissioners. The plan, specification, and sections of the works required may be seen at the Office of Mr. WM. VINER ELLIS, 6, Queen-street, Gloucester, the Clerk to the Commissioners, to whom proposals, in the form attached to the specification, must be addressed, on or before the 8th day of OCTOBER next. The Commissioners do not pledge themselves to accept the lowest or any proposal.

Gloucester, September 23, 1864.

TO BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the EXECUTION of ADDITIONS and ALTERATIONS to the ROYAL OAK HOTEL, Sevenoaks, Kent, can apply by letter only, to HARRY R. NEWTON, Architect, 6, Argyll-street, Regent street, London, W.

TO SEWER CONTRACTORS and OTHERS.—The Local Board of Health for the District of Watford are prepared to receive TENDERS for the CONSTRUCTION of about 7,000 feet of 15 inch. PIPE SEWER, and about 9,340 feet in length of smaller Pipe-sewer, with the necessary gully gratings, inspection and ventilating shafts. Plan and specification may be seen, and printed copies of the specification, schedule of prices, and form of Tender, on payment of 10s. obtained, at my Office, in Watford, on and after the 17th SEPTEMBER instant; and sealed Tenders, endorsed "Tenders for Drainage," must be delivered or sent to me on or before the 6th OCTOBER next. The Board do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of subdividing the contract, and letting separately one or more of the divisions described in the specification.

JOHN SEDDON, Clerk to the Local Board.

Watford, September 16, 1864.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a POLICE STATION at Sittingbourne may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day except Sunday, between the hours of TEN and FIVE The work is to be taken down carefully to the form to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for Sittingbourne Police Station," are to be delivered by TEN o'clock in the forenoon of FRIDAY, the 28th day of OCTOBER next, and persons tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the performance of the Contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, September 30th, 1864.

TO BUILDERS.—Persons wishing to give TENDERS for the CONSTRUCTION of VAULTS, WAREHOUSE, STABLING, and DWELLING-HOUSE, at Ramsgate, are invited to make application at the Offices of Messrs G. M. HINDS & SON, Architects, Ramsgate, where plans and specifications may be seen and full information given.

THE PAPER STAINING COMPANY (Limited) are now prepared to EXECUTE all ORDERS for the Home and Export Trade in Machine and Hand-made PAPER-HANGINGS with promptitude, and at prices suited to all buyers. Orders to be sent to the Factory, 91, Goswell-road, London, E.C.

By order of the Directors.

PAPERHANGINGS.—To Builders, Landlords, Contractors, and Others.—Important SALE of English and French PAPERHANGINGS now going on at 36, Euston-road, N.W. The whole of the new and extensive Stock to be disposed of at an immense reduction, previously to the Removal of Business.—Nos. 1 to 36 Euston-road, 2, 3, 4, Judd-street.

MEDIÆVAL PAPERHANGINGS, from the Thirteenth to the Sixteenth Centuries. Designed by G. T. ROBINSON, ESQ. Manufactured by WM. WOOLLAMS & CO. 110, HIGH STREET, near Manchester-square, London, W. May be obtained of the principal Decorators.

Extracts from notices in the newspapers and publications:—

"Conventionalized patterns, often displaying great beauty of form, characterize the examples sent to us. With a few exceptions, the colouring of the specimens is commendable, in many it is worthy of the highest praise."—*Art Journal.*

"The designs are exceedingly elegant, and the colours good and well arranged. Some of the patterns are of really excellent art character, suitable for mansion chambers and galleries, or they may be used as decorations in church decoration."—*Gore's Builder*

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CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, BLEACHERS', and PATENT ROOFING FELT, For Damp Walls, and Lining Iron Houses. DOWGATE HILL, London; 2, GORE PIAZZA, Liverpool; and 59, GEORGE SQUARE, Glasgow.

GILT BORDERINGS for ROOMS, from 1d. per foot. Best and Cheapest House in London for every description of Room Borderings. Large assortment of Mouldings, and Picture Frames. Every description of the newest Designs kept in Stock. Re-gilding in all its branches to the trade. Enrich Gilt Bends, 7s per dozen 6 feet lengths; best ditto, 12s.

GEORGE REES, 57, DRURY LANE.
Four doors from Drury-lane Theatre. Established in 1800.

NORWICH UNION FIRE OFFICE.—THE BONUS YEAR.

THREE-FIFTHS of the Profits of the Company are periodically distributed as a Bonus to parties insuring, who have thus from time to time received from the Society sums amounting in the aggregate to nearly £600,000.

A FURTHER BONUS of £240,274. has now been declared, and will be paid on the renewal of existing Insurances at 25th Lelmas, 1864, and the three following Quarters.

EXAMPLES OF PREMIUMS REDUCED BY THIS BONUS.

No. of Policy.	Sum Insured.	Annual Premium.	Reduced Premium for 1864.
	£	£ s. d.	£ s. d.
441,411	92,540	222 4 4	100 18 2
454,156	12,000	63 0 0	35 0 0
484,173	6,300	31 14 0	15 16 8
500,975	1,000	7 10 0	4 6 4

THE RATES OF PREMIUM ARE IN NO CASE HIGHER than those charged by the other principal offices giving no Bonus to their Insurers.

No charge is made for the Policy or Stamp when the Insurance exceeds 200 for Insurances transferred from other offices.

The Business of the Company exceeds Seventy Millions, and, owing to the liberality with which its engagements have been performed, is rapidly increasing. The duty paid to Government for the year 1863 was £4,322. 11s. 9d.; the amount insured on Farming Stock was 10,234,272l.

The Norwich Union Fire Office is the LARGEST OFFICE making a return to its Insurers.

For Prospectuses, apply to the Society's Offices, 99, Fleet street, E.C.; and Surrey-street, Norwich.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

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Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.

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Insurances with this Company expiring at Michaelmas must be renewed within fifteen days thereafter, or they will become void.

Every description of Fire Business is transacted at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

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MORELL THEOBALD, Manager Fire Department.

TO BUILDERS AND OTHERS

THE GENERAL FINANCE, MORTGAGE, and DISCOUNT COMPANY (Limited).
Offices: 3, PENTONVILLE-ROAD, LONDON.
PETER GRAHAM, Esq. Oxford-street, Chairman.
Solicitors.

Messrs. BOULTON & SONS, Northampton square.

This Company is prepared promptly to negotiate all kinds of Financial business, including Loans on good Personal Security, Advances for terms of years on Mortgage of Freehold and Leasehold Property repayable by instalments; the Discount of good Bills; Advances on Shares, Deposit of Deeds, &c.

The Directors are also prepared to receive Deposits at call or on short notice, for which 3 per cent. will be allowed until further announcement.

E. BALCH, Secretary.

INTERNATIONAL FINANCIAL SOCIETY (Limited), 60, Threadneedle-street, London, E.C.

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Robert Benson, esq. (Messrs. Robert Benson & Co.)
John F. Fleming, esq. (Messrs. Frederick Huth & Co.)
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Herman Stern, esq. (Messrs. Stern, Brothers).

General Manager—William Hope, esq. V.C.

In consequence of numerous applications the Directors have agreed to accept deposits in sums as low as £50, at a fixed rate of interest, and for periods not less than one year.—By order,

WALTER A. MICHAEL, Secretary.

THE YORK UNITED GAS-LIGHT COMPANY.—To IRONFOUNDERS, &c.—Persons willing to TENDER for a WROUGHT-IRON ROOF, for a large Shed at the above named Works, near Monk Bridge, in the city of York, may inspect the drawings and specifications at my Offices, on and after THURSDAY, OCTOBER 6. Tenders to be delivered at my office before FIVE o'clock p.m. on WEDNESDAY, OCTOBER 19. The Directors do not pledge themselves to accept the lowest or any Tender.

RAWLINS GOULD, Architect.

Castlegate, York, September 30, 1864.

TO INVENTORS.—All intending Patentees. should procure the PRINTED INFORMATION regarding PATENTS — their cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 30 feet diameter.

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FAIRER'S TURRET CLOCKS. — FOR SALE, a Secondhand TURRET CLOCK, suitable for a church, public building, &c in complete repair. Also one suitable for a Gentleman's stable.—Apply to J. FAIRER, 158, St. George-street East.

ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1838—TRINIDAD, EYSSELL, and BRITISH ASPHALTES, in manufactures by appointment to the Queen, Dock Companies, and supplied in any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

ASPHALT.—The TRINIDAD ASPHALT is recommended to Engineers FOR IRON BRIDGES, INSIDE OF IRON SHIPS, BRICK VIADUCTS, and general Railway Work; also for FLAT ROOFS, FOOTWAYS, and BASEMENTS OF HOUSES

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THE PRIZE MEDALS,

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COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

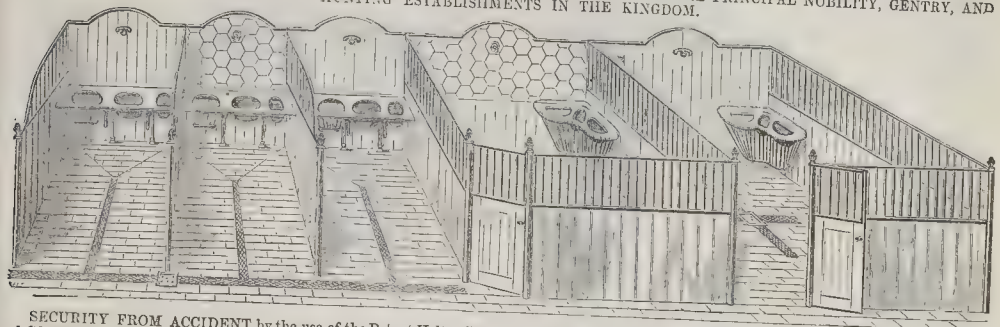
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



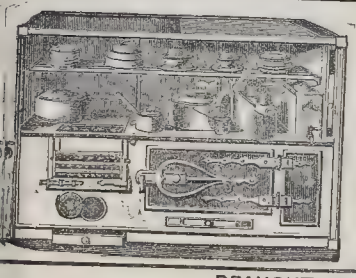
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
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Orders requiring Despatch and Punctuality can be executed in a few days.



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WITH SELF-ACTING ROASTER,

Accomplish twice the amount of cooking performed by any other Kitchener of similar size, and with half the amount of fuel. They will cure the most inveterate smoky chimneys when all others have failed, and obviate the necessity for chimney-sweeping. They are universal favorites for their unequalled simplicity of action, are perfect in themselves, and do not cost one fourth as much for Range, as other Ranges. With but one small fire, which performs every cooking operation, they simultaneously provide for Steaming Apparatus, and furnish an abundant supply of boiling water for Baths, Conservatories, &c. They require no dampers or brick flues, and combine the cleanliness of a close kitchener with the perfect ventilation of an open fire.

THE PATENT AUTOMATON ROASTER

Revolves of itself immediately on being placed in front of the fire, and is considered by thousands who have used it to far surpass all other methods for effecting the process of actual roasting.

Builders and others would do well to inspect the Ranges in operation, and the NEW "ECONOMIC" RANGE, with large Wrought-iron Boiler and Oven, specially adapted for Dining-houses, Villas, &c., at very moderate cost, at

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Exhibition Medal. Catalogues and Designs post-free. Prices from £2 8s. to 200 Guineas.

N.B.—BROWN BROTHERS (established upwards of 40 years) are connected with no firm of similar name.

"A form of Range, which, with Apparatus in connection with it, deserves particular attention."—"BUILDER," October 11, 1862.

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COMYN, CHING, & CO.
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Draughtless, Dustless, Inexpensive, and universally applicable.

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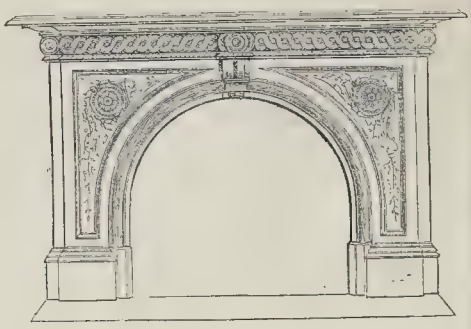
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

IS AT

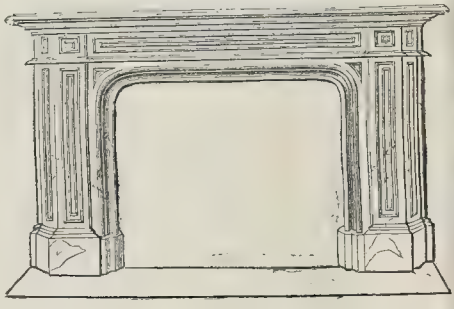
WILLIAM S. BURTON'S.

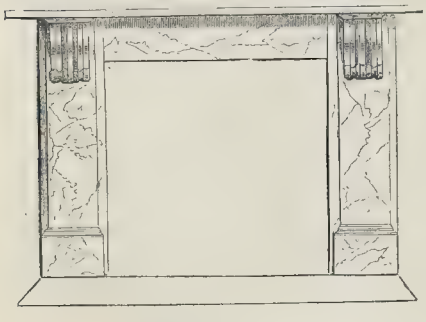
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8*s.* to 100*l.*

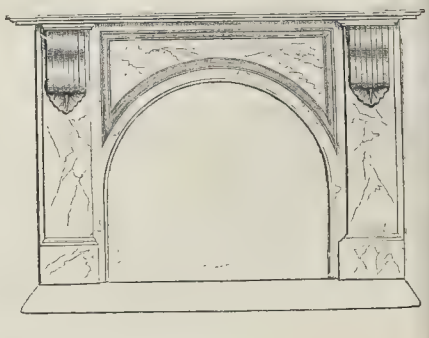












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ESTABLISHED 1820.

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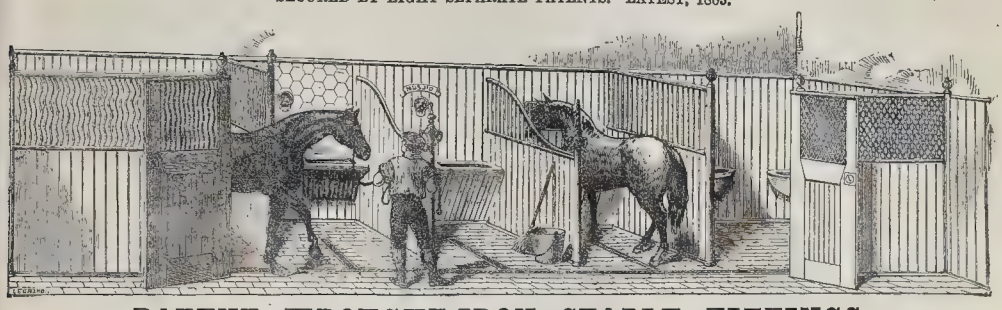
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APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

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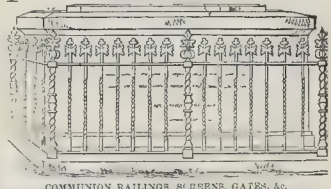
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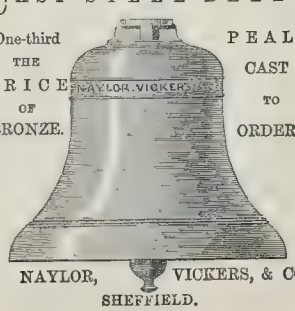
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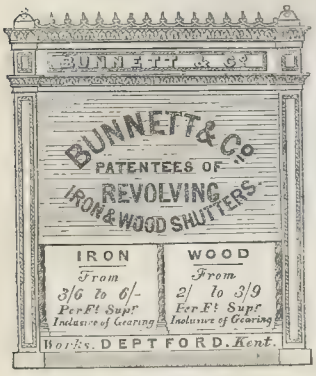
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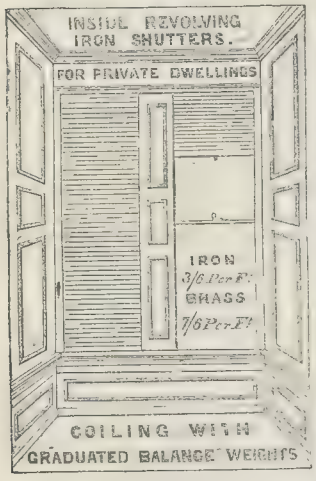
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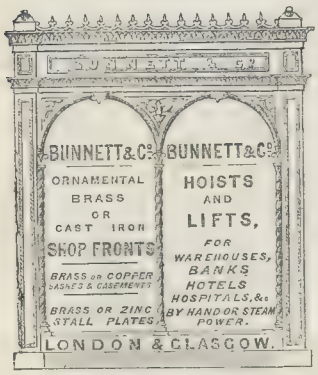
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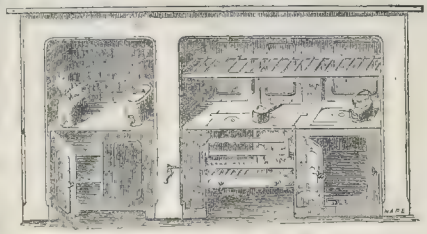
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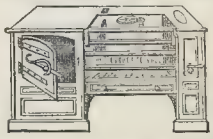
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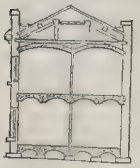
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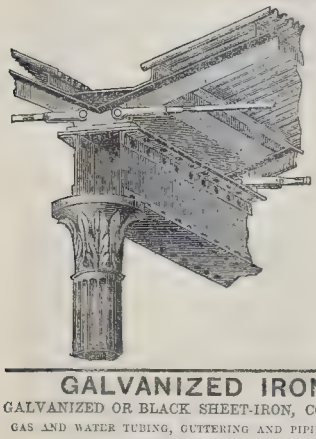
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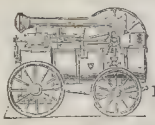
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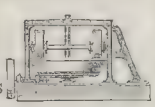


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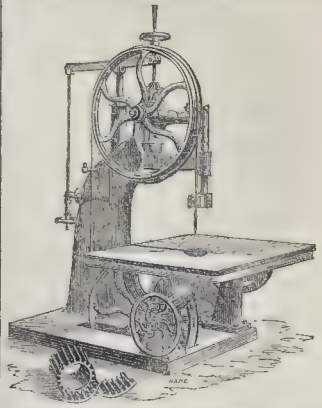
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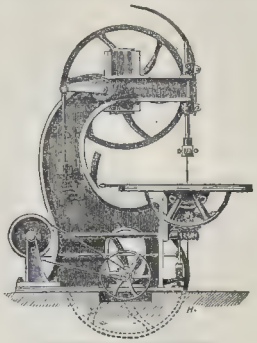
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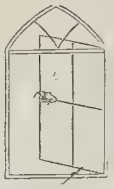
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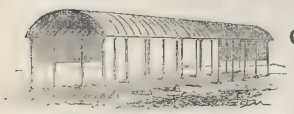
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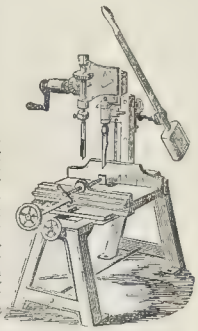
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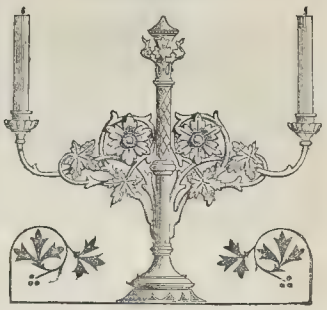
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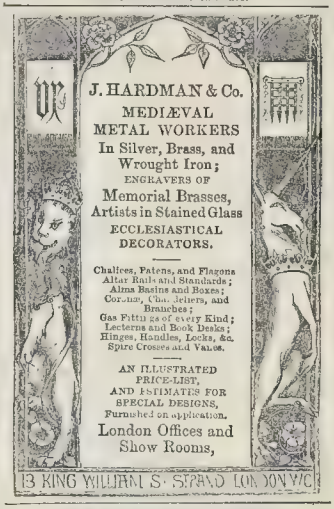
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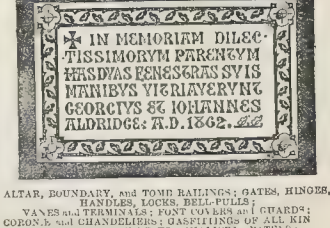
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Seconds ,, ,, ,, ...	60	0	,,	2	,, ,,
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Thirds ,, ,, ,, ...	56	0	,,	2¾	,, ,,
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Thirds ,, ...	1⅜	2	2½	2¾	3	3½
Seconds ,, ...	2	2½	2¾	3	3½	4
Best ,, ...	2½	3	3½	4	4½	5

Average Thickness, 21 oz.

Fourths quality ...	2¼d.	2¾d.	3d.	3¼d.	3¾d.	3¾d.
Thirds ,, ...	2½	3½	3¾	3¾	4	4½
Seconds ,, ...	3	3½	3¾	4½	4½	4¾
Best ,, ...	4⅛	5	5½	6	7	

Average Thickness, 26 oz.

Fourths quality ...	3d.	3½d.	3¾	4	4½d.	4½d.
Thirds ,, ...	3¾	4	4¼	4¾	5	5½
Seconds ,, ...	4¼	5	5½	6	6	6¾
Best ,, ...	5½	6¾	7	7½	8	8¾

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Average Thickness, 21 oz.

Thirds quality, per 200 feet Case	51s.	0d.	or about	3¼d.	per foot super.
Seconds ,, ,, ,, ...	84	0	,,	5	,, ,,
Best ,, ,, ,, ...	118	0	,,	7	,, ,,

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If cut to size, 1d. per foot extra.

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21 oz. ,, ,, ...	75	,, ...	5	,,	

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Green do.	...	...	9	do.	Ditto	3	do.
Blue do.	...	...	7	do.	Ditto	3	do.
Orange do.	...	...	7	do.	Ditto	3	do.
Purple do.	...	...	7	do.	Ditto	3	do.
Ruby Matted, in Sheets	...		1s. 2d.	per foot.	Cut to Size,	3d.	per foot extra.
Green do. do.	...		1 2	do.	Ditto	3	do.
Blue & Yellow do. do.	...		1 0	do.	Ditto	3	do.
Purple do. do.	...		1 0	do.	Ditto	3	do.
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Ditto 21 do.	...		5	do.	Ditto	1	do.

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10 — 8	12 — 9	12½ — 10½	14½ — 10½				
10½ 8½	12¼ — 9½	13 — 10	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10½	13 — 11				
11½ — 9½	12 — 10	14 — 10	14 — 11				
13½—10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.

Stock Squares, per 100 feet.

in. in.	in. in.	in. in.	in. in.	in. in.					
15½ by 11½	16 by 12	18 by 14	20 by 17	Fourths.	Thirds.	Seconds.	Best.
16 — 11	16½ — 12½	22 — 14	22 — 17				
21 — 11	17 — 12	24 — 14	24 — 17				
13 — 12	18 — 12	22 — 15	20 — 18	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.
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20 ,, 12 ,,											
20 ,, 13 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	24s. 0d.	27s. 6d.
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Fine Oak Varnish ...	10s. to	12s.	per gal.	,, Burnt do.	...	6 to 9 ,,
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,, Crystal or Paper do.	10 to	12	,,	Black ditto	...	24 to 36 ,,

Linseed Oil ...	...	...	3s. 6d. per gal.
Boiled Oil ...	...	...	3 11 ,,
Turpentine ...	...	...	6 0 ,,
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Very fluctuating.

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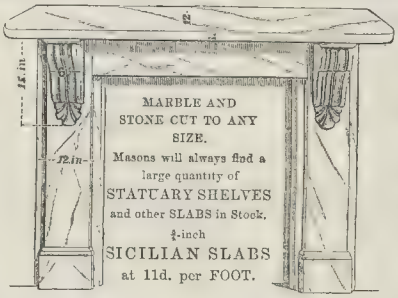
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INTERNATIONAL EXHIBITION.

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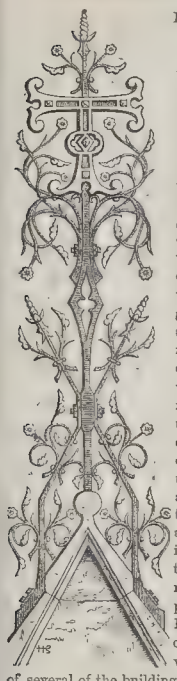
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The Builder.

VOL. XXII.—No. 1130.

The Architecture of the City of London.



HE foreigner in London, whose judgment is so often deprecated, but not for whose delectation certainly are produced the cement mouldings and wall-covering, or flaring colours in brickwork, the eccentricity, monotony, or mere imitation, the lack of general breadth, as of duly studied detail, and the griminess, which characterize the architecture of the metropolis generally, should if possible be induced to direct his steps to that quarter of the City to which we adverted in a former article,* and for the sake of the chance of a more favourable opinion of our art-work than he is likely to arrive at otherwise. In the early morning, or on a Sunday, when there is little to distract attention, there may be realized from divers points about the Royal Exchange, some beauty of architecture that prevails over the blackness of several of the buildings, and is not unworthy to be named along with such effect as may be seen in certain other capitals. But, the afternoon-time of a day when there is any sunlight, and the route approaching from the west, offer most advantageous conditions for viewing the architecture from those points, and for seeing that which is disclosed in passing along several of the streets.

During the approach, the effect of the City churches, and of St. Paul's Cathedral, should be noticed; and we are not of the opinion expressed by one of our contemporaries, that the church of St. Martin, Ludgate, is an unsightly object, or damaging to the cathedral, and therefore should be removed. The view of the cathedral, with the spire in the mid-distance, has formed a favourite subject with water-colourists; and the fact is worth quoting as evidence that we are right. Now that the pursuit of different styles is so much substituted for the pursuit of art, opinions are warped by prejudices; and much of the merit which there may be in many works, is hardly supposed existent: it is not looked for; and those who might see the beauty, are, as it were, blind thereto. Of the works in this category, are the churches by Wren, and some of those by Hawksmoor. Albeit details in many of them are uncouth and bad, the outlines of the spires and towers, and the varying disposition of plan of the several upper stages of towers, and generally the effect of the number and variety of the features, together afford all the charm that has been during some time perceived in a prospect of the City, and is still recognized by many architects.

In the views referred to, about the Exchange, however, there is little difference seen in the style of the buildings, or none that goes to the extent of discord. The effect of variety indeed there is, which is always pleasing, or, more exactly speaking, is essential. Sir Charles Barry, we remember, once registered an opinion in favour of the exhibition of two prominent objects, such as the Victoria Tower of the Houses of Parliament, and a dome of Italian character, of different systems of architecture, in the same field of view; and certainly there are many instances of happy effect by such conjunction, the best known being those of the different views of Oxford. But variety of general effect and outline may be pleasing, though not the entire dissonance that is apt to be felt when details can be discerned, and are found to be of totally different character. Detail very soon comes to play its part; moreover, the minute examination of it aimed at, in the very fact of the elaboration, by the designer, results in what is one of the materials of which the judgment of the entire work of art is mentally built up. We have therefore always held that there was disadvantage from the conjunction of buildings of totally different styles, as side by side, both to the effect realized by architect-observers, and as regards appreciation of the art-work by the public.

The buildings in the City, of decided Gothic character, are some of them important; but there are not many of them. From the area in front of the Mansion House, none come into view; whilst also must be looked for elsewhere in the City, architecture of that party-coloured, and round-arched modern fashion, wherein small shafts to carry the arches, label-mouldings, and chamfers, are features. In the views from this area, the front of the Globe Insurance Office at the angle between Cornhill and Lombard-street, is the chief eyesore,—though there are other cement fronts in King William-street, not much better in character; and those in Princes-street, of the Britannia Life Insurance Office the Union Bank of London, and the London Joint Stock Bank, which might have been tolerable in stone, are just now shining, but greasy, in all the bedizenment of new paint. In the grouping of the several structures, however, which there are of commanding outline, in their meritorious details, in the central feature of the portico of the Exchange, and in the open space, and the happily-arranged broad foreground of flagging, with even the statue of the Duke of Wellington, poor as are the details of the pedestal, the City possesses a combination of art-work of which London may be proud. The Bank, now improved in general outline by the addition which was made to the centre of the Threadneedle-street front, fills a considerable space. Defects in this building, as in the introduction of columns that are without use, become more apparent as time goes on, and insight into the principles of architectural design is obtained: let us hope that the merit of the grouping, and much else that there is yet in the Bank, may not be disregarded, and the building suffer the fate, in this age of fashion and change, as much as progress, of many a really great and once-admired effort and production, of being rated lower than its merits. Some of the details the most characteristic of Soane's work, it may now be seen, were badly proportioned to one another,—as the projection of the shafts of pilasters, to the bulk of the capitals. We may observe that the addition to the centre, whilst improving the general outline, and correcting much of the depression which was the result of the height of the neighbouring buildings, seems to have depressed the columns in effect, and increased the appearance of their uselessness, to which the iron railings previously contributed.

There is little else in Princes-street, except the elegant Italian doorcase,—which was, we believe, designed by the late Mr. Joseph Gwilt,—to the court-yard of Grocers' Hall, and a building with Soanean features of detail, generally plain, and with two columns at each end above the ground-story. In Threadneedle-street beyond the Bank, on the same side, are seen the Sun Fire Office, the North British and Mercantile Insurance Offices, of which we have recently published a view,* and the Magnetic and Submarine Telegraph Offices, also illustrated in our pages; whilst the vista is terminated by the Imperial Insurance Company's Offices. In Cornhill, the building of the County Fire Office, the pile of buildings of which the centre was lately occupied by Messrs. Sarl (and is about being appropriated to the business of the Credit Foncier and Mobilier of England Company), and the building occupied by the National Discount Company come into view, with the tower of St. Michael's Church, Cornhill, beyond them. In King William-street, the near-distance has the church of St. Mary Woolnoth, by Hawksmoor, the Monument finely terminating the vista. Eastward along Cheapside, Bow Church, with its tower and spire, scarcely matched even in the Gothic period, is seen. There is a gap in the north side of the Poultry, east of St. Mildred's Church; but a new building is already commenced; and in the rear is one, just finished, of good architectural character, forming an addition to the Union Bank. The opening of the new line of street from Blackfriars, will shortly produce a considerable alteration in the effect, opposite, or looking south-westward from the space before the Mansion House. If our foreign visitor move to the south side of the area, in front of the church of St. Mary Woolnoth, which is formed by the junction of King William-street and Lombard-street, he will see several works of superior character, the best of them being the building designed by Mr. I'Anson, originally the Colonial Assurance Office, but which is now occupied, in the ground-story at least, by Brooks's Bank. Mr. I'Anson's contributions to the good architecture in the City, have been duly acknowledged in these pages. The Lombard-street building here mentioned, and that next to it, by the same hand, are noticeable for the accordance of their style, and of their main lines, as those of cornice and basement; whilst the resulting harmony is coexistent with the requisite distinction, as between two buildings. In both these buildings, red granite is used, and the system has been adopted of constructing the basement of that material, and, in one of the buildings, partly polished and partly unpolished. It is worth considering whether this is not a better mode of using red granite than that wherein the material is in the form of polished shafts. Even previously to the production of the great contrast, by the darkening of stone, between the two materials, we apprehend that often the effect displaces that which may be considered to have been aimed at in the arrangement of the lines, and the disposition of the projections and recesses on plan. The exercise of self-denial in the use of new and valuable materials, would sometimes be attended with advantage. Moreover, it should be recollected that there is immense difference between polished and unpolished materials, in the force with which they strike the eye. The use of red granite in the form of very small shafts, which is general, seems to us to be nearer to right principle, than the application of the material to shafts of the columns of a regular order, even one so small as when forming part with a window-architrave. We are speaking of exteriors. But even the small shafts, polished, may strike with too much force. More consideration is certainly needed, than has yet been given, to questions of the right use both of granite and iron in combination with stone or brick. The

* See p. 678, *ante*,—"London Architecture, and the City."

* See p. 207.

colour and the sparkle in the one case, and the dark tone nearly amounting to black, in the other, attributes of the materials, are new elements in the hand of the designer, and not provided for in the rules laid down for architecture in stone. The most satisfactory works we are acquainted with, wherein one of these materials is used in a building along with ordinary stone, are works in which the office of the material is simply decorative, or where being structural it is rather supplementary than necessary,—as, in the former case, where the polished granite is used jewelwise in panels, or the iron-work as filling in to apertures of various kinds; and, in the second case, where the shafts are in jambs, as nook-shafts, scarcely to be regarded as members *bearing* arch-mouldings, or are wholly detached and placed for intermediate support of a lintel which without some very slight addition would seem too long in the bearing. This, we opine, was the view taken in each case, by Professor Cockerell, judging from the Sun Fire Office, and some other buildings by him. In the North British and Mercantile Insurance Offices, by Mr. Thomas Piper and Mr. J. E. Goodchild, polished granite is used in door-cases of the basement, and in the columns of the central doorway; but the material is a slate-coloured kind; and this has advantages. Granite for an entire base, or the ground-story of a front, and not frittered in many minute forms, gives so much appearance of strength, that its value, as there rightly used, is at once to be admitted. The effect here resulting from the colour and polish, without other decoration, coupled with the idea of strength, serves exactly the end aimed at, but indifferently realized, in the stone or cemented ground-story with rusticated work, of the common brick-built London house; whilst the use of plain granite in the basements of fronts in the City, is all the more to be commended, as the piers in the ground-story must be narrow, for the sake of light. Even as in some shop-fronts in the City, the use of granite for the entablature, as well as the piers, mitigates considerably the defect incidental to a basement that is generally of glass. To the east of the buildings in Lombard-street to which we have above referred, is one front of the County Fire Office and Provident Life Office.

The area in front of the Mansion House, however, is not the only location in the same quarter of the City, where fine prospects are to be obtained, and where the general effects and the details of the buildings suggest thoughts relating to the practice and the tendencies of modern architecture. The works that may be seen at the eastern end of the Exchange, and looking down Bartholomew-lane in passing, down Broad-street, and in the continuation of Threadneedle-street, are most remarkable as productions all, except the Bank and the Anction Mart, of comparatively recent date, and as the inauguration of a veritable progression, still in process of achievement, in the architecture of a certain class of works. By the way, it may be noted that the several authorities to whom is due the allotment of ground, east and west of the Exchange, to mere area of flagged pavement, by such disposition effected an arrangement of the utmost value both to the Exchange, and to the many buildings for which the spaces afford stations of observation, or a foreground. From one convenient point at the north-eastern corner of the Exchange, may be seen the Bank, the Sun Fire Office, the North British and Mercantile Insurance Offices, already particularly referred to; the Telegraph Offices, by Mr. Horace Jones (the building which was so much injured by fire on Monday night); Mr. John Gibson's Imperial Insurance Offices; the building next, in Broad-street, occupied by the Ocean Marine Insurance Company and the London and Brazilian Bank; and, again in Threadneedle-street, the Bank of London, formerly the Hall of Commerce; the City Bank, by Messrs. Moseley; the Bank of Australasia, by Mr. P. C. Hardwick; the building by Mr. Currey next to the last-named bank, westward, of which the ground-story was first of all a shop, but which now is entirely appropriated as chambers; and the highly decorative red brick and stone building, by Mr. John Shaw, the upper floors of which are occupied as offices. Mr. T'Anson's Royal Exchange Buildings, in red brick and stone, occupy the greater portion of the eastern side of the flagged area; and the view southward shows the building of the National Discount Company, which was designed by Messrs. Francis. Nearly all the buildings we have just named as works of recent years, have been illustrated in our pages. Each of the works has considerable merit; and we have only to regret that the general street architecture of London, and the suburbs, and that of private houses and of premises devoted to retail trade, is so different.

Of all places that we know of, even in England, London is the one where the greatest contrast is found between the architecture of public and private buildings. It is not exactly that each man's "proper mansion-house, and home," "the theater of his hospitality," "a kinde of private princedome," does not seem "to the possessors thereof" deserving "by these attributes, according to the degree of the master, to be decently and delightfully adorned:" on the contrary, there is evidence of a concession to the desire for decoration, and enough to afford proof that the desire is natural and must exist. The lack of art which is conjoined with increasing use of the details of decoration, only mis-shapen and misplaced, and with the recourse to an increasing number of models, may arise from the fact that the demand for residences and shops is catered for by those who have made building their pursuit rather than architecture; or because, where the "master" is owner of the house, he will claim his John Bull privilege of doing what he likes with that which he calls his own. "What does it matter," he says, "if I build an ugly thing, or if as you tell me, I shall find out my mistake when what you call the mere fashion is gone by, or the novelty of the eccentric thing is worn off?" Herein he forgets that, in the public interest, it does matter what is presented to the public eye, and that as certain exhibitions are prevented as being injurious to public order or morals, it might be contended that what shocks or deteriorates the sense of beauty, which was conferred on man for enjoyment, for cultivation, and for enjoyment growing with the cultivation, should equally be denounced as injurious. The mode of interference may be difficult, preserving the liberty of the subject; and it would now be impossible to constitute a court of judicature or reference in the architectural profession; as it may always be. But the innate falsity of the *dictum* of the master of the house is shown, as also that there is an obligation upon him to seek advice, and to defer to those who have made special study of architecture. Now, in the buildings erected by public companies, there is an architect, who is generally a person of some experience with committees; and, practically, the decision on points which make the character of the design, becomes centered in him. The only injunctions laid upon him are such as this one, in the case of a bank, that the building must be bank-like; in short, the commercial object and taste must go together. But the appreciation of decorative effect, or the belief that "taste pays," seems to prevail in each of the buildings in the City, of the class we are adverting to. The contrast with them, of such adjacent premises as include shops is often great. Members meant to be decorative, are found in both; the application alone is different.

> "Yet shall, my lord, your just, your noble rules
> Fill half the land with imitating fools;
> Who random drawings from your sheets shall take,
> And of one beauty many blunders make."

In the new structures for the purposes of banks or insurance offices, which do not happen to have the principal frontage to a court, there are no novel questions to be solved quickly, and with the possible result of loss of architectural effect. Glass and iron need not enter into the composition of the front to a great extent; windows may be large, and yet the basement may have appearance of solidity. The respect for the rights of adjoining owners, helps to dictate the manner of lighting the principal room of a bank, in great part from a lantern or skylight.

But there are a considerable number of works at present in hand in the immediate neighbourhood of the north-east corner of the Exchange. Before naming some of them, we may mention that, looking down Bartholomew-lane, a new construction will be seen at the end. It is an extension of the front of the London and Westminster Bank, from Lothbury to the commencement of Throgmorton-street. The windows are exactly repeated; and the pier and statue terminating the old front have been removed, so as to form the termination as before corresponding with one westward. But as the line of street becomes curved towards Throgmorton-street, the new effect is not equal to that of the original design; and we do not quite see from the occupation of the new premises, that there was justification for carrying on the features of the original work. In new Broad-street, at Austin-friars, one of the few buildings in the City with Gothic features, is in hand. Those features however are confined here to the pointed forms of arches to several of the windows, and the cusping to some of them. In one story the arches are low and stilted from impost mouldings and piers: in the ground-story the openings are of diverse form, the windows being large elliptic-arched lights with a central shaft. The National Bank, a four-storied building of nine bays of windows, with Italian dressings, and cornice, which last conceals the balustrade, and with a rusticated basement exhibiting some well-carved consoles, is opposite: there is good work in it, but the effect is spoiled by the curved form of the front, following the line of the street, and by the painted name of the building. Broad-street seems to be the home of the different Marine Insurance Companies. Next to the large building of the Ocean Marine Company already named, and some time since illustrated, a building for the London and Colonial Marine Insurance Company, is receiving a certain sort of decoration, including carving of trusses and coats of arms to the stone basement. The building between the City Club and Gresham House, occupied by a Marine Insurance Company, is not a very recent one, nor now that it has become black, is it a very conspicuous one; but it deserves attention for the grouping of its doors and windows, with their dressings, the whole having a satisfactory effect with little ornament and no emblematic sculpture, unless what may be found in trusses to the door-heads, which have original character. There is the greatest possible contrast of treatment between this front, and that of the Marine Insurance Company nearest to the Exchange, where at least our claim for sculpture allusive to the purpose of a building, as an essential to architecture, is fully recognized, and by good carving too. The building, No. 10, Old Broad-street, in which are the offices of Messrs. Scrimgeour, has a front which is a curious contrast to everything near to it. It is generally in cement, now very black-looking; but there are panels of marble, and much floral and other ornamentation; and there is considerable variety in the forms of windows, and novelty in many of the features introduced. It is an exemplification of the fact that mere novelty and ornamentation are not enough; and it is far from harmonizing with the uses to which it is put. Gresham House is a great structure that no one studying the architecture of the City, should omit to see, to gain an idea of the multitude of offices for which room and light have to be found, and which go to form the character of the City. Gresham House, however, is now far surpassed in extent by the buildings which have just been completed in Leadenhall-street. As Gresham House occupies the site of the old Excise Office; the new East-India Chambers occupy that of the East-India House. The area is so extensive that there are several avenues of access, and for light, to the offices in the rearward part of the ground, and corresponding doorways in the façade in Leadenhall-street. This façade has the mouldings of the architraves of the windows somewhat elaborately ornamented; but though there is much merit in these, as well as in the central doorway, the length of the front, and want of recessed parts, give a general flatness. This, the India House avoided by the feature of the portico. That feature had a distinctive character, as in plan, which we are not exactly reconciled to losing. Indeed, the front was in several respects good, as also the arrangement of the entrance-hall, praised by Bartholomew. For general plan, few buildings could be worse than was the India House. The front to the new pile of offices, contrasted with the old front, exemplifies an immense change in taste. It may be an advance; but, that advance may yet be made, such merits as there were in the old work should not be forgotten. Owing chiefly to the blackness of the front, and somewhat to the narrowness of the street, they were little appreciated. Mr. Currey's work opposite, the front of the offices of the Peninsular and Oriental Steam Navigation Company, though the rich ornamental details are not entirely harmonious, is one of the very best in the City of London.

At the corner of Bishopsgate-street and Threadneedle-street, next to the South Sea House, a building has been commenced for the National Provincial Bank of England, of which Mr. John Gibson is architect. It is not yet sufficiently advanced in the front, for the decorative cha-

racter to be minutely described. It will contain a very fine room for the chief business of the bank, and externally an order of three-quarter Corinthian columns; but the reference to these does not give an idea of the decorative character, which will be partly derived from well-studied ornamentation, and from sculpture, which last is already considerably advanced. Great difficulties about "ancient lights," and others connected with adjoining properties, but similar to what are common in work in the City, attended the preparation of the drawings; and a good design that was first made was ultimately abandoned. These difficulties had nearly occasioned one of those defects, an irregular rounded corner. After much negotiation and contrivance, the irregular curve has been exchanged for a better form. This company, we may mention, has many buildings for branches in hand, in the country.

Farther on in Bishopsgate-street is the building appropriated to offices, and called Crosby House, which we have illustrated, noticeable as almost the only important work in this quarter of London, which is of decided Gothic character. It is by Mr. Wilkinson, of Oxford. It is certainly as meritorious, as it is remarkable for the elaboration of its ornament carved in stone. The general facing is red brick.

It is impossible even to name every new work about Cornhill and Gracechurch-street; and those in Fenchurch-street, Mincing-lane, and East-cheap must be left to the chance of some future opportunity. In Cornhill, there are one or two meritorious productions, besides those we have named, and besides Mr. Scott's porch of St. Michael's Church,—in particular the English, Scottish, and Australian Chartered Bank, by Mr. Baker, and a work by Mr. T. H. Lewis; but these were particularly described by us some time ago. At present there is a gap which is to be filled by the East London Bank. In Gracechurch-street, after Mr. Kerr's excellent work at the corner of East-cheap, the National Provident Institution, the most important thing is the Queen Insurance Building, a four-storied, narrow-fronted structure, recessed between the adjoining houses, and having a three-light window with polished red granite shafts, to each story, in the centre; which last is slightly recessed,—the style generally of the work being Italian. The building is crowned by a statue of the Queen. Peculiar character is given to the front, by the use of two descriptions of stone, Portland and Bath apparently, in alternate courses.

The most important building-work, recent, or at present in hand, however, is that in Lombard-street, and Clement's-lane, briefly mentioned in our first article; and this seems to be of sufficient extent and decorative character, to justify a distinct article.

WHAT IS THE INFLUENCE ON HEALTH OF THE OVERCROWDING OF DWELLING HOUSES AND WORKSHOPS? AND BY WHAT MEANS COULD SUCH OVERCROWDING BE PREVENTED?*

The Council of the Association, having determined on this as one of the special questions for discussion at the York meeting, have requested me to open the subject with a paper. The deep interest that I feel in it forbids me to refuse; although as I brought my views before the Department at the London meeting, in 1862,† and had urged them on the public for some years previously through various channels, I may seem to be telling an often-told tale. In this busy fighting world, however, a thing *must* be told many times before it will be heard; and the existing evils from inattention to this special matter are so enormous, so monstrous, so vitally important, that no amount of reiteration can be blamed or be deemed unnecessary so long as they remain unremedied.

In the paper already before the Association I gave numerous special cases of overcrowding to show its prevalence, specially on that occasion in London;—cases of overcrowding in dwelling-houses, workshops, barracks, and schools. I have re-visited within the last month many of the places described, and found them precisely in the same evil condition as before. Thus in Lincoln-court, Drury-lane, to which attention was directed, the first house examined on this last occasion contained thirty-seven persons in its eight rooms, and the second forty-five. In some of the houses, I was told, the number of the inhabitants was greater. Every room housed a family; some surreptitiously three. To get at the truth, as in all these cases, was difficult; but quite enough was admitted to prove that the conditions were not such as admit of healthful existence or decency. Of Charlotte's-buildings, Gray's-inn, the same may be said. The medical officer of that district speaks, in his last report, of small three-roomed houses, each containing seven families huddled together as closely and almost as promiscuously as sheep in a fold. In unhappy Bethnal Green, in Mile-end New Town,—in fact, in every direction,—the same fearful state of things may be witnessed. The extent to which the evil is increased when illness prevails or death occurs can scarcely be imagined. In one room, near the Caledonian-road, Islington, were found amidst a family, a child dead from scarlet fever, and another ill with the same complaint. No washing had been done for a fortnight, and the clothes which had been worn by the sick child, and those which had been taken off the dead one, were stowed in the bottom of a cupboard, where the food of the family was kept: there were dirty slops in the room and on the staircase; the window had never been opened since the sickness began. The woman who lived here had buried three children, and the one lying dead was the fourth lost. The remaining rooms of the house were densely crowded: the drainage was not good; and two other children had died in the same place not long before. Concerning most of our provincial towns, and I have examined many of them, similar statements have to be made and must be extended to Ireland and Scotland. The medical officer of health of Liverpool, Dr. Trench, is calling the attention of the corporation to the great want of accommodation for skilled and unskilled artisans; saying that, in spite of watchfulness on the part of the sanitary staff, the tenants of single rooms take in lodgers, to the detriment of health and comfort. He ascribes the evil to the demolition of the poorer class of dwellings in the business parts of the town, and the consequent overcrowding of those which still exist, with its natural consequence, social birds of prey. The working classes there, as elsewhere, show a strong objection to live in the suburbs, at a distance from their place of business; and it is urged that there are still localities near the business centres of the town where dwellings for the working classes could be built profitably, either by philanthropists or speculators, and which would at the same time do away with much social discomfort and misery. I could give descriptions of crowded dog-holes seen by myself in Manchester, Leeds, Sheffield, and elsewhere, that would appal the reflective. But it cannot be necessary. A few words must be said, however, touching the country districts, as it must not be imagined that this evil is confined to large towns. I have again and again found cottages with two sleeping-rooms, very small and low, containing in one a man and his wife and six or seven children, and in the other two, three, and even four lodgers in the shape of farm labourers or navvies. In Buckinghamshire, in Norfolk, in Sussex, I have found at night nine, ten, and more persons in a room not large enough for healthful occupation by one; and when to this damaging proceeding are added, as is often the case, no drainage, insufficient "closet" accommodation, and decomposing refuse scattered about the outside, no wonder need be expressed at the prevalence of fever, the dying off of the children, and a low state of morality on the part of those who survive. It is scarcely necessary to multiply instances proving the universality of this evil overcrowding. Take one more utterance, and that from the Sister Isle. It is the picture of a hovel, such as is not uncommon in the western part of Ireland, given by the medical officer of health for Sligo (Dr. Tucker). It is the home of a small farmer, the tenant of a nobleman: and is 12 ft. broad and 24 ft. long. "The domestic circle, happy family, or menagerie that dwelt therein consisted," he says, "of a sick man, his wife, four daughters, one son, three cows, one horse, two calves, two pigs, and some poultry, all in one common undivided house,—no partition." Generally the pigs were under the beds, the people in them, and the poultry overhead. The condition of the air,—the sort of *life* enjoyed by the occupants, may be imagined.

"The breath of man is fatal to his fellows;" more than that, it is fatal to himself. Man needs for healthful breathing-space at least 500 cubic feet, with constant renewal of the air. In thousands of houses occupied as I have briefly described, each sleeper has not 100 ft. of space. I have seen scores of rooms, both in town and country, where they had even less. Health under such circumstances is simply impossible. Just as certainly as the taper dwindles, and ultimately expires in a jar from which a fresh supply of air is excluded, so does the vital power of man under similar circumstances grow less and less powerful, and ultimately cease. And even where some change in the air is going on unless this be adequate the air becomes surcharged with poisonous matter, and does deadly work. It is now well known that there are certain diseases of which the very essence is filth,—diseases which take no hold except where putrefiable air or contaminated water affords means for their subsistence; and of these diseases tens of thousands die. Typhus fever, the disease of the prime of life, has its source especially in such impurity of air as is produced by overcrowding, and is a constant cause of death, misery, and pauperism. We have ague where we do not drain: we have fever where we overcrowd. The money-loss through typhus fever alone, during the last twenty years, would have to be stated in millions.

Even if death do not result, a low state of health becomes the rule. "Everybody in this country," exclaimed Lord Palmerston at Tiverton, the other day, "is alive;" and it expressed correctly what the Premier wished to convey. I say, however, speaking literally, that thousands in this country are only *half* alive, have never lived, and never either work or play with whole life. Passing the greater part of their time deprived of that without which there is no life, pure air, a low state of health becomes chronic: they exist, they do not live. An epidemic finds amongst them its ready victims. On one occasion I subjected myself to such an atmosphere for some hours, and experienced a feeling of exhaustion that was not overcome in two days afterwards. Bad air takes away appetite, depresses the spirits, lessens the vital power, and predisposes to more serious disease. A tendency is given by it to seek the temporary relief of alcoholic stimulants; while the children dwelling thus herded together lose all sense of decency, propriety, and order, and go to recruit the ranks of the dangerous classes,—the products of society's ignorance and guilty carelessness,—and pretty dearly has society to pay for its carelessness. I have ventured to say elsewhere, and see no reason to revoke it, that "it would be *cheaper* to send children thus situate to a first-class boarding-school, and put them in a way to be fairly healthy and wise, than to allow them to become, as they probably will, thieves and prostitutes. It is not even a question between prevention and cure. Educate the children downwards to convicts, and cure is very nearly impossible. If you would do anything you must prevent."*

That great change in this material condition is necessary before any attempt to elevate, morally and intellectually, the classes to which I am alluding can be to any extent successful, I have scores of independent witnesses to testify, beyond my own conviction, the result of long and earnest consideration of the subject. The vicar of Brompton, for example (Dr. Irons), writes to me what dozens of hard-worked clergymen to whom I have put the question have replied,—"It is literally *impossible* for the clergy to raise the condition of the population in these overcrowded places. They who aid in bringing about improvement in this respect are coadjutors to Christian missions. May God bless their efforts." "I ask," says the Bishop of Ripon, "if all the labour of parochial clergy and City missionaries be not thrown away upon a population so circumstanced? Does not the same state of things go on from year to year? Is there any moral improvement in the mass, so long as the physical condition is unchanged? I have put the question to men who have faithfully toiled for years in these dens of London, and the answer is invariably the same. No general impression is made."

The disastrous influences, moral and physical, of overcrowding being seen, the second question now arises, How could it be prevented? In reply, I must reiterate my conviction that the first step should be the application of the Act

* Substance of address, by Mr. Godwin, delivered at the Congress of Social Science Association, York, as elsewhere alluded to.

† See the "Transactions" for that year, p. 594.

* "Another Blow for Life." (Allen & Co.)

for regulating Common Lodging-houses to all houses let in tenements to, say, more than two families; -that each house so let should be registered, inspected, and regulated. Moreover, that this step should be taken immediately. To meet the cry against "interference with Englishmen's homes," the assertion that want of means enforces the herding together that is found, I would repeat the observation, that a man is not allowed to poison with drugs or knock on the head those who are dependent on him because he is poor, neither should he be allowed on that ground, or because it is done in a room for which he pays rent, to kill them with bad air. The spread of knowledge (and this should be aided in all ways) will do something towards lessening the evil; the removal of houses wholly unfitted for occupation by a number of families, and the provision of proper dwellings at a moderate rent will do more: but even the supply of these *desiderata*, could it be effected even more immediately than seems at all likely, would not, in my opinion, obviate the necessity for the immediate interference I have called for to protect men and women against their own acts and in defence of the rising generation and the innocent. Overcrowd a room and the infant is the first to suffer,—it pines and dies. Again, the fever generated in one of the courts of the Coram-street district finds its second crop of victims in Russell-square. Nearly 300 years ago the evil was seen, and to a certain extent fought against by the infliction of penalties; for in the reign of Queen Elizabeth a decree was issued which enacted that "no owner or occupier of any cottage shall place or willingly suffer any more families than one to cohabit therein; in pain to forfeit to the lord of the leet 10s. for every month he so continues them together."

The view which I have been urging for some years is, I am glad to say, obtaining acceptance, as I might prove by a number of letters from all parts of the kingdom; while independent observers and writers are proposing the same remedy. Thus Dr. Mapother, the medical officer of health for Dublin, after alluding to Gill's-square, Yellow-court, the passages off Pill-lane, Beresford-street, and Greek-street, some of which I know and I can testify as to their miserable condition and evil productions, says,—"The chief cause which leads to such places being inhabited at all, and their never being improved, is the system of house jobbing which exists all over the poorer parts of Dublin. They are let at low rates, though indeed the highest that can be extracted from the miserable tenants, and not one penny is ever expended in trying to make them decent habitations. I believe, however, that with the energetic efforts to carry out the provisions of the Common Lodging-house Act, and the Towns' Amendment Act just passed, to which I am of opinion (he continues) a system of licensing the proprietors of any house under a certain value let in tenements might be advantageously added, and with aid of some wealthy and benevolent citizens, who will build fit dwellings for our city poor, the lamentable condition I have so inadequately sketched will be bettered."

The *Times*, in commenting on my previous paper said,—"The Legislature has a right to interfere at least on behalf of the innocent victims of their landlords' or neighbours' negligence; and by fixing a statutable minimum of breathing-room in cases where such protection shall be proved to be most needed, may gradually enlighten public opinion on this subject." Other influential journals went even farther in support of the proposition, and at the conference on the dwellings of the labouring classes, held at the instance of the Council of the Society of Arts in May last, the meeting came to the resolution that the Legislature might procure better dwelling-places for the poorer classes by, amongst other steps, "the improvement of the Lodging-house Act, as regards provision for sanitary purposes, and giving greater power to inspecting officers."

Very large numbers of houses in the business centres of London, tenanted by the poor, and the industrious classes, have been destroyed, not only for railways, but to give place to warehouses, printing establishments, offices, and such like; and although, knowing the miserable nature of many of these places,—their total unfitness for occupation,—I cannot, as some do, deplore this removal in an unqualified manner, it must be urged as a cogent reason why efforts should be made to supply fresh homes of a better character. The call for these comes from more classes than one. A respectable journeyman tailor, for example, writes as follows, and his letter represents several others addressed to me. "I hear," he says, "of the great progress made in providing dwellings for the less affluent classes, and of the liberality of the railway companies in connexion therewith. So far so good. But, sir, allow me to speak for those who are circumstanced like myself. We are *compelled* to live in a given locality. Our employer cannot employ workmen who live out of the neighbourhood; the master-tailor *must* have his hands within a few minutes' walk of his establishment. What can be done for us but altering existing buildings, such as the Alhambra, which is in the market, the old Cosmorama, also untenanted, or the empty houses in St. Martin's-court? Pray, sir, plead for *us* to whom cheap dwellings out of town and very low fares are of no avail. I have only to add, that as the number of houses decreases in London the rents rise accordingly."

Several large structures to be let in lodgings are in progress at this time in the metropolis, at the cost of the Corporation of London, the Peabody trustees, and other bodies, and will do some little towards supplying the want, but very little as compared with the magnitude of the population to be dealt with. In the meanwhile the old houses remain unimproved, and capitalists and speculators find it pays better to erect houses for another class.

Amongst the causes that contribute more or less to this evil, is the unequal manner in which parish rates are levied in different parts of the metropolis and elsewhere. Last year, for example, we see that, while in Mile-end New Town the rating amounted to 7s. in the pound; in St. George's, Hanover-square, it was only 2s. 11¾d. There is no doubt that the heavy rates in poor districts has the effect of preventing improvement in the dwellings of the poor and industrious classes. Moreover, in places where a high levy is made, capitalists and speculators are even less disposed than elsewhere to erect such buildings as are needed, although it is in such localities they are more particularly required.

Many other points, such as the forcing of railway companies destroying dwellings to erect a certain number elsewhere; the cheapening of house-building; the improvement of existing dwellings; the desirability of laws enabling working men more easily to invest their savings in obtaining a house for themselves, occur to me for discussion; but I prefer to leave these topics to the speakers who will follow me, contenting myself with setting forth a general statement of the case, and urging the one important step, the extension of the powers of the Lodging-house Act. This, if all the other remedies were put into operation, would, I think, still be necessary to prevent the frightful loss of health and life, and the degradation of morals produced by overcrowding.

I must now hasten to a close; but, before ending this paper (written too hurriedly, under the pressure of other occupations), must refer, though briefly, to the overcrowding that prevails in workshops, schools, barracks, and ships; and urge that the protecting supervision sought for ought not to be confined to dwelling-houses.

In some barracks, both at home and in the colonies, though the condition of the soldier has been much improved since attention was first directed, about six years ago, to the neglect of sanitary arrangements in their rooms, continued fevers prevail and are mainly attributable to overcrowding, aided by imperfect drainage. The same cause on board ship often leads to dreadful mortalities, not to speak of the less damage to health which escapes observation, or is wrongly attributed to other causes.

The workrooms of milliners, artificial flower-makers, and others who employ large numbers of young women and girls, remain for the most part as they were before attention had been specially directed to them,—filled to danger-point and beyond it. At the close of the last season, I examined the workrooms of two first-class milliners and dress-makers in the neighbourhood of Regent-street, both employing more than sixty girls, and found that each worker had not 140 cubic feet of breathing-space, instead of 500 feet. In bad weather, when the windows are shut, and worse still at night, when unventilated gas-burners are flaring in every direction, the atmosphere is poison. What wonder that the faces of many of the girls were swollen and tied up; that a certain number are usually away ill; and that consumption is a not unusual result? The census of 1861 shows that there are in London, of different ages, nearly 55,000 milliners and dressmakers,—an army of martyrs needing our care. It is to be hoped that the Commission appointed in 1861 to inquire relative to the various employments of young persons throughout the country, and only now beginning to look for information concerning the places in which such persons are employed,—without knowing something of which, as they rightly say in their first circular, no sound and practical conclusions as to the means of improving their condition can be arrived at,—will make themselves fully informed as to the overcrowding of which I am speaking, with its miserable results, morally and physically; and will devise means effectually to stay it in workshops and manufactories.

To obtain a remedy for the widely-spread evil in other directions; to prevent the money-loss, the lowering of health, the moral degradation, and the destruction of life it causes, I earnestly invoke the aid of all who have power to assist.

SOCIAL SCIENCE CONGRESS IN YORK.

THE HEALTH DEPARTMENT.

The York meeting of the Social Science Association has passed off very satisfactorily, and, it may be hoped, usefully. Lord Brougham in the delivery of his address (on the evening of the 22nd ult.) was clearer in his utterance than on some previous occasions, and carried through the business of the week with unabated vigour. The Working Men's meeting on the following evening was a fine sight; the Festival Concert Room being crammed with an attentive and appreciating audience. Some excellent speeches were delivered. The experiment of setting apart days for the discussion of special subjects will probably be considered successful. On the next occasion, however, should the practice be continued, a special reporter should be provided in each department. The reporters for the public journals are forced, of course, to confine themselves to salient points. The proceedings have been fully reported from this point of view both in the London and provincial papers. We give some particulars of what took place in the Health Department, presided over by Sir Charles Hastings.

At the first meeting, the special question for discussion was,—

The Utilization of Sewage.

Mr. R. Rawlinson opened the discussion with a paper on the question "What are the best Means for disposing of the Sewage of Towns?" He said the question had excited much interest, had involved costly expenditure, and elaborate inquiries during the last ten years. If reports, blue-books, and evidence could have settled the question, it would not have been necessary to discuss it in that department; but the evidence was so widely various that an outside inquirer was fairly bewildered by the mass of contradiction offered to his notice. The disposal of town sewage had been met in some recent instances with a demand to abolish sewers and return to a "judicious use of cesspools." But those who advocated a return to cesspools had not made themselves fully acquainted with the evils involved by a retention of refuse near and within dwelling-houses until putrid fermentation set in and the most deadly forms of disease prevailed. Modern sewerage and drainage work had unquestionably fouled rivers, and there was a strong desire expressed on behalf of proprietors and populations resident on the banks of rivers to prevent such fouling by forbidding any discharge of town and house sewage into rivers. In the metropolis, works of extraordinary magnitude were in course of construction, the estimated cost of which was five millions and a half. But these works, gigantic and costly as they were, would only imperfectly intercept sewage from the river within the boundaries of the metropolis, to discharge the concentrated volume into the tidal river a few miles nearer the estuary, and where, most probably, it would be found that the brackish water and sewage would be more noxious than if continuously diluted in the fresh-water portion of the river. The history of leprosy, plague, black fever, sweaty sickness, and the modern scourges of typhus and cholera, showed that they occurred where sanitary laws had been systematically broken. When the population of England and Wales did not exceed five millions, the occasional destruction of human life in London and other cities amounted in a year to a moiety of the entire population. In 1665, the population of London was estimated

at 384,000, and the deaths by plague in September and October of that year were 8,500 a week, equal with the population of modern London to 60,000 a week, and to the destruction of a million and a half of human lives, or half the population, in a year. All the elements of plague and cholera existed in the world at this day. They had the evidence of that fact in the accounts from India, and the foul cities of the East, where plague was ever present. At this moment yellow fever was ravaging some of our West Indian Islands, and a medical commission was investigating the causes of leprosy in the British Indian possessions. Just as in Russia, Italy, Turkey, India, and China were found the types of a past civilisation still existing, so might yet be found cities without sewers or pavements, with houses without ventilation or sunlight, and where in dry weather the streets were filled with dust, and in wet weather with putrid garbage and mud. We could still investigate cause and effect in foul cities with high rates of mortality, and on the other hand in cities where sanitary improvements had been made, and where the rate of mortality had been proportionately diminished. He deprecated any return to the system of cesspools. His practical conclusions were that medical evidence and experience proved the modern system of sewering, draining, water supply, and a use of water-closets, improved the health of the inhabitants. The evidences were to be found in returns from Berwick-upon-Tweed, Alnwick, Morpeth, Penrith, Carlisle, Lancaster, Ormskirk, Preston, Wigan, Chorley, Macclesfield, North Shields, Sunderland, Ely, Worksop, Worthing, Salisbury, and many other places. Towns were purified, but streams were fouled by putrid sewage. The sewage of cesspools contained foul deposits, which, washed out by heavy falls of rain, poisoned fish. Fresh sewage, as at Berwick-upon-Tweed, Alnwick, Morpeth, Carlisle, Penrith, Buxton, and Worksop fed fish. Sewage was injurious to all rivers, from which it was necessary to abstract water for domestic uses; the admission of sewage to such rivers should be rigidly prohibited. Sewage was beneficial to agriculture where applied to the land. The available value of sewage would depend upon local contingencies which could only be estimated when all the elements were known. The chemist's test and value formed only one item in the consideration. Sewage irrigation works should be as simple and economical as possible. Gravitation and surface irrigation, as at Croydon, should be made available wherever practicable. If steam pumping power was necessary, open canal-like tanks, open carriers, and surface irrigation, should be adopted. No lift should be attempted greater than was necessary to allow the sewage to flow by simple gravity. Sewage irrigation might be carried on over the same ground for an indefinite period, as was proved by some of the land near Edinburgh, which had been regularly irrigated for upwards of two centuries. No known or tried form of precipitating sewage so as to obtain a portable solid manure had ever been made to pay in Great Britain. The utilisation, so as to purify town sewage, ought to be imperative, as at Croydon. Experiments, so far as they had been carried, indicated that comparatively large volumes of sewage (5,000 tons per annum per acre) paid better than the distribution of smaller quantities. Sewage was continuously produced, and should be as continuously utilised. This would be accomplished most easily and cheaply by having land at command a proper proportion of sand to act as a filter. Sand gravel, or a combination of sand gravel and loam, would form the best natural filters. Heavy clay lands should be avoided, excepting for moderate irrigation. Sewage was not equally rich at all times of the twenty-four hours. In sewers which regularly discharged fresh sewage, as at Carlisle, Wigan, and all towns sewered on true principles, night sewage and day sewage differed materially. At Carlisle analysis had shown that, from ten o'clock p.m. to eight a.m., discharge from the outlet sewer was almost entirely subsoil water. There was, as might be expected, an increase in volume and strength in the morning about nine o'clock; at noon; and again from six to eight o'clock p.m. In Carlisle, and Wigan, with 35,000 inhabitants each, and with some 6,000 houses drained, there was no expenditure below the surface in the sewers to remove solids. The daily flow of water was sufficient to preserve the sewers clean. Earthenware pipes, from 9 in. to 4 in. in internal diameter, made the best house-drains, and, when carefully laid, did not choke. Two or three towns might be named as examples of this use of small earthenware pipes with success, namely, Carlisle, Lancaster, Wigan, Swansea, and West Ham, near London, where several acres of land which had been built upon were from 6 ft. to 10 ft. below the high water of the river Thames adjoining. The sewering of towns on correct principles ought to be promoted, so as to insure cleanliness, comfort, and health; as such improvements were of national importance, because cleanliness, comfort, and health tended to reduce pauperism, drunkenness, lunacy, and crime. The pollution of rivers and streams ought to be prevented, because property was depreciated in value, and the waters were injuriously tainted by it. Parliamentary authority was needed to give enabling powers to deal with sewage as generated in the several river drainage areas. There must be imperative action and power of uniformity of rating over the whole area benefited.

Other papers on the same subject were read by Dr. Bird, Mr. J. Walker, and Dr. Bishop.

Lord Robt. Montague said that as he presided over the Select Committee of the House of Commons on this subject, he wished to make some remarks on the question. He observed that Mr. Rawlinson's views somewhat differed from those which he had presented to the Committee of the House of Commons. [This Mr. Rawlinson denied.] The Rugby experiments had not been properly or fairly conducted. Mr. Rawlinson had denounced many of the extensive schemes for the utilization of sewage; but the promoters of these schemes were not men who were apt to rush to ruin, but who had made careful calculations before entering upon them. He then quoted extracts from the evidence laid before the select committee to show the impure state of many of the rivers of England, and the deleterious effect they produced on the health of the people. He thought they would agree with the unanimous decision of the committee that sewage ought no longer to be thrown into rivers, and the only place where they could put it was the land. Whether it paid or not, they must utilize it in a liquid state; but he believed that if the arrangement were judiciously carried out it could be made to pay, and trusted that the people would insist on Parliament dealing with the question. He enlarged upon the great money value of the solid manure that might be obtained, and argued that its universal application to the purposes of agriculture would be an immense benefit to the country. Taxes would be reduced; sickness and disease would be diminished; we should have purer water; benefit the farmer by giving him a cheap and most fertilizing manure; and augment the wealth of the landowners from a source which would not impoverish any other class of the community. Surely those were inducements why we should carry out a complete system of utilizing sewage. It was an axiom of the late Mr. Austin, of the Board of Health, that the elements of the food we consumed were meant to be returned to the earth to be utilized again. If they were returned to the earth they would raise substances for the food of man; if they were left upon the earth they would breed pestilence and spread disease through the country.

Mr. Bracebridge, of Birmingham, offered some observations; and

Mr. Henry Roberts told Mr. Rawlinson (who had spoken very severely of the filthy state of continental cities) that an immense improvement had taken place in those cities, and that we in England must not suppose ourselves to be the only nation that had progressed on the path of sanitary reform.

Dr. Lankester spoke upon the absolute necessity for removing fever-breeding filth from the neighbourhood of dwelling-houses, and upon the applicability of liquid sewage as manure.

The discussion was continued by Mr. Newlands, borough engineer of Liverpool, and other gentlemen; and, on the motion of the Chairman, it was resolved:—

"That this meeting regards the sewage of towns as of undoubted value as a fertiliser of the soil; and while recognising the importance of getting rid of it as a source of disease from houses, is decidedly of opinion that the true destination of sewage is the soil; and, therefore, strongly recommends the continuance of all efforts to divert it from rivers, and to distribute it over the land of the country."

Saturday was appropriated to the question of

Overcrowding.

The discussion was opened with an address by Mr. Godwin, which will be found on another page.

Mr. Holmes read a paper on "The Overcrowding and Mortality of the Borough of Leeds." The facts stated in this paper showed that the rate of mortality was very rapidly increasing; that in 1861 it was 25 per 1,000; in 1862 it rose to 27; and last year the death-rate was 32 per 1,000. The board of guardians had reported that this unsatisfactory state of things was in part due to the overcrowding of dwellings; and it had been estimated that at least 2,000 houses were required in addition to those already existing. In one case it was found that a cellar contained four beds. In one was a man, his wife, and three children; in another, two men; in the third and fourth, a man and woman in each; making a total of eleven persons, in addition to two dogs. The dimensions of the cellar were 12 ft. by 11 ft., and 5½ ft. high. Another cellar contained three beds. In one were three men; in a second, a man, woman, and child; and in the third, one woman.

Dr. Markham expressed his surprise that employers of labour had not been called upon more than they had been to provide proper dwellings for those whom they employed in their business. He argued that employers required labour; those who had their labour to dispose of required houses. The Government should declare that houses of a certain description should be provided; and if they were not provided, then the labourer should not live there, and the employer would then find out that he could not get labour unless he provided an adequate supply of dwellings. It might be said that this would interfere with industry. He admitted that it would do so, and would be glad if such were the result of his proposition; for why should the working classes be compelled to live in unhealthy dwellings, in order to put money into the pockets of their employers?

Mr. Rawlinson said that as the evil was a national one, so ought also to be the remedy. The parishes of the country were now losing a great deal of money by diseases consequent upon the overcrowding of houses, and the parishes should be armed with powers to compel owners of property to provide better accommodation, or to shut up lodging-houses where proper accommodation did not exist. There were now about 500 places in the United Kingdom where the Local Government Act was in force, and under its provisions it was required that the plans of all houses about to be built should be in the first instance submitted to the local authorities, who insisted in all cases upon a certain amount of ventilation, and a proper supply of windows, chimneys, and other matters conducive to health. This Act had been found to work most beneficially.

Dr. Lankester referred to the inequality of the death-rates in various districts of the metropolis, as constituting a difficulty in the way of applying any legislative enactments to the remedy of the evil of overcrowding. Unless they could deal with property in a manner which had never yet been attempted, and compel persons to expend money in the improvement of their property, there was little hope of improving the existing state of things. As officer of health for the district of St. James's, it would not be possible for him to eject all persons out of lodging-houses beyond a certain prescribed number; and even if he were to do so one day there would be no security that on the next day the rooms would be again as much overcrowded as before.

Mr. M'Gowan said they must rely upon private benevolence as a remedy for the evil, and looked with considerable doubt upon the agency of legislation as a means of putting an end to an admitted evil.

Mr. Holmes, in reply to the suggestion that employers should find dwelling-houses for those whom they employed, stated that in some cases, and especially among the coal-owners, houses were provided for the pitmen. But it so happened that in the event of any dispute between the employers and the employed the pitmen remained in the house, and refused to pay any rent, or, on the other hand, the employers ejected the men when they were not at work for them, and this frequently led to scenes of great violence and disorder. He suggested as a remedy that the working classes should be encouraged to act for themselves in the matter, and by the aid of building societies and other agencies provide dwellings for themselves.

Mr. Godwin having replied, the department ultimately passed the following resolution, in accordance with his views, moved by the President:—

"That this meeting, rightly appreciating the fearful evils, both moral and physical, resulting from over-

crowding, are strongly impressed with the desirability of extending the operations of the Lodging-house Act to houses let to more than two families, and strongly recommend to the council of the Association the early consideration of the steps that might usefully be taken with that end in view."

Infant Mortality

was the subject of discussion on Monday, and Dr. Husband, of York, read a paper on "Its Cause and Remedy." In the outset he spoke of infant mortality as robbing the country of that which would have proved a source of wealth. He then proceeded to quote statistics from the registrar-general's returns and other sources, of the births and deaths of children in England and Wales. Of those born in 1862, 56,960 males and 44,413 females died under one year old. In the same year, 178,000 children died under five years old—both classes—from contagious diseases, constitutional defects, and violent deaths; the latter being only 1,600 odd. From fever 19,696 of these children die before reaching the age of one year; and nearly 17,000 of this number die from preventible diseases. 1,000 die from the want of breast nourishment; but in this case the returns are not satisfactory. 16,000 die from pneumonia; and one-sixth, as he had shown, from preventible diseases. Among the latter he named as causes of disease the want of proper sanitary arrangements and the want of physical stamina to resist disease. Everything, he remarked, which lowers the standard of health, which depresses the human frame, makes it a prey to disease. Among the causes of infant mortality he named the question of diet, and said that the deaths arose from the want of proper nourishment and the want of knowledge of artificial food. Milk contains all the elements necessary for the growth of the child and the maintenance of proper health; and here he mentioned incidentally that while the poor people required an additional supply of milk, there were country places where it was largely given to feed the pigs. Next to the want of proper nourishment, he named as a great cause of infant mortality, "excessive feeding," and another cause was "irregular feeding." One-fifth of the whole of the children born in England die from convulsions, and these convulsions were largely contributed to by improper food and impure air. The mistake of the poor people was, that when a child was ill they must keep it warm, regardless of pure air. No more fatal mistake could be made. Clothe the child as much as you please, but give it pure air. The greatest of all causes of infant mortality were to be found in "Dalby," "Godfrey," and all such nuisances, which were only so many excuses for improper management. Another cause of the infant mortality was the employment of mothers in other than domestic institutions. The remedy for the existing evil he then proceeded to point out. We must reform the habits of the people—give the mother her own pursuits in her own home; and above all, endeavour to raise the intelligence of the parents, and show them that, even in a pecuniary point of view, it is more profitable to keep children in health than in sickness. Where education was low, as in Lancashire, infant mortality was the greatest. His suggestions for preventing infant mortality were, the appointment of officers of public health in every district in the country, to watch over and to introduce measures for the preservation of public health, and next that Government should assist in diffusing information on this question.

Dr. Trench followed with a paper on infant diseases of Liverpool. The papers led to an interesting discussion, and a resolution was unanimously adopted to the following effect:—

"That this section, feeling that the great mortality of children under five years of age is entirely due to removable causes, is of opinion that a large amount of infant mortality is due to the ignorance of mothers of the way in which their children should be managed, and their carelessness of the welfare of their offspring; and recommends, for the purpose of checking the latter, a compulsory registration of births, and the registration before burial of all deaths in which no proper medical certificate has been obtained."

On Tuesday the business of the departments was commenced with the address of Sir Charles Hastings as president of the Health Section, in which he reviewed the subjects that had been discussed. At the close Sir Charles said,—Looking at the great advances already made, and the many efforts that we see originated around us, we may have good hope for the future. The time will assuredly come when the laws of health will be generally known and obeyed throughout the community. None of us are likely to reach that day, but we may hasten its coming for a future generation, and even now we may see it and rejoice. Already the average term of human life is increasing, year by year, in England and Wales, owing to better drainage, freer ventilation, a wider diffusion of the comforts of life, and greater moderation in the use of fermented liquors. Already the wisdom of John Wesley, that apostle of the last century, who said that cleanliness is next to godliness, has been practically accepted by the nation. Already the indissoluble connexion between physical and moral law is admitted by most thinking men. Nor is this kingdom the only part of her Majesty's dominions in which sanitary science is being studied, and hygienic improvements carried out. Even in our Indian empire, where the condition of nearly 200 millions of human beings has been too long a reproach to our rule, we can see the advent of a wise policy destined to elevate a population ignorant and abject to the benefits of Western civilisation. It must be a matter of congratulation to this Association that one of our members and one who has taken a deep interest in our proceedings, is now guiding the destinies of India. Sir John Lawrence has paid much attention to sanitary investigations; and I understand that one of the last steps he took before sailing to the scene of his viceregal labours was to obtain from the office of the Association the valuable papers of Miss Nightingale on health in India, and others bearing on the same subject. The circulation of that paper, which has just been reprinted by the council, may have much effect on the sanitary condition of the native population, as well as of Europeans resident in the East; and it is gratifying to learn that exertions have already been made to improve the health of the presidential towns of Calcutta and Bombay. More encouraging still is it to know that many of the natives are turning their attention to these questions, and that a society of native medical practitioners, having for its object, among others, the hygienic improvement of their country, has recently been formed in Bengal. England may thus be destined to spread a knowledge of sanitary science over the globe, to set an example to other peoples of obedience to the physical laws laid down by the Almighty, and, in the words of Milton's magnificent prose, "to lead the nations in the way of life." But whether England herself have the wisdom to walk in this way, and whether others follow or not therein, be assured that in the observance of these immutable principles the permanent prosperity of states is bound up. As the Scripture says, "God is not mocked," and His laws are not broken with impunity:—

"The sword of Heaven is not in haste to strike,
Nor yet doth linger."

THE MOUNTAIN HOMES OF NORTH WALES.

"As the home, so the people."

During a trip from the noisy world for a few days,

"O'er hills, through valleys, and by rivers' brink,"
(*Cowper.*)

I put on your sanitary spectacles,* and beg to send a few notes of that which came under observation, thinking that you will be interested and your readers amused.

The arrival in the little town of Llangollen, a place of resort by tourists, was most agreeable after the inconvenience experienced by the railway changes, and the offensive transit through the intolerable smoke and unromantic views of Birmingham, *alias* the "black country."

The ride of ten miles from Llangollen to Corwen, through Glyn Dyfrdwy, or the valley of the Dee (Telford's admirable road being formed at a great elevation at the side of the Berwyn range of mountains), is exceedingly picturesque, the country mountainous and varied, and only requires some continental appellation to render it fashionable.

Corwen is full of historic interest connected with the exploits of Owen Glyndwr, at whose birth the "heavens were all on fire, the earth did tremble," and "the goats ran from the mountains."† The goats have certainly disappeared, and pigs now extensively flourish in their place. Drains are laid in Corwen, leading to the Dee, and some forty improved cottages have been built by Mr. Lewis, postmaster; but still there is much to complain of,—one closet only to six cottages continues. The rent of the cottages varies, at 2*l.*, 4*l.*, and 5*l.* per annum; a shop, with kitchen, two bed-rooms, &c., 8*l.* per annum. The rent of land is from 1*l.* 10*s.* to 3*l.* per acre; in the meadows 4*l.* per acre.

The "Hand-Book of English Ecclesiology," in alluding to the churches of North Wales, correctly describes them as being of a very mean description, mainly to be attributed to the poverty and scanty population of the district,—with little or nothing of distinct architectural character,—features coarse and rude, apparently of late date,—little work earlier than Perpendicular,—extremely small,—no marked division of chancel or aisles,—and resembling barns or cottages rather than churches. This picture is mainly true; there are, however, some noticeable features which will gratify the architectural student.

Corwen Church is Early English, with chancel, transepts, nave, tower, and north porch. Internal length, 105 ft. 9½ in.; width, 18 ft. 9 in.; across transepts, 64 ft. 3 in.; tower, 11 ft. 5 in. square. Some Perpendicular windows have been inserted, and some modern windows of no character. The church requires to be properly restored (not pulled down as suggested); the painted Roman altar-piece, with its balusters, vases, curtains, &c., cleared away; and the deeply-splayed Early English triplet, now built up, re-opened and filled with suitable painted and stained glass; the flat eighteenth-century plastered ceiling removed, and the fine oak-timbered roof opened and restored. The pulpit stands at the north-east angle of the chancel by the transept, consequently the congregation face the cardinal points; the pews in the chancel (which latter is 40 ft. long) should be removed, and the chancel devoted to its proper uses. The font is of the date of the church, upon a modern base; the lid bears date 1704; it is flat, with a handle like a copper-lid.

The ancient cross in the church-yard is well known; also the legend connected with the large upright stone built in the east wall of the porch. Owen Glyndwr always entered the church by the north door of the tower.

At Llangwin, some few miles west of Corwen, the church has been altered and repaired. It is a Perpendicular church, 69 ft. 9 in. long,* by 17 ft. 10 in. wide, inside measurement, without any marked division of chancel or nave. The present font is a basin similar to a bracket, fixed in south wall, no water drain. The ancient font was octagonal, 2 ft. 7 in. in diameter, large enough for total immersion, with drain complete. It has been turned out of the church, and now stands on the side of a hill on Pont-y-Glyn, or bridge of the glen, properly Pont-y-Glyn Diffwys, used as a horse-trough! The basin of the font is perfect, and ought to be at once (prior to its being injured) removed to the church, and placed upon a suitable base.

In this church at Llangwin are many metal memorial plates, formerly attached to the walls. Five of these are now lying rusty and broken in a carved oak chest (lid off), bearing date 1675,—two of these are in memory of vicars (the only memento of them), the Rev. Robert Morris, 1790, and the Rev. Edward Richards, 1814. One memorial plate has a tin socket let in, with a tallow candle,—fixed to a scaffold-pole under the west gallery to light the church! One inscription has just been put on a metal shield, affixed upside down.

Some senseless person has cut in large letters on the seat of one or more benches "R. W. Esq.!" I remonstrated with an official, and said that it ought to be erased,—the reply was, "Oh! indeed! he was the greatest man of the parish."

The inscriptions on the monuments and memorials are nearly all in English.

A similar church, and perhaps by the same architect, but not much modernized, is that of Bettws Gwerfylgoch. It is Perpendicular, and internally 53 ft. 2 in. by 18 ft.; open roof, rude and homely, with quatrefoils in the interstices. In the position usually occupied by the decalogue (beneath the east window) is placed a very curious oak carving of our Saviour, with symbols of the Crucifixion, in five compartments, in a frame. The rector (Rev. W. Hughes) informs me that it has been in the church from time immemorial, until 1854, when it was restored to its present state by the Rev. Mr. Barnack, headmaster of Ruthin Grammar School.

There is a flap attached to the altar-rails, for depositing money at funerals.

* *Id. est.*—"London Shadows," "Town Swamps and Social Bridges," "Another Blow for Life," &c., directed me how to observe the state of the humble population.—W. P. G.

† Shakspeare, "King Henry IV."

* Originally not so long.

There are three Dissenting chapels,—mere rooms.

The village of Bettws Gwerfylgoch is situate in a valley by the river Dee; west of the churchyard are cottages in a passage 12 ft. wide, with cows, pigs, and dung on the other side. The smell from the pigs is most offensive. The poor people are in delicate health; one woman has a chronic affection of the chest, and her daughter is in a decline. There is only one closet for all the people in the village! Surely there cannot be any necessity in the country to pack human beings and pigs together. The small farmers and poor people seem to have adopted the pig as a neighbour and friend,—its habitation usually forms a wing to the cottage throughout Wales.

The cottages have about two rooms in each, the rent being 2*l.* 10s. per annum; no taxes. Formerly the rent was 1*l.* 10s. The land varies in value, the rent being 5s. to 1*l.* per acre per annum.

It would be unfair to pass any opinion upon the general health of the farmers and labouring classes in Wales, without a visit to all the villages; nevertheless, I heard of four children dying at one time from diphtheria (buried in two coffins), a poor woman losing her husband by typhus fever, and other cases.

In the different churches I visited, it surprised me to find how many persons died at an early age.

The farms are small, and scattered over the country; the churches and villages are placed mostly in the valleys. The cottages are clean, and the people poor and very industrious. The rafters and joists are not lathed and plastered, but whitewashed. The walls of small cottages are 2 ft. thick, formed of irregular masses of stone, and wedged together with but little mortar. The doors are sometimes 5 ft. 6 in. high; there are few windows, and those are about 2 ft. square, in two divisions, with lead-lights. The roofs are covered with coarse slate, sometimes with thatch; the floors are paved with blue stone.

There are neither sewers nor drains, and many old cottages have no "closets." The occupiers go into the fields, and the soil, with that of the cattle and pigs, flushed by the rain, descends the hills and passes into some of the wells and springs. At many of the inns are open closets and no cesspools or water. There can be no excuse for these offensive proceedings, as enough rain falls on the mountains and hills (if properly collected), to flush all the closets in Wales.

The lanes or passes to the hills and mountains are rugged and rough, their base being principally the natural rock, forming a good foothold.

The small farmers and labouring population are as uncultivated as the hills,—"as the homes, so the people." Some farms continue to have the black bread, made with pure barley; it is preferred by the labourers, being more "satisfying." Milk is given to the labouring class during the year, and in return the wives give one or two days' work in the time of harvest. In the cottages they have but little fresh meat—only once a week, and that on Sunday. They put their forks into the potatoes, and their knives into the salt. The prints on the walls are of a good religious cast, very primitive, and many years behind those to be seen in the rural districts in England. The men work from six o'clock a.m. to eight o'clock p.m., and have 10d. per day (meals included); in harvest time, 1s. to 1s. 3d. per day—to keep a wife and often six children. Female servants have only from 4*l.* to 5*l.* per annum. With all these disadvantages they are more clean and respectable than many of the working classes in large cities who receive wages of treble the amount.

Intemperance injures many a farmer's home: a visit to Wales of a few of Father Mathews's disciples would undoubtedly benefit the population.

The harvest moon in Wales is in September, the corn being not yet gathered. The moonlight on the hills and mountains was very beautiful. A perfect rainbow on the hills was also interesting. The grand views are greatly marred by the wholesale system of whitewashing the houses and cottages, which scatter white patches over the hills and valleys. The natural colour of the stone would be far better, and present a more harmonious effect.

Stone, ready at hand, is often used instead of wood. The field-gates are hung to a slab of stone, set upright, with hook-and-eye hinges, the hook being let through the stone with nut and screw, and a piece of wood between the stone and nut. The stones are covered with moss and lichens, and present a Druidical appearance.

The people believe in ghosts. There are two kinds of ghosts in Wales,—1. Shadows cast on hill and dale from moving clouds,—"come like shadows, so depart;" 2. Ghosts of the imagination,—of these many. The people pertinaciously adhere to their fancies in the face of all arguments, and maintain that some of the clergy believe in ghosts. This I can easily imagine, after the active part they took in "clairvoyance," until the philosophy of Professor Faraday *turned the tables upon them*, and pointed out their error.

The inhabitants require to be educated, and a *good example set them*,—not frightened. If the former had been looked to fifty years ago, the very numerous Dissenting chapels, or rooms, now to be found, would not have existed.

It has been remarked that "God made the country, and man made the town." The good and hospitable people of Wales should bear in mind that the tourist is not indebted to them for the romantic beauty of their country. The houses and cottages, however, the landlords are responsible for; and it is to be hoped that they will use their best endeavours to improve the dwellings of the rural population, and render them decent and comfortable, fit for habitation and inspection, and not as they are now, as rough and as rugged as the mountains.

W. P. Griffith.

BATH FREESTONE.*

The paper which I have the honour to lay before you has reference to two subjects, both of equal local interest,—the one in an economical and commercial point of view, and the other bearing upon the scientific conditions, both as regards the mode of working and geological position of those beds in the great or Bath oolite, which may be called the "quarry-stone," and which are so extensively worked in the Bath district. I purpose, therefore, to divide my paper into two sections, or arrange the materials into a short and yet, I hope, sufficiently detailed manner, under two heads: first, to determine the true horizon or geological position of the workable beds of this valuable freestone in the series termed the great oolite; secondly, to enter upon the mode of "working and getting" this extensively-used and valuable building stone.

Geological Position.—Nowhere, I believe, in Great Britain (indeed, in Europe) are the lower members of the Jurassic group of rocks so extensively developed as in the Bath district, where each group seems to have attained its fullest recognised development: nowhere can the whole Jurassic series be so readily studied; nowhere so easily understood; and this applies to the lias itself in its three divisions. The Fullers' earth (here extensively employed), and the member of the Lower Oolitic under consideration, viz., the Bath, or Great Oolite, is distinguished here for its economical value, and at Minchinhampton and other places for its fine and typical organic remains. Above this series, but intimately associated with it, the forest marble and cornbrash are highly and typically developed; succeeded by the Oxfordian and Kimmeridge groups; not omitting even the Portlandian, at Swindon, and the Purbecks of the Vale of Wardour. To each of these may be appended important notes bearing upon their high importance, economically considered, and which are extensively developed in the district; but I purpose drawing the attention of the members of this section to the Bath oolite only, determining the position of that zone from which the freestone is extracted, and on which the wealth and comfort of the population of this neighbourhood, engaged in quarrying operations, so much depend. I have also endeavoured to fix, by detailed and measured sections, the workable beds of the district; and to correlate them over a considerable area, useful, it is hoped, both to the man of business and the geologist. These sections, which I may here refer to, are all coloured the same in their respective zones; show the importance of carefully determining the place or position of the workable beds, prior to any outlay of capital; and however difficult, indeed impossible, it may be to diagnose the quality of the freestone beds in depth, there can be no doubt as to their position and probable condition; and, when it is known that uniformity of condition over any large area is of extreme uncertainty, and knowing as we do that the thinning out of the marketable beds of freestone in this district, like the great oolite *en masse* on the line of deposition and dip, is a fact now well understood, it becomes a matter of high importance to the capitalist to be assured and confirmed as to the chances of success in opening out or developing a new district. The natural grouping of the beds constituting the great oolite series in this district fall under three well-marked divisions, all well exhibited in the sections exposed at Murhill, Westwood, and Farleydown, Combe and Hampton Downs, Box and Corsham workings, &c., &c. Indeed, generally, where conditions have exposed them, and reading downwards from the surface, we meet with, over the Bath area, immediately below the forest marble (where present), the following groupings:—1. The Upper Ragstones; 2. The Fine Freestones or Building Bed; 3. The Lower Ragstones. These constitute a series from 60 to 120 ft. in thickness, depending upon local circumstances and conditions during deposition, and, perhaps, subsequent denudation.

The Upper Ragstones.—This series consists of (in the upper part) coarse, shelly, and irregularly bedded limestones, with usually a few underlying beds of white, fine-grained limestones, possessing a distinctly and well-defined oolitic structure and finely comminuted shells. These are again succeeded by tough argillaceous beds of limestone, usually pale brown in colour, and smooth in texture, the whole ranging in thickness from 25 ft. to about 50 ft. No beds of workable value occur in this upper series.

The Fine Freestone, or Building Beds, in the Bath Stone Series. Succeeding the upper ragstone are the Bath freestone, or fine-grained building beds, which vary in the number and thickness of the various beds comprising the series, and also economically distinguished from each other by their structural condition, the size and structure of the oolitic grains, the presence or absence of silicious particles or finely-divided shelly matters; each of which may materially affect the limestone during the process of working, or influence them after being placed in position, and subject to weathering under atmospheric changes. In some localities the beds assume an earthy structure, indistinct in texture, smooth, and close-grained, and hold more moisture.

The Lower Ragstone.—Below the fine building beds, or freestone series, are the lower ragstones, which appear to be persistent everywhere over the entire area, and resting upon the Fuller's earth. They consist of numerous and generally well-defined beds of a coarse shelly texture, and hard crystalline limestone, exhibiting much false bedding, especially near the base. Many species of mollusca occur in the bottom beds, such as *Ostrea acuminata*, *Terebratula*, *Ornithocephala*, *Rhynchonella*, *Trikitis*, *Concinna*, and *Tancredia*. These lower ragstones, as before mentioned, rest immediately upon the Fuller's earth; but this member of the oolitic series concerns us only by position, and is in this district west of Corsham and Bradford, a most persistent and important zone, between the inferior oolite beds below and the lower ragstones of the great oolite above, and, in some places, very fossiliferous, and varies in thickness from 150 ft. to 200 ft. Taking, therefore, as our guide in this district, the above three divisions of the great oolite, we are enabled to construct vertical sections to aid us in our determinations as to the position and condition of the few feet of stone profitable to work in the series, or the "freestone beds,"—at all times an anxious and important question when seeking for and developing new ground. In this paper I deal chiefly with facts, and therefore give detailed and measured sections of type localities, from which may be determined by comparison the probable conditions under which the beds may occur at intermediate and unexplored stations or localities on the tablelands behind such outstanding mural precipices as Farley, Murhill, Box, on the eastern side of the Bradford and Slaughterford valleys; or on the elevated downs at Claverton, Combe, Hampton, Freshford, &c., to the south of Bath, and west of the Bradford Valley, and on the receding flats to the east of Monklow, Farleigh, and Bradford, &c., conspicuous for the numerous quarries opened in the cornbrash and forest marble, the latter of which occurs in detached patches or continuous lines, stretching from Malmesbury on the north, to Chippenham, Bradford, and other localities, to the east of Bath, and especially conspicuous near Corsham, Chapel

* By Mr. J. Randall. Read at the Bath Meeting of the British Association for Science.

Korap, South Wraxall, and on to Melksham. The most complete section, and which may be regarded as a typical one of the great oolite and forest marble beds of the Bath district, is that of the Box-hill and Corsham Quarry workings; No. 1 showing those beds not usually seen or exposed, but which were cut through by the construction of the Box Tunnel, and which we are now extensively working in that neighbourhood. Another exposition of the series is shown at Murhill, on the eastern side of the Bradford Valley, where the three divisions into which the series group themselves may be studied *in situ*. Also at Upper Westwood, on the opposite or west side of the valley, other sections occur tending to show the same facts; and the variable condition and thinning out of the same beds upon the line of Diss, even at this short distance. Believing, therefore, that I shall convey more information by giving detailed sections, showing the divisions of the three series, with special references to the building freestones, I have endeavoured to lay before this assembly somewhat detailed measured sections of the more important localities where the beds of the three series are exposed, and at such distances as will show the attenuation of the fine building stones to the south-east, and will tend to show how much the irregularly bedded and coarse shelly limestones in the upper and lower ragstones vary in different localities, thereby leading us to thoroughly acquaint ourselves with those necessary details which it is most desirable should be understood before large operations are commenced or capital sunk.

The Sections.—The shafts which are constructed along the line of the Box Tunnel, on the Great Western Railway, afford at the several points where they are carried through the beds of the great oolite, accurate data for the construction of sections and clear evidence of the succession of the strata, comprising the three divisions, I have endeavoured to maintain, as occurring throughout this district, and being situate considerably to the eastward of the Bath Valley escarpments, a large area, or the productiveness of that area is estimated by the lie position and condition of the building freestones, supposed to occupy the summit of the table-land, stretching from the eastern escarpment of the Bradford, Box, and Slaughterford valleys to Yatton, Kenuell, Biddestone, and Corsham. The section No. 1 gives accurate measurement and sufficient details to enable a practical observer to determine the series of beds at almost any point over the area above indicated, or even between the westerly extension of the Oxford Clay Line, from Malmsbury to Corsham and Melksham, and the valley escarpments before mentioned. It is not necessary to notice the forest marble, or cornbrash, which is foreign to my paper, and which, although usually present, may or may not occur on any special area above the great oolite proper, local conditions, during depositions or subsequent denudations, having removed one or the other, or both; but everywhere, so far as I know, over the whole table-land do we find the coarse shelly limestones, and some finely-grained oolite beds belonging to the upper ragstones or highest members of the great oolite. In the typical section No. 1, taken at No. 7 shaft, Box Tunnel; also at the shafts 4, 5, 6, these beds occur, and were cut through when sinking, and were found to be from 20 ft. to 35 ft. in thickness, before proving the "capping" to the building or "fine beds" below. At Murhill, near Winsley, these upper ragstone-beds are about 20 ft. in thickness, and are hard, coarse, and fine shelly limestones, highly comminuted in structure, and occasionally oolitic. In some of the localities, many of the beds are of considerable thickness, and of regular and even texture; still they are too hard for those purposes for which the softer fine-grained, whiter, and more easily-worked architectural stones below (in the second series) are sought for, and to which they are applied; and, again, they are not good weather stones, but rapidly fall to decay on exposure to severe changes of weather. At Upper Westwood, on the south side of the Bradford Valley, opposite Winsley and Murhill, the beds comprising this upper series are thicker and of more even texture, but, as weather stones, are of little or no value. At Farley Down (Section 3), overhanging Bathford, this upper series is nearly 30 ft. in thickness, composed of coarse shelly limestones at the top, with hard and soft ragstones down to the capping of the fine "building beds" below. At Combe Down and Odd Down the beds closely resemble those of Farley and Box, and approximate in thickness. Thus we may examine detailed sections of this upper series at Murhill, Farley, Westwood, Combe, and Odd Down, and the Box district generally; but the beds at neither locality are deemed of sufficient value to work for transit as a building stone. This series is coloured grey in the sections Nos. 1, 3, 4, 5, 6.

The Second or Middle Series.—Succeeding the ragstones above mentioned, and commencing the second series, there appears to be everywhere a peculiar bed extending over a large area, termed the "cover," or capping, varying in thickness, but generally hard in texture: this forms the roof, or ceiling, to the fine economical building freestones below, and over which it lies, and is a marked feature in extensive underground workings, both for its horizontal extent, application, and importance as protection to the workmen, and as commencing the second series, or middle beds, which occur between the "upper and lower ragstones." At Bradford, Westwood, and Murhill, this bed is a coarse, shelly, hard limestone; at Corsham and Box a closer grained and tough rock. I associate it with the building freestone, or fine beds below it, rather than with the ragstone above, from its persistency and the constancy of its conditions. Succeeding this is the true Bath stone, or fine freestones, and which I believe occupy, with minor differences, the same position or horizon over the whole of the Bath district. This second, middle, or freestone series, are as a group from 20 ft. to 30 ft. in thickness, and are coloured chrome-yellow in all sections, and those beds worked for transit are usually evenly grained in texture, regularly bedded, yield well to the saw, are non-fossiliferous, and give evident proof of having been accumulated or deposited in a somewhat deep and tranquil sea, or away from any littoral or wave disturbance, and which the almost total absence of organic remains still further tends to confirm or demonstrate. It appears from observation, and the correlation of measured sections, and conditions observable underground, that these fine-grained regular beds thin away in a south-easterly direction, or upon the line of their general dip, a fact clearly determinable on examining the sections exposed in the valleys. Indeed, it cannot be doubted but that the great or Bath oolite as a group, in this neighbourhood, exists under extremely irregular conditions, and dies out and disappears in the form of a lenticular or wedge-shaped mass, to the east and south-east. This circumstance, causing the building freestones to thus vary in their relative thickness as we proceed from the western part of the area to the east and south-east, and the removing of much of the exposed belt comprising the oolitic series between Bath and Bradford, on the line of their strike, north-east and south-west, caused, it would appear, by the extreme denudation of the Bath and Bradford valleys, and the westerly extension of the cretaceous series from Melksham to Westbury, Frome, and Warminster, are due, perhaps, to physical conditions connected with the eastward extension of the Mendip axis, and the little understood, deeply-seated, but undoubted position of the palæozoic series, between Frome on the south, and Bath and Wickwar on the north, or along the eastern edge of the Bristol coalfield; but under any circumstances the extension or invasion of the cretaceous series to the east, the narrowing of the exposed oolitic series above mentioned, and the mechanical arrangement of the rock structures themselves, evince and determine local deposition to have gone on under continued oscillation of the land at the time of the deposition of the great oolite series. It is to this second grouping, therefore, or the middle series, which exist between the upper and lower ragstones, that we must assign the workable beds of freestone now extensively quarried in the Bath district.

The Lower Ragstones.—These are an extensive series of rather fine and hard, as well as coarse and shelly, limestones. The lowest beds of this series, are usually finer in texture than the upper, and when exposed, are generally from 30 to 40 ft. in thickness. Nowhere in this neighbourhood are finer sections to be seen than at Murhill, on the north side of the Bradford Valley, and Upper Westwood, on the south side. The beds comprising this division usually occur, or are exposed in the escarpments of the denuded valleys, or the projecting downs above. Masses of the thicker and fine-grain beds, frequently occur on the inclined slopes of the valleys, owing to, or arising from, frequent slips or slides over the fullers' earth upon which these lower ragstones immediately rest. It is, therefore, in the narrowing of the valleys and abrupt cliffs that this series of the great oolite are best exposed. The chief economical value of these beds is confined to local purposes, being utterly unfit for architectural work, or exposure to atmospheric influences. The stone used in the construction of the aqueduct conveying the canal over the river Avon, at Avon Cliff, came from the beds of this series at the Westwood Quarry, and although *in situ* the stone appears of a fine texture and quality, yet it rapidly decomposes on exposure, and the stonework of the Avon Cliff aqueduct is a perishing evidence of its non-durability. At the Box and Corsham quarries these lower beds, though not observable at the surface, are, nevertheless, 43 ft. in thickness, and are chiefly composed of fine textured oolitic limestones; but are not worked, as they are of no value in a commercial point of view.

On the Mode of Working the Bath Freestones.—Having endeavoured to determine the horizon of the workable beds of oolite, and the relations they *hold* to the ragstones, or shelly series, recognised *above* and *below* these freestones, with the permission of this section of the British Association, I will endeavour to describe shortly the mode of opening, working, and extracting the rock,—a matter you will see to be of no little importance when I inform you that more than 100,000 tons of the Bath freestone are annually removed from their original position in this neighbourhood, and forwarded to various parts of the United Kingdom. In working for stone, the first question to determine is, whether the stone shall be reached by open or underground workings; and this must depend upon the presence and conditions of the upper ragstones (*and forest marbles*, where they exist), as they must of necessity be passed through, unless the stone can be reached by tunnelling on the face of an escarpment where the beds are vertically exposed, or by driving a level to cut the beds; but, if the desired beds are not too much covered, open workings are resorted to. Few persons travelling from London to the West of England, *viâ* the Great Western Railway, through the Box tunnel, have any conception, on passing through it, that around and over them are large and extensively-worked mines, from which the well-known Corsham and Box freestones are taken; or, as they shoot from the tunnel-mouth into the Bath-hampton, Bath-easton, and Bradford valleys, that it is the seat of so much quarry industry, having for its object the working of the Bath freestone. In describing the particular mode of getting the stone, I will, with your permission, take for my type the Corsham Down and Box Hill workings. I do so, because these mines have had more thought and attention bestowed on them than any others in this neighbourhood, and because they are the most extensively developed. It is believed that the Box and Corsham locality has been worked for stone, with more or less activity, for three centuries, but it was not demonstrated that so large an amount of good workable freestone existed in the district until the fact was evidenced by the cutting of the Box tunnel, which at once exposed the beds, and showed that to the north and north-west of the tunnel on the strike of the beds, there existed what we may practically call an inexhaustible supply of valuable freestone. The cutting of the Box tunnel having opened to view this fact, gave an impulse to the previously limited mining operations of the district. The plans and maps I have the pleasure of placing before you will illustrate the position of the workings. You will see the chief operations are situate on the north side of the tunnel: the reason of this is that the rock is found sounder in this direction, and the stone more even in colour, and more regular in quality and texture, than to the south or dip of the stone. The entrance to these workings is driven from the Corsham or eastern end, immediately contiguous to the mouth of the Box tunnel; and it is here that the railways of the underground workings join the Great Western railway on the same level. The chief or main road through the workings is carried from this point due west, in a direct line towards the Box-hill escarpment, a distance of 1 mile and 6-8ths, rising with the strata, for the purpose of keeping on the floor of the workable beds; thus making an incline to the west of about 1 in 40; and as the rise to the north is about 1 in 60, advantage has been taken of this, and the works so laid out, that much of the stone can be run on trollies without draught power, that is to say, by gravitation, to the loading platform, where it is transferred from the quarry trollies into the railway

trucks, which are taken into the mine to receive it: to economise and facilitate the operation of loading, this platform stands on a level a few inches higher than the sides of the railway truck, into which the stone has to be loaded, and by the upper level narrow gauge tramways this platform is placed in direct connexion with the whole of the headings or workings; and by its lower level broad gauge railway it is connected with the Great Western Railway. By this loading arrangement, we are enabled to load off into railway trucks from thirty to forty tons in the hour. One uniform system of getting or working the stone prevails throughout the quarries, and this system is an inversion of the mode of working coal. The coal miner undercuts his coal, that the mass may fall and break; but building-stone so worked would make a valueless rubbish-heap. The freestone miner or quarryman has to commence his operations at the roof of the stone. This picking operation is effected by means of adze-shaped picks, on the heads of which longer handles are inserted, as the work proceeds, and the men thus make their driving a distance of six or seven feet back into the rock. The width or span of these stalls must of course depend on the soundness of the rock. In the Corsham workings they can, without danger, be driven a width of from 25 ft. to 35 ft. In the Box quarries, where the rock is not so sound, and the capping bed, before referred to, not so regular, the drivings are limited to from 12 ft. to 20 ft. This is, of course, regulated by the space that may be safely opened without danger to the working beneath. It must be evident to you, that the removal of eight or nine inches of the rock immediately under the ceiling deprives the overlaying strata of the support of this area of stone as effectually as its removal throughout, from roof to floor, would do, and any tendency to settle or drop is at once determined, and any risk of life thus guarded against. Another process, by a fresh agency, is now called into exercise, for the cutting of the rock into blocks of required dimensions; for this, a one-handled saw is used. These saws are worked in lengths of four, five, six, and seven feet, and are made broad, rather, I should say, deep, at the head or extreme point, so as to ensure the saw sinking to its work at that point. The saw is worked in first horizontally dropping a little as the cut goes on, and after the rock is thus opened down to the next natural parting, and the block thus separated laterally from the parent rock, levers are introduced into the bed or parting at the bottom of the block, and these levers are weighted and shaken till the block is forcibly detached at the back. It is then drawn down by crane power, and the broken end and the bed dressed with the axe, so as to make the block shapely; it is then placed on a trolly, and allowed to run to the loading platform. After the first block is removed, it will be evident to you that the workmen have then access by that opening to the back of the bank of stone, and they avail themselves of this to work the saw transversely, which, separating the block from its back or hinder attachment, renders all further breaking off unnecessary, so the first block of each face is the only stone broken from the rock. To each face or heading of work, a 10-ton crane is erected in such position as to command the whole face. These cranes are now constructed telescopically, so as to accommodate them to slight variations in the headings, arising from differences in the depths of the valuable beds, and the expense otherwise attendant on frequent alterations of the crane is thus avoided, and the periodical shifts from old worked out to new localities are effected with less trouble and loss of time. Sometimes after a block of freestone has been loosened *in situ*, a Lewis bolt is let into the face of the block, the chain of the crane attached to it, and the block is then drawn out horizontally. By the removal of the first stratum a sufficient space is obtained to allow the workmen an entrance under the roof; and vertical cuts are again carried down through the next bed to the parting below, and transverse cuts readily made. Meanwhile, the cutting is continued in the picking bed, the upper layer removed as before, and everything below this point quarried away, with all the sides of the block sawn, except the bed on which it has rested, and those abutting on the natural joints: hence each block comes out ready to pass into the hands of the builder, sculptor, or dealer, and this with much less cost, and less loss in waste, than formerly attended blasting, and other powerful but rough modes of extraction. The continued repetition of these several operations produces a terrace or step-like profile in the workings, extending from the highest to the lowest of the beds worked on, and thus they present themselves to the view.

Professor Ansted said the Bath stone, when it was carried for building purposes to a distance, was exposed to rapid destruction by the action of the atmosphere. He attributed this to the manner in which the stone was quarried. It had been observed that this did not occur with the stone that was used in the immediate neighbourhood of Bath. This, no doubt, was attributable to the fact that the stone was not taken away from its own atmosphere. He would suggest, therefore, to the quarry-owners, that all the stone to be sent to a distance should be exposed to its own atmosphere for some considerable time, until it had become seasoned, as it were. He believed that if this were done, the stone would be as durable everywhere as it was in the immediate neighbourhood of Bath.

ICELANDIC CHURCH-BUILDING IN THE TWELFTH CENTURY.

A CORRESPONDENT writes, — The accompanying accounts of Icelandic church-building in the twelfth century are translated (almost literally) from the original, and are extracts from two Sagas, to which I have given the references in notes.

The great trees which Bishop Kloeng had hewn in Norway for the church which he caused to be built at Skalaholt were brought out in two ships. That church was elaborately made far beyond any other house that was made in Iceland, both in wood and workmanship. . . . He (the bishop) began church-building when he had been one winter at his seat. . . . These were the head artificers at the church of Skalaholt. Auni, who was called the architect, and Bjorn, the skilful, Thorvald's son: Illugi, Leif's son, carved and finished. . . . And when the church at Skalaholt was finished, so that the Bishop thought it was ready for consecration, he made a great and splendid feast to his friends, and invited thither Bjorn, the bishop, and Nicholas, the abbot, and many chiefs; and there was the greatest crowd of guests. Both Kloeng and Bjorn consecrated the church at Skalaholt, -one without and one within, and both dedicated it to Peter the Apostle. . . . That was on the day of Vitus the Martyr.* And after service Bishop Kloeng invited all those men who had been at the consecration to have breakfast there; . . . not fewer than 700 men had breakfast there, . . . but the feast was very splendid, as all men thought that were thither invited; and all the men of distinction were dismissed with great gifts. Bishop Kloeng caused the church which he had had built at Skalaholt to be adorned, when it was all completed, as much as was in his power. He had gold ornaments made, and gems set, and gave them to the church: he also caused the service-books to be written much better than they were before. This was all his study at that time, to teach young priests both the Scripture and the singing of the Psalter, and all such discourse as was needful. More self-denying was he in many things than other bishops had been, in watchings, and fastings, and clothing: he went often barefooted at night, in snows and frosts.†

Paul, the bishop, saw at once, when he came to his seat at Skalaholt, that it was due to him to maintain, and confirm, and finish that concerning which the Holy Bishop Thorlak had shown his zeal. He caused sufficient to be bought to inclose the bells, which he had bought for the see at Skalaholt, that were the best in all Iceland; and he had also brought out four trees with the bells, 20 ells high. Then Bishop Paul sent for that man who was most skilful in all Iceland at carpentry, hight Ammudi Arnason, and had a steeple made, so much elaborated in material and workmanship that it did not less surpass all other works of carpentry in Iceland than the church itself had done before. He had a chapel made, up in the steeple, and steps to go up; and he consecrated that chapel to the holy Bishop Thorlak, the tenth day of Yule, and made that chapel fair in all things, and brought there everything that was needed. He made Atli, the priest, the scribe, paint all the roof inside the steeple, and also the woodwork, and cover all the lower part with three tabernacles, well and fairly; and he caused to be written their several records over the graves of all those who rested beneath the steeple. He did not give less money to the steeple maker . . . than four hundred. He bought those bells for the steeple, that were the most perfect of their size, from that Norse man who was named Kol. He bought yet more bells for the steeple, and also two of the same circumference above in the church, and he adorned in every way that he could think of both church and steeple, with all kinds of splendour, with paintings and crosses, images and lamps, and glass windows, and all sorts of bishops' vestments. He caused also a splendid sarcophagus to be skilfully hewn, in which he was laid after his death; and he let graves be made honourably in the steeple for those men that he thought most worthy.*

* 15th June.

† Bishop Kloeng died A.D. 1176. He was bishop twenty-four years, and was ordained 6th of April, 1152, on the first Sunday after Easter.—*Biskupa-sögur*, 17, 18 (*Bishops' Sagas*).

* Páls' Saga, 6. This bishop died 29th of November, A.D. 1211.—(*Biskupa Sögur.*)

THE BRISTOL SOCIETY OF ARCHITECTS, AND BUILDERS.

At the last meeting of the council of this society, the following resolution was moved by the secretary, who read numerous letters he had received from members who could not attend, acquiescing in it: -

"That this society, having understood that it is the practice of many builders in Bristol, Bath, and adjoining towns, to prepare plans and give estimates to their employers thereupon, to the prejudice of properly qualified practitioners, and the respectable class of builders, thinks it necessary, in order to stop such mischievous practices, to discountenance such builders, and will consider it derogatory to the professional character of any of its members who, after the name of any such builder shall have been had before the council, employs or allows to be employed such builder upon their works."

The resolution was unanimously agreed to.

THE FLOWER-POTS DANGER.

THE practice of flower and plant growing on the window-sills and balconies of houses is increasing in favour, both amongst the middle and poorer classes, and is carried on at various heights from the underground parts to the third, fourth, and fifth stories. The practice is to be commended, but some care is needed in the matter. During high winds, and even at other times, many a hair-breadth escape has been endured by passengers, and numerous serious accidents have taken place. Of late, as the natural consequence of increase in the pots, accidents have been more numerous; and it is likely, unless care be taken, that during the October gales we may hear of more mishaps.

At present, in nine cases out of ten, the pots containing the plants are placed without any fastening on the window-sills, which slope towards the street. In thoroughfares where there is busy traffic, the passage of fast-running heavy waggons and other carriages, or the running of railways, by shaking the walls, often causes the flower-pots to shuffle off. But when a wind arises, especially if there be plants of any size in the pots, they are at times blown down by wholesale: at others, they are pushed down by children, with risk to the heads of the wayfarers. A simple piece of wooden framework, about the height of the flower-pots, or some slight iron bar work, or even two or three lines of strong cord, would be the means of preventing most of these accidents.

For those able to afford them, iron baskets of various designs (some of them very bad, by the way), prepared for windows, are now obtainable. A number were exhibited at one of the recent shows in the Horticultural Society's Gardens.

DISCOVERY OF A STATUE AT TURIN. — The Paris correspondent of the *Globe* writes:—"An important artistic discovery has occurred at Turin. A highly-finished antique statue, in gilt bronze, of somewhat colossal proportions, has turned up from a depth of five yards below the soil in the court-yard of the Palazzo Biscione, belonging to Prince Pio. This residence was known to have covered the old theatre, built by Pompey, which contained 30,000 seats, a magnificent porch, &c. &c. The figure is 18 ft. in height, but the greater portion has yet to be excavated. It is a first-class specimen of the best artistic period."



Fig. 7.—St. Mary's, Guildford.

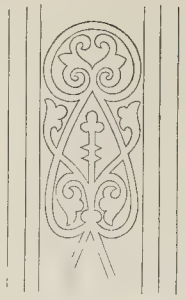
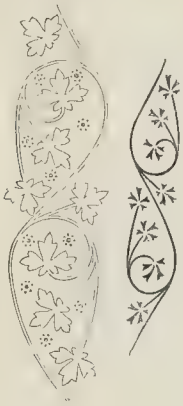


Fig. 8.—St. Mary's, Guildford.



Fig. 9.—St. Mary's, Guildford.



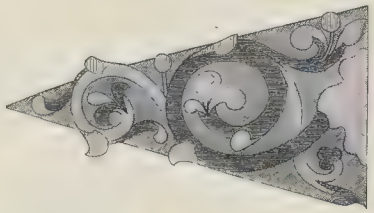


Fig. 10.—Salisbury. Groining in Passage leading to Chapter House.



Figs. 11, 12.—Decorated Details: St. Alban's.



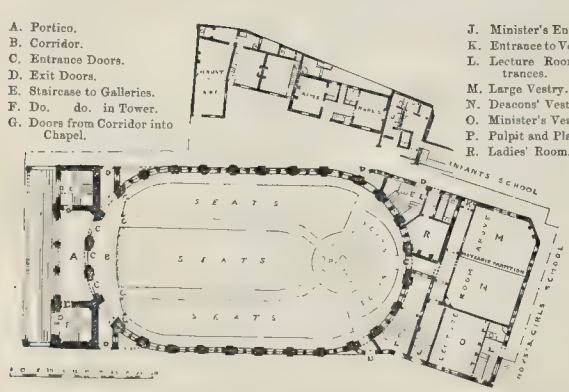
Fig. 13.—St. Alban's. Passage to Lady Chapel.

THE COLOURED DECORATION OF CHURCHES.

[See p. 724.

A. Portico.
B. Corridor.
C. Entrance Doors.
D. Exit Doors.
E. Staircase to Galleries.
F. Do. do. in Tower.
G. Doors from Corridor into Chapel.

J. Minister's Entrance.
K. Entrance to Vestries.
L. Lecture Room Entrances.
M. Large Vestry.
N. Deacons' Vestry.
O. Minister's Vestry.
P. Pulpit and Platform.
R. Ladies' Room.



NEW WESTMINSTER CHAPEL.—*Ground Plan.*

WESTMINSTER CHAPEL.

Westminster Chapel, of which the corner-stone was laid on the 28th of June last by Sir Francis Crossley, is designed as an adaptation of the Lombardic style of architecture to the requirements of a building in which convenient accommodation for a large number of persons, and the best acoustical arrangements, were the main considerations. The external features of the design will be seen in our engraving.

The campanile, at the corner of James-street and Castle-lane, is 164 ft. high. The chapel is 120 ft. long and 67 ft. wide in the clear, the sides being parallel for a length of 53 ft., and the two ends being semicircular. The organ-recess over the portico would make the extreme internal length 130 ft. The height internally from floor to ceiling is 50 ft.

The ceiling is flat in the centre and coved at the sides; the whole being divided into panels by moulded ribs, springing at the base of the cove from semi-detached stone columns, which divide the wall in bays of equal width round the whole chapel. The coved part of ceiling is groined between each bay to admit of the windows continuing above the caps of the columns.

The galleries, of which there are two, are to have fronts of open iron-work supported on a cast base of such a height as to secure the advantages of an inclined gallery front. The



NEW WESTMINSTER CHAPEL, JAMES STREET, WESTMINSTER, NEAR BUCKINGHAM GATE.

MR. W. F. POULTON, ARCHITECT.

lower gallery front continues quite round the building, being very deep at the portico end, and quite shallow at the opposite extremity of the chapel. The upper gallery is only three seats wide, and does not continue round either end of the building. The organ will be placed in a gallery formed partly over the portico and partly projecting into the lower gallery, its level being intermediate between that of the lower and upper galleries.

The engraved plan will show the detailed arrangement of the chapel as well as the lecture-room and vestry accommodation. The existing schools are not interfered with in any way, and a passage 5 ft. wide is left between them and the new erections.

Special attention has been given to afford ample means of exit. In addition to the three doorways of portico, which are intended chiefly for entrance to the ground-floor, there are two additional exit porches on each side of the ground-floor. The galleries are approached by four staircases, and each staircase has an exit quite distinct from the ground-floor exits. There are thus eleven distinct exits from the chapel, exclusive of that appropriated for the use of the minister.

The accommodation is for about 3,000 persons, of which number about 2,500 would be in pew and free seats, and the rest in standing spaces. The lecture-room will accommodate nearly 600 persons

Lighting is intended to be effected by thirty-six star-lights suspended from the intersections of the ceiling panels, and such additional lights as may be necessary under the gallery soffits, &c.

Heating has been arranged for on Mr. Haden's warm-air system.

The materials of construction are stock bricks, with red bricks in bands, cornices, &c., and Bath stone dressings.

The contract is being carried out by Messrs. Myers & Sons, at the sum of 12,758*l.*, and is expected to be completed in the early part of 1865. The architect is Mr. W. F. Poulton, of Reading.

The chapel is for the Congregational body.

THE COLOURED DECORATION OF CHURCHES.*

Some good examples of the colouring of roofs yet remain to us. The colouring of the flat ceiling of the nave of Peterborough Cathedral is so well known that we need not describe it. At the east end of the north aisle of St. Mary's, Guildford, we have a good example of the decoration of an apse. The vaulting ribs are painted with a scroll, foliage pattern, and some plain lines of colour, red, blue, green, and white; the spandrel spaces between the ribs have a rudely drawn figure, in a circular medallion, occupying the widest part; and the point of the spandrel is filled in with a very elegantly designed scroll-foliage pattern in buff on a red ground: Fig. 7. The soffit of the chancel arch has also a pattern of foliated geometrical pattern: Figs. 8 and 9. There are a sketch of the whole apse, and enlarged drawings of the details in the second volume of Mr. Colling's "Gothic Ornament," plates 37, 39, 40.

A very similar piece of ornamentation remains in the groining of one of the chapels in Winchester Cathedral. The groining is oblong in plan, carried on two diagonal ribs, which meet in the centre, dividing the whole roof into four spandrels. The ribs are enriched with colour. In each spandrel there are three circular medallions, in which are half-length figures of angels, painted in strong outlines, with the ground of the medallion behind the heads painted blue. The rest of the spandrel is powdered over with stars, which are connected by a flowery foliage pattern. The design is very effective, producing a rich effect without any great expenditure of means. We would venture to suggest that it is the kind of design which is adapted to our present tastes, and within the compass of the artistic skill which the architect can command at a moderate cost.

In the passage which leads to the chapter-house at Salisbury, there is a still simpler design for the ornamentation of groining. The vaulting is in square compartments, divided by diagonal ribs. A kind of star pattern is formed about the central boss in each compartment by four broad short rays, which run half way into the spandrels, and each ray is met by a similar ray, which proceeds from the side. These rays are composed of a rather elaborate scroll of foliage, green, red, and blue, on a claret ground: Fig 10.

Passing on to examples of rather later date and style, we find an example of the entire decoration of a little Early English church, in a very simple style, in a desecrated church at Coggeshall, Essex. The plan of the church is a simple parallelogram, without any constructive division between nave and chancel. The elevations of the building are,—*East end*, three long lancets, grouped under a containing arch, with a light over them in the point of the gable; *west end*, a similar triplet, without any light over it; *north side*, four lancets; *south side*, three lancets and door; the two easternmost lancets shortened to leave room beneath for a group of three sedilia, a double piscina, and a trefoil-headed credence. There is a semicircular string-course running under the windows; the angles of the window-splays have a bold roll; the wall plate has two rolls, with a hollow between. The colouring is as follows:—Below the string-course the original buff-coloured plaster is left untouched. Above the string the plaster is painted in masonry pattern of double red lines, one line dark red, the other lighter; the oblongs are about 12 in. long by 5½ in. wide, the lines $\frac{1}{16}$ in. thick, and ¼ in. apart. This pattern runs round the roll at the angle of the window-splay, and 2 in. or 3 in. in the face of the splay, where it is stopped by a vertical double line (one light, the other dark), and the rest of the splay has the masonry pattern in dark single lines only. In the easternmost window, however, on the north side, and in the east and west windows, the double lines continue on the splay. The spandrels of the west window have only the double masonry pattern continued on them; but in the east window the spandrels are ornamented with a flowing foliage pattern in red lines, with a narrow border hatched with red lines. The string-course is an emerald green, which has been protected by some glaze, so that it has not met the usual fate of the green in mural paintings, but has retained its vividness. The wall plate has its two rolls similarly painted with emerald green, the hollow between being white. On the wall, at the back of the middle sedile, there are traces of a cruciform nimbus, which is enough to prove that there was there a figure of Our Lord; the plaster is completely defaced at the back of the other sedilia, leaving us no evidence whether they also were painted with figures. Part of the original roof remains over the east end, and the remainder of the roof seems to be made up out of the original timbers, but no trace of painting can be detected upon them. Fragments of a pavement remain, which is, however, of later date than the wall painting, enough to show that it was of a geometrical pattern of buff green and dark red,—the colours used in the walls,—and thus we are able to restore exactly to the mind's eye the whole scheme of colour employed in the decoration. In this period, as in the earlier, we sometimes meet with elaborations of the masonry pattern; there is a good example at Great Wenham Church, Suffolk, where there is a small vesica-shaped leaf in each corner, and a small cinquefoil in the middle of each stone. The pattern is bordered by a good scroll foliage of Early English character. At West Walton, Norfolk, there is a rather curious design in the clerestory. The ground is covered with simple masonry pattern, and in every bay of the clerestory is painted a representation of a tapestry hanging, made as if it were stretched in an iron frame, and hung by four loops upon the wall. The patterns of these hangings are all different: one is divided into a network of long hexagons, red in one horizontal row, and buff in the next, charged with white fish; in another are horizontal bands of red and buff,—the red bands bearing couples of buff doves, within a buff circular line, the buff bands bearing red *fleurs-de-lys* within blue lines; in another, on a red field, rows of buff circles inclosing buff griffins and *fleurs-de-lys* in alternate rows, with small buff cinquefoils between the circles; in another, the field is divided into horizontal rows of lozenges; in one horizontal row the lozenge is buff with a sexfoil in the centre; in the alternate row there are buff *fleurs-de-lys* on a red ground; in another the field is divided into lozenges, with a star of six points in each lozenge; in one diagonal row there are red stars on a red ground; in the alternate diagonal row are red stars on a buff ground. Some of the Early English tile arrangements in Winchester Cathedral are precisely similar to these two last patterns; the doves are also a common tile pattern. In the wall spaces between the nave windows of the same church there is red masonry pattern on the buff ground with a cusped circle on each stone, red in outline, with a few effective touches of blue. These paintings are represented in Mr. J. K. Colling's "Gothic Ornament," vol. i., plates 58, 62, 63. At Sharncote, Wilts, which was restored a little time ago, the walls were painted with masonry pattern, in double lines, with a multifoil on each stone; and round the chancel arch was a scroll foliage pattern, included within marginal fillets, each fillet divided lengthwise by a wavy line, and the outside half coloured red.

Some interesting portions of Early English decorative painting were found in Braintree Church, Essex. The first is a canopy over the vestry door, on the north side; a broad string-course, of various colours, runs along the wall, and rises into an arch over and concentrical with the doorway. The colours in this band are, beginning at the top narrow stripe, of buff, and then broader stripes of chrome yellow, bright red, bright blue, a strong line of black, and then a broad stripe of yellow. Over this coloured arch is a crocketed and finialled gable in red outlines. The space between the arch and the gable is filled in with a buff foliated scroll outlined in red on a ground of blue. The wall itself is covered with red masonry pattern, in which the stones are of unusual length, and the vertical pointing lines are double, while the horizontal lines are only single. To the right of this canopy there is a painted pillar, blue, which seems to have formed a part of another ornamental design; perhaps of such a canopy as that which was formed on another part of the wall. This was a painted trefoil arch under a crocketed and finialled gable; the arch of three colours,—yellow, red, and white; the gable only outlined in red; and the spaces between the arch and gable filled in with plain blue. Another fragment was a part of the decoration of the original Early English east window. The angle shafts were left in their native colour; the capitals touched with blue in the hollow and red in the projecting members; the arch was painted in chevrons, red and blue, with white dividing the colours; the hollow chamfer in which the jamb-shaft and its arch were set being coloured plain dark red.

Pictures of this date are rare. On the south wall of the chancel of Castle Hedingham Church, which is Late Norman, there may be dimly seen through the whitewash the traces of figure of a bishop in full pontificals, which is probably coeval with the architecture. In the chapel of the Holy Sepulchre, in Winchester Cathedral, there are some very fine Early English paintings in very fair preservation, which have been engraved in the Winchester volume of the British Archæological Association. In one arched compartment of the walls there are three medallions at the top, of which the larger and upper one contains a small "Nativity," and the others each a half-length figure, with some scroll work. Below these is the principal subject, which is the "Triumphal Entry into Jerusalem." Beneath are two subjects side by side, under a round arch: one is the "Descent into Hell;" the other is the "*Noli me Tangere*." In another similar arched compartment, the upper part is occupied by a really very fine half-length of our Lord; beneath is a "Descent from the Cross;" and beneath that, again, an "Entombment." The whole series is worth careful study, as probably among the best examples of the Mediæval art of the period in England.

In the restoration of Hadleigh Church, Essex, in 1857, were found paintings of four different periods. The earliest were late thirteenth century. A scroll foliage string-course ran under the windows at a height of 8 ft., that on the north being different from that on the south side. Beneath this line there were no traces of painting; above it there were many traces of colour all over the walls. The painting seems to have consisted of historical paintings; not arranged in any regular order, but, as was frequently the case, of unequal size and shape, and placed without much attention to symmetry, like a miscellaneous collection of paintings hung on the walls of a gallery; some of them even cut into the foliage string-course. Few of the subjects were decipherable. On the north wall, nearly opposite the entrance, was a "Virgin and Child," of unusual, but very excellent conception. The Virgin, crowned, is standing behind a throne on which our Lord as a boy is seated, in the act of blessing. The whole subject is framed in a crocketed canopy of the Early Decorated character. In the splays of the

* See p. 684, *ante*.

Norman window, just eastward of this painting, were two angels vested in copes, one of them blowing a trumpet, from which a banner hung. On the west side of the "Virgin and Child" was a female figure, with the hands raised in prayer, beneath the outer robe. On the south side of the west wall was a colossal figure, probably that of St. Michael; on the west splay of a lancet window in the east end of the north nave wall, was a figure of St. Thomas à Becket, in full pontificals, the left hand holding a cross staff, the right raised in blessing, and over his head, in Lombardic character, BEATUS TOMAS. On each side of the chancel arch of Preston Church, Sussex, were some paintings of the thirteenth century, in two rows. On the north side of the arch, in the upper row, an "Incredulity of St. Thomas," a "*Noli me Tangere*," and a "St. Katherine;" before these, a "Martyrdom of St. Thomas," which is perhaps the earliest representation known of that popular subject. On the other side of the arch, in the upper row, a "St. Margaret," under a canopy, trefoil-arched gabled and crocketed, a bishop, and a third female figure; below them a "St. Michael weighing Souls," all executed in red outlines, with red and yellow tints rather largely introduced.

Another very complete set of mural paintings, probably of late thirteenth century date, was found on the walls of the nave of Wiston Church, Suffolk. On the north wall there were two horizontal rows of paintings, one under the level of the window-sills, the other between the windows and running on to the jambs, with a little space intervening between the rows. Scroll foliage bands bordered both top and bottom of both rows; and the bottom border of the upper row of paintings was continued on to the splay, and the lower corner of the splay thus cut off is powdered with blue cinquefoils. There was also a painting on the semi-circular tympanum of the Norman north door. Some of the lower line of paintings seem to be incidents in the life of John the Baptist. The first is undecipherable. The second seems to be "Herod, with his Lords, high Captains, and chief Estates of Galilee." The third is a figure sitting before a group of persons, of whom the foremost wears an iron scull-cap. The "Execution of John" is the last but one; and in the last a fragment of John's decapitated head, with the head of an elderly female, indicates the subject to be the presentation of the head to Herodias. Of the upper row only one subject is decipherable; a Franciscan friar holding a cross staff is on the right, a figure sitting on a chair reading is in the middle of the subject, and on the left is a conventional tree, with birds perched on the branches. The picture in the tympanum is very spirited and well executed, but the subject of it is unknown. On the south wall is a more perfect and more interesting series, differently arranged. Between the windows is a series of trefoiled arches, with a picture under each arch. Another row of pictures in rectangular panels bordered by scroll foliage runs under the level of the window sills. The subjects in the arcade seem to be as follows, beginning at the east end; — 1, Annunciation; (window); 2, Nativity; 3, 4, Annunciation to the Shepherds, Angel and Star, Shepherds and Flock; 5, Adoration of the Magi; 6, undecipherable; (window); 7, undecipherable; 8, the B. V. Mary; 9, the Magi warned in a dream (over the south door); 10, female figure with child. Two or three other subjects undecipherable; the paintings of the lower row are too much mutilated to admit of appropriation. There are lines of red in the mouldings of the chancel arch, and a scroll of foliage round it. On the south respond of the chancel arch is a painting of a saint holding a cross, in the same line as the arcade above described; but the wall above the picture is diapered with a trellis pattern, with quatrefoils in the lozenge-shaped spaces of the trellis. On the west wall of the church are two rows of paintings, which seem to have formed one subject, viz. the Last Judgment: the Divine Judge in the middle of the upper row with groups on each side; and in the lower row angels receiving the blessed, and fiends hurrying away the lost. The figures are executed in bold red outlines on the original ground of pale buff plaster, with occasionally a robe or piece of drapery entirely tinted with flat colour, blue and red only being used; the style of art is unusually spirited and excellent, and is equal to that of the finest paintings of the period.

We may here enumerate a few other examples, out of the very many of this period which have been found in a more or less perfect state, as suggestions of the kind of subjects introduced, and especially of the mode of arranging them upon the walls. At Winchfield, Hants, was found a "Last Judgment" of the beginning of the fourteenth century, on the west wall over the doorway; and on the south wall a "Dives and Lazarus," within a scroll border.*

At Broughton Church, Bucks, the wall was covered with paintings, of about the time of Richard II. Between the windows opposite the door, was a "Last Judgment;" in the next compartment eastward, a strange version of "Our Lady of Sorrow," the Virgin holding the dismembered and lacerated body of our Lord, while the surrounding persons hold the detached limbs and heart. Over the south doorway was a St. George and Dragon; on the wall to the east of this two figures, one of a bishop in full pontificals, the other of a female with dishevelled hair, holding a cross.† At Stanton Harcourt, the paintings, of late fourteenth century date, were in two continuous horizontal lines, and the wall beneath was decorated with "an elegant design of diamond panelling. The intersecting lines which gave the diamond shape were enriched with two red cords, intertwined, and at the points of intersection with an expanded flower. Within the diamond panels was a white foliated pattern, and on that an elegant device, which had much the appearance of a pineapple." Of the upper row of paintings nothing remained but the feet of certain persons; of the lower row some subjects remained tolerably perfect. On the south wall beginning at the west end, was first the "Washing the Disciples' Feet," then a "Last Supper," with inscriptions on scrolls above (relating, perhaps, to the subjects of the upper row) and below. On the north wall, beginning at the west, was a "Descent from the Cross;" next, between two windows, a "Descent into Hell."‡

There were some traces of fourteenth century painting on the west wall of Beckley Church, Oxon. At the end of the south aisle a "Virgin and Child," under a cinquefoil canopy, with a diapered background, more fully and elaborately painted than usual; over this some other subject mutilated beyond recognition; and over all an inscription of two lines, in Lombardic capitals. Over the tower arch was a "Last Judgment," and figures on each side of the arch, viz., St. Peter with the patriarchal staff and cross-keys, on the north, and St. Paul, in scarlet robe lined with fur, holding a book and sword, on the south.§

At Great Waltham, Essex, over the chancel arch was a picture of our Lord in glory; and on the spandrels of the arch "St. Michael weighing Souls," and "Death on the pale Horse," painted in flat tints with bold black outlines. Fragments of other figures, evangelistic symbols, and inscriptions, were visible in other parts of the church; and where these paintings were not, the wall spaces were painted of a deep chocolate colour, powdered with flowers and stars.‖

We may notice here that although the fine pale buff plaster of the wall is the usual ground for the mural paintings, yet there are many examples of a dark ground being used. We have already seen that a room at Fountains Abbey had traces of a dark red ground, of probably Norman date. At Great Waltham, just mentioned, the ground was chocolate. At Wells, Somerset, the upper wall of the south aisle was painted red, and powdered with yellow stars.¶ In the early fifteenth century painting in St. John's Church, Winchester, the ground is dark red, surrounding figure paintings in black outline on the buff plaster; and some of the merely decorative painting consists of white powderings on the dark-red ground.** The walls of Feering Church, Essex, were warm slate colour, powdered over with roses and fleurs-de-lys, with shields of arms introduced in the spandrels of the arcade of the north aisle.

Some of the Norman piers on the north side of the nave of St. Alban's have had their massive sides ornamented with Scripture pictures, which seem to be of fourteenth century date. On one, the fourth from the west end, facing the nave, is a rather fine "St. Christopher," painted in brown reds, the background powdered with quatrefoils. On the next pier, eastward, is a "Crucifixion," with SS. Mary and John, the cross ragulée. On the next, another "Crucifixion," with SS. Mary and John, very similar to the last. On the next, the angles of the pier have been cut away to leave a plain face, and then the broad semicircular shaft which projects from the square section of the pier, and this angular face, have been covered with paintings. On the semicircular shaft are two paintings, one above the other. The upper one is a "Crucifixion," with SS. Mary and John beneath, on a red ground. The lower picture is placed under a round trefoil-headed canopy, with angels in the spandrels, and seems to be the "Coronation of the Virgin." The upper picture on the angular face consists of two figures, the subject unreadable, painted on a masonry-pattern ground. The lower picture here, also, is placed under a trefoil-headed canopy, with a scroll pattern in the spandrels: Fig. 11. It seems to consist of a single figure on a background powdered with a pattern of dots. The ornamental details of this pillar supply us with several elegant scrolls and other details worth noting. Here (Fig. 12) are the scroll which runs immediately under the capital, and another scroll which ornaments the narrow vertical slip of the pier on each side of the semicircular shaft. The middle arch on the east side of the north transept has also some ornamental painting on the pier. The face of the pier under the arch is divided into lozenges, charged with lions passant and fleurs-de-lys alternately, the colours being buff on red ground. The return of the face has a vertical row of single lozenges, with alternately a lion rampant and a foliated ornament. The next face, parallel with the soffit, is divided into white and yellow masonry, like the Norman painting; the next return has a row of lozenges, charged alternately with crosses and fleurs-de-lys. On the upper part of the broad pier, on the right of this arch, is a very good painting of the "Incredulity of St. Thomas," 8 ft. 10 in. by 5 ft. 10 in., probably of late fifteenth century date, which is engraved in the *Archæological Journal*, vol. ii., p. 386.

The groining of one of the towers of Carlisle gives a very simple but effective example of colouring. Only the narrow soffit of the groining ribs is coloured red, with a gold shell ornament at the intersections of the coloured lines. The decorated groining in the passage through the former lady-chapel at St. Alban's has some ornamentation along the central straight groining rib, which affords us the two very beautiful examples of foliated scroll work of this period represented in the accompanying woodcut: Fig. 13.*

* Engraved in the "Journal of the British Archæological Association," vol. vi., p. 76.
† Traced and described by Mr. Ferrey, "Archæological Journal," vol. vi., p. 176.
‡ Engraved from Mr. Dyke's drawings in "Archæological Journal," vol. ii., pp. 365, 367.
§ Engraved in "Archæological Journal," vol. iv., p. 268.
‖ Engraved by Mr. Fairholt in "Journal of the British Archæological Association," vol. iii., p. 91.
¶ "Archæological Journal," vol. ii., p. 39.
** Engraved in the "Journal of the British Archæological Association."

THE METROPOLITAN INDUSTRIAL EXHIBITIONS.

The North London Exhibition, which is to be opened on the 17th of October, has every appearance of being a success. A large amount has now been subscribed to the Guarantee Fund, and amongst the guarantors is Miss Burdett Coutts. Lord Russell is to open the exhibition. The number of local industrial exhibitions in the metropolis is on the increase. One is to be held in the east of London, at no distant date: in the district of Marylebone, one is to be opened about Christmas; and it is intended that a second exhibition of the products of the working classes shall be held in Lambeth in April next.

The South London Exhibition will be opened on the 1st of February next. The Prince of Wales is to be invited to become patron of the exhibition, the Earl of Shaftesbury president, and Earl Granville, the Duke of Buckingham, Earl Stanhope, Lord Brougham, and other noblemen and gentlemen, vice-presidents. A guarantee fund of 1,000*l.* is to be raised by voluntary subscriptions, of which sum, it appears, 600*l.* have been already guaranteed by the committee. Persons eligible as exhibitors must live within the southern postal districts (south, south-east, and south-west), and belong to the working classes. Articles exhibited by females will be eligible for all prizes. No money prize will be more than 10*l.* or less than 1*l.*, and no article will be eligible which has already received distinction from any exhibition. Notices of articles to be exhibited, and applications for space, must be sent in on or before January 1, 1865. The exhibition will continue open daily for at least

* To be continued.

one month (Sundays excepted), between the hours of six and ten every evening, except Saturdays, when the hours will be from three to ten. The prices of admission will be 2d. each person; children under twelve, half-price; weekly tickets, admitting once each day, 6d.; and season tickets admitting to the opening, 2s. 6d. Exhibitors will be free at all times.

INTENDED RESTORATION AND ENLARGEMENT OF JARROW CHURCH.

The announcement that the ancient church of St. Paul at Jarrow is at length about to be restored and enlarged, under the care of Mr. Gilbert Scott, must be interesting to churchmen throughout England; for this little edifice is, historically as well as architecturally, one of the most remarkable of the ecclesiastical monuments of this land; and is, at all events, one of the very oldest churches in the kingdom. Its history extends back nearly twelve hundred years; and the chancel and tower, if not actual relics of Bede's great monastery, are of very early Romanesque work, and present many characteristic peculiarities.

The original building, of which Bede witnessed the completion, and which was founded, as appears from the curious dedication-stone still in existence, in A.D. 681, was one of the few churches that had been built of stone in the ancient kingdom of Northumberland, which then extended from the Humber to the Frith of Forth; and the noble abbot who was its architect adorned it with such works of art as had not before been brought to England. History tells us that this church and monastery stood forth, long before the days of Alfred, as one of the most illustrious foundations in Christendom. As from Iona, so from Jarrow, the light of religion and learning shone afar; and the fame of Bede, no less than the benefits diffused from Jarrow as a centre of Christian life and education, gave a wide renown to this remote monastery of the Tyne. Within two centuries from Bede's time, however, the buildings had been ruined by the Danes; and very soon after the establishment of the see of Durham, the possessions of Jarrow were transferred to the new and princely foundation upon the Wear. From thenceforth down to the Reformation, Jarrow was maintained as a cell or dependent monastery; but Durham kept alive the fame of the immortal historian-monk, and in the restored monastic church of Jarrow maintained perpetually the worship of God. In those days, however, the parish had few inhabitants, whereas now the little church is surrounded by crowded habitations, and is totally insufficient for the vastly increased population. The district attached to this old parish church is, indeed, supposed to number 10,000 inhabitants, while the building holds few more than 300.

In modern times the nave was rebuilt, but in wretched and incongruous style, and original features of early architecture in the chancel were defaced or concealed by tasteless alterations. Thus, the small Romanesque windows high in the wall were blocked up, and large Gothic windows inserted, and the high roof of the chancel (of which the original mark remains against the tower) was replaced by a roof absolutely flat. The four piers on which the tower is supported are found by Mr. Scott to have long since partially given way, so that huge rents in the walls and arches followed; and notwithstanding the unsightly buttresses which were built to remedy the evil, the north-east pier of the tower is found to be so shattered that it may yield to any storm. On removing the plaster from the walls they proved to be in a sad state in many places, and it is surprising that the fabric has not long since given way. This grey old tower is a most curious monument of early (probably ante-Norman) days; and seen from afar, rising weird and weather-beaten amid the smoke of manufactories and the forest of masts that overspread the bay where King Egfrid's fleet once rode, it seems standing there a landmark of time, and places the decaying church and the ruined buildings of the monastery around it in melancholy contrast to the associations of Jarrow in the past.

Mr. Scott recommends the enlargement of the nave, by the addition of a north aisle, and perhaps some extension to the west—the addition to be in some simple and bold but unpretending variety of Gothic architecture. He recommends also new roofs to both chancel and nave. Since his report was made, the incongruous vestry on the north (in which visitors were shown the so-called chair of Venerable Bede) has been taken down, and it is proposed to rebuild it in such a form as to make a small transept on the north side of the tower. A curious low window, which the vestry concealed, has been discovered, and a beautiful old priests' door has been opened, and is to be restored. Arches, now walled up, appear to have opened from the chamber above the vaulting of the tower eastward into the chancel and westward into the nave, forming that chamber into a kind of rood-loft. It is recommended that these arches be restored and opened, and that the organ be placed in this chamber.

The restoration committee consists of the incumbent (the Rev. W. P. Philp), the curates, and churchwardens, aided by several gentlemen of the neighbourhood; and Sir Walter James, bart., has taken a most zealous interest in all the proceedings of the committee, and helped forward the good work efficiently. The sum required for the restoration is about 3,000*l.*, of which about half (or sufficient to restore the chancel and the tower) has been subscribed, Sir Walter and Lady James contributing 500*l.*, the Dean and Chapter of Durham, 200*l.*, and the Archbishop of Canterbury, the Bishop of Durham, the Ecclesiastical Commissioners, the Diocesan Church Building Society, and neighbouring landowners, employers of labour, and inhabitants, being also contributors; but from the peculiar circumstances of the parish, and the fact that the great and increasing population are chiefly labourers, aid is of necessity sought from churchmen in all parts of the country; and it is to be hoped that the restoration of a church which has a national rather than a merely local character, will be found to enlist the sympathies of churchmen generally. It is most desirable that the committee should be enabled to invite tenders for taking down the present wretched nave and building one more suitable to the character of the church and the wants of the parishioners. The committee have met several times, and are proceeding vigorously. A contract for the restoration of the tower and the chancel has been entered into, and on the 13th of September Mr. Scott spent the day in directing the labours of the workmen upon the spot, and made some interesting discoveries.

RETFORD TOWN HALL COMPETITION.

Eighteen sets of designs were sent in for this competition, although 104 applications were made for a plan of the site.

Amongst the competitors were Messrs. Swallow (Leeds), Godwin & Crisp (Bristol), Clarke (Nottingham), Fuller (Manchester), Innocent (Sheffield), Robinson (London), Sorby (London), Wilson (London), Bellamy & Hardy (Lincoln), &c. The designs were all under motto; but previously to their being inspected by the council, all the mottoes were covered over.

After several meetings, and the whole of the designs had been open for public inspection, the council ultimately selected design No. 7, which proved to be by Messrs. Bellamy & Hardy, of Lincoln; and those gentlemen have received instructions to carry out the work so soon as the corporation have completed the necessary arrangements with regard to funds, site, &c.

The successful design is Palladian in character, treated with considerable boldness.

CARVERS AND GILDERS' ASYLUM.

The report of the committee states that they have been obliged to reduce the sum of 1*l.* per month allowed to each inmate to 10s. per month. The Institution needs additional support not only from friends, but from the class (journeymen carvers and gilders) for whose benefit it was solely established. It does not appear to be so well known as it ought to be among the workmen: the subscription at twenty-one years of age is only 2d. per week, whilst with those joining at forty years it is but 5d. per week, to secure a house and good garden for life, free of rent, on attaining the age of fifty-five years without any election, and an allowance of 1*l.* or 10s. per month, according to the state of the funds; the inmates being allowed to work at their trade to the extent of 1*l.* per week. The houses are freehold, and free of incumbrance. The wood-carvers number over 500, and the gilders 600 or 700, and yet not fifty belong to this the only Provident Society in the trade. An effort is wisely being made to remove its meetings from a public-house to a Workmen's Club or private house.

ARCHITECTURE IN THE CITY.

Cordially agreeing with the excellent remarks and much needed criticism in your article on London Architecture and the City, I may, perhaps, be allowed to point to one inconsistency that has escaped notice. Buildings deserving observation are not to be read running, much less can elaborate detail be contemplated "with lingering eye and fascinated gaze." With all its present and future adornment, Lombard-street,—little more than a mere lane—at least in its proportions,—of the height of the houses compared with the width between them, which sort of *narrowness* renders it impossible to see the whole of a front in its vertical direction. Another highly unfavourable circumstance is, that though in that street and its neighbours architecture cannot be said to "waste its sweetness on the desert air," much to be feared it is that its beauties and graces are all thrown away upon the hurrying, bustling throng. In fact, whoever wishes to inspect the recent architectural doings in the City leisurely and at all comfortably, ought either to rise with the sun some fine summer's morning, or else go on that day of the week when the busiest streets are all but deserted.

It never rains, says the proverb, but it pours; so, mistaking the reverse of wrong for right, we rush from one extreme into the other opposite to it, and have exchanged what used to be plainness, even to sordidness, for too pretentious exuberance of embellishment. As indicating full coffers and commercial prosperity, ornateness of its exterior well becomes a banking-house. Still the *est modus in rebus* ought not to be disregarded. Seldom, it is to be feared, is aught like sufficient consideration given to the various influences, all more or less adverse, of uncontrollable circumstances. Hence, what may show very satisfactorily when exhibited *in abstracto* as an isolated elevation upon paper, where no note is or can be taken of circumstances *in concreto*, may, when executed, disappoint. At any rate, London, and more especially the City's atmosphere, must in a short time degrade, by sullying it, the fairest stone, and must render all minute and delicate carved work illegible; wherefore it would in every respect be decidedly better to adopt in our street architecture a more sober and less ambitiously ornate style of design,—one stamped by simple yet boldly pronounced features, that would tell effectively however weather-beaten, and might, perhaps, like hams, be even improved by being smoked,—that is, smoked just enough and no more than to tone down rawness, and to produce a mere *soupçon* of *ærugo*, of that which artist-architects call "colour," and the vulgar and the dealers in whitewash call dirt, although in due moderation it is to a building just what the involuntary blush of health is to beauty's ripened Hebe cheek.

Art-Lover.

HEALTH, AND THE VENTILATION OF SEWERS.

We have seen numerous letters urging public bodies to spend large sums of money in sewerage, and it is a measure most desirable and necessary to be adopted; but it may not be amiss to take a glance at the results which have followed the construction of extensive sewers in some of our towns, if not indeed to learn a lesson from their example.

Not very long ago, we read the uncomfortable announcement that Liverpool was the most unhealthy town in England, whereas enormous sums had been expended there for sewerage which was considered of first-rate character. Still more recently we have heard of a large system of sewers in the town of Dundee, which was communicated in a paper to the Institution of Civil Engineers during the last session; and yet we are now told that malarious fevers are rife in that well-drained town. Several other localities might be mentioned, but for brevity's sake I will not now refer to them, my object being to show that where money is expended common sense and practical ability should be exercised. There are not a few of our engineers who entertain and carry out the principle that sewers need no ventilation, except such as they obtain by the street gullies and rain-water pipes from houses; and I believe that to this one mistake a great deal, if not all, the mischief of ill-health in our sewered towns is attributable. But few of our towns have proper ventilation-shafts and gratings above the sewers, and it is

no *problem*, but an *absolute certainty*, that the foul gases generated in and evolved from sewers must find their way into houses through the rain-water pipes, and through the street gullies when not fully charged with water so as to trap down the effluvia. In hilly localities, where the sewers have a rapid fall, the more elevated portions become so charged with sewage gas that no street gully could contain a sufficiency of water to seal down the effluvia; and it is a well-known fact, that the water in gullies frequently dries up altogether in hot weather from the effect of the heat, and from the quantity of silth and dust which passes into them.

I have stood over several gullies in Liverpool, Newcastle, and other towns, and watched those especially in the higher elevations, until I satisfied myself that nothing could resist the accumulation of gas in the sewers below. I have also seen sewers opened in those localities with the most offensive results to the neighbourhood, while sewers which have direct and constant ventilation are free from foul smell and pent-up gas, and may be traversed without danger or nausea. I could point out particular localities in these high districts, where fever and malarious sore throats are constant visitants, and instances where the patients, when removed from the neighbourhood, have rapidly recovered, but have been subjected to the certain return of those complaints when brought again within the same influence. These are facts which are undeniable, and it would be well if we took advantage of them. For my own part, I believe that it would be a fortunate day for Liverpool, for Dundee, for Newcastle, and many other towns, if they were to introduce what they now have not, proper ventilation to their sewers. This would not interfere with what has now been done, which in all other respects has, I believe, been *well done*; while I feel persuaded that it would result in the greatly-improved health of those and many other towns. C. E.

*** We have urged the necessity of attention to this point again and again, and have given illustrations of efficient ventilators. Further, let us repeat, sewers alone will not prevent all unnecessary illness in towns.

MR. JACOB BELL'S BEQUEST TO THE NATION.

Sir,—Mr. Jacob Bell, who died some five or six years ago, bequeathed a few fine pictures to the National Gallery, among which were, "The Maid and the Magpie," by Sir Edwin Landseer, R.A.; "The Derby Day," by W. P. Frith, R.A.; "The Horse Fair," by Madlle. Rosa Bonheur. It was understood that the above were retained for the purpose of engraving. The engravings from them have long since been published, so that there appears no valid reason why they should not now appear in the National collection. The original "Horse Fair" was said to have been sold in the United States, and that the late Mr. Bell's picture was a reduction by the fair artist. But such a reduction has been exhibited at the Canterbury Hall and in the City. Recently I heard in Paris that Madlle. Bonheur was now painting this subject for the National Gallery. Perhaps I was misinformed.

Idler in London.

SEATS ON BRIDGES.

I wish to draw attention to a matter of, I think, some importance, namely, seats on bridges. It seemed the fashion formerly, when there was a bridge to be built, to set apart a little space for resting-places; in fact, the design seemed incomplete without some such arrangement, nor was it considered a disfigurement; but now such conveniences are seldom thought of, or, if thought of, the idea is set aside. We have many bridges across the Thames, old and new, with seats and without, but recommend me to those with resting-places for the weary wayfarer, far before the more recent ones which have no seats. I am not advocating those barge-on-end looking affairs seen on Vauxhall Bridge, or any such umbrella-like contrivance, although certainly very useful in a storm,—but merely want a seat. The new bridge at Westminster is, no doubt, a noble work, but it is incomplete; so is the Victoria Bridge, at Chelsea; also Hungerford Bridge, the longest and most toilsome across the river, with its steep wooden ascent at each end, taking folk's breath away. How refreshing would a resting-place be on this bridge to many an old person, whose business requires them to cross the river at this spot: there are half-a-dozen places where seats might very well be put without in any manner obstructing the passage-way. Certainly the bridge is not yet finished; therefore in this case I may be somewhat premature: it may be the intention to place seats upon it in the several recesses,—I hope it is. Will the new Blackfriars Bridge have seats upon it, as it should have? Many a time there was to be seen upon the old one a perspiring man wiping his hot head, whilst his load rested on the seat beside him: to such persons a seat is an indescribable boon. There are but very few places where a porter may rest his load in the streets of London without being in everybody's way; and when he is obliged to cross a bridge with his burthen, anything but the easiest part of his journey, truly a seat is as an oasis in the desert to him.

But, perhaps, the matter is not always looked at from this point. Suppose a person wishes to enjoy the panorama of the Thames from one of the bridges, it would be much more pleasant to sit down to it than to hang over the parapet on your elbows. When the embankment is finished, the view from a bridge will be a pretty sight, which multitudes will indulge in, doubtless; and, by-the-by, on mentioning the embankment, will there be any seats there, in nice out-of-the-way places, where the fatigued will not be run over?

J. G.

SLATING.

In reply to an inquiry (page 708) upon securing roofing slates to open battens, allow me to say the most secure method is nailing the slate as near the centre as possible. This method will not allow the wind to blow the slates off. Duchess slates should be gauged 14 in. from the bottom, and holed on the outside, which leaves no hollow for the chipping of the slate for water to get round the nail, 1 in. from each edge. The reason why the slate should not be holed at 13½ in. is, that it will not allow any space between the head of the slate and the nail of the next course of slate. Duchess slates 24 in. long: take out 3 in. lap; two battens 10½ in. apart, ½-in. nail-room, make the 24 inches. All slating should be done on this principle.

Joseph Hayes.

Another writer says:—One other reason I may give why the slates should be secured towards the middle is that, in the old-fashioned way, there was much greater difficulty in repairing the roof, since the nails were not so easy to get at.

The practice of nailing the slates close to the lap has for a long time been discontinued in London, but is, I rather think, still kept up in some parts of England. Alfred Braby.

CONTRACTORS' GUARANTEE COMPANY.

Sir,—I have often felt surprised, in this age of enterprise and company-forming mania, that attention has not been directed to the formation of a Builders and Contractors' Bond or Guarantee Company. In my opinion, a project of this character would be highly remunerative to the shareholders, and a boon to the building world. It would enable the honest and independent contractor to secure a guarantee by the payment of a small premium, and thus free himself from obligation to his merchant, to whom he may have to pay a higher rate; and would also have its influence over the reckless contracting that is made patent to us through the medium of your valuable journal. Wm. Glover.

WIDE TENDERING.

Sir,—In your issue of the 17th instant there is a rare example of wide estimating in your list of tenders, the explanation of which I was curious enough to seek. On inquiry, I ascertained the following facts:—The architect's estimate was a little below 1,200*l.* The lowest tenderer had confessed to a very considerable mistake, and the highest had cubed the work at 1s. 3d. per foot (6d. would have been nearer the mark). Might not this system of reckless cubing account for very many of the absurd differences so often to be observed in your list?

Farnhamensis.

New Docks for Newport. The scheme for new docks on land known as the Hundred Acres, at Pill, on the western side of the river Usk, as suggested by Mr. A. Bassett, C.E., of Cardiff, and submitted to Lord Tredegar, is likely, says the *Merlin*, to be carried out. The plans and estimates have been laid before Mr. Abernethy, hydraulic engineer, who has endorsed the opinions entertained by Mr. Bassett, both as regards the site and the estimated cost.

METROPOLITAN BOARD OF WORKS.

The Metropolitan Board of Works met, on the 23rd ult., for the first time after a recess, Mr. J. Thwaites, the chairman, presiding.

Landing Façades.

The Board proceeded to open tenders for the erection of pumping-engines at Abbey Mills, for main drainage purposes. There were nine tenders, and that of Messrs. Rothwell & Co., for 51,570*l.*, was accepted, subject to inquiries being satisfactory as to sureties.

Proposed Statue of Sir James Outram.

A report was brought up from the Thames Embankment Committee in reference to a letter received from the First Commissioner of her Majesty's Works, &c., relative to the erection of a statue of the late Sir James Outram on the land reclaimed by the Thames Embankment. The statue, which will be of bronze, and of colossal proportions, will be produced by public subscription. The committee were of opinion that the application should receive the most favourable consideration of the Board.

Mr. Carpmael moved that the report of the committee be received and adopted, which was unanimously agreed to.

Subways.

The Chairman said the history of subways was well known to all the members of the Board; but before they proceeded to construct the Thames Embankment it would be for them to consider whether, in the event of a subway not being formed, a proportionate amount of the estimated cost should be deducted from the tender. It would then be for the Board to consider whether they would construct a subway in the Embankment, and rely upon a hope that Parliament would take a different view of the question to what it had done in the last session, for there was no doubt that these subways would be of great public convenience. The committee of the House of Commons had last session struck out of the Bill all the clauses which compelled gas companies to lay their pipes in the subways, and to contribute something towards the cost of them.

It was resolved that the subject be considered on that day fortnight.

The Embankment Contractors.

The Chief Engineer read a correspondence which had passed between himself, the Thames Conservancy Commissioners, and Messrs. Furness & Ritson, the contractors for the Thames Embankment works, in reference to the description of materials used for filling in the space between the line of embankment and the present river wall, the Conservancy Commissioners complaining that, in violation of an agreement, dry rubbish had been used instead of materials dredged from the river. On the part of the contractors they stated that the Conservancy Commissioners sold the best quality of the dredging of the river to builders at advanced prices, and that they got nothing but the refuse, or mere mud, and even of that they could not obtain an adequate supply.

Mr. Newton asked the engineer whether the material from the land was not better than the best dredgings taken from the river.

The Engineer said the materials supplied from the land were equal to the best materials supplied from the river, and much better than some of it.

It was resolved that the contractors should be prohibited from taking materials from the land so long as suitable dredgings could be obtained from the river.

SANITARY MATTERS.

Great Berkhampstead.—A limited joint stock company has been formed for supplying this town and district with water, and for the erection of baths and washhouses in the town. The necessary capital has been subscribed and Messrs. Atkins & Son, civil engineers, have the construction of the works, which will be carried out under the superintendence of Mr. Atkins and Mr. Alex. F. Painter. Plans, surveys, designs, and contract have been handed in; and our correspondent informs us that the works are designed to lift the water from an artesian boring to a height sufficient to command nearly every house in the town, with ample power to lift the water to a second lift of 200 ft. at stated times in the week. The reservoir will

hold 90,000 gallons of water. The low pressure will be constantly on, and street hydrants placed for flushing streets and to act as fire-plugs. In conjunction with the water-works will be ten baths in a brick building, arranged with some regard to taste and polychromy. Shower, hot, and cold baths will be provided; also two original and unique vapour baths. One special feature will be the ventilating and heating of the baths to afford convenience to the bathers. Contiguous to the bath-house will be a washhouse. The buildings have been designed by Mr. James Castle, architect, Oxford.

Clifton.—The Bristol town council have unanimously passed a resolution to the effect that the council having considered the memorial from the parish of Clifton on the subject of the inadequate supply of water furnished by the Bristol Water-works Company, and the statements made in reference thereto, are of opinion that the Company's present sources of supply are insufficient; and they earnestly recommend the Company forthwith to adopt the necessary measures for obtaining a further supply from the springs of Clifton,—viz., Richmond Spring, Sion Spring, and Hanley Spring, all of which they purchased on the formation of their Company, but which they have unhappily closed, this council being of opinion that such springs would be found a most useful auxiliary to the present supply, especially in seasons of drought. A sub-committee was also appointed to form a deputation for the purpose of conferring with the Water-works Company, and to report the result.

Water Rights.—It has been held by the Court of Exchequer, in the case of the *Stockport Water-works Company* v. *Porter*, that where a riparian proprietor granted land, part of his former riparian estate, but separated from the stream by land of the granter not included in the grant, with a grant from the granter of a right to lay pipes from the stream to the granted land, and take water by means of them from the stream to such granted land, the grantee could not maintain an action in his own name against a riparian proprietor for fouling the waters of the stream, but he could enforce his right as against the granter.

Idle.—The Local Government Act has been adopted in this village and sanctioned by the Home Secretary.

Jarrow.—We understand that at present Jarrow is suffering severely from the prevalence of fever, of an aggravated character, caused chiefly by the overcrowded state of a large number of the houses there. At a meeting of the Local Board, held the other day, it was stated that in one house, 15 ft. by 15 ft., there were no fewer than twenty-one persons cooped up. It is to be hoped that some measures will be taken speedily to remedy this state of matters.

Overcrowding and Small-pox in Bishopwearmouth, Sunderland. — It appears that in some dwellings in Simpson-street there are rooms averaging about 13 ft. by 8 ft., and 8 ft. 4 in. in height, two of such being inhabited, night and day, by twelve persons, or six to each room. In such places it is not to be wondered at that small-pox has broken out. The authorities have taken measures for diminishing the overcrowding.

PORTSMOUTH.

This borough, which numbers nearly 100,000 inhabitants, has at length thrown off its state of exceptional lethargy, and declared for sanitary progress. The borough has hitherto been governed by three distinct and mutually jealous sets of *improvement* (?) commissioners; but the Local Government Act came into force a month ago, and on Monday last the town council, by a very large majority, resolved to adopt the drainage scheme prepared by the borough engineer, Mr. Lewis Angell, C.E., the estimated cost of which is 100,000*l.* This scheme has been submitted to Mr. Hawkshaw, F.R.S., and confirmed by him in all essential features.

The report of Mr. Angell states that "in few boroughs could be found a greater absence of those sanitary measures which an improved state of knowledge has taught us as necessary to life and health. With few exceptions, the streets are without sewers, and the houses without drainage." On account of the flatness of the borough, the nature of the soil, and the remoteness of the outfall, several serious difficulties will have to be surmounted; but the works, when executed, may be expected to prove of inestimable advantage to the borough.

CARTOON EXHIBITION, BRUSSELS.

Mr. J. Leighton writes,—Whilst, at Malines, they have an exhibition of Mediæval art, at Brussels will be found an international exhibition of cartoons, including photographs from colossal drawings in monochrome; the display being held in a temporary building of wood, situate at the rear of the Royal Palace, containing many works of a remarkable character, most of them having been used in the preparation of mural decorations—bearing the marks of the pounce-holes and the stilus—an interesting show of a practical character, and not unpopular, if the attendance may be taken as a test. They are of all shapes and sizes, from large spandrels to long friezes, the grandest big as a house, the smallest fit for a book illustration. At the end of the Grand Salon is placed Kaulbach's enormous work, "The Reformation," where Luther, standing, in the centre, holds aloft the Bible, which sheds its rays around upon the heroes of the period, our own Shakspeare forming a prominent figure in the foreground. Echter has two designs, I believe, executed for a railway station, "The Telegraph," and "The Locomotive;" Müller, of Dusseldorf, many religious subjects; Guffens, of Antwerp, several historical incidents connected with that city; Van Orsel, the drawings used by him in the decoration of the Church of Notre Dame de Lorette, at Paris, which is not the most distant capital that sends, for there are several from Vienna and Berlin, including some large and small landscapes, of great power, in black and white, on paper. Of the Antwerp Salon, it may be remarked that it is above an average exhibition, but few of the leading masters of the Belgian school being absent,—an exhibition that for arrangement and practical quality would put our Royal Academy to the blush. Though an ancient corporation—an academy twice as old as our own,—it exhibits many more works, and that fairly, none being placed too high for observation, or, where large, above two lines in height; all being in black wooden boxes, that greatly preserve the frames, and make the sides square, much aiding the general effect, the fine fillets of wood between the works filling up the space very agreeably. In architecture there are many beautiful drawings, though none are "pretty:" ground-plans and elevations are included.

INFANT MORTALITY IN SUNDERLAND.

In reviewing the Registrar-General's annual stock-taking, the *Sunderland Times* gives some special facts relative to the sanitary state of that district which deserve attention. The writer says,—"The average annual mortality at all ages for the ten years between 1851 and 1860, to every 1,000 living, was in England 22; London, 24; the Northern Counties, Durham, Northumberland, and Westmorland, 22; Liverpool, 33; Manchester, 31; Newcastle, 27; Sunderland, 25; South Shields, 24; Tynemouth, 23; and Darlington only 20 in the 1,000. The deaths under one year, averaging the whole of England and Wales, were 23½; in Sunderland, 26½; Newcastle, 26; South Shields, 24¾; Tynemouth, 22¾; Darlington, 21$\frac{6}{10}$ per cent. to the whole number of deaths. In other words, whilst of the 2,968 deaths in Newcastle, 772 were under 12 months; in Sunderland, out of 2,142 deaths in the year, 566 were within the first year. The proportion of deaths under 5 years was in England 40¾; Sunderland, 48½; South Shields, 48¼; Newcastle, 46; Tynemouth, 42½; Darlington, 40$\frac{4}{8}$ per cent. to the whole number of deaths. Thus, whilst our own town was little above the average of England in the per-centage of deaths at all ages, yet the deaths under 5 years amounted to nearly one-fifth more than the average of England at the same ages. Had the deaths of children in Sunderland been at the average rate of England, 170 lives would have been saved that were sacrificed from a cause or causes peculiar to the town. It is evident that it is not to defects in the sanitary condition of the town that this exceptional rate of youthful mortality can be attributed, and this will be still more evident, when, instead of taking the average of ten years before the drainage and other sanitary works were carried out in the borough, we take the deaths under and above five years for the same year—1862. In that year, the deaths at all ages, in Newcastle, were 2,968, which, allowing for the estimated increase of population, would be 26 in every 1,000 living, whilst in Sunderland the deaths were 2,142, a proportion of only 23 in the 1,000. Yet the infant mortality of Sunderland exceeds that of Newcastle. We may well ask whether the enormous excess of deaths in the first few years of life which prevails in every part of the kingdom, and to a special extent in some localities, is the result of natural and unavoidable causes, and incapable of any material mitigation. We cannot come to the conclusion that it is so, as although we have no special statistics to show the proportion of the deaths of children to adults in the upper and middle classes of society, we are not without sufficient grounds for stating that the proportion is very much below that which prevails amongst the poorer classes."

One reason for this excess of infant mortality in this district may be found in the fact, that out of forty-five districts, embracing London and the counties of England and Wales, twenty-five of these rank higher than the county of Durham in the number of males who could sign the marriage register; whilst as regards females, the county stands lowest but nine in the adult educational scale. The very low state of education of women, as shown by these returns, is a fact of very serious importance, and should stimulate to some special efforts to remove the stigma.

RAILWAY MATTERS.

The traffic receipts of railways in the United Kingdom amounted, for the week ending the 3rd of September, on 11,605 miles, to 710,445*l.*, and for the corresponding week of last year, on 11,142 miles, to 649,750*l.*, showing an increase of 463 miles, and of 60,695*l.* in the receipts.

The receipts for the week ending the 10th of September, on 11,628 miles, amounted to 701,728*l.*, and for the corresponding week of last year, on 11,146 miles, to 635,960*l.*, showing an increase of 482 miles, and of 65,768*l.* in the receipts.

The following comes from the contractor of the Atlantic and Great Western Railroad:—The first through train from New York to St. Louis, by the broad gauge, over the Atlantic and Great Western Railroad, reached its destination in forty-four hours, a distance of 1,200 miles, without change of carriages or break of gauge,—a feat unparalleled in the railway world.

The railway clearing-house, being essential to the railways, has naturally kept pace with their multiplication. In 1845, three years after its first establishment, the number of companies on its books was only 16: ten years later it had arisen to 73; and it is now 110, with a united mileage of 10,859 miles. The number of companies does not give an adequate notion of the growth of business, in consequence of the leasing and amalgamations which are always going on. The clearing-house knows only the companies which actually work the lines, and deals only with the interchanged traffic, without touching that which is confined to the line of any particular company. The number of stations sending traffic returns monthly is as follows:—Goods and cattle stations, 3,121; passenger stations, 1,817; parcel stations, 2,368. The number of pairs of stations between which bookings are carried on monthly is:—Goods and cattle, 62,470; passenger, 15,145; parcel, 16,626. The average number of railways over which each consignment of goods is conveyed is 3·08; each passenger, 3·46; each parcel, 3·07. The gross receipts for twelve months amount to an aggregate of 8,044,791*l.*, as compared with 401,651*l.* in 1845, and 4,829,649*l.* in 1855. The present total is thus composed:—Goods and cattle, 5,937,753*l.*; passengers, 1,805,915*l.*; parcels, 301,123*l.* Total amount of receipts of traffic of all kinds cleared since the establishment of the office, 81,000,000*l.*

ACCIDENTS BY RAILWAY.

There have been several discussions lately respecting "accidents by railway." "It strikes me," writes a correspondent, "that as regards prevention of violence the adoption of the American and Continental system of entering the carriages at the ends instead of the sides, and having a free communication with the guard, would be the means of prevention. Another matter is, having the carriages built over the wheels, so that no accident can occur at a railway station from falling among the wheels. A plan has been lately devised for the instant stoppage of a railway train in case of danger, and some plan ought to be devised for the rapid clearance of the train in such a

case: could not the sides of the carriages be so constructed as to fall down in the way the ends of the horse-boxes do over the wheels, so that persons could quickly slide down and be out of danger? As regards the danger of shocks by one train overtaking or meeting another, it would be a good plan to carry some light goods *fore* and *aft* of passenger trains, as it will be found, on reading the account of such accidents, that the shock expends itself by breaking so many of the carriages either in front or behind the train (as the case may be), while the passengers in the centre of the train escape with their lives. I need not enlarge on the wisdom of towns having central railway stations, a kindred subject (though not immediately allied to what I have just written): the loss by having the stations at the sides of towns is very great. You would be doing a service by publishing a list (and adding to it from time to time as occasion offered), of such towns as have adopted central railway stations."

FROM IRELAND.

Greenhills, near Drogheda.—A factory, with numerous sheds, intended for the manufacture of cotton, is being erected here: employment is given to a great number of hands in a locality where poverty and its accompanying squalor and filth heretofore reigned. This, as well as many extensive projects for the improvement of his native town, has been set on foot solely by Mr. Benjamin Whitworth, of Manchester. The intended cost is estimated at about 60,000*l.* for buildings and machinery. The People's Hall, in the same town, the gift also of Mr. Whitworth, is being proceeded with. That gentleman seems most laudably anxious to leave nothing undone which a princely fortune can accomplish to raise the condition of the inhabitants in the social scale.

Queenstown.—The Lord Bishop of Cork, Cloyne, and Ross, last week laid the foundation-stone of a church calculated to accommodate 500 hearers, near Queenstown, prettily situate in the harbour of Cork, a place of growing importance. About a year since designs were submitted in competition, and from a number who responded to the tempting bait of a 20*l.* prize, after the not unusual delay, the design of the architect of the now progressing building was chosen. For this church, Mr. Walter, builder, has accepted the contract at about 2,800*l.*, chiefly the gift of the Bishop. At least 800*l.* more will be required to pew the church and fence the grounds around it. The church has been named Christ Church, and will be a very handsome, but withal a simple structure, principally composed of local limestone, with a judicious introduction of Bath stone. It will not fail to be an attraction in this rising and fashionable district. The style chosen is Early English, with, we must add, the stereotyped transeptal form. A tower and spire give a degree of magnificence to the entrance-front or west end. A portion only of the building is to be erected at present, funds being insufficient to complete it as designed. The entire length of the church is 122 ft., the greatest breadth 63 ft. The chancel will measure 29 ft. by 22 ft.; nave, 80 ft. by 33 ft.; and each transept 20 ft. by 14 ft. The tower at the base will be 15 ft. 6 in. square, and will be provided with massive buttresses: its height, with the spire, to the finial, will be 130 ft., and when completed will be a graceful object conspicuous for miles around.

Clogheen.—The Roman Catholic church of St. Mary, Clogheen, is in the Gothic style of architecture, and consists of nave, aisles, chancel, and side chapels and sacristy. The extreme length in the clear inside is 110 ft.; breadth, 60 ft.; and height of roof, 58 ft. The aisles are divided from the nave by an arcade of five Gothic arches, resting on circular limestone columns. The chancel and side chapels are also divided by Gothic arches. The chancel is lighted by three lancet lights, filled with stained glass; the nave by a two-light window. The roof is open, wrought and stained. The church is built of limestone procured in the neighbourhood; the exterior of hammer-dressed masonry.

Kilrea.—The foundation-stone of new schools for boys and girls, adjoining the town of Kilrea, has been laid. The Mercers' Company are expending over 1,200*l.* in this work, which makes a total of about 4,000*l.* laid out by them in erecting teachers' residences and school-houses on their estate. All the schools,—fourteen in number—are in connexion with the National Board, but the landlords endow the teachers with donations and allowances, amounting to 300*l.* per annum. The architect who supplies the designs and superintends the work is Mr. William Barnes, of London.

Belfast.—The ship carpenters of the Protestant persuasion employed at the Queen's Island have struck work. The men alleged that the Roman Catholic workmen, to the number of forty or fifty, had been acting as spies upon them since the riots; and, by picking up snatches of conversation relating to the recent disturbances, had given information to the authorities, and, by such means, caused the arrest of several of their body for being concerned in the fight with the navvies, and in other scenes of that dreadful period. They demanded that Messrs. Harland & Wolff should discharge the Roman Catholics. They were told that their employers would not be dictated to as to whom they should or should not employ. After considerable discussion, they left the yard in a body, and did not resume work during the day. It was feared that the movement would extend to other yards, and to other employments, as well as lead to another outbreak. Precautions were adopted by the authorities, but no disorders took place.

PROVINCIAL NEWS.

Llanelly.—The foundation stone of the new market has been laid here, and the People's Park opened on the same day. Within the last six or eight years this town has become considerably improved in its general aspect. New streets have been formed, and improved shops and buildings have sprung up, and the town has been supplied with water. It has public baths and an Athenæum.

Lincoln.—It is reported that a desire exists on the part of several influential governors of the Lincoln County Hospital to pull down the present building, which is considered one of the worst arranged institutions of the kind in the kingdom. Of course the great drawback is the difficulty of raising the large sum which would be required, especially when it is considered that only two or three years ago between 2,000*l.* and 3,000*l.* were subscribed for the purpose of enlarging and improving the present building.

Blackpool.—At a meeting of the Blackpool Land, Building, and Hotel Company, held at the Clarence Hotel, Manchester, it has been resolved, after much discussion and some opposition, that the directors be empowered to proceed at once with the building of an hotel, the cost of which is not to exceed 15,000*l.*

Sunderland.—Mr. Hutt, the vice-president of the Board of Trade, on a recent visit to Sunderland, was requested to signalize his visit by laying the first stone of the large new dock which the authorities have undertaken to construct to the south of their former dock, and on the same plan of enclosing a portion of the sea. For this purpose large preparations had been made. Mr. Hutt having repaired to the spot, went through the formalities usual on such occasions, and pronounced the first stone duly laid, addressing a few emphatic words to the company assembled on the occasion.

CHURCH-BUILDING NEWS.

Southsea.—The first stone of a new district church has been laid at Southsea, by the Archdeacon of Winchester. For many months the want of a place of worship for this immediate locality has been supplied by a wooden structure, known as the "Crinoline Church," which appellation was popularly bestowed in consequence of its circular form. This temporary church afforded accommodation for about 600 people; but the growing population of the neighbourhood has called for more extended means of public worship, and it was determined to build a church capable of containing between 1,500 and 1,600 persons. Only a portion of the entire plan, however, is to be carried out in the first instance. A chancel and nave are to be erected, and these will give about the same number of sittings as the present building, while the north and south aisles are to be added as the liberality of subscribers warrants the outlay. The plans are furnished by Mr. Hellyer, and the contract has been taken by Mr. Lawrence.

Alvechurch.—The chapel-of-ease at Hopwood, in the parish of Alvechurch, has been opened for divine worship. The site is a piece of ground by the side of the Birmingham turnpike-road, and was given by the Ecclesiastical Commissioners; and the fund raised for the erection of the chapel was largely augmented by gifts from the Worcester Church-building Society, and from private individuals. The building is from a design furnished by Mr. Robinson, of Leamington, architect; the builder being Mr. Hardwick, of Birmingham. The chapel is simply a room 60 ft. long by 20 ft. wide, divided into nave and chancel. It is built of deal, painted marone, and lined with canvas, which is coloured and stencilled in pattern. The chancel is covered with paper specially designed by the architect. The roof is pitched and covered with slates; and there is ventilation by means of two dormer windows. At the north end is a vestry, and at the south-west the entrance-porch. The sittings are free, and there is accommodation for about 150.

Neath (South Wales).—The foundation-stone of a new church, dedicated to St. David, has been laid, on a site presented by Mr. Howel Gwyn, of Duffryn, by the V.W., Theodore Mansel Talbot, D.P.G.M. of the Ancient order of Freemasons. The church is to be in the Gothic style, and to consist of a nave, two aisles, two transepts, an apex, and a tower. It is to afford accommodation for 1,200 persons. The building has been designed by Mr. John Norton, of London. The estimated expense is 6,200*l.*

Liverpool.—Dr. M'Neile has laid the foundation-stone of a new church, to be called St. Silas's, which is being erected at the expense of the congregation of St. Paul's, Prince's Park, in High Park-street, Liverpool. The building is to hold 1,000 persons, and will be a structure in the Decorated style, with tower and spire at the south-west angle. The spire will be 125 ft. high, and the whole of the external part of the building will be faced with Yorkshire stone and Stourton dressings. The cost, exclusive of the land, will be 5,000*l.* The architect is Mr. C. E. Grayson, and the builders are Messrs. Nicholson & Eyre.——The church within the walls which surround the Liverpool workhouse, destroyed by fire in 1862, has been replaced by a new building, or rather has been restored, from plans furnished by Mr. Wylie, the parish surveyor and architect, and the contractor was Mr. E. Hughes. The lower walls of the old building were retained, but in the new edifice a stone spire has been substituted for the wooden slated one of the old building. The galleries have not been rebuilt, so that the iron columns have all been removed. There are no pews, the seats being all open, and provision has been made for heating the building by the circulation of hot water through four double tiers of iron pipes, the boiler being fixed in the school-room underneath. The ventilation has been improved by shortening the building, and so leaving a clear passage 15 ft. wide between it and the dormitory. The organ has been furnished by Messrs. Gray & Davidson, of London, at a cost of 300*l.*, exclusive of the case. The church, as restored, will seat about 1,000 persons. It has been opened for divine service.

Leeds.—The foundations of a church of considerable size have been laid in the park of Kirkstall Grange, the seat of the late Mr. W. Beckett, now the property of Sir Thomas Beckett. It is intended to be the church of a new district in the old parish of Leeds, and is to be built and endowed at the joint expense of Mr. E. Denison, of Doncaster, and Mr. E. B. Denison, Q.C., the latter of whom has made the designs for it, with the assistance of Mr. W. H. Crossland, of Leeds, architect. The foundations cover 140 ft. in length and 63 ft. wide, exclusive of the porch, and comprise a nave and aisles of six bays, with a five-sided apse and periapse, the aisles being carried round the chancel, and a tower 30 ft. square at the base, which is shown in the plans with a spire 180 ft. high. Mr. Denison has also purchased a Baptist chapel, of better architecture than common, which had to be removed for the new infirmary, and he and Sir T. Beckett are rebuilding it as a church in a low part of the town much in want of church accommodation, near the schools which were lately built by the Beckett family on their property in the same locality.

York.—St. Cuthbert's Church, after having been closed for a short time for necessary repairs, has been again opened for divine service. The reredos, which formerly blocked up the east window, has been taken down, and a window, with stained-glass border and a centre of cathedral glass, has been substituted. The roof of the building has also been strengthened, and made more ornamental. The wide centre aisle has been removed, and two aisles made, thus giving

three blocks of pews, increasing the number by fifteen. These pews are now made of stained wood. The lighting of the church has also undergone some change, and it is now effected by two star pendants. The stoves have been taken away, and a hot-water apparatus, by Messrs. Longbotham, of Leeds, will in future be used to warm the church. An oak railing has been substituted for the old black ones of the communion table. The work has been executed by Mr. Brown, of York.

Percy Main (*Northumberland*).—The Bishop of Durham has had again to discharge the duty of consecrating a new church, built by the Duke of Northumberland, in a district where it was very greatly needed,—that of Percy Main. The style is Early English. Like the other two churches which have been erected at the cost of the duke, —those at North Shields and Whitley,—the Church of St. John is plain and unpretending in appearance. Exteriorly, it shows the outlines of a nave, with a double bell-turret at the west, and a chancel at the east end, and north and south aisles. The extreme length of the building is 98 ft., of which 68 ft. belong to the nave, and 30 ft. to the chancel. The extreme breadth over both aisles is 49 ft., but the chancel is only 18 ft. 6 in. in breadth. Each aisle is separated from the nave by an arcade, consisting of four fine pointed Gothic arches, which have a span of 12 ft. 5 in., and spring from dressed stone pillars. The pillars are 7 ft. 5 in. from the floor to the capital, and the total height of the arch is 17 ft. Above these arches run the clerestory windows, eight in number, on each side. At the west end of the church there are two lancet windows, underneath which are four small Gothic windows. The height of the roof of the nave is, to the ridge, 40 ft., and to the top of the bell-turret, 54 ft. The bell-turret is surmounted by a gilt finial. In the latter are placed two bells, each of which weighs 2 cwt. The chancel is separated from the east end of the nave by an arch, 23 ft. 5 in. in height, and 14 ft. in width. The chancel is 32 ft. in length by 18 ft. 6 in. in breadth, and it is separated from the aisles by a double arch on each side. The altar is placed at the east end of the chancel, from which it is partitioned off by a light wooden rail, supported by iron standards. The east window consists of three lancet lights, divided by two slender pillars. The centre compartment is filled with a stained-glass window, representing the figure of St. John, with the ducal escutcheon underneath. This has been got up as a tribute to the Duke from the congregation, and it has been executed by Mr. H. M. Barnett, of Newcastle. The church possesses accommodation for about 600 sitters, the pews for whom are made of varnished deal. The heating apparatus consists of a large Gill stove. The architect was Mr. Salvin, of London, whose design, owing to the favourable circumstances of the case, has been carried out in its integrity. The builder was Mr. Smith, of London; and Mr. Chapman clerk of the works. Messrs. Twizell, of North Shields, have supplied the gas-fittings; and Mr. Stewart, of Sheffield, the heating apparatus.

DISSENTING CHURCH-BUILDING NEWS.

Leighton Buzzard (*Beds.*).—A new Baptist chapel has been opened here. The cost of the new chapel is stated to be 900*l.*, and of that sum 500*l.* have been raised, and more than 200*l.* more promised. The several parts of the work of the chapel have been executed by tradesmen of the town, except the carving, which has been executed by Mr. T. Margetson, of Bristol. The builders were Mr. John Nash and Mr. William Groom. The glazing, painting, &c., have been done by Messrs. J. & R. Purser, and the gas-fittings were provided by Mr. Sharp. The seats will contain 400 hearers.

Somerleyton (*Suffolk*).—It having been decided by the Wesleyan New Connexion to build a chapel in this parish, their views were forwarded to Sir Francis Crossley, Bart., M.P., who liberally gave a piece of ground, adjoining Messrs. Lucas's brickyard, together with a donation in money. The foundation stone of this building has been laid, and the works are now progressing. The building is Gothic, in the form of a parallelogram, sufficient space being left to enlarge the chapel at any time. Yellow stocks are being used externally, and relieved with red bands and partly coloured bricks in the arches. The side walls are pierced with couplet windows, and there are three-light windows in the gables. The roof will be open, with stained and varnished timbers, and plastered on the under side of the rafters. Open benches are introduced with cast-iron standards, and stained and varnished seats, with rack rails. The architect engaged by the trustees is Mr. W. Oldham Chambers, of Lowestoft; and the builders are Messrs. Jackson & Rounce, of Blundeston.

Manchester.—The foundation stone of a new Primitive Methodist Chapel and school has been laid in Bradford-road. The chapel will be plain in design, and will accommodate 200 people, and the school-house adjoining, 180 scholars. The total cost is estimated at 800*l.*, about 150*l.* of which have been subscribed. The architect is Mr. T. Waddington; and the contractor, Mr. Marshall, of Salford.

Withington.—The corner-stone of a new Wesleyan Methodist Chapel has been laid at Withington, according to the *Manchester Courier*. It is proposed to expend about 3,000*l.* on the building and land. The chapel is to be built of stone, in the Gothic style. The nave, exclusive of the apse, will be 54 ft. by 40 ft.; and the transept, which will be 50 ft. by 26 ft., will, for the present, be separated from it by means of a wall, and this portion of the building will be applied to school and other purposes. There is to be a gallery across the front, or entrance end of the chapel: there will be a groined roof and stained glass windows, and the building will accommodate about 700 persons when the whole of the interior is thrown open. At the outset, provision will be made for 470, including 100 children. The building is to be erected on the plot of land near the toll-bar.

Stockport.—A new Congregational church is about to be erected here. The congregation at Orchard-street Chapel having some time ago received a grant of 1,000*l.* from the Lancashire Bicentenary Fund towards a new church, on condition that it was erected by August 1865, measures were taken to forward the project, and a desirable plot of land for the structure was selected on Wellington-road South for the new edifice, the school and missionary operations to be continued in the old chapel. Plans were obtained, and the required sum was ascertained to be 4,500*l.*, towards which 3,115*l.* have already been subscribed. The foundation stone of the new church will shortly be laid.

Southport (*Lancashire*).—The New Wesleyan Chapel, Duke-street, Southport, called Trinity Chapel, has been completed, and opened for divine worship. The total cost of the edifice, exclusive of parsonage-house,—the latter of which is not yet completed, is estimated at nearly 9,000*l.* The chapel is of the Early Lancet period of architecture, and has been built from the designs of Messrs. Starkey & Cuffley (now Cuffley & Horton), of Manchester. The plan comprises clerestoried nave and aisles; transepts and apsidal chancel; with tower at north-west angle, and porch on south side, and a chamber for warming apparatus under chancel. The exterior is executed in Burnley wall stone and Hoghton ashlar, and the interior arches, labels, and window dressings generally, of Hoghton stone. Carved crosses surmount all the gables, and the chancel is terminated with a gilt cross. The total interior length is 114 ft. 6 in.; width across the aisles, 57 ft.; and the cross transept, 77 ft. The entrances are through the tower and porch, the former being enriched by shafts, with polished capitals and arch mouldings, decorated with the dog-tooth. Side entrances and inner lobbies to both tower and porch are also provided. The separation of the nave and aisles is effected by stone arches, supported on 12 in. circular polished Peterhead granite columns, surmounted on chamfered square Burnley stone bases, which stand a little above the pewing, so as to leave the entire columns exposed to view. Polished serpentine marble shafts, with foliated capitals and corbels, carry the principals of chancel, the roof of which is panelled for decoration. The whole of the roofs are boarded, and all the timbers and boarding exposed. In the nave and transepts the roof is ceiled across at the collar, with pierced quatrefoiled boarding running down the centre, and immediately above with a wooden tube for ventilation. The whole of the pewing is executed in pitch pine, has sloping backs, and is calculated to seat 775 persons inclusive of children. The pulpit is of Caen stone. The whole of the windows have been fitted with stained glass of geometric design, by Messrs. Edmundson & Son, of Manchester. The aisles, chancel, and several entrances have been laid by Mr. Oakden, of Manchester and Liverpool, with encaustic tiles manufactured by Messrs. Maw, of Broseley, and Mr. Godwin, of Hereford. The iron gates and lamps to the several carriage entrances, &c., are of wrought-iron, by Mr. Skidmore, of Coventry, who has also carried out the whole of the gas-lighting, which is effected by parti-coloured pendants suspended over the centre of each archway, and so leading the eye toward the principal and central feature, the apsidal chancel. Mr. Skidmore has also executed the communion railing. The whole of the works have been carried out by the following contractors, namely:—The stonework by Messrs. Ellis & Hinchcliffe, of Manchester; brickwork by Mr. Riding, of Southport; warming apparatus (hot-water principle) by Mr. Wilson, of Manchester; and the rest of the work under the superintendence of Messrs. Bowden Edwards & Forster, of Manchester. Mr. Bonehill, of Manchester, executed the carving. The building generally has been superintended by Mr. Ogg, as clerk of the works.

Miscellanea.

Presentation to a Foreman.—A silver goblet, subscribed for by the workmen of Mr. W. Higgs, contractor, arsenal, Woolwich, was presented to Mr. Thomas Seward, foreman, on the 17th ult., at the Wheatly Arms, Erith, at a dinner which was given for the purpose.

"Mind the Paint."—At the late Swansea County Court (before Judge Falconer), the Rev. Rees Price, vicar of St. David's, Brecon, sued Mr. John Russell, a fishmonger at Swansea, for 25s., plaintiff's wife having had her dress damaged by some coal-tar which had been newly laid on the outside of defendant's house. The evidence was lengthy, but satisfactory, and his Honour gave judgment for the amount claimed. Defendant thought he was entitled to the old dress, but the Court ruled otherwise.

The Vandals at Malines.—During a recent visit to Malines, I was not a little astonished at an act of vandalism now in course of perpetration. The grand old tower of the cathedral is receiving a coat of *white paint*. Those who remember its venerable, time-coloured aspect, will appreciate this great mischief. There is a "Royal commission of monuments" in Belgium, and this painting process must be done with their sanction, if not by their direct order. Surely here is a case for protest by influential English Architects and artists; for, to some extent at least, art monuments are the public property of the civilized world. Malines collects, with much pains, an exhibition of Mediæval art; and, at the same moment, destroys her finest Mediæval monument.—J. D. Crace.

Watering Window Plants.—Miss Maling, the authoress of "Flowers for Window Gardens in Town and Country," thus writes:—"There is one universal law as to watering plants which a great many people entirely neglect. The neglect of this one rule causes more blight and more unhealthy plants than perhaps any single thing that can be named besides. I mean the excellent rule of watering with warm water,—always rather warmer than the soil the plants are growing in. People must surely see the check and injury it must be to plants always to get cold food. The organs of tender plants are extremely delicate; and when they are wanted to digest their food, it is a bad plan surely to paralyse them with cold. If we feed them, on the other hand, with food a little warm, they are stimulated at once to make the most of their meal. Another important branch of the watering question consists in the washing that all house plants require.

The French and English Workmen.—On Wednesday evening a public meeting of the working men of London was held in St. Martin's Hall, Long Acre, to receive a deputation from the working men of Paris, with a reply to the address lataly sent to the French workmen by the workmen of England, with the object of promoting a more close and friendly feeling between the working men of the two countries. Professor Beesly occupied the chair. The French delegates were MM. Tolain, Linousin, and Perrachon. The following resolution was passed:—

"That this meeting having heard the reply of our French brethren to our address, we once more bid them welcome; and, as their programme is calculated to benefit the labouring community, accept it as the basis of an international association; and hereby appoint a committee, with power to add to its number, to draw up the rules and regulations for such an association."

Leigh Woods sold for Building Sites.—It is stated by a Gloucester paper, that Sir Greville Smith, bart., of Ashton-court, has sold Leigh Woods to a London contractor for 50,000*l.* The contractor has drawn a plan which contemplates the erection over 118 acres of some 700 or 800 houses, many of them low-priced. The owners of property at Clifton are alarmed at this; and as the contractor is willing to be quit of his bargain for a profit of 10,000*l.*, an attempt is being made to purchase the estate by means of a joint-stock company (limited). The company, to repay themselves, will put up some 350 or 360 ornamental villas.

Health in the City.—Dr. Letheby's recent report of the health of his district shows that, in the course of the last seven weeks, the number of deaths and the number of births were exactly the same; viz., 387 births and 387 deaths. Taking the average of the last eight years, the death-rate is large. The average is 344. The deaths of children of less than five years of age were nearly half of the whole number, viz., 192. There were seventy-one deaths from diseases of a tubercular character, twenty-nine from inflammatory affections of the lungs, and, exclusive of the infantile diarrhœa, 81 diseases of the zymotic class. The sanitary staff of the City deserve praise for their exertions, and their example is worthy of imitation elsewhere. Since the last meeting of the Court of Sewers, 989 houses have been inspected. Of these, 208 are marked as requiring sanitary improvement. The markets and slaughter-houses had been inspected, and the enormous quantity of 41,790 lb., or nearly 19 tons of meat, condemned as unfit for human food.

The Silenus of Pompeii.—A correspondent writes from Naples,—The Silenus discovered at Pompeii may be regarded as an excellent version of the constant companion of Dionysus. Painting, mosaic, sculpture, poetry, have never drawn a more characteristic picture of him. He is a jovial old man, with a bald head, a pug nose, fat and round like his wine-bag; who could not trust his own legs; but he is not supported by other satyrs, nor by an ass. In every other respect he is portrayed as resembling his brethren, in their love of sleep, wine, and music. The Pompeiian Silenus is evidently inebriated, and raises with his left hand a snake, which, turning in two spirals, twists itself, and probably supported a glass pot, the remains of which were found near the statue. Opinions are divided on the peculiar name of this Silenus. Cav. Giulio Minervini believes that it is a *Silenus orgiaste*, and he supported his opinion by several authorities: the Cav. Quaranta believes that it is an *enchanter Silenus*. But whichever may be the just opinion, the Royal Neapolitan Archæological Academy has decided on publishing the memoirs of both these authors.

The 1862 Exhibition Building.—In course of pulling down the building at South Kensington, the large brick arches at the east and west ends have been left for some time standing alone. One of these disappeared on Saturday last. A party of Royal Engineers had been employed for a few days in lodging charges of powder to demolish the arch at the eastern end. The arch was of brickwork, in Portland cement, semicircular in form; the span 59 ft. It was built in three bands, each about 2 ft. 6 in. deep, so that the total depth of the arch was 7 ft. 6 in., the width of the top band being 6 ft., and that of the lower one 3 ft. Mr. Freake, who has bought the material of the building, and is pulling it down, willingly agreed to the proposal that it should be experimented on, and on Monday afternoon the Sappers commenced work by boring four holes in each haunch of the arch to receive small charges of powder. This method was adopted as being safer than the more expeditious plan of using a single large charge at each haunch, which would probably have caused some of the bricks to fly in a dangerous way. The total amount of powder used was 19 lb. Half-past twelve on Saturday having been fixed upon as the time for the explosion, and the part of the Exhibition-road in front of the arch having been cleared by the police in case of accident, the officer in charge of the party fired the charges simultaneously by means of an electric machine. The haunches of the arch, it is stated, were broken and slightly pushed out, the crown opened, and the parts fell together, separating into several pieces in their fall. The remaining arch will probably be blown up this Saturday afternoon.

South Kensington Museum.—A collection of oil-paintings, of the Dutch school, fifty-six in number, has been lent for exhibition by Mr. John Walter, M.P., and is now arranged on the walls of the gallery from which the Mulready pictures were lately removed.

New Art-Exhibition at Birmingham.—A notice appeared of a proposed new exhibition of artists, to be held in the old rooms of the Society of Artists, in Temple-row, and having for its object the establishing of a central situation for the exhibition of artists' works the whole year round, the payment of the artists on the day of sale, and a facility for artists to exchange or add to their exhibited works as often as they please. An acting committee has been formed, a secretary appointed, and a hanging committee organized.

Schools of Art.—The prizes awarded at the last annual exhibition of the Yarmouth school have been distributed by the mayor, at the town hall. Thirteen students received medals or books, and two pupil teachers honorary rewards. There were also prize-holders to the number of 141 from the following schools:—British, 74; Charity, 19; Hospital, 15; Priory, 14; St. Peter's, 11; Primitive Methodist, 8. The mayor, in the course of his remarks, said that a more than usual number of prizes had been won this year, though the standard of merit had been raised.——The medals and prizes of the Reading School have been awarded. This school is now considered to be in a flourishing condition.

A Kensington Museum in Paris.—The museum and library of the Union Centrale des Beaux-Arts appliqués à l'Industrie has been opened at No. 15, Place Royale. It is an imitation of the Kensington Museum, and will be open gratis for a time. The first *salle* contains the gifts received by the society: in the second are arranged the artistic curiosities which have been lent by private individuals,—Eastern ewers of marvellous workmanship, ancient and very rare pottery, exquisite specimens of Guipures and Italian lace, Gobelin tapestries, &c. This collection will be changed every three months. The third *salle* contains books and prints, treating of and illustrating various branches of industry. Cases containing specimens of the materials used in each department of trade are so arranged that the student has easy access to them.

Public Park for the North-east of London. At an adjourned meeting of vestrymen for the parish of St. Leonard, Shoreditch, the following resolution was passed by a large majority:—"That a communication be made to the vestry of Hackney parish, and also to the Board of Works for that district, asking if they are prepared to co-operate with this vestry in making some effort to get the sanction of Parliament or otherwise, to enclose, plant, and maintain the London-fields as a public park and place of recreation, upon the basis of this parish bearing part of the costs which may have to be borne by the local boards, and whether either or both parties will appoint a committee to meet a committee of this parish upon the subject."

The Palmerston Hotel, Kilburn.—The foundation-stone of the Palmerston hotel, Kilburn, has been laid at Edgware-road station of the Hampstead and North London Railway. The hotel is situate at the entrance of the West-end Park estate, from the eastward side of the Edgware-road, forming the corner of the road to be designated the "Palmerston-road," comprised of semi-detached villa residences, and upwards of a mile in length. The design is that of Mr. J. Parker, architect; and the lessee and builder is Mr. E. Bannister.

Salford Albert Memorial.—It was long since determined to erect a memorial statue of the Prince Consort in Peel Park, to be a companion statue to that of the Queen already placed there. Mr. Matthew Noble, the sculptor, is preparing the statue, which it was expected would be completed by the end of September. It is of white Sicilian marble, and represents the Prince in his robes as Chancellor of the University of Cambridge. The site selected is a spot exactly opposite the statue of the Queen. The pedestal will be of grey granite, and it has been determined by the committee having the arrangement of the matter, as the pedestal of the Queen's statue, which is of white marble, requires to be taken down and refixed, to have it also faced with grey granite, to match with the other.

Fall of another French Suspension Bridge. The suspension-bridge over the Oise at Verberie gave way recently, and a loaded waggon with five horses and the waggoner were precipitated into the river. The bridge has been built twenty-eight years, and must have been in a very bad condition, as the weight of the waggon under which it gave way was only from 5,000 to 6,000 kilogrs., which is much less than the limit of weight fixed by the engineers.

New Boring Machine.—Mr. Hosking's machine for boring rocks, so as to lessen manual labour in this direction, is thus described by the inventor:—"This machine may be made with either one or two borers, and these so arranged that they can be adjusted to bore in any direction, either horizontally, perpendicularly, or at any angle that may be required. It is arranged that the borer can be taken out of the hole for changing without altering the angle or position of the machine. The model is not provided with a fly-wheel, but this must be applied in practice, and will thereby insure a uniform and steady motion, also preventing the continuous shocks perceptible in the model.

Sharpening Edge Tools.—We translate the following from a German scientific journal, for the benefit of our mechanics and agricultural labourers:—"It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water to which has been added one-twentieth of its weight of muriatic or sulphuric acid, then lightly wipe it off, and, after a few hours, set it on a hone. The acid here supplies the place of a whetstone, by corroding the whole surface uniformly, so that nothing further than a good polish is necessary. The process never injures good blades, while badly hardened ones are frequently improved by it, although the cause of such improvement remains unexplained. The mode of sharpening here indicated would be found especially advantageous for sickles and scythes."—*Mark Lane Express.*

Gas.—It is stated in the *Star* newspaper, that the metropolitan gas consumers may shortly expect a general reduction in the price of gas, under the provisions of the Metropolis Gas Act, 1860; most of the thirteen London gas companies, having, by the saving in expense of working, arrived at so good a financial state as to render a reduction in price imperative, under the provisions of the Act. It is generally understood, that had the several metropolitan vestries put the Act in force, this reduction must have been made a year ago.——The accounts of the thirteen metropolitan gas companies presented to Parliament, in pursuance of the Metropolis Gas Act, 1860, show a total capital subscribed and borrowed of 5,684,987*l.*, upon which interest and dividend were paid amounting to 585,679*l.*,—a total result in excess of 10 per cent. The capital subscribed, exclusive of borrowed, is 5,015,562*l.*, upon which 531,227*l.*—nearer 11 per cent. than 10—was paid; but the accounts also show a total of 147,000*l.* in reserve, not carried to dividend. Herein the public are deeply wronged, as it shows an excess of 12 per cent. earned, upon which an immediate reduction in price ought to have taken place. It is understood that the whole of the companies continue to act in concert. The formation of a consumers' association to enforce action from vestries and companies is urged by "A Large Consumer," in the paper named. He says he has no doubt that an examination of the accounts would show that the public are now paying 200,000*l.* per annum in excess of the price authorised by Parliament solely through the supineness of the vestries. ——The new lease recently granted by the Board of Health to the Newbury Gas Company, now comes into operation, and henceforth the price of gas to local private consumers will be reduced from 7s. to 5s. 6d. per 1,000 cubic feet. There will also be a reduction in the public lighting.——The price of gas in Ashton being 4s., and that of Manchester 3s. 2d., with a prospect of its further reduction in a few years to 2s. 6d., dissatisfaction with the price at Ashton is manifesting itself, and some remarks on the subject have been made in the town council.——The reduction in price by the Birmingham Gaslight and Coke Company has been followed by an increase in consumption; but, from Parliamentary expenses and other reasons, the legal maximum dividends, though they will be paid this year as usual, require aid from the reserve fund on this occasion.

Gas-lighting at the Bath Meeting.—Professor William B. Rogers, of Boston, Massachusetts, exhibited a new arrangement for lighting a gas-burner or many gas-burners by an electric spark, formed by drawing out a stopper of vulcanized iron. The friction sends a current sufficiently strong for the purpose.

Value of Property in the Metropolis.—At the Sheriffs' Court, Red Lion-square, lately, in a compensation case, Ludell *v.* the Metropolitan Railway, the question rose as to the value of some land in Greenhill-rents, on which two houses had been built and let at 40*l.* a year. The property had greatly increased in value in and near the City. The land would now let at 90*l.* a year ground-rent; and on an outlay of 2,000*l.* in building warehouses, a rental of 250*l.* a year would be obtained. The jury, under the presidency of Mr. Wordsworth, Q.C., as assessor, awarded 1,420*l.* Mr. Keene, Q.C., with Mr. Matthews, were for the claimant; Mr. Serjeant Parry and Mr. Gadsden for the company.

Proposed Improvement: Fleet-street.—At the last meeting of the City Commissioners of Sewers, Mr. Haywood laid before them a proposal "to form a circus, 160 ft. in diameter, at the junction of Ludgate-hill, Bridge-street, Fleet-street, and Farringdon-street; to make a resting-place in the centre of the circus, and thus to cause the traffic going in any direction to travel round it to get to the opposite side. The obelisks are to be set back, resting-places are to be formed round them so as to facilitate the crossing of foot-passengers, and further to regulate the carriage traffic." The project was referred to the "Improvement Committee" for a report.

Fires.—Seventeen houses in the small town of Thaxted, Essex, have been destroyed by fire, originating in a cottage where children were playing with lucifer matches. The damage is estimated at 2,000*l.* to 3,000*l.*——The Surrey Rice Mills, in the Surrey Canal Docks, have been totally destroyed by fire. The mills were extensive, and the loss is estimated at 30,000*l.* "Friction of the machinery, or spontaneous combustion" is blamed for the occurrence. Fifty years ago these mills were burnt down.——The Central Telegraph Station, in Threadneedle-street, City, has been gutted by fire, and the premises considerably damaged. Apparatus was speedily provided to replace that destroyed.

St. Benet's, Gracechurch-street. — Under the arrangement now nearly perfected for uniting the parish of Allhallows, Lombard-street, with the parish of St. Benet, Gracechurch-street, the church of the latter parish, at the corner of, and narrow entrance to, Fenchurch-street, will be taken down, and the site offered to the Commissioners of Sewers for public improvements, at a price to be agreed upon, subject to the consent of the Lord Mayor and the Bishop of London. Should the Commissioners of Sewers decline to purchase, other provision is made for the sale and taking down of St. Benet's Church. Out of the net proceeds to be realised by the sale of St. Benet's Church and site, 1,500*l.* are to be applied towards providing a parsonage-house for the rector of the united parishes. A sum not exceeding 4,000*l.* is also to be set aside for the purpose of repairing and repewing the church of Allhallows, Lombard-street; and, out of the net proceeds of the said sale a new church is to be built, and a new parish formed in a densely peopled part of Stepney, to be called "St. Benet's, Stepney," and endowed with at least 300*l.* a year.

A Lady Draughtsman locked up in Christchurch Church.—A lady, a stranger to Christchurch, visited the Priory church for the purpose of taking drawings of various portions of the interior. She told the person in charge of the church, on his showing her a room popularly known as "Oliver Cromwell's Harness-room," which is approached by a very awkward circular staircase, not to forget her; and she remained there while he went about his customary duties; on the completion of which he went home, leaving the lady locked in, having entirely forgotten her. Some alarm arose as to her whereabouts among her friends, and eventually some gentlemen volunteered to search for her. The church, which was known to be her favourite resort, was thought of; and, on rousing the verger, who had gone to bed, he coolly remarked "She *was* there and I suppose she's there now." Lights were procured, and the lady was found in the "Harness-room," quietly trying to compose herself to sleep.

More Earthquakes.—Of late there have been several slight shocks of earthquake; and on Sunday night, or, rather, on Monday morning early, a shock of considerable distinctness was felt in the north of England,—at Leeds, Skipton, Rochdale, Manchester, and other places. The tremor even awoke people from sleep in some instances. It is rather curious that it was nearly at the same period of the twenty-four hours when the first shock of recent times took place. A similar shock occurred at Glasgow upwards of twenty years since, also through the night. But perhaps it is only because everything is then quiet that such tremors are felt, while they may also occur unnoticed at other times.

Jerusalem.—A sergeant and four privates of the Royal Engineers sailed from Southampton last week for Alexandria, on their way to Jerusalem. The *Athenæum* says,—They are going out to make an exact topographical survey of the city and neighbourhood, including all its more famous hills and valleys. It sounds strange to hear that so necessary a work has never yet been done. We have a few elevations, a few sections; but the figures and plans of travellers differ very considerably one from another. Yet the most important questions often turn upon the relative heights of Gareb, Zion, and Bezetha. We hope that in this new effort to extend our knowledge of holy sites, every care will be taken to allay the natural jealousy of the Turkish Government.

Views of the Church of St. John, Ormond Street.—An interior and exterior view of the handsome Roman Catholic church of St. John of Jerusalem, erected, together with a hospital, in Great Ormond-street, Bloomsbury, at the cost of Sir George Bowyer, bart., has been published by Messrs. Day & Son, from the careful and effective drawings of Mr. John Henry Metcalfe. The engraving has been executed by Mr. Orlando Jewitt, who has evidently spared no pains to produce a satisfactory result. Admirers of Sir George Bowyer's munificence, as well as collectors of views of London buildings, will be glad to have these prints, which are published side by side on one sheet. The church is Italian in style, and was erected, as our readers may remember, from the designs of Mr. George Goldie.

Board of Health Works at West Ham.—From a printed statement, drawn up for the past year by the local surveyor, Mr. J. G. B. Marshall, it appears, that forty miles of sewers and pumping works have been executed, at a cost of 6,000*l.*; 830 public lights provided, at a cost of 4,500*l.*; fifteen miles of carriage-ways and forty miles of footways maintained, at a cost of 1,600*l.*; and that in all, 15,732*l.*, payable from annual rating, have been expended on such works. Seven thousand houses and other premises have now been connected by drains with the public sewers, at a cost of 70,000*l.*; and works have been ordered by the Board to the amount of 22,452*l.*

Galvano-plastic Copy of Trajan's Column in Paris. — In the newly-opened wing of the Louvre gallery, on the ground-floor, devoted to statuary, a copy of Trajan's pillar at Rome has been placed, in six cylindrical pieces, with *fac-similes* of all the bas-reliefs in metallic electro-deposit resembling bronze. The success of the moulding has induced the Government to order publicity to be given to the means by which this success has been obtained. The experiment is the first of its kind. The surface of the column, being first of all moulded in plaster, was afterwards surrounded by a frame-work of zinc, and then covered with a coating of gutta-percha, the latter material having been submitted to a tolerable amount of heat in a stove, and boiled in a caldron, until it had become perfectly liquid. After this process it was left to cool upon the plaster moulding, which latter had to be knocked away piecemeal, and with the greatest care. The entire work in gutta-percha was then coated with graphite powder, then covered with the copper wire destined to convey the current into the hollow portions of the model. The work was then placed in a wooden case, surrounded by a galvanic apparatus communicating with the wires. Water, saturated with sulphate of copper, introduced into the wooden case, enabled the electric power to complete the work, which occupied about five-and-twenty days. The removal of the gutta-percha mould was easily effected by means of warm water alone. The process was invented by M. Oudry, the metal-founder. A commission has been named for an exploring expedition to Asia Minor, for thus securing the bas-reliefs and inscriptions still found there, and fast mouldering to decay.

Organ Building.—A writer in the *Dundee Advertiser*, who happened lately to visit the organ manufactory of Messrs. Forster & Andrews, gives the following list, made out at his request, of the principal organs now building by them, with their dimensions:—55 stops, for Corn-exchange, Dundee, four sets of keys; 10 stops, for Baptist Mission, Demerara, West Indies, one set of keys; 29 stops, for St. Wilfrid's Catholic Church, York, three sets of keys; 25 stops, for St. Matthew's Church, Liverpool, two sets of keys; 12 stops, for Mrs. Shepherd, to be erected in the Memorial Church, at Appleton, one set of keys; 28 stops, for the Independent Chapel now being erected in Castlegate, Nottingham, two sets of keys; 30 stops, for St. John's Church, Hull, three sets of keys; 16 stops, for St. Earth Wesleyan Chapel, Cornwall, two sets of keys; 28 stops, for Lochee Catholic Church, near Dundee, three sets of keys; 27 stops, for New Wesleyan Chapel, Blackheath, London, two sets of keys; 20 stops, for St. Michael's Church, Louth, two sets of keys; 15 stops, for Southwick Church, Sunderland, two sets of keys; 21 stops, Christ Church, Newcastle, two sets of keys; 12 stops, Tornton Church, York, two sets of keys; 24 stops, Hill Chapel Longport, Burslem, two sets of keys; 10 stops, Worsbro' Dale Church, one set of keys; 16 stops, St. Thomas's Church, Bradford, two sets of keys; 15 stops, Trinity Church, Gainsbro', two sets of keys; 18 stops, Ryde, Isle of Wight, St. James's Church, two sets of keys; 20 stops, Cambridge, All Saints' Church, two sets of keys; 25 stops, Wesleyan-place Chapel, Keighley, two sets of keys.

TENDERS.

For the second section of St. Scholastica's Retreat, Upper Clapton, for Miss Harrisson. Mr. E. Welby Pugin, architect. Quantities prepared by Mr. S. Marples:—

Smith & Son	£4,894 0 0
Cowland	4,469 0 0
Kelly	4,400 0 0
Orborn (accepted)	4,330 0 0

For the erection of the first portion of St. Augustine's new Catholic Church, Hoxton, for the Very Rev. Father Crane. Mr. E. Welby Pugin, architect. Quantities not supplied:—

Smith	£2,200 0 0
Wellman	1,990 0 0
Williams	1,700 0 0
Simpson	1,470 0 0
Oxborn (accepted)	1,330 0 0

For the erection of distillery, Victoria-street, Westminster, for Messrs. Vickers. Messrs. Mayhew & Calder, architects:—

Anson	£20,577 0 0
Jackson & Shaw	19,976 0 0
King & Sons	19,669 0 0
Downes	19,200 0 0

For the erection of a small detached villa at New Malden, Surrey, for Mr. Duck. Mr. G. Welsh, architect:—

Parker	£500 0 0

For building a boiler shop for Messrs. Robey & Co., Perseverance Iron Works, Lincoln. Mr. Watkins, architect:—

Wallis & Son	£340 0 0
Styles	836 0 0
Jackson	820 0 0
White	790 0 0
Reeve	777 0 0
Huddleston (accepted)	739 0 0

For drainage of twenty-nine houses, for Mr. James Brown:—

Geary	£120 0 0 !
James	115 15 0
Hubbard	90 0 0
Salt	89 10 0
Aldous	70 0 0 !

For the erection of a laundry at Acton. Mr. J. Harris, jun., architect:—

Huggett	£795 0 0
Evans	789 0 0
Wood	787 0 0
Parsons	777 0 0

For mahogany fittings in new offices, Burton-on-Trent, for Messrs. Ind, Coope, & Co. Mr. J. Fairclough, architect.

Mason	£580 0 0
Deaville (accepted)	572 0 0

For alterations for Mr. Lee, Old-street, St. Luke's. Mr. T. J. Hill, architect:—

R. Parsons	£730 0 0
E. Parsons	730 0 0
Lamprell	729 0 0

For building new schools and church at Poplar. Messrs. Francis, architects. Quantities supplied:—

		Add extra if Kentish rag facings.	Deduct if stucco internally.
Lawrence	£13,028	£295	£60
Higgs	12,300	200	50
Fish	12,011	100	200
Hill & Son	11,945	230	150
Colls	11,645	100	30
Myers	11,365	257	45
Heyes & Head	11,057	250	60
Howard	10,977	200	75

[Advertisement.]

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HIGHWAY BOARD, ROCHESTER DISTRICT.—The Highway Board of the above district will, at their meeting, to be held on the 11th day of OCTOBER next, at the BULL HOTEL, Rochester, at TWELVE o'clock, be prepared to receive APPLICATIONS from CANDIDATES for the office of ASSISTANT SURVEYOR to this Board. A practical knowledge of the management and repair of highways will be requisite. The yearly salary, including travelling and all other expenses, will be 60l. per annum; but if the Board should deem it necessary that the whole time of the Assistant Surveyor should be devoted to the duties of his office, that then the salary will be 75l. per annum. He must reside within the district, at such place as the Board may approve. Candidates must state their age, and forward testimonials as to character and ability, to Mr. CHARLES MARTIN, the Clerk to the Board, at his Office in Strood, on or before the 10th day of OCTOBER next, and of whom further particulars may be obtained. Applications to be marked, "Assistant Surveyorship." Applicants for the above office must be in attendance at ONE o'clock on the day above mentioned for the meeting of the Board, or the person elected will be required to give satisfactory security for the due performance of the duties.—By order of the Board. CHARLES MARTIN, Clerk.

Strood, September, 1864

LAVENHAM HIGHWAY DISTRICT, SUFFOLK.—To SURVEYORS and OTHERS.—A meeting of the Board of the above District will be held at the Lion Inn, Lavenham, on FRIDAY, the 14th day of OCTOBER next, at ELEVEN o'clock, when proposals to receive Sealed APPLICATIONS, with testimonials, from persons wishing to become Candidates for the Offices of DISTRICT SURVEYOR, at a salary of 250l. per annum, and ASSISTANT SURVEYOR, at a salary of 100l. per annum. Candidates to appear in person. No travelling or other expenses allowed. The District consists of fifty-five parishes, about 440 miles and 103,550 acres. The Surveyor will be required to keep two horses, and the Assistant Surveyor one horse at least. Both Officers to reside in the District, and devote their whole time to the duties of their respective offices, and commence such duties on the 1st of November next. The Surveyor must provide sureties satisfactory to the Board.—By order,

RICH. NEWMAN, Clerk.

Lavenham and Hadleigh, 20th September, 1864

RICHMOND GAS COMPANY.—WANTED, by the Richmond Gas Company, 1857, Limited, a MANAGER, to take charge of the Works, from the 1st of January, 1865. His duties will be to carry on the manufacture and distribution of gas according to the most recent improvements; to utilize all the products for the advantage of the Company, and, under the control of the Directors, to take the general direction of the works, mains, and services. He must also be competent to draw plans and prepare specifications for works and gas machinery, and he will be required to reside on the premises.—Applications and testimonials, with amount of salary required, and the age and previous services of the applicants, to be sent to the undersigned, at the Office of the Company, No. 7, Ormond-terrace, Richmond, Surrey, on or before SATURDAY, the 8th day of OCTOBER next. No personal attendance in the first instance required.—By order,

JAMES DARNILL, Secretary.

Richmond, September, 1864.

STONEMASONS WANTED.—Apply to Mr. E. W. KELLY, Victoria-street, Windsor; or to Mr. TAYLOR, Foreman of Masons, Cold Ash Church, New Thatcham, Berks.

SAW-MILLS.—WANTED, a Person, to undertake the MANAGEMENT of a SAW-MILL, to solicit, and attend to the working. Apply, by letter, to 25, Bridge-wharf, Paddington.

TORQUAY, DEVON.—To ENGINEERS, SURVEYORS, &c.—The Local Board of Health for the District of Torquay, including Torquay, are desirous to receive APPLICATIONS from persons qualified to fill the Office of SURVEYOR. Applicants must be thoroughly competent to make plans and designs, have had experience in the valuation of property, and in the practical charge of the management and repairs of sewerage, roads, drains, waterworks, &c. He will have to devote his whole time to the performance of the duties of his office, and the salary will be 250l. a year. Applications, in writing, specifying the name, age, and address of the candidate, with particulars of his present and previous occupation, together with testimonials, to be sent, on or before the 31st of OCTOBER next, to the undersigned, of whom all further information may be obtained.

GEO. E. HEARDER, Clerk to the Board.

Local Board's Offices, Town Hall, Torquay, September 27, 1864

WANTED, by an Architect and Land Surveyor, an ASSISTANT, who is a good draughtsman and penman. Salary, 80l. per annum.—Apply, in the first instance, by letter, stating previous or present engagement, to J. W. "Times" Office, Barnsley, Yorkshire.

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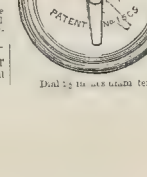
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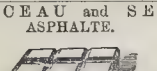


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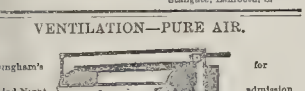
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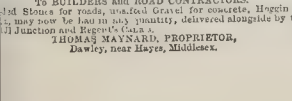
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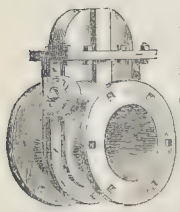
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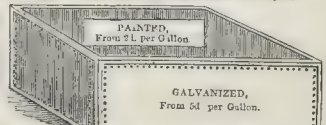
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Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS
SCAFFOLD AND HEMP ROPE FALLS
AWNINGS FOR FOUNDATION STONES.
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MANUFACTURING JOINER,
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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices.

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YELLOW BATTENS, £9 per 120.

YELLOW DEALS, £15 10s. per 120.

100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square

10,000 Dry Pine Planks .....from 3s. 6d. each

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WHITE BATTENS, £8 10s. per 120.

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Oak Sills .....from 2½d. per foot.

Honduras Mahogany .....from 5½d. per foot

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Good Yellow Deals	£16	10	0	per 120, or 2½d. per foot.	
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	Per 120 of 12 ft.				Per 120 of 12 ft.		
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⅝-inch Flooring, White and Yellow, 10s. 6d. per square.

⅝-inch White Matched Lining ..... 12s. 0d. „

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

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30,000 feet in Plank and Board, sawn three years.
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And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty six years, and may always be depended upon as the best that can be made.

DO NOT BURN OFF OLD PAINT, but use NAENIARE & CO.'s LETHICIUM, which will remove it clean to the wood in twenty minutes. Sold at 3s per gallon, at 11, St. Andrew's-hill, Doctors' commons, E.C. Brushes, &c. Success guaranteed.—N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at
WINDSOR CASTLE and MARLBORO' HOUSE.

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HAMILTON & CO.
No. 10, GREEK STREET, SOHO SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

GARDEN WALLS. FOXLEY'S Patent Corrugated BRICKS are ornamental, cheap, and durable, and the most complete remedy against all the evils attending the present system of training Fruit Trees.—Particulars on application to the Patentee, J. FOXLEY, Stony Stratford, Bucks.—Agents for London, Messrs. EASTWOOD, Lambeth.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments :—
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RUE DE L'ECUYER;
AMSTERDAM,
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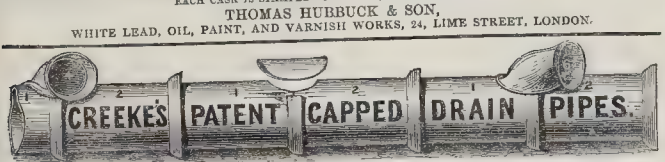
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SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,
From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
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GAS ENGINEERS AND MANUFACTURERS OF
CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,
FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.
SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.
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HUBBUCK'S PATENT WHITE ZINC PAINT.
By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK Is STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.
SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.
Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c.
BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS
Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET
Illustrated Lists with full Particulars and Prices may be obtained of
STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.
Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.
TO ARCHITECTS, BUILDERS, PLUMBERS, &c.
F. G. UNDERHAY
now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the premises.
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TYE & ANDREWS' NEW PATENT SINK TRAP is unanimously admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions, Among others, Wellington Barracks Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.
SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

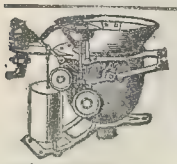
PAN CLOSET,
and HYDRAULIC REGULATOR.
COMPLETE,
11. 18s.



Dispensing with Cranks, Wires, Bar, Lever, Service-box, &c.
Any number can be supplied from one pipe.
W. PATTEN, 22, Old Fish-st. St. Paul's, London.
A Cottage Closet, with Patten's Patent High-pressure Valve, complete, 12s. 6d.



STATUARY MARBLE
CHIMNEY-PIECES.
The Largest Stock in London on View at the
WESTMINSTER MARBLE WORKS.
From the great extent of Carving and Sculpture in operation at this Establishment, assisted by Machinery for Sawing, Moulding, and Polishing Marble, with Steam Power, every variety of Marble Work is executed with great despatch, and the Charges the Lowest in London.



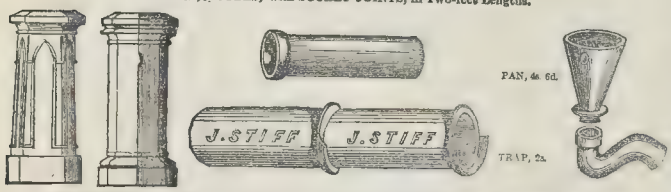
THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

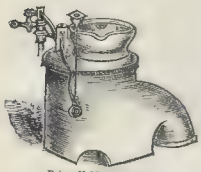
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; Shafts also for ventilation of Sewers and Drains.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PATENT STONEWARE PAN-CLOSET.
Makers, North Devon Pottery Company, Bideford.



Price £1 12s complete.

The advantages of this Closet are:—
That the Container and Pan are made of Vitrified Stoneware, or Glazed Earthenware and not Liable to corrode.
That the flow of water is immediate, and the Pan, falling not entirely back, does not become untrapped, and no Syphon or D trap is required.
That the Lever is so adjusted that, by closing the Valve gently, the Pan is left filled with water, and no regulator is required.
REFERENCE may be made to H. H. COLLINS, Esq. Architect, 10, Poultry.
AGENT FOR LONDON,
MR. N. RIGBY,
No. 2, Cross Keys-court, London-wall.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

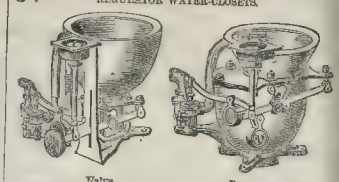


DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No extra valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

J. TYLOR & SONS' PATENT BATH
APPARATUS.



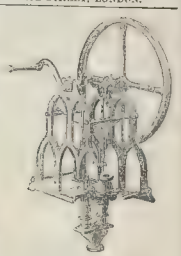
The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

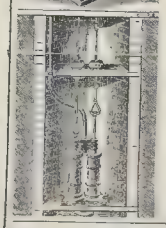
LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.



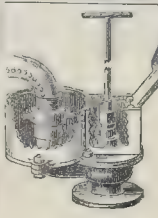
Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.







PUMPS
FOR
DEEP OR SHALLOW WELLS,
WATER BOATS, &c.
J. TYLOR & SONS,
MANUFACTURERS,
WARWICK LANE,
NEWGATE STREET,
LONDON.



IMPROVED HYDRANT
J. TYLOR & SONS,
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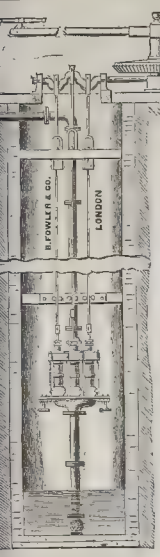
CLINTON & OWENS

(LATE FOWLER & CO.),
WHITEFRIARS STREET, FLEET STREET, LONDON,
MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



Treble Barrel Deep Well Pumps, with Horse Gear.





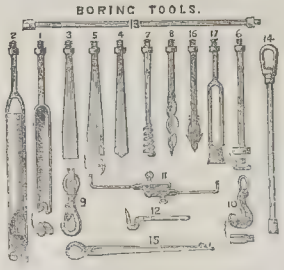


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PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,
For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

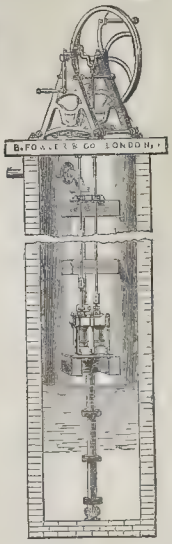
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

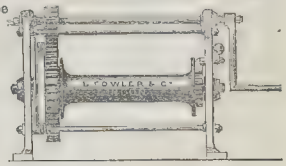
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches £2 10
3 " 3 15
4 " 5 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,
From 19s.
Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

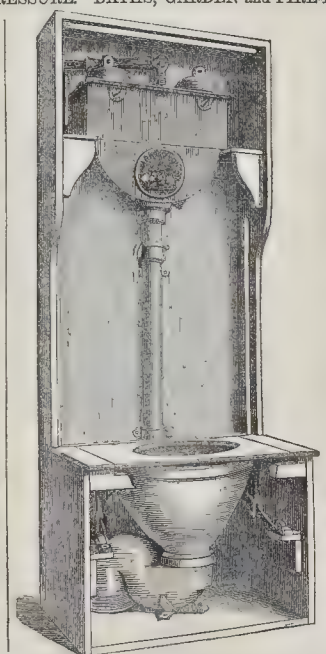
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch .... £4 4 0 } Larger sizes when
3 " .... 5 5 0 } required.
3½ " .... 6 6 0 }

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... £3 10 0
3 " 4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete £4 10
Ditto Work without Wood Case 2 0
Basin and Trap, W. 0 5

Further Description, with Sectional Drawings will be sent on application.



No. 143½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin.....£3 0 0
Bunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0
No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

BUILDING MATERIALS.—AUCTIONEERS.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 3, at TWELVE, in Lots, the Valuable BUILDING MATERIALS and FITTINGS UP of a large House and Offices, No. 27, Austin-friars, comprising sound brickwork, stout rafters, joists, and other useful timber; plain tiles, sashes, doors, partitions, chimney-pieces, and interior fittings; sound floor-boards, several tons of lead in slate, gutters, cisterns, and pipes; stone-paving, iron hook-safes, panelled and rolled partitions, fasciences of presses, stoves, and various useful fittings. May be viewed. Catalogues had of J. CORBET, Esq. and THOS. NEWSON, Esq. Architects, 17, Grace-church-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 19, Parliament-street, S.W.

UPPER THAMES STREET.—To Corn and Coal Merchants, Lightermen, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Proprietors to SELL by AUCTION, on the PREMISES, Broken Wharf, Upper Thames-street, on TUESDAY, OCTOBER 4, at TWELVE for ONE, NINE OPEN BARGES and CABIN PUNTS, of various tonnage, which have been recently put into thorough repair and are now afloat, viz.—Small 17 Tarpaulins, 7 Calm Stoves, 8 Bass Warps, 5 Chain Headfasts, 2 Anchors and Chains, and 8 Pairs of Oars.—May be viewed, and catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 80, Parliament-street, Westminster and 80, Fore-street, City.

EPSOM, SURREY.—Freehold Building Ground in an elevated position, possessing 600 feet of good building frontage, and presenting a favourable opportunity for creating Freehold Ground-rents.

MR. BRAY is favoured with instructions to OFFER for SALE by AUCTION, at GARRAWAY'S, on TUESDAY, the 18th of OCTOBER, at TWELVE o'clock, either in one lot or in fourteen different lots, a valuable FREEHOLD ESTATE, consisting of 34 acres or thereabouts, which has recently been laid out for building purposes, and roads and sewers made at a considerable expense. It presents most eligible sites for the erection of first-class villa residences; is within a few minutes' walk from the City and West-end Railway Stations at Epsom, and from its elevated position commands most extensive views of the surrounding country.—Particulars at 3 conditions of sale, with a plan of the property, may be obtained of Mr. ANDREWS, Surveyor, Epsom; of Messrs ANDREW, ATKINS, & IRVINE, Solicitors, 5, White Hart-court, Lombard-street, E.C.; at Garraway's, E.C.; at the Inns in the vicinity; and at the Offices of the Auctioneer, 154, King's-road, Bedford-row, W.C.

TO BUILDERS AND OTHERS. 1000 Pieces of Paper hangings, and 24 Marble Chimney-pieces to be Sold to pay an Advance.

MR. W. HICKINBOTHAM will SELL by AUCTION, at his ROOMS, 8 and 9, Upper St. Martin's-lane, W.C. on MONDAY, OCTOBER 3, and ONE or TWO o'clock precisely, a large stock of PAPER-HANGINGS comprising elegant satins, rich flocks, green and gold drawing-room papers, 30 in marble, &c.; also 20 new chimney-pieces.—On view on Saturday and Morning of Sale; and catalogues had on application.

The Second Portion of the Leasehold Estate.—By direction of the Executors under the Will of the late Mr. Potter, deceased.

GEO. TODD will SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on WEDNESDAY, OCTOBER 5, at ONE for TWO o'clock, in Six Eligible LEASEHOLD PROPERTIES, namely, Nos. 2 and 3, Nos. 5 and 6, 11 and 12, Nos. 13 and 14, and No. 21, Union-road, in the parish of St. Mary, Newington.—May be viewed by permission of the Tenants; and particulars had of Messrs. LAFFEY, Esq. Solicitor, 33, Essex-street, Strand; or at the Auctioneer's Office, Battersea Bridge road, Battersea Park, S.W.

BUSHY PARK ESTATE, Upper Teddington, about 1½ on the Royal Park.—Also Nine acres of most valuable Freehold Building Land in this favourite locality.

MESSRS. GADSDEN & ELLIS will SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, near the Guildhall, Gresham-street, on THURSDAY, OCTOBER 13, at TWELVE for ONE (unless an acceptable offer be previously made by private contract), FREEHOLD PROPERTIES, comprising Nine Substantially Built and Well-arranged Residences, as shown in particulars, at 81, NINE ACRES of FREEHOLD LAND, admirably situated for the erection of Villa Residences, known as Bower-house Road, Bushy Park, one of the finest roads for Building Immediately opposite are several first-class family residences, embracing highly ornamental architectural features, enclosed and finished regardless of expense, securing the superior character of the neighbourhood. A new church also is in course of erection adjoining the estate. Spring water is readily obtained, and gas and water are laid up to the property. The access is most convenient to City or West-end, by two lines of railway.—Particulars may shortly be obtained of CHARLES LAWS, Esq. Architect, 12, D'Arblay-street, W.C. and Park-road, Teddington, of Messrs. PALMER, PALMER, & BULL, Solicitors, 24, Bedford-row; at the Guildhall Coffee-house, Gresham-street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street, E.C.

KEMPTON PARK ESTATE.—Hampton, on the high road to Sunbury and Shepperton, and to the River.—Twenty-three Acres of Freehold Building Land, in which there is the finest brick earth, fit to make the best main bricks.

MESSRS. GADSDEN & ELLIS are instructed to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, near the Guildhall, Gresham-street, on THURSDAY, OCTOBER 13, at TWELVE for ONE, in one or more lots, TWENTY-THREE ACRES of FREEHOLD LAND, with road Fronted, and ready for immediate building operations, situate between the upper and lower roads from Hampton to Sunbury, and within five minutes' walk of the station on the Thames Valley Railway, which will be open for traffic immediately. The land lies close to several admired residences and estates, and commands fine views over the Thames and surrounding scenery, and is well deserving the attention of capitalists and builders.—Particulars may be obtained of CHARLES LAWS, Esq. No. 12, Doughty-street, W.C. and Park-road, Teddington; of Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings, Winchester-street, E.C.; at the Guildhall Coffee-house, Gresham-street; and of Messrs. GADSDEN & ELLIS, 18, Old Broad-street, E.C.

Valuable Building Materials.—Stockwell-green

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Meat-house, Stockwell-green, formerly the residence of Sir Anthony Carlisle, F.R.S. &c., on MONDAY, OCTOBER 3, at TWELVE for ONE, the capital sound, useful MATERIALS, fittings, and fixtures, of the above substantially built mansion, including long and lofty timber in rafters, joists, plates, girders, and principals, 50 feet of prime Italian slate, and 15 inch batten flooring, wainscots, sashes and frames, French casements, marble chimney-pieces, doors, cupboards, dressers and shelves, handsome register and other stoves and ranges, 30 squares of Westmoreland and other slating, 2,000 feet of Purbeck and York paving-stone, sinks, Portland coping, rolls and steps, and an infinite variety of other materials, fittings, and fixtures.—On view two days prior. Catalogues on the Premises, or of C. F. SMYRK, Surveyor and Valuer, 23, Bucklersbury, Mansion-house, E.C.

Steam engines, Silk Calendering Machines, Rice stones and Machines, and other valuable Machinery.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, by order of the Directors of the North London Railway, at the PENTONVILLE STATION, Maiden-lane, on WEDNESDAY, OCTOBER 5, 1864, at TWELVE o'clock, the valuable PLANT and MACHINERY of the Steam Rice and Sago Mills.—May be viewed, and catalogues had on the Premises; and at the Auctioneers' Offices, Camden Town.

NORTH LONDON RAILWAY.—Materials of Houses, Shops, Taverns, &c. (Preliminary Advertisement.)

MESSRS. KENNEDY & BONNY will SELL by AUCTION, in the EAGLE YARD, Kingsland-road, on THURSDAY, the [illegible] day of OCTOBER, 1864, at TWELVE, the MATERIALS and FITTINGS of the Houses, Shops, and Tavern at the corner of the street-road, also other Houses and Buildings at different parts of the line of railway. Fee future advertisement.

Camden Town, Sept. 23, 1864.

BERKSHIRE.—Building Land, opposite to the Wellington College and close to the Railway Station, with important frontage, for the erection of Villas or Public Institutions.

MR. ROBINS having disposed of the first portion of the estate, is instructed to SELL by AUCTION, at GARRAWAY'S, COFFEE-HOUSE, Change-alley, Cornhill, on FRIDAY, OCTOBER 14, at TWELVE for ONE o'clock in three or more lots, unless an acceptable offer be previously made by private contract, FREEHOLD BUILDING LAND, comprising about 16 acres, lying unusually compact, with an important and most valuable south frontage, for the erection of villas, immediately opposite the Wellington College, and along the rail way station, about three miles from the market town of Wokingham. The land offers great attraction to the directors of public institutions, requiring plots of 2 or 3 acres, and to builders, being high, gently rising from the south, the climate as most desirable and healthy, adorned by timber, and having a luxuriant belt of plantations on the south side, the footage extending to 2,000 feet, offering tempting sites for the erection of villas, which are also much required in this improving locality. There is brick earth on the estate, and a more attractive opportunity for building to advantage is not in the market. Full particulars, with plans, may be had twenty-eight days prior, of Messrs. BOOTY & BUTT, Solicitors, 1, Raymond-buildings, Gray's-inn, W.C.; at Garraway's; and at Mr. ROBINS'S Auction and Estate Offices, No. 5, Waterloo-place, Pall-mall, S.W.

PURLEY, near Croydon, contiguous to the Caterham Junction Station, on the main line of the Brighton and South Eastern Railways, about 12 mile from the south Croydon Terminus, and 12 miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at the GREYHOUND INN, Croydon, on THURSDAY, OCTOBER 13, at FOUR for FIVE o'clock, Twenty Valuable FREEHOLD BUILDING PLOTS, and Two Cottages, with Gardens, being a portion of the Purley Hall Estate, the whole having useful frontages to the turnpike road, and to a new road through the estate. The land has a substratum of gravel and chalk, and is in a delightful rural and healthy situation. The proximity of the railway station, and ready means of communication with the metropolis, render the land of a safe and sterling character for the carrying out of extensive building operations.—Particulars, with plans, may be had at the Greyhound Inn, Croydon; at Garraway's Coffee-house, Change-alley; of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion House; and of Messrs BLAKE, Croydon.

FLAISTOW, ESSEX.—Twelve superior Freehold Residences producing 280l. per annum; and Thirty Plots of eligible Freehold Building Land, near the Plaistow Railway station.

MR. JOHN M. DEAN will SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on FRIDAY OCTOBER 7th, at TWELVE, in Forty Two Lots, Twelve FREEHOLD RESIDENCES, Thirteen elevations, let at single rents to highly respectable yearly tenants, producing 280l. per annum; and Thirty lots of eligible FREEHOLD BUILDING LAND, the whole excerpted from Lot 1, Plan, property situate in Park-road, Upper Plaistow Park, West Ham, close to the Plaistow Church, and within a short distance of the railway station. The land is high and dry, with gravel subsoil, and suitable for the erection of superior dwelling houses.—May be viewed, and particulars and conditions of sale, with plans, had at Garraway's; of A. A. WALLER, Esq. Solicitor, Church-row, Limehouse; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

[illegible] OF GOOD SOUND HARD WELL-BURNT STOCK BRICKS, FRIDAY, OCT. 7th, 1864.—To Builders, Contractors, and Others.

MR. JAMES M. RICHARDSON has been favoured with instructions from the Proprietor to SELL by AUCTION, on the PREMISES, near the Victoria Brewery, Bridge-road, Tunbridge Wells (in consequence of the ground being required for the erection of the station on the Cranbrook Wells and Uckfield Railway), on FRIDAY, OCTOBER 7th, at ONE for TWO o'clock precisely, a quantity of good and hard well-burnt STOCK BRICKS, in lots suitable for the convenience of purchasers.—On view, and further particulars obtained of the Auctioneer, Tunbridge Wells.—Approved bills will be taken for purchases of 20l. and upwards.

RAILWAY CART HORSES.—Off the Thames Valley, between Twickenham and Shepperton.

MR. J. GOWER will SELL by AUCTION, at his REPOSITORY, Barlsican, on FRIDAY, OCTOBER 7, at ONE o'clock, by direction of Messrs Aird & Son, Contractors, being a fine Iron Roan, TWENTY powerful English CART and VAN HORSES, young and in prime condition, recently Thames Valley Line, nearly completed.—On view two days prior.

BRICKS! To BUILDERS and OTHERS. PICKINGS STOCKS, GRIZZLES, and PLACE, can be obtained in any quantity, at moderate prices, by applying to JOHN COSH, Stratford Brickfields, Stratford, E.

ABOUT a MILLION of HARD CLAMP BURNT BRICKS for SALE at HOLLOWAY.—Apply to H. C. BUNKELL, 1, Penn-road Villas, Holloway, N.

BRICKS for SALE.—20,000 of WHITE SUFFOLKS, 20,000 of SECONDS; also 20,000 RED SUFFOLKS. Quality A 1, price moderate.—For price and samples inquire at No. 4, Upton-place, Commercial-road, E.

BRICKS.—WANTED, 300,000 BRICKS. Immed ate cash.—State price by letter to G. L. M. Cornchandler, 17, Leader-street, Chelsea, S.W.

TO BUILDERS and OTHERS.—FOUR HUNDRED THOUSAND capital WHITE BRICKS FOR SALE. A part of them perforated. Lying close to the Great Northern Railway, within a few minutes' station of London.—For further particulars apply to Mr. LOVE, Stamford, St. Neots.

BRICKS! BRICKS!!—BINFIELD, near Bracknel and Wokingham, Berks.—For immediate SALE, a quantity of superior kiln and BUILDING BRICKS, PLINTH, SPLAY, and RUBBING BRICKS, &c. &c. For particulars apply to GEORGE BULLER, Behive Kiln, Binfield, near Bracknel, Berks.

AYLESFORD and BURHAM BRICK WORKS, near Maidstone, Kent.
MR. GEORGE FURNESS

Having increased his machinery appliances for the Manufacture of Bricks by erecting a number of the most approved patent machines, Architects, Builders, and Contractors are respectfully informed that they can be supplied with GAULT BRICKS of the best quality, and at moderate prices. He has from three to four millions in stock.—Prices and particulars furnished on application to Mr. GEORGE FURNESS, 36, Great George-street, Westminster; or to

MR. SLATER.
Thames Embankment, Cannon Wharf, Westminster.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA-COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Barges, Sand, Ballast, &c. by barge sideside, where required.
JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS.
By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Bracol.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE AIONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Facings, 35s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 36s. per 1,000.
Rape Tiles, at 25s. per 1,000.
Cash Prices. Delivered on Truks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

NEW STOCK NOW READY.
FINE WHITE BRICKS.
BEST RED BRICKS
White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Plain and Ornamental ROOFING and RIDGE TILES, Delivered to Vessels in the Dock alongside the Kilns, in the River Medway.
Pattern Sheets, and all information, may be had of R. LANGLEY, Agent, East Cowes park, Isle of Wight.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of this plan are two fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, 1862
THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BAINES'S PATENT ENAMEL MOSAIC TILES; also PRINT INLAID TILES, 6 inches and 4 inches square, hexagonal and octagonal, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs; plinths, friezes, string courses, pilasters &c.; also, white glazed tiles for baths, dairies, &c. They also beg to call attention to their NEW MANUFACTURE OF METALLINE TILES,
6 inches by 1 inch thick, in truck-loads of 4,000, from 63s. per 1,000, cash, delivered to Nine Elms. Also, malt-kiln, ridge, gutter, and hip tiles, buff, glazed, and fire-bricks. Specimens may be seen, and every information obtained, at the Offices, No. 36, Parliament-street, S.W.; also at the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum; the Fine Arts' Academy; and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament street, S.W.; or Poole, Dorset.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street, North, City road Basin, N. Sadly, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; and lastly, that the "Reports of the Jurors," page 251, of the Great Exhibition, 1851, refer to the grant of a First-class Medal and Rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.
Lasting imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.
IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their portable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, &c. &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of specimens of the Pavements.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 18 & 19, RUSSELL STREET, COVENT GARDEN, W.C. Advances from 50l. to 15,000l. upon Freehold and Leasehold Property, for any term up to ten years. Mortgages redeemable, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, nor competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope
EDWARD HARPER, Secretary.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 1, 1864.

The Builder.

A JOURNAL FOR THE Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1131. OCTOBER 8, 1864. PRICE FOURPENCE. By Post, 5d.

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PROFESSOR DONALDSON'S LECTURES on ARCHITECTURE and CONSTRUCTION, at University College, commence on TUESDAY, the 18th OCTOBER. Further particulars can be had at the College Office. The classes will meet on this TUESDAY, at SIX in the evening, for both divisions to arrange details.

BY ORDER of the SECRETARY of STATE for INDIA.
DESIGN FOR COMPETITION.—PRESIDENCY COLLEGE AND SENATE HOUSE.

The Madras Government are prepared to receive DESIGNS for a new PRESIDENCY COLLEGE, and for a SENATE HOUSE, to be built at Chepauk, Madras.

A schedule of measurements, together with a plan of the proposed site, can be had on application to the UNDER SECRETARY of STATE for INDIA, India Office, Westminster.

The rates on which the work is to be calculated will also be furnished at that office. The gross estimate is not to exceed Rupees 2,50,000 for the College, and Rupees 1,50,000 for the Senate House.

The buildings will be erected on contiguous sites, and both should therefore be planned in the same style of architecture.

There must be ample provision for proper ventilation, and the walls must be protected, as far as possible, from the direct rays of the sun.

The designs are unrestricted, firstly, as to the style, provided it is suited to the climate, and to the use to which the buildings are to be devoted; and secondly, as to materials, provided they are procurable in Madras, at prices which will admit of their being used in the buildings as designed.

The designs must include,—

1st.—Ground-plan, and plan of each story.

2nd.—Elevation of each of the four faces, if not alike.

3rd.—Transverse sections.

The plans and elevations to be on a scale of 8 feet to an inch. A specification, in sufficient detail, to accompany each plan to enable the Judges to decide whether the plans can be carried out within the sum allowed.

A prize of Rupees 3,000 will be awarded for the best design, provided it fairly fulfils the above conditions.

If the best designs, in an artistic point of view, fail to fulfil any of the above essential conditions, the Judges will be empowered to reduce or withhold the prize; and no prize will be awarded to a design merely because it fulfils the conditions, if otherwise conspicuously deficient in artistic merit.

The drawings and estimates, &c. should be sent in on or before the 1st of JANUARY, 1865, in the usual manner with mottoes and envelopes, containing the name and address of the artist, to the Secretary to Government, Public Works Department, Madras, by whom the envelopes will be opened after the prizes have been adjudged.

It will be optional to Government to avail themselves of the services of the author in altering or executing the design selected, and that design will remain the absolute property of Government.

The design will be selected and the prize awarded by a Committee consisting of,

The Secretary to Government, Public Works Department.

The Director of Public Instruction.

The Chief Engineer, Madras Railway Company,

who will be asked to aid Government in the adjudication.

Unsuccessful designs will be returned to the authors if claimed by them, or by their authorized agents, within one month from the period of adjudication.

April 21, 1864. (Signed) CHARLES A. ORR, Colonel, R.E. Secretary to Government.

India Office, September 21, 1864.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

THE METROPOLITAN BUILDING ACT, 1855. Section 33.—The Institute of British Architects hereby give notice, that an EXAMINATION of persons desirous of obtaining a CERTIFCATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 9, Conduit street, Hanover-square, W. on FRIDAY, the 28th of OCTOBER, at TEN o'clock in the Forenoon. Persons desirous to be examined must, on or before TUESDAY, the 18th day of OCTOBER, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Board of the Institute

JOHN P. SEDDON,
CHAS FORSTER HAYWARD, } Hon. Secs.

Conduit-street, October, 1864

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new Buildings.—For prices apply to the Manager, Mr TYLER, 12 Abingdon street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Horizontal Cooking Utensils, &c to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

73 74, Bishopsgate street Within.

COMPETITIONS.

TO ENGINEERS and OTHERS.—The Corporation of Okehampton contemplate BRINGING WATER into the town for the use of the inhabitants of the borough, and are desirous of receiving PLANS, Specifications, and Estimates for the WORKS proposed, particulars of which may be obtained at my Office. The Corporation will pay to the person whose plan shall be approved and adopted the sum of 20l.; but in case such person shall afterwards become the Contractor for effecting the work, that sum will be deducted from the amount of such Contract. The plans, &c. to be delivered to me within a month from this date.

JOHN MARSH BURD, Town Clerk.

Okehampton, Sept. 19th, 1864.

CITY of COVENTRY.—MARKET HOUSE.—To ARCHITECTS. The Corporation of Coventry invite DESIGNS, PLANS, SECTIONS, ELEVATIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a MARKET HOUSE. The Plans to be of a uniform scale of 8 feet to an inch. The cost of the entire Building, with fittings, not to exceed 10,000l. The Architect who, in the opinion of the Council of the said City, produces the best Designs, &c. to receive 80l.; the second best, 40l.; and the third best, 20l. The Designs, &c. for which premiums are awarded to become the property of the Corporation, and the Architect of the Designs taking the first premium to supply the Corporation with Working Drawings, if required, receiving for the same such a sum as with the premium will amount to 2½ per cent. on the outlay. The Corporation will not bind themselves to employ the architect in carrying out his designs, or to carry them out at all, and if the plan sent in should not, in the opinion of the Council, be of sufficient merit, the premium will not be awarded, nor will they be awarded unless the Council should be satisfied that the same can be executed within the estimate. Each set of designs, &c must be distinguished by a motto, accompanied with a sealed envelope, containing the name and address of the competitor, and bearing a similar motto to that on the design, &c which envelopes will not be opened until after the plans are decided upon. The designs, &c must be enclosed in a sealed cover, endorsed "Plan for Coventry Market-house," and addressed to THOMAS BROWETT, Town Clerk, Coventry, and delivered on or before the 23rd day of NOVEMBER next. A block plan of the site, with approaches, levels, statement of conveniences required, and of the conditions to be observed by competitors, can be had on application personally, or by letter, to J. E. GREATOREX, City Surveyor, St. Mary's Hall, Coventry.

THOMAS BROWETT, Town Clerk.

Coventry, September 23, 1864.

TO ARCHITECTS.—NEW CHURCH at BLOXWICH.—It is intended to build a New PARISH CHURCH, to cost about 5,000l. on the site of the present structure. The Building Committee invite Architects to send in PLANS and SPECIFICATIONS.—The site may be inspected, and full particulars obtained, on application to the Secretary, Rev. J. BARROW, Bloxwich Parsonage, near Walsall.

DESIGNS for FULFORD CHURCH.—FURTHER EXTENSION of TIME.—A PREMIUM of Fifteen Guineas is offered for the best SET of DESIGNS for the New Church at Fulford. Selections to be made by the Committee, and the Design selected to become the property of the Parish. Extreme estimate 2,000l.; to seat not less than 450. Site, 90 yards square. Spire or Tower. Outside, Hammered Stone. The Designs must be sent in to the Incumbent, care of the Postmaster, Fulford, York, on or before THURSDAY, the 20th OCTOBER.

DESIGNS for the O'CONNELL NATIONAL MONUMENT, in SACKVILLE STREET, DUBLIN.—The Committee for the Erection of the O'Connell National Monument, in Sackville-street, Dublin, are prepared to receive DESIGNS from Architects, Artists, &c. for a TESTIMONIAL or MONUMENT to O'CONNELL. Intending Competitors will receive, on application to the Honorary Secretaries of the Committee, at the City Hall, Dublin, a printed statement of the views of the Committee the condition of the competition, and a ground-plan of the locality. Prizes of 100l., 50l. and 40l. are at the disposal of the Committee, to be awarded for designs, subject to the conditions above referred to. All designs must be received at the Committee-room, free of expense, on or before the 1st of JANUARY, 1865.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS, at Aldershott Camp and Permanent Barracks, in the county of Hants including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tender, may be obtained on application at this Office.

Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left-hand corner, "Tenders for Works at Aldershott," on or before SATURDAY the 5th NOVEMBER, 1864.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders.

Royal Engineer Office, Aldershott,
14th September, 1864.

ARMY CONTRACTS. — Commissariat Office, Aldershott, 1st October, 1864.

TENDERS will be received at this Office until TWELVE o'clock, Noon, on WEDNESDAY, the 12th of OCTOBER, from persons who may be willing to enter into CONTRACTS for the SUPPLY of FLOUR (Ration and Hospital), and MEAT, in such quantities as may be required, for six months, from the 1st December, 1864, to the 31st May, 1865, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.

The above being three distinct Contracts, separate Tenders are required for each description of Flour, and for Meat.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter addressed to the Senior Commissariat Officer, or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up, signed, and delivered at this Office (under closed envelope, marked on the outside "Tender for Commissariat Supplies"), and no Tender will be noticed unless made on forms obtained from this Office and delivered by the hour appointed.

ARMY CONTRACTS.—Commissariat Office, Aldershott, 1st October, 1864.

TENDERS will be received at this Office until TWELVE o'clock Noon, on FRIDAY, the 28th OCTOBER, from persons who may be willing to enter into Contract to SUPPLY PAILLASSE STRAW and STRAW for ROYAL ENGINEER SERVICE, in such quantities as may be required, for Twelve Months, from the 1st December, 1864, to the 30th November, 1865, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command.

Forms of Tender and conditions of contract may be obtained on application at this Office, by letter addressed to the Senior Commissariat Officer, or in person, between the hours of TEN and FOUR o'clock.

The Tenders must be properly filled up, signed and delivered at this Office (under closed envelope, marked on the outside, "Tender for Straw"), and no Tender will be noticed unless made on forms obtained from this Office, and delivered by the hour appointed.

CONTRACT for LAYING GRANITE CURB and SETS, and YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties willing, from time to time, to REMOVE the above mentioned materials from the Victoria Docks or Wharfs in the River Lea, and to LAY the same on the Roads, Paths, and Places in this district, in accordance with specifications and conditions, which may be examined at the Office of Mr. MARSHALL, the Surveyor to the Board, Rokeby House, Stratford, E. where also forms of Tender may be procured, and any further information may be obtained. The Tenders, endorsed "Laying Pavement, &c." are to be sent to me on or before MONDAY, the 10th OCTOBER next.—By order of the Board

CHARLES WILSON, Clerk to the Board.

Rokeby House, Stratford, 14th September, 1864.

GRANITE CURB and SETS of YORK PAVEMENT.—The West Ham Local Board of Health are prepared to receive TENDERS from parties who may be willing to DELIVER any of those MATERIALS, either in the Victoria (London) Docks, or on such Wharfs on the River Lee as may be named. Forms of Tenders, with any particulars and information required, may be obtained by application to Mr. MARSHALL, the Surveyor to the Board, at his Office, in Rokeby House, Stratford, E. and the Tenders are to be sent addressed to me, and indorsed "Tender for Pavement, &c." on or before MONDAY, the 10th OCTOBER next.—By order of the Board,

CHAS WILSON, Clerk to the Board.

Rokeby House, Stratford, 15th September, 1864.

BLACKFRIARS BRIDGE. — TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the handsome cornices, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

[For remainder of Contracts see next Page.

BOROUGH of PORTSMOUTH.—To MASONS and PAVIORS—The Roads and Works Committee appointed by the Town Council of the Borough of Portsmouth, acting as the Local Government Board, will be prepared to receive TENDERS from competent and responsible parties who may be willing to contract for the execution of the MASONS' and PAVIORS' WORK in the Borough for the period of one year from the 1st day of OCTOBER inst. The specification, printed form of Tender, and any other information, may be obtained of Mr LEWIS ANGELL, C.E. the Borough Engineer, at the Offices of the Board, Arundel street, after THURSDAY, the 6th OCTOBER instant. Tenders to be sealed, and endorsed "Tender for Masons' Work," and delivered at the Offices of the Board, by or before FIVE o'clock p.m. on the 17th inst. Sureties will be required for the due performance of the contract. No Tender will be received unless made on a printed form, to be obtained at the Offices of the Board. The Board do not bind themselves to accept the lowest or any Tender.—By order,

October 1, 1864. W. O. MARSHALL, Clerk to the Board.

BOROUGH of PORTSMOUTH.—To STONE MERCHANTS and OTHERS—The Roads and Works Committee appointed by the Town Council of the Borough of Portsmouth, acting as the Local Government Board, will be prepared to receive TENDERS from competent and responsible parties, who may be willing to CONTRACT for the SUPPLY of such QUANTITIES of the Best BLUE BROKEN GUERNSEY GRANITE and GRANITE CHIPPINGS, as may from time to time be required, for a period of one year from the date of the contract, the same to be delivered, free of wharfage, and at all times, at the Town Quay, Portsmouth. The estimated quantity of granite is about 3,000 tons, and of granite chippings about 500 tons. The specification, printed form of Tender, and any other information, may be obtained of Mr LEWIS ANGELL, C.E. the Borough Engineer, at the Offices of the Board, Arundel-street, after THURSDAY, the 6th OCTOBER instant. Tenders to be sealed, and endorsed "Tender for Granite," and delivered at the Office of the Board by or before FIVE o'clock p.m. on MONDAY, the 17th OCTOBER next, in order that the same may be inserted in the printed form of the contract. No Tender will be received unless in exact accordance with the printed form, to be obtained at the Offices of the Board. The Board do not bind themselves to accept the lowest or any Tender.—By order,

October 1, 1864. W. O. MARSHALL, Clerk to the Board.

TO ROAD CONTRACTORS, &c.—The London Wharfing and Warehousing Company, Limited, invite TENDERS for the MAKING of ROADS and FILLING UP SPACES at Plaistow Wharf, near Victoria Docks, as per specifications to be seen at the Wharf, on MONDAY, the 10th inst. Tenders to be delivered at No. 6, Mark-lane, on WEDNESDAY, the 12th inst. before TWO o'clock.

TO STONE MERCHANTS and MASONS. The London Wharfing and Warehousing Company, Limited, invite TENDERS for PAVING their STOREHOUSES at Plaistow Wharf.—Particulars and specification to be seen at their Office, 6, Mark-lane, E.C. on MONDAY, the 10th instant. Tenders to be delivered on WEDNESDAY, the 12th instant, before TWO o'clock.

TOTTENHAM LOCAL BOARD of HEALTH.—To ROAD-MAKERS and OTHERS.—Notice is hereby given, that the Tottenham Local Board of Health intend entering into a CONTRACT for RE-FORMING, LEVELLING, GRAVELLING and ROLLING certain ROADS on the Finsbury Freehold Land Society's Estate, Wood Green, Tottenham, according to the terms of the specification, schedule, and drawings, which may be seen at the Offices of the Board, on and after MONDAY, the 10th day of OCTOBER current. Copies of the specification and form of Tender, one guinea each. Sealed Tenders, entered "Tenders for Road Making Estate," must be delivered at the Offices of the Board, High Cross, Tottenham, between TEN and FOUR, on or before FRIDAY the 21st instant. But the Local Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide approved sureties to the amount of half the contract for the due and satisfactory performance of the works

By 20 Order, T. Hellman, October 6, 1864.

PARISH of CHELSEA, in the COUNTY of MIDDLESEX.—FLINTS.—The Vestry of this Parish will meet at the Vestry Hall, Chelsea, on TUESDAY, the 25th day of OCTOBER instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, until the 30th day of the same month of OCTOBER, for the SUPPLY of BEST CLEAN GREY BROKEN PITT FLINTS, according to a sample to be seen here, to be delivered at the Vestry Depôt, in Alpha place, Manor-street, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. The Flints will be measured at the said depôt by an officer of the Vestry. Sealed Tenders, stating the proposed prices, with the names and description of two sufficient sureties for the performance of the contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the said 25th day of OCTOBER. No Tender will be received or accepted unless made on one of the printed forms to be obtained at my Office. By order,

Vestry Hall, King's-road, Chelsea, October, 1864. CHARLES LAHEE, Vestry Clerk.

ST. ALBAN'S CORN EXCHANGE.—IMPROVEMENTS and REPAIRS.—To BUILDERS and OTHERS.—Persons desirous of TENDERING for certain IMPROVEMENTS and REPAIRS to the Corn Exchange, St. Albans, according to a specification prepared by Mr. THOMAS HILL, Architect, of No 14, Bedford-row, London, and St. Albans, are hereby informed that the said specification, conditions of contract, and form of agreement, may be inspected at the Police Station at St. Albans, between the hours of TEN a.m. and SIX p.m. from the 8th to the 17th day of OCTOBER, 1864, both inclusive. Tenders, under seal, to be delivered at the Town Clerk's Office, St. Albans, on or before the 18th day of OCTOBER, 1864. The Town Council do not bind themselves to accept the lowest or any Tender.

THOS. WARD BLAGG, Town Clerk.

Town Clerk's Office, St. Albans, October 5, 1864.

TO BUILDERS and CONTRACTORS.—TWO six-roomed HOUSES to be ERECTED and FINISHED, at Cardiff Town, Isle of Dogs, for Mr Edward Leah.—Plans and specifications to be seen on and after MONDAY next, OCTOBER 10th, at the Local Board-office, Manchester Road-chapel, between the hours of TEN o'clock, a.m. and FIVE o'clock, p.m.—The lowest Tender will not necessarily be accepted.

TO BUILDERS and IRONFOUNDERS.—NEW TOWN HALL, ROCHDALE.—CONTRACTS are required for the EXCAVATING and BUILDING of the BASEMENT STORY for the above, and plans, specifications, and quantities to be seen at the Office of the Town Clerk, Rochdale; or at the Office of Mr. W. H. CROSSLAND, the Architect, New Corn Exchange, Leeds, on and after the 11th inst. Tenders to be sent to the Town Clerk, Rochdale, not later than MONDAY, the 24th of OCTOBER instant. The lowest Tender not necessarily accepted

ZACH. MELLOR, Town Clerk.

Rochdale, 5th October, 1864

TO DUST CONTRACTORS and OTHERS. The Vestry of the Parish of St. Giles, Camberwell.—The Committee for Contracts hereby give notice that they will meet again at the Vestry-hall, Camberwell, on WEDNESDAY, the 12th day of OCTOBER instant, at FOUR o'clock precisely, to receive TENDERS for one, two, or three years, at the option of the Contractor or desire of the Vestry reserving to themselves the right of determining the Contract at either of those periods) for the Purchase, Collection, and Removal of all the Ashes, Cinders, Rubbish, Dust, Soil, Refuse, Filth, Rich, &c. made or to be made from the several houses, streets, &c. in the Districts of the Parish, namely:—the District of St. Giles, comprising Camberwell Workhouse, Dulwich and Camden Ward; the District of St. George, being St George's Wards, Nos. 1 and 2; the District of Peckham, being Wards Nos. 4 and 5; and the District of Dulwich, being the Hamlet of Dulwich. Approved sureties will be required for the performance of the Contract, at the names and addresses of the three proposed sureties must be entered on the Tenders, and the parties proposing to be the sureties must be present when the Tenders are opened. The Committee do not pledge themselves to accept the lowest or any Tender. The form of Contract may be seen at the Vestry Clerk's Office. The parties Tendering must each put their name on the cover of the Vestry Clerk's Office, and deposit with their Tender 40s. By order,

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, 4th October, 1864.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the EXECUTION of the WORKS required in the ERECTION of THREE VILLAS, to be built at Leighton Buzzard, in the County of Bedford, are requested to forward their names to us on or before the 17th instant. Due notice will be given to the applicants as to the inspection of drawings, specifications, &c. BELLAMY & HARDY, Architects and Surveyors.

Lincoln, October 4, 1864.

TO BUILDERS and CONTRACTORS.—NEW EXCHANGE BUILDINGS, HULL.—The Directors of the Hull Exchange Company (Limited) are requested to receive TENDERS for the ERECTION and COMPLETION of their PRO POSED NEW BUILDINGS, in Lowgate and Bowlalley-lane, Hull. The plans, specifications, and conditions of contract may be examined, at 1 till 4 o'clock, at the premises of one guinea, at the Offices of the Architect, Mr WILLIAM BOTTERILL, 2, Parliament-street, Hull, after TUESDAY, the 27th instant. Sealed Tenders, properly endorsed, to be addressed to the Chairman, and delivered at the Temporary Offices of the Company, 22, High-street, Hull, on or before WEDNESDAY, the 12th of OCTOBER next. The Directors do not pledge themselves to accept the lowest or any Tender.

Hull, 14th September, 1864. T. W. FLINT, Chairman. W. H. MINES, Secretary.

HALIFAX CORPORATION WATER-WORKS.—WORKS in the LUDDENDEN VALLEY.—To CONTRACTORS.—The Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following Contracts:—

No. 4, or CASTLE CARR CONTRACT, comprising the formation of three Reservoirs, a Gauge Basin, and the Weirs, Watercourses, Roads, and other works connected therewith. The Reservoir Embankments are 2, feet, 7 feet, and 80 feet in height respectively, and the gross amount of earthwork is about 2,500 cubic yards.

The plans, sections, and drawings may be seen, and specifications and forms of Tender obtained, at the Town-hall, Halifax, and at the Offices of the Engineers, J. F. BATEMAN, Esq. No. 8, Saint James-square, Manchester, and No. 16, Great George street, Westminster, on and after MONDAY, the 3rd of OCTOBER next. Sealed Tenders must be addressed to and left with JAMES EDWARD NORRIS, Esq. Town Clerk, Halifax, on or before MONDAY, the 24th OCTOBER, 1864 endorsed with the name of the particular Contract for which it is a Tender. The Corporation do not bind themselves to accept the lowest or any Tender, and they may, if they see fit, let the whole work in one or more contract or contracts.

N.B.—No. 3 Contract is withdrawn.

By order, J. E. NORRIS, Town Clerk.

Town-hall, September 28th, 1864.

TO BUILDERS and OTHERS. Persons desirous of CONTRACTING for the EXECUTION of ADDITIONS and ALTERATIONS to the ROYAL OAK HOTEL, Sevenoaks, Kent, can apply, by letter only, to HARRY R. NEWTON, Architect, 6, Argyll-street, Regent-street, London, W.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a POLICE STATION at Sittingbourne may see the plans and specifications at the Office of the County Surveyor, Maidstone, any day except Sunday, between the hours of TEN and FIVE. The work is to be executed for agreeably to the form to be obtained at the County Surveyor's Office, where no old Tenders, endorsed "Tender for Sittingbourne Police Station," are to be delivered by TEN o'clock in the forenoon of TUESDAY, the 25th day of OCTOBER next, and persons tendering are to attend the Justices at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the performance of the Contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, September 30th, 1864.

THE YORK UNITED GAS-LIGHT COMPANY.—To IRONFOUNDERS, &c.—Persons willing to TENDER for a WROUGHT-IRON ROOF, for a large Shed at the above-named Works, near Monk Bridge, in the city of York, may inspect the drawings and specifications at his Office, on and after THURSDAY, OCTOBER 6. Tenders to be delivered at my Office before FIVE o'clock p.m. on WEDNESDAY, OCTOBER 12. The Directors do not pledge themselves to accept the lowest or any Tender.

Castlegate, York, September 30, 1864. P. WILSON GOULD, Architect.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and 46 Jermyn-street, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY PIECES of the most fashionable designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

SERPENTINE, large size and great variety, EQUAL TO GRANITE IN DURABILITY; adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used. Manufactured by THE LIZARD SERPENTINE COMPANY (Limited), Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall.

Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

HY. GEORGE & CO. MARBLE IMPORTERS and SLATE DEALERS GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E. and WILLINGTON WHARF, CHANTS PARK BASIN, Caen, Ashlgny, Portland, Bath, Yorkshire, Granite, and all other stones, in block and slabs, sawn, self-faced, and worked to order. Tooled Paving, Landings, Steps, &c. At Depôts, and shipped direct by vessels, or railway.

G. MITCHELL, MARBLE, STONE, and GRANITE WORKS, SHOWROOMS:— No. 156, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application. Estimates will meet with prompt attention. MANUFACTORY at WALTON STREET.

PORTLAND STONE. Portland Slab, Paving, Landings, and Scantling of every size sawn by steam, always kept in stock; also York Paving and Landings, Steam, Stone, and Marble Saw Mills, Cremorne Wharf, Chelsea, and Grosvenor-road, Pimlico. THORN & CO. Stone Merchants and Contractors

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE and SUPERIOR PLASTER OF PARIS. This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.

PRIZE MEDALS were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1862, and again in 1862. PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C. SHOW ROOMS AND OFFICE, 14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W.

LITTLE CASTERTON FREESTONE. Apply, for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD, The Owner; and see Specimen at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite) is raised in blocks of any probable size, and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

* * The above WEATHER STONE is used largely by London Builders.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, STONE MERCHANTS and QUARRYMEN. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Office—10, Three Crown-square, Southwark.

THE SCOTTISH GRANITE COMPANY (Limited) are prepared to EXECUTE ORDERS in Polished, Rail, or Grey GRANITE, for Monumental or Architectural purposes. The Red Granite from their quarries is more highly prized than any other known, and can be obtained in large blocks. The Company are also ready to undertake Contracts for the supply of any quantity of their Material, either in blocks or rough dressed, and in lengths extending to 20 feet and upwards if required. Specimens of the stone may be seen at the Offices of the Company, 30 Cannon-street, London, E.C. and terms may be ascertained by application to the Secretary.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862. Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes. Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depôt, 401 Euston-road, N.W. DAVID WILLET, Agent.

WEARDE STONE QUARRIES, LIMITED. The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Polishing in any sizes; also for Macadamizing.—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

RED MANSFIELD STONE, WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station. Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales, and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts. BANGOR, GARSTON, SALTNEY, CHESTER, and GLOUCESTER. Prices forwarded and estimates given on application. 1, BOLD TERRACE, CHESTER.

CAMEL SLATE and SLAB QUARRY, WADEBRIDGE, CORNWALL. The Proprietors of this Quarry are prepared to execute ORDERS for SLATE of first and second quality; also for SLABS of exceedingly good quality, well adapted and suitable for Flooring, Paving, Flags for Streets, Window Sills, Chimney pieces, Skirting, Water and Manure Tanks, and Tombs; also for Enamelling and any purpose for which Slate is used. Slabs can be supplied from 60 feet to exceeding 100 feet super. in a stone. Vessels can approach the wharf from whence the slate is shipped and lie in safety.—Price List, and any information required, can be obtained on application to the Manager. Dated 29th September, 1864.

NO SHUTTER BARS.



JENNINGS'S SHOP SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send PARTICULARS to GEORGE JENNINGS, Engineering Depôt, Pale's Wharf, Stangate, Lambeth, S.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper and Zinc; Patent Locks of all descriptions, Chains, Glass, and Wood Turnture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each. J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE. 14, Stanhope-street, Newcastle-street, Strand, London, W.C.

R. FOX, 5, Conant-place, West-India-road, E. Contractor for laying Dewaxx's thick Vieille Montagne Roofing Zinc (on the new system introduced by Mr Fitzerton, Architect to the Vieille Montagne Zinc Mining Company, 67 Cornhill-court, Old Broad street, E.C.) by which durability and great features of work are obtained; Sash and Skylight Maker. All kinds of Ornamental and other Zinc Work executed in the best manner.

IRON CHURCH WANTED, near London, either new or second-hand. Capable of holding 600 persons.—Address A. care of Mr. Abbott, 7, Little Tower-street, E.C.

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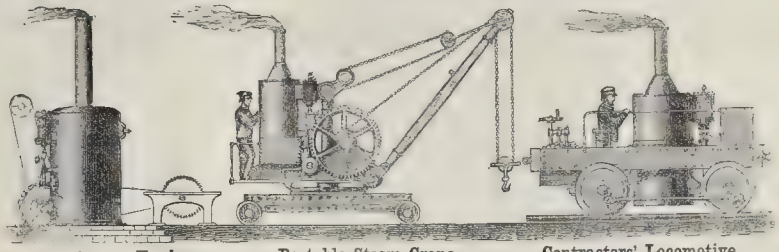
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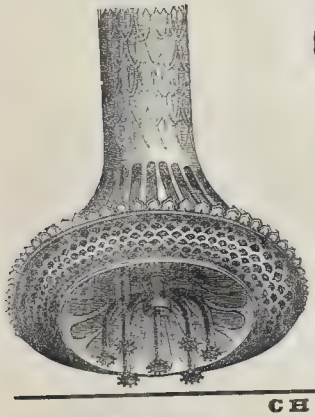
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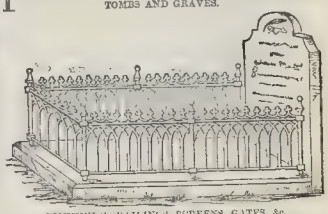


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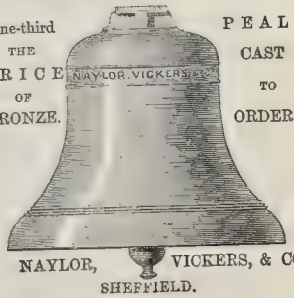
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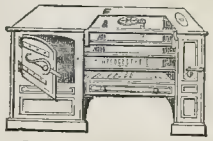
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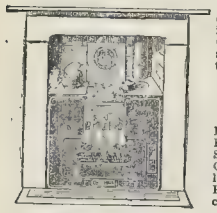
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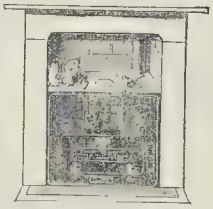
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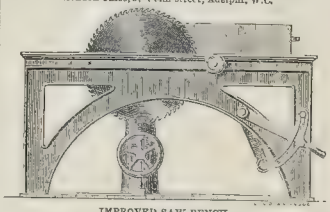
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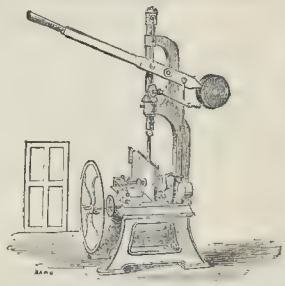
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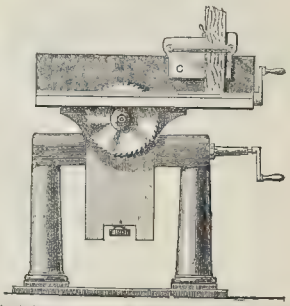
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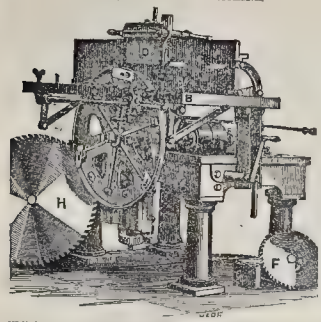
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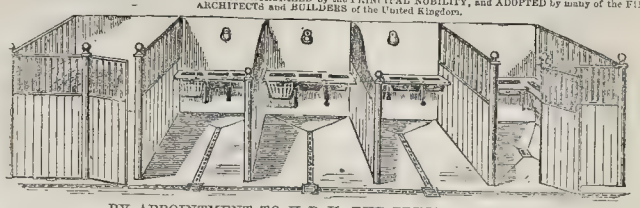
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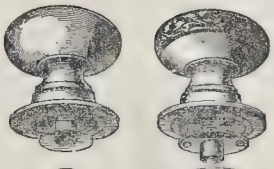


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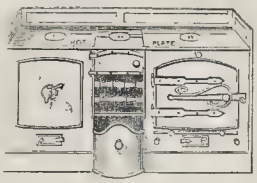
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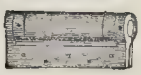


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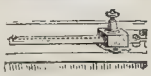


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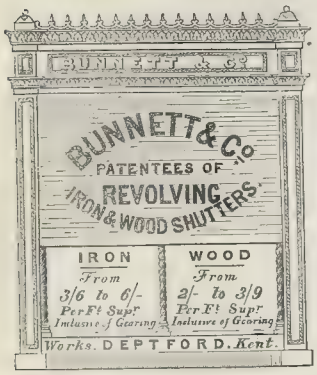


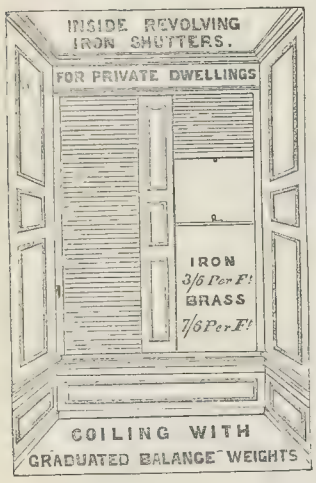
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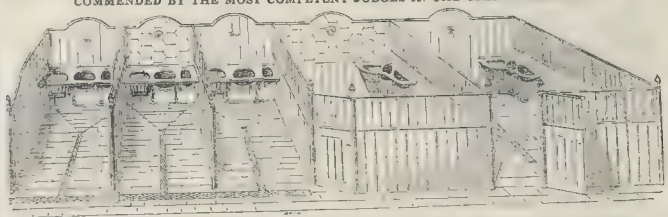
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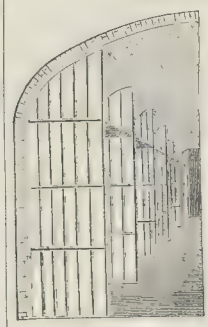


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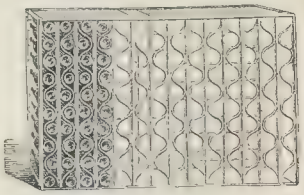
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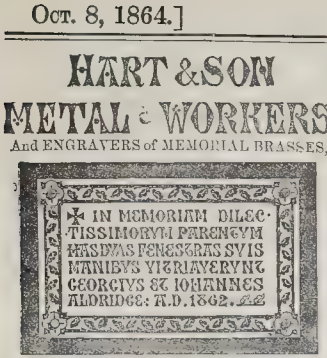
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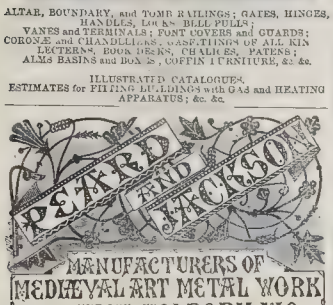
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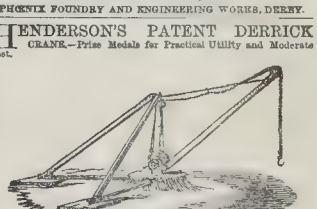
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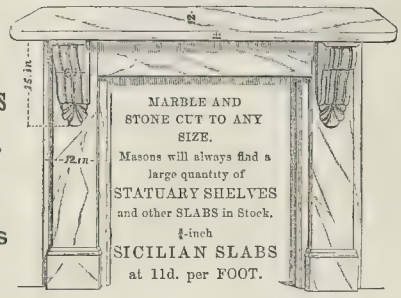
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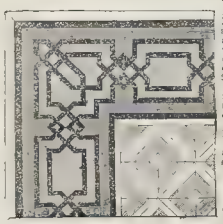
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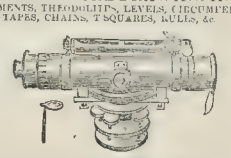
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VOL. XXII.—No. 1131.

The Coloured Decoration of Churches.

PURSUING this subject,* which is one of especial interest with many of our readers, we must return a little chronologically. At Headington Church, Oxfordshire, are found extensive and interesting traces of the original painting of late thirteenth century date. These original paintings were covered by no less than twenty-four coats of whitewash; and if these could have been peeled off entire, they would have supplied us with no less than six different series of wall-paintings of different dates. The earliest is that which we are about to describe; four others consisted of powderings of crosses, roses, and knots; the latest was of Tudor date,—we shall have occasion to refer to it in a later part of this paper. Of the original painting a great part of the entire scheme of colouring of the nave could be made out. In the arcade the arches were coloured red in the exterior chamfer, and yellow in the interior, with a scroll foliage pattern on the soffits, like that which will be seen under the windows in the drawing of the south wall. How the pillars and capitals and the spandrels between the arches were treated did not appear. Over the hood-moulding was a close masonry pattern in double red lines; and probably the rest of the spandrels were covered with single line masonry pattern. The walls were covered with decoration; that of a portion of the south wall is represented in the accompanying woodcut.† A scroll foliage pattern runs under the windows, and the space beneath this, which in other churches is frequently left unpainted, is here painted with a kind of imitation of hangings of narrow vertical stripes of different colours.

Drapery of similar character is very commonly found represented in illuminated MSS. of this period. The imitation of such hangings here suggests the possibility that the surbase of the walls, which is so frequently left unpainted, was intended to be draped with hangings. Above the band of foliage the wall is entirely painted,—a masonry pattern, of which the stones are yellow, the joists broad pink, with a centre line of white on the pink. A series of pictures are regularly arranged on the broad window splays, and other pictures are added on the wall spaces with an irregular arrangement, *i.e.*, not symmetrical with respect to the principal series, or to the wall spaces on which they are painted. The subjects of the series of paintings on the splays cannot all be made out satisfactorily: some of them seem to be incidents in the life of our Lord; but others intermixed with them seem to relate to other subjects; *e.g.*, on the left jamb of the first window the subjects seem to be the "Nativity," and the "Flight into Egypt," but those on the right jamb do not seem to belong to the same history, and are unintelligible. Again, the two upper pictures on the second window seem to be the "Slaughter of the Innocents," and the "Triumphal Entry into Jerusalem;" but the lower pictures, again, do not seem to relate to the same history, and are unintelligible. The heads, which are inserted to fill the triangular spaces in the upper part of the splays, are St. Peter and St. Paul in the first window, and a queen and a bishop, probably two saints, in the other. The east end of the nave had been entirely covered with painting. On the lower part the band of running foliage and the hangings of the south wall were continued. Above this the wall was divided by four horizontal stripes of red, on each of which was a row of half-coloured stars; the wall spaces between the stripes were produced with red stars. Over the round Norman chancel arch was painted a pointed arch of scroll foliage, on the upper part of which was a picture of the Majesty, viz., of our Lord seated, with kneeling figures adoring. We are indebted for the knowledge of these interesting paintings, and for the excellent drawings of them, from which our engravings are taken, to Mr. Herbert Hurst, of Enfield. An unusually complete series of paintings of the latter part of the thirteenth century was brought to light at St. John's Church, Winchester, in 1853, and was drawn and described by Mr. Baigent, in the Journal of the British Archæological Association for that year. On the north wall of the arch of the church the paintings reached from the roof to within 8 ft. of the ground, and extended over the whole length of the wall, interrupted only by the lancet windows. The different paintings were of unconnected subjects, and were not arranged symmetrically on the walls. Some were enclosed in a frame of marginal lines, others were not, and the blank spaces of the wall were irregularly powdered with crosses and other ornaments. First, beginning at the west end, came a grand "Doom," in three horizontal compartments, one over the other, painted with great care and in a greater variety of colours than usual—red, green, yellow, and pink. Over one of the lancets was a large circle, with two smaller circles on each side of it: in the larger circle a head of our Lord; in the four smaller circles the evangelistic symbols; and below—one on each side of the arch—two angels censing. In the next compartment is a Crucifixion, inclosed within a yellow border foliated at the corners. There is a figure on each side of the cross; but instead of the conventional SS. Mary and John, one figure is St. Francis, the other is a tonsured and cowled figure which we might have taken for St. Dominic but that his robe is red. Next to this, without any frame, is a "Crucifixion of St. Andrew," and then comes another window, over which is an angel distributing crowns. On the other side of the window is a "Virgin and Child," and then another angel kneeling and censing, but not towards the Virgin. The space of about 62 ft. between this and the last wall (which, perhaps, came within the screen of a chantry chapel) seemed not to have been painted. On the opposite wall of the same aisle there was one painting at the east end, and rather high up over a hagioscope and piscina in the respond wall which divides the chapel from the chancel. This was a very interesting painting, in excellent preservation, of the "Martyrdom of St. Thomas à Becket." Other paintings existed on the spandrels of the arcade between the aisle and church, and on the wall over it: their curious arrangement is represented in the woodcuts which illustrate Mr. Baigent's paper in the *Journal of the Archæological Association*, vol. ix. A vertical border of scroll foliage marks the commencement of the paintings at the west jamb of the rood door. A similar band of foliage runs over the points of the arches, and there is a series of paintings very much defaced and undecipherable in the long horizontal compartment between this band and the roof. Then the spandrels were occupied with other single subjects, of which one remained tolerably perfect, and is represented in the drawing. The way in which this subject is supported on the hands and head of a crowned sitting figure is very curious.

A series of paintings at Battle Church, Sussex, probably of early fourteenth century date, gives us other modes of arrangement. One series is on the clerestory wall, between the windows. The wall spaces, which are almost square, are divided by two vertical lines crossed by one horizontal line into six compartments each, and there is a subject in each compartment; there is also a saint painted on each of the window splays. The east end of the nave is also painted. The space between the tie-beam of the roof and a little above the spring of the chancel arch is divided into two long horizontal rows of saints under canopies. The wall-space above this, between the tie-beam and the rafters, is occupied by two subjects of the popular Triumph (or Dance) of Death. The paintings are executed in red outlines, with occasional flat tints of red and yellow.

In a chapel of Notre Dame des Pas, in the churchyard of St. Brelade, Jersey, which is interesting as an example of the detached chapels which used not unfrequently to exist in churchyards, there are some interesting paintings of the fourteenth century. The building itself is very plain, and devoid of architectural ornament; its plan is a simple parallelogram, with a plain Pointed vault. The paintings were apparently confined to this vault. Along the apex of the vault is a line of scroll foliage. Each side of the vault is divided into three long horizontal lines of painting, executed in red outlines with considerable artistic skill, on the ground of pale buff-tinted plaster, the subjects running continuously without separation, as in the Bayeux tapestry. On the north side the subjects, so far as they remain, seem to relate to the Passion of our Lord. Beginning at the west end, we have first the "Trial before Herod." Herod is sitting on a throne in the costume of one of our Royal Edwards, with a scroll above him, "Herodes Rex." Our Lord is between two soldiers in the costume of fourteenth century men-at-arms. The next subject is the "Binding of our Lord." The second row begins with the "Scourging;" next the "Bearing the Cross." The lower line of painting is obliterated. On the south side of the vault the subjects, so far as they remain, relate to the Nativity. Beginning at the west end, in the first subject is seen a portion of a royal figure, but the subject is so far obliterated as to be undecipherable. The next is an "Annunciation." At the west end of the chapel is a "St. Michael weighing Souls." The vacant spaces in the background between the figures are powdered with a very simple pattern consisting of five small circles.

When we come to the fifteenth century, there do not seem to be nearly so many wall paintings as in the fourteenth century, and many of them seem to be merely decorative. In very many instances, the original Early English and Decorated paintings have been washed over, and the walls covered entirely with powderings of roses, fleurs-de-lys, and other patterns. One of the most complete series of paintings of the time which has come under our notice, is that in the lady-chapel, Winchester Cathedral, which is of unusual merit, and in very good preservation. They occupy the space between the windows and the floor, and are arranged in two rows, framed in a painted architectural panelling: pillars divide the wall-space into compartments, with a flat cusped arch; each compartment is divided into two panels by a transom, and the upper angles of the lower panel are also rounded off into a flat arch. The subjects, which possess great artistic merit, appear to be scenes from some legendary story. They are engraved imperfectly in Carter's "Ancient Painting and Sculpture," and more accurately in the Winchester volume of the British Archæological Association. The piscina has its architectural features decorated with painting, and a subject painted at the back of its niche.

* See p. 724, *ante*.

† See p. 741.

On the south wall of Hadleigh Church, Essex (whose thirteenth century paintings have already been noticed), to the east of the south door was a large painting of St. George, rather finely designed and executed,—an unpublished drawing of it is in the collection of the Essex Archæological Society. The fine picture of the "Incredulity of St. Thomas," painted on one of the Norman piers at St. Alban's, has already been noticed. At St. Laurence's Church, Melcombe, near Banbury, opposite the north door, was a painting of the martyrdom of the patron saint. On the north wall of the nave were two horizontal rows of paintings which have been conjectured to represent the seven deadly sins. They are of the time of Henry VII.; drawings of them, which are, we believe, unpublished, lie before us.

At St. John's Church, Winchester, there were two or three figures (fig. 14, p. 740) well executed in black outline on white, and set in a red ground. From the same series of paintings we obtain one of our few examples of merely decorative wall-painting of this century. It is a powdering of alternate crowns and oak sprigs on a red ground * (fig. 15). Another wall pattern of leaves springing from ascending spiral stems we give in the woodcut from Beckley Church, Oxon† (fig. 16).

One of the most complete examples of this style of decoration we obtain from the fine late Perpendicular church of Great Coggeshall, Essex. "During the restoration of this church," says the Rev. Edward L. Cutts, in a paper read before the Royal Institute of British Architects, which we have already several times quoted, "I looked carefully for all indications of its original coloured decoration, and I think that its entire plan could be made out. The plan of the church is chancel and nave, with aisles running through from east to west, west tower, and north porch. Colour seems to have been very sparingly applied to the architecture. The walls generally seem to have been left unpainted, with only a line of red in the moulding round the edge of the window splays. The bell of the capitals of the pillars was coloured red. The arches across the chancel and its aisles had a few stripes of plain colour, chocolate, bright red, and yellow. The east walls of the chancel and aisles had been painted over with a tapestry-pattern of a character common about the reign of Henry VII., which pattern returned a short distance along the adjoining walls to form an enrichment above the altars." [We may here add that on the wall face to the left of the window of the north chancel aisle there were traces of a different tapestry pattern, powdered with sprays of a flower with leaves like a wild anemone, which was also a common pattern at the same date.] "There was, moreover, a whole series of dedication crosses on the walls of the chancel aisles beneath the windows, all alike,—a cross patée within a circular rim, the cross dark red and the rim dirty grey (probably faded green). There were two under the windows of the north wall of the north chancel aisle, and one higher up on the right side of the east window of that aisle; one under the east window of the south chancel aisle, and four others under the windows in the south wall; in the absence of other paintings this series of crosses must have been conspicuous. It will be seen that there is very little painting indeed; and for that very reason I think it is worth noting, as a proof that in a fine, large, handsome church the system of decorative colour was sometimes of a very simple character. I presume the painted glass in the numerous and large windows afforded abundance of colour of the most brilliant kind, and it was desirable that the wall-spaces between should be left plain as a foil to the glass paintings, with only a line of colour here and there to give emphasis to the chief architectural features, and to carry the colour into the body of the building."

We may mention one example of groining decoration of this period; it is in the north chancel aisle of St. Alban's. The groining ribs are picked out with red; four rays of masonry pattern, of which the intersecting boss is the centre, extend into the spandrels of the vaulting, and across each ray is written a large *tfje* in what now looks like black, but may be discoloured red lead. The greater part of the painting of the fifteenth century is to be found on the woodwork which was so largely introduced during this period, viz., on rood-screens, roofs, pulpits, &c., and on tombs. It is generally much more elaborate in design and brilliant in colours, and more minutely finished, than the bold distemper paintings on the walls. It is a very extensive branch of the subject into which we have not space to enter; and we leave it untouched with the less regret that a considerable number of excellent examples of it are easily accessible in Mr. Blackburne's "Decorative Painting" and Mr. J. K. Colling's "Examples of Gothic Ornament."

The Tudor painting at Headington, Oxon (whose Early English painting has already been noticed), was unusually elaborate. The pillars had been painted in broad stripes of deep red and yellow, each 8 in. wide, from top to bottom. The capitals had dark red in the hollows, and a few red cinquefoils painted at intervals in the hollow of the bell. The chamfers of the arches were also red, and over the hood-moulding of the arches was an engrailed border in black, each point of the engrailing terminating in a rudely drawn trefoil. An example of this bordering will be seen over the south door, in the large engraving of the Headington Early English paintings. The same border was used over all the windows and doorways. The narrow piers between the windows on the south side had an ascending wavy line of black, branching at top into three flower-stalks, supporting three Tudor flowers, all black (fig. 17). All the window splays were crossed with diagonal bars in black outline, budding out at about every foot into semicircles and trefoils. Some black and red hangings to the left of the south door (over the "St. Christopher" in the drawing), seemed to belong to this period, but the chief decoration of the walls seemed to be black-letter texts, surrounded by red borders; in one instance the border consisted of a red stem, with green ivy leaves springing from it, which, however, was poor in execution and effect.

The Jacobean texts which were written on the walls, and which from the last style of mural decoration, often have ornamented borders, were found at Hadleigh Church and at Little Braxted Church and at Kelvedon Church, all in the county of Essex. The accompanying woodcut (fig. 18) is from an ornamental border on the wall, a little above the level of the seats, which formed part of this Tudor decoration at Kelvedon. We may note here that the Lord's Prayer, the Creed, and the Ten Commandments, as originally written in obedience to the Canon, still remain in some cases, at the east end of the church, *i.e.*, of the nave, *e.g.*, at Bradfield, Essex, where they are written on a boarding (probably original) over the rood beam. The latest text we have met with is in Langdon Church, Essex, of the time of the Restoration of the Monarchy and the Church after the Commonwealth; it runs along the west side of the rood beam, over which the arms of King Charles II. had been put up; and the text chosen to be thus placed in sight of all the people is significant:—"My son, feare God and honour the King, and meddle not with them that are given to change."

* "Journal of British Archæological Association."
† "Archæological Journal," iv., 257.

THE GREAT EXPLOSION; AND THE BREACH IN THE RIVER-EMBANKMENT.

Warnings of danger to this metropolis from the storage of large quantities of gunpowder, even at places so distant as Purfleet, Plumstead, or Belvedere, have been occasionally uttered,—though they have not received the same attention as those referring to the accumulation of petroleum and other combustibles, in buildings amongst the streets of London. But the magnitude of the danger has been demonstrated since our last number appeared; and consequences hitherto unapprehended, involving, from the particular explosion, the inundation of a large area of valuable reclaimed land, and that of the extensive low-level inhabited districts in the south or south-east of London itself, besides injury and delay to the sewerage works, have been averted only through a most fortuitous conjuncture of circumstances, the presence of mind and the skill of one or two individuals, and the immediate energy and laborious exertions of a great force of men.

On Saturday morning last, at about twenty minutes before seven o'clock, there occurred at a certain spot on the southern bank of the Thames, near Belvedere, and distant about one mile above the church of Erith, and the same distance below the reservoir and Outfall of the whole Main-drainage of that side of the river, an explosion of a quantity of gunpowder which appears to have far exceeded in the amount, that of any explosion in time of war, whilst the sound and concussion reached to places at a distance of eighty, ninety, or approaching one hundred miles. The quantity is estimated to have been 1,040 barrels of 100 lb. each, or in all nearly 16½ tons. It was contained in two magazines, which stood close behind the embankment or river-wall of the Thames, and in two barges outside; but the quantity that was in one of the buildings formed a considerable portion of the whole, and amounted to 750 barrels. The destruction of life, or personal injuries, by the explosion itself, fell almost exclusively upon the few individuals, and their families, who were in charge of the magazines, or on board the barges, or engaged in the work of loading or unloading; and it may not have exceeded about twenty individuals, five of whom are dead whilst we write, and five are "missing" or represented by fragments of heads, arms, feet, or mere pieces of flesh. Individuals not connected with the magazines, nor on board the barges, however were killed or injured; amongst the killed being two men who were at the time about proceeding to their work in certain repairs to the river-wall at a place adjacent to the scene of the explosion. The destruction of property however was immense; though it is rather to be realized from the accounts, albeit inadequate, than discovered by a visit to any single spot. Where stood the buildings, there are now scarcely ruins, and the bricks of the magazines strew the ground as so many pieces cleaned of their mortar, better than could have been done by hand. A wide cavity in the earth shows where stood the principal building, a substantial structure, belonging to Messrs. John Hall & Son, of the Faversham Mills, and about 50 ft. square. It was erected five or six years ago, at a cost of about 3,000*l.* The other magazine, variously stated as about 60 or 70 yards distant, or as about 300 or 400 yards, belonged jointly to the Elterwater and the Lowood Gunpowder Companies, and measured about 40 ft. by 30 ft. Each building was in two floors, and had a wooden jetty for the unloading and loading of vessels. The other buildings were three cottages, occupied by the two storekeepers, one of whom is living, and by the workpeople, and were at some distance from the magazines. The barges were blown into fragments, which fell into the river, or, with some portions of the buildings and their furniture, and of human limbs, were projected to incredible distances. Some of the business-papers were carried into Woolwich Arsenal, distant four miles. This latter place was, by the inhabitants of Woolwich, at first thought to be that of the explosion. The embankment-wall, for about 300 ft. in length, was forced into the river; and the marshes of Erith and Plumstead, and parts of London itself, which the water covered before the period of authentic history, were laid open to the rising tide. The consequences of this portion of the calamity, to which we have alluded, have at present been averted, as we have said; but in their full extent, they are to be estimated only by professional readers, acquainted with the districts in and east of London, and their levels, with the formation of the banks of the Thames, and with the accounts of some previous breaches. Now, the public mind rests impressed chiefly with the recollection of the concussion, and with the facts including those of the injury done in the villages of Belvedere, Erith, and Plumstead, in the town of Woolwich, and in parts of the eastern and southern districts of the metropolis proper. Glass was broken, and window-frames were forced in; so that in Belvedere, distant about three-quarters of a mile from the magazines, and in the other places, houses have been rendered uninhabitable. Ceilings and chimney-pieces were broken, and walls were so shaken, that at least one house, and this one at a considerable distance, has since fallen. Even in London, in the Minories and Aldgate, plate-glass was broken; whilst at the Crystal Palace a door was burst open; and in Norwood, a house that was in erection has been greatly injured. Such effects as these last were experienced at distances of ten or twelve miles. Though three distinct shocks are reported to have been felt, the almost instantaneous spread of combustion from grain to grain of the powder, barrel to barrel, floor to floor, and building to building, is surprising, even with the knowledge of the properties of gunpowder, and the infinitesimal thread of a train, or leakage, that suffices to establish a connexion between one enveloped quantity and another. The occurrence will doubtless receive attention from men of science;

but we may note that one statement refers to the falling down of grains of powder apparently unconsumed.

It is now seriously discussed, whether the storage of large quantities of gunpowder in places distant but one mile, or even ten miles, from a populated district, should be permitted. Half-way between the site of the catastrophe, and that of the Southern Outfall of the sewerage, is another magazine, to which happily no matter in combustion gained access, though glass was broken. Tiles were blown from roofs of buildings further distant. Close adjoining the property of the Metropolitan Board of Works, is yet another magazine, which was empty, but to which the attention of the Board is, we believe, pointedly directed. Further west, or above Crossness Point, is still another magazine, this last belonging to Government.

The chimney and buildings of the Outfall-works, received no damage, beyond that of the fracture of plate-glass of the value of about 150*l*. But had the marshes been inundated, the Outfall-sewer itself, with its numerous ventilating-shafts, as well as side entrances,—and without considering the existing state of the several channels in connexion with the reservoir,—would have been flooded; and the sewage would have been dammed up, even as far as Battersea. The invert of the sewer at the outfall, is 28 ft. 6 in. below the high-water level; whilst the surface of the ground where the engine-house and other buildings stand, is itself 6 or 7 ft. below the level. A breach in the embankment, beyond the jurisdiction, or works, of the Metropolitan Board, is thus seen to be a serious matter of consideration. Fortunately, on this occasion, there was a body of workmen who were able to proceed at once to the scene of the disaster.

Every circumstance of time and tide, availability of competent direction, presence of men at the works of the Outfall, vicinity of a great and disciplined military force with tools and appliances, and even the soil at the spot, happened to be favourable; and a more serious disaster than has occurred within recollection, by a breach in an embankment of the Thames, was by the greatest exertions staved off, and at length was, as we have said, averted. The manner in which the whole business was conducted, merits record in these pages; and the instance may be instructively compared with the experience of previous accidents as related in various books, where the loss to landowners, and the injury to the navigation of the Thames, through the years' duration of breaches, and by the repeated failures of attempts to close them, is graphically related.

In our volume for 1855, under the title, "Some Memorials of Father Thames," we published a series of papers in which will be found much historic and other information concerning the river; and in 1861, in two of our numbers, we printed a communication from Mr. C. H. Smith, on "The Present and Past Boundary of the River Thames at London," which contains some matter having a particular connexion with the present subject. Later in 1861, appeared Mr. Samuel Smiles's "Lives of the Engineers," in which considerable attention is given to the early attempts in embanking and draining in England. The efforts made about the seventeenth century were greatly due to foreigners, more especially the Dutch. Holland furnished to us the chief engineer, Cornelius Vermuyden, (who was knighted,) much of the capital, and a large number of the workmen. Vermuyden's name is connected with the reparation of breaches in the Thames, as also is that of Captain Perry, who stopped the Dagenham Breach. Perry's name, like Vermuyden's, holds honourable place in Mr. Smiles's volumes. Much of the information about early attempts in embanking is derived from Sir William Dugdale's "History of Imbanking and Draining Fens and Marshes;" and Perry's operations at Dagenham were the subject of a book by himself to which we shall refer shortly. The matter which this latter book in particular contains is not simply interesting at the present time; it is highly instructive for the future.

Whatever decision may be arrived at as to the required distance between powder-magazines and dwellings, it is quite clear by the recent occurrence, that they should not be placed close behind sea or river walls, and below the level of the top thereof, on land that has been reclaimed, and is lower than the highest level of the tide or stream. To place them so, is simply to ensure at some day, the blowing in of the embankment to the river, and such danger as has been run at Belvedere. When we come to notice Perry's labours, we shall find his account of them suggestive now of several points that require attention, beyond the matter of the location of powder-magazines.

Even residents in London require to be reminded that the Thames, in its present course, is to be considered, as it has been called, an "artificial river," almost throughout the distance from Richmond to the sea. But a walk along the top of the embankment-wall, as below North Woolwich on the one side, and Plumstead on the other, must set any one of an engineering turn wondering about the time when, and the people by whom, a work altogether so stupendous as the embankment of the Thames and reclamation the embankment of the marshes" was achieved. The earliest of references to the embankments speak of breaches in them, and thus point to a still earlier period as of their formation. Sir William Dugdale thought that they were works of the Romans, the Britons being unequal to them, and the Saxons likewise. Sir Christopher Wren, as reported in the "Parentalia," also concluded that these embankments were Roman, the Saxons being too much busied with Continental wars. The late Mr. James Walker, in one of his reports to the Navigation and Port of London Committee, in 1841, spoke of them as works of the Britons under Roman superintendence. Mr. R. P. Cruden, in his "History of Gravesend and the Port of London," doubts whether the Romans had sufficient inducements to construct such works, asks why the earliest notice of them is not till later than the Norman Conquest, shows by allusion to Romney Marsh, that the Saxons were capable of the execution of embankments, but finally rejects the Saxons, as well as Gundulph. He quotes from Hasted's "History of Kent," a record of the foundation of an abbey at Westwood, about a mile and three-quarters westward of Erith Church,—the spot being represented as "at the edge of the marshes;" and a coincidence with a similar foundation and position in the case of the Abbey of Stratford, in Essex, suggests to him the probability that the embankment of the Thames was commenced about the time when these monastic establishments were founded, in the twelfth century; and he says, "these were not attempts to grapple with the difficulty of restricting the channel of the river, but a beginning at the foot of the uplands to make gradual approaches to the great line of embankment that was ultimately executed."

The earliest printed statutes relating to embankments, are of the early part of the thirteenth century, in the reign of Henry III.; but they refer to laws of a previous period. They tend to show that in the reign of Henry II., or between 1154 and 1189, embankment had become an object of public importance. According to Crudon, Lambarde in his Perambulation of Kent (edit. 1596) "says that the Annales of St. Augustine do report, that in the year 1279, the Abbot and Convent of Lyesnes (Lesnes near Erith,) enclosed a great part of their marshes in Plumsted, and that within twelve years after, they *inned* the rest also to their great benefit, and this it may be contended, means, that between the years 1279 and 1291, the wall of Plumsted level that restricts the channel of the river, was completed." On this evidence says the same writer, it must be presumed that the embankments between London and Gravesend were commenced early in the twelfth century by easily executed approaches; were extended in the reign of Henry II., between 1154 and 1189; and were generally completed in the century following.

The appearance of the marshes between Crossness Point and Erith, certainly favours the correctness of this view, of the gradual reclamation. Old embankment lines may be seen or traced; although none of them, probably, would have been perfect, so as to have stemmed the tide, on Saturday last, had it not been kept out at the spot where the breach occurred. In the formation of the Outfall-sewer, several of these lines were cut through, and were found to have been originally well constructed, with proper clay-puddle in them. In several of the *levels*, as the divisions of the marshes are called, on the north side, the inland lines are not very conspicuous. The main or river-wall, and the sluices to let off land-water, or irrigate the marsh, of course have to be kept in repair. Lengths of the embankment, extending many miles, are under the control of one or other Commission, the members of which generally have not much practical acquaintance with engineering-work, but who keep some men employed patching, though too few in number, of course, to cope with any great disaster. Some of these men were engaged on Saturday last, near the scene of the explosion, as already mentioned. The Commissioners of old time had power not only to distrain for rates, but to impress labourers to repair.

Until recent times, breaches in the embankment, on each side, were frequent. Mr. Smith, in our pages, gave a list, compiled from Dugdale, of fourteen of them, as well authenticated, commencing in 1295 in the time of Edward I., and ending with the breach at Dagenham, which occurred in 1707 in the reign of Queen Anne. There must however have been many others. One in particular, we find mentioned by Cruden, on the authority of Lambarde, as having occurred in 1527, when the river made an irruption at Plumstead and Erith, and so much land was submerged, that it was not all regained till after 1590, notwithstanding there was provision by statute that money should be raised to defray the charge. There are ponds, and an inland embankment, as indications of one breach, at a short distance east of the Outfall-works. Another inundation, not amongst the fourteen of the list, occurred on the north side. It flooded the whole level between Purfleet and Grays; and amongst the results was the formation of a shelf which, we believe, still obstructs the navigation. Breaches at Bermondsey were numerous.

The breaches were liable to occur when a north-easterly wind blew; and we may form some idea of what would have been the effect of the wind that has been blowing since Saturday last, had the gap at Belvedere not been closed, or had the new work not been of a substantial description.

In the time of Henry VIII., the marshes of Plumstead and Lesnes, now the Woolwich practising ground, were submerged by water coming from Erith Breach; and for a considerable time all measures to reclaim them were ineffectual. Combe Marshes, east of the palace at Greenwich, also were inundated. One Acontius, an Italian, reclaimed some portion of these; and Baptista Castilione another portion. We were not then very clever in engineering, and did not become much better up to Perry's time. The first Italian was rewarded with a grant of 400 acres of the land.

Mr. Smith's statement in the first portion of his communication, relative to the absence of record of any breach from the time of Henry VIII., to the date 1707, is not exactly borne out, even by his table. The Isle of Dogs was often overflowed; and perhaps it is owing to the desire to preserve the position of Deptford Dockyard, that the river has been kept by artificial means to the course round this low land. When the breach occurred at Limehouse in 1676, houses were swept away by the current which ran across. After a breach at West Thurrock, the water remained on the marshes during seven years; and the breach, and lake, are still marked on maps. The long bank forming the frontage to the Dagenham and Barking Levels, was particularly liable to be burst through; and, says Mr. Smiles, the whole valley of the Lea, and that part of Essex were frequently under water. This, however, we have seen sometimes in late years, without the occurrence of a breach. Vermuyden was employed in 1621, to stop a breach at Dagenham, having been invited to England for the purpose. He recovered a large area; but there seem to have been other breaches from time to time. Finally the great breach occurred in 1707, at the spot, still known as Dagenham Breach, which is exactly opposite the Southern Outfall of the London sewerage. It remained open for thirteen years, during which many efforts were made to close it. All these proved abortive, till Perry, at the end of eight years, undertook a contract, and in five years more succeeded. He had nearly failed, however, several times, and was involved in serious losses. His description of the breach, and of the measures which he took, given in an 8vo. volume of 132 pages, with a plan, is valuable as an engineering record, and is particularly important just now as showing what might have occurred at Belvedere, and what attention to the state of the embankments generally and sluices, still is needed. The volume is scarce; but we have a copy now before us. The title runs:—

"An Account of the Stopping of Dagenham Breach: With the Accidents that have attended the same from the first Undertaking. Containing also proper Rules for performing any the like Work. And Proposals for rendering the Ports of Dover and Dublin (which the author has been

employ'd to survey) commodious for Entertaining large Ships. To which is Prefix'd A Plan of the Levels which were over-flow'd by the Breach. By Capt John Perry. London: Printed for Benj. Tooke at the Middle Temple Gate, in Fleet-street, and sold by J. Peele, at *Lock's-Head* in *Pater-Noster Row*. MDCCXXI."

In describing the breach, as he found it, Perry says:—

"And first, As to the Nature and Extent of the Breach. It was occasion'd by the blowing up of a small Sluice or Trunk, made for the Drein of the Land-Waters in the Banks of the *Thames*: And might, if proper and immediate Help had been apply'd, have been easily stop'd with a small Charge; the Ditch, or Drein, of the Marsh Grounds, which led to such Sluice, being at the first blowing up of the Sluice, not above fourteen or sixteen foot broad, and might, in a Day or two Days time, have been easily stop'd, by the bringing on a small Dam in Form of a Semicircle, to the *Thames* Wall, if many Hands had been set to it, but through the Neglect thereof, the constant Force of the Water setting in and out of the Levels, soon made the Gap wider, and when it once came down to the Moor-logg, Gravel and Sand, which lies but a little way below the common Surface of the Levels, the Water then gulf'd to such a depth, and took such Power, that there was no Remedy found for the mastery of it.

"It is now about Fourteen Years since the Breach happen'd, and it has in that length of Time worn and spread it self into several large Branches, like the natural Arms of a River, by the Force and Fall of the Water, returning from off the Marsh Ground upon every reflux of the Tide; the longest of which Arms is above a Mile and a half in Extent, and in some places is 4 or 5 hundred Foot in Breadth, and from twenty to thirty or forty Foot depth. There is by Computation, about a hundred and twenty Acres of solid marsh Ground, washt into the Thames, in manner above mention'd, the surface being compass'd of Bay-e Ground, the next Moorlogg, then about a Foot or fifteen Inches blue Clay, and afterwards Gravel, and a sort of Quick-sand, as it has been esteem'd by the Undertakers before me, but I have found no other than common Gravel and Sand."

Perry proceeds to explain how "this sullage," driven into the river, was deposited at the mouth of the breach, and above as well as below it, in the reaches of the Thames. He remarks that the deposit had been particularly detrimental to Erith Reach; and that even in Woolwich Reach, as he had been informed, the depth of water was lessened. All breaches, he observes, must be attended with a considerable flow of "sullage" into the river. After mentioning breaches that had occurred, before his time, including one in "the Levels of DAGGENHAM Beem, not three Years and a half since," and several near Daggenham since he had been concerned there, he says, he attributes all such breaches not to any damage from the tides washing down or running over the tops of the banks or wells, but to the "bad Workmanship, decay, or defect of the Sluices or Trunks which are made for the drein of the Levels," &c.; and he alludes to sluices made of wood as "a prevailing Custom in ENGLAND," and as generally insecure and unskilfully placed. He recommends, therefore, a law to oblige all sluices on the banks of the Thames to be made "with Stone Cemented with Tarras." The reasons why they have not been made so, he thinks, are, first that men in England are not very willing to depart from the way of their fathers; and secondly, the matter of foundations. He argues however that if the foundations were constructed after the manner of buildings in Holland, the sluices might be formed of stone, or a sort of brick, as in Holland and Flanders, and might endure thousands of years. Perry's advice does not seem to have been attended to: at least, we have observed that sluices or penstocks of wood, are still existent. The construction of these is sometimes of the most primitive character; and many of them are quite out of repair; or, in some cases, the wood is rotten.

The breach in 1707, beginning with the failure of a sluice that had been allowed to get out of repair, quickly extended from the gap of 14 ft. to 16 ft., and ultimately led to the obliteration of about 1,600 acres of land. But that was not all: about 120 acres were washed away, as above described by Perry; and the soil formed a bank about a mile in length, and reaching half-way across the river. Perry gives a somewhat humorous account of the means adopted before he became connected with the work, such as sinking old ships filled with chalk and stones; and he shows that such devices rather tended to produce scour underneath the vessels or stones, and the still further scooping out of the soil, and its deposition in the stream.

The great destruction of property, and probably of life, and the loss and delay which we have endeavoured to convey an idea of, would have ensued from the breach at Belvedere, but for the circumstances to which we have alluded, and the course immediately taken. When the explosion occurred, it was the most fortunate circumstance that the tide was low; but there were only about four hours wanting to the time of high-water. The explosion had forced the greater portion of the materials of the embankment, in the 300 ft. of length acted upon, into the river, only throwing up on the foreshore a low mound, not capable of affording any protection. In the 300 ft. gap which was formed, the space which had been occupied by the foundation or base of the embankment-wall was filled with broken and shapeless masses of earth or clay, which had formed part either of the consolidated mass of the wall, or of the site of the magazines. The few men who were engaged on another portion of the embankment, were, at the moment, the only hands available for work obviously necessary for the exclusion of the rising tide, but which to be finished, not in the most substantial way, in three or four hours' time, demanded the labour of many hundred men.

Amongst the residents of Erith, who were all roused by the explosion, was Mr. Lewis G. Moore, an engineer who has been connected with Mr. Furness, in the contrivance of some of the means of executing the work of the Thames Embankment of these present days. Led to the spot, he immediately saw and appreciated the impending calamity, and recognized the necessity of setting to work a much larger force than that of the few men who were at hand. He at once despatched his card, with a hurriedly written request, to the resident engineer of the Main-drainage works, or his representative, to bring immediately all the men, with barrows, picks, spades, and other requisite tools, that he could muster.

The explosion had startled every one at Plumstead. Mr. F. R. Houghton, one of the engineering staff of the Metropolitan Board, and representing Mr. Grant and Mr. Bazalgette, is resident there; and he was aroused, and was soon on his way. He was met by Mr. Moore's messenger. The men at the Outfall-works seem to have had the idea at once, that their services would be required; and they started, about 400 in number, on the moment that Mr. Houghton gave the order. To both Mr. Moore and Mr. Houghton the highest praise that we could give them would not be too much; and the first of these gentlemen has most deservedly received the thanks of a public meeting at Erith. Whilst Mr. Houghton, with Mr. Webster's navvies were on the way, and immediately upon their arrival, Mr. Moore directed the filling-in of the interstices of the lumps of earth, with puddle, rather as the best extemporized foundation, than as a sufficient substitute for a properly consolidated one. The work was punned in and rammed as well as time would permit; but it became evident almost immediately to Mr. Moore and Mr. Houghton, that the force under them would be insufficient. They then forwarded a communication to Major-general Warde, the commandant at Woolwich; and the result showed that "the system" must have undergone a change calculated to gratify the people of England; for, by half-past nine o'clock, detachments of sappers and artillery, to the number of about 1,500, were on the ground, with appliances of military engineering. They were under the immediate command of Colonel Hawkins, of the Engineers; but General Warde was also present. They were followed by the 5th Fusiliers and the Marines, some of the force being necessary to keep the ground; for, as the day advanced, great crowds were attracted from the surrounding places and from London. A considerable amount of work had been done before the troops arrived; but it was necessarily hurried, as it was essential to keep above the rising tide. The work contended with the tide, to use the words of those who were present, "inch by inch;" but it was kept always above the tide.

The troops brought with them a few thousand bags, such as, filled with sand, are used in the construction of sand-bag batteries; these were filled with clay, which was fortunately to be had by digging; and the bags were passed from hand to hand, and laid in the form of an arch on plan, to make the landward-side of the upper half of the embankment, puddle being filled in between them, and the whole being rammed down, now in a more complete manner than had been possible at first. At length, about two or three o'clock, the work was completed, having withstood the tide. In the night of Saturday, it sank, as had been expected, 6 or 8 ft., and water trickled through. The military and navvies were actively occupied, backing up and ramming the work, on Sunday, when the embankment was exposed to the waves washed by a heavy gale, and stood the test. Next day, we believe, it passed into the hands of the Dartford Commissioners, when a band of navvies were engaged, still further consolidating; and the work was reported as secure as the original wall. On Wednesday, however, there were still 200 navvies engaged; and it had been deemed prudent to fill up the hole in the foreshore, caused by the explosion of the barges, with chalk stone, of which 100 tons were thrown in. At one time, on the Saturday, the danger seemed so imminent, that Mr. Moore proposed, if he did not actually make arrangements for, the scuttling and sinking of a dozen barges loaded with clay, to form a breakwater in front of the breach; but this arrangement, if Perry's reasoning on his experience at Dagenham be correct, could have been only a forlorn hope; as there would have been scour under the bottoms of the barges; and, in two or three tides, a deep channel might have been scooped out.

The manner in which the military went to their work, elicited the admiration of all who saw it, including that of the navvies; and the civil engineers named, have expressed their warm acknowledgments. It is evident that without the force and dicipline of the great body of men brought upon the ground on Saturday, and again on Sunday, the previous labour (not bating a particle of the credit due for it) would have failed to cope with the difficulty.

How the matter of accounts with Mr. Webster, is to be settled, we have not heard; but there seems some doubt whether actions will lie against the proprietors of the magazines, by any of the parties who have suffered, or whether the insurance offices can be expected to treat the injuries to property insured only against fire as having resulted therefrom; though one or two offices are understood to be ready so to consider the injuries.

We have hinted that there is some reason to apprehend that the embankments of the Thames, which are said to make in the total 300 miles, are not as they should be for security. The danger averted, -and, as we have shown, through a most fortuitous conjuncture of circumstances, —will we hope incite the several Commissions, and the Conservators of the Thames, to consider whether better survey, and more frequent reparation of the embankments and sluices are desirable; and whether it would not be well to prevent such risk as is proved to be incurred by the storage of gunpowder in a position where explosion may cause a breach.

We are sorry we are unable to agree with some of our contemporaries respecting the arrangements of the Railway Company on Sunday. Giving all praise for the rapidity with which the military were despatched from Woolwich; the arrangements, with the single exception of the not despatching a train from a station before the line was clear, seem to have been made expressly to lead to accident. Tickets, down, were issued at the intermediate stations to crowds for whom there could be no room; and the journey was in consequence, a continual battle between those who had seats, and those who thought their tickets gave them a right. Instead of only one carriage being on fire, we know that there were several. On these occasions, the metropolitan police should be called in to assist the porters and railway-police. The force at Belvedere, on Sunday, however, was quite inadequate; and many of the men were withdrawn to London, before the chief need for their services was experienced. Disgraceful scenes at railway stations, on Sunday nights, are not unfrequent: they tend to accidents such as occurred at Belvedere and Plumstead stations on Sunday last; and they discourage respectable persons from travelling. There is some defect in the reporting arrangements of a section of the daily press; so that a report (the same appearing in several papers) is allowed to state what the writer saw, as being the whole of what took place.

WEDGWOOD INSTITUTE, BURSLEM.

CERAMIC ARCHITECTURE.

LAST week six tenders were sent in for the erection of the proposed Wedgwood Institute; and were of the following amounts:—4,293*l.*, 3,739*l.*, 3,671*l.*, 3,562*l.*, 3,497*l.*, and 3,360*l.* The lowest, which was that of Mr. T. B. Harley, of Burslem, was accepted.

Our readers may remember that the committee advertised for designs for the façade of the Institute in ceramic manufactures, and that Messrs. Edgar & Kippell, of London, obtained the first premium. The committee found that

the design of those gentlemen was impracticable on account of the expense. They were, therefore, desired to prepare another design for the decoration of the façade; and this has been done by Messrs. Edgar & Kippell, to the satisfaction of the committee and the judges.

We give a description of the proposed front in the designers' own words:—

"To fulfil certain requirements, we have been commissioned — after receiving the first-prize design in the late competition—to prepare a design for the ceramic decoration and external arrangement of the Wedgwood Institute. The task was one which imposed many difficulties on us; and these chiefly arose from the circumstance that the main condition on which we had to work was a strict adherence to the plan prepared for the internal arrangement of the building by its architect, Mr. Nichols. Whatever features of external effect we might have been disposed to introduce were bound to be subordinate to the fixed and approved design of Mr. Nichols, who must necessarily look at the building from a different point of view.

The most insuperable of these difficulties, as they occurred to us, was the omission of all windows or other openings in the first-floor wall of the building, the whole of the front apartments on that floor having to be lighted from the roof. As far, therefore, as the exterior of the building was concerned, we had a blank space of dead wall of formidable dimensions presented to us. It would be idle and uninteresting to recapitulate now the various methods we successively essayed for dealing with this portion of the façades. It is sufficient to say that we finally resolved on the treatment shown on the design now exhibited; and that our consulting referee — Mr. Beresford Hope — (who kindly undertook that office) approved of the exterior without qualification. What we propose is, to introduce into the blank space of this first-floor wall a series of terra-cotta panels representing the twelve months of the year by half-length female figures all variously designed and modelled in relief. These will be contained in a moulded framework of architectural character, and surmounted by a triangular pediment, the space inclosed by which will contain the sign of the zodiac corresponding to each month, and will be surrounded by brilliant-coloured mosaic.

The whole of this part of the design will be executed in red terra-cotta, of a colour and texture which will show out against the red-coloured brickwork with which the exterior of the building is to be faced.

A cornice in buff-coloured terra-cotta will surmount the story in which these panels are placed, and will be crowned by a rich ornamental cresting in the same coloured material, the roof above being coloured with a deep rusty green-coloured tile, such as we have ascertained can be secured in the immediate neighbourhood of the building.

Between the two stories a coloured frieze is to be introduced, 2 ft. 6 in. in depth, divided into eight compartments, which will represent so many of the industrial processes of the modern manufacture of pottery. It was originally intended by us that these subjects should be modelled and coloured in the manner of Della Robbia; but, as the expense of producing in this case would form a very serious item, and make a large inroad on the whole sum allotted to us for our design, we were very reluctantly compelled to abandon the idea of carrying out this feature in relief, and resort to painting the same subjects on the flat. It would be a matter of congratulation to us if we could hope that the introduction of the Della Robbia ware would never be practicable at some subsequent time before the work is actually undertaken. When we consider, however, the secondary object for which the ceramic design is conceived, there is none argument which should probably reconcile us to these subjects being painted on the flat as compared with the modelled treatment. If the Wedgwood building is to serve as a pattern-card, so to speak, of the uses to which modern pottery can be put in architecture, and of the market prices at which it can be produced, it is no doubt desirable that all the ceramic work should be of a kind and be introduced in such a manner as will best answer to the modern notions of economy in building. In regard to this particular feature of our design, such a result will no doubt be best obtained by having this frieze of subjects manufactured in numbers of flat pieces, as tiles, rather than in large modelled and moulded slabs, which would necessarily be much more costly in the process of making and in the risk of firing.

The windows of the ground-floor are proposed to be decorated with buff-coloured terra-cotta, in various modelled designs, somewhat after the type of the windows in the great court of the hospital at Milan. The space contained within the arched window-head will be filled with red Mansfield stone, to serve as a framework or back-ground for richly-coloured portraits of the most celebrated potters of ancient and modern times. [The chairman intimated that this was a mistake, as it was proposed to introduce Brindley and other of Wedgwood's contemporaries, who were not potters at all.] These portraits will be painted in Majolica colours on large circular plaques, and the remainder of the space, or spandrel outside of them, will be in enamel mosaic.

The porch, or front entrance to the building, is designed to form a central object on the ground-floor. Varieties of ceramic material are employed in its principal parts. The shafts on each side of the door, which carry the archway over the entrance, will be fluted in buff terra-cotta, and the flutes filled in with rich mosaics. In the face of the porch, and over the archway, three small panels, in Wedgwood Jasper-ware, are introduced, and are surrounded by an enamel mosaic ground. The small panels will probably contain some heraldic subjects connected with the Wedgwood family and the town of Burslem.

In the more architectural features of our design, moulded and ornamental brickwork will be used, and the entire façade of the building, both in its constructive and decorative parts, will thus be almost entirely composed of ceramic material."

THE WINDOWS OF GLASGOW CATHEDRAL.

An enterprise of which we have taken notice at various times is now completed. On the 3rd of this month the last window of those under the charge of the committee was placed in its destined position.

The first window erected was formally inaugurated on the 19th of November, 1859: it was the great west window of the church, the artist being Mauritz Von Schwinde, and the donors Messrs. Baird. The last and forty-sixth window of the series now completed is a triplet, the subjects being from the life of Saul, king of Israel; the artist Strahüber. The donor is Sir Andrew Orr, chairman of the committee.

The first painted window erected in Glasgow Cathedral arrived from Dresden in April, 1857, and was placed in the crypt: since that time, seven years and five months ago, eighty-one windows have been erected in various parts of this cathedral, viz., forty-six in the nave, choir, and lady chapel, under the direction of a committee of donors, upon a plan of Scripture illustration agreed upon, and a scheme of harmonious design and colour arranged for the entire series, all from Munich; four in the chapter-house, from London; fifteen in the great crypt,—that under the choir,—being two from London, two from Edinburgh, three from Milan, four from Dresden, three from Brussels, and one from Munich. In Blackadder's crypt, one from Brussels, three from London. In Lander's crypt, twelve from London. Ten windows are still in the course of execution, and two others are allocated.

This seems pretty well in a country where, only a few years ago, ecclesiastical or church decoration was not merely unthought of, but was disliked.

On the 23rd of February, 1856, a letter (from Mr. Heath Wilson) to the Lord Provost of Glasgow was published, which contained the following proposals:—

"I might quote other examples from the great periods of art, as well as from modern works, of adherence to a general plan in the decoration of ecclesiastical and other public edifices: it is obviously desirable that a similar plan should be adopted in our cathedral. The number of windows is so great that a magnificent series, commencing with subjects taken from Genesis, and ending with the Ascension, might be represented in succession."

In the same letter the importance of making these windows *works of fine art* was urged. By the harmonious action of the donors these ideas have been realized. The windows contain Bible subjects chronologically arranged, from the expulsion of our first parents from Paradise, in the first window, to the resurrection of our Lord, in the last. They are certainly works of art—some very poor, but not a few of them of very fine design, however opinions may differ as to the *principles* upon which they have been designed and executed.

A SYSTEM OF HANDRAILING.*

The first person who printed any directions concerning the mode of forming a wreath rail, was Mr. Francis Price, surveyor to the cathedral church of Salisbury. In the first half of the last century he published a work entitled, "The British Carpenter," in which the wreath rail was mentioned. This work was dedicated to the Earl of Hertford, and the titlepage bore the following certificate:—"Having perused this treatise of carpentry, compiled by Mr. Francis Price, we think it a very useful and instructive piece, and as such recommend it to every one concerned in works of that kind.—N. Hawksmoor, John James, James Gibbs." Notwithstanding the approval of these celebrities, Mr. Price's work was superseded in the public esteem by that of Mr. Peter Nicholson, who, in "The Carpenter's New Guide," laid down a plan by which wreathed handrails round circular and elliptic well-holes could be squared upon geometrical principles. Hitherto the method of forming a rail was that of tracing it like an angle bracket, from the rise and tread of as many steps as the rail was supposed to occupy in winders, and making the face mould of a parallel breadth, after obtaining the middle of the concave side; and this was always found to give a false result according as the difference in the circumference of the arc at the plan was greater than its chord. In 1822, Mr. Nicholson, with additional experience and research, condensed the whole art of handrailing into the necessity of finding the section of a cylinder to pass through three given points on its surface. With much elaborate labour he described the various processes required in the projection and construction of handrails according to his views; but to these we need not refer, as, in turn, Mr. Nicholson has been superseded by a new teacher. Mr. Joshua Jeays, in applying the rules laid down by this writer to practice, found the face-moulds given by them incorrect, the lines given as the butt-joint lines of the face-moulds being entirely out of their proper place. This led him to consider the subject; and having arrived at a new method, he communicated it to the Society of Arts, and afterwards laid it before the public.

Mr. Jeays urges that the construction of the handrail upon the principles of the orthogonal system is more economical than those previously practised; and that the face-mould is more easily applied to the plank by this method than by any other. He contends that it is also a more simple mode, and mentions as an example of this fact that the problem for determining the direction of the ordinates in the construction of the face-moulds is solved with four lines, which number is less than one-third of that employed by Nicholson for the same purpose. The construction of the butt-joint lines of the handrail upon strict geometrical principles, and the determination of the scroll from the logarithmical spiral, are among the additional new details in the volume now under notice, for which the practical man will thank Mr. Jeays.

Stairs are an undeniable growth of civilization. Contrasting the high houses of Belgravia and Paris, or the tall gable-ended homes of the honest burghers of the Middle Ages, with the stairless huts of primitive races, or the one-storied cottages of the agricultural districts, we might infer that, the more stairs, the higher the culture of those for whom the houses containing them were built. But we are so used to these accommodations that we scarcely heed them. Of the thousands of persons using them a score of times a day, there is but a small proportion that give a thought to the principle upon which they are formed, or are even aware that the construction of a staircase is a geometrical question. But to this small proportion the art of forming a staircase, with its handrail, is an affair of great moment and interest. The smartest joiner considers the projection and formation of a handrail the test of his capacities; and the town or country joiner completing his apprenticeship reserves the mastering of the difficulties of this art as the finishing strokes of his proficiency. There are, probably, few experienced joiners but can call to mind the evenings they spent, after their day's work was over, in pondering over the various problems required to be worked out before they became adepts.

The first process in the construction of a stair-

* "The Orthogonal System of Handrailing, with Practical Illustrations of the Construction of Stairs." By Joshua Jeays, author of "The Geometrical Construction of a Hip-roof." Second edition. London: Simpkin, Marshall, & Co. 1864.

case is to determine the proportion of the steps, for these vary in breadth from 8 in. to 16 in., and in height from 4 in. to 8 in. or 9 in., and there is a limit to the variations in these proportions, which cannot be exceeded without an unsatisfactory result. Mr. Jeays does not lay claim to novelty in his general theorem for determining the height or breadth of a step. "Let R represent the riser, and T the tread of a step, the proportions of which have been determined, and r and t the riser and tread of a required step. By having the two values R and T, we are enabled to find a fourth, proportional to another given value, r or t. That is, if we have the height, r, of the riser given, we are enabled to find the breadth, t, of the tread; or if we have the breadth, t, of the tread given, we are enabled to find the height, r, of the riser, by the following proportions:—

$$r : \mathrm{R} :: \mathrm{T} : t;$$
$$t : \mathrm{T} :: \mathrm{R} : r.$$

The value of the fourth or last quantity is found by multiplying the second and third quantities together, and dividing their product by the first, as expressed in the following formulæ:—

$$\frac{\mathrm{R\,T}}{r} \ldots (1) \text{ or } \frac{\mathrm{T\,R}}{t} \ldots (2),$$

accordingly as the riser or tread of the required step is given." The next process is that of dividing the story-rod. Then follows the planning. For the simple dog-legged stairs the rectangular parallelogram is the form generally chosen; but departures from this kind of stair call for especial plans. In olden times the turret stair or steps winding round a newel was the general form, as may be perceived in the various remains of the architecture of the Middle Ages. It was not until the castellated residences of the nobles of the land were superseded by the mansions built in Tudor times, that the staircase began to be treated as a consequential feature in dwelling-houses. At this date the steps were made parallel with one another: the flights were made wider: landings or resting-places were used: the walls were panelled; and the parapets formed of carved balusters or open fretwork. This new fashion was eventually carried to extremes, and staircases may be seen in some houses of a spaciousness not warranted by the size and number of the rooms. The circular well-staircase was a later fashion, and the oval well a variety of the same form. A staircase that is very effective and simple, consisting of a wide flight of steps, with two narrower flights branching off right and left from the landing-place, is a still greater favourite. All these varieties call for the handrail; and, as modernised, for the wreath.

Mr. Jeays commences his instructions concerning the formation of the wreath by the consideration of problems necessary to complete the theory of the orthogonal system. After explaining his method of projecting a simple curve upon an oblique plane, he proceeds to carry out the same principles in the construction of the common face-mould, and shows how the plan of the butt-joint line may be found. Directions concerning the best modes of squaring the wreath, of constructing the falling mould, and the scroll, follow. After directing the student's attention to details upon the construction of the moulds of a wreath for a quarter-space, and for a half space, and for a wreath over winders and other knotty points, Mr. Jeays proceeds to consider the application of the common face-mould to the plank, and to the orthogonal solid. The art of joining the wreath upon the bench is another difficult process, simplified by Mr. Jeays; and he also goes into the question of veneered handrails. The core of the wreath got out by the orthogonal system, the veneer is cut into shreds about 3-16ths of an inch broad, with a cutting gauge, and glued, five or six at a time, upon it. Steam should be brought to play upon them by a nozzle attached to a pipe, with a universal joint. Altogether the treatise is as comprehensive as the joiner could desire, as far as directions for the execution of work are concerned. If the various descriptions of staircases had been pointed out little more could have been desired.

New Park at Llanelly.—The opening of a new park has been celebrated at Llanelly by a public demonstration, a procession forming in front of the town-hall. The occasion was also made available for laying the foundation-stone of a new market, about 3 acres in extent, on Col. Stepney's park.

THE FRESCOES IN THE HOUSES OF PARLIAMENT.

At the recent meeting of the British Association for Science, Mr. W. Poole King, of Bristol, read a paper in the chemical section, on "The premature Decay of the Frescoes in the Houses of Parliament: its Cause and Remedy." He said: "Having lived for many years upon the Durdham Down limestone, and for a long course of time made observations on the walls built with mortar from this stone, which I understand has been brought from Bristol, and used for the plaster on which the national frescoes have been painted by special recommendation from authority, and having frequently examined those walls, both in and out of doors, I immediately recognised, from the description given by Mr. B. Atkinson, in a paper published in the journal of the Society of Arts, that exactly similar effects were taking place on the walls of the Houses of Parliament to those which I had been accustomed to see in constant operation. All the beds of Durdham Down limestone are of marine origin, being full of marine shells; and, although, in the long lapse of ages since they were deposited, the marine salt with which the stone must have been saturated has, for the most part, been washed out, yet still a trace of it remains insensible to an ordinary analysis. It is the general practice to burn this stone into lime with braize, (or cinder taken from the scavenger's yard,) and this braize always contains sulphur. In this chemical section, I need hardly say that in thus burning the minute quantity of marine salt in the stone is converted, for the most part, into sulphate of soda, or the salt well known in commerce as "Glauber salt." On most of the walls that grow cold in winter, I have found needle-form crystals, varying from a bloom 1-100th of an inch to needles of an inch in length, and in some instances in damp old walls, such as the cloister walls of a cathedral, the crystals stand out to the length of 1½ inch. At first I examined these crystals chemically. They were generally composed of sulphate of soda, in rare instances found mixed with nitrate of potash, and sometimes with small quantities of muriate of lime and magnesia. I soon became familiar with these bunches of needle-form crystals, and from their taste and general appearance, could not mistake them. When the weather becomes dry, all these bunches of crystal efflorescence are converted into a loose white powder, much of which drops from the wall, carrying with it shales of plaster, or flakes of paint, or films of whatever material the surface of the wall is covered with. Moisture will condense on the wall, if allowed to grow cold, in damp weather: the white powder is then dissolved, and the liquor, a solution of sulphate of soda, is absorbed by the mortar or plaster. Architects are in the habit of proving the value of the various kinds of stone presented for their use, for the endurance of frost, by a saturated solution of sulphate of soda, similar to this liquor, which, on crystallising, imitates the heaving and splitting action of ice forming from water. Accordingly, this liquor is no sooner absorbed as the wall dries, than it aggregates into ice-like crystals, and the plaster is disintegrated and heaved by the dynamical force developed in their formation. The plaster having sustained this injury, the salt transforms itself, and shoots out into bunches of needle-formed crystals, only to fall again into the terrible white powder, as the air becomes warm and dry. Thus a constant succession goes on of solution and desiccation, with the changes of the weather and temperature; and if the wall be permitted to cool with the frost, the ruin of the plaster is insured. Sulphate of soda exists, not only in Durdham Down limestone, but unfortunately also in much abundance in all the lias mortars, in London clays, and in many other stones. In fact, I doubt if any London wall is entirely free from its presence. We may, therefore, observe this kind of action of destruction going on more or less almost everywhere. A marked instance of its injurious effect can be seen in the Crystal Palace, where not only the surface of the richly-decorated walls is attacked, but also the plaster-cast statuary suffers, and requires constant renovation. In Rome and Florence, indeed, many frescoes have remained entire, with their colours smooth and in good order, for hundreds of years; but then these frescoes are on plaster made from travertino,—a limestone of fresh-water formation, free from salt, and the lime has been burnt with wood charcoal, in which there is no sulphur. In a late view which I had of the admirable fresco which Mr. Herbert has just finished, I find that the robing-room in the House of Lords was kept with a wet floor. If this apartment be ever allowed to grow cold, can we doubt that the fate of this glorious work of art is sealed? Damp will condense in drops on its surface, and be absorbed. These drops will dissolve whatever trace of sulphate of soda exists in the plaster, or, perhaps, in the mortar of the wall. The salt will aggregate together (probably by the force of dialysis), then form ice-like crystals, to heave the plaster, and show itself in a bloom on the surface of the fresco, and then desiccate into a dry powder, to be re-dissolved by the first moisture which comes over it, and then be re-absorbed again, till at last it aggregate into blotches, and the destruction be complete. To preserve this fresco, I should recommend that the robing-room be kept always warm, and as dry as possible, so that the sulphate of soda may not pass into solution and aggregation; and surely such a work of art, of which the nation is so justly proud, is worth the cost of any expense incurred in its preservation. The "liquid glass process," I understand, has been tried to secure the preservation of Mr. Herbert's fresco; but I doubt its power to prevent the plaster absorbing any drops of moisture which may come on its surface. Indeed, if there be any soda in the preparation of liquid glass, it may accelerate the work of destruction; for carbonate of soda is almost as efflorescent a salt as sulphate of soda, into which, however, the former is often converted by the sulphurous acid gas seldom absent from London air. I conclude that fresco-painting on fresh-water limestone walls, kept constantly warm and dry, will have the best chance of endurance for ages yet to come, for the delight of our remote successors."

SOCIAL SCIENCE IN YORK.

One of the most important papers brought before the Social Science Association at the York Congress was the address of the president of the fourth department (Mr. Edwin Chadwick, C.B.) on social questions generally. It was cheering and encouraging, as well as instructive, and might be usefully circulated in a cheap form. In the course of an account of our gigantic system of cotton manufacture, he said, as illustrative of the progress of this manufacturing system, and with it the progressive reduction of manufacturers' profits, on the piece, he had been told that there were persons recently living who saw a stockingless boy carrying milk in the town of Bury—saw that boy become a cotton printer by hand—then a great manufacturer by machinery—then a member of Parliament, and a baronet with a princely fortune—the father of a Prime Minister, and the founder of a house of statesmen. On a late visit to Manchester he was shown some cotton cloths, printed with dyes brought from India, of a pattern and sort printed by the first Sir Robert Peel, that were to be sent out and sold in India—cloth, printwork, and all—at about half the price which Peel had charged for printing alone. The progress of our cotton production may be represented by the fact that the cost of the pound of No. 40 yarn cotton included was, in 1812, 2s. 6d.; in 1830, 1s. 2½d.; and in 1858, 11d. Great manufacturing improvement, he said, has been due mainly to successive periods of manufacturing distress. It was an axiom of the late Mr. John Kennedy, father of the cotton manufacture, that no manufacturing improvements were ever made except on "threadbare profits." When the trade is doing well, the axiom is, that they cannot be better than well, and they remain as they are. But when the market is overstocked, or when from any other cause there is no sale at the then prices, the manufacturer, whose machinery is unemployed, and large capital wasting, is driven to his wit's end to exercise invention, and listens greedily to any by which production may be cheapened, prices lowered, and consumption stimulated. Stocks of goods being unsold and kept in hand, the manufacturer does not like to go about with "sacrifices," or throw them upon the depressed market at home. He has a young fellow, a son, or some one else whom he trusts, and he sends him with a shipload of goods on a venture like a travelling packman—on a venture to most remote parts of the world, to get any produce in return for them—ivory, skins, anything. The purchaser, who has got these adornments at low prices, has a strong motive to get them on the backs of the natives, and once on them, there is admiration and a permanent de

and for them, as there is now, not only in the mote parts of India, but in China, Egypt, Asia inor, Greece, Turkey, Persia, Mexico, and the razils. By such successive pressures of dis-ess, the production has been raised in 1860 to 5 millions, or six millions more than the gross venue of the United Kingdom, of which the eclared value of the exports was 52 millions. he wholesale dealers put 10 per cent. generally n the price of the manufactured article, and the tail dealers generally add to that 20 or 25 per ent., or, on the whole, some seven millions to he 24 millions paid for the cotton produce onsumed at home.

At the close of his address, after describing he unsatisfactory and unwise conditions under hich the majority of workmen labour, Mr. hadwick thus suggestively perorated:—As it ould be with soldiers in a garrison, the aggre-ation of people in factories, without due pro-isions outside the factory, is productive of irre-ular and inferior service, and frequent unintel-gent action within the factory. As, however, anufactures on a larger scale have become more ettled and systematised, and the consumption f goods more regular, and as capital has accu-nulated, many better educated and more liberal apitalists, with leisure to look beyond the walls f their manufactories, have introduced various mprovements in the condition of their work-eople; some by providing better houses for hem, others by providing improved schools for heir children; and they have generally found hat the improved external conditions, by bring-ng and keeping a more respectable class of eople about them, have been attended by im-roved internal service in the manufactory. Sanitary science and economical science will now nable them to invite new comers by saying to hem, "If you join us, you may rely upon having ellow-workers of respectable conditions, and of being protected from the annoyance of associa-ion with habitual drunkards, or with persons of disreputable conduct; for we permit none such o remain with us. Our place of work is warmed nd ventilated on the best principle, and pro-ision is made for the personal cleanliness and omfort of our workpeople. You will have a convenient self-contained house for your wife and family, well drained and ventilated, and pro-vided with pure water, as also with warm water laid on from the condensing water of our works for baths and for washing, with a garden plot attached to it. Our workpeople have a co-opera-tive store of their own, in which you may obtain wholesome food at wholesale prices, by which you may save 20 per cent. on your expenditure for food. Your children will have the advantage of a school under good teachers for physical as well as mental training on the half school-time prin-ciple. We have engaged, for the protection of the health and working strength of our people, the services of a medical officer of health, less to cure than to prevent disease by seeing to the re-moval of its causes. If you attend to his sug-gestions, for yourself and family, whilst using your working and living rooms, you may reduce your sickness and insurance charges more than one-half, and extend the period of your working ability more than ten years beyond the periods obtained in other places. This will enable you, under Mr. Gladstone's Annuity Act, by increased savings, to obtain a deferred annuity that will give you easy and respectable independence when you are past work. In the ordinary con-ditions elsewhere, your doom, a premature death, after a wretched life, is certain. In the common conditions, in ill-drained, ill-conditioned, cess-pool-tainted houses, without proper supplies of water, for which you will have to pay higher rents in low neighbourhoods, half your children will be in their graves soon after their fifth year, as you may see by the registrar's returns all workmen's children are in Manchester, in Glas-gow, and elsewhere. But here your wife may rear them all, and educate and train them all well, and you may enjoy with her and them the comforts of a cheerful home, to which com-forts each child as it grows up may, by duly moderated and salutary labour, contribute." If the million and a half of money lent by Parlia-ment for the employment of the unemployed cotton operatives should be wisely expended in putting the habitations of the workers in a pro-per sanitary condition; and if the experience of the results of proper works should lead to their general application to all places in the manufac-turing districts, where such works are needed; if the habitations be put in a condition as homes befitting a better trained and educated popu-lation; and if the better training of the in-comers be provided by the due application of half-time education; then this late and large dis-tress will, like others, be attended by adequate compensation. If the principles of economical and social science which I have indicated in their relation with the means of intellectual, moral, and physical improvement, be duly re-garded and applied, the conditions of the manu-facturing population, instead of being deplorable, will be brought up to advanced moral and social and intellectual conditions, commensurate with the increased and increasing wages derivable from the extraordinary improvements in the mechanical arts of which they are the ministers and the servants.

THE METROPOLITAN BOARD OF WORKS AND THEIR CONTRACTS.

We have at various times received a number of letters respecting the acceptance of Mr. Furness's tender for the first section of the Embankment instead of that of Mr. Ridley; the asserted connexion between Mr. Furness and the engineer of the Board; and the more recent use by Mr. Furness of dry rubbish from land, for permission to shoot which a contractor pays him, instead of Thames gravel and sand, as stipulated, for which he would have to pay,—a change calculated to put into his pocket, it is asserted, about 80,000*l*. The sum and substance of the majority of these communications was an attack on the engineer as the cause of Mr. Furness having the contract instead of Mr. Ridley; and the Board having distinctly stated that it was not on account of anything said by the engineer that Mr. Ridley's tender was not accepted, we have persistently refused insertion to them, and have been duly abused in conse-quence. A fresh correspondent, however, now writes more irately than the others concerning the formation of the Embankment: out of doors a suspicious feeling exists; and members of the late Parliamentary committee on sewage are making publicly such injurious assertions with reference to the contracts, that we are disposed to think the Board of Works would do well by putting forth at once a clear and precise state-ment, setting themselves and their engineer right with the public, as doubtless they could do.

On one point let us add a sentence. If, as the engineer considers, the rubbish and earth obtainable from land, not merely without cost, but at a money gain, is equally good for the formation of the embankment, there can be no occasion to pay for Thames ballast. There is, of course, a clause in the contract which would admit of the substitution, and save the money to the ratepayers.

METROPOLITAN BOARD OF WORKS.

At the last weekly meeting of the Board, Mr. Miller, M.P., referring to the correspondence which had taken place about the filling in of the Thames Embankment, said it appeared from that correspondence that the contractors had engaged to pay a certain price for dredged material to fill in with, whereas they had been paid money to allow of brick ballast being cast on the Embank-ment; and he asked the engineer whether the Board had any claim upon the contractors for the difference in cost. He also wanted to know whether the contractors had the authority of the engineer to use the land ballast, and whether he approved that material. The engineer (Mr. Bazalgette) said the first question of the hon. member could only be answered according to the interpretation put on the language of the Act, and it would be satisfactory to him if the Board would consider what construction could be put upon it. He thought the contractors had been justified in using the land ballast as they had; otherwise the work would have been much de-layed, as dredged material could not at first be obtained in sufficient quantities. The land bal-last was excellent for the purpose for which it was used. None of that material, however, would now be used, unless that supplied by the Thames Conservators failed in quantity or quality. Mr. Newton was of opinion that, if no other material but that dredged from the Em-bankment were used, the consequence would be an inferior embankment, as that material had no "binding" quality in it, and was of a sloppy nature. It was agreed that the whole subject should be referred to the Thames Embankment Committee, to be considered and reported upon.

ARCHITECTURE IN PARIS SCHOOL OF ART.

The exhibition of the works of the pupils of the Paris School of Art competing for the grand prize of Rome has just taken place, with the remarkable exception of paintings. The omission of the last arose out of an accident, under the new system. The subject given to the architec-tural pupils was, "An Hospice on the Alps," and the results are a number of most elaborate drawings. M. Guadet obtained the prize, but no exhibition ever illustrated more fully the objec-tion made by M. Viollet-le-Duc and other re-formers to competitions in which the pupils are fixed to a given subject, and that subject a fantasy. The exhibition adds another blow to the existing mode of education which fixes all the conditions beforehand, and ties intuitive genius or talent hand and foot.

SCHOOLS OF ART: THE SOCIETY OF WOOD CARVERS.

We are glad to observe in the last report of the Society of Wood Carvers a considerable im-provement in the position of the society. The present number of members is 164, twenty-two having been elected during the year. The report says,—

"The principal order for wood carving during the past year has been for the Baron Rothschild's mansion in Pic-cadilly, the carving for which has employed on an average twenty carvers for the last six months, and is still in pro-gress at the works of Messrs. Myers & Son, the work being designed and modelled by M. Joyau."

It refers with great satisfaction to the prizes given last year by the architectural Museum and those offered by the Society of Arts. The following passage calls for comment:—

"The members of the School of Art, attached to the Society of Wood Carvers, do not show any increase in numbers during the past year, which is traced to many unavoidable causes. Mr. Vaughan, to whom the thanks of all members are due for the warm interest he has taken in the society's welfare, it will be remembered presented to the society the sum of 10*l*. 10*s*., that being half the amount of fees for twenty-eight members at the school of art for twelve months; but as the members attending did not reach half the number required, the society, according to previous arrangement, returned to Mr. Vaughan 5*l*. 5*s*., which sum it is that gentleman kindly presented to the funds of the society."

The fact that wood-carvers do not take ad-vantage of the Marylebone Art School, thus made cheaply accessible, is much to be regretted. Never more than a dozen went, and only half that number went regularly, though two of them took the highest honours. The chief reason assigned in the shops privately is the dislike of the men to mix with the juvenile students, with whom the schools abound, and whom, in the preliminary course of outline, the men generally find to be their equals. Some mode of obviating this objection might be hit on.

SCHOOLS OF ART.

The annual report of the Reading School says,—"The number of pupils who have attended the school during the year has been 24 in the morning class, and 40 in the even-ing; total, 64. The master has been aided in his work by one local scholar, partly paid by the Department. His duties are to assist the master in the evening classes, and to teach in schools for the poor, five of which he has at-tended in Reading, and one at Henley: the total number of children taught by him has been 661. The knowledge of drawing and geometry gained by the children in this way is very considerable, and cannot fail to be of the greatest advantage to them, particularly to those who may become carpenters, stonemasons, engineers, or, in fact, be engaged in any industrial occupation, as it will not only enable them to make drawings themselves, but likewise to understand and work from a drawing or a plan when it is placed before them. At the examination held here and at Henley, on the 30th of last May, about 220 pupils were examined, of whom 163 were suc-cessful, some passing in two and three, and one in four and one in five subjects. 76 first grade prizes, and 11 second grade prizes have been awarded, and the remainder who were successful have received cards of merit. Contrary to most Government Schools of Art, we are not aided by subscriptions: beyond the aid received from the Department, the school is self-supporting; but the committee would suggest that a local effort be made to encourage the school, by offering prizes in the advanced stages of instruction."



Fig. 14.—St. John's, Winchester.



Fig. 15.—St. John's, Winchester.

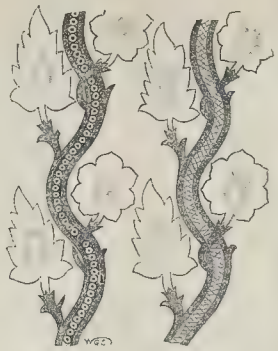


Fig. 16.—Fifteenth Century Wall Diaper, Beckley, Oxon.



Fig. 17.—Headington: Tudor Painting between Windows, South Side.

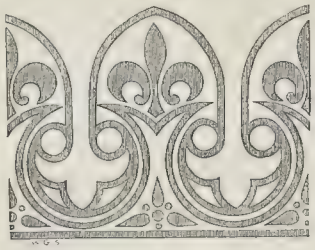


Fig. 18.—Kelvedon, Essex: over Backs of Seats.



Fig. 19.—Chancel Arch, Little Barford, Oxon: referred to in the first article.

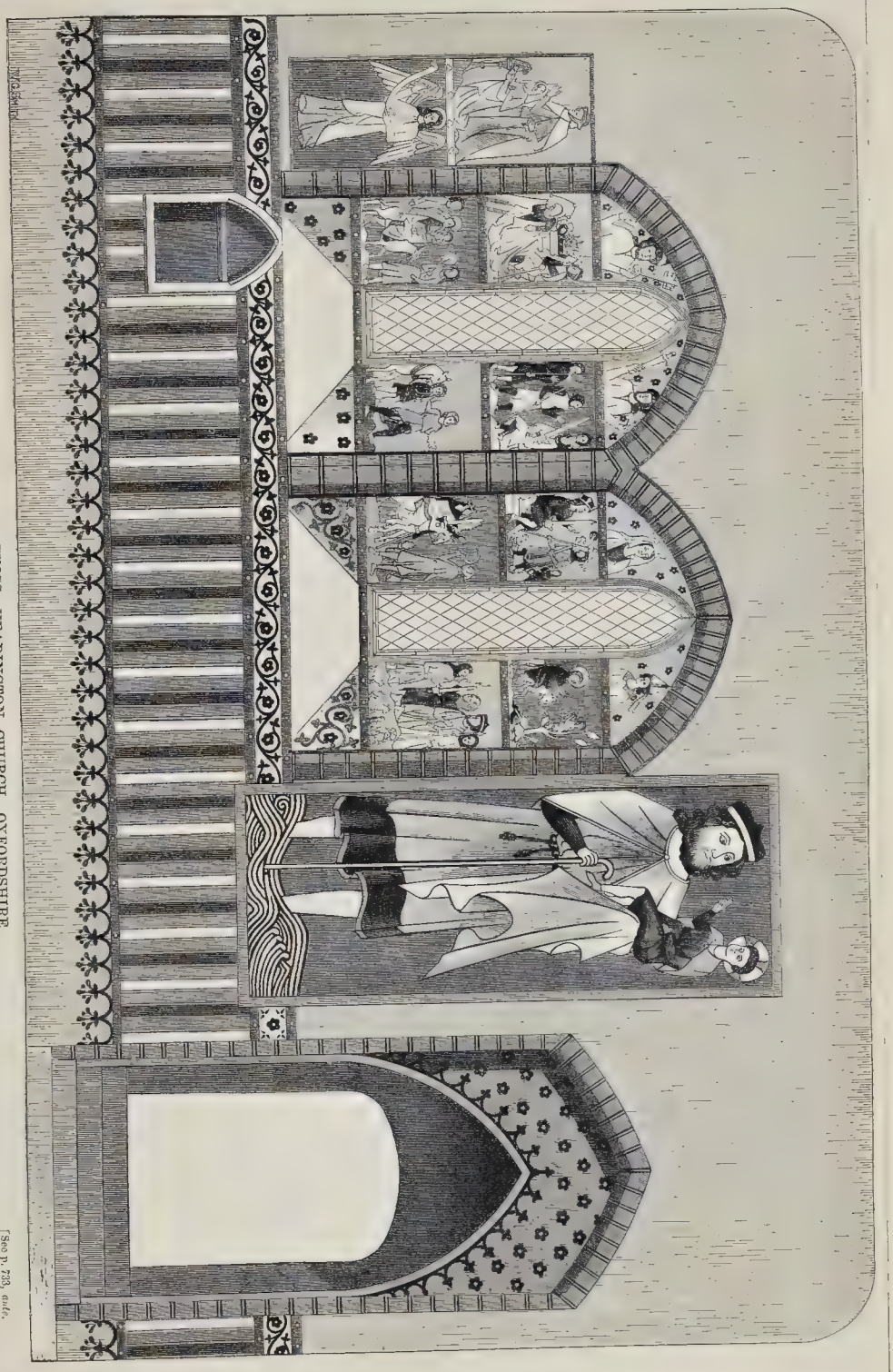
THE COLOURED DECORATION OF CHURCHES.

THE SO-CALLED "CRYSTALLIZATION" OF WROUGHT-IRON.

Few questions have been more discussed than the "crystallization" of iron,—the term being used to express the deterioration of the metal under more or less accurately defined circumstances. The greater number of the talkers and writers on the subject seem to have forgotten that iron is a crystallized body from its very nature, so that the first bar which issued from Tubal Cain's forge was just as much crystallized as the iron being manufactured at this very moment. On the other hand, it is impossible to doubt that some change is produced in the internal structure of iron, as the same bar which, when new, is found to stand sudden pulls or deflections without rupture, often gives way—showing but little, if any, external change—under loads of much smaller amount. High degrees of heat, and certain magnetic and electric conditions, undoubtedly produce an internal effect on iron; but such conditions are rarely, if ever, present in ordinary practice, so that it cannot be to such causes we must ascribe the sudden ruptures of railway and carriage axles, of chain cables, and similar objects. In an interesting article in the last number of our contemporary, the *Engineer*, on "Internal Changes in Wrought-iron when Cold," it is observed that:—"To cite the different instances of sudden and apparently unaccountable fractures that have been brought forward, would be to give a catalogue of almost every important application of wrought-iron. The sudden breakages of railway axles and rails are the most public instances. Chains, in the form of chain cables for ships, and as used for cranes, inclines, mining shafts, forge slings, and even for suspension bridges and similar purposes, in which they have to undergo impulsive forces, are peculiarly subject to a deterioration, due to whatever cause, resulting in fracture. The gags of helve hammers, and the porter-bars temporarily welded under the hammer to the blooms, are also remarkably subject to sudden fracture. Amongst minor and domestic instances may be mentioned the wires of pianofortes, and the spindles of watch escapements, which often break in an unaccountable manner."

If it could be shown that iron becomes brittle by mechanical means, such as undue strains, this would account for its giving way suddenly under impulsive forces; and the fact of the suddenness of the fracture would, as has been shown by Mr. Kirkaldy and other experimenters, account, *per se*, for the crystalline fracture. This is clear on reflecting on, 1, the nature of an impulsive force, and on, 2, the nature of the latent resistance to any extraneous force of an object with a brittle structure. A bar of glass would break suddenly even under a gradual strain, and the same would take place with a piece of brittle iron.

Our contemporary goes on to observe that:—"As soon as a bar of iron is strained in excess of the elastic limit, a certain amount of elasticity (or the power of temporary elongation) and of ductility (or the power of permanently elongating), are taken out of it. The amount of latent work it contained at the beginning is therefore diminished. If the experiment be carried still further, and the bar be broken three or four times, the bar at the last time of breakage will be found not to elongate at all, but its powers of resistance to a statically applied load are wonderfully increased. Taking longitudinal tension, merely, into consideration—as it may be called the representative strain of the major portion of most other strains—we see that the bar is elongated in a longitudinal direction, and that this elongation is accompanied by a contraction of its cross-sectional area, which actually brings the particles nearer together, probably causing them to very closely interlace each other. The hardness, therefore, of our bar, and, consequently, its powers of resistance to a static load, are immensely increased, but all its elasticity and ductility have been taken out of it. We will now cite a number of experiments in support of our explanation,—experiments, however, which, from a more or less forgetfulness of mechanical principles, have, one and all, been actually cited in support of the supposition that a breaking load increases the 'strength' of the iron. In one sense the 'strength' was increased; but it was a hard or brittle strength: the tough strength, or the elasticity and ductility was, on the other hand, annihilated. The most remarkable and important of these experiments were those made some years ago at Woolwich, by Thomas Loyd, Esq., the Admiralty Inspector of Machinery, and they are given at length in Dr. Fairbairn's 'Useful Information for Engineers.' Out of a number of other results of the same kind, we will take the successive effects produced on a 1⅛ in. S. C. crown iron bar by four successive breakages. Twenty pieces of this iron, each 10 ft. long, were cut out of the middle of twenty rods of iron. These



WALL PAINTINGS, HEADINGTON CHURCH, OXFORDSHIRE.

[See p. 733, *ante*.

10-ft. lengths were cut into two parts of 5 ft. each. Taking that one marked F, we find that it broke with 32·25 tons, with a stretch of 10·5 in. in a total length of 54 in. At the second breakage it ruptured with 35·50 tons, with a stretch of 1·12 in. in 36 in. At the third breakage it ruptured under a load of 37·25 in., with a stretch of only 0·62 in. in a total length of 24 in.; and at the fourth and last breakage it gave way under a load of 38·40 tons, but with no stretch at all. By this time the section of the bar was reduced from 1·39 in. to 1·18 in. The constriction of area at the point of rupture is not noticed, but the rise of breaking strength, under a static load, *of from 32·25 tons per 1·37 in. section to 38·10 per 1·18 section, is remarkable.*"

Here is certainly a sufficiently simple explanation of the "crystallization," or, more properly speaking, the deterioration of wrought iron:—A brittleness gradually induced by a succession of strains in excess of the limits of elasticity, and rendering the material unable to withstand a sudden force, while this very brittleness would make the bar give way suddenly, and therefore with a crystalline fracture. Our contemporary states that it has derived the explanation from a paper on testing chain cables, read last May by Mr. Paget, C.E., before the Society of Arts, and portions of which we, at the time, gave in our own pages.

OUR DOMESTIC STREET ARCHITECTURE.

The architectural conundrum proposed by "Art-lover" in the *Builder* (p. 671, *ante*), is apt to raise many and various thoughts with regard to our domestic street architecture. It is a sad fact, that while stately piles are being reared for commercial purposes,—while banks, insurance offices, and mercantile buildings vie with each other in nobleness of form, and richness of decoration, our private houses,—our homes,—are mean and plain, and sometimes even have actual appearance of poverty. Long brick walls, black with dirt and smoke, with rows of oblong holes for windows (certainly improved of late by the introduction of plate-glass), doors conspicuous only from their plastered jambs, areas in front protected from the pavement by hideous iron railings,—these form the fronts of our streets, gloomy, uninviting, nay, even repulsive. There is one variety, but that is worse even. I allude to stuccodom; the head-quarters of which are near Regent's Park, and a large and, alas! rapidly increasing colony gathering round the British Museum. There is something, however, about these stuccoed houses, which would make them preferable to the others. They are more *truthful*. Yes, stucco as they are,—lying deformities as they are,—they are more truthful, in a certain sense, than the naked brick. They show more what their interiors are: they, in their falsehood, reflect the falsehood of the rooms behind them. The stuccoed front is in keeping with the oil-cloth pavement, with the grained doors, with the marbled walls, with the plastered ceilings which conceal the construction of the floors and of the roofs. A lie without, by expressing a lie within, becomes a truth, but a very sad and reproachful one.

There is no feeling, no spirit in our homes. Look at the residences of the rich and titled in the west of London: they display no art: all the attractions they have are their fittings and finishings, put up with due regard for modern comfort and civilization. Civilization! Come from the west to the heart of London, and see a wine-merchant's warehouse, — the venerable Crosby Hall. Cut in two by a thoroughfare, loaded internally by a gallery used some years ago by the musicians in concerts, its blazoned windows dilapidated, and its interior decorations irretrievably impaired, it stands there a noble and impressive object, a monument of the taste of our ancestors, and a reproach to ourselves. It silently tells us how, nearly four hundred years ago, when our country had not one-fourth of her present population, nor one-tenth part of her present wealth,—a simple knight reared for himself, his children, his children's children, for his descendants for centuries, this stately home. And the grey walls seem to frown, and then sneer, while they remind us that our proudest nobles live in constructions meant to last for a limited time, then to be rebuilt, and then built again, for the present generation only; those to come, uncared for.

But, it may be asked, Do you wish to make Crosby Hall our model for imitation? Not at all. Crosby Hall was built in the beginning of the sixteenth century. This is nearer the end than the beginning of the nineteenth. It is not the building that I wish imitated, but the spirit that produced it. The same feeling that moved the good old knight to erect his beautiful hall should move us also. *He* meant his hall to last: cannot we mean the same with ours? *His* hall was a part of his inner self: he felt for it, and with it: why cannot we do the same? Who is there among us now who loves his house in London? who, for its own sake, is loath to leave it? We love a place for its associations, for its remembrances; but that is all, and not always that. I myself, within the last four years, have "moved," and live now but a quarter of a mile from where I used. Do I ever go and bestow a fond look on the old house with stuccoed ground-floor and pseudo-Doric plaster portico? The imaginary question is ridiculous. Were it real, I should be inclined to think the questioner insane. But this should not be so. We talk and sing about hearth and home, and we have no homes! We are, in fact, nothing but wanderers,—if not always actually, at least careless whether we are or not.

It is this apathy which makes our domestic buildings so void of solidity. It has this effect, not only in London, but in country towns where better things might have been expected. I was lately in the ancient city of Chester, and there a great deal of building work was going on. Most of the new buildings are in the style of the old; but, instead of modern resource being employed to render them more substantial and lasting, their increase of height has no corresponding increase of thickness; and the pitiable cry of expense cannot be raised here, for I saw quantities of wood-carving exposed on the exteriors, much of it *ecclesiastical*.

I will now endeavour to show what I think our town homes should be. Be it far from me to attempt to lay down rules on the subject. "*Chacun à son goût*," say the French; and I have no doubt I shall be sadly at variance with many, though I sincerely hope the fundamental principles upon which I work will be approved.

My house will be of the same size as most in London; three windows in a row, and three stories above the ground-floor, with a basement and open area in front. I will begin from the bottom. Firstly, then, the basement. This I would have more massive than the upper part, projecting a few inches by weather-mouldings. The windows should be rather broad, on account of the scarcity of light; and as this breadth would take somewhat from the appearance of massiveness, they should be divided into two or three parts by mullions or shafts, though I think the former are preferable. These windows, owing to the thickness of the walls, would have a deep splay, which should be left plain or nearly so. In fact, the greatest simplicity should be observed in the basement, —first, because it is the lowest, and therefore should be the strongest; and, secondly, because it contains the menial offices. Under the doorstep of the house should be the door of the basement: this should be arched, with a segmental or with an obtusely pointed arch; the door itself should be plainly painted with some dark colour. Alongside of this door should be another large window, to light the passage along the basement. This should be similar to the others, only it might be made lighter, as it has comparatively but little weight upon it. The weather-mouldings, mentioned above, should be *an external indication of the joists of the ground-floor*. Some houses have a small outhouse in the area against the wall of the house: this might be roofed with slate, and, well treated, would be a very pleasing object.

Rising from the area, we come to the area-railings. These I would send to the right-about, without compromise, and substitute a low wall, about 3 ft. in height, and of considerable thickness, with boldly projecting mouldings, and a stout iron gate for the area-steps. This wall should run all round the three sides of the area: at the angles, and, particularly where it meets the doorstep, it should become more substantial, and might be somewhat ornamented.

The doorstep I should like, if possible, to be covered in entirely, making the space so gained a part of the entrance-hall. There should be a narrow window in the side overlooking the area. The doorway should occupy the entire breadth of the hall, and should be arched. The walls of this projecting hall should be as thick as possible, to give depth to the splays of the window, and to the jambs of the door. These jambs should have rich mouldings. I consider that, in domestic architecture, the door should be more ornamented than any other external feature, as being by far the most important. The roof of the porch should be flat, and should form a part of the balcony for the first-floor. Should it be impossible to build such a porch, the doorway should be the same, excepting that a window should fill up the arch. The door itself would be best of oak; and if not that, of deal, painted black or invisible green.

I have not said what material I would use. The bulk should be brick, of a light colour if possible, with stone dressings in the basement story only. The area wall would look very well if made of stone.

The windows of the ground-floor usually light the dining-room: they should be lofty and broad. As the principle of *substance* would extend through the whole of the building, these windows would have deep splays, though of course not so deep as those of the basement. These splays should be moulded; and, should ornament be desired at all, the windows would be by far the most fitting objects of it: they might be square-headed, containing an arch, the spandrels of which might be filled up with stone carving, either natural or heraldic. I decidedly object to ornamental details being executed in brick: mouldings only should be the ornament in brick.

Above the ground-floor windows would come the balcony, which I would support on stone brackets instead of the microscopic iron affairs now in use. The balcony should have a light iron rail running round it, and round the top of the porch, which would form a part of the balcony, as I have said above.

The windows of the one-pair floor light the drawing-room, and are generally the largest in the house. The splays of these windows especially should be made as deep as possible, taking care that, inside, they are not flush with the wall. I think that the most inveterate supporters of sash-windows will admit that in a drawing-room opening on to a balcony they are not indispensable. They are, in fact, almost as much doors as windows, and should therefore receive somewhat of the treatment of doors. Their large size makes it almost a labour to lift them high enough to enable any one to pass from the room to the balcony; while, arranged as double doors, nothing could be easier; and their width, divided into two, would be far too small to cause any inconvenience inside the room.

Next above these windows would be a bold string-course marking the next floor; and then would come another row of windows, on which no remark, however, need be made. Above these would be another string, and then the top story windows, which, however, do require a few words to be said about them.

In the first place, the form of the roof must be considered; and the roof must depend a great deal upon the staircase inside the building. I would build the staircase projecting from the back of the house, and thus leave the body of the building clear, and save all trouble about the roof; but as this would in a great many cases prove impracticable, owing to the limited area at the back, I should prefer to keep the staircase *entirely within* the house, lighting it either simply by a skylight, or, with greater pretension, by a lantern. This skylight or lantern would fill up the interior and one side of the area of the top of the building, leaving three sides to be roofed. I would do this with a roof of uniform high pitch, for the better protection from the weather; and I should make this roof useful, by making it a part of the rooms on the top story, the windows of which would thus be partly in the wall and partly in the roof, and which would give great scope for variety in the designing of the dormers. On each side of the house I would have a wall, sloping down in the front and back by means of sets-off; but always being higher than the roof,—being, in fact, for the purpose of protection from fire. Resting on this wall would be the chimneys, the tops of which should be diamond-shaped, which would have a very good effect.

I have thus given my idea of what our street architecture should be. I have purposely avoided inclining to any style, but have expressed myself in general terms. I have introduced no parts unnecessarily, but have done my best to produce the most with the least. No doubt, I have committed several grave errors, and I hope that these will be conscientiously shown up in some future number of the *Builder*. But whatever objections may be raised against my remedy (which only professes to be empirical), nobody

will deny that the disease exists, and ought to be cured in some way or other. It is quite sickening to walk through the streets of domestic London, and see what Canova called the long brick walls, with rows of slits in them. Reform we must have, and, to be thorough, it must be founded on some principle. I think that the great root of all evils now existing is the want of substance, and I have made substance the great principle in my plan for reformation. Several other remedies might be proposed, but as yet I think that more substantial construction is the best. Next to substance I have made bold horizontality the most important feature. When buildings rise 80 ft. in height, some horizontal lines are necessary to correct this. I have made my horizontal lines show the position of the floors, and thus rendered the exterior an index of the interior.

Ex Stirpe.

WASTE LANDS, SEWAGE, AND EMIGRATION.

During the last 100 years, agricultural skill and knowledge have advanced throughout Great Britain in a most remarkable manner. Wide spreading tracts of marsh and moor have been converted into profitable lands. In the southern parts of Scotland, even within the past quarter of a century, the changes have been great and the progress satisfactory, as in steam machinery for preparing food for cattle, sheep, &c., for thrashing corn, and for ploughing, or otherwise preparing the land.

We believe, however, that we are on the eve of the introduction of measures which will have a greater and more beneficial effect on agriculture than anything that has been done during the present century: we allude to the safe and cheap application of town sewage to the cultivation of the soil. The best mode of doing this on a large scale has not yet been ascertained; nor do we think that the effect upon the health of towns, of collecting immense masses of sewage in their vicinity has been clearly shown to be unobjectionable; but it is not likely that these problems will be solved except by actual experiment on a scale of sufficient extent. If these experiments are brought to a successful issue, however, this will be the means of putting into use vast quantities of land at present comparatively useless, and greatly increase the native production of human food:—it would also increase materially the demand for agricultural labour,—a point of much importance when the gigantic extent of the emigration going on from the British islands is considered. Month by month, great ships carry away multitudes, composed for the most part of the cream of our industrial population,—not to our own colonies alone, for great numbers seek their homes in the United States, which are in constant rivalry with, and often show anything but a friendly feeling to, the mother country.

In the six months ending last June, 123,000 persons, chiefly consisting of the working population, left these shores. In Ireland, instead of an increase of population, there has been, in thirty years, an actual decrease of nineteen per cent.; and even in the last ten years, a decrease of twelve per cent. In 1841, the population of Ireland was 8,175,124: in twenty years this number has declined to the extent of 2,401,587. This state of our population is a matter which demands grave thought. There are immense tracts of waste land at home which might, if proper facilities were held out, be improved so as to provide for a large amount of labour. In England alone, the waste land consists of nearly *seven million acres;* in Wales, 1,635,000; Scotland, 14,473,000; Ireland, 7,316,664; in the British Islands, 735,569; in all 30,871,563 acres of waste land. These figures show that within a comparatively limited space, and close to our own markets, we have lying absolutely waste, the enormous extent of nearly thirty-one millions of acres of land, which, as a contemporary observes, would give about an acre of ground to every one of our population, or five acres to every family. Are there no means as yet available by which this loss can be prevented? Might not tracts be selected by way of experiment, and offered, in allotments, on advantageous terms, to those of honest and industrious character, who would like to remain at home instead of crossing the seas? In the colonies small pieces of land are granted for trifling sums,—in some instances for nothing,—provided that within a certain time stipulated improvements have been made; and it does not seem unreasonable to suppose that if the needful measures were taken, many would devote their energies to the cultivation of land at home instead of going to some more distant clime.

No doubt, the labour would often be hard and the difficulties great; but let a man go where he may,—to the colonies or elsewhere,—to struggle for the means of independence and comfort, he cannot succeed unless he works long and steadily, and endures much privation. There are now throughout this country facilities of railways and other means of transit not in existence a short time ago, which would materially lessen the troubles which would necessarily have attended the carrying out of any scheme of this description formerly; and should the right mode of applying town sewage to the soil be at length ascertained, further cause for emigration on the part of our agricultural labourers might soon be in a great measure obviated.

FACILITIES FOR TOURISTS.

Wonderful as are the means at present in use for those who have time and disposition to see the beauties and curiosities of their own and foreign lands, these facilities are constantly increasing; and in the columns of the newspapers we see tempting advertisements of cheap excursion trains, which go in all directions.

From Blackfriars Bridge we may now daily go to the Crystal Palace, Ramsgate, Herne Bay, Broadstairs, Chatham, Stroud, Sheerness, &c.; or we may make a cheap excursion from the same place, or from the Victoria or London Bridge stations, to Calais and back; seeing, besides other matters by the way, the white cliffs and noble castle of Dover: this can be done for 7s. 6d. From the metropolitan station of the Brighton railway, the tourist may take cheap excursion tickets to Paris, which is reached in eleven hours and a half: by third-class the fare is 22s., or return ticket, available for a month, 36s. From the Euston-square station, cheap summer excursion trains run frequently. The fare from London to Windermere and back is 15s. On Sundays, trains start from the Charing Cross station by means of which persons are enabled to spend eight hours at Boulogne, and return on the same night,—fare there and back, 7s. 6d.; children under twelve years of age half price: so that the Londoner, at a very moderate cost and little loss of time, may speak of his visit to the Continent.

Cook's monthly tickets are available for express and ordinary trains and steamers to Paris and Switzerland: the cost of conveyance from London to Switzerland, and thence home, is, by first-class, 5*l.* 5s.; second-class, 4*l.* 14s. This gentleman has also planned excursions to some of the most interesting parts of Italy. He accompanies these excursions, and leads his companions to spots of the greatest interest, and to picture-galleries and libraries, thus saving trouble and delay; and also finds accommodation and local conveyance at moderate cost. All these facilities, it is true, deprive travelling of much of its romance; but for the man of business and for those whose summer holiday is limited to a short period, the plan has advantages.

The Great Western has excursion trains which start to the north, dropping passengers at Oxford and Banbury, Leamington, Warwick, Birmingham, Shrewsbury, Oswestry, Llangollen, Liverpool, Manchester, and many other places; and a similar arrangement is made respecting towns in the direction of Falmouth and Penzance; but the mere enumeration of the tempting routes which are made cheaply available by the railways would far exceed our present limits. All this contrasts in a remarkable way with the methods of travelling thirty or forty years ago. Nor do those increased facilities apply to rail alone; for the Londoner who may have an inclination for the sea may have that taste gratified, and in a short time may steam to St. Helena and back, and derive from the journey both health and pleasure. Or he may go direct from London to Norway, the fare for the chief cabin being 4*l.*, or 6*l.* return. Or he may go to Jersey, Guernsey, or St. Malo. Those who choose may take a steam yacht excursion round the sea coast every Sunday; the fare of the railway and yacht being 6s. 6d. It is a nice little voyage to Ipswich, Harwich, Dovercourt, Felixstowe, and Walton-on-the-Naze. Those with less spirit of adventure, or smaller means, may spend a pleasant day by making a trip from Hungerford or London Bridge to Sheerness, sailing round the Great Eastern and the ships of war in the Medway.

SURVEYORS' FEES UNDER THE BUILDING ACT.

Mr. Geo. Vulliamy, as superintending architect of the Metropolitan Board of Works, has made his eighth annual report on the monthly return of district surveyors.

A general abstract of the returns of fees for the year 1863 is appended to the report, along with a list showing the comparative revenues of the several districts into which the metropolis is divided.

The total of the gross fees for the year is 29,440*l.* 9s. 9d., received in respect of 17,954 works, of which upwards of two-thirds were done within the year.

The gross fees received in 27 districts vary from 54*l.* to 384*l.*—8 being under 200*l.* each, 6 under 300*l.*, and 13 under 400*l.* each. In 28 districts the incomes vary from 400*l.* to 1,545*l.*

The expenses of district offices are 5,793*l.* 19s. The fees remaining due for all arrears are 20,113*l.* 11s. 6d., but probably mostly of little value. The sums abated or lost are 1,178*l.* 4s. 7d.

Compared with the results of former years, the present abstract shows a large increase.

		Works.		Fees received.
In 1856	...	14,654	...	£19,904 14 11
„ 1857	...	15,330	...	20,969 11 4
„ 1858	...	15,600	...	21,732 11 2
„ 1859	...	15,538	...	22,335 9 2
„ 1860	...	15,030	...	22,791 2 3
„ 1861	...	14,008	...	21,588 2 8
„ 1862	...	16,707	...	25,315 2 3
„ 1863	...	17,954	...	29,440 9 9

ARCHITECTURE IN UNIVERSITY COLLEGE, LONDON.

Professor Donaldson has issued his sessional circular, and takes the opportunity as usual to offer some remarks for the consideration of students themselves, and of those who take interest in architecture and construction,—the result of his experiences. He says truly,—"After all, the main question must be not how much is taught, although that is essentially important, but how much is learned by those who attend such courses. Discipline, kindness, earnestness, and confidence in the right on the part of the teacher will do much to create habits of attention, to arouse the faculties, and to create a deep interest in the topics treated upon. But on the part of the student it will be asked how much has he done with a little honest hard work to avail himself of the painstaking devotedness of the professor? How many evenings of the week does he devote to follow up the instruction given, and to perfect his notes of lectures and sketches of the illustrations? What books on the art has he read in furtherance thereof? and in what fruitful mode has he made himself master of the works that he may have consulted."

"There has been a specious popular outcry in regard to architecture fostered by public writers, and very much the result of ignorance, and which has induced an impatience of the control of rules in art, an ostentatious disregard of authority and a craving for novelty.

By some it is stated that a mistake lies in retaining the Greek and Roman as the standard, and that the youth had better devote himself to the Gothic style, as the more patriotic, Christian, and reasonable, and above all unfettered. I have more than once entered my protest against such narrowminded convictions; for I think that no architect should regard his art under an exclusive and *sectarian* point of view, but with a generous and universal spirit, rendering justice to *all* the varied phases which art has assumed in different countries, and at various epochs, and neglecting none."

NEW GAS-LIGHTING APPARATUS.

Mr. T. C. Eddy and Mr. M. Burdon, of Durham, have brought out an apparatus for lighting gas, intended to obviate the necessity of its being done by hand. It is called the "Electro-magnetic gas-lighting apparatus." The invention may be applied to any description of gas-lamp without their requiring alteration. The apparatus is about three times the size of a lady's thimble, and very much like an ordinary gas-burner. The principles upon which it is based are stated as follows:—An ordinary telegraph wire communicating with the negative pole of a galvanic battery is connected with the "Electro-Magnetic Burners" in succession, according to the number of lights required, and the extre-

mity of the wire communicates with the earth, or is conducted back to the battery, and attached to the positive pole, when the circuit is complete. Therefore, to light and extinguish the lights, it is only requisite to connect or disconnect one of the poles of the battery. Immediately the electric current enters the "Electro-Magnetic Burner," it passes through an insulated wire, which is lapped round a soft iron tube, which immediately becomes a powerful magnet, and attracts a piece of soft iron, which opens a kind of valve, and permits the gas to escape through the burner: at the same time the gas-valve is opened, the current passes through a piece of platinum wire close to the burner, which turns red hot and lights the gas. This effect is produced at every burner at the same instant.

WHO'S WHO?

The tremendous flood of photographic portraits which is now thrown upon the public is extraordinary, and leads to no little imposition and to some confusion in the great markets of the poorer classes of the metropolis. In the New-cut, Lambeth; the Brill, Somers Town; and in other busy places, the photographic effigies of the men of the day are sold in enormous numbers. Certain faces are so well marked and so familiar, that no mistake can be made; but there is many a man of mark whose visage is not generally known to the multitude; and in these cases great imposition and confusion take place; and portraits of learned professors, ministers of state, and even royal personages, are sold as that of the man of the moment, even though he be a murderer. Recently there has been a remarkable instance of this: the extraordinary excitement in connexion with the murder of Mr. Briggs has caused an immense demand for the photographic portraits of Müller, the suspected murderer; and on the Saturdays, in the markets mentioned, a familiar cry is,—"Portrait of Müller—only a penny!" "Here is the authentic portrait—only a halfpenny!" On examining the proffered sun pictures, we found amongst them the familiar features of Professor Owen, Sir Roderick Murchison, the Archbishop of Canterbury, the Crown Prince of Prussia, Prince Louis of Hesse, and many others. The morbid taste which has given to Müller a passing notoriety as great as that of famous warriors and statesmen will be the means of clearing out the otherwise surplus stock of many a photographer and seller of photographs; but persons of fame and respectability will at the same time have their portraits imposed upon the public as that of a man charged with a foul crime, and whose features do not belie the charge.

ST. JOHN'S, NEW BRUNSWICK.

Our correspondent writes from this colony, Thus far, this has been a very busy season in our line, perhaps more so than any for the last ten years: a large number of first-class buildings, both public and private, have been erected or are in course of erection, of which I shall only mention the recently-erected dwelling of Mr. George Carvill. It is of red brick, with grey freestone dressings, and is one of the largest dwellings in our city. A building in course of erection, of red freestone with grey dressings, much smaller in size (though not in pretensions to architectural beauty) than the former, is owned by one of our most extensive builders, Mr. E. J. Barteaux. Of the stores, that belonging to Mr. J. R. Ruel, and the larger one of Messrs. Daniel & Boyd, are the principal.

We are getting well along with the new German-street Baptist church, on the site of the old one, pulled down to make room for its more pretending successor. It is of the Gothic style, of the fourteenth century, with slight adaptations. It is small in size, being only 50 ft. by 75 ft., with tower and spire, 160 ft. to vane.

It is built of red stock brick, with grey freestone rather freely used. The spire will be of wood. Messrs. Hart & Sons, of your city, supply the ironwork, as we have no art-workmen in that department. The architect, Mr. John A. Munroe, hopes to make this the finest Protestant church in the city.

Our Government is making extensive railway improvements in the city, having just commenced a deep water terminus of great extent for a city like ours; but we are growing fast, and will need all by and by. The work is being executed from the surveys and under the superintendence of Mr. J. E. Boyd, chief engineer of railways in this province. There will be an exhibition of provincial productions opened at Fredericton, on the 4th of October, and it promises to be very successful.

Gold and marble have just been discovered in this province, the latter of very fine quality, of various colours, and in great quantities, it is said. The gold I have seen specimens of, but the marble I have not, so I cannot judge. We have freestone of the finest quality, and if we can get marble in any quantity we will soon have the latter in as extensive use as the former. There is a convention sitting at Halifax, trying to bring about a union of the British North American provinces; I wish it every success.

THE REMEDY FOR OVER-CROWDING.

Sir,—I have read with much pleasure and profit your able paper on over-crowding; and having also enjoyed the advantage of reading most of your previous works on these sanitary sins and sorrows of the City, I think, perhaps, you will allow me to make two brief observations on the subject.

1. In the first place, your observations and researches (which entirely coincide with those I have made in a more limited field) would seem to establish beyond a doubt the necessity of a thorough-going and systematic inspection of the poorer class of dwellings.

2. But as you do not indicate the method of inspection otherwise than as an extension of the Lodging-houses Act; and as the power of appointing inspectors under that Act rests with the "local authority;" I wish to state, in the second place, that I do not think such local authority either competent or proper to exercise this power; and that if you wish inspectors to be honest and impartial in the imperative discharge of their duties, you must place them beyond the reach of local influences altogether. Such was the view taken by Lord Derby's committee regarding the inspectors of nuisances under the Alkali Works Bill. I speak from my own experience.

An Inspector.

*** Our correspondent is right in his inference, but not wholly so in his premises. The execution of the Common Lodging-house Act within the metropolitan police district is vested in and well carried out by the Police Commissioners of the metropolis, to which body we would confide the appointment of inspectors of tenemented houses.

SLATING.

Having had twenty years' practical experience in the trade, and opportunity of observing provincial custom, I give you the result of such observation.

Slates are now without exception secured to battens (about $1\frac{3}{4}$ in. by $\frac{3}{4}$ in.) by two nails at a distance of $13\frac{1}{2}$ in. from the bottom (such distance being regulated according to the pitch of the roof), and not at the upper end. The exposure to wet being from the vertical joint, copper nails are confessedly preferable, although Vieille Montagne zinc, and sometimes malleable iron, are used when repairing old Westmorcland grey slating, which was secured by an oak peg in the centre of the upper end, which is generally round. I have observed a dry rot in the slate, rendering the peg useless. The peg is still used in Yorkshire, where roofs are covered with a thin stone, about 1 in. thick; but for Bangor, Port Madoc, Llangollen, and other blue slates, the custom of the trade is to nail the slate "the distance of the gauge, plus the lap." The superiority is evident from the position of the nails. By mechanical laws the power over bodies is increased by extension of leverage; and so, in this instance, instead of a lever of about 23 in., the power is reduced to about 13 in., with a counter force in the lath on which the head of the slate rests.

S. C.

THE SURVEYORSHIP OF WEYMOUTH.

Sir,—At the meeting for the election of a surveyor for the borough of Weymouth and Melcombe Regis, last Wednesday, a local man was appointed to the office. There were thirty-two applications; but the town council actually did not open one—an unheard-of proceeding, which ought to receive the greatest censure. They were bound in common justice to have perused them and selected the most fit and proper person for the office. I ask, why did they advertise for applications, when it was already known who would be appointed? It appears that most of the members of the council are led by one man, and instead of the welfare of the town being considered, it is party spirit.

Fairplay.

SUGGESTIONS FOR THE NEW STREET.

I beg you will, through the medium of your journal, call the attention of the authorities interested in carrying out the new street from Oxford-street, through the heart of St. Giles's to Charing-cross, the Act for which was obtained last session, to the rare opportunity it affords (by a competition among architects) for fully developing the renowned Chester-row feature, with all its glorious artistic effects of light and shade, allowing the highest graces of art being lavished on every variety of arcade, pediment, pillar, pilaster, frieze, and embellishment of the truest constructive architectural character; while no better opportunity could be desired for a display of the picturesque element, by varying the elevation of each block of houses, or of even nearly every house, as in the new Cockburn-street, Edinburgh.

In the new street all the grandest features of the Venetian palaces might be emulated, as well as the Rialto and other bridges in the streets to be spanned, for making the covered promenade continuous from end to end of the street, of course providing good access to all the intersecting thoroughfares.

When you reflect on what might be done with all the modern appliances of wrought and cast iron, terra-cotta, encaustic tiles, Lucca della Robbia and other ceramic ware, and with a right development of the wood-carver's art, you will see a result might be attained that would fairly enter into rivalry with the far-famed human and animal sculptured decorations of a structural character that still exist on the fifteenth and sixteenth century houses of Italy; whilst, for the most important edifices in the line, frescoes might be introduced, with the highest artistic effects, in the ceilings, pilasters, &c., of the lofty arcade.

I venture to say, if such a plan could be carried out, it would exercise the most powerful influence in promoting a love of the arts, and an improvement in the skill of the artisans, whilst adding to the value and business attractiveness of the street.

Vast improvement in stone carving has been brought about in a few years by its free introduction as a structural decoration on the fronts of our new hotels and warehouses, and an amazing increase in stained glass workers, caused chiefly through the press arousing the public mind to the elevating use made of those arts in the countries where the mind and manners of man have been developed in their grandest forms in past and present times. English oak or walnut wood sculpture and carvings might be made a much more important adjunct of decoration on the elevations of our new banks and other houses of business, and would give a characteristic charm of noble yet picturesque beauty no other material can produce.

With good designs from architects and sculptors, proper models to guide and assist the young students, and the aid of steam machinery, as well as an enlistment of the surplus male and female labour, the supply of carving at a reduced rate of cost, might be soon secured to meet any increase of the demand, the establishment of such an example as the new street would give rise to.

At all events, the publicity of the idea in your journal might lead to an elegant embodiment of it in a few drawings for the next architectural display at the Academy.

George Lock, Designer.

ASSESSMENT OF GAS COMPANIES.

At the Glasgow Appeal Court, the Glasgow Gas-light Company appealed against the valuation of the assessors. Mr. Donaldson stated that the company had been allowed all the deductions which they claimed, with the exception of the depreciation of meters. These deductions reduced the valuation by about 400*l*., leaving the estimated value within the Parliamentary boundary at 20,397*l*.

Mr. Allardice, who appeared for the Gas Company, said the ground on which he opposed the valuation was not upon the question regarding the meters, but upon the general principle upon which the valuation was made up. The assessors took as the basis of the valuation the revenue and expenditure of the company. The Gas Company was a company established by Act of Parliament for the manufacture and sale of gas, and was therefore just a manufactory, and should be dealt with in the same way as other manufactories, the profits realized from which were never gone into by the assessors. In support of his argument, Mr. Allardice referred to several cases disposed of under the Poor Law Act.

Mr. Donaldson maintained that the practice all over England was to take the revenue into account in estimating the value.

Mr. Govan said the Gas Company was a public company, authorised by Act of Parliament to levy rates, which a private company could not do.

The Court dismissed the appeal.

CHURCH-BUILDING NEWS.

heddleton (Staffordshire).—The parish church been restored. The pews have been swept y, the plaster ceilings pulled down, the roof ired, the floors relaid, the foundations under- ed, and the stone-work renewed where abso- ly necessary. The only external alteration, des the addition of the vestry, is the restoring he gabled roof to the north aisle and the pletion of the tracery of its east window, ch had been cut off when a flat roof was put

In the interior the change is great: the s have been replaced by oak benches, and chancel is separated from the nave by a high en, which now forms the principal feature of interior. It being doubtful whether there ever been a chancel arch, it was thought rable to mark the distinction of nave and ncel by a screen of this description. Four of windows of the chancel have been filled with s by Messrs. Morris & Marshall, of London. designs are taken from the fragments of inal glass which were still left in the win- s. All the old fragments have been worked in the new windows. The figures which py the windows are all said to have some nexion with the dedication of the church. y represent kings who have been sainted, or been connected with church history. In are Constantine and his mother, St. Helena; nother St. Charles and St. Louis; in the l, Ethelbert of Kent, and Peada of Mercia; in the fourth, Alfred the Great and St. Ed- l, the church's patron saint. These four lows are the gift of the Lady of the Manor. e windows consist in great part of grisaille s. In one of the windows of the north aisle ainted glass window has been placed by Nall, of Leek, as a memorial of his daughter, late Mrs. Edwin Heaton. The subjects are n from the 23rd Psalm and the parable of Good Shepherd. The organ, which is being by Mr. G. Walker, of London, is to stand at east end of the south aisle, where an old ace and piscina are visible. Mr. Thomas dle has placed in the tower a sixth bell, to memorate a deceased member of his family. old churchyard cross, part of the shaft of h alone remained, is to be completed and ed with a suitable cross. This is also the of Mr. Wardle, who is one of the church- ens. The church has been warmed by ens, of Leamington, on the Mitchell plan of oxes and flues below the tiling. The whole e restoration has been under the supervision r. G. G. Scott, jun., the son of the well- wn architect. Mr. Evans, of Ellaston, was ontractor; and Mr. J. Saville, the clerk of works. The total outlay, it is expected, will out 2,200*l.*

orcester.—In less than a month the work of ring the tower and the northern portion of cathedral will be commenced by Mr. Hughes, istol, whose contract has been accepted by Restoration Committee, the terms being r 10,000*l.* It has been estimated that the sum required for the completion of the rations and improvements will amount to 00*l.*, and of that sum 16,223*l.* have been ributed. —— At a vestry meeting of the h of St. Nicholas to acknowledge the gift 000*l.* from Mr. W. Perrins for increasing the wment of the church, a resolution was imously passed that this is a fitting time to ere and reseat the church.

derworth (near Rotherham).—Operations ow going on for the enlarging and beautify- f Kimberworth Church. It was built in but its want of architectural beauty has unted its becoming an object of interest. nterior of the church has presented as un- ing an appearance as the exterior. It is osed to build a square tower, some 70 ft. at the west end of the church. On the side of the tower will be an organ-loft, un the south side the entrance-porch. The gallery across the west end will be re- d, and all the extra space obtained will be wn into the body of the church. By this the church will be lengthened nearly one- h. The new sittings secured will be unap- riated, and it is hoped, eventually, all will ne free. It is estimated that, to carry out improvements, about 400*l.* will be required. is sum 50*l.* have been subscribed by the Earl dingham, and 50*l.* by the Earl Fitzwilliam. t. J. Bentley has given 25*l.*, and other sums romised. The church is built in the plain c style, and the architects (Messrs. Black- & Withers) will carry out the same style in the tower. Mr. Ripley, of Masborough, is the contractor.

Grantham.—A numerous and influential meeting of the gentry and tradesmen of Grantham and neighbourhood has been held in the Town-hall, Grantham, to concert measures for the restoration of the parish church. Earl Brownlow occupied the chair. Mr. Scott, he said, had thoroughly examined the fabric, and prepared a report. The alterations and restorations he recommends will cost about 14,000*l.* Mr. Scott had spoken of the spire of Grantham Church as only second to Salisbury Cathedral. To give effect to the resolutions passed at the meeting, Sir John Trollope proposed that a subscription for the restoration of Grantham Church be commenced forthwith. The subscription list now amounts to 6,000*l.* The stonework, according to Mr. Scott's report, is in good preservation, but requires careful reparation throughout. The internal surfaces require cleaning from whitewash. The south-eastern angle of the church must be underpinned, and otherwise strengthened, as it has given way considerably. The two porches require extensive repair and restoration. The general system of reparation spoken of as necessary to the stonework, must be applied, continues the report, to the tower and spire; and, while the scaffolding is up, it would be desirable to restore the upper portion of the spire to its original height, several feet of which have been lost through unskilful reparation. The foundations of the church should be examined throughout, repaired where they are found to require it, and protected from damp by concrete, a stone channel being formed all round, and the whole system of drainage rendered complete and effectual. No part of the roofs, excepting that of the nave proper, retains the original pitch. Every portion is, more or less, in a state of decay. Mr. Scott thinks that, in this case, it would be best to renew the whole of the roofs, restoring them to their proper pitch. The whole of the interior will require to be refitted.

Consett.—The foundation stone of a new church, according to the *Newcastle Courant*, has been laid at Consett, which, until a short time ago, was in the parish of Benfieldside. Consett having been made into a separate ecclesiastical district, a school-room, near the Consett Iron Works, was used temporarily as a church, until means could be obtained for erecting a church. A site was selected for the building west of the village, and there the first stone of the new edifice, which is to be called Christ Church, has been laid. The church will be built of stone, in the Early Norman style, from designs by Mr. Corey, architect, Carlisle, and will be quite devoid of ornamentation. It will consist of the nave, chancel, and north aisle, with a low tower at the west end, which it is intended shall be surmounted by a spire. North of the chancel will be an organ chamber and vestry. The nave will be so built that, should the congregation require it, a south aisle can be added, of the same form as that of the north aisle. The principal entrance is from the west end, beneath the tower, and it will be the most ornamental part of the building. The extreme length of the church will be 137 ft., the chancel being 26 ft. long; the width 54 ft.; and the height of the roof of the nave 35 ft. The tower will be about 40 ft. high, and the spire about 30 ft. more. The church will be fitted with open benches, to accommodate 520 adults and 100 children. The roof will be of open timber, and the aisle will be separated from the nave by six arches. The cost of the building will be 1,825*l.*, of which 600*l.* require yet to be raised. The contractor is Mr. Lowes, of Durham, builder.

DISSENTING CHURCH-BUILDING NEWS.

Plymouth.—The Sherwell Chapel, a large structure in Tavistock-road, Plymouth, for the increased accommodation of the Congregationalists, has been opened for divine service. A prominent feature of the structure is the tower, surmounted by a spire, being about 140 ft. from the ground to the top of the vane. The design is Gothic, with details of the Second Pointed period. The front of the chapel is parallel with Tavistock-road, and set back 10 ft. from the line of boundary. A flight of steps leads to the central front entrance, vestibule, and lobbies, communicating with the ground-floor seats, side entrances being provided to the galleries, that on the north side being under the tower. The centre front gable is flanked by enclosures to the gallery staircases. Over the south staircase there is an octagonal roof, corresponding in position with the tower on the opposite side. Above the central front doorways is a five-light window, with traceried head. The side windows are in two tiers; the lower range beneath, and the upper range above the side galleries; and all have geometrical tracery. Internally, two rows of iron columns, 6 in. in diameter, and coupled transversely, with 3-in. space between, and 13 ft. apart, divide the whole width of the chapel into the three compartments of the aisles. The capitals are surrounded with leafage. Above the columns are pointed and moulded arches, five in number, on each side and supporting the central or nave roof. The roof is constructed so as to show the inner ceiling, with sloping sides, divided into compartments by moulded timbers and hammer-beam trusses. The roofs over the aisles are similarly treated, the spaces between ceilings and roofs being made available for the purposes of ventilation. The side galleries are four seats deep, exclusive of passage next the walls, and the end gallery extends over the front vestibule, and contains a large number of sittings. At the western end is an apsidal recess, occupied by the organ, which is being built by Mr. H. Willis, of Regent's Park, the builder of the great Liverpool organ, and of those of Wells and Winchester, the latter being the Exhibition organ of 1851. It is a full church organ, containing three manuals, from double C to G. The organ front, which is of polished oak and carved, was manufactured by Messrs. Yabsley, of Plymouth. In front of the organ recess is a platform 18 ft. by 16 ft., with carvings and railings decorated with ironwork. The pulpit is in the Gothic style, and consists chiefly of pitched pine fir, varnished. The transepts have ceilings of semi-octagon shape, which abut against the nave arches, to prevent the acoustic defects generally accompanying transepts. Underneath the organ-recess is a chamber for Haden's warm air apparatus, and in the rear are vestries for minister and deacons, adjoining each other. Accommodation has been provided for about 1,200 persons, of which number about 700 are on the ground floor. Additional accommodation can be provided, if required, by enlarging the transepts. The dimensions of the chapel internally are 53 ft. wide, 94 ft. 6 in. long (exclusive of apsidal recess, which is 15 ft. additional), and 48 ft. from floor to apex of ceiling. The side walls are 30 ft. high from floor to plate, and the front gable is 75 ft. high from the ground surface to the top of finial. Portland stone has been used for all tracery and delicate dressings, and for the spire; and the walls are built of native stone and lias lime, faced with limestone of dark colour, ranged in courses and pointed with dark mortar. Light-coloured limestone has been used in bands and for all quoins; and the relieving arches over all doorways and windows are varied in voussoirs of purple slate and red limestone. The roofs are covered with Welsh slates in bands of red and blue. The building has been erected by Mr. John Finch, of Plymouth, under the superintendence of Messrs. Paull & Ayliffe, of Manchester, who were the architects, Mr. Mayjor, of Plymouth, being clerk of the works. The cost will be over 6,000*l.*

ROMAN CATHOLIC CHURCH BUILDING NEWS.

Hoxton. — The foundation-stone of a new Roman Catholic Church has been laid at Hoxton. The edifice is dedicated to St. Monica. In connexion with the site of the intended building we may mention that the house No. 12, Hoxton-square, now standing there, is at present occupied by the Augustinian Fathers. In the time of Charles II., it is said, this house was the resort of that monarch, and there are in relation to the old red brick building various tales of Nell Gwynne. In the course of the necessary excavations in the grounds attached to the house, traces were found of a subterranean passage—in some parts quite complete, with brick walls and arched roof—leading, it is imagined, to York House, a place not far distant at that period, and another of his Majesty's oft-frequented spots. This is the first Augustinian church in London since the time of Henry VIII. The new edifice is to be 124 ft. in length by 40 ft. in breadth. The plan is a parallelogram, and the building is divided into nave and aisles by pitch-pine columns, which support the main principals of the roof. The nave is separated from the chancel by an arch ornamented with marble shafts. The chancel is lighted by nine windows,—eight lateral lancets

and one rose window. Beneath the window the chancel opens upon the side chapels by an arcading of eight arches supported on small stone columns. The roof of the chancel will be waggon-headed, and divided into panels by wooden ribs. The roof of the nave is open, with ornamental metal work. The nave is entirely lighted from a clerestory worked in Bath stone. Behind the sanctuary is a sacristy 40 ft. long by 12 ft. in width. The height of the building is 51 ft., and it will cost, when completed, about 3,300*l.* Mr. Oxborn, of Clapton, is the contractor; and the architect is Mr. Welby Pugin.

Barnet.—A new Roman Catholic Church has been commenced at Barnet, the first stone being laid by Bishop Morris. The church is to be Gothic in character, and the architects are Messrs. Willson & Nicholl, of London. It will be about 50 ft. long by 32 ft. wide, and will accommodate about 200 persons.

STAINED GLASS.

Chichester Cathedral.—Almost all the lower windows of the building are already filled with painted glass. There are only four plain windows left in the nave aisles, and one of these is about to be filled with stained glass. It is to be a memorial window, like most of the others, the glass being manufactured by Messrs. Clayton & Bell, of London.

St. James's, Dover.—This church has received recently an addition to its numerous other embellishments in the shape of a stained glass window, which has been inserted in the west end of the church, immediately above the cross gallery. It has been placed there, we understand, at a cost of 400*l.*, and is intended by the building committee to serve as a memorial of Lady Morrison, who rendered valuable assistance to the funds for the erection of the building. The window consists of five principal lights, each containing two Scripture subjects taken from the Old Testament, and intended to illustrate the chequered experiences of the Israelites of old; while underneath are passages of Scripture showing their spiritual meaning. Surmounting these are seventeen lesser lights, two of which seem designed to represent the creation of our first parents; and lower down, over the centre of the larger compartments, appear the initials "I.H.S." The artists are Messrs. Heaton, Butler, & Bayne, of London.

Hereford Cathedral.—A window in memory of the late Archdeacon Freer, according to the local *Times*, has been erected in the north transept. The window has been designed and executed by Messrs. Hardman, of Birmingham. The cost is about 1,300*l.* The window is one of the largest of the Geometric period (temp. Edward I.) in this country, the glass being 48 ft. 6 in. in height, by 21 ft. 6 in. in breadth. The predominant colours are ruby and Canterbury blue (about five or six shades of each). Plain white glass has also been largely used in the upper part of the window. The details of the new glass are in accordance with the architecture of the north transept. The various medallions are filled in with a variety of figures representing Piety, Fortitude, Knowledge, Counsel, Wisdom, &c.; "St. Paul before Festus," "St. Peter and St. John confirming and enlarging the Church in Samaria," "St. Stephen distributing Alms," "St. Philip baptising 'a Man of Ethiopia,'" "Angels with spiritual Armour," "The Crucifixion of our Lord," "Our Lord sending forth his Apostles to establish the Church," "St. John the Baptist preaching in the Wilderness," "Martyrdom of St. Stephen," "St. Peter healing Æneas of the Palsy," "St. Paul shipwrecked," "St. Peter imprisoned by Herod," "Angels crowning the Just," &c., "The Heavenly Jerusalem," and other subjects.

Wellesbourne Church (*Warwickshire*). — A stained-glass memorial window has been fixed in the east end of this church, containing the following subjects, viz., the "Annunciation" and "Nativity," and in the centre opening, the "Crucifixion," under canopies; and on pedestals under the above the subjects of the "Baptism," "Christ before Pilate," and "Last Supper." On a brass plate at foot is an inscription to the memory of Cecil Henry Paulet, son of Lord Charles Paulet. The window was executed by Mr. W. Holland, of Warwick.

Whatfield Church, near Ipswich.—The west window of this church has been filled with stained glass, executed by Mr. W. Holland, of Warwick. It contains four subjects in side-lights, representing the Acts of Charity, under floriated canopies, and in the centre opening "Our Saviour healing the Sick," with angels on pedestal bearing a scroll, with the words "He healeth all thy diseases." In the tracery are figures of the four Evangelists, with their appropriate emblems, the Lamb, pelican, I.H.S., &c. Running across the bottom of the window is the inscription, "To the memory of Sir Robert Harland, bart., of Wherstead Park."

Halifax Church.—The pupils of the late Rev. John Henry Gooch, incumbent of Stainland, and head master of the Free Grammar School of Queen Elizabeth at Heath, have erected a painted window, in memory of their late master, in Halifax parish church. The window is Perpendicular in style, and formed of three openings and tracery. The subject, which is extended over the three lights, is taken from St. Luke iv. 32, "And they were astonished at his doctrine; for his word was with power." The whole is the work of Messrs. Edmundson, of Manchester.

St. Matthew's Church, Knott Mill, Manchester. The teachers and scholars connected with the schools attached to this church have subscribed to defray the cost of two painted windows which have been placed in the sides of the chancel. The style is Perpendicular, and each window is composed of three lights and tracery. In the centre opening of one window is a representation of the Saviour blessing little Children; and in the side-lights, life-sized figures of the Evangelists Matthew and Mark. The second window contains "Christ's Charge to Peter;" and in the sides, figures of St. Luke and St. John. These windows were executed by Messrs. Edmundson, of Manchester.

Peterborough Cathedral. — A stained glass window, the production of Messrs. Heaton, Butler, & Bayne, of London, has recently been placed in the north transept. The subject in the sinister light is "Christ's Agony in the Garden;" and in the dexter light, "Soldiers and Rabble, with Judas at their Head;" beneath, the "Disciples asleep;" and in the tracery, "Angels holding Emblems of our Lord's Passion." This window was erected by Mr. G. W. Johnson, of Peterborough, in memory of his mother, Margaret Johnson.

FROM SCOTLAND.

Glasgow.—The extensive ship-building firm, Messrs. Tod & M'Gregor, whose works occupy a site of 14 acres at the confluence of the Clyde and the Kelvin, have found it requisite still further to extend their accommodation (on a portion of their own land), by the formation of a new slip dock. The working plans were prepared in the spring of the present year, and the work let in May last; and it is now actively progressing towards completion. The slipway is 557 ft. in length, and will be capable of taking in a vessel of 800 tons. The foundation of the slipways is formed of four rows of piles, from the top of the slip down to the extreme end of it, and a portion of these piles will be driven and cut off under water. The upper portion of the ways is formed of timbers laid upon beams of whole logs set across the entire breadth of the slip over the bearing piles, the spaces under the ways between these cross bearers being filled with concrete made of gravel and hydraulic lime. Upon these ways four lines of massive cast-iron rails are laid. The lower part of the slip is formed of an immense raft or platform of timber 210 ft. in length, formed of sleepers of whole logs bound together with diagonals and runners, strongly bolted and trussed to this framing. Upon this a continuation of the ways and rails is formed. Wharfs of stone and timber are constructed on each side of the slip, from which the ships are set, steadied, and adjusted on the cradle. The hauling power consists of Miller's hydraulic purchase, which hauls up the cradle by direct action, without intervention of wheels or machinery. The pumps which work the purchase are driven by a steam-engine. The line of rail which is about to be formed through Partick in connexion with the Edinburgh and Glasgow Railway goes directly past the end of the slip, and a siding will be formed into the dockyard. The contract for the masonry, piling, &c., of this slip-dock were let to Mr. Hugh Kennedy: Messrs. A. More & Sons are constructing the hydraulic purchase; and the proprietors the steam-engine and cradle; the whole of the work being done from the plans and under the superintendence of Messrs. Bell & Miller, civil engineers.——The Maxwell Church, in Pollok-stree is now near completion: the site was given b Sir John Maxwell, of Pollok. The church wi hold about 900. The tower and spire, which al about finished, will be about 140 ft. in heigh The entire cost will be about 4,000*l.* Mr. O'Do noghue is the architect.

Partick (*near Glasgow*). — The spire of S Mary's Church is now completed. Its height about 130 ft., and it is surmounted by an orna mental finial and weathercock. Mr. Maxwe of Partick, was the contractor, and the architec was Mr. G. H. O'Donnoghue.

Arbroath.—The architect of the projecte public hall for Arbroath describes his design being in the Old Scotch style modernized. T site and locality suit this style of building, remarks, which is always greatly enhanced whe viewed in angle direction. A large gable, wit turrets and treble-light window, forms the prin cipal or leading features in the design: by the features the position of the hall is at on marked. A little decoration of an excessive simple kind has been shown on this gable. T height of the building to the eaves of roof about 40 ft., shop-floor 13 ft., and hall 26 ft.; th supper-room and museum together being equ to hall, or 13 ft. and 12 ft. respectively. T subjoined probable estimate of the cost in erec ing a building of this extent is given:—

Mason work	£1,600
Joiner work, including hall seats and open roof	1,500
Slater work	110
Plaster work	135
Plumber work	100
Iron work	150
Glazier work	240
Painter and stainer work	105
Total	£3,950

Perth.—The Commissioners of Police havi had their attention directed to the state of th drains, sinks, and cesspools, at Marshall-plac King-street, and King's-place, Perth, by th inspector of nuisances, the superintendent police has submitted a report thereon, whic shows a fearful state of things with regard drainage in one of the most respectable parts the town. He concludes his report as follows: "I am of opinion that before those residing this locality can expect or ever hope to be fr from fever and other diseases well known originate by the inhalation of poisonous gas generated in bad drains and foul cesspools, t whole cesspool system now existing in the d trict must be done away with;—that a ma drain of sufficient capacity to carry off and dra all water, nightsoil, and sewage, from t kitchens, should be laid down;—that in place the present square-built drains, through whi the sewage oozes and gets out, good fire-cl pipe drains should be put down, through whi the sewage cannot escape, but by which it wou be carried away from the houses without bei lodged about the grounds, and producing the smells which are so offensive, and those diseas which baffle the skill of our best physicians heal successfully." Mr. John Young, C.E., Pert has also submitted a report as to the best mea of draining the district in question. He es mates the cost of the drain at 1,248*l.*; avera cost to each proprietor, 18*l.*

THE POLYTECHNIC.

Very instructive as well as entertaining is t new lecture by Professor Pepper on the Ph nomena of Sound, wherein he brings together whole century of experiments illustrating vario branches of the subject. An arrangement sho ing on a screen the vibrations produced in ree when blown through is exceedingly interestin a complete circle revolving in various plan when sounded in unison; a jumble of for when discord is introduced; thus showing, as says, a certain plain gold ring to be literally t symbol of harmony. A speaking head is show the voice of a confederate being conveyed throu tubes; but we cannot say, with some of the da papers, that the mystery of the Anthropogloss now exhibiting in Piccadilly is thereby solv the latter having no pedestal or other screen a communicating pipe. The sounds in the lat case *may* be conveyed by a pipe or pipes, but so it must be done in a much more artificial a ingenious manner than that exhibited at the Po technic. There are many other entertainmer for the shilling at the Polytechnic, includi Paganini's Ghost, which, though no ghost all, includes a very quaint and curious perfor ance on the violin.

Books Received.

Archæological Collections. Published by Sussex Archæological Society. Vol. XVI. ton, Lewes. 1864.

Sussex Archæological is a flourishing so- This goodly volume of between three and hundred pages contains various interesting s read at its meetings, including one on rural paintings in Westmeston Church, first ht under notice in the *Builder*. The paper the Rev. C. H. Campion, and is illustratsd coloured and other engravings. There is paper on a Romano-British cemetery and man camp at Hardham, in West Sussex; n Decorative Tiles found at Keymer, by ev. E. Turner; and one on the Church of Sussex. All of these are illustrated by ivings. The volume contains various other s of more or less interest.

Sussex Archæological Society we observe, selected Ardingly for a meeting on the instant, when the members will, in addition ewing the Church, pay a visit to the family of the Culpepers, Wakehurst-place.

VARIORUM.

is always with pleasure we take up the new er of Dr. Lawson's *Popular Science Review* dwicke, publisher), as we are sure to spend a table hour or two with it ere we lay it down, s returning to it at the first opportunity. October issue contains an excellent paper r. E. Lankester, on good food, with some some advice to the Bantingites. There is tely paper on the Metric System, by Mr. J. ; with engraved illustrations of decimal ures; and of course various other interesting rs, as on Rock Metamorphism, on Coral, besides the usual reviews of scientific s, and the very full and valuable scientific mary of the month.——"Transactions of the ution of Civil Engineers in Scotland, vol. Glasgow: Bell & Bain. 1864." This volume ains some instructive papers, as on the ex- ve energy of heated water, by Dr. W. J. M. ine; on turned and bored joints for gas water main pipes, by Mr. J. Downie; on the ow water-works, by Mr. J. M. Gale; on a ulic engine for working bellows; and various subjects. Several of the papers are illus- d by engravings.

Miscellanea.

RKSHIRE ART UNION.—The Yorkshire Art- n, under good local patronage, opens its d exhibition in Leeds on this Saturday. collection contains many works of interest by of metropolitan and provincial reputation.

VERNMENT SCHOOL OF ARCHITECTURE.— is to be established, we hear, in connexion the Royal Engineer establishment at Chat- a school of instruction in architecture and ating.

THOGRAPHING BY STEAM.—A Boston genius invented a machine from which 600 to 1,000 ressions from stone may be taken in an hour. merly it was considered a good day's job, it d, for a competent workman to produce 250.

ONUMENT TO LESSING.—A tower has been ed in honour of Lessing, near his native of Kamenz, in Silesia, named "Lessing- n." It is 64 ft. high, according to our rity, the *Reader;* and there is a fine view its plateau over part of Saxony, Bohemia, Russia.

T. THOMAS'S CHURCH, BEREA, NATAL.—The opolitan bishop of Capetown has consecrated v iron church at Berea. The building is the of Mrs. Danby Harcourt, of Swinton Park, le, Yorkshire, and was originally designed ntended for the neighbourhood of the Con- . The inhabitants, however, being few in ber, were unable to raise funds for its erec- and it was removed to its present site,—a once occupied as a mission post by the first ionary to Natal of the Church of England. building is of Gothic form, and is composed rrugated iron, lined with felt and wood,— ing a small vestry, porch, and a spirelet con- ing a bell. The cost of its removal to its ent site, the erection and painting, with s, has been above 200*l.* It will accommo- about 100 persons.

PLASTER OF PARIS FOR PAINT.—It has been proposed to use ground gypsum instead of white lead as paint for outside work. It is said to be equally or more durable than white lead or zinc white, and if so deserves to be widely known, as the plaster is very cheap and easily obtained. Take equal parts of plaster and white lead, with oil enough to make it the consistency of cream, and run it through a paint-mill.

GROWING BENT GRASS. In Lord Palmerston's speech at Tiverton he mentioned incidentally an interesting fact concerning his Irish estate. He had, he said, 1,000 acres of blowing sand there, "where no blade of grass grew;" and "now, in consequence of having assiduously planted that sand with bent, which dies away after it has come to a certain growth, and is followed by grass, I have succeeded in covering the whole of that barren spot with grass."

AN IRON PLATE.—Messrs. John Brown & Co., of the Atlas Works, have succeeded in rolling an iron plate, 6 ft. by 7 ft., and 13½ in. thick. The idea of manufacturing so enormous a plate originated, we believe, with Captain Inglis, of the Royal Engineers, with a view of ascertaining if it would be desirable to protect casemates with such a powerful covering. The plate has been forwarded to Shoeburyness, where it will be exposed to a very trying test.—*Army and Navy Gazette.*

THE EXCAVATIONS IN CAITHNESS.—Mr. Samuel Laing, ex-Finance Minister of India, has been making farther excavations in the vicinity of Keiss Castle. Amongst the discoveries is part of a subterranean "dwelling, or place of sacrifice," as it is described. It is "built like the Picts' houses, with narrow passages and some small chambers, walled, paved, and roofed over, at a great expense of labour, with large unhewn stones, brought from the beach at some distance." Other "Picts' houses" have also been opened, besides a number of sepulchral tumuli, on the links of Keiss, and skeletons, including skulls, one of which Mr. Laing describes as closely resembling the Neanderthall skull, with excessively prominent mouth or proboscis. Stone implements, shell *débris*, and fragments of pottery, have also been found in connexion with human and other animal remains.

THE SALFORD ALBERT MEMORIAL.—At a recent meeting of the general committee to arrange for the inauguration of the Albert statue in Peel Park, the mayor reported that Sir Charles Phipps, in reply to a letter on the subject, said that, whilst appreciating the feeling displayed throughout the country in relation to the erection of monuments to the Prince Consort, the public ceremonials connected with their inauguration, gratifying as they were to the Queen, were yet very trying to her feelings; and he was sure it would be most consonant with the wishes of the people of Salford not to give her Majesty the pain of declining any application. It was determined by the committee that the bishop should be requested to present the statue to the mayor on behalf of the corporation. The executive committee submitted a report, in which they stated that they had agreed with Mr. Noble to complete the statue, including the pedestal fixing, and all incidental expenses, for 1,100*l.* It was stated that the statue would be ready for inauguration before the end of October.

RUNIC INSCRIPTION IN CUMBERLAND.—Last winter a shepherd discovered an old inscription on one of the large rocks at Barnspike, a long range of crags cresting the hills about three miles to the east of Bewcastle Church. The inscription is Scandinavian, or Old Norse, and may perhaps be read thus:—BARNE BIRITA AT GILLHES BUETH IAS UAS DAUTHR I TRICU ROB TE VAULKS AT FADRLAN NU LLANRGSEL. "Barna cut this in memory of Gillhes Bueth, who was slain in a truce by Robert de Vaulks (*now Vallibus*) for his patrimony, again coveted." The inscription is on the north-west side of a large crag and well protected from the effects of the weather, but is almost illegible. On the top of the crags, a few yards north of the inscription is an old "ring-barrow," in which possibly the bones of Bueth or Barna have been deposited; perhaps those of Barna, as the crags retain his name. A family of the name of Barron were owners of a small estate near the crags, down to a recent period. History and tradition record the Beuths as owners and builders of the castle at Bewcastle (Beuth's Castle); and also as owners or claimants of the barony of Gilsland, this Gilhes Bueth being the only son and heir.

FALL OF THE CEILING OF A CHAPEL.—The ceiling of the Primitive Methodist Chapel, Boston, has fallen. There had been service during the evening, and the ceiling fell about two hours after the congregation left. The ceiling joists had been separated from the cross timbers of the roof, owing to being inefficiently fastened in the first instance. The chapel was erected about twenty-five years ago.

THE WORKMEN'S INDUSTRIAL EXHIBITION, TUNBRIDGE WELLS.—This exhibition is said to have been a highly successful one. It has been visited by large numbers of persons. The articles exhibited included not a few specimens of architectural modelling, such as models of Yeovil Church, of Tunbridge Wells Grammar School, and of Huntingdon Chapel as it was and is, by means of one changing model; also of carvings, one of the specimens a cabinet and book done by Lady Caroline Nevill. Many of the exhibitors, however, belonged to the working classes.

WORKING MEN'S CLUB AND INSTITUTE UNION. The secretary to the Union (the Rev. H. Solly) has, during the last fortnight, attended meetings for the formation and resuscitation or encouragement of clubs and institutes in various parts of the country. Amongst the most important of these meetings we may mention those at Winchester, Southampton, Scarborough, Bradford, and Leeds. At a recent meeting of the secretaries of the London clubs, Mr. Sales described the nature of the scheme now being extensively carried out by the Ladies' Sanitary Association for instructing the working classes in lectures illustrated by selections from the Economic Museum, collected at Twickenham, and belonging to Mr. T. Twining.

ASCENT OF SALISBURY CATHEDRAL SPIRE.—On the 28th ult. James Matthews, a workman in the employ of Mr. Frederick Richard Fisher, builder, of the High-street, performed his annual feat of ascending to the summit of Salisbury Cathedral spire, for the purpose of oiling the vane. The spire, as is well known, is upwards of 400 ft. high; but, notwithstanding this altitude, he, with the utmost possible coolness, mounted the cross above the vane, and turned the latter round with his foot as he sat upon it. The ascent from the weather door is accomplished outside by means of twenty or more small iron handles, firmly fixed to the spire.

THE STATUE DISCOVERED IN ROME.—Signor Righetti having succeeded in exhuming the colossal bronze statue at last, the opinion of its representing a young Hercules, according to the Roman correspondent of the *Morning Post*, is confirmed by several circumstances, among which is that of a lion's skin forming part of the base. The feet are detached, but are fortunately not wanting. The height of the figure is 4 metres 25 centimetres, consequently superior to that of the Marcus Aurelius. The Marquis Marini has relinquished all claim to a share in the prize, there being a clear intervening space of half a foot between the base of the statue and the commencement of his property. The Government has no claim on the treasure either, reserving to itself only the right of purchase at an equitable valuation. It appears that the statue will be bought for the Vatican Museum, and placed in the centre of the octagonal or Belvedere Court, which will be fitted with a glass roof on purpose. The actual value of the bronze is calculated at about 3,000 scudi, and that of the gilding on it at 1,000 scudi more, but it is conjectured that 100,000 scudi (21,000*l.*) will not be considered an out-of-the-way price for the statue.

STONE-CRUSHING MACHINE.—A new machine, manufactured as Blake's stone-crushing machine, by Mr. H. R. Marsden, of Leeds, has been patented in Great Britain and in several foreign countries. It is designed to break stones into fragments, to be used for road-making, railroad ballasting, concrete, or other purposes, and to crush ores or minerals, break flints for crockery-ware, &c. Every revolution of a crank causes the lower end of a moveable jaw to advance towards a fixed jaw about a quarter of an inch, and return. Hence, stones dropped in between the convergent faces of the jaws are broken by a succeeding bite, and the fragments then fall lower down and are broken again, and so on until they are made small enough to pass out at the bottom. The distance between the jaws at the bottom limits the size of the fragments, and may be regulated at pleasure. The machine can be made of any size. The usual length of the machines is from 8 ft. to 8½ ft.; height to top of wheels, 5 ft.; width, from 4 ft. to 5 ft.

Stonecutters' Strike in Dublin.—According to the *Dublin Builder*, a serious strike has taken place in that capital, the cause being the asserted right of the stonecutters to set out stonework as well as work it, which the brick and stone layers equally claim as their prerogative. Tendency being towards the latter, the stonecutters have struck.

The late Mr. Charles Winston.—Many of our readers will hear with great regret of the death of Mr. Winston, well known by his publications on stained glass, and his endeavours to improve the manufacture of glass. Mr. Winston died suddenly in his chambers in the Temple, on Monday last. At the inquest, Mr. Tomlinson Brookes, surgeon, deposed that he believed death was the result of disease of the heart, produced by over-work and prolonged abstinence from food. Mr. Winston was deputy County Court Judge, and was only forty-nine years of age.

Worcester Diocesan Architectural Society. The members of this society and their friends have made an excursion to Lichfield, for the purpose of inspecting the cathedral of that city, recently restored and re-arranged under Mr. Scott's direction. The party proceeded from Shrub-hill station to Dudley, and thence by the South Staffordshire line to Lichfield. In order to allow more time for the inspection of the cathedral, a contemplated visit to St. Chad's Church, which is situate at some little distance from the city, was abandoned; and the excursionists went direct to the new Free Public Library and Museum, which contains an interesting (though small) collection of antiquities, casts, specimens of natural history, &c. A party of about forty visited the cathedral. Canon Hutchinson accompanied them, and pointed out the principal objects of interest. The annual meeting of the society and an excursion to Norton, Stoulton, and Pershore, were to take place on Tuesday.

Value of Property in Lombard-street.—The banking premises of Hayward, Kennard, & Co., in Lombard-street, were purchased some seven or eight months since, by the Mercantile and Exchange Bank, for 20,000*l*. The house in question has a frontage of but 54 ft., by a depth of perhaps a third less; but the situation is admirable, being in the very centre of what is termed the banking world. It is stated that the directors of the Mercantile and Exchange Bank soon perceived that they had got a bargain, as they let the first floor of the house to the Asiatic Banking Corporation for 1,000*l*. a year. The amalgamation of the London Bank of Scotland with the Mercantile and Exchange Bank having made it necessary to value the premises in Lombard-street, the directors of the Bank of Scotland have just paid 10,000*l*. to the shareholders in the Mercantile and Exchange Bank; as their proportion of the increased value of the premises, which are now estimated as worth 40,000*l*.! The value has thus been doubled within the year.

Monumental.—A carved head-stone has been recently put up in the Coventry Cemetery. The design exhibits a sunken panel with a mourning border of black marble, at the four corners of which are four varieties of flowers, the rose denoting bloom and health; convolvulus, delicacy and frailty; poppy, sleep and death; and heartsease, rest and peace everlasting. The recording angel is shown in the centre of the panel as having inscribed the date of decease, and in the act of ascending through a stream of light to the final resting-place. The panel in the pediment has a medallion profile of the deceased, and filled in with foliage. The design is by Mr. V. Wyatt, of London, and the monument was executed by Mr. R. L. Boulton, of Worcester.——A monument has recently been erected in the inner chapel of South Carlton Church, Lincolnshire, by Lord Monson, in memory of the late Lord and Lady Monson, and some other members of the family. This monument, which is of Italian workmanship, is an almost exact copy of one erected in the year 1652 in one of the side chapels in the church of the Santissima Annunziata at Florence, by Florentine Foggini. The Monson monument has been executed at Florence in the studios of the sculptors Bencini and Bartolini, under the direction of, and from drawings and models prepared by, Signor Insom, with the permission of the clerical authorities. It is somewhat smaller than the original, but of similar proportions, and is affixed to the west wall of the inner obituary chapel.

Fever at Liverpool.—The prevalence of fever in the town was the principal subject of discussion at the meeting of the Health Committee last week. Mr. Alpass and the other members of the deputation who attended the Social Science Congress at York seem to have returned strongly impressed with the advisability of establishing places for disinfecting the clothes of fever patients by means of hot air. It is certainly time something was done to check the epidemic. The increase of fever, according to the local *Mercury*, is quite startling. In the week before last there were 207 patients in the workhouse hospital, and that was an exceptionally high number, but last week there were no fewer than 260.

Improvement of Lincoln's-Inn Fields.—Sir: In these days of development of national taste and improvement of all sorts, when London and Paris are emulating each other as cities contending for the palm of attraction to the foreigners, would it not be an improvement to the much-frequented though somewhat dreary Lincoln's-inn-fields, if the benchers—or those with whom the power lies—were to remove the long ugly west wall of their gardens, which separates them from the "fields," substituting in its place a suitable iron fencing? This would throw open to view the hall and library, improve the general aspect of the locality, and the circulation of air. Although the local residents are but a scanty few, there are few parts of the metropolis more frequented by men of business from all parts of the kingdom than Lincoln's-inn. Such an opening, too, on the score of health, a point in which we are all interested, would be desirable, as a boon to the crowded population dwelling in and around Clare Market on the one side, and the Holborn purlieus on the other,—people who know of no "vacation" or "out of town" whereby to give their lungs and brains a seasonable airing.—Curling Wig.

Exports of the United Kingdom.—The official accounts of the export trade show an increase in the month ended 31st August, from 14,088,814*l*. in 1863, to 16,274,269*l*. in 1864; and on the eight months, ended 31st August, from 89,751,851*l*. in 1863, to 108,716,219*l*. in 1864. Flint glass has increased in the eight months, from 62,653 to 71,625 cwts.; machinery (other than steam-engines), from 1,608,872*l*. to 1,933,850*l*.; pig and puddled iron, from 312,805 to 320,410 tons; wrought-iron, from 71,801 to 72,380 tons; unwrought steel, from 17,945 to 19,992 tons; telegraphic wire and apparatus, from 92,580*l*. to 163,804*l*.; red and white lead, and litharge of lead and lead ore, from 4,465 to 4,571 tons; and painters' colours, from 299,061*l*. to 340,052*l*.; but window-glass seems to have fallen off from 42,783 to 41,572 cwts.; and plate-glass, from (in value), 44,590*l*. to 42,971*l*.; steam-engines, from 1,030,469*l*. to 998,125*l*.; bar, angle, bolt and rod iron, from 214,572 to 200,319 tons; railroad iron, from 321,231 to 295,887 tons; iron castings, from 58,738 to 46,375 tons; hoops, sheets, and boiler plates, from 89,657 to 83,418 tons; lead, pig, rolled, sheet, piping, tubing, and lead shot, from 26,106 to 22,605 tons. The figures, taken as a whole, however, are considered to be extremely satisfactory.

Masters taking their Workmen into Partnership.—The *Glasgow Times* says:—"The dawn of a new era—a partnership of capital and labour—between master and workman has been inaugurated, the following facts regarding which have been communicated to us from a source on which we can rely:—The old and respectable firm of Messrs. Spence & Wilson, flint-glass manufacturers in York, having lately increased the wages of their workmen from 10 to 15 per cent., have since then taken an inventory of their works and stock-in-trade, which have been valued at 100,000*l*. The old partnership has been converted into a limited liability joint-stock company, one half of the capital being taken by Messrs. Spence & Wilson, 47,000*l*. otherwise taken in shares, and 3,000*l*. placed to the credit of their workmen; which arrangement was duly communicated to the secretary of the Flint Glass-makers' Society in the York district, who is one of the *employés* in the works. We also learn that the representative of the working-class partners in the York Flint Glass Company (Limited) was informed that the workmen might expect to realise at least 300*l*. per annum as their share of the profits, to be divided yearly among them in proportion to their respective wages, and thus carrying out the co-operative principle of giving dividends according to merit."

Hereford Drainage.—The Letton drainage works, which were commenced in May last by Messrs. Brassey & Field, having been completed Mr. S. Barlow, sub-contractor, gave the whole the men employed under him, about 200 number, a dinner, at the Swan Inn, Letton.

Welding by Hydraulic Pressure.—A series of experiments have lately been made at Par by M. Duportail, engineer, in the workshops the Western Railway, to ascertain whether ir might be welded by hydraulic pressure, instead of by the sledge-hammer. The latter, indeed has not a sufficient impetus to reach the ve core of the metal, while continuous pressure ac indefinitely to any depth. In the experimen alluded to, M. Duportail caused two iron bar 1½ in. in diameter, and heated to the weldin point, to be placed between the piston and th top of an hydraulic press. The bars we welded together by this means with extraord nary ease, the iron being, as it were, knead together, and bulged out at the sides under t pressure. The action of the press was suspende when the part welded was brought down to th thickness of the bars. After cooling, the welde part was cut through, to examine the insid which was found perfectly compact. To try i one of the halves was placed under a forg hammer, weighing 1,800 kil., and it was no until the third stroke that the welding was di covered.—*Galignani.*

TENDERS.

For the erection of convent, Notre Dame, Plymouth Mr. Jos. A. Hansom, architect. Quantities by Mr. Fre Chadwick: -

Elliott	£6,396	0	0
Hill & Keddle	5,860	0	0
Henshaw	5,871	0	0
Sawyer	5,825	0	0
Harvey	5,794	0	0
Hart	5,720	0	0
Jones	5,700	0	0
Lethbridge	5,687	0	0
Call & Pethick	5,674	0	0
Finch	5,576	0	0
Bishop	5,300	0	0
Hallet & Jenkins	4,970	0	0

For the erection of a new tap, and rebuilding the Spres Eagle Hotel, at Gloucester, for the Spread Eagle Hot Company. Messrs. Medland, Maberly, & Medland, arch tects: -

Coleman	£9,650	0	0
Jones & Co.	8,500	0	0
King & Godwin	8,470	0	0
Shepherd & Meredith	8,228	0	0
Estcourt (accepted)	8,100	0	0

For Abbey Mill pumping engines, Main Drainage of th Metropolis —

Maudslay, Son, & Field	£134,228	0	0
Slaughter & Co.	112,500	0	0
Fleming (for Morrison & Co.)	111,000	0	0
Williams, Harvey, & Co.	88,700	0	0
Harvey & Co.	88,000	0	0
Sandys, Vivian, & Co.	87,000	0	0
Adamson & Co.	82,590	0	0
Forrester & Co.	79,450	0	0
Dagleish & Co.	70,560	0	0
Waits & Co.	69,900	0	0
Rothwell & Co.	54,570	0	0

[By the above there appear to be blind engineers, a well as blind builders—in fact, either the lowest tenderer have made a mess of it, or the highest ones know wh profit is.]

For additions to Garrick's Villa, Hampton, Middlesex for Mr. Edward Grove. Messrs. Porter & Markham architects: -

Rhodes	£1,157	0	0
Little	1,129	0	0
George	1,112	0	0
Lathey, Bros.	992	0	0
Bates	972	0	0

For proposed additions to Belair House, Dulwich, f Mr. Chas. W. C. Hutton. Mr. Robert M. Shaw, archi tect:—

Jennings	£2,967	0	0
Patrick & Son	2,773	0	0
Fish	2,723	0	0
Marsland & Son	2,695	0	0
Lawrence & Sons	2,690	0	0
Brown & Robinson	2,505	0	0
Brass	2,399	0	0
Wills	2,343	0	0

[Advertisement.]

CHURCH, TURRET, and STABLE CLOCKS J. W. Benson, having erected steam-powe and improved machinery for clock-making, the manufactory, Ludgate-hill, will be glad t furnish to clergymen, architects, and committee Estimates and Specifications of every descri tion of Horological Machine, especially cathedr and public clocks, chiming tunes on any numbe of bells. A descriptive pamphlet on Churc Clocks post free for one stamp. Watch an Clock Maker by Warrant of Appointment H.R.H. the Prince of Wales, and maker of th great clock for the Exhibition, 1862. 33 & 3 Ludgate-hill, E.C. Established 1749.

TO CORRESPONDENTS.

—V. W.—G. L. J. C. S.—C. R. H.—P. P.—W. H.—J. R. —H. S. & S.—F. R. W.—G. J. H.—Messrs. R. & Son.—Messrs. H. J.—W. G. & Son (shall be inquired into).—J. A. M. (scarcely ually taken out, as he suggests).—G. A. C.—N. P.—W. N. —.—N. & C.—G. & K.

are compelled to decline pointing out books and giving es.

atements of facts, lists of tenders, &c., must be accompanied by ne and address of the sender; not necessarily for publication.

AS-HILL, CROYDON.—Important Sale of valuable Freehold ding Land at Duppas-hill, offering attractive building Sites.

ESSRS. CRISPE & DRACOTT and CHARLES SMITH & SONS (who are only concerned on this) will OFFER by AUCTION, at the GREYHOUND HOTEL, on THURSDAY, OCTOBER 13th, 1864, at THREE for o'clock, Forty-four Plots of FREEHOLD BUILDING LAND, ically situate upon a beautiful elevation near the flourishing -town of Croydon, within two minutes of the Waddon Station, in easy distances from the East and West Croydon and Addis Stations, and about twenty minutes from London. These ing sites for villas residences have south and south-west aspects, re open to Duppas-hill, which has been appropriated by the of Health to the purposes of a public park. The roads, grave, nd, the air most salubrious, water and gas are on the ground, o will be very shortly completed, and free walks of the land on tothe rent charge. The Auctioneers strongly recommend property to the notice of the public, as its healthful and picturesque situation, its contiguity to the railway, and the charming ad drives in the neighbourhood, render it parti ularly desir- while from the increasing importance of Croydon and the lemand for residences, it offers an unusually favourable opportu- for the profitable employment of capital.—Particulars, with and conditions, may be had shortly at the Inns in the neighbourhood, at the Place of Sale; of C. FRANCIS, Esq. Solicitor, Parliament-street, Westminster; and of the Auctioneers, ARLES SMITH & SONS, 2, Broad-street-buildings, London, E.C. essrs. CRISPE & DRACOTT, Auction and Land Agency Offices, ough street, Croydon.

OFORD LINE, overlooking Hainault Forest.—Nearly an acre of Freehold Building Land, and Six Houses

ESSRS. DEBENHAM & TEWSON will SELL at the GUILDHALL COFFEE HOUSE, on THURSDAY, OCTOBER 20th, at ONE for ONE precisely, a large Plot of EEHOLD BUILDING LAND, situate in Nightingale-lane, about minutes' walk from the Snaresbrook station; also SIX FREE- D VILLAS, adjoining, and known as 1 to 6, Nightingale place, for immediate occupation, having frontages of about 400 feet, dable for fifteen or sixteen houses.—Particulars of T. H. SCARUGH, Esq. Solicitor, 5, Bloomsbury-square; and of the Auctions, 20, Cheapside.

IS KENT ROAD.—15,000 pieces of elegant PAPERHANGING, 100 ds, Stone, Sicilian and other CHIMNEY-PIECES, Tombs, Paints, Whitelead, Glass, Deals, Doors, Mahogany in ks, Brushes, Cut, and Cleats

R. RAMP will SELL by AUCTION, on the PREMISES, 249, New Kent-road, on MONDAY, at LVE o'clock, without reserve.—View morning of Sale, and gues

Coleman-street, E.C.

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ALFRED G. BLAKE, Clerk to the Board.

No. 23, George-street, Croydon, 29th September, 1864.

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Strood, September, 1864

LAVENHAM HIGHWAY DISTRICT, SUFFOLK.—To SURVEYORS and OTHERS.—A meeting of the Board of the above District will be held at the Lion Hotel, Lavenham, on FRIDAY, the 14th day of OCTOBER next, at ELEVEN o'clock, when prepared to receive Sealed APPLICATIONS, with testimonials, from persons willing to become Candidates for the Office of DISTRICT SURVEYOR, at a salary of 75l. per annum, Candidates to appear in person. No travelling or other expenses allowed. The District consists of 80 (the parish of Lavenham alone is 10 miles and 1,057 chains). The Surveyor will be required to keep two horses, and the Assistant Surveyor one horse, and both officers to reside in the District, and devote their whole time to the duties of their respective offices, and commence such duties on the 1st of November next. The Surveyor must provide surety satisfactory to the Board.—By order,

RICH. NEWMAN, Clerk.

Lavenham and Hadleigh, 26th September, 1864

PARISH of LIVERPOOL.—To ARCHITECTS.—The Select Vestry of this Parish are prepared to receive APPLICATIONS from Architects qualified by professional knowledge and practical experience, to fill the Office of PARISH SURVEYOR; the primary duty of the Office being the valuation of property for the Poors Rate. The Surveyor will be required to devote his whole time to the service of the Parish, and the appointment will be made determinable by three calendar months' notice. Salary, 500l. per annum. Office books and stationery will be provided in connexion with the Parish Offices.—Applications, stating age (which must not exceed forty-five years), to be sent, together with testimonials, to the undersigned, on or before THURSDAY, the 13th day of OCTOBER instant. Canvassing the members of the Board, either directly or indirectly, is strictly prohibited.

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Parish Offices, Brownlow-hill 5th October 1864.

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GEO. E. HEARDER, Clerk to the Board.

Local Board's Offices, Town Hall, Torquay, September 27, 1864.

TO ENGINEERS, SURVEYORS, &c.—The Local Board for the district of Tyldesley-with-Shakerley are in WANT of a qualified Person to undertake the duties of ENGINEER, SURVEYOR, and CLERK, to carry out the Works contemplated by the Board, which include water works, sewering, &c. Salary, 150l. per annum.—Applications, endorsed "Surveyor," with copies of testimonials, to be sent to the Chairman of the Board, on or before the 11th of OCTOBER, 1864. By order,

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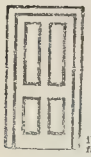
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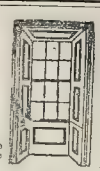


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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square

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Matched Lining ..... from 12s. per square

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Three-quarter inch Flooring (well prepared) 11s. 6d. per square.			Laths, 31s. per Load.		
Good Yellow Deals	£16	10	0 per 120, or 2½d. per foot.		
Spruce Deals	15	0	0 "	2½	"
2½-inch Battens	9	0	0 "	1½	"

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YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.			Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..		£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square		0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

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⅝-inch White Matched Lining ..... 12s. 0d. "

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

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	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 6d.	13s. 6d. per square.
⅝ by 7 "	13s.	13s. 6d.	14s. 6d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
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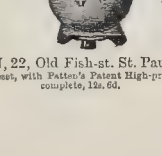
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CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,
From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

1862.
INTERNATIONAL EXHIBITION.
HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

CEILING FLOWERS,
PANEL DECORATIONS, TRUSSES, CAPS, &c. IN PAPIER MACHE AND CARTON PIERRE.
WILLIAM WHITE,
49 and 50, Great Marylebone Street, London, W.
NEW DESIGNS FOR CEILING FLOWERS SENT ON APPLICATION.

SPECIAL DESIGNS
FOR THE
DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.



STATUARY MARBLE
CHIMNEY-PIECES.
The Largest Stock in London on View at the
WESTMINSTER MARBLE WORKS.
From the great extent of Carving and Sculpture in operation at this Establishment, assisted by Machinery for Sawing, Moulding, and Polishing Marble, with Steam Power, every variety of Marble Work is executed with great despatch, and the Charges the Lowest in London.



THOMAS LAMBERT & SON,







Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta Percha Stamping for Driving bands, Lathes' reins, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.
THE GUTTA-PERCHA COMPANY, PATENTEES, WHARF ROAD, CITY ROAD, LONDON.

TARPAULIN COVERS for HIRE (100 in stock); also MARQUEES and TEMPORARY PAVILIONS, for FOUNDATION-STONES, &c. Scaffold Cord and Hemp Rope Falls and Blocks.
FRED. EDGINGTON & CO.
THOMAS-STREET, OLD-KENT-ROAD, LONDON.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
50, Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

JAMES STIFF & SONS,

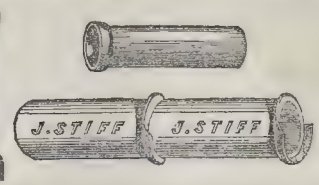
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

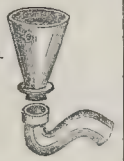
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of its being further extended.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

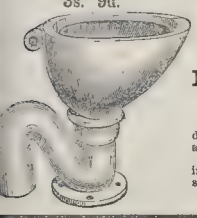
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

NOTICE TO ARCHITECTS AND THE TRADE.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.

Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

WORKS, LONDON and BIRMINGHAM.

MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. [illegible] under the name of "Improved Zinc Paint," or as the Trade Two or Three qualities, no workman can produce good work with [illegible] Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.

See Advertisement first Saturday in the Month, or on application.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

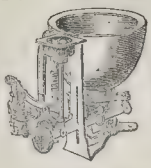
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

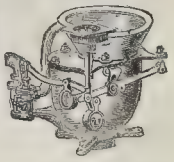
Samples, testimonials, and full instructions, on application to

CROGGON & CO. 2, DOWGATE HILL, LONDON; 2, GOREE PIAZZA, LIVERPOOL; And 59, GEORGE SQUARE, GLASGOW.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



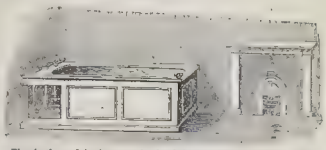
Valve.



Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No [illegible] overflow pipe is required. The Closets can be seen in use at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London

J. TYLOR & SONS' PATENT BATH APPARATUS.



The Bath and Boiler may be fixed in the same or separate rooms, and [illegible] the level of cold water cistern. Open or close circulation. No brickwork resting for boiler required

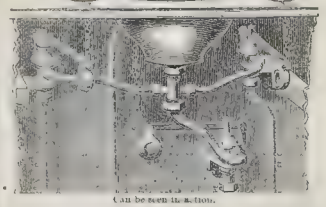
Estimates given from architects' drawings, or by inspection of premises.

Catalogues, containing Nine Illustrations of different methods of fixing Baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.

ILLUSTRATED CATALOGUES FREE.



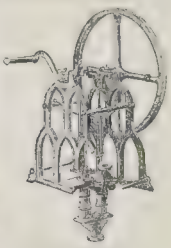


Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.







PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



IMPROVED HYDRANT

J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.

SALES BY AUCTION.

CHANCERY LANE.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Public Chambers Company (limited), to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 12, at TWELVE, the MATERIALS and FITTINGS of Two large Houses, Nos. 42 and 43, Chancery-lane: comprising good sound brickwork, useful timber in roofs and floors, floor boards, partitions, doors, sashes, and other fittings, stoves, ranges, iron railings, tiles and slates, stone coping, lead gutters, and other materials.—May be viewed the day previous. Catalogues had of JOHN BLYTH, Esq., Architect, 1, Noble-street, Gresham-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

SHOE LANE, HOLBORN.—Building Materials of Five Houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 19th, at ONE, all the valuable BUILDING MATERIALS and FITTINGS of Five Houses, Nos. 58, 57, 56, and 60, Shoe-lane, and No. 1, Robin Hood court, adjoining of the most desirable order.—May be viewed the day previous. Catalogues had of Mr. ARRIDGE'S Office, 23, Dorset street, Fleet-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, AND DOVER RAILWAY.—Metropolitan Extensions.—Valuable Plant and Machinery of a Tobacco and Snuff Manufactory, Snow-hill.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, OCTOBER 18, at TWELVE, all the valuable MACHINERY and PLANT of a large TOBACCO and SNUFF FACTORY: comprising an 8 horse power high pressure table steam engine, with cast iron upright iron Cornish boiler, 15 feet 6 inches long, and an 11 feet 6 inch egg-end boiler, steam and water pipes, three tubular cutting engines with regret, shafting and gearing complete, ten powerful iron screw presses, iron and wood frames, two pairs of stone edge-runners, two powerful hydraulic presses, superfine steaming pans, steam pipe attached, cutting engine, mills and other fixed utensils, large slate tanks, a large lot of counters and desks, drawers, bins, hoists, shelves, cut drawer and pig, gas fittings, stove, &c.—May be viewed the day previous. Catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament street, S.W.

KING'S CROSS.—To Brick and Tile Makers, Builders, Plant Dealers, and Others.

PULLEN, HORNE, & EVERSFIELD have received instructions from Messrs. Randell & Evans to SELL by AUCTION, on the PREMISES, Maiden lane, King's-cross, on WEDNESDAY, OCTOBER 12, at TWELVE, to clear the ground for building, a portion of the valuable PLANT and MACHINERY now fixed thereon, consisting of a pair of powerful cast-iron rollers, 3 feet diameter, and 4 feet long, to work with the stout timber framework and gear connected therewith; four wrought-iron pug mills, an excellent clay elevator, 3 feet 6 inches wide and 130 feet in length, with guide-wheels, shafting, &c.; a smaller ditto, with buckets; a patent tile machine, a drain-pipe ditto, two brick presses wash-mill, close-bodied waggon, cart-horse, &c.; also a large quantity of useful building materials taken down and assorted, consisting of about 400 thousand bricks, 10 cart loads of paving and bricks, early 100 new deal, 20,000 wood-frames, 50 squares of flooring, a quantity of glazed drain-pipes and quarries, and other effects.—May be viewed two days previous to the sale, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

To Cabinet-makers, Furniture Dealers, and others.

MESSRS. DOWSETT & COCKS are instructed to include in their SALE at the TREDEGAR WORKS, Bow, near the Station, on TUESDAY and WEDNESDAY next, OCTOBER 18th and 19th, at TWELVE each day, an excellent FINISHED and UNFINISHED FURNITURE, comprising Bedroom Indian bedsteads, sideboards, tables, dressing glasses, chests of drawers, safe cards, marble tops, &c.—May be viewed, and catalogues had; and catalogues had of Messrs. MATTHEWS & GLEETHAM, Solicitors, 68, Lincoln's-inn-fields; and of the Auctioneers, 29A, Lincoln's-inn fields.

To Builders, Ship Fitters, Decorators, Warehousemen, and Others.

MESSRS. DOWSETT & COCKS are instructed to SELL by AUCTION, on TUESDAY and WEDNESDAY next, OCTOBER 18 and 19, at TWELVE each day, on the PREMISES, the Tredegar Works, Bow, near the station, a QUANTITY of TULIP, BIRCH, MAHOGANY, SYCAMORE, and other WOODS, in veneer and log; a quantity of small boxes, suitable to warehousemen; a large quantity of veneers, burned to various patterns; a cutting machine, patent pavement, and sundry effects.—May be viewed two days prior, and catalogues had on the Premises; of Messrs. MATTHEWS & GREETHAM, Solicitors, 68, Lincoln's-inn-fields; and of the Auctioneers, 29A, Lincoln's-inn-fields.

FINGER-PLATES. — About 70 Gross of VENEER FINGER-PLATES, printed to various patterns, will be included in the Sale by Auction, at the Tredegar Works, Bow, on TUESDAY next, OCTOBER 11, by DOWSETT & COCKS, of 29A, Lincoln's-inn-fields.

Valuable Freehold Building Land. Eight excellent Residences of the value of 550l. per annum, and stabling, in the rapidly-improving town of Worthing, Sussex.

MESSRS. PARSONS & SON have been favoured with instructions to SELL by AUCTION, in lots, at the STEINE HOTEL, Worthing, on WEDNESDAY, OCTOBER 19, 1864, at TWO for THREE o'clock, the following important FREEHOLD PROPERTY.—Several highly desirable FREEHOLD BUILDING PLOTS, with frontages to the sea, and to Steine-road, suitable for the erection of first-class abodes. EIGHT commodious RESIDENCES, being Nos. 8, 9, 10, 11, 12, and 14, and TWO VILLAS, on the Goth. style, situate on Park crescent, all of which are let to genteel tenants, and two in hand. Park crescent, one of the most attractive features of the western end of Worthing, is screened from the public road by a double row of trees, and the enclosed ground with its charming grounds have been laid out with ability, and the shrubberies have attained luxuriant growth. Buyers of the plots and residences will become entitled to the use of the ground. The Villas and the residences are furnished and the furniture may be had at the option of the respective purchasers. The well-known NURSERY GROUND and BUILDINGS thereon (in the occupation of Mr. Bushby, until December 25th next, lying to the north of Park crescent, having a frontage to the Findon-road, of 320 feet, and a depth of 455 feet, affording ample room for a large nursery, admirably adapted for the erection of several villas, a class of property in much request at Worthing. Also, PLOTS of BUILDING LAND, lying between Park crescent and the nursery ground, and STABLING and COACH-HOUSES behind Park crescent.—The property may be viewed, and particulars, with a plan of the estate and conditions of sale, had of Messrs. HUNT, CURRELY, & HOPER, Solicitors, Lewes; Messrs. SENIOR & AITREE, Solicitors, 2, New Inn, London; at the Steine Hotel, Worthing; Mr. W. L. BLAKER, Builder, Chapel street, Worthing; and of the Auctioneers, 9, Marine-parade, Brighton.

Sale of 200,000 superior Building Bricks, at Binfield, near Wokingham, Berks

MESSRS. DALLEY & SON are instructed to SELL by AUCTION, on WEDNESDAY, the 12th day of OCTOBER, 1864, at ONE o'clock in the afternoon, in the BRICK FIELDS near the Bee Hive Inn, Binfield, situate about midway between Bracknell and Wokingham, about 200,000 superior kilnburnt RED BUILDING BRICKS; also a quantity of Splay, Pilath, Rubbing, and Cutting Bricks, Club and Paving Bricks, Plain and Ornamental Roofing Tiles, Coping, and other effects.—The above may be viewed three days previous to the sale, at catalogues had by sending stamped address to Messrs. DALLEY & SON, Auctioneers, Wokingham.

BAKER STREET, ENFIELD TOWN

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 10, at ONE, the MATERIALS of TWO HOUSES, in Lots, to be taken down by the Purchasers comprising 30 fire bricks, tiles, timber of roofs, floors, partitions, &c. &c.—May be viewed. Catalogues obtained of HOBBS & SON, Plumbers, Enfield; and of the Auctioneer, Tottenham.

NORTH CAMP, FARNBOROUGH HANTS.—Valuable Freehold Building Land, with unusual facilities for payment of the purchase-money.

MESSRS. EDWIN FOX & BOUSFIELD are favoured with instructions from the Directors of the Farnborough and Aldershot Freehold Land and Grand Event Society (limited) to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19th, at ELEVEN for TWELVE o'clock, in 10 Lots, the 11th portion of their very valuable and important FREEHOLD ESTATE, most advantageously situate, at Farnborough, adjoining the South Camp, and comprising a variety of charming sites for villa residences, varying in extent from a quarter of an acre to an acre each many of them studded with ornamental timber, and commanding all of which will form the subject of a new church, together with numerous plots for cottages and some first-rate pastures for sheep, fronting the high road, and other equally-valuable and well-drained frontages, all of which will form the subject of sale in such manner in which they are laid out, and their proximity to the central railway stations and to the railway stores become important feature in the choice. The demand for lots of every class is very great, and high rentals are readily obtained. Within the last ten years the civil population of Aldershot has increased tenfold. There is excellent water and plenty of sand and gravel. Nominal rates. The terms of payment will be remarkably easy, viz. a deposit of 5 per cent. and the remainder by instalments, extending over ten years, with interest at only 4 per cent. and subject to the most moderate and fair restrictions as to the buildings to be erected thereon. The great success which has attended the two previous sales has induced the Directors to enlarge the thoroughfares materially, and which will be the last sale during this year. The estate may be viewed, and particulars had of Messrs. PATTESON & CORBOLD, Solicitors, Nos. 17 and 18, New Bridge-street, Blackfriars; of EDWARD CHATFIELD, Esq. the Society's Managing Director, 17, New Bridge-street; of HENRY CURREY, Esq. Surveyor, Lancaster place, Strand; at Garraway's, Sale-rooms, Change-alley, Cornhill; at the Place of Sale; at the Inns at Farnborough, Aldershot, Guildford, and Reading; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank.

Beautiful Park like Freehold Land, at Farnborough, Hants, with a charming Site for a Mansion, in a ring fence, undulating, and open to the south and eastward, 25 miles from London.

MESSRS. EDWIN FOX & BOUSFIELD are favoured with instructions from the Directors of the Farnborough and Aldershot Freehold Land and Grand Event Society (limited) to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19th, at THREE precisely, a valuable and important FREEHOLD ESTATE, comprising a beautiful Close of Land, about fifty-five acres in extent, approached by capital roads, and within one mile of the Farnborough Station, on the South-Eastern Railway, and about the same distance from the Farnborough Station, on the South Western Railway. It is singularly favourable, both as an investment of a charming character, and entirely surrounded by a belt of beautifully-grown firs. These is a fine Site for a Mansion, whence views of great extent and beauty are obtained, and meadows slope gently to the Blackwater River; Nature has done much for the spot, judgment and taste are now only required in its development.—May be viewed, and particulars had of Messrs. PATTESON & CORBOLD, Solicitors, 17 and 18, New Bridge-street, Blackfriars; of Mr. EDWARD CHATFIELD, Managing Director of the Society, 17, New Bridge-street; of Mr. HENRY CURREY, Surveyor, 8, Lancaster-place, Strand; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street.

ALDERSHOTT AND FARNBOROUGH.—Valuable Freehold Property, comprising a well-accustomed Public House, and eligible Building Land

MESSRS. EDWIN FOX & BOUSFIELD are instructed to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19th, at THREE in the afternoon, in 3 Lots, the FREEHOLD of the CRIMEA TAVERN, and two acres of valuable Freehold Building Land, situate in the South Camp, Aldershot, close to the Permanent Barracks; two plots of Freehold Building Land, in the centre of the village of Cove, near to the Farnborough Railway Station, on which a well-accustomed beer-house stood, but which has been recently destroyed by fire.—May be viewed, and particulars had of Messrs. PRICKETT & KING, Solicitors, Basingstoke; at the Queen's Hotel, North Camp; at the Crimea Tavern, South Camp; at the Swan, Farnborough road; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman street, Bank, London.

BERKSHIRE.—Building Land, opposite to the Wellington College and close to the Railway Station, with important frontage, for the erection of Villas or Private Residences.

MR. ROBINS having disposed of the first portion of the estate, is instructed to SELL by AUCTION, at GARRAWAY'S, CHANGE-ALLEY, CORNHILL, Change-alley, Cornhill, on FRIDAY next, at TWELVE for ONE o'clock precisely, or more lots, unless an acceptable offer be previously made by private contract, FREEHOLD BUILDING LAND: comprising about 14 acres, lying unusually compact, and forming the most valuable south frontage, for the erection of villas, immediately opposite the Wellington College, adjoining the railway station, about three miles from the market town of Wokingham. The land offers great attraction to the directors of public institutions, requiring plots of 20 acres, and to builders, lying high, gently rising from the south, the situation most desirable and healthy, adorned by timber, and having a luxuriant belt of plantations on the south side, the frontage extending to 3,000 feet, offering tempting sites for the erection of villas, which also now much required in this improving locality. There is brick earth on the estate, and a more attractive opportunity for building to advantage is not in the market.—Full particulars, with plans, may be had of Messrs. BOOTY & BOOTY, Solicitors, 1, Raymond-buildings, Gray's-inn, W.C.; at Garraway's; and at Mr. ROBINS'S Auction and Estate Offices No. 5, Waterloo-place, Pall-mall, S.W.

PURLEY, near Croydon, contiguous to the Caterham Junction Station, on the main line of the Brighton and South-Eastern Railways, about 14 miles from the South Croydon Terminus, and 12 miles from London, which is reached in half an hour by rail.

MESSRS. BLAKE will SELL by AUCTION, at the PARLEY LODGE INN, Purley, on THURSDAY, OCTOBER 13, at FOUR for FIVE o'clock, Twenty Valuable FREEHOLD BUILDING PLOTS, and Two Cottages, with Gardens, being a portion of the Parley Lodge Estate, the whole having capital frontages to the turnpike road, and to a new road through the estate. The land has a substratum of gravel and chalk, and is in a delightful rural and healthy situation. The proximity of the railway station, and ready means of conveyance to the metropolis, render the demand of a safe and sterling character for the carrying out of extensive building operations.—Particulars, with plans, may be had at the Greyhound Inn, Croydon; at Garraway's Coffee-house, Change-alley; of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion House; and of Messrs. BLAKE, Croydon.

Valuable Building Materials.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Meat-house, Stockwell-green, on MONDAY, OCTOBER 17, at TWELVE o'clock, the entire portion of the excellent MATERIALS, fittings, and fixtures, of the above mansion, taken down, cleaned, assorted, and put into convenient lots, to suit the trade or builders: comprising 35 squares of flooring, 1,200 feet fine ash paving slabs, coping, and steps, 12,000 feet of prime sound Dutch yellow lathes, flooring, long rafters, joists, rafters, plates, &c., other scantling, doors, sashes, and frames, wainscoting, dressers and shelves, stove, stacks of firewood, sculptured marble fittings of a dairy, and an infinite variety of other sound materials, fittings, and timber.—On view till sale.—Catalogues on the Premises, two days prior, and at the Auctioneer's Offices, 25, Bucklersbury, City, E.C.

PIMLICO.—To Builders, Dealers in Materials, Lead Merchants, and Others.—Important Sale of Building Materials.

MR. GEORGE HAINES announces for SALE by AUCTION, on the PREMISES, on WEDNESDAY, OCTOBER 12th, at TWELVE o'clock, all the valuable MATERIALS of the Wine-stained Wine Vaults, three large Houses not being, in Back Buildings, the corner of Lower Grosvenor-place: comprising thousands of prime stock bricks, several tons of lead, countless slates and tiles, strong timbers in the roofs, French and other sashes, doors, prime bullet floats, stout slabs, marble chimney pieces, four large plate-glass shop fronts, complete water-closets, the usual fittings of the mansion-house, portico entrance, and fixtures.—May be viewed; catalogues of Messrs. HAINES & SON, Auctioneers, Moorgate street; and at the Auctioneer's Offices, Gravel-or-street West, Eaton-square, and 13, High-street Kensington.

10,000 Pieces of French and English paperhangings, in immense variety; 170 statuary, fawn, Sicilian, rouge-royal, Garibaldi, gray, black, black and gold, &c. Adam's dove and other Marbles, and enamelled Slate Chimneypieces; three stoves, a few good watercloosets, and other items. Surplus stocks of several eminent firms now sold for convenience of sale

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at his ROOMS, 24, Holborn-bars, and 1, Castle-street, Holborn-hill, on TUESDAY next, at ONE for TWO o'clock precisely, PAPERHANGINGS CHIMNEYPIECES, GILT MOULDINGS, STOVES, WATER CLOSETS &c.—On view Monday and morning of sale.—Catalogues this day.

NOTICE OF SALE at Camden Town, two days, MONDAY and TUESDAY, OCTOBER 17th and 18th, at ELEVEN for TWELVE; extensive STOCK of a BUILDER

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, 2,000 planks, deals, battens, 400 feet range of 4ft. square, 200 squares flooring, 20,000 feet moulings, 7,000 feet wide pine, 10,000 feet quartering, 10,000 feet pencil cedar, 2,000 feet mahogany, large quantity dry cut stuff, 4 benches, doors, sash-lining, ladder, 4 sashes, paving for 200 pennys, 100 lots useful old materials, slate cistern, chimney pots, &c.—Auction Offices, Cardigan-street, Hampstead-road.

EPSOM, SURREY.—Freehold Building Ground in an elevated position, possessing 689 feet of good building frontage, and presenting a favourable opportunity for creating Freehold Ground-rents.

MR. BRAY is favoured with instructions to OFFER for SALE by AUCTION, at GARRAWAY'S, on TUESDAY, the 18th of OCTOBER, at TWELVE o'clock, either in one lot or in fourteen different lots, a valuable FREEHOLD ESTATE, consisting of 31 acres or thereabouts, which has recently been laid out for building purposes, and roads and sewers made at considerable expense. It presents most eligible sites for the erection of first-class villa residences; is within a few minutes' walk from the City and West-end Railway Stations at Epsom, and from its elevated position commands most extensive views of the surrounding country.—Particulars and conditions of sale, with a plan of the property, may be obtained of Mr. ANDREWS, Surveyor, Epsom; of Messrs. ANDREW, ATKINS, & IRVINE, Solicitors, 5, White Hart court, Lombard-street, E.C.; at Garraway's, E.C.; at the Inns in the vicinity; and at the Offices of the Auctioneer, 10A, King's road, Bedford row, W.C.

LEWISHAM and TONBRIDGE RAILWAY PLANT.—Messrs. Hawley, Turner, & Edes have instructed

MR. J. GOWER to SELL by AUCTION, at his REPOSITORY, Barbican, FRIDAY, OCTOBER 14, 1864, at ONE o'clock, 30 young powerful Cart or Van HORSES, some first class Harness, 30 one horse CARTS, Timber CARRIAGES, Pole Vans, mostly built for the contract, Thill and Chain Harness, Cliff-machine, Crabs, &c. of the Lewisham and Tonbridge line.—On view two days prior.

PADDINGTON.—Valuable Building Materials, Bristol gardens, Maida-hill, adjoining the canal.

MR. J. A. SMITH has received instructions from the Contractor, to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, OCTOBER 11, 1864, following day, at TWELVE o'clock, about FIFTY LOADS of excellent MEMEL TIMBER, in rafters, joists, quartering, bressummers, and girders; 5,000 feet run of yellow joists in 26 feet lengths; twenty-five squares flooring-boards; sixty 4 and 6 panel doors; 100 sashes and frames, two capital shop-fronts, with iron supports; fifteen squares of York paving, Portland stone, cills and copings; 10,000 plain and pan tiles; fifty register and other stoves, iron columns, wrought and cast-iron; sixty fathoms of excellent firewood, in large stacks; the whole to be sold without any reserve whatever, and to be cleared with a two days.—May be viewed, catalogues had on the Premises, and of the Auctioneer, 28 and 30, King street East, Hammersmith, W.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM

A T F. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH, BRISTOL, on WEDNESDAY, the 19th day of OCTOBER, 1864, at ONE o'clock precisely. Lunch-eon at Half past Twelve o'clock.

On account of Importers.

30,000 Spruce Deals and Battens
1,700 4 to 6-inch by 7 to 14-inch Spruce
10,000 Quebec Pine and Spruce Deals
2,000 Oregon Red Deals, Battens, and Boards, fresh arrivals
5,000 Archangel Redwood Deals, Battens, and Boards, fresh arrival
5,000 Wyborg Redwood Deals, Battens, and Ends, fresh arrival
5,000 Uleaborg 11, 12, and 13 inch Redwood Deals and Ends, fresh arrival
2,700 4 by 9 inch Sundarne Red Deals
3,000 Swedish Redwood Deals, Battens, and Ends
6,000 Fresh Norway Redwood and Whitewood Battens
40 Logs Quebec Board Yellow Pine, prime timber
14 Logs Quebec Oak
250 Loads Quebec Red Pine, fresh timber
60 Loads Quebec Pine
10 Loads Quebec Elm
300 Loads fresh Pine Redwood Fir
10 Loads Dantzic Oak
500 Loads fresh Swedish Timber
200 Spruce Masts
18 Metre Lower Masts
10 Logs Mexican Mahogany
20,000 Spruce Palings
Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, October 8th, 1864

SUNNINGDALE, BERKS.—A very valuable Freehold Estate, comprising about 18 Acres of Building Land, arranged in convenient plots for the erection of first-class private residences

MESSRS. DRIVER & CO. have received instructions to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, London, on MONDAY, OCTOBER 31, at ONE o'clock precisely, in Eighteen Lots, some very valuable and desirable FREEHOLD BUILDING LAND, containing, together, about 18 Acres, situate at Sunningdale, only about 45 miles from Staines and Egham, within a few minutes' walk of the Sunningdale Railway Station (which adjoins the estate), and is within an hour's ride of London. The lots are well timbered, beautifully undulated, and embellished with ornamental plantations, commanding from every point various and extensive views of the surrounding scenery, so justly celebrated for its picturesque and lovely character. Its close proximity to Virginia-water, Wick or Great Park and Forest, Swinley Forest, Ascot Racecourse, and the great diversity of walks and drives in the immediate neighbourhood, render this property unrivalled in its suitability for the erection of first-class villa residences. The drive to Windsor is between five and six miles through the parks by a direct route, and is one of the most wooded scenery in the kingdom. The dry and healthy nature of the soil and air, the facilities afforded by the existence of good railroads to all objects of attraction in the vicinity, its proximity to London, the advantages secured to constant travellers by a reduction of the present rate of season tickets, and the advantageous manner in which it is proposed to lay out the new roads over the estate, afford peculiar advantages for building purposes. It is intended to form a new road through the property, commencing at the angle of the main road, near which stands the entrance lodge and gates of Sir Charles Crossley's estate, and which property immediately adjoins the Sunningdale and Bells Yew domains. Printed part culars, with plan, are in course of preparation, and may be shortly had. In the mean time, further information may be obtained of Messrs. ESCRITT & LUCAS, 19, Lombard-street, E.C.; of Messrs. JANSON, COBB, & PEARSON, Solicitors, No. 4, Basinghall-street, E.C.; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

[For remainder of Auctions see p. ix.]

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-Inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 8, 1864.

The Builder,

Architect, Engineer, Operative & Artist.

Vol. XXII.—No. 1132. OCTOBER 15, 1864 PRICE FOURPENCE. By Post, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.

THE SEVENTEENTH ANNUAL DINNER in aid of the Funds of the Charity, will be held at the LONDON TAVERN, on THURSDAY, 27th inst. THOMAS C. LUCAS, Esq. President of the Institution, in the Chair

STEWARDS

Anderson, Mr. W. C.
Anley, Mr. Philip
Armani, Mr. A. N.
Atwell, Mr. George
Bacon, Mr. F.
Barnett, Mr. John
Barrett, Mr. William
Bellman & Ivey, Messrs.
Bennett, Mr. J. J.
Bird, Mr. Joseph
Bishop, Mr. J. G.
Branson & Murray, Messrs. (Birmingham)
Brass, Mr. William
Brass, Mr. H. Inns
Brewtor, Mr. Thomas
Brukell, Mr. H. C.
Chinnery, Mr. J.
Collins & Stanbury, Messrs. (Birmingham)
Conner, Mr. E.
Cook, Mr. B.
Cordery, Messrs.
Cozens, Mr. Thomas
Cullingford, Mr. W. H.
Cuming, Mr. Samuel
Dent, Mr. John
Dines, Mr. George
Dixon, Mr. Joseph
Doyle, Mr. R. D.
Dunbage, Mr. W. M.
Dunbage, Mr. William
Ellis, Mr. William
Fenton, Mr. W. F.
Ferguson, Mr. Thomas
Freeman, Mr. J. Russell
Freeman, Mr. Thomas
Gardiner & Bell, Messrs.
Goulty, Mr. Jonn
Hack, Mr. Charles
Hall, Mr. Matthew
Harding, Mr. William
Head & Co. Messrs. George
Hibbard, Mr. J.
Higgs, Mr. William
Honeywill, Mr. S.
Howard, Mr. T. G.
Hunter, Mr. J. H.
Hutchons, Mr. William
Jackson, Mr. William
Jennings, Mr. George
Kennard, Mr. R. W. M.P.
Keyes & Head, Messrs.
Lawford, Mr. J. S.
Lee, Mr. William, M.P.
Lucas, Mr. Charles T.
Mann, Mr. S. L.
Maw, Mr. James
Myers, Mr. George
Newton, Mr. Marcus Bourne
Nicholson, Mr. Wilfred
Nicholson, Mr. David
Norton, Mr. Edward
Peters, Mr. William
Peters, Mr. Joseph
Pete, sir S. Morton, bart. M.P
Plucknett, Mr. George
Richardson, Mr. R.
Rogby, Mr. Joseph
Robinson, Mr. A. A.
Robinson, Mr. Thomas
Rogers, Mr. W. B.
Rose, Mr. Alderman W. A. M.P.
Sapwell, Mr. B. B.
Sawyer, Mr. J. W.
Smith, Mr. Alfred
Smith, Mr. C. Spencer
Smith, Mr. George
Stirling, Mr. Thomas
Strood, Mr. J. May
Tatham, Mr. I. M.
Thorn, Mr. John
Thorn, Brothers, Messrs.
Trickett, Mr. Samuel
Unwin, Mr. J
Wagstaff, Mr. James
Wallis, Messrs. G. & T.
Webb, Mr. William
Wills, Mr. John

Gentlemen desirous of promoting the interests of the Institution will be pleased to forward their names to the secretary, at the Office, 23, Southampton-street, Bloomsbury, W.C. where Tickets may be obtained, 21s. each; also of the Treasurer, Mr. G. FLUCKNETT, 258, Gray's-inn-road, W.C.; the Stewards; and at the London Tavern.

A. G. HARRIS, Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving, 20l. and 10l.
For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimpole-street).
For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope)
For Opaque Enamels, 10l. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum, or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

BY Order of the Secretary of State for India in Council,

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will, in the year 1865, be open to Public Competition

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application, either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office 14th July, 1864.

PROFESSOR DONALDSON'S LECTURES on ARCHITECTURE and CONSTRUCTION, at University College, commence on TUESDAY next, the 18th OCTOBER. Particulars can be had at the College Office. The class will meet on this TUESDAY, at SIX in the evening, for both divisions to arrange details.

ARCHITECTURAL ASSOCIATION.—

THE CONVERSAZIONE and OPENING MEETING of the SESSION 1864-5, will be held on FRIDAY Evening, OCTOBER 28, at the Rooms of the Association, 9, Conduit-street, W. Gentlemen desirous of becoming members are requested to apply to either of the Honorary Secretaries.

J. DOUGLAS MATHEWS, 10, Cloak-lane, City, E.C. } Hon.
LACY W. RIDGE, 3, Duke-street, Adelphi, W.C. } Secs.

SCOTTISH NATIONAL MEMORIAL

to H.R.H. THE PRINCE CONSORT. In answer to numerous communications which have been addressed to the Committee of Advice, intimation is hereby made that MODELS and DRAWINGS of DESIGNS for the SCOTTISH NATIONAL MEMORIAL may be furnished on any smaller scale than that of one inch to the foot, which is the largest they prefer, in those cases where adherence to the scale preferred would render the model or drawing excessive or inconvenient in size.

W. S. WALKER, Hon. Sec.
125, George-street, Edinburgh, 7th October 1864

AGRICULTURAL HALL, ISLINGTON.

NORTH LONDON WORKING CLASSES' INDUSTRIAL EXHIBITION will be OPENED on MONDAY, OCTOBER 17, 1864, by EARL RUSSELL, K.G. at THREE o'clock, p.m. The Proceedings arrangements will be undertaken from Mr. R. GLENN WESLEY. Mrs LOUISA FYNE, Miss LEIFLER, Mr E. GALER, Mr. LEWIS THOMAS, and a choir of 1,000 voices. A Special Ode has been written for the occasion. Dr. S. S. WESLEY, of Winchester Cathedral, and plays it at Willis's Grand Organ, and per form a Solo. Body of the Hall, 2s. 6d. Galleries, 1s.—Tickets to be obtained at the Agricultural Hall, or of the Secretary, as under. On Tuesday the 18th, the Exhibition will be opened daily until further notice. Price of admission, 9 till 5, 6d.; 7 till 10, 3d. Children under ten, half-price.

W. J. WAITE, Hon. Sec.
7, Birchmore-terrace, Cardington-street, Hampstead-road, N.W.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE

WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. The enlarged accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within.

COMPETITIONS.

CITY of COVENTRY.—MARKET

HOUSE To ARCHITECTS.—The Corporation of Coventry invite DESIGNS, PLANS, SECTIONS, ELEVATIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a MARKET HOUSE. The Plans to be of a uniform scale of 8 feet to an inch. The cost of the entire Building, with fittings, not to exceed 6,000l. The architect whose design, in the opinion of the Council of the said City, proves the best Design, &c. to receive 50l.; the second best, 40l.; and the third best, 20l. The Designs, &c. for which premiums are awarded to become the property of the Corporation, and the architect of the Design taking the first premium to supply the Corporation with Working Drawings, if required, according to the same scale as above, with the premium will amount to 5 per cent. on the cost. The Corporation will not bind themselves to employ the architect in carrying out his designs, or to carry them out at all, and if the premium should not, in the opinion of the Council, be of sufficient merit, the premium will not be awarded, nor will they be awarded unless the Council should be satisfied that the same can be executed within the estimate. Each set of designs, &c. must be distinguished by a motto, accompanied with a sealed letter containing the name and address of the competitor, and bearing a similar motto to that on the designs, &c. which envelopes will not be opened until after the plans are decided upon. The designs, &c. must be enclosed in a sealed cover, endorsed "Plan for Coventry Market-house," and addressed to THOMAS BROWETT, Town Clerk, Coventry, and delivered in or before the 23rd day of NOVEMBER next. A block plan of the site, with approaches, levels, statement of conveniences required, and of the conditions to be observed by competitors, can be had on application personally, or by letter, to JOSEPH CREASORICK, City Surveyor, St. Mary's Hall, Coventry.

THOMAS BROWETT, Town Clerk.

Coventry, September 28, 1864

CONTRACTS.

TO BUILDERS and IRONFOUNDERS.—

NEW TOWN HALL, TODMORDEN.—CONTRACTS are required for the EXCAVATING and BUILDING of the BASEMENT STORY for the above. The plans, specifications, and quantities can be seen at the Office of the Town Clerk, Rochdale; of the Office of Mr. W. H. HOLGATE, the Architect, New Cloth Exchange, Leeds, on and after the 17th inst. Tenders to be sent in, addressed to the Town Clerk, Rochdale, not later than MONDAY, the 24th of OCTOBER instant. The lowest Tender not necessarily accepted.

ZACH. MELLOR, Town Clerk.

Rochdale, 5th October, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—

NOTICE TO BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS, at Aldershott Camp and Permanent Barracks, in the county of Hants including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tenders, may be obtained on application at the Office

Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left-hand corner, "Tender for Works at Aldershott," on or before SATURDAY, the 5th NOVEMBER, 1864

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders

Royal Engineer Office, Aldershott,
14th September, 1864.

BLACKFRIARS BRIDGE. — TENDERS

will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Kyle, Portland, and rough rubble. Also for the headstone coins, with moulded bases and curved caps. Apply to Messrs. THORN & CO Contractors, on the Bridge.

TOTTENHAM LOCAL BOARD of

HEALTH.—To ROAD-MAKERS and OTHERS.—Notice is hereby given, that the Tottenham Local Board of Health intend entering into a CONTRACT for RE-FORMING, LEVELLING, GRAVELLING and MAKING GOOD certain LOADS on the Finsbury Freehold Land Society's Estate, Wood Green, Tottenham, according to the terms of the specification and schedule of quantities, which may be seen at the Offices of the Board, on and after MONDAY, the 10th day of OCTOBER current. Copies of the specification and form of Tender, one given to each intended Tenderer, endorsed "Tenders for Roads, Finsbury Estate," must be delivered at the Offices of the Board, High Cross, Tottenham, between TEN and FOUR, on or before FRIDAY the 21st inst. But the Local Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide approved sureties for the payment of half the contract for the due and satisfactory performance of the works

High Cross, Tottenham, October 6, 1864.

PARISH of CHELSEA, in the COUNTY of

MIDDLESEX.—FLINTS.—The Vestry of the Parish will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 18th day of OCTOBER instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to contract, and the 28th day of September, 1865, for the SUPPLY of the BEST CLEAN GREY BROKEN FIT ROAD FLINTS, according to a sample, to be seen here, to be delivered at the Vestry depot, in Alpha-place, Manor-street, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. The Flints will be measured at the said depot by an officer of the Vestry. Sealed Tenders, signed by the proposed contractor, with the numerical description of the said contract, the terms of the performance of the contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the said 18th day of OCTOBER. No Tender will be received or accepted unless made on one of the printed forms to be obtained at my Office. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, 6th October 1864

HALIFAX CORPORATION WATER-

WORKS.—WORKS in the LUDDENDEN VALLEY.—To CONTRACTORS. The Corporation of Halifax are ready to receive TENDERS for the CONSTRUCTION of the WORKS included in the following CONTRACTS:—

No. 4, of CASTLE CARR CONTRACT, comprising the formation of three Reservoirs, a Gauge Basin, and the Weirs, Watercourses, Roads, and other works connected therewith. The Reservoir Embankments are 27 feet, 74 feet, and 80 feet in height respectively, and the gross cubic contents will be about 350,000 cubic yards.

The plans, sections, and drawings may be seen, and specifications and forms of Tender obtained, at the Town Hall, Halifax, and at the Offices of the Engineer, J. F. BATEMAN, Esq. No. 9, Great George-street, Westminster, and 3, St. Ann's-place, Manchester, and 19, Great George-street, Westminster, on and after MONDAY, the 3rd OCTOBER. Sealed Tenders must be addressed to, and left with, JAMES LUPTON NORRIS, Esq. Town Clerk, Halifax, on or before MONDAY, the 24th OCTOBER, 1864, indorsed with the name of the particular Contract for which it is a Tender. The Corporation do not bind themselves to accept the lowest or any Tender, nor will they if they see fit, let the whole work in one or in more contracts or contracts.

N.B. No 3 Contract is withdrawn.

By order,
J. E. NORRIS, Town Clerk.

Town-hall, September 28th, 1864.

NORTH EASTERN RAILWAY.—DARLINGTON SECTION. To BUILDERS.—TENDERS are invited for the ERECTION of a PASSENGER STATION, at the Eaton Junction. Plans and specifications may be seen at the ARCHITECT'S OFFICE, Northgate, Darlington, from MONDAY, OCTOBER 17th, to SATURDAY, OCTOBER 29th, 1864. Tenders to be delivered at the Company's Office, in Darlington, not later than MONDAY, OCTOBER 31st, 1864, addressed to the Secretary, and endorsed "Tender for Works." No pledge given that the lowest or any Tender will be accepted.—Signed

THOMAS MACNAY, Secretary.

Darlington, October 12, 1864

TO BUILDERS.—Persons desirous to

CONTRACT for the ERECTION of 3 ARCHES and 10 PIERS, at Messrs. Foort & Sons' Brewery, Stratford on Avon, can inspect the plans and specification at the Office of Mr ALLEN, Architect, Stratford on Avon, on and after FRIDAY, OCTOBER 21st. Tenders to be sent to Messrs. FLOWER & SONS, not later than TUESDAY, NOVEMBER 1st.

[For remainder of Contracts see next Page.

RUGBY WATER WORKS.—To ENGINEERS and CONTRACTORS.—The Local Board of Health, Rugby, are desirous of receiving TENDERS for the EXECUTION of the undermentioned WORKS, consisting of—

CONTRACT No. 1.—The Construction of an Engine house, a Reservoir, Filter, and Filtered Water Tank; also laying about 2,250 yards of 7-inch Cast-iron Pipes, with bends, and sundry other pipes.

CONTRACT No. 2.—A Grasshopper Engine capable of raising 200 gallons of water per minute to a height of 200 feet through the 7-inch Pipes, and of Force-throw Pumps; also a Patent Centrifugal Pump, with its engines, boiler, pipes, and cocks.

CONTRACT No. 3.—Supplying about 2,700 yards of 7-inch Cast-iron Socket-pipe with bends, and sundry other pipes.

Plans, specifications, and forms of Tender may be seen at the Office of the Local Board of Health, Rugby, between the hours of TEN a.m. and FOUR p.m.; or at the Offices of Messrs. EASTON, AMOS, & SONS, Engineers, Great Smith-street, Westminster, on and after the 11th instant. Tenders may be given for any one or all of the Contracts; but in the latter case, the separate amount for each Contract is to be stated; and the price for the pipes is to be per lineal yard. The Contractor will be required, at his own expense, to enter into a bond with two sufficient sureties or to pay for their expense, for the proper performance of the Contract. Sealed Tenders, indorsed "Tender for Water Works," and specifying the number of the Contract to which it refers, must be sent in to me, at the Office of the Local Board, in Rugby, on or before the 11th day of NOVEMBER next, after which time no Tender can be received. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,

THEODORE M. WRATISLAW, Clerk.

Rugby, 8th October, 1864.

LONDON, BRIGHTON, and SOUTH-COAST RAILWAY.—SOUTH LONDON EXTENSION.—To ENGINEERS and IRON FOUNDERS.—CONTRACT for WROUGHT-IRON GIRDER BRIDGES.—The Directors of the London, Brighton, and South Coast Railway Company are ready to receive TENDERS for SUPPLYING and FIXING the WROUGHT IRON WORK (about 100 tons) in 4 other Works, on the Girder Bridges on the South London Extension Railway. Drawings and specifications may be seen, and the quantities and other particulars obtained, on and after MONDAY, the 17th instant, at the Office of Mr. FRED. DALE BANNER, Chief Engineer's Engineer. Tenders, in the prescribed form only, addressed to the Secretary, not to be delivered at his Office not later than ELEVEN o'clock in the forenoon of TUESDAY, the 25th instant. The Directors will not be bound to accept the lowest or any Tender. FREDERICK SLIGHT, Secretary.

London Bridge Terminus, October 10, 1864.

TO BUILDERS.—The Committee for Building a CONGREGATIONAL CHAPEL at Uckfield, in the County of Sussex, are prepared to receive TENDERS for its ERECTION. The plans and specifications may be seen at the residence of Mr. SAMUEL EVERSHED, Uckfield, to whose address Tenders are to be sent, on or before SATURDAY, the 22nd instant. The Paving and other internal fittings will not be included in the first contract. The Committee do not bind themselves to accept the lowest or any Tender.—Tracings of the drawings and a copy of the specification may be seen at the Office of the Architects, Messrs. J. L. & C. PARSONS, Lewes.—October 7, 1864.

RIPON WATERWORKS. — The Local Board are prepared to receive TENDERS, from competent persons, for the SUPPLY of CAST-IRON SOCKET PIPES, and Appendages, for the proposed new Waterworks for this district.—Copies of the specifications, with forms of Tender, and probable quantities required, may be obtained on application to Messrs. STEVENSON & UTLEY, Engineers, Halifax; and Tenders (sealed, and marked on the outside "Waterworks: Tender for Pipes") must be sent in to me, at my Offices in Ripon, on or before TUESDAY, the 25th day of OCTOBER instant.

R. M. NICHOLSON, Town Clerk,
Ripon, 6th October, 1864 and Clerk to the Local Board.

RIPON WATERWORKS. — The Local Board are prepared to receive TENDERS from competent persons for the supply of SLUICE-COCKS and HYDRANTS for the proposed new Waterworks of their district. Further information and forms of Tender, with probable quantities required, may be obtained from Messrs. STEVENSON & UTLEY, Engineers, Halifax; and Tenders sealed and marked on the outside "Waterworks.—Tender for Sluice-cocks, &c.") must be sent in to me at my Offices in Ripon on or before FRIDAY, the 28th day of OCTOBER instant.

R. W. NICHOLSON, Town Clerk
Ripon, 11th October, 1864. and Clerk to the Local Board.

TO BUILDERS. — NEW CHURCH in CHRIST CHURCH DISTRICT, LEICESTER.—Any Builders desirous to TENDER for building the above CHURCH, are requested to apply to the Architect, Mr. G. G. SCOTT, R.A. 20, Spring-gardens London, S.W.; or to the Rev. Canon FAY, New-walk, Leicester, on or before THURSDAY, OCTOBER 20th, respecting the conditions of the competition, and the time of sending in their respective Tenders.

Leicester, October 1, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a SMALL COTTAGE RESIDENCE at Worthing, Sussex, for E. J. Morgan, Esq., of Kenton, Middlesex, may inspect the plans and specification at the Office of Messrs. HIDE & PATCHING, Architects and Surveyors, High-street, Worthing, on and after MONDAY, the 17th instant. Tenders to be sent in on and after the 24th instant. No pledge is given that the lowest or any Tender will be accepted.

Worthing, Oct 12 h, 1864.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
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SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 68, Lisle-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

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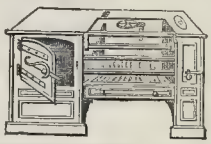
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IMPROVED SELF-ACTING COTTAGE RANGES,
With Oven and Boiler complete.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
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SELF-ACTING OVEN AND BOILER RANGES,
With Bright Wrought Bars.

34 inches	52s.
36 ,,	54s.
38 ,,	56s.
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Improved New Pattern Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from 6d. per inch.
Bright Stoves, with Two Sets of Bars, 46s. to 100s. each.

Best Cut Clasp and Rose.

1¼-in.	15s. per cwt.
1½-in.	15s. ,,
2-in.	14s. ,,
2½-in.	13s. 6d. ,,
3-in. and above	13s. ,,

Cast Rain-Water Pipe.

2-in.	8d. per yard.
2½-in.	10d. ,,
3-in.	1s. ,,
Cast Gutters, 4-in.	7d. ,,
O G Gutters, with Clips on, 4-in.	11d. ,,

Best Flooring Brads, 12s. 6d. per cwt. Cut Lath, 15s. per cwt.

Wrought Gas Tube	¼-in.	⅜-in.	½-in.	¾-in.
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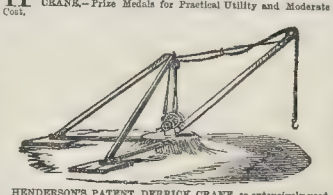
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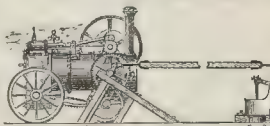
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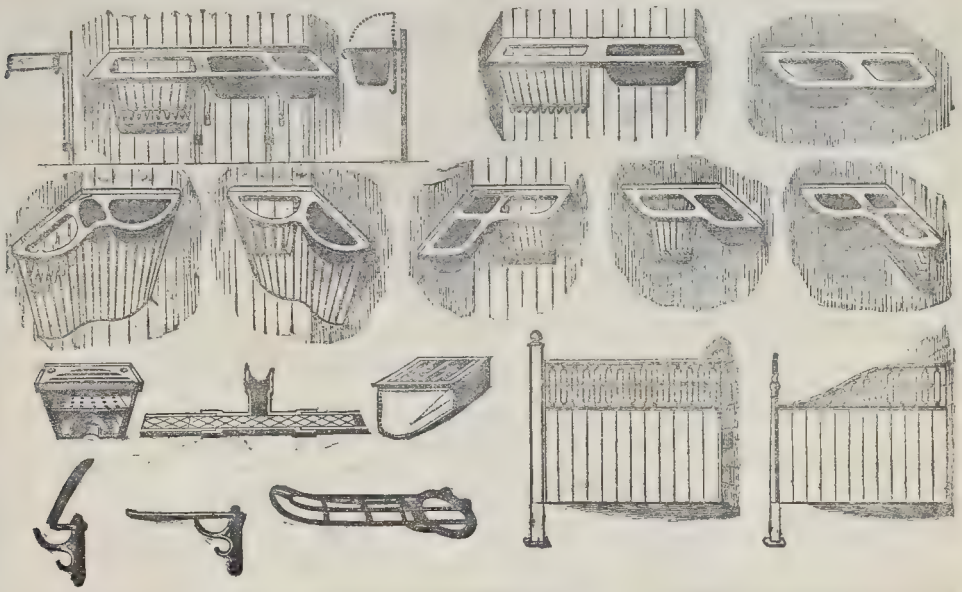
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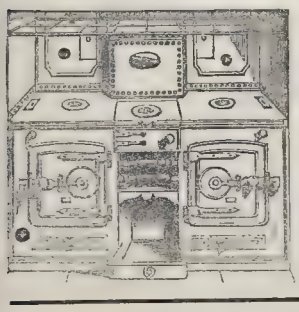
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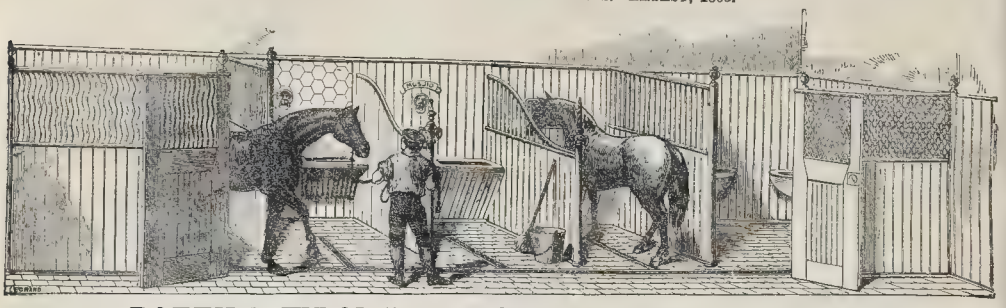
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BOYLE'S PATENT DOUBLE LEVEL WINDOW VENTILATORS.



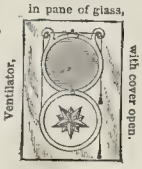
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AND

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The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon the principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

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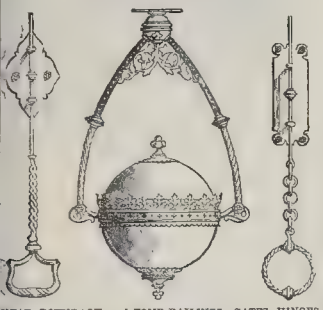
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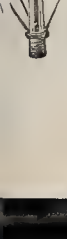
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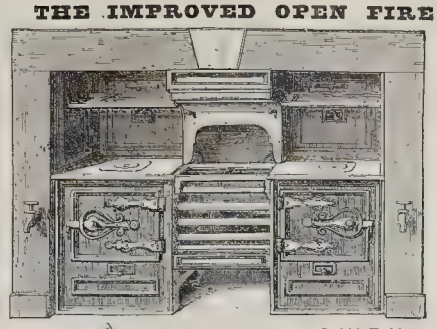
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BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

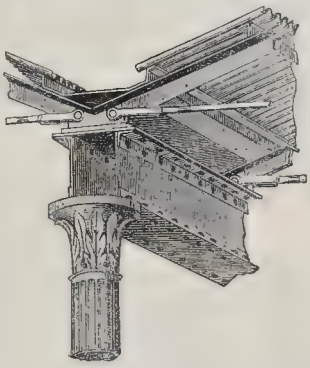
THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

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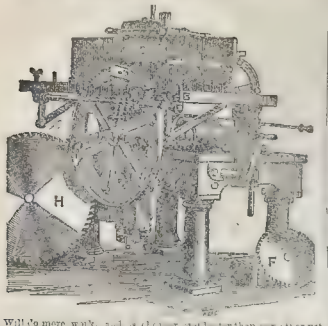
MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



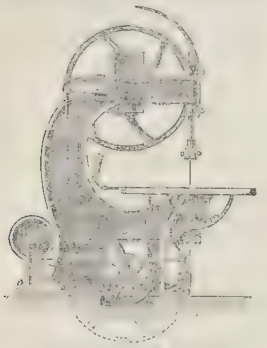
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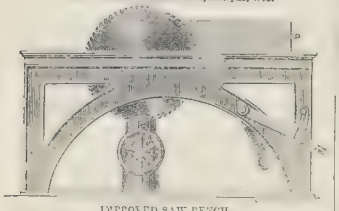
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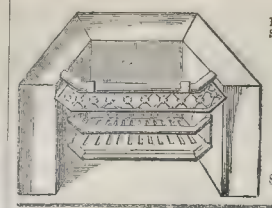
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30 " 21		12	0	.....	—	
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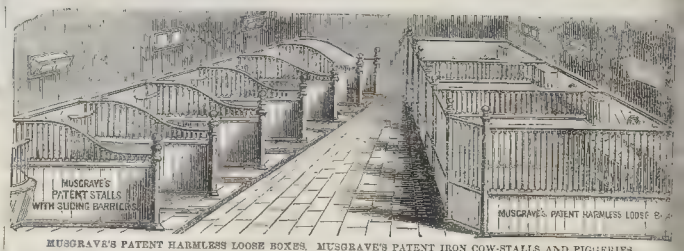
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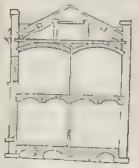
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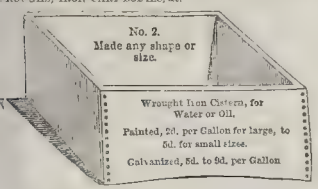
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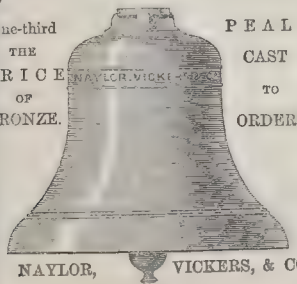
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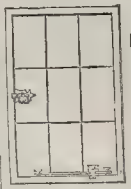
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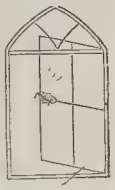


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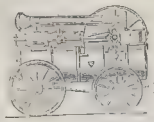
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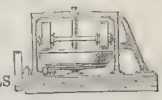


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The Builder.

VOL. XXII.—No. 1132.

Air in the Corners.

THE writer of the paper on which the discussion on the evils of overcrowding and on its remedy was founded has reason to be satisfied with the attention that has since been given to the subject. The president of the department enforced and illustrated ably what had been said; and his remarks, as well as the paper referred to, have given a text for many articles in the public journals. There is no difference of opinion as to the extent of the evil both in town and country, and very little as to the necessity of further legislation for its prevention.

"Much as has been done by the mere spread of knowledge [writes the *Times*], Sir C. Hastings believes it to be necessary for the Legislature to interfere more decidedly than it has hitherto done. It is certain that many necessary measures cannot be carried out until a conviction has been aroused of the absolute duty of adopting them. There can, indeed, be no question that health is wealth, and that the most careful sanitary precautions are economical in the end; but such a result is not often sufficiently apparent to enable us to trust to the operation of a mere sense of interest. If it is urged, not unnaturally, that an increased spread of knowledge will be sufficient to create this sense of duty, it must be acknowledged that a glaring proof exists of the extent to which prejudice and carelessness will neglect the most obvious precautions. Although it is notorious that small-pox might be almost driven from our tables of mortality by proper vaccination, it is still a prevalent and fatal disease in this country. There is some probability of a similar preventive being discovered for scarlatina; but, even if it should be, with such an example before us, there is reason to fear that the boon would be neglected or scouted for a long time by the mass of the people. But disease is an element with which a man has no more right to trifle than he has to play with fire. It is not his own concern, it is his neighbour's, and the Legislature is but discharging a public duty when it prevents a man or a petty township from risking the lives of the public by carelessness, prejudice, or obstinacy. A sense is certainly becoming more and more deeply rooted that there are few matters of more national concern than the sanitary condition of a country. The old adage that cleanliness is next to godliness, and that moral and physical well-being are indissolubly connected, is daily more and more acknowledged." To obtain that well-being, obedience to the physical laws laid down by the Creator is needed. The generalness of that obedience will, after all, depend principally upon the extent to which the knowledge of these laws is spread among Englishmen; and it is the greatest use of such meetings as the Social Science Congress to diffuse and enforce this knowledge: but, pending the spread of it, ignorance must be prevented from doing murder. From Scotland and Ireland, as well as from London, comes a similar response. Thus the *Buchan Observer*, commenting on the paper to which we have referred, writes,—"It is obvious that there would be difficulties in carrying out this proposed extension of the Lodging-Houses Act, but they are difficulties which could be overcome. If a house be perverted from its proper use; if the health of its inmates be systematically destroyed; if the well-being of the community among which it is placed, be endangered—and all this, and much more, might be said of over-crowding—then it becomes the duty of the Legislature to interfere, and make restrictions which shall be vigorously enforced. It is the constant complaint that the Lodging-Houses Act, though good in itself, does not go far enough—that, in fact, it fails to reach a class who are notoriously in need of its supervision. In Peterhead and other towns along the Scottish coast there are peculiar reasons for demanding its extension. Here, for instance, during the herring fishing, there is an addition to the population of some 3,000; the overcrowding is truly lamentable; physical and moral degradation are the direct and palpable results. Some power of inspection by the authorities would be of the utmost value, and this the Lodging-Houses Act fails to give. Many a town in Scotland would hail the extension which has been proposed, and we trust that those who have taken up the matter will not cease to agitate till its adoption by the Legislature has been secured."

A "Herts Vicar" adds a bundle of forcible facts to the already piled-up heap, and states what occurred in his own village. "I think," says he, "the real cause of the spread as well as the fatal effects of these diseases is to be found in the overcrowding of the dwellings of the poor. The natural consequence of such overcrowding is that the poor occupants are compelled, for several hours together, to breathe a most fœtid and unwholesome atmosphere, whereby it would seem the undeveloped frames of the young are rendered unable to cope with disease of more than ordinary violence, and which, in the case even of adults, would be most disastrous, were it not that they are invigorated by their occupation leading them to spend many hours in the open fields.

And such, in fact, is our own state. While the population has increased, house-room has not increased in the same proportion; so that not only have we in many instances two families occupying one cottage, but many of the cottages having but one bedroom; we have parents, grown-up sons and daughters, as well as young children, occupying the same apartment—an apartment, be it understood, in too many instances barely large enough for the healthful occupation of a fourth part of the number usually found sleeping in it, and with a window, perhaps, opening to the extent of 24 in. by 14 in. Well, therefore, might an intelligent labourer declare to me, that should he at any time have occasion to return to his bedroom before leaving home in the morning, after quitting it for a few minutes, he found the smell 'almost enough to knock him down.' It is, then, in this overcrowding that we must look for the cause of this fearful rate of mortality on the recurrence of epidemic disease."

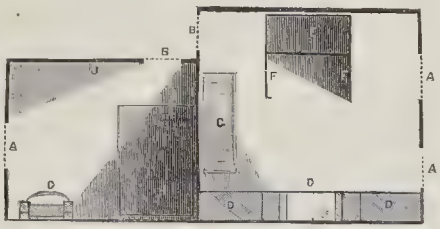
As remedies the reverend writer urges "the adoption of a wise, well-ordered, and generous system of emigration, under the active superintendence and encouragement of the national Government; and giving greater facilities for cottage building, by spreading the poor-rate over a larger area, so that it may not fall so heavily as at present on those localities where a large number of poor are necessarily brought together."

As we have said again and again, the condition of even the most crowded houses in London might be immensely improved if the poor possessed a better knowledge of the simplest sanitary laws, and no greater boon can be conferred upon them than to spread such information. Let us contribute a mite or two more with that end in view.

When estimating the cubical contents of apartments which are occupied by large numbers of the working classes, no account is taken of the extent of space occupied by the various articles of furniture, which are often so closely packed that there is barely room to move. For instance, in one apartment about 10 ft. in length, 8 ft. in width, and about 8 ft. high, the whole contents about 640 ft., there was one of the old-fashioned press-bedsteads, which, when put up during the day time, was so filled with bedding, &c., that it was equivalent to a solid mass of the following dimensions,—length 6 ft.; width, 3 ft.; height, 5 ft. Here we have at once 90 ft. taken away from the limited space. On the top there were boxes of different kinds, and other articles, which took up a space of at least 40 ft. more. An upright eight-day clock, set in a corner, about 7 ft. high, 2 ft. in front, and more than 1 ft. in depth, occupied about 18 ft.; a large tool-chest, 5 ft. long, 3 ft. in height, and 2 ft. in width, occupied 30 ft.; a chest of drawers, 6 ft. in front, 2 ft. in width, and 5 ft. long, about 60 ft. There were also hampers, chairs, a sofa-bed, a table, and other things, which cannot be estimated at less than 60 ft. By these various articles nearly 300 cubic feet of space were occupied; and at night, and during a great part of the day, five and sometimes six persons occupied this small ill-ventilated room, which may be taken as a type of many hundred others. Supposing that the number of inmates was five, the substance of the bodies would occupy an additional amount of space; but, without taking this into account, there would only be a fair breathing-space left of something like 68 ft. for each person,—a poisonous and dangerous limitation.

The bulky, unwieldy, old-fashioned furniture being discarded from many well-conditioned houses, still, by means of the brokers, finds its way into houses of a poorer grade, where there is not so much accommodation for its reception. May we hint that it would be well to avoid it, and to purchase such articles as metal bedsteads, which do not occupy much space, and prevent the assemblage of troublesome visitors.

In spite of the sanitary teaching which has been so earnestly given in various ways, there still exists an amount of ignorance on the subject which causes great mischief. In the dwellings of the industrious and poorer classes, there are corners as fatal to health and life as some of those to which we have referred as existing in certain hospitals. Nor is this to



The Ventilation of Corners.

AAA. Windows. BB. Doors. CC. Fire-places. DD. Cupboards. E. Press bedstead. FF. Folding-doors of the bedstead when open. G. Sofa bedstead. H. Bedstead. I. A partition, without any opening. J. Spot to which the bed was removed.

be wondered at when we glance at the actual condition of things. The accompanying illustration gives an example. The apartments consist of two rooms of very limited dimensions, one of which is used as a bed-room, and the other both as a bed- and sitting-room. Each room is entered by a door on the landing of a dark and ill-ventilated staircase. In the bed-room there is a very small window, not more than 3 ft. square, with a fire-place which is but 2 ft. wide and 3 ft. high. This, as well as the window, is situate in the angle farthest from the door. From the door, running at right angles, is a partition between the front and the back room, without any opening, and the consequence is that there is in one corner an unwholesome stagnation of the air; and it is usually the case that the worst part of a room is chosen to put the bedstead in. In this case the pillow had been placed in the corner in which the least possible change of air takes place. These bad arrangements are of constant occurrence, and we are glad to find the matter is beginning to gain the attention of some of the most intelligent medical attendants of London. From one we learn that in a bed placed in an ill-ventilated part of a room, he found repeated cases of illness. It is true that there was a sufficient amount of overcrowding when the children were in bed to account for this of itself; but on the bedstead being removed to a position where the air could circulate between the door, window, and fire-place, health rapidly returned; and, notwithstanding the overcrowding continued, there was a marked improvement in the appearance of the children. Many other instances might be given to show that the sanitary advice of the doctor, when acted on, has had as much effect as physic.

In the larger room there is both more space and better means of ventilation, for there are two windows, the door, and the fire-place; and the latter being more in the centre of one side of the room, is more effective than in the other instance. Notwithstanding, there are unwholesome corners in this room, even when attention is paid to the opening of windows; on the side opposite the windows, and on the other side of the partition, where the worst air of the bed-room collects, the atmosphere gets vitiated, and those who inhale it for any length of time complain of prostration and a disinclination to attend to their usual pursuits. Moreover, the windows do not open at the top, so that the upper part of the room at night is full of bad air. To remedy the evil conditions of such apartments is easy, and the expense would be but a trifle; the placing of three or four zinc ventilators in the partition between the two rooms, at about a foot and a half from the roof, and altering the windows of each apartment so that they might be opened about a quarter of an inch at the top, would be the means of allowing the fresh air to drive the impure from the corners; but there is such an objection to what is wholesome that it might be well to introduce perforated glass in the top parts of the windows, to make sure of the proper results. It would also be of advantage to make some openings near the top of the doors. The writer some time since knew a zealous advocate for ventilation, who, in the absence of his family at the sea-side, made air-holes through the bed-room-doors of the house by means of pistol-shots: a small centre-bit would act more safely, while securing a useful purpose.

Happening to be in some rooms on the basement of a house where the ventilation was notoriously defective, we saw some little boys amusing themselves by firing off flashes of gunpowder, and noticed how curiously the dense grey smoke became deposited for a length of time in those parts where the ventilation had been most neglected. Just in the same way as would the heavy poisonous gases which generate typhus fever, but which are not visible to the eye, did the volumes of smoke become deposited in corners where the air did not play properly about. The effect was most distinct when the sunbeams came into the place, and it was remarkable how soon certain parts were cleared, both of smoke and of sulphurous smell, while in others the atmosphere continued loaded for ten minutes or a quarter of an hour. In closets it was difficult to move it, even by fanning. The effect of firing off the flashes of gunpowder one at a short time after another, was that the smoke accumulated in dense masses just where was at first betrayed the greatest want of ventilation; and in rooms which were better ventilated every part became more or less uniformly pervaded by the effect of those miniature explosions, which soon passed away. To make this experiment is not pleasant; but in cases where ladies are sceptics in sanitary matters, it would afford the advantage of giving them visible evidence. Even in new houses, halls, and staircases, the state of the ventilation might be usefully tested by means of sulphuretted smoke. In carrying out experiments of this kind, the cordial co-operation of the small boys might be depended on; and perhaps a lesson in this way might be learned that would be useful in after-life.

By means of a ring of finely constructed metallic mesh, fitted into a circular aperture prepared for it in glass, and used either with or without a cover, and with a valve into a flue, Mr. Boyle ventilates apartments very satisfactorily. The valve, formed with pieces of mica, is so delicately sensitive, that two degrees of increase of temperature of the air of a room over that of the outer atmosphere, are sufficient to bring it into efficient action. The inventor remarks,—

"Heat, in excess, is one of the conditions found usually accompanying a bad state of ventilation; and this very quality, which now forms a portion, and that the most palpable portion, of the evil in question, is utilized by this valve, in being the motive power which keeps it in operation, whereby it not only works itself off, but carries with it at the same time the deleterious carbonic acid, and the other injurious gases and vapours with which a vitiated atmosphere is known to be charged."

In one instance, under our own eyes, Mr. Boyle has operated very successfully.

We have before now spoken of the want of ventilation in cupboards. An examination of a few, particularly those in which provisions are kept, will at any time prove the correctness of the complaint. In moderate weather, butchers' meat put in seemingly fresh in the evening, is found perfectly putrid in the morning. Chlorides of various kinds have been used for the purpose of purifying cupboards, but without effect. One housewife takes the trouble to blow air through her cupboard two or three times a day; others have tried weekly lime-washing; but nothing will do any permanent good if the proper construction of such places be not attended to, so as to admit of change of air.

The press-bedstead in such rooms is almost as unsanitary as the cupboards. The canopy passes over at about 3 ft. from the heads of the occupants; and in order to prevent air from getting to the sleeper, the folding-doors, when the bed is let down, are usually set open at right angles.

These, it may be said, are small branches of the subject; but they are none the less important. We desire to make people think of what is needed and what may be done, and to connect cause and effect. Doing this, they will soon be brought to admit the necessity of further legislation to combat the giant evil of overcrowding.

MILITARY SURVEYING.

It is almost incredible that very few officers in her Majesty's army, Sandhurst and Woolwich men excepted, can make a survey or even read a plan; yet this is stated to be the fact by Capt. Lendy.* It is, indeed, avowedly to simplify the difficulties that have hitherto precluded the attainment of topographical skill by officers that the work we are about to notice was written. The author found that the first stumbling-block was the want of fixed rules to figure the ground. The beginner was frequently daunted by the varieties of horizontal style, vertical style, pencil-brush-work, &c., and completely repulsed by the mysteries of the plotting-book. To remove as many as possible of these impediments to the progress of the military student Captain Lendy has treated only of those practical operations that are needed in actual service; but it must be owned these are so various, and involve consequences of so much moment, that it is difficult to imagine how any officer is able to pass muster without having acquainted himself with the mode in which these indispensable operations are carried on.

Simple as a military sketch of a district may appear, it tells a very important tale. A little difference in the shading of a contour, not exceeding the sixtieth part of an inch in the thickness of the strokes with which it is shaded, tells the experienced eye whether or not it is too steep for infantry to move with order, or for artillery to fire up hill, or for cavalry to trot up or canter down. Hence the great importance of a uniform mode of indicating certain gradations. Captain Scott, the examiner of military drawing, to secure this desired uniformity of expression by different draughtsmen, has proposed a system that will probably be introduced both at Woolwich and Sandhurst. An objection to his scale for shading plans consists in the difficulty of employing it, or any other precise rule, in a hurried reconnoitre made within sight of the enemy; but he contends, that under the most adverse circumstances the sketches of a dozen draughtsmen, all taught to draw with reference to one scale, are more likely to approximate to one universal language than if they had pursued different modes of delineation from the beginning. Leaving the enemy out of the question for the present, uniformity is desirable on every score. The reconnoitring of a route through which a convoy will have to pass is a frequent task; and that this should be executed upon the same principles every time that it is done must be of importance.

It would be unfair not to acknowledge our obligations to the French in the matter of military engineering. French influence is seen in many of the names applied to different objects, and felt in still more numerous ways. The lines of routes, or *itinéraires*, sketched as illustrations to Captain Lendy's volume, are French; and the table of the different subjects to be examined in a *reconnoitre* is that adopted by the French staff. Reconnoitring consists of two parts,—the plan or sketch, and the report. An enumeration of the different objects to be observed in the latter will best serve to show the proficiency in noting and drawing conclusions from minute and comprehensive details acquired by *les ingénieurs* of France. First, the order in virtue of which the operation has been made must be transcribed and placed at the head of the report; then follow five classes of observations in the following order:—1. A physical description of the country, including the geographical position of the ground reconnoitred, its general configuration, aspect, and access; the basins in which the ground may lie, its orography, its hydrography, the configuration of the coast, the nature of the soil, the aerography, the meteorological facts, such as whether the district is liable to violent storms, &c.; the plants and animals peculiar to the climate; the race of men, of mammalia, reptiles, &c.; the tides and their peculiarities. 2. Statistics, or the political and administrative divisions of the ground reconnoitred; the population, with number of inhabitants per square mile, proportion of men fit for service in arms, &c.; the number of militia and yeomanry; the language, religions, degree of instruction of the different classes of people, the number and nature of public buildings, of houses, the resources for lodging troops, materials of construction employed in the country, statistics of towns and fortified places, state of the agriculture of the country; number, condition, and products of woods and forests; cattle, the local industries, local measures, commerce, and public revenue. 3. Communications, the general outline, land communications, routes of secondary order, railways, navigation, canals, boats, and amount of navigation in rivers and ports, means of passing rivers and canals, telegraphic lines. 4. Military consideration, the advantages offered for offensive and defensive operations, suitable positions for a *corps d'armée*, with full information respecting places from which provisions, forage, water, and wood, could be drawn. 5. The general history of the country in which the ground reconnoitred is situate, its archæology, or remains of Greek, Roman, and Christian epochs, and a summary of the military events that have been enacted upon the ground in question. This document, when completed, is signed by the officer compiling it, and forwarded with the plan or sketch to the proper quarter. It will be seen that a first-class military survey is no easy matter: it calls for a wide experience, extensive knowledge, and great activity and industry. It is curious that it is at all times difficult to collect the required information. At home, alarm is taken by the residents in the neighbourhood of a survey that some exaction, either in the form of an extended billet or tax, is about to be practised upon them; and abroad, every fact is suppressed that would be likely to invite the approach of armed forces, and every obstacle magnified that would be likely to deter it. Notwithstanding this tendency, it is usual to question guides, shepherds, carriers, as well

* "A Practical Course of Military Surveying, including the Principles of Topographical Drawing." By Captain Lendy, F.G.S., F.L.S., &c., Director of the Military College of Sunbury. London: Atchley & Co., Great Russell-street, Bedford-square, W.C. 1864.

as mayors and bailiffs, care being taken to avoid alarming them. A knowledge of foreign languages is, therefore, an important item in the education of a field officer. On entering a country occupied by the enemy, information may be gained by examining and cross-questioning spies, inhabitants, hunters, muleteers, &c., concerning the roads, defiles, woods, hills, rivers, marshes, bridges, &c. When collated, discrepancies point out inaccuracies that may be successively rectified. It is a more rapid process to rectify a sketch made from tolerably reliable information than to survey and reconnoitre ground that is wholly unknown. When a survey has to be made under the eye of the enemy, scantier details suffice: the officer trusts to his memory and concentrates his attention upon those points which are of the most importance, such as the direction and inclination of acclivities, the rivers, rivulets, and their embankments. These scanned, and the time noticed that it took to walk or gallop to the chief points, he plots the various objects, by traducing time into distance, on his return to camp.

Captain Lendy gives heart to those who may hereafter consult his pages, by affirming that nothing is impossible, especially in topography. When in the field without either time or means to make a regular survey, and plans are imperatively called for to determine the movements of troops or select positions for encampments, it becomes necessary for a staff-officer to make the required sketches without instruments, or with the aid only of such instruments as he can construct on the spot. The chief requisites are measures for distances and angles. For the first of these there are three expedients, the officer's own pace, or the trot of his horse, or his watch, for distance is tolerably accurately laid down by time; and for the second, if a prismatic compass on a sextant is not to be had, a substitute may be improvised. A cross-staff and clinometer are the work of but a few minutes. A pin fixed into a plane table serves as a sundial, and nothing more is needed but a sheet of paper, pencil, piece of indiarubber, and a penknife. The more skilful the officer is who may be driven to these expedients, the more will his sketch approximate to a plan made in the regular way. He will first select a base and form a canvas (the sort of network formed by the triangulation of the chief points of the surface). He will then fill in the details. The various objects on the ground are represented by conventional forms, such as crosses for churches, parallelograms for houses, a horseshoe on an oblong base for a smithy, cones for ironworks; and the nature of the soil, whether marshy, rocky, muddy, subject to inundations, or riddled with rabbit-holes, is indicated by recognized markings. There are upwards of ninety of these signs to be borne in remembrance. Colours, too, have fixed readings. Gravel is rendered by dots of sienna over a wash of yellow ochre; marshlands by horizontal light blue patches running into green; troops are shown in the colour of their uniform; crops yellow; water blue, with shading on the shore; wooden buildings sepia; and so on. There are also conventional signs to indicate the nature of the troops, whether cavalry, artillery, or infantry; and others to show various differences in fortifications. By the aid of the plans thus formed and filled in with signs, the general decides upon the movements of his forces, where sieges, encampments, entrenchments, &c., shall be made, and battles fought.

When a plan is made to serve constructional purposes, it is made with accuracy as in civil engineering, or as in an architectural survey. It is only after arriving at a certain point that the three professions diverge. The members of each must be familiar with the nature of materials, their capacities to resist strain, the principles that govern the erection of roofs, arches, domes, &c., and the requirements of different soils in laying foundations. They may travel together so far. Then the military engineer must take a turning that branches off from the road, and leads to a closer study of the minute details of construction; for it may happen that he may be called upon to execute works with unskilled labour quite dependant upon him for instruction; and the science of military tactics must be brought to bear upon all his studies. Geodesy, geography, topography, planimetry, and levelling, must be all pervaded with one thought, that of the subjugation of the enemy, his lands, his forces, his stores, and everything that is his, and resistance to the offensive operations with which he might oppose this process. With this end always in view, the commonest objects present a twofold significance. The unpretending farmhouse, in the distant landscape, that has never echoed with sounds more formidable than the bellowing of cattle, becomes a defensive position. An old stone wall, or a ditch, or hedge, is elevated into a cover, and an obstacle for troops. Gardens, orchards, meadows, vineyards present themselves to the eye as possible forage grounds for men and cattle. Bridges give rise to a calculation of how many men, horses, and waggons they can transport, or how they can be most easily destroyed. Roads and paths, rivers and canals, are so many military communications: wayside crosses or fountains only so many rallying points for armed men. A railway station becomes a point of concentration. All ground is considered only as whether it is available for the movements of troops, or offers advantages for other military operations. All contours and under features are examined for the same information. The last-mentioned objects are those which offer the greatest difficulty to the military draughtsman. As it is a matter of the greatest moment that the altitudes and slopes of hills and mountains should be understood by the officer for whom a survey has been made, these have to be made apparent. Captain Lendy explains the principle upon which contours are shown, by describing the experiment in Burr's system of surveying. If the student would thoroughly master the subject, he should take a stone that is shaped like a hill, and fix the base of it with clay into the centre of a box provided with a plug-hole. He should then fill the box with water, stained with Indian ink. This water is to be drawn off in certain quantities at intervals, giving time enough between each abstraction to leave a watermark upon the stone. When it is all drawn off the stone, or model of a hill, will be stained with horizontal lines or contours which will mark the relative steepness of its parts; for the level of the water constitutes a horizontal plane, therefore the contours are the intersection of the model by parallel horizontal planes. To give a figure to these contours resort must be had to combinations of shade. There are three methods of doing this,—The English, French, and German systems.

The English system of giving expression to contours are of two kinds, the horizontal and vertical styles. The former is that used by Major Petley for the instructions of cadets at the Royal Military College; and by Captain Richards, the instructor of military drawing, at Sandhurst. In this style the ground is figured by horizontal strokes more or less thick, and the altitudes given in figures. The objection to this mode of delineation is, that the roads, in hilly ground, are not easily distinguishable from the horizontal strokes with which they are parallel. In the vertical style the strokes take the direction water would follow on its descent along the slopes. It is found to be no more accurate than the former style, and to labour under the additional disadvantage of requiring more time to execute. It was, however, that used by the officers of the Quartermaster-General's department in the Crimea. Every one giving his attention to this subject must see the advisability of the adoption of one mode of conventional drawing throughout the service, and echo the regret of Colonel Jackson that such a diversity should be permitted; for when an extensive district is to be sketched, and several individuals are employed, it is impossible to unite their sketches so as to form a complete whole, or to determine in which district the most elevated ground is contained. Captain Lendy says the remedy is simple enough: "Let the Council of Military Education fix upon a system, and recommend it to Sandhurst and Woolwich."

In the French system the original contours are preserved on the plan, and hachures are traced perpendicular to them, the equidistance compared with the length of these hachures giving the ratio of the slope. In this mode accuracy and expression are combined; but, like the vertical style, it is at the expense of tediousness. The German system differs from the French in so far that the hachures may be perpendicular to the normal contours with or without reference to their equidistance. The German method of shading marks the leading features very prominently in bold black strokes, but this leads to the inconvenience of obscurity in the small details. Perhaps the best mode would be that which adopts the advantage and rejects the drawbacks of them all,—such a one as Captain Lendy shows in a figure, where the original contours are preserved by representation in horizontal strokes and dots, widening and converging according as light or shade is required. The popular military map of the scene of war bears as little relation to the minute serviceable plan wanted for strategical operations as a garden sun-dial does to a chronometer. The German authority Lehman gives a series of gradations which admit of manœuvres. On a slope figured as 5° infantry may move with order, and fire and charge down hill effectually; at 10° their movements are more difficult; at 15° their fire up hill is harmless; at 20° they can only fire singly; at 40° a chasseur or rifleman must be without baggage, and use his hands as well as his feet to make an ascent; at 45° only picked men used to hilly countries can manage to do this, and even they are in danger of falling. Cavalry has its most effective shock up hill at a gradation of 5°. At 20° the descent of cavalry must be without order, and obliquely. Hussars may ascend at the gradation figured as 30°, but with great difficulty, and only when the slope is of soft earth. Artillery is still more limited in its capacities to counteract natural obstacles. At a slope only of 10° it moves with difficulty, and its effectual and constant fire ceases. At 15° it is *hors de combat*. To give these gradations accurately in the shading is the grand *desideratum*; to give them uniformly throughout the service is only second in importance to this requirement.

Military topography was originally made in writing; the imitative drawing is comparatively a novelty. Plans, as we have seen, are still accompanied by reports. By the aid of the plan, the general unrolling the scroll that contains it takes in at a glance information that would cost him some considerable time to read if it were in the form of notes. Models possess the advantage of a still more accurate representation, but they are too cumbrous to take into the field, and take too much time to make for them to be available for all purposes. As records they are serviceable, as in the case of the models deposited in the United Service Museum, and they can be understood by those to whom the most correct military plan would be a mystery. Captain Lendy gives specimens of the different kinds of plans in use,—photo-lithos of the French ordnance survey (scale 1-80,000th), of the English ordnance survey (scale 1 in. to the mile), military sketches by Major Petley and Captain Richards, the sketch given to the candidates for admission to the Staff College in 1861 and that given in 1863, all the conventional signs, specimens of the different modes of figuring the ground by interpolated contours, the horizontal style, the vertical style, eye sketches, illustrations of the various stages of copied plans; and from these a great deal of general information upon the subject of military surveying may be acquired. In these days of wars and rumours of wars there are few persons who would not find much to interest them in the gallant captain's instructions, which here and there glitter again with realizations of the pomp and circumstance of warfare. The scope of the volume does not compass any note of fortifications, but the one department treated of is so comprehensive, that the student must be very versatile in his tastes who would wish for more. When he has mastered the various intricacies of a military survey he will be an accomplished officer. We alluded to the absence of all instruction concerning the art of erecting fortifications to show that the subject has a limit, and that this has been judiciously observed. The text is interspersed with a hundred and fifty-one figures, besides the forty plates alluded to, the explanatory nicety of which prove that Captain Lendy not only thoroughly understands the subject himself, but excels in the art of conveying a knowledge of it to others. The various instruments used are figured, as well as the rough substitutes for them to which an officer may be driven. He shows how a piece of paper folded may serve to measure and trace an opening or give angles; and tells how distance may be measured by sound or by beat of pulse, or by observation of the number of yards at which men or horses appear as dots, or windows of houses can be seen, when the regular modes of computing either are unavailable. In the instrument department the French also do well. M. Trinquier has recently invented an instrument of so simple a construction that it can be made in a few minutes, which enables an officer in the field to protract bearings and lay down distances without protractor rule, scale, or compasses. The staff officer in France sees, however, that his regular instruments are made as portable as

possible. His plane table divided in strips and pasted on a piece of linen or kid, he can fold up and carry in his holsters. Major Fèvre, of the French Staff-corps, constructed a plane table for military reconnaissance with magnetic compass, scale, and sight-ruler, complete, measuring 11 in. long and 8 in. wide, that only weighed 28 ounces, and which is found to present so many excellences that it is generally preferred to any other both in his own country and this. That our neighbours are equally skilled in the art of modelling tracts of country or coast there is ample evidence in the Louvre. The officers of continental armies being thus accomplished, there is all the more need for a close application, both on the part of our instructors and cadets, to the studies, experiments, and practice, without which proficiency cannot be expected. Captain Lendy adopted a useful feature when he contrived to incorporate with his instructions an impression of the excellence at which other powers have arrived in their military skill. This will inculcate a respect for those with whom we may be hereafter allied, or to those with whom we may have hereafter to contend, which will serve the purpose of forewarning idlers that there are others in the field whom it would be unwise to count upon as reeds shaken by the wind.

Now that the volunteer force has become an institution, there is, doubtless, a more general interest in military surveying and engineering than would have been found ten years ago. Every volunteer would enjoy a military survey of his district; and to make it himself would invest it, as well as his amateur profession, with new lights, and at the same time qualify him for real work of the same kind should the need for it ever come to pass. The heads of schools, too, will find, from the same cause, a relish for martial matters in those under their care which, though always latent in Young England, has not been always apparent. To these classes of students, us well as to the cadets for whom it was intended, Captain Lendy's practical work will be very serviceable.

THE INSCRIPTIONS AT NEW GRANGE.

We have received from the Rev. James Graves, honorary secretary of the Kilkenny Archæological Society, the following letter:—

Sir,—In the leading article of your number for September 24th, which is full of interest to those who are inclined to speculate on the Pyramids, you rightly cite the Great Mound of New Grange, on the Boyne, as of analogous construction.* But you add that there is on one of the "basons" an Ogham or Runic inscription, "which has been translated as the '*tomb* of the hero;'" on the other "bason" al-o "an inscription, which has been translated as the '*house* of the god.'" And then you state, as if quoting another inscription, "The Chamber," in which these basons are, "is dedicated 'to the Great Mother, Ops.'" Now, the *Builder* is a journal of wide circulation and high authority; and statements of such importance and interest as the above must prove to all archæologists, made with such an air of absolute certainty, are sure to be quoted as facts, if now allowed to pass. I wish, Sir, that your statements were true, for then would our Great Irish Pyramid become of tenfold interest; but I am sorry to be obliged to give them *an unqualified contradiction*. Irish archæologists are well aware that there is not a vestige of an inscription (though there are many rude carvings), on any stone, now visible, in or about the mound of New Grange; or, indeed, I may add, on any other monument of a similar age and character in Ireland. I have examined the chamber myself, and so can speak positively as to their absence at New Grange; and I beg to refer you and your readers to Sir William Wilde's description of New Grange, and its cognate Pyramidal mounds on the Boyne, given in his admirable volume, "The Boyne and the Blackwater" (McGlashan, Dublin, 1850), for the latest and best information on the subject. Like the Great Pyramid, our Irish one gives no "literal" account of the object for which it was erected.

Now, before giving our authorities for what we stated as to New Grange in our review of Professor Smyth's book on the Pyramids, we must remark that we not only regard Mr. Graves as a very high authority on such a point, but that, when we ourselves visited New Grange, we, also, neither saw nor heard of any such inscriptions as those to which we have nevertheless had good authority for referring; but our not having seen them does not prevent us from believing that these inscriptions had at one time been seen by others, as stated,—whether now existing or not existing, or whether they be only visible in the dark chamber under very favourable circumstances as to light and position. As to the *latest* information, both Mr. Graves and Sir William Wilde will excuse us, we feel assured, for remarking that on such a question the latest information may not be the best. The information we have to adduce is, on the contrary, not far short of one hundred years old; and, considering that ever since the opening of the passage into the central chamber, the influence of the air has been operating on the inscribed surfaces, in such a case the *earliest* information is probably the best.

In 1770, according to the *Archæologia* (vol. ii. pp. 254, &c.), Governor Pownall read a paper on New Grange, before the Society of Antiquaries, in which he says,—

"Examining very narrowly, with a candle in my hand, all the parts of this cemetery, I discovered, on the flat stone which forms the north side of the left hand niche, what I took to be the traces of letters. Their form is given in the wooden cut annexed [it is notable that the first of them very much resembles, in style of character, several recently discovered among the Northumbrian rock symbols]. These lines were of a breadth and depth in which I could lay the nail of my little finger; and of different lengths, from 2 in. to 6 in. I tried for some time to assign, if possible, these letters to some known alphabet, by comparing them particularly with that of the Beth-luis-nion, or old Irish alphabet. . . . . These characters are evidently neither Irish, Runic, nor Saxon."

Pownall was of opinion they were Phœnician; but Higgins, in avoiding to quote Pownall's remarks as to the inscription, gives as his reason, "the old languages of Ireland being unknown to" Pownall, and hence his *opinion* on the subject, "not to be depended on," although he does not doubt the fact of the inscription having been seen, —even with a candle, we may add, and hastily, after having "remained in the cave much longer than was prudent," whereby he "caught a violent illness,"—circumstances which may account for his not having seen the other inscriptions now to be also spoken of.

In 1786, Colonel Vallancey, in his "Collectanea Rebus Hibernicis" (vol. ii. p. 211), says,—

"The most ancient inscriptions *now* [in 1786, or previously] *remaining* in Ireland are undoubtedly those found in the tumulus or mount of New Grange, near Drogheda, in the county of Meath. This curious remnant of antiquity, which appears to have been a *sepulchre and temple*, we shall defer giving a particular description of. . . . . Confining ourselves here to the explanation of the *several inscriptions found in the cave or dome* situated in the centre of the mount."

He then minutely describes and explains no less than seven of these inscriptions; but we shall only quote as to those three to which we referred in our article on the "Pyramid:"—

"No. 3 is found on the front of the covering stone of the east tabernacle, and is written in symbolic characters, signifying *the House of God*. It is remarkable that all the ancient altars found in Ireland, and now distinguished by the name of cromlechs or sloping stones, were originally called *Botal*, or the House of God; and they seem to be of the same species as those mentioned in the Book of Genesis, called, *by the Hebrews, Bethel*, which has the same signification as the Irish Bothal. The tabernacles in the mount of New Grange have an exact conformity to the cromlechs found in different parts of the kingdom.

No. 4 is found on the south side of the east tabernacle, *written in the Ogham and symbolic characters*. The symbol is that representing the earth and universal nature, and with the Ogham, which is written from the left to the right, makes *a mor an Ops*, that is, *To the Great Mother Ops*, or to the great Mother Nature.

No. 6 is found on the north stone of the west tabernacle, *written in the Ogham Bobeloth and Ogham Croabh characters*, from the right to the left; the first character being an Ogham Œ, the second a Bobeloth M, and the others in the Ogham Croabh are G, U, H, making Oenguh Oenguth, that is, *the Sepulchre of the Hero*.

At what time this tumulus was erected cannot be ascertained; it probably was not long before the art of writing became universal in the island, as all the different species are contained in the inscription."

May it not be that the inscriptions in the sorcery-hall at New Grange would still be visible under favourable circumstances as to light and position, although none at all may be seen under other circumstances? Pownall's *candle*, and his fatigue, or impatience, were not likely to reveal all those inscriptions which Colonel Vallancey afterwards so minutely describes, and hence Pownall seems to have only observed *one of them*, though the others seem to have been afterwards seen there. Just so none of them may usually be seen, even though they be still there, and might perhaps be made visible by a light such as the magnesium wire light, for example; but it may be, that during the last fifty to a hundred years, or since the passage was opened and the incisions exposed to the influence of the air, they may have all scaled off. Whatever be the case, however, in this respect, there is quite sufficient authority for all that has been said in the *Builder*.

We may add, that Mr. Graves is mistaken in supposing that we stated the inscriptions to be *on* the basons in the niches,—or kistvaens, as Pownall calls them.

These "basons," by the way, are between 4 ft. and 5 ft. long and between 3 ft. and 4 ft. broad; so that they may well be regarded as analogues of the kists of the Egyptian pyramids.

* Did the fact escape you that Gaelic tradition derives the earlier colonists of Ireland from Egypt?

TRICKS OF TRAVELLERS.

Under the heading of "The Brothers Davenport," a party of adventurers from America, five in number, here to exhibit certain "manifestations," have been so fortunate as to obtain such prominent notice by well-known writers in leading journals as will doubtless send numbers of persons to them. Written with candour, and describing, we have no doubt truthfully, what occurred, the unquestionable inference to be drawn from the notices nevertheless is, that the writers believe they witnessed an exhibition of some unknown intelligence and force,—"an annihilation of what are called material laws;" and the notices are thus calculated to do much mischief. A week ago the writer was present at a *séance* with the party in question, in the private house of a distinguished gentleman: lords, ladies, naval captains, poets, artists, and public writers, formed the circle; two of the mediums,—not the Davenport brothers, by the way, to whom the power was at first attributed, as one of them being unwell had his place supplied,—were tied to their chairs in a manner that seemed quite secure, and then very complete darkness being produced, guitars were strummed, bells were rung, and individuals touched; while, on the candle being lighted, the two mediums were seen still tied in their chairs. Other acts followed, such as have been described in the newspapers; thus the coat of one of the performers was whisked off (in the dark), and a loose coat, opportunely in the room, was whisked on. Again darkness, and the removal of the cords was heard, ostentatiously grating, and a light showed the performers unbound in their chairs, to which afterwards they were again tied up by "an unknown force!" When we say that half the eminent persons in the room, professed themselves thoroughly assured that other than ordinary agencies had been at work, it will be supposed, and rightly, that the tricks were cleverly played. The whole affair, however, is too gross and preposterous to stand a moment's reflection. Only admit that one of the two mediums so contrives, when being tied, that he can free his hands, and all else is perfectly simple. The whole proceeding is not half so difficult to comprehend as some of the professional conjurors' tricks, and it might be thought we were wasting space in thus stepping beyond our province to denounce the imposition; but when it is found that a Master of Arts more than hints that these adventurers belong to a quiet society, "the silent heralds of a social revolution, which must shake the world!"—and we know the extent of the "colossal self-deceit," which permits itself to be made stronger by such exhibitions, it becomes the duty of every man who can obtain a hearing, to assist in exposing the injurious imposture. By what curious shutting up of the reason intelligent men and women can bring themselves to believe that those cords were noisily pulled through the loops into which they had been twisted, and were afterwards put round the performer, and tied clumsily to the table, without hands, it is difficult to say. Just reflect on one of their assertions, that unless a circle is formed by the spectators, if people in the dark can be so called, holding each other's hands, nothing can be done; and that if broken some one's head will be so too; and recollect that after all it is no circle at all, only a part of a circle, and it must surely suggest that this threat is merely to prevent detection. If the writer, when his own hand was pinched by a hardish thick hand with very tangible nails, recognized with tolerable certainty as that of one of the mediums, had sprung out and seized hold of the arm beyond, he would probably have received a blow on the head with a hand-bell or guitar, but the trick would have been made obvious to those who were willing to be convinced. The entertainment closed by the table rapping out the word "Retire," much as they say "Farewell" in coloured fires at the close of a pyrotechnic exhibition; but the slovenly manner in which this was done by the operator showed in what contempt he held the common sense of his audience,—running rapidly on with the alphabet when the letter sought was at the end of it, and pausing when he came to the letter itself, so that it positively did not need the raps, which were once or twice in the wrong place, to make out the word that was desired. These practitioners were chased out of Canada, according to a most circumstantial statement in Toronto papers; one of them, it is asserted, was formerly in the employment of the Wizard of the North; and the whole affair will doubtless be blown in England presently; but in the meanwhile they

are aiding an evil delusion which is much more widely spread than some believe, and will walk off sneeringly rejoiceful with pockets full of John Bull's guineas.

NOTES OF A PROFESSIONAL TOUR IN THE COLONIES.*

St. John's is built in a sheltered situation, on the declivity of a hill, on the west side of the island, originally selected as a protection against hurricanes, which generally rise in the south-east, sweeping gradually round to east, north, and approaching the south,—indeed, nearly all round the compass, before they are spent: so the situation is good on that account.

The city is well and regularly laid out: the main streets are spacious, and run east and west, to catch the breeze from the trade winds; and there are narrow streets running across them at right angles, one of them being the principal street (Market-street). The carriageways of the streets are in very good order, and there are good channels, paved with flat stones, on each side, which is the only drainage they have, as there is a strange prejudice against covered drains. The city is tolerably well scavenged; but almost every house is required to have a privy with open cesspit, a most unhealthy arrangement, and an intolerable nuisance in a hot climate. There is at present no supply of water except what is caught in iron and masonry tanks from the roofs of the houses; but a plan of water supply has been laid out, to procure water from the elevated hills and springs in the south-west of the island, the estimated cost of which is 30,000*l*. The population is about 8,000, and the whole island contains about 35,000: of these 26,522 are blacks, 2,172 whites, and 6,714 coloured. This population is ascertained by a correct census; and at the last census it was found there was an increase of about 2 per cent. only: probably this slight increase arises from the same causes that are in operation at Jamaica.

The principal building is the cathedral, a large and imposing erection, built of magnesian limestone, which cost the colony nearly 40,000*l*. The architect was Mr. Fuller; but the style of architecture was selected by the committee of management, and is not quite suitable for a cathedral. A good view of it is given in the *Builder* (vol. vii., p. 595), and a description of the works. The interior is not yet finished: the pitch-pine lining, pews, &c., want varnishing, and the exterior face of the stonework is decayed in many places. Ransome's stone preserving process has been used without effect, as decay progresses, probably occasioned by those which have been selected being too soft. The stone with which the old cathedral was built is said to be much harder and more durable. It stands upon the site of the old cathedral, which was completely destroyed by the earthquake of 1843, and precautions have been taken in the new building, by the addition of a peculiar framework of timber, to prevent such another catastrophe.

The cathedral stands upon the highest point of the city, and from the west front you have a magnificent view of the whole city below you, the harbour and shipping, Rat Island and raised Causeway, Fort James, and Goat-hill, and the remarkable hills of Five Islands, and the huts of Green Bay Village (Rogue's town), and the background of the picture is the dark blue sea. Below the cathedral, on sloping ground, is the burial-ground, intersected with paved pathways, and shaded by avenues of trees, called the Barbadoes evergreens: the roots of these trees have the peculiar property of spreading and penetrating to long distances, frequently uprooting walls and buildings. There are some fine monuments of distinguished men, Bishop Rigaud, and others, in the graveyard. The burial-ground is surrounded with a wall, and at the principal gateway on the south side, the pillars are surmounted by two good statues of saints, which were primarily intended to adorn some Catholic edifice in Guadaloupe, or Martinique, but were intercepted by a British man-of-war, and carried away as trophies, and are now erected to embellish the entrance to a Protestant cathedral.

Government House is a large quadrangular wooden erection, situate in a slight hollow, to the east of the city, laid out in the tropical style, with spacious balconies, and verandahs below, and windows with jalousies above. It has a large entrance-hall, and on each side are spacious dining and drawing rooms (the latter newly made), and on the upper floor a full suite of sleeping apartments. The drawing-room and governor's offices have been recently altered: a building that stood east and west has been reversed, and placed north and south; and to accomplish that object, and to lay out the grounds around, they have absolutely diverted and spoilt one of the principal entrances to the town,—in fact, planted the building immediately across the line of street. The alteration of this building has cost upwards of 4,000*l*.: almost as much money has been spent upon this ill-built botched-up structure, as would have erected an elegant mansion, suitable for the Queen's representative, on a more elevated and eligible site to the east of the city.

This matter has been a subject of warm controversy between the governor and Assembly, as the former wished a change of site, and a more convenient building.

The Court-house is a large, square, neat, and spacious building of *painted* stonework: it contains the chambers for the Assembly and Legislative Council above, and a court below for the law and administration of justice. The upper rooms are sometimes made use of for balls and other entertainments.

The Market House is a new erection. It is situate in the lower part of the town, close to the harbour. The market-place covers a large quadrangular piece of ground, about 220 ft. long, and 90 ft. wide; and on the north and south sides are erected two ornamental timber buildings, 23 ft. wide, the whole length of the plot, the outside being closed in from the street, and the inside left open, and supported on hard wood pillars, varnished, the spaces between them being filled in with an ornamental balustrade. An open space is left between the buildings, which is planted with some of the beautiful evergreens of the tropics for shade, and for those who prefer to sit out in the open air instead of inside the building. The buildings are laid out with stalls and stands, which are well supplied with the products of the colony, and form an object of great attraction to the inhabitants. A fountain was laid out to be fixed in the centre of the open space, so as to afford a good and convenient supply of water. A slaughter-house was to be erected at the north-west corner, and a fish-market at the south-west corner, on piles over the harbour, so that all filth might be readily washed away, and a good supply of water obtained for cleansing purposes.

The market has been visited by many strangers from the other West-Indian islands, and they one and all agree that it is without doubt the best arranged and most complete of any in the West Indies. I understand they are going to erect one at St. Kitt's, on the same model, it is so much approved of. The treasury and library in one building is a good substantial brick erection, with a wide gallery and verandah in front. The rooms are spacious and convenient, and it is just opposite the market.

They have a large space of ground laid out for a public hospital, established by the late benevolent Rev. Mr. Holberton. It is rectangular in shape, and at the east end are detached buildings for house-surgeon's residence, surgery, and dispensary. On each side of the plot are several small detached wooden houses, or huts, about 18 ft. by 9 ft. or 10 ft., containing each four beds, and they are built about 3 ft. above the ground. At the west end is a large building, with ground and upper floors. The upper floor is used for the seamen's hospital, with three wards, 17 ft. by 16 ft., containing each six beds; and there is a gallery, 4 ft. wide, to the east, for the exercise of convalescents.

This hospital is better laid out and arranged than those at Honduras are, as many medical men prefer the small detached houses, enabling them to separate cases; but still this hospital is open to great improvement: it is too much crowded, and the site is one admirably adapted to lay out a fine and commodious building, on the pavilion or other open and airy principle.

Near the hospital they have a small botanical garden, called Holberton Gardens, in which all the tropical flowers, and many cultivated in England, bloom and flourish in rich luxuriance.

The old gaol has been abandoned some time, and they now occupy what was formerly the barracks for that purpose. It is situate to the east of the city, and it contains wide galleries on the east side, and large, lofty, and spacious cells, which are well ventilated. It is not well arranged for such a building, but still it is a marked improvement on the old "black hole" typed structure. The prisoners are principally and usefully employed in repairing the roads and on the public works; and it was suggested that Antigua should become the depôt for West Indian criminals, and that they should be employed in the improvement of English and Falmouth harbours and works connected with it, so that these fine and hitherto neglected harbours might be made available for every purpose,—amongst others, the central depôt for the West Indian packet service.

There is also a small lunatic asylum, which usually contains about forty lunatics. It is situate on the summit of Rat Island, in a very cool and healthy place; but the buildings themselves are totally unfitted for the purpose. The main building is within the enclosure of the yard: it has seventeen cells on the ground floor, and five above: those on the ground floor are 7 ft. 6 in. by 6 ft.; and the passage between the cells is only 3 ft. 6 in. wide. In those small, confined places, are the unhappy lunatics shut up at night with the thermometer ranging above 80°, and this is sanctioned by the Government of a Christian colony, presided over by high dignitaries of State and Church.

There are, also, a well-arranged police-office, and a poor-house: the latter is very much overcrowded for the want of room in the building, one ward 19 ft. 9 in. by 16 ft., being occupied by nine women and six children.

The Wesleyan Chapel, a large and lofty quadrangular building, is situate a short distance to the south of the cathedral; and the complaints that were made years ago, of that loud and boisterous singing, disturbing the devout at the cathedral, are well grounded, and as rife as ever. There is also a Moravian church built of iron, presided over by a bishop; and a Catholic chapel, principally supported by the Portuguese.

There are not many well-built houses in St. John's: the houses of some well-to-do planters (town residences) and a few others are tolerably good, and there are some good houses built of brick; and it is remarkable that the latter buildings withstood the shocks of repeated earthquakes without crack or failure, while stone-built houses have been totally destroyed, and brought to the ground; and even many timber houses injured: but I suppose this is caused by the careless manner the masonry is put together, the face and back of the wall being merely cased with stones, and the interior filled in with rubble stone and bad mortar, and with scarcely any bond stone to hold them together; and the consequences are, the walls split with the vibration and concussion; the insides falling one way, the outsides another.

Many of the larger houses are in a dilapidated state, from decay and from injuries received by the earthquakes (particularly the one of 1843), and never repaired; and where the ruinous houses exist,—and they are frequent,—it gives the city a very neglected and forlorn appearance, particularly to strangers.

The houses at Belize are similarly built to those in Antigua, except some have piled foundations, and are frequently erected on brick or stone pillars, so that the air may circulate under and around them. Many of the houses in St. John's are built on brick or stone foundations, as the substratum is good, and the walls are sometimes carried up to the level of the first-floor, but generally a little above the ground, and then raised up on pillars of hard wood (bulley, cinnamon, gregory, locust, moro, ironwood, &c.), or pitch pine of the United States, into which are framed the pitch pine ties and braces, to hold the fabric together, and on which the roof rests. The roofs are generally collar-beam ones, framed out of pitch pine, and covered with close boards and cypress shingle. The front walls are usually cased outside with 1-in. white pine boards, and then covered again with clap boards in 4-in. courses; so the exterior looks like coursed brickwork, except in colour. The interior of the rooms is usually cased in the same way, and afterwards painted or papered. They sometimes use glazed sash windows, with outside shutters and inside jalousie blinds: others have merely jalousies and outside shutters only.

The floors are generally laid with pitch pine boards, matched, grooved, and tongued, which makes a good and durable floor, very far superior to the boards generally used in this country for floors.

The plans of the houses are generally the same as are adopted in other tropical places, viz., with balconies and verandahs in front only, or all

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* See p. 665, *ante*.

round, the door leading out of them into the hall, which is in front, and the bedrooms on each side, a central passage at the back. The balcony is approached generally by an outside staircase. The carpenters' work is not first-class, and which, I understand, is gradually getting worse and worse: they have no system of apprenticeship so that the young beginner can be thoroughly initiated into his trade, as they say that looks too much like slavery, and the consequences are, the learner works for a year or so, and then has the conceit to think himself efficient, sets up for himself, and works on his own account as an expert carpenter.

There are several public schools connected with the Church, Wesleyans, and Moravians, and one educational institution established out of the funds of the Lady Mico Charity.

The island is divided into seven parishes, and each has a church, and three chapels of ease in connexion with some of the parishes. St. Peter's, at Parham, is an octagon-shaped, curious-looking edifice; St. George's, a plain rectangular stone building; St. Mary's, a timber erection, of the St. Paul's type; and St. Philip's, a stone building in the Early English style, erected from the design of Mr. Fuller. It was originally intended to have a tower and spire, but that was abandoned from a two-fold cause;—firstly, shortness of funds; and, secondly, the fear of earthquakes, that requires buildings to have broad bases and but little altitude. St. Philip's is unfinished: the roof-timbers are incomplete; and there are no permanent seats or pews fixed. The roof was originally covered with galvanized iron, and being in rather an exposed situation, overhanging Willoughby Bay, a hurricane that took place stripped it off, and crumpled it up as if it had been so much brown paper; so, in consequence, galvanized iron, for roof covering, is not much in favour there. From the rocks near the parsonage-house, one of the finest panoramic views in the world may be obtained. The whole island, which is of an irregular figure, lies before you; the large fortifications of the Ridge and Monk's Hill to the south-west, St. John's Cathedral on the north-western horizon; while the trees and woods that line and cover the rough and craggy summit of the Fig Tree Hill range, break the view of the sea to the south-west.

The heart of the island, green and verdant, lies before you, principally plantations of sugar-cane, with here and there pasture land, frequently intersected with roads, and the numerous houses of the planters, windmills, and sugar-works, embosomed in trees, have something of the appearance of country mansions in England. Below you lies Willoughby Bay, with its alternately light and shaded transparent blue waters, while generally ride at anchor the Droghers, vessels that are employed for the purpose of taking sugar to St. John's for shipment: the whole combined forms a most interesting and beautiful landscape. Another fine excursion and view is to Fig Tree Hill, about the highest summit in the island, probably from 1,000 to 1,200 ft.: it commands a view of the whole island and a considerable extent of the surrounding sea. Guadaloupe, Montserrat, Nevis, Barbuda, and St. Kitt's, may all be distinguished by the naked eye. The winding and tortuous descent of Fig Tree Hill is a landscape of exquisite beauty: the rough and rugged character of the mountains, covered with bush, and a great number of forest trees about the tops and the declivities of the cliffs, and luxuriant festoons, and knots or nets of convolvolus, or other evergreen creepers, connect them all together in one great tracery of branches, leaves, and flowers.

By the side of the road near the summit of Fig Tree Hill is a spring called "Tom Moore's Spring,"—I presume, named after the celebrated poet; but I could never learn whether it was so named or not, or that the poet had ever visited the spot, and had drawn any poetic inspiration from that pure and elevated source.

There are several good mansions in the island: amongst them are "Mount Joshua," belonging to the Hon. Mr. Jarvis; "Cedar Hill" (Sir W. Byron's); "Betty's Hope" (Sir W. Codrington's). Many of the planters' houses are pleasantly and picturesquely situate, and constructed on a spacious and substantial plan, but generally in one style, with balconies, verandahs, and jalousies all round, to exclude the hot sun and provide for the admission of cool air.

A small park or lawn is commonly inclosed around the house, and the sugar-works (which are picturesque at a distance, but very disagreeable appendages close at hand) are so well concealed by trees and bushes as effectually to prevent their being seen from the house.

Beautiful gardens are generally attached to them, for which the floral world of the tropics afford such ample facilities; but the floral vegetation of the tropics, although very gorgeous and majestic, is not so finely diversified and graduated as in England. The scarlet cordia, the pink or rose-coloured oleander, the crimson and yellow hibiscus, the brownish and bright orange feathery-looking flower fence (Barbadoes pride), the plumeria and other jessamines, the white datura and whiter amaryllis, purple wreaths, and white, pink, and blue convolvolus, with endless varieties of other flowers, these many-coloured gems of nature, of massy, deep, and striking tones, are set in beautiful relief by the dark green foliage on which they are surrounded and fixed.

The roads of the island are generally in a good state, except when they are injured by the tropical rains, which are soon repaired, and the inhabitants delight in a species of vehicle called "John Bott," probably after the name of the inventor, and which is simply a gig with a leather top supported on a light iron framework to cover the head, and protect it from the intense rays of the sun, to which curtains are affixed that may be lowered down or not at pleasure, so as to protect the person from sun or rain. They are very nice and useful vehicles, of which I availed myself largely during my stay in the island, and appreciated their advantages.

As a striking contrast between the two colonies Honduras and Antigua, I may mention that at Honduras they had only one carriage (an American waggon), lately imported by a Spanish merchant; while the day after my arrival at Antigua there was a distinguished wedding, in which all the carriages and pairs in the island, I believe, (barouches, curricles, and closed carriages,) were called into requisition, and the black coachmen and footmen were gaily decked out with wedding favours. The negroes always make a great display at their weddings: they sport their carriages and pairs, either borrowed from their opulent neighbours, or hire them, so as not to be outdone by "Buckra."

It happened to be my good fortune to be present at Antigua on the visit of his Royal Highness the Prince Alfred, Feb. 15th, 1861. He arrived in the *St. George*, Capt. the Hon. — Egerton, and accompanied by Major Cowell, R.E. Great preparations had been made to receive him: the houses on the route of the procession had been all newly painted and polished up, and were gaily decorated with flags and various devices, and triumphal arches of all kinds were erected at every available spot in the streets, covered with evergreens and flowers, and suitable mottoes. Photographs of the arches and principal buildings were sent home by the governor to her Majesty the Queen. At Shand's Wharf, where he landed (now called Prince Alfred's Point), he was received by the governor and military in full-dress uniform, the bishop and clergy in full canonicals and other authorities in full dress. The guns at the forts boomed out the royal salute, the band struck up "God save the Queen," and he landed under an elegant tent, the floor of which was covered with scarlet cloth. Every available spot was occupied at the landing-place to catch a sight of the "Sailor Prince:" the beauty and fashion of the island turned out *en masse* to do him honour: the coloured and black ladies tried to outvie the "Buckras" to render him homage; and the delight they experienced to see a real live prince could scarcely be kept within reasonable bounds.

This, I may mention, is the second royal visit they have been honoured with in the memory of living man: H.R.H. Prince William Henry (the late William IV.) once visited them, and a right royal reception, I understand, he met with.

At 4 p.m. a grand levee was held at Government House: the bishop and clergy, the chief justice and bar, and every official and gentleman in the island attended, and it passed off most agreeably and pleasantly to all parties concerned. In the evening, a public dinner was given at Government House, which was well attended by the ladies and gentlemen of the island, and every delicacy of the season that the tropics could afford loaded the tables, and wines of the most *recherché* brands.

After the dinner was over, some beautiful fireworks, with elegant devices, were let off in and about the grounds of Government House, and the celebrated "Tar Barrel Dance" was introduced. A series of negroes, as black as you would wish to see them, form themselves into a procession, each with a lighted tar barrel on his head, and they dance, wind, and curvet about, singing snatches of some negro melodies, or political or other remarks to the tunes: for instance, they sang, "Show him round the town, show him round the town!" Their meaning probably was, that he would see the dilapidated state of many of their houses, or that the streets where they lived, probably backs ones, should be honoured with a visit as well as the front or better ones.

The following day the Prince visited Fig Tree Hill and the remarkable places in the island, accompanied by the governor and other officials; and in the evening a grand ball was given at the Court House, at which the Prince, the governor and lady, every official and gentleman and lady in the island attended; and there was a goodly sprinkling of coloured people, and the room was so crowded there was scarcely space to dance.

The Prince's visit was a very successful one: it produced spontaneous demonstrations of loyalty from all classes: every one tried to outvie each other in expressions of attachment to the throne and to the institutions of the country: it afforded the Prince an opportunity of becoming acquainted with the internal resources and peculiarities of our colonies, which may strengthen the bonds that unite them to the mother country.

The geological formation of the islands is interesting: the Caribbean Islands are divisible into two distinct classes, the one occupying the mountainous range on the western sides, exhibiting all the character of recent volcanic action; the other, composing the islands forming the eastern chain, presenting in a more or less regular order the calcareous strata of the upper marine formation, dipping towards the east. The first embraces all the islands on the western side from St. Vincent to Saba: in the latter are comprised Barbadoes, Descada, Grandeterre in Guadaloupe, the northern half of Antigua, Barbuda, St. Bart's, St. Martin's, Anguilla, and Anegada.

Santa Croix exhibits also a stratified formation of the same character, but with an inclination in the opposite direction. It would appear, therefore, to be on the western side of the line of volcanic action. Antigua occupies an intermediate position between these two classes, and partakes, more or less, of the character of each; consequently, it presents an interesting study to the geologist.

It comprises three distinct formations of the tertiary class, of which the most superficial beds occupy the northern and eastern divisions of the island. These consist of calcareous marl and coarse sandstone, interspersed with masses of a tolerably compact shell limestone. The mountainous district forming the southern and western divisions is composed of rock of the newest floetz trap formation, as wache, porphyry, trap, breccia, amygdaloid, and some spherical masses of basaltic greenstone. The intermediate district is occupied by a series of argillaceous strata of varied character. The most superficial consists of a loose friable marl of a yellow colour, with olive-brown spots, containing numerous concretions of a lenticular form; the next stratum being a white indurated clay, of a slaty structure, intersected by seams, which divide it into tabular masses. Inferior to this, we find another tabular rock, of a coarser grain than the last, which, being highly impregnated with green earth, presents a beautiful sea-green or bluish colour. The next, and lowest in the series of the formation, is a stratum of a liver-brown colour and conglomerate character, having embedded in it masses of the different species of the trap family. All these strata dip at an angle to the north and north-east, and extend across the island from the ridge to the neighbourhood of St. John's. The order of stratification is somewhat disturbed by the irruption of a large mass of the trap family at Drew's-hill. This spot is worthy of a more minute examination, for it contains the only marks of recent volcanic action that have as yet been discovered in this island. Streams of lava, some more compact, others vesicular, are found at the base of the hill, bearing the impression of the leaves of dicotyledonous plants. These three formations do not pass imperceptibly into each other, but are divided by well marked natural boundaries. The southern limit of the calcareous district is formed by a zone of low land, extending from Willoughby Bay, on the south-east, to Dickenson Bay on the north-west, which at no very distant period appears to have been submerged by a

narrow firth, dividing the island into two, like the Rivière Sale of Guadaloupe.

The clay-stone is divided from the trap-formation by the Body Ponds and the stream which issues from them, running towards the north-west through a beautiful luxurious plain. The surface of each district presents also peculiar features. The calcareous is exceedingly broken and undulated, consisting of a series of round-backed hills, of no great elevation, covered with a light arid soil. The summits of these hills are overgrown with the wild sage, loblolly, crotons, and other shrubs. The sides are highly cultivated, and are very productive. The clay-stone formation presents a precipitous escarpment towards the south and south-west, and a gentle declivity in the opposite direction. This is the most barren district in the island, considering that it is everywhere accessible to the implements of industry. The district occupied by the trap formation consists of mountains, some of which rise to the height of 1,000 or 1,200 ft. Others, of the same elevation, are more rounded and less precipitous, affording a good soil for the sugar-cane, even to their very top.

The fossils and petrified wood are pre-eminently beautiful: they are found in various parts of the island by the curious; and there are some fine specimens of the cocoa-nut, and root, and the top of a cabbage-tree enshrined in a bluish-white chalcedony, so that the most delicate folds of the core, and young leaves, were visible as through a piece of plate-glass. Calcareous spar, agates, chalcedony, quartz, and jasper, of various colours abound. Associated with the chert are found great quantities of petrifactions, stems of palm, logwood, cedar, and other woods, and the kinds and different qualities of the woods are distinctly marked, and can be traced.

The agricultural operations of the island do not appear to be very skilfully conducted: sugar is the staple product of the island, and consequently the sugar-cane is the chief business of the agriculturists. On many of the estates they use the old-fashioned plough, worked by oxen imported from Africa, and sometimes mules; but steam-ploughs have recently been introduced on a few of the estates, and this will doubtless lessen the cost of the preparation of the land for the crops, where it can be used, as they appear very cumbrous machines; but I apprehend the great difficulty planters have to contend with is not so much the preparation of the land, as that is only done once in three or more years, but it is the clearing off the crops when ripe, weeding, &c.; and this is the time, when the crop is ready, that Quassy plays his fantastic tricks, for he cannot be induced to labour unless he is paid a price sufficient to enable him, with two or three days' labour, to earn enough to support himself during the rest of the week, and unless that is paid the crops spoil on the ground. The weeding, also, in showery seasons, is an expensive operation, as the cane-field requires to be kept perfectly free from weeds, but the Devil's grass (*Cynoden dactylon*) is the great pest, and has hitherto resisted every effort of the planter to eradicate it.

One of the great evils in Antigua, as in many of the West India islands, is absentee proprietors. In Antigua there are 159 estates, and there are eighty-two resident proprietors, and seventy-seven non-resident proprietors, the business of the latter being managed by attorneys, managers, and overlookers; and there are usually 56,565 acres of land annually under cultivation, but in the year 1861, 24,070 acres only were cultivated.

The islands produce most of the fruit and vegetables indigenous to the tropics; but little care is taken with their cultivation, and a large supply is received from Dominica and other islands. Antigua is very celebrated for her black pine-apples; and the fibres of their leaves are also very useful for manufacturing purposes. The principal trees are the red and white cedar, mahogany (small), logwood, manchineal (this tree has peculiar poisonous properties: if a drop of water from it, after rain, fall on your skin, it will burn and blister you), mangrove, wild almond, tamarind, acacias, sand box, silk cotton, calabash (the fruit of which is large and round: the shell is used for cups, bowls, dishes, &c.,—in fact, the negro's breakfast, dinner, and tea service), cocoa-nut and cabbage trees (scarce), and other trees.

The planters appear to have a deadly antipathy to trees, as they are continually cutting them down to clear the ground for a few additional cane plants; and I believe it is owing to this circumstance that such serious droughts take place in the island, producing at times great distress.

The climate of Antigua is warm and dry: the maximum temperature is 90°, minimum 66°, mean due point 70°. The usual height of the barometer is 30 in.: occasionally it rises to 30·15 in., and falls as low as 29·8 in. The rain-fall is said to be 45 in., but this is very irregular and uncertain. In some years the rain-fall is very slight: at others very heavy falls of rain take place; and in 1861 and 1862 they were remarkably wet years, and 1863 and 1864, on the other hand, were very dry. From February to August or September the cool trade-winds infuse life and health into all creation; and from September to February the weather is changeable, heavy rains and storms occur, and even hurricanes, forty-three of which have visited and devastated this island since its discovery by Columbus. On the approach of a hurricane the barometer falls suddenly from ·50 in. to 1·86 in. below its ordinary height some twenty-four hours before they take place; and this affords the inhabitants a warning, so that they may place their houses, &c., in order, and protect them as well as they can from its sweeping and devastating powers. Antigua is the residence of the Governor-in-Chief of the Leeward Islands, and he is assisted in its government by an executive council and an administrative committee formed from that council.

The laws are framed and originated by a House of Assembly and Legislative Council, the most important of which laws are sent home for approval by the Home Government.

The revenue of the colony is principally raised by import duties, a favourite mode of raising revenue by our colonies; and there is a slight export duty levied upon sugar, rum, &c., to provide immigrants, as the scarcity of labour in favourable seasons is severely felt; while, on the other hand, in dry and bad seasons, labour is too plentiful—in fact, great distress and hardships are suffered: so it is a very difficult question to apply a satisfactory remedy.

The public works of the colony are managed by committees appointed by the House of Assembly, and each committee generally selects one of its own body to take the chief and active superintendence; but not being an expert, he usually appoints a master-carpenter or other tradesman to direct the mechanics and labourers, who are all employed and paid by the day. A mechanic's wages are 2s., and a labourer's from 10d. to 1s. per day: a master-carpenter would get his dollar or dollar and a half per day. This system is found to be a very unsatisfactory way to execute work: it is very costly, as they are always a long time on hand: a mechanic there will not do more than one-third or one-fourth part of what an able-bodied man can do in this country, and they one and all complain that they are oppressed and underpaid. The materials required are ordered of the different merchants, and if they are members of the Assembly, they stand the best chance of obtaining the order. They generally make a large profit by the articles they supply; in fact, they lay on an extra per centage for anything they dispose of to the public.

The laws are administered by a chief justice, assisted by an attorney-general, and a large bar. The barristers in court do not wear the wig—merely the gown and band; and as Quassy is very litigious and fond of law, they usually reap a very large and profitable harvest, and spend it. Generally their dinners and entertainments are of so *recherché* a character as to gratify the most fastidious taste, to which many visitors, both naval and others, can fully testify. The negroes themselves are first-rate lawyers, thanks to emancipation and the march of intellect: they generally throng the courts of law, and are perfectly *au fait* to the points and quirks of law.

In drawing my article to a conclusion, I hope it will not be thought out of place or invidious if I make a comparison between the colonies of Honduras and Antigua,—the former young, vigorous, and flourishing, dispensing with lawyers, and referring all questions of dispute to the primitive and simple process of arbitration; while the latter is old, depressed, exhausted, and all but used up,—the hotbed of litigation: law-suits are the order of the day: the law-courts are seldom closed; and it abounds with gentlemen of the long robe, thriving and prosperous, who, vampire like, drain the life-blood of the island, and leave her to languish and perish.

B. C. E.

ON THE FIREPROOF CONSTRUCTION OF DWELLINGS.

Mr. Henry M. Eyton, architect, has sent the following communication to the Society of Arts:—

In the report addressed to the council of the Society of Arts, entitled "The Statistics of Model Dwellings," one of the heads on which further imformation was considered desirable, was fire-proof construction, its best examples and their cost.

With the view of adding some little information under the above head, I have noted down some of the many fire-proof inventions, in the hope that in the valuable researches that are now being made by men of ability into the best means of improving the condition of the poorer classes of the population through the salubrity and cheerfulness of their dwellings, the increased danger necessarily attending the aggregation of several families under one roof may claim that share of their attentive consideration which is commensurate with its importance, as most of the improved buildings are now erected with wooden joists and floors, and some with even wooden stairs, built, as stated in an article of the *Builder* of June 7, 1845, and again, November 4, 1848, "as if to burn;"—"houses so arranged that if once on fire there is little chance of staying its progress; being, in fact, a mere bundle of sticks piled up;"—and also, quoting from a pamphlet written in 1775, "that among a society of men so sensible, so learned, and ingenious, there never was a single idea or the plan of an hour's thought adapted to secure the building or family, who were continually surrounded by and living in the middle of combustible wood, from falling a sacrifice to the most trifling accidents of fire; which building and family lieth every night in the year at the mercy of a drunken fellow with the snuff of a candle, a handful of shavings lying in a bye corner, a little thoughtless boy and girl, or a sleepy servant-maid drying linen at the kitchen fire; besides many malicious accidents, to be entirely burnt down and consumed before the morning. Many people wonder that a strong-built house should be so easily consumed; but this wonder ceases when they consider that everything about us is liable to catch fire: our houses are floored, our rooms partitioned, and the roof covered, with fir, a wood full of turpentine, and enriched with two or three coats of painting in oil, besides all our furniture, naturally made of wood, without the least material or contrivance to check the fury of fire, or prevent its rapid progress.

The Building Act merely deals with "Dwelling-houses for separate families containing more than 125,000 cubic feet," which it compels to have fire-proof stairs and landings, and with rooms tenanted by different persons if contained in a building exceeding 3,600 square feet in area, where they are to be divided so far as they adjoin vertically by party walls, and so far as they adjoin horizontally by party arches or fire-proof floors; and although large buildings can be erected without either fire-proof stairs or floors, yet even these two sections are avoided by erecting one building in separate blocks, as was done by Mr. Gibbs, near Victoria-street, and by Alderman Waterlow, in Finsbury. In both of these buildings wood joists and floors have been employed. In all the buildings erected by the Labourers' Friend Society under Mr. Henry Roberts's superintendence, hollow brick arch floors have been used; and in the Portpool-lane buildings this plan has been put to a severe test, as will be seen by the following extract from the *Builder*:—

"Few of the large fires which have lately happened in the metropolis have been so extensive and rapidly destructive as that which has occurred in Portpool-lane; and an examination of the ruins shows the great danger which there is in keeping such immense stores of combustible materials in the centre of a dense population, as are often found.

"Nothing could be more complete than the destruction which in a very short time took place over a large area. On the west side of the area of the fire are the 'Thanksgiving' Model Lodging Houses; on the north, Reid & Co.'s immense brewery; on the south are closely-packed ranges of poor dwellings, every room of which is thickly inhabited; on the east there are houses of a similar class. Fortunately, on all sides, except that on which the model houses stand, there was a considerable extent of walls, without openings, exposed to the raging of the fire.

The Portpool-lane model buildings are fire-proof. The rooms are arched with brickwork; the stairs and railings of slate, stone, and iron; the window-frames were of wood, but these the firemen cut away with their axes. The roof has been partly burnt, and if this building had been constructed on the usual plan, there is little doubt but that it would have been destroyed, for the flames rushed in at the windows, and swept along the ceilings of the rooms. The inmates have been put to inconvenience, but their furniture has not been injured by the fire. In other directions the poor people have suffered, and, what is much to be lamented, thirty-six joiners have lost their tools, which, we are told, on the average, were worth about 30*l.* to each man. In this way 1,080*l.* have been lost, and the calamity will deprive most of these men of the means of providing for their families, for we hear that few had thought of insuring the property on which themselves, wives, and children so materially depended."

It must be universally admitted that to secure comparative immunity from fire in ordinary dwelling-houses is a great desideratum, where even the resident is afforded the security of party walls and parapets of fire-proof material, guarding him from the carelessness of a neighbour. Of how much more importance, then, must it be where no such security exists, with a neighbour above and a neighbour below, all under the same roof, divided by floor joists and boarding of timber, and in some cases with wood stairs. A fire in such a building must inevitably involve a whole number of families in one common disaster.

But not only for this chief reason, the security to life and limb, ought the dwellings of the poor to be rendered incombustible. They should all be sound proof, in order to avoid the annoyance of the noise made by children, and the heavy tramp of the adult over head, wearying and disquieting at all times, but becoming intolerable in time of sickness. The solid incombustible material which would form an effectual barrier against the progress of fire, from its nature is equally a non-conductor of sound, and as perfectly isolates the tenant of one room from the rooms above and below him, as if he were living in an independent tenement.

Another, and not unimportant advantage, is secured by this method of construction. The floors are almost wet proof, and the upsetting of a tub of water does not affect the inmates below. A third advantage is, that all these constructions form no harbour for vermin.

Before proceeding to notice the several systems in existence, it will be well, for the sake of clearness, to classify the different modes of fire-proof construction under two heads, viz., brick, and concrete and iron. Commencing with brick, the most simple system is the half-brick arch. This has been employed at the model dwellings at Birkenhead. The arches were tied together with iron tiles, and abutted in the centre on an iron beam: the spaces between the upper surface of the arches and the spandrel were filled in with concrete, on which flat tiles were imbedded. The arches were 7 ft. span, with a rise of 7 in., forming a thickness at the crown of 13 in. The cost of this system would, including iron girders and tile floor, be about 5*l.* per square; if boarded, and the underside made flat and lath and plastered, 7*l.* 10s. to 8*l.*

Hollow Bricks.

Mr. H. Roberts, in erecting the model dwellings at Streatham-street and Portpool-lane, used hollow bricks, slightly wedge-shaped, 6 in. deep, 4 in. wide at top, 9 in. long, and 1 in. thick, the rise of the arch being ¾-in. to 1 in. to a foot span, set in Portland cement, in the proportion of one part of cement to two parts of sand, the bricks being wetted before use. The weight of the arch was 37 lb. to the foot superficial, and when levelled up with concrete 70 lb. Each arch formed the abutment to the other, except at the extremities, where they were tied in with ⅞-in. iron rods, secured to cast-iron springers. Mr. Roberts gives the extra cost of the brick arches at 12s. per cent. on the contract of 7,370*l.*, which would be about 1*l.* per tenement, or 5s. per square.

On an experiment as to the strength of these arches, it was found that one of the 9-ft. 6-in. span (calculating the greatest weight that could ever be placed on such a floor, if covered with people, at the rate of, 20 lb. per foot superficial), would bear safely four times the weight, and broke down with six times.

Further particulars as to these arches are given in the "Essay on Dwellings for the Labouring Classes," by Mr. Roberts.

Mr. Bunnett has also patented a system of hollow-brick floors, the bricks joggled at the sides, so that when laid and tied by iron rods, they lock together, each brick being in contact with and supported by the six adjoining bricks. This form of flooring has been used at the Grosvenor Hotel and the London and Brighton Railway Station, Pimlico, and can be inspected at Mr. Bunnett's factory, at New Cross. Specimens and drawings can also be seen at the South Kensington Museum, 46m. and 57z., class Building Materials. Mr. Bunnett gives the cost as follows, ready for the reception of floor-boards and plastering to ceiling:—

	Per square of 100 ft. super. £	s.	d.
18 × 13·6	4	0	4
16 × 13·0	3	18	8
15 × 12·6	3	18	6
14 × 10·0	3	4	8
12 × 12·0	3	8	6

Mr. Warren has also a system of flooring of hollow brick. Specimens may be seen at the South Kensington Museum, 45m. and 56z., class Building Materials.

Various other methods with brick and tile have been adopted; and for small spans flat tiles in cement, with iron bonds have been successfully employed, and flat arches of tiles are used in Italy in the South of France; but these require thick walls, to resist the thrust of the arch. Anything out of the common way, however, is almost sure to be costly, on account of the difficulty of finding men to execute the work, and the care and trouble it gives the builder, who consequently charges a high rate, not knowing with certainty what it will cost him to execute.

Among the many systems of the combination of iron joists and concrete, I will commence with that most commonly employed.

Fox & Barrett's System.

The principle adopted in carrying out this system of flooring, is the substitution of wrought or rolled iron joists for the ordinary timber joists, placed about 2 ft. apart, and filled in between with concrete on wood slips. The surface of the floor can either be furnished with the ordinary boarding, or with cement, tile, slate, stone, or other material: the ceiling can be either finished by plastering to the strips that support the concrete, or by fillets secured to the strips and lath-and-plastered. Any required degree of strength is obtained by increased depth of joists and concrete. This system is well known, having been in use for a number of years at most of the new banks, hospitals, hotels, railway stations, private houses, and many of the model dwellings.

The cost of the rolled iron joists is nearly as follows:—

	£	s.	d.	
8 ft. bearing, about	2	0	0	per square.
10 ,, ,,	2	10	0	,,
12 ,, ,,	3	5	0	,,
14 ,, ,,	4	0	0	,,
16 ,, ,,	4	18	0	,,
18 ,, ,,	5	10	0	,,
20 ,, ,,	6	8	0	,,

and from 3*l.* to 4*l.* 10s. extra can be reckoned for the floor and ceiling, depending upon the kind of finish adopted. Mention having been made of the failure of this system at the model Dwellings in New-street-mews, Dorset-square, in the report on the Statistics of Dwelling Improvements, on inquiries I find that the surface was finished with Portland cement, which material has, on experience, been shown to be most unreliable for such purpose, but was unfortunately used in many of the earlier buildings constructed on this principle. Asphalte or lead being the only material now recommended for covering the roofs, care must be taken not to have the ceilings plastered before the concrete is thoroughly dry, or else the ceiling will shell off, and give to the plastering much the same appearance as if mixed with sea-sand. Models of the system can be seen at Mr. Twining's Economic Museum at Twickenham, and at the South Kensington Museum (not numbered). The flooring of the picture galleries there is also constructed on this system.

Beardmore's System.

This floor is constructed of vertical plates of sheet-iron, with angle-iron riveted through at the top and bottom. These beams are then placed on the walls, about 2 ft. 6 in. apart, and plates are riveted to the bottom angle-irons and the space between filled in with concrete or earthen pipes and concrete. This form of construction was evolved by various experiments made by Mr. Fairbairn and Mr. Hodgkinson (reported in the *Builder*, vol. viii., page 101), who determined that the uniform presence of concrete against the whole surface of the web and under the top flanges of the beam would produce the effect of a continuous strut, and thus enable comparatively thin plates to assume the true character of a beam or girder. Mr. Beardmore informs me that he never took any steps to procure his patent, on account of his professional engagements; consequently, I am not aware if it has been employed at any buildings. For large spans it offers great strength. The cost for 14-ft. spans would be about 5*l.* per square for the iron, and from 3*l.* to 4*l.* 10s. extra for the floor and ceiling. If placed 2 ft. apart, with wood strips, as in Fox & Barrett's system, the cost would be reduced to 3*l.* 10s. per square for the iron, the weight of each beam being about 1¼ cwt.

Nasmyth's Patent.

This is similar to Fox & Barrett's, only, in lieu of wood strips, iron plates are bent into the form of a segment of a circle, supported on chord or tension bars, which have the ends bent upwards to retain the plates in their curved position when subjected to pressure.

Cheyne's Patent.

Is also similar to Fox & Barrett's, only, in lieu of wood strips, corrugated iron plates are bolted to the lower flange of the iron joists. Drawings of this patent may be seen at Mr. Twining's Economic Museum, at Twickenham.

The French Systems.

M. Thuase and M. Creuzot employ rolled iron joists, of a slightly arched shape, placed at a distance of 3 ft. 3 in. from centre to centre, and connected at intervals of 3 ft. 3 in. throughout their length by ties of flat bar iron on edge resting on the lower flange of the girder, and fastened one to another either by wrought-iron straps or cast-iron chairs: upon these ties are placed square bars, three between each pair of girders, running parallel to them from wall to wall, into which their ends are turned down and built in. On the iron framework the thick plaster ceiling is formed by a wood platform being placed under, whilst the plaster is thrown from above, the former being removed after the latter has firmly set.

In another method the iron joists are strutted at intervals of 1 ft., by square bars, resting on the flange, and having their ends turned up to the height of the web of the girder.

In a third method, the girders are tied together in pairs at 3 ft. intervals by round iron bolts, nutted at each end. Small square bars are hung on to these tie-bars, three between each joist.

All these methods can be seen in model at the South Kensington Museum, 24, 25, and 26 J. Building Materials, as well as others by M. Bleuze, M. Zorés, and others, which are fully described in the catalogue, and in the *Builder*, vol. xii., pp. 29, 95, and 150.

The following are the prices of M. Thuase's system:—

Bearings.	Depth of joist.	Depth of floor.	Weight per square	Price of iron work
ft. in. ft. in.	in.	in.	lb.	£ s. d.
10 0 to 11 6	4	7½	370	2 19 5
11 6 to 13 0	5	7½	422	3 18 5
13 0 to 16 0	5	8½	465	3 11 4
16 0 to 20 0	6½	9½	510	4 1 9
20 0 to 23 0	7½	10½	605	4 17 6

The Dennett Arch.

This name is given to a material composed, in part, with either sulphate or carbonate of lime, together with broken calcined cinders, bricks, and other porous material, formed in a soft state, on centreing, into arches of spans of from 5 to 10 ft., and in spaces where larger spans are required the width is divided by girders of wrought or cast iron. The abutments against the wall may either be formed with a cant brick slightly projecting, or laid into the walls. The thickness at the crown is from 2½ in. to 3 in., with a rise of about ¾ in. to the foot. The arch will either form a floor finished with a polished surface, or it may be left rough and paved with tiles, or have a boarded floor. The underside of the arch may be coloured, or ceiling joists introduced to form a flat ceiling. The material is stated to have been in use for the last ten years in the Midland Counties with great success, and it has been used in buildings that have settled considerably, without in any way causing a flaw

or crack in the arch.—The advantages of this material are its cheapness, viz., 60s. to 70s. per square, little or no skilled labour being required, and its extreme thinness (about 3 in.) at the crown, consequently reducing the weight on the walls. Not being able to speak of this material from any experience of my own, I cannot do better than quote from a testimonial by Mr. G. G. Scott, who says:—"I have made use of Messrs. Dennett & Co.'s material for fire-proof arching, and though I have, happily, had no practical experience of its efficiency against fire, I can bear witness to its strength and its extreme convenience of application. I have made use of it in positions in which I should have found it difficult to introduce any other fire-proof material; and it has this advantage; that the arches constructed of it are so entirely in one mass that they cover the space like a compact shell or inverted basin, and are, consequently, almost wholly free from lateral pressure." A specimen of the arch can be seen at the South Kensington Museum (No. 47 M., Building Materials), 5 ft. span, with a rise of 2½ in., 4¼ in. thick at the haunches, and 2½ in. at the crown. A similar specimen is stated to have carried a weight of 5 tons without injury.

Mr. Waterlow's System.

The floors of the landings and passages and the roof in Mr. Waterlow's buildings in Finsbury were composed of clinkers, culm, hard broken coke, and similar rough calcined substances in the proportion of four parts to one part of Portland cement, sufficient water being added to bring the composition to the consistency of ordinary mortar. Bars of 3 in. by ½ in. iron, are stretched edgewise across the building from front to back, at distances of 2 feet apart, and carried into the brickwork of the walls and crossed by ½-inch iron rods 2 feet apart, forming a network of iron with a mesh of 2 feet. A temporary scaffolding is then placed beneath, and the material thrown in to a thickness of 4 inches; in the course of time the whole mass sets with sufficient hardness to allow of the removal of the scaffolding. Mr. Allen, the builder of the houses, states that the floors can be erected for about 5*l.* per square. This construction is similar to the French system without their girders; and taking into consideration that the iron would hardly carry its own weight, that all depends upon the concrete forming one homogeneous mass, and that should any fracture occur the whole would fall, I do not think it is to be recommended.

Comparative Statements of the foregoing Descriptions of Fireproof Floors, per Square of 100 ft. superficial, for a Span of 11 ft.

	Thickness of Floors in inches.	Cost. £ s. d.
Wood joists, inch boards, and lath and plaster	11	4 8 6
Same if pugged	—	5 8 6
Brick arch, 4½-in. thick iron girder, use of centreing, and levelled up for tiles	13 & 27	4 15 0
Same if boarded, and the underside levelled, and lath plastered	24	7 0 0
Hollow brick arches. Cost depends upon the price of bricks, which would have to be made specially.		
Fox & Barrett's, with a cement surface	9	5 18 0
Same if boarded	11	7 3 0
Beardmore's boarded surface	11	8 5 0
French systems, about the same as Fox & Barrett's.		
Dennett arch	13 & 3	3 10 0
If tiled	14 & 4	5 0 0
If boarded, and the undersides levelled and plastered	15	7 10 0

The thickness of the floor ought to be taken into consideration, as it increases or diminishes the height of the building. For instance, a building of five stories with brick arches and boarded floor, would require the building to be 5 ft. 5 in. higher than another with Fox & Barrett's system, which, in a building of the size of the Streatham-street Model Lodging-houses, would be about 12 rods, or about 144*l.*

New Public Park for Liverpool.—At the Liverpool Council meeting last week, a special committee appointed to consider the question of providing parks at the north end of the town submitted a report, in which they recommend the purchase of Woodlands and Walton Lodge estates, comprising an area of rather more than 30 acres, at a cost of about 34,000*l.* In order to secure the land in question, it was agreed to recommend the finance committee to purchase it as an investment of capital.

SOME HEALTH MATTERS AT THE BATH MEETING.

In the section of Economic Science (British Association), Mr. B. Middleton read a paper "On the Sanitary Statistics of *Salisbury*," from which it appeared that the death-rate in 1775 was 30 in 1,000. After 1850 the city was placed under the Public Health Act, and a sum of 27,000*l.* was expended in drainage. For nine years previously to the drainage the average of the death-rate was 27 in 1,000, and for the nine years after the drainage it was 13 in 1,000, or about one-half. For the Close of Salisbury the average death-rate for the same period, before drainage, was 20 in 1,000; and, since drainage, 13 in 1,000. The deaths by consumption for seven years before drainage were 286, and for seven years since only 143. For the last year, 1863, the deaths by consumption were only 11, or 1 in 818 of the population, while for the whole kingdom the deaths by consumption were 1 in 376.

Dr. J. A. Symonds read a paper on the "Sanitary Statistics of *Clifton*." He said,—One of the objects of his paper was to illustrate the importance of explaining statistical figures by statements in words. On the 6th of August last, a severe shock was inflicted on the sanitary sensibilities of Clifton. The figures of the Registrar-General's report were as plain as the Mene Mene on the walls of Babylon, and yet as much in need of interpretation. 24 in 1,000 was the annual rate of mortality in Clifton. The Isle of Wight had only to answer for 15 in 1,000; Newton Abbott, including Torquay, for 16; Cheltenham for 17. 'Why,' asked the Registrar-General, with Rhadamanthian severity, 'is the mortality of Clifton 24 in 1,000?' And the terrible question was asked about Clifton as one of the watering-places. The question would be startling enough to one who had taken but a superficial view of Clifton as to its crescents and terraces, and broad avenues running along or just below an elevated ridge of mountain limestone, and abutting on breezy downs, and resting on a soil which in its nature and inclination is singularly unfavourable to the retention of moisture. The question was still more startling to one who observed how large a proportion of houses must belong to persons in possession of the comforts and luxuries of life, and of the means of preserving health; not less startling to one who knew that a thorough system of public sewage had been completed, and at no small cost to the community. But the surprise of the numerical statement alluded to subsided when it was explained that Clifton, in the Registrar General's Report, did not mean merely the place which he had just glanced at, but Clifton, the watering-place, together with a very destitute district in the parish, and also with a poor-law district, including five other sub-districts, scattered at considerable intervals over an area of 27,199 acres, in some parts densely crowded with the poorest of houses and inmates (a large portion not to be surpassed in their destitution by the tenants of the closest and dirtiest quarters of an over-peopled commercial city or sea-port), those sub-districts making up a population that was almost quintuple the population of Clifton proper. The doctor proceeded to point out the injustice of estimating the rate of mortality in the Clifton union, and publishing it as the rate of mortality of Clifton the watering-place. He pointed out the character of the various parishes which were included in the parish of Clifton, referring to the crowded nature of the dwellings in the out-parish of St. Philip and Jacob, of the existence in the parish of Stapleton of the Clifton Union Workhouse, the Bristol workhouse, and the Bristol Lunatic Asylum; and Dr. Symonds urged that it was unfair to associate the watering-place of Clifton with such districts as those to which he had referred.

Mr. R. T. Gore read a paper "On the Mortality of Bath." The population of Bath, based on the census of 1861, was 52,500, and the mortality for the year ending June 30, 1864, was 1,350, showing a rate of mortality of 25·714 in 1,000—varying from 17·28 in the Bathwick district to 57·09 in the Abbey district. Of the total deaths there were—under 10 years, 41·65 per cent.; from 10 to 60, 29·25 per cent.; from 60 to 100, 28·82 per cent. In the surrounding country districts, with a population of 15,808, the rate of mortality was 20·93; there being, under 10 years, 47·9 per cent.; 10 to 60, 22 per cent.; and 60 to 100, 30 per cent. This statement made by the Registrar-General as to the high death-rate in Bath, had had its effect on the corporation of Bath in taking measures to get rid of the cesspools and other nuisances.

In the same section, Dr. Wilson read a paper "On the Sanitary Statistics of *Cheltenham*." It appeared that within the last ten years the death-rate had varied from 16 to 22 in 1,000.

Dr. Wright, of Cheltenham, pointed out the great advantage that had been derived in some of the lower districts of the town since a better system of drainage had been introduced.

Mr. Field said the population of Bath, by the last census, was nearly 1,000 less than it was in 1841. The rate of mortality in June, 1843, was but little more than 21 in 1,000, but he regretted to find it was now 25·7. He reminded the section, however, how very cautious they should be in drawing inferences from figures, unless they were accompanied with an explanatory statement by which they might correct any error. The speaker went into a comparison of calculations which he had made, which appeared to bring the matter pretty much to what was stated in the paper; and, in conclusion, he called attention to the imperfect drainage of Bath, and the mode by which it was proposed to drain the beautiful villas which were now being built on the Lansdown Hills, and the effect it was likely to have on the springs in that locality.

Mr. Tite, M.P., said, the fact of the high rate of mortality for Bath, as shown by the Registrar-General's return, had had that effect in Bath for which it was meant, and the corporation had turned their attention to a proper system of drainage and of water supply. Experience showed that when they were properly and effectually carried out, a diminished death-rate was the consequence. At the Chemical Section, on the previous day, he endeavoured to show its importance, but he was astonished to hear it gravely asserted there, by a medical gentleman of Leith, that, in truth, a bad smell was no indication of a bad state of things, as regarded individual health; that cesspools were the right system of drainage; and that we ought to return to it because sewage was so valuable. He hoped, however, that the people of Bath would not be turned aside from their present good intentions by any such authorisation. The health of the inhabitants was more valuable than the sewage, and there could not be a greater mistake than the cesspool system, and the sooner it was got rid of the better.

Dr. Farr said the Registrar-General asked why the Clifton death-rate was so high in Clifton Union, in order to get an answer, and that had now been given by Dr. Symonds. The people of this country were in the habit annually of leaving their homes for the various watering-places, both in England and on the Continent, many of the latter being much less healthy than our own watering-places; and in consequence of some lamentable deaths which took place, the Registrar-General was urged to show, if possible, the mortality of the English watering-places, and the consequence was, that it had to be hastily compiled. These places were not over-desirous of furnishing any information relative to the prevalence of any epidemic. Clifton had given a good explanation of the high rate of mortality set opposite to its name in the Registrar-General's return. We were, however, all more or less connected together: and it was impossible for the wealthy people of Clifton to disconnect themselves from the low and wretched population surrounding them and the epidemics which visited them. It was impossible for the rich to isolate themselves from the poor, and the health of all were bound up together. The Registrar-General, in his return, gave his information for the quarter, which he received from the local registrars. He also gives his information yearly, and, again, he will give it at the end of ten years, from which latter date the public would be able to judge of the mortality of the country for a number of years.

On another occasion the injurious views expressed by Professor Bennett, of Edinburgh, who denied that the fermentation, exposure, and smell of sewage were unhealthy, were further combated. Dr. Lloyd, of Bath, opposed them. It had been proved that the smell of sewage was noxious, and in the district near the river in Bath he had long noticed that amongst those who resided there, first came degradation, then ill-health, and then premature death.

Captain Galton said he knew numerous instances of disease from the state of the river Thames.

THE LATE MR. HEAVISIDE, ENGRAVER.

It is with regret we announce the death of Mr. John Smith Heaviside, with whose name our readers will be familiar as a wood engraver, his works having appeared in this journal from time to time over a course of many years. He died on the 3rd instant, in his fifty-third year, at his residence in Kentish Town-road, of tubercular disease of the lungs, after what may be termed but a short illness. He was the second son of Mr. Thomas Heaviside, of Stockton-upon-Tees, builder, and the eldest of three sons of that gentleman who adopted the profession of wood-engraving, all of whom were originally devoted to different pursuits. His next youngest brother, Mr. Thomas Heaviside, was the first to enter the profession, he being one of the earliest pupils of the elder Bonner; and it was by his younger brother that the subject of our notice was initiated into the art,—not until, however, he had attained the age of twenty-six years. After working for some time in London, Mr. Heaviside entered into an engagement with Mr. O. Jewitt, of Oxford, and ultimately embarked in business at that city, in partnership with Mr. Philip Delamotte. Most archæological students will be familiar with the engravings produced by this firm for Mr. Parker's works connected with architecture. Architectural subjects were always Mr. Heaviside's preference and specialty; indeed, his experience as a young man in his father's business rendered him peculiarly fitted for this sort of illustration. It is but two weeks since we published a "cut" of his, part of which was the work of his own hands: thus he may be said to have died in harness.

THE THAMES BANKS.

The fact that much of the neighbourhood of London is, like Holland, dependent on its dykes for safety, is so little known, that recent remarks with reference to the injury happily escaped at Belvedere, took most people by surprise.

Notwithstanding that the subject has been treated of at considerable length in different volumes of the *Builder*, and that our account of the recent breach has been widely perused, we think fit to place before our readers, in order that the danger contingent upon a breach may be understood, a sketch which represents what is the general state of the marshes and the river, relatively to one another, and not at the highest level of an average tide. The sketch was taken on the Essex side of the river; but it will equally apply to that side on which the explosion occurred.

It appears that in addition to the favourable circumstances mentioned by us, without which the breach could not have been filled up, and the tide stemmed back as it was, there was the circumstance of an unusually low level of the high-water,—although there were spring-tides at the time. On the 31st of December, 1863, the tide had risen quite 2 ft. 6 in. higher, as registered at the sewerage works: and it is felt by those who directed the works of reparation on the 1st of this month, the day of the calamity, that had the tide on that day been an extreme one, the extra 2 ft. or more would have placed the matter in a still more serious aspect than that in which it was. Everything happened to be in favour of speedy repair,—time, energy of individuals, materials, and every circumstance of wind and tides. But to show we have not been taking too serious a view of the point of the general condition of the banks of the Thames, we may mention that on the date already given as that on which the tide was registered at Crossness,—and when, we may say, the registered level, 15·08 ft. above Ordnance datum, was considerably above that of the Trinity High-water datum,—every time a swell was caused either by steamers passing near the bank, to the west of the works, or by wind, the water went over into the marsh. Mr. Houghton then made up the footpath near to the works, but not on the land of the Metropolitan Board, some 6 in., as a temporary measure, and drew the attention of the Commissioners, and of the Engineers at Woolwich, to the matter.

It appears that the length of the breach, as correctly ascertained, was 120 feet, measured on the footpath. Mr. Webster's men arrived at about 10 minutes to 9 o'clock, a quarter of an hour after the hour of low-water,—the explosion having occurred at 20 minutes to 7. There were 800 of Mr. Webster's men; but only 450 were set to work, the rest being bricklayers, masons, carpenters, and smiths. The military arrived about a quarter to 11.

About 130 of Mr. Webster's men, besides 20 of the Commissioners', were employed to the end of last week, making up the bank with clay punned in layers, as a counterfort to the weight of water, as well as placing stones on the river-face. The bank on the land-side is being formed of a greater width than it originally was: the top or footpath being now about 15 ft. instead of 5 ft.



THE THAMES EMBANKMENT IN THE ESSEX MARSH.

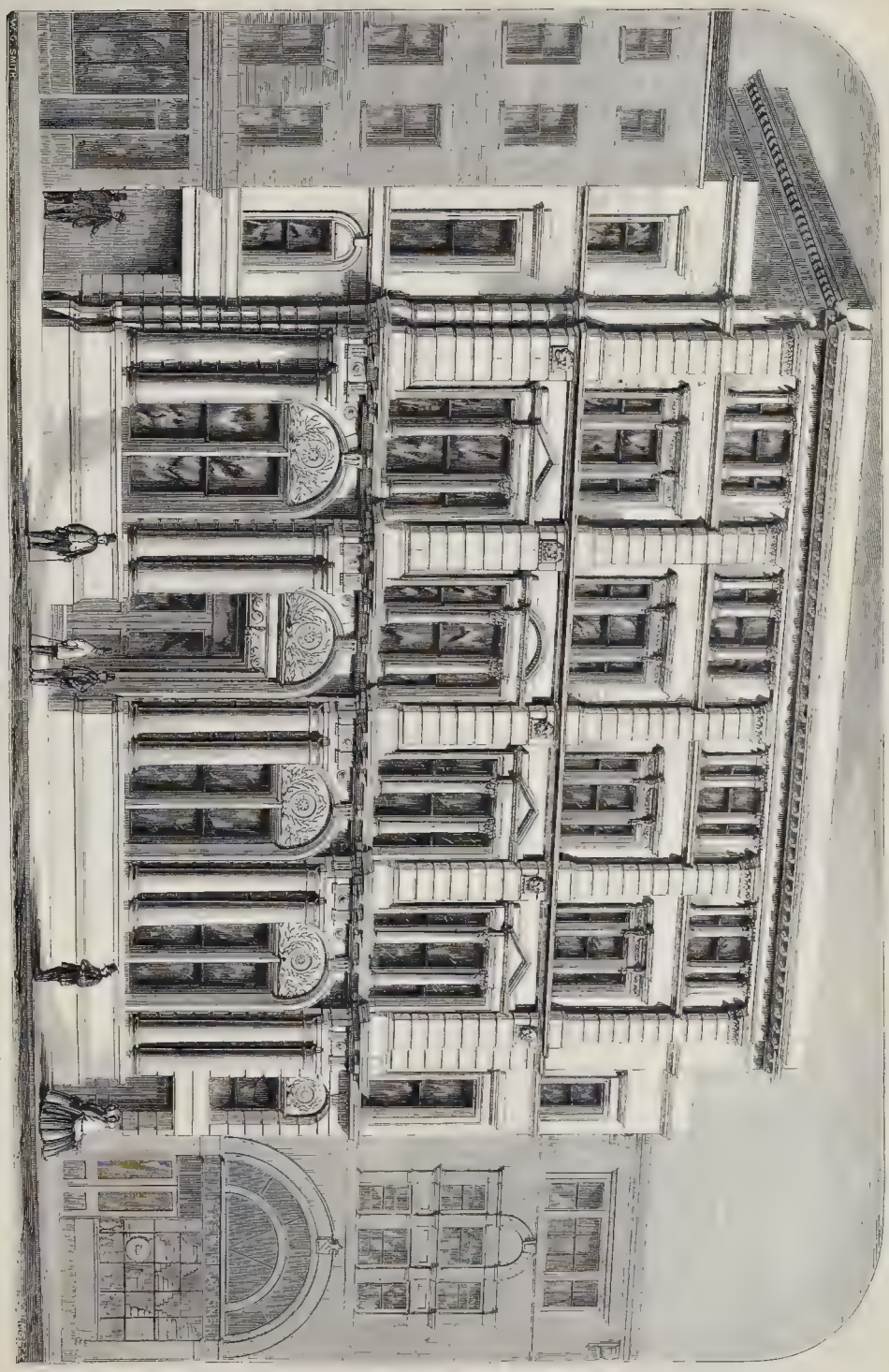
MESSRS. BARCLAY & CO.'S PREMISES, LOMBARD STREET.

Amongst the new buildings now progressing in Lombard-street, to which we have recently pointed, is the new stone-fronted Bank for Messrs. Barclay, Bevan, Tritton, & Co. A view of this building, which is being erected from the designs of Mr. P. C. Hardwick, we have engraved. It occupies a site of 85 ft. frontage on the north side of the street (besides the gateway, which is covered over above the level of the ground floor), and is about 88 ft. deep. The whole of the front part of the office will be devoted to the ordinary business of the bank,—the pay and receive counters, the country office and ledger office being all kept distinct; though, of course, with ready means of communication. Opposite the entrance-door, at the extreme end of the office, will be the principal clerk's office, behind which is a large safe. Near this are the partners' private room, waiting-room, &c. The basement is devoted to strong rooms of considerable size,—rooms for the account-books, and so on.

The first and second floors of that part of the building which fronts Lombard-street will be let. To these there is an entrance from Lombard-street, distinct from the entrance to the bank. The rest of the upper part of the house will be occupied by the principal clerk.

The exterior of this building is arranged with a view to show clearly the object for which it is built. For this purpose the greatest importance and dignity possible are given to the ground floor, which is 22 ft. in height inside. The windows lighting the bank are 12 ft. wide, divided by a mullion. The entrance-door, the jambs of which will be of red granite, will be 7 ft. wide and 14 ft. high. The upper parts of the front are comparatively small from the necessarily lower height of the stories; but the main piers are carried up to the principal cornice at the top of the building, so as to give unity to the whole composition.

In our next we shall refer at some length to the works in Lombard-street generally.



MESSRS. BARCLAY & BEVAN'S BANK, LOMBARD STREET, LONDON.—Mr. P. C. Hardwick, Architect.

STONEHENGE.

During the Bath Congress of the British Association parties of the members visited various buildings and antiquities in the neighbourhood, and listened to papers describing them. Bath Abbey Church, Bristol Cathedral, the Church of St. Mary Redcliff, Wilton Church, and Stonehenge were thus examined. At the last-named, standing on a fallen stone in the inner circle, the Rev. Prebendary Scarth, of Bath, read a paper "On Stonehenge: its Mechanical Construction and probable Uses." He said:—The monument under our eyes at present, I need hardly tell you, is one of the most remarkable in this island, and perhaps I may say in any part of the world. The magnitude of its dimensions, the peculiarity of its position, the obscurity that surrounds its history, and the purpose for which it was reared, render it one of the wonders of our land. Happily, in modern times the indifference with which such structures were once regarded has passed away, and the day has arrived when some of the greatest minds in our country are directed to investigating the purposes, or recording the history, of remains of which our island has justly been proud; and this has been the case with the monument now before us. Acute and discerning scholars, as well as careful antiquaries, have turned their attention to it, and brought both learning and research to bear upon the investigation; and here I feel that I ought to apologise for taking the place of men more learned and better qualified than myself to treat of such monuments, and to state that it has been only in consequence of others declining to do the work in which I am now engaged, that, after solicitation, I have ventured to stand before so learned and so noble an assembly. But that I waste no further time in excuses, and boldly cast myself upon the lenient judgment of my audience (the more learned and wise ever the more tender in judging), I shall proceed to treat of the wonderful monument now before us. And first, as to its structure, you will perceive, on examination of the plan of its construction, that it consists of two circles and two ovals, the two latter (says Hoare) constituting the cell or sanctum. The outer circle is composed of upright stones, originally thirty in number, and on their tops the same number of stones is placed in a horizontal position, so as to form a continuous architrave. The outer circle may, therefore, be likened to a crown. These horizontal stones, which rest upon the uprights, are fixed in this position by a system of mortise and tenon joints. This feature is supposed to be peculiar at Stonehenge. Within the outermost circle, is a second of forty stones of rude form, and much less elevation. Within this again is an oval, consisting of five trilithons, each of which is composed of three very large stones, two being upright, and the third placed upon them horizontally. The weight of each trilithon is estimated at about 70 tons, the impost alone about 11 tons, and set 3 ft. 6 in. deep in the ground. These are held together by the same process of mortise and tenon. The height of the outermost circle of stones is about 13 ft.; but the first pair of trilithons is upwards of 16 ft. high, according to the measurement of Dr. Thurnam, who has illustrated and described this monument with his usual care, ability, and accuracy. The second pair of trilithons is about 17 ft. high, and the great trilithon facing the entrance, one of the stones of which, as you see, has fallen, was 21 ft. 6 in. in height. Within this oval of large trilithons is a second and lesser oval, formed of nineteen stones of ruder construction. The stone commonly called the "Altar Stone" is placed on the earth in front of the great trilithon, and measures about 16 ft. in length by 4 ft. in breadth. An avenue of stones has led up to these circles, and in this avenue by which the structure is approached, at about 200 ft. distant from the outer circle, is an isolated unhewn stone, apparently intended to direct observation, at the Summer Solstice, to the point of the rising sun. The truth of this was tested by Dr. Thurnam himself, at Midsummer, 1858, when he ascertained, from personal observation, that from the stone known as the altar stone, the sun at Midsummer is seen to rise precisely over this stone in the avenue; and from this he infers that the structure in which we now stand was a temple connected with solar worship. The geological character of the stones of this vast structure has occupied the attention of men well calculated to form a correct opinion of their nature; and indeed this learned assembly can this day examine this point for itself. It is, nevertheless, needful first to state that the outer circle and the five trilithons of the outer oval are of sarsen stone, like the grey wethers, which are found in abundance in North Wilts, and have probably been brought from the Vale of Pewsey. They are said to be composed of silicious grit, which is peculiarly compact and hard in its nature, and very difficult to work, as it resists the action of tools, and will split rather than work; and it has, therefore, been supposed that the mortise and tenons have been formed, first by chipping, and then by rubbing the stones with sand and water, and using stone mullers. Considering the rude implements of iron or bronze which the probable builders of Stonehenge must have possessed, this theory does not, to me, appear improbable. The nineteen stones composing the inner oval, and the forty stones of the inner circle, which are less finished in form (though they have been more or less hewn and worked), are composed of igneous rocks, none of which are found within a distance of 100 miles from the spot where they now stand. These stones are composed of Syenite or greenstone, which are not found nearer than Dartmoor or North Wales. I believe it is the opinion generally entertained that these stones were brought from North Wales, and this (as Dr. Thurnam states) may have given rise to the fable related by Geoffrey of Monmouth, that the stones were brought by the magician Merlin from Ireland. There are two opinions respecting the period at which the different series of stones were set up. By some it is thought that the outer circle and the outer oval existed before the smaller stones of the inner circle and inner oval were placed,—by others that the smaller stones were first erected; but if any inference as to the contemporaneous date of the whole structure may be drawn from the chippings of the various kinds of stones of which it is composed being found mixed together at the bases of the stones, and in the adjacent barrows, we are led to assign one date to the whole. What that date may be we are now concerned to inquire. The first author who makes mention of Stonehenge is Henry of Huntingdon, who wrote at the commencement of the twelfth century. He speaks of it as the second wonder of England, and calls it Stanhenges. Geoffrey of Monmouth, who wrote at the same time, declares it to have been a monument erected in the reign of Aurelius Ambrosius, King of Britain, in order to commemorate the slaughter of the Britons by Hengist, and hence the etymology which has sometimes been assigned to it of "Hengist's Stones;" but the true etymological explanation of Stanhenges seems to be (A. S. Stan, used as an adjective, and henge, from A. S. hon), *i.e.*, stone hanging-places, from the stones resembling a gallows. This is the opinion of two eminent Saxon scholars. The name given to it, therefore, by the Saxons evidently shows that it was not set up by that people, who would hardly have bestowed such a title on a work emanating from themselves, and it is no doubt much anterior to the coming of the Saxons. But if Stonehenge was erected anterior to the coming of the Saxons, can we refer the construction to Roman times? We know sufficient of the Roman conquerers of this island to assert boldly that such an edifice cannot be attributed to that people. It was totally foreign to their genius; but to them we may look for some notice of it, or some mention of the manners and customs of the people by whom it was probably erected. Although we have no notice by any Roman writer yet known of any such erection, yet we have notices of the manners and customs of the nations conquered by them, and we have full accounts of the manners and customs of the Gauls and Celtic tribes. From the Romans we know that the Britons, like the Celts of the Continent, were without inclosed temples; but they had groves and sacred places in which they offered sacrifices. They had *loci consecrati*, in which treasures were deposited, the places being dedicated to the divinity, or divinities, supposed to preside over them. Julius Cæsar plundered these sacred spots, and obtained therefrom immense wealth. A.D. 106 Cœpio obtained great booty from gold and silver which had been deposited in certain shrines and sacred lakes. The old Celtic name for a consecrated spot was "nemet." Megalithic circles were in use in early times, both as places of assembly and for sacred rites, before the construction of temples. It is hardly to be doubted that the large stone circles of these islands were the places of assembly and hypæthral temples of the ancient Britons. In Scotland there appears to have been a general tradition that they were places of sacrifice in heathen times. The Gaelic name of "clachan" is equally applicable to a church. They have also the name of law-stones; and there is documentary evidence that as late as the fourteenth century they were used for holding courts of justice. In France, stone monuments seem to have been sedulously destroyed; but they are abundant in Brittany. In our own island they are found in all parts, from the Scilly Isles to the Orkneys, and are always circular in form, and usually surrounded by an earthwork, consisting of a foss and vallum, the vallum being on the outside. The following are the more important stone circles:—Roscawen and Dance Maine, Cornwall; Scorhill and the Grey Wethers, Devon, district of the Damononii; Stanton Drew and Stonehenge, country of the Belgæ. The diameters of the stone circles vary from 60 ft. to 366 ft., and even to 1,200 ft., which is the diameter of the great circle at Abury. The more usual diameter, according to Dr. Thurnam, is about 100 ft., which is that of Stonehenge. The stones which form them are of complete numbers, and seem to have some significance, as 12, 30, 60, 100, by which there has been supposed to be a reference to the lunar year and its divisions, the signs of the zodiac, the 12 months of 30 days and nights. The two inner circles at Abury, the outer circles of uprights and transoms at Stonehenge, the large circle at Stanton Drew, and the circle at Arbor Lowe, are each of 30 stones; those of Rollrich and Stennis of 60; and the large enclosing circle of Abury of 100 stones. These statements, taken from the "Crania Britannica," are, I believe, pretty accurate; but perhaps in one or two cases they may be doubtful. Some of the sacred circles were approached by avenues formed of parallel rows of stones, and are of considerable dimensions, and rectilinear, as at Classernish, Merrivale, and Scorhill. That of Snap was of a large size, and is said to be traceable for two miles. The avenue is traceable at Abury, and most striking at Carnac in Brittany. Abury and Stonehenge are the most remarkable consecrated sites in Britain: both are in Wilts, and are conjectured to have been sites of national congress, where the chiefs and people met the Druids for the settlement of disputes, and the administration of justice. Abury was, probably, in the district of the Dobuni, and is formed of unhewn stones. One of the avenues by which it is approached is a mile and a half in length, yet there is no appearance of the use of implements of metal in this vast structure. Stonehenge is different: it is formed partially of hewn and squared stones. The columnar uprights are connected with a continuous transom or architrave, and by a system of mortise and tenon joints. By the writer of the account of Stonehenge in the "Crania Britannica," the erection is supposed to have been at the period of "bronze and iron transition," *i.e.*, when the age of the use of bronze was passing into that when iron became common. I confess I am not a convert to the system which divides the period of the world's history into eras marked by the use of distinctive metals. It is doubtful if these metals can be shown to have been used in distinct periods, but I certainly agree with the writers of that very learned work, when they assert that it is very probable that when the Belgæ settled in this part of Britain they established a "*locus consecratus*" within the limits of their own territory, of which Wansdike appears to have been the boundary. That Stonehenge is more recent than Abury there can be but little doubt, and it would have been well if this learned congress could have visited that noble monument of a primitive British race, as well as that now under our eyes, and formed some definite idea of the respective periods of the two structures; but it is believed that we are not far from the truth when we suppose Abury to have been the work of an older race, and to have been the place of meeting of confederate tribes of the primæval inhabitants of the island; while Stonehenge is the work of a more recent people, an intrusive race, of similar habits, manners, customs, and creed. That this people were the Belgæ seems probable, and that the period assigned to its erection by learned and competent antiquaries, as the second century prior to the Christian era, is probably correct. This notice of so remarkable a monument would not be complete without making mention of the markings which have been found on one of the trilithons. An intelligent observer, Dr. George Tate, of the Royal Artillery, visited Stonehenge in February, 1861, his object being to search for inscriptions or sculpturing on the

stones, and he succeeded in discovering a symbol, a character on the under-surface of the fallen impost of one of the great triliths of the inner circle. This marking you will have an opportunity of examining. It consists of a hooked figure, bent at both extremities, 7 in. long, having the letters L. V., almost within the upper bend. A representation of it will be found in the nineteenth volume of the *Archæological Journal*, from a careful drawing by Dr. Thurnam. There is not any similar marking on the trilithon which fell in 1797. It has been suggested that the markings may have been cut by a casual visitor to the spot, possibly soon after the fall of the stones, and much time must have been spent in the work; but an argument may be drawn for a more remote antiquity, both from the quantity of lichen which covered the incisions, and had kept them from notice, and the improbability that characters could have been so carefully cut by any casual visitor. A practical observation, in conclusion, may not be here out of place. It will be noticed that two of the trilithons have fallen. The precise period of the fall of one is not recorded: it was prior to 1722, when Dr. Stukeley's views were taken: the other fell in January, 1797. An accurate account of the catastrophe appears in the *Archæologia*, vol. xiii. Would it be well, with permission of the owner, to replace one or more of the fallen trilithons? and could it be considered as interfering with the antiquarian interest of the monument if that trilithon, the fall of which is recorded, and which took place not seventy years since, were replaced in its true position. Again, if the centre of the enclosed area were excavated, with consent of the owner, under careful and judicious management, might not some trace be discovered of the true uses of the structure? Would there be found the ashes of former sacrificial fires? This would be the case if this monument had been applied to sacrificial purposes, or if any interments of the great and noble of the primitive inhabitants of the land had been made within its enclosure; but if none such should be discovered, we should hold fast to the inference that it was destined for public assemblies, religious or political, and councils of state. The engineering skill of modern times would soon effect the replacement of the trilithon, and the keen eye of the modern antiquary would soon detect traces of any particular purpose to which this sacred edifice had been put; and if the so-called altar-stone were raised and replaced, would it reveal anything beneath? We may apprehend not, and perhaps our labour and engineering skill would be fruitless; but investigation would be satisfied with having done her part, and a careful readjustment of its position would satisfy every lover of antiquity. If these suggestions are too bold, or out of place on this occasion, I humbly crave pardon of the assembly, and would further ask them kindly to forgive the length of this notice.

NEW INFECTION-WARDS, ALNWICK UNION WORKHOUSE.

The old Border town of Alnwick has lately been provided with an accommodation that, though still rare, no town should be without. We allude to infection-wards, or places in which persons suffering from contagious diseases can be nursed apart from other patients. An epidemic in a town has, before now, been traced to the instrumentality of one tramp. Bringing the seeds with him from the haunts he has left, he sickens at the workhouse of any town on his route, and being lodged with the usual inmates, several catch his disease, and those waiting upon them spread it without the walls. In such a case as this, if there had been accommodation in which to isolate this tramp, his case would have been a solitary one. Notwithstanding that Alnwick has been sewered, and that water has been laid on to it under the auspices of Mr. Rawlinson, and that it has been paved and periodically swept under the direction of the Board of Health, it has been subject, for successive seasons, to severe visitations of epidemic diseases. These can only be accounted for as the consequences of overcrowding of tenements, and in the absence of a place to which the first person in a family smitten with a contagious disease could be conveyed. Scarlet fever and small-pox have, in several instances, carried off three, four, and five in a room. Could the first person smitten have been removed from the midst of the other occupiers of the tenement, it is possible that the spread of the contagion might have been arrested. To this end the Alnwick Board of Guardians assented to the proposition of one of their body to erect infection-wards, detached from the workhouse infirmary. These have just been completed. The services of Mr. F. R. Wilson, architect, one of the guardians, were secured, and his plans being approved by the Poor-Law Board, London, two commodious wards, one for male patients, the other for female, eight beds in each, with two rooms for the nurses, were immediately erected adjacent to the workhouse hospital.

WORCESTER ARCHITECTURAL SOCIETY.

The eleventh annual meeting and excursion of this society recently took place. The members assembled at the Natural History rooms, Foregate-street, when the chair was taken by Sir Thomas Winnington, bart., M.P., who called upon Mr. J. S. Walker, one of the secretaries, to read the report for the past year. This document extended to great length. After reviewing the excursions and proceedings of the society for the past and present year, it proceeded to detail the new ecclesiastical works in progress or completed in the diocess, with critical comments thereon. The report was received and adopted, and the re-election of officers of the society and the appointment of a committee then took place, after which the party drove to Norton-juxta-Kempsey Church, the first on the programme for the day. At Norton church, the Rev. J. Jenkin, the new incumbent, met the visitors; and, after examining various objects of interest under his guidance, and partaking of his hospitality, they moved on to Stoulton Church, over which the Rev. G. E. Walker, the incumbent, conducted them. The party then went to Pershore Abbey Church, which was the chief point in the excursion. Here the party spent some time, and Mr. J. S. Walker read a paper on the church, and the restorations which Mr. Ball, the churchwarden, has perseveringly aided in carrying out, at a cost of 6,000*l.*, and under the superintendence of Mr. Scott. After glancing at the shocking state of St. Andrew's Church, the party went to Norton Villa, the residence of Mr. G. J. A. Walker, where they dined: after which they returned to Worcester.

METROPOLITAN BOARD OF WORKS.

The Granite for the Thames Embankment.

The Chairman drew attention to a correspondence he had received from Mr. Thomas Scott, of 35, Old Jewry, and he wished the Clerk to read it to the Board.

The Clerk then read the correspondence to which the Chairman referred. It contained an allegation that the officers of the Board had ordered the contractors for the Thames Embankment to use granite from a certain quarry for the facing of the Embankment, to the exclusion of that from other quarries which was of a better quality. It also complained that six samples of granite had been sent in to the Board for examination and approval, and that only three of them had been tested.

Mr. Bazalgette, the engineer, in explanation, said he had adopted the same course in choosing the stone for the Embankment that he had on other occasions. He had examined specimens of stone from Ireland, and had submitted them and others to be tested by Professor Tennent, and he had reported that the granites from Kirkconnell and Dalbeattie were the most uniform in their component parts, and therefore likely to be more durable than the others. He had been accused of having received six specimens of granite, and tested only one of them. The fact was that he had received only four from the contractors, and those he had tried. His office was inundated with granite samples, and it was unreasonable to expect that he should test them all.

The Subways of the Metropolis.

Mr. Carpmael brought this subject under the consideration of the Board, and entered into a history of the efforts the Board had made since its formation to carry out the construction of subways in the metropolis. At present there was nothing to prevent the companies from breaking up the streets that the Board had made, and the question now was whether the Board should have compulsory powers to compel the companies to use the subways. He urged the Board to continue the construction of subways, and leave it to time and public opinion to force the gas and water companies to use them. He concluded by moving that the Board do proceed with the construction of the subway in the Thames Embankment, and with the subway in the new street to the Mansion House.

The resolution was ultimately carried unanimously.

The Progress of the Thames Embankment Works.

Mr. Bazalgette, in his monthly report, said;—As to the Thames Embankment (No. 1 contract) between Westminster and Waterloo Bridges,—The approximate value of the work done and of the materials and plant upon the ground is about 54,000*l.*, or 15,000*l.* in excess of my last report. The contract between Waterloo Bridge and the Temple Gardens is going on favourably. A length of about 120 ft. of the dam is completed and made water-tight, and concrete is being tipped into it up to the level of the underside of the brickwork of the river wall. The estimated value of the works, &c., is about 35,000*l.* The material used in filling in along the foreshore is now entirely confined to that supplied by the Thames Conservators.

FROM AUSTRALIA.

Labour Report.—The last quotations at Melbourne for wages were about as follows:—Masons, 10s. per day; bricklayers, carpenters and joiners, and plasterers, from 8s. to 9s.; painters, 8s. to 9s.; bricklayers' and plasterers' labourers, 6s. to 7s.; gas-fitters, 8s.; whitesmiths and general smiths, 10s. to 12s.; blacksmiths, 8s.,—with rations, 25s. to 30s. per week; wheelwrights, ditto, 35s.

Ballarat.—This great centre of gold-digging renown is beginning to be proud of its public buildings. The *Star*, a local paper, thus refers to some now in course of erection:—"The new Union Bank is fast nearing completion, and already presents a handsome front. The new Post-office is now up to the cornice in the front elevation, and the completion of the front and east side will soon be achieved. Looking at the temporary endings of the west side and rear of the building, the edifice has a ragged appearance; but the front elevation promises to be a welcome and ornamental addition to the architecture of the town. The Savings' Bank is nearly finished, and its repairs and additions have made it assume quite a new aspect. With less of the ornate in its appearance than it wore before it looks more handsome."

Street Architecture in Melbourne.—The local *Post*, an illustrated paper, in giving a view of new premises in Collins-street East, says,—"It is only a week or two ago that we were celebrating *the thirteenth anniversary of the foundation of the colony*; and when we look back a few years, and reflect upon the then dimensions of the city, and the class and character of the buildings which formerly stood, we may be justly acquitted of hyperbole when we say that no city in the world has made such gigantic strides during a similar period as Melbourne has done; for not only has the city increased in its proportions, but the many fine and substantial buildings which now adorn our principal streets bear ample testimony to the progress which has been thus rapidly made. Any person who visited Melbourne ten years since, and returned during the present year, could not but be struck with the vast improvements which have been effected. In place of the rickety-looking wooden tenements which then existed, there are now elegant and substantially-built edifices, many of them constructed with a uniform design, and these improvements are going on from week to week. In Collins-street, the Regent-street of Melbourne, this change is particularly noticeable. Collins-street East is as much devoted to the mercantile community as Collins-street West is the promenade of fashion.

Telegraphic Progress in South Australia.—The number of telegraph stations which were open in South Australia during 1863 was thirty-six, and the miles of line in operation were 747, with 1,064 miles of wire. The net revenue obtained was 8,429*l.*, and the outlay for working expenses and maintenance of lines was 9,107*l.*, showing a loss of 678*l.*, which is accounted for by the number of unremunerative country stations in different parts of the colony. The business transacted with the other colonies last year produced the following amounts:—With Victoria, 5,085*l.*; with New South Wales, 2,853*l.*; and with Queensland, 188*l.* In South Australia the total receipts were 8,695*l.*, against 8,047*l.* for

1862, and 7,382*l.* for 1861. The stations which pay are, Adelaide, Port Adelaide, Gawler, Kapunda, Clare, Burra, Kadina, Wallaroo, Port Elliot, Robe, Mount Gambier, Penola, and Mac-Donnell Bay. The stations of Yankalilla, Wellington, and Kincraig just pay their expenses. The extensions during the year were from Kadina to Port Wallaroo, and from Penola to Kincraig.

FROM BRISBANE, NEW ZEALAND.

The Brisbane Bridge, as now contracted for, is to cost 52,000*l.* The length between the abutments on either bank will be 1,030 ft.: the elevation of the roadway at its greatest height above the river bed is to be 70 ft.: it will have twelve piers, and a span of 86 ft.; and its construction will cost 50*l.* 9s. per lineal foot, exclusive of the approaches. Mr. T. Oldham, C.E., has been appointed to make the necessary working drawings and superintend the work, which is being pushed on in a speedy manner. Plans and orders for the iron-work of the bridge were sent home last mail. A new double bridge of iron across the Bremer river, to be constructed for railway and other traffic, has been designed by Mr. Fitzgibbon, and its erection contracted for by Messrs. Peto, Brassey, Betts, & Co. The length of this bridge between the abutments will be 450 ft.: the height of the roadway above the river bed will be 70 ft.: the width of span will be 150 ft.; and the whole will be completed for 19,700*l.*, being at the rate of 43*l.* 15s. per lineal foot, exclusive of approaches. Preparations for the construction of the bridge have been commenced by the contractors. The colonial architect, and the architects of the city, Mr. J. Cowlishaw, Mr. B. Backhouse, Mr. W. H. Ellerker, and others, have various works in hand, such as the Lands and Works building, various stores and shops, banks, villas, schools, churches, and other buildings.

Some little time ago we mentioned the proposed erection of a town-hall in Brisbane with a few friendly comments. The *Queensland Guardian*, when reprinting this, added a footnote containing these words:—

"It is a curious coincidence that the *Builder* takes the same objections to some parts of the design and scheme that were taken in our columns about the time that the contract for the building of the town-hall was let." "Anent the town-hall we have heard some ugly growls by those who know 'at the rather jerry kind of work that is being done in carrying out the contract; but we suppose that as the *best* professional skill has been engaged by the Municipal Council, the work is first-rate. However, we understand, that when the plasterer and painter have gone over the building, little will be seen for the most fastidious to carp at."

And for this, when the last newspaper left the colony, the proprietor had received notice of an action for libel at the suit of the contractor! We can scarcely suppose that the contractor was in earnest, or that any jury would deny the right of a public journalist to enter so mild a record of opinion in a matter affecting the public purse.

SANITARY MATTERS.

Fever Epidemic at Westminster.—Scarlet fever of the worst kind has been very fatal round about the Abbey. In one family, three persons have died; and other bad results give just cause for anxiety. An artist who was much engaged in sketching in this neighbourhood in Dean Buckland's time, writes respecting the bad condition in which the drains were at that time, and gives some account of the endeavours which were then made to set those matters right. He asks if this was effectually done in connexion with the school and other buildings, some of them very inconveniently arranged, which stand about here? He also inquires about the water supply, and wonders if the old conduits are still used, or the water obtained from a more pure source. The present circumstances still require that sanitary inquiry should be made here.

State of Hastings and St. Leonard's.—It is satisfactory to observe that the sanitary state of our watering-places is now exciting attention. The bad practice of allowing the sewage to escape from the sewers on the beach before the town, and even above low-water mark, so that the water used by bathers is contaminated with it, has on various occasions been reprobated in the *Builder*. It is, moreover, a suicidal practice, as regards the prosperity of a watering-place. A writer in the *Times* complains of Hastings and St. Leonards-on-Sea, which have long had a bad pre-eminence in this respect, as those will believe who recollect of the fatality to a well-known family years since recorded in the *Builder*. The writer alluded to says:—

"At comparatively short distances long lines of cast-iron sewage pipes ornament the beach both of St. Leonard's and Hastings, and most of them discharge their contents considerably above low-water. Between these are the bathing grounds. Sometimes the water is discoloured for a considerable distance beyond and around the mouths of these disgusting pipes. It is even reported that instances have occurred in which ladies after a sea bath in the morning have been obliged to resort to a disinfecting ablution at home. The idea of bathing in the immediate proximity of sewers is horribly disgusting, to say nothing of the actual effect. While dining at a house in Robertson-place the other night, the fœtid emanations of the great sewer pipe opposite were very evident at low water.

The people at Eastbourne seem to be striving in earnest to remedy every defect which has been alleged against their town. I was there a few days ago, and saw not a single sewer discharging its noxious contents into the sea immediately in front of the houses, and all among the bathing-machines, as at St. Leonard's and Hastings. I write these remarks, Sir, with the view of stimulating the authorities of the two latter towns to immediate action."

Fever at Sowerby.—Attention is being called to the unhealthy state of Sowerby, fever being exceedingly prevalent in that village; and it is added that such is sure to be the case until the place is thoroughly and effectively drained. Some four years ago a stir was made in this matter; but on the question being brought to poll, a large majority declared against any improvement, and they (and others) are now reaping the fruits of their obstinacy.

High Rate of Mortality at Rotherham.—The statement made at the last meeting of the local Board of Health, by their medical officer, in reference to the high rate of mortality in the districts appears to have created some alarm. Bills have been thickly posted about the town, by order of the Board, threatening any person with proceedings who shall offend against their by-laws, and allow rubbish of any kind to accumulate on their premises. The only objectionable feature in the order is that the scavengers will be prosecuting their duties in the middle of the day.

Health of Sheffield.—Rumours have been rife for some time of the prevalence of fever in this town, and some alarm has been excited in the public mind of an impending epidemic. Inquiries made by the local *Independent* show, that whilst there has been a considerable amount of sickness, it has not been of a more than usually serious character, with the exception of one or two particular localities which are unfavourably situate. The protracted drought has converted the beds of the streams that pass through the town into stagnant ditches, and the people living along their banks might be expected to be peculiarly affected by the bad sanitary condition with which they are surrounded. The medical men are able to trace the prevalence of fever directly to the condition of the bed of the Sheaf, which receives the drainage of the houses, and is nothing more than a huge cesspool, emitting an abominable stench. It is to be hoped that the condition of the houses and the stream will receive prompt attention, or a more formidable evil may arise.

Liverpool.—From a report to the Health Committee, it appears that 1,714 houses in the unhealthiest districts, containing 4,560 apartments, 1,096 cellars, 731 courts—(north district, 696 courts; north-east district, 552 courts; central district and south district, 756 courts)—have been put under examination with the view of improving their sanitary condition. The medical officer of health reported that the number of deaths registered in the borough during the week ending October 1st was 261, or 162 in the parish, and 99 in the out-townships, being five below the corrected average of the last ten years. Zymotic diseases caused 88 deaths, being 10 below the corrected average. Mr. Stitt said he was sorry to see that, though the total deaths were 10 below the average, the fever cases were so high as to be 16 above the average. He asked the borough engineer when he would have the plans ready for disinfecting the clothes of those who had been attacked by fever or other infectious diseases, by the employment of dry heat. The borough engineer replied that two sets of plans were ready, and had been submitted to the committee. He was now preparing plans for one mode, which bore on the face of it its own recommendation, and which was to secure the desired object by means of gas. The deputation to the Social Science Congress presented a long report upon "The Utilization of Sewage," "The Overcrowding of Houses," and "Infant Mortality." The principal facts mentioned in the report were:—1. That no known chemical agent exists for thoroughly purifying sewage, nor is there any mechanical or other agency for profitably consolidating it. 2. That under certain conditions sewage may be utilized by applying it to the land, which is its natural purifier. 3. That it can be only advantageously applied in a liquid state, and must accordingly be conveyed to the land by means of conduits and pipes. It was said to be fully proved that the application to clothing, &c., of dry heat, of 150 degrees to 212 degrees Fahrenheit, is effective as a disinfectant. A resolution was passed recommending the Association to use their best endeavours to induce all local authorities to establish public disinfecting chambers, as contemplated at Liverpool.

Increase of Fever in Leighlinbridge (Carlow).—Owing to a very considerable increase of fever in Leighlinbridge, according to the *Carlow Sentinel*, a special meeting of the dispensing committee of the district has been held, and a sanitary officer appointed and other steps taken for the sanitary improvement of the town.

A COMPETITION IN BELGIUM.

The Belgian competition announced in the *Builder*, and in which a premium of 300 francs was offered by the guild of St. Thomas and St. Luke, for the best design for a parish church, has just been decided; the adjudication being made by a jury of archæologists and architects, who have awarded the prize to Mr. W. C. Brangwyn, of London, architect.

WIDE TENDERING.

In reply to "Farnhamensis," Mr. W. Elliott, builder, denies that he "recklessly cubed the building at 1s. 4d. per foot," and goes into particulars for which we have not space. He shows that the drawings were given in a way to lead to differences of opinion;—further that,—

"There were no detail drawings: the architect was to supply them afterwards; and the contractor was to execute them, whatever they might be, to his entire satisfaction. The architect or his client had the power to enlarge the house or premises to any extent; and payment of such increased works was to be entirely left in the power of the architect. No arbitration clause permitted, and no alterations to be made without a written order, which can seldom be got, and is often taken as an insult by architects when asked for such an order. Where the quantities are taken off, the parties receiving the benefit should be made responsible for them. I would much rather trust to cubing when I can see the drawings and specification, than take for granted the quantities as given by three-fourths of the surveyors who take them off where tenders are advertised for."

GLAZING.

Sir,—In March last I removed a quantity of old wood sashes from freestone window-frames, and substituted plate glass in lieu thereof. A groove, 1 in. in depth by 1½ in. wide, had been cut in the stone mullions and transoms, for the reception of styles and top-rails of old sashes. The plate glass is inserted in this groove to the depth of about ¾ in., and made good with Portland cement. Within the last few weeks three (out of about eighty squares) of the glass have cracked. I was at first inclined to attribute this to expansion or contraction; but it has been exposed to a great variation of temperature previously to being cracked.

Can any of your readers inform me what is the real cause of the glass giving way, and suggest a remedy? Would a more elastic stopping than Portland cement remedy it; and if so, what kind of stopping? W. B.

A NEGLECTED CITY ON THE SEVERN.

Perhaps few places with an equal number of inhabitants are progressing slower than the most important upon England's noblest river—the Severn. With a position unsurpassed for beauty and healthiness as well as convenience, a charming old city is in a state of comparative stagnation. In every direction cottages and villas are not in course of erection. Go north, south, east, or west, and the merry tinkle of the bricklayer's trowel salutes not your ear. The beautiful hills that surround it seem provided by nature for the reception of most delightful residences, which stand neither upon their summits nor bases. Progress as slowly as possible seems the order of the day. "Let us have our suppers and go to bed," is in the mouths of young and old. A short time since this somnolescent city rejoiced in the possession of a beautiful arboretum; but, lest the grass should grow upon its gravel walks, it was sold by auction to an enterprising lawyer. In its very centre stands a music-hall, which is filled only when it is opened gratis, and within this musty edifice,

which looks like a Brobdignagian's tomb, stands a dirty deal piece of framework, which tradition says is an organ. Not a quarter of a mile from this ugly fabric is what is called a theatre, which may be known by the absence of a splendid portico, and by a beautiful whitewashed façade, unbroken by any cornice, string, recess, aisle, or ornament whatever, excepting really inconvenient apertures, the only means of ingress and egress; but a fuller description of it would be honouring it too much. Within speaking distance of the theatre, and in the same angelically paved street, stands about as sad a specimen of modern art, in stucco, as can be found in any corn exchange in England. Among the 35,000 inhabitants of this city on the Severn, there are several architects,—at least, if door-plates are to be believed,—but what erection, save the cathedral, the guildhall, and a new bank, there is worth the brain of an architect few can tell. Yet there are no speculating builders in the place, and if the houses were ever designed at all, they must have been done by the architects. As one rambles about the place one cannot help remarking the noble terraces and vast squares, as well as splendid crescents that are not appearing in every direction. New roads are not being staked out, and narrow streets as well as filthy alleys, are rapidly not giving way to modern improvements. The mechanics' institutions that are to be found in every place of 10,000 souls have a noble representative not here, and the public baths and washhouses are blessings the people enjoy not. At Shrewsbury one might take a boat, and voyage down this Rhine of England, and his arrival at what should be a port will be known by the absence of crafts of the same nature as the one that bears him over the placid surface of this noble and much neglected river.

A Lover of Progress.

SURVEYORS AND TOWN COUNCILS.

I have read the letter signed "Fairplay" (in your last number) on the surveyorship of Weymouth, and the paltry, inconsistent conduct of the town council. I am fortunately not one of the thirty-two competitors for *advertised position* which had already been pre-determined on as to who should fill it.

It has now become a disgraceful farce of town and borough councils advertising for the tried and proved abilities of educated, trained, and effective men of business, as engineers, surveyors, and managers of works, wherein they are expected to conduct themselves as gentlemen, and maintain appearances as such on a pitiful stipend—for it cannot be called a pay or salary—which a journeyman London mechanic would refuse. The highway surveyorship of the Croydon district is a sample of these disgraceful offers, in the last *Builder*. So is the Lavenham district, in which the assistant surveyor is to keep his horse at *his own expense* (I suppose on road-sweepings or sawdust), and for the munificent stipend of 100*l*. And lastly, the "Tyldesley with Shakerly" district, wishes to secure an engineer, surveyor, and clerk, or what I should call a Trinity man—three in one—for 130*l*. per annum.

Nothing but a severe lashing in the *Builder* can alter this wretched state of affairs.

Civil Engineer.

FROM SCOTLAND.

Castle Kennedy.—The foundation stone of the new mansion of the family of Stair has been laid by Viscount Dalrymple, in a field on the lands of Inch Park, adjoining the pleasure-grounds of Castle Kennedy. Messrs. Brown & Wardrop are the architects; Messrs. Arch. Murray & Sons the masons; Mr. W. Alexander the joiner; and Mr. A. Pinkerton the clerk of works. After the ceremony, the builders and men employed on the work, to the number of nearly one hundred, were entertained at supper in the King's Arms Hotel, Stranraer, Mr. Murray, builder, in the chair; and Mr. Pinkerton, clerk of works, croupier. The building is to be in the Scottish Baronial style of architecture, and will have a frontage of 270 ft. The principal feature will be a massive square tower, which rises from the south-east corner to a height of about 90 ft. above the surface. The entrance is from the north side: the public rooms face the south, commanding picturesque views of the two lochs and their islands, with the fine old ruin of Castle Kennedy and its green terraces rising between them. The new castle will be terraced on the south side, having stone balustrades and broad flights of steps leading to the shrubberies and dress grounds. The walls are being built with whinstone from the quarries at Glenluce, faced up with freestone of a cream colour, from Lancashire.

Oban.—St. John's episcopal church, at Oban, has been consecrated by the Bishop of London, acting for the Bishop of Argyll and the Isles. The building has been erected near the northern extremity of the town of Oban, and on one of the best sites in its beautiful bay. The church is of small dimensions, consisting only of a nave and chancel, the total length being 61 ft. inside. The gable next the sea is pierced with a rose window, and the chancel end with a triplet with traceried top. The windows in the flanks of the nave are lancets. The roofs over the nave and chancel are open-timbered; the ceiling between the spars of the roof being painted with diaper patterns in colours. The design requires a belfry to complete it. The chancel is laid with encaustic tiles. The east window, of painted glass, is the gift of Sir Donald Campbell, bart., of Dunstaffnage. The rose of the western gable has been also filled with painted glass, the gift of Mr. David Hutcheson. The lancets beneath the rose window contain memorial windows, erected by Mrs. Campbell, of Lerags. The committee applied to the late Mr. Charles Wilson, architect, for the plans for this church, but owing to his death they were subsequently intrusted to Mr. David Thomson, now of the architectural firm of Messrs. Heath Wilson & Thomson, of Glasgow. The contractors were Messrs. J. M'Corquodale, mason; W. Menzies, joiner; A. Fairgrieve, plumber; H. Brown, slater; G. M'Alpine, plasterer; C. M'Laren, glazier; R. Ferguson & Sons, painters; G. Smith & Co., ironworkers. Mr. J. Hay has fitted up the heating apparatus, and the stained glass has been executed by Mr. Wailes, of Newcastle; Messrs. Cox & Son, London; and Messrs. Hugh Bogle & Co., Glasgow. Mr. T. Duncan was the clerk of works. The entire cost of the church has been about 1,400*l*.

Newhaven (near Edinburgh).—The Newhaven fishermen have resumed their labours in bringing stones from Queensferry, towards the completion of their harbour, since their return from the Dunbar herring fishing. The plans and specifications, prepared by the Messrs. Stevenson, engineers, Edinburgh, have been laid before a number of the fishermen for their inspection. The fishermen are unanimous to go on with the work, and it is understood that the Provost of Leith will lay the plans and specifications before the dock commission and the town councils of Leith and Edinburgh, with the view of getting pecuniary aid from those bodies to complete the new harbour. The fishermen have to lay some 6,000 additional tons of stone on the breakwater, when their part of the work will be nearly completed.

Skipness.—The heritors of the parish of Saddle and Skipness, near Campbelton, have found it necessary to repair and alter Saddle Church. The last-named architect has prepared drawings for partly rebuilding it.

PROVINCIAL NEWS.

Liverpool.—The proceedings of the markets committee, laid before last week's council, contained the following recommendations:—1. Recommendation to authorise the improvement of the north and south ends of St. John's Market, upon the principle shown upon the plans submitted; and also for providing a new roof for that market, the total estimated cost being 16,200*l*., the consideration of which subject was postponed at the monthly meeting of the council in August last. 2. Recommendation that application be made to Parliament in the next session to acquire the property referred to in the surveyor's report to this committee, as No. 1 on plan, and coloured pink and green, and to appropriate the same as an enlargement of the hay-market, and as the site of a wholesale vegetable market, at the estimated cost of 83,000*l*., including the widening of streets and the removal of St. Anne's Church, in order to provide proper access, but exclusive of the cost of works. The consideration of the recommendations was deferred.

Scarborough.—The town council having received a report from the borough gaol committee, consisting of an abstract statement of the several estimates that have been sent in from contractors for the work of erecting the new gaol, and showing that the highest estimate for the entire work was 15,990*l*., and the lowest 11,323*l*., a discussion followed, the mayor observing that, as the estimates had exceeded the anticipations of the council, the question now was, should they proceed with the work or postpone it? He believed it to be practicable to modify the specifications so as to reduce the cost; but then came the question as to how far such modifications as they might make would meet the views of the Secretary of State. Mr. Voules, the Government inspector of prisons, had promised to spend two or three days with him, when his opinion on the matter might be obtained: at his suggestion, therefore, the meeting was adjourned. When first considering of the probable cost of the gaol, the mayor remarked, they thought about 10,000*l*. would meet it, including the purchase of the land; whereas they now found that it would amount to 18,000*l*., without such extra items as usually turn up in such a work.

Worcester.—Alderman Lea's Almshouses are nearly completed. The houses are in close proximity to the schools recently founded and presented to St. Nicholas parish by the same gentleman in the Infirmary-walk. The almshouses are six in number, and are built of brick, with Bath-stone facings, the front elevation being varied by dormer gables for the bed-room windows, and lines of black bricks indicating the arches of doors, windows, &c. A steep-pitched roof is surmounted by ornamental ridge tiles. The doorways have pointed arches and Gothic iron hinges to the doors; windows square-headed and transomed, and the glass set in cast-iron work, lozenge-shaped. At the base the walls are 18 in. thick, and decrease to 14 in. and then to 9 in. at the top, and the whole work has been done under the direction of Mr. H. Rowe, architect; Mr. O. Wilson, of Worcester, being the contractor. The cost will be about 2,000*l*.

Nottingham.—The tenders submitted by the builders were opened at the offices of Messrs. Jackson & Heazell, architects, for the erection of a new warehouse and show-rooms in St. Peter's-gate for Mr. William Keeling, when that by Mr. R. Willimott was accepted. The new buildings will be 90 ft. long by 30 ft. wide, and when completed the whole length of the ground floor, shops, and sale-room will be 137 ft. The front to St. Peter's-gate will be set back in a line with the new County Court buildings, and will have plate-glass windows nearly the whole height and width of each story on the ground and first floors. Internally, above the basement story, the building will be constructed with wrought-iron girders, thus avoiding the necessity for iron columns.

West Hartlepool.—A new Masonic Hall has been founded with the usual ceremonial, on a site near Christ Church, and at the head of Church-street, the chief thoroughfare in the new town of West Hartlepool, and according to a design by Bro. John Tilman (P.G.A.), of Sunderland, architect, the contractors being Brethren J. Johnson and Jonathan Salmon; and the estimated cost of the building upwards of 600*l*.

CHURCH-BUILDING NEWS.

Sherbourne (near Warwick).—A new church (All Saints') has been constructed here by Miss Ryland, of Barford-hill, formerly of Birmingham, and has been consecrated by the bishop of the diocese. The architect was Mr. Scott, and Mr. Huddleston, of Dublin, the builder. Mr. Farmer, of London, has executed the carvings. The church, which is Gothic and built of Bath stone, is internally divided into a nave, north and south aisles, and chancel. Arches divide the aisles from the nave. The pillars spring from clusters of polished marble. Over these are the clerestory windows, with marble shafts, the corbels representing angels in an attitude of devotion. All the capitals are carved. The roof is open, darkly stained and polished, and the seats are open benches, with reclining backs.

Wishford (Wilts).—The Church of St. Giles, Great Wishford, has been re-opened by the Bishop of Salisbury. The church, which was an ancient structure, being in a very dilapidated state, has been restored, principally at the expense of the Pembroke family. The architect was Mr. T. H. Wyatt. Mr. T. Miles, of Shaftesbury, was the contractor; and the works were carried out under the superintendence of Mr. J. Harding, of Salisbury. The carvings, which are Naturalesque in style, were executed by Mr. Sansom, of London. Mr. Walker, of London,

has received an order for a new organ, but it is not yet completed.

Congresbury (Somerset).—A new church, dedicated to St. Ann, and situate at Hewish, in the parish of Congresbury, has been consecrated by Baron Auckland, the Bishop of Bath and Wells. The church has been built at the sole expense of Mr. R. Phippen, of Bedminster, on a spot near where the parishes of Wick St. Lawrence, Yatton, Congresbury, Puxton, and Kewstoke converge. The site extends over about two acres, and it has been presented by Mrs. Rooke, of Frenchay. The church has been built in the Early English style, the plan being cruciform. It comprises a nave, with south porch, chancel, and organ chapel, and vestry on the north side. The north and south transepts project from the crux, which is groined in wood. On the north is a circular bell-turret, surmounted by a gilded cross. The interior of the church is paved with Staffordshire tiles. It is seated with open benches, which will accommodate 250 persons, all free. The chancel is a circular apse, containing thirteen windows, the centre of which contains the Salvator Mundi, the twelve supporting windows containing each a figure of one of the apostles. The windows form an arcading inside, resting on slate columns, and were painted by Mr. O'Connor, of London. The chancel is lined with Bath stone throughout. The roofs are open, and the nave arched and panelled. The chancel is divided from the tower by a stone arcaded screen. The edifice is built of limestone from the Worle quarries, with Bath stone dressings. The roof is covered with Bridgwater tiles. In the turret is a bell, manufactured by Messrs. Llewellyn & James, of Bristol. In a niche over the south transept door is to be placed a statue, carved in stone (by Mr. Farmer, of London), of St. Ann teaching the Virgin to read. The church has cost about 2,500*l.*, and Mr. Phippen is about to commence the erection of a glebe house contiguous to the church, at an additional outlay of about 1,200*l.* The establishment of schools is to be a subject of after-consideration.

Nottingham. Two churches, St. Saviour's, Arkwright-street, and St. Ann's, St. Ann's-road, have been consecrated. St. Saviour's is from a design by Mr. R. C. Sutton, selected in competition. The edifice is in shape a parallelogram, and consists of nave and aisles. The chancel is situate in the east end, with a vestry at one side, an organ chamber, with a stone floor, on the opposite side. The dimensions are,—Length of nave, 74 ft., and width, 24 ft. The aisles are each 74 ft. long and 17 ft. wide; and the chancel is 30 ft. deep by 24 ft. wide. The height of the nave is 46 ft. A corbelled moulded arch divides the nave from the chancel, and the aisles are divided from the nave by arcades, supported on octagonal piers with carved caps. For the purpose of increased strength, brick arches have been introduced over the arches in red and black courses. Above these arcades is a clerestory, pierced with twenty segmental triangular windows. The roofs are of open timber work, chamfered, the spandrel being filled with tracery. The style is Geometrical. A five-light window is placed in the east end of the chancel, with decorated traced head, and two-light windows, with a wheel window, occupy the west end. A tower, of three stages, is placed at the western extremity of the south side of the church. The base of the tower is 16 ft. square. The height of the spire is about 110 ft. The carving throughout is conventional, by Mr. Earp, of London. The material used in the erection of the edifice is dressed Bulwell stone, with dressings of Ancaster stone. The plumber's work has been done by Mr. Corden. The church provides accommodation for 731 persons on the ground-floor, and the cost is about 3,100*l.* The work has been carried out by Mr. J. Barker, builder, Nottingham. St. Ann's Church is of the following dimensions:—The nave is 80 ft. long and 25 ft. wide; aisles, 80 ft. by 13 ft.; chancel, 22 ft. by 20 ft.; vestry, 15 ft. by 12 ft. The church will accommodate 750 persons. The design is Early Decorated, the whole of the windows throughout being filled with geometric tracery of different patterns, no two windows being alike. There are five bays to the nave, and the capitals of the eight columns and four responds are filled with natural foliage. The whole of the windows and doors throughout have stone dressings in the inside as well as the outside. The seats are of a plain character. Mr. Clarke, of this town, is the architect. Messrs. Haw & Wool were the builders; and the various stone and wood carvings have been executed by Messrs. Pearse, Mee, & Smith. Mr. H. Spooner was the clerk of the works for this church, and also for St. Saviour's. The church affords 822 sittings, of which 290 are appropriated, and 532 free,—284 for adults, and 248 for children. The cost was 3,100*l.*

Mirfield (Yorkshire).—St. Saviour's Church, Ravensthorpe, Mirfield, has been consecrated by the Bishop of Ripon. The church stands on the south side of the Dewsbury and Elland turnpike-road in Mirfield. It will accommodate 500 persons, 350 adults and 150 children, all free. The style is of the fourteenth century. The church consists of a nave and chancel, divided from the aisle by pillars and five arches. Both nave and aisle have high-pitched gabled roofs: the latter is continued to the extreme east end, forming an aisle to the chancel. The estimate, we understand, was 1,927*l.* for all the expenses of the church and boundary walls, &c., excepting the site. The architect was Mr. J. A. Cory, of Carlisle, who some years ago built Hopton Church, in the adjoining district.

DISSENTING CHURCH-BUILDING NEWS.

Crewe.—The corner-stone of a new Unitarian Chapel has been laid in Beech-street, Crewe. The style will be Gothic, and it is estimated to cost, exclusive of the land, 1,100*l.* Its length is 54 ft. by 33 ft., and the seats will be open stalls, affording accommodation for 240 people. There is to be a platform pulpit at the north end, and an organ platform at the south end. The height of the wall to the naves will be 18½ ft., centre of roof from floor 42 ft. The roof will be of open timber, spring rafters, resting upon carved stone corbels. The walls inside, from the base line, will be plastered with rough stucco, and jointed to represent stone work. The aisles will be laid with Messrs. Minton & Co.'s encaustic tiles. At the sides, the chapel will be lighted by four pairs of lancet windows, glazed with cathedral glass, and the body of the building will be red brick, with buff facings and cornice. The roof will be covered with Bangor slate, worked into a Gothic pattern. At the north end there will be a school-room, similar in style, 33 ft. by 20 ft., separated from the chapel by three Gothic arches, springing from hexagon pillars filled with single brick walls. The entrance will be lineable with the front side, and will be similar to the entrance to the chapel. For heating purposes, slow combustion stoves will be employed. The architect is Mr. J. W. Shufflebotham, of Crewe.

Bridgwater.—The new Congregational chapel in Fore-street, Bridgwater, has been opened. The style is Geometric Middle Pointed. The whole of the work has been executed from the design and under the superintendence of Mr. Down, of Weston-super-Mare, architect, by Messrs. Shewbrooks & Son, of Taunton. The sculptured portions of the building have been carried out by Mr. Hurly, Taunton. The building will accommodate 1,100 hearers. The cost has been 4,500*l.*

Scarborough.—The foundation stone of the new Congregational Church, on the South Cliff, has been laid by Mr. Titus Salt. The edifice is in the form of a T, with nave, side aisles, and transepts. It is to be built in the Decorated style. The front faces Oliver's Mount, and the tower and spire at the south-west angle rise to the height of 160 ft. immediately opposite one of the streets which leads to the Esplanade. The main entrance is a double doorway, with shafts and hollow moulding, and a single light window on either side. Above is a rose window. The windows in the side aisles are of three lights, executed in stone. In the clerestory the windows are triangular, filled in with tracery. The transept windows are of five lights, 28 ft. high, with tracery in their heads. The extreme length of the church, including the vestibule in front, and the ministers', deacons', and ladies' vestries behind, is 130 ft., its breadth 63 ft., and height 53 ft. The transepts are 23 ft. by 30 ft. At the north-east end of the church the vestries on either side are terminated octagonally, between which is an open arcade of arches. The church is constructed to seat 1,040 persons, but by the erection of transept galleries, the accommodation can be increased to upwards of 1,200. The stone employed in its erection is a white stone from the neighbourhood of Whitby. The architects are Messrs. Lockwood & Mawson, of Bradford. Mr. Johnson is clerk of the works. The cost of the erection, including the price of the ground, is expected to be about 10,000*l.*

THEATRES.

At *Drury Lane*, Shakspeare is just now at home, drawing densely-crowded houses on the Saturday nights, when fresh plays are produced, and "good business" the rest of the week. In "Othello," neither Mr. Phelps nor Mr. Creswick is well suited, and the play drags heavily for the most part. We look more hopefully to the revival of "Cymbeline," on Monday, and the return to the London stage of Miss Helen Faucit.

Haymarket.—Madlle. Beatrice, the new actress from abroad, has succeeded, without creating any great *furore*, in interesting the English play-going public. Her appearance and bearing are greatly in her favour, and her pronunciation of the English tongue good. Mr. W. Farren's acting in the piece in which she appears, "Madlle. de Belle Isle," is much to be commended. In "Presented at Court," Mr. Buckstone resumes his original character, *Geoffrey Wedderburne*, and greatly delights his audience.

The Princess's.—"The Streets of London" has proved, as we foresaw, a lasting success. Apart from the remarkable excellence of the scenery the construction of the piece is thoroughly dramatic, and every part in it is well worked up, and remarkably well played. This was the case in the "Colleen Bawn," "The Ticket-of-Leave Man," and other of the long-runs, and should be remembered by managers generally. The "Puffy" family, with their good kind hearts, come out as a distinct and striking group; nor are such hearts rare amongst the poor, difficult as it may be to preserve them. *Badger*, as played by Mr. George Vining, is the central part of the piece; but all the other characters have their fair share of opportunities, and the result is a striking whole, which will probably take the manager up to Christmas, with flying colours.

Books Received.

VARIORUM.

"The United States Sanitary Commission," reprinted from the *North American Review* for April, 1864. Boston: Crosby & Nichols." The Federalists have profited by our costly experience in the Crimea, and have not waited till their armies were decimated by insanitary arrangements, as we did, before appointing a sanitary commission. In this reprint the scheme of its operations is unfolded, and the nature, methods, and results of its labours are examined. The various labours in which the commission engaged were grouped in two separate but co-ordinate departments,—that of preventive service and that of supplementary supply and relief,—both of which were equally inspired with the ideas of health, humanity, and patriotism. The *preventive* or strictly sanitary and scientific department of the work, from the first, has comprised,—1st, a corps of sanitary inspectors; 2nd, a bureau of sanitary and vital statistics; 3rd, the directorship of the distribution of the commission's supplementary supplies or "sanitary stores;" 4th, the preparation and publication for free distribution among medical and other officers, of compendious monographs upon the most practical subjects in army hygiene, surgery, and medicine. The department of *relief* is co-ordinate with that of *sanitary inspection*, and, so far as its ministrations relate directly to life and health, it is under the direction of the inspectors or medical officers of the *preventive* or sanitary department of the service; while the various branches of *relief* not thus related to the sanitary service constitute the system which is designated as that of *special relief*. All these branches of the commission's work sprang into operation under the original scheme of organization, and from the pressure of events during the early months of the war. During the past six months, the vast assemblage of hospitals within the defences of Washington, the field-hospitals at Gettysburg, and the entire sick population of General Gilmore's command, have been provided by the Sanitary Commission with full supplies of vegetables, and all other fresh provisions that could best be obtained from the markets of Philadelphia and New York. The total expenditures of the Commission for such supplies, during the last three months of 1863, amounted to nearly 120,000 dollars. It is stated, upon good authority, that more than a hundred thousand Federal soldiers have been wounded in battle since the war began, and that disease has already brought into the military hospitals,

general and regimental, *upwards of two millions* of cases. The President of the Commission has stated that "50,000 dollars would not cover the cost of our whole service [of supplementary supplies] in the first two weeks after any one of our great battles. At Gettysburg it was 75,000 dollars."——"Ince & Gilbert's Outlines: Descriptive Geography—Outlines of Roman History. Kent & Co., Paternoster-row." We have already spoken in commendatory terms of this series of outlines; and, we think, of the part on Descriptive Geography itself, by Professor Wallace, now before us. The "Outlines of Roman History" are by the Rev. E. Boger, M.A., Head Master of St. Saviour's Grammar School, Southwark, and give a condensed and skilful view of Roman history, exceedingly well adapted for the young of both sexes.——The *Art-Journal* has a chapter on "Ancient Egyptian Decoration," illustrated with a number of drawings by Mr. Edward Hopley. W. J. Müller, who died too soon, is the artist whose style and character are illustrated.——The paper, "Imogen in Shakspeare and in Sculpture," in the October *Fraser*, reviews the statues which were submitted to the Art-Union of London in reply to their offer of 600*l.* for the best. The writer, with especial condemnation of "Imogen" as misrepresenting Shakspeare's creation, deduces from the collection that "many of our sculptors seem contented to appeal, not to the common noble features of our nature, but rather to its physical instincts and its pruriency." We do not desire to endorse the observation: we simply note it.——The *Art-Student* for the month has a good deal of instructive writing and interesting chit-chat.——Under the heading "Men I have known" (in the current number of the *Leisure Hour*), understood to be by a veteran in literature, William Jerdan, an interesting and appreciative notice is given of the late John Britton, author of the "Cathedral Antiquities." They were friends of long date, and the memoir shows that Mr. Jerdan fully understands the difficulties under which Britton ran his remarkable career. Mr. Jerdan proposes, we believe, to publish as a volume these pleasant notices of men he has known.——Amongst the reading-books for the young that have reached us is an addition to the series known as "The Magnet Stories," by Mrs. Broderip, titled "Wee Maggie." The subject is not novel, the struggles of an orphan girl; but the story is told with a good and graceful pen. We may also name in the same paragraph, "The Crosses of Childhood; or, Alice and her Friends," and "Marie and the Seven Children," by Mrs. Geldart, both published by Partridge. All are illustrated to a certain extent.

Miscellanea.

The Temple.—A handsome range of stone-fronted houses has been erected on the vacant ground in the Temple, facing the Temple gardens. Professor Smirke, R.A., is the architect. Other houses will be built hereafter to complete the façade.

Kenilworth Church.—A correspondent asserts that in the present "restoration" of Kenilworth parish church, the low window in the south chancel wall, and the sedilia, both of fourteenth century work, are condemned to destruction! Why?

Illuminations by Female Artists.—Messrs. E. Fuller & Co. offer two *prizes* for the best original composition designed and illuminated on vellum. As we read the offer, however, it seems to be little more than an endeavour to get two good designs at a very cheap rate. Exhibitors are only to be charged 15 *per cent.* on the amount of any sales that may be effected. How kind of Messrs. Fuller!

Buddha in Birmingham.—The copper statue of Buddha, 7 ft. in length, which was discovered by Mr. E. B. Harris, C.E., while excavating for a railway at Sootan, in the Bengal Presidency, has reached Birmingham, and is destined, by the proprietor, Mr. Thornton, to be placed in the Midland Institute. This statue is said to be of extreme antiquity: it was found 10 ft. below the surface, and underlying the covered ruins of a temple, which must have been built upon the site, of a still more ancient temple or monastery amongst the ruins of which the statue was found. It is entire except one of the feet, and is reported to be of masterly workmanship. The age of it is called 2,500 years.

Water Supply for Gainsborough.—A waterworks company is about to be formed at Gainsborough. A good many shares, we learn, have already been taken.

Rochdale Borough Surveyorship.—On the 6th, Mr. Alfred Fowler was appointed borough surveyor of Rochdale. There were fifty-five applicants for the office.

Surrey County Hospital.—The last four numbers of the *West Surrey Times* contain a long account of the county hospital now progressing towards completion; from the designs of Mr. E. W. Lower. Mr. W. Barnes is the builder; the amount of the contract, 11,303*l.* The total cost is expected to be about 15,000*l.*

Missing Almshouses.—A Tewkesbury paper states that the late Mr. John Dent left 8,000*l.* to the town of Winchcomb to build and endow almshouses and schools at the expiration of four years from his decease: he died in October, 1855 (nearly nine years ago), and not one stone of either building has been laid yet.

Preservation of Wood.—The following method is used in Germany for the preservation of wood.—Mix 40 parts of chalk, 40 of resin, 1 of linseed oil, melting them together in an iron pot; then add 1 part of native oxide of copper, and afterwards, with care, 1 part of sulphuric acid. The mixture is applied while hot to the wood by means of a brush. When dry it forms a varnish as hard as stone.

Valuations under the Lands Clauses Act. In the case of Cotter *v.* The Metropolitan Railway Company, a valuation made by a surveyor, appointed under the provisions of the 85th section of the Lands Clauses Consolidation Act, 1845, who never entered the buildings valued, was held by Vice-Chancellor Kindersley not to be a proper valuation within the meaning of that section.

The Old Town-wall of Southampton.—We are glad to observe that the town council have at last resolved, by a majority of sixteen to fourteen, to purchase the site on which the fragment of the town wall stands, which was lately redeemed from immediate destruction as building materials, so that the relic will be permanently secured. Some of the councillors, however, still threaten further opposition to the granting of the requisite money—some 300*l.*,—although it will yield 3 per cent. per annum on the outlay.

"Westminster Chapel."—With reference to the view we recently gave of new Westminster Chapel, the Secretary of the Committee says,—"I shall be obliged by your stating that the building referred to is being erected for the church and congregation long established on the same spot, under the pastorate of the Rev. Samuel Martin, to take the place of a much smaller building erected in 1841, the accommodation afforded by which proved insufficient for the congregation; and is not, as might be inferred, a new undertaking of the Congregational body. In reference to the statement as to the heating of the building, I beg also to say that the committee have not yet come to any decision as to the system to be adopted, and have, as yet, simply made such provisions as would be necessary in any case."

Liverpool Architectural Society.—The first meeting of the seventeenth session was held on Wednesday, the 5th, Mr. Joseph Boult presiding. The chairman called the attention of the members to a view of the interior of the newsroom of the New Exchange, which had been left there by Mr. Wyatt, the architect. It was announced that a prize for the best view of Duke-street, looking towards the Sailors' Home, had been awarded to Mr. N. G. Taylor. The chairman delivered an address, in which he said it was sixteen years since the society was instituted; and to those who remember the state of the profession in the town at that time it was manifest that the society had been very serviceable, but its beneficial effects might be augmented. He referred to the unwillingness of some architects to join the society, and said it was important to beware lest *esprit de corps*, so valuable within proper limits, degenerated into exclusive and vulgar arrogance. Professional training was very good, but it would not create an architect of the highest order. He invited co-operation in the healthy working of the society. He also commented upon the report of the town improvements projected and in progress, and advocated play-grounds and large public parks.

The Drinking Fountain Movement.—A fountain has been erected in Hull, at the cost of Mr. R. Sykes, and was recently inaugurated by the mayor.

Isle of Man.—The Public Works Loans Commissioners have granted a loan of 52,800*l.* to the Isle of Man Harbour Commissioners, to be applied to the construction of a breakwater at Port Erin.

Quebec Custom-house Burnt.—The costly new Custom-house at Quebec, finished only in 1860, has been destroyed by fire, probably originating in connexion with the plumbers' work which had been going on for some days on the roof.

New Masonic Hall at Hartlepool. The members of the Harbour of Refuge Lodge of Freemasons, No. 764, of West Hartlepool, have laid the foundation-stone of a new Masonic hall. The building site is in the vicinity of Christ Church, nearly opposite the National Schools. The new hall will be a stone erection, and will afford large accommodation. The architect for the building is Mr. J. Tilleman, of Sunderland; and the builder, Mr. J. Johnson, West Hartlepool.

Water Supply at Horsforth.—The late scarcity of water having been seriously felt at Horsforth, a number of the inhabitants of that place resolved to form a joint-stock company for the purpose of establishing waterworks. Engineers were invited to compete, a premium of 50*l.* being offered for the best set of plans submitted. The directors received eight designs, and from them selected as best one received from Mr. McLandsborough, C.E., who has been instructed to carry out the scheme.

The Sheffield Inundation Commission.—The first meeting of the commission constituted under the Water Company's (Bradfield Inundation) Act, to ascertain and assess the claims against the company arising out of the disaster in March last, took place in the town-hall, Sheffield. The proceedings were held in the sessions-court, which was crowded during the day by numbers of the working classes, many of whom had, no doubt, an interest at stake. The commissioners are three in number, the chief being Mr. Wm. Overend, Q.C., and his colleagues, Mr. J. J. Smith, J.P., and Mr. M. F. Mills, estate agent, Chesterfield. The Water Company were represented by Mr. B. Smith, and there was a numerous attendance of gentlemen of the legal profession interested on behalf of the claimants. The Act gives to the commissioners very extensive powers. Their orders have all the effect of a verdict at *nisi prius*; and there is no appeal from their decision. After various cases were heard and disposed of, the sitting was formally adjourned until the 7th of November.

A Smoke-consuming Furnace.—There is in operation at the engineering works of Messrs. Moreland, Old-street, City, a furnace patented by Mr. E. B. Wilson, which is said to economise fuel to a considerable extent, and which may be rendered almost smokeless. This furnace, which is used for heating rivet bars, has no fire-bars. It consists of a chamber, or box, at the back, to contain the fuel, and a reverberating oven connected therewith, the flue being at the other end of the oven, and connected with the ordinary chimney-stack. The coals are ignited in the box, to which they are supplied about twice a day. As there are no fire-bars in the furnace, the air enters upon the surface of the fresh coal in the box, causing a downward draft, as the floor of the reverberating oven slants downwards from the coal-box. The gas is thus slowly and continuously distilled until it comes in contact with the lower strata of burning coals, when it receives its proper dose of caloric, and passes into the reverberating oven, heating any material that may be placed there, and passes away downwards by the flue which descends at a point a little inwards from the mouth of the oven. The principle adopted seems to be simply that of turning a common fire upside down, not unlike "the *Builder's* Fire," or a furnace back foremost, so that the fresh coal is applied at that end whence the smoke of its first ignition goes through the fire and is consumed, instead of being placed on the end of the fire, whence the direction of the draft carries it off as soon as evolved. The principle is very simple, and probably efficient, though not novel. The Messrs. Moreland, we believe, have no special pecuniary interest in the invention.

Guernsey.—A ladies' bathing-place, at the Vallette, Guernsey, is to be commenced forthwith, and is to be completed by the close of the year. It will consist of a broad platform, 25 ft. in width, extending from the slip at La Vallette in a northerly direction, and abutting on a ridge of rock which is found there. A flight of steps will conduct from the platform to the bottom of a gully formed by nature, between the aforesaid ridge of rock and another lower ridge on the south side of the gully. Mr. John Duquemin is the contractor.

Monumental.—At a meeting of the Wolverhampton Albert Memorial Committee, it has been unanimously resolved that Mr. Thornycroft, the sculptor, proceed with the work; the mayor to move in council for permission to use the site now occupied in the High Green by the Russian cannon. The memorial will be an equestrian statue, larger than life, and its cost, with conversion of the gun pedestal, will be about 1,150*l*. —— Sir Roderick Murchison writes to the *Times* that his geographical friends and himself have resolved to move for the erection of a suitable monument to Captain Speke. He appeals for contributions. —— Foley's statue of Father Mathew, the apostle of temperance, was unveiled on Monday, in Cork. The pedestal, which is from a design by Mr. Atkins, architect, is 9½ feet high, of limestone, and contains on either side a drinking-fountain. The principal stone in the pedestal weighs over three tons. The figure, which is cast in gun metal, weighs 33 cwt., and stands 8½ feet high.

Building Operations at Freshwater, Isle of Wight.—A private company have purchased 400 acres of land for building purposes, in the parish of Freshwater, and including Alum Bay. A hotel is now building there at a cost of 5,500*l*., the architect being Mr. Frere, of London, and the builder, Mr. Wheeler, of Cowes; and a house, containing sixteen rooms, is also nearly finished in the immediate neighbourhood of the new hotel: in addition, a London building firm have just secured twenty acres of the land, upon which they intend erecting a number of villas, at a *minimum* cost of 1,600*l*. each; and for the accommodation of the population a new church is to be erected at a cost of 2,500*l*. A new road, of an average width of 33 feet, exclusive of the footpaths, has been already made from the New Hotel to Weston, and this road is to be carried on from the latter place into Yarmouth at the cost of the Highway Commissioners.

Iron.—The *Iron Trade Circular* says,—"At the preliminary meeting of the Ironmasters' Association, held on the 29th ult., at Birmingham, it was resolved unanimously 'That the prices of iron remain the same as fixed on last quarter day.' With a similar unanimity the meeting adopted the further resolution 'That, in the opinion of this meeting, the most determined resistance should continue to be offered to the demands of the colliers now on strike, as well as to those of the men whose notices are about to expire; and if, by the continuance of their disgraceful and illegal practices and acts of intimidation towards both men and masters, in this and other districts, the supply of coal is still further diminished, the members of this meeting will be prepared to blow out their furnaces and shut up their mills and forges.' Prices stand at, —pigs (best hot-air), 3*l*. 5s. to 4*l*. 5s.; seconds, 3*l*. 10s. to 3*l*. 12s. 6d.; cinder pigs, 3*l*. to 3*l*. 5s.; hæmatites, 3*l*. 10s.; Forest of Dean, 3*l*. 15s. to 4*l*. 5s.; North Staffordshire pigs, 3*l*. 5s.; Cleveland pigs, 3*l*. 2s. 6d. to 3*l*. 8s., long weight, delivered into this district. Manufactured iron, —bars (marked), 8*l*. 10s.; hoops, 9*l*. 10s.; sheets, singles, 10*l*.; doubles, 11*l*. 10s.; lattens, 13*l*. All other descriptions in proportion at makers' works. The Midland district of England, and the central hive of industry, is almost in a state of insurrection, so far as the working population are concerned: 300 police are kept on the alert night and day, and the volunteers (a new employment for our national defenders), have been mustered and kept under arms lest the colliers on strike should march (as they promised) into Birmingham for other purposes than begging. Such a state of things has not been witnessed since 1836. Nor is the mischief likely to rest here. Owing to the commercial treaty between England and France, several reductions of duty, of great importance to the iron trade, have come into operation. Cast iron, which is subject at present to an import duty of 2*f*. 50c. the 100 kilogrammes, will pay 2*f*. Bar iron, which pays at present 7*f*., will pay 6*f*."

Manchester New Town-hall. — The City Council have decided, by a majority of one, in favour of the Albert-square or police-yard site for their proposed new town-hall. It has been resolved to go to Parliament for powers to purchase this piece of land, and to apportion the outlay between the two townships.

Workmen's Shakspeare Memorial.—A meeting of the Executive took place at St. John's Gate, Clerkenwell, on Tuesday evening. A long list of subscribers having been read over, in which many well-known names appeared, it was reported that sheets of the Shakspeare Heads, containing seventy penny receipts, were now ready to be issued to persons who felt an interest in the movement, and that a large number had already been applied for from benefit, trades, and working men's literary societies.

Value of Land, Newport.—Last week several lots of freehold and copyhold land were sold by auction at the Crown and Anchor Inn, Newport, near Staddlethorpe. Lot 1 was a close of arable land, in the township of Gilberdike, containing upwards of eight acres: it was sold to Mr. J. Shaw, of Newport, for 450*l*. Lot 2 consisted of two closes of arable land at Eastrington, called "Two Nine Acres," containing, as the name implies, eighteen acres. This was bought in at 1,000*l*. Lot 3 comprised a close of arable land, and was six acres in extent. Mr. G. Scruton, of Newport, was the buyer at 265*l*. Lot 4, a close of swarth land, comprising three acres, was sold to Mr. Wm. Oliver, of Wallington, for 181*l*. Lot 5, a close of swarth land, containing four acres, was knocked down to Mr. F. Leak, of Hotham, for 315*l*.

The London Association of Foremen Engineers.—At the last ordinary monthly meeting of this society, at its rooms, in Doctors' Commons, City, the business transacted was principally connected with the position and prospects of the institution. The number of members, honorary and ordinary, was stated to be over 100. The funds amounted to about 400*l*. It was determined that no candidate for ordinary membership could in future be received after he had attained the age of fifty years, and that a majority of votes in the proportion of four to one should be substituted for the unanimous vote hitherto required. Mr. J. Newton (who presided) strongly urged upon his fellow-associates the necessity for their production of a regular series of papers, to be read at the meetings to be held during the ensuing winter. Some new members were elected.

Melting and Casting Steel and other Metals.—A new system has been patented provisionally by Mr. Rochussen, who claims for it the advantage of great saving in labour, fuel, fire-clay, crucibles, furnace-bars, &c., and in shortening the time required for melting, and running less danger of injury to the metal by the action of oxygen, carbonic oxide, carbon, and sulphur. The temperature of the furnace is said to be completely under control. The patentee claims, as entirely new and peculiar, the principle of,—1st, casting without removing the crucible from the furnace; 2nd, that of filling the whole capacity of the crucible with molten metal, by means of charging the hollow cover. A description of the invention would require to be illustrated by engravings.

TENDERS.

For new Roman Cath. de Church, Widnes, near Warrington, for the Bishop of the Diocese. Mr. Pugin, architect:—

	For entire Church.	For Nave alone.
Wards	£4,397	...
Middlehurst*	3,250	£2,595
Glaister	3,220	2,600
Hughes	3,100	...

* Accepted.

For new manufactory and engine-house, offices, stabling, &c., at the Fulham Potteries, for Mr. C. J. C. Bailey. Messrs. Eggar & Stapley, architects. Quantities supplied.

Messrs. Dawson	£2,877	0	0
Aviss & Son	2,648	0	0
Adamson & Sons	2,639	0	0
Greig	2,626	0	0
Whigmore & Whittick	2,540	0	0

For St. Philip's Parsonage, Stepney. Mr. A. W. Blomfield, M.A., architect. Quantities supplied by Mr. J. A. Bunker:—

Warskett	£1,740	0	0
Woods	1,443	0	0
Dudley	1,440	0	0
Wheeler	1,436	0	0
Browne & Robinson	1,415	0	0
Hill & Co.	1,395	0	0
Turner & Sons	1,389	0	0
Child & Son (accepted)	1,369	0	0

For a beer-house and offices, at the North Camp, Aldershott, for Mr. J. H. Daveran. Messrs. Eggar & Stapley, architects:—

Duke	£576	0	0
Goddard & Son	555	0	0
Birch	530	0	0
Martin	513	0	0

For new Wesleyan school-room, &c., Penge. Mr. F. Boreham, architect:—

Warne	£935	0	0
Knight	712	0	0
Richards	637	0	0
Palmer	587	0	0
Thompson (accepted)	576	0	0

TO CORRESPONDENTS.

G. B.—A. P.—W. C. B.—J. McL.—W. S.—A. T.—J. H.—A. B. T.—W. S.—P. P.—C. H.—V. B.—H. H. R.—J. J.—T. J. (next week).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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REPRINTED FROM "CHAMBERS'S JOURNAL," *OCTOBER* 15, 1864.

THE LONDON SHOP-FRONTS.

THERE are few people who have not been struck with the magnificence of the London shop-fronts. They form one of the most prominent indications of the grandeur and wealth of the metropolis. Enormous plate glass windows, gilded or polished brass frames, expensive mirrors, polished mahogany frames, and all sorts of fancy woodwork, sometimes crystal colonnades, and generally a singular covering of iron Venetian blinds, which roll up and down by intricate machinery, like a stage curtain displaying or concealing the gorgeous scenery within—these are the necessary decorations of a fashionable London shop of the middle of the nineteenth century.

The whole system of the London shop-front decoration may be properly analysed into three divisions,—namely, 1. Plate-glass Windows; 2. Ornamental Brass Sash-bars; 3. Revolving Iron Shutters.

Regarding the plate-glass windows, however, we shall have very little to say. The process of the manufacture of plate glass, together with its multifarious application in the decorative arts is familiar to all. Still, we may point out that the fiscal regulations of this country with respect to plate glass for many years interposed the most serious obstacles to its important uses; that it was not until the duty was removed by Sir Robert Peel that it came into free use; and that the consumption has now increased to an extent which has no parallel in the history of fictile manufactures. The origin of plate-glass decoration carries us back to the Italian cities of the Middle Ages, to the magnificent period of the Venetian republic. It reached its height, perhaps, as an artistic development at the French court of Louis XIV. although there are larger plates in the Palais Royal and the Louvre at the present day. The Parisians, who, it must be admitted, are our masters in the principles of interior decoration, are exceedingly lavish in their expenditure of plate glass, particularly in the form of mirrors; but we think the English shops them in the matter of windows. These, indeed, have sometimes reached a size so enormous that we hardly know how to estimate their cost; and they have properly become the subject of a special form of assurance, where their risk of destruction or fracture is guaranteed at a certain moderate premium on the cost. It will be remembered, of course, that, by the common law of the country, a shopkeeper cannot recover more than the statutory sum of two-and sixpence for an accidental fracture of his plate-glass windows: and this was abundantly proved during the proceedings instituted against the civil authorities which sprang out of the Clerkenwell riots. Some of the largest windows in London contain from two hundred to three hundred pounds worth of plate-glass; and windows with extraordinary large plates, such as occur in Oxford-street or Regent-street may amount to twice the value.

The original brass window frame, or sash-bar, was made of pieces of brass cast in short lengths, and soldered together. There were certain difficulties, however, always experienced in making good work and an elegant finish in this kind of work. For example, the castings were not always of the same colour; the joints were easily seen, and the metal being sometimes porous or honey-combed, as is the case in all castings, absorbed the polishing-paste or other impurities, and looked very ugly. To obviate these disadvantages, the French hit upon the expedient of making the bar out of one single length of sheet-brass, with an interior skeleton of wood. Brass sash-bars, as we now see them, are therefore a French invention, although they have been much improved in principle of construction by the present manufacturers. The French invention formed the subject of a patent in this country by the late Mr. Richard Cureton, of Brentford, from whom Messrs. Bunnett & Co. of Deptford, purchased it about the year 1838 or 1839. The invention was then in a very crude state; and, in order to carry out their plans of improvement, the latter-mentioned engineers constructed for their manufacture one of the most powerful draw-benches in the kingdom, on the model of that employed in her Majesty's Mint, capable of drawing very large mouldings and sash-bars in all manner of sectional forms, from the square to the circle, and in every variety of ornamental design. What appears a solid brass window-frame consists, therefore, in reality, of a stout, well-seasoned oaken centre or core, supplied with a thin outer covering of sheet-brass. The method of manufacture is highly ingenious. In the first place, the seasoned oak or other hard wood—mahogany, we believe, is often used—is cut into the required form by one of those singular moulding-machines which gave so much offence to the operative joiners at the builders' strike. Then a length of sheet brass is cut to the required width, and shaped in order to correspond with the outline of the wooden moulding or bar. The wood is then placed in this shell; and with suitable top-dies of a peculiar formation, the outer edges of the metal which project beyond the wood are turned over and so firmly compressed—metal and wood, *core* and *case*—as to resemble a solid substance; indeed, we believe that one of these bars may be cut into thin slices on the section, not thicker than a sixpence, and yet retain its coherence as firm as if made of solid metal. The sheet brass makes a better surface and receives a better polish than the old cast brass sashes which were once in use; and strange enough it would seem (but easily understood by those who are acquainted with the statics of hollow beams), that the bar with the wooden core is much stronger than one made of solid metal, and will resist probably ten times as great a lateral pressure—a pressure, for example, arising from the thrust of a crowd. It should be explained that this is partly due to the iron tongue which travels the length of the bar, and serves at once as the rebate for the reception of the glass, and as an additional support. After being polished by the usual process, these brass bars are mitred at the corners; and after being screwed together in their place, are ready for the reception of the plate glass. The sizes of these sash-bars vary from 1 inch to a foot, or 15 inches in circumference. Some of their designs are very beautiful; and the Greek ogee moulding predominates as an architectural type.

The brass window frame which contains the plate-glass has a peculiar bar base, which is technically termed a "stall-plate;" it is the plate on which the shopkeeper's name and occupation are usually displayed. It had its name, we suppose, when the London shops in reality resembled in the literal title of stalls, before the era of plate glass and brass bars; but now it is simply used for the purpose we have named.

The groundwork or shield on which the shopman may emblazon his title and degree. The stall-plate, which is an indispensable adjunct of the whole work, is manufactured partly in the same way as the sash-bars, by being drawn through steel dies to the required shape, which is usually that of an ogee or double curve. The engraving on some of these brass plates is worthy of notice. It is a branch of art of itself.

The ornaments connected with brass fronts, such as those on the bases and capitals and between the spandrels of the arches, are for the most part cast from original models, and in harmony with the designs supplied by the architect of the building. These designs in London are not restricted to one particular school of art. A cursory glance along Oxford-street or Piccadilly will supply instances of every style of architecture under the sun. The highest form, and that which is most in vogue, is the pure Greek type—of this, one of the best examples in London is Hodge & Lowman's in Regent-street. Maclean's in Fleet-street, is a gorgeous specimen of the French decorative school. Hyam's, in Oxford-street, is a magnificent example of the Tudor. Copestake's, in Bow Churchyard, is richly ornamented Norman. Gibbs's Chappell, in New Bond-street, was designed by Mr. Owen Jones, and is, of course, the purest Alhambra—even to the letters on the stall-board! The most wonderful display of brass and plate-glass in all London is, perhaps, that of Moses & Son, in Aldgate and the Minories, their fronts, however, so far as we can see, do not belong to any particular school, but are a compound of all. Castellated bars, rounded and bronzed, are also used extensively in shop-fronts. They can be made quite as ornamental, and are more economical than brass; and the public taste is at this moment running a good deal in this direction.

Revolving iron shutters are a modern invention. They have not been in use for more than thirty years, and the introduction of this useful and ingenious contrivance for the protection of property from robbery, from fire, and from riot-commotion, was due in a great measure to the late Duke of Wellington, who introduced them into Apsley House. It was in the year 1817 that Messrs. Bunnett & Co. obtained their original patent; and their shutters were first applied to the premises of Swan & Edgar, in Regent street, where our readers have often doubtless observed them. Nearly all the banking and insurance companies are also supplied with them; then the goldsmiths and jewellers; and now there is hardly a respectable shop of any description erected without them. They are besides, in very general use throughout the Continent of Europe and America, as well as the British Colonies. Some of the most expensive shop fronts in the world are to be seen in Melbourne, in Australia. Although, revolving shutters are for the most part made of iron, always so for banks and goldsmiths' shops—generally so for the windows of ordinary places of business—yet, where greater elegance is required, they are frequently made of bright or oxidized brass or copper. Where economy is more studied than elegance, they are made of wood; but whether made of wood or metal, the principle of a revolving shutter is the same, being all constructed of narrow strips or laths, varying from one to two inches in width, connected together with wrought iron hinges, and revolving round an iron roller at the vertical side or bar partially, as required by the convenience of the window, when they are opened or shut. In large shutters, they are wound up or down by a worm and wheel gearing; if small shutters, with a simple arrangement of balance-weights, like the ordinary window-sash. At first, the expense of these shutters was very great, and deterred many from their use; but now that powerful machinery is applied to their manufacture, the cost, we believe, has been reduced to something like one-half of what it was originally. In fact, it may be seen that revolving shutters are gradually superseding the old-fashioned wooden shutters for all but the more humble description of shops, and we do not think the public need regret this, seeing the risk attending their being put on; nor the poor shopmen, who were kept so frequently putting them on. The large shutters are made like a sheet of canvas, or up and down like a weak suspension-bridge. Accordingly they have been generally superseded by a lath of convex shape, which was patented in 1844; which, again, in 1850, was improved on by inflecting the lath into an ogee or curvilinear form—a form which is found to combine the maximum of strength with the minimum of weight.

These "curvilinear shutters," as they are called, are made at Deptford, from iron hoops of the best quality, which are formed into the required curve, by drawing them through steel dies. The laths are then passed under a very quick acting till-hammer, with polished steel head and anvil, which makes them very stiff, and hardens and straightens them at the same time. They are then punched for riveting on the hinges in a press, which makes all the holes at once; and the hinges themselves are punched at the same press, which insures perfect accuracy in the fitting on. The hinges are manufactured by a variety of ingenious processes, which we have no room to describe; but they are all made by machinery—a file or a drill is never employed. The laths are then taken, one by one, and placed on a bench; the hinges are riveted on in rows at a certain distance; when the required number of laths are thus fastened together—one hundred or two hundred, perhaps—the revolving iron shutter is complete. The machinery for winding and unrolling is too technical to be of interest, although highly ingenious. We shall only notice further the last improvement in this direction, which is termed the "interlocking shutter."

The "interlocking revolving shutter" is an American invention, and certainly an ingenious one. They are formed without either hinges or rivets. The patent refers to nothing more than a method of doubling or contouring, so to speak, the edge of the one hoop round the other, so as to constitute a kind of hinge—making the whole shutter one series of hinges, in fact, turning on their own axis. This is accomplished by a ponderous and expensive machine made for the purpose, which is, we believe, the only one of its kind in the world. The two edges of the lath being turned over in a volute—the one somewhat longer than the other—the two are joined together by simply sheathing the one in the other; and as this joint is perfect from end to end, no force can possibly separate them. These interlocking shutters, of themselves so strong, can nevertheless be made very light, and are therefore suitable for fixing inside of rooms with existing windows. We believe they can be made to work without gearing by a system of graduated balance weights, so easily that a child or a female servant can manage them; and they are, we are told, particularly well adapted for a state of society where brigandage prevails, as in Italy; where assassination is frequent, as in the west of Ireland; and particularly where burglary is not uncommon, as in certain districts of county England. Indeed, the great recommendation of these iron shutters consists in the fact, that they are all more or less "fire-proof, thief proof, and bullet-proof."

With regard to the use of iron shutters for safety against fire, this was curiously exemplified in a recent conflagration in the City. "The large and handsome warehouses"—we quote from the "Times" of 22nd December—"of Messrs. J. & R. Morley, situate at the corner of Gresham and Wood Streets, overlooked by a large window on the ground-floor at the back of the little court in which the fire originated, and to which it was at first confined. This large window was protected on the outside by a revolving iron shutter, and that more against robbery than fire. For some time the flames played fiercely and harmlessly about the outside of the window so guarded by the iron shutter. Had they once entered Messrs. Morley's premises at that point, the stock stored inside, and estimated at from 250,000*l.* to 300,000*l.* would inevitably have been destroyed, if, indeed, the devastation would have ended in that one vast pile of buildings. Upon such a slender condition of safety did property almost fabulous in value, and belonging to a single firm, depend in this case."

The use of iron shutters of the kind described, as a preventive of robbery, has been found of the highest value. It is quite impossible to open them from the outside; it is quite impracticable to "cut through a panel" or to "force a hinge." We have it on the authority of an experienced City detective that the most expert "craftsmen" never venture to attack these iron-clad windows. They have a greater affection for the old wooden shutters, which yield so freely to their ordinary implements.

With regard to their application to warlike purposes, to which, in these days, all such inventions are more or less subordinated, we have to report a most novel and singular application of the principle by the Spanish Government, who had constructed on London a series of revolving "steel mantelets" for the protection of the crews of their vessels of war, when proceeding up the Mersey rivers. The pirates were in the habit of picking off the men on board, from stations on the banks; and to prevent this half-practice, these mantelets—made of steel strips, about 3 inches wide, and strongly hinged and curved, so as to make the balls glance off—were hung at the sides of the vessel. When not in use, they were rolled up and stowed away. Of course, they were not intended to act as defences against an Armstrong gun!

Finally, with regard to their important uses in civil commotion—of which this country is happily so free—we may remark that iron shutters are rapidly being introduced into all the thoroughfares of the principal cities of continental Europe. They have long been used in large towns of the United States. The value of property in Paris during the last *coup*, and in New York during the late riots, from this protection, was almost incalculable.

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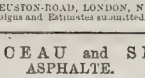
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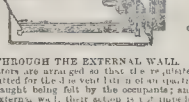


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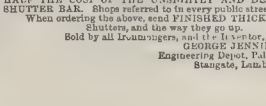


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The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Bannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
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N.B.—Every Description of the Building Goods of the Trade always in Stock.

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J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
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" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 40s. per 1,000.
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NEW STOCK NOW READY.
FINE WHITE BRICKS.
BEST RED BRICKS.
White, Black, and Red Gutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS,
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Delivered to Vessels in the Lock at the Kilns, in the River Medway.
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The advantages of this plan are two-fold.
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Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE, a well-selected Stock of Statuary, Vein, Faonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardiglio, Black and Gold, Greotte, Breccia, Sienna, St. Ann's, Languedoc, Vert des Alpes, Black, &c. &c.; and Alabaster, in Blocks, with slabs of several of those qualities. Also Solid Marble Baths and Mortars, and Vases and Figures, in Statuary and Sienian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

SERPENTINE, large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
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Caen, Ashlar, Portland, Bath, Yorkstone, Granite, and all other stones, in block and slabs, sawn, self-faced, and worked to order. Table Paving, Landings, Steps, &c. At Depôts, and shipped direct by vessels, or railway.

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The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes; also for Macadamising.—Samples sent, with prices, on application to the Manager, F. M. CROKER, Gunnislake, Cornwall.

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Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from dust at any railway station.
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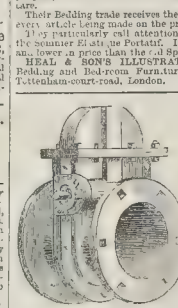
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HEAL & SON have observed for some time that it would be advantageous to their Customers to see a much larger selection of Bed-room Furniture than can conveniently be displayed, and that to judge properly of the style and effect of the different descriptions of Furniture, it is necessary that each description should be placed in separate rooms. They have therefore erected large and additional Show-rooms, by which they are enabled not only to exhibit their Show of Iron, Brass, and Wood Bedsteads, and Bed-room Furniture, beyond what they believe has ever been attempted, but also to provide several small rooms for the purpose of keeping complete suites of Bed-room Furniture in the different styles.
Japanned Deal Goods may be seen in complete suites of five or six different colours, some of them light and ornamental, and others of a plainer description. Suites of Stained & Polished Deal Gothic Furniture, Polished Deal, Oak, and Walnut, are also set apart in separate rooms, so that customers are able to see the effect as it would appear in their own rooms. A suite of very superior Gothic Oak Furniture will generally be kept in stock, and from time to time new and select Furniture in various woods will be added.
Bed Furniture are fitted to the Bedsteads in large numbers, so that a complete assortment may be seen, and the effect of any particular pattern ascertained as it would appear on the Bedstead.
A very large Stock of Bedding (HEAL & SON'S original trade) is placed on the BEDSTEADS.
The stock of Mahogany Goods for the better Bed rooms, and Japanned Goods for Boom and Servants' use, is very greatly increased. The entire Stock is arranged in eight rooms, six galleries (each 120 feet long), and two large ground floors, the whole forming as complete an assortment of Bed room Furniture as they think can possibly be desired.
Every attention is paid to the manufacture of the Cabinet-work, and they have just erected large Workshops on the premises for this purpose, that the manufacture may be under their own immediate care.
Their Bedding trade receives their constant and personal attention, every article being made on the premises.
They particularly call attention to their Patent Spring Mattress, the Sommier Elastique Portatif. It is portable, durable, and elastic, and lower in price than the old Spring Mattress.
HEAL & SON'S ILLUSTRATED CATALOGUE of Bedsteads, Bedding and Bed-room Furniture sent free by Post.—196, 197, 198, Tottenham-court-road, London.



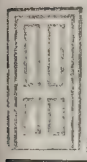
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From 2 in. to 18 in. prices 9s. 6d. to 12s. per in. diameter.
List of prices, with full dimensions of all sizes up to 36 in. to be had on application.
These Valves are all proved on both sides to 30lb. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun-metal faces.
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CAST STEEL for Cutters, Punches, Taps and Dies, Turning Tools, Chisels, &c.
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FILES marked T. TURTON. Superior to any other make.
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EDGE TOOLS marked WM. GREAVES & SONS. Electro Boracic Steel, warranted to wear out three Tools made of Cast Steel.
DOUBLE SHEAR STEEL, BLISTER STEEL, SPRINGS, BUFFERS, AND CAST STEEL TYRES, | SPRING STEEL, GERMAN STEEL,
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SHEAR WORKS and SPRING WORKS, SHEFFIELD.
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IMPROVED SMOKE-CONSUMING APPARATUS,
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Consumes the Smoke, Warms the Building with pure Atmospheric Air, and saves Cost and Labour;
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Saves 50 per cent. in Fuel, cures Smoky Chimneys, shows always a Cheerful Fire, and one Fire will warm other Rooms.
HEATING APPARATUS upon the most approved Principles of Hot Water, Steam, &c.
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ESTABLISHED 1744.
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To BUILDERS, CARPENTERS, and BLIND MAKERS.
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IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.



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YELLOW BATTENS, £9 10s. per 120.

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YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
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SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

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¾-inch Flooring, White and Yellow, 10s. 6d. per square.

⅝-inch White Matched Lining ..... 12s. 0d. „

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

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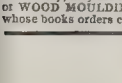
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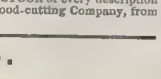
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SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

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PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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WORKS: STOCKTON, WARWICKSHIRE.

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Whereat can be obtained, of the best quality:—

GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.

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YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

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STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF. Also GARDEN EDGINGS.

FARNHAM and WALLOP GROOVED and PURLE BRICKS, CHANNEL BRICKS, and CLINKERS. Also DUTCH CLINKERS.

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings of Bath, Lavatory, Dairies, Shops, Kitchen Ranges, &c.

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TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRIPODS, and BALUSTRADING, in Artificial Stone.

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PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
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PORTLAND CEMENT.
This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS.
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
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Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

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HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
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DESIGNS AND ESTIMATES PREPARED.
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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
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Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
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THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

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JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
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E. BAKER & CO.,
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FIRE-BRICKS, LUMPS, SQUARES, and LEs, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
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Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour PAVING TILES in various colours and designs.
Blue Vitrified Gravel and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
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Belvedere road, Lambeth, and Kent road Bridge

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and consolidating powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in bulk, in casks, or ground, and in barrels and bags. The Limestone can be had in full cargoes, also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

GEORGE ALLEN (late W. & T. N. GLADDISH),
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FOOT OF BATTERSEA BRIDGE, CHELSEA.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
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GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving-bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.
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SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

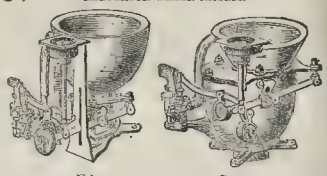
INDIA-RUBBER MILL BANDS, WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
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INTERNATIONAL EXHIBITION, 1862.
CLASS 35, No. 5849.
3s. 9d.

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In expectation of a greatly increased sale, D. & W. have determined to introduce the sunset pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
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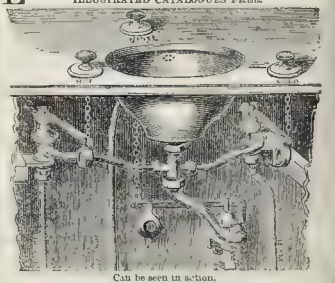
PAN CLOSET, and HYDRAULIC REGULATOR.
COMPLETE, 1l. 18s.

Dispensing with Cranks, Wires, Ball, Lever, Service-box, &c.
Any number can be supplied from one pipe.
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A Cottage Closet, with Patten's Patent High-pressure Valve complete, 12s. 6d.

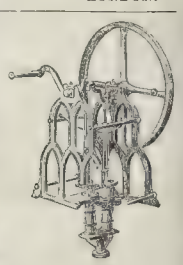
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Valve. Pan.
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cocks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues and application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

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The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
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LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.

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PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.
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Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the

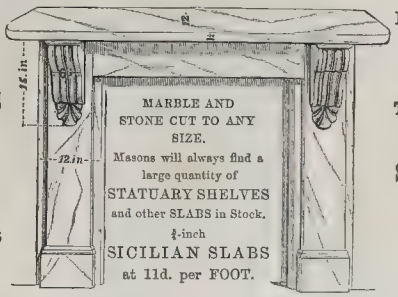
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Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS
in great variety, equally low in price.

MASONS' WORK OF ALL KINDS
CONTRACTED FOR,
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A STOCK OF
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MARBLE BOX CHIMNEY PIECE
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A WELL-CARVED
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with 13½-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
FOR THE SUM OF £6.
Net Prompt Cash.
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ARCHITECTS, BUILDERS, and MASONS will find at

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OPPOSITE THE YORKSHIRE STINGO,

A LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Orders,

CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.

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Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

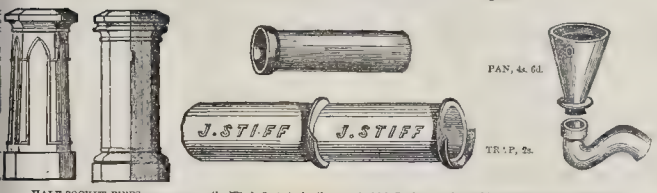
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MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

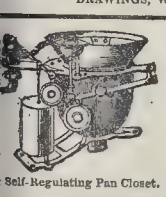
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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adopted also by Ventilating Boards of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



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Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

TURPENTINE.
GARROD & COMPANY'S ENGLISH TURPENTINE superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
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IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 22s. per cwt.
Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 8d. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
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For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colechill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

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A SUBSTITUTE for PAINT, and at HALF the COST.
Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R.H. CHICHESTER, of Chiltcheombe, near Sandhurst, Berks:—
"The effect I have seen by the Stained Fluid and Varnish has given me the entire satisfaction, that the parishioners have requested me to procure me times the quantity now paid for, in order to finish the church."
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but use NAENIARE & CO.'s LETHICIUM, which will remove it clean to the wood in twenty minutes.—Sold at 5s. per gallon, at 11, St Andrew's Hill, Doctors' Commons, E.C. Bristol, 2s. Specimens guaranteed.—N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at
WINDSOR CASTLE and MARLBORO' HOUSE.

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are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
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Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

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No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES,
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Graimers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

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PARQUETS SOLIDAIRES.—HOWARD & SONS, 25 and 27, Berners-street, are prepared to supply exclusively their patented solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

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TO ARCHITECTS AND BUILDERS
JACKSON & GRAHAM
Are the sole Agents in England for the sale of PARQUET FLOORINGS manufactured by ANTON LEMAIRE, of MAYENCE & COLOGNE, for which they received the Prize Medal at the International Exhibition of 1862. Specimens can be seen free by post. No charge for taking plans and giving estimates.
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PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
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Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s. per cwt. Coarse ditto, 1s. 9d. per cwt.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,
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2s. 2s. 6d. 3s. and 3s. 6d.
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THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
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IMPROVED REVOLVING SHUTTERS.
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Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

1862.
INTERNATIONAL EXHIBITION.
HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

WILLIAM WHITE,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.
Invites Inspection of his extensive Stock of Enrichments in
PAPIER MACHE,
COMPOSITION, AND CARTON PIERRE.
ARCHITECTS' DESIGNS MODELLED WITHOUT CHARGE.

SPECIAL DESIGNS
FOR THE
DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

DESACHY'S FIBROUS PLASTER.
GEORGE JACKSON & SONS,
HAVING BECOME THE PROPRIETORS OF THE PATENT RIGHTS IN
DESACHY'S FIBROUS PLASTER,
Beg to call the attention of Architects to its Capabilities.
It is adapted for the speedy and economical production of any coffered or circular work, waggon-headed ceilings (all bracketing being avoided, as it is fixed to the joists direct), fluted and plain columns, panelled dados, all kinds of diaper, &c.; for the linings of walls and ceilings, and for all purposes of ornamental plaster.
The advantages are great. It is of great lightness and of excellent quality; it is not inflammable, and is ready to be painted immediately after it is made; it has been used (under the direction of Owen Jones, esq.) for the ceiling of St. James's Hall; at Messrs. Oakey's, Oxford-street; Mr. Hancock's, New Bond-street; the Crystal Palace Bazaar; the Home for the Aged, South Lambeth; and at various other Works.
SPECIMENS CAN BE SEEN AT 49, RATHBONE PLACE.
DESIGNS MADE FOR ANY WORKS.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
CARTON PIERRE AND PAPIER MACHE WORKS, 49, RATHBONE PLACE, LONDON, W.
(ESTABLISHED IN 1780.)

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.



STATUARY MARBLE
CHIMNEY-PIECES.
The Largest Stock in London on View at the
WESTMINSTER MARBLE WORKS.
From the great extent of Carving and Sculpture in operation at this Establishment, assisted by Machinery for Sawing, Moulding, and Polishing Marble, with Steam Power, every variety of Marble Work is executed with great despatch, and the Charges the Lowest in London.

KAMPTULICON FLOOR CLOTH for CHURCHES, PUBLIC BUILDINGS, BILLIARD ROOMS and PRIVATE HOUSES.
GOUGH & BOYCE,
78, CANNON-STREET WEST, E.C.

GILT BORDERINGS for ROOMS, from 1d per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all its branches to the trade. 4-inch Gilt Beads, 7s. per dozen 6-feet lengths; best ditto, 12s.
GEORGE REES, 57, DRURY LANE.
Four Doors from Drury-lane Theatre. Established in 1820.

FIRE in GRESHAM-STREET, London. E.C.—Messrs. THOMAS TAPLING & CO. Carpet Warehousemen, &c. will, until further notice, carry on their BUSINESS in the premises, adjoining, communicating, at 44a, Gresham-street, and 74, Aldermanbury, opposite those of Messrs. Bradbury, Greatorex, & Beall.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET, in a continuous stream.

2½ inches	£2 10
3 „	2 15
4 „	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 15s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

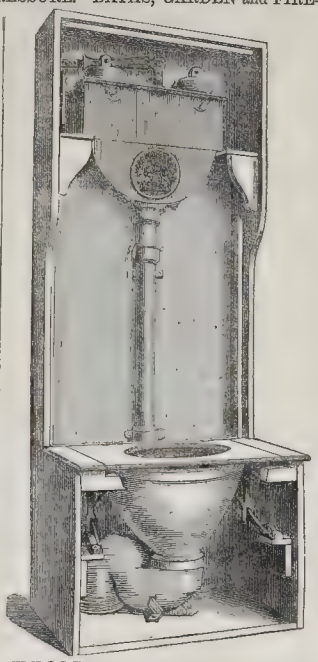
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and gudgeons are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
2½ „	8 8 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



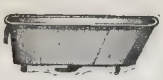
No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra 0 2 6

Blue Basin, extra 0 1 0

No. 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

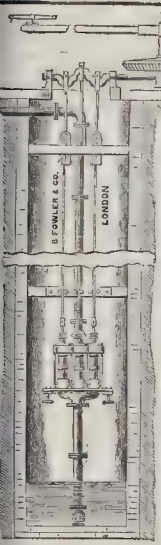
The above prices are subject to a liberal discount.



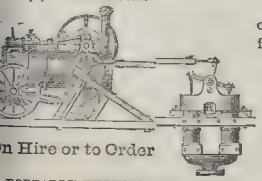
WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



Treble Barrel Deep Well Pumps, with Horse Gear.



PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

CLINTON & OWENS

(LATE FOWLER & CO.),

WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

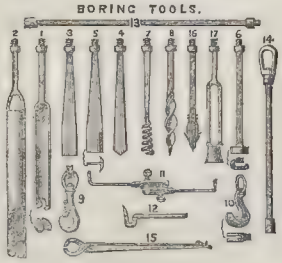
AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.





BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

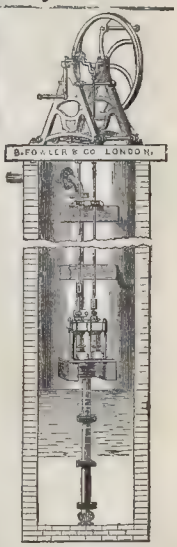
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

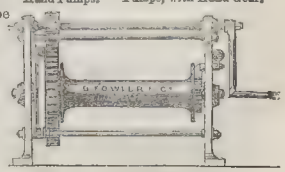
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

LONDON, CHATHAM, AND DOVER RAILWAY.—Metropolitan Extension.—Various Plant and Machinery of a Tobacco and Snuff Manufactory, Snow-hill.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, Nos. 77 and 78, Snow-hill, on TUESDAY, OCTOBER 18, at TWELVE, all the valuable MACHINERY and PLANT of a large TOBACCO and SNUFF FACTORY; comprising an 8-horse power high pressure tubular steam engine, with capital wrought iron Cornish boiler, 15 feet 6 inches long, and an 11 feet 6 inch egg-end boiler, steam and water fittings, three 18-inch cutting engines with triggers, shafting and gearing complete, ten powerful iron screw presses to iron and wood frames, two pairs of stone edge runners, two powerful hydraulic presses, copper drying and steaming pans, steam-pipes, stalk-cutting engine, mullers, and other fixed utensils, large slate tank, malogany counters and desks, strong iron safe with wrought iron door, capital crane and jib, gas fittings, &c.—May be viewed the day previous. Catalogues had at Mr. VIGERS's Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

KING'S CROSS.—To Brick and Tile Makers, Builders, Plant Dealers, and Others.

PULLEN, HORNE, & EVERSFIELD have received instructions from Messrs. Randell & Evans to SELL by AUCTION, on the PREMISES, Maiden-lane, King's Cross, on WEDNESDAY, OCTOBER 19, at TWELVE, to clear the ground for building, a portion of the valuable PLANT and MACHINERY now fixed thereon, consisting of a pair of powerful cast-iron rollers, 3 feet diameter, and weighing 6¼ tons, with the stout timber framework and gear connected therewith; four wrought-iron pug-mills, an expensive clay elevator, 3 feet 6 inches wide and 120 feet in length, with guide-wheels, shafting, &c.; a smaller ditto, with buckets; a patent tile machine, a drain-pipe ditto, two brick presses, wash-mill, close-bodied waggon, cart-horse, &c.; also a large quantity of useful building materials, lasen down and assorted, consisting of about 2,000 pantiles, 100,000 feet of 1-inch and 4-inch boards, chiefly 14 inches wide; 25,000 red-headings, 50 squares of flooring, a quantity of glazed drain-pipes and junctions, and other effects.—May be viewed two days previous to the sale, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

Valuable Freehold Building Land—Eight excellent Residences of the value of 600 guineas each, and stabling, in the rapidly-increasing town of Worthing, Sussex

MESSRS. PARSONS & SON have been favoured with instructions to SELL by AUCTION, in lots, at the STEINE HOTEL, Worthing, on WEDNESDAY, OCTOBER 19, 1864, at TWO for THREE o'clock, the following important PROPERTY:—Several highly desirable FREEHOLD BUILDING PLOTS, with frontages towards the sea and to Park-crescent, suitable for the erection of first-class abodes. EIGHT commodious RESIDENCES, being Nos. 8, 9, 10, 11, 12, and 13, and TWO VILLAS, in the Gothic style, situate in Park crescent, six of which are let to good tenants, and two in Ann Park crescent, one of the most attractive features of the west end of Worthing, is entered from the public road by a noble triple archway, closed with iron gates; its charming grounds have been laid out with ability, and the shrubberies have attained luxuriant growth. Buyers of the plots and residences will be also entitled to use of the grounds. Three of the residences are furnished and the furniture may be had at the option of the respective purchasers. To well-known NURSERY GROUND and BUILDINGS thereon (in the occupation of Mr. Bushby, until December 25th next), lying to the south of Park-crescent, having a frontage to the Esplanade of 429 feet, and a depth of 435 feet, affording ample space, and admirably adapted for the erection of several villas, a class superior in neighbourhood Worthing. Also, PLOTS of BUILDING LAND, lying between Park-crescent and the nursery ground, and STABLING and COACH HOUSES behind Park-crescent.—The property may be viewed, and particulars, with a plan of the estate and conditions of sale, had of Messrs. HUNT, CURREY, & HOPER, Solicitors, Lewes; Messrs. SENIOR & ATTREE, Solicitors, 2, New Inn, London; at the Steine Hotel, Worthing; Mr. W. L. BLAKER, Builder, Chapel-street, Worthing; and of the Auctioneers, 9, Marine-parade, Brighton.

Valuable Building Materials.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Moat-house, Stockwell-green, on WEDNESDAY, OCTOBER 19 at TWELVE (or ONE), the remaining portion of the excellent MATERIALS, fittings, and fixtures, of the above mansion, taken down, carefully assorted, and put in to convenient lots, to suit the trade and purchasers; comprising 250 squares of slating, 1,500 feet lime-ashlar, 6-light sash-frames, 2-light ditto of prime small Lynch yellow batten flooring, long rafters, joists, girders, plate, and other scantlings, doors, sashes and frames, partitioning, dressed and lathes, stock of firewood, 25 fine old marble fittings of a chaste character, 40 pairs of antique wrought-iron entrance gates, chimney-pots, and an hundred variety of other sound materials, fittings, and fixtures.—On view till sale. Catalogues on the Premises, two days prior, and at the Auctioneer's Offices, 2c., Bucklersbury, City, E.C.

NOTICE OF SALE at CAMDEN TOWN: two days, MONDAY and TUESDAY, OCTOBER 17th and 18th, at ELEVEN for TWELVE; extensive STOCK of a BUILDER.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, 2,000 planks, deals, and battens; 1,000 feet cube of die square, 200 squares flooring, 20,000 feet moulding, 7,000 feet wide pine, 10-inch feet quarterings, 1,500 feet pencil cedar, 2,000 feet mahogany, 5,500 feet wainscot boards, dry cut stuff, 4 benches, doors, scaffolding, ladders, a pulpit, pewing for 250 persons 160 lots useful old materials, slate cistern, chimney-pieces, &c.—Auction Offices, Carrington-street, Hampstead road.

LLOYL'S MARBLE WHARF, adjoining Vauxhall Bridge, Pimlico.—To Sculptors, Masons, and Others.—A SALE of MARBLE by AUCTION will take place at the above Wharf, by order of Messrs. Lloyl, on TUESDAY, NOVEMBER 1st, at ELEVEN for TWELVE, consisting of a large assortment of Marble, in Blocks and Slabs, viz. veined statuary, Sicilian, emperor's red, dove, blue and gold, Egyptian, and other marbles; also about 10,000 feet of slab, in nearly all the above varieties. Approved bills at four and six months. May be viewed two days previous, and catalogues had at the Place of Sale, 1, Grosvenor-road, adjoining Vauxhall Bridge.

SALE-ROOMS, 13, HIGH HOLBORN.—To Builders, Carpenters, and Others.

MR. HOLLINGSWORTH will SELL by AUCTION, at his ROOMS, on MONDAY next, 17th OCTOBER, at ELEVEN for TWELVE, a superior stock of PAPER-HANGINGS received from a City Warehouse (in consequence of the premises being taken down), in flocks, trade antique, gold and fancy borders, &c.; also an assortment of Builders' and General IRONMONGERY, consisting of cast-iron sash-weights, latches, bolts, locks, pads, screw gutters, cast white lead, varnishes, brass work gas fittings, forty marble chimney-pieces, stone trusses, and a variety of Building Materials.—May be viewed and catalogues had.—Auction Offices, 13, High Holborn.

To TIMBER DEALERS, NURSERYMEN, GENTLEMEN, and OTHERS.—CLAPTON PARK ESTATE, near St. John's Church, Hackney.

MR. J. TAYLOR is instructed to SELL by AUCTION, on the ESTATE, on THURSDAY, OCTOBER 20th, and following Day, at TWELVE o'clock, all the valuable TIMBER and SHRUBS growing on the Estate, together with about 5,000 feet of strong IRON PARK FENCING.—Catalogues may be obtained of Mr. CRICK, Fountain Inn, Clapton; of the Gardener on the Premises; and of the Auctioneer, No. 70, Fenchurch-street, City.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible FREEHOLD BUILDING LAND, Land-tax and tithe free.

MR. J. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S Coffee-house, Change-alley, Cornhill, on MONDAY, NOVEMBER 7th, at TWELVE (or ONE o'clock), the FREEHOLD BUILDING LAND, on Clapton-road, near to St. John's church, Hackney, suitable for the erection of Cottages. Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent. interest, to be paid in nine years by equal quarterly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars and Conditions of Sale may be obtained 5 days before the Sale, of T. W. ROGERS, Esq. Solicitor, No. 70, Fenchurch-street; at the "Fountain Inn," Clapton; of Messrs. HAMMACK & LAMBERT, No. 59, Bishopsgate-street Within; at the Place of Sale; and of the Auctioneer, No. 70, Fenchurch street, City.

HORNSEY, near the Railway station and Church, and in close proximity to the Alexandra Park.—Very valuable and beautiful Building Estate, adapted for the erection of first-class villa residences, and presenting to Land Societies and others a profitable and extensive building scheme.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to OFFER FOR SALE, at the GUILDHALL COFFEE-HOUSE, near Guildhall, in the city of London, on TUESDAY the 25th of OCTOBER next (unless previously sold by private contract), a most important and valuable FREEHOLD BUILDING ESTATE, of about 14 acres (the whole tithe free and land-tax redeemed), situate adjoining the property of F. Fletcher and H. Woodgate, and close to the rural village of Hornsey, at the foot of Muswell Hill, close to the church, only seven minutes' walk from the station on the Great Northern Railway, and within half an hour's ride of the metropolis. The property, which includes part of some nursery grounds, with parlour's cottage, stables, and sheds thereon, is approached by a 40 feet road from the high road to Muswell Hill and Alexandra Park; it has also a frontage of about 370 feet to the road to Crouch End and London, so that a road must be formed through the offering to afford access to the whole. It commands views of extraordinary beauty and extent, and presents an opportunity rarely to be met with for a highly profitable building speculation.—Particulars, with plans, may be had shortly at the Compasses Inn, near the property; of Mr. LAMBERT, Surveyor, 4, New Basinghall street; of Messrs CLAYTON, COOKSON, & WAINWRIGHT, Solicitors, 6, New-square, Lincoln's-inn; at the Guildhall Coffee-house; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

ALDERSHOTT AND FARNBOROUGH.—Valuable Freehold Property, comprising a well-accustomed Public House, and eligible Building Land.

MESSRS. EDWIN FOX & BOUSFIELD are instructed to SELL by AUCTION, at the QUEEN'S HOTEL, North Camp, Farnborough, on WEDNESDAY, OCTOBER 19th, at THREE in the afternoon, in Lots, the FREEHOLD of the CRIMEA TAVERN, and two acres of valuable Freehold Building Land, situate in the South Camp, Aldershott, close to the Permanent Barracks; two plots of Freehold Building Land, in the centre of the village of Cove, near to the Farnborough Railway Station, on which a well-accustomed beer-house stood, but which has been recently destroyed by fire.—May be viewed, and particulars had of Messrs. PRICKETT & KING, Solicitors, Basingstoke; at the Queen's Hotel, North Camp; at the Crimea Tavern, South Camp; at the Swan, Farnborough-road; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman street, Bank, London.

TWICKENHAM PARK, near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Ninety-nine Years, in Large or Small Plots. Money advanced, if required. For particulars, apply to W. BACKHURST, at the Estate Offices, Twickenham Park; or EDWARD GUILLAUME, Esq. 14, George-street, Mansion House, London.

SURBITON.—TO BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk from the station, and close to the River, for lots of not less than 30 a year rent. A part on of the money will be advanced if required.—Apply to Mr MUDIE, Victoria-road, Surbiton.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception rooms, two being 50 feet in length, eleven bed-rooms; stabling for eight horses and coach-house for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

RAMSGATE.—To BUILDERS, CAPITALISTS and OTHERS. TO BE SOLD or LET several valuable Plots of FREEHOLD LAND, situate on the East Cliff, and adjoining the site of the proposed new Hotel.—Apply to WALLER & SON, 4, Basinghall-street, Bellevue-road, London; or of Messrs. FRIEND & VINTEN, House-agents, Ramsgate.

FREEHOLD LAND TO BE SOLD, or LET on Building Leases in Glengall road, Old Kent-road and also near Bricklayers' Arms. Also, FREEHOLD WHARF, in the Surrey Canal, near Old Kent-road.—Apply to Mr. MAY, Acorn Lumber Wharf, Old Kent-road.

CITY OF LONDON.—An extensive PLOT of FREEHOLD BUILDING-GROUND, suitable for the erection of Warehouses or Manufactories, TO BE LET by Tender, on a Building Lease, for the term of 99 years. It is situate on the west side of Rood-lane (corner), Cripplegate (near to Wood-street), and contains a frontage of more than 73 feet and a depth of 107 feet, with an area of about 8,100 superficial feet.—Particulars, with a plan of the ground, may be obtained of Mr. EDMUND WOODTHORPE, Architect 28a, Basinghall-street: of Mr. A. J. BAYLIS, Solicitor, Churchcourt, Old Jewry; and at the Office of the Vestry Clerk, Cripplegate.

WATERSIDE PREMISES, City road.—Messrs BULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick-built manufactory of two floors, engine and boiler houses with 30-horse power steam engine and three Cornish boilers, range of brick-built offices and powerful hydraulic gateway entrances. There is a water frontage of about 270 feet. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

EXHIBITION ROOMS.—TO BE LET, until the end of February, the GALLERY of the SOCIETY of BRITISH ARTISTS, consisting of five large rooms.—Inquire on the Premises, Suffolk-street, Pall-mall. THOS. ROBERTS, Secretary.

GOLDEN SQUARE, Regent-street.—TO BE LET on Lease, for twenty-one years from Midsummer, 1865, those very eligible and extensive PREMISES (now and for many years past in the occupation of Messrs. Broadwood & Sons, Pianoforte Makers), situate and having an extensive frontage to Bridle-lane, near to Golden-square. Plans of the property, and other particulars may be seen on application to the Vestry Clerk; and a Committee of the Estates of the Parish of Saint-in-the-Fields, London, will meet in the Vestry-room of the Church on FRIDAY, the 21st OCTOBER, 1864, at TWELVE o'clock at noon precisely, to receive TENDERS. The Committee do not bind themselves to accept the highest or any Tender.

STEP. JNO. JONES, Vestry Clerk.

1, Church-porch, Skinner-street, Snowhill.

GOLDEN SQUARE, Regent-street.—TO BE LET, on Lease, from Midsummer, 1865, together or separately, those very Eligible PREMISES, Nos. 2 and 3, Upper Johnstreet, Golden-square. A plan of the property, and other particulars, may be seen on application to the Vestry Clerk; and a Committee of the Parish of St. Saviour's, Southwark, will meet in the Vestry-room of the Church on FRIDAY, the 21st OCTOBER, 1864, at TWELVE o'clock, to receive TENDERS. The Committee do not bind themselves to accept the highest or any Tender.

STEP. JNO JONES, Vestry Clerk.

No. 1, Church-porch, Skinner-street, Snowhill.

FOREST HILL.—BUILDING LAND.—FOUR valuable PLOTS of LAND, each 30 feet frontage, and 150 feet deep, TO BE LET on Building Lease. Beautiful situation on high ground, and near the Catford Bridge Railway Station. For the erection of Two Pairs of Villas this offers unusual advantages. Money can be advanced. Plan and particulars of Mr CHARLES RUTLEY, Architect and Surveyor, No. 15, Poultry, E.C. or St. James's-road, Croydon.

TO BUILDERS, CABINET-MAKERS, &c.—WANTED to PURCHASE, or TAKE on LEASE, large light and dry WORKSHOPS, with a Dwelling house, Stabling, and Coach-house attached, in an open healthy neighbourhood, near to or between the New North-road and the "Angel" Islington.—State full particulars of locality, measurement, rent, &c. in first instance by letter only, to F. WILLEY, 15, South-street, New North-road.

BUILDING LAND near LONDON.—WANTED, on LEASE, suitable for the Erection of Six-roomed Houses.—Address particulars and terms to J. H. D. Evans's Library, 532, King's road, Chelsea, S.W.

MANUFACTURING PREMISES.—To Builders and Others requiring Space and Steam Power.—TO BE LET on LEASE, an old-established LAUNDRY, situate in Park-street, Camden Town, consisting of large ironing, drying, and sorting rooms (with or without the requisite steam plant of the laundry), stabling, carpenter's yard, and two large houses, with offices, all in good repair, and fit for occupation. For particulars apply at Mr HINGSTON'S Office, 1, Stanhope-terrace, Gloucester-gate, Regent's Park.

TO PLUMBERS.—TO BE LET, a PLUMBER'S SHOP, established over twenty years.—For cards of address, apply to Mr. BLACKBURN, Stationer, 11, Park-terrace, Regent's Park, N.W.

SOUTH NORWOOD.—FREEHOLD, and LAND-TAX REDEEMED.—Several very eligible BUILDING PLOTS, with frontages of 50 feet each to excellent roads by an average depth of 200 feet, suitable for the erection of detached or semi-detached villas, in a most healthy and picturesque locality, close to the Norwood Junction Station on the Brighton Line, at within an easy distance of the market town of Croydon, Crystal Palace, &c. The water and gas mains are already laid on to the estate.—Apply to Messrs. WINSTANLEY & HORWOOD, Auctioneers, Surveyors, and Land Agents, 10, Paternoster-row, St. Paul's, E.C.

PERRY HILL, Sydenham.—BUILDING LAND TO BE LET, by TENDER.—More than SIX ACRES of GEOUND, suitable for the erection of first-class villas. Good frontages to the high road. Land tax redeemed. Each lease to be for a term of eighty years. Tenders to be received on or before the 25th of OCTOBER, 1864, at LEATHERSELLERS' HALL, Saint Helen's-place, E.C.

TO BRICK and TILE MAKERS, and OTHERS.—TO BE LET, for a term, BRICK KILN, FOREMAN'S COTTAGE, and LAND, containing Brick Earth, situate at Sunningdill, Berks. The site is a great demand for its cheap transit on the formation of the railway to the Sunningdale and Ludgrove Town, and also to carry out building operations in the neighbourhood, therefore the owners of a large estate at Sunninghill are prepared to let a portion of Land, with Kiln and Foreman's Cottage, for Brick and Tile Making. The use of a private siding on the station at Sunningdale Railway, to near the ground, another advantage which is not enjoyed by any one taking the land.—For particulars, apply to Messrs. DRIVER & CO. Surveyors and Land Agents, 4, Whitehall, London, S.W.

TO BE SOLD, a small Plot of FREEHOLD GROUND, in the neighbourhood of Kilburn; also a large Portion To be Let, for Building Purposes.—Apply, 37, Alpha-road, Regent's Park, N.W.

ST. ALBAN'S.—FREEHOLD LAND TO BE SOLD, with 400 yards of both Sides of the New Railways, a most desirable corner plot, 212 feet by 132 feet.—Apply next month, between TWELVE and THREE, to Mr. J. WHEELER, Church-road, Watford.

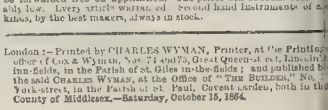
TO BUILDERS.—OLD-ESTABLISHED BUSINESS TO BE SOLD, with immediate possession, the LEASE of EXTENSIVE PREMISES in the country, consisting of Two excellent light-roomed Houses, excellent offices, with fittings for cabinets, carpenters, painters', masons', and builders' shops, drying room, extensive lofts, and store-rooms. Also a powerful steam sawing machinery for wood and stone, with circular saws, reciprocating frame, saws, tools, &c. complete; good large yard, stabling for four horses, cart shed, pig-house and piggeries, and every requirement for carrying on an extensive business.—For further particulars apply immediately, by letter, to A. B. 11, Belgrave-street, South, Pimlico, London, S.W.

BUILDER'S BUSINESS WANTED, with a good connexion, and with suitable premises of moderate size.—Address, stating full particulars, to W. H. Office of "The Builder."—A Partnership in an established Business would be entertained.

TO BUILDERS.—A Genuine CONCERN in the country. Incoming, 400l. Half the money required.—Address, LEX, Office of "The Builder."

GOULD & PORTER (late CARY) are now manufacturing their improved French DUMPY LEVEL, best quality, complete for 9l. 10s. 0d.; with silver ring compasses, 20l. 10s. 0d.; 9-inch ditto, 11l. 0s. 0d. and 12l. 12s. 0d. Best 5-inch THEODOLITES, 22l. 10s. 0d. All other MATHEMATICAL INSTRUMENTS at Revised Prices.—Optical and Mathematical Instrument Makers to the Admiralty, Royal Geographical Society, Royal Military College, Sandhurst, &c. Established upwards of a century.—181, Strand, London.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTIAL SCALES, TAPES, CHAINS, PANTOGRAPHS, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 2, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 15, 1864.

The Builder,

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1133. OCTOBER 22, 1864. PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next. Full particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

SCIENCE and ART DEPARMENT of the COMMITTEE of COUNCIL on EDUCATION, SOUTH KENSINGTON.—A COURSE of TWELVE LECTURES on THE HUMAN FORM will be delivered by JOHN MARSHALL, Esq., F.R.S., Surgeon to University College Hospital, in the LECTURE THEATRE, during the session, 1864-5.

Lecture I. 11th November.—Introductory.

Lectures II. III. IV. 18th, 25th November, and 2nd December.—The Land or Angular Elements of the Human Form—The Skeleton.

Lecture V. 9th December.—The Joints.

Lectures VI. VII. VIII. IX. 16th, 23rd December, 6th and 13th January.—The Soft or Round Elements of the Human Form—The Muscles, Skin, and Interposed Structures.

Lecture X. 20th January.—The Demonstration of the Forms of the Trunk.

Lecture XI. 27th January.—The Demonstration of the Forms of the Limbs.

Lecture XII. 3rd February.—The Centre of Gravity and the General Mechanics of the Body.

This Course will be delivered on Friday Evenings, at Eight o'clock. Masters in training and Registered Students of the Department are admitted free. The public are admitted on payment of 5s. for the Course of Twelve Lectures, or 1s. each Lecture.

A Summer Course is given, to which Female Students are admissible. By order of the Committee of Council on Education.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving, 20l. and 10l.

For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimpole-street).

For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10l. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope, or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

ARCHITECTURAL ASSOCIATION.—The CONVERSAZIONE and OPENING MEETING of the SESSION 1864-5, will be held on FRIDAY Evening, OCTOBER 28, at the Rooms of the Association, 9, Conduit-street W. Gentlemen desirous of joining members are requested to apply to either of the Honorary Secretaries.

J. DOUGLAS MATHEWS, 10, Cloak-lane, City, E.C.} Hon.
LACY W. RIDGE, 3, Duke-street, Adelphi, W.C. } Secs.

SCOTTISH NATIONAL MEMORIAL to H.R.H. the PRINCE CONSORT. In answer to numerous communications which have been addressed to the Committee of Advice, intimation is hereby made that MODELS and DRAWINGS of DESIGNS for the SCOTTISH NATIONAL MEMORIAL may be furnished on any smaller scale than that of one inch to the foot, which an artist may prefer, in those cases where adherence to the scale prescribed would render the model or drawing excessive or inconvenient in size.

W. S. WALKER, Hon. Sec.

125, George-street, Edinburgh, 7th October, 1864.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Writer an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 13 Ahbigdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the same address, as No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

73—74, Bishopsgate-street Within.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of the City and Borough of Bath invite DESIGNS for the proposed NEW BUILDINGS upon the site of the late White Hart Hotel, Bath, which is intended, in conjunction with the Pump Rooms, Assembly Rooms, Libraries, &c., to form a complete suite of rooms for festivities, together with hot and cold fresh mineral water, and Turkish baths in connexion with the present existing establishment. The cost of the buildings not to exceed 15,000l. A premium of 300l. will be paid to the author of the design to which the Town Council shall award the first place, and a premium of 100l. to the author of the design which they shall consider second in merit, and in the event of either of those designs being carried out, the premium of the said first or second, as the case may be, will be deducted from the final commission. The designs are to be delivered, free of cost, at the Guildhall, Bath, properly endorsed, on or before NOVEMBER 28th, and the two designs to which premiums shall be awarded will become the absolute property of the Town Council, without any condition whatever. All designs to have the name of the author or authors attached, and are required in mezzotone; the plans and elevations to be drawn to a scale of 1-8th of an inch to a foot. A copy of the conditions to be observed by architects, with a plan of the site, and other particulars, may be obtained of the undersigned, on the payment of 10s. 6d. which will be returned to those forwarding designs.—By Order,

JOHN STONE, Town Clerk.

Guildhall, Bath, September 8, 1864.

TO ARCHITECTS.—The Committee of the proposed Congregational NEW CHAPEL, Albion-square, Pembroke Dock, South Wales, are prepared to receive PLANS and SPECIFICATIONS, for which, if approved of, they offer the sum of 50l. 10s. and 25l. 10s. by Mr. JOHN LEWIS, Llanelly, place on or before the 14th day of DECEMBER, 1864. For full particulars, apply at the above address. The Committee do not bind themselves to accept any of the Plans submitted to them.

PONTYPOOL NEW CHURCH.—To ARCHITECTS, &c.—The Committee appointed for carrying out the Building of a New Church, invite Architects to furnish DESIGNS for a CHURCH, to accommodate 500 persons, and the cost of which not to exceed 1,000l. Each set of designs to comprise plans of interior, exterior, sectional elevation, and perspective view, with the estimated cost of the structure when completed. The Committee will give the sum of 12l. for the best approved design, on certain conditions, which may be known, with any other information, by applying to Mr. DOVEY, Town Schools, Pontypool, to whom all Designs must be sent on or before 1st DECEMBER next. No payment will be made for the successful designs.

Pontypool, October 17, 1864.

CONTRACTS.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—To BUILDERS.—TENDERS are required for the ERECTION of a PASSENGER STATION, at the Eston Junction. Plans and specifications may be seen at the ARCHITECT'S OFFICE, Northgate, Darlington, from MONDAY, OCTOBER 17th, to SATURDAY, OCTOBER 29th, 1864. Tenders to be delivered at the Company's Offices, in Darlington, not later than SUNDAY, OCTOBER 30th, 1864, addressed to the Secretary, and endorsed "Tender for Works." No pledge is given that the lowest or any Tender will be accepted.—Signed,

THOMAS MACNAY, Secretary.

Darlington, October 19, 1864.

BLACKFRIARS BRIDGE.—TENDERS will be received for the OLD STONE of this Bridge, consisting of Portland, granite in blocks and in steps, Roach, Portland, and rough rubble. Also for the Iron balustrade columns, with moulded bases and carved caps.—Apply to Messrs. THORN & CO. Contractors, on the Bridge.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS, at Aldershott Camp and Permanent Barracks, in the County of Hants including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tender, may be obtained on application at this Office.

Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left hand corner, "Tenders for Works at Aldershott," on or before SATURDAY, the 5th NOVEMBER, 1864.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders

Royal Engineer Office, Aldershott,
19th September, 1864.

RUGBY WATER WORKS.—To ENGINEERS and CONTRACTORS.—The Local Board of Health, Rugby, are desirous of receiving TENDERS for the EXECUTION of the undermentioned WORKS, consisting of—

CONTRACT No. 1.—The Construction of an Engine house, a Reservoir, Filter, and Filtered Water Tank; also laying about 2,250 yards of 9 inch Cast-Iron Pipes, with bends, and sundry other pipes.

CONTRACT No. 2.—A Grasshopper Engine, capable of raising 200 gallons of water per minute to a height of 200 feet through the 7 inch pipes; a set of Three-throw Pumps; also a Patent Centrifugal Pump, with driving gear, suction pipes, and levers.

CONTRACT No. 3.—Supplying about 2,250 yards of 7 inch Cast-iron Socket-Pipes, with bends, and sundry other pipes.

The drawings and specifications may be seen at the Office of the Local Board of Health, Rugby, between the hours of TEN a.m. and FOUR p.m.; or at the Offices of Messrs. EASTON, AMOS, & SONS, Engineers, Grove, Southwark, London, on and after the 17th instant. Tenders may be given for any one or all of the Contracts; but in the latter case, the separate amount for each Contract is to be stated; and the price for the pipe-laying at per lineal yard. The Contractor will be required, at his own expense, to enter into a bond with two sufficient sureties, or to give other approved security for the due performance of his Contract. Sealed Tenders, indorsed "Tender for Water Works," and specifying the number of the Contract to which it refers, must be received by me, at the Office of the Local Board, in Rugby, on or before the 11th day of NOVEMBER next, after which time no Tender can be received. The Local Board do not bind themselves to accept the lowest or any Tender. By order,

THEODORE M. WRATISLAW, Clerk.

Rugby, 8th October, 1864.

RIPON WATERWORKS.—The Local Board are prepared to receive TENDERS from competent persons, for the SUPPLY of CAST IRON SOCKET PIPES, and Appendages, for the proposed new Waterworks for their district.—Copies of the specifications, with forms of Tender, and probable quantities required, may be obtained on application to Messrs. STEVENSON & GILEY, Engineers, Halifax; and Tenders (sealed, and marked on the outside "Waterworks: Tender for Pipes") must be sent in to me, at my Offices in Ripon, on or before TUESDAY, the 25th day of OCTOBER instant.

R. W. NICHOLSON, Town Clerk,
Ripon, 6th October, 1864. and Clerk to the Local Board

RIPON WATERWORKS.—The Local Board are prepared to receive TENDERS from competent persons for the supply of SLUICE COCKS and HYDRANTS for the proposed new Waterworks of their district. Further information and forms of Tender, with probable quantities required, may be obtained from Messrs. STEVENSON & GILEY, Engineers, Halifax; and Tenders sealed and marked on the outside "Waterworks: Tender for Sluice cocks, &c." must be sent in to me at my Offices in Ripon on or before FRIDAY, the 28th day of OCTOBER instant.

R. W. NICHOLSON, Town Clerk,
Ripon, 11th October, 1864. and Clerk to the Local Board.

CONSERVATIVE LAND SOCIETY.—The AVENUE ESTATE, Southampton.—TENDERS are invited for the execution of ROAD MAKING, PAVIOURS' WORKS, &c. on the Society's Estate, parish of St. Mary, Southampton. The materials for the road making can be dug on the Estate. The plan and specification will be seen on and after MONDAY, OCTOBER 24, at the Office of the Society's Surveyor, Mr. JAMES WYLSON, 33, Norfolk-street, Strand, London, W.C.; also at the Office of WILLIAM PURLAND, Esq., 52, Above Bar, Southampton. Tenders, sealed and endorsed "Tender for Works at Southampton," to be sent in to the Surveyor, on or before SATURDAY, NOVEMBER 5. The Committee do not bind themselves to accept the lowest, or any, Tender submitted.

No. 33, Norfolk-street, Strand, London, W.C. Oct. 20, 1864.

STOCKTON and MIDDLESBROUGH WATER-WORKS.—To CONTRACTORS for PIPE LAYING.—The Directors of the Stockton and Middlesbrough Water-Works Company are prepared to receive TENDERS for LAYING DOWN about Twenty Miles (length) of CAST IRON SOCKET PIPES of various diameters from 9 inches to 1 inches, and other Pipe Castings. Specifications may be seen, and printed forms of Tender may be had on application to me, or to Mr HAWKSLEY, C.E., 30, Great George-street, Westminster, S.W. on and after MONDAY, the 31st day of OCTOBER instant, at each of which places Tenders endorsed "Tender for Pipe-laying," must be delivered at the Office of the Company, Castlehill-lane, Darlington, on or before TUESDAY, the 1st day of NOVEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

THOMAS HALL, Secretary.

Secretary's Office, Central Buildings,
Darlington, 19th October, 1864.

[For remainder of Contracts see next Page.

TENDERS required for 200,000 sound STOCK BRICKS delivered on the Ground at Wood-green, for the foundations of a Mansion for T. Oakes, Esq.—Tenders to be sent to Mr. J. DALE, C.E. 1, New Inn, Strand. Terms Cash.

TENDERS required for ALTERATIONS and ADDITIONS to the BEAR HOTEL and FERRY, Newenham, Gloucestershire. Plans and specifications to be seen on the 31st instant, at the Office of Mr. JOHN DALES, C.E. to whom Tenders are to be sent.

TENDERS will be received from Builders for the ERECTION of STABLES and COACH-HOUSE at Hampton Wick. The plans and specifications can be inspected from the 24th to the 28th instant, between the hours of TEN a.m. and FIVE p.m. at the Offices of Mr. JOHN DALES, C.E. 1, New Inn, Strand, to whom Tenders are to be sent.

TENDERS will be received from Builders for the ERECTION of STABLES and COACH-HOUSE at Hampton Wick. The plans and specifications can be inspected from the 24th to the 28th instant, between the hours of TEN and FIVE, at the Offices of Mr. JOHN DALES, C.E. 1, New Inn, Strand. Architect and Engineer to the said Company to whom Tenders are to be sent, on or before the 31st instant. The lowest Tender not necessarily accepted.

TENDERS will be received from Builders for ALTERATIONS and ADDITIONS for the Dining Halls Company, at their Branch, Market street, Edgware road, Paddington. The plans and specifications can be inspected from the 24th to the 28th instant, between the hours of TEN and FIVE, at the Offices of Mr. JOHN DALES, 1, New Inn, Strand, Architect and Engineer to said Company, to whom Tenders are to be sent on or before the 28th instant. The lowest Tender will not necessarily be accepted.

TENDERS required for a quantity of OAK PARK FENCING, to be fixed upon the estate of the late Mr. Overend, at Wood-green.—Particulars to be had of Mr. J. DALES, C.E. 1, New Inn, Strand, to whom Tenders are to be sent, on or before the 27th instant.

TO BUILDERS.—BRIGHTON CLUB and NORFOLK HOTEL COMPANY, Limited.—The Directors of the Company are prepared to receive TENDERS for the Proposed ALTERATIONS and ADDITIONS to the Main Building of the Norfolk Hotel, Contract No 2. The plans and specification may be seen, and bills of quantities obtained, on payment of £1, (which will be returned to those who tender), at the Offices of the Architect, Mr HORATIO N. GOULTY, 12, Union-street, Ship-street, Brighton, after the 27th day of NOVEMBER. Tenders to be sent in to the "Secretary, Brighton Club and Norfolk Hotel," on proper forms, which will be supplied by TWELVE o'clock on SATURDAY, the 3rd day of DECEMBER, 1864. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

TELFORD E. SHARP, Secretary.
Company's Offices, Norfolk Hotel, Brighton.

WAKEFIELD LOCAL BOARD of HEALTH.—To CONTRACTORS.—The Wakefield Local Board of Health are desirous of receiving TENDERS for the SEWERING, LEVELLING, PAVING, FLAGGING, and CURBING VICARAGE-STREET extending from the north side of Wrenthe to the south side of Jack's Well-road, within the district of the Board, according to the plans and specifications prepared by Mr. WILLIAM CRUTCHLEY, Borough Surveyor, and which may be examined at the Council-room, Town hall, Wakefield, between the hours of NINE o'clock in the morning and THREE o'clock in the Afternoon, on any day up to and including SATURDAY, the 29th instant. Tenders are to be sent in under cover to the Town Clerk, addressed to "The General Works Committee of the Wakefield Local Board of Health," and endorsed "Tender for Vicarage-street Works," on or before TWELVE o'clock at noon on SATURDAY, the 29th OCTOBER instant. Forms of Tender may be obtained at the Surveyor's Office, in which form alone Tenders will be received. The Committee do not bind themselves to accept the lowest or any Tender.—By order,

JAMES WHITHAM,
Town Clerk and Clerk to the Local Board of Health.
Town Clerk's Office, Wakefield, October 12th, 1864.

BIRSTAL WATERWORKS.—The Local Board for the District of Birstal, Yorkshire, are prepared to receive TENDERS from competent persons for the following ARTICLES and WORKS, in connexion with the water supply of their district, namely:—

CONTRACT No. 1.—The supply of Cast-iron Socket Pipes and Appendages.
CONTRACT No 2.—The supply of Sluice Cocks, Hydrants, and Street Boxes.
CONTRACT No. 3.—The excavation for, laying, jointing, and filling in after the pipes, sluice cocks, hydrants, and appendages
CONTRACT No. 4.—The construction of an Arched Service Reservoir.

The drawings may be seen, and printed forms of Tender, with quantities, may be obtained, on application to Messrs. STEVENSON & OTLEY, Engineers, Halifax; and Tenders (sealed and endorsed) must be delivered at my Offices, in Birstal, at or before NOON, on FRIDAY, the 28th day of OCTOBER instant.—By order,

JOHN SMITH, Solicitor, Clerk to the Local Board.
Birstal, near Leeds, October 13, 1864.

TO BUILDERS.—ST. PANCRAS, Middlesex.—The Directors of the Poor of the said parish will meet in the Vestry Hall, King's Road, Pancras road, on TUESDAY, the 1st day of NOVEMBER next, at TWO o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of an OAKUM-PICKING SHED, pursuant to plan and specification, to be seen daily between the hours of TEN and FOUR o'clock, at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, No. 10, Edward-street, Hampstead-road, N.W. And the Directors of the Poor hereby give notice that they will not be responsible for quantities taken out or supplied by any person, nor will they bind themselves to accept any Tender; and no travelling or other expenses will be allowed in any occasion.—Sealed Tenders addressed to me, and endorsed "Tender for Oakum Shed," to be delivered at the Vestry Offices, King's-road, Pancras-road, N.W. before TWO o'clock in the afternoon of the 1st NOVEMBER next; and the persons Tendering, or their agents, must be in attendance at the aforesaid meeting, at THREE o'clock p.m. on that day.—By order,

FRANCIS PLAW, Clerk.
Vestry Offices, Pancras-road, N.W. 18th October, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of New BANKING PREMISES, for Messrs. Sparrow & Co. at Rochford, Essex, can inspect the plans and specifications, at my Offices, Chelmsford, after the 1st of NOVEMBER.—Tenders to be delivered to Messrs. SPARROW & CO. Chelmsford by or before TWELVE o'clock on the morning of the 7th of NOVEMBER.

FRED. CHANCELLOR, Architect.
Pinners' Hall, Old Broad-street, London, and Chelmsford

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA-COTTA,
SPLAY, JAMB, AND QUOINING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
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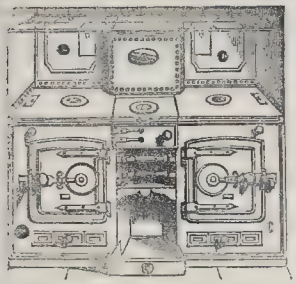
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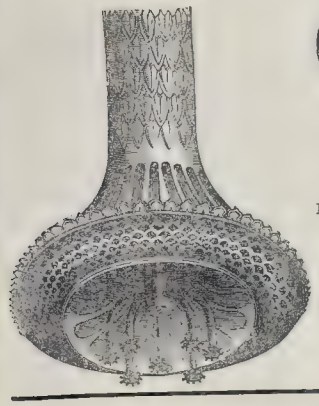
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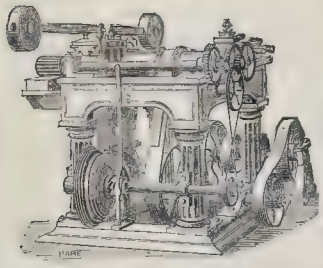
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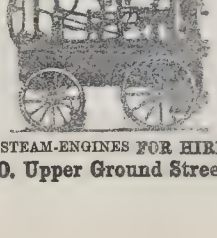
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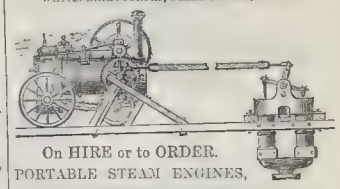
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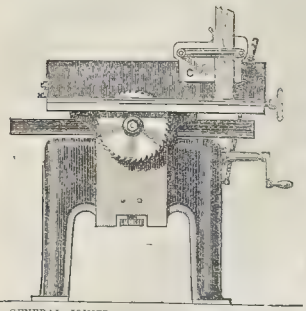
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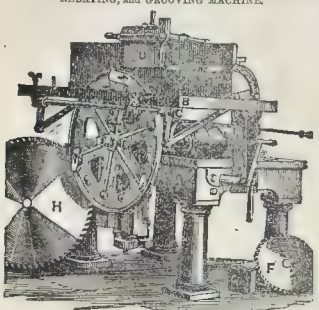
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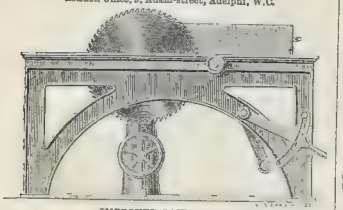
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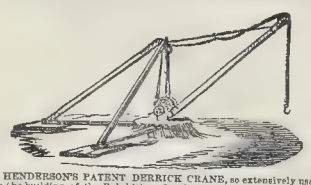
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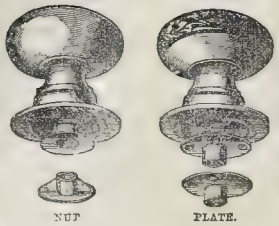
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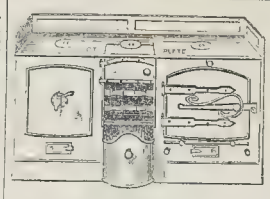
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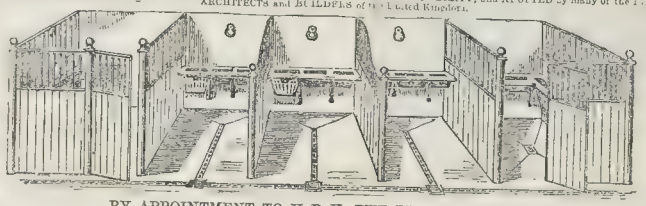
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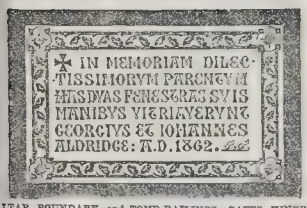
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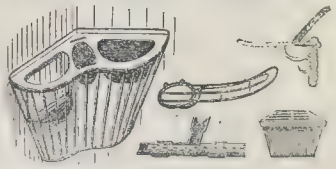


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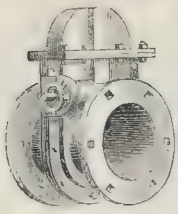

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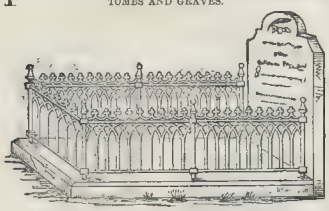
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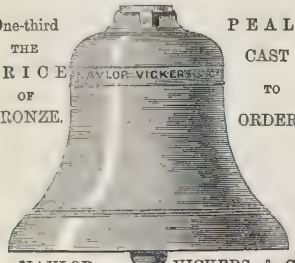
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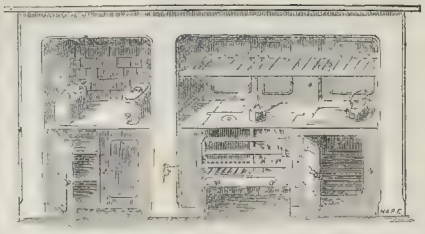
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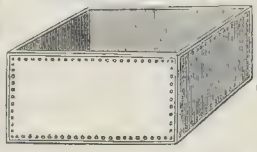
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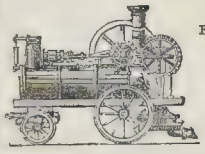


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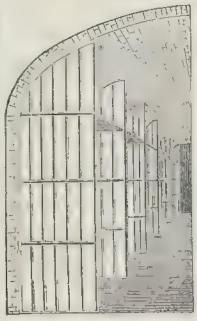


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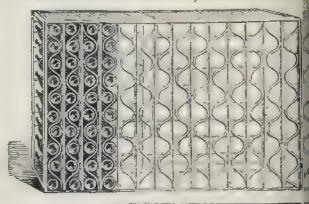
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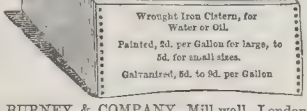
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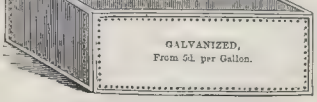
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VOL. XXII.—No. 1133.

The Architecture of Lombard Street.



OUR more recent articles on the general architecture of London, and the buildings of the City,* appear to have drawn the particular attention of many of our readers to the subject of the greatly increasing amount of art-work, as well as building-expenditure, in the City, or in a certain quarter of it, and to the contrast between, on the one hand, the result of art-effort in that small portion of the metropolis, and, on the other, the common and unsuccessful result elsewhere in London and in the suburbs. Without saying that the articles were needed to show to professional architects that the success in art which secures the appreciation of the public, is now small in proportion to the extent of the exhibition of details and members of decorative building, we are satisfied that the inquiry into the reasons of the contrast referred to, and of that between London and some other capitals, deserves to be pursued, in order that the reasons may be so thoroughly grasped as to be capable of being rendered clear to those who build. The public who are the employers of architects (when architects are employed), and the representatives of public opinion, the newspapers, are very ready to say that architecture is worked out,—that we are, and can be, only imitators. It is time that the reply went forth to these imputations; and the answer is afforded through a comparison of the conditions under which the buildings in the City, and those in the other quarters of London, are produced. Art, any more than poetry, can never be worked out.

In our previous articles we pointed to circumstances, and particularly the smoke-nuisance, as unfavourable to architecture throughout the metropolis, and to the public appreciation of the real art. But, it was at the same time seen that conditions of the production of architecture in the City, or in the buildings there of a particular class, and in the rest of the metropolis, differed. In London generally, the majority of the buildings are of narrow frontage; they belong to the class of domestic architecture, in which at once there are present the chief difficulties, and are absent, some of the resources, of architectural design; and, usually, they are erected on ground which is leasehold, and not by the person who will live in them,—so that individuality becomes subordinate to fashion, and any venture in the path of art is deemed a risk,—whilst if an architect be employed, style is dictated to him, and very often takes the place of art. In the buildings which are in the vicinity of the Royal Exchange, the frontages usually are at the least half as wide again as those of shops or private houses in London; the structures are of the public building, rather than the domestic architecture and retail-commercial class; the piers and openings can without difficulty be made symmetrical, and the former of sufficient width; the buildings are erected on freehold ground, and which has been purchased at great cost; and an architect is employed, and he is generally not dictated to by mere whim or caprice. The architect only is expected to produce a work the uses of which may not be mistaken, and a work in the same general style as that of the street-architecture; and both these obligations under which he is placed, are favourable to the object,—the appreciation of the work by the public,—as they are to the production of the art. There is a building on the north side of Leicester-square, devoted to the purposes of a bank (which on its first erection we thought deserving of illustration in our journal), that is an example of contrast to the system of architecture in the City. The Leicester-square building happens to be Gothic; and *Punch* was quite fair in speaking of it, lately, as having led him into a mistake; for, no one having seen the building, and being asked to guess its appropriation, without having observed the name, would think of it as a bank. There may be in architecture, a bank-like version of the Gothic style, as there are the domestic and the ecclesiastical versions; and due respect must be paid to the argument that Gothic is suited to churches, as also to the reasoning that what is used for one class of buildings should be made applicable to all. Still, the fact is, such a building as that which we have named, would express its purpose not anywhere in London; and, without thinking that architecture has the power, which some would ascribe to its forms devoid of sculpture, of distinctly speaking the purpose of each kind of structure, we are compelled to say that it is one condition of success that habitual associations should not be treated as non-existent. We have referred to the architects of the City buildings, as comparatively speaking unfettered; but in some cases, there has been an expression of opinion on the part of directors, and particular mention made of columns as desired features of a bank. The idea, thus conveyed, would accord with the character of the bank that was erected some few years ago, for Messrs. Jones Lloyd & Co., in Lothbury; wherein the ground story is the most prominent, and the prominence is effected by an order of three-quarter Roman Doric columns. One or more of the joint-stock banks in London have adopted a somewhat similar character to that of the City bank we have just now named, so that each of their branches may be known almost at once, as of the family. The Union Bank of London, the building in Fleet-street, opposite the end of Chancery-lane, may be quoted as an example of the character, which is also seen in the branches of the London and County Bank. We do not say that precise repetition is commendable; or that the original model was of the very highest character of art. But a particular character associated with the use of columns, and the "accentuation" of, or emphasis given to, the lower story, may be rightly held appropriate to a bank, and as that which was meant in the expression of opinion alluded to. It need not be considered as necessarily requiring the use of an order, and certainly not as justifying copyism of order or anything else; but the meaning conveyed we believe to be right, both in art and commercially; and therefore the object of the architect should be to give form to that idea, adding such other elements of effect, with inventions of detail, as he may be inspired with. The order may, in fact, be suggestive to him, without being actually used. In most of Professor Cockerell's banks, which are very successful in the demonstration of, at least, character which is accordant with the idea of a bank, columns are prominent: though, the height of the ground-story, containing the principal hall or room of the bank, in proportion to the story above it, and the large dimensions of the windows, are also to be taken into consideration. The value of ground in the City of London, and the capability of letting upper stories for offices,—or the requirement of a manager's residence,—dictate a different sort of building in the metropolis, to that which may be suitable in Manchester or Liverpool.

As connected with this value, alluded to in our former articles, the reader interested in any question of the architectural movement in the City, should not overlook a paragraph which we gave in our last number but one, headed "Value of Property in Lombard-street." It there appeared that certain property, purchased seven or eight months since for 20,000*l.*, had become worth 40,000*l.*, within the year; and that the first floor alone was let for 1,000*l.* a year. Private firms and companies able to begin with expenditure of the kind thus exemplified, are not likely to think much of the slight additional cost of decoration, the building being on their own ground. In short, having been under-valued or disregarded, decoration is now tending to excess: and carved ornamentation for the exteriors, is being adopted to an extent which might reasonably be considered unsuited to conditions of our atmosphere. Far better would it be, according to such view of the question, to adopt a less ornate character, or one with simple and bold features; and there is much in that view that merits attention, or if the smoke-nuisance be considered a permanent institution. Certainly, owing to its continuance, the waste of good or costly decoration is enormous.

Lombard-street is just now the focus of that building activity and architectural movement to which we have referred. The three buildings alluded to in a former [illegible] indeed, shrouded as they are by scaffolding, are not yet quite sufficiently advanced for detailed description; and the work, of whatever kind, occupying nearly the whole eastern side of Clement's-lane, is only in the stage of commencement. But we may state that the three buildings spoken of, comprise one for the bank of Messrs. Barclay, Bevan, Tritton, & Co., one for that of Messrs. Alexander, and one for the offices of the Royal Fire and Life Insurance Company.

The first-mentioned building, on the north side of Lombard-street, eastward of the Church of St. Edmund the King and Martyr, we illustrated in our last. It is a work of considerable dimensions on plan; whilst it has four stories, reaching altogether to upwards of 60 ft. of height. The chief importance is given to the ground-story, wherein three-quarter columns are used; the general character of style being Italian. There are a sufficient number of well-designed features of detail in the work; but, unfortunately, the common disadvantages of site in the City are operative in the case here. Lombard-street is not only a very narrow street, but it is not straight, or even in a regular curve. Thus the building now under notice, not only will be from its height, difficult of appreciation; but it has obtuse angles in plan of the front; whilst in elevation, the front is not symmetrical. The want of symmetry, however, may be less apparent in a narrow street than elsewhere. We gave some idea of the design, by an engraving; but it must be remembered that lofty buildings in narrow streets, are beyond the scope of perspective representation. This fact, which we

* Pp. 678, 713, *ante*.

have occasionally had to state, should afford a lesson even in design. A perspective view of such a building as that we are noticing, to be at all satisfactory, has to be taken from a supposed point, or on the supposition of a width of street four or five times that of the actual street. Such a view, however, shows the building as it is never seen, and as in the case of Lombard-street, never will be. Architecture cannot be rightly designed except for the circumstances or conditions under which the building will be seen,—that is to say, in this case, never, as the ordinary, and the only satisfactory, perspective view would represent it, seen at a glance or with the eye fixed. The treatment of the ground-story of the building as principal in the design, and of the upper stories as plain, and without great projections of balconies and cornices, thus seems to be suggested as right. An elevation merely, is of course defective, as substitute for a view, if only inasmuch as it does not represent projections. Mr. P. C. Hardwick is the architect of the bank of Messrs. Barclay, Bevan, & Co., which is likely to cost 30,000*l.* to 40,000*l.*

The bank of Messrs. Alexander is on the opposite side of the street. It has a second frontage in Clement's-lane, the form of the site being that of the letter L; the ground filling in to the internal angle of the site, and also filling the angle formed by the eastern side of Clement's-lane and Lombard-street, being occupied by the offices of the Royal Fire and Life Insurance Company, a small building erected not many years since, and illustrated in our journal. Messrs. Alexander's building is expected to cost about 11,000*l.* The work is not sufficiently advanced to say more about it, than that polished granite will be used for some of the shafts or other features. Mr. Waterhouse, of Manchester, is the architect. To provide the portion of the site in Clement's-lane, a building was removed which was erected in 1829.

The premises of the Royal Insurance Company seem to be intended to remain; but the Company have just erected a much larger building, for their offices, at the other corner of Clement's-lane and Lombard-street. A roughly-executed view is given with the Company's Almanack for the present year; and the comparison of it with the building, would serve at once to explain and enforce the argument we are advancing. The view shows the whole of each side, as though both Clement's-lane and Lombard-street were wide streets; whereas it is barely possible to see the entire front to the former street, from any single point; and it is quite impossible [illegible] at a glance, or as it is shown in the view. The architecture includes a considerable number of members, and an unusual amount of carved enrichment. Of both, there is much that is useless for any effect, if there be not what is even detrimental. We might urge that to place ornament where it can have no result, is inconsistent with one of the first principles of architectural design, economy, and must therefore induce the reverse of satisfaction. True art may be exuberant, and even prodigal of enrichment; but it will never throw ornament away, whether by omitting the relief of plain surface, and the contrast of the beauty of proportion with that of ornamentation, or by placing the ornament where it contributes nothing, or cannot be seen at all. The building now under notice, is of four stories, above a basement of which the windows appear, and besides a story in the roof lighted by oval lucarnes. The four regular stories are divided by entablatures, or cornice-mouldings, each of which carries a regular podium, in some cases broken by balusters to principal windows. All the windows are arch-headed, and have highly enriched architraves. The effect of grouping is given to the nine central windows, or three in each story, of the Lombard-street front, and to the fifteen of the other front, by Corinthian pilasters and other projections on the piers, some of which are finished by trusses carrying breaks in the cornice, or a balcony; and each window of the second story, has small pilasters carrying the archivolts, and enriched spandrels. The angles of the fronts are treated with rusticated quoins in the lower story, and pilasters of varied character in the stories above; and each front is crowned by a rich frieze, and modillion-cornice, and a balustrade. The corner of the building, where the entrance is, is canted off, and terminated by a richly decorated dormer-window. The doorway, which is arch-headed, and has an enriched archivolt, is flanked by panelled piers, which bear bold consoles in the form of animals, and a segmental pediment, upon which are placed coats of arms and supporters. The spandrels, or tympanum of the pediment, will receive some rich carving, in marble, by Thorneycroft. The Clement's-lane front measures about 52 ft., and the Lombard-street front about 45 ft., or in each case exclusive of the cant; and the cost will be about 17,000*l.* to 18,000*l.* Mr. John Belcher is the architect, as he was of the smaller building.

The building of the London and County Bank, of which we gave an elevation in 1862, when it was recently completed, is one of the most effective works in the street, though having a narrow frontage. Still, if our impressions respecting what is suited to a narrow street in this climate, be correct, the effect would have been more satisfactory with less projection of the cornices and other decorative members of the upper stories. The trusses, and the ornamentation on certain architraves, would have been better had they been composed with a greater proportion of scroll and moulded work, and not as they are, almost exclusively of floral, foliated, and other ornamentation of that character. The prominence of the window-pediments and cornice could not appear in the elevation which we gave; and the fact of the omission will help to show the difficulty, or impossibility, which there must be for us of representing any four-storied building in such a street as Lombard-street. The decorative effect of the basement of this front is excellent,—whilst the windows are large, and the breadth of pier is narrow; and the bank-like character is quite recognizable. The main feature is an order, Roman Doric,—the columns being three-quarter, four in number, and rusticated on the shafts. The two windows, and the fan-light over the plain doorway, of which the openings are quadrant-shaped at the top corners, are simply chamfered with narrow mouldings, and enriched with a console in which there is the form of a dolphin. The quoins of the building are well-studied and effective. The building has another front in Nicholas-lane; the plan being similar to that of a building already mentioned; only the arrangement is reversed. The Nicholas-lane front has merit of its own. Though plain, it has an excellent effect. The Doric basement is continued, the consoles of the windows, however, being plain, as are also the mutules of the cornice. The general walling of the upper stories is formed of Jennings's patent facing bricks. Each course appears to be about twice that of a course of ordinary bricks: the colour is that of Portland stone nearly, and seems to stand well. Boldly projecting eaves, and a plain cornice; chimneys upon the front, and grouping with it, and dormers, are the other features. The effect, devoid of ornament, is just enough for the narrow street; ornament is not thrown away; neither are we pained in looking at the front: an agreeable impression only is taken away with us. Had there been ornamental work, the projections would have been excessive; they would both have concealed and been out of character with such work. This building cost, as stated in 1862, something less than 21,000*l.* Mr. C. O. Parnell was the architect.

Perhaps the best work in Lombard-street, however, is the bank of Messrs. Robarts, Lubbock, & Co. It has a basement of which the character is suited to the idea of a bank, but which makes no use of columns: this basement is the most decorated feature of the design; therefore the work is specially suited to the conditions of a narrow street; and good effect is gained with economy in ornament. One peculiarity of the building, which will not satisfy all, is the use of brick for the upper stories. We are not sure, however, that an objection to the material, in this case white brick, would be founded on sufficient reason. The really serious objection to white brick, is its discolouration. There are churches in London, built some five-and-twenty or thirty years ago, of Suffolk brick, where the blackness is as repulsive as that of stone, whilst the small size of the pieces of material seems itself to detract from nobility. However, as the building in Lombard-street now is, there is little in the brickwork that interferes with the effect of the basement, and of the decorative features of the upper stories, the window-dressings. The general proportions of the front are well marked; there is a simple, but bold and effective base-mould,—a feature often sacrificed in the City to considerations of the value of ground; and the ornamentation is well placed, and not in excess. The projection of the base-mould is about 6½ in., beyond the outer face of the masonry; but as this last is rusticated with deep channelling, the actual projection may be considered greater; and it is in effect, from the mouldings being seen in profile; for, there is a side front to the building, in Abchurch-lane. The happy effect, of base to the building, is still farther aided by the disposition of the door-steps, and more especially by the introduction of a blocking course with mouldings, continued as a sill to the windows; so that the whole arrangement is that of a substantial podium and footing. There are three stories, and seven bays in the width of the Lombard-street front. The five middle bays in the lower story are windows, which have square heads with radiating lines of rustication, and finely carved consoles, with lions' heads, which carry the simple cornice. The piers between the windows are rusticated in horizontal lines, deeply channelled. The end-bays have doorways. The door-cases have segmental-headed pediments, trusses with lions' heads and festoons, and each a frieze enriched with a carved head, scrolls, and sprays. Of the seven windows in each of the upper stories, three of those of the second story of the building, are made most prominent. To the second story also there is a dentil cornice; whilst to the top story there is a simple block cornice, of slight projection as compared with what is to be found in many buildings of the present day. Altogether we regard this building as one of the most successful works of the class in London, and none the less to be esteemed, because its effect is derived from good proportion and grouping, and from thoroughly well-considered and well-executed work. Mr. P. C. Hardwick was the architect. The front in Abchurch-lane has the general character of that in Lombard-street, the doorways omitted.

Through these works recent or progressing, Lombard-street is fast changing its character. There are works enough remaining, however, of last century, and the commencement of this, to illustrate some passages in the history of architecture. Entering the street from the west, we have relics of the Georgian period of little art, but not devoid of features showing that the desire for decoration is innate and not to be wholly lost, relics of forms and of modes of treatment not to be found elsewhere, so near to what is best of the work of the present day. In-doors, in some of the banks, you will see that they still burn oil, or candles; whilst in the more recent buildings, the "sun-burner" (chiefly under the hands of Messrs. Strode & Co. as manufacturers) has displaced the old arrangement of gas-ligl ting, so unfavourable to decorative arrangements and to health. Small panes and plate-glass are seen in the windows of buildings adjoining one another. Here we may see one of Sir Robert Taylor's best works, the Pelican Fire Office, with its elegant Doric and rusticated basement, carrying the group sculptured by Lady Di. Beauclerck, the whole now coated with paint. Here you have records of the passage which our art has made through the revived Greek and the whimsies of Soane, and through the later period when the Florentine rustication was discovered, down to this time when a curious contrast is afforded, as it is even in Lombard-street, between the architecture which merely uses decorative members and ornaments, and that which uses them as in productions that we have examined, or in the main rightly and in good taste. And let not the north front of Hawksmoor's church be passed unnoticed. There are lessons of effect in it.

THE NORTH LONDON WORKING CLASSES' EXHIBITION.

The Exhibition in the Agricultural Hall at Islington was opened on Monday last by Earl Russell, in presence of a very large number of friends and well-wishers.

In the course of his address, the Earl having inspected the collection, said,—"That which I have seen does the working classes of North London the very highest credit. There are works of skill, and ingenuity, and judgment, in carving, cabinet-making, and various other branches of professional art which you will see from day to day, and which cannot fail to give the highest satisfaction. I must confess that it gives me pride and pleasure to feel that I am the fellow-countryman of the men who have so employed their time,—who have exhibited the greatest ingenuity in the works they have performed,—and have in that manner done credit to the country to which they belong."

Some excellent singing formed part of the proceedings, and the whole passed off very satis-

factorily. It should be known that the present enterprise, representing the united industry of Clerkenwell, Holborn, St. Luke's, Hoxton, Holloway, Islington, St. Pancras, and Camden-town, sprang out of a meeting of some half-dozen persons, all properly belonging to the working classes, at the Lamb and Flag Ragged Schools, Clerkenwell-green, where, at the invitation of Mr. W. J. Watts, they discussed the advisability of holding an exhibition in the parish of Clerkenwell. Subsequently one district and then another sought permission to join in the scheme, until at length the undertaking expanded to its present proportions.

The committee, have endeavoured to group together, as much as possible, objects of a similar character, and placed those that are likely to attract especial attention in such positions that they may be easily inspected by a large number of persons at the same time.

The total number of exhibitors to whom space has been granted is 867, representing almost every branch of industry, from the profession of sculptor and artist to the more humble calling of the costermonger. By far the larger portion of the exhibition consists of amateur contributions, some of them very curious and interesting. An artisan seldom chooses as a recreation that branch of industry of which his daily occupation consists. If actively or laboriously employed during the day, drawing, painting, or model-making is generally practised to occupy his leisure hours; while he who follows a sedentary occupation almost invariably resorts to some more active method of utilising his spare time.

The classification adopted is as follows:—Class 1. Professional workmanship; class 2. Amateur productions; class 3. Inventions and novel contrivances; class 4. Mechanical models; class 5. Architectural, marine, and ornamental models; class 6. Artistic objects; class 7. Ladies' work of all kinds; class 8. Miscellaneous—being articles not included in the foregoing.

By the above arrangement the work of the amateur is not placed in juxtaposition with the production of the skilled workmen, which might have caused unfair comparison to be unavoidably made.

Prizes, not pecuniary, will be awarded by seven adjudicators, who have kindly agreed to act in that capacity.

It would mislead to speak in too glowing terms of the great majority of the contributions; but viewed as they should be, with reference to the circumstances under which they were produced, there are few that will not interest. In a first walk round the building we saw several good specimens of cabinet work, some very good wood carving (portions of it seen before elsewhere), and some excellent models,—one of Camberwell Green Congregational Church, when it is seen to be by "a domestic servant," Susan Gregory, deserving especial notice. Nor can we avoid reference to the elaborate models sent by S. Aldred, compositor, particularising, because of its more harmonious colouring, a representation of Anne Hathaway's Cottage, at Shottery. Numerous drawings and paintings from men and women of all classes line the walls, and there are several noticeable specimens of sculpture by amateurs. A bust of Lady Macbeth by J. Long, hair-dresser, is much better than the statue of the same personage sent by him to the Art-Union of London competition. Some acted farces by a letter-carrier; commentaries on works in Hebrew, by a compositor in his leisure hours; and several capital specimens of penmanship, will, doubtless, attract notice. A collection of works of art, selected from the Museum at South Kensington, has been lent by the Science and Art Department of the Committee of Council on Education, supplemented by loans from her Majesty the Queen, and forms a valuable feature.

Let us sing with Mr. W. H. Bellamy, who wrote a special ode for the occasion:—

"All honour to the working man,
Who worketh 'with a will,'
With energy, and industry,
With cunning, and with skill:
Seen or unseen of any man,
Be it with head or hand,
Who knows his work is fair and true,
And knows that it will stand.

All honour to the working man,
Who worketh 'with his might,'
In patience, and in honesty,
At what he knows is right;
Whose life, though pass'd in poverty,
Will bear the light of day,
Nor fears his works should follow him,
Die when or where he may."

THE STRAND MUSIC HALL.

The Strand Music Hall, long in progress, was opened to invited guests on the evening of the 15th, and to the public on the Monday following. The main building, as it at present exists, and which constitutes the hall proper, covers what was the site of old Exeter Change, and adjacent buildings running east and west from opposite the Lyceum Theatre, in Wellington-street, Strand, to Catherine-street, where it has a present frontage of 70 ft., from which to Wellington-street the depth is 110 ft. The company to whom it belongs have acquired the land that will ultimately extend the main building to Exeter-street, in the north, where it will possess a frontage of about 60 ft.

The hall is approached from the Strand by a building 96 ft. long, with a frontage of 36 ft. to the Strand, and which contains besides corridors and staircase saloon, forming communications from the Strand with all parts of the building, dining and smoking rooms, with waiters' serving rooms, and lavatory and dressing-rooms for visitors to each; and immediately communicating with the hall proper on the ground, balcony, and box floors, refreshment bars or buffets, which will be used as luncheon-bars and for the service of the dining-rooms during the day, and as buffets for the use of the hall in the evening.

The inclination of the ground from the Strand to Exeter-street has rendered it necessary for the general ground-level to be approached at the Strand entrance by a flight of about sixteen steps, 11 ft. wide. The area, or promenade, when complete, will contain, it is stated, about 6,000 square feet. A separate stone staircase is provided to the boxes in Catherine-street, arranged to serve as exit from the balcony. An exit is provided from the area at the northern extremity of the Catherine-street frontage, in addition to which, when the building is completed to Exeter-street, another staircase will communicate from Exeter-street with both the box and the balcony floors, and another entrance to the area at the corner of Catherine-street.

The artificial lighting of the hall is effected wholly through the ceiling, a mode now not unknown in London or in Paris. But the particular manner in which this is effected is claimed as original. The space between the ceiling and roof forms a lighting chamber, where all the gas arrangements are contained, which, together with those of every portion of the building, are controlled and regulated in the valve-room. Quoting the architect's own account,—

"The roof of the building is entirely wrought iron and zinc, constructed with lattice principals transversely from east to west. From the plates forming the tie-beam, the ribs of the ceiling are suspended. These ribs are fitted with moulded zinc sash-frames to receive the sheets of coloured glass laid loose on broad rebates, and bedded on india-rubber, thus facilitating the removal of the glass for cleaning, overcoming the difficulty of expansion and contraction, and obviating by the india-rubber beds the liability to breakage or vibration to which this arrangement would otherwise subject it. The ribs dividing the ceiling are hollow, and fitted with notched plates to receive prisms, 15 in. in length and about 3 in. in width. Alternately with these prisms, of which there will be over a thousand, occur strips of plate-glass, ground on one side, and having stars cut upon them. The lantern pendants at the intersections are also formed of prisms of various forms in pure crystal, the light in small jets of gas, being brought down into them below the level of the line of prisms, which are lighted by floats of gas in small jets close together, along the upper edge of the hollow ribs, and on a level with the coloured glass in panels: these are lighted by star-lights, over each of which is a flat cone reflector communicating with ventilating shaft of galvanized iron. The hollow ribs, and the lights round the side-panels, are also covered with semicircular reflectors, and communicate, as in the case of the cone reflectors, with the ventilating shafts. The direct effects of combustion are thus immediately conducted to the outer air through rotary cowls above the roof, while the general ventilation of this large light-chamber is effected by numerous swing louvres."

Messrs. J. Defries & Son, who have executed all the gas arrangements throughout the building, claim the merit of the system, whatever its peculiarity may be, and assert that they have a patent for it. According to their published statement,—

"There are several thousands of burners. The lighting-chamber contains upwards of 350 ventilating tubes, the whole of which are conducted into enormous shafts, in which a proper vacuum has been established, thus causing an unvarying upward current, so that heat as well as the vitiated air is constantly conveyed out of the building."

The architect, however, has issued a counter-statement, denying that there is any patent, and asserting emphatically that, though great credit is due to those gentlemen for the manner in which the gas arrangements throughout the building have been carried out, and he is largely indebted to them for valuable hints, and for general assistance, whatever originality and invention the mode of lighting may possess, are entirely his own.

We shall be glad to hear the nightly cost at which the lighting is effected. We are forced to say that when we saw the hall on Saturday night it had a somewhat gloomy aspect, in consequence, as it seemed, of the large amount of coloured medium through which the light passed.

The columns throughout are of cast iron, with wrought copper foliated capitals. The brackets supporting the top cornice, and the fronts to balcony and boxes, are of cast iron. The ceilings under boxes and balcony, and the whole of the stage and proscenium, are of pitch pine, flat varnished. The panels of the proscenium are to be filled in with paintings; and it is further decorated with a series of twelve ugly allegorical figures, each 4 ft. high. The character of the internal decorations may be described as spiky.

The ventilation of the hall was entrusted to Mr. Wilson W. Phipson, C.E., who is disposed to believe that it will prove to be "the best ventilated building in London." He describes the system adopted as being ventilation by insufflation for the supply of fresh air to the hall, bars, &c., and utilising for the escape of the vitiated atmosphere, the means employed for lighting the building. In the basement there is a fan fitted in an air-channel about 4 ft. 3 in. diameter, communicating with the outside atmosphere, and which propels the air into a spacious air-chamber; this air-chamber being used as a heating or cooling chamber at will. From this chamber a culvert, about 6 ft. by 3 ft., semi-arched, conveys the air to the different parts of the hall, bars, and dining-rooms. The air enters the hall in front of the stage, and through perforations in the ornamental iron work over columns, care being taken with a view to admitting the air without perceptible draught. The fan is worked by a small oscillating steam-engine, the waste steam from which is utilised for heating and cooking purposes. The heating of the hall is effected by means of coils of steam pipes placed in the air-chamber; these coils serving for cooling purposes during the heat of summer.

For the escape of the vitiated air, the hollow ribs dividing the ceiling are fitted with notched plates to receive prisms about 15 in. long by 3 in. wide, these prisms being placed so as to allow about ½ in. space between each, for the escape of the air from the hall. There are also flues provided all round the hall for the escape of vitiated air from the level of floor. The quantity of air forced into the building amounts, it is stated, to about 300 cubic feet per inmate per hour; with the means of increasing this quantity or diminishing it as may be required. The ventilation of the boxes is provided for by perforations over doors, and is said to be very satisfactory. The engine moving the fan is also used for the working of a hoist to kitchen, &c., also erected under the direction of Mr. Phipson.

The building has been erected from the designs of Mr. E. Bassett Keeling, and under the superintendence of himself and Mr. H. H. Collins, as joint architects to the company. The general contractors were Messrs. Trollope & Sons. All the ornamental wrought-iron work in the front building is by Messrs. Hart & Sons; and the copper foliations are by Mr. Brawn, of Birmingham. The painting and decorations have been executed by Mr. Geo. Foxley; and the greater portion of the stone carving was done by Mr. Tolmie, and done very well. This is chiefly in the Strand front, which is wholly of stone, five stories in height, and elaborately adorned with sculptured capitals, marble shafts, medallions containing heads of composers (Handel, Mozart, Rosini, Bishop, Mendelssohn, &c., will be noticed) and metal-work. The porch has scarcely an inch of surface that is not carved,—it is overdone, in fact, as is the whole. The architect, foreseeing objections that might be raised to his work, comments in a published account of the undertaking on the difficulties that beset the designer: on the one hand, upbraided for repetitions and the want of originality; and on the other, liable to the accusation of presumption and caprice if he diverge. We willingly give his own argument:—

"He who would deviate from the prescribed road to eminence in either direction [from the beaten tracts] must '*beware of the mantraps and spring guns*,' which, though they may be old and rusty, are still dangerous to those who have not weight and size enough to disregard them with impunity. '*Please to keep off the grass*' is posted throughout the garden of architecture,

and those not content with neatly kept paths laid down '*by order*,' are always liable to be '*taken up*.' Continental Gothic is the basis of this eclectic design, and if the architect has succeeded in erecting a structure which, departing from recognised codes, outrages none, he trusts that unity and comprehensiveness in the execution of a difficult task will obtain for him a just appreciation of his work."

Spite, however, of this deprecation, and giving Mr. Keeling credit for evident skill in drawing, and a fertile fancy, we cannot praise his work as a whole. It is a chief canon in architectural criticism, that a building should speak its purpose so far as that can be done. The external aspect of the Strand Music-hall, with its small, low entrance, and ranges of windows one above another, utterly belies that purpose, notwithstanding the aid given by the sculptured accessories. The strange unfitness for the building behind is shown by a trifling incident: the very first notice board that is required to be put up hides a whole range of windows. Architects, Mr. Keeling amongst the number, may usefully bear this incident in mind. The interior will be better judged of when the possession of adjoining ground admits of its completion, as then the want of symmetry at present existing will doubtless disappear.

THE INCISED ROCK SYMBOLS OF NORTHUMBERLAND.

Mr. Tate has evidently taken much trouble in unearthing many of the incised rock symbols of Northumberland; and, although he was admittedly not the first who discovered such marks on the rocks, he seems, by his laborious researches amongst them, to have made the subject, in a great measure, his own. In endeavouring to theorize a little on it in the *Builder*, however, I do not think that I have been poaching on *his* preserves at all, although Mr. Wilson appears to have thought so: I made no pretence of unearthing any of the symbols, and Mr. Tate has no exclusive patent right to theorize on the subject, even though the raw materials, the "stone and lime," or "bricks and mortar," as it were, for the design or theoretical structure,—as Lord Bacon would have termed the discovered marks,—have been collected chiefly by Mr. Tate: indeed, his own theoretical ideas are little more, it would appear, than a vague or indistinct re-echo of those already suggested by me in the *Builder*; and even his reference to the Laps as probable descendants of the little people of the stone age has been there anticipated.*

All endeavours (such as I have made) to shed a light upon the original meaning and purpose of the British rock symbols, or the Celtic or Druidical doctrines, from Egyptian, Hebrew, or Assyrian (as well as other) symbolisation, are deprecated by Mr. Tate; and yet he himself adduces the analogy, or rather the partial identity, with the British rock symbols, of that very hieroglyph of the Egyptian sculptures,—the circle-and-centre symbol,—to which I have already alluded, as being absolutely identical with one not unfrequent form of the rock symbols. If "our antiquities have no relation," as Mr. Tate alleges, to such Eastern symbolization as that of the Egyptians, Hebrews, or Assyrians, moreover, what does he himself want with the far eastern home of the Aryan family? He is much mistaken in supposing that there is "no relation" between the Druidical practices and doctrines and those of the Egyptians, Jews, Assyrians, and other Eastern peoples of antiquity. I have myself pretty clearly proved the contrary, I think, in various communications of late years in the *Builder*; and it is not I alone who have done so: the mutual and *universal relationships* of mythologies has long been notorious; and it is surprising to find Mr. Tate speaking as if he were totally unaware of this fact. But, indeed, as I have said, he nevertheless refers us himself to the far east of antiquity, beyond even Assyria, or Persia, for relational light upon British, Celtic, or Druidical doctrines and practices and British rock symbols; and his indirect or implied inference that the ideas of the Aryans had no essential relation to, or nothing doctrinal or religious in common with, the ideas and practices of the Assyrians, Hebrews, and Egyptians, is not only a strange one, but has no ground of probability in it whatever.

To have been acquainted with such symbols as the Egyptian circle-and-centre, or the same symbol on the Carthagenian slabs of Mr. Godwin in the *Archæologia*, or in the Hindu caverns of initiation at Salsette; or with the concentric circled sephiroth of the Hebrews, and their known significations; as well as with the circle-and-centre symbol indeed of many—if not of all—nations, and its known meaning; and yet not to have endeavoured to shed some little light of analogy thereby upon the meaning and purpose of the many more or less *identical* British, Celtic, or Druidical symbols, cut upon the rocks of Northumberland, in the sorcery-halls of Ireland, and on the incised stones of Scotland, would have been stupid of me in the extreme; more especially since it is evident, on an extensive comparison of the ancient religious and philosophical doctrines, as well as structures and symbols, of many nations, that, however overrun or interlarded with errors, there *are* most essential principles in each that are decidedly common to all; as indeed even the strictest religionist who believes in the literal descent of all nations from one common centre in Noah and his family *must* allow, however little acquaintance he may have with the mythologies, the philosophies, or the archæologies of the ancients.

As for the fact that the Druids of Britain *had* essential principles in common with the Egyptians, the Hindus, the Buddhists of Thibet, China, and Japan, as well as India; the Assyrians and Persians; the Jews, the Greeks, and the Romans, no one can for a moment doubt who has well considered the subject in all its bearings. There is even a Celtic tradition that the Irish Druids themselves came from Egypt. The great goddess of the British Druids, Ceridwen, has long been identified with the Greek goddess Ceres; Ceres with the Egyptian goddess Isis; Isis with the Hindu goddess Isi, whose husband, Iswara, is identical with Osiris, the husband of Isis. Tacitus found Isis in Germany. In the Metamorphosis of Apuleius we find this "great mother," as she was called both by the Druids and the Greeks, thus speaking of herself, by "a voice," to the initiated,—or the ancient and initiated author of the book, at least, thus speaking in her name:—

"All nations acknowledge my power. The Phrygians call me the mother of the gods, the inhabitants of Cyprus, Venus, those of Athens, Ceres; but in Egypt . . . sages, learned in *the ancient doctrine*, have called me Isis. Under all these names, and with many different ceremonies, I am the only deity whom the universe invokes."

One other author, a comparatively modern one, Le Clerc, I may here quote to essentially the same effect:—

"Everything was connected in ancient theology; every thing had a relation to one universal principle, which, though produced under different forms, remained always essentially the same." And again,—"Of this we may be easily convinced, by attending to the spirit of all those systems [of religion] that have hitherto been promulgated to the world: the amazing conformity that subsists among them all is sufficient to show, if we had no other evidence, that they have but one common origin."

The grand question, however, is,—what can be the meaning of it all? In my letters on Wing and other Symbols; on Geometrical Symbols; on Rock Symbols; and in various other communications, to the *Builder*, I have not only endeavoured to show what *is* the meaning of it all, but have given the psychological key, as I conceive, to much of the mystery. But to return just once more, for a moment, to the subject of the *relationship of our antiquities* to others throughout the known world of the ancients;—the singularly extensive archæological connexions, correlations, and ramifications, of structures such as the Celtic or Druidical barrows, to which Mr. Tate more than once refers as being associated with or related to the rock symbols, are specially and quite popularly recognized; as witness the following abridgment of an excellent summary of them in Miss Corner's volume on India (p. 472), in "Bohn's Illustrated Library."

Many of the Buddhist remains found in central India* bear a close resemblance to the Druidical remains which yet exist in our island; on the coast of Brittany, and in other parts of Europe. In India, tumuli or massive mounds are surrounded by mysterious circles of stone pillars, recalling, at every turn, the figures of the ancient barrows, and the Druidical colonnades, of our own island. In the *horse-shoe temples* of Ajunta and Sanchi, on the Ganges, may be recognised the form of the inner colonnades at Stonehenge, on Salisbury Plain. There are cromlechs in India, as well as in Britain. The bas reliefs of Sanchi clearly display the worship paid by the early Buddhists to trees,—a counterpart of the Druidical and adopted English reverence for the oak [and of the Druids for groves]. Philologists have conjectured that Buddha is most probably the same as the great god Buddwas, considered by the Welsh as the dispenser of all good. The younger Pliny says,—'Even to this day Britain celebrates the *magic* rites with so many similar ceremonies that one might suppose that they had been taken from the Persians.' Persia may be said, in a Buddhist sense, to be linked with India by a long loose irregular line of barrows, colonnades, and cromlechs. These barrows or topes are traced here and there from Central India to the Punjaub, to the regions beyond the Indus, all through Afghanistan and Khorassan, onward to the Caspian sea, and thence all through Persia. It is continued across Asia Minor, and all through Asiatic Turkey, as far as the limits of Syria and Egypt. They re-appear in Bessarabia and in nearly every part of Greece; and from the eastern parts of Europe the chain of topes is continued to most of the countries to the west and north, and to our own shores. Dr. Rost, and other learned Orientalists are convinced that the word tope was originally derived from the Sanscrit word *stupa*, which signifies a barrow or mound, or conical elevation, whether of simple earth, or built up in masonry. Most of them are solid masses of masonry erected on some hillock or natural elevation. Others are hollow within, having small vaults and chambers.

In the "Archæologia," vol. ii., p. 250, on the other hand, the chambered barrow order of structures is traced "through Denmark, Sweden, Russia, and Poland, to the steppes of Tartary."

The curious analogy between the pyramids of the Egyptian magi, built of solid masonry, with their long low and narrow passage, and central chamber; and the immense pyramidal loose stone barrow of the Druidical magi at New Grange, in Ireland, with *its* long low and narrow passage, and central chamber, devoted to magical purposes, being a "sorcery-hall," with its circle-and-centre, and its other stone-incised symbols about it, goes far of itself to show that there *was* a very close relationship of ideas between the Egyptians and the Druids of the British Isles; as indeed does the general fact that the doctrines and practices of both, as well as those of the Assyrians, Chaldeans, and ancient Persians, were all magical. That the Egyptians, Assyrians, Chaldeans, Persians, and Hindus, in short, *had* much in common with the Druids, both symbolically and doctrinally, is well known, and has already been still farther shown, in connexion with special doctrinal and explanatory views, in the *Builder*.

The very form of the sorcery-hall barrows, I may here remark, is as it were indicated in the general form of the rock symbols. In these barrows the central chamber or cell, with "the tomb of the hero" in "the house of the god" or "great mother," was the chief feature. This chamber at New Grange was so inscribed. It was not only surrounded by the circular base of a conical pyramid or barrow, and that by a circle or circles of stones, but a long passage, or inlet and outlet, ran through the whole from the circumference to the centre. And this reminds me that the form of one of the rock symbols of Northumberland—that of a cross—is similar to that of the plan of the central chamber at New Grange. The centre of one of the symbols (fig. 2) given in the *Builder* of 3rd September, has also a crucial or trefoiled appearance.

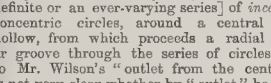
A careful consideration of your review of Mr. Tate's very interesting and curious rock-symbol discoveries, together with a cursory examination of the drawings of some scores, or even hundreds, of these symbols, only confirms me in the belief that above all else there was a manifest intention, in their origin, to draw special and impressive attention to the centres of the ever-varying number of circles, semicircles, segments of circles, and other curves; and that these centres and curves had also symbolical allusion to the concentrative and radiative *principles of life*,—each symbol representing probably an individual life; and perhaps also to the theurgical or *active processes* of mental concentration and radiation—or actual inlet and outlet—in break-

* In an article on the Maeshowe and Runes in Orkney, in the *Builder* of 16th August, 1862, is the following passage:—"The similarity of the curious cryptic runes in the sorcery hall at Maeshowe to those of Baffin's Bay, appears to bear favourably upon the probability of the truth of our suggestion [at a still earlier date] that the Maeshowe is of Pictish origin; and that the Picts were descendants of a tribe of little men comprehending the forefathers of the Laps, and perhaps those of the Esquimaux, at a time when the glacial envelope which still encircles the pole spread far further south in the winters, and formed the glacial and drift era which spread over the northern continents and islands,—our own as well,—and amid the wreck of which era the flint and stone arrow-heads and hatchets of this very tribe of men have of late years been found. The modern Laps are still a strange race of dwarfs, whose native priests are magicians, of whom curious tales are told, and so susceptible to every impression are the Lap people, it is said, that the sudden clapping of hands, or a startling noise of any kind, will cause them instantly to fall into a state of entrancement."

* Buddhism, with its doctrine of Nirvritti or Nirvana, or mystical annihilation or destruction, was pre-Aryan in India, as is shown by the Vedas themselves, which speak of finding "the terrible Nirritti, the goddess of destruction" or "goddess of death" like the Druidical Ceridwen to be the native Indian goddess, whom, at length, even "the white-visaged friends of Indra" feared. The Brahminism which was subsequently developed was for a time partially rivalled by a *revival* of the native Buddhism, which, afterwards, the Aryan Brahmins finally suppressed, expelling many of the Buddhists, who emigrated westwards.

ing through the mental circles* *to* and *from* the one common centre of concentration and radiation, (as in the double spirals,) whereby the god-spell was *worked* and *reversed*, the divine oracular life of entrancement evoked and suppressed, or the magical spirits raised and laid. The probable relationship of the symbols to *Life*, and to the transition or transfiguration from lower to higher life and "thence returning," as I have suggested, Mr. Tate himself partially re-echoes; and the very terms in which he and Mr. Wilson unavoidably describe these symbols in general, as *concentric* circles with *radial* grooves, imply an intuitive though imperfect perception of a connexion of such symbols with concentrative and radiative principles.

Mr. Wilson described the most characteristic and general form of the symbols as consisting of a central hollow and three concentric circles, with one "outlet from the centre;" but it now appears that "the most common form is composed of a series [not three in particular, then, though these are very frequent, but an indefinite or an ever-varying series] of *incomplete* concentric circles, around a central round hollow, from which proceeds a radial gutter or groove through the series of circles." As to Mr. Wilson's "outlet from the centre," it is not very clear whether by "outlet" he meant this "radial groove" or the open space left by the frequent and designed incompleteness of the circles, which are often all but complete, leaving only a narrow "outlet" or "inlet" between the terminations of the curves (which terminations are *generally* in a line with one another), while the "radial groove,"—quite a distinct and separate thing,—runs often through the open space or outlet itself, as under (Fig. 1):—



There is not unfrequently, however, an "outlet from the centre,"—or an inlet to the centre, as we may equally well call it, or both,—without *any* radial groove (Fig. 3); and sometimes there is a "radial groove" without any outlet or inlet, or incompleteness of circle at all (Figs. 2 and 4).

By the way, the example given in my first letter on the subject, in one view,† has only a



Fig. 5.

single groove or pointer-out of the centre after all (Fig. 5); only it crosses the whole diameter of the circles like one of those just given; and it is a remarkable feature of this single groove or pointer in my first letter, that while, in crossing, it obliterates its breadth of the line, or curved hollow, of every circle; the central round hollow, on the contrary, obliterates *it* in its crossing; so that this groove or pointer might be compared to a needle or pin lying across and above the engraved circles on the paper, but, at the central hollow, stuck through the paper, and behind the centre, going in at one side and coming out at the other, as it would do if intended to point attention to the central hollow in particular.

That the one pre-eminent feature in the symbols is the centre seems to be shown by Mr. Tate's own intimation that, while the circles (or curvilinear and concentric *hollows* as *they* may just as well be called, as the centre a round hollow) are from half an inch deep to a mere trace, the central hollows, pits, or openings, are deeper, even to as much as an inch and a half. This might have almost led to the idea that the centres only became hollows unavoidably, and also deeper than the circles, merely because the one point of a pair of compasses in every centre of circles tends to form a deepish mark in an impressionable surface, according to the number of circles (of less depth) which the other point is forming. It is evident, however, that none of the symbols have been made with compasses at all; and, indeed, many of them display only the rudest and most sprawling attempts possible at circularity of sweep round the centre. Take this as an example (Fig. 6).



Fig. 6.

It cannot be thought that such sculptors could have themselves had very enlightened ideas as to the meaning of even their own symbols: probably such ideas had even then merged into mere superstitious imitation of still more ancient practices.

As to the number of circles, or segments of circles, or other curves, it is notable that *three* circles are described as very frequent; and also that Mr. Tate tells us that *seven* circles are the *highest* number he has seen. Now, if we regard the central mark as pre-eminently symbolical of the Concentrative, or Soul, or Fire Spark of the Mystics (as I have shown has long been also done by myself, in my note-books); and the circles, on the contrary, therefore, of the Radiative or Spirit, or Light of the Soul's "vital spark;"—although we may (as I have also done) regard the centre (viewed *as* a mere *point*) to be the one common and "sovereign centre of both Concentrative and Radiative, Life and Light, or Soul and Spirit," and the circles as the "subdivisions of the mental radio-concentrative organism,"—or not only concentric but radiating (like the circles concentrically radiating from a central point, where a stone has been cast into water);—we have the circles then symbolical of the microcosmic Light, or Radiative life,* "in the Spirit," or in the inward "heavens" of human *Life*;† and it is notable, in this view, that the internal heavens of the divine oracular life are mythologically and religiously regarded as comprising, in all, *seven* circles, spheres, or subdivisions; and that while "the *third* heaven" is specially alluded to by St. Paul and others, "the *seventh* heaven" has usually been held to be the *highest* and most completive heaven of all, in the ecstacies of human nature. In Davies's British Druids we are told that "there are *seven* skies [heavens], or spheres [or circles], *over* the *Head* of the *diviner*;" and in the Bible there are curious allusions to the diviner, and to the Sun in his "*heaven*;" such as, —"*Night* shall be unto you that ye shall not have a vision, and the Sun [of secrism—the Sun which rises "in the night"—the internal and "midnight Sun"], shall go down *over* the prophets [or not "stand still" *over* their *Heads*]; and the Day [of the Lord, which cometh, like a thief, in the night"] shall be dark over them. Then shall *the seers* be ashamed, and *the diviners* confounded . . . . It shall be *dark unto you that* ye shall *not divine*" (Micah. iii. 4, 6).

Viewed in this light, the varying curves of the rock symbols and the sorcery-halls may have also denoted varying indivi-dual developments or manifestations of the radiative, or luminous, and heavenly, divine, oracular, and magical life of entrancement in the Druidical priestesses and priests; and the curious concatenations of connected rock-symbols, not only in twos but manifold, may have denoted various closer or more local brotherhoods of "diviners," female and male, among "the deathless brotherhood" in general of the Druids.

I have alluded, in treating of Geometrical Symbols, (6th June, 1863,) to the mystical doctrine of Jacob Böhm, as to the *Fire* principle, which he and others identify with the Concentrative, in the form of the principle of attraction in nature, as the "wrathful principle;" and in my first letter on Rock Symbols I have quoted the idea held by some ancient religionists that *the point*, within the circle, denoted the *central Fire*, or God the Father, and Creator, the source of the Life spark, or Soul; the circle surrounding it denoting the eternal *Light* of that *Fire*, or Spirit of that Soul. Now it is a curious fact that amongst the Northumbrian rock symbols there is one, seen at Horton Moor, in which the central point, or pit, as Mr. Tate sometimes calls it, forms the head of a lizard-form, such as I have seen depicted as that of the salamander, or the Fire life itself (Fig. 7).



Fig. 7.

The references (often no doubt emblematical) to circles, round a sacred and pre-eminent centre, in the Druidical mythology, are so frequent, like their stone circles, and so well known, few as the records are, that it is scarcely requisite to instance them in connexion with their rock and sorcery-hall symbols. As I have hitherto said little or nothing specially on this subject, however, (and as the psychological key already given is capable, I think, of shedding some light upon it,) I may here give an example or two, from such works as those of Davies, Nash, and Toland, without any very formal attempt at psychological explanation.

"Rapidly moving, in the course of the sky, *in circles* [not in one circle, probably, therefore, but in concentric circles, of indefinite or varying number, round the Cromlech, Kistvaen, Beddau or Bedd, altar, or resting-place, stone of power, chair, or throne, of "the glorious god," the *Deon*, Hu, or Hee, "*the Life of all that are in the world*," who "died and lived alternately," and was "the regulator *between* heaven and earth"—the one sovereign centre *between* the Radiative and the Concentrative] in uneven numbers [like the "*nine* damsels" round the cauldron of Ceridwen, and reminding one of the *nine* muses round Apollo: and of the *thirteen* priests round the *Deodn* among the Bodos and D Himals of the Sub-Himalayas] Druids and Bards unite in celebrating *the Leader*" [in the emblematical as well as literal centre—the place appropriate to the Druidical Deoda or Apollo,—the "radiant Hu"—the Divine Sun, or the Irradiater].

The central hollow, or pit, of the symbols reminds one, also, of the central position of the mystic or emblematical vase or cauldron of Ceridwen—the central and entrancing source of "inspiration and science."

"Whilst *the circular revolution* was performed . . . . the assembled train were dancing . . . . and singing, in cadence, with garlands on their brows. Loud was the clattering of shields *round the ancient cauldron*, in frantic mirth;"

like Bacchantes round Bacchus, or Hyarogenios, the god of the *Spirit*.

The mystic and sacred cauldron of Ceridwen, "the goddess of death," and yet "the great mother" of life, from whose womb the Taliesin of "the radiant front" had his second birth, after a nine months' novitiate, "was viewed," says Davies, "as a source of inspiration: Taliesin acknowledges the same cauldron as the fountain of his genius."

"Ceridwen, the British Venus and first of womankind,—the great mother,—from her alone were the Druidical secrets to be got in purity and perfection. Those who aspired to *the chair* of presidency [as the radiant Taliesin or high priest of the mysteries] required to taste of *the waters* [the "living waters"] *of inspiration* [as an oracle,] from her *sacred cauldron*."

As to the square-shaped and enclosed or ramparted marks among the rock symbols, with round spots, as of dwellings, within; I may remark that the "*quadrangular* enclosure,"—the "*quadrangular* caer or sanctuary,"—the "sacred enclosure," the "*fenced* enclosure," with its "*barriers*," over which the light bounding witch steed of Hee leaped;—and the "*pavilions* of the distributor," or pervader, disperser, or radiater, "in the *city* of the *just*, in the *land* of *rest*," and containing the magical cauldron of the witch goddess, Ceridwen,—are all of them mystical or mythical, religious, or doctrinal allusions, in the poems of the Taliesin, and other Druidical records.*

But I had no intention, when I began the present communication, to re-enter on the subject explanatively or theoretically; (what I *have* here

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* "The kingdom of *heaven suffereth* violence; and the violent *take it* BY FORCE." "Enter *boldly* to the holiest," the sanctuary;—"*Strive* to enter in." *Importunacy* is requisite to rouse the sleeping giver of the heavenly bread of life,—the holy Spirit of Christ.

† I have purposely placed this symbol in a reversed position to that before given, as this seems to show its peculiarities more distinctly.

* I observe the radiated circle, or circle with diametrical rays on its outer margin, of the Irish sorcery-hall, amongst the Northumbrian symbols; and it is incised in so remarkably similar a way, both circle and rays being merely notched into the stone, that it looks absolutely as if it must have been done by the very same rude sculptor.

† "They shall not say, Lo here! or Lo there! for behold the kingdom of *God* [the kingdom of *Heaven*] *is within you*," and hence it is "within" and "upon" man that the Divine Sun light of that *heaven*, in its radiating circles, shines *on* the "illuminated," or the "God-possessed."

* The heavenly state, or radiative life, is often compared to a city in the sacred Scriptures,—such a "city" as Abram "sought,"—the city of "Jerusalem above," the heavenly city, the city of rest: as well as to a house or tabernacle (or pavilion),—the "heavenly house;" to a land,—the heavenly Canaan; and to a garden,—the garden of Eden or Paradise, which St. Paul identified with "the third *heaven*," or the heavenly house, or *solar* chamber, of his tabernacle, temple, or body, into which he was "caught up," at his transfiguration, or conversion, on the way to Damascus.

said in this respect requires reference to former letters;) and I must now conclude with the reiteration of my conviction that nothing Mr. Tate has discovered, so far as I can see, is inconsistent, even in the slightest degree, with what I have already suggested; but, on the contrary, that everything corroborates and supports my ideas of the general meaning and purpose of such symbols. JOHN E. DOVE.

LIVES OF ENGLISH ARCHITECTS, BUILDERS, MASTER MASONS, &c.

A DICTIONARY SUGGESTION.

I WISH to point out to you a work that is sadly wanted in the literature of Art in England. We have more than one dictionary of painters and engravers; but we are without a dictionary of architects, builders, sculptors, engineers, and masons, who have wrought in England. A dictionary of the kind I mean would comprise the names, and the facts in the lives, of all who have wrought worthily among us, from Gundulphus, Geoffrey de Noiers,* and William of Wykeham, to John Thorpe and Nicholas Stone; from Inigo Jones to Sir Christopher Wren; from Sir John Vanbrugh to Sir William Chambers, down to the days of Sir John Soane and Sir Robert Smirke, of Wilkins, Wyatt, Wyattville, Pugin, Cockerell, and Barry. Then for the engineers, much might be told of moment about them that Mr. Smiles has missed (interesting as his volumes are), from the days of Peter of Colechurch to Mr. Bazalgette; or from Isambard de Saintes, architect of the first bridge *over* the Thames at London, to Isambard Brunel and the first bridge *under* the Thames at London. The names of living architects and of the engineers of the railway bridges over the Thames at Blackfriars and Charing-cross, and of the noble embankment now at last proceeding in earnest, may be safely left to another generation and another edition of the proposed dictionary.

In a compilation of the kind I suggest as needed, care should be taken not to omit the names of men who in former days were known as clerks of the works, masters of the works, and surveyors of the works. The general use of the designation "architect" is of comparatively recent origin.

Some new names might be worthily added to the catalogue of builders of note in former times. Thus it was my good fortune to discover the name of the architect of the palace of the Protector Somerset, on the Thames, in London. His name was Henry Lewes, and he [illegible] "clerk of the works."

When Inigo Jones was busy in London as "surveyor of our works," his master, King Charles I., had another builder or architect in Scotland. This was Sir Anthony Alexander, son of Alexander Earl of Stirling (the statesman and poet). The name is not in "Walpole," though in the works of so charming a poet as Drummond, of Hawthornden, is a "Pastoral Elegy" on his death. He was master of the king's works in Scotland, and dying in London in August, 1637, was buried at Stirling. The poem to his memory contains some beautiful passages; witness the following:—

"How oft have we, environ'd by the throng
Of tedious swains, the cooler shades among,
Contemn'd earth's glow-worm greatness, and the chase
Of Fortune scorn'd, deeming it disgrace
To court inconstancy. How oft have we
Some Chloris' name graven in each virgin tree;
And finding favours fading, the next day
What we had carved we did deface away."

Thus we find that one master of the king's works in Scotland inherited his father's skill in poetry. A little diligence among our northern antiquaries would possibly be rewarded by the discovery of some example of Sir Anthony Alexander's skill in the noble art of building well.

Contemporary with Alexander lived another builder-architect, William Aytoun by name; doubtless some relative to Sir Robert Aytoun, the poet and secretary to Henrietta Maria, the queen of Charles I. Sir Robert died in 1637, and his monument in the ambulatory of Westminster Abbey carries a characteristic bust of the poet in copper, the work of Francis Fanelli, a Florentine; "Fr. Fanellius, Florentinus, Sculptor Mag. Brit. Regis."

This mention of Fanelli will possibly pardon the introduction in this place of a new *fact* about Fanelli connected with a great name in the history of art in England; and wholly overlooked by Walpole and his editors. In the will of the collector, Earl of Arundel, who died in 1646, is the following passage:—

"For my body, I bequeath it to the earth of which it is a part, to be buried at Arundel without all funeral pomp;* to have a convenient tomb, of a sitting figure of white marble or brass, with such an inscription in Latin as I have acquainted Junius withal, to be designed by Seigneur Franceso Fanelli, if it may be."

This statue, if ever executed, was never erected. A member of the Arundel Society can possibly tell us something more about it than has hitherto attended my researches, and the researches of abler antiquaries and connoisseurs than I can lay claim to be.

Two other names that well deserve admission into a dictionary of architects have lately come to light through the researches of Mr. R. W. Mylne. These names are "John Mylne, King's Principal Master Mason, 1648;" and "George Thomson, Architect, 1634." Mylne was engaged on the fine steeple of St. Giles's Church, in Edinburgh; and Thomson on King's College, in Aberdeen.

If the gathering and garnering of minutiæ of a like kind to the materials I have been pointing out appear of little consequence in the eyes of some of my readers, I would wish them to remember that a great English poet,—no less a person than Thomas Gray,†—was pleased to be an annotator of Walpole's "Anecdotes," and to commit to paper notes on a little name like that of Robert Adams, whose epitaph in old Greenwich Church described him thus:—"Operum Regiarum Supervisori Architecturæ peritissimo," ob. 1595:—Simon Basil, Operationum Regiorum Controtrotulator, posuit 1601." Simon Basil, who erected this monument to Adams, was Adams's successor as surveyor. Basil was succeeded by the illustrious Inigo; while Inigo's successor was *not* Webb, his kinsman and assistant, and able withal, but Sir John Denham, a true poet and no architect, who in a few years made way for England's greatest architect, Sir Christopher Wren.

All that Walpole and his editors tell us of Robert Adams and Simon Basil may be found in half a page of the last edition of Walpole.‡ I purpose to tell your readers more about them in my next communication, and thus assist in obtaining the Dictionary many would like to see, and many are in need of.

PETER CUNNINGHAM.

* Architect of Lincoln Cathedral, and an Englishman by birth.

* And yet, when alive and in the presence of others, he carried in his look and bearing the haughty blood of "all the Howards."

† Mitford's "Gray," vol. v. pp. 199—216.

‡ Walpole, by Wornum, p. 188.

IMITABLE FEATURES OF THE RAILWAY PERMANENT BENEFIT BUILDING SOCIETY, EUSTON.§

MANY years have elapsed since we had, in this country, an alarm at the diffusion of Communism. It is quite time we had another, for the principle is spreading. Communism is a disagreeable scheme, in which it is concerted that everybody shall do something, and everybody enjoy something; whereas we have hitherto lived in a far more convenient state of things, where those who receive the least do the work, and those who do nothing get the enjoyment. However, innovatory people, who will not let well alone, are altering all this. The high roads now are everywhere being made not only spacious but pleasant, which is the Communism of Towncomfort. The regulated Parliamentary train and emigrant vessel are part of the communism of travel. Public buildings, and parks, palaces, galleries, and museums, belong to the communism of recreation. Working men's clubs, baths, washhouses, national schools, schools of design, post-office savings' banks, Mr. Gladstone's device of Government annuities, model dwelling-houses, are so many forms of the communism of comfort, of cleanliness, of education, of art, of economy, and health, which is a recognition of the right of the common people to a high condition of competence and enjoyment. Oppression is now considered a discredit to a ruler—the existence of extreme inequality a disgrace to statesmen,—suffering the juvenile population to grow up in ignorance, a municipal crime. The poverty of the workman is treated as a scandal to the employer. It is beginning to be recognised as the business of the physician to prevent disease, of the clergyman to prevent crime; and we are confessedly approaching that state, foretold by Morelly, in which "it shall be *impossible* for a man to be depraved or poor."

Two conspicuous steps towards the competence of the industrious and provident workman, to which of late years attention has been paid, are land and building societies. Both have political as well as social influence. Land societies are likely one day to correct the monopoly of the soil, as building societies have already extended the franchise in counties and towns.

A building society is an invention whereby a man, instead of paying his rent to his landlord, pays it to a committee of his friends, who reward this alteration in his habits by presenting him, in due course, with the house he lives in. The societies for doing this being called *building* societies, have deterred many persons from joining them. The very term "building" calls up an unwelcome vision of excavators, hod-men, masons, scaffold-poles, plasterers, damps, and early rheumatic attacks. Not a tenth of the members of these societies ever do build. They *buy* houses, and these societies are properly house societies.

The first kind of building or house societies came into existence thirty-four years ago, and were what was known as *terminable*. They were constructed to be wound up somehow commonly at the end of ten or fifteen years. Those members who joined in the first year had a chance of doing pretty well: all who joined after never knew what they had to pay, and seldom obtained what they expected. The success of these *terminable* societies depended, not upon the prosperity, but upon the misfortunes of the members; the profits being made out of fines, forfeitures, premiums, biddings, and similar clumsy confiscations. There was no mutual principle in them. The shareholders made the profits, and the members made the losses.

About the year 1845, Mr. J. H. James, an actuary, originated, as he himself attests, the plan of permanent societies. However, it is Mr. Arthur Scratchley's arrangement of the plan which appears to have found general adoption. A permanent society always exists, as its name implies. A member may join at any time, and the last member is on as good a footing, as to advantages, as the first. The calculations are based on scientific data, the mutual principle regulates the interests of investors and borrowers, and mutual advantages, consistency, certainty, and simplicity are obtained.

A society of this description has, for fourteen years, existed at the Railway Clearing House, London.

A large body of men of all ages are congregated in railway establishments. One of the largest is at the Clearing House at Euston. The attention paid there to the personal welfare of the employed, by putting in their way means of self-help, is very great. In manufacturing establishments of thirty years ago, workmen were, and to a great extent they are now, *suspected* who save money; and they are afraid to be known to do it, lest their wages should be reduced. The more enlightened policy of the railway authorities at Euston (of which one of the vice-presidents of this department, Mr. Brown Westhead, M.P., is deputy chairman), is to encourage provident habits and to create facilities for practising them. This is a feature of the Building Society established at the Railway Clearing House.

How well the Permanent Building Society established there is devised and conducted a few facts will show:—

	1851.	1863.	1864.
Number of members	83	397	435
Subscriptions of investing members	£1,936	£6,258	£6,790
Loans	350	9,961	9,364
Advanced to borrowers	2,200	9,200	4,425

Total subscriptions received from investing members	£60,353	
Total loans received	46,601	
		£106,954
Advanced to borrowers		56,900
Repaid to investors (paid up shares)		38,283
Interest to investors	£4,853	
Bonus to investors	2,600	
Interest paid on loans	2,408	
		9,861
Total amount circulated among its members		£211,998

Its shares current in 1851 were	368
Ditto do. in 1864 were	2,469
Number of houses purchased, 187, amounting to 56,900*l.*, estimated to be worth 70,000*l.*	

Mr. S. W. Brooks, of the London and North-Western Railway, Euston, is the president of this society. Mr. John Noble, of the Railway Clear-

§ A paper read in the Social Economy Section at the York Congress of the Social Science Association, by Mr. G. J. Holyoake.

ing House, is the watchful and accomplished secretary. Mr. Thomas Holbein, Mr. W. W. Gent, Mr. P. W. Dawson, and other gentlemen, officially connected with the London and North-Western, and other railways, are directors.

The advantage of a management consisting of gentlemen of accredited position and business knowledge is incalculable. It secures confidence and responsibility. The majority of persons do not know a good society from a bad one; and if the intrinsic difference is explained to them, they do not understand it. Englishmen are constitutionally weak in arithmetic. They suspect that Eve was tempted with the multiplication-table, and they are sure that decimals came in with the Fall. James may write, Scratchley may calculate, Mr. Tidd Pratt may extenuate, and Thompson expound, the laws of building societies; but the majority know no more of what they say, than the historic savage knew of the watch he found: he thought it alive because it ticked, and would have admired it if sure it would not bite him. The working classes always look at building and insurance societies of all kinds, doubtful whether they are going to be bitten or benefited by them. And as they very often are bitten, as Mr. Gladstone lately explained to Parliament, there is some excuse for their indecision. It is an act of social mercy, therefore, when gentlemen of recognised position and known knowledge consent to manage one of these societies. The authorities of the Clearing House not only do this, they also give a room rent free, in which the building society is held, and conduct its affairs at a nominal cost, and, what is more, throw the society open to inhabitants of the neighbourhood, who have the same confidence in its security as though the Government conducted it. While a crowd attends to pay subscriptions, a very small number of the members attend the annual meeting. Sometimes not a tenth part are present; sometimes not a twentieth part. Their absence is a proof of implicit confidence. Absence implies confidence in the matchless management which never fails them. Were the property or profits of the members endangered, a crowd of alarmed or indignant subscribers would be present, eloquent with that constitutional capacity for grumbling which an Englishman believes was secured to him by Magna Charta.

The features of this society cannot be better summarized than in the words of the president, Mr. S. W. Brooks, in a recent explanatory speech to which I had the advantage of listening.

"Those who deposit money in this society," said Mr. Brooks, "find it a savings-bank which, during fourteen years, has given its members, in dividend and bonus, in no instance less than 7½ per cent. per annum. It has repaid to its depositors upwards of 38,000*l.*, and has realised for them profits of upwards of 7,000*l.*; and has paid to lenders of loans upwards of 2,000*l.* showing a gross profit of 10,000*l.* on savings—and that chiefly among a class who do not usually save, mainly because the machinery whereby they might invest is not adapted to enlist their interest and win their confidence. The gross value of the house property it has enabled its members to purchase, is 70,000*l.* It may fairly be assumed that scarcely any portion of it could have been acquired but through the society's instrumentality. In this society the table of payments to be made by borrowers is embodied in the rules, and it represents the total amount which they are called upon to contribute, and *nothing more is ever demanded* from them, under the name either of bonus, entrance fees, or contingent expenses. Intending members can ascertain at a glance what their total future payments will be, and they are thus secured against being subsequently called upon for additional payments, of which they may have had no very accurate idea on first applying for an advance. And there is ample evidence that the scale of payments adopted on advanced shares contrast very advantageously with the terms with which advances can be obtained from any other sources. These payments are altogether unaffected either by the current rate of interest for money, or by the urgency of the demands for accommodation. However high the rate of interest in the money market, this society continues to lend its money to members as if no such pressure existed. There is, in this society, no bidding for advances; no premium or entrance-fees payable by borrowing members; the costs attending the survey of property upon which advances are made, the investigation of the title, and the preparation of the deeds required by the rules, are borne by the society. The society is open to all persons, whether connected with railways or not; and advances are made for the purchase of property situate in any part of the kingdom."

Nothing could exceed the weight, completeness, and good taste of this statement. Looking around for a society which I could take as an example, none seemed so suitable as this upon which I speak. It never advertises: its unobtrusiveness, its economical and successful management, the responsible character of its administration, make it an instructive example for public imitation.

Many building societies have suffered disastrous shipwreck. As soon as a number of honest inexperienced men get together for any purpose, there are a class of plausible knaves down upon them immediately. Land sharks founded many land societies, and still conduct them. They buy worthless land cheap, and form societies to buy it at a high price. Lawyers of a speculative turn, in whom ingenuity is strong and conscientiousness feeble, have given building societies a turn, and battalions of officers, directors, and secretaries have grown fat upon members. Builders, too, whose talent lay in erecting houses that nobody would buy and nobody ought to inhabit, have originated building societies to take them. And hence these societies are in many cases regarded with well-founded distrust and dislike.

Mr. Brooks, the gentleman whom I have quoted, stated that the directors of a large mercantile establishment, equal in importance to many of the Government departments, had prohibited their clerks from becoming connected with building societies in any capacity whatever. It will be a satisfaction to the principals of this and similar establishments to learn that the managers of a great department like the Railway Clearing House have themselves established one of these societies on wise principles, yielding secure and profitable results, conferring the greatest benefits on its members and on the whole neighbourhood around the society.

It would be a great advantage if those house societies which do build, would take the wise advice of Sir John Pakington, on Friday night, or at least introduce some style of tenement worthy of these days. The domestic architecture of our towns has descended to a mere bandbox style. It is seldom that you meet with even a respectable modern house which does not seem a fragment of the Millbank Penitentiary. A foreigner would take one of our homes to be a house of correction. Our builders have exhausted all the genius of grimness in the construction of our dwellings. Whoever hereafter shall come to study the ruins of this nation, will no doubt conclude that England is the Botany Bay of the British race, and that we were punished here, and lived somewhere else. Why should not stout timber, honest brick, mortar, and iron, be made to take some picturesque and wholesome shapes? The late Prince Albert, with that practical kindness which was part of his character, did put up model cottages, which had the glory of a gallery in front. The love of home is a holy feature in the character of Englishmen; why should not a home be a cheerful place, which it should be a gladness to live in, and a daily pleasure for your neighbour to see? Of this city I do not speak. Here all that is old enchants you. All that is secular is quaint, and that which is sacred is almost sublime; but it is nevertheless a fact that there has not been put up in England for two centuries a single house from which it was intended that the inmates should see a sight in the streets.

In connexion with this subject it ought to be said that in many cases these societies, by imparting to men who never had anything, nor expected to have anything, the sweet taste of saving and possessing property, have demoralised some useful men. Mr. Arthur Ryland informs me that in Birmingham numbers of persons under the influence of these societies have forsaken patriotism for profits. And I know both Co-operators and Chartists who were loud-mouthed for social and political Reform, who now care no more for it than a Whig Government; and decline to attend a public meeting on a fine night, while they would run like a rat up a sewer after a good security. They have tasted land, and the gravel has got into their souls.

Yet to many others these societies have taught a healthy frugality they would never else have known; and enabled many an industrious son to take to his home his poor old father—who expected and dreaded to die in the workhouse—and set him down to smoke his pipe in the sunshine, in the garden, of which the land and the house belonged to his child.

These fine instances of benefit are not to be obscured by cases of selfishness which always occur in the transitious state of men from bad to better. As Tacitus says: "There are more willing slaves who make tyrants than there are tyrants who make forced slaves!" There are always people who are born mean, and who like to crawl and to be kicked. If you examine their bodies when they are young, you may see the place where indentations of the toe are intended to be received. When such men get money they always turn out fools. But this class of people are a good deal generated by the greed which never knows when to stop, which they see in the classes above them.

Mr. John Stuart Mill, in his chapter on the "Stationary State," in the last edition of his "Political Economy," says,—"I know not why it should be matter of congratulation that persons who are already richer than any one needs to be, should have doubled their means of consuming things which give little or no pleasure except as representive of wealth; or that numbers of individuals should pass over every year from the middle classes into a richer class, or from the class of the occupied rich, to that of the *unoccupied* ..... *What is economically needed is a better distribution*" of property. These words are a protest against that insatiable greed of wealth which demoralises the rich class and misdirects the poor. These words put a ban upon the hungry accumulators; and no wiser, more merciful, or more needed words have been spoken in our time. The interest which attaches to land and building societies is owing to the means they present for the attainment and better *distribution* of property among the proletariate of the land. Some poor knaves will be fattened in the process, but a far greater number of honest men will be made happy by it.

REPORT ON ST. JAMES'S, WESTMINSTER.

The eighth annual report of Dr. E. Lankester, the medical officer of health for the district, has been presented to the vestry, and printed. It contains some very instructive tables and comments on the condition of the inhabitants, male and female, their occupations, state of workrooms, and of health, &c. In reference to the tables of occupations, the reporter says;—"These tables will afford interesting subjects for further consideration in future reports. A glance at them will supply certain broad features, distinguishing the population of this parish from many others. Of the 12,000 women above twenty years of age, nearly 5,000 have no occupation, 3,800 being wives, and another 1,000 being dependent on others for their support. On the other hand, the male population seems very actively engaged, as we have only 240 persons returning themselves as unemployed or dependent on others. The wealth of the population is at once seen by the fact that more than a ninth of the whole population is employed in domestic service. This includes 3,000 maid-servants, and 1,200 men-servants. Amongst the men are 1,730 tailors, and amongst the women 485 engaged in the same occupation, making altogether a population of 2,265; thus indicating that a fifteenth of the whole population is engaged in this business. Of the boot and shoe makers, 763 are men and 450 are women. Amongst the women there are 766 milliners and dressmakers, 310 shirtmakers, and 340 laundresses.

It will be seen from these facts how large a portion of the inhabitants of St. James's, Westminster, are engaged in sedentary or indoor occupations. This, perhaps, will throw some light on the statement I made last year, that, in proportion to its population our parish suffered more from consumption than any other in London. This disease is mainly produced by want of fresh air, and is especially engendered in overcrowded dwellings and ill-ventilated shops and work-rooms."

The mortality of the past year is only slightly above the average of the last seven years. The number of deaths was 757; and no particular form of disease was more destructive than usual.

Opening of the German Hospital at Dalston.—This building, of which we recently gave a view and description, has been inaugurated by the Duke of Cambridge.



SALTBURN-BY-THE-SEA ASSEMBLY ROOMS.—Mr. John Ross, Architect.

These buildings are intended to be commenced forthwith, and will be constructed of white pressed firebrick with local freestone dressings. The estimated cost, exclusive of land, is 9,000*l*. The buildings are designed to contain concert and promenade rooms, library, reading and refreshment rooms, together with a certain amount of lodging accommodation, and will stand upon a prominent site.

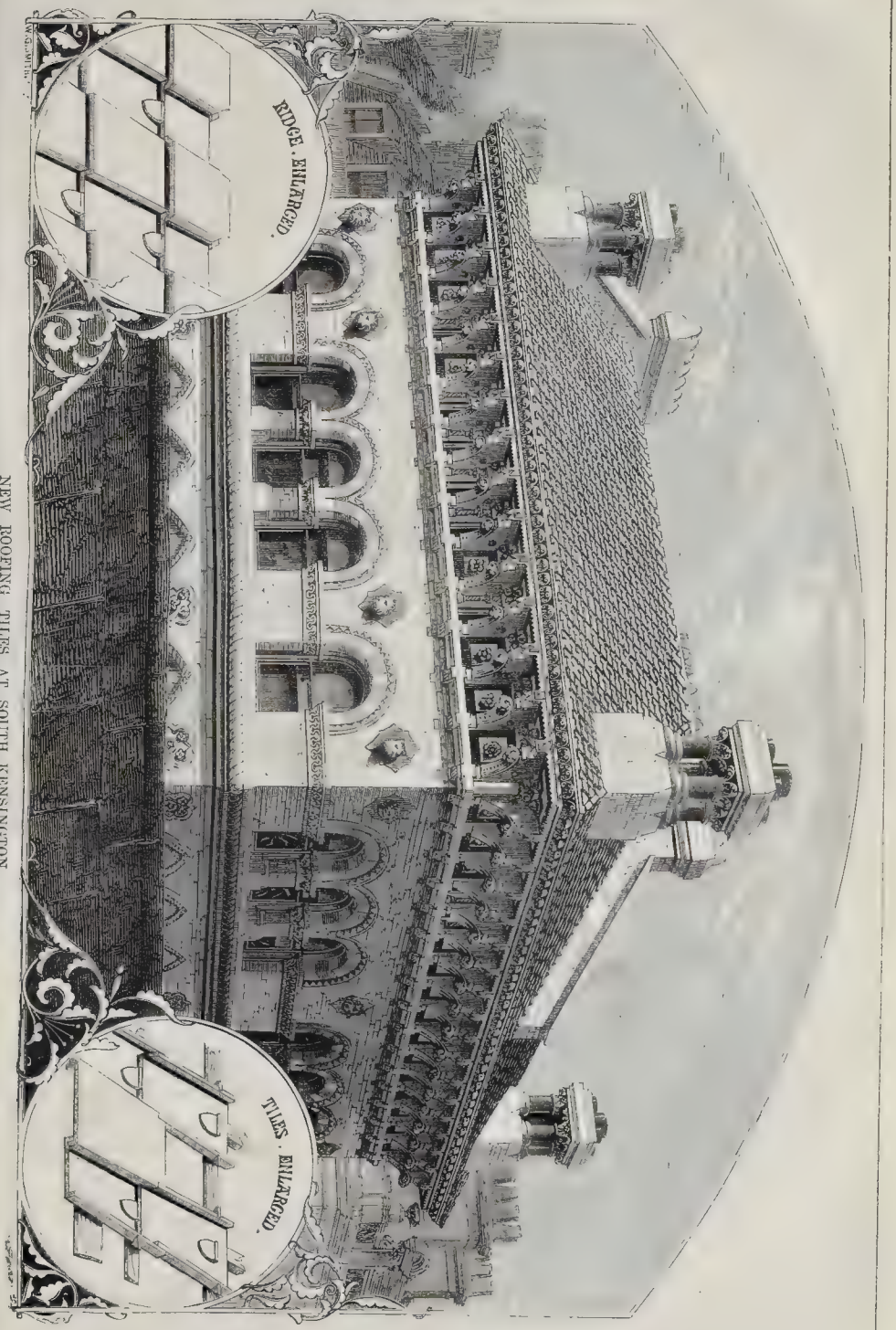
The upper part of the tower is intended to be used as an observatory; and, being at so great an elevation above the sea, will command a most extensive view. The assembly-rooms will form a southern corner termination to a terrace of lofty first-class dwelling-houses, which are attached at the north end to a large and commodious hotel now in course of erection.

The whole range is designed by the same architect (Mr. Ross) with a view to harmony of effect, and when complete will present a handsome frontage seaward. The growth of the iron trade in the county of Durham and Cleveland has been so considerable that an increase in the means of recreation for the inhabitants of the district is fast becoming necessary.



REFERENCES TO PLAN.

A. Entrance Hall and Staircase, 30 ft. by 30 ft.
B. Library, 20 ft. by 17 ft. 6 in.
C. Reading-room, 44 ft. by 30 ft.
D. Smoking-room, 25 ft. by 21 ft.
E. Attendants'-room, 13 ft. by 9 ft. 6 in.
F. Stairs to Ante-room.
G. Coffee-room, 18 ft. 6 in. by 18 ft.
H. Refreshment-room, 18 ft. by 15 ft. 6 in.
I. Passage.
J. Parlour, 21 ft. by 17 ft.
K. Sitting-room, 17 ft. by 15 ft. 6 in.
L. Vestibule.
M. Hall.
N. Lavatory and W. C.
O. Covered Way to Out-buildings.
P. Verandah.



NEW ROOFING TILES AT SOUTH KENSINGTON.

THE NEW ROOFING TILES AT SOUTH KENSINGTON.

With the aid of photography we give an exact representation of a roof, the novel appearance of which, and harmony with the style of the building, arrested our attention, and induced inquiries as to its nature and peculiarities. We found it to be the invention of Mr. John Taylor, jun., of Whitehall, architect, whose many practical improvements in building appliances have before been noticed by us, and are now well known, particularly those developed in the stations of the London, Chatham, and Dover Railway from his designs. It is not always we find an inventor able so successfully to carry out his views fully in detail, without which no satisfactory results can be looked for; but the fact is, that Mr. Taylor has not invented, as many have done, for the mere sake of inventing, but to correct existing defects, or meet wants that have become evident in his practice.

Tiles for roofing have some advantages over slates: they are warmer in winter and cooler in summer, and, from their appearance, would be more generally used were it not for their greater weight requiring heavier timbering; and they must be laid to a steeper pitch.

In answer to our inquiries, Mr. Taylor has furnished us with the diagrams in the margin, and particulars, from which we glean the following. These tiles may be laid to as flat a pitch as slates, and their weight is 720 lb. per square, being less than half the weight of plain tiles. Their appearance is ornamental, at the same time that they are economical, being as cheap as plain tiles.

It will be seen from the diagrams, that the same tiles that, when laid, form the lower or channel tiles, become, when reversed, the upper or capping tiles, in alternate rows. There are notches which allow the side flanches to bear from end to end upon the adjoining upper or lower tile, and permit all to range in unbroken horizontal lines. The nibs or shields regulate the gauge, giving a 2½ in. lap, which has been found sufficient. The under tiles are secured to slating battens with wedge-headed nails, which also, with the nibs, secure the upper tiles.

The ridge is a continuation of the upper and lower tiles made of a V shape, the flanches of the upper ridge tile capping over the flanches of the lower ridge tile; so that there are no screw holes, and all joints are lidded or capped. The tiling requires neither filleting nor pointing, being, when properly laid, perfectly tight and close.

The colours are red, white, blue, and brown. Our readers will know where to obtain any further information should it be desired.

We may mention that the architect of the handsome buildings to which they are applied is Mr. Charles Gray.

RESTORATION OF HORSHAM PARISH CHURCH.

The ceremony of laying the first stone of the arcade in the new aisle took place on Saturday last, in the presence of a great number of people. On the top of the block of stone which was laid by the vicar, was a circular plate, bearing the following inscription:—"Dedicated to the glory of God, and laid by the Rev. J. F. Hodgson, vicar of the parish, October 8, 1864. R. H. Hurst, Esq., Lay Rector. Thomas Bourner, William Lintott, James King, Churchwardens. S. S. Teulon, Architect. J. Howes, Builder." The vicar, in his address, said "How many generations have come and passed away since the first stone of this noble pile was laid! and by whom we know not, but it was 300 years before the Reformation. The different form of architecture of the building bears witness to the different epochs through which the nation had passed during the time. The tower was built in the reign of Henry I.; another part in the reign of Henry III.; the chantry in the reign of Edward II.; and the part where we are now standing in the reign of Henry VI.; another part in the reigns of Richard II. and Henry VIII., and this latter monarch swept many beautiful things from this old church. The ancestors of Queen Elizabeth have been buried here, and she once came down to the place to see the repairs of the monument erected over them. Oliver Cromwell, the great protector, has been here too, and I have seen his signature to the appointment of one of my predecessors as the vicar of the parish of Horsham."

CONTINENTAL NEWS.

Hanover.—The twentieth birthday of the Crown Prince was celebrated the other day, amongst other ways, by the consecration of a new church, called Christ Church, which has just been completed, at the sole expense of the King. It is the first new Protestant church built in this Protestant city for upwards of a century, and was begun five years ago, since which time the works have constantly been progressing. The church consists of a nave (rising 60 ft. to the crown of the vaulting, and 100 ft. to the ridge of the roof), two side aisles, a north and a south transept, and a five-sided apsidal chancel, having five smaller "chapels" grouped around them. These compartments, however, are not chapels, but serve,—one as a vestry, another as a royal entrance and box, and the other three or centre ones as means of communication and passage behind the altar, it being the practice for German Lutherans, in taking the Communion, to receive one Element at one end of the Communion-table, and then to pass on behind it, in order to receive the Cup at the other. A tower, 250 ft. high, rises at the western end of the nave, having two boldly projecting buttresses on its western face, between which a wide entrance-hall has been arranged, likewise vaulted. The total length of this church, which is Early German Gothic, is 210 ft. by a width of 83 ft. The materials are red brick, relieved by white sandstone dressings and mouldings; and the interior brickwork is plastered, leaving, however, all stonework exposed to view. The total cost, including a peal of bells and a very splendid organ, both of which are ordered (the latter, to cost 2,250*l.*, is being made by Walker, of Ludwigsburg), was estimated at about 30,000*l.*; but it is thought that this sum has already been exceeded.——The celebrated "Bavaria" statue, near Regensburg, is about to have a formidable male rival, in the shape of a colossal "Hermann," in the Teutoburger Wald or forest, in the kingdom of Hanover. Herr von Bandel, who is the sculptor engaged on this work, has now finished the enormous head and winged helmet of the hero, and is very ready to show any casual visitor to this city, interested in things on a large scale, the gigantic head, the feet, arms, &c.——The little village of Leveste, the scene of a great conflict in the fourteenth century, is also to have a monument to commemorate that event. It was here that, in 1373, Duke Magnus Torquatus, of Wolfenbuttel, was conquered by Count Otto of Schaumburg, and lost his life. The monument is 13 ft. high by 7 ft. broad, and was designed by Mr. Vogell.——A couple of years ago the ancient almshouses in this city, known as the Gasthaus (or hostelrie), founded in 1568 by the Countess Agnes von Rittberg, was accidentally destroyed by fire. Subscriptions have since been received for the purpose of enabling the trustees to build new and larger almshouses on a more modern plan, and in another part of the city. The foundation stone for the new buildings, which are to hold a hundred superannuated poor of both sexes, was laid with much ceremony and due Masonic honours by the Landdrost, or civil governor, in the absence of the King, on the 26th of September. It is arranged that any sums exceeding the amount collected by subscription will be met by the municipality of the capital.

Holstein.—The town of Tonning, well known in this country as the port whence much of the "roast beef of Old England" is shipped, is about to perpetuate the memory of the battle of Friedrichstadt, in 1850, between the Holsteiners and Danes. An obelisk, 12 ft. high, composed of a monolith of Silesian marble, is being prepared for this purpose at the marble works of Mr. Barheine, in Berlin.——The town of Gravenstein is erecting a monument in memory of the Prussians who fell in the last Danish war. It is 12 ft. by 10 ft., and 18 ft. high, and is composed of blocks of concrete taken from a Danish powder-magazine. The jambs and lintel of the door to the magazine have been here inserted, and in place of the door is fixed an iron tablet on which are the words in high relief, "*Dulce et decorum est pro patrie mori.*" Here follow the thirty names, with date and place of action. A cross surmounts the whole; at its foot is the Prussian eagle.

Italy.—Arrangements are being made for the accommodation of the Italian Parliament at Florence, the new capital of Italy. The Upper House will meet in the grand hall of the Cinque Centi, in the Palazzo Vecchio, whilst the senate will hold its sittings in the saloon of the Duecenti, under the same roof.——The recent excavations at Pompeii have led to another interesting discovery. A square block of white marble was found near the Isis gate, on the sides of which the Roman calendar is engraved. Each side contains three months in three columns, over each the zodiacal sign of the respective month. Interesting, and, for some, even important notices, are written against the days, with regard to astronomy, agriculture, and the religion of the Romans. Thus the days of religious festivals, &c., are accurately marked. Near the top Apollo is seen driving the chariot of the Sun; whilst below, near the base, Ceres is engaged collecting corn into a sheaf. This curious remnant of bygone days is now placed in the museum at Naples.——Dr. Paolo Livy is engaged in excavations, carried on at his own expense, in the ancient bed of Lake Fimona, four miles from Vicenza, where he has discovered the remains of very ancient pile-drivings, similar to those which have been found in other lakes in Lombardy and Switzerland. He reached the heads of some of these piles at a depth of 6 ft. from the surface, and the charred appearance they present shows that the buildings which once stood on them were destroyed by fire. Rude implements, such as flint lance-points, keys, and other objects made of bone, some bones of the wild boar, &c., to some extent show the antiquity of these works.——Venice has been very active lately in the restoration of her many noble edifices. The façade of St. Mark's has been cleaned down and repaired; and the Palace of the Doges has a new roof, and has been thoroughly repaired inside and out. The fine Renaissance building of Antonio Rizzi, on the Canale di Canonica has been repaired, and so have the Churches San Sebastiano (Paul Veronese's), Santa Maria dell' Orto, San Salute, San Giovanni e Paolo, &c. The Fondaco dei Turchi has been turned into a museum, and a number of palaces have likewise been renovated, in which process, however, more attention has been given to usefulness than to beauty.

St. Petersburg.—Mr. Bernardakis, the Greek banker, has recently transmitted the magnificent sum of 140,000 francs towards the completion of the university at Athens. This building was commenced as far back as 1840; but it has never been completed.——A new lying-in hospital has just been opened in presence of H. R. H. the Prince of Oldenburg, the Minister of War, the Governor-General, and other distinguished people. The building is situate in the Nadeschdinskaja-street, and contains accommodation for 112 free beds, and an institution for sixty-five midwives. It was begun in 1851, under the direction of Mr. Staegemann, architect, and has cost 60,000*l.*, including fitting up.

Cologne.—In the course of restorations now going on in the church of the Minorites, which was built in the thirteenth century, some interesting wall-paintings have been discovered under the whitewash and plaster. Some coats of arms which are represented seem to point to the beginning of the fourteenth century as the time when these paintings were executed. A Brother Henry lived in the convent at that time, painter and monk; and to his brush these works are attributed.

THE INEQUALITY OF LOCAL TAXATION.

At a meeting held recently in Finsbury, Mr. Torrens remarked that the local rates of St. Luke's were now 4s. 4d. in the pound; and he found that the sum paid last year amounted to more than 10s. a head on every individual in the parish. Ten years ago they had to pay but 6s. a head. The cause of the increase was not far to seek. The City parishes had by recent architectural improvements contrived to disburden themselves of great numbers of the poorer classes, who had been driven into St. Luke's and Bethnal-green; and the destruction of humble dwellings to make room for new railways in Clerkenwell and elsewhere had contributed to the same result. The speaker remarked that railway companies ought to be compelled within certain limits to rebuild habitations for the working classes, or to compensate the parish whose industry they dislocated. This is a matter which must ere long meet with an effective remedy. The Inns of Court pay no poor-rates: the custodians of those places shut their gates on one day of the year according to established custom. They *support their own poor*, which in those realms of the law amount to none.

THE PROPOSED RESTORATION OF WINCHESTER CROSS.

At the last meeting of the committee a report was read, showing that the total amount of subscriptions received and promised was 490*l.*, being within 110*l.* of the required sum necessary for completing the restoration of this structure in accordance with Mr. Scott's design, including the three large figures for the lower niches and eight smaller ones for the upper niches. The committee, believing they had received sufficient encouragement, and with the expectation of being able to raise the sum still required for the carrying out of the work, resolved that it should be undertaken at once, and appointed a building committee, who were to have the management of the work, with full powers. It was also agreed that the work should be entrusted to Mr. Garmer, of London, who had been recommended by the architect, and had offered to complete it to his satisfaction for 500*l.* The lower niches will contain the following statues: King Alfred the Great; Florence de Lunn, the first mayor of Winchester, A.D. 1184; and William de Wykeham. At this meeting Mr. Baigent suggested the following figures for the upper niches: St. Swithun, Bishop of Winchester; Henry II., who gave them their city charter; St. Ethelwold, Bishop of Winchester; Seher de Quincy, the first Earl of Winchester; Mark le Fayre, Mayor and benefactor; St. Grimbald, the celebrated monk of Winchester; John Devenishe, Mayor and benefactor; and Sir Simon de Wynton, knight, a benefactor to the city and cathedral *temp.* Edw. I. These were unanimously adopted, and the list ordered to be forwarded to the architect.

METROPOLITAN BOARD OF WORKS.

At the meeting of the Board on the 14th inst., a report on the proposed removal of Middle-row, Holborn, was brought up. It stated that—

"The cost of accomplishing that object, including the purchase of the property, the necessary pavements, &c., would be 46,625*l.*; and to purchase the south side, with a view of making an improved frontage, would amount to 35,300*l.* additional, making a total of 82,934*l.* The matter had been referred to the superintendent architect, Mr. Williamy, to make a survey, and report as to the cost of removing Middle-row, and he reported that the cost of acquiring the property of that block of buildings would be 61,152*l.*, but it would not be desirable to purchase the property on the south side of Middle-row, because, after the sale of the ground-rents there would be a cost to the Board of 20,000*l.*"

The Engineer read a long correspondence as to the granite for the Thames Embankment, giving evidence in favour of the Dalbeatie stone. That a good granite should be selected is of the greatest importance, and the utmost care is therefore desirable. The importance of the question to quarry owners, too, is very great, and is leading, as might be expected, to charges and countercharges, at present not very clear.

THE BRIGHTON PAVILION.

The general restoration of the Pavilion to the condition in which it was when opened by King George IV., including the re-hanging of many of the original decorations removed on the dismantling of the palace, and recently presented to the town by the Queen, has been completed, and has been celebrated by several entertainments. The works have been done, as our readers may remember, under the direction of Mr. Pantaenius, by Mr. Tony Dury, of Warwick. The expenditure, we understand, will be about 6,000*l.* We reserve our opinion as to the result.

THE ASSISTANT SURVEYORSHIP OF PLYMOUTH.

After some discussion as to whether or not the newly-elected surveyor was to be considered an officer of the council, and what were his duties, the election of assistant surveyor was proceeded with, at a recent council meeting. Three candidates only attended out of those selected: they were each subjected to a series of questions, in order to test their engineering ability. The following is a specimen of the questioning:—Mr. G. Le Corney asked Mr. Bellamy (the first candidate called in) what he would do in the event of the main pipes of the town bursting. Mr. Bellamy: I should shut off the valve nearest to the pipes that burst. Mr. Le Corney: Well, what would be your next course? (laughter). Don't laugh, gentlemen; you make yourselves fools (renewed laughter). Mr. Arkell: I rise to a point of order. If this mode of questioning is to be turned into one of amusement, it will be well for some of us to retire. The Mayor: Do you mean this for amusement, Mr. Le Corney? (a laugh). Mr. Le Corney: No, sir, I don't. I was never more serious. I asked those questions—practical ones—in earnest. Mr. Bellamy was then further asked by Mr. Le Corney how he would disconnect the pipe, and then connect again; for these matters were of very grave importance, and with which all hydraulic engineers ought to be conversant. Mr. Le Corney was then proceeding to argue the question, when Mr. Latimer rose to order, and said he considered if the questions were asked, the questioner should not argue the point as to whether the engineer was correct or not, because there might exist a difference of opinion as to the mode of doing certain work, and it might be a question also which mode was the best. The numbers were—for Mr. Bellamy, 19; for Mr. Shopland, 16; the former being thus declared elected.

COLD WATER ON THE SPIRITS.

Having, when viewing the performance of the Davenport Brothers, expressed considerable scepticism and an utter contempt for the paltriness of an exhibition for which was claimed the character of "manifestation," I was invited on Tuesday night to the residence of a gentleman in Eccleston-square, to see a professional conjuror, Mr. Tollemarque. The result of my visit was a thorough confirmation of my doubts; and a proof was given to all present that the performance of the Messrs. Davenport is mere juggling trick; that the application to their ridiculous exhibition of any such term as "manifestation" or "passive agency," is simply an untruth; and when put forward by Dr. Fergusson, who claims consideration "for the dignity of manhood," the honesty of purpose, "the marvellous power of these young men," is a fraud on the public of the grossest possible character.

Mr. Tollemarque, in a speech more ingenious and gentlemanlike than a stump oration I had heard at the other exhibition, explained his reasons for wishing to expose the Messrs. Davenport. He then submitted to be bound to a chair. This was done by a gentleman who on a previous occasion had tied one of the Davenports; and as he had been jeered by his friends for not properly securing that person, he took good care that in the present instance they should not make a similar accusation. Mr. Tollemarque was therefore unmistakably secure. A question arose whether the lights should be put out, but as they were oil lamps and not gas, and therefore difficult to relight, it was agreed that the *séance* should be continued in the light. A screen was then placed before Mr. Tollemarque, and in about half a minute the jingling of the tambourines and the discordant striking of the guitars commenced, and the "spirit hand" was seen above the screen. The tambourines came flying about the room, the guitars followed, and in about three minutes Mr. Tollemarque requested the screen to be removed, when he stood before the audience unbound.

He requested to be tied again; and the writer, who had a theory about pinioning, proceeded to bind him in a way which was deemed perfectly secure. The screen was again put up. The same Davenport row ensued, excepting that Mr. Tollemarque not being able to play on the fiddle, he could not treat us to that one nigger melody with which the "spirits" seem always to delight themselves. A friend of mine has attended the Davenports three times, and he has always heard the same tune.

The result in this case, as in the former, was that Mr. Tollemarque walked out free and unfettered. He submitted to be fastened for a third time, and on this occasion it was done by our host. There could be no question that he was perfectly secure. The screen had scarcely been put up when Mr. Tollemarque exclaimed, "I am tied so tightly, will any one give me my instruments? You will not: then take my coat;" and the coat came flying over the screen among the audience. Mr. Tollemarque immediately appeared unbound in his shirt sleeves.

The delight among the sceptics, arising from this illustration of passive agency, can easily be imagined. One gentleman present, somewhat of a believer in "the spirits," would not acknowledge his conviction that Mr. Tollemarque had tied himself up again. This he did twice in as short a space of time as he took to untie himself, if not shorter. Between the acts, Mr. Tollemarque exhibited some clever tricks of sleight of hand, the art which he honestly professes; and, as a last and crushing act for the poor spirits, he showed us Mr. Foster's trick of "the writing on the arm in characters of blood." Mr. Tollemarque had previously explained to one of the gentlemen present how all these things were done. I did not ask for a solution. Mr. Tollemarque professes to amuse. He honestly states that he is a conjuror; and, while he only exercises his abilities as such, it is not for me to promulgate the secrets of his art. But I hold it is the duty of every honest mind to denounce an attempt to establish a character for possessing divine or miraculous gifts by the exhibition of powers that after all are only meant to extract guineas from the pockets of the credulous and the superstitious.

F. S. A.

*** We are able to vouch for the good faith of the writer of this communication, which goes wholly to confirm our assertions of last week. We may hope that one out-crop of a widely-spread delusion has been cut off.

CIVIL ENGINEERING AND THE INDIAN GOVERNMENT.

Sir,—In the *Builder* of June 11th I noticed a letter from a civil engineer in the Bombay Government service, in which the writer professes to be satisfied with the manner in which he has been treated by Government, and hinting that those engineers who were sent to Bengal had no reason to be dissatisfied. I am not acquainted with the terms of the covenant of those who came out in 1855; but, as Government has, since January, 1859, been yearly sending out batches of ten or twelve young engineers to the Bengal presidency, I think it right, for the benefit of those who may be intending to trust themselves to the sense of justice of the Bengal Government, to give you a few details of what they have to look forward to.

I need not recapitulate the terms of the Government advertisement: they must be pretty well known to your readers. I may state briefly the requirements, viz., that the candidates must either have served a regular apprenticeship to a civil engineer for three years or else have been two years at a civil engineers' college, besides one year in practice. They are then required to pass a searching examination in all the details of their profession. When appointed they are called probationary assistant engineers, and may receive from 170 rupees to 200 rupees per mensem. After a year's service they are required to pass a second examination in this country before being appointed to the permanent strength of the Department of Public Works; they are then called second-class assistants, and receive 250 rupees per mensem, or 300*l.* a year.

There is a Government Civil Engineers' College at Roorkee, in the North-West Provinces, where any officer can obtain leave to study for the Department of Public Works. After a term of from, I believe, one year to a year and a half, they pass an examination (at which a pluck is of the very rarest occurrence to officers), and are then appointed probationers, and, like civilians, have a second easy examination to pass before they are made second-class assistants. Their pay then varies from 420 to 500 rupees per mensem,—if lieutenants, according to the corps to which they belong; if captains, it is considerably more;—so that they receive nearly double the pay of civilians of the same grade, besides the advantage of having acquired their engineering knowledge at the expense of Government.

Now, as to *promotion*. The following facts speak for themselves:—Since 1859, out of fifty-eight civilians who have entered Government service, only one has been made an executive engineer, and one a special assistant, appointments the pay of which is 500 rupees a month. Since the same date, fifty-two officers have entered the service, out of whom seven have been made executive engineers, and three special assistants: they receive from 525 rupees to nearly 800 rupees, according to their military rank and to the branch of the service to which they belong. So that the chances of promotion of a civilian to those of an officer are as 1 : 5½, a state of things which must continue to exist as long as all the heads of the department are military men, who naturally view with disgust the introduction of the regularly apprenticed in competition with military amateur engineering. Your Bombay correspondent deprecates the pub-

lication of facts likely to deter young engineers from coming out here in Government employ; but, sir, I consider it the duty of every man to guard his professional brethren against disappointment. The fact that Sir Charles Wood has lately introduced a set of rules for pension and furlough considerably less advantageous than those hitherto in force, proves that Government are not disposed to ameliorate our condition: as long as this is the case I would advise engineers not to come out, if they can possibly do otherwise. The time will probably come when the Government may see the necessity of dealing fairly with their servants, but the manner in which the medical and engineering professions have lately been treated proves that that time has not yet arrived. ANOTHER VICTIM.

Central India.

P.S. I enclose my name and address for your private information.

*** Letters in the *Calcutta Engineers' Journal*, and even the observations of the editor of that publication, who is evidently not disposed to find fault with the authorities unnecessarily, show that the feeling expressed by our correspondents is very general. The Home Government should give the subject re-consideration.

STONEHENGE.

I WAS much gratified with the notice of this remarkable and curious ruin in your journal, and the interesting paper upon it, read by the reverend Prebendary Scarth, on the recent visit to it by the British Association. I happened to see it a few days after their visit, with a friend, and the impression on both our minds, from a small recent fracture, was, that the large blocks have the grain of marble. But my main reason for thus addressing you is to state, it appeared to both of us, that what is termed the unhewn stone, standing isolated 200 ft. from the eastern end, has a distinct and well-defined lion's head crowned, of colossal proportion, facing the ruined temple. It may be a *lusus naturæ*, created by time and the stone's decay, but it is so beautiful in proportion and character, if a lion could be imagined sitting on his haunches, that I would fain enlist the opinion of others by its further notice. It is principally to be seen from the rising ground about 30 ft. south-west of the block, and cannot be so thoroughly defined in any other position. We took our flyman to the spot, and asked him if he could trace any figure. He said, "Oh, yes; it is a lion's head very clear; and I am astonished that neither I nor the hundreds of people I have brought here in my time have ever before observed it." It may or may not be a mare's nest of our imagination, but it struck three persons separately with such remarkable force, that I think it right to state the fact for future examination and notice, if you deem it worthy. W. B.

EXTENSIVE FIRE AT PIMLICO.

THE Pimlico Patent Wheel Works have been destroyed by fire, and nearly the whole of the walls have fallen. The premises occupied almost an acre of ground. On the top of the roof was a large iron tank filled with several hundred gallons of water, but which in its fall made no impression on the fire. On the smoke in some degree subsiding it was discovered that the timber stacks on the eastern side of the factory, containing nearly 5,000 loads of timber, had caught fire, and the efforts of a portion of the brigade were directed to save this portion of the property, in which they were partially successful. On the extinguishment of the fire in this quarter depended the safety of the Victoria Railway Station and the Grosvenor Hotel; for had it obtained a firm hold of these timber stacks it would have been almost an impossibility to have saved the above places from destruction. As it was, a portion of the roofing of the station caught fire, and was greatly damaged. Hardly had the flames been arrested in this quarter than a new danger presented itself in another portion of the premises—the coal stores—which had been filled with 100 tons of coal. These stores had ignited, and presented the appearance of a huge mountain of fire, throwing up showers of coal-dust as from a volcano. The fire was at length got under, but the railway communication was threatened from a huge mass, the rear wall of the factory, still left standing in a tottering condition, and comprising many tons of brickwork. This mass of brickwork hung over and within about twenty yards of the railway tunnel, threatening to break through the roofing of the tunnel. While this terrible fire was raging, Messrs. Trollope & Read, builders, and the owners of the surrounding works, as well as the railway authorities, were taking all possible measures to keep the fire away from them; and owing to timely precautions the amount of damage done to the surrounding property was comparatively inconsiderable.

The amount of property destroyed is estimated to be at least 100,000*l.*, and it is stated there was no insurance existing on the premises or stock. The origin of the fire could not be ascertained.

Had the large stacks of timber in Messrs. Trollope & Co.'s extensive premises been added to the conflagration, it is hard to say where the fire would have stopped. The timber-yards of the metropolis are a highly dangerous ingredient in its miscellaneous composition. By the Metropolitan Building Act, the wooden frame of a window must be placed 4 in. within the face of the wall, or proceedings will follow; while hundreds of building yards can be stuffed with timber *ad libitum*, without any Act compelling or authorising any interference whatever.

A NEGLECTED CITY ON THE SEVERN.

SIR,—Nothing but malice could have penned the series of untruths published in your last, with the signature of "A Lover of Progress." I am not a native of Worcester, and, therefore, have but little interest beyond that of a well-affected citizen, in supporting its fair fame in the eyes of the world; but I can safely assert that I know of no city in England, *cæteris paribus*, so enterprising, so lively, and so flourishing. No new buildings, quotha! Why, sir, within the last ten years, the fine old city of Vigornia has been almost inclosed in a new one. In all the cardinal points the suburbs have been so enlarged, and streets and squares are now so generally in erection, that it is astonishing how any one could sit down deliberately to say the thing that is not. The only fear is that we are overbuilding ourselves. The principal demand for new buildings arose from the establishment of the railway workshops (this being now the centre of a most important railway system just completed), and a very large staff of artisans here, added to which, the great increase of our local staple trades of late,—vinegar (of which, perhaps, your correspondent has had too large a draught), Worcestershire sauce, gloves, china, coach-building, engine works, &c.,—has necessitated a stimulus in the building trade, and, consequently increased accommodation for something like 35,000 population (your own correspondent's statement), as compared with much less than 30,000 in the census of 1851.

Mr. Editor, I wish you would pay us a visit. No doubt, you would have an ample field for condemnation and friendly advice, but, at the same time, you could not fail to perceive how grossly "A Lover of Progress" has shown that he is no lover of the truth. New churches, new chapels, new almshouses, new schools, immense blocks of buildings, like little towns, in Sansome-walk, Chesnut-walk, the Blockhouse, Happy-land, London-road, the Moors, Barbourne, &c., have so transformed the place that, if you knew it before, you would scarcely recognise it now. The Arboretum is *not* closed; the public baths *are* enjoyed by all who like to pay a moderate price; the theatre is amply sufficient for the notoriously declining state of the drama; any number of boats may be procured at the Grand Stand or the quays; and, instead of being deficient of institutes, we have a plethora of them, and a complete sickening of lectures, concerts, amateur theatricals, soirées, and things of that kind.

I have no patience to continue this apology for our fine old city; yet to leave such a tissue of falsehoods uncontradicted in your wide-spread and influential paper, would be as unjustifiable as the motive which prompted the originator of the scandal.

JOHN NOAKE, Sub-Editor of *Worcester Herald*.

SHOP SHUTTERS.

I AM putting in a new shop-front, and have heard of a shutter much used in Paris, being thin sheets of metal, to slide up altogether into the fascia, and which must be obtainable at a much lower price than those now in use of iron and wood, to go on rollers, and can be used where there is not room for the rollers.

I have made many inquiries in London, but am unsuccessful in finding any one acquainted with the fitting or the cost of them. Perhaps, if my requirements are made known in your next issue, it may lead to some result, and be interesting to many of your readers. A. B. C.

ENGINEERS' CHARGES.

SIR,—Will some of your readers kindly answer the following questions, about which there seems much doubt:—

What is the charge for railway work per mile for trial sections, and depositing the usual Parliamentary plans and sections?

What per mile if standing orders be passed and the Bill be prepared for committee?

What per mile, including all charges up to completion of work, if the line be carried out?

What sum per cent. for preparing quantities, estimates, and specifications? A. R. T.

CHIMNEY-SWEEPING.

Is there any mode of remedying the inconvenience occasioned by the new method of cleaning chimneys, by which the soot is driven out at the top of the chimney instead of being swept down, as formerly? The tank-water from the roof of my house, which is in the country, standing quite by itself, is poisoned with soot, and the shrubs all around it covered. The roof, which was carefully cleaned yesterday is to-day powdered with soot in consequence of the sweeping this morning of only one chimney; and the shrubs are also covered with it. A. Z.

COMPETITIONS.

Walsall New Town Hall and Gaol.—A special meeting of the town council was held, in St Matthew's Hall, the mayor presiding, for the purpose of examining the twenty-three sets of designs and plans for a new town-hall and gaol, and also to receive a report of the town-hall and gaol committee on the subject. It was unanimously resolved, on the recommendation of the committee, to adopt the design and set of plans marked "Experiar." The premium of 15*l.* for the second best set of plans was awarded to the set marked "O. O." On opening the sealed envelopes forwarded with the plans, it was found that the plan adopted was by Mr. G. B. Nichols of West Bromwich (the architect of the Free Library), and the second best set the production of Messrs. Bellamy & Hardy, Lincoln.

Bowdon Church, Cheshire.—Several architects from Manchester and the North were invited to compete for this new church. After a fortnight's examination of the drawings by the committee they adopted the designs of Mr. J. Medland Taylor, of Manchester; and the work is to be at once begun under his superintendence. The church is to seat 1,000 persons,—900 upon the ground-floor, and 100 in a western gallery. The nave is divided from the aisles by a clerestorial arcade, and the broad and lofty chancel terminates apsidally. There is to be a south-western steeple.

Bolton-le-Moors.—For the Church of St. James, Bolton-le-Moors, upwards of sixty designs were sent in. The trustees reduced the number first to twelve, then to six, then to two, and finally decided to adopt drawings the author of which was found to be Mr. J. Medland Taylor, of Manchester, who has now received the formal appointment of architect to the trustees.

FROM SCOTLAND.

Edinburgh.—The town council have been considering the scarcity of water at present so much felt in the town; and have remitted to the Lord Provost's committee to confer with the water company on the question, to consider the matter generally, and to take steps in the direction of ensuring, as far as possible, the constant supply to which the inhabitants are entitled. It was then moved, "that it be remitted to the streets and buildings committee to consider the propriety of acquiring ground for a permanent public park in the north-west district of the city." In supporting the motion, the mover adverted to the anxiety of all the inhabitants of the city for the opening of the West Princes'-street Gardens, and insisted on the desirableness and possibility of this being brought about. The motion,—with an addition, remitting the subject also to the Lord Provost's committee, and also remitting it to that committee to consider the desirableness and practicability of opening the West Princes'-street Gardens,—was agreed to.

The Glasgow School of Art. The medals and prizes awarded by the Department of Science and Art have been distributed to this school. There were 4 national medallions; 4 students gained "honourable mention" in national competition; there were 14 local medals; 4 students gained "honourable mention" in local competition; and 28 prizes of boxes of water-colours, mathematical instruments, &c., were distributed. Fifty-four students passed the examination successfully, passing in 72 papers in free hand and model drawing, geometry, and perspective. The total number receiving instruction in drawing, in or through the agency of the school in 1863, had been 3,326, showing a total increase of 281 over the previous year. This included 2,271 children of public schools, 343 students of private schools, 47 teachers and pupil teachers, whilst 665 students had attended the Central School. The Lord Provost afterwards delivered a short address. His lordship went on to say that it appeared now that the future maintenance of the school must be mainly thrown upon the citizens. Well, be it so. He trusted the citizens of Glasgow would not allow the institution to languish in consequence of the withdrawal of this support. The school itself was admirably situate, and all that was wanted from the citizens was some 3,000*l.* or 4,000*l.* to clear off the purchase-money of the building and its fittings, and then the fees of the students, together with any other resources which might be placed at the disposal of the directors, would amply suffice for carrying it on. A resolution "That the School of Art is eminently deserving of the support of the citizens

of Glasgow, and that an earnest effort should be made to have the debt removed, so as to insure the continuance of the institution," was carried by acclamation; as was also the following:—"That the thanks of the meeting, and of all friends to the School of Art, are due to Mr. Heath Wilson for his valuable services during upwards of fifteen years as head master of the school." Mr. Wilson, in reply, said that in retiring from public life, after a service of twenty-seven years, he was happy to add that, being in tolerably good health, he would still be able to devote a portion of his time to their service. He trusted the people of Glasgow would cordially unite in coming forward to aid the school, and he might be permitted to remind them that the first school of design established in the United Kingdom was a Scottish institution. It was now 104 years since the School of Design in Edinburgh was established, and during all that long period it had flourished under the direction of various able masters. Seven-and-twenty years ago he was master of that school, and since then he had been employed in various portions of the kingdom, and had been connected with many of the committees governing schools both in England and Scotland. Having visited schools of art in all parts of the Continent, he was able to say, from experience, that there was as much natural talent for art existing amongst the pupils of the British schools as of any other similar institutions in the world.

IRELAND.

The success in the growing of flax, and in the spinning and weaving of that valuable fibre, for which the north of Ireland is celebrated, is exciting a generous emulation in the other quarters of this island. The movement may at present be attributed to the rise in the price of calicoes and other cotton goods, or rather to the cotton famine which has caused it. In no part has this progressive step been taken more warmly than in the south. Amongst the many mills which have recently sprung into existence, not the least is that at Millfield, in the suburbs of the city of Cork, and situate in close proximity to the Blackpool tunnel of the Great Southern and Western Railway. The company who have erected these mills, have purchased the premises at a cost of something over 1,500*l.* The principal lot comprises 18 acres, held for an unexpired term of 920 years, at 106*l.* per annum. The other lot consists of 25 acres, which can be used for bleaching, flax culture, &c., with an extensive range of stores and offices, a powerful waterwheel and engine, &c., already *in situ*, together with residence for the manager. The company have commenced the erection of an extensive spinning-mill on an adjoining site, pronounced unexceptionable. On this building a sum of over 45,000*l.* will be expended.

Mr. Richard Evans has contracted for the mill; Mr. Richard Brash for the chimney; Messrs. Smith for the metalwork; Messrs. Hecks, of Bolton, for the engine; and 6,000 spindles will be supplied by the Messrs. Coombe, of Belfast; this being only one-half of the number ultimately intended. Messrs. Boyd & Batt, of Belfast, are the architects.

The Marquis of Downshire, on Thursday, the 8th inst., performed the ceremony of laying the foundation stone of a new Presbyterian church, in Banbridge. The cost of the building is estimated at 1,400*l.*

A bequest having been made by a charitable lady, of the city of Dublin, at her decease, for the building of three new churches in desirable neighbourhoods, the trustees have taken prompt measures for the accomplishment of this object. One of these churches is to be erected in the neighbourhood of Kingstown, on the estate of Lord De Vesci. It provides accommodation for 600 persons, one-third of the sittings being free, and will be rendered conspicuous by a tower and spire. Mr. Alfred G. Jones is the architect.

A coastguard station is being erected at Donaghadee, county Down, to accommodate ten boatmen, and a chief officer. There will be also a watch-tower and boat-house. In all, a sum of 1,100*l.* will be expended.

At Balbriggan, in the county Dublin, a similar building is in course of erection, but of more ornamental character. It provides accommodation for seven men and one officer, and will cost not far from 2,400*l.* These buildings are from the plans and under the direction of the architect to the Commissioners of Public Works.

Derry.—The contract has been taken for building the new district church of Clooney, Waterside, parish of Glendermott, by Mr. Alexander M'Elwee, and preparations are being made for commencing the work. The parish church has been enlarged and improved at a cost of upwards of 1,200*l.*, and affords accommodation to nearly 500 persons. There are, however, 1,600 members of the church in the parish, and this, taken in connexion with the distance from Waterside, renders additional accommodation necessary. A new church is, therefore, to be erected at Waterside, by private contributions and a grant from the Ecclesiastical Commissioners. The design is by Messrs. Lanyon, Lynn, & Lanyon. The building is intended to accommodate 450 persons, so that when it is finished church accommodation will be afforded for nearly 1,000 persons in the parish of Glendermott. The grant made by the Ecclesiastical Commissioners amounts to 3,000*l.*

Kenmare.—The Roman Catholic Church of Holycross, which had been in course of erection during the past two years, has been consecrated by the (R. C.) Bishop of Kerry. The expense incurred in the erection of the church has been defrayed by Archdeacon O'Sullivan. At a cost of over 5,000*l.* he also erected, close to the site on which the new church stands, a convent and schools, in which over 400 children are educated and trained to industrial pursuits. The church is cruciform. Its length from the extreme end of the chancel to the western gable is 130 ft.; breadth of transept, 90 ft.; and height to apex of roof, 75 ft.

PROVINCIAL NEWS.

St. Ives (*Hunts*).—The St. Ives new Corn Exchange has been opened. The building is in the Italian style, and consists of two stories, which comprise a hall 106 ft. long, 36 ft. wide, and about 40 ft. to the ridge; in addition to which there are reading-rooms, committee-rooms, lavatories, and offices. At the lower end of the hall is a special reading-room, which, when occasions require, can be used as an extension to the large hall, increasing it to 130 ft. in length. This hall is the most commodious in the town, and will supply a need long felt both for commercial and entertaining purposes. The roof, which is of timber, is oak stained, and supports a cupola the entire length of building, from which it receives its ventilation. The greater portion of the light is admitted through the roof, which is open to the ridge. Mr. Hutchinson, of Huntingdon, was the architect, from whose design the work has been carried out by Messrs. Bunting & Son, Fenstanton, at a cost of about 1,500*l.*

Reading.—The Reading Town-hall, which has been for some months undergoing alteration and enlargement, under Mr. W. N. Woodman, the borough architect, has been re-opened. The principal offices have been remodelled, and the large hall almost entirely rebuilt. The interior of the latter now forms one of the leading features of the town. It is in the Italian style, with a ceiling deeply panelled into octangular coffers, and enriched with colours, while the walls present a succession of large semi-circular headed windows, alternating with plain surfaces, which are decorated with colour only, the centres of each containing shields emblazoned with the arms of worthies who have figured in the history of Reading. The lower part of the hall is lined to a height of about 6 ft., with a panelled dado; and at one end has been erected a new organ, adjoining which is arranged a moveable orchestra. The whole of the decorations have been executed by Messrs. Green & King, of London, who are also engaged, as we understand, in decorating the Town-hall at Bursiem.

Brighton.—In reply to a complaint made in the town council of the slow progress made in the erection of the new groynes at the eastward part of the town, the contractor, Mr. J. J. Bennett, wrote to say that everything had been done to expedite the works, but the rough seas and weather had very much impeded the work.—The Works Committee resolved "that the surveyor be authorized to employ a competent person to examine the outfall before giving his certificate of the completion of the works;" and, in reply to questions put as to the necessity of employing such a person after paying between two and three guineas a week for a man to superintend the work as it proceeded, Mr. Alderman Lewis said the clerk of the works was discharged before the work was completed; and Mr. W. Hill added, that, although every confidence could be placed in the surveyor and contractor, the committee thought the work which had been done under water should be seen, for the satisfaction of the contractor and council, before the money was paid. The council confirmed the resolution of the Works Committee.

Charminster (*Dorset*).—The new lunatic asylum for the county, at Charminster, the chapel of which has just been opened, consists of a considerable pile of buildings placed on a hill some quarter of a mile off the Cerne turnpike road, and about midway between the village of Charminster and the old asylum at Forston. The approach to it is very bad, being long and hilly, although a viaduct of magnitude almost equal to a piece of railway work, carries the road across a valley. The pile is built of a uniform coloured brick, relieved by black and yellow dressings. In front stands a considerable house for the superintendent. The main entrance to the building is by a large hall, paved with patterned tile. A staircase leads to a committee-room, and right and left there are various corridors forming communications with the different wards and apartments. The chapel, which forms one of the fronts of the building, is a large hall with an open-raftered roof, of considerable pitch, the height of the hall being probably 35 ft. The south side has five large windows, filled with enamelled glass, in which green largely prevails. The opposite side is a wall, just relieved from deadness by a couple of doorways leading into a parallel corridor. The interior being entirely of brick, uncovered, some skill was required to overcome the blank appearance of the north wall, and this has been effected by string courses of red and yellow brick, and by carved Caen corbels, from whence the roof springs. The chapel is seated with open pine benches, stained. The architect is Mr. E. Kendal, of London; and the builder, Mr. Roberts, of Islington.

CHURCH-BUILDING NEWS.

Bromley St. Leonard's.—The foundation-stone of a new church, in the parish of Bromley St. Leonard, near Bow, of the vicarage of which Mr. John Walter, M.P., is patron, has been laid by the Countess of Ellesmere. The new church, which will be dedicated to St. Michael and All Angels, is designed for the East-India Docks district and ship-building yards, containing 16,000 persons, chiefly mechanics and labourers. By the exertions of the late Earl of Ellesmere and others, a building was erected in 1862 for church and school purposes, and Mr. David M'Intosh offered a site for a church and parsonage, provided the erection of the church was proceeded with at once. Plans were approved, and it was arranged that a church should be erected at a cost of 7,000*l.*, with a parsonage at a cost of 1,500*l.* The site is in St. Leonard's-road, near the entrance to the East-India Docks. The edifice is to be in the Early English style, from designs prepared by Mr. J. W. Morris, and is to contain 1,300 seats, all free.

Tatsfield (*Surrey*).—The parish church of Tatsfield has undergone repair,—the tower, roof, and chancel having been under the hands of the workmen. In the interior, the old, irregular pews have been taken away, and the whole church repewed. Some of the old oak carving, the remains of an ancient screen, which formerly divided the nave from the chancel, had been inserted in the panels of the pulpit and the side of the reading-desk, but has been cleaned and repainted. The work has been done by Messrs. Smith & Worssell, of Oxted.

Datchet (*Bucks*).—It is proposed to enlarge the parish church. Among the alterations contemplated, are the extension of the north aisle; the removal of the gallery, and consequent opening up of the west end of the church; and lastly the extension of the south aisle, by about 140 sittings, will be thus gained. The probable expenditure will be about 1,000*l.*, which it is proposed to raise by voluntary subscriptions.

Kingsworthy (*Hants*).—The parish church of this village, which, during the past summer, has been considerably enlarged and completely repaired, the additions consisting of the lengthening of the nave and south aisle by about 12 ft., and the erection of a new chancel and vestry, has now been re-consecrated by the Bishop of Winchester. The new chancel is paved with Minton's tiles, and the east window is filled with stained glass illustrating the birth, burial, and ascension of the Messiah. Other windows in the east end and chancel are filled with subjects in

coloured glass as memorials. Messrs. Vokes & Carter, Worthing, were the builders; Mr. Newman, Winchester, the stonemason; and Mr. Etheridge, the plumber employed. Mr. Gibbs, of London, provided the stained glass. The architect was Mr. J. Colson, of Winchester.

Huntingdon.—The new organ and pulpit of All Saints' have been formally dedicated. The new pulpit is composed of a stone base, from which rises a shaft of veined marble, supporting a carved book-desk of alabaster. The whole is surrounded by a wrought railing of brass, with flowers of burnished copper and tin. The brass-work was from the establishment of Messrs. Potter, of London. The organ, which occupies the chamber on the north side of the chancel, and has two fronts of drapered pipes facing south and west, was built by Messrs. Bryceson, Brothers, of London.

Chardstock (*Dorset*).—The new church which has risen upon the site of the old pile has been opened. The old tower is retained for the present. Mr. C. Trask, of Norton, was the contractor for the masonry; Mr. M. Davis, of Langport, builder; and Mr. G. Dunn, of Chard, plumber; and the whole building was designed by and carried out under the superintendence of Mr. J. M. Allen, of Crewkerne, architect. The body of the church throughout is seated with low open benches. The whole of the passages and the chancel are paved with Minton's encaustic tiles, for which the Right Hon. Lord Alwyne Compton made special designs. Between the chancel and the nave is a screen executed in Bath stone, with marble inlays let into the panels. This screen, with the exception of the marbles, is the gift of Mr. C. Trask, of Norton, the contractor for the masonry. The east window is filled with stained glass by Messrs. O'Connor. This is the gift of the nieces of the vicar. The small two-light window on the south of the chancel is also by O'Connor, and is the gift of the architect. The three windows in the college chapel are filled with stained glass by Mr. W. Warrington. The east one, a three-light, is the gift of the members of the college.

Bacton (*Suffolk.*)—The parish church has been restored and re-opened. The plaster on the walls has been removed, and, by exposing the rubble work, a fresh appearance has been given to the whole. A new cornice appears to have been put round the clerestory. The entrance on the north side has been blocked up, and a new door made through the west gable of the tower. The south porch has been restored, furnished with stone benches and a new oaken door. The floor has been re-laid, the nave with Peake's metallic tiles. The foundations of the walls and the bases of the pillars have been removed; the old pews superseded by benches, and the whole of the nave and the aisles have been either re-benched or the existing ones touched up. At each end of the aisles is a new window in the Decorated style. The cost of these and other restorations now completed will be about 800*l.* The architect employed was Mr. Butterfield, of London; and the builder, Mr. Elliston, of Sudbury.

Cottingwood (*near Morpeth*). — All Saints' Chapel, at Cottingwood, has been erected and opened, for the accommodation of the inmates of the County Lunatic Asylum, at that place. The edifice is in the Early English style, built from designs by Mr. Howison, the county surveyor and architect. Both the interior and exterior of the chapel are very plain. The chancel is lighted by a three-light window: at the west end there are two windows, and four on each of the sides. A small belfry rises above the west end of the chapel. The sittings are open benches of stainer wood, and afford seats for 250 persons, rather more than the number of patients in the asylum. The reading-desk and pulpit are placed at either side of the chancel. There is a harmonium.

Kendal.—The interior restorations of the parish church have been completed. The south wall has been strengthened by a plain chamfered base of hewed freestone outside, with a limestone facing in broken courses; and also by the rebuilding of the whole of the buttresses on that side, with one exception. These are built of freestone in broken courses, having hewed freestone facings and three heights of weatherings. A moulded freestone stringcourse has also been inserted in the south wall, and surmounting the whole is a battlement of the same material; below which runs an ornamental string moulding with projecting square blocks and gurgoyles, all of freestone, and waiting for the sculptor's chisel. The east end of Parr Chapel has been entirely rebuilt of a mixture of freestone and limestone in broken courses, and is intended to be finished with crocketed pinnacles and a battlemented pediment, having ornamental moulding and gurgoyles corresponding with those on the south wall. The whole of the old windows—six to the south and one to the east—with their square panes of common glass, have been replaced by new ones. The restoration has cost altogether about 2,200*l.* The architect employed was Mr. J. S. Crowther, of Manchester; the contractors for the carpentry, Messrs. J. Fisher & Samuel Compston; for the masonry, Mr. J. Stewart; for the plumbing and glazing, Messrs. Winder & Gibson; and for the staining, Messrs. G. Jackson & G. Lyon, all of this town.

DISSENTING CHURCH-BUILDING NEWS.

Manchester.—The foundation stone of a new Congregational Chapel for Charlestown, Manchester, has been laid. The building will accommodate about 400 persons on the ground-floor, and 180 in the end gallery. There will be no side galleries. It is estimated to cost about 2,700*l.*, exclusive of the spire, which will be 500*l.* more.

Marple.—Sir J. Watts, knight, of Abney Hall, Cheadle, has laid the corner stone of a new Congregational church, in Hollins-lane, Stockport-road, Marple. The edifice is to be built in the Gothic style, of Yorkshire stone, with dressings of Bath stone. The dimensions inside will be 44 ft. long and 32 ft. wide. At the north-eastern corner is to be a tower, surmounted by a spire, which together will be 68 ft. high. The tower alone will be 12 ft. square. On the summit of the tower, and supporting the spire, will be pillars with caps and bases, and pointed arches. The space between the pillars and under the arches will be filled with louvre boards. The structure will have stone buttresses between the windows and at the corners. In the front gable, facing Hollins-lane will be a wheel window, with tracery, and cusped: it will be arched with Bath stone. The height of the building to the apex of the roof will be 17 ft. clear. There are to be two public entrances, of which the principal will be through a porch under the tower. The roof is to be open, and plastered between the rafters. The timbers will be stained and varnished, and supported by principals. The sittings are to accommodate 220 persons in open stall benches. There will be two aisles and the seats on each side of the building will be placed at an angle of 30 degrees. At the south end of the building it is intended to have a vestry, 30 ft. long and 13 ft. wide. The church is to be erected from the designs of Messrs. W. G. Habershon & Pite, architects, London; and the contractors are Messrs. Davenport & Swindells, Stockport. The building will cost about 1,200*l.*, and of this about 600*l.* have been raised without any general appeal to the public.

Bilston.—The new Independent chapel here has been consecrated and opened. The building has been erected at a cost of about 1,500*l.*, from the designs of Mr. Bidlake, architect, Wolverhampton. It is internally 60 ft. in length and 37 ft. in width, and will accommodate 330 persons on the ground-floor, and 285 in the end and side galleries. The style of architecture is Italian, consisting of a centre and two side wings; these latter projecting about 6 ft., and entrance-lobby between a broad flight of steps, forming the approach from the street. Internally the ceiling is deeply coved at the sides, and enriched with a moulded cornice, and the joinery throughout is stained and varnished. Under the chapel is a school or lecture-room, 54 ft. by 36 ft. The work has been carried out by Mr. Hickman, of Bilston, builder, under the superintendence of the architect.

Bradford Moor.—The chief stone of a new Wesleyan Chapel has been laid at Bradford Moor. The new building will accommodate over 1,000 persons. The extreme dimensions outside the walls are 56 ft. wide and 81 ft. 8 in. long, besides a projection in the rear forming a vestry, with organ gallery over, 10 ft. 8 in. wide. The height from floor to cornice is 35 ft. 3 in. The walls are wholly of stone, with ashlar dressings. The front towards Leeds-road is the only one where any attempt at decoration has been made, and in this front a portion, 32 ft. 10 in. wide, projects slightly before the main walls, crowned by a cornice and pediment of its own. It also contains three entrance-doors, opening into one vestibule, from which access is gained to the gallery staircase, right and left, and to the two aisles in the body of the chapel. The lower portion of this projection is of cleansed ashlar, in rustic and plain courses alternately, with moulded jambs and archivolts to the doors and a Doric cornice. The other openings in this front have also moulded jambs, archivolts, imposts, and strings. The building will be raised nearly 10 ft. above Leeds-road, and flights of steps will gain the required height. The style of architecture will be Italian. The total cost of the building, including architects' commission, heating apparatus, fence walls, and fittings, will be about 3,735*l.*, towards which a sum of 2,170*l.* has been raised. Messrs. Milnes & France are the architects, and the various works have been let to the following firms:—Messrs. Cordingley & Peel, masons; Messrs. T. Taylor & Sons, joiners; Mr. J. Hill, slater; Mr. J. Duckworth, plasterer; Mr. J. Schofield, plumber; and Mr. E. Harland, painter. The Low Moor Company will supply the warming apparatus.

SCHOOL-BUILDING NEWS.

Southampton.—The new school premises which have been erected in the Northam-road, for Taunton's Charity, have been formally opened. The site, which was equivalent to a money gift of upwards of 300*l.*, was presented to the charity by the mayor. A palisading protects the premises from the main road. At the entrance to the school is a lobby, which communicates with a cloak and hat room. The school-room is 40 ft. long by 20 ft. wide, and 20 ft. high; and the committee-room is 15 ft. by 12 ft. A yard, playground, and requisite out-offices adjoin. The building is in the Gothic style, the jambs, mullions, and arches being formed of moulded bricks; the hearths of tiles. The roof is open, stained and varnished. The school-room is lighted by two windows, the centre light running up into the gable, so as to give ventilation. The whole has been constructed under the direction of Mr. R. Critchlow, of Southampton, architect, by Mr. C. C. Martin, builder, whose contract was somewhat under 500*l.*

Barbourne.—Within the last few months, and at an easy distance from the church, a large structure has been rising. It includes schools for boys and girls, with a residence in the centre for the master. The site on which the building stands was given by private benevolence, and towards the cost of the school-house, 600*l.* 19*s.* 4*d.*, was raised by private subscription, 254*l.* by Government grant, and 50*l.* by diocesan grant, leaving a deficiency of 150*l.*, the expense of the new structure and adjuncts being about 1,150*l.* Mr. Rowe, of Worcester, was the architect, and Messrs. Wood & Son, the builders. The walls are of brick, with stone facings and dressings, and mullioned windows, square headed; steep-pitched roof, slated, with gabled fronts, and a bell-turret in the centre of the principal front. On each side of the residence for the master is a large school-room and class-room adjoining. Both sets of rooms are exactly similar, are light, well ventilated, and lofty, the principals of the roof being trussed with iron. They have open fireplaces, with stone mantelpieces, and are furnished with seats on graduated floors.

York.—The chief stone of the Primitive Methodist Jubilee School, on the Malton-road, near this city, has been laid. The site comprises about 8½ acres. The buildings extend towards the front, and the whole of the old outbuildings have been taken down, to allow room for the new additions. The new buildings will have a frontage to the road of about 140 ft., and will be treated in the Italian style, with red bricks intersected by white and black. The school-room constitutes the centre of the erection, and stands forward from two side wings about 14 ft. The roof will be surmounted by a turret, rising to the altitude of 65 ft. All the rooms will be large and lofty—the school-room 47 ft. 6 in. by 27 ft. 6 in., and the dining-room 40 ft. by 26 ft., each room on the ground-floor about 15 ft. high. The establishment will also be provided with extensive kitchen arrangements, class-rooms, lavatory, dormitories, bath-rooms, and out-offices, sufficient and complete for the working and necessary accommodation of 108 boys. A corridor will run the entire length of the building. There will be also a play-shed, gymnasium, and cricket-ground. The work is being carried out from the designs and under the superintendence of Mr. H. Fippard, of this city, architect, and has been let to Mr. R. Weatherley (the city sheriff) for the sum of 3,520*l.*

SCENERY AND THE THEATRE.

Drury Lane.—In recording the exquisite performance of Miss Helen Faucit in "Cymbeline," the newspapers state that the play is "admirably put upon the stage," "satisfactorily and pictorially rendered," and so forth; the acute and accomplished critic of the *Times* clinching the matter by a declaration that "the scenery is excellent." Had they not done so, we might have let the matter pass; but, this being the case, it becomes our duty, in pursuance of the course we have taken for many years, to protest against the manner in which the play is presented as discreditable to the management of what must be considered the principal theatre in the metropolis, and injurious to public taste. The chronological incongruities of the piece are quite sufficient of themselves to confuse and to interfere greatly with the pleasure of the thoughtful spectator; but one thing is, nevertheless, quite clear, namely, that the play represents the time when the Romans had dominion in Britain; say, without question, the first century of our era. What should be thought, then, when we state, without mentioning minor incongruities and absurdities, that one of the scenes used represents a fifteenth-century Gothic interior!

New Theatre in Manchester.—In addition to the two old-established theatres in Manchester, the Theatre Royal and the Royal Queen's,—a third, named the Prince's Theatre, has just been erected by a limited liability company, and was opened last Saturday evening. The new theatre, which is in Oxford-street, has an ornate Italian façade in stucco. The internal area is 480 square yards, and is calculated to seat 1,590 persons, there being, above the pit, first a dress circle, and then an upper circle, rising and receding so as to admit a gallery at the back. The act drop is by Mr. W. Beverley. Attention has been paid in the construction of the theatre to the personal comfort of the audience. The architect is Mr. Salomons. The opening play was "The Tempest."

Books Received.

Lectures on Public Health. By E. D. Mapother, M.D. Dublin: Fannin & Co. London: Hardwicke.

The author of this useful volume is professor of hygiene and medical officer of health to the city of Dublin, and surgeon to St. Vincent's Hospital. The lectures were delivered at the Royal College of Surgeons. They treat of air and its impurities, ventilation, water and its impurities, food, exercise, sanitary architecture and engineering, and various other branches of sanitary science; and the subject is illustrated by wood-cuts. It is highly satisfactory to have a work such as this published in Dublin. A somewhat similar book was some time since issued in Edinburgh; so that the three kingdoms are showing symptoms of an awakening to the importance of sanitary reform. The efforts of the sanitary pioneers are much more fully acknowledged in these lectures than in other recent books of similar class which we could name.

The author appears to have tried some further experiments in the testing of air impurities by means of permanganates, on the plan some years since brought under notice by Mr. Condy and Dr. Angus Smith, but of which we have heard very little lately. We shall be glad to find Dr. Mapother's volume circulating widely.

VARIORUM.

"Report upon the Water Supply of Croydon," by B. Latham, C.E. September, 1864. Printed at the *Surrey Standard* Office, Lewes. Mr. Latham says on this subject, at the outset of his report:—"In inquiring into the water supply question of Croydon, it is very satisfactory to have to report that the supply is abundant. The completion of the new well, at a cost of a little under 1,000*l.*, will give quite 1,000,000 gallons per day additional supply to that at present furnished by the old well. Although the new well is sunk only 56 ft. from the old well, but to twice its depth, or 150 ft., yet the connexion between the water in the two wells is at present very slight, which leads me to conclude that it is not the same vein of water that supplies both wells. During the dry and warm season we have passed, you furnished from the old well water at the rate of 1½ million gallons per day. If this quantity be added to the quantity given by the new well, we have now a certain volume of water, equal to 2½ million gallons per day, to deal with." An increase of engine-power is urged.——"The Church Builder," for October, has a paper on the Mediæval Brickwork of France, and one on the Warming of Churches, worth looking into.——"The Glasgow University Calendar, 1864–5," gives full particulars of the constitution, laws and regulations of the University.——Taking time by the forelock, Messrs. De la Rue & Co. have already issued their "Indelible Diary," "Red Letter Diary," and "Memorandum Book," pocket-books and calendars of all sizes. They are all "got up" in first-rate style, and being mostly edited by Mr. Glashier, F.R.S., the astronomical information may be depended on.

Miscellanea.

Architectural Association. — The opening *conversazione* will be held at the House in Conduit-street on Friday next, the 28th inst.

Builders' Benevolent Institution. — We would direct attention to the circumstance that the annual dinner of this valuable charity is fixed for Thursday next, the 27th. Mr. Thomas Lucas will preside, and a long list of stewards gives promise of a good gathering.

The Fired Building in Gresham-street.—Fears being entertained of the falling of the front of the warehouses in Gresham-street, an extensive scaffolding has been completed, preparatory to the commencement of operations for the reconstruction of the buildings, and of Haberdashers' Hall adjacent thereto.

Thames Embankment. — The first stone of Contract No. 2 was laid by the engineer-in-chief, Mr. Bazalgette, on Wednesday last. The works of this portion extend from the eastern side of Waterloo Bridge to the lower end of Temple Gardens, a length of 1,970 ft. Mr. A. W. Ritson is the contractor; and Mr. T. D. Ridley, the general manager.

Fifteen Houses and other Buildings destroyed by Fire.—At Bargate, Christchurch, a fire of great magnitude has occurred, by which the occupants of fifteen houses have been rendered houseless. The fire originated in a thatched building used as a bakehouse. Nearly every fire in this place—and they have not been few—has had the effect of lessening the number of thatched buildings in the town; the result being a continued improvement, by the erection of houses of a more substantial and less hazardous character.

Opening of Public Park at Farnworth.—The public park at Farnworth has been inaugurated by Mr. Gladstone. The day was observed as a holiday. The park is the gift of Mr. Barnes, one of the members for Bolton, and is situate a couple of miles from that borough. It is between 11 and 12 acres in extent, and is said to be worth about 3,000*l.* It has been open for the use of the public for some three years past, but has never been formally inaugurated, in consequence of some difficulties as to the proper local authorities to whom it should be transferred.

Monumental.—It is proposed to erect a statue of Mr. Gladstone at Liverpool. The public appear to be bent upon the erection of statues of living men, a practice discountenanced by the the Prince Consort in his own special case. The statue will be erected either in the Town-hall or St. George's Hall.——In accordance with a proposition in the *Builder* that busts or portraits of local worthies might usefully be placed in the respective public buildings of the localities in which they lived, it has been proposed by Mr. R. A. Kinglake to form a sculpture gallery of Somerset worthies in the Shire-hall. He has commissioned Messrs. Tyley, of Bristol, to execute a memorial bust of the "Good Bishop Ken," well remembered in the diocese of Bath and Wells. The Marquis of Bath permitted Messrs. Tyley to make a photograph of the portrait of Ken in the picture-gallery at Longleat; and Scheffer's painting of Ken, in the Palace, Wells, was also copied for the same purpose, by favour of Lord Auckland. Another subject of sculpture is a memorial bust of the celebrated loyalist, the Rev. Henry Byam, D.D., rector of Luccombe, Somerset, and chaplain to Charles II. in his exile.

A new Order of Spinning-wheels. — A Frenchman suggests that the wheels of carriages could be used for spinning. He considers that, at present, a great deal of power is wasted which might thus be usefully applied.

Cirencester School of Art.—The drawings of the students for the year ending April last were arranged in the Corn Hall for public exhibition, and the prizes have been distributed there to the successful candidates, by the Hon. W. L. Bathurst, in the presence of a large and respectable company. In addition to the drawings and paintings on the walls, a number of models and artistic works were grouped around the platform.

Fall of a Roof.—At Normanton Iron Works, the roof of a large new forge which has for some months been in course of erection by Messrs. W. Thompson & Co., has fallen in. Several men were injured, but none of them seriously. The slating of the roof was completed, with the exception of about an hour's work. The forge is about 48 ft. long, and the depth of the roof 22 ft. The roof was supported by iron girders on pillars of the same metal. It is supposed that the girders must have been too weak.

Hydro-Carbon Light.—At the Queen's Hotel, St. Martin's-le-Grand, the Rev. W. R. Bowditch, of Wakefield, recently explained the advantages of an invention which he had patented. The gas on its way to the burner is made to pass through a metal box containing hydro-carbon (which does not seem to be new, however), when vapour is generated by the heat of the jet and mixed with the gas as supplied to consumers, so increasing the brilliancy of the gas. The necessity of having the box containing the hydro-carbon suspended above the gas jet may be an obstacle to the introduction of the process in many cases; but it might, perhaps, be made to assume the shape of a smoke-collector, thin round the outer edge and hollowed in below.

Dangerous Businesses in the Metropolis. The Metropolitan Building Act of 1844 prohibits, after the 9th of August, 1864, the erection of any buildings within a given distance from any buildings, public road, or ground in use, for any of certain dangerous businesses. This Act, however, saved, until August, 1864, the rights of persons who had actually carried on, in 1844, businesses of the nature referred to within the prohibited distances. The Metropolitan Board have now drawn the attention of the authorities in each parish to the fact that all these saving rights have ceased, and it is unlawful for any person to carry on such businesses within the distances, however long they may have been in existence.

Drainage of Brackley.—Complaints of fever from inadequate drainage have led to the mayor calling public meetings on this subject, when Mr. Garrett, the surveyor to the Banbury Board of Health, reported that the existing drains were quite unfit for house sewerage. Many of them merely acted as cesspools, and he had no doubt the illness was caused by the contents of the bad drains percolating through the soil into the wells. Mr. C. Blencowe, who strongly deprecated draining into the river Ouse, proposed that further evidence should be laid before the inhabitants upon the present drainage insufficiency. This was carried by a large majority, and it was further agreed to forward the minutes of the meeting to the board of guardians. At a meeting of the guardians subsequently held, it was resolved to apply to a London engineer to report.

Electric Light in Factories. — Professor Seely, of New York, proposes to employ the current generated by an ordinary frictional electric machine, and obtains the light by interrupting the current. He proposes to secure the continuous action of the machine in all weathers by surrounding it with a glass case, and keeping the air within the case dry by means of chloride of calcium or other hygroscopic substance. Professor Seely is now engaged in experiments to ascertain what material will produce the most intense light; and if the apparatus works according to anticipation, a factory in which machinery is employed may be lighted without any additional expense, except the small power required to turn the electrical machines. As, in mills driven by water, there is always a surplus of power during the winter months, the only time when lights are required, there would be no expense for this light except the first cost of the apparatus, which would be quite moderate.

The Oporto Crystal Palace.—The Crystal Palace at Oporto, in Portugal, the first stone of which was laid by King Pedro V. in 1861, is nearly finished, and the directors of the establishment intend to inaugurate it by an international exhibition.

Failure of a Railway Bridge.—A new iron bridge which carries the Whitby Deviation Railway across the Ellerbeck, in Gothland, has broken under the weight of a passing engine, according to a Leeds paper. The engine fell through, but the men escaped.

Railway Matters.—The traffic receipts for railways in the United Kingdom amounted for the week ending the 8th of October, on 11,596 miles, to 688,405*l.*, and for the corresponding week of last year, on 11,261 miles, to 622,459*l.*, showing an increase of 335 miles, and of 65,946*l.* in the receipts.

Liebig on the Utilization of Sewage.—Lord Robert Montagne has received a letter from Baron Liebig, in which he expresses great anxiety lest the British farmers should suppose that town sewage is all-sufficient for the indefinitely-prolonged manuring of the soil, as disappointment would be sure to follow, and a reaction of opinion against the use of sewage established. They ought to be instructed, he considers, that town sewage is not like stable dung, an all-sufficient manure, but requires certain elements in addition, and either farmers or sewage companies ought to add these elements to the sewage. If the Baron be right, however, in this respect, how does it happen that where sewage has been used for many years in irrigating land, the crops yielded are just as abundant as ever? One would think that town sewage ought to be the most miscellaneous and universal of all manures.

The Metropolitan Sanctuaries.—The condition to which the sanctuaries had fallen is very elaborately and graphically described by Sir W. Scott in the "Fortunes of Nigel." The sanctuary which he describes is that of Whitefriars; but the sanctuary *par excellence* in London was that at Westminster. It was a strongly defended place on the north side of St. Margaret's Church, containing streets, houses, taverns, a church; in short, a little town in itself, garrisoned by a lawless and desperate population, who would have fiercely resisted any ordinary attempt to violate their privileges. There was another sanctuary in the Minories. There were others in the neighbourhood of Fleet-street, viz., Salisbury-court, Whitefriars, Ram-alley, Mitre-court; in Holborn, Fulwood's-rents; and Baldwin's Gardens, in Gray's-inn-lane; the Savoy in the Strand; and in Southwark were Montague-close, Deadman's-place, the Clink, and the Mint. These continued to enjoy their privileges, and to harbour the vice and crime of the metropolis, until suppressed by Act of Parliament so late as 1697. Even after that the Mint was allowed to reassume its former character, and that with increased profligacy, until it was finally abolished in the reign of George I.—*The Churchman's Family Magazine.*

Brickmakers' Contracts.—At the Salford County Court, before Mr. Sowler, Q.C., the case of Peacock *v.* Ashworth was heard. The matter excited great interest among operative brickmakers and members of the union. The action was to recover 26*l.* 16*s.* 11*d.*, of which sum part was for making 358,000 common bricks at 8*s.* 10*d.* per thousand, and the remainder for casting clay for 143,000 bricks, at 1*s.* 3*d.* per thousand. The question in the case was whether the plaintiff had not deprived himself of his right to claim the amount by himself breaking up the contract, which he was alleged to have entered into with Mr. Ashworth. It appeared that shortly before Peacock left the employment of Ashworth, who had engaged him, according to custom, "for the season," a great number of "green" bricks at the croft were trampled and destroyed, and there was a cessation of work. Peacock left without completing his alleged contract. The judge was of opinion that there had been no act of the plaintiff to cause the cessation, nor was the defendant liable for that misfortune, at the same time the men might have gone on brickmaking on some parts of the ground had not the defendant stopped them. Judgment for the plaintiff for the amount claimed, less 8*l.* for the cast clay he left behind. Notice of appeal was given. Three other cases of a similar kind, and four cross actions, will be ruled by the decision.

Competition in Tread-mills.—The visiting justices of the county of Middlesex have awarded the offered premium of 25*l.* to Mr. Thomas F. Fillary, jun., of London, for the most approved design for their new set of tread-wheels, for working 160 men at one time.

The Cobham Brasses.—The unrivalled series of monumental brasses in Cobham Church, near Rochester, together with other monuments of the ancient lords of Cobham, are being restored effectually, at the cost of Captain Brooke. The sculptures are assigned to Mr. Richardson, and the brasses are under the care of Mr. J. G. Waller.

Death from the Fall of a Ceiling: a Warning.—On Tuesday an investigation was made concerning the death of Alice Stanton, aged eight years, the daughter of a brass-finisher, who died from the effects of an injury received through the falling in of a ceiling. It appeared that the parents of the deceased, up to about three weeks since, resided at No. 10, John-street, Tottenham-court-road, removing the day after the occurrence which has resulted in the present inquiry to No. 5, Heriot-place, Gospel Oak-fields. While at their late residence, the landlord gave an evening party, at which there was some dancing, which had the effect of breaking the ceiling. The mother of the deceased called the attention of the landlady to its condition the following day, but had no apprehension of its falling in. No repairs were made, and they gave notice to quit, but the day before their removal the ceiling fell in, and the child received a violent blow on the head. Neither the father nor mother complained to the landlord, as they did not think the ceiling would fall, and they had made up their minds to remove. A verdict of "Accidental death" was returned.

The Coinage of 1863.—The coinage return for 1863, according to the *Artizan*, shows that the number of ounces of gold transformed into sovereigns and half-sovereigns was 1,696,939·01. These produced of sovereigns, 5,921,669, and half-sovereigns, 1,371,574. Of silver converted into florins, we have 341,280·00 ounces, yielding 938,520 pieces. Of silver afterwards issued in the form of shillings, the quantity used at the Mint, in 1863, was 156,240·00 ounces, producing 859,320 pieces of money. The number of sixpences struck from 44,640·00 ounces was 491,040; and the number of threepences, from 43,404·00 ounces, 954,888. Of bronze, 340 tons weight was used for the purpose of coinage, and this produced 28,062,720 pence, 15,948,800 half-pence, and 1,433,600 farthings. Something like 4,000,000 of silver and bronze coins, besides, were struck for Hong Kong. The total number of coins of all denominations produced during the past year by the Royal Mint was therefore 59,998,961, or not far off 200,000 per day. We have to complain, adds the *Artizan*, of the very tardy appearance of the return.

The New Graving Dock, Sunderland.—The first portion of this new graving dock is drawing towards completion. The contractors, Messrs. Hirst & Son, expect to finish their work by the 1st of December next. The total length of the dock, when finished, will be 420 ft., the first portion now in course of construction being 250 ft.: the width at the bottom is 40 feet, and at the top 75 ft.; the entrance at the top is 60 ft. wide; and the depth of water on the cill at high-water is from 16 ft. to 17 ft. The dock has been constructed so as to give great facilities for the repair of both iron and wooden vessels, and the sides are a series of easy steps, which are sloped, so as to admit the fullest amount of light during the short days of winter. The caisson is being completed by Messrs. Hawks, Crawshay, & Sons, of Gateshead. The work has been designed and carried out under the superintendence of Mr. Thomes Meik, C.E., the engineer to the commissioners.

Madrid Direct.—Another of the famous capitals has been connected with London by direct conveyance. The traveller can be passed from London to Madrid, by way of Folkestone, Paris, and Bayonne, it is said, in forty-eight hours. This line of communication is a tripartite one. From Paris to Bordeaux you are on the "Chemin de Fer d'Orleans," extended to the latter city; and from Irun to Madrid by the "Norte de Espana." The latter is the affair of MM. Pereire, the well-known French capitalists. It connects Madrid with Valladolid, Burgos, Vittoria, and San Sebastian, and also with Santander by a branch at Buenos and Bliblo.

TENDERS.

For a new building in the Gray's-inn-road, for Messrs. Eley, Brothers. Mr. George Judge, jun., architect. Quantities supplied by Mr. Thos. Nicholls:—

Trollope & Sons	£10,775 0 0
Lucas, Brothers	10,720 0 0
Lawrence & Sons	10,560 0 0
Patman & Fotheringham	10,500 0 0
Mansfield & Son (accepted)	10,380 0 0

For building dwelling-house and shop in Commercial-street, Whitechapel, for Mr. Sayer:—

Hardiman & Sandon (accepted)	£940 0 0

For alterations and repairs to house and premises No. 177, Marylebone-road. Messrs. New & Cumings, architects:—

H. & J. Ferguson (accepted)	£318 0 0

For school building at Wollaton, for Lord Middleton. Mr. Jas. Fowler, architect:—

Butler	£664 0 0
Warner	590 0 0
Marriott (accepted)	524 10 0
Cooper	463 0 0
Vickers	440 0 0
Ruckerly	440 0 0
Booker	438 0 0

For additions to the New City Club, George-yard, Lombard-street. Mr. James Henry Rowley, architect. Quantities by Mr. Wm. Ellison and Mr. F. W. Stent:—

Axford & Co.	£6,125 0 0
Piper & Wheeler	6,056 0 0
Browne & Robinson	6,023 0 0
Patman & Fotheringham	5,890 0 0
Brass	5,884 0 0
Myers & Sons	5,676 0 0

For additions to Kingston Barracks. Mr. C. H. Howell, architect. Quantities supplied by Mr. R. Roberts:—

Mansfield	£3,700 0 0
Holland & Hannen	3,683 0 0
Walker	3,459 0 0
Sims	3,403 0 0
Piper & Wheeler	3,306 0 0
Browne & Robinson	3,299 0 0
Jackson & Shaw	3,185 0 0

For Chertsey Police Station. Mr. C. H. Howell, architect.

Simpson (lowest)	£1,300 0 0

For diversion of sewer in Avenue-road, for Mr. Twentyman. Mr. J. Douglas, engineer:—

Scrivener & White	£153 0 0
Crocket	154 0 0
Roe	153 0 0
Watts	149 0 0
Abbot & Hopwood (accepted)	148 0 0

For building the Gospel Oak Schools, Kentish-town. Mr. Rickman, architect:—

Carter	£6,430 0 0
Brass	6,390 0 0
I'Anson	6,340 0 0
Jackson & Shaw	5,905 0 0
Sharpington & Cole	5,755 0 0
Macers	5,750 0 0
Newman & Mann	5,688 0 0

For erecting new Schools, St. Luke's Church, Portsea. Quantities supplied:—

Wigley	£1,000 0 0
Absalom	971 0 0
Burbridge	925 0 0
Backhurst	895 0 0
Bundy	883 0 0
King	859 15 0
Duffett	830 0 0
White	780 0 0
Byng	770 0 0
Harding & Clark (accepted)	749 10 0

For the erection of St. Barnabas's Permanent New Church, Harvest-road, Islington. Mr. Theodore K. Green, architect:—

Browne & Robinson	£6,330 0 0
Foster	6,195 0 0
Dove	6,000 0 0
Symms	5,898 0 0
Carter & Sons (accepted)	5,775 0 0

For Old King's Head, High-street, Islington:—

Harvey	£1,710 0 0
Martin	1,710 0 0
Williams	1,697 0 0
Morris (too late)	1,669 18 0
Langmead & Co. (accepted)	1,668 0 0

TO CORRESPONDENTS.

Ecclesiasticus (shall appear).—Lord M.—W. W. P.—F. R. N. H.—H. B.—Messrs. D.—E. B. K.—R. L. S.—W. W. -G. R.—J. N.—A. P.—A Mechanic (Yes).—H. H.—T. B. -S. B.—A. & R. D. (next week).—W. L.—J. P. J.—A. S.—J. B.—W. T.—H. E. P.—T. J. B.—C. J. P.—W. E.—A Young Subscriber.—J. H.—Rev. J. G.—Mr. M.—W. B.—T. W. W.—T. D.—A Provincial Architect.—Florence.—W. S. W. (forestalled).—J. C.—W. F. (received).—A. W.—T. C.—J. B.

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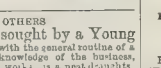
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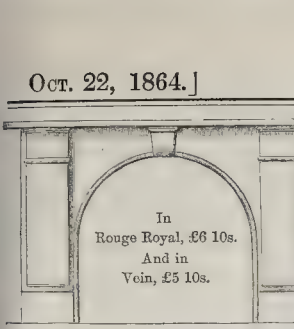
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And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been submitted, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the United Kingdom. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS at ALDERSHOTT, CURRAGH, KHUNCLAPUR, and COLEHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

PLASTER of PARIS.—The ONLY

London Maker, the best and the oldest established (1830), is
ROBESON,
MOUNT PLEASANT, GRAY'S-INN ROAD, HOLBORN.
The cheap country made article is sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled. Good plaster saves labour and vexation.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

W. C. HAWKER,

LIME, CEMENT, & PLASTER MERCHANT,
BELMONT LIME WHARF,
YORK ROAD (on the Canal Bridge), KING'S CROSS, N.
Nearly opposite Entrance to Goods Station, Great Northern Railway.

NELSON'S BLUE LIAS LIME,

16, SOUTH WHARF, PADDINGTON, W.
WORKS: STOCKTON, WARWICKSHIRE.
C. NELSON & CO. can now deliver, by rail or canal, TO ANY PART OF THE KINGDOM.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:
OLD JAMAICA WHARF, UPPER GROUND-STREET BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherever can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and

KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufactures, FRANCIS BROTHERS, & POTT, Nine Elms, London.

MINTON & CO.

Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 59, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

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NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.

PORTLAND, ROMAN, and PLASTER

CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & WHITE,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the foreign trade treated with on the most advantageous terms. Ships of any size towed afloat and alongside. HYDRAULIC LIME MANUFACTURERS OF THE BEST QUALITY.

GREAVES'S BLUE LIAS LIME,

14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

BURHAM BRICK, LIME, and CEMENT

COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

STAFFORDSHIRE RIDGING and ROOF-

ING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvidere-road, Lambeth, and Kent-road Bridge.

HYDRAULIC LIME and ROMAN

CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and cementing powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The Limestone can be had in full cargoes, also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool.

ABERTHAW BLUE LIAS LIME

COMPANY.
WORKS near NEWPORT, Monmouthshire,
Manager—Mr. S. J. WOOD.
The Company are now prepared to supply, at the shortest possible notice, their WELL-KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries, &c. to be addressed to
Mr. J. E. POOLE, London Agent, 4, NORTHUMBERLAND PLACE Westbourne Grove, Paddington W

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Price and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

DO NOT BURN OFF OLD PAINT,

but use NAENIARE & CO.'s LETHICIUM, which will remove it clean to the wood in twenty minutes. Sold at 5s. per gallon, at 11, St. Andrew's-hill, Doctors' Commons, E.C. Brushes, 2s. Success guaranteed. N.B. Country orders must be prepaid. A liberal discount to the trade. Used with great success at
WINDSOR CASTLE and MARLBORO' HOUSE.

TURPENTINE.

GARROD & COMPANY'S ENGLISH TURPENTINE is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
GARROD & COMPANY,
Varnish, White Lead and Colour Manufacturers,
56, Upper Thames-street, London, E.C.

IMPORTANT to BUILDERS and

PAINTERS. White Lead (WARRANTED GENUINE) 29s. per cwt.
Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 5d. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
Fine Pale Oak Varnish, 9s per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Emery street, and 45, Colquhoun-street, Pimlico, S.W.
Every article for the Trade at the lowest prices

T. KENT'S PAINTING-BRUSH

MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

TARPAULIN COVERS for HIRE (100 in

stock); also MARQUEES and TEMPORARY PAVILIONS, for FOUNDATION-STONES, &c. Scaffold Cord and Hemp Rope Falls and Blocks.
FRED. EDGINGTON & CO.
THOMAS-STREET, OLD-KENT-ROAD, LONDON.

TARPAULINS, MARQUEES, &c.

for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
59, Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

OAK TIMBER of Large Size for SALE.—By order of the Commissioners of Londonderry Bridge, from three to four hundred LOGS, chiefly old Piles, that have been under water for about 75 years, a portion of them in long lengths, 40 feet and upwards, and from 12 inches to 17 inches square.—May be seen on premises near the Old Bridge, Londonderry. Offers for purchase to be addressed to A. H. STEWART, Esq. Secretary to the Bridge Commissioners, Londonderry, from whom further particulars may be obtained

Londonderry, 24th September, 1864.

STAIRCASES and HAND-RAILS OFFICE FITTINGS, and all kinds of JOINERS' WORK Estimates given. All orders punctually attended to A. & J. SUTTON, 162, Esmond-road, Grove-road, Victoria Park, E.

STAIRCASE and JOINERY WORKS. JOHN WALDEN (late Shop Foreman to Mr. W. SANDS, retired), 12, MAIDEN LANE, COVENT GARDEN. Estimates on application.

STAIRCASE and HANDRAIL MAKERS. Materials found, or Labour only. Estimates given on the lowest terms. C. & E. ORSBORNE, No. 8, St. Mary's terrace, Station yard, Twickenham, Middlesex Orders punctually attended to in town or country

TIMBER, DEALS, FLOORING, AT THE VERY LOWEST PRICES, in quantities of not less than 50 at the Pontine Docks. T. W. ELLSTON, 109, SNOW'S FIELDS, KING ST. BOROUGH, within three minutes' walk of London bridge Railway Terminus (down side of Brighton side).

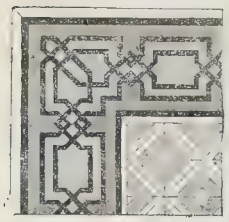
DRY WAINSCOT, At 6d. 7d. and 8d. per foot, at JOHN COUMBE'S, LADY LAKE'S GROVE, MILE-END GATE.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river-side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised, White Battens, 9d. per lin., 12 feet; Yellow ditto, 10d. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 8s. 6d. per 100 feet super.—CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years. E. BUTTERWORTH, ALUM STREET TIMBER YARD, MANCHESTER.

SOLID PARQUET FLOORS.— ARROWSMITH'S PATENTED.

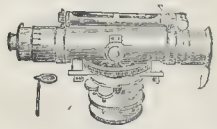


The specialty consists in being "SOLID INCH THICK," each separate piece grooved and tongued together, and keyed at back (not veneered). Reduced in price from 6d. per foot. Intersection Work in Wal nut and other Woods, from 1s. 6d. As borders to Carpets; for Halls, Libraries, Billiard and Reception Rooms, Altar Floors, &c. (Warmer than stone) SHOW ROOMS—80, NEW BOND ST. W. Reference to numerous Works as executed during the last ten years, for the eminent architects, Messrs. W. Burn, D. Brandon, P. C. Hardwick, A. Salvin, Sydney Smirke, G. G. Scott, and others.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 26 and 27, Berners-street, are prepared to supply machine-made patented solid PARQUET FLOORS 10 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

PARQUET FLOORING. TO ARCHITECTS AND BUILDERS JACKSON & GRAHAM Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Books of designs sent free by post. No charge for taking plans and giving estimates. 33, 34, 35, 37, and 38, OXFORD STREET, LONDON.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS SCALES, TAPES, CHAINS, SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre. Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The goods will be found fair and well made. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta Percha Strapping for Driving bands, Lathe-traps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands if from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Boxes, Union joints, Flasks, Bottles, Bowls, Insulating Curtain-rings, Galvanic Batteries, Daguerreotype Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA PERCHA COMPANY, PATENTEES, WHARF ROAD, CITY ROAD, LONDON.



JOHN EMERY, MANUFACTURING JOINER, 28, GRAY'S INN ROAD, W.C. Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices. An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application. J. E. having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING! DEALS! MAHOGANY YELLOW BATTENS, £9 10s. per 120.

YELLOW DEALS, £15 10s. per 120.
100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
10,000 Dry Pine Planks ..... from 3s. 6d. each
Matched Lining ..... from 12s. per square

WHITE BATTENS, £8 10s. per 120.
SPRUCE DEALS, £15 per 120.
Oak Sills ..... from 2½d. per foot.
Honduras Mahogany ..... from 5½d. per foot

SAMUEL PUTNEY, ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.				Laths, 3½. per Load.	
Good Yellow Deals	£15	10	0	per 120, or 2½d.	per foot.
Spruce Deals	15	0	0	,, 2½	,,
2½-inch Battens	9	0	0	,, 1½	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB, OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

J. MILLS, JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S. [ESTABLISHED 1851.] For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship. List of Prices forwarded on receipt of postage stamp.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER, At Prices as Low as any House in the Trade. N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.				Per 120 of 12 ft.		
WHITE BATTENS	£8	10		WHITE DEALS.. ..	£15	0	0
YELLOW ditto	9	10		¾-FLOORING from per Square	0	10	6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON, No. 109, SNOW'S FIELDS, KING STREET, BOROUGH, Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS.

FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.
⅝-inch White Matched Lining ..... 12s. 0d. ,,
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.

C. B. N. SNEWIN, MAHOGANY, DEAL, & TIMBER MERCHANT, 11, BACK HILL, HATTON GARDEN, E.C. Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY), BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S. Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
½ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅝ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE, STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES (LATE WATERLOW, DRAPER, & WEBB), MANUFACTURING JOINERS, 121, BUNHILL ROW, FINSBURY, E.C. THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON. ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

HOWARD & CO.
MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
FFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

PORTLAND CEMENT.
s material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
OUBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

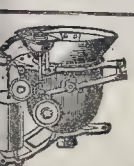
J. B. WHITE & BROTHERS,
CEMENT MANUFACTURERS,
BRICKMAKERS, &c.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
nufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL, 42, SEEL STREET.

Prize Medal, 1851. **MARTIN'S CEMENT,** THE MOST APPROVED INTERNAL STUCCO. CAN BE PAINTED IN TWELVE HOURS. **J. C. PART, MANUFACTURER,** 181, DRURY LANE, LONDON; and at DERBY. THE BEST PLASTER OF PARIS. ESTABLISHED 1784. Honourable Mention, 1862.

NEW TARIFF FOR JUNE, 1864.
THOMAS MILLINGTON'S
W LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
See Advertisement first Saturday in the Month, or on application.
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

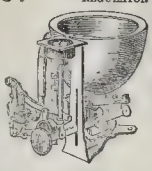
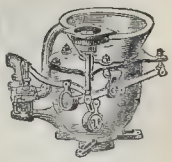
NOTICE TO ARCHITECTS AND THE TRADE.
J. DEFRIES & SONS,
GAS ENGINEERS AND MANUFACTURERS OF
YSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,
FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.
CIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.
Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.
WORKS, LONDON and BIRMINGHAM.
MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

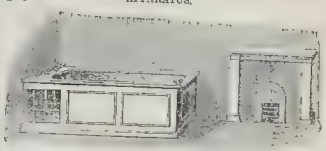

INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

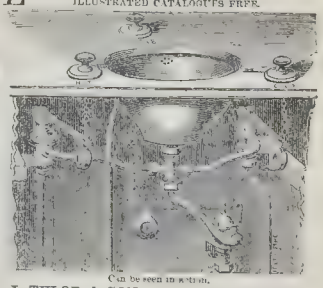

Regulating Pan Closet.
THOMAS LAMBERT & SON,

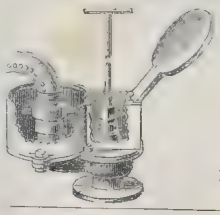
Lambert's Ball Valve.

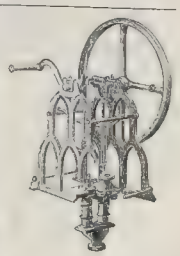
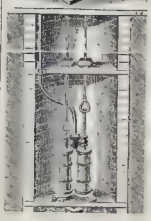
High-Pressure Bib and Stop Valve.
PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.

Valve.

Pan.
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the full of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No stops, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH
APPARATUS.

The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of premises.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.

Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.


IMPROVED HYDRANT,
J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.




PUMPS
FOR
DEEP OR SHALLOW WELLS, WATER BOATS, &c.
J. TYLOR & SONS,
MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.



BUNNETT & CO.'S PATENT REVOLVING IRON SHUTTERS.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEE

CLARK'S PATENT,
FOR
SHOP FRONTS,
2s. 2s. 6d. 3s. and 3s. 6d.
Per Foot Super.
THE MOST SIMPLE AND SECURE SHUTTER EXTANT.
Branch Establishments :—
4, MARKET STREET, MANCHESTER;
GLASGOW, 67, BUCHANAN STREET;
DUBLIN, 9, TALBOT STREET.



CLARK'
PATENT,
FOR
PRIVATE HOUSE
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIR PROOF.
Branch Establishments:
PARIS, 42, RUE NOTRE DA DES VICTOIRES;
BRUSSELS, RUE DE L'ECUYER
AMSTERDAM, BINNEN AMSTEL
SYDNEY, 51, HUNTER STREE

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDO
WORKS, GEORGE YARD, QUEEN STREET.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOO

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the followi reduced prices:—
Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
Illustrated Prospectuses and Testimonials free by post on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT,

WHARF No. 4,

GREAT NORTHERN GOODS STATION,

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches diameter.

1862.
INTERNATIONAL EXHIBITION.

HONOURABLE MENTION
FOR SUPERIOR DESIGN AND WORKMANSHIP.

CEILING FLOWERS,

PANEL DECORATIONS, TRUSSES, CAPS, &c. IN PAPIER MACHE AND CARTON PIERRE.

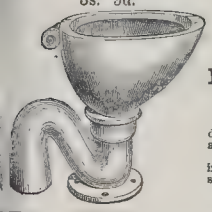
WILLIAM WHITE,

49 and 50, Great Marylebone Street, London, W.

NEW DESIGNS FOR CEILING FLOWERS SENT ON APPLICATION.

SPECIAL DESIGNS
FOR THE
DECORATION OF PUBLIC AND PRIVATE BUILDINGS
SUPPLIED WITHOUT CHARGE.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

JAMES STIFF & SONS,

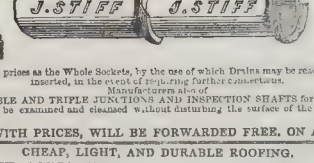
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

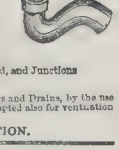
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the Timber usually required. 4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c., and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON & CO. 2, DOWGATE HILL, LONDON; 2, GOREE PIAZZA, LIVERPOOL; And 59, GEORGE SQUARE, GLASGOW.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has greatly improved and economised the manufacture of TERRA COTTA and Fine STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C, Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Terminals, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

London Office, 377, Oxford-street, W.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City road Basin, N. Orders that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and duly, that the "Reports of the Jurors," page 882, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall linings, &c. a New Illustrated Catalogue of which can be had at the Public Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their peculiar coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

WILLIAM MULLER, Artists' Colourman, 62, High Holborn, London.

Drawing Paper, Tracing Paper, Colours in Oil or Water, Drawing Instruments.

Lay Figures for Sale or Hire.

READE & HEWITT'S PATENT PNEUMATIC PAN and SELF ACTING WATER CLOSETS, RAILWAY URINAL, and SEWER FLUSHING APPARATUS.

The simplest, strongest, and cheapest Closets that are self-acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, workshops, and any situations where subjected to severe usage. Prevents waste of water, saves piping, cranks, wires, service box, and all the complicated apparatus of self-acting closets.

The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharge being regulated by a simple tap, thus saving an immense quantity of water, which ordinarily runs to waste.

Best Pan Closet, complete	£2 12 6
Best Self-acting Closet, complete	2 15 0
Railway Urinal Flushing Vessel, complete	3 3 0

LIVERPOOL, No. 5, WELLINGTON BUILDINGS, SOUTH CASTLE STREET.

An Agent is required for the sale of the above in London.

PAN CLOSET, and HYDRAULIC REGULATOR.

COMPLETE, 1l. 18s.

Dispensing with Cranks, Wires, Ball, Lever, Service box, &c.

Any number can be supplied from one pipe.

W. PATTEN, 22, Old Fish-st. St. Paul's, London.

A Cottage Closet, with Patten's Patent High pressure Valve complete, 12s. 6d.

SALES BY AUCTION.

WESTMINSTER BRIDGE.—Landing Crane, and Materials of a large Landing Stage

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, Westminster Bridge Wharf, Stangate, on TUESDAY, OCTOBER 25, at TEN for ELEVEN, the stout PLANKING and TIMBERS of a large LANDING STAGE; also a Landing Crane, with oak jib, chain, &c. May be viewed, and catalogues had at the Office of Her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

BANKSIDE.—To Barge Owners, Lightermen, Coal Merchants, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by the Proprietor, who is relinquishing the Lighterage Business in consequence of ill health to SELL by AUCTION, at CASPER'S WAYS, Funicular, Southwark, on THURSDAY, OCTOBER 27th, at TWELVE for ONE, Ten OPEN BARGES, a Dummy, and several Decked, Hoyfide-ked, and open Craft; large punts, oars, &c.—May be viewed two days previous, and Catalogues had at the Place of Sale; also at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore-street, City.

WOOD STREET, CITY.—Building Materials of Three Houses

PULLEN, HORNE, & EVERSFIELD are directed by the Worshipful Company of Salters to SELL by AUCTION, on the PREMISES, on FRIDAY, OCTOBER 28, all the valuable BUILDING MATERIALS and FITTINGS UP of THREE HOUSES, in Fell street, Wood-street, of the usual description.—May be viewed the day previous. Catalogues had of JOHN COLLIER, Key Architect, 28, Finsbury-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

Building Materials, Old Broad street, City.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, OCTOBER 28, at TWELVE, all the valuable BUILDING MATERIALS and FITTINGS UP of the spacious HOUSES, OFFICES, and PREMISES, Nos. 64 to 67, Old Broad-street: comprising sound brickwork, stout rafters, joists, and other useful timber, plain and pan tiles, slate, chimney pots and other shafts, partitions, wainscoting, linings, marble chimneypieces, and interior fittings, sound floorboard, handsome mahogany and plate-glass shop front, several tons of lead, in flats, gutters, and pipes, stoves, and various useful fittings. May be viewed the day previous. Catalogues had of W. THOMASON, Esq. Architect, 2, Conduit-street West, Hyde Park; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

STRAND HOTEL.—Fifth Clearance Sale, by order of the Directors

MR. JOHN R. FOWLER has received instructions to SELL by AUCTION, on TUESDAY, OCTOBER 25, at TWELVE for ONE precisely, on the PREMISES, the BUILDING MATERIALS, FIXTURES, LEAD, &c. comprised in Sale Brief, Strand: also that in 8 to the Strand for Sale.—Catalogues had on the Premises; at Messrs. VALLANCE & VALLANCE, Solicitors, 20, Essex street, Strand; and at the Office of the Auctioneer, 24, St. Swithin's-lane, City.

CAMDEN-ROAD, HOLLOWAY. Villa Residences

MESSRS. KENNEDY & BONNY will SELL by AUCTION, at GARRAWAY'S, Cornhill, on THURSDAY, OCTOBER 27, at TWELVE, in Lots, TWO VILLA RESIDENCES, Nos. 1 and 2, Hillmarton-villas, Camden-road, near the Holloway-road, Islington; held under separate leases for a term of 75 years unexpired, at the ground rent of 8l each, and are now let to most respectable tenants for terms of three years at modern's rents; 65l. and 55l. per annum. Gardens 200 ft. by 33 feet wide. Have been recently thoroughly repaired and improved. May be viewed by permission of the tenants; and printed particulars and conditions of sale had at the Auctioneers' Offices, Camden Town.

CAMDEN-ROAD VILLAS. First-class Investments.

MESSRS. KENNEDY & BONNY have received instructions from the executors of the late Francis Morgan, Esq. to SELL by AUCTION, on THURSDAY, OCTOBER 27, at GARRAWAY'S, Change-alley, Cornhill, at TWELVE for ONE o'clock, in lots, FIVE First-class RESIDENCES, situate and being Nos. 75 to 79, Camden road villas, held direct from the Camden Estate under unexpired terms of 75 years, at very moderate rents, at low ground rents from 9l to 8l each, and 31l. 10s. 9d. per annum. The property is well built, is in good and substantial repair, and let to most respectable tenants, who may be viewed by permission of the tenants, by cards only, to be obtained at the Auctioneers' Offices.—Part of the purchase money may remain on mortgage or contract at five per cent. Conditions of Sale may be had 14 days before the day of Sale, of Messrs. COVERDALE, LEE, COLLYER, BRISTOW, & WITHERS, No. 4, Bedford-row; and at the Auctioneers' Offices, Camden-town, N.W.

FULHAM.—Notice of Auction Sale of the SURPLUS PLANT, MATERIALS, &c. of Mr. William Moxon, Contractor, whose contract for the Metropolitan Main Drainage Works (Western Sewers) is about drawing to its completion, and under the instructions will, on TUESDAY, OCTOBER 25, 1864, be submitted for PUBLIC COMPETITION by

MESSRS. JAMES B. TERSON & SON, at the CONTRACTOR'S YARD and PREMISES, situate Sand's-end, King's-road, Fulham, London. The Valuable Plant, Materials, &c. comprise the superior manufactured plant, viz. one powerful 24-inch cut-line Screw Pile driving engine, by Murray, London; one 12-inch centrifugal and one horizontal pump, and powerful double-purchase crab, by Fowler & Co.; eleven strong wellbuilt carts, with iron arms and patent boxes; eleven dobbin carts, strong and well built spring wagg n timber carriage, iron and wood skips, sixty-four Lakes of low Memel timber, varying in length from 21 feet to 40 feet; 270 new yellow deals, 19 feet long; 651 deals (various), 2,154 battens, fir planks (various), 1½ inch fir boards, short ends of deals and battens, die squares, centres, scaffold boards; also the materials of a brick building, with iron board and felt top, as now erected in said yard, as above described, and used as a smith's shop, stabling, store-house, granary, sheds, &c.; the same to be taken down and cleared away, from off the said yard and premises by and at the expense and risk of the purchaser, with in three clear days from Monday after the day of sale, as above announced. Four large fir trestles, four fir legs, under barrows, quantity of sundry bricks and tiles, fir shoots, fire wood, and other useful and miscellaneous property.—May be viewed on Monday preceding the day of Sale, from Ten till Four o'clock. Sale to commence at ELEVEN o'clock precisely. The above Plant, Materials, &c. will be fully particularized in Catalogues, which may be had (free of charge) on the Premises, and of the Auctioneers, Dover, Kent.

HEREFORD-STREET, OXFORD-STREET.—Valuable Building Materials; several tons of Lead and Ironwork.

MR. GEO. HAINES will SELL by AUCTION, on the PREMISES, on THURSDAY, OCTOBER 27, at TWELVE o'clock, the capital MATERIALS of a spacious Residence, No. 19, Hereford street, with stabling, coach house, and Three Houses adjoining, in Park-street; comprising a mass of excellent sound brickwork, prime slates, and stout timbers in the large roofs; battened and other doors, and fire grates, panelled doors, plain sashes, and wainscoting to the numerous spacious rooms; statuary marble chimney-pieces; water-closets; noble Portland stone staircases, inverted pipes, and other sundries; the stabling and small houses are useful items.—May be viewed. Catalogues of Messrs. HAINES & SON, Moorgate-street, and at the Auctioneer's Office, 29, Gravenor street West, Eaton-square, and No. 12, High-street, Kensington.

CAMDEN TOWN, near the Old Eagle Tavern and Railway Station.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, on MONDAY, OCTOBER 31, at ELEVEN for TWELVE, Eighteen Loads of White FIR BALK, 1,000 planks, deals, and battens; 2,000 feet of mahogany, 1,500 feet pencil cedar, 5,000 feet of wainscot, 3,000 feet wide pine 1½ squares of flooring, mouldings, doors, cut stuff, scaffold poles, cistern, chimney pieces, paving, and quantity of useful old materials.—Auction Offices, Cardigan street, Hampstead-road, near the Euston Station.

WOODHATCH LODGE AND HARPER'S FARM, REIGATE, SURREY.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the executors of the late Mrs. Charrington to offer for SALE, at the GOLDSMID COFFEE-HOUSE, on FRIDAY, NOVEMBER 11th, at ONE o'clock precisely (unless previously disposed of by Private Contract), WOODHATCH LODGE and HARPER'S FARM, near the town of Reigate, in the County of Surrey. This exceedingly beautiful property, the whole of which is Freehold, extends over about 128 acres of arable, pasture, and meadow land, interspersed by extensive woods and plantations, and forms in its entirety one of the most charming residences with in the same distance of London. The residence, which is approached by a lodge entrance from the Holmethill, is most beautifully placed upon the summit of the Estate, in the midst of pleasure grounds, lawns, and flower gardens, and commands an uninterrupted view of the most extensive and delightful scenery that can well be imagined. It fronts the south, making it as agreeable for occupation in the winter as in the summer season. The house immediately connected with it is replete with every convenience, and may be let or occupied by a purchaser as he may desire, and there are farm buildings and farm cottages sufficient for a bailiff's or tenant's occupation. It may be well to observe that a considerable portion of the land is very valuable for building purposes, and might be so appropriated as not to interfere with the comfort and enjoyment of the residence and a smaller quantity of land should a purchaser be disposed to purchase the whole and subdivide the remainder as he may think proper.—May be viewed by cards only, to be had with Particulars and Plans of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible FREEHOLD BUILDING LAND, London and Dublin Freehold.

MR. J. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S Coffee-house, Change-alley, Cornhill, on MONDAY, NOVEMBER 7th, at TWELVE for ONE o'clock, 80 Lots of FREEHOLD BUILDING LAND, in Clapton-road, near to St. John's Church, Hackney, suitable for the erection of Cottages. Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent. interest, to be paid in nine years by equal quarterly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars and conditions of sale may be obtained ten days before the Sale of T. W. ROGERS, Esq. Solicitor, No. 70, Fenchurch-street; at the "Pheasants Inn," Clapton; of Messrs. HAMMACK & LAMBERT, No. 59, Bishopsgate-street Within; at the Place of Sale; and of the Auctioneer, No. 70, Fenchurch street, City.

IMPORTANT.—7,780 pieces of really good modern English and French Paper hangings in great variety, removed from the premises of a noted West end firm for convenience of sale; to be sold without the slightest reserve.

MR. EDWIN WHITE will SELL, at 12, HOLBORN BARS, and 1, CASTLE STREET, Holborn-hill, on TUESDAY next, at ONE, 7,780 Pieces of PAPERHANGINGS, in flock Gilt Room lining, Stone, Marble and Oaks, Marble Cooks, and 120 Marble and Enamelled Slate Chimney-pieces, suitable for first class property. The whole of the goods (not patterns) may be viewed, and catalogues had on MONDAY, and Morning of Sale.

DUPPA'S HILL, CROYDON.—Important Sale of valuable Freehold Land, at Duppa's-hill, offering attractive Building Sites.

MESSRS. CRISPE & DRACOTT, and CHARLES SMITH & SONS (who are jointly concerned on their owners), will SELL by AUCTION, at the ROYAL HOTEL, Croydon, on THURSDAY, OCTOBER 27th, 1864, at THREE for FOUR o'clock, FIVE eligible Plots of FREEHOLD BUILDING LAND, delightfully situate upon a healthful elevation near the flourishing market town of Croydon, within two minutes of the Weldon Station, on the Surrey Side, and about half a mile from the Croydon Station on the Brighton and West London and the Addiscombe Railways, and about twenty minutes from London. These valuable building sites are to be sold in small lots, and are well adapted for the erection of villa residences have good drainage, and the roads are to be made and made over to Duppa's-hill, which has been approved by the Board of Health to the purpose of a public park. The soil is gravel and clay, the air is most salubrious, water and gas are laid on, thorough sewerage will be very shortly completed, and the charming walks and drives in the neighbourhood render this particularly desirable, where from the increasing importance of Croydon, and to extend demand for land, it offers an unusual favourable opportunity for the profitable employment of capital.—Particulars, with plans and conditions, may be had shortly at the usual in the neighbourhood; at the Place of Sale; of C. FRANKISH, Esq. Solicitor, 23 Parliament-street, Westminster; and of the Auctioneers, CHARLES SMITH & SONS, 3, Broad-st. buildings, London, E.C. and Messrs. CRISPE & DRACOTT, 145, High street, Croydon.

BUCKHURST HILL, Woodford, Essex.—Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on MONDAY, OCTOBER 31st, at TWELVE for ONE, in 8 lots, the Second Portion of that most eligible FREEHOLD PROPERTY, situate between the Roebuck and Bull-head Inns, immediately opposite the church, having frontages to the new road called Rose-lane, and to the high road to Loughton of Nine inches of the purchase money may remain on mortgage or contract at five per cent to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale of Mr. F. HOLWELL, Queen's road, Buckhurst-hill; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

CLAPTON CRICKET FIELDS, LOWER CLAPTON, MIDDLESEX. Eligible Freehold Building Land

MR. WHITTINGHAM has to announce that the 1018 remaining UNSOLD of the Auction Sale on 17th instant and most of the 21 and 24, 1863, may be PURCHASED by PRIVATE CONTRACT. The purchase money is to be paid by a deposit of Ten per cent and the balance in nine years, by equal half-yearly instalments, with Five per cent. interest and the option of paying off the whole or any time without notice. For particulars and plans, apply to the Auctioneer, 14, Moorgate-street, London, E.C.

SUNNINGDALE, BERKS.—A very valuable Freehold Estate, comprising about 185 acres of Building Land, arranged in convenient plots for the erection of first-class villa residences.

MESSRS. DRIVER & CO. have received instructions to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, Cornhill, on MONDAY, OCTOBER 31, at TWELVE precisely, in 24 Lots some very valuable and desirable FREEHOLD BUILDING LAND fronting, together, about 18 acres, situate at Sunningdale, about 3 of a mile from the Railway Station, within a few minutes' walk of the Sunningdale Railway Station (which adjoins the estate), and is well known to be one of the most healthful localities in England, being fully inclosed, and embellished with ornamental plantations, commanding from every point various and extensive views of the surrounding scenery, so justly celebrated for its picturesque and truly charming beauty; the proximity to Virginia-water, Windsor Great Park and Forest, Swinley Forest, and Ascot Racecourse; and the great facility of weekand return tickets, at the low fares now in force, offer peculiar advantages for building purposes. It is intended to form a new road through the property commencing at the side of the Lock Hospital, near Work-house, to be entered upon Lot 1, for the Church, Cemetery, and which property immediately adjoins the Sunningdale and Ascot Villa Companies. Printed particulars, with plans, may be obtained of Messrs. EVERITT & LLOYD, 18, Tokenhouse-yard, E.C.; of Messrs. JANSON, COBB, & PEARSON, Solicitors, No. 4, Bedford street, E.C.; at the Estate Exchange, Change-alley, Cornhill, E.C.; at the Guildhall Coffee-house, Gresham-street, E.C.; and of Messrs. DRIVER & CO. Surveyors Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

LLOYD'S MARBLE WHARF, PIMLICO.—To Sculptors, Masons, and Others

A SALE of MARBLE by AUCTION will take place at the above Wharf, by order of Messrs. Lloyd, on TUESDAY, NOVEMBER 1st, at ELEVEN for TWELVE, consisting of a large assortment of Marble, in Blocks and Slabs, viz. vein statuary, Sicilian, emperor's red, dove, black and gilt, Devil's, and other marbles; also about 10,000 feet of slab, in nearly all the above varieties. Approved bills at four and six months.—May be viewed two days previously, and catalogues had at the Place of Sale, No. 1, Grosvenor-road, Aylesbury Vauxhall Bridge

100 Italian and English Marble Chimney-pieces, some of noble proportions and workmanship, by foreign artists; Monuments, Fonts, Columns, Register Stoves, with ormolu and bright steel fronts, and a selected Importation of Sculpture in Carrara Marble.

MR. JAMES ROBINS (lately of the Piazza, Covent-garden), will SELL by AUCTION, at 68a, NEW OXFORD STREET, on WEDNESDAY, NOVEMBER 2, at TWELVE, ONE HUNDRED MARBLE CHIMNEY-PIECES, some of considerable beauty and breadth, appropriately adapted for clubs, banking-houses, and hotels, drawing and dining-rooms, boudoirs, libraries, lounging-halls, and bed-rooms, also register stoves and Italian sculpture.—On view two days prior. Catalogues of Mr. JAMES ROBINS, Auctioneer, Valuer, Land and House Agent, 5, Chancery-lane, W.C. (First street end).

TO BUILDERS.—TO BE DISPOSED OF, in consequence of the ill-health of the Principal, the excellent Old-established BUILDERS and CONTRACTORS BUSINESS at Chester, for many years successfully carried on by the late Mr. Heyward and his successor in that highly important and improving town.—Address, by letter to Mr. care of Mr. Charles J. Shoppee, 61 Doughty-street, London, W.C.

TO PAINTERS and GENERAL DECORATORS.—TO BE SOLD, in consequence of the death of the proprietor, a small old established BUSINESS of a PAINTER and GENERAL DECORATOR, situate in one of the best thoroughfares in the metropolis, including the lease, stock in trade, and utensils. For particulars and terms, apply to Mr JOHN HENRY JONES, Solicitor, No. 5, Hart-street, Bloomsbury-square.

ROYAL POLYTECHNIC.—Patron H.R.H. the Prince of WALES.—Re-decorated and Re-opened.—Daily at 4 and quarter to 8 (except on Wednesday Night). Professor Pepper's new Lecture "On Sound and Acoustic Illusions," which will include an imitation of the Talking Head of Albertus Magnus, Professor Wheatstone's Telephone, Concertina, &c. Mechanism of the Piping Bullfinch, genuine Speaking Machines, Phebalophone and beautiful Chromatrope, showing Harmony and Discord. The Ghost Illusions as usual (J. H. Pepper and Henry Dircks, joint inventors), by J. L. King, Esq. New Musical Entertainment by Mr. B. Cox, illustrating the story of "Behind the Scenes." Pepper's Ghost will perform daily, at 4 20 and 8 45, all those difficult variations on one string and with one hand for which the late Paganini was so celebrated.—Open 12 to 5, and 7 to 10.

PRIZE WAGGONS and CARTS.—HAYES & SON, Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom, Coach and Cart Wheelwrights, Spring Van and Waggon Builders. Timber Merchants, Contractors, &c. Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation. Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and On-bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON, SCOTGATE WORKS, STAMFORD

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation, Pug-mills, Jack rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire. Price Lists on application,

GEORGE ELL & CO. LONDON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

THE MIDLAND WAGON COMPANY, established 1853.—RAILWAY WAGONS.—This Company, having from Six to Seven Thousand COAL, COKE, IRONSTONE, and BALLAST WAGONS, have generally a number to LET, for one or more years, including Repairs, at Rugby, Peterborough, Shrewsbury, Chester, Cambridge, Stockton-on-Tees, Stanley, Dronfield, Worcester, Gloucester, Redditch, Hereford, Newport (Mon.), Cardiff, and Buringham. They also contract for Wagon Repairs at any of the above Stations. The Company Build every description of Railway Wagons at Carriages for Cash, or by deferred Payments extending over three, five, seven or ten years.

HENRY BRIDGES, Secretary. Midland Works, Birmingham.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS, And every description of ornament for internal and external decoration, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at moderate prices.

MESSRS. HERBERT, MODELLERS, 84a, EUSTON ROAD, ST. PANCRAS.

Best Gauging, prepared, and ready for immediate use, per lb. Best Fine White Plaster, 2s per cwt Coarse ditto, 1s 9d. per cwt

INDIA-RUBBER MILL BANDS, WASHERS for STEAM JOINTS, HOSE PIPES, and FLEXIBLE TUBING A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer street), LONDON, E.C.

TO BUILDERS.—A Gentleman can obtain ADVANCES for Builders on their finished or unfinished property, on Annuities on their whole property.—Address (in the first instance) H. S. P. 65, King William street, City.

BRECON NEW WATER-WORKS.—LOANS ON MORTGAGE DEBENTURES.—The Local Board of Health of the Borough of Brecon hereby give notice, that they are now receiving PROPOSALS for LOANS, each to consist of 7l per cent per annum, in sums of 50l and 100l each, to carry 3½ per cent of the General District Rates of the said Borough, granted under the sanction and authority (already obtained) of Her Majesty's Secretary of State for the Home Department.—Communications to be addressed to the undersigned, at the Office of the Board, Struet, Brecon. By order,

STEP. B. EVANS, Clerk to the Board.

Brecon, 14th September, 1864.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by Edward Charles Wyman, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 22, 1864.

The Builder,

AN ILLUSTRATED WEEKLY JOURNAL FOR Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1134. OCTOBER 29, 1864. PRICE FOURPENCE. By Post, 5d.

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WILL MR. WM. CURTIS BRANGWYN, formerly of Ladywood lane, Birmingham, send his ADDRESS to CHARLES M. I. J., Euston road, N.W.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART WORKMEN are now offered:—

For Wood-carving, 20l. and 10l.

For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimpole-street).

For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10l. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
OSCO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

THE ROYAL SCHOOL of NAVAL ARCHITECTURE and MARINE ENGINEERING.—The School will be OPENED on TUESDAY, the 1st NOVEMBER. The Principal will give a Public ADDRESS in the Lecture Theatre of the South Kensington Museum at THREE p.m. Students must attend at the Principal's Office in the morning before TWELVE o'clock, to get their papers signed.—By order of the Committee of Council on Education.

KING'S COLLEGE, London.—The Office of LECTURER of GEOMETRICAL DRAWING being now vacant, the Council are ready to receive APPLICATIONS from Gentlemen desirous of becoming CANDIDATES for the same.—For particulars apply to J. W. CUNNINGHAM.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.
73—74, Bishopsgate-street Within.

ROYAL POLYTECHNIC.—PAGANINI'S GHOST.—Engagement of this novel, extraordinary, and artistic sensation, which was received with such an enthusiastic furore upon the first night of its production at this Institution. Paganini's Ghost will perform daily at 5 and 8·45 all those difficult variations on one string and with one hand for which the late Paganini was so celebrated. Polytechnic redecorated and re-opened. Admission to the whole, 1s.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.

TENDERS are required for the SUPPLY of MATERIALS and LABOUR for War Department WORKS, at Aldershott Camp and Permanent Barracks, in the county of Hants including Repairs to the existing buildings, under a Triennial Contract, from the 1st January, 1865, to the 31st March, 1868, determinable at any period after one year, on either party giving to the other three months' notice in writing.

Copies of the schedules, for which the sum of six shillings and nine pence for each copy must be paid on issue, together with forms of Tender, may be obtained on application at this Office.

Although the said schedules include prices for work done, and for day labour, the Contractor will, as a general rule, be called upon only to supply materials.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall Mall, London, S.W. endorsed, in the left-hand corner, "Tenders for Works at Aldershott," on or before SATURDAY the 5th NOVEMBER, 1864.

The Secretary of State for War does not bind himself to accept the lowest or any of the Tenders.

Royal Engineer Office, Aldershott,
14th September, 1864.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.

TENDERS are required for the ERECTION of ONE RANGE of MARRIED SOLDIERS' QUARTERS, at the Hut Encampment, Pembroke Dock.

Parties desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 4th day of NOVEMBER, 1864, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Pembroke Dock, South Wales,
19th October, 1864.

WAR DEPARTMENT CONTRACT.—TO BUILDERS.

TENDERS are required for the WORKS proposed to be performed in the CONSTRUCTION of a Small BATTERY and DEFENSIBLE BARRACKS at Brean Down, Weston-super-Mare, in the County of Somerset

Forms of Tender and other information may be obtained on application to the Senior Clerk, Fortification Office, No. 109, Victoria-street, Westminster, on or before the 5th NOVEMBER, 1864. Copies of the plans may be inspected at the Office of the Barrack Master, Hordle Barracks, Bristol.

A deposit of 10s. will be required upon issuing the form of Tender, and it will be returned when the Tender is received

The Secretary of State does not bind himself to accept the lowest or any Tender.

War Office, Pall Mall, October 21, 1864.

STOCKTON and MIDDLESBROUGH WATER WORKS.—To CONTRACTORS for PIPE LAYING.—The Directors of the Stockton and Middlesbrough Water-Works Company are prepared to receive TENDERS for LAYING DOWN about Twenty Miles in length of CAST IRON SOCKET PIPES (varying in diameter from 20 inches to 12 inches) and other Pipe Castings. Specifications may be seen, and printed forms of Tender may be had on application to me, or to Mr. HAWKSLEY, C.E. 30 Great George-street, Westminster, S.W. on and after MONDAY, the 17th day of OCTOBER instant, and sealed Tenders endorsed "Tender for Pipe-laying" must be delivered at the Office of the Company, Central-buildings, Darlington, on or before TUESDAY, the 1st day of NOVEMBER next. The Directors do not bind themselves to accept the lowest or any Tender. By order,

THOMAS HALL, Secretary

Secretary's Office, Central Buildings,
Darlington, 15th October, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of New BANKING PREMISES, for Messrs. Sparrow & Co. at Rochford, Essex, can inspect the plans and specifications, at my Offices, Chelmsford, after the 1st of NOVEMBER.—Tenders to be delivered to Messrs. SPARROW & CO. Chelmsford, by or before TWELVE o'clock on the morning of the 11th of NOVEMBER. The lowest or any Tender will not necessarily be accepted FERD. CHANCELLOR, Architect.

Pilmers' Hall, Old Broad street, London, and Chelmsford.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the District of West Ham in the county of Essex, are prepared to receive TENDERS for WIDENING the APPROACHES to the Bridge at Angel-lane, Stratford, over the Great Eastern Railway Conditions of contract, forms of Tender, and any other information, may be obtained at the Office of the Local Surveyor, at Rokeby House, Stratford, E. Tenders are to be delivered at my Office, at Rokeby House, in Stratford, not later than MONDAY, the 7th NOVEMBER next, and each of them must contain a ten-pound Bank of England note, endorsed by the party tendering, to be returned in the event either of the Tenders not being accepted, or on the completion of the contract and bond.—By order of the Board,

CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 21, 1864.

TO BUILDERS.—Persons desirous to CONTRACT for the ERECTION of a Pair of Semi-detached HOUSES at Forest Hill, Surrey, may inspect the plans and specification at the Offices of Mr. C. DRIVER, Architect, 7, Parliament-street, S.W. and obtain a copy of the quantities upon depositing 10s. to be returned if a Tender is sent in. Tenders to be delivered not later than FRIDAY, NOVEMBER 4.

TO BUILDERS.—NEATH NEW CHURCH.—Builders are hereby invited to submit TENDERS for the ERECTION of a NEW CHURCH at Neath. The plans and specifications can be seen on and after MONDAY, the 31st instant, at the Offices of H. OWEN, Esq. in Water-street, Neath.—Estimates to be forwarded on or before the 14th of NOVEMBER next, to the Architect, JOHN NORTON Esq. 14, Old Bond street, London, W

CONTRACTS.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a WAREHOUSE, 80 feet by 70 feet, and 45 feet high, at Winchester, may inspect the plans and specification at my Office after the 2nd of NOVEMBER. Tenders, endorsed "Tender for Warehouse," and addressed to me, to be delivered in on or before the 18th of NOVEMBER. No pledge is given to accept the lowest or any Tender.

THOS. STOPHER, Architect.

St. Swithin-street, Winchester

CROYDON WATER WORKS.—To ENGINEERS.—CONTRACT No. 1.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the CONSTRUCTION and setting to work of a Single-acting CORNISH PUMPING ENGINE, in accordance with a specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. Such specification may be seen in the said Engineer's Office, in the Town-hall, Croydon, on or after TUESDAY, the 1st day of NOVEMBER next, sealed Tenders, indorsed "Tender for New Steam Engine," are to be delivered at the Office of the Local Board, in the Town hall, Croydon, on or before FOUR o'clock on the afternoon of TUESDAY, the 15th of NOVEMBER. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Trinity House, London, E.C. 20th October, 1864.

TO ENGINEERS and OTHERS.—This Corporation being desirous of obtaining TENDERS for the ERECTION of a WROUGHT-IRON PILE LIGHTHOUSE on the Reef, known as Lowestoft Scares, near the Port of Lowestoft, hereby give Notice that the plans, specifications, forms of Tender, and conditions of contract are deposited at the House, and may be inspected on any day between the hours of TEN o'clock in the forenoon and FOUR p.m.

Tenders must be delivered at the House on or before MONDAY, the 21st of NOVEMBER next, addressed to the Secretary, and marked "Tender for Iron Lighthouse," and no Tender will be entertained that it is not made on the forms provided.

The Corporation do not pledge themselves to accept the lowest or any Tender. By order of the Corporation,

F. H. BERTHON, Secretary.

PARISH of BRIGHTON.—To BUILDERS and OTHERS.—The Directors and Guardians of the Parish of Brighton are desirous of receiving TENDERS from persons willing to Contract for the ERECTION of a WORKHOUSE, upon land situate between the Reservoir and the Race Stand, in the said parish, from the plans, drawings and specification prepared for that purpose. The drawings, specification, and conditions of contract may be inspected at the Directors and Guardians' Clerk's Office, Church-street, Brighton, on any day (Sundays excepted) between the hours of TEN a.m. and FOUR p.m. Copies of the bills of quantities and forms of Tender may be obtained on and after the 1st day of NOVEMBER next, at the above-named Office, and also of Messrs. LANGDOWN, J. Ware, 4, street, Charing-cross, London, on payment of the sum of Two Guineas, which will be returned to all persons who shall Tender for the execution of the work. Tenders, indorsed "Tender for the Erection of Workhouse," to be delivered at the Office of the Clerk to the Directors and Guardians, Church-street, Brighton, on or before TUESDAY, the 15th day of NOVEMBER next, by TWO o'clock in the afternoon. Each Tender to be accompanied by a separate sealed note containing (for the approval of the Directors and Guardians) the signatures and addresses of two persons who are willing to enter into the required bonds for the due performance of the work. The Directors and Guardians will not bind themselves to accept the lowest or any Tender, neither will they be at nor allow any expense for preparing any Estimate or Tender. By order of the Board, ALFRED MORRIS, Clerk.

Parochial Offices, Brighton, 24th October, 1864.

CAST-IRON PIPES.—To IRON-FOUNDERS.—The Directors of the Drogheda Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES, of the following diameters and lengths:—Diameter in inches, 12; length in yards, 4,100; 9 inches to 6 inches inclusive, about 15,000 yards. Specifications and forms of Tender, price 10s. may be obtained on and after the 25th instant, at the Office of Mr. MAGEE, Solicitor to the Company, Drogheda; or from Mr. T. R. FOSTER, C.E. 33, John Dalton-street, Manchester. Tenders must be sent in to Mr. FOSTER on the 17th of NOVEMBER. The Directors do not bind themselves to accept the lowest or any Tender.

THE LONDON ENGINEERING and IRON SHIP-BUILDING COMPANY (Limited), Works London yard, Isle of Dogs, Poplar, E. (Late Messrs. Westwood, Baillie, & Co.)

DIRECTORS.

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Rear-Admiral George G. Welles — Robert Baillie, esq.
esq. C.B. — J. E. Ode, esq.
R. Russell Carew, esq. — Zerah Colburn, esq. C.E.
Joseph Westwood, esq. — Vice-Admiral Dahl.
John Brown, esq. — William Austin, esq.
Secretary—W. Cooper, esq.
Offices—60, Fenchurch-street, E.C.

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Designs and Specifications for any of the above may be obtained at the Company's Works, or at the Offices.

By order of the Board.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS—their cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

TO SCULPTORS, MASONS, BUILDERS, &c.

FABBRICOTTI, BROTHERS, Carrara Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE, a well selected Stock of Statuary, Vein, Faonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Granite, Breccia, Sienna, St. Anna, Languedoc, Verdes Alpes, Black, &c. &c.; and Alabaster, in Blocks, with a fair assortment of several of those qualities. Also Solid Marble Baths and Mortars, and Vases and Figures, in Statuary and Sicilian, for Gardens and Galleries. Rough Marble and Decorative Sculpture Works supplied by contract.

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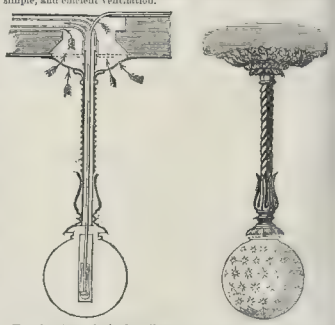
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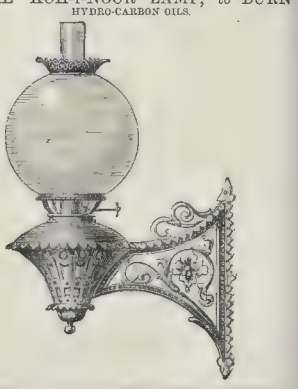
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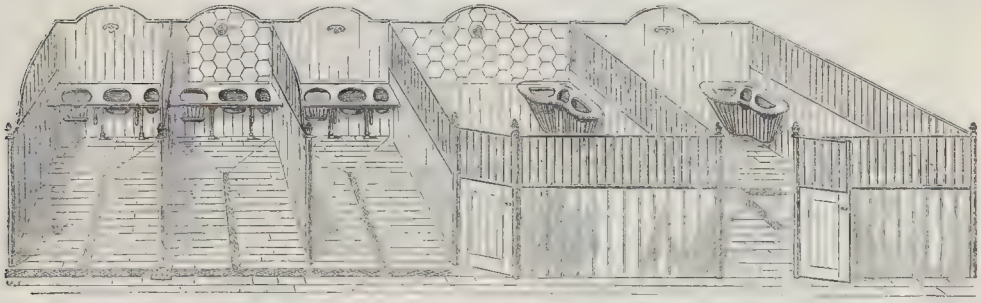
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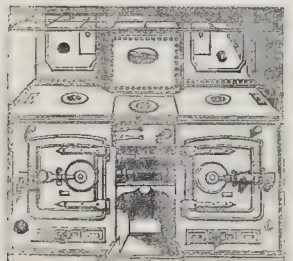
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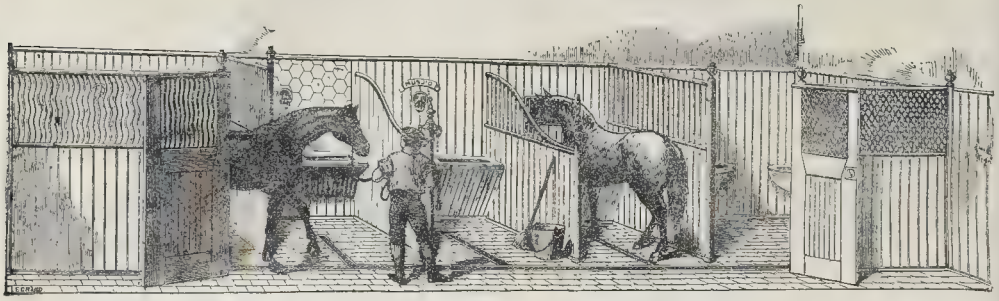
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SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

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THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

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These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

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Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

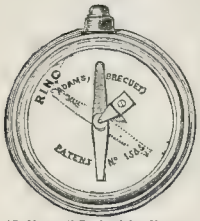
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The superiority of Electric Bells is already settled in America and in France. For all modern works at Paris they have as effectually superseded the old crank and pull plan as, for travelling, the railway has superseded the antiquated stage-coach.

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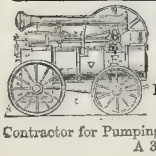
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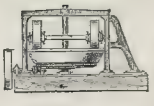


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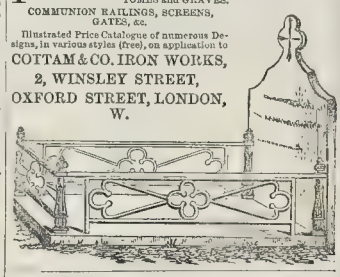


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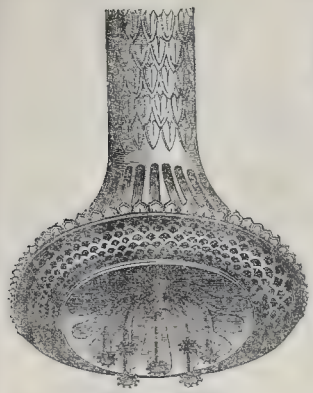
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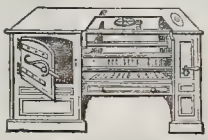
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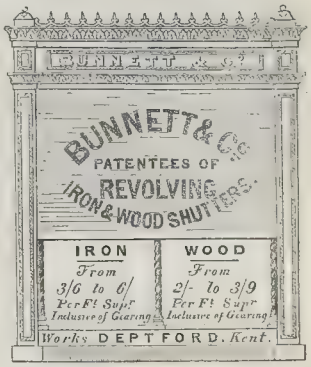
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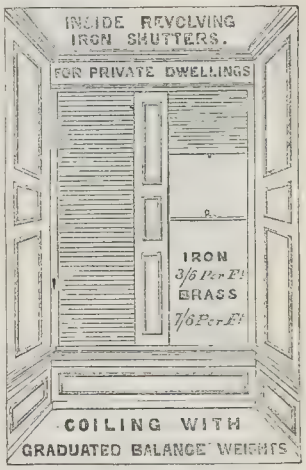
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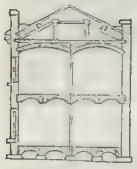
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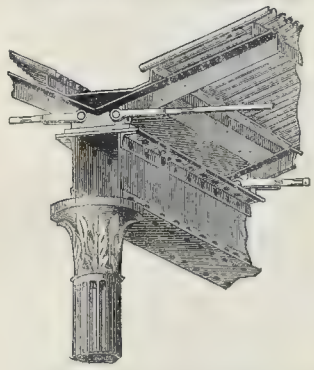
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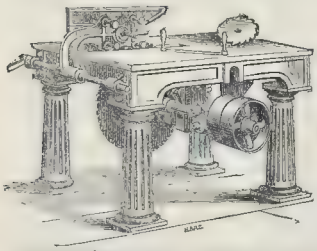
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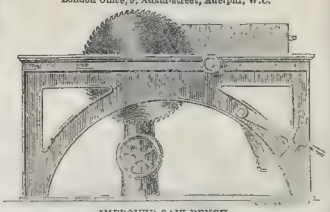
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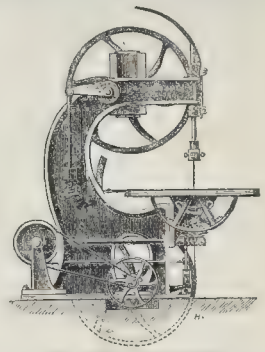
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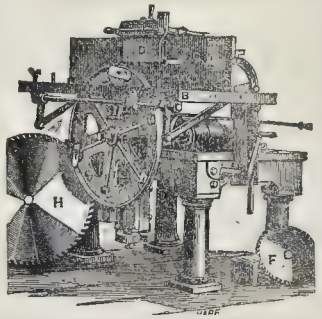


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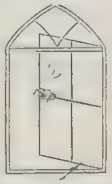
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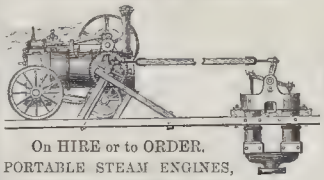
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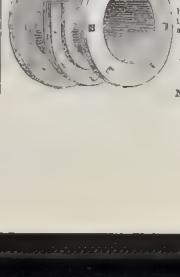
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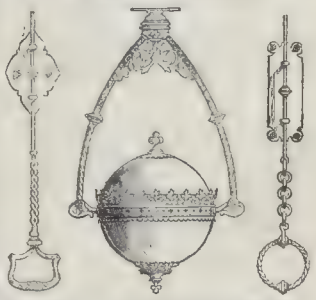
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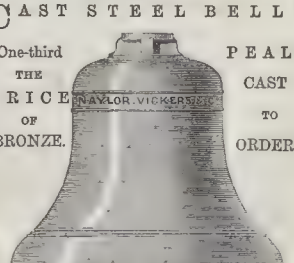
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EDWARD HARPER, Secretary.

The Builder.

VOL. XXII.—No. 1134.

The Tower and Spire of the Cathedral Church of Salisbury.

THE proposition to underpin the tower and spire of Salisbury Cathedral has been received by the public with astonished applause, as though a work of the like nature had never been performed before; while, in truth, twenty years have scarcely elapsed since the same thing was done to the tower of Hereford Cathedral, under the auspices of the late Mr. Cottingham. At that time the tower of that edifice, with its decorated lantern, was in a perilous condition, owing to the instability of the four piers upon which it rested. These were evidently giving way. They were huge clustered Norman piers, faced with ashlar, but filled in with mere rubbish, not having been intended to carry aught but the low square Norman tower originally built. An attempt had been made to avert the danger some years before, when the fashionable Mr. Wyatt was called in, who built a square pillar in the centre of each arch between the piers, under the erroneous impression that some of the weight would be thus taken off the shoulders of the four crumbling supports of the tower. But this remedy, besides having the effect of blocking up the views of the interior of the edifice in every direction very materially, only made matters worse, and increased the thrust that was clearly about to involve the fall of the tower. When consulted by the dean and chapter, Mr. Cottingham conceived and successfully carried out the scheme of building new piers of sufficient strength to bear the superincumbent mass. The tower was elaborately and carefully shored up, and then one of the piers was removed. Whilst the enormous pile was thus resting on three legs, a deep foundation, much lower than that of the first builder's, was laid in concrete, and a new sufficiently massive pier, of solid masonry cramped together, was built upon it, of the same outlines as that removed. When this was completed, a second pier was taken down, leaving the tower to rest upon the new one and the remaining two old ones. When this was built up, the third and fourth were successively, and as carefully, removed and replaced with new. The shorings were then taken down, Mr. Wyatt's superfluous and disastrous additions displaced, and the ancient tower, unshaken, uninjured, and unaltered, reposed upon the four new piers.

The declination of the beautiful tower and spire of Salisbury is no new matter of regret. For two hundred years it has occupied the attention of the successive officials, and been watched with commendable solicitude. In 1668, an unusual thunderstorm intensified the alarm that was felt for its safety, and induced Bishop Ward to call in Sir Christopher Wren. He directed that some of the timbers should be removed, so that a plummet might be made to fall from the highest point to the pavement, and that this trial should be repeated after some interval, so that it might be seen whether any further declination was made. In 1681 Mr. Thomas Naish, clerk of the works, commenced a series of observations which were carried on by his son down to 1736. Mr. Naish caused a staple to be fixed near the weather door, in the north-east angle of the octagon, from which a plummet was let down to the pavement. A mark was made upon the floor to indicate the spot it touched on the occasion; and as, whenever this test was repeated, the same result was given, it was ascertained that no continuous change in the declination was taking place. In 1737 a new method was tried to ascertain the extent to which the pile had passed from the perpendicular. The bishop called in Mr. James Mill, who proceeded to ascertain the true centre of the four piers, or, as they were called in his day, "the four grand legs." On the 18th July, 1737, the bishop and a numerous party witnessed Mr. Mill's method of proceeding. A line was drawn due west from the centre of the piers, and another due north. At the extremity of the northern line a triangle of poles was raised, from the top of which a plummet was lowered into a vessel of water, and the poles and water-vessel were moved till the plumb-line was deemed to rest upon the north line. A candle was then placed upon the west line, and moved till the persons standing behind the triangle of poles could see the capstone or ball of the spire and the light of the candle exactly cut by the plumb-line. The centre of the candle was then marked upon the pavement. It gave 16½ in. as the total declination of the structure to the west. The same process repeated nine days afterwards, before the same spectators, gave 24½ in. to be the declination to the south. In 1739, Mr. Naish ascertained that in the fifty-eight years that had elapsed since his father made the first measurement, not the least increase had been made to the decline.

About this time there was a prophecy in circulation to the effect that the whole structure would be destroyed in 1742. This incited Mr. Francis Price, who was then surveyor to the fabric, to make a most minute examination and survey of it. It will be remembered that Mr. Price was the author of "The British Carpenter," and a man of considerable discernment, taste, and practical ability. He was firmly impressed with a conviction that the tower and spire were the work of a second architect; and that it was not in the perpendicular from its erection. He thought that the death of the first architect must have taken place before the "lesser ornaments" were completed; but not before a great settlement had taken place, which was remedied, as far as possible, by the insertion of iron bands and braces in a great many places. Upon the building of the tower and spire further settlements took place. At a certain stage of the tower Mr. Price noticed the marks of a scaffold. Where the timber had been the walls were white and clean, the intermediate spaces being green; thus demonstrating that it must have remained for a considerable time at that stage to have been so marked by the weather. Part of the settlement in the tower he attributes to the fact that the south and west sides being most exposed to rain, did not dry so quickly as the other sides, and hence occasioned a declination. The principal cause, though, he believed to be the insufficiency of strength in the points upon which it rested. The decay of some portions of the fabric he traced to a curious custom observed at Whitsuntide, when a fair was held within the cathedral close. As many as eight or ten persons at a time were allowed to climb the spire; and still larger numbers spread themselves over the roofs and gutters. These seldom descended without cutting their names in the leadwork: as this was meant to be a sign immemorial of the ascent of each individual, they cut so deep as to cut through the lead, leaving the rain to make its way through to the timbers. His opinion was, however, that no extra settlement had taken place for more than half a century, and that future damage might be averted by a proper application of iron. Various repairs were made to the structure whilst it was in his care, which gave him full opportunity to get within reach of every part of it. He availed himself of his unusual opportunities, took numerous measurements, made note of every fracture, and published the result under the title of "A Series of particular and useful Observations made with great Diligence and Care, upon that admirable Structure the Cathedral-church of Salisbury." The Bishop of Sarum placed a MS. in the hands of our surveyor, which contained a narrative of the building of the edifice, by the precentor; and he also had access to Sir Christopher Wren's survey. With these materials he made a very readable volume; somewhat circumambient and reiterative, perhaps, but still couched in terms which left no doubt that if he were not quite up to his subject as an archæologist, he looked upon the edifice with as an affectionate admiration as that which the editor of Camden's history ungrammatically expressed for it:—"Its high steeple and double crosses, by a venerable kind of grandeur, strikes the spectator with a sacred joy."

In the year of grace, 1218, the Dean and Chapter of Old Sarum had despatched special messengers to Rome, to represent that their church was inconveniently situate within the bounds of a fortress, and that the faithful could only have access to it by the leave of the castellan, which he occasionally refused, declaring that the safety of the fortification was imperilled by the admission of concourses of people. The situation, too, they urged, was so exposed, that they could hardly hear themselves speak for the wind; and water was very scarce,—so scarce, that they purchased it at as great a price as would have bought them the common drink of the country. The Pope, in reply, granted the Dean and Chapter leave to translate the church to another convenient place. Upon this they erected a wooden chapel at New Sarum, for temporary need, which was commenced on the Monday after Easter, and on the Feast of the Holy Trinity was so far completed as to admit of the celebration of divine service in it. And in the year 1220, on the day of St. Vitalis, the martyr, the foundation of the existing edifice was laid in the presence of a great multitude. The bishop expected that the king, with the Legate and Archbishop of Canterbury, would have been present at the ceremony, and prepared a great feast for them; but in this he was disappointed. The ceremonial, however, appears to have been sufficiently imposing. After the celebration of divine service, the bishop pulled off his shoes, and went in procession with the clergy of the church to the place of the foundation, singing the Litany. This being ended, and a sermon having been preached, the bishop laid the first stone as deputy for the Pope, the second as the deputy of the Archbishop of Canterbury, then on the Welsh Marches with the king, and the third for himself. The fourth stone was laid by William Longspee, Earl of Sarum, and the fifth by his pious countess. Several of the nobility also were permitted to lay stones; and the dean, chantor, chancellor, treasurer, archdeacons, and canons went through the same formality. It must be also mentioned, that as the nobles returned from Wales, whither they had accompanied their sovereign, several of them bent their steps to the new fabric, laid stones, and bound themselves to special contributions for seven years. The canons also bound themselves to contribute certain sums for seven years on specified days; but as the bishop computed that these would be insufficient, he appointed preachers or collectors of alms to visit other bishoprics and gather aid from every possible source. Everything prospered so happily, that on the day of St. Michael, in the year 1225, divine service was celebrated in the new fabric. On the vigil of this day the bishop consecrated three altars in the cathe-

dral; that at the east to the honour of the Holy and Undivided Trinity and All Saints; that in the north part in honour of St. Peter and the Apostles; and that in the south to the honour of St. Stephen, the proto-martyr, and the rest of the martyrs. Offerings flowed in. The king, accompanied by his justice, Hugh de Burgh, came to service in the new edifice on the day of the Holy Innocents, and offered a gold ring with a ruby in it, a piece of silk, and a gold cup of the value of ten marks. The ruby and the gold of the ring were to be used, he directed, in ornamenting a copy of the Old and New Testaments previously presented by the justice. Only a few months after this, the Earl of Sarum, who had laid the fourth stone of the noble pile, was brought to it for burial; and a short time afterwards three bishops who had been buried in the old church were translated to this.

Sir Christopher Wren, in his report of the state of the building, took occasion to mention that he believed the tower and spire to be the work of a second architect. He wrote, "The whole church is vaulted with chalk between arches and cross-springers only, after the ancient manner, without orbs and tracery, excepting under the tower, where the springers divide, and represent a sort of tracery. And this appears to me to have been a later work, and to have been done by some other hand than that of the first architect, whose judgment I must justly commend, for many things, beyond what I find in diverse Gothick fabricks of later date." He particularly admired the pillars with their marble shafts bound to them:—"These pillars show much greater than they are, for the shafts of marble that encompass them seem to fill out the pillar to a proportionable bulk; but, indeed, they bear little or nothing, and some of them that are pressed break and split; but this is nowhere so enormous as under the steeple, which, being 400 ft. high, is borne by four pillars, and therefore out of fear to overburden them, the inside of the tower for 40 ft. high above the nave, is made with a slender hollow work of pillars and arches: nor hath it any buttresses; the spire itself is but 9 in. thick, though the height be above 150 ft. This work of pillars and arches within the tower makes me believe that the architect laid his first floor of timber 40 ft. higher than the vault beneath; which, as I have said, was since added, and *so would have concluded without a spire*. And if this addition was a second thought, the artist is more excusable for having omitted buttresses to the tower, and his ingenuity commendable for supplying the defect, by bracing the walls together with many large bonds of iron within and without, keyed together with much industry and exactness. And besides these that appear, I have reason to believe that there are divers other braces concealed within the thickness of the walls." The iron band embracing the upper part of the arcade of the tower was long looked upon as the best piece of smith's work, applied to construction, in Europe. There are seven bandages of iron encircling the spire. In some cases the iron bands are soldered in sheet lead, but this has not always prevented them from rusting. The parapet wall at the stage of the tower, known as the eight doors, was, at the time of Price's survey, lifted up by the expansion caused by damp. Various dimensions of iron bar are used, the most usual being 2 in.

The materials used in the construction of this stately edifice are Chilmarke stone for the walls, buttresses, ribs, and groins, and Purbeck marble for the pillars and shafts. The shell or vaulting between the groins and ribs is formed of hewn stone and chalk mixed, over which is laid a coat of mortar and rubble, which has the appearance of having been ground in a mill and poured on hot whilst the lime was bubbling: it has the effect of cementing the whole together. The foundations were laid with especial care, as springs of water abounded upon the site and in its neighbourhood. Mr. Price ascertained that 3 ft. below the ancient surface of the ground, near the cathedral, lies a statum of dark gravel, and under that a greenish bed of sand, which, if disturbed, is immediately flushed with water. The foundation of the church, composed of flints, chalk, and rubble (probably carried from the old city), are laid upon this stratum of gravel. The proximity of springs was at one time a source of damp; for the water used to force its way up between the paving-stones, and flood the church. But this disaster did not affect the structure in early days; nor does it now. It is supposed to have arisen from the formation of locks or alterations in the course of the river Avon. As the waters were sometimes pent up at a great height by means of these locks they prevented the springs in the neighbourhood of the close from emptying themselves in the usual manner, and obliged them to return and force themselves a passage where they could make one. This serious inconvenience was cured by a new cut made by a gentleman through his estate for the purpose of irrigating it, and which had the unexpected effect of effectually draining the whole neighbourhood.

The walls of the tower, at the stage from which the spire rises, are 5 ft. thick. The spire occupies two of these feet, a passage-way from the staircases in the angles two more, and the parapet the fifth. Commencing with a thickness of 2 ft., the spire gradually tapers to 9 in. only. We quote the admiring surveyor:—"I cannot omit mentioning the architect's particular and curious invention, for adding artificial strength without overburdening the former work. He contrives, in the cavity of the spire, a timber frame, consisting of a central piece, with arms and braces. This timber frame, though used as a scaffold while the spire was building, was always meant to hang up to the capstone of the spire, and by that means prevent its top from being injured in storms, and so add a mutual strength to the shell of stone. The central piece of timber is not mortised to receive the arms which served as floors, but has an iron hoop round it, with hooks riveted through; and upon these hooks a flat iron bar is fitted, with a hole in it, which is fastened on to the brace: the upper part of the brace is mortised, and the arms tenanted at the end, to slide into and through the mortise in the brace; so that by a key or wedge on the outside of the brace, the connexion is made complete, the central piece and the other end of the arm being provided with iron, as before, renders it the most complete piece of work imaginable; nor is its connexion at the top inferior to it. The said arms and braces may be taken out and put in at pleasure, consequently capable of an easy repair. It was before said, that this timber frame served as floors, or scaffolds, till the work by its tapering, or diminishing, became too small for the men to work in the inside; and therefore, we must suppose, that they at last made a scaffold on the outside, by thrusting out timbers horizontally, which were tied down in the inside to the central piece. It is probable, that when the sides of the spire drew near together, so as not to admit of timber floors, then the artists began to think of tying all the timbers up to the capstone of the spire; and for this purpose cross bars of iron are yoted into the walls of the spire, so that the standard of the vane has hooks to hang them up by, and at the same time is fixed to the upper part of the central piece, in a most extraordinary manner." In 1738, the arms, braces, and central piece were all repaired. The latter was broken in the solid at a point where a sudden bending in the spire was very apparent, the consequence, doubtless, of some violent windstorm.

There must necessarily be a large number of our readers who will never climb this airy height, nor even view "the four grand legs" heading beneath its weight, now under public consideration. To them we offer these notes as information that the familiar photographs and engravings cannot convey.

Although the great underpinning work at Hereford was done, it was not easy to do. For several weeks a numerous band of workmen were engaged, by *night* as well as day, without interval, in shoring up the tower with a very forest of timber. It was never left unwatched. Hundreds of tons of timber in balk, needle-shoring, and upright and raking supports, were applied, and the interstices between them and the parts of the tower they were intended to sustain were carefully wedged in; and these wedges were scrupulously watched and kept so tight and firm as not to permit the least movement in the ancient masterpiece. Should it be determined to treat the Salisbury work in the same way, the utmost caution, tact, and skill will be required in the supervision; for the spiral form of the mass and the great height and slenderness of the piers will make the task still more delicate and difficult.

Testimonial.—A service of plate, weighing 1,000 ounces, and of the value of 650*l.*, has been presented to Mr. J. C. Forsyth, engineer of the North Staffordshire Railway, and also for some years general manager of that line, by a number of Staffordshire gentlemen.

THE STEAM-BOAT PIERS, AND THE LANDING-STAIRS, IN THE THAMES EMBANKMENT.

The space that we have given to the subject of the Thames Embankment,—not disproportionate with the work itself, or uncalled for by the interest taken in it by Londoners,—has enabled us to supply particulars of the general structural and decorative features of that portion of the northern line which is in actual progress; whilst those of our articles on the sewerage of London which have treated of the Northern Low-level, have contributed to that complete body of information as to the connected works, which might be expected to be found in our pages.* But the steam-boat piers and landing-stairs, the most important features of the line decoratively considered, we have alluded to without having adequately described; and there are structural arrangements in connexion with some of them, or all, that alone would deserve attention.

The condition of the landing and embarking places on the Thames, was, till recently, much more discreditable to London than anything connected with the street-communications. To the line of ugliness which bounds, on either side of the river, the expanse of water and of mud, there was no mitigation in the several substitutes for piers that were formed of dilapidated barges and shifting gangways, and which were obstructive to the navigation, and inconvenient, if not dangerous, to passengers. The result was a considerable deduction from the realized value of the chief thoroughfare of the metropolis. The first great improvement upon the old arrangements, was the work of the late Mr. Thomas Cubitt, a man who did everything but architectural art-work, certainly in first-rate style; and who in the Pimlico Pier, near his place of business, produced something that was at least safe and commodious. Prior to this, another private work, the Cadogan Suspension-Pier, had been constructed; and it was a considerable improvement at the time, though some of the arrangements in connexion with the barges there were bad. The Hungerford Pier, also, being served by the footway of the bridge, was better than the landing-places generally. But, the representatives of the public, the City authorities (the Lord Mayor being Conservator of the Thames), did nothing till the construction of the pier at Blackfriars. After that effort, things remained till the present Board of Conservancy was appointed pursuant to the Act of Parliament. Under this Board, great improvements have been made, to which some of our contemporaries having in mind the former, rather than the existing, state of things, have not done justice. The landing-stages and light iron bridges, as at Paul's Wharf, London Bridge, and Battersea Park, seem to us nearly as good as the arrangements could be in the absence of a quay-wall, and of better accesses from the streets and places adjacent. There is some advantage in the arrangement which allows of vessels laying-to on both sides of the barge, pontoon, or "dumby," as may be seen every day at the Hungerford Pier. In the new steam-boat landing-places, the "dumbies," which rise and fall with the tide, will lie in recesses, formed by pedestal-piers, generally projecting from the embankment, or rather from the line of stairs which themselves will descend parallel with, but outside of, the general line of the embankment-wall. By the new connexion of the water-highway with a highway for pedestrians and carriages, extending on the north side, from Chelsea to Blackfriars, (excepting the space occupied by the Houses of Parliament, Abingdon-street and Millbank-street),—and which may be afterwards carried further in the direction of London Bridge, in accordance with one or other proposition of the number made in the period of twenty-four years commencing with the plans of the late Mr. Walker, and including those of the Metropolitan Board of Works,—and by the embankment of the south side of the river, the plans for a portion of which are now in hand,—the river, and its capabilities as a highway, will become known and appreciated as they have never been before. With improvement in the steam-boats, and better regulation to avoid delay, both much needed at present, the number of passengers by the water-route will be increased, even after the valuable provision of the new land-route. It is, therefore, important that these landing and embarking places should have been well considered, as we may hope they have been.

* See pp. 521, 537, 553, 573, 627, *ante*.

The landing-stages for the steam-boat traffic which are included in the work now in hand, or between Westminster Bridge and the eastern side of the Temple, include works at Westminster Bridge, Hungerford, or Charing-cross Bridge, Waterloo Bridge, and the western side of the Temple. Besides these works, there will be stairs for smaller craft, at a point between Westminster and Charing-cross Bridges; at a second point, nearly opposite the Adelphi; and at a third point, or forming part with the Temple landing-stage. The arrangement at Westminster Bridge will comprise a single recess with barge, or "dumby;" that at the Temple will be similar in plan, landing-stairs, however, being added to the ends, and the decorative accessories being different; whilst at Charing Cross and Waterloo Bridges, in each case, there will be two recesses, one above bridge, and the other below, attached to the pier of the bridge.*

The position chosen, in connexion with the bridges, had obvious recommendations, and may have been the best; but the pier of the bridge will so cut off one landing-stage from the other, that the stages may require to be under separate control. Whether this circumstance, together with, at Waterloo Bridge, the limited head-way next the pier at high-water, will cause inconvenience, or tend to accidents, we cannot at present say. Doubtless, the piersmen have been consulted; and the approval of the Board of Conservancy must have been obtained. The arrangement of two landing-stages, it will be seen, is quite different from that of the stage under the arch, on the Surrey side, of London Bridge, which is most convenient for passengers, whatever obstruction it may be to the navigation. Mr. Bazalgette's original design for the stages at Waterloo Bridge, to the architectural features of which, however, we were compelled to object, had the advantage of a direct communication from one landing-stage to the other, or under the arch. When making his second design, and setting back the face of his embankment from the objectionable line for which Parliamentary powers had been given, he might, we are disposed to think, have considered whether it was desirable to set the line back so far, by 4 ft. or 5 ft., and whether some such dimension might not have been usefully apportioned to a communication such as we have referred to. At Charing Cross Bridge, the inconvenience from want of a direct communication may not be quite so great as at Waterloo; and the Act did not allow an advance beyond the pier. The arrangements and architectural features of the Charing Cross Bridge and Waterloo Bridge landing-stages, are precisely similar, excepting what may be due to difference between the bridges, and to sculpture surmounting the pedestals, which is yet undecided upon. The arrangement at Waterloo Bridge has been the subject of a view which accompanied one of our articles.

Each of the steamboat piers, as well as each of the landing-stairs, includes in the work much that has involved elaborate contrivance, but will be quite out of sight. We described in our last preceding article, the construction of the storm-water outfall of the Northumberland-street sewer, which will be situate in the middle of the up-stream one of the two recesses at the Charing Cross Bridge, and the precisely similar arrangement of the outfall of the Savoy-street sewer in the recess above Waterloo Bridge. Beyond these matters of "special construction," however, there are certain provisions in each of the recesses of the steamboat landing-stages, and in the case also of each of the landing-stairs of the other description, for flushing and cleansing the beds and spaces where deposit could accumulate. And in the case of the Waterloo Bridge landing-stages, the foundations of the recesses and embankment-wall having to be carried down lower than the foundations of the pier of the bridge, a particular structural provision for the maintenance of this bridge-pier had to be contrived.

Thus, it will have been understood, that there are in the line of the embankment, six different places at which there are "special construction" and decoration which we have to notice. At four of these six places, there will be landing-stages for steamboat passengers; at the other two there will be stairs with architectural features and sculpture: with one of the four steamboat landing-places, stairs for smaller craft will be combined; two of the four, will be as near as may be, repetitions of one another, as seen, and will comprise each two distinct recesses and stages; and two of the four, namely, those at Westminster and the Temple, will have one large recess only. It will be convenient to describe the steamboat piers first; and to begin with the work at Westminster Bridge.

This work, of which the architectural features, as mouldings and lamp-pedestals, continue the character of those of the bridge, is designed with a recess of 250 ft. in length, and about 18 ft. in the other dimension. The "dumby" itself will be 250 ft. by 25 ft. at the ends, thus projecting about 7 ft. into the stream. A central space of 90 ft. out of the 250 ft. length will be still further recessed, or 11 ft.; and, with this central space,—the rear-line of which, on plan, is that of the outside of the parapet of the footway of the embankment,—two of the customary light iron bridges will be connected, rising right and left to the level of the footway, which at this point will be about 13 ft. 6 in. below the level of the footway of Westminster Bridge. The embankment-footway and the end of that one of the iron bridges which is nearest Westminster Bridge will terminate in a wide platform-landing, whence the ascent to the level of Westminster Bridge will be by twenty-seven steps of 42 ft. 9¼ in. width between parapets, broken into three flights and landings. The steps are to be of Wingerworth stone, in lengths of 6 ft. 3 in. dowelled together with slate. The carriage-way of the embankment-road, of course, has to descend by a gradual incline from the level of the bridge to the general level of the embankment; so that, for the whole length, 66 feet 9 inches, of the flights of steps, 250 feet of the recess, and about 42 ft. 9 in. further, there will appear a separate retaining-wall and parapet to the carriage-way, beyond and above the footway. The incline will be 1 in 80. It should be understood, that in the case of the Westminster steam-boat pier, the recess will be taken wholly out of the embankment, instead of out of a projection into the river, which has been described as the general arrangement for the piers and landing-stairs. The subway and the sewer are under the footway, as described in previous articles; and below the sewer at this point, is a separate 4 ft. culvert, to which reference will be again made. The line of the embankment corresponds with the abutment of the first arch of the bridge, and with the line of embankment of the Houses of Parliament. The masonry of the new work, and of the bridge, will be bonded, and made to range in courses. The foreshore, for the area of the recess, will be paved, on concrete, with granite laid to a fall from the back of the recess. The space underneath the broad flights of steps leading to Westminster Bridge, will be formed into a reservoir, to be arched and groined over. The spaces which will be beneath the iron bridges, will be arched over similarly, and the top inclines will be paved with granite. In the space, below the incline, next the reservoir, will be fixed three sluice-valves; and there will be a similar one in the centre of the 90-ft. middle recess. By the combined arrangement of the reservoir, the 4-ft. culvert which has been mentioned, and four outlets to which the sluice-valves will be fitted, the floor of the recess can be scoured at several points. The outlet-ends to the piping are to be cast, flattened, each to an opening 4 ft. wide and 9 in. high. Proper means of access to the reservoir and sluices are provided. The spindles of the valves will be turned by keys from above. We may infer that the water for flushing will be obtained from the river; but the drawings and specification do not make that matter quite clear. The granite paving of the recess will be in blocks of 12 in. by 12 in., by 4 ft. in length, bedded and jointed in cement and laid on 18 in. of concrete. The toe of the slope will be laid upon a dwarf brick wall, and will be further secured by a mass of concrete in front.

For the Charing Cross Bridge and the Waterloo Bridge steam-boat piers, the description of the latter of the two will suffice. For each landing-stage at Waterloo Bridge, the arrangement is precisely the same; but we may mention that the total length of the work in connexion with the two recesses, taken through the arch of the bridge, appears to be about 552 ft. The leading dimensions of the length, measuring from centre to centre of the four pedestal-piers, two of which form the ends of a recess, are 19½ ft., that dimension repeated, and 98 ft. 3 in. for the distance measuring through the arch. The line of the footway of the embankment-road, or inside of base of parapet, is placed 15 ft. within the first arch and pier of the bridge: thus, the masonry of the recess for the landing-stage, although projecting from the embankment, does not advance into the river beyond the pier of the bridge; and the pedestal-piers, the ends of the recess proper, do not advance so far. The pier of the bridge is 20 ft. on the face. The long recess, in each case, for the pontoon, will be about 180 ft. in length; and the disposition of the inclines, where the iron bridges will be, is the same as in the Westminster Bridge case; though instead of a central recess of 90 ft., from the larger one, there is one of not more than 17 ft.; and it is flanked and backed by pedestals. These, with the end pedestals, we may suppose are intended to support large groups of sculpture, as indeed they were shown in the drawings exhibited in the Royal Academy, and in the view that we engraved. The general depth of the large recess, if measured on the granite apron, the front of which corresponds with the springing of the second arch and the face of the pier of the bridge, would be 22 ft. 1½ in.; or the depth would be 33 ft. 1½ in. in the centre: but the pedestal-piers are 6 ft. or 8 ft. within the front line of the apron. The contract-drawings now before us, show only the piers, with splays and sets-off, which will form the substructure to the pedestals proper: so that we may hope that the forms and decoration of the latter are still open to reconsideration. In the masses of the supports themselves, however, we could have desired somewhat more art than there is in the mere bulk, and the splays and sets-off, and in the merely placing the end-piers at right angles to, and the central group parallel on plan with, the line of the embankment. The lower mouldings of the general line of the embankment will be continued on the face of the screen-walls of the inclines where the iron bridges are; but those walls, and the embankment-wall also for the same length, will be finished with a balustrade in place of the general parapet.

In lieu of an arrangement, such as was described in the case of the Westminster Bridge landing-stage, for flushing from a reservoir, there will be a culvert, 7 ft. by 8 ft., carried between the embankment-wall and the screen-walling at a level corresponding with that of the top of the incline of the apron-piece. This culvert will run from end to end of the entire arrangement of the recesses, and passing at the back of the pier of the bridge, to admit free passage of tidal water; whilst fourteen outlets, each 3 ft. by 3 ft., will be formed in the lower part, or base, of the screen-walling of each recess. Two other culverts, each 3 ft. by 4 ft., will be formed through each of the projecting pedestal-piers.

We must defer the completion of this account till our next number.

* The common use of the term *pier*, in different senses, involves some difficulty in description. Such difficulty is not unfrequently caused by architectural nomenclature.

ARCHITECTURE AND PAINTING.

THERE can be no doubt that the tasteful arrangement and display of the primitive colours without any attempt at the admixture of half-tints or shadows, afford pleasure both to the artistic and uneducated eye. Look, for instance, at the fragments of the wall paintings which are still left to us for study by the nations of antiquity,—Egypt, Assyria, Greece, and Rome; and also the examples of the early dawn of art in this country, exhibited in the pictures which adorn Mediæval and other manuscripts of a more recent date, and to be met with on some of the walls of our churches and cathedrals. In the emblazonment of heraldic devices, the chief charm consists, so far as colour is concerned, in perfect simplicity; and the unqualified use of distinct colours applied to peculiar forms; and the same remarks will hold good in specimens of old stained glass left to us in our ecclesiastical and domestic buildings. But in the best examples of this early kind of decoration, there is to be seen an arrangement of the colours which produces a pleasant harmony: this is especially to be noticed in the general aspect of the chapter-house of York Cathedral. Many other instances of harmony of colour may be met with at home and abroad, which are as agreeable to the eye as the choicest music is to the ear.

In tracing the progress of art generally, it is singular to notice the lame attempts of delineators to introduce perspective, light and shadow, and a correct manner of drawing, particularly of objects which require to be shown in a foreshortened or round form. Not-

withstanding, these draughtsmen had all the materials in a substantial form constantly before them as lessons in perspective. They had the long, solemn aisles, and other splendid portions of religious and monastic buildings; the picturesque interiors and exteriors of baronial halls and castles, and the architectural and ornamental sculptures of the old times, which should, one would have thought, have had an effect upon pictorial art sooner than they did.

From the time of the decline of a pure,—or, what had better be called,—simple outline, until the date when a picture was produced which could be considered tolerably complete in all its parts, there was a great deal of fumbling, and generally the middle stage works were much worse than the first; and it would seem, at a first glance, remarkable that such rare examples of architecture, and such marvellous skill in sculptural ornamentation, should have been achieved so long before the hand-drawing of men had arrived at any degree of perfection.

We look admiringly at the delicate tracery of the Middle Ages, the cunning diapers, the exquisitely chiselled foliage and flowers, the ingenious interweaving of the forms of human creatures, beasts, birds, and fishes with heraldic devices and other designs, and wonder that, although art in this line had been so much developed, such poor results were produced in colour.

There must, in the old times—five hundred years or so ago—have been a fair knowledge of geometrical drawing; and it may be that one day there will be turned up amongst the archives of some of our cathedrals plans which may show how the master-masons, carvers in wood, and other workmen were instructed in carrying out those works which exhibit, to such a remarkable extent, a spirit of originality.

Having thus glanced at the slow use of the perspective lessons which might have been taught by architecture to the ancient limners, it is worth while to note how in like manner they neglected the hints at light and shade which were afforded by the same means; for there can be no doubt that those old church builders had ideas of light and shadow. Note in some of those structures how the sunshine and bright light stream in the proper places; how they illuminate altar-screens and other important points; and how these are the more boldly thrown out by deep transparent depths beyond: mark, for instance, the altar-screens of St. Alban's and Westminster abbeys. Or it may be that this part of the church is thrown into a half-tint, which shows out the gold and silver fittings of the altar by means of a flood of light passing into the chapel beyond. Take the screen of Durham Cathedral as an example of this. Few painters of even the present day would be likely to conceive anything so magical as the intermingling of gloom and light between the Confessor's and Henry VII.'s chapels at Westminster: here there are depth beyond depth, and lights of various degrees, which wander about and imperceptibly are lost in the shadows. There were also crypts and other suggestive matters; but these, like the perspective teachings, were not quickly made available. If, then, we consider all this, and compare the architecture and sculpture of ancient nations with the pictorial illustrations, it will be seen how very youthful a sister painting is.

It is most interesting to study,—and there are some very good opportunities afforded for this purpose in the National Gallery,—the transition from the style of the old illuminated books and the church-wall paintings to those works which come within our present idea as pictures; and then to note the advancement of refinement in the art of composition, perspective, colouring, light and shadow, and the other elements of pictorial art. In the latter pictures we find the qualities which were formerly to be met with only in nature or in the architect's works;—we find upon the canvas, not only truthful perspective, but the delineation on a flat surface of objects thrown out with a proper degree of point: parts of scenes which would in nature offend the eye, are cast discreetly into shade; the beauties are brought out by means of colour, and shadows and lights; colour is made to mingle with colour; grey neutral tints play about, foiling the richer hues and giving refinement; the sunshine, as is the case with the entrance to Henry VII.'s Chapel, is made to play into the darkness; and we have combinations which, being perfectly harmonious, produce a beauty that is enchanting to the senses. Even beauty, however, will not make amends for the absence of thought and expression.

THE FINE ARTS IN CONNEXION WITH THE CHURCH.*

One of the very great advantages of *réunions* such as the present is, that we are enabled to take stock of other things than those immediately set forth in the prospectus; and I therefore most willingly seize the opportunity to examine as to the state of the fine arts in connexion with the Anglican church. Of course, the subject resolves itself into what we have done, what we are doing, and what we may reasonably be expected to do. Now, as to what we have done. It is some twenty years or more since the Cambridge Camden Society took up the subject of Mediæval architecture. Pugin had done much, but no one man can ever pretend to direct so great a subject as a change in our architecture. The Camden Society went into the breach, and, by means of a series of most useful papers, containing the results of the experiences of the many, and also by means of the most unsparing criticism, it succeeded in getting us to build tolerably decent churches, *i.e.*, churches which as regards the exterior looked very like old ones. Not that it required any particular talent on the part of the architect to do so, for the directions for a regulation church are very plain, and may be easily found by an attentive perusal of the *Ecclesiologist*; and, indeed, so easy has the subject become, that I venture to say that almost any young architect of the present day who has been two years in an office, can design his regulation church. Another great occupation was the restoration of old churches. I do not know whether I ought properly to call this a restoration or a destruction, for so much injury has been done under this pretended restoration, that I do not hesitate to declare that we have lost a great deal more than we have gained under this head. There is really no more difficult problem in the whole practice of architecture than that of restoration; for, a man to succeed thoroughly in it, must be not only versed in modern and ancient construction, but must also be an antiquarian and something of an artist. Yet how often do we hear of young men just out of their apprenticeship, and with good connexions, beginning life with the one or two churches to build, and five or six more to restore. Of course, the new churches do not matter very much; for, as I said before, church building is the sole thing taught in an office; but it is a very different thing as regards the restored churches, in each of which we run a chance of losing some landmark in the history of architecture. So often, indeed, has this happened, that, as a general rule, when one hears of a church having been restored, it is hardly worth going to study from. What really is wanted in the restoration of a church, is to do as little as possible. Keep it together if it is possible. If an aisle or tower is tumbling down, rebuild it, using as much of the old materials as possible, and inserting a small inscription to record the fact. Should there be any money to spare, employ it in a work of art as good as you can get for your money, *i.e.*, one stained glass window, a dossel, or a painting on a wall or roof: but then get it good, and let it tell some story: in fact, let it be such that an artist would think it worth his while to turn out of his way to look at it. As it is, we fill our churches with stained glass which a future generation will probably break to pieces; and if ever we do see a piece of sculpture, we may be sure that it is of the most mild description. The figures tell no story, for they have no expression in their faces, and do not appear to know what to do with their hands. Their hair also is most carefully arranged, and their noses and other features are of the most regular and unmeaning description. But to return to the new church. As I said before, the exterior is generally very like an old one, and that old one of the village type; it is only very lately that we have become aware that town and village churches require very different modes of treatment. But suppose we open the door, and go inside,—what do we see? Generally nothing at all beyond a mass of seats and a few inferior stained-glass windows, and very happy indeed are we if these latter do not positively offend the eye by their raw colouring, to say nothing of their bad drawing. The walls are plain plaster, and the roof looks like a scaffolding, so thin and meagre is it. Now, in the edifices up to the fourteenth century, I very much question whether that desideratum of ecclesiologists, an open roof, ever obtained in churches. Look at ancient twelfth and thirteenth century buildings that have not been restored, and you will find an hexagonal ceiling, the said ceiling in many places replacing the old boarding; but in some poor places, as in the little Sussex churches, it may just as likely have been original. In many instances the ceiling was even flat, or very slightly canted, as at Peterborough, Jesus College, Cambridge, and, I believe, Adel Church. Now, this boarding was useful in two ways; it afforded a surface for decoration, and it kept the church cool in summer and warm in winter. There was also a small window high up in the gable, to ventilate the air between the ceiling and roof. In our modern open roofs we have just the reverse; they are frightfully hot in summer, and cold in winter. Go into a church after a Sunday's afternoon service, and observe how close it smells. Our modern architects put the little window in the gable because they find it there in the old examples; but with them it is of no earthly use but to afford light where light is not wanted, and to show the thin scantling of their timbers.

Another important point is the treatment of the walls. No one in his senses supposes that all the Mediæval churches were decorated in brilliant gold and colours, like the Sainte Chapelle of Paris, or St. Stephen's at Westminster. Yet they were painted, and in this manner; the rubble of the walls was dubbed out to a plain surface; the angle jambs of windows and doors were made of stone, because that was the best and most durable material for the purpose. The whole of the walls were then covered with a coating of gesso (whiting and size) $\frac{1}{8}$ in. thick, which was gradually thinned off as it approached the stone jambs, which were covered with only a thin coating of it, so they did not show as stone. Upon this gesso, the artist painted his subjects with a red outline and shaded them up with black and red and yellow, using white for the high lights. It should be remembered, that these colours were not used pure except in little bits, but were broken up with white and with one another. The seas of diaper we see in modern churches were unknown to the old artist, who, when he did employ diaper, did so only as a background, or to fill up a space unoccupied with anything more important. From remains being continually being brought to light, we may confidently assert, that nearly every church in the thirteenth century was decorated in this manner; they were whitewashed in the reigns of Edward VI. and Elizabeth, and have, in the vast majority of instances, only been brought to light to insure their more speedy destruction from the church restorer. The interior of a modern church, on the contrary, is neatly plastered with plaster 1 in. or $\frac{3}{4}$ in. thick, which stops flush with the stone quoins, which are left uncovered because the architect has been brought up to consider stone as a beautiful material for its own sake; in fact, just the same as an Italian would regard marble. The consequence is that we see every piece of stone a distinct colour from the plaster, and all the lines of the architecture become jagged and uneven. Nothing is probably more amusing, if it were not at the same time sad to read, than the congratulatory tone of the public prints when they notice the opening of a new church. We are told that there is a spacious and commodious chancel, or that the edifice is built in the appropriate form of the cross; that all the capitals have been beautifully carved into roses and lilies, or passion-flowers, by Mr. X., the architectural sculptor; that the roofs are of high pitch, and have been varnished and stained; that two of the columns of the font are of Purbeck, and two of them of Rouge Royal marble; that the stone reredos is inlaid with finely polished marble, and that the chancel has been laid down with Minton's encaustic tiles. Sometimes, indeed, our breath is taken away by our being informed that the chancel is lined with ababaster. Now, these things are not art, they are only prettinesses. They cost a great deal of money, and do not add to the solemnity of the building. How much better would it have been to have got some young artist to have told some Bible story, some event in the life of our Great Example? The picture or pictures might be done in tempora, the most lasting of vehicles where there is no damp. It might be executed in gri-

* Address by Mr. W. Burges, at the Bristol Church Congress.

saille, or in the four colours like the old examples; and surely the lesson taught by our Saviour working at his father's trade, and being obedient to his parents, may in many instances be worth acres of Minton's encaustic tiles, or yards of inlaid work. But remember, in this instance, I presume the aid of a competent artist is employed; and there are many such among the younger ones who would be but too delighted to work for the church instead of painting pictures for the Academy on speculation, which are probably badly hung, and certainly not sold. Such pictures would have good drawing and expression, and such painters would be able to make cartoons which would also have these qualities, and so save us from so much rubbish which is annually placed in our windows. And here I may perhaps be permitted to pay a tribute to my late friend Charles Winston, so well known for his work on stained glass. He differed most decidedly from the school of art to which most of my friends and myself belong. In fact, he considered the Roman architecture as our true *point de depart*; but with all this he was the unceasing and unsparing advocate of boldness in architecture to the exclusion of prettinesses,—such as cusps and finials,—and of good drawing and good colouring in stained glass. From him I learned a very great deal, and many of the opinions I have ventured to put forward on this occasion I first heard from his mouth. Had he been spared longer he would have seen the principles he advocated in general use throughout the architectural arts; as it was, he only lived to see the beginning.

Lastly, the question presents itself as to what we are to do to beautify our churches. The answer appears to me to be in three things. The first is to use them a great deal more. At the present day, private devotion has, to a great degree, superseded public. How far such a result is desirable it does not become me, as a layman, to speculate. A man will naturally care less for a building which he enters only every seventh day, than one in which he says his prayers every day, morning and night. Perhaps if some of our City churches were kept open all day, the chancel being protected by a grille, public devotion might to some degree supersede private, and people might become to take an interest in a place so much frequented, and with which their hopes and fears are so much associated.

The second thing to do is to have a greater love of monumental art. This love of monumental art is of slow growth, and will not arise in one or two years. By monumental art I mean the painting the walls of our rooms instead of hanging pictures upon them; in spending money on objects of daily use, and in making our sculpture part and parcel of our domestic buildings. The great obstacle to such a state of things is our unfortunate law of leasehold; for who will paint walls when he knows that he has them painted eventually for his landlord and not for his descendants?

The third thing required is a better education of the architect. In nine cases out of ten, if the architect can show his client a sketch of the group of sculpture or the painting he wants introduced in connexion with the architecture, his client will let him have it done. But unfortunately when the architect, as is too often the case, cannot do this, he takes refuge in notches, foliage, cuspings, chamfers, tiles, marble inlaying in stone, and other prettinesses which, in the end, cost more money than works of art, and are nothing to look at when they are done. An instance of this obtains in our metal-work. I should very much like to know the sums annually expended on the wretched brasswork held together with screws, that we now see in every church. We do see an immensity of it, but how is it that we so seldom see cast brass work with figures like the Albero of Milan? Simply because it is easier to draw a thing with a pair of compasses than to design historical groups of figures.

It should also be remembered that no artist—and an architect such as we now want is an artist—can possibly do more than a certain number of works of art. All above that must be done by his clerks, while he himself cannot have the time to properly think over even those he retains (if he does retain any) for his own special attention. One great remedy I would propose is a more general distribution of work among architects, and, at the same time, a demand for higher qualifications from them. They should also be paid as artists are paid, according to their merits, and not upon a percentage of work done. I have thus, according to the best of my ability, touched upon the present state of ecclesiastical decoration, and the means for our future improvement. The great thing is to create a demand, by opening our churches every day, and all day long. The decoration will soon follow; and a crop of artist-architects and artist-painters will arise which will be an ornament to our church, and prove in this country that she follows up the proud position she has taken up of late years, viz., as the great patroness of the fine arts. At present the question is simply between art and prettinesses.

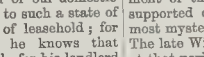
THE INSCRIPTIONS AT NEW GRANGE, IRELAND.

We have received a letter from the Rev. James Graves, in which he says:—

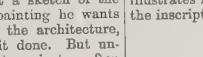
"I give you sincere thanks for your courteous reception of the very emphatic denial which I felt constrained to oppose to the statement made, in your editorial capacity, as to the alleged New Grange inscriptions. I wrote strongly, because we Irish archæologists are only just emerging from the odium brought on us by the wild speculations of such writers as Pownall and Vallancey,—speculations the utter baselessness of which made Irish archæology a laughing-stock to the learned.

I knew full well what Pownall and Vallancey had written, and feel quite certain that every thing they saw still remains to be seen. Lines described by the former as of 'sufficient breadth and depth' to permit him to 'lay the nail of his little finger' into them, and which had been exposed to the action of the air, at all events since this mound was opened by the Danish plunderers in the eighth century, could not have become obliterated since Pownall and Vallancey wrote. I cannot, therefore, assent to your theory of the disappearance of the inscriptions. These zealous but injudicious antiquaries saw—what *we* can still see—the circular markings and palm-leaf shaped carvings which cover several of the stones. They mistook these markings for Oghams; (a form of writing, the great antiquity of which, however, has yet to be proved;) set their fertile fancies at work to make out the supposed meaning of them; and succeeded—with a vengeance!

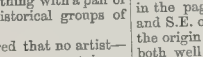
In illustration of the mode of investigation patronised by the Vallancey school of antiquaries, I may be allowed to mention a case in point. The hill of Sliav-Igrine, in the county of Kilkenny, being capped with millstone grit, was a famous place for the manufacture of millstones before the introduction of the French burrs. On the summit of this hill stood, at the commencement of the century, a large mass of breccia supported on smaller stones, and exhibiting a most mysterious inscription on one of its faces. The late William Tighe, esq., of Woodstock, was at that period engaged on his valuable statistical survey of the county. Strongly imbued with the Vallancey theories, he at once set down this stone as a Pagan altar; and, in the plate which illustrates his observations thereon,* he renders the inscription thus:—



nay more, he read and translated it, off hand, as



and then proceeded to speculate on the worship of "Belus" *alias* "Dionusos" by the ancient Irish. This notable inscription, with the speculations thereon, were copied into Gough's edition of Camden's "Britannia," and remained unquestioned, until, by means of information supplied to me by the late profound Irish scholar and historian, John O. Donovan, LL.D., who was a native of the district, I was enabled to prove, in the pages of the "Journal" of the Kilkenny and S.E. of Ireland Archæological Society,† that the origin and meaning of the inscription were both well known to the peasantry of the district. It seems that a millstone-cutter named Edward Conic, had, in some idle hour, *whilst leaning over the stone*, rudely cut, with his pick, his name and the date of the year,



In this way the letters, rudely cut into the rough breccia, and covered by the lichens of some seventy years, assumed to one standing in front an archaic, and, as Mr. Tighe observes, "Pelasgic" character; whilst, to a person leaning over the block and reading them as they were cut, they at once resolved themselves into the above common-place form.

Now for my moral. Is it not quite as possible that some person writing on the supposed introduction into Ireland, by the Phœnicians, of the *cultus* of Belus, might quote this inscription from Gough's "Camden" with as much reliance on its genuineness as you place on Pownall and Vallancey's versions of the alleged inscriptions at New Grange?"

Very likely; but what of that? Tighe being misled does not make Pownall and Vallancey wrong. Moreover, in this case of Tighe's, there *was* an inscription, although it was read upside down; but suppose some one unacquainted with its true nature were to maintain that there was no inscription at all,—only palm-leaves and circles: would he not look quite as ridiculous as Mr. Tighe did, when the truth at last came out?

Of the inscription which Mr. Pownall says he saw he gave an engraved *fac-simile*, copied from a matter-of-fact *impression of it, taken by a surveyor* whom he employed for the purpose; and the form of this inscription is certainly neither that of palm-leaves nor of circles, but a series of alphabetical characters; and, what is more, several characters of a very analogous description to the first and most elaborate of them all have, *since then*, been discovered on the Northumbrian rocks.

Colonel Vallancey states that the *seven* inscriptions which he describes were, generally speaking, in the Ogham character, and comprised all the forms of it; and his account of them is such that no assertion as to palm-leaves and circles can ever explain them away into anything at all like an enthusiast's delusions. Either Colonel Vallancey was a lying and most unconscionable impostor; or there are, or, at least, were, inscriptions in the sorcery-hall at New Grange. It is not his "speculations" at all we have here to do with, but his *veracity* as to matter-of-fact *statements*. As for Governor Pownall, how it was possible that *he* "mistook these markings for *Oghams*," as Mr. Graves states he did, we cannot for the life of us conceive; for Pownall maintained that they were not old Irish of any sort at all, but Phœnician characters. But "give a dog a bad name, and you may hang him at once."

In short, we cannot believe in the palm-leaf and circle theory; and it is our deliberate opinion that Vallancey and Pownall have been *unduly* discredited; and that archæologists who have no anti-Pownall and anti-Vallancey bias or animus, and are fearless of ridicule or odium on that account, but still are doubtful of Pownall and Vallancey truthfulness, ought carefully to retest the actual and positive statements,—not the mere speculations,—of these authorities, as to New Grange; and, with moral courage, publish the result.

Every one knows that authors *have* made statements which have been jeered out of all countenance till they were only remembered by a few who possessed *internal evidence of their verisimilitude*; or till it was discovered, after many years, that the sceptics were wrong, while the original statements were correct.

As to our theory, as Mr. Graves calls it, of the disappearance of the inscriptions;—the possibility of their having scaled off was but one alternative half of that theory; and on this point we may observe that it is rather too much for *our* belief, that, for nine or ten hundred years, a small hole, like the entrance to a loose stone barrow such as New Grange, should have remained clear and unobstructed, or open to the access of air to the interior; and that we do *not* think that the breadth and thickness of the nail of the little finger of Mr. Pownall, which he *laid* into the incisions, could have been much to scale off in not far short of a century. The other, and better half of our theory was, that the inscriptions *may be there still* (apart altogether from palm-leaves and circles), but that they may be only visible in certain circumstances as to light and eyesight. We have ourselves entirely failed to see certain masons' marks on a church wall one day, while, on another, from a different play of light and shade, we could see the marks distinctly. Had it been some one else who had looked, on the first of these occasions, this would have been strong negative evidence against ourselves. And yet the marks *were* there all the same. In like manner, there are rock symbols in Northumberland which can

* Tighe's Survey of Kilkenny, p. 622. Dublin, 1802.
† Vol. I., first series, p. 300.

only be seen at times, like the marks referred to, even by daylight, far less, as at New Grange,—in a dark chamber, and by mere candle light.

MODERN ART IN FLORENCE.

It is pleasing to admit the conviction that in the degree nations progress as to whatever constitutes worthiness of life, so do their arts advance in power and truthfulness; and this idea we have been glad to be confirmed in by the exhibition of painting and sculpture just closed at the Florence Accademia. Not one subject from mythology or ancient history! not one hero of Greek or Roman classicism! not one "Holy Family" or established theme from the legends of saints! but, instead of these, groups from Italy's Mediæval story, illustrations of her poets and romancists, scenes from the lives of her poets and artists themselves, or domestic subjects of every-day life—labourers, shepherds with their flocks, family groups, quiet secluded landscapes, the river side, or the woody glen; above all, invested with stirring interest, episodes from the story of the great events by which Italy has within recent years arisen to so high a development of national life, so near to her long-dreamt-of unity! In this new direction given to the range of her arts, we think may be discerned indications of the progressive tendency in the national mind and institutions,—the emancipation, in brief, from the shackles of the past. Within the last fifteen or twenty years a change has taken place, and new aspects have presented themselves in the art-creations of the country, so striking that we might call it *revolution*, and interpret in it the signs of a future fraught with high promises. The influence of those artists of the present century, Benvenuti, Camuccini, Bezzuoli, once so much esteemed in the Italian schools, and others who may be placed in the same classification, is disappearing; and, allowing to them all the merits their admirers ever claimed, we cannot but think there is cause to rejoice in the return to Truth and Nature, to simplicity and earnestness, beyond what the works of those masters, though effective and brilliant, are generally distinguished by. Landscape, till within this recent period, has been almost totally neglected in Italy; and we understand that, even at this day, the most esteemed figure-painters of Rome are accustomed to employ other hands for filling in such backgrounds of scenery as their compositions require! At Rome, indeed, all that is worst in mannerism, coldness of feeling, academic pedantry, and affectation, have still their stronghold, as if that city were destined to display, in art as in other walks of mental operation, all the results of slavish adherence to tradition, egotism, and narrowness.

The lately-closed Exhibition in Florence was the first got up by a new "Society for the Promotion of the Fine Arts," formed there,—the result, it seems, of schism or contrarieties in the local artistic circles that perhaps may be regretted. Whatever the *morals* of the question, we need only state the declared purpose of this new association to found its procedure on the elective principle, on the annual renewal of offices, and appropriate its funds, in two equal parts, for the purchase of works to be given as prizes, and of other works, among which the winners may make free choice. Already about 400 members have enrolled themselves, and the very moderate price of shares, 2 francs, will naturally be an inducement to many. This exhibition was in a strict sense *national*, comprising works by more than ninety painters, and about twenty sculptors, natives of Florence, Milan, Venice, Naples, Palermo, Genoa, Modena, and other provincial towns. We may notice the most interesting of its contents under their several classifications:—

Subjects from the Lives of Artists and Poets:—"Filippo Zippi declaring his Passion to the Nun,"—Castagnola. A powerful and dramatic picture, telling its story with wonderful force of expression, though the artist takes liberties with the facts of his subject, the frail fair one not having been a nun, but only the pupil of a convent, and Zippi himself a runaway friar, which he does not appear to be in this admirable painting. "Molière reading one of his Comedies to a Servant-maid,"—Gatti. Full of humorous vivacity, the contrast between the two personages well marked, the colouring rich and mellow. "The Friends of Dante,"—Tedesco. A group of youths and maidens playing on instruments and singing, the young poet looking on, apart from the rest, and calmly meditative; a solemn landscape beyond: pleasing and finely imagined, the heads beautiful, but the colouring somewhat cold and gloomy. "Michelangelo, when a Boy, chiselling his Mask of a Satyr:" life-size statue, by Zocchi. Singularly truthful and earnest, an example of the high interest attainable with subjects possessing no attributes of the beautiful; the intense enthusiasm of that youth, seated at his task, is not to be forgotten. "Dante writing:" a half-length statue, by Fratellini. Thoughtful and severely intellectual, appropriating the best traits in the authentic portraits. "Cavour" and "Niccolini," seated statuettes, by Rivalta; both full of individuality: the statesman profoundly wrapt in thought; the poet, in his old age, melancholy and valetudinarian.

Mediæval and Modern Historic Subjects.—"The Corpse of Jacopo de' Pozzi disinterred and dragged out of a Gate of Florence by Boys,"—Borroni. A revolting episode from the tale of the Pozzi conspiracy, but treated with great power, richness, and contrast of colouring, an effective introduction of Mediæval costumes. "The Assassination of Corso Donati,"—Picrotti. A small picture of good composition: monks and attendants are seen carrying the body of the murdered noble to the convent of S. Salvi, near Florence. "The Duel,"—Sarra. A scene from Guarazzi's "Siege of Florence:" the betrayer and defender of Florentine liberties in combat before witnesses; the traitor falls, and is pronouncing his last words; the tragic and chivalrous elements of the subject well brought into relief, though not without something of the theatrical. "King Victor Emmanuel on his way to visit the Baron Ricasoli at his Villa,"—Norfini. The king and his cousin, in an open chariot, outriders, and eager crowd of peasants, the baron meeting them on horseback; a pleasant landscape, and an old mansion on a height beyond. "Last Hours of Col. Bocchi, shot by the Russians at Warsaw,"—Ademollo. An affecting and impressive picture. The ladies of the colonel's family have taken leave of him: a Capuchin and soldiers accompany him as he leaves the prison; the pathos of this scene finely conveyed without the least exaggeration; the colouring mellow and effective: one stands riveted by interest before such a work.

Genre Landscape and Domestic Subjects, &c.—"Venezia Attuale" (Venice at the present day),—Signorini. A little picture full of significance and appealing force: a canal, a Gothic doorway, out of which Austrian soldiers are lounging; grated windows above, from whose bars protrude the hands and arms of prisoners; a murky lurid twilight over the scene. "Political Questions,"—Capucci. An old man and his good wife quarrelling,—we see what about. He wears the Italian tri-colour cockade: she (evidently Neapolitan), is a furious legitimist, and storms while he is laughing: a very well-composed and comically-expressive little picture. "Venetian Mother and her Son, or the Field of S. Martino,"—Ticozzi. More interesting for its subject than its treatment, but not without talent: the young volunteer's figure good. "Return from Fishing,"—Saporiti. A wild sea-coast, a stormy sunset; fishermen dragging their boat to shore, and lighting a fire on the beach. "Labourers towing a Canal-boat,"—Signorini. The light of the setting sun reflected on the brawny figures bending at their task: with truthfulness,—indeed, admirable. "A Flock of Sheep on the high Road, near Pisa,"—Benassai; and "A Shepherd Boy with his Flock,"—Nozaro; both examples of feeling for nature, and the power of making much out of the commonplace that distinguishes genius. "Cattle drinking at a Pool,"—Fontanesi. With a sterile but impressive landscape seen under stormy twilight. "The Lakes of Trasimeno," and "Morning on the Arno," both by Gelati, evidently an earnest student and true lover of nature, his effects of misty brightness and pale gleaming light on hill and water finely brought out. "Margaret returning from Church,"—Induna. A lovely figure, full of placid sweetness, the calm of innocence before passion has been known by the beloved of Faust.

The sculptures in this exhibition were, generally speaking, inferior to the paintings,—some decidedly bad,—the introduction of modern costume, in certain instances, ungainly. A few specimens of wood-carving were praiseworthy. *Apropos* of modern art in this city, we may here mention the large collection formerly in the Crocette Palace (a grand-ducal residence), now in the *Dogona*, occupying an appropriate suite of rooms, and visible on application to a custode. Many later additions made, after the change of Government, to this gallery, are pictures of considerable though unequal merits, illustrating the story of the war in 1859; and it is gratifying to see how much talent has been brought into activity by the high interest attaching to those events; to see Italy's noblest struggle for freedom worthily imprinted on one phase of her artistic produce. Solferino, S. Martino, Montebello, are indeed well illustrated, in most instances with elaborate study of details, and an idealising of realities. In the same gallery we see the masterpieces of Bezzuoli, "The Entrance of Charles VIII. into Florence," a striking and effective picture of its kind; and another great historic work far superior, "The Abdication of the Duke of Athens," by Ussi, that made quite a sensation when first exhibited, about three years ago, and certainly has established a high reputation for an artist, young, we believe, when he completed this elaborate picture.

BERLIN AND MAYENCE.

Berlin.—In the Oranienburg-street, a few doors from the house in which the great Humboldt ended his days, the Jews of this city have just completed a new synagogue, the gilded dome of which is seen to great advantage as you approach from the Northern Railway. The building is Byzantine in style, and the exterior is faced with coloured stone, a treatment entirely novel here, where stucco is the fashion to a most alarming and monotonous extent. The façade is in yellow facing bricks, on a plinth of Silesian granite: bands of reddish-brown brick give variety and life to the larger masses, whilst the arches are turned in Nebra sandstone. Three domes surmount the elevation next street, the centre one 160 ft., the two others 115 ft. high, and all three are richly gilt. On entering through a portal, flanked by columns of polished granite, we reach the "outer court," a rotunda, in the centre of which is a fountain, for the "washing of hands." Next to this is the pronaos, and then comes the temple proper. This is 145 ft. long by 102 ft. wide, and is divided into nave and side aisles by two rows of very elegant cast-iron columns, which carry a series of hemispherical domes, supporting the galleries (for the women), which are reached by staircases branching right and left from the rotunda. The temple, which rises to a height of 85 ft., contains 3,000 sittings, and is now receiving frescoes on its walls, and stained glass throughout. A novel mode of lighting by gas has here been adopted: a space of about a foot has been left between the outer plain glass windows and the inner stained glass: this space has been provided with the necessary ingress of fresh and egress of hot air; and the gas burners are here placed after the manner of transparencies, thus avoiding the glare and heat produced by gas. The light diffused by this means is said to have a magic effect, and might, perhaps, be worthy of imitation. The total expenses, including purchase of site, amount to 75,000*l.*——The Royal Museum of Casts has lately received some very valuable additions. A copy of the celebrated Brunswick Lion, said to have been cast in iron in 1166, has been added; as also a copy of Victory, by Rauch, the original of which is in the White Chamber, at the Palace. Not the least interesting is a series of casts, ordered by a recent commission sent to Athens for that purpose.—— Visitors of the Great London Exhibition of 1862, will remember the beautiful bronze model of Rauch's Frederick the Great.* This was the property of his Majesty, and one of two cast by Tanda, a pupil of Rauch's, and in the presence of the great sculptor. The other copy was, until lately, in possession of the Rauch family: it has now been purchased by the king, and presented to the Emperor of Russia.

Mayence.—The cathedral has for some time been in the hands of Director Veit, under whose directions, and according to whose cartoons the interior is being decorated. The chief artists engaged on this work, are Messrs. Settegast, Lasinsky, & Hermann, and already the chancel and both transepts are finished, whilst the nave is rapidly approaching completion. All architectural members, such as string courses, ribs, and capitals, as also the groined roofs, have been picked out in bright colours, whilst the walls and shafts of columns have been cleaned of the accumulated layers of whitewash, and show a warm

* It was one-tenth real size, and stood about half way down the Foreign Picture Gallery.

yellowish red sandstone. The spandrels under the dome, which rises at the intersection of transepts and nave, have each been decorated with a palm-tree and two angels, whilst the four arches have received frescoes representing the scriptural subjects:—Abraham's Sacrifice, the Agnus Dei, Christ as the Saviour, and John the Baptist. The lady-chapel will have similar colouring; and the wall space, under the clerestory windows of nave, twenty in number, will be filled up with frescoes, illustrating the life of the Saviour, similar to those by Schrandolph in the Dom at Spire.

GLASGOW CATHEDRAL WINDOWS.

We may record that on the 18th instant, at a meeting of the subscribers to the Glasgow windows, the series of windows now completed were formally handed over to the First Commissioner of her Majesty's Works, the Hon. W. Cowper. An address was read by Sir Andrew Orr, and letters by Mr. Heath Wilson; and the Lord Provost, Mr. Cowper, and the Duke of Montrose addressed the meeting.

Mr. Cowper, in the course of a very interesting address, said,—

> This is in many respects a great era in the history of glass-painting. I cannot sufficiently commend the good judgment of the committee in having determined that they would obtain the very best art that was available, wherever they might go to seek it. Some persons may think that it was unpatriotic to prefer foreign art to native art; but a moment's reflection will show that such an idea is entirely without justification. Our object is to get the best art. Now it happens that in our own country artists of skill and great genius were not accustomed to employ themselves in designing painted glass; but in Munich there is a school of painters who have practised themselves in fresco painting, who are also well acquainted with monumental art, and who are in close juxtaposition with a glass manufactory; so that, with them, the making of coloured glass is not, as with us, mainly a manufacture, or reproduction of the windows of a former period, but a work of art—a school of art—a production of very high and great merit. Now, it is much better for the glass artists of our own land that they should have put before them, as has been done in this building, the highest example that can be found of the excellence at which they should aim. It would have been no advantage to them to have put inferior glass here, so that they should not have risen above the level they had reached. It is as natural that we should go to great artists for painted glass as that the Germans should apply to us for great engineers to make their railways and build their bridges. And we might as well say that our national galleries should contain no great Italian or Flemish paintings, as say that a building which we wish to decorate as highly as we can should not be decorated by foreign artists, who live in a foreign country. We have in these windows around us admirable drawing, dramatic effect, great character, great expression, all within the limits that are proper to glass-painting. The glass here is, I see, strictly mosaic glass. There is no attempt to make transparencies or to make pictures such as would be made upon a wall or upon canvas; but we see the skill and the genius of great artists displayed strictly within the rules which make glass-painting a special branch of art. We have the gem-like brilliancy of the colours: some persons think them not sufficiently deep, but I am quite sure that those persons who use this building, and want light in it, must be rejoiced that the light is not obscured, is not intercepted, and that the building is as useful for the purpose of reading as if, instead of coloured, you had white glass in the windows. And I think we have really here a work of very high art,—not merely a glass for ornament and decoration, but a work of art that subserves a higher purpose. Art finds its noblest mission in elevating man's thought, and in giving him vivid and elevated images; and it is specially consecrated, when it adorns,—as it does here,—the House of God, and promotes the edification of those who frequent it.

We have so recently commented on the windows that it is unnecessary to do so now.

HOW THE ARTS ARE ENCOURAGED IN FRANCE.

A few days ago the Emperor and Empress invited to the Imperial table at St. Cloud the laureats of Rome who lately gained the grand prizes for painting, sculpture, architecture, and musical composition,—MM. Maillard, Delaplanche, Deschamps, Guadet, Dutert, and Sieg. Among the other guests were Marshal Vaillant, minister of the Beaux-Arts; Count de Niewerkerke, superintendent of the Beaux-Arts; Count Baciocchi, superintendent-general of theatres; M. Auber, director of the Conservatoire, &c. According to *Galignani*, the Emperor and Empress gave the most gracious encouragement to the young artists; and during the evening her Majesty presented to each of them a photograph of the Emperor, of herself, and of the Prince Imperial, signing each card with her name. M. Sieg was also informed that his cantata, which had gained the grand prize for musical composition, was shortly to be performed at the Grand Opera.

In the course of another century or so, similar things will, perhaps, be done in England.

THE SANITARY STATE OF OUR INDIAN ARMY.

This is a subject, as our readers know, which has for some time engaged our occasional attention in the *Builder*; and it has been gratifying to us to note, now and then, the way in which the subject has of late been taken up both in the newspaper press and in special publications. The most recent work on it that has come under our notice is one by Mr. Stewart Clark, M.R.C.S., inspector-general of prisons, North-west Provinces, India (Smith, Elder, & Co., publishers). In this volume, which is titled "Practical Observations on the Hygiene of the Army in India," the author treats of air and ventilation in barracks and tents, water supply, drainage, barrack and prison construction, &c.; and although he does not seem to be very well read in the history of this movement, and has derived a portion of his information as it were second-hand, and reurges some points as if they had not been urged before; still the volume contains a good *resumé* of what is desirable, and some useful suggestions. We shall therefore endeavour to give our readers some idea of the book.

With regard to the construction of barracks, he remarks that, whether double-storied or not, the ground-floor should be well raised, say 4 ft. above the level of the ground; and it should be borne in mind that the cubic contents of an apartment do not always indicate that the inmates have a sufficient supply of pure air, particularly in a hot climate: there must be a certain amount of superficial area as well, otherwise ventilation will be imperfect. Each inmate of an apartment should have at least an area of 72 superficial feet, and the beds should be at least 4 ft. apart. There can be but one opinion regarding the advantages, in a sanitary point of view, and in regard to economy as well, of the location of troops or other large bodies of men in small parties in separate apartments. Some of the new, double-storied, one-company barracks, lately erected in India, are said to have cost upwards of 170,000 rupees each. Now a very excellent, substantial house, containing four or five good rooms, each room affording ample accommodation for four men, could be erected for 8,000 rupees; six such houses would accommodate a company, including non-commissioned officers; and four more similar houses, on a slightly modified plan, for married men, would make a total of ten houses for each company, at say an average cost of 80,000 rupees, being less than one-half the sum which is said to have been expended on the immense piles of buildings alluded to, which will certainly have their turn of unhealthiness like their predecessors.

The new barracks recently erected have an ample number of openings for the ingress and egress of air, such as doors, windows, open ridges, &c.; still, when they are occupied by the regulation number of men, the air during the night-time is foul and poisonous. It is generally supposed that the air in those barracks is always pure and sweet; but such opinion can only have been gathered from day inspections in the cool weather, when the barracks have been empty during two or three hours. "I consider," remarks the author, "that no barrack, containing the regulation number of inmates, and not possessing other means of ventilation than the usual openings for the ingress and egress of air, is ever, during the hot sultry months of the year, or, perhaps, at any time, free from a poisonous quantity of foul air at night."

Those residents in India who have no better means of procuring fresh air than those afforded by natural channels, pass restless nights, enveloped in foul air and bathed in perspiration, the arrest of which, by the atmospheric changes taking place in the early morning, results in seriously impaired health, and not unfrequently in acute disease, ultimately terminating in death. It is a well-known fact, that the most healthy men in India are those who provide themselves with large, well-ventilated bed-rooms, and sleep invariably with closed doors and windows. The habits of most of the different groups of Europeans in India are not so widely different, with this one exception, as to account for the frightful sickness and mortality confined to one of these groups. Some of them eat the same kind of food, drink the same kind of water, and are, in some instances, not less intemperate; yet they do not suffer in the same degree; but then they have an abundance of fresh air. It then becomes absolutely incumbent on those who have the charge of the suffering group to remedy so palpable an evil without delay.

The author describes means of ventilating barracks and tents. Punkahs, he observes, will to a certain extent set the air in motion, and thereby cool the body through increasing the evaporation of the moisture on its surface; but they do not expel the air from the interior of buildings, nor reduce its temperature in the least degree; and in the case of apartments filled with human beings, allowing about 60 square feet to each individual (which is above the average area per head in most of the old barracks in the North-West Provinces), they simply mix up the air of the apartment; so that, instead of each person breathing the exhalations of his own body, he inhales the general foul air of the barracks. An apparatus for the more thorough ventilation of barracks and tents is described as consisting of underground flues of masonry, with main and branches, and with fan apparatus worked probably by steam or ox-power connected with the main. Each separate department of a barrack, or each tent, is to be fitted up interiorly with pipes and ventilating apparatus, to be supplied with fresh air from the main, in a way which the author illustrates by diagrams.

Very little is said on the subject of drainage; but the author recommends the application of the sewage to the land by vehicles, leaving the drainage for surface water and similar uses alone.

A plentiful supply of pure water for the troops, the author remarks, can very easily be obtained with ordinary care, and at no great additional expense to that attending the present defective system; but the rivers are far too foul to be of any use in supplying such water. In addition to all other kinds of filth the dead are thrown into the rivers, instead of being burnt or interred; and thousands are disposed of in this way annually. The author has himself seen upwards of fifty dead human bodies, besides numbers of carcases of lower animals, floating in the river Hooghly, within sight at one time; and these corpses float up and down with the tide until the flesh falls off the bones, and they sink to the bottom, or lie exposed, at low water, on the muddy banks.

The subsoil of the localities where water is supplied from wells, he thinks, itself pretty well purifies the water from organic defilements. Still, he acknowledges that the well water is but too often very foul and injurious. Drawing the water from the bottom of deep wells, and filtering, are recommended, as well as boring deep for pure water. The well is recommended to be near the ventilating apparatus, so that the same steam-engine would do for driving the fans, pumps, and ice-making machines. Local filters, swimming baths, and also numerous drinking-fountains, supplied from the mains, are included in the author's suggestions.

We are hopeful that much will be done, during the present Governor-Generalship, for the sanitary improvement of the army, as well as of the towns, in India.

DISCOVERY OF A DOLMEN.

A letter from Brittany, published by the *Pays*, says, that while digging recently in a *lande* belonging to the Farm of Rô, some of the peasants laid bare the chief stone of a Dolmen, which, although small, is none the less remarkable from the coarse attempts at sculpture which cover all its sides. In this Dolmen, as in that of Lockmariaker, is found the strange figure, the true meaning of which the learned have not yet been able to discover. The upper part of the stone which covers the monument still bears the impression of the rings destined to hold the victims, and the channel which led their blood into the sacred vessels. The piers which support the top of the edifice are covered with sculptures, which it is difficult, not to say impossible, to define. They resemble an immense serpent, rolled and interlaced, and, in some places also, wedges driven one into another.

These whimsical designs even seem to result as much from the configuration of the stone as from the work of man.

The excavations carried on at the base of the Dolmen have also brought about the discovery of some Celts and two golden medals, bearing on one side the figure of a warrior, with his head covered with a helmet, and on the other these words, placed along the rim, APP.—CEAU.—GAL.; of a few lachrymatory vessels; and of the iron heads of battleaxes, or *framées*, and of *angons*, completely eaten up with rust.



PAROCHIAL SCHOOLS, MILBORNE PORT.

These schools, the foundation-stone of which was laid with due ceremony in May, 1863, were publicly opened in July last by the founder, Sir William Coles Medlycott, bart., after divine service at the parish church, when a sermon was preached by the Ven. Archdeacon Fitzgerald.

The schools are in the Tudor style, and are built with stone procured on the site, the dressings and bands being of Tisbury stone. A spacious piece of ground near the schools is reserved for the use of the children.

The plans were supplied by, and the buildings completed under the superintendence of, Mr. Henry Hall, of Duke-street, Adelphi. The works have been carried out by Mr. Alfred Reynolds, builder, of Milborne Port.

PUBLIC ART-EDUCATION.

The prizes awarded to the students of the Government School of Art, Liverpool Institute, were presented last week; Mr. Beresford Hope presiding. In the course of his address, after speaking of the alterations he thought necessary in schools of art, Mr. Hope said he would then consider why the people of Liverpool should support a school of art. Other places which had schools of art were seats of manufacture, and required instruction as to the design of the works which they produced. But Liverpool derived its wealth from commerce with the ends of the world: its merchant princes brought their treasures from the utmost bounds of the ocean; why should they have a school of art? Liverpool was not art productive, but it was art consuming, and the consumer of art was as much in need of art education as the producer of art. As civilized human beings they were wearers of clothing and users of furniture, and were thus consumers of good or bad art, and therefore art-education was necessary to them. This might not be one of those great truths which were written on the broad face of the heavens, but it was not the less true. The feeling of the beautiful, and the feeling of the well-proportioned and the beautiful, were at the base of religion and morality. He here took up a position which, he believed, had never been taken before, and he felt convinced of the truth of it, because he felt this was a point we were working to. He trusted that a classical education would always be given in our public seminaries, because it brought men into direct contact with those countries in which, by the inscrutable and wonderful disposition of Providence, a great revelation of ideas of beauty in art and literature had been made three and two thousand years ago,—the lands of Greece and Rome. But all could not have a classical education; and what was a substitute for it? What was there that could bring the great masses of our people face to face with the great productions in art of Greece and Rome? He said distinctly, art-education, and the studying, the exhibition, and the copying of the great works of art of that time. All must admit that to fully appreciate a work of art, unless they were looking at it with a well-educated mind, it was necessary to copy it. The shrewdest of the Romans,—old Horace,—said, "The mind is more lazily stirred up by what goes in at the ears than what is stuck up before the faithful eyes." And here, he said, he must bring a charge against South Kensington; and having observed that he had spoken in praise of the art of ancient Greece and Rome, but not more warmly than it deserved, proceeded to speak in enthusiastic terms of Gothic art, noticing by the way its manifestation in the writings of Shakspeare and Tennyson. He said Gothic art should be held in equal honour with the art of Greece and Rome, and that it was a disgrace to this country that the former was not taught as generally as the latter. The revival of the art of Greece and Rome in Italy in the sixteenth century was beautiful and graceful, but still artificial and local. They were bound to claim that the instruction which was supplied from South Kensington, should not be so exclusively Classical, so exclusively *Renaissance*, as it hitherto had been; but that a greater recognition of Gothic art should be made by the South Kensington authorities. A little more nationality, a little more wideness in specimens, with not so much worship of the narrow school of Italian *Renaissance*, would work, he thought, very healthy and very agreeable reforms.

GIRLS' AND INFANTS' SCHOOLS, SAINT GEORGE-THE-MARTYR, QUEEN-SQUARE.

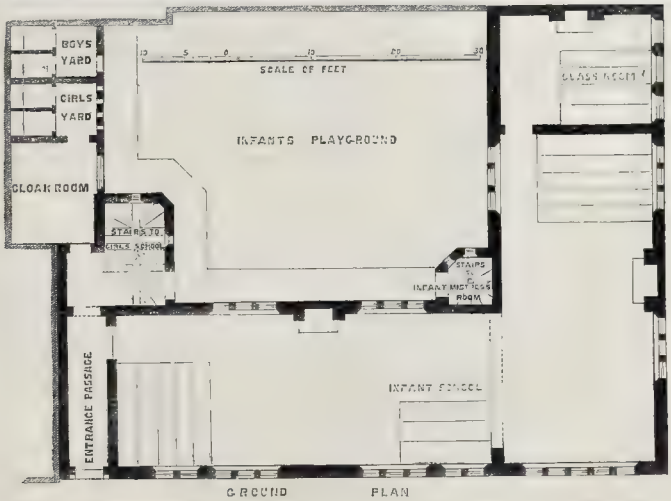
This building has been erected in Gloucester-street, Queen-square, as the Infants' and Girls' Schools of the Parish of St. George-the-Martyr. It contains on the ground floor an infants' school, with class-room to accommodate 200; and on the upper floor a girls' school, with class-room of the same size as that below. A mezzanine floor contains two separate residences for the mistresses, each consisting of living-room and kitchen, scullery, pantry, and three bed-rooms. It has been designed and carried out under the superintendence of Mr. S. S. Teulon. Messrs. Patman & Fotheringham were the contractors. The total cost of the building was 2,800*l*.

Public Hall for Leyton and Walthamstow. It has been resolved to erect a building for "meetings for the promotion of the social, literary, and moral improvement of the inhabitants;" and also, that a company with a capital of 1,000*l*., to be raised in shares of 5*l*. each, should be formed to carry out the project.

SCHOOLS FOR THE PARISH OF ST. GEORGE-THE-MARTYR, QUEEN SQUARE.

MR. S. S. TEULON, ARCHITECT.





GROUND PLAN

SCHOOLS OF ART AND THE GOVERNMENT.

At the York Social Science meeting, in the Education department, Mr. J. C. Swallow, master of the York School of Art, read a paper on "The Relation of Schools of Art to the Government." After tracing the cause of the failure of the first schools, the establishment of the Department of Science and Art, the new minutes, and the recent Government inquiry, he said the report of the select committee showed they had not been able to grasp the greatness of the subject, and, by recognising only the artisan classes, would be likely to produce the same failure as had occurred with the first schools. He thought the art-question wanted taking out of its present narrow limits, and that the education should be more extended, so as to embrace all classes, the gentleman as well as the artisan. The throwing open the schools to all classes had been a benefit to the artisan class, as evidenced by the increased employment of art-students by manufacturers: that was the aim of the Government: let it be proceeded with: others besides that class required education. He thought the provincial school had been starved in order to benefit South Kensington Museum. Schools of art had not paid, and in all probability never would; therefore, it was the duty of the State to contribute to their maintenance. That was already provided by the Government, who this year voted upwards of 90,000*l.* for the purpose. The associated masters have a full belief that only about 10,000*l.* per annum reach the London district and provincial schools. The combined association of masters and committees were about to ask Parliament for a direct grant of 20,000*l.* It was of the partial manner in which the grant had hitherto been distributed that the provincial schools of art complain. He thought that the plan of art-education should be made a grand one; to teach elementary art in every school; a more extended system for grammar and all middle-class schools; a professorship of art at the large colleges; a visiting artist at all the public galleries where students are admitted to copy; that the provincial schools should be schools of painting, sculpture, and ornament, with picture galleries and museums attached to them, and to make the staff of teachers thoroughly efficient. Then there would be no need of a training school for masters, but a central board of examiners only, the same in constitution as the College of Surgeons, who grant diplomas; and there should be travelling lectureships. To the carrying out of such a system three things would be necessary,—local subscriptions, a liberal scale of fees, and a liberal assistance from the Government: then this art question would be in a fair way of solution, and such a development of national taste in art be produced as would raise this country to the highest pinnacle of artistic fame.

THE IRON RAILWAY BRIDGE AT CHARING-CROSS.

In a paper on the Road Bridges of the Charing-cross Railway read before the Society of Engineers, Mr. M. Parkes gives some particulars of the wrought-iron bridge by which the line, on leaving the Charing-cross station, crosses the Thames. It is a bridge of nine spans, six of them 154 ft., and the remaining three 100 ft. Commencing at the north end, the supporting works are as follow:—

North abutment of brickwork, with stone beds for girders: first pier consists of nine cast-iron cylinders, 10 ft. diameter at bottom, diminishing to 8 ft. and 6 ft. diameter in the case of the two outside and seven inside cylinders respectively. These cylinders are merely filled with concrete up to 5 ft. above Thames high water-mark, the lower edge of cylinders being about 6 ft. in the London clay, and are surmounted by a cast-iron bed plate, 18 in. deep. Second pier: this is similar to the preceding, excepting that there are only five inside cylinders: third pier, north tower of suspension bridge altered: fourth, fifth, and sixth piers each consist of two cast-iron cylinders, 14 ft. diameter at bottom, reduced by a diminishing ring to 10 ft. diameter at low water, the lower edge of the cylinders being from 15 ft. to 20 ft. in the London clay. The cylinders are filled with concrete up to 9 ft. below low water, the remainder being brickwork, finally surmounted by granite blocks, 2 ft. 6 in. deep, in semicircles. Seventh pier: south tower of suspension bridge altered: eighth pier, the same as fourth, fifth, and sixth: south abutment, of brickwork, with stone quoins and cornice, bed-stones for girders of granite 2 ft. 6 in. deep.

The bridge is 46 ft. 4 in. wide in the clear, from the south abutment of the third pier; it then widens out, till, at the north abutment, it is 164 ft. wide. The six 154 ft. spans constitute the "parallel section" of the bridge, and the three 100 ft. the "fan section." Each of the 154 ft. spans consists mainly of two trusses 11 ft. 6 in. deep, centre to centre of pins, and each weighing 190 tons; and of fifteen lattice cross girders, 4 ft. deep at centre, and each weighing 8¼ tons. Each of the 100 ft. spans consists of two light trusses, so as to preserve a uniform sky-line, and ten, seventeen, or twenty-four girders 5 ft. deep, according to the position of the span. The weight of the trusses is 40 tons each; and of each of the 5 ft. girders, 27 tons. This section of the bridge is covered over with 6-in. planking. There is a footpath on each side of the bridge, which is carried on lattice cantilevers, riveted to the cross girders on 154 ft. spans and to the cross girders connecting the exterior shallow girders with light trusses in the 100 ft. spans. This bridge has four lines of way between the southern abutment and third pier.

AN EXHIBITION OF THE WORKS OF LOCAL ARTISTS IN BIRMINGHAM.

We have already mentioned that it is intended to open in Birmingham an exhibition of the works of artists who have been born or have studied in this great centre of industry. With care and good management, a collection of this kind will be not only very interesting, but useful. In many instances such assemblages of paintings, works in sculpture, architectural designs, engravings, and other matters which may be fairly brought under the title of the "Fine Arts," would cause surprise to those who have lived for years in particular localities. It is often the case that we have reason to acknowledge the truth of the remark that the prophet is but little honoured in his own country; and it may also be said that, in many instances, persons who have arrived at eminence in the metropolis and elsewhere, do not show that degree of regard which they might be expected to feel for the place in which they have been reared. Bristol, Newcastle-on-Tyne, York, Birmingham, and many other places, are noted as nurseries of artists. Birmingham is especially to be well spoken of in connexion with the modern school of English line-engraving. This department should be carefully represented, and in other ways a goodly show could be made there. In the metropolis and throughout the provinces there is an increased desire for class and local exhibitions; and, during the ensuing year, we look to hear of the attempt being made to open industrial exhibitions in all the important towns of Great Britain and Ireland. Local art exhibitions should, however, be thought of independently of these. In some instances there will be found in connexion with towns a lack of sufficient materials of an artistic description. In these cases the county might be referred to for the purpose of providing materials sufficient for the opening of an exhibition. If this matter were properly brought to the notice of living artists, it would meet with support from them; and we can fancy in connexion with those exhibitions pleasant gatherings of artists who have been long absent from their fellow townsmen.

Notwithstanding the improvement of the national taste in matters connected with art and art manufacture up to the present time, in many large, populous, and important towns there have been no exhibitions of pictures by either ancient or modern masters; and in consequence an important means of instruction and much pleasure are lost. In most instances either the town-hall, council-room, or some other room, might be had for this purpose, at little or no cost, and mostly a small sum charged for admission would defray the expenses. To the dwellers in London, where there are the National Gallery, the Kensington Museum, the annual exhibitions of the Royal Academy and Societies of Artists, and other collections of art-works which are easily accessible, the value of local exhibitions is too little thought of.

The teaching of true art is of wonderful effect, and many who are now famous will remember their first introduction to a fine work by Rubens, Vandyck, Titian, or Turner. All the feelings and instincts for art may exist, and there may also be a true and refined appreciation of the beauties of nature; but in a picture or piece of sculpture of a high class there is shown the machinery by which the artist can express his idea, and give upon the canvass and to the shapeless mass of stone the images of waving trees, the mountain plains and lakes, the storms and calms which are to be met with in nature, or are shown in the human passions.

In many of the wealthy homes of England there are rare means not only of teaching in art but also of improving the taste of the multitude who reside in rural quarters. In many cases those houses are closed, and the rare treasures hidden from the view. In certain instances they are made a show of to those who can afford to pay large fees to the servants who are left in charge. It would be well, however, if, during the absence of the owner those places were left open on certain days for the inspection of neighbours who are in poor and in better circumstances. The clergymen, medical attendants, schoolmasters, old-established tradesmen, and others resident in neighbourhoods might have the power of distributing tickets of admission on the appointed occasions.

This plan is to a certain extent carried out in some places, and we know of no more pleasant sights than groups of school children and rustics wandering with seeming wonder amongst the works of genius which have been collected by the taste and munificence of past generations.

THE PROPOSED REBUILDING OF DULWICH COLLEGE.

At a special meeting of Camberwell vestry Mr. Gull inquired of the governors of Dulwich College, "if any and what steps have been taken respecting the building of a new college since the receipt of the reply of the Charity Commissioners respecting the proposal made by the governors for erecting a college, a portion of which their architect had estimated would cost upwards of 65,000*l.*" Mr. Pew stated that nothing had been done as yet, as the governors were waiting for an interview with the Charity Commissioners. The expenditure of so large a sum as 65,000*l.* was strongly deprecated, and the vestry agreed to a motion by Mr. Gull, to the effect that they were of opinion "that in the future consideration of any architectural plan for new buildings connected with Dulwich College, such plan should be submitted to public competition, and that it is to be regretted that the governors of Dulwich College have departed from this course now recognized by every public body in the kingdom; and this vestry considers that, in order to obtain the most suitable plan with the best economical results, Messrs. Pew & Waterlow should be requested to exert themselves to secure public competition, and to advertise publicly in every case."

WATER SUPPLY.

There has been a considerable stir throughout the country of late as to improved water supply, stimulated, doubtless, by the extreme dryness of the season, which must have brought the capabilities of many towns in the way of water-supply to the test.

Plymouth aims at an improvement of water supply, at a cost not exceeding 20,000*l.*; and a deputation of two members of the Local Board of Health and the borough surveyor have visited several towns, to note their doings and progress in better supplies of water, and have presented their report to the town council. The rules and regulations adopted in Nottingham and Norwich are those they most highly recommend as applicable to Plymouth. Constant supply, with high pressure, is one object in view, and the economizing of the waste by proper arrangements. The constant supply, it was remarked in the report, would doubtless tend to the development of many branches of manufacture in the town in which water forms an essential (as in the use of hydraulic power on Sir William Armstrong's principle, for example, we may remark). The council adopted the committee's report.

West Cowes is moving in the matter of improved water supply. The local board of health have resolved that a further supply is requisite, and plans are before them for the formation of a reservoir and pipes, at a cost of 2,500*l.*

t Morley a deputation has been sent by the abitants of the town, and of Gildersome, ghlington, and Adwalton, to the Bradford poration, in order to ascertain if arrange- nts can be made with them for a supply of ter. Women, it seems, have to go literally es for water for domestic purposes, and after have to beg for it.

PAWNBROKING.

From time to time acts of great injustice to poor are brought before the notice of the blic. As an instance, it is well known that profits of pawnbrokers are enormous. In es of trouble and difficulty, thousands of the dustrious and other classes are obliged to dge the most valuable of their goods, and yet re is no legal protection for these goods in es of fire, bankruptcy, or other mishaps. A wnbroker of Poplar appeared at the Thames fice Court, having been summoned by two men who had left articles with the pawn- oker. The tradesman was well defended by gal help. In this case it came out that if wnbrokers lend 1,000*l.* upon goods they can sure upon that sum and no more: there is no fe taken of the property of the people who ve dealings with the pawnbroker. In this in- nce, a fire had taken place. One of the men applied in connexion with a watch, orth, she said, 5*l.*, but which was pledged for 15s. This watch was partly consumed, toge- er with about 300 others. Not a fraction of e extra value of the goods destroyed came to e hands of those who had pledged them, even offering the legal amount of interest. The wnbroker had the value of the pledges from e insurance office. In this business the law various ways needs amendment.

ARCHITECTS' PUPILS.

Sir,—Will you kindly afford me space in your lumns for a few words about the treatment of chitects' pupils. What do architects take pils into their offices for? Is it to obtain a rvant who will do the work of errand-boy and aughtsman, for three, four, and sometimes five ars, for nothing? Or is it really their inten- on to teach them to be architects?

I am a pupil, and have nearly finished my rticles. When I entered them, I was given to derstand that, with ordinary application, I ould at the close be educated as an architect. wards attaining this object I have been kept, rring five years, drawing eight hours a day or in our office *all* the work is done by pupils) ne or three designs, with very slight alterations, er and over again; and, as is put sometimes your advertisements, am fully qualified to ake perspective views, working and detail awings, &c., of these two or three designs. ut is this being educated for an architect? here is my knowledge of mathematics, me- anics, acoustics, chemistry, shoring, materials, e history of architecture, &c.? Ought I not have had some time allowed me for these udies, as necessary to an architect as they are teresting? It will perhaps be said that I ght to have done this in the evening. Let me one who has been kept eight hours a day ooping over a drawing-board, with very rarely e slightest exercise in the day-time, try, when gets home in the evening, to study if he can. e cannot do it; or, if he can, he does so at the pense of health and life itself. Fresh air and ercise are acknowledged to be as necessary as od; and if we cannot have them in the day- me we must in the evening, and then where is ir time for study? But, supposing I made up ty mind to forego exercise and study in the evenings, ought I not to have had books put into my hand, or recommended to me, on archi- tectural subjects; but in our office this is never ought of; and the volumes of the *Builder*, and few other architectural books, in the prin- pal's office, are very often locked up, so that ne pupils cannot get access to them. In short, ll the benefit a pupil generally obtains from his rticles is simply a knowledge of mechanical awing. And what adequate return is this which might be learnt in a few months) for veral years of the best part of a man's life, and often a premium of 300 or 400 guineas? and how can masters say that they perform eir duty of teaching their pupils the business ind profession of an architect? A. P.

THE NATIONAL GUINEA SUBSCRIPTION FOR COMPLETING THE DECORATIONS OF ST. PAUL'S CATHEDRAL.

The completion of the decorations of St. Paul's is a matter of such national importance (whether regarded religiously or esthetically), that I again venture to trespass upon your kindness, and solicit public attention to the subject. Far be it from me to charge with apathy, lukewarmness, or neglect, the influential personages who have undertaken the collection of funds. I believe they have conscientiously exerted themselves, and done their best to forward the grand work set before them. I further believe they are both surprised and disappointed at the feeble respond that has been made to their call, and are at a loss to account for positive failure, when complete success might reasonably have been anticipated.

By the published return it appears that only 921 individuals throughout this vast capital and great kingdom, at a period of unheard-of national prosperity (as proved by the astounding increase in the value of our exports, and the not less satisfactory returns of the public revenue), have as yet felt disposed to assist the dean and chapter of St. Paul's Cathedral, in their laudable endeavour to render the metropolitan church worthy of the capital, and that true Reformed Faith of which we are so justly proud.

For years past the bald and naked appearance of the interior of St. Paul's has been unsparingly commented upon by every class of foreigners, Protestants as well as Roman Catholics; and now that the dean and chapter *are* exerting themselves to the utmost to remove this too-well-merited stigma upon our church and city, *the needed funds are not forthcoming.*

Magnificent decorations and splendid subscriptions have been raised to restore Canterbury, York, Durham, Ely, Worcester, Chichester, Ripon, Manchester, Hereford, and St. David's. How is it, then, that London, with its immense population, princely merchants, and wealthy corporate bodies, withholds its contributions from an undertaking so deserving of support and commendation?

After the assurance of the dean and chapter that there are unfortunately no capitular funds available for this noble purpose, an assurance confirmed by the Bishop of London himself, there can scarcely be any persons so mistaken as to imagine that there are revenues belonging to the cathedral which might be applied to this object.

The only remaining inference that can be arrived at is, that, with the exception of the *Builder*, the press as a body has not afforded that aid which might have been hoped for, but which you have so handsomely rendered. I trust, however, that this ground for complaint, through your instrumentality and example, will be speedily removed, and that the ready pens of able writers will soon plead the cause and set forth the claim of our national cathedral to public favour far more efficaciously than I have done. Ecclesiasticus.

PAVING STONES RAISED FROM THEIR BEDS BY FUNGI.

An individual circumstance has just occurred in Islington that considerably exceeds the account given by Dr. Carpenter of the paving stones of Basingstoke being rendered uneven, and raised from their beds, by fungi, and necessitating the entire repaving of the town. The largest stone there displaced weighed 85 lb., was nearly 2 ft. square, and was raised 1½ in. from the level of others; but on the 12th of the present month a large paving stone, weighing more than 200 lb., and measuring 4 ft. 1 in. by 2 ft. 1 in., was bodily raised from its setting in the front of the shop of Mr. Frederick Holmes, a hair-dresser, of Goswell-road. A fortnight previously the stone was noticed to be loose, and during the two weeks it was gradually more and more displaced, till it became unsafe for foot-passengers. As the stone was raised by this time 2 in. or more above the level of the others, the authorities were applied to, to reset the stone, and the fungus was discovered growing beneath. When the weight of the stone and the power of resistance of the mortar are considered, the strength necessary to displace the stone does seem most extraordinary. It does not appear to be a very unusual occurrence, as many people have had some opportunity of seeing stones displaced in this manner, and an instance was some time since noticed by the writer of this note, where a large stone in a kitchen floor was completely raised from its setting by a similar fungus. It is not improbable that rotten sawdust is the matrix from which these things spring, as sawdust and shavings are often mixed up with rubbish by builders as a foundation for paving. Decayed sawdust, or any kind of rotten wood, is most fertile in the production of these pests, and should never be mixed up with brick rubbish for foundations, &c.

The particular species just referred to belonged to the mushroom-like fungi (*Agaricini*), and occupied the greater part of the under-surface of the stone. The growth was very abnormal, as from its original place of growth an immense mass of spawn, or *mycelium*, was produced. From this grew a large white, fleshy, shapeless mass, on the edges of which, and sometimes on the surface, were developed various spurious mushroom-like heads, with the gills and fructifying surfaces quite perfect; so that, had the fungus not been taken out in time, it would have been as likely to displace as large a number of stones in that neighbourhood as did the fungi at Basingstoke described by Dr. Carpenter.

W. G. S.

HOGARTH.

Had Charles Lamb, the gentle Elia, and enthusiastic admirer and expounder of Hogarth, been living on the day on which I date this note, he would not have passed it over without solemn recognition, as being the hundredth anniversary of Hogarth's death—the death of him who makes a decided epoch in the annals of English painting. True, he founded no school: without predecessors, he was also without followers, and still stands alone as the great graphic dramatist, without rival, and without imitator. Rather strange, surely it is, that just when it is now the fashion to offer testimonials and stick up memorials to so many men of doubtful, mushroom celebrity, Hogarth should not have been singled out on the present occasion as a foremost worthy of English art. Art-Lover.

October 26th, 1864.

"SHOP SHUTTERS."

In reply to a correspondent on this subject in our last, we have received half a dozen or more letters from manufacturers of shutters, and have forwarded them to the inquirer. As matter of general interest, Messrs. Clark & Co. say the description of shutters he refers to were in use some years since at Messrs. Hatchard's, Piccadilly, but from frequent derangement removal became necessary. They believe, also, such shutters are going out of use in Paris. Messrs. Bunnett & Co. do not speak much better of them, and say, a model may be seen at their works.

ROOFING AND SLATING.

On perusing a recent article in your journal, under the head of "Slating," it occurred to me that it might be instructive, as well as interesting, to many of your readers, to correct what I think an error which your correspondent, as well as many others, are led into by *slating with battens at all*, or with the long almost exploded system of wooden pegs, "with the view to obtain economy," or by using bad nails,—the best being a compound of zinc and copper, or galvanized iron, that will stand driving without bending or breaking short. But to the point of real economy and durability of slated roofs: I have found, during a period of nearly half a century, that by the construction of roofs without any rafters at all, and boarding with 1 in. or ¾ in. with rebated joints secured to fillets on hips and ridges, and well nailed to purlines, not more than 3 ft. apart, less timber, nails, and labour produce a stronger, lighter, and more weather-tight roof, with better and more uniform bed for the slate; and if cracked, loose, or any way defective, this allows the leakage to steal down into the gutter, in lieu of dropping through on to the lath and plaster ceilings. This mode also affords a more easy and substantial mode of repair, and defies the evil to which battens are so generally subject of breaking by the slater's weight when a cross-grain or knot may exist. As a practical superintendent of works, I have devoted much attention to this subject, and as far back as 1840 I registered an improvement on Taaffe's patent

slating, which not only did away with all rafters, but by vertical boarding, with spaced gutters to each vertical joint of the slate, an especially constructed diamond stud-plate, the imperial slate, 2 ft. 6 in. long by 1 ft. 8 in. high, ¼ in. thick, was not only secured at all four angles of each slate, but allowed any single slate, at the shortest possible notice, to be taken out and reinstated, without disturbing the others. Upon this principle, about twenty-four years since, I covered the roof of one her Majesty's large store-houses at Woolwich Dockyard, and which, I have been informed, has never since required a slate to be replaced, and cost, with rafters, 50s. per square: inch board and zinc gutters under the vertical joints of slates cost no more.

H. H. Russell.

N.B.—A rafter 4 in. by 3 in. is equal to a board 12 in. wide and 1 in. thick; and if rafters are set 12 in. apart, they cover the same space, and require no lath battens or spike-nails for rafters.

FIRE-PROOF CONSTRUCTION OF DWELLINGS.

THE DENNETT ARCH.

Sir,—Will you kindly allow us to point out what we consider to be a few errors in the summary of the various thicknesses and cost of fire-proof floors as given by Mr. Eyton, and quoted in your issue of October 15th, viz.;—Brick arches are quoted thus:—

	£	s.	d.
Brick arch 4½ in. thick, iron girders, use of centering and levelled up for tiles, per square	4	15	0
Same if boarded, and the underside levelled and lath plastered: extra cost per square...	2	5	0
	£7	0	0

The Dennett arch as quoted:—

Dennett arch per square	£3	10	0
Extra if boarded, and the underside levelled and plastered	4	0	0
	£7	10	0

You will at once see by these figures that the amount for boarded floor and plaster ceiling for the Dennett arch is 1*l.* 15*s.* per square more than for the brick arch, which in reality wants to be the same in one case as the other, for the one would not cost one farthing more than the other; so the Dennett arch really ought to stand thus in the summary:—

Dennett arch	£3	10	0
If board floor, and the underside levelled and plastered	2	5	0
	£5	15	0

Fox & Barrett's system is quoted, with a cement surface, to be in depth 9 in., and with board surface 11 in.; whereas the sketches in their printed prospectus show that floors having cement surfaces are 11 in. deep, and for floors having boarded surface 13 in. deep, making a difference of 2 in. in height only between their system and the Dennett arch, and not 4 in., as shown in summary.

The insertion of the above facts, which appear at first sight to be of little consequence, are of the greatest importance to our system. And we may also add that one of the main advantages possessed by our construction over any other system is left out altogether, viz., the adaptation of our process to groins, circles, and domes, to any width or height.

A. & R. Dennett & Co.

COMPETITIONS.

Parr (*Lancashire*).—The competition of designs for rebuilding the Church of St. Peter, at Parr, near St. Helen's, Lancashire, has resulted in the choice of those submitted by Mr. J. Medland Taylor, of Manchester. The church will consist of a nave of six bays, north and south aisles, south transept of two bays in width, and chancel, with chancel aisles, which are screened off for organ-chamber and sacristy. There is an engaged tower, capped with an octagonal broached spire at the west end of the south aisle. Arrangements have been made for beginning the church immediately.

New Cemetery, Burton.—Twenty-seven designs were submitted, of which the designs selected by the Board for the first and second premium are those bearing the mottoes (first), "Trent," by Messrs. Lucy & Littler, Liverpool; (second), "The Life Everlasting," by Mr. William Smith, of Adelphi-chambers, London. Two others were mentioned by the committee in conjunction with these, viz., "Labour" and "Hope."

COMPETITION DESIGNS.

DARTMOUTH IMPROVEMENT.

Sir,—It is now nearly three years since the town-council of Dartmouth offered premiums for designs hereon.

Having incurred the usual expense and trouble in acquiring the necessary knowledge of the locality, I prepared a scheme, to which, however, no prize was adjudged.

Subsequently a proposal was made to me to dispose of my designs to a private individual, and I therefore put upon them the low estimate of *ten guineas*—an amount less than my expenses in the matter—to which offer no reply was, however, made.

During the two years and a half which have elapsed since then, I have made sundry efforts to recover my designs, by application to the town-clerk, and personal intervention of friends, but, up to this date, entirely in vain.

This is another example of the scurvy treatment which is experienced by members of an enlightened profession, when, yielding to the seductive offers of public bodies, they offer up their time, abilities, and cash a sacrifice at the shrine of competition. Is there no remedy for such treatment of An Unsuccessful Competitor?

CISTERNS AND DRAINS.

I was called to see a gentleman this morning who was suffering from ill-health. His idea was that it arose from the water he drank, as he was better when away from home. The thought occurred to me that it was possible, as the standing water or overflow pipe in the cistern was connected with the trap, and, of course, leading into the cistern, this was the cause of his being unwell.

I have been in the plumbing trade for some years, and I have often seen the inside of the top of a cistern quite discoloured by the effluvium arising out of the pipe; indeed, when taking off a cistern top that has been fitted very tight, the smell has been very bad, and I have seen a scum on the surface of the water. Now, I believe, in London, the waste or overflow pipes, in nine cases out of ten, are put in in this way, leading from the trap or drain into the cistern, so that the effluvium is confined in the cistern, and so impregnates the water, and causes ill-health to weak constitutions.

This might be easily remedied. Thus, instead of having the waste-pipe standing upright in the cistern, let it be made in the shape of a syphon, or S trap, and, by regulating the ball-tap so that when the water is on from the main it should just flow over and fill the trap made in the waste pipe, so that it may be always full, it would then be an impossibility for any effluvium to arise, thus keeping the water pure. J. Cutler.

SURVEYORS AND TOWN COUNCILS.

I am glad to find that the reprehensible conduct of some town councils and highway boards has been taken notice of in your columns. Unfortunately, "Civil Engineer" has omitted a most glaring case, advertised in the *Builder* of October 8, 1864, and which occupies exactly the space above the Lavenham advertisement referred to by "Civil Engineer." Hear it, ye sages!—

The Rochester Highway Board require the services of an "assistant surveyor." A practical knowledge of his profession (?) indispensable; and the salary, including travelling and other expenses, to be 60*l.* per annum; and should he be a good boy, and his *whole time* be occupied, it would be raised to 75*l.* Is it not disgraceful?

But, bad as you are in England, we are even worse here; for I am now informed that a very intelligent Board *have been led* to order the appointment of a building surveyor at a salary of 52*l.* per annum. How can these men think they are discharging a public duty in making such an appointment, when they must know that the commonest carpenter is now getting 28*s.* per week, and that, if they get a man to undertake the duties, they will lose twice his salary in attending to him to teach him and keep him right? But what description of man will take the appointment? An Assoc. I.C.E., Ireland.

THE CONDITION OF WORCESTER.

Sir,—The sub-editor of our leading local journal must, I fear, have been in a state bordering on apoplexy, when he penned his somewhat vituperative reply to the good-humoured jog administered by "A Lover of Progress." He is, therefore, a sorry champion for the faithful city. "The series of statements" are right in spirit, and, comparatively speaking, give a faithful description of architecture in Vigornia. Compared with other places of its size, the *present state* of our city certainly is not satisfactory, and for ten years the building trade has not been so dull. Scores of building operatives have left, and are still leaving.

Mr. Nonke appears to me to have quite wandered from the subject, and his strong language is altogether uncalled for as well as hot-headed. His declaration, that he knows "of no city in England so enterprising, so lively, and so flourishing," goes to prove that he is *no* traveller: and if he object that "A Lover of Progress's" statement is spiced with what he unflinchingly calls "untruths," how, I ask, can he sit coolly down and say that "streets and squares are now so generally in erection," when a square has not been planned in our city for fifteen or twenty years, and when there are only two squares in the place? New *streets have* appeared but dreamily, and none are *now* appearing. The Arboretum was sold by auction in one lot last June; the public baths that one is in the habit of finding in other large towns grace not our charmingly situated city; and all of us know that our theatre is no credit to us, and that the whole of the twenty boats at the grand stand might be procured any minute, though the last summer has seen the river more patronized than any other summer ever did.

We have, it is true, a plethora of institutes, but they are more like class clubs than the mechanics' institutions of other towns. Sir John Pakington has more than once reminded us of our want of unity in this respect, and unity is kindred to enterprise, therefore, had there existed as much of these ingredients in dear old Vigornia as in other places, we should not have been so much outrivalled by Birmingham. Our champion will not benefit us much by telling us to shut our eyes to the truth, as goodnaturedly told by your correspondent, "A Lover of Progress." An Inhabitant.

GLAZING.

After considerable experience I am inclined to believe that the best material for fixing glass in stone windows is a mixture of Bath stone dust and linseed oil, made up similarly to putty. Its elasticity will allow of any slight settlement if the work be new, and it is more of a waterproof cement than Portland, as it is not nearly so liable to crack. Portland cement without a large proportion of sand, will almost invariably burst glass or stone after a few months; and another objection is, that it stains freestone (Corsham Down more especially), giving it the appearance of having been burnt.

S. B. B.

In reply to "W. B.," on Glazing, I beg leave to say, that I took out some iron casements, and put in large squares of glass instead, with good Portland cement, and the result was, that after a few weeks, and in some cases longer time, the glass cracked, and portions of the stone mullions fell off; upon which I cut out the cement and filled up the space with hair mortar and plaster of Paris, and a second coat of mason's stone dust and plaster of Paris to finish with; and it has never since moved, some having been done more than two years. J. N.

FROM IRELAND.

Pleasant State of the Liffey.—Don't be surprised, says the Dublin correspondent of the *Star*, if you should be informed, one of those days, by super-special telegram, that this, "the second city of the empire," has been decimated by a plague! The hitherto crystal and limpid waters of the "beautiful Anna" river, Saxonly called the River Liffey, has become positively pestilential. Its waters do not now run fresh, crispy, and pure; but black, thick, and frowsy; they lazily drag the putrescence of the city through the broad and deep channel which, at one time, was considered the bed of the river; but what is now in reality the main city sewer!

Increase of Fever in Downpatrick.—The number of cases in the County Fever Hospital is larger than it has been for a long time,—some of them according to the local *Recorder*, of rather a malignant character. In many cases the patient is brought to hospital in the very last stage of the complaint, when recovery is almost hopeless.

FROM SCOTLAND.

Edinburgh.—This city has hitherto been without a single ringing peal of bells, although tunes have been played on the bells in the high church. At a recent meeting of the town council, however, Mr. Girle moved the adoption of the following motion:—"That, as it is desirable a peal of bells for occasions of processions, public rejoicings, &c. be introduced into one of the steeples in the High-street, it be remitted to the plans and works committee to ascertain its practicability." The motion was adopted. A chief difficulty will be to obtain ringers, as there are none in Edinburgh, nor even probably in Scotland.——A monument has been erected in the old Calton burying-ground to the memory of Mr. Charles Mackay, the famous old actor of *Bailie Nicol Jarvie*, and other of Sir Walter Scott's novel characters.

Glasgow.—The new church which has just been erected in Victoria-road, Glasgow, for the Rev. Alexander Cumming's congregation, has been opened for public worship. The church occupies a position at the junction of Victoria and Pollockshaws roads. The site is of a triangular shape. The building runs north and south, parallel to Victoria-road. It is in the Pointed style of architecture, being an adaptation of Early French. The church is seated for upwards of 1,020 persons, and the estimated cost is upwards of 6,000*l.* The building has been erected from the designs and under the superintendence of Mr. James Salmon.——Another church, erected in East Howard-street, for the accommodation of the Rev. P. Hately Waddell's congregation, has also been opened. The edifice has been built from the designs and under the superintendence of Mr. Robert M'Alister, architect. Externally, it is a plain-looking edifice. In the area and gallery accommodation is provided for about 1,300 sitters. For the reception of the preacher, or of speakers at congregational meetings, a platform has been erected, with a reading-desk in the centre. Behind the platform is a large

dow, filled in with partly obscured glass. Beneath the church is a hall, capable of accommodating about 300 persons, as also a school-house and vestry. The cost of the structure is understood to have been about 5,000*l*.

Kirkliston.—A flooding of the Almond river has broken down the wooden supports of the railway erected to lift the stones for the arches, twelve in number, of the bridge intended to carry trains over the branch railway from Ratho to Queensferry. The centre arch of the bridge, which is just opposite Kirkliston, was almost completed, and the two adjoining arches were also well advanced. The arches are on the skew principle; and not more than 1 ft. at side, and 3 ft. on the other, of the centre has required to be filled up. The centre arch of the bridge is entirely destroyed, and the arches on each side are so much damaged that both will have to be rebuilt. The loss to the railway company or the contractor by the flood is estimated at several hundred pounds. The arch, it may be stated, was not nearly so high as it is often seen in the winter months, and the reason assigned for its breaking the supports of the tramway is that, in the first place, these were rather slim; and, in the second, that there was a large number of tree roots and heavy branches brought down, which, striking against the wooden pillars in succession, finally overthrew them.

Newton Stewart.—The Ewart Institute here has been inaugurated. The edifice is in the decorated Gothic style, and is situate on the rising ground to the west of Newton Stewart. The building is of white stone, has a frontage of 70 feet, and has been erected at a cost of not much less than 4,000*l*. The free school is at the north end of the building; the high school at the south; and above the latter is the ladies' school, with music and sewing rooms. The free school has a large apartment, open to the roof, with pointed rafters, and measures 35 ft. by 21 ft. The grammar school is 45 ft. by 22 ft.; the girls' school, 38 ft. by 22 ft.; the music-room, 14 ft. by 11 ft.; and the drawing and sewing room, 21 ft. by 11 ft. The head-master's house occupies the centre of the building. The playgrounds are extensive, and there is a bath-house, in which the art of swimming may be practised with safety. The architects were Messrs. Nuttall & Cook, of Liverpool. The contractor was Mr. M'Culloch, and the sub-contractor, Mr. M'Kie.

CHURCH-BUILDING NEWS.

Soho.—The district church of St. Luke, Soho, situate in one of the most densely-populated districts of London, has been re-opened, after having undergone an entire renovation. The work has been done under the direction of Messrs. Cox and Mr. Teulon. All the seats are free and unappropriated.

New Brompton.—The chief stone of St. Mark's church has been laid. The edifice is of the Pointed period, and is plain and simple in design: it has an apsidal chancel, 39 ft. long by 24 ft. wide, and 46 ft. high to the apex of the roof, and is lighted with three two-light windows, with a quatrefoiled circle over. It is fitted with choir stalls, two steps above the nave, and the sacrarium rises four more steps to the altar. The chancel has lean-to aisles, parted from the chancel with iron grills. There is a second chancel arch at the commencement of the sacrarium, just beyond the stalls. The nave is 85 ft. long, 24 ft. wide, parted from the south aisles by arcades of five arches each, which carry the clerestory, pierced with coupled lancet lights over each arch. The arcade arches are each 17 ft. high, of two orders, springing from plain moulded caps on round piers. The aisles are of equal length with the nave, and are 12 ft. wide, each with a lean-to roof, the side walls being 13 ft. high, with coupled lancets in each bay, between which there are buttresses. The tower, of three stages, 20 ft. 6 in. square, and 63 ft. high, is at the extreme end of the south aisles, from which it projects. A broach spire, 90 ft. high, rises from the summit of the tower. A vestry, and organ-chamber over, occupy the north-east angle of the building. The west front of the nave has a five-light window, about 13 ft. wide, and 21 ft. high. The east and west ends of the aisles have two-light lancet windows, with a circle over. A contract for building the whole has been taken by Messrs. Wilkins, of Chatham, at a cost of 5,701*l*. The accommodation is for about 800 persons. The church has been designed by Mr. J. P. St. Aubyn, of London, and is being carried out under his superintendence. Mr. Corfield, of Rochester, surveyor, has the supervision of the works.

Codford St. Peter (*Wilts*).—The Church of Codford St. Peter, which has just undergone a restoration, is now re-opened. The church originally consisted of a nave, chancel, and tower at the west end. A north aisle has been added, which is connected with the nave by an arcade supported by three clustered piers. The old chancel arch has been replaced by a pointed arch, supported by Devonshire marble shafts, on carved corbels. The ceiling of the chancel is of wood, in panel, with carvings at the intersections of the mouldings. The chancel has been rebuilt, in the Decorated style, the old proportions being preserved. The nave and north aisle are in the Perpendicular style, the former having an open stained high-pitched roof, the having supported by carved freestone principals corbels. A wooden gallery, which was formerly placed at the west end of the church, has been removed, and the tower arch, which was concealed, has been thrown open. The basement of the tower is fitted up with seats. The new north aisle corresponds with the nave in style, and is lighted with three windows, of double lights, with trefoiled heads. The nave is lighted with two windows of Perpendicular character. The corbels, which are all of freestone are Naturalesque in design. They are the work of Mr. Sansom, of Lambeth. There are several stained-glass windows in the church. The east window which is in the Decorated style, has three lights, and is filled with stained glass. In the centre is the "Crucifixion;" above is a representation of "Our Saviour crowned with Thorns;" and below is "The Saviour bearing the Cross." In the upper compartment, on the north side, is "The Agony in the Garden," and below it "The Last Supper." On the south side is "The Resurrection" and "Our Lord's Appearance to Mary in the Garden." On the south side of the chancel is another stained-glass window, in the Decorated style, with two lights. In the quatrefoil above are the cross-keys, and in the west light is "The Transfiguration," the other light having a representation of "Christ walking on the Waves, followed by St. Peter. The west window, in the tower, has three lights, the subject being "The Adoration of the Shepherds and the Magi, supported by Angels." These three windows were executed by Messrs. Heaton, Butler, & Bayne, of London. The window behind the pulpit on the south side has a figure of St. Peter. The west window of the aisle is of plain diaper glass, and is the work of Messrs. Lavers & Barrand. The south porch has been rebuilt, a portion of the original materials having been worked in, and the old battlements and gurgoyles have been preserved. The organ, which is placed at the east end of the aisle, has been repaired by Sweetland, of Bath. The church is warmed by Haden, of Trowbridge. The designs for the restoration of the edifice were furnished by Mr. T. H. Wyatt, the diocesan architect, and the work has been executed by Mr. Barnden, of Warminster, the contractor. The iron gates are by Singer, of Frome. The churchyard has been levelled 3 ft., and the wall taken down. There is a new clock dial, given by Mr. Wyatt, on the south side of the tower. With regard to the exterior of the edifice, the tower, which has been preserved, is crowned with battlements, having pinnacles at the angles. During the progress of the works, part of an ancient stone cross was found in the masonry of the old chancel arch. It is of Norman character, and is affixed to the north wall of the chancel.

Horton (*Staffordshire*).—The Church of St. Michael, Horton, has been restored and re-opened. It is of Late Perpendicular date, and consisted of nave, north aisle, and tower, to which a new south aisle, with porch, has been added, the details adapted to those of the original edifice. A new chancel window has been introduced, filled with stained glass, by Mr. Wailes, and is the gift of the late Mr. Thomas Crompton, of Dunwood House and Manchester. The remainder of the windows in the chancel, and those in the north aisle and tower have been restored, and one in the north aisle is filled with stained glass, the gift of the Misses Crompton. The gallery at the west end of the nave has been removed, and the second stage of the tower re-opened into the nave. The organ, which stood in the gallery, has been removed to the east end of the south aisle. The nave and chancel roofs have been opened by the removal of the lath and plaster ceilings beneath. The old timbers of the roofs have all been wrought and chamfered, and moulded ribs have been added to the nave roof, dividing it into panels, with carving at the intersections of the ribs. A new arch of wood, with pierced spandrel and soffit, has been introduced between the chancel and the nave, springing from stone corbels. New pinnacles have been put to the tower parapet, and dilapidations of the exterior generally have been made good. The works have been carried out by Mr. John Naden, of Leek, and Mr. Samuel Heath, of Gratton, under the direction of Mr. Sugden, of Leek, architect. The churchyard has been enlarged to the extent of about 1,000 yards, the gift of Mr. A. C. Watt, the owner of the Horton Hall estate. At the south-east corner an approach has been erected, with wing walls and steps of Kerridge stone; and the gates and pillars at all the south entrances are new, and correspond with those of the north side.

Acock's Green.—The foundation-stone of the new church of St. Mary, Acock's Green, in the parish of Yardley, has been laid. The portion of the church which it is proposed to erect at once will cost about 3,000*l*. Of this sum 2,270*l*. have already been subscribed. The church will be in the style of architecture which prevailed in the latter part of the thirteenth century, but of a Continental rather than an English character. It will consist of nave, aisles, transept, chancel, &c. There will be a porch on the north, and a tower, with spire, at the west end. The height to apex of spire will be 180 ft. When complete, the church will seat 900 persons. The exterior will be of Hampstead stone, with Bath stone dressings. The interior will be faced with brick-work, in ornamental patterns, with red ground and blue bands, &c. The arches and dressings of the interior will be of Bath stone; the columns of the nave of yellow Mansfield stone, with foliated capitals of Bath stone. The contractors for the works are Messrs. Jefferies & Pritchard; the architect, Mr. J. G. Bland.

Snowshill.—A new church at Snowshill, a village in the most inaccessible part of the Cotswold Hills, has been consecrated by the bishop of the diocese. The ancient church had become so much dilapidated that it was found impossible to repair it. The population of the village is only about 240, and accommodation has been provided in the church just consecrated for 150 persons. The style is Early Decorated. The church consists of nave and chancel, with small tower, which is intended to be crowned by a spire 90 ft. in height. All the stone has been raised in the neighbouring quarries at Stanway, the property of the Earl of Wemyss. That used for the general walling is the common stone of the district: that used for the windows, doorways, and dressings externally, is a very hard material, and although much more difficult to work than freestone, has been selected on account of its durability. For the internal dressings a white local freestone has been adopted. The flooring of the nave and chancel is of Minton's tiles, mixed with local blue limestone. The seats are all of oak. The roof timbers are exposed, and are stained and varnished. There is a south entrance porch, and ornamental crosses surmount the gables. Messrs. Chidley & Edwards, of Stanway, were the builders. A memorial window has been erected at the east end of the chancel by the family of the late Mr. C. Marshall. The cost of the church and chancel (the latter the gift of the incumbent, the Rev. W. H. Bloxsome) is about 1,700*l*.

Yarmouth.—The church of St. Nicholas, some time in the course of restoration, was opened on the 21st, with considerable ceremony, a portion only of the contemplated works being completed. This includes the central tower, the arcades which form the abutments thereto, the parapets and pinnacles to the same, and the whole of the church east of the tower. Of the tower, the defective portions of the walls (including the whole of the facing of the lower and central parts) have been cut out and reinstated. The walls blocking up the arches which divide the nave from the chancel and its aisles, have been taken down, thus throwing open the whole of the area. The east end has been taken down and lengthened to the full extent. A five-light window of the Geometric Decorated period, with bold angle turrets on either side, form the principal features of the new eastern façade. The tracery head of the above window is fitted in with stained glass by Messrs. Morris & Marshall, from designs by the architect. The remainder of the window and the whole of the two new side windows are fitted in for the present with clear glass. The whole of the chancel is covered in with a new roof of English oak, boarded inside. The roof is covered externally

with lead, and is finished at the ridge with ornamental lead cresting. The leadwork of roof, &c., was executed by Mr. Woolverton, of Yarmouth. New sedilia have been erected. The portion of the chancel east of altar-rail has been laid with encaustic tiles, by Mr. Godwin, of Lugwardine. The remainder of the chancel has had a bed of concrete, 2 ft. thick, laid over its whole surface, and floated to an even face, so as to receive ultimately such flooring as may be determined on. The stone used in the construction of the works is Ancaster stone, from the quarries of Mr. Thompson. The whole amount expended on the works up to the present time is nearly 6,000*l.*, a portion of which still remains to be subscribed. The architect was Mr. J. P. Seddon; first, Mr. A. W. Morant, and then Mr. J. T. Bottle, acting under him. The contractor was Mr. Thomas Williams, of Cardiff: his foreman of works was Mr. William Sier. The carving was executed by Mr. Allen, of London.

DISSENTING CHURCH-BUILDING NEWS.

Stanstead (*Essex*).—The first stone of the new chapel, about to be erected in this village, has been laid by Mr. J. Perry, of Chelmsford. The chapel is to cost about 1,400*l.*, towards which the congregation, aided by friends, have already contributed 1,100*l.*, leaving only 300*l.* to be raised. The architect is Mr. Jasper Cowell, formerly of Henham, now of Islington. The style will be Italian, freely treated, the dimensions being 62 ft. by 40 ft. in the extreme.

Stratford (*Essex*).—The foundation-stone of a Presbyterian church has been laid here. The style is Early English, freely treated. The walls externally will be faced with picked seconds, intermixed with a few bands of white bricks, the jambs and mullions, dressings, and spire of Bath stone. The church, with galleries, will accommodate 800 persons, and is to be divided internally with nave and aisles by iron columns, which will carry the galleries and continue in support of the roofs. The ceiling is of an octangular form, the upright portion being formed in the plaster to represent an arcade: the remainder is to be subdivided into panels by moulded ribs. The galleries will not be wholly enclosed, but the upper half under the moulded edge of the book-board is to be filled in with scroll iron panels, similar to the rostrum. The lecture-hall and vestries, with the other requisite offices, will flank the church, and the latter will accommodate 200 persons. The cost of the whole will be about 5,800*l.* Mr. Alexander Peebles, of London, is the architect, and Mr. Thomas Ennor the contractor.

Tiptree.—The newly-erected Congregational church at Tiptree-heath has been opened for public worship. The new edifice is situate upon the site of the former meeting-house, and is capable of affording sitting accommodation for about 500 persons. The building in plan is in the form of a cross, with minister's vestry, and two class-rooms in the rear, faced externally with white bricks, and bands, cornices, and dressings to the windows, and doorways of red bricks, the roofs being covered with tiles and ornamental ridge crests. The windows are Early English lancets, glazed with Hartley's opaque glass in imitation quarries. The principal front has the entrance porch (with the memorial stone in the gable) leading to the body of the chapel, and side porches containing stone staircases to the galleries. Over the centre entrance is a triple window filling the front gable, and a similar window in each transept, the gables being capped with stone coping and finials. The galleries extend round three sides and into the transepts. The interior fittings are of varnished pine. The roof is open to the ridge, the ceiling plastered, showing the principal timbers, which are stained and varnished, and formed into arches spanning the nave and transepts. The walls internally are stuccoed and lined out as stonework. The heating is by a stove with descending flue into the chimney of the vestry; the ventilation by hopper casements in the windows and Sherringham's patent ventilators in the four gables and at intervals under the eaves. Accommodation is provided in open benches for 560 persons, including about 120 children. The contract was taken by Mr. Holland, of Sudbury, by whom the building has been executed for 970*l.* from the designs of Mr. F. Baines, of Ipswich, architect.

Harborne.—The memorial stone of a new Baptist chapel at Harborne has been laid by Sir Morton Peto, Bart., M.P. The building will accommodate about 300 persons. It will be of red brick with Bath-stone dressings. There will be two turrets 54 ft. high, one on each side of the entrance. Mr. Phipson is the architect; and Mr. Matthews the contractor.

Liverpool.—The new Presbyterian Church at Fairfield, erected in connexion with the Lancashire Presbytery, and the foundation-stone of which was laid in August last year, has been opened for public worship. The erection is in the Gothic style, from designs by Mr. Mason, of Castle-street, and has been built at a cost of 2,900*l.*, of which more than one-half is already paid. Mr. Urmson was the builder. There is accommodation for 440 persons.

STAINED GLASS.

Hawkhurst Church (*Kent*).—This edifice will shortly have two more stained-glass windows, one of which has been in hand some time, and is to be placed over the west door of the church. The subject of this window is Baptism, and it is the gift of Colonel Lloyd, of Lillesden. The second is now about to be commenced, and is to be put in the east end of the south aisle. The subject of this is to be the Resurrection, and the giver is Captain Jenings, of Elm-hill, in memory of his late wife. Messrs. Clayton & Bell are engaged on both of them.

Sutton Coldfield Church.—The chancel window of the parish church has been recently filled with stained glass by the rector as a memorial of his late father. The window is large, and of a peculiar style, neither Decorated nor Perpendicular, but partaking of a mixture of both. The various compartments present the following subjects:—The three upper lights in the tracery represent the Trinity, to whom the church is dedicated. The centre has Christ as God in an elliptic aureole, or glory: the other two lights have, Christ as man, holding, as an emblem of the Trinity, the intersection of the two triangles; and Christ the Holy Ghost with the figure of the Dove on His breast. In Christian "Iconography," the God *par excellence* is Jesus. In the four next lights of the tracery are, first, Bishop Vesey, the benefactor of Sutton, kneeling in the attitude of prayer. In the two next lights of the tracery are St. Peter, with a key, and St. Paul, with a sword in his hand, the patron saints of Exeter Cathedral, of which Vesey was bishop. The fourth light contains St. John the Baptist, with a lamb in his right hand, and in his left a flag, inscribed "*Ecce Agnus Dei.*" The five lower lights are filled as follows: first, on the north, "The Annunciation," the Angel Gabriel appearing to the Virgin Mary and pointing to the dove, symbol of the Holy Ghost, in the cloud overhead: in the lower part of the light is an angel bearing a scroll, with "Behold the handmaid of the Lord." The second light has the "Adoration of the Shepherds," "the heavenly host" appearing above; and below is an angel with a scroll, "Unto you is born a Saviour." The centre light has Christ on the cross, with a nimbus around His head, and the three Maries at His feet: below is an angel with a scroll, "It is finished." The fourth light has the Baptism of Christ in the River Jordan, by St. John the Baptist, with the Holy Dove above, and beneath an angel bearing a scroll, "To fulfil all righteousness." The fifth light is "The Agony in the Garden."

Feniton Church (*Devon*).—A three-light stained-glass window has just been placed in the chancel of Feniton parish church, as a memorial of the late Sir John Patteson.

Wythall Church (*near Birmingham*).—A large stained-glass west window has been erected in this church, designed and executed by Messrs. W. Holland & Son, of Warwick, in the Early Gothic style, containing in the large wheel opening the Ascension of our Lord, with the figures of the eleven apostles, surrounded by angels bearing the crown, palm branches, musical instruments, inscriptions, &c. Underneath, in the large single window, are the Nativity and Baptism, with inscription across the bottom. Between the above is a large cross, emblazoned in gold and colours with the emblems of the Evangelists at the corners, and I.H.S. in the centre, entwined with a ribbon having the words, "I ascend unto my Father and your Father, and to my God and your God."

Holy Trinity Church, Meanwood (*Leeds*).—Two stained-glass windows have been placed in this church, one in memory of the late Misses Beckett, the founders, and the other in memory of the late Mr. C. Beckett. The windows a lancet-shaped, and that in the south transe has two lights, containing the following subject illustrative of the history of our Lord:—T Annunciation, the Worshipping of the Ma Christ with the Doctors in the Temple, t Baptism, the Temptation, and Transfiguration Christ. The east window has three lights, larger dimensions than the others; and the ce tral light is filled with four of the closing scen of Christ's life, and the side lights have ea four subjects from the Old Testament, typical those in the centre. At the upper part of th middle light is the Ascension. Typical of th is the Translation of Enoch on the one side, a on the other the Translation of Elijah. Und the Ascension is the Resurrection, with its type the Raising of Joseph from the Pit, and th Landing of the Prophet Jonah. Next belo these are the Crucifixion and the Offering up Isaac, and Moses raising the Brazen Serpent, typical of it. The lower part of this window h the Last Supper, and types—the Fall of Mann and Moses striking the Rock. The window have been executed by Mr. Preedie, of London.

Miscellaneous.—Some months ago, says th *Carlisle Journal*, we stated that Messrs. Joh Scott & Son, of this city, had received commi sions for two stained glass windows—one fo Bombay, the other for Dundee. The first these has now been executed. It is a triple lancet memorial window, in the Early Englis style. The subjects represented are the An nunciation, the Shepherds watching, the Birt of the Saviour, on the right; the Crucifixio the Resurrection and Ascension, in the centre and the Wise Men's Offering, the Presentatio in the Temple, and the Flight into Egypt, on th left. The other window, intended for Dunde is rapidly approaching completion. This is two-light window in the Decorated style. Th most prominent features of this window are tw large figures of the Saviour. One of these i taken from Holman Hunt's celebrated picture "The Light of the World," and the other is companion figure, "I am the Bread of Life." Beneath these chief figures are two groups "Healing the Blind," and "The Marriage a Cana;" and the window will be finished abov in tabernacle and other canopy work.——W some time ago, says the *Shrewsbury Sentinel* drew attention to a stained glass window, th work of Messrs. Done & Davies, of this town and which was placed in the cemetery chapel, i memory of Mr. D. Evans, and of his son, Mr. C Evans. A few days ago we had an opportunity of inspecting another stained-glass window, exe cuted by the above firm for the Rev. E. C Swainson, who intends to have it placed in St Michael's Chapel, Coom Head, near Marsh Brook, which is being restored. It is a smal Norman window, the subject being the Crucifixion. Over the cross is a canopy of foliated ornament; and in the lower part of the window is a richly-coloured pedestal of the passion flower and foliage. A border runs round the whole.

MUSIC AND ENTERTAINMENTS.

Royal English Opera.—We must wait for the production of a fresh opera before pronouncing on the undertaking of the new Opera Company who, with a good capital subscribed, now hold Covent Garden Theatre. "Masaniello" and "Martha," while they afford the great advantage of coming at once before the public with magnificent appointments ready to hand, have the disadvantage of subjecting the singers to severe comparisons fresh in memory. Mdlle. Parepa and Mdme. Lemmens-Sherrington come out of the ordeal with flying colours; but we cannot say quite as much for some other members of the company. As Mr. Macfarren's "Helvellyn" is announced for next week we shall not have to wait long. Mr. Adams, the new tenor, promises to be a valuable addition to our operatic stage. Mr. Alfred Mellon, as conductor, and Mr. A. Harris, stage-manager, are two good cards in the company's hand.

St. James's Hall.—On Tuesday last, Professor Anderson demonstrated very clearly and cleverly, to a Hall-ful of invited guests, that the rapid untying and tying again of persons securely bound up, on which the performances of the Davenport, Fay, & Palmer party are founded, can be performed without supernatural interference. Such evidence ought not to be needed, but it seems that it is. A large number of gentlemen connected with periodical literature were present, and a committee of a

zen or fifteen persons was appointed to see all r. This included Mr. Tom Taylor, Mr. Bayle rnaul, Mr. Henry Mayhew, Dr. Wakley, Mr. dwin, Captain Burton, Mr. Friswell, Dr. Rees, . John Hollingshead (as chairman), and others ose names are known. The daily papers have fully reported what took place that it is ecessary to go over the same ground. Suffice to say that in the experiment where Mr. Ander-'s clever little daughter and his treasurer were ced in "the structure" most securely bound, horn and bell were thrown through the aper-e in the door in one-third of a minute after binding, the treasurer's coat came through half a minute, and in one minute and three arters, when the doors were opened, the two erators were found hand in hand, free, bow-g to the audience. Whether or not the tricks re done quite as well by these experimenters, o are new to the work, as by the American rty, with a dozen years' practice, is of no con-quence whatever. Thanks were properly given the Wizard for the entertainment he had rded, and for the good that ought to grow t of it.

New Theatre, Manchester.—The number of perficial yards covered by the new theatre is 0, the architect tells us, not 480 as stated. On e opening night there were above 1,900 persons esent.

Books Received.

VARIORUM.

"The Relations of the Industry of Canada th the Mother Country and the United States," well, Montreal, publisher, is the report of a eech delivered by Mr. Isaac Buchanan, M.P.P., a political meeting; and the volume, which is ited by Mr. H. J. Morgan, author of "Sketches celebrated Canadians," also contains the print of a series of newspaper articles by Mr. uchanan, in defence of the national sentiments ntained therein; and the report of another eech delivered at a dinner to the Pioneers of pper Canada. There are also copious notes d annotations, introductory explanations, and pendix. In anything written or spoken by a an of ability, and of local celebrity, on the in-strial welfare and progress of Canada, we nnot but all feel interested here at home. The neral principle long held by Mr. Buchanan, d pervading all his speeches and writings, may thus epitomised:—"That while we in Canada ve no wish farther to increase our Customs ities, and while we look to doing away entirely ith those on tea, sugar, and all articles which e do not grow or manufacture, our provincial licy is not to incur debt for anything we can roid; and we shall never consent to reduce,—herwise than as a matter of reciprocity with e United States,—the duties on articles which e can grow or manufacture."——"Lancashire sistress and Emigration to Australia." This mphlet contains two letters addressed to rd Derby, as Chairman of the Central Dis-ess Committee, by "An Old Colonist." He aintains that in Victoria, the yield of gold as diminished; the value of property has ecreased; the rate of wages has declined; *audulent dividends* have been paid by eculative establishments; the revenue of e colony has declined and is still declining; nd it is now, and long has been, their great oject to stifle inquiry and to prevent the truth eing known. Wages, he asserts, "it is now dmitted are, for unskilled labourers, literally wer than in England; and for skilled arti-ans, in most cases where broken and lost time t taken into consideration, no higher; and even e *Melbourne Argus* for July 25th gives currency b the statement that the inquiry for labour of ll descriptions is very limited." The great squatting interest, he declares, is the only thing nat is sound in the colony.——"London Noises, isturbing Sleep. By C. J. B. Aldis, M.D., Medi-al Officer of Health to St. George's, Hanover-quare. Churchill, New Burlington-street." Dr. ldis will far more merit the public thanks than lessrs. Babbage and Bass for the suppression of rgan-grinding, should he succeed in silencing, y night, within the wide bounds of the metro-olis, the cocks that *will* crow, the dogs that will ark, the horses that will kick, the trains that ill screech and groan, and the donkeys (of rivers orders) that will bray, making night ideous, and murdering sleep. Apart, however, rom all night noises in the back settlements, here are other acoustic annoyances, even by day, than the poor organ-grinders, much requiring abatement. For example, while engaged, as at present, with literary work, in our *sanctum*, we are every morning, and literally for hours, serenaded by a lady neighbour behind the fireplace, who is making most persevering and commendable efforts to master the *piano*, or rather the *forte*. A little of this gratuitous music occasionally, executed by a skilful hand, might be tolerable, even during the hours of literary labour; but we need not attempt to describe the nervous condition excited by a pertinacious effort, of several hours' continuance, to master sometimes even a single tune. Could Dr. Aldis put a stop to such a nuisance as this, we should hold him entitled to a professional fee.——"An Answer to Report of the Commissioners in respect to Wall Paintings for the Palace of Westminster," by a Silent Member (Vickers), is a strong but quite justifiable protest against the want of consideration shown to Mr. Maclise, R.A. The commissioners admit to the fullest in their report that Mr. Maclise has devoted himself unselfishly to what he has undertaken, and will complete two works of unusual magnitude within a reasonable period of time; and yet, with obvious inconsistency, they treat him precisely as they do those who have refused or neglected to fulfil their engagements. We cannot suppose for a moment that their recommendation, in Mr. Maclise's case, will be attended to.——The current *Quarterly* contains an interesting article on "Workmen's Benefit Societies," showing the enormous extent of these organizations and their usefulness. Few persons are aware that the income of the largest,—the Manchester Unity of Odd Fellows,—is about 350,000*l.* a year; of which some 300,000*l.* are annually expended amongst the members, chiefly in sick relief; this large fund being raised by voluntary contributions, at the rate of about 5d. a week. "The Sanitary State of the Army in India," and "Photography," are also well treated of.——"Packing-case Tables" (Lockwood & Co.), compiled by W. Richardson, accountant, show the number of superficial feet in boxes or packing-cases, from 6 in. square up to large sizes.

Miscellanea.

Sham Antiquities at the Embankment.—Mr. Chubb writes,—A friend has just called in to show me three bronze keys of Roman manufacture, which he purchased from a navvy who had dug them out at the Thames Enbankment! On examination I found them to be recent castings, with the moulding sand in the interstices. I understand that a number of these and similar antiques are on sale by the industrious navvies at the embankment.

Liverpool Architectural Society.—At the last meeting, Mr. Boult presided. He announced that the subject for the next competition of student-members would be a music hall. If there were more than three competitors, two prizes would be given. Mr. Francis Horner read a paper entitled "Notes on Originality in Art," upon which discussion took place. Two volumes of photographs, taken in the neighbourhood of Bombay, and comprising views of a number of the rock temples, were exhibited by Mr. J. P. Bradley.

Exhibition at Bayonne.—A Franco-Spanish International Exhibition has been held in Bayonne, which has only recently closed. The building was a temporary structure of wood and canvas, lighted from the top with a portico of the same material, decorated with the arms of France, Paris, Madrid, and the Spanish provinces represented by their products. At first the price of admission was over 2 fr., but towards the close it was reduced to 50c., except on one day in the week, when a franc was charged.

Proposed Opening of Southwark Bridge.—In the Court of Common Council last week, a motion brought before the court was a recommendation by the Bridge-house Committee, that the proposal made by the Southwark Bridge Company to open that bridge free to the public for six months, for the sum of 1,834*l.*, and for a further period of six months for the sum of 2,750*l.*, be accepted. The matter gave rise to a very stormy discussion, but ultimately the motion was carried in the face of two amendments. Some technical obstacle, however, still remains to be overcome, the Coal, Corn, and Finance Committee having a say in the matter.

Fire at Blackfriars Railway Station.—A fire recently broke out in the booking-office of the Blackfriars Railway Station. Fortunately the flames were prevented from extending, and they were altogether put out before the arrival of the engines. The booking-office is entirely burnt out. The fire arose from an escape of gas. A temporary booking-office has been arranged, and fresh tickets obtained.

Norwich School of Art.—The annual distribution of the prizes to the students of this school has taken place. Mr. Barwell, in opening the meeting, explained that a deputation of nearly 100 gentlemen from various schools of art had gone to the Privy Council Office, and had an interview with Lord Granville, the result of which was, that certain modifications in past arrangements were agreed to, as well as measures for the obtainment of a parliamentary committee on the grievances of the provincial schools. The Rev. A. Jessop, delivered the prizes, which included eighteen medals, and many other prizes and certificates of merit.

Medical Officer of Health for Marylebone.—On the day appointed for the reception of candidates for the appointment of medical officer of health for Marylebone, the applications were four in number, viz., from Dr. J. J. Gillan, of Aberdeen and Surgeons' Hall; Dr. J. Stevenson, member of the Colleges of Physicians and Surgeons, and Bachelor of Medicine in the University of London; Mr. S. H. Marshall, Licentiate of the Faculty of Physicians and Surgeons of Glasgow; and Dr. J. Whitmore, St. Andrew's, Licentiate of the Apothecaries' Company, and Member of the Royal College of Surgeons. On the numbers being taken there were—for Dr. Gillan, 1; for Dr. Stevenson, 24; for Dr. Marshall, 0; for Dr. Whitmore, 60. The chairman declared that Dr. Whitmore and Dr. Stevenson were the selected candidates to go to the ballot.

New Docks.—Plans have been prepared of extensive docks to be made at Burnham, on Bridgwater bay, Somerset, or rather between Burnham and Highbridge, on the Great Western line; and application is to be made to Parliament next session for the usual powers to constitute the company. The contractors, who are also promoters of the new docks, will be Messrs. Waring, Brothers.——At a recent meeting of the Lynn Town-council a plan and report by Messrs. Brunlees & Bruce, C.E., were produced, for the formation of a dock of 6½ acres, with spacious lock entrance at the north end of the harbour, and with branch lines from the Great Eastern and Sutton-bridge lines, at a total estimated cost of 60,000*l.* It is intended to bring the subject before a special meeting of the council, and to ask them for a vote of 20,000*l.* towards the project; and the promoters entertain hopes that the Great Eastern, Great Northern, and Midland Railway Companies will subscribe the whole or part of the balance.

The Sanitary Condition of St. Mary's, Islington.—The report for September, as prepared by Dr. Ballard, medical officer of health, states that the registered mortality for the five weeks ending October 1st amounts to 320, which, although short of that in Septeraber last year, is still 21 above the corrected mean of eight years. The excess appears principally due to an unusual number of deaths from consumption and diseases of the chest. Of the nine deaths from fever registered, four are stated to have been caused by "typhus." Scarlet fever appears again to be on the increase, the deaths having risen from six in four weeks to fifteen in five weeks. The weekly mortality from it was 5, 4, 9, 3, 8. Of the three deaths from small-pox, one was of an unvaccinated child in Adelaide-square. This is the fourth death from small-pox in Adelaide-square during the last few months. The returns made by the Islington inspector of bakehouses, who since his appointment has visited 192 bakehouses, disclose a shocking state of matters, both as regards the health of the workmen and the purity of the bread. In several instances there are even privies in the very bakehouses! In one of three such cases there was neither trap nor pan,—nothing but a mere wooden bar across an open drain. In one instance the foul slop from a drain lay among the baker's feet at the trough. A pork-pie baker has just been convicted of keeping a dirty bakehouse, in which a horse was stabled! These and such like disclosures are more than enough to disgust the public altogether with "the staff of life" as supplied by the public bakers.

Heston Church Demolition.—At a special council meeting of the London and Middlesex Archæological Society, held at the Society's Rooms, Mr. J. W. Butterworth, F.S.A., in the chair, it was resolved:—

"That this meeting, having heard that it is in contemplation to destroy the parish church of Heston, which contains many features of archæological interest, considers that a respectful protest should be made and forwarded to the proper authorities."

This was accordingly done.

Academy of Brussels.—M. de Keyser, recently appointed director of the Belgian Academy, has just made his inaugural speech. He concluded with an energetic protest against the idea of a school departing from its traditions, its original idea, and attempting to graft in its stock the taste and the methods of another and a different one; concluding with a declaration that, in his opinion, mural painting—of which, however, he spoke with the greatest respect—was utterly opposed to the spirit of Flemish art, of which Rubens might be taken as the most splendid embodiment.

Manufacture of Zinc White.—An invention has been patented by Mr. George Darlington, of Minera, which consists in the production of zinc white (white oxide of zinc), from oxidised compounds of zinc, such as roasted blende, calcined calamines, zinc ashes, zinc dross, or old zinc, by mixing such materials with coal or coke from which all their original gaseous matters have been expelled by heat or any other well-known means, the proportion of such admixture being usually about three parts of fuel to one part of metal contained in the ore, but such proportion being necessarily dependent upon the fusibility of the gangue of the ore, the proportion of fuel to be increased or decreased as the ore is difficult or easy of fusion.

Electric Submarine Light.—This light has been tried, and proves, it is said, successful. In the midst of the darkest night, rendered darker still by a heavy fall of rain, the basin of Lorient, 100 yards in length, was lighted up as if by the sun at noon-day. The *Dinhayla*, lying at anchor at 100 yards distant, and the *Panama*, somewhat nearer, were both found to answer immediately to signals shown by the electric light. A diver descending to a depth of 6 yards in the sea, and at the same distance from the lanthorn, was enabled to distinguish the numbers on a carpenter's foot-rule, which was thrown to him. These experiments are thought to be conclusive as to the utility and value of the light.

Fuller's Telegraph Computor.—Until this little machine has been seen, says the *Star*, it is scarcely possible to understand how completely a mechanical contrivance can be made to do all kinds of computations. Perfectly simple and intelligible in plan, it is capable of solving almost any problem in arithmetic. At one operation it does both multiplication and division. Interest is calculated to the most perfect nicety. The possessor of the machine may gauge the contents of any vessel in a minute. The most intricate calculations are worked with the most perfect ease and simplicity. The principle upon which the machine is based is that of the ordinary sliding scale.

Railway Matters.—Plans for a central railway station for Manchester have been completed, in readiness for the usual Parliamentary notices of a scheme to be advertised next month, and the project itself has originated with one of the leading minds engaged in the administration of railway affairs. —— Surveying staffs are busily engaged, and plans are preparing, for a line of railway from Leeds to Hartlepool. The line is to commence at Leeds in connexion with the London and North-Western, and will pass, *viâ* Wetherby, Easingwold, and Helmsley, up Belsdale to Stockton-on-the-Tees. The country is one, although in the north-eastern district, quite unserved by railways. The line is to cross the Church Fenton and Harrogate, the York and Knaresborough, the Great North of England, the Malton and Thirsk, and the Stokesley Railways, and by a tunnel through Ingleby Bank to join the West Hartlepool Railway, thus gaining access to the great iron, coal, and shipping interests of the North. At Helmsley it is intended to form a branch, by way of Kirby-moorside, and Pickering (crossing the Malton and Whitby line), to Scarborough. The total length of this railway project is about 100 miles. The estimate is stated to be 1,500,000*l.* or 15,000*l.* a mile.

The New Covered Market in Derby.—The following is from the *Derbyshire Advertiser*. The dimensions of the Birmingham Market Hall are 363 ft. in length, 101 ft. in width, and mean height, from floor to top of roof, 50 ft. Those of the Derby Market Hall will be, in length 220 ft., 110 ft. in width, and in height, at the centre, 75 ft. The area of the Birmingham hall is equal to about 36,000, and that of Derby, 24,200 square feet; but the available space in the former is not so much greater in proportion, in consequence of the larger number of supporting columns used in its erection. The roof of the Derby Hall will be of one semicircular span of nearly 90 ft., and its extra height will render its cubic contents very nearly equal to that of Birmingham, while, at the same time, much greater facility is given to ventilation. The whole of the columns and spandrels for the sides are in their places, and several of the wrought-iron ribs are ready for raising, so soon as the cast-iron work is finished. The only features of the hall which afford room for regret are the absence of galleries in the plans, and the narrowness of two of the entrances.

Manchester and Salford Sanitary Association.—An address by Mr. T. Turner has been delivered at Manchester, introductory to an intended series of lectures on sanitary subjects, projected under the auspices of the above association. The mayor presided. In course of his address, Mr. Turner said,—One of the greatest difficulties the association had to contend with was ignorance. The poor were ignorant of the circumstances under which they lived; of the effects of foul air; of what entered into their system in the form of food. The association's object was to remove this ignorance. Their lectures were attended with regularity, and listened to with interest. Since the commencement of the association fully 500 lectures had been delivered to the poor in different schoolrooms and other buildings, the average attendance being about 500 persons. The association had also published 100,000 tracts, of which 60,000 had been bought and distributed, and cards containing information with respect to the treatment of children and of certain diseases of a contagious character, had been distributed to the number of from 30,000 to 40,000. House-to-house visitation had also been tried, and in this the Ladies' Association and the City Missionaries had rendered very efficient help. The newspaper press of Manchester had placed the association under the deepest obligation for the assistance they had rendered in giving publicity to the weekly reports, and in making their objects known in other ways.

Utilization of Sewage.—The Metropolitan Board of Works have intimated to the Carlisle Local Board of Health their intention to visit Carlisle this Saturday, with a view of inspecting the works now in operation in that city for the utilization of sewage. The sewage of the town, first deodorized by Mr. M'Dougall's patent, is pumped into a main canal, from which it is dispersed over any part of the soil of 80 acres where it is required, by means of smaller gutters. This irrigation of the meadows is said to be attended with the most beneficial results. The earthen trenches becoming choked up, movable iron pipes were substituted for the aqueducts which communicated with the main canal. The whole of the sewage of the town, it is said, has been applied to the land, and it has not been found at all too much for the area to be irrigated; experience showing that more might be applied with good results to these 80 acres. The deodorization has been complete. Although the meadows are close to the town, and surrounded by favourite public walks, not the least complaint has been made of any offensive smell. During the past summer, when all the neighbouring pastures were brown and bare, these meadows were green and luxuriant. The chairman of the Metropolitan Board of Works, in his letter to the Carlisle Local Board, says the Board have been informed that the operations of Mr. M'Dougall, at Carlisle, "have been attended with considerable success;" "but they feel, before accepting in their full extent those favourable reports, that it is their duty to ascertain, from independent testimony of the municipal authorities, how far the method of application may be consistent with public convenience, more especially in its sanitary bearings." Hence their proposed visit to Carlisle. They also intend, it is stated, to extend their sanitary tour to Edinburgh.

Relics of Ancient Liverpool.—In turning the corner of South John-street and Canning place, with the new sewer, it became necessar to sink it 3 ft. below the level of the existin one, and as the excavations were being drive northward, along the middle of the street, o nearly so, the workmen came upon a well 26 f deep from the surface (filled with salt wate which moves with the tide), and 5 ft. square The brick arch on being removed exposed th heads of two English oak trees, placed on th right and left side of the well, and grooved a though they had been the uprights of a clough probably used either as a sewage outfall, or sluice from the old pool for keeping the old doc as clear of mud as possible, in the days when most likely, dredging-machines were unknown About fifty yards farther up the street, two mor wells have been struck. These wells, or rathe the tidal waters which they disclose, are likel to give trouble.

TENDERS.

For the erection of schools of Our Lady of Moun Carmel, Liverpool. Mr. Pugin, architect:—

Middlehurst	£2,138	0	0
Ward, Brothers	1,930	0	0
Rome	1,870	0	0
Baynes	1,832	0	0
Glaister	1,820	0	0
Hughes (accepted)	1,700	0	0

For bar-fittings and decorations to hotel, South Lam beth, for Mr. E. Fitzgerald. Mr. W. F. Potter, archi tect:—

Steed	£270	0	0
Williams & Jenkin	228	15	0
Honour	225	0	0
Moore	202	0	0
Hore	200	0	0
Warne	187	0	0
Sabey & Son (accepted)	175	0	0

For pewterer's work to same:—

Gallicane	£95	15	0
Richards	93	15	0
Bowen	90	0	0
Warne	85	0	0
Helling (accepted)	75	0	0

For repairs and alterations to the Crown Tavern High-street, Southwark. Mr. Isaac Bird, architect:—

Downes	£936	0	0
Brown	812	0	0
Ebbs & Sons	808	18	0
Williams	787	0	0

For alterations, &c., at Shottery Hall, near Stratford on-Avon, for Captain Curry, R.N. Mr. Joseph Lattimer architect:—

Branston & Murray	£6,370	0	0
J. & G. Callaway	6,115	0	0
Marriott	5,975	0	0
Bennett	5,400	0	0
Green	5,300	0	0
Street & Birch	5,120	0	0
Jeffery & Pritchard	5,063	0	0
Espley (accepted)	4,976	0	0

For the erection of new offices, for Messrs. Robert Co., Perseverance Iron Works, Lincoln. Mr. W. Wat kins, architect. Quantities supplied:—

Styles	£1,385	0	0
Fotherby	1,226	0	0
Wallis & Son	1,175	0	0
Singsby	1,160	0	0
Taylor	1,156	0	0
Barker	1,149	0	0
Reeve	1,144	0	0
Huddleston (accepted)	1,110	0	0

For Free Methodist Chapel, Normanby-by-Spital Lincolnshire. Mr. W. Watkins, architect. Quantities supplied:—

Kendall	£901	0	0
Freeman	890	0	0
Hunter	807	0	0
Reeve	779	0	0
King & Styles	751	7	0
Mace & Smith	714	0	0
Tye & Richardson (accepted)	660	13	6

For County Police Station, Sittingbourne. Mr. Martin Bulmer, county surveyor. Quantities supplied by Mr. G Ruck:—

Cushing	£3,350	0	0
Spicer	3,000	0	0
Miller	2,830	0	0
Shrubsole	2,755	0	0
Bonnett	2,753	0	0
Wallis & Clements	2,730	0	0
Naylar & Son	2,693	0	0
Jennings (accepted)	2,370	0	0

For the erection of house and shop and alteration o adjoining premises at Eastgate, Rochester, for Mr. J. A Edwards. Mr. J. H. Andrews, surveyor:—

Kemp	£700	0	0
Jennings	609	0	0
Sollett	590	0	0
Lilley & Son	580	0	0
Hopper (accepted)	578	10	0

For the erection of nine cottages at Strood, includin the old materials of cottages, &c., for Mr. J. L. Ed wards. Mr. J. H. Andrews, surveyor:—

Couchman (accepted)	£650	0	0

For the erection of three cottages at Strood, for Mr. J Elvey. Mr. J. H. Andrews, surveyor. Bricks, lime, an sand provided:—

Jennings	£238	0	0
Lilley & Son	284	0	0
Hopper (accepted)	270	0	0

TO CORRESPONDENTS.

llson (we appreciate the kind vote of thanks on the part of the "Carrers' and Gilders' Asylum," and agree with the that "the Institution is deserving of a larger amount of sup- an it has hitherto received")—M—V. P.—J F—E S (should ent us some particulars in the first instance)—R. L. R— —Mr. P—C. & Co.—Son of a Burgess of Walsall.—A Constant —J. C.—B. & Co.—W. D.—T. H. W.—C. B. A.—H. H. C.— S.—A. J. R.—H. R.—J. R.—E F. (we cannot tell without seeing . F. as to Sliding Shutters (has been forwarded)—A Builder (ask spot. We do not give addresses)—E. C (we must see photo- to judge)—J. P C—D E.—C. G.—W. H P—Mr. C.—P. T.— . L & L.—H. H.—Amberley.

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III. VENETIAN STATE PAPERS.
IV. SMITH'S DICTIONARY OF THE BIBLE.
V. HEALTH OF THE ARMY IN INDIA.
VI. PHOTOGRAPHY.
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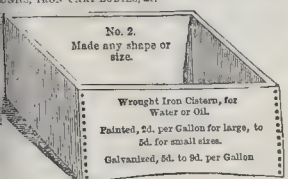
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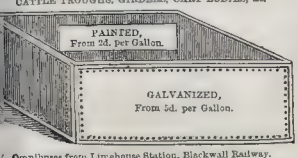
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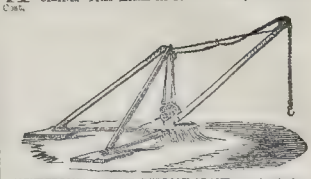
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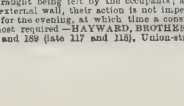
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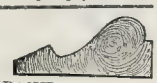
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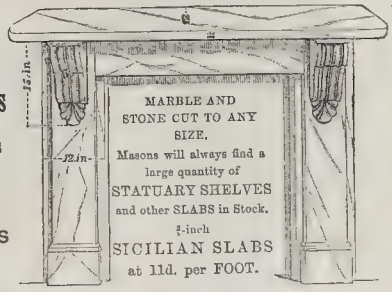
X STONE CHIMNEY PIECES
for 5s. 6d.
Truss ditto ditto, 11s. 9d.

ONUMENTS AND TABLETS
in great variety, equally low in price.

ASONS' WORK OF ALL KINDS
CONTRACTED FOR,
AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF
00 CHIMNEY PIECES
always to choose from.

PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIECE
for £1 5s.
First-class Bed-room ditto, £1 10s.

FIRST-CLASS
TRUSS MARBLE CHIMNEY PIECES
from £2 5s. to £3 5s.

A WELL-CARVED
STATUARY CHIMNEY PIECE
with 13½-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
FOR THE SUM OF £6.
Nett Prompt Cash.

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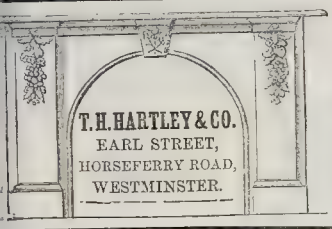
THE MESSRS. FREEMAN
AND
CHEESEWRING GRANITE COMPANY (LIMITED).
OFFICES: — 13, PRINCESS SQUARE, PLYMOUTH.

Estimates for Granite, Polished, Dressed, or Scappled, will be forwarded on application to the Secretary, 13, Princess-square, Plymouth; Quarries at Penryn, Penzance, and Cheesewring; Steam Polishing Works at Penryn and Cheesewring.

ORDERS ALSO RECEIVED AT 27, MILLBANK STREET, AND 93, CANNON STREET.

STATUARY AND OTHER MARBLE CHIMNEYPIECES.

ARCHITECTS, BUILDERS, and MASONS will find at
W. WILLETT'S SHOW-ROOMS, MARYLEBONE ROAD, N.W.
OPPOSITE THE YORKSHIRE STINGO,
LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Orders.
CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.



STATUARY MARBLE
CHIMNEY-PIECES.
The Largest Stock in London on View at the
WESTMINSTER MARBLE WORKS.
From the great extent of Carving and Sculpture in operation at this Establishment, assisted by Machinery for Sawing, Moulding, and Polishing Marble, with Steam Power, every variety of Marble Work is executed with great despatch, and the Charges the Lowest in London.

ARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and coloured in fourth the usual time, as Parian Stucco may be painted or papered in forty-eight hours. A finer quality produces a beautiful and l scagliola imitation of marble. — Manufacturers, FRANCIS, YTHERS, & POTT, Nine Elms, London.

I NTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 30, CONDUIT STREET, REGENT STREET.

NCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

OORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
hom the Prize Medal was awarded in 1851, are prepared to supply quantity of the very best PORTLAND CEMENT, manufactured them for all purposes to which cement is applicable. Orders ived at Great Scotland-yard, Whitehall, and at the Works.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
OORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & WHITE,
ate Lark, Fletcher, & Co. are prepared to supply their Cements, the best quality and on the most advantageous terms, either for ooing, brickwork, or for tidal works, or otherwise, and for home foreign trade, either direct from the Manufactory, or at the HITE LION WHARF, BANKSIDE, LONDON.
W.R.—Shipping merchants for the foreign trade treated with on the at advantageous terms. Ships of any size loaded afloat and along- s. HYDRAULIC LIME MANUFACTURERS OF THE BEST ALITY.

DURE HYDRAULIC LIME, Manufactured
from the best HALKIN MOUNTAIN LIMESTONE, same as pplied for the construction of the Liverpool and Birkenhead Docks.
he HOLYWELL LIMESTONE COMPANY are prepared to deliver s above, in lump or ground, packed in bags, into waggons, at the ywell Station of the Chester and Holyhead Railway, or on board nals at Greenfield Wharf, Chester River.
rices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
e Company guarantee the quality of the Lime to be equal to that ed by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREAVES'S BLUE LIAS LIME,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

BURHAM BRICK, LIME, and CEMENT
COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

STAFFORDSHIRE RIDGING and ROOF-
ING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere road, Lambeth, and Kent-road Bridge.

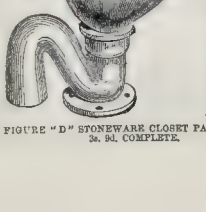
HYDRAULIC LIME and ROMAN
CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and connecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The limestone can be had in full cargoes also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to R. & W. AARON, Agents, 66, South Johnstreet, Liverpool.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

PRIZE WAGGONS and CARTS.—
HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom, Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.
HAYES & SON,
SCOTGATE WORKS, STAMFORD.

CARTS, LADDERS, BARROWS, &c.—
GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks, and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c and every description of Contractors', Builders', and Decorators' Trade Requisites.
Vans, Waggons, Dobbin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways. Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.
Price Lists on application.
GEORGE ELL & CO.
LONDON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, No. 6849.
3s. 9d.



The ONLY MEDAL "for STONEWARE"
has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S

NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
See Advertisement first Saturday in the Month, or on application.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

NOTICE TO ARCHITECTS AND THE TRADE.

J. DEFRIES & SONS,

GAS ENGINEERS AND MANUFACTURERS OF

CRYSTAL, BRONZED, AND ORMOLU CHANDELIERS, IMPROVED CRYSTAL STAR AND SUN LIGHTS,

FOR LIGHTING AND VENTILATING PUBLIC AND PRIVATE BUILDINGS.

SPECIAL DESIGNS PREPARED in perfect ACCORDANCE WITH Architectural Arrangements.

Estimates furnished FOR THE LIGHTING and Fitting up of Theatres, Music-halls, and Public or Private Buildings with Gas, &c.

WORKS, LONDON and BIRMINGHAM.
MANUFACTORY and CITY SHOW ROOMS, 147, HOUNDSDITCH.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether it under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

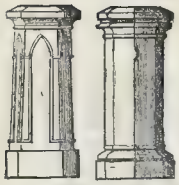
JAMES STIFF & SONS,

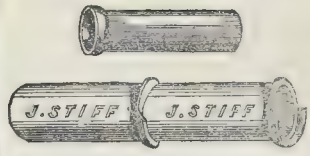
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



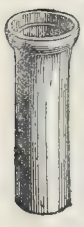


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of future connections.

Manufacturers of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for on all Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS.
WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PORTLAND CEMENT.

This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by

FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HOWARD & CO.
MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

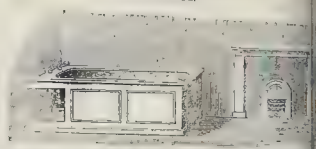
J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

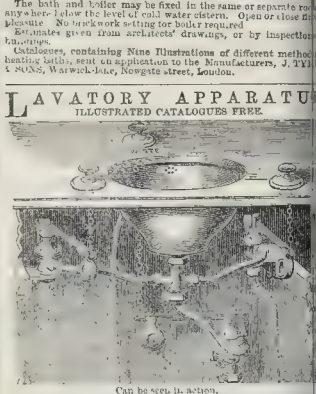
The Regulator Valve gives perfect control over the supply of w to each closet, so that, however small the fall of water, perfect flu ing is insured. Any number can be worked by one supply-pipe. sistern, valves, cranks, or wires required. The Closets can be see action at the Manufactory, and Illustrated Catalogues had on a cation to the Manufacturers, J. TYLOR & SONS, Warwick-l New-street, London

J. TYLOR & SONS' PATENT BA
APPARATUS.

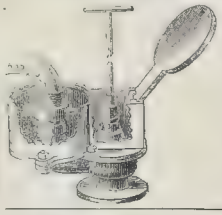


The bath and boiler may be fixed in the same or separate ro anywhere below the level of cold water cistern. Open or close fi pleasure. No brickwork setting for boiler required. Estimates given from architects' drawings, or by inspection Catalogues, containing Nine Illustrations of different metho heating baths, sent on application to the Manufacturers, J. TY & SONS, Warwick-lane, Newgate street, London.

LAVATORY APPARATU
ILLUSTRATED CATALOGUES FREE.

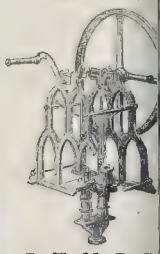


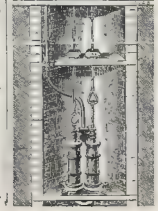
Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS
WARWICK LANE, NEWGATE STREET, LONDON.



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HYDRAN
J. TYLO
& SONS,
WARWICK
LANE,
NEWGATE
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DEEP OR SHALLO
WELLS,
WATER BOATS, &
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MANUFACTURERS,
WARWICK LANE,
NEWGATE STREE
LONDON.

JOSEPH CLIFF & SON,

WORTLEY, near LEEDS,

MANUFACTURERS OF

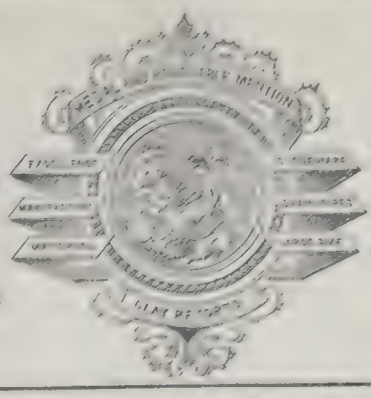
GLAZED SOCKETED DRAIN PIPES,

TERRA COTTA CHIMNEY TOPS,

FIRE BRICKS, CLAY RETORTS,

AND

Fire Goods of all descriptions.



MARCUS BOURNE NEWTON,

LONDON AGENT

WHARF No. 4,

GREAT NORTHERN GOODS STATION

KING'S CROSS, N.,

Where is always on hand a

STOCK OF FIRE GOODS,

TERRA COTTA WARE,

AND

DRAIN PIPES,

From 2 inches to 24 inches Diameter.

SNOXELL & CO.'S

PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). References to fourteen years' use without repair if required.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. *Manufactory*—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing, complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, [illegible] for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Sash Bars, Stall-Boards and Iron Rail Fixed at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 175, GRAY'S INN ROAD, HOLBORN, LONDON.

REVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

CLARK'S PATENT,

FOR

SHOP FRONTS,

2s. 2s. 6d. 3s. and 3s. 6d.

Per Foot Super.

THE MOST SIMPLE AND SECURE SHUTTER EXTANT.

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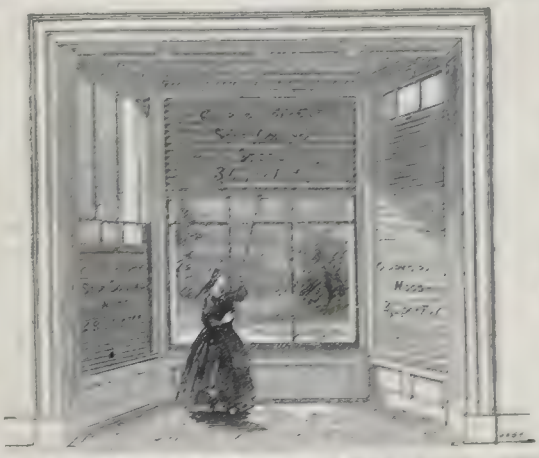
4, MARKET STREET, MANCHESTER;

GLASGOW,

[illegible], BUCHANAN STREET;

LONDON,

9, TALBOT STREET.



CLARK'S PATENT,

FOR

PRIVATE HOUSES,

2s. 6d. and 3s. 6d.

Per Foot Super.

BURGLAR AND FIRE PROOF.

Branch [illegible]

PARIS,

42, RUE NOTRE DAME DES VICTOIRES;

[illegible],

RUE DE LA PAIX;

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KINNERT & [illegible];

SYDNEY,

51, HUNTER STREET.

CHIEF OFFICE, CATE STREET, LINCOLN'S INN FIELDS, LONDON.

WORKS, GEORGE YARD, QUEEN STREET.



Ball Regulating Pan Closet.

THOMAS LAMBERT & SON,



Lambert's Ball Valve.



High Pressure Bib and stop Valve.



PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBERT &, T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

ARROWSMITH'S SOLID PARQUET [illegible]

PARQUET FLOORING

TO ARCHITECTS AND BUILDERS

JACKSON & GRAHAM

[illegible]

SALES BY AUCTION.

CLAPTON PARK ESTATE, Lower Clapton, Middlesex.—Eligible FREEHOLD BUILDING LAND, Land tax and Tithe free.

MR. J. TAYLOR is instructed to SELL by AUCTION, at GARRAWAY'S Coffee-house, Change alley, Cornhill, on MONDAY, NOVEMBER 7th, at TWELVE for ONE o'clock, 80 Lots of FREEHOLD BUILDING LAND, in Clapton-road, near to St. John's Church, Hackney, suitable for the erection of Cottages. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent. interest, to be paid in nine years by equal half-yearly instalments; but the whole or any part of the Balance may be paid off at any time without notice.—Particulars and conditions of Sale may be obtained of T. W. ROGERS, Esq. Solicitor, No. 70, Fenchurch-street; at the Tontine Tavern, Clapton; of Messrs. HAMMACK & LAMBERT, No 59, Bishopsgate-street Within; at the Place of Sale; and of the Auctioneer, No 70, Fenchurch-street, City.

LLOYD'S MARBLE WHARF, PIMLICO.—To Sculptors, Masons, and Others

A SALE of MARBLE by AUCTION will take place at the above Wharf, by order of Messrs. Lloyd, on TUESDAY, NOVEMBER 1st, at ELEVEN for TWELVE, consisting of a large assortment of Marble, in Blocks and Slabs, viz. vein statuary, Sicilian, emperor's red, dove, black and gold, Dardilla, and other marbles: also about 1000 feet of slab, in nearly all the above varieties. Approved bills of four and six months. May be viewed two days previously, and catalogues had at the Place of Sale, No. 1, Grosvenor road, adjoining Vauxhall Bridge

100 Italian and English Marble Chimney-pieces, some of noble proportions and carved by foreign artists; Monuments, Fonts, Columns, Register Stoves, with ornamental bright steel fronts, and a selected importation of Sculpture in Carrara Marble.

MR. JAMES ROBINS (lately of the Piazza, Covent-garden), will SELL by AUCTION, at 465a, NEW OXFORD STREET, on WEDNESDAY next, NOVEMBER 2nd, at TWELVE, ONE HUNDRED MARBLE CHIMNEY-PIECES, some of considerable beauty and less athan proportions adapted for clubs, banking houses, and Hotels, drawing and dining rooms, boudoirs, libraries, ban queting halls, and bed-rooms, also register stoves and Italian sculpture — Now on view. Catalogues of Mr. JAMES ROBINS, Auctioneer, Valuer, Land and House Agent, 5, Chancery-lane, W.C. (Fleet-street end).

SUNNINGDALE, BERKS.—A very valuable Freehold Estate, comprising about 185 acres of Building Land, arranged in convenient plots for the erection of first class villa residences.

MESSRS. DRIVER & CO. have received instructions to SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, London, on MONDAY next, OCTOBER 31, at ONE o'clock precisely, in Eighteen Lots, some very valuable and desirable FREEHOLD BUILDING LAND, containing, together, about 185 acres, situate at Sunningdale, only about six miles from Staines and Egham, within a few minutes' walk of the Sunningdale Railway Station (which adjoins the estate), and is within an hour's ride of London. The lots are well timbered, beautifully undulated, and embellished with ornamental plantations, commanding from every point various and extensive views of the surrounding scenery, so justly celebrated for its picturesque and lovely character. Its close proximity to Virginia Water, Windsor Great Park and Forest, Bagshot Forest, and Ascot Racecourse, and the great diversity of walks and drives in the immediate neighbourhood, render this property unrivalled in its adaptability for the erection of first class villa residences. The drive to Windsor is between five and six miles through the parks by different routes, amidst some of the finest wooded scenery in the kingdom. The dry and healthy nature of the soil and air, the facilities afforded by the existence of good hard roads to all objects of attraction in the vicinity, its proximity to London, the advantages secured to contiguous residents by a reduction of the annual rate of season tickets, and the advantageous manner in which it is proposed to lay out the new road over the estate, afford peculiar advantages for building purposes. It is intended to form a new road through the property, commencing at the bridge of the high road, near which stands the principal lodge and gates of Sir Charles Crossley's estate, and which property immediately adjoins the Sunningdale and Belle Vue domains. Printed particulars, with plans, may be obtained of Messrs. EVERITT & LEWIS, 18, Tokenhouse yard, E.C.; of Messrs. JANSON, ROBB, & PEARSON, Solicitors, 4, Bainchall-street, E.C.; at the Estate Exchange, Change-alley, Cornhill, E.C.; at the Guildhall Coffee-house, Gresham-street, E.C.; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, 4, Whitehall, London, S.W.

ISLE of WIGHT.—Desirable Freehold Estate, called Wroxall Cottage, and Lot 2, delightfully situate, in the parish of Newchurch, close to the village of Wroxhall and Appuldercombe, only two miles from Ventnor, eight from Newport, and five from Sandown; containing about 61 acres of productive arable and grass land, with cottages and buildings, with the right of pasturage for 100 sheep on Wroxall Down; partly let and partly in hand: the whole being of the rental value of about £160 per annum.

MESSRS. DRIVER & CO. will SELL by AUCTION, at the GUILDHALL COFFEE-HOUSE, London, on MONDAY next OCTOBER 31st, at ONE o'clock precisely, in One Lot, the above valuable FREEHOLD ESTATE—particulars and plans may be obtained at the chief Hotels at Ventnor, Newport, Cowes, Ryde, Southampton, and Portsmouth; on the Premises; at the Estate Exchange, Change-alley, Cornhill; at the Guildhall Coffee-house; of Messrs. FRESHFIELDS & NEWMAN, Solicitors, Bank-buildings, City; of H. J. BECKINGSALE, Esq. and JAMES ELDRIDGE, Esq. Solicitors, Newport, Isle of Wight; and of Messrs. DRIVER & CO. Surveyors, Land Agents, and Auctioneers, No. 4, Whitehall, London, S.W.

EARLY SALE. Nearly 400 Lots.—CAMDEN TOWN, near the Old Eagle Tavern and Railway Station.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, on MONDAY OCTOBER 31st, at ELEVEN for TWELVE 18 loads WHITE FIR BALK, 1,500 planks, deals, and battens, 2,000 feet mahogany, 1,000 feet pencil cedar, 1,000 feet walnut, 1,000 feet wide pine, 100 squares flooring, mouldings, doors, cut stuff, quartering, scaffold-poles, cistern, chimney-pieces, paving, four capital ovens, and a quantity of useful old materials.—Auction-offices, Cardington-street, Hampstead-road.

LEASEHOLD MANUFACTURING PREMISES, Great Garden-street, Whitechapel; with Possession

MESSRS. FULLER & HORSEY are instructed by Mrs. Glasscott, who is relinquishing business, to SELL, by AUCTION, on TUESDAY, NOVEMBER 8th, 1864, at TWELVE o'clock precisely, on the PREMISES, the LEASEHOLD INTEREST in spacious Manufacturing Premises occupying a very large area, and arranged as a Brass Foundry, Turnery, Smith's Shop, Yard, Shop, and two Dwelling Houses, situate Nos. 4 and 5 Great Garden street, Whitechapel. The whole is held on Lease for a term of years, at £52 per annum. Immediate possession may be had To be viewed by the side.—Particulars may be had, in the Premises; of ALFRED TURNER, Esq. Solicitor, 15, Great Alie street, Whitechapel; and of Messrs. FULLER & HORSEY, 13, Billiter-street, Fenchurch-street, E.C.

TO BRASSFOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mrs Glasscott, who is relinquishing business, to SELL by AUCTION, on TUESDAY, NOVEMBER 8th, at ELEVEN o'clock, on the PREMISES, Great Garden-street, Whitechapel, in lots, the PLANT and IMPLEMENTS of a BRASS-FOUNDER; consisting of air furnace, two pit furnaces, seven melting and one brass-making machines, moulding trough and boxes, a winch, self-acting screw-cutting lathe, 10 gas lamps, lifting tackle, 6-inch cylinder, 10-inch power steam-engine, by Stewart, with Cornish boiler; edge runner, bell-filter, sugar mill and sugar pan, metal and wood patterns, three-light Church brass, nine four-light ditto, counter, desks, stools, vices and benches, scales and weights, pony-cart and harness, truck, iron safe, and numerous other lots. To be viewed on MONDAY preceding the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, Fenchurch-street, E.C.

TO BUILDERS AND OTHERS.—100,000 BEST SLATES.

MR. V. BUCKLAND will SELL by AUCTION, at the GUILDHALL COFFEE HOUSE, on TUESDAY, NOVEMBER 1st, 1864, at TWELVE for ONE o'clock, in lots suitable to purchasers, 100,000 BEST SLATES, of various sizes.—Catalogues can be had of the Auctioneer, 88, Cannon-street West; or by post, on application.

WHITTLESFORD, CAMBS.

MESSRS. COCKETT & NASH will SELL by AUCTION, on TUESDAY next, NOVEMBER 1, 1864, at ELEVEN for TWELVE precisely,

A Fall of BEECH, ELM, and ASH TIMBER,

with a few Oak, Larch, Spruce, and Scotch fir Also

FOURTEEN FINE WALNUT TREES,

Now standing in the village, about one mile from the railway station of the Great Eastern Railway. Three months' credit, &c.

Catalogues may be had of the Auctioneers, at Royston, Cambs.

ISLINGTON GREEN.—STOCK OF A MARBLE MASON.

MR. EDWIN WHITE will SELL (under an Absolute Power of Sale), without reserve, on the PREMISES, the ISLINGTON MARBLE WORKS, 12, Providence-place, Upper Islington green, opposite the Fox, on TUESDAY next, at ONE, the entire STOCK, consisting of about 30 statuary, vein, and Sicilian marble Chimney Pieces, 300 feet of veined and statuary marble in Slab, and Effects.—View and Catalogues, Monday and morning of sale.—Auctioneer's Offices, 13, Holborn-bars, E.C

SALE No. 233.

TO BUILDERS, CONTRACTORS, FIXTURE DEALERS, AND OTHERS.—Clearance Sale of a large quantity of valuable and useful Building Materials, the land being required for building purposes, comprising York and Portland Stone, Blocks, Land ties, Window Sills and Arches, Dressed Quoinings, Hearth stones, Sinks, &c. eight sets of Bunnett's Patent Iron Shutters, Wainscot, Oak, and Spanish Mahogany Shop-fronts; Office and Street Doors, Sashes and Frames, Glazed Compass Partitioning, Fire-proof Safe Doors, Iron Gates, Guttering, Gas Gun-barrel Pipe, Drain Pipes, Pan and Ridge Tiles, a large quantity of useful Timber Stuff in Oak and Fir Scantling, Quartering Boards, &c.; Railway Fir Fencing, &c.; a Timber Carriage, Spring Cart, &c. &c.

HAKES & SHAKELL are instructed by Mr. William Proctor, Contractor, to SELL the whole of the above Property by AUCTION, on the PREMISES, Grafton Mews, in the rear of No. 2, Prince Wales Road, Kentish-town, N.W. and in a Field at the rear of Wolsey-terrace, Kentish-town, N.W. on TUESDAY, the 8th of NOVEMBER, 1864, at TWELVE o'clock to the minute. Catalogues ready four days prior to the Sale, to be had of HAKES & SHAKELL, Auctioneers and Valuers, 71, Park-street, Camden-town.

TWICKENHAM PARK, near RICHMOND.—Most Eligible BUILDING LAND TO BE LET on Lease, for Ninety-nine Years, in Large or Small Plots. Money advanced, if required.—For particulars, apply to W. BACKHOUSE, at the Estate Offices, Twickenham Park; or EDWARD GUILLAUME, Esq. 14, George-street, Manaion House, London.

SURBITON.—To BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk from the station, and close to the river, for houses of not less than 80l. a year rent. A portion of the money will be advanced if required.—Apply to Mr. MUDIE, Victoria-road, Surbiton.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation There are four reception-rooms, two being 26 feet in length; eleven best bedrooms; stabling for eight horses and coach-house for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick built manufactory of two floors, engine and boiler houses, with 50 horse power steam engine and three Cornish boilers, range of lofty brick offices, workshops, and warehouses with gateway entrance. There is a water frontage of about 207 feet.—For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

BROWNSWOOD PARK, Green Lanes, Stoke Newington.—BUILDING LAND on the above Estate TO BE LET, for 96 years, at 4s per foot, for the Erection of Houses about 40l per annum. Good roads and sewers. Brick on the estate advanced cheap.—Apply to Mr J B PORTER, 8, Brownswood Park.

CITY WAREHOUSE.—WANTED, a large AREA in the Neighbourhood of St. Paul's, St. Martin's-le Grand, or Newgate-street; or Property which could be converted for building.—Apply by letter, stating particulars and terms, to Messrs. EDWARDS & JAMES, 18, King-street, Cheapside, E.C.

KING-STREET and GRESHAM-STREET, CITY.—FOR SALE, by PRIVATE CONTRACT, an exceedingly valuable and important LEASEHOLD PROPERTY, Nos. 18 and 19, Gresham street, and 18, King-street, in the heart of the City; comprising a modern substantial Stone Building, of handsome elevation, occupying an area of about 3,000 square feet, and occupied as first-class offices: term, 88 years; ground-rent, 400l. Possession can be had of part immediately, and of the remainder at early periods. Particulars may be had of Messrs. NEVE, WILSON, & FARRAR, Solicitors, Cranbrook, Kent; or of Messrs. NORTON, HOGGART, & TRIST, Auctioneers, &c. 62, Old Broad-street, London.

BUILDING SITE, close to High-street, Borough, suitable for the erection of warehouses or manufactories, premises TO BE LET or SOLD, with immediate possession, a CORNER PLOT of GROUND, having a double frontage of about 250 feet, and a depth of about 106 feet; in all about 14,950 feet superficial Plan may be seen and particulars had, at the Offices of Mr RICHARD ROBERTS, 30, Laurence Pountney-lane, Cannon-street.

PREMISES.—Very valuable PREMISES, situate in a main and populous neighbourhood, one mile north of the Bank, containing about 4,000 feet in all, with large yards and lately occupied by a timber merchant, who realised a large fortune therein. The great scarcity of premises, owing to the increase of railways in the metropolis, render these peculiarly adapted for the wants of any one requiring large and central, valuable space.—Apply to E. & W. STUEGE, Bridge Wharf, City-road, E.C.

WELLINGTON COLLEGE LANDS, near Wokingham, with a Station on the spot, and bounded by excellent roads—TO BE LET for BUILDING detached or semi-detached VILLAS, certain portions of LAND on long Leases, and at moderate ground rents.—The situation is particularly desirable and healthy. Occupiers of Villas will enjoy certain privileges in connexion with the College. For further particulars, apply by letter, to GEORGE CHANCE, Esq. Treasury, Whitehall, S.W.

NO MONEY REQUIRED.—To BUILDERS.—WANTED, to EXCHANGE, the fee Frontage to Tollfree-terrace, of FREEHOLD LAND, in the Westwood, Plumstead Hill, Kent, for the FINISHING of a Small HOUSE, in Carcase, and the Erection of a similar one complete, 24 feet iron stage, street deep, by 22 feet elevation.—Apply personally, after SIX o'clock p.m. to Mr BENNICK, Carpenter, Kyd's, Tudor road, Upper Norwood.

FARRINGDON-STREET, near the Metropolitan and Dover and Chatham Railway Stations.—TO BE LET, on Building Leases, the PREMISES Nos. 13, 14, and 15, Bear-alley, the Committee of Parish Estates will meet in the Vestry-room of the Church of St. Sepulchre, Skinner-street, Snow-hill, on FRIDAY, NOVEMBER 4th next, at TWELVE o'clock precisely, to receive TENDERS. Parties intending to treat are themselves to inspect the premises, or any Tender. Other particulars may be known upon application to Mr. STEP. JNO. JONES, Vestry Clerk, 1 Church-porch, Skinner-street.

TO CAPITALISTS and BUILDERS.—WANTED, a HOUSE to be BUILT, near the Staff College, Surrey. Rent about 50l per annum, including ground rent, which is moderate. A tenant is willing to take the house as soon as it is ready for occupation, if built according to plans approved by him.—Apply to Capt. SCHAW, R.E. Staff College, Farnborough Station.

TO BUILDERS and OTHERS.—A great demand having arisen in Loughborough for Middle-class HOUSES, the Trustees of Burton's Charity are prepared to apply to the Court of Chancery for a premium TO LET on BUILDING LEASE, some of the Charity LAND in the immediate vicinity of the town. The Land which they propose to Let commands extensive views Charnwood Forest, is contiguous to the Grammar and Commercial School on the Leicester-road, and from any favourable for the erection of desirable Residences.—Application to be made to Mr. W. J. WOOLLEY, Receiver and Clerk, to Burton's Charity, Loughborough. Loughborough, October 18th, 1864.

TO BUILDERS and OTHERS.—WANTED, to RENT, in a thorough good market or seaport town, with a convenient distance of London, a comfortable DWELLING-HOUSE with spacious premises attached, suitable for carrying on the general business of a builder. The advertiser would not object to take to a fair amount of stock in trade. Unexceptionable references can be given.—Address, stating full particulars, to K. W. 80, Lombard-street London, E.C.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by E. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City road, E.C. Extra strong Lead for Churches &c. Estimates forwarded on receipt of particulars.

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STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.—HEATON, BUTLER, & BAYNE'S New CATALOGUE, containing 18 pages of Illustrations, including Completed Windows of the highest character; also Church Decorations and Memorial Brasses. Now publishing. 3s. 6d. post free HEATON, BUTLER, & BAYNE, New King-street, Covent Garden, W.C.

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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

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SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

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GILT BORDERINGS for ROOMS, from 1d. per foot. Best and Cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Re-gilding in all the branches of the trade. 4-inch Gilt Beads, 7s. per dozen 6-feet lengths; best ditto, 12s.

GEORGE REES, 57, DRURY LANE.

Four doors from Drury-lane Theatre. Established in 1760.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCKS, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 20 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

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The Builder.

Architect, Engineer, Operatives & Artist.

Vol. XXII.—No. 1135. NOVEMBER 5, 1864. PRICE FOURPENCE. By Post, 6d.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary, to whom all letters for the Treasurer, WILLIAM TITE, Esq., St. Helen's-place; or by Mr. ALFRED HILL, 28, Tonbridge-street, Euston-road, W.C.

J. TURNER, Hon. Secretary, 15, Wilton street.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood-carving, 20*l.* and 10*l.*

For Stone Work, 10*l.* and 5*l.* 5*s.* (the latter given by Mr. H. Heather Bigg, of Wimpole-street).

For Terra-cotta or Plastic Work, 10*l.* (given by the Ecclesiological Society and Mr. Beresford Hope).

For Original Designs, 10*l.* (given by Mr. Ruskin).

Another Prize will be added at the discretion of the Council.

Further particulars may be had either by a letter to the Honorary Secretary, 41, 34, Stratford-place, London, W., to the Museum, directed and sent as a parcel; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

ARCHITECTURAL ASSOCIATION, 9, Conduit-street, W.—The First Paper of the Session will be read on FRIDAY Evening, NOVEMBER 11th, by J. P. SEDDON, Esq., Fellow and Hon. Sec. of the R.I.B.A. on "STONE IN ARCHITECTURAL WORK." The chair will be taken at half past SEVEN o'clock.

J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

EVENING LECTURES to WORKING MEN.—ROYAL SCHOOL of MINES, Jermyn street.—The first Course consisting of SIX LECTURES on the RACES of MANKIND, by Professor HUXLEY, F.R.S. will be commenced on MONDAY, NOVEMBER 14th, at EIGHT o'clock. Tickets may be obtained, by Working Men only, on MONDAY, NOVEMBER 7th, from 7 to FOUR o'clock, upon payment of a fee of 6*d.* for the whole Course. Each applicant is requested to bring his name, occupation, and address, written on a piece of paper, for which the ticket will be exchanged. TRENHAM REEKS, Registrar.

MINING and MINERALOGY.—ROYAL SCHOOL of MINES, JERMYN STREET. Mr. WARING TOWNSEND SMYTH, M.A., F.R.S., will commence COURSES of FORTY LECTURES on MINERALOGY, at ONE o'clock, and SIXTY LECTURES on MINING, at Half-past THREE o'clock, on MONDAY, NOVEMBER 7th, to be continued on each succeeding Tuesday, Thursday, Friday, and Monday, at the same hour. Fee for each Course, 3*l.* TRENHAM REEKS, Registrar.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, CONDUIT-STREET, HANOVER SQUARE, W.—VOLUNTARY EXAMINATION, 1865.—The LAST DAY for sending in Approved Papers and Preliminary Works is on SATURDAY, NOVEMBER 26th, 1864. Further particulars of the above, together with prize pages, and other information, can be obtained on application to the Librarian. The Book of Regulations for the next year is now published, price 2*s.*; if posted, twenty-six stamps. The Session Papers for the past Session, 1863-64, bound in limp cloth, may now be had as above, price 10*s.* (non-members), 7*l.* 1*s.*; to members (one extra copy), 10*s.* 6*d.* A few copies of the Transactions of former years are on sale.

JOHN P. SEDDON, } Hon. Secs.
CHAS. F. HAYWARD, }

NOTICE.—Mr. LUDWIG DENICKE, of Leipzig, has been appointed AGENT to receive Advertisements, and to supply "The BUILDER" in GERMANY AND EASTERN EUROPE.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of the PATENTS have given the Widow in Interest in the same, and have consequently received Notice of the Article, trusting that by so doing these useful Inventions may be introduced to the notice of all new buildings.—Prices, apply to the Manager, Mr. TYLER, 12, Aldersgate-street, Manchester, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Large Media Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive exhibition of all descriptions of hot water, bath, fire-irons, and stove work.

72–74, Bishopsgate street Within.

FULFORD CHURCH, near York.—The Selection of DESIGNS sent in for the NEW CHURCH, are undergoing careful consideration, and cannot be returned for another fortnight. Beckton Grove, near York.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW BANKING PREMISES, for Messrs. Sparrow & Co. at Ryde, Isle of Wight, can inspect the Plans and specification, at my Office, Cleveland-street, for the last of which Five Guineas will be paid. Sealed Tenders will be received by me before TWELVE o'clock on the 15th day of the Month of NOVEMBER. The lowest or any Tender will not necessarily be accepted. CHARLES HENRY LLOYD, Architect.

Pickett's Hall, Old Broad street, London, and Cleveland-street, Ryde.

WEST HAM LOCAL BOARD of HEALTH.—Notice is hereby given, that the Board of Health for the District of West Ham in the county of Essex, are prepared to receive TENDERS for WIDENING the APPROACHES to the Iron Bridge on the Angle-road, over the Great Eastern Railway. Copies of the contract, forms of Tender, and any further information, may be obtained at the Office of the Local Surveyor, at 11, Romford-road, E. Tenders are to be delivered at my Office, at Bonny House, to arrive not later than MONDAY, the 7th NOVEMBER next, to one of them to be given a deposit book of Engineer's or other Tenders, and to be returned on receipt of the Tenders for the purpose of the contract and bond by sureties, if required.

By order of the Board,
CHARLES WILSON, Clerk.

Rokeby House, Stratford, E. October 11, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a WALL [illegible] by 70 feet, and a Gate, at Wanstead, in the county of Essex, for the Rt. Hon. [illegible], are invited to attend at the Office of Mr. [illegible], on [illegible] next, and addressed to me, to be delivered at the Office of Messrs. [illegible], on or before the 9th day of NOVEMBER next, when I am instructed to accept the lowest or any Tender.

THOS. ST. PEEL, Architect.

[illegible] Street, Waltham Cross.

MIDDLESEX COUNTY LUNATIC ASYLUM, COLNEY HATCH.—NOTICE is hereby given, that the Visiting Committee will meet at the Asylum, on WEDNESDAY, the 9th day of NOVEMBER next, at TWELVE o'clock precisely, for the purpose of opening Tenders for the Supply of the Asylum with Coals, Coke, Flour, Bread, Meat, Groceries, Potatoes, Provisions, Forage, and Sundries, and for letting the Stewardship of the Asylum Farm, for one year from Lady-day next; and Tenders must be sent in by MONDAY, the 7th of NOVEMBER next.

CONTRACTS.

CROYDON WATER WORKS.—To ENGINEERS.—CONTRACT No. 1.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the CONSTRUCTION and setting to work of a Single-acting CORNISH PUMPING ENGINE, in accordance with a specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. Such specification may be seen in the said Engineer's Office, in the Town-hall, Croydon, on or after TUESDAY, the 1st day of NOVEMBER next. Sealed Tenders, endorsed "Tender for New Steam Engine" are to be delivered at the Office of the Local Board, in the Town-hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 15th of NOVEMBER. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Croydon, November 2nd, 1864.

CROYDON WATER WORKS.—CONTRACT No. 2.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the CONSTRUCTION of THREE SINGLE-FLUED CORNISH BOILERS, in accordance with the plans and specification prepared by Mr. BALDWIN LATHAM, C.E. the Engineer for the Local Board, can inspect such plans and specification at the Office of the said Engineer, in the Town Hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Boilers," are to be delivered at the Board Offices in the Town Hall, on or before FOUR o'clock on the afternoon of TUESDAY, the 22nd day of NOVEMBER instant. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Croydon, November 2nd, 1864.

Trinity House, London, E.C. 20th October, 1864.

TO ENGINEERS and OTHERS.—This Corporation being desirous of obtaining TENDERS for the ERECTION of a WROUGHT-IRON PILE LIGHTHOUSE on the Sand-head at Lowestoft, near the Harbour of Refuge, hereby give Notice that the plans, specifications, forms of Tender, and conditions of contract are deposited at this House, and may be inspected on any day between the hours of TEN o'clock a.m. and FOUR p.m.

Tenders must be delivered at this House on or before MONDAY, the 21st of NOVEMBER next, addressed to the Secretary, and marked "Tender for Lighthouse," and no Tender will be entertained that is not made on the forms provided.

The Corporation do not pledge themselves to accept the lowest or any Tender.

By order of the Corporation,
P. H. BERTHON, Secretary.

PARISH of BRIGHTON.—To BUILDERS and OTHERS.—The Directors and Guardians of the Parish of Brighton are desirous of receiving TENDERS from persons willing to Contract for the ERECTION of a WORKHOUSE, upon land adjoining the Union Farm, near Sand-hills, Lewes-road, in the said Parish, agreeably to drawings and specification prepared for that purpose. The drawings, specification, and conditions of contract may be inspected at the Directors' Room, at the Union Offices, Bartholomew-street, Brighton, on any day (except Sunday), between the hours of TEN a.m. and FOUR p.m. Copies of the bills of quantities and forms of Tender may be obtained on application at the Offices, on and after MONDAY next, at the above Offices, and also of Messrs. LANSDOWN, 3, Warwick-street, Charing-cross, London, on payment of the sum of Two Guineas, which will be returned to all persons who shall tender for the execution of the work. Tenders, indorsed "Tender for the Erection of Workhouse," to be delivered at the Office of the Clerk to the Directors and Guardians, Carlton-street, Brighton, on or before TUESDAY, the 15th day of NOVEMBER next, by TWO o'clock in the afternoon. Each Tender to be accompanied by a proper security to be approved for the approval of the Directors and Guardians of the said Parish and addresses of two persons who are willing to become the proposed bail for the due performance of the work. The Directors and Guardians will not find themselves bound to accept the lowest or any Tender, and they do not bind themselves to pay the expenses of any person tendering.

By order of the Board,
ALFRED MORRIS, Clerk.

Parochial Office, Brighton, 24th October, 1864.

TO BUILDERS.—BUNHILL ROW.—TENDERS are required for sundry ALTERATIONS, ADDITIONS, and REPAIRS to Nos. 114 and 115, ST. LUKE'S ROW, and No. 5 and 6, JAMES BUILDINGS, in the same. The drawings, specifications, and forms of Tender may be seen at Mr. Hickman's, on and after THURSDAY next, the 10th instant. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—Persons desirous of TENDERING for the REBUILDING of ST. HELEN'S CHURCH, Bishopsgate, may see the plans and specifications at Mr. EDWARDS' Bee-saver, Leadl, Lowestoft, Suffolk, to be sent in before NOVEMBER 26th, to the Rev. L. D. KENNEDY, the Rector. The lowest Tender not necessarily accepted.

THE LONDON ENGINEERING and IRON SHIPBUILDING COMPANY (Limited). Works—Lond n Yard, Isle of Dogs, Poplar, E. (Late Messrs. Westwood, Baillie, & Co.)

[illegible]

Captain THOMAS EWD SYMONDS, Royal Navy, Chairman.

J. E. COLE, Esq. Deputy Chairman.

Rear-Admiral George G. Wellesley, C.B.
[illegible], Esq.
Joseph Westwood, esq.
John Brown, esq.
Robert Bunn, esq.
Zenah Colburn, esq. C.E.
[illegible]
William Austin, esq.

Secretary—W. Cox, Esq.

Offices—[illegible]

The Company [illegible] Contracts for [illegible] Iron Steamships, and general [illegible] Engineering [illegible] Steamships [illegible] Engines [illegible] Boilers, [illegible] Screw Propellers, [illegible] Iron Lighters, [illegible] Dredging Machinery, [illegible] Iron Bridges, [illegible] Roofs, [illegible] Gasholders, [illegible] Tanks, [illegible] Sluice Gates, [illegible] Hydraulic Machinery, [illegible] Cranes, [illegible] Capstans, [illegible] Pumps, [illegible] Castings, [illegible] Forgings, [illegible] Turning, [illegible] Planing, [illegible] Screwing, [illegible] Work of every description.

Drawings and specifications of all vessels, &c. to be built at the Works, may be seen at the Offices.

By order of the Board.

[For remainder of Contracts see next Page.

CAST-IRON PIPES. — To IRON-FOUNDERS.—The Directors of the Dreghorn Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES, of the following diameters and lengths:—Diameter in inches, 12; length in yards, 4,100; 9 inches to 2 inches inclusive, about 18,000 yards. Specifications and forms of Tender, price 10s. may be obtained on and after the 26th instant, at the Office of Mr. MAGEE, Solicitor to the Company, Dreghorn; or from Mr. T. B. FOSTER, C.E. 33, Oxford-street, Manchester. Tenders must be sent in to Mr. FOSTER on the 17th of NOVEMBER. The Directors do not bind themselves to accept the lowest or any Tender.

TO SEWER CONTRACTORS and OTHERS.—The Sewers Committee of the Vestry of the Parish of St. Mary Newington, Surrey, will meet at the Vestry Room, the Parish Church, on FRIDAY, the 18th of NOVEMBER next, at SEVEN o'clock in the evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS in connexion with the DRAINS and SEWERS in the parish. Printed schedules and forms of Tender can be obtained at the Office of Mr. HENRY JARVIS, the Surveyor of Sewers, 1, Trinity-square, Newington, on payment of 5s. which money will be returned to the parties tendering, when the Tenders are opened. No other Tenders will be received. Sureties will be required for the due performance of the contract, and the Committee do not bind themselves to accept the lowest or any other Tender.

E. & F. CHESTER,
October, 1864. Joint Clerks to the Vestry, 1, Church-row, Newington Butts.

NORTH-EASTERN RAILWAY. — DARLINGTON SECTION.—To BUILDERS.—TENDERS are required for the following works, viz.:—the ERECTION of a PAIR of COTTAGES (to be built of brick), at Church-lane, at Cat-flat, and Long-bed Level Gates, on the Redcar and Saltburn Branch; the PULLING DOWN of an old STONE COTTAGE, and the ERECTION of a PAIR of COTTAGES (to be built of stone), near Barras Station, on the South Durham Branch; the ERECTION of TWO or FOUR COTTAGES (to be built of brick), near Appleby Station, on the Eden Valley Branch.—Plans and specifications may be seen on application to Mr. PEACOCK, Architect, Office, Northgate, Darlington, from MONDAY, OCTOBER 31st, to FRIDAY, NOVEMBER 11th, 1864. Tenders to be posted at the Company's Offices, Darlington, not later than MONDAY, the 14th NOVEMBER, 1864, addressed to the Secretary, and endorsed "Tender for Work." No pledge is given that the lowest or any Tender will be accepted.

Sealed by THOMAS MACNAY, Secretary.
Darlington, 29th October, 1864.

RIPON WATERWORKS. — The Local Board are prepared to receive TENDERS, from competent persons for the following Contracts, for the proposed new Waterworks of the district, namely,

Contract No. 3.—Duplicate Engines, Boilers, Pumps and Appendages.

Contract No. 4.—Excavating for Laying, and Jointing the Main Pipes and Appendages.

The specifications may be seen, and forms of Tender, and other information obtained, on application to Messrs. STEVENSON & UTLEY, Engineers, Halifax; and Tenders, sealed, and marked on the outside "Waterworks: Tender for Contract No. 3" (or No. 4, as the case may be), must be sent in to me, at my Offices in Ripon, on or before THURSDAY, the 17th day of NOVEMBER instant. The Local Board do not guarantee the acceptance of the lowest or of any Tender.

R. W. NICHOLSON, Town Clerk,
Ripon, 1st November 1864. and Clerk to the Local Board.

BY Order of Her most Gracious Majesty the Queen, WOLSEY CHAPEL at WINDSOR, and the MAUSOLEUM at FROGMORE, were DECORATED with DR. SALVIATI'S INDESTRUCTIBLE VENETIAN MOSAIC.
SAMPLES AT 192, GREAT PORTLAND STREET, W.

MARBLE HALL COMPANY (Limited).
500 MARBLE CHIMNEYS now ready for Sale.
250 RECEPTION-ROOM CHIMNEYS, at 2½ 0d. each.
300 DINING-ROOM " 3½ "
300 DRAWING-ROOM " 4½ "
L. BIRNSTINGL, 192, GREAT PORTLAND STREET, W.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
Manufactured by
THE LIZARD SERPENTINE COMPANY (Limited),
Office, 24, St. James's-street, London, S.W.; Works, Carleon Cove, Lizard, Cornwall.
Agent for Manchester and Liverpool, T. OAKDEN, 94, King-street.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Works with commodious SHOW ROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

RED MANSFIELD STONE,
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free London and all railway stations.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

HY. GEORGE & CO.
MARBLE IMPORTERS and SLATE DEALERS
GENERAL STONE MERCHANTS,
CAEN WHARF, ROTHERHITHE, S.E. and
WILLINGTON WHARF, RENTS PARK BASIN.
Caen, Auligny, Portland, Bath, Yorkshire, Granite, and all other stones, in block and slabs, sawn, self-faced, and worked to order. Tooled Paving, Landings, Steps, &c. At Depôts, and shipped direct by vessels or railway.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
and
SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent in use, from its covering one-third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET LONDON, E.C.
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD LONDON, W

ONE HUNDRED TONS of Old GRANITE STONES TO BE SOLD.—Apply to BENJAMIN CHAMBERLAIN, Belvidere-road, Lambeth.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1862, and two Prize Medals in 1862
Red, Blue, and Grey Granite for every description of architectural construction, decoration, monuments, and general purposes.
Apply to ALEX. MACDONALD, FIELD, & CO. Aberdeen; and at London Depôt, 404, Euston-road, N.W.—DAVID WILLET, Agent.

G. MITCHELL,
MARBLE, STONE, and GRANITE WORKS.
SHOWROOMS:—
No. 166, BROMPTON ROAD, LONDON, S.W.; where Architects, Builders, and Merchants will find the largest and best Stock of CHIMNEYPIECES and MONUMENTS in London; of which Books, Catalogues, and Sheets of Monuments will be forwarded on application.
Estimates will meet with prompt attention.
MANUFACTORY at WALTON STREET.

WEETWOOD, BRAMLEY FALL, and HUSLER & CO.
POTTERNEWTON STONE.
STONE MERCHANTS.
HEADINGLEY, LEEDS, YORKSHIRE.
Terms and Prices on application.

LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD,
The Owner; and see Specimen at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.
*** The above WEATHER STONE is used largely by London Builders.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS,
STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Office:—10, Three Crown-square, Southwark.

SAWN PORTLAND SLAB.—STEWARDS & CO. Portland Stone Merchants, Isle of Portland, and at Portland Wharf, Grosvenor-road, Pimlico.—For List of Prices, apply to W. H. HOLLAND, 51, Grosvenor-road, Pimlico.

DARTMOOR GRANITE COMPANY.—Lara Wharf, Plymouth, and Portland Wharf, 2), Grosvenor-road, Pimlico.—For Prices and Estimates, apply to W. H. HOLLAND, Agent and Manager for the Company, Portland Wharf.

WEARDE STONE QUARRIES,
LIMITED.
The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes; also for Macadamizing.—Samples sent, with prices, on application to the Manager, E. M. CROKER, Gunnerslake, Cornwall.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity alongside the Thames.

SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons, from their depôts,
BANGOR, GARSTON, SALTNEY, CHESTER, and GLOUCESTER.
Prices forwarded and estimates given on application.
1, BOLD TERRACE, CHESTER.

BRICK, TILE, and LIME WORKS.—TO BE DISPOSED OF, or Let for a term, an old-established BUSINESS, in full operation, and capable of considerable extension. For particulars and cards to view, apply to CHARLES SMITH & SONS, Auctioneers and Surveyors, 2, Broad-street Buildings, London.

TO PAINTERS and GENERAL DECORATORS.—TO BE SOLD, in consequence of the death of the proprietor, a small old-established BUSINESS of a PAINTER and GENERAL DECORATOR, situate in one of the best thoroughfares in the Metropolis, including the Lease and Utensils.—For particulars and terms, apply to Mr. J. H. JONES, Solicitor, 8, Hart-street, Bloomsbury-square.

TO BE LET, a good JOBBING BUILDER and UNDERTAKER'S BUSINESS, with immediate possession, with good House and Premises, at a low rental of 25l. per annum, to be taken at a premium of about 200l.—Address, W. M. Office of "The Builder."

TO BUILDERS.—Rare Opportunity for a Man of Business.—TO BE LET, on lease, or FOR SALE, a BUILDING BUSINESS, with dwelling-house, shops, office, sheds, yard, and every convenience, and a good commanding trade. An opportunity now offers for introducing a spirited builder into a largely increasing business, in a good country market town, rapidly rising with manufactories, with land just about to be sold for building purposes. The advantage of a railway station close to the establishment. The business is offered solely because the owner has another business that fully occupies his time.—Further particulars may be obtained on application, per post, to Mr. NOAKE, Sherborne, Dorset.

PRIZE WAGGONS and CARTS.—HAYES & SON,
Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,
Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.
Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.
Contractors' and Builders' Dubbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off-bearing ditto, on the shortest notice and of the best materials; &c.
HAYES & SON,
SCOTGATE WORKS, STAMFORD.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.
LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK-HELVES, HAMMER HANDLES, &c. and every description of Carpenters', Joiners', and Decorators' Trade Requisites.
Vans, Waggons, Do'bin and other Carts, specially adapted for exportation. Pug-mills, Jack-rolls, Trolleys, and Portable Railways.
Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.
Price Lists on application.
GEORGE ELL & CO.
LONDON WORKS, 366 and 368, EUSTON ROAD, LONDON, N.W.

THE MIDLAND WAGON COMPANY, established 1833.—RAILWAY WAGONS.—This Company, having from Six to Seven Thousand COAL, COKE, IRONSTONE, and BALLAST WAGONS, have generally a number to LET, for one or more years, including Repairs, at Rugby, Peterborough, Shrewsbury, Chester, Cornbrook, Stoke-on-Trent, Shavsley, Droitwich, Worcester, Gloucester, Read'g, Hereford, Newport (Mon.), Cardiff, and Birmingham. They also contract for Wagon Repairs at any of the above Stations. The Company build every Description of Railway Wagons and Carriages for Cash, or by deferred payments extending over three, five, seven, or ten years.
HENRY BRIDGES, Secretary.
Midland Works, Birmingham.

TWO Large Timber-built SHEDS, 70 feet by 15 feet, and 8 feet to the eaves, TO BE SOLD. Near a station on the South-Western Line. Price 80l.; open to an offer.—Apply to S. 57, Charing-cross

PIMLICO WHEEL WORKS.—The Proprietors beg to inform that portion of the public interested, that they are making every exertion to reinstate, as rapidly as possible, the above works in the most complete manner. The forge and turning departments are now at work, and after November 14, the Proprietors will be prepared to execute orders for tyring to any amount; also for repairing wheels to a limited extent.

TO CONTRACTORS, &c.—Mr. C. KYNOCH, Builder, 2, Angell-road, Brixton, has a large SHOOT, where any quantity of Rubbish can be deposited.

CLOTHS and BAIZES.—A large assorted STOCK of the above always on hand, in all widths, colours, and qualities, at
HILL & SON'S,
Nos. 88 and 89, ST. MARTIN'S LANE, CHARING CROSS.

TURRET CLOCKS.—FOR SALE, an 8-day TURRET CLOCK, to strike the hours, suitable for a gentleman's stable. Also one suitable for a church. Apply to J. FARMER, 188, St. George-street E. st.

SEDDON & CO. MEDIÆVAL CABINET MANUFACTURERS and UPHOLSTERERS, 38, South Molton-street, London, W.—Sole Manufacturers of Holmes's Patent Chair Benches and Chairs.

TO CAPITALISTS, CONTRACTORS, BUILDERS, &c.—WANTED, by the Advertiser, from 1,500l. to 2,000l. to help CARRY OUT a first-class BRICK-FIELD. Rail into the field, and within 3 miles of City. Good bed of earth.—Apply, by letter, post-paid, to E. P. 14, Stanfield-villas, South Kensington.

MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, REVERSIONS and ANNUITIES,
WINE, SPIRIT, and TIMBER WARRANTS,
FURNITURE, SHARES, &c.
Mr. RICHARD CROSSLEY, 17, Moorgate-street, Bank, E.C.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 18 & 19, RUSSELL STREET, COVENT GARDEN, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property, for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

THE THERMANTERION. DAVISON'S NEW PATENT MACHINE for rapid Heating and Drying. For heating large buildings, for drying every description of goods, grain, or for seasoning timber, this machine far surpasses any that has ever been introduced to the public for simplicity, rapidity, and economy. For particulars, apply to Messrs. DAVISON & SCAMELL, 1, London-street, London, E.C.

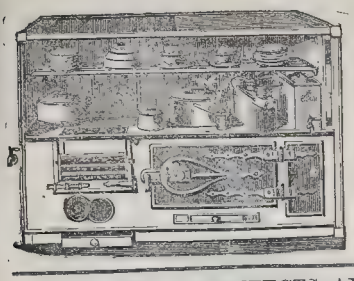
TWELVE MEDIÆVAL CHANDELIERS FOR SALE.—A bargain. Suitable for a church or a large hall; for gas, wax, or very lofty.—Apply to H. LAZARUS, 33, Nicholas-square, Hackney-road, N.E.

IRON CHURCH.—WANTED, to HIRE or PURCHASE, an IRON CHURCH, with about 400 sittings.—Terms and particulars to be sent to Rev. L. Upper Berwick House, Shrewsbury.

THE CALIFORNIA PUMP.
Prize Medals { London, 1862. Hamburg, 1863.



DOUBLE ACTING, SIMPLE, and MORE EASILY CLEANED than any other PUMP of the kind.
Sole Makers in London—
HAYWARD TYLER & CO.
Nos. 84 and 85, Upper Whitecross-street, E.C.



BROWN BROTHERS' PATENT KITCHEN RANGES,

WITH SELF-ACTING ROASTER,

Accomplish twice the amount of cookery performed by any other kitchener of similar size, and with half the amount of fuel. They will bake the most delicate pastry even when all others have failed, and roast the meat with a crispness and delicacy of flavour unknown to any other apparatus. They are the smallest kitchen ranges ever made, and the most economical in use. Will boil two gallons of water for tea in five minutes, and keep it boiling for hours, and furnish an abundant supply of hot water for the Bath, Closet, Lavatory, &c. They require no flue, and can be fixed in any room, and connected with the ordinary chimney-pipe or brick flue, and combine the cleanliness of a close kitchener with the perfect ventilation of an open fire.

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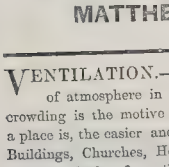
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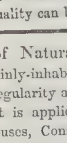
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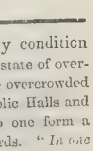
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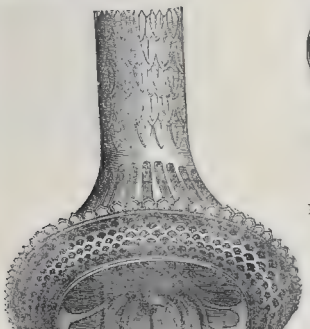


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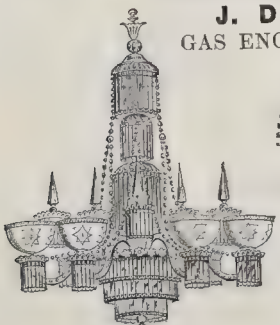
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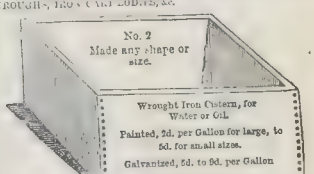




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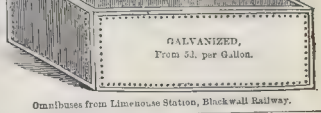
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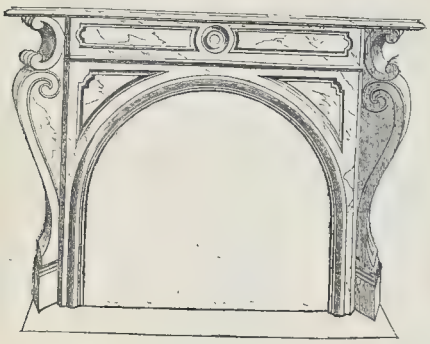
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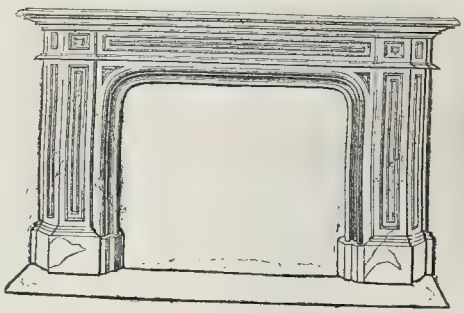
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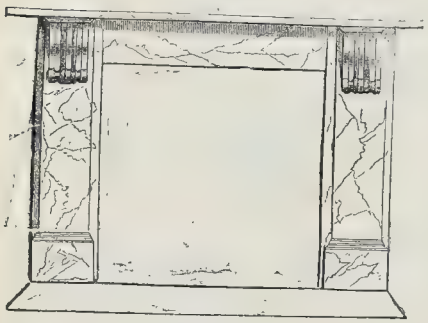
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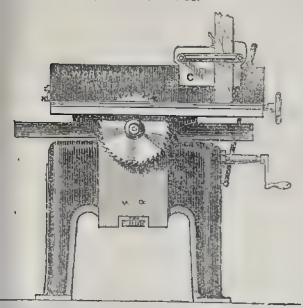
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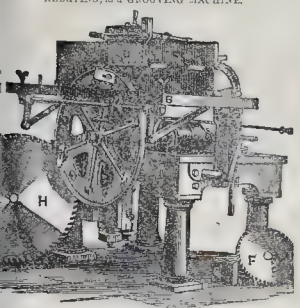
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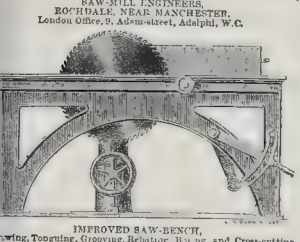
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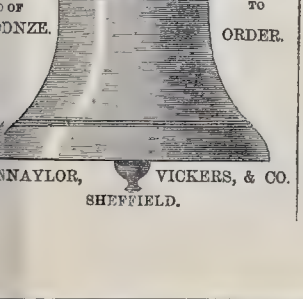
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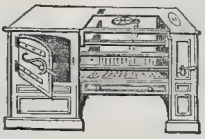
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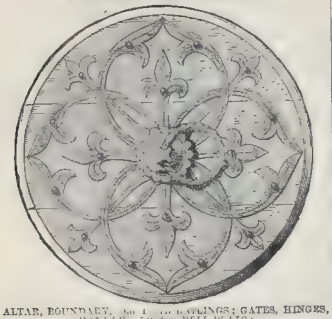
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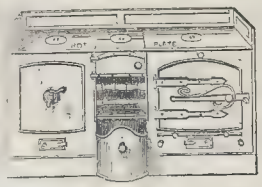
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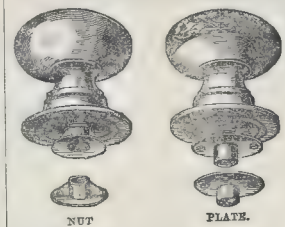
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The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists 12s.—Nos. 55 and 56, High Holborn.



THE LEAMINGTON PRIZE KITCHENER.
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within Five Miles.
BURT & POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS,
38 and 65, York-street, Westminster.

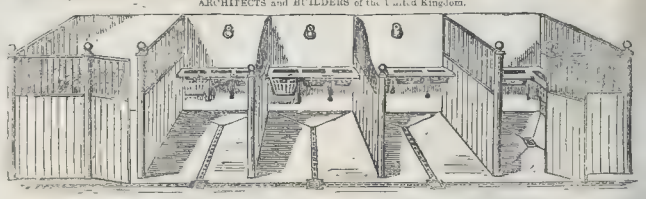
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
J. B. SCAMMELL & CO. (late Thomas Pugh & Co
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

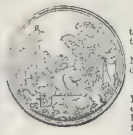
We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, [illegible] improvements having been recently made in it. It has been extensively used in Public and Private Buildings, in Her Majesty's Patent and Car Patent sheet value, many hundred sets without one single failure. It is applicable to all Locks and Latches, both Rim and Mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfection guaranteed both Locks and Furniture, of the Locks are of our own manufacture.
New rich Designs in Glass, China, Brass, Bronzed, Gilt, Carved Woods, Inlaid, &c. &c. or to any Design.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of Locks, Latch Brass Foundry, and Ironmongery, required for Buildings, of the best quality manufactured, at the lowest wholesale prices.
, Illustrations and Particulars sent on application.
WAREHOUSES FOR NAILS, PIPES, GUTTERS, &c. IN ST. JOHN'S COURT.

BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES.
BARTON'S PATENT PRIZE MEDAL STABLE FITTINGS
These SUPERIOR CLASS STABLE FITTINGS are PATRONIZED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



BY APPOINTMENT TO H. R. H. THE PRINCE OF WALES.
J. BARTON, having entered upon the extensive Premises, No. 370, Oxford street, adjoining his Patent Stable Fitting Manufactory, [illegible] to solicit attention to his large and well-selected STOCK of STALL and LOOSE-BOX FITTINGS, HARNESS ROOM REQUISITES, &c. [illegible] to invite inspection of the newly erected Practical Stable now on view. Illustrated Catalogues on receipt of Four Stamps.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

EXHIBITION PRIZE MEDAL, 1862, AND MEDAL OF ROYAL AGRICULTURAL SOCIETIES OF ENGLAND AND IRELAND.
MUSGRAVE'S PATENT STABLE and HARNESS FITTING
MUSGRAVE'S PATENT HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW STALLS and PIGGERIES.



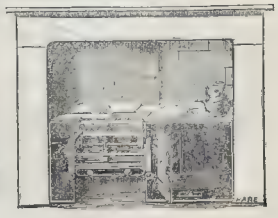
Architects who have not seen these fittings are requested to write for engravings, as they are unlike those of any other maker, and were admitted to excel all the work of the class in the Exhibition.
They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under direction of London architects, noted for employing only what is the best of its kind.
Musgrave's Patent Slow-combustion Stove



Is the nearest approach to Warming by Hot Water. It will burn in churches from Saturday till Sunday evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of 3d.; and deserving of special attention because of its safety, healthfulness, durability, and extreme simplicity.—For full particulars apply to
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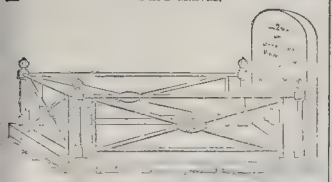
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AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
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CUNDY'S
PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANG
This Range, also
CUNDY'S PATENT BRICK OVEN SEMI-CLOSE RANGE,
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PATENT COTTAGER'S KITCHENER;
Also CUNDY'S Patent Original FIRE-BRICK Warm-Air Ventilating STOVE,
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A Prospectus, with full Description and Price of the above, will be sent per Post on applicati

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Illustrated Price Catalogue, of numerous Designs, in various styles (free), on application to
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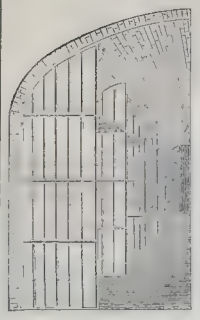
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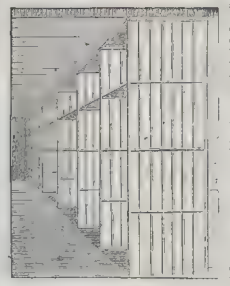
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Saves 50 per cent in Fuel, cures Smoky Chimneys, shows always a Cheerful Fire, and one Fire will warm other Rooms.
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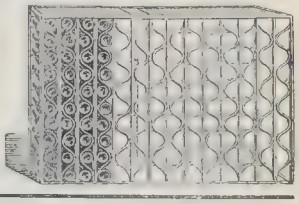
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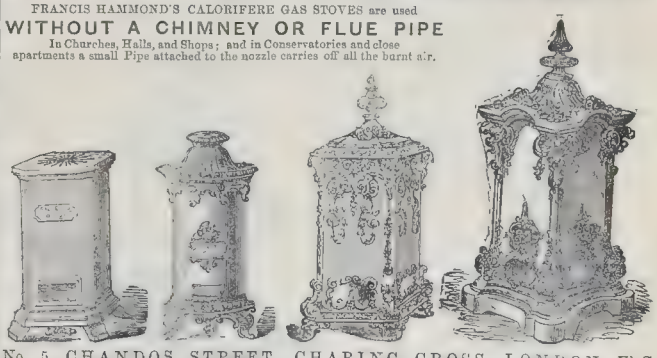


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Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom.
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SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided. The Cellular Bins may also be had fitted with light lattice doors, affording perfect security to the contents of the Bin.
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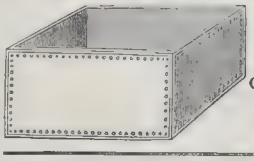


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In Churches, Halls, and Shops; and in Conservatories and close apartments a small Pipe attached to the nozzle carries off all the burnt air.



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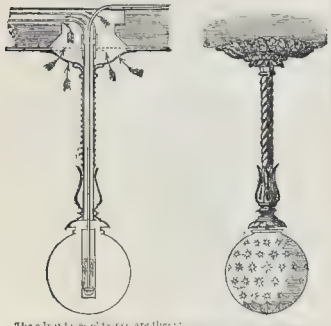
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The advantages of this are these:—

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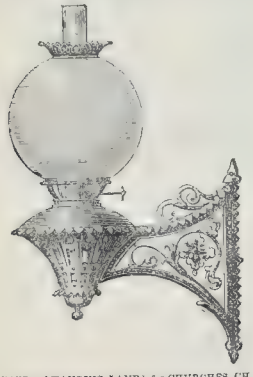
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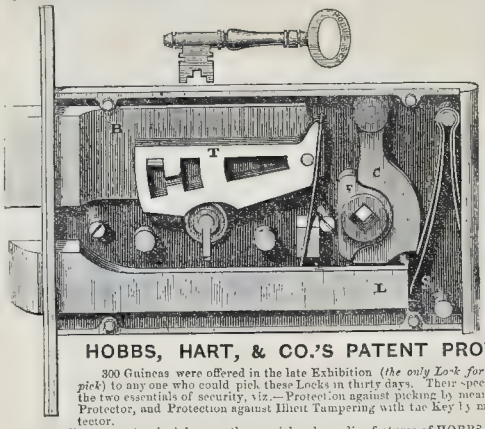


HENDERSON'S PATENT DERRICK CRANE, so extensively used in the building of the Palmanston Forts, can always be had from the Makers, their Depôt Specimen, Portable, Foundry, Forge, Wharf, Quarry, Warehouse, and other descriptions of Cranes; also Steam Winches and Crabs (for the Derrick given plan). Water Companies and others are [illegible] with our Improved Sluice Valves.—For further particulars apply to BOWSER & CAMERON, Makers, Springfield Iron Works, M'Neil-street, Glasgow.

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These Locks are made with from Two to Five Levers, and can also be made in suits to differ with Master Keys to pass.

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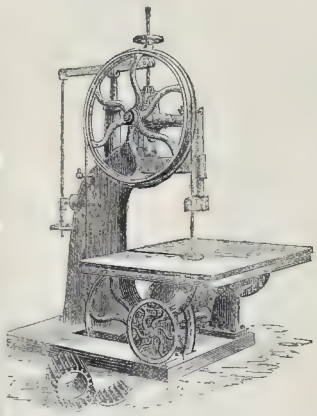
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300 Guineas were offered in the late Exhibition (*the only Lock for which a Premium was offered to pick*) to any one who could pick these Locks in thirty days. Their speciality consists in their combining the two essentials of security, viz.—Protection against picking by means of their Patent Moveable Lever Protector, and Protection against Illicit Tampering with the Key by means of their Patent Nozzle Protector.

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FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

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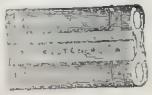
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FOR SINGLE AND DOUBLE-ACTION DOORS.



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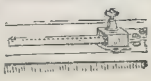
GOTHIC, DROP, AND OTHER DOOR HANDLES.





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BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

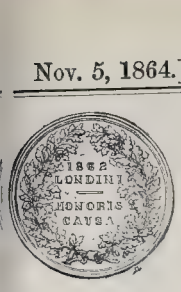




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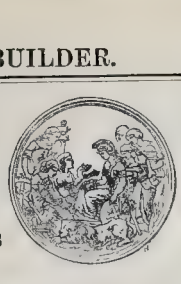


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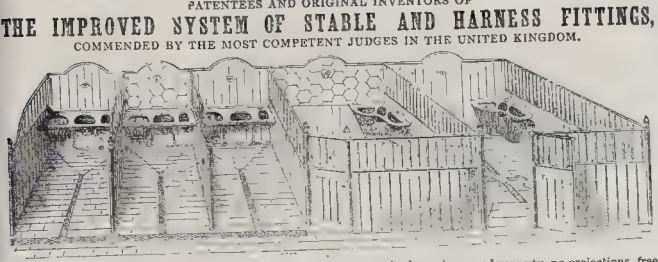
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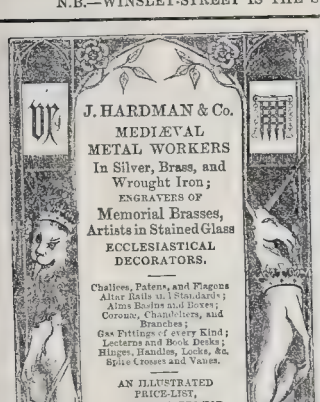
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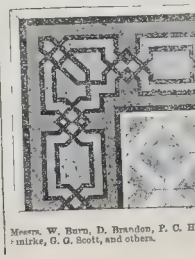
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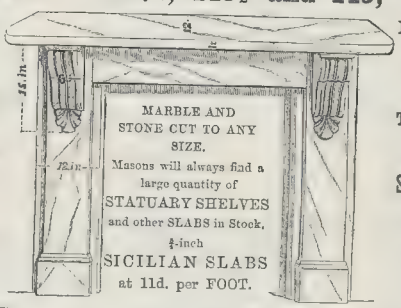
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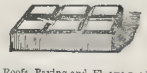
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The Builder.

VOL. XXII.—No. 1135.

*The Steam-boat Piers, and the Landing-stairs, in the Thames Embankment.**



E have already referred to the condition of the execution of the work of the steam-boat piers at Waterloo Bridge,—the foundations being carried down below the footings of the pier of the bridge,—which involves the necessity of securing the foundations of the bridge-pier. The manner in which the important measure is proposed to be effected, is now to be described. The difference of the levels is not very clearly shown; but it may be as much as 6 ft. or 7 ft. Ground about the pier of the bridge, or taking in a breadth from the pier, of 19 ft. or 20 ft. on the river-side, that of the second arch, is to be enclosed by a "permanent dam" of cast-iron piles and plates, attached to the present footings by iron tie-rods bedded in concrete, upon which will be an inclined apron of granite blocks, everywhere dowelled together. The system resembles in the idea, that which the late Mr. Walker applied to the piers of old Westminster Bridge at some time near a quarter of a century ago; and it also resembles Mr. Page's method of foundations in the present Westminster Bridge. In the old Westminster Bridge, where the new piling was of timber, the piers failed from defects of foundation in places within the circuit of footing, as well as by the scour previously to the works of maintenance. Mr. Bazalgette's proposed arrangement is one of iron-cylinder piles, with grooves, and flanged plates sliding into them, each pile being 12 in. in internal diameter, and of 1-in. metal; but the drawings show screw-piles, which the engineer of Westminster Bridge eventually rejected, as much we believe from questions of the difficulty of driving them, as from any of economy. Mr. Bazalgette proposes to screw the piles down to a level of 32 ft. below Ordnance datum,—or 22 ft. below the bed of the river, as it appears, or 28 ft. below low-water level,—and to drive the plates down to 10 ft. below the bed. The piles generally would be 5 ft. apart, centre to centre. The top line of the piles and plates, on the river-side, seems intended to be at the level of the river-bed, 6 ft. below low-water level (or more exactly stating, ¾ in. lower than the 6 ft.): but, on the land-side, the plates and piles will be longer; since, though each will go down to the same level as on the river-side of the pier, the tops will be 5 ft. 3 in. higher. Each pile will be fitted with a cap to receive the tie-rod. There will be in all sixty of the grooved cylinder-piles in the circuit, with the flanged plates, and six more piles with plates to carry masses of rusticated masonry which are to be built in extension, up-stream and down, of the lower portion of the present piers of the bridge; and there are six different patterns of the iron caps to the piles. The grooves in the piles will be 2 in. deep, and 1½ in. wide, and of the requisite length; and the plates will be of 1 in. metal, with three ribs or flanges on the back, each 3 in. deep, and with two on the face, of 2 in. depth; and they will also be cast with a skew-back and flange at the top, to receive the granite apron. The tie-rods, each 1¼ in. in diameter, will pass through the pile and cap, and be screwed at the further extremity to the masonry of the footings of the bridge, by wrought-iron lewises, 15 in. in depth, and tightened up by a screwed nut in front of the pile-cap. The space inclosed by the "dam" of iron piles and plates, will be excavated to the level of the lowest course of footings of the bridge-pier, and to 1 ft. 9 in. below the top of the piles; and the concrete will then be filled in as the bed for the apron. A brick culvert, 6 ft. 1½ in. wide and 16 ft. high, will be constructed at the back of the bridge-pier. It will form part of the channel before referred to as provided for the flow of the tide. These important works form part of Contract No. 1, that of Mr. Furness, for which Mr. Lovick is the resident engineer.

It is not expected that the pier of the Charing Cross Bridge will require any protection, the foundations being understood to have been carried down to sufficient depth. The culvert at the back of one recess, will not be connected with the other by any culvert at the back of the bridge-pier.

The Temple Steam-boat Pier and Landing-stairs (in Contract No. 2, Mr. Ritson's, for which Mr. E. Cooper is the resident engineer), to take the place of the present Essex-street Pier, will comprise a length of 470 ft., and include a recess of 250 ft., for the "dumby" or pontoon, and an arrangement for the iron bridges, similar in plan, but different in some of the architectural details, to the arrangement of each landing-place at Charing Cross Bridge and Waterloo Bridge. The projections forming the ends of the recess, and each 28 ft. on the face, however, will be floored at the top, to form large platforms, round which the balustrades will be continued; and from each of these paved areas there will be the descent on one side, by the inclined bridge, to the pontoon, and one on the other by stairs, 17 ft. 8 in. in width, to the water. At the foot of these latter steps, there will be a gridiron formed with 3-in. elm planks, and a granite apron extending 28 ft. from the foot of the steps. These landing-stairs are, each, in two flights of steps, without turning. In the front elevation, the raking-line of the parapet appears only at the commencement of the descent, the middle landing and some of the steps being masked by a group of projections forming the base to a large pedestal. A corresponding pedestal is placed on the further side of the stairs, or on the line of the embankment-wall. The latter pedestal is flanked, like the other, but on the reverse side in the elevation, by a slight projection from the embankment-wall, 28 ft. in the face, which is crowned by balustrading, the same as that of the other projection, or large platform at the top of the steps. Mooring-rings of the lion's head pattern, and another, decorate the centre pedestals of the balustrading, and the projections of the base. As in the Charing Cross Bridge and Waterloo Bridge steam-boat piers, there is a central recess (here of 25 feet width) from the back of the main recess; and from the floor, in this smaller recess, which is part of the deck of the pontoon, the inclined iron bridges will ascend. The angles and back of this recess are terminated by pedestals, forming a group; but the back-wall is surmounted by a more prominent central feature than in the other cases. A rusticated arch, with console-head, in a structure of masonry, breaks the line of the balustrade, and carries a plinth and central pedestal for tripartite groups of sculpture.

We have heretofore ventured to say that some of the architectural features of the piers and stairs of the Thames Embankment, might be the better for revision. We have, ourselves, got almost to dread novelty, and the pseudo-novelty which is mere style; but there cannot be good art in new building, without novelty. To some extent of it, it is imperatively demanded; very little of the element is required, provided what there is else be good; and beyond the little, as every day shows, the danger of going wrong increases with the novelty, more than the ability of architects to meet the difficulty. But there is no reason why the more prominent features of the Thames Embankment should be little more than so many cubes of stone, why pedestals should never be varied by curved lines in plan and even in elevation, or why such a central feature as that which we have spoken of as belonging to the Temple Pier, should not be characterized by more of new thought. If we dispense with novelty, however, the feature referred to may be described as meritorious,—in the details.

We may mention, with a view to help to the understanding of what may be now seen in progress, that the steam-boat landing-stage and the stairs just described, will project into the river upwards of 31 ft. from the general line of the embankment. Between the screen-walls forming the back of the large recess, and the line of the embankment-wall, or in the position on plan where the inclined bridges will be, two parallel culverts of rectangular form in section, will be placed; and these will be continued each way, to open into the river at the apron which we have described as at the foot of the landing-stairs. Space under these stairs, and under the platform or top landing, will be apportioned to a reservoir for storing water for flushing. Under each of the two reservoirs there will be three other culverts, of rectangular section, two being 4 ft., and one 4 ft. by 3 ft. wide. The smaller one will be carried in a straight line from the end of the landing-stairs to the recess for the pontoon. From the two culverts, at the base of the wall forming the back of the large recess, there will be openings 3 ft. by 3 ft., for flushing the space of the recess. Also for the same object there will be, at the bottom of each of the reservoirs, cesspits with outlets into the pontoon-recess, the outlets being fitted with sluice-valves. In some parts of the substructure, a section shows the five culverts side by side, occupying a total breadth of 27 ft. or 28 ft., the divisions being 2 ft. or less. Considering the scour, is this construction quite sufficient? It will be recollected that the storm-water outfall from the Essex-street sewer, the arrangement of which was spoken of in a former article, is connected with the substructure of this steamboat-pier: the outlet is placed in the middle of the length, or in the recess; and ample provision for flushing has been rightly considered to be required.

We have thus described the provision made, in the two contracts, for the steam-boat traffic. There are two places at which there are to be landing-stairs which we have not described. For the "York Stairs Landing," it is intended to remove York Gate, at present at the end of Buckingham-street, and to place it opposite to the houses of Whitehall Gardens, projecting from the face of the embankment. Mr. Bazalgette deserves praise for his intention to preserve what he can, of a work which is regarded with so much interest by architects. We are frequently suggesting that, when good work exists, but has to be removed, the work might be set up somewhere, as in one of the parks, with more advantage decoratively than is derived from the consignment of the fragments to the

* See p. 786, *ante*.

yard of the dealer in old materials, and with some retention of the interest which the work may be supposed to afford as a link of the chain of art-history; and we do not cease to regret some precious fragments and some opportunities that have been lost. But when the object is to preserve, as little alteration as possible should be made. A considerable alteration will be made in York Gate, as well by omission of something, as by addition. We regret especially, that the original arrangement of the steps, base, and foreground of the work, which may be yet identified in every detail, or with the help of published drawings, should be departed from,—deeming the breadth of landing, and steps in front, of much value. We dwell upon the matter, because it is much the fashion to omit or modify features which were of the entirety of a design, and yet to expect a result the same as without the alteration. It must be admitted, however, that Mr. Bazalgette's task was a difficult one without encroaching upon the footway of the embankment, or projecting farther into the stream. The old site was always about the same level above the water or foreshore,—albeit the latter foreground has of late been one of disgusting mud: at the new site, two separate designs, as it were, have to be considered, one for the state of high-water, and the other for that of low-tide when a substructure of the work must appear. We would rather have had the gate what it is, or was, found a place for it on the land-side of the embankment-road, as the entrance to any gardens that may be proposed, and designed new landing-stairs for the situation between Westminster and Charing Cross Bridges. The works now contemplated, comprise a space in the length of the embankment, of 108 ft., whereof the old work of the gate stands for 28 ft., not including the three-quarter columns at its ends. The 108 ft. space is the length of a projection from the general line of the embankment-wall, of which the two lengths of 40 ft. each, at the ends, are to be balustraded, two end-pedestals carrying lions *couchant*. The projection affords a recess from the footway, of 5 ft. 6 in., which will be furnished with stone seats. Recesses similarly furnished might have been provided elsewhere in the line of embankment, with advantage. Rests for goods, should not be forgotten now, and should be made not unsightly. The basement of the projection mentioned, which will be all concealed at time of high-water, is designed in the manner of "vermiculated" rusticated work. The gate projects 15 ft. 6 in. further; and the landing and its substructure other 10 ft. From this landing, stairs, 10 ft. in width, will descend right and left in three flights, without balustrades. The face of the substructure of the landing and steps, looking from the river, will have the same character of rusticated masonry as the projection already described; but carrying the landing, there will be a bold arch, with carved console, forming a recess beneath. The steps, in the side flights, will be major and filling-in steps, an arrangement conducive to effect rather than to safety in descending. The two spaces, on plan, left between the steps and the projection from the embankment-wall, will be each paved, on concrete, with granite,—laid to an incline; and there will be four culverts, 12 in. in height, for the passage of the tidal-waters from one recess to the other through the base of the structure, and to each recess, three smaller and more flattened openings, which will be connected with a reservoir of six compartments, to be stored with water for flushing, and also connected with the requisite sluices and gearing. The material of the substructure, and steps, generally, is to be granite; and the steps will be dowelled together with slate-dowels. The balustrade is to be of the same material; and a shell will be carved on the dado of each of the lamp-pedestals, in lieu of the lion's head generally used in the embankment.

The landing-stairs between Charing Cross and Waterloo Bridges, will be placed about opposite the Fox under the Hill, or Salisbury-street. The work will comprise a length of "special construction," of 190 ft., and will include a flight of six steps, 50 ft. in width, leading down at right angles from the line of the embankment, to a landing of 50 ft. by 18 ft. 9 in., whence there will be two return flights, or parallel with the embankment, each occupying 40 ft., down to the water. The remaining 60 ft. of the length of special construction, will be made up by the ends of a slight projection from the embankment. As in most of the works described above, the excavation for concrete is to be carried down to 20 ft. below the Ordnance Datum,—that is, it may be, 8 ft. to 12 ft. below the bed of the river. The concrete in the work we are now describing, is specified to be 8 ft. 4½ in. in depth. The steps do not appear in the front elevation: there is a parapet-facing of masonry next the river, which is finished by three pedestals for lamps. Other pedestals on the embankment-wall, in the drawing are shown bearing lamps. The mermaid forms in these last should be exchanged for forms more architectonic, and wherein figure-sculpture, if used, should be *applique*, not substituted for the structural. Large block-pedestals are also shown, flanking the central stairs and bearing colossal sedent figures. Each of the lower flights of steps is flanked by two lions couchant. The substructure of the steps and landing, including cross-walls and arching, is designed with culverts, storage-space, and sluices, to serve flushing purposes, as before described. There will be three spreading outlets, at the foot of each of the lower flights, in the riser of the bottom step, and each 3 ft. in width by 9 in. in height. In connexion with these, the opening of an end-compartment of the reservoir-space under the steps, will be fitted with a sluice-valve. Further, there will be a culvert from end to end, next to the embankment-wall, into which access will be provided from the several chambers of the reservoir, by openings; and this culvert also will be fitted with sluice-valves, one at each end. The area around this landing-place, in the river, for 12 ft. from each end of the stairs, and 6 ft. in front of the embankment-wall, is to be paved with granite.

We have now completed our particulars of the whole work as designed, of the two contracts for the Thames Embankment, which are in hand, and extend from Westminster Bridge to Whitefriars; and we have given, in our first articles, some account of the gestation of the work generally. We stop short, having not described what is proposed for the connexion between the present limit of the work, east, and Blackfriars Bridge, and what is in process of design for the Surrey side of the river. The drawings for these portions of the great work of embanking both sides of the Thames, are yet incomplete. We have, however, given particulars that will enable many of our readers to understand the works in progress, in which they cannot but take much interest,—works that without some preliminary information would be likely to seem hopelessly complicated, as they are certainly characterized by extraordinary elaboration in the details.

THE LATE MR. C. H. SMITH, ARCHITECTURAL SCULPTOR.

Few members of the Institute of Architects, the Society of Arts, and other cognate associations in London, will hear without regret of the death of Mr. Charles Harriott Smith, who was always ready to say something on the subject under discussion; and, moreover, always had something to say that might be usefully listened to.

Mr. Smith was born on the 1st of February, 1792, and died October 27th, 1864, of cerebral irritation, of long standing and terminating in paralysis. His scholastic education was very limited, for he left a very common school at twelve years of age, to go to work. He occasionally spoke, in after-life, of being indebted to Mr. Bonomi (father of the present curator of the Soane Museum) for drawing his attention to higher branches of art than those he was pursuing at home with his father as stone-mason. Valuable is a word in season. When he entered the Royal Academy, in 1814, he became acquainted with many students who afterwards proved warm and useful friends; one in particular, Professor Donaldson, who will perhaps recollect what he did for him in furthering his education about that time. If the good-hearted Professor should forget, he may be assured that the subject of our notice never did.

Mr. Smith passed through all the schools at the Royal Academy (we do not know of any other student who ever did so) by drawings of the human figure. In 1817 he obtained their highest rewards for architecture, and consequently enjoyed the privilege of free admission as a student at all times during his life. Starting thus, he might have aspired to practise one of the highest branches of art. Circumstances, however, led him to producing rather than creating. He executed the Corinthian capitals and other architectural adornments at University College, the National Gallery, the Royal Exchange, and elsewhere, and was appointed, without application, one of the four commissioners to travel through England and Scotland in search of a fit and proper stone for the New Houses of Parliament. With the conductor of this journal, he afterwards visited the stone quarries of Caen. If the advice that was then jointly given to the quarry-owners had been followed, their stone would have been held in better repute in England than it now is for external work. Later, he was a member of the Government Committee appointed to inquire and report as to the condition of the stone of the Houses of Parliament.

Mr. Smith became a life member of the Society of Arts in 1813, and for many years took a lively interest in its proceedings. This was the only society to which he ever subscribed, feeling justly proud that to all other institutions he was admitted by invitation. His writings and lectures were numerous and varied in subject. Many papers with his name to them will be found in our own pages. In his latter days he called himself a "strange mongrel of art, science, literature, and business." He was an occasional competitor for architectural works. For the Nelson column at Charing-cross he made a large model of his design. The last design he submitted was for the proposed museum in Kensington, of which some notice was given by us at the time. Looking through the old catalogues of the Academy we find he exhibited in 1809 a design for a villa; in 1810, a view of Chelsea Hospital, from actual measurement; 1813, a design for a church; 1815, a design for an edifice to commemorate the victories of Wellington in the Peninsula; 1817, a design for Pantheon of the Heathen Deities; 1818, a bust of his father (in wax); 1821, a design for the interior of a Pagan temple; 1822, a bust of a lady; and in 1824, a bust of the Hon. and Rev. E. J. Turnour.

In 1855 he was elected honorary member of the Institute of Architects,—a distinction of which he was very proud. Mr. Smith had made himself, as many will remember, a thorough master of perspective, and his knowledge of lithology is well known. As we have already said, he possessed great general information, and was always ready to impart it to others who sought it. As one of his old workmen said recently,—"He never grasped for money, but he did for knowledge, which he held fast, but nevertheless gave it away abundantly."

We record his death with regret, and hold his memory in esteem.

THE LATE MR. ALFRED TAYLOR, C.E.

We regret to have to record the death, from diphtheria, on the 23rd ult., of Mr. Alfred Taylor, C.E., of Crosby, near Liverpool. Mr. Taylor, though but in his thirty-first year, was getting well known as a sanitary engineer. Commencing as a pupil with Mr. Hibbert, C.E., and afterwards with Mr. Henry, when engaged on the Wolverhampton water supply and drainage works, after executing several large surveys, he was engaged by the borough engineer of Liverpool, Mr. Newlands, at whose office and works he was not slow to avail himself of the first-rate opportunities which presented themselves for improving his practical knowledge. Thence he became the engineer of Merthyr Tydfil, where he carried out a good deal of drainage and other work, and removing to Waterloo, near Liverpool, completed the system of sewerage there which is now in operation. A few years ago Mr. Taylor commenced private practice, and carried out some difficult and successful land drainage works for Mr. Weld Blundell, at Birkdale, near Southport. He also made surveys of both Birkdale and Crosby, for their respective local boards, and laid out a system of inland drainage and deodorising tanks for the latter, which met the approval and warm support of the Government inspector, Mr. Rawlinson. In addition to these, he executed many private sanitary works, and as architect produced some meritorious buildings. Mr. Taylor's character was distinguished by energy and thoroughness, sparing no pains, when about to undertake any new work, to inform himself of the details of the most successful works of the kind that had up to that time been carried out. In him we have lost a promising engineer, who, doubtless, by his practical talents and excellent judgment, would, had he lived, have raised himself to a foremost place in the profession.

JOHN LEECH.

On Saturday last died—not unexpectedly by those who had the honour and pleasure of his acquaintance—John Leech, the "back-bone" for many years of *Punch* "proper,"—the mainstay of "Punch's Almanac,"—and the clever artist of many a clever coloured frontispiece to "Mr. Punch's Pocket Book."

Mr. Leech was born in London, in the year 1817, and educated at the Charter-house. The house in which he was born should bear an inscription. He carried, he was wont to say, few scholastic acquirements from Sutton's foundation. He was born to read men, not books; and destined to find in London society, high and low, in London drawing-rooms and in London streets, inexhaustible materials for his ever-ready and, in its way, inimitable pencil.

The name of a friend, and that friend a man of genius (for such was Mr. Leech) is the cause of recalling many little reminiscences, at all times pleasant; but when Death has closed the all-observant eyes of that friend,—when we must say,—

> "The hand of him here torpid lies
> That drew the essential forms of grace;
> Here closed in death the attentive eyes
> That saw the manners in the face;"

they return with additional associations of sadness and delight. Such mingled feelings are the writer's at this moment. We (who have flourished from 1834 to 1864) shall not have the good fortune to see another John Leech.

> "A king's or poet's birth doth ask an age."

The residences of men who will be remembered hereafter deserve to be pointed out, and, if possible, preserved. When Mr. Leech first made himself a household picture in ten thousand families, ten thousand taverns, ten thousand coffee-houses, and a long "*et cetera*" of places, he was living at No. 9, Powis-place, Great Ormond-street, London. His farewell to Powis-place, and removal to Brook-green, where he first made immortal "The Brook Green Volunteer," was commemorated by a "dance" in his then empty house in Powis-place, and a supper, *à la* Gunter, which carried mirth and light heels into milk-boy hour next morning.

From once aristocratic Powis-place, as we have said, he removed to Brook-green, where he had his ever faithful and cheerful friend and editor, Mr. Mark Lemon, for his near neighbour. A bow-shot off he found Comic Blackstone A'Beckett, of *Punch*, living near Punch's Railway (of whom many pleasant reminiscences might be told), and Mr. Perceval Pips Leigh, whose Diary in the manner of Mr. Pepys conveyed with marvellous truth and quaintness the follies and fashions of London as it *was*. Here he saw the Brook Green Volunteers (Wilkie was to have painted a Brook Green Fair,—a fair in earnest,—which the writer of this column "In memoriam" remembers to have seen, with all its innocent pleasantries,—more like Bury Fair in Shadwell's amusing comedy than Bartholomew Fair in Ben Jonson's still more amusing comedy of that name); and Brook Green will be remembered hereafter for the artistic talent which its turf gave rise to.

This inimitable artist is said to have been sent to a too early grave by the continual boredom of Italian organ-grinders. One of his "Punch" *punch-on-the-heads* of these perambulating nuisances, who can readily forget? The cut is slight,—the work, perhaps, of half an hour, done while dressing for dinner, or a late meet with the hounds with his friend Mr. Mowbray Morris at Melton Mowbray. The "wording" beneath the cut is as follows:—"One good Turn deserves Another. The lazy Organ-grinders have had it all their own Way with the Monkeys. Now, then,—Change about!" The gorilla, wild with delight, is pulling the chained Italian grinder to the top of his monkey-board. The grinder himself is equal in *effect* to the grinder in Wilkie's inimitable "Parish Beadle."

Let us here recall to remembrance another all-perfect-in-its-way "cut" of our deceased friend. The literature of the illustration is as follows:—

"CANINE.

Patron.—'Well, but you don't mean to say that such a dawg as that could *draw* a badger?'

Fancier.—'Not *draw* a badger! Why, bless yer 'Art, it would be a little 'Oliday to him!'"

The listless doubt on the swell patron's mind, and the cheeky assertion on the fancier's, are alike perfect from top to toe; while the representation of "the dawg," to use a slang and common expression, "beggars description."

It is well known beyond the walls of the Royal Academy of Arts, the dear little Garrick Club, and the solemnities of the Athenæum Club, that Mr. Leech was desirous of becoming a painter—a painter in oils. We have no wish to reveal the handsome sums which inimitable Mr. Leech received from the ready-handed and high-minded proprietors of *Punch*; but it should not be concealed that Mr. Leech was naturally desirous of perpetuating on panel or canvas—or both—some of the thousand scenes he has drawn on wood,—here with a touch of Hogarth; there with a touch of Wilkie; and here again with a touch of Frith. He wanted a true eye for colour: his fancy worked faster than his hand: he tried in a small way and did not succeed. Nor are we altogether sorry: the time spent in *perhaps* perpetuating *one* perfect work would have undoubtedly robbed us of *many* all-perfect sketches. This *all-observant* artist acted, as an amateur, in *three* plays,—in Shakspeare's "Merry Wives of Windsor," as *Slender*; in Ben Jonson's "Every Man in his Humour;" and in Beaumont and Fletcher's "Elder Brother;" and yet, strange to say, he had no one quality to commend him as an actor, except his "figure," which was handsome, and his "get up," which was perfect. He was great on "wood," but not on "the boards."

England has lost a valued friend.

OPENING CONVERSAZIONE OF THE ARCHITECTURAL ASSOCIATION.

The usual *conversazione*, by which the sessions of this Association are opened, was held on Friday evening, the 28th ult. A variety of architectural drawings and works of art were scattered through the rooms, and the band of the 1st Middlesex Volunteers attended to enliven the proceedings. The attendance of members and their friends was numerous.

The chair having been taken by the president, Mr. J. H. Christian, some formal business was transacted, after which

Mr. E. G. Tarver, president of the class of design, read the following report on the drawings submitted for the prize given by Mr. Tite, M.P.:—

"The judges having carefully considered the different designs submitted in competition for the prize given by Mr. Tite, are of opinion that that submitted by 'Cinque-Cento' is, as far as the general character of a design for a police court (in accordance with the instructions issued) is concerned, deserving of the prize. In coming to this decision the judges cannot refrain from noticing the design of 'Justitia' as being well worthy of commendation; as are also the carefully-worked out details and arrangements of 'Utilitas.'"

The President then called upon Mr. J. Johnson, the successful competitor; and, having addressed a few words of congratulation to him, handed him the prize. He also announced that Mr. F. B. Brooks was the author of the design signed "Justitia," and Mr. H. A. Reeves of that signed "Utilitas."

Mr. T. R. Smith brought up the report on the best essay on iron as applicable to architecture. It was as follows:—

"The judges appointed to adjudicate the prize for the essay on iron beg to report that only one was submitted. They are, however, of opinion that it fully merits that the prize should be awarded to it; showing, as it does, a good acquaintance with the subject generally, and considerable familiarity with some of its details. At the same time they cannot but express their regret that a larger number of competitors did not come forward, and their conviction that the subject of the iron prize, and the best method of inducing members to compete for it, deserves to receive the serious consideration of the committee."

It was stated that the writer of the essay was Mr. R. R. Bayne, who is at present absent from England on professional business.

Mr. R. W. Edis brought up a report from the judges of the class of design, stating that, having examined the sketches sent in during the last session, they had "unanimously awarded the first prize to Mr. G. H. Birch, for a series of clever and carefully-drawn sketches; and the second to Mr. R. R. Bayne."

The President then read his address, of which we give some passages. After briefly alluding to the progress and position of the Association, the reader said,

"The most remarkable additions to our street architecture that have risen of late, are the great hotels. They have the merit of being fine lofty buildings, grand in mass, and of good sky line, having perfection of arrangement and accommodation, and every possible luxury that a vast outlay of money can insure. But, considering that they are built on practically interminable leases, little of this money has been expended on art, and none on figure sculpture, for which no better opportunity is likely to arise. I had rather the money spent on the cross at the Charing-cross terminus had been so applied in or on the hotel; for I think the two (the hotel and the cross) incongruous, and that the latter may possibly be found in the way. Nevertheless, the Charing Cross Hotel is one of the best, and the station behind it very fine, from its size, simplicity, and grand proportions. I fear we must wait some time before our Domestic Gothic is sufficiently developed to present us with a really fine hotel designed on true Mediæval principles. Any one who has looked at London from a distance will admit that these hotels are giving great variety to the very dull general level of house-tops, and, in addition to our towers and spires, add much to its picturesqueness.

Another class of buildings that have been largely added to of late is the music hall. Owing, I fear, to the sins of omission and commission on the part of the lessees of our theatres, hot houses and long and late hours undermine the constitutions: as the so-called adaptations from the French enervate the minds and imaginations of their audiences, these finally succumb to bad costume and sensation scenery of the most reprehensible character. Some of the music halls seem to have embodied in their architecture all the faults that the theatres show in connexion with their managements; and I venture to hope that their number will not be just yet increased.

I have only time to advert to one amongst the numerous works both of architecture and building now in progress in the City, viz., the restoration of Guildhall. We shall shortly, I hope, see that noble building completed with its open timber roof somewhat after the fashion of its sister of Westminster. It was originally covered, I believe, by a roof supported on stone arches thrown across at intervals; but this was ascertained too late for its restoration in that form.

The churches built of late in the metropolis are too numerous to admit of mention here. Many of them show a near approach to perfection in ecclesiastical architecture.

Engineering works ought not to be overlooked. In addition to the station at Charing Cross before mentioned, the works in connexion with the railway at Blackfriars, and many of the new suburban stations, show great signs of improvement, but still leave ample room for further advance. The Association has an opportunity of helping this advance, as one of the prizes next year is for designs in connexion with this latter subject.

Engineers have at last come to the conclusion that their work, to be good, need not be ugly. Charing Cross Bridge is redeemed by gilding and colour. All the small mechanical works of the Middle Ages were seemly if not artistic; why then should we so long have spoiled our greater and grander work for want of a little art and from a love of dirty, black, or dull colour?

I hope the viaduct across Ludgate-hill will agreeably surprise us in this respect.

The Thames Embankment offers unusually fine opportunities for grand works on its quays; which may be great national monuments or night-mares.

As some amongst the many fine works in the country I would instance the splendid chapel of St. John's at Cambridge, to which, I believe, a lofty tower is to be added by the munificence of a private individual, and the new buildings at Christchurch and Merton, at Oxford, as examples of good work; though I question the wisdom of using the Venetian Gothic in the midst of so much that is English.' * * * *

"My own opinion is, that however clever we are in the manufacture of glass, we have not yet arrived at the power of designing it, and that until this is the case, the less we execute the better. What is to become of all the bad glass that has been inserted in our churches and cathedrals? Unless another race of Iconoclasts arise, I fear we shall have no room left by the time we have arrived at proper ideas on that subject.

The committee for filling the windows of Glasgow Cathedral evidently think with me, up to a certain point, as they have passed by all manufacturers in this country and imported their glass at a vast expense from abroad. Whether they have fallen from the frying-pan into the fire, I leave to be determined by those who have seen the results.

In the beginning of March Mr. Scott read a valuable paper to the Association, and gave his

thoughts and suggestions on the education of architects; at the same time proposing a scheme for united action with the Institute, which scheme has since been considerably matured, and I hope there is every prospect of it being ultimately carried out. I beg to remind you that you have pledged yourself to the support of this scheme, and I hope you will give your individual and collective assistance to its furtherance.

Many of our members, with whom I most cordially join, think that in the meantime we should get up a class for the study of the drawing of the human figure, so as to be ready to join the larger scheme of the Institute when matured. We have made inquiries as to cost of rooms, models, &c., and a thoroughly efficient artist has offered his services for instruction once a week. Detailed information will be given to members by the secretary of the sub-committee appointed to make these inquiries, and I do not doubt that we shall have many students, both in and out of our Association, anxious to avail themselves of the great advantages that this class will offer.

I think it would be unwise and selfish in the extreme to confine it to the members of the Association only, when there are many students in branches of art connected with architecture very anxious to join us.

I am no way surprised at the anxiety of some of our members to lose no time in entering on the study of figure-drawing, as that study is the basis of all good art.

If we wish to aid in the development of a natural style of architecture, we *must* lose no time; for this great and important study has been hitherto almost entirely neglected by the majority of architectural students, many of whom have been led away by a weak admiration of so-called originality. And here let me remind you of what Mr. Scott told you in his lecture:—'Let an architect be as original and as inventive as he pleases, but let his originality and invention be founded on a basis of knowledge, and not, as much so-called originality most obviously is, on a foundation of ignorance.' I hope that this advice will be taken to heart by all students of architecture, and then we shall see less and less of designs where every true principle of architecture is ignored, and unmeaning details elaborated to a degree that fatigues the eye and distracts the brain.

Vast advance has been made in the execution of good ecclesiastical work, and we should now turn our serious attention to civil and domestic architecture. To do this we must put ourselves on a par with the most successful of builders of ancient times, by a more artistic education, and by the study of the figure; for you will acknowledge that in almost every period good architecture and knowledge of figure-drawing were co-existent.

Our more extended knowledge of all styles of architecture ought surely to give us some advantage over the old men; but I fear our knowledge is only superficial, and must, before any good is realised, go deeper into the fundamental principles by which they were governed."

Mr. Burges, having been invited by the chairman to make a few observations, said he thought it unnecessary that he should do so. He might, however, be allowed to say, that he was glad to find that the Association contemplated a class for figure-drawing, which he regarded as a most essential element in the education of an architect; as, if the profession were to study the human figure more, and notches and chamfers less, the result would be most satisfactory. With regard to many modern Gothic buildings, he felt bound to say that, as a follower of the Gothic school, he repudiated them altogether.

Mr. Hayward announced, on behalf of the Royal Institute of British Architects, that that body had under consideration the suggestion of Mr. Gilbert Scott, with respect to a school for the education of architects; and that a report on the subject would shortly be submitted.

This terminated the formal business of the meeting. The ordinary meetings will commence on the 11th inst., when a paper will be read on "Tone in Architectural Work."

The sketches of the Class of Design will comprise drawings for a large church adapted to the modern ritual.

Decay of Wood Carvings.—We have before us the report of the commission appointed to inquire into this subject, but must postpone notice of it.

WINTER EXHIBITION OF CABINET PICTURES, PALL-MALL.

The twelfth annual collection of pictures offered for exhibition during the darker and more dreary months will be as acceptable as any of its immediate precursors, although much of the distinctiveness that belonged to the "Winter Exhibition" in its earliest successes has dwindled to nought, and the roomful—as far as hanging space may interpret such a meaning—of pleasing and clever works may almost be regarded as supernumerary to the more important and past exhibitions of the earlier season, if the generally even merit of the contributions did not suggest a difference, and a welcome one, in an unusually strict system of selection. Thus of the whole number of its items some 200—it may justly be said that, with about 10 per cent. for exception, all will be found to repay examination, many to leave an agreeable impression, and a few to evoke genuine admiration and secure a long recollection.

In this last division, Mr. E. M. Ward, R.A., holds a prominent position. He has painted with all his customary vigour and aptitude for expressing character a very touching little incident from French history, titled "The Dauphiness, Daughter of Louis XVI., and Robespierre in the Prison of the Temple" (36), described by the Princess in the Memoirs written by herself.

"I swept the room every day. . . . . One day there came a man whom I believe to have been Robespierre; the municipal guards paid him great respect; his visit was a secret to the people of the tower, who knew nothing about it. He looked at me insolently, cast his eyes on the books, and after having recalled the municipals, he retired."

The impersonation of the patient princess, as well as that of the audacious intruder, whose attitude and air of assumption are in strong contrast to hers, of meek submission to circumstances, is so strikingly lifelike, and all the accessories have so much reality imparted to them, that this may rank with Mr. Ward's best illustrations of his favourite epoch.

(65) "Near a Brook, through the Forest of Bohemia," if it do not thoroughly well represent Mr. W. C. T. Dobson, R.A., is yet a very attractive and refined specimen, though like (83), "Hide and Seek," by Mr. H. Le Jeune, A.R.A., somewhat too cold and classic.

Mr. W. G. Orchardson shows that he need not confine himself to portraiture to earn reputation; his skilful method of execution tells to extraordinary advantage in a very spirited representation of probable occurrence, (190) "The Challenge—A Puritan's Struggle between Honour and Conscience." There is admirable dash in the action of the cavalier as he is ceremoniously presenting the missive on the point of his long rapier, to the heavily built but by no means unimpressionable Roundhead, whose inclination to receive it is sufficiently apparent, in spite of the religious objections urged on him by his pastor, and evidently his master, who clings to him in nervous dread of his advice being disregarded. This excellent combination of manipulative dexterity and terse conveyance of a story, will cause Mr. Orchardson's name to be looked for in time to come.

(33) "The Flower and the Leaf," by Mr. G. D. Leslie, is poetically conceived, and, like a chapter from a well-written romance, awakens sympathy for very everyday emotional occurrences, which, though appropriated to a fifteenth century experience of them, are felt and understood as if no period could change the susceptibility of their effects. A pretty lady is gazing with pity at a nun, once as fair and favoured as herself, and while she plucks the bright-hued flowers at her will, appears to wonder why only the leaves should fall to the share of others, and why her life's walk should be through a delightful garden, and that of others through a cemetery.

Mr. W. Maw Egley's ambitious and clever historical picture of "Francis I., sick and a prisoner, visited by his sister Marguerite d'Angoulême and the Emperor Charles V." (9), would have been immensely improved if he had judiciously restrained his love for strong colour and lost some of the hard outlines that cut it in pieces; but it has been carefully studied, and would be conspicuous anywhere. Mr. F. B. Barwell sends (46) "The Reconciliation," a smaller edition of his well-known large work.

(57) "Olivia,—Twelfth Night,"—by Mr. T. F. Dicksee; (58) "The Milk Boy," by Mr. Joseph Clarke; (75) "Juanita," by Mr. J. B. Burgess; (76) "Barbelie at Breakfast," a charming little study by Miss E. Osborne; (95) "The Song of the Nubian Slave," by Mr. F. Goodall, R.A. (a repetition of his diploma picture); (101) "Italian Peasant Girl" (not Italian at all, Mr. J. Hayllar, but very good); (110) "While he drinks thy wine, believe not all he says," Mr. J. B. Burgess again; (123) "The Water Nymphs," by Mr. E. C. Barnes; (178) "Raising a Churchrate," by Mr. J. Morgan (a large, well-painted, but rather uninteresting realization of commonplace fact); and Mr. G. E. Hick's agreeable ideals, who draw the long-bow in 191, and two or three other instances, are all to be admired and noted.

There are numerous equally good landscapes, and from among the artists where name alone is guarantee of a certain excellence, Messrs. Linnell, Creswick, R.A., Hulme, Vicat Cole, A. Gilbert, Percy Williams, Syer, Leader, Boddington, Peel, Hargitt, Dawson, and Bright may be given. Mr. E. W. Cooke, R.A., has (42) "A Sunset, near Venice;" and M. H. Koekoek some clever seascapes.

Nor is cattle painting unrepresented, thanks to Mr. T. S. Cooper's "Sheep" (183) and Mr. Davis's ditto in "Warm Weather, Artois" (86) very like truth, and admirably composed. Moreover, there are several very noticeable foreign pictures that assist considerably to uphold the value of the gathering, and these have all their leaven of interest, culminated in a charming example of M. Edouard Frere, entitled "The Writing Lesson" (3), one of those little gems that defy imitation, and are provokingly isolated by the indescribable quality of this superiority. It is difficult to account for the exquisite pleasure derived from watching so homely-looking a child scrawling, in a very immatured style, at a very matter-of-fact writing-desk; and for such a satisfying result with so little effort to secure it,—a peculiarity, though diffused in a lesser degree throughout the emanations of others who belong to the same school, by which the works of this incomparable artist are at once identified. Had nothing of his been present to question it, M. Duverger's "Granny's Helper" (62), a mite of a maiden threading an old dame's needle for her, and other similar productions, would claim for their authors a larger share of naturalness and grace than they really possess in common with M. Frere.

ARCHITECTURAL REVERIES.

THE WINDOW.

Many unexpected questions are continually presenting themselves for solution to the student of architecture, in its beginnings, its developments, and its artistic principles; and associations seemingly more akin to the course of history, the domain of poetry, or the philosophy of the sentiments are constantly arising. Every architectural façade consists of certain distinct features, each with its special function to perform; and each being capable of almost as great a variety of expression as the features of the human face itself. Architecture has also a language: not a spoken language, still less a written language; yet one producing an infinite number of impressions, of the most diverse character, upon those to whom it is addressed. To the worshippers beneath the lofty vaults of the cathedral it gives forth, as the outbreathings of its stately forms, soundless, yet solemn and beautiful words, full of majesty and dignity; while to those passing within the massive walls of its prison-houses, and entering their frowning doors, clothed with huge fastenings of bar and bolt and chain, words seem to be muttered of terror and disconragement such as might have suggested the line of Dante,—

"Voi che entrate, lasciate ogni speranza."

On the other hand, to the dwellers in "summer palaces," the dreamers in the shades of garden pavilions, or the loungers in sparkling theatres, architecture addresses itself in light and playful phrases, bright with the graces of fanciful ornament and the symbols of quaint and elegant device. Architecture has also its literature: not one of mere letters, yet one engraven like the chronicles of Assyrian kings, upon the walls of its own monuments. And it is a literature, not of art alone, but of poetry and history. Yet it is a literature, whose pages are only intelligible to the true devotee. To those only who are endowed either by nature or study with that refinement of artistic sentiment which we call taste, will those pages reveal their fullest meaning. And these are comparatively few; for true taste is a faculty that emanates from the highest

regions of the intellect. "*Il faut avoir de l'âme pour avoir du goût*," has been truly and poetically said by a French author, and the aphorism is as true as it is poetical. It is, in fact, by "taste,"—that delicate feeling which seeks order, proportion, and fitness in things,—that man is distinguished from every other living creature; and a great authority, Cicero, has expressed this idea with his usual neatness and accuracy. When speaking of man's instinctive search for a law of order and measure for his words and actions, he describes the quality of the thing sought as "quid sit quod deceat," *that which is fitting*, an axiom which applies equally to works of art as to moral actions; and where the power to test the presence or absence of this abstract "fitness" is not possessed, the absence of "taste" may be inferred as a natural and, in fact, inevitable consequence.

In speaking of architectural features, and their expression, the windows of a building may aptly be called the eyes; for although a humorist might urge that, at all events, they are but glass eyes, the thrust need not disturb an analogy which it is not sought to make a very close one, as many other and more cogent objections might be made to the accuracy of the analogy: for instance, the number of this architectural feature, ever varying according to the necessities of the building, might at once appear an all-sufficient objection. And yet it is not altogether fatal; for the single eye of the Cyclops might find its architectural analogy in the solitary window in the vaulted dome of the Pantheon, destined to light the entire building; and the hundred eyes of Argus might find their parallel in as many different palaces. And then, it is not absolutely necessary to call in fable to our aid, for among the lower orders of animals the number of eyes is exceedingly various, according to the nature of their organization and its requirements. The larvæ of the *telephoroides*, a genus of beetles, are only furnished with a single eye; while those of the genus *cassida* have three; and those of *staphilides* four. The larvæ of *lepidoptera* (the butterfly class of insects) have almost invariably six; while in other types of lower animal life the eyes are often exceedingly numerous. And so the creator of architectural eyes may make their number ever varying, according to the exigences of the work he is constructing, without utterly destroying the analogy which it has been sought to establish.

Let us, therefore, call the windows of a building its eyes; for those features certainly seem to look forth upon us, like living eyes, with more or less of welcome or repulsion, according to their expression, the result of their design, position, and proportion. The gracefully-designed window, with its superincumbent lines of architrave or pediment, serving as the architectural eye-brow, beams upon us with a bright and pleasing glance; while the ill-formed opening, without a single line of moulding, like an eye without lids, glares towards us with a broad uncomfortable stare. In still ruder forms of structure the offensive expression is still more marked. And when accidental defects are superadded,—in the shape, for instance, of broken panes patched with rag or paper,—the effect of a human eye damaged by vulgar conflict or loathsome disease, and wearing its squalid bandage, seems so graphically reproduced that we gladly turn away. And thus, both in beauty, and at the other extreme of the scale of art, the analogies between the architectural eye and the human eye seem to persist in asserting themselves. Such are a few of the considerations which seem to invite us to look upon the windows of a building as its eyes so long as we regard its exterior; and when once inside the structure the windows actually become our own secondary eyes, through the medium of which we are alone able to distinguish external objects. This architectural feature appears, then, to be a most important one, and it may be well to devote a few lines to the consideration of its artistic treatment with reference to the functions which it has to perform and the expression it ought to wear. To a certain extent, indeed, this effect has ever been produced, almost unconsciously, by the architect, forced by the necessities and general character of the work in hand to the acceptance of certain unescapable conditions; but this is not sufficient,—an architectural feature should be something more than a tolerable and unavoidable accordance with the purpose of the building of which it forms a part. The effect of the most perfect possible accordance should be achieved, especially in a window, by the most careful and even caressing treatment; which ought to result in imparting to the feature a character so unmistakeably appropriate, and so felicitously expressive as to invite, or rather command, immediate remark and approbation on that especial account. To produce this effect there is no occasion to resort to exaggeration, nor to become in any way over-emphatic: it is only required that the emphasis, strong or slight, should be in the right place. In seeking for this expression, this emphasis, the student should above all things take care not to be led away by the fascinations of any well-marked style belonging to a former epoch; for in this way he may be led to impart to his design a form and character which, however beautiful in themselves, and from a certain point of view, will yet be inconsistent with the manners and the spirit of the period in which he lives. This is an aberration towards which there are strong temptations, as so many are to be found among the public who honestly admire modern Gothic buildings without having advanced so far in the culture of their taste as to ask themselves whether it is right to admire a slavish readaptation of the styles of the past to the works of the present. Let the architect beware of servile reproductions: an "architectural eye" of one period may have been very beautiful in its own age, when instinct with the artistic life of its epoch; but galvanized into an unnatural existence in the present day, it cannot legitimately possess the same charm. It is as the bird of beautiful plumage when stuffed by the naturalist and placed in a glass case, compared with the same creature full of life and motion, gorgeous colours glistening with the chequerings of alternate shade and sunlight in its native forest.

At all events, it may be safely stated, that the forced introduction of an obsolete style is sure to carry with it more or less of inconsistency. For instance, at the period when the finest of the Italian palaces of Florence and Rome were erected, it was a necessary condition in the residences of a turbulent and almost lawless race of feudal nobles, in an almost constant state of petty warfare with each other, that they should be at once both house and fortress. The windows were the features most especially influenced in their treatment by this necessity. The walls being built of far greater thickness than was necessary for mere architectural solidity, the openings for light had to be pierced through this massive defence, giving to these "architectural eyes" a deep-set character and forbidding expression which was increased by the necessity of making them as small as possible, consistent with the admission of a tolerable supply of light; and they were as few and far between as could be devised consistently with imperative requirements. The style of these buildings, designed by a truly artistic race of Mediæval architects, is almost invariably striking, and often beautiful,—qualities which have tempted modern architects to resort to absolute imitations of their forms; and in adapting them to modern residences, even the small size and small number of windows have been observed with scrupulous accuracy. This observance has certainly had the effect of reproducing the true Mediæval character of those buildings, but at the vast cost of appropriateness, and, what is worse, vast cost of appropriateness, and, what is worse, at the expense of that proper supply of light and air which, according to our modern notions, is most important, not only to comfort, but to health.

The window, above every other architectural feature, should characterise and illustrate the epoch in which it is designed. In all former periods it has done so, and why not now? This may be said to have been the case, even in the very earliest forms of the builder's art, which fitly suit and reflect the rude age for which they were constructed. In some of the primeval monuments of barbaric architecture still in existence, the window is simply that *wind-hole* which is the parent name of the modern term; and in that form it tells plainly enough the story of an era in the very infancy of art of which it is the rude artistic reflex. In later epochs, in the East, for instance, another example may be taken of the accurate reflex of contemporary manners exhibited in the domestic architecture of the period, and especially in the character of the windows. At the period alluded to, the luxuries of modern Oriental civilization, after their kind, had begun to develop themselves; the manufacture of glass had become more or less generally established, and its use adopted in all dwellings of superior class, in which the luxury of more spacious windows was soon perceived when they could be made to exclude the inclemencies of the weather, either by day or night, by a material which did not exclude the light. But a difficulty occurred in adopting the more spacious window, as openings thus increased in size would at once become a far too vulnerable place of attack in a land where countless tribes still exist whose natural profession is that of the robber. To obviate this objection, the houses of the wealthy were built with their principal windows looking into an interior quadrangle or court-yard, often large enough to be treated as a garden, while the external walls had scarcely a single perforation worthy the name of window. Here is a phase in the story of the window which is highly characteristic. It speaks eloquently of political misrule, and, at the same time, of that domestic jealousy which the social institutions of Asia tend to develop and foster. It gives also a special character to most of the Asiatic towns,—an aspect, in the main, desolate and uninviting,—for there are no glistening windows to look down upon and welcome the stranger, nor to reflect the glories of sunrise and sunset, nor to afford those glimpses into the inner life of the dwelling; while all of these effects are such cheerful characteristics of our Western and Northern cities. And, even as those Eastern dwellings meet us with no beaming look of welcome from sparkling window-lights, so, the women of that Oriental town furtively pass those they chance to meet with eyes closely veiled, or with only one cyclop-like orb glancing from its half concealment; and the analogy of the architectural and the human eye establishes itself again.

Somewhat similar phases of domestic architecture and manners to those just referred to existed in Greece and Rome during the earlier periods of their civilization, though modified to some extent by the nature of the freer forms of European institutions. From this and other causes the "window" never became an important feature in Roman architecture, either monumental or domestic. Nevertheless, both in Greek and Roman times, at a later period, there were windows,—true windows,—not merely openings closed at night by the biclores, or wooden shutters, but even decorative windows, in the houses of the rich, provided with regularly constructed framework of wood or metal, in which laminæ of the trans-parent *lapis specularis* were fixed, somewhat after the manner of our modern glass; and eventually glass itself was used, though in very small pieces, as proved by remains of glazed windows disinterred at Pompeii.

But it was not till after the fall of the Roman empire, and the establishment of the modern kingdoms by the Northern races, that the true history of the window commences; and, to understand the origin and development of the modern window, it will be necessary to take a rapid survey, commencing with the very dawn of Celtic civilization. Not glancing casually at various epochs and phases of art, but following out with some degree of consecutive severity the gradual development of the window as a prominent artistic feature in one of the noblest of the fine arts.

The early dwellings of the Celtic and Scandinavian races were, as recent discoveries have shown, of the simplest and rudest description; and whether formed of rough wickerwork, like the remains lately found in the Swiss lakes, or structures still more rude (though made with masses of stone) like some of the older Irish cabins, which may still be seen in Galway and Connemara. These primitive edifices had but one opening; and that aperture represented in itself the door, the window, and the chimney. The separate window, or wind-hole, as a distinct feature, marks a long subsequent stage of the builder's art. Of the wind-hole of this epoch we find synonymous terms in the *ventana* of the Spaniards (which is still the Spanish name of the modern window), and the *venthue* of the Danes, both terms clearly expressing a mere opening without any protection. In the German term, *fenster*, and in the Italian *fenestra*, we find traces of the next stage of development of this important architectural feature, that in which it was protected, as both terms imply, by a network of hempen rope, or a lattice of wire, or more solid metal, as a security against either the nocturnal or daylight entrance of domestic or wild animals, whose uninvited presence had doubtless been found inconvenient, or something worse, in times when wolves and bears were common and even numerous in the nearest woods, which still

covered a large portion of the country. Thus each successive kind of window forms a commentary on contemporary manners and general civilization.

As the forms of modern civilization progressed windows rapidly assumed a more and more important place in European architecture. Its earliest increasings in size and decorative character were, however, in those windows which, as in our Mediæval castles, received their light from an inner court, as in the East, and from partially similar causes. In our early castles, therefore, while yet the external openings were, as a general rule, little more than mere slits in the wall, and used as loopholes for the arrows of the archers as well as for the admission of light, those looking into the courtyard had already become large and decorative features in the general design of the building.

The next step may be most conveniently traced in the walled towns of the Middle and immediately succeeding ages, in which the windows, even of the fronts of the houses, were in an analogous position to those of the castle which looked into the interior court, protected as these town windows were, by the general external rampart, from the missiles of an enemy. Under these conditions the dwellings of towns began to exhibit wider and wider windows, till in the timber-built houses of the fourteenth and fifteenth centuries the fronts became nearly all window. But this architectural arrangement, which destroyed the individual character of the window, did not insure a great abundance of light; for the glass was so green, and the leaden lattice so clumsy and thick, that a room with one entire side all window was still but poorly lighted, according to our present notions of a light room.

In houses of this description the windows of the ground story, or *rez de chaussée*, were almost invariably unglazed, and protected at night by wooden shutters, similar to the Roman biclores; while in the daytime, if wares were exposed for sale in these unglazed windows, they became more strictly *fensters* or *fenestras*, as being invariably furnished with a protective network, no longer as a security against wild beasts or domestic ones, but to preserve merchandise from the unceremonious appropriations of the light-fingered members of the urban population, who appear to have always been a very numerous and active class in every community. The absence of glass and the presence of network are remembered by our grandfathers even in the streets of London.*

* To be continued.

THE PUBLIC HEALTH.

The last report by Mr. John Simon, made by direction of the Lords of the Privy Council, contains a large amount of valuable information, and is one of a series of volumes prepared for presentation to Parliament on the various conditions of the public health.

Amongst other matters of importance, the present state of vaccination has been carefully considered, and the fact is referred to that, in the Grand Duchy of Baden, in eight years, not one single death from small-pox was reported, and, in Copenhagen, no deaths from this pestilent disorder have occurred in thirteen years. In London it killed 2,000 in one year.

To get rid of small-pox altogether, clear evidence shows, all that is needed is an effective system of public vaccination; and it is recommended that there should, for the use of London, be fifty or sixty stations, and no more, all under the regulation of an independent authority, instead of, as now, being under the charge of a variety of persons. It is also suggested that there should be an effective registrar, and law to compel parents to have their children rightly vaccinated. There is, doubtless, much need of improvement in this matter, but, as our readers know, there is at present a law for the enforcement of vaccination, which has for years been allowed to remain a dead-letter.

In connexion with the food of the industrious and poorer classes, Dr. Smith has made extensive inquiry in the metropolis and several districts throughout the country. It is stated, in respect to the food of men and women, that a woman must have for her daily food at least 3,900 grains of carbon, and 180 grains of nitrogen, or as much nourishment as is contained in a half-quartern loaf. A man usually wants about a ninth part more. It appears that, on examining into the conditions of forty-two families of sick, it was found that the amount of food was insufficient; and in thirty-one families of needle-women the amount of nourishment was much below the mark. Farm labourers were also found to be far below the proper standard.

The average cost of a week's food was found to vary in different places, being lowest at Macclesfield. The cost of food for each adult for a week, was from 20d. to 23d. The food in Bethnal-green and Spitalfields was found to be less nourishing than in other places. The London weaver buys his tea and other provisions in the most costly way, providing just enough for each day's necessity. Of all classes, however, the state of the needle-women was found to be the worst.

The account of the food supplied to the labourers is favourable; but from our own careful observation in both town and country, we fear that, upon the whole, many of the accounts have been too favourably given: the pale faces and shrunk limbs of women and children are obvious in the English counties, in the east of London, and elsewhere; showing that, in addition to the evil conditions of the dwellings, there exists a degree of under and improper feeding which is not sufficiently shown in the reports.

The principality of North Wales was found more prosperous than South Wales.

In Scotland the shepherds increase their meat diet by eating the lambs and sheep which die of disease. The use of milk and oatmeal gives an advantage to the Scotch farm labourer. In Ireland Dr. Smith found abundance of potatoes, meal, and milk. When potatoes are plentiful, and used with butter-milk, they form the entire food of the peasantry. The daily allowance at a farmhouse to each man is said to be ten pounds and a half of potatoes, and three pints of milk.

The average cost of a poor Irishman's food is 1s. 10d. a week; of a poor Scotchman's, 2s. 10d.; and about 6d. more for a poor Englishman. The Irishman's food costs about 2¾d. a day, the Scotchman's less than 5d., and the Englishman's about 5½d. a day; and yet Dr. Smith says that the poor Irishman gets the most nourishment, and the poor Englishman the least.

This voluminous report deserves the most careful consideration, and should in some condensed form be placed in the hands of the working classes. In most of the mechanics' institutions and chief libraries of the provincial towns the parliamentary reports have either been supplied, or they might be obtained with but little trouble. Good service would be rendered by those who would condense such reports and put the most instructive portions into the form of lectures.

The information of Dr. Barnes, physician to the *Dreadnought* hospital ship, should meet with attention, so that proper care may be taken of that useful part of our population who chiefly man our mercantile marine. Dr. Barnes says, that nearly half of the men admitted into the sailors' home, at Poplar, are suffering from scurvy at the time of their admission, and that a twentieth part are seriously diseased by it. We seem, as regards the state of a number of our merchant-ships, to be drifting back to the days of Christopher Columbus and Captain Cook. Dr. Barnes remarks that this loathsome and dangerous disease "is seldom met with in the cabin." There should be a careful inspection of every outgoing and incoming English ship, by competent authorities, whose duty it would be to see that fines, &c., in instances of neglect, are duly imposed.

Reference is made to unhealthy trades, especially dressmakers and needlewomen, tailors and printers. In consequence of overcrowding, and other sanitary neglects, the death by consumption amongst tailors and printers is enormous. The mortality of the London printers, between the ages of 35 and 45, is twice as high as that of the male agricultural population.

Mr. Simon reiterates what we have for so long insisted upon, that the effective ventilation of all in-door working places must be made compulsory by some appropriate provision of the law.

The extensive use of opium and such-like drugs is mentioned. Dr. Bristow and Mr. Holmes report on the state of the chief civil hospitals in England, Scotland, and Ireland; and, in connexion with the facts which have been gathered, Mr. Simon says that "hitherto, without exception, the plans for artificial ventilation for wards have been costly and fatal failures: whatever other appliances exist, a ward must be perfectly ventilated by its window."

THE LONDON BAKERS.

It is to be regretted that the new Act for the better sanitary regulation of bakehouses should meet with so strong an opposition from the masters that in several instances it has been necessary for the district inspectors to seek for penalties for breaches of the law before the magistrates. One provision is, that boys under sixteen years of age shall not be admitted to work in bakehouses. On this point there is a good deal to be said on both sides. There are, however, but few boys engaged in this business, which is carried on for the most part by journeymen, many of whom are natives of Scotland, or who flock to the capital from other towns. In many provincial towns, and indeed throughout many country districts (particularly, we are told, in such places as Edinburgh, Glasgow, &c.) the labour of boys is used to a large extent, and there can be no doubt that this is very injurious to health. In London the duties of the bakers' boys are not easy. As we have said, however, there are but few boys employed in the London trade, although the Act applies more especially to them as regards the hours of work.

It is respecting the nightwork of the journeymen that there is the most dispute between the masters and those who have the charge of the public health. Amongst the men, the desire for change is general; and we think it is in a great measure the prejudice which has resulted from long practice alone that causes the masters to object to arrangements which would prove of ultimate advantage to the customers, to the workmen, and to themselves. Many of the more intelligent know this, but they have not the courage to act contrary to the custom.

The majority of the men, many of whom have families supported on scant wages, fear to run the risk of losing their work, and are shy about expressing their thoughts on this subject.

In the course of our experience we have met with so much opposition from persons even of general intelligence and kindly feeling, as to the removal of causes of ill health, or changes in arrangements, which from our disinterested point of view were objectionable and dangerous, and of actual disadvantage to those who were so much in favour of its continuance, that we have ceased to feel surprise at some of the master bakers putting forth arguments which are as much opposed to rectitude as they are to common sense. Some deny that the sleeping in the bakehouse occurs with their knowledge; but an intelligent baker—Mr. Samuel Ayton, of Bermondsey,—says that, "there is not a master in London, performing nightwork, who does not know that the men will get all the sleep they possibly can" in the bakehouse. Mr. Ayton further remarks, that the fact is, that the Legislature, disgusted with the cruel treatment of the *employés*, revealed in the report of Mr. Tremanhere; and finding themselves unable to deal with adult labour, aimed a side blow at the dangerous and pernicious practice of nightwork; and as it may be denied that there is any cruelty in the system, this authority relates his own experience, as follows, merely premising that to his own certain knowledge the treatment of the men at the present moment is far worse than anything experienced even by him; and this we can readily conceive, when we remember the details which we once extracted from a London master-baker's son as to even his own personal hardships, far less those of workmen not so likely to be favoured. The authority alluded to said: "For seven years I worked in London as a journeyman baker. I was compelled to work at eleven at night, and remain there till six the following evening. This was continued without intermission till Saturday, when I was allowed to have my only night in bed in the course of the week. Just think of it: nineteen hours per day for six days running every week! and the highest remuneration I ever received for all this toil was 16s. a week. Can you wonder, then, when I tell you, calmly and deliberately, that sooner than go through that seven years again I would commit suicide? Existence to me, under those circumstances, would not be worth having. Our Government would not dare to work a criminal—a transport—in this way; and yet it is constantly inflicted on honest men." He has been an employer for many years, and declares that there is no actual necessity for this state of things. By commencing at four o'clock in the morning, every baker knows that the bread can be in the shop, ready for sale, at half-past nine; and, says Mr. Ayton, as hot bread is not whole-

ome, —and the same opinion will be expressed
y many medical men,—that is soon enough, in
l conscience.

On inquiry respecting this amongst a number
masters and men, we find that when the case
fairly argued, there is an almost universal
pinion respecting the need for change. Some
ven say that by making an arrangement to
art work at five o'clock every morning, the
aking could be got ready in fair time for the
ay's consumption.

Mr. Godbold, the inspector of bakehouses in
slington, has made night inspections, and found,
s might be expected, a large number of bakers
ho, after the hours of midnight, were sleeping
n sacks. The new Act says that this is not to
e allowed; and that the men are not to sleep
n the premises, unless there are ventilated bed-
ooms sufficiently divided from the bakery by
artitions. At present the inspectors who have
een appointed have a difficult duty to perform.
f they make application by knocking at the doors,
here is plenty of time for the men to be aroused
rom their unwholesome resting-places. Cases
ave been proved which have been evidenced
nly through windows of the bakehouses looking
owards the streets. It is said, however, that
everal of these have been closed at night in
onsequence; and thus a means of ventilation is
topped which adds to the existing mischief.

Mr. Ayton suggests that the bakers expose
hemselves to the visits of the inspectors be-
ause they do not like to have their own sleep
disturbed, or that of their family, by letting the
men in at four or five o'clock in the morning.
But," he says, "let them meet together and
gree to abolish night-work in this trade, and
he inspector would cease to trouble them."

Notwithstanding all that has been said to
he contrary, there is not the least doubt that
in the baking trade great abuses exist which
greatly need remedying: the present arrange-
ments are murderous to the workmen, who are
either destroyed or rendered bodily old before
they have reached their prime. Who ever saw
a journeyman baker old and in good health?
We have asked the age of several men, and
have been surprised to find how youthful they
really were by comparison with their appear-
ance. The records of the Registrar-General
show the high rate of mortality amongst the
journeymen who are engaged in this trade.

If such a system is bad for the men it must
also be bad for the masters; for it is impossible
that any one can do justice to his master's
business when he is from year's end to year's
end overworked and underslept as bakers are.
Nor are the arrangements at present in use good
for the bread consumer. The practice of men
sleeping and lounging for hours without change
of clothing, and, too often, without proper atten-
tion to cleanliness; the neglected and filthy
state of many bakeries; the gross adulteration
of the staff of life, &c.; are *all* also bad for the
customer. It would be to the interest of bakers
to show to their customers, or to be able to
certify, that their premises are in a wholesome
condition; and good would be done if the con-
sumers of bread were to see to this themselves,
and refuse to deal with persons who do not con-
form with the regulations. If, however, the
agencies at work are not sufficient, the Legisla-
ture must, by increased power given to the
inspectors, enable them to enforce right regu-
lations.

THE EXPLORATIONS AT KEISS.

These explorations, by Mr. Samuel Laing,
have been successfully continued, and a great
many interesting facts and still more interesting
relics brought to light. Mr. Laing, we learn, is
to lay the results of his researches before some
of the scientific societies of London; and it is
his intention, if opportunity should offer, still
further to prosecute his researches into the pre-
historic condition of the county of Caithness
when he returns to the North next summer.

The mound on the seashore behind the village
of Keiss has been now thoroughly explored and
completely excavated, disclosing the foundations
of a large circular building, of the class called in
Caithness Picts' houses. A number of bone and
stone implements, consisting of arrow-heads,
pins, &c., have been found in this mound, and
in the one near the old churchyard. There is a
singular fact connected with this one at the
churchyard. The foundations of the structure
rest upon a mound, or kitchen-midden, of shells,
largely mixed with bones of animals, pottery, and
bone and stone weapons, &c. This mound is of im-
mense size, having been traced for some 20 yards,
and it is at least 7 ft. deep. The fact of the
foundation of what must have been a Picts'
house resting upon the top of this mound seems
to assign to the shell-mound even an earlier date
than the Picts' houses, though they are of very
great antiquity.

A complete churchyard, if we may so call it,
or at least burial-place, of the men of the stone
era has been discovered, the mounds or cisted
graves running in a line, and separated from
each other by intervals of five to six paces.
Stone implements have here been found in
abundance. Some of the skulls have small
holes, as if drilled, in the hinder part, and in
one a bodkin was found sticking. Was it thus
that feathers or other ornaments were fixed on
their heads, or the hair itself adjusted by the
fixed bodkins? Among the graves was found
one of a very superior kind, which Mr. Laing
thus describes:—

"I have found the central tumulus apparently of the chief of the tribe, which consisted of a stone cist like the others, but more carefully and massively built, which was buried under a large cairn of heavy stones, from the beach, the whole being inclosed in a solidly-built circular wall, 22 ft. in diameter, and 9 in. to 1 ft. thick. In this cist was the skeleton of a man, who had been about 6 ft. 5 in. in length, and of most massive proportions, but with a comparatively small skull, of a type similar to that formerly described, though of superior conformation. The skeleton lay at full length, reclining on the right side; and in the cist by its side were about a dozen stone weapons of the very rudest possible form."

This great chief could not have been one of the
little people whose remains have been so often
found.

In the kitchen-middens, along with jaw-bones
of animals were found also human jaw-bones,
without any trace of the remainder of the skele-
tons; and Mr. Laing infers that our respectable
forefathers of this period may have been
cannibals!

THE ANTIQUARIAN DISCOVERIES AT BRADWELL.

A meeting of the Essex Archæological Asso-
ciation has been held on the site of these dis-
coveries in Essex, on the seashore, at Bradwell,
one of the extreme points to which the land of
the county extends. The purpose was to examine
and illustrate the remains, evidently of a very
early period in our history, which the works of
the Essex Land Reclamation Company have been
instrumental in bringing to light.

For the purposes of this company excavations
were commenced on the side of a field, at one
end of which stands a curious ecclesiastical-
looking building, supposed to have been connected
with the lost city and military works known
as the chapel of St. Peter's-on-the-Walls, but
now used as a barn; and while antiquaries
had been looking ont at sea for the site of
Ithanacester, and tradition asserted that in our
grandfathers' days ruined pillars were to be seen
there at low water, the navvies laid bare part of
the foundations of important buildings on the
dry land. Happily this came under the cogni-
sance of Mr. J. O. Parker, the owner of the land,
who at once had men set to work to make exca-
vations higher in the field, whose labours soon
laid bare other parts of the massive walls of
what had evidently been a considerable fortress,
and enabled its shape to be traced. The site of
a Roman camp was also shown by the discovery
of various articles.

It was to view these relics and investigate
their historical bearing that the meeting was held.

The company first assembled in the building
alluded to—the popularly known chapel of St.
Peter's-on-the-Walls,—and here Mr. J. O. Parker
gave some account of the discoveries. In course
of his remarks he said,—

"So far as the foundations can be traced at the present day the station would seem to have comprised an area of about three acres, defended towards the land on its southern, western, and northern sides, by walls of enormous thickness, and with an external fosse now nearly filled up. On the seaward or eastern side it would appear to have been open, like Richborough, or at all events not inclosed by a continuous wall of masonry. Such excavations as have recently been made would seem to favour this notion. They show no continuous line of foundations on the eastern side, but they have, nevertheless, brought to light abundant evidence of the rude encampment of the Roman soldiery."

The Rev. F. Spurrell then read two papers,
one titled "Notes on the Early Building on the
Shore commonly called the Chapel of St. Peter
ad Murum," and the other, "Notes on the
Roman Remains at Bradwell-on-Sea."

The various articles that had been obtained
from the excavations were then examined, and
this closed the proceedings in the chapel.

The company then visited the excavations, and
afterwards returned to Bradwell; and, after a
glance at the village church, which is under re-
storation, the party sat down to dinner, at the
King's Head Inn, Mr. T. Sutton Western, pre-
siding.

A paper by Dr. Bell was to have been read,
"On the Nomenclature of Ithanacester, and its
identity with the Othonæ of the Notitia Utriusque
Imperii, cap. 71," but this was not done.

STONEHENGE.

The remark of your correspondent, "W. B."
that "the large blocks have a grain of marble,"
corroborates the evidence given in the following
extract from the first edition of the "Parlia-
mentary Gazetteer of England and Wales,"
published about two-and-twenty years since, by
Messrs. Fullarton & Co., and of which work I
am the author:—

"The materials of Stonehenge have been described as consisting of three sorts of stones; * silicious grit forming the outer circle and the trilithons; green granite [syenite or greenstone] forming the small uprights; and micaceous grit, 'which strikes fire with steel, and contains some minute spangles of silver mica,' forming the altar or hearth-stone. And it has been supposed that the first must have been brought from the vicinity of Marlborough, and the second from Dartmoor; but where the third came from has not been decided. At a late meeting of the Archi-tectural Society of London, † however, the president stated that, on a recent inspection, he had ascertained the curious and interesting fact that *the large stones are of pure white foreign marble* (!) *regularly wrought in primate blocks;* that the discolouration is only superficial; pro-duced, like the irregularities of shape, by the weather; and that the granular character within is closely analogous to that of Carrara, obviously not Penthelic.

This not only opens a wide field of conjecture respect-ing the means by which they arrived at their destination; but appears to lend some countenance,—lating the mar-vellous of course,—to the ancient tradition of 'the wondrous voiage that Marlyn made into Ireland to fetche theise stones; the bringinge of the same before out of Africe into Ireland by Gyauntes; the vertue of the stones theimselfes, and the art of the prophet [Merlin] in re-movinge them when no force could prevayle; and such other thinges which Jeffrey of Mounmouthe at large dis-courseth.'

If they have now been clearly proved to be foreign ‡ [illegible] we certainly feel more inclined to fall so far back at once upon the ancient tradition, than to agree in opinion with Mr. Clarke, the able president of the Society above named, that they may have been brought here by the Phœnicians direct from Greece. ‡ Mr. C. also suggests that they were probably introduced into this country by Southampton water, from the upper navigable point of which there only remained a distance of 23 or 24 miles of land carriage to be overcome in conveying them to their present position; and that the expense and labour thus under-gone to obtain stones of a white aspect for the great Druidical circle tends greatly to strengthen the hypothesis that the arrangement was connected with the worship of the sun or moon."

I may here observe, however, that as the
ovates or novitiates were dressed in green, and
the Druids in white, the smaller green stones,
and the greater white ones, may rather have had
relation to these than to either sun or moon.
Moreover, Hu or Hee, "the glorious god of the
two origins," terrestrial and celestial, and who
spoke in the god possessed, was the true Druidical
Sun. Thus, in the Taliesin records, we find Hu
speaking, even while described as a sun:—

"In the sacred course, on a serene morning, when Hu sent forth his dancing beams, making this demand: I require men to be born again, in consideration of those liberal ones [those liberated ones?] who will be [who have been?] lost: those *blessed ones*,—they have been intoxicated and lost."

Those spoken of as having been lost appear to
have been the "children of the evening," the
Gwyllion, night wanderers, fairies, or witches,
who "sang the night songs" of the god.

The stone to which the Rev. Prebendary
Scarth alludes, as "apparently intended to direct
observation, at the summer solstice, to the
point of the rising sun," may have been so
intended, and yet Stonehenge, for all that, may
not have been "a temple connected with *solar*
worship;" for we see, even from the brief quota-
tion just given, and there are other passages in

* The word "sarcen," used by the Rev. Prebendary Scarth, simply means "a stone drawn from the native quarry in its rude state."

† The predecessor of the Royal Institute.

‡ And thus, too, may be reconciled the apparent incon-sistency of various probabilities with the ancient tradition that great stones were brought hither from Ireland to commemorate the massacre of the British nobles by Hengist and his fellow traitors. For, as it is the large stones alone that appear to be of foreign material, the tradition must apply to these alone; and it is therefore after all probable, as the appearance of the other stones long since suggested, that they had stood in their present positions *previously* to the addition of the larger, as a reno-vation and improvement of the more ancient circle, on a greater scale. The fact, at all events, that Hengist here called the conference before alluded to seems to show that this vicinity had been previously adopted at least for *state* purposes, if not,—as the great stones and barrows were said to be commemorative of the dead, for *sacred* purposes also. *Note in Parliamentary Gazetteer.*

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the records of a similar kind, that *sunrise* was specially, even if emblematically, alluded to in connexion with the worship of Hu or Hee, who, though their *solar* god, was not the *outward* sun.

The idea which has prevailed that the outward sun was an object of worship among various nations may be correct as regards the drivelling senility of religion, or superstition, into which some such nations may at length have merged; but that, at a previous time, all of these nations knew better, there is strong reason to believe. Thus, the *winged sun*, Ferocher (Pharaoh?) Lord, or Guardian Angel, of Egypt, appears to have been identical with god-possession, or "the blessed life of the gods," of which Iamblichus speaks, and with the Hebrew "*Sun* of righteousness, . . . with *healing* in his *wings*," who *rises* on and in the regenerate, or the "born again,"—as with the Druidical Hu or Hee of the "dancing beams" and the "serene morning" himself; and identical also with the "Day Star" or Sun of the Christians, which "arises" on men's "hearts."

That at least the more enlightened in heathen nations perfectly well knew the distinction between the *Sun* they worshipped and the outward sun I may here give just one curious proof, among the many which might be adduced. In *The Asiatic Journal* of Bengal, vol. 17, page 69, is a translation, by the Librarian of the Society, of a Mythraic inscription at Udayapur, within the Bhopal agency, which was copied by Captain J. D. Cunningham, and is thus given:—

"Inscription from the Vijaya Mandir, Udayapúr. This is a Mythraic hymn.

'OM! Salutation to Savita! We worship the luminary who is an enemy to darkness, who shines and destroys the strong shackles [attraction] of this revolving earth . . . . [a poem] composed by me, who, though weak-minded, am zealous, and was *inspired by Him who dispenses heat** and is able to develope our intellect. O *Sun!* the *moon*, having imbibed the rays of thy reflected light, attained her wealth of the *health-promoting* herb [the moon plant] which produces Amrita (nectar when *offered* in oblation *to the Fire*, which Amrita, again, is sought by the gods: therefore, I say, verily thy greatness is inconceivable. Thy visible rays are liable to destruction, but thy invisible rays are eternal: therefore thy rays are twofold. O Lord of Light! we salute thee. Thy invisible rays are atomic, and the cause of our soul [of our spirit?] and the visible exist in the form of the creation. He who, by eradicating worldly desires, *becomes* the source of conferring happiness [becomes the god?], and like a billow plays on the ocean of intellect, purified by knowledge and meditation, can be somewhat appreciated only by the devout. *That* pure Light positively is the great Brahma, which shines in the *Heavens*, and is the cause of the happiness of this passing world. *He ignorant* [lit. film-eyed] *believe him to be the light that is seen*, but the learned (lit. clear-sighted) know *the quaffer of minds* to be *the Great M. J.* He who knows thee to be *the life of the world*,† or the world a part of thee, is a learned [gnyani]; but he who thinks otherwise is a dunce. Ye cowards, infatuated by worldly passions, and ever actuated by delights, ye take not His protection: why not, by worshipping him who is a bar to misfortune, approach to the Contented Commander,‡ who leaves you a wide door open to the stronghold of salvation. *He attains to the Sun who prays the Sun*, orally and mentally, and performs virtuous actions."

The ovals within the inner circles at Stonehenge seem to be regarded by some as having relation to the ellipticity of the earth's orbit; but it must be recollected that ovals had quite another meaning in heathen mythology. The candidate for initiation often passed through an oval, whence he was born again, as from the womb of his Great Mother: and of the initiate it was said that they were "twice born," or "first born in the egg [or oval], and next born out of the egg;" or, as Hierocles in his Golden Verses taught, they first became men and then became gods. Such were the ovates (as men) and the bards (as gods) among the Druids. In this view, the Fire-striking altar stone within the central oval was doubtless "the stone of power" (as in "the circle of Loda") "the prophetic stone," or "Bedd" of the goddess or Great Mother, on which the ovate lay, in the entranced and inspired state, as a bard, an Apollo, or an Oracle, and from which god-possessed state of mystical life-in-death he was resurrected, or "born again," into "newness of life," as an initiated Druid.

The idea of Mr. Scarth that the *outermost* circle represents a *crown*, reminds one of the concentric circles called the Hebrew Sephiroth, or Celestial Splendors, the *outermost* of which circles was called the *Crown*,—that is, the Crown of Splendor,—the Crown of Glory.

It is a singular circumstance, stated by Inigo Jones, as I find quoted by me in the "Parliamentary Gazetteer," that the cover of a thuribulum, or incense-cup, was found within the area of Stonehenge; and that Stukeley states that a tin tablet was found there in the time of Henry VIII., inscribed with many letters, but in so strange a character, that the most learned antiquaries of the age could make nothing out of it. Some, he says, called it, Punic, others Irish.

Stukeley, I may add, dug close to the altar of Stonehenge, and, at the depth of a single foot, came to the solid rock. Others have also excavated there, but also without any special discovery. The stone, however, does not appear to have ever been lifted; and, if there were any records or relics beneath it at its placement, probably such records or relics are there still.

JOHN E. DOVE.

* "The Lord God is a *Sun*," and is "like clear *heat* upon herbs."

† "The life of all that are in the world" is precisely what the Druidical sun, Hu, is called.

‡ *Vide* Plato.

FRANCE.

AT the Bercy station of the Lyons line, on the 28th ult., a locomotive engine shunting an empty cattle-train backwards by too violent a movement, sent the last two waggons through the end buffers of the platform and the parapet of the bridge over to the boulevart. It took several hours to clear away the *débris* of the trucks, which filled up one of the arches and put a stop to the circulation. This happened at 11 p.m., and happily no one was injured.

On the 29th ult. the celebrated Admiral Romain Desfosses was interred with military honours at the Invalides. In 1845-46 he executed a hydrographical survey of the island of Bourbon. Appointed in 1859 commander-in-chief of the Mediterranean squadron, in the month of November of the same year he dismantled the Tetuan forts on account of their insult to the French flag.

The Prefect of the Seine has received a petition, signed by the most influential merchants, agriculturists, and corn factors, praying for the erection of a Corn Exchange in Paris, somewhere near the Halles Centrales.

M. Chatel has discovered in the numerous tumuli on the summit of the Bois de Valcongrain (Calvados) abundant traces of incineration, calcined bones, charcoal, &c., and a quantity of hand-dressed flints and a stone hatchet. He has also traced the remains of a *cromlech* of circular form connected with a long avenue of Celtic stones.

SPAIN.

London to Madrid direct.—A few statistics relating to the Great Northern of Spain may be interesting to our readers. The main engineering difficulties of the line were comprised within the thirty miles, as the crow flies, between Beasain and Olazagutia, the extreme points of the pass. It took eighteen months to construct this last bit, upon which were concentrated an army of 12,000 labourers, including miners from Piedmont, carpenters and masons from France, and navvies from Aragon and Castile. Of the latter there were 5,000; of miners, 3,000; stonemasons, 1,000; quarrymen and stone-cutters, 1,000; smiths and metal-workers, 400; waggoners, 400; and of the class "labourer," 1,000. Villages were improvised in ravines and on the mountain slopes, with hundreds of stables for mules, and sheds for carts and waggons. Storehouses had to be built and filled with provisions of all kinds; nor were hospitals forgotten, in the event of casualties. To blast those thirty miles of granite, limestone, marble, and sandstone, and boulders big as cathedrals, it required 14,000,000 lb. of gunpowder, chiefly imported from England, and to fire the trains of the mines 2,250 miles of slow-match. England and France also contributed 12,000 tons of coal, 12,000 cubic mètres of timber, 2,000 tons of iron for the viaducts, and 1,000 tons for the tools. There were also brought into requisition 20,000 shovels and picks, 460,000 planks, and 3,000 barrows. The gradient between the two points above mentioned is 15 millimètres per mètre, or about 1 ft. in 330, or 16 ft. per mile in round numbers. At Olazagutia, the traveller has attained an elevation of 3,000 ft. above the sea level. We are indebted to the Madrid correspondent of the *Star* for these particulars.

The Madrid Water Supply.—Formerly the water supply of Madrid was as defective as is its drainage at the present time. It is now copious, and the element is pure and excellent in quality. It is derived chiefly from the Guadarrama mountains, a range visible from the terrace of the Queen's Palace, and distant about thirty miles from Madrid. At a point called Ponton de la Olivia, and at an elevation of some 10,000 ft. above the sea level, a dam was constructed across a gorge so as to intercept one of the sources of the Manzanares.

At about two miles from Madrid an enormous reservoir was established, into which the water is conveyed by aqueducts and pipes. Thence, conducted through other pipes of large calibre, resting on blocks of granite, it flows under the streets of Madrid, in sub-ways easy of access from above, well ventilated and lighted, and is thrown, by the simple force of its own power of ascension, to the very tops of the highest houses. The splendid fountain at the Puerta del Sol, the jet of which when full on is 200 ft. high, with a circumference of 6 in., is fed by it, as are the numberless "taps" from which, by means of hose and nozzle, the streets are watered and cooled. The system of works established for the collection of the water and for its distribution was commenced in 1853, under the direction and after the plans furnished by his Excellency Don Lucio del Valle—the Government engineer—and was completed in 1861. These works are on a colossal scale. Others are in progress,—a second reservoir, opposite to and as capacious as the one already referred to, being in course of construction.

THE FINGERS OF TIME.

THE hand of Time has many fingers, which are working, some by quicker means, others by slower; but all equally sure to destroy the labours of man. The salts and acidities of the atmosphere, the pelting of winter and summer storms, the changes in the temperature of the atmosphere, and other matters of a similar description, are important elements of decay. To fight against their external action is a constant endeavour of the custodians of buildings of every description; to defend the woodwork by periodical coats of paint,—to maintain the roofs, and keep the action of the weather confined to the outside, is an important duty, which, if not attended to, leads to rapid destruction. See, for instance, many of the picturesque and noble castles of Scotland, and extensive structures in many parts of England now, where the roofs have been permitted to fall in, the glazing of the windows has failed, and the weather been allowed to play in the richly-carved and finely-fashioned apartments. The glory has departed; and, with a rapidity that seems most surprising, the once stately fabric becomes a mass of shapeless ruins.

There are, however, many causes of decay, especially in dwellings in towns, which are but little noticed. Amongst these are the discharges that, with the sound of a volley of rifles, are made upon doors by footmen and the postman, which cause the ornaments to dance upon the mantel-pieces, and the plasterwork to tremble and shiver. There is also the banging of doors,—an abominable practice, which should be especially avoided by ladies. The movement of many feet in the ball-room, however "light and fantastic" may be the toes, is a cause of wear and tear. The passage of heavy carriages moving quickly on the adjoining pavement, and the trembling of the earth in the vicinity of underground and other railways, are the means of loosening the cement and other work. Inside dwellings of the ordinary kind, especially many of those in the metropolis, the processes of cleaning lead to the rapid wear of woodwork, which the constant wetting and rapid drying, especially in the summer time, cause to split in all directions. In tenemented dwellings, especially, these act on the ceilings, and, together with the constant movement of feet and various shocks, cause them to be rent and marked in a map-like manner, and eventually to fall and expose the lathwork. The busy fingers of mischievous children also do their work, picking holes in the walls, removing the handrails, and often stopping the closets and drains, by attempting various experiments. The children must not be altogether blamed for this, for there are careless or ignorant housewives and servants who are an incessant source of mischief, stopping up the sinks with tea-leaves, house-cloths, and many other matters, and leaving the water-ball unattended to: by these means either depriving the place of water, or flooding the basement in a way which injures the foundations;—and of all the sources of damage to dwellings there are none more serious than damp and the effect of insufficient drainage. In consequence of bad and insufficient drains colonies of rats tunnel through the basement, and in time undermine the premises by their incessant sapping. Mice, in their

y, are a source of mischief and annoyance. the night time, when sleep does not come adily, they may be heard noisily scampering the plastered partitions or gnawing at the irting-boards, carrying out, perhaps, according their views, a principle of ventilation, or aking places of ingress and egress for themlves and families: these little creatures thus do uch mischief.

The "dry rot" is swift and terrible in its ect, eating through and rendering rotten an incredibly short space of time the most assive beams, and spreading in all directions; ten, provided that right measures are not ed, setting the labour of years at defiance. On oking around, the observing eye sees hundreds other agents which are the sure means of aking the present pass away. It is, however, principle inherent in human nature, to fight gainst the ravages of time as much as possible; id praise and honour are due to those who ear substantial and beautiful buildings, which ay stand in their integrity before the eyes succeeding generations.

OLD ENGLISH HOUSE BURNINGS.

While lately making an examination of the ocal histories of several provincial towns, we ere struck by the numerous accounts which ppeared of raging fires that had in some inances almost entirely destroyed the dwellings. n Banbury, there were several great fires: at tratford-on-Avon, there is the same account; s there is, too, at Aylesbury, and many ther places. The general spread of fires, parcularly in the reigns of Queen Elizabeth and ames I., is noticeable. At Stratford-on-Avon, n the 36th & 37th years of the reign of the Queen,* two dreadful fires occurred, consumng 200 dwelling-houses; and in 1614—only wo years before Shakspeare's death,—another re there is said to have consumed fifty houses n less than two hours.

The cause of the numerous fires happening in o many English country towns during the reigns f Elizabeth and James, may, we think, be partly found in the great changes which were aking place then,—as there are now—in the ondition of the country. At the Reformation, numbers who had been associated with the relious establishments, and also many thousands f the armed retainers of the nobility, were riven to find fresh sources of employment, and devise new kinds of industry; and this would naturally have the effect of forcing the people into the towns; and, for their reception, there were provided ill-built and inflammable cottages, which were little better than hovels, with walls of wattle and roofs of thatch.

As regards the timbered houses of a substantial kind, roofed with tile or slate, there is plenty of evidence to show that they escaped when all around had been destroyed; but from the thatch, especially after a hot season, by the touch of a spark in a few minutes there was produced a power of flame which spread like wildfire around.

Out of the evil there arose a certain amount of good; for, from time to time, as calamities occurred, dwellings were reared in a better manner: a fire-watchman was set on some tower, to give speedy warning of danger: water-buckets were placed in the churches; and means used to keep in order pools and streams of water that might be convenient in case of fire.

We have been led to make these brief remarks, in consequence of having noted with pleasure the satisfactory change that has now taken place in many of the country towns, which have entered into rivalry with each other as to the best means of preventing loss by fire.

The system of protection from fire in villages and farm steadings requires also to be considered. By a little foresight much mischief might be prevented in most farms. Water, with very little trouble, can be placed conveniently for use, and a length of hose might be provided at small cost.

In connexion with villages and very small rural towns, it is worth while to remark, that the improvements in the arrangements of the metropolitan fire-engines, have rendered the parish engines next to useless; and many of these might be disposed of with advantage in such situations as we have indicated.

* At this time the population of Stratford-on-Avon did not number so many as 1,000.

GROCERS' HALL COMPETITION.

The Court of the Grocers' Company having determined to rebuild their hall, on their land in Princes-street, near the Bank, invited six architects to prepare designs for it, proposing to present each of them with the sum of 100 guineas, upon receipt of his plans, with specification and estimate, and to entrust the erection of the building to the author of the approved design. The dimensions of the several rooms required, and a block plan of the oddly-shaped plot of land available, were furnished to each competitor. The following architects accepted the invitation, and have furnished designs:—Mr. E. M. Barry, Mr. Blomfield, Mr. Boulnois, Mr. Currey, Mr. Penrose, and Mr. G. G. Scott. The designs are now before the court for consideration. One great object sought is the appropriation to building purposes of as much as possible of the Princes-street frontage, in conjunction with the estate in the Old Jewry, after providing an appropriate entrance to the Hall.

Amongst the, wisely, very few instructions given to the competitors was the requirement that the scale for the plans should be $\frac{1}{8}$ in. to 10 ft., and for the elevation and section 1 in. to 10 ft. Even this, however, we are told, has been departed from by one of the architects. The proposed outlay is about 60,000*l.*

DRINKING FOUNTAIN FOR BARBADOES.

A Gothic drinking-fountain has been executed by Mr. T. Earp, sculptor, from the design of Mr. J. F. Bentley, architect, for Bridgetown, Barbados. Inclusive of the steps and bases (2 ft. 8 in.), to be constructed abroad, it will stand 24 ft. in height. It may be described broadly as consisting of two parallelograms of Portland stone, one on the other, terminating with a pinnacle of red Mansfield stone. Allegorical figures in bas-relief of the cardinal virtues ornament the four sides of the base, and beneath these figures are appropriate maxims in Gothic characters. Surrounding the jet, which is on a bronze cistern-guard, are placed Bishop Ken's well-known words, "Praise God, from whom all blessings flow;" and immediately overhead is a figure of Temperance, with the maxim, "Be sober-minded." Surrounding the lower end of the base are the words, "This drinking-fountain was presented to the city of Bridgetown in the year 1864, for the benefit of thirsty wayfarers." The second parallelogram has green marble columns at the angles, and in various parts of the whole are marble and porcelain inlayings. The forms generally are somewhat "lumpy," but as a whole the fountain merits praise, and will adorn its site.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

His Grace the Duke of Cleveland has signified his acceptance of the office of President of the Association for the ensuing year. The congress has been fixed for the last week in August, to be held under the presidency of his Grace, at Durham. The president has favoured the Association with an invitation to his seat at Raby Castle. This noble and interesting historical monument, which will be illustrated and described by the Rev. C. H. Hartshorne, with the cathedral at Durham, and other famous landmarks of history in the north, promise a more than usually interesting meeting.

SCHOOLS OF ART.

The Coventry School. The annual exhibition of drawings of the students of this school has been held. The drawings are reported to be of a high degree of merit, those of the ladies especially showing most praiseworthy proficiency, and being far superior to any produced by them on former occasions. The annual meeting of the subscribers and friends was held at St. Mary's Hall, and was well attended, many of the principal inhabitants being present. At the twentieth annual meeting for the distribution of prizes, it was stated in the report that the number of local medals attained at the last examination was 15, and of national medallions, 4. This was the result of five months' work, in place of twelve. The school has again received from the Government, on account of the national medallions of last year, works of art to the value of 30*l.* The number of pupils has largely increased during the year. The number attending the afternoon and evening male classes is 104 against 73 last year. Evening ladies' class, 10; and the ladies' class 38, against 28 last year. The number of boys in the public schools who were examined last year was 107, of whom 79 passed. The least satisfactory feature in the report is the fact that the financial deficiency now amounts to about 127*l.* Votes of thanks to the head master, Mr. Anderson, and the second master, Mr. Frost, and to others to whose exertions the school has been indebted, were passed at the meeting.

The Gloucester and Stroud Schools.—The authorities at South Kensington have paid a compliment to the students of the Gloucester and Stroud Schools, having communicated their wish to purchase six of the works sent up for the last national competition, with a view to their being sent as studies to other schools. The works selected from the Stroud School are a painting of a begonia and a design for ecclesiastical hangings, by Miss Emily R. Stanton; a drawing of a bird's nest, by Miss Rose E. Stanton; and side and end elevations of the Great Western Railway Company's locomotive "Theocritus," by Mr. F. H. Davies. The selected works of the Gloucester students are an outline of plants by Miss Fanny M. Francis, and a study of historic ornament by Miss Kemp. The Misses Stanton, having regard to the benefit conferred on the country by the Government Art Schools, have kindly offered to present their works gratuitously to the Department.

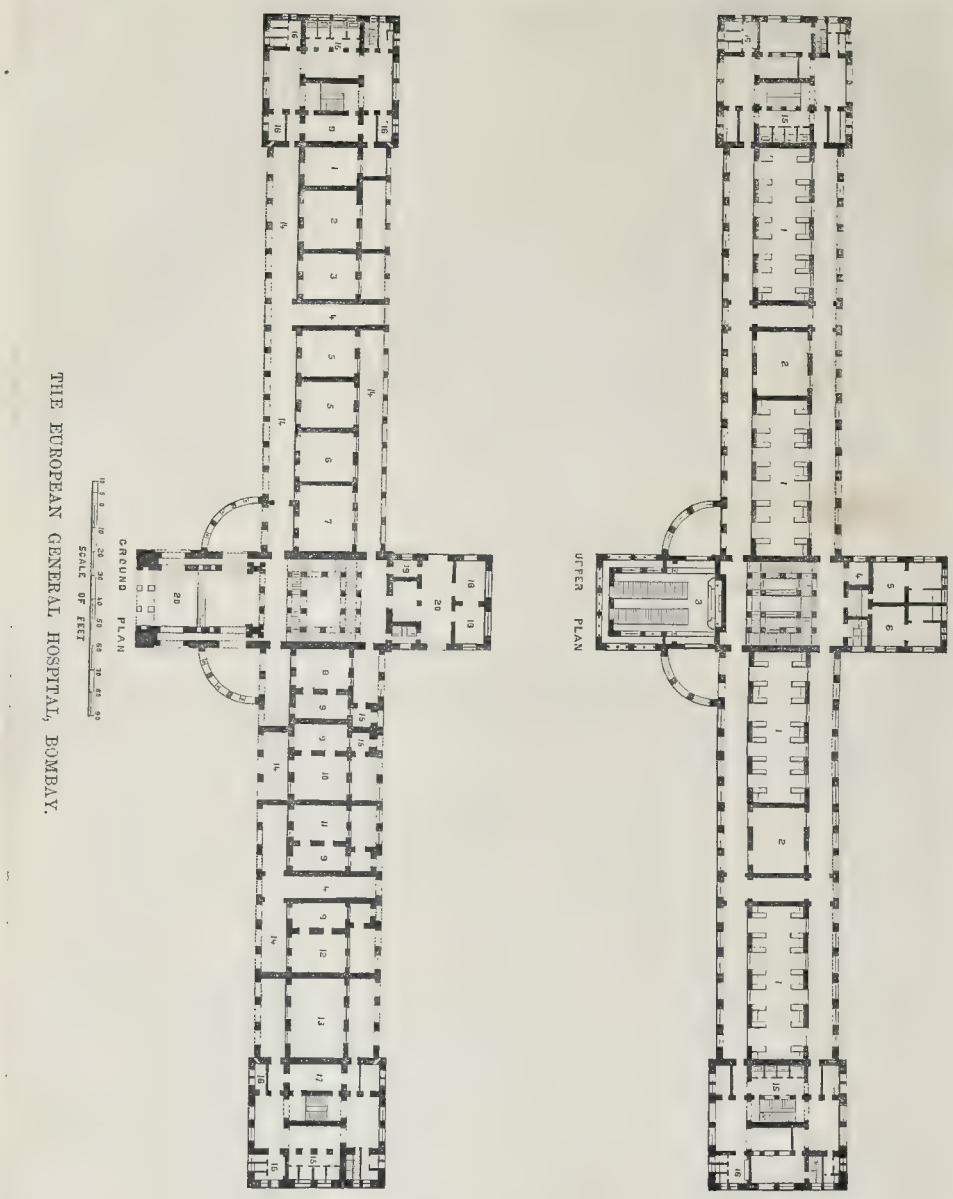
THE EUROPEAN GENERAL HOSPITAL, BOMBAY.

It may be remembered, that early in last year premiums were advertised for designs for this building. The design of which we now give illustrations was one of those submitted in competition. The judges, in the first instance, reported that none of the designs submitted fulfilled the whole of the conditions of the competition, and consequently they could not proceed to award the premiums; upon which the Bombay local government instructed them to place the designs in order of merit, and to apportion the prize fund among a certain number of the best of them. This was done, and the first place was awarded to the design marked "Honor alit artes," by Capt. Wilkins, R.E., of Bombay; and the second to that marked "Koh-i-noor," by Mr. T. Roger Smith, architect, of London. At a subsequent period, however, it was decided to carry out, with a few modifications, the design marked "Koh-i-noor," and our illustrations show the building as it is proposed to erect it.

The ground-floor is raised 3 ft. above the level of the surrounding ground; and this story, which has a clear height of 14 ft., is devoted to receiving, dispensing, and accident wards; living, sleeping, and bath rooms for various officers; and to other similar services.

The two upper floors have a clear height of 18 ft., and contain the wards (which are—on the first-floor, 28 ft. 6 in., and on the second-floor, 24 ft. wide). On the first-floor, over the *porte-cochère* is placed the chapel, forming one limb of a kind of transept, while at the back the other limb of this transept, on the same floor, is occupied by the operating-room and nurses' rooms. Over these, on the upper floor, is placed a residence for the house surgeon. Adjoining the accident-ward and operating-room, and placed centrally with regard to every part of the establishment, are two hoists; one for patients, and a smaller one for provisions, &c. The kitchens and offices are to be detached buildings, with covered communications. In front of all inhabited rooms, front and back, stretches a verandah (or loggia), 10 ft. wide, as solidly constructed as the building itself. Portions of this will be made use of by the attendants, and hence the ward, scullery, and nurse's room, found essential in European hospitals, are not needed here. At each extremity a series of baths and lavatories are constructed, and separated from these by a wide space, with a free current of air always playing through it, are placed the conveniences. The entire frontage of the building is a little over 500 ft.; and the height, from the ground level to the ridge of the roofs over wards, is 66 ft. Most of these arrangements, and many of the actual dimensions, were fixed by the medical officers of

THE EUROPEAN GENERAL HOSPITAL, BOMBAY.



the establishment, and a plan embodying them formed part of the instructions issued to competitors.

The ventilation of the wards is carried on by the windows, which are very lofty, and placed opposite each other. The lower part of each window has casements acting as doors. The upper part has casements hung at the bottom to transomes, and opening inwards. Ventilating openings are also provided close to the ceilings. In each window frame there are hung, not only glazed casements opening inwards, but also casements, filled with Venetian blinds, opening outward; and it is also proposed to supply means for closing, when necessary, the outer openings of the verandahs. The building will face the west, from which quarter a pleasant sea-breeze blows daily during a great part of the year; but it is necessary to be provided with means for shutting out both wind and rain during the monsoon.

The structure will be principally of stone, but with internal walls in brick. The floors are all to be fireproof, and the staircases stone. The calculations for the ironwork have been made by Mr. W. Stent. The woodwork, which is reduced to a minimum, will be in teak. The building, the foundations of which are in hand, will be carried out under the superintendence of Mr. James Trubshaw, the architect to the Rampart Removal Committee, Bombay, from the designs of Mr. T. Roger Smith.

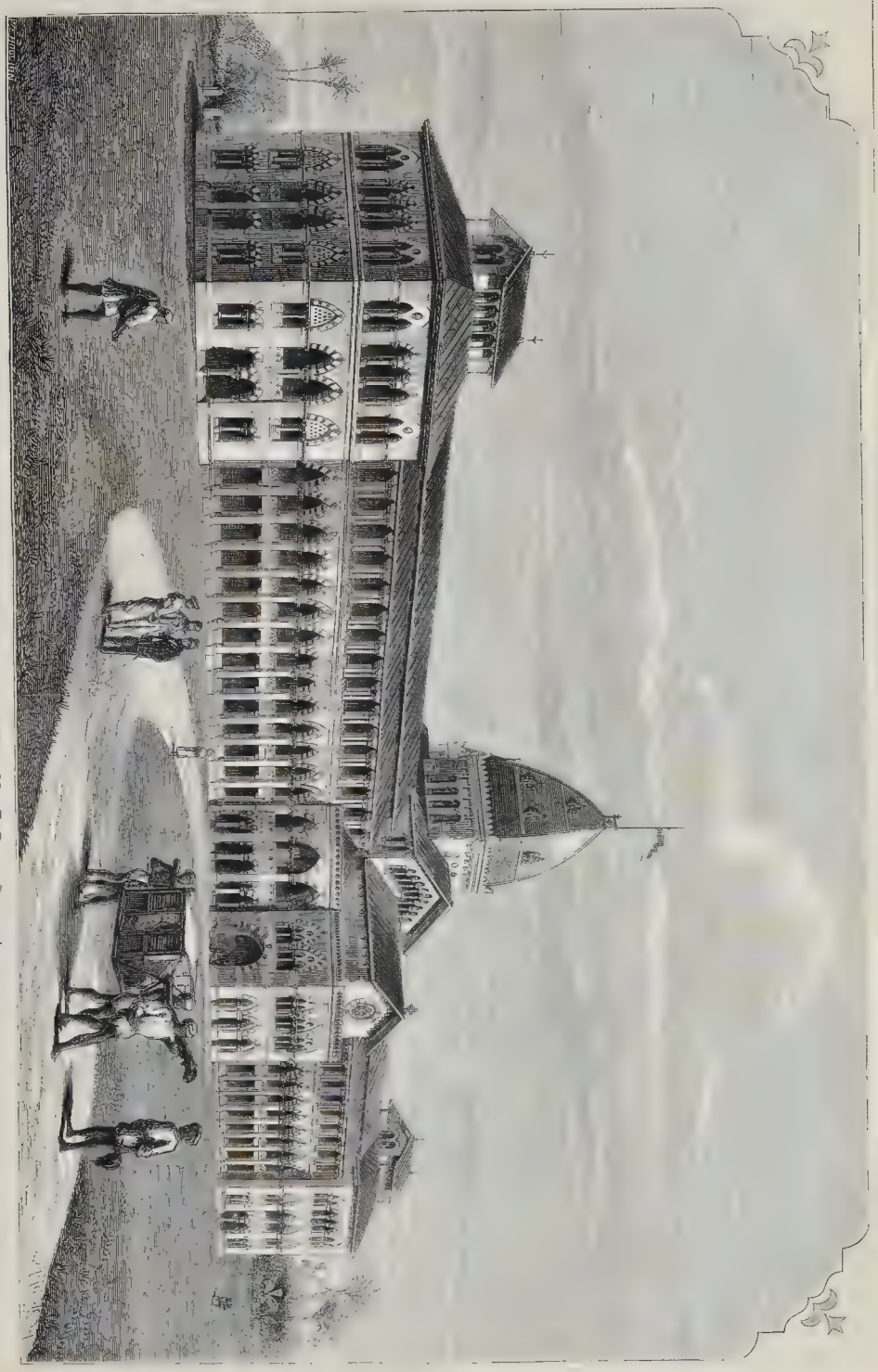
REFERENCE TO PLANS.

GROUND FLOOR.

1. Hospital sergeant's room.
2. Hospital stores.
3. Surgeon's room.
4. Passage.
5. Apprentices.
6. Dispensing-room.
7. Receiving-room.
8. Assistant-Apothecary's room.
9. Bed-room.
10. Apothecary's room.
11. Steward's room.
12. Matron's room.
13. Female ward.
14. Verandah.
15. Baths.
16. W.C. and lavatory.
17. Waiting-room.
18. Accident ward.
19. Lift.
20. Porte Cochère.

UPPER FLOOR.

1. Ward.
2. Surgery.
3. Chapel.
4. Patients' lift.
5. Operating-room.
6. Nurse.



THE EUROPEAN GENERAL HOSPITAL, BOMBAY.—Mr. T. Roger Smith, Architect.

AMBERLEY CHURCH AND CASTLE. SUSSEX.

THE restoration of the Church of Amberley is proceeding, and has given the opportunity to discover some points of interest in its history. We have received some particulars respecting both the church and the castle, but space will not allow us to do more than to call attention to this very interesting group of building, and to say that it has not yet received so much attention at the hands of competent archæologists and antiquaries as it deserves. Its remote situation in an uninviting marshy district, on the north side of the South Downs, partly accounts for this neglect; but the excuse of remoteness has been removed by the opening of the Mid-Sussex Railway. The manor of Amberley has from the Saxon era belonged to the bishops of Chichester. The existing castle was erected by one of them in the fourteenth century. A matter of peculiar interest which one of its old rooms still possesses, is an imperfect series of paintings executed in the reign of Henry VIII. The meaning of the series has never been discovered: they appear to be female figures nearly life-size. We are glad to say that the neglect of the subject is not likely to continue, as we hear of its being undertaken by more than one of the Archæological Associations.

The work of restoration of the church has been entrusted to Mr. Gordon M. Hills, of London, architect.

QUEEN'S TOWN, SOUTH-EAST AFRICA.

WE have received a photograph of a new building just erected for the Queen's Town Agricultural Bank. Only a few years ago the use of an architect was scarcely known there. Now, however, it is different. Various buildings are in the course of erection,—a new chancel to the old church, a notary's office, a merchant's store, a hotel, a new Independent chapel, a Wesleyan school-room, a gaol, and so on. Materials of construction are bad and frightfully expensive. The bank was built of brick, and plastered, with cashier's residence embodied in the plan. The cost, with fittings included, was 1,800*l*. The architect was Mr. Joseph Flashman, formerly a pupil of Messrs. Poulton & Woodman. The builders were Messrs. Read, Key, & Tiffin.

Queen's Town, it will be remembered, is situate on the extreme frontier of the eastern province of the Cape Colony. It is in the midst of a purely agricultural and sheep-farming district, and is a go-ahead English place, only ten years old.

THE NEW FEVER HOSPITAL, LIVERPOOL.

THE new hospital erected in the Brownlow-hill Workhouse is now open for the reception of patients. It is built in the shape of a letter T, by which means cross-ventilation, which is one of the primary requisites in buildings of its nature, will be secured. It is built of red and ornamented with fancy brick. It consists of four stories, in each of which are two wards. They are all constructed on the same principle. Each ward will contain twenty beds, so that the building, when fully occupied, will accommodate 160 patients. There are at present 206 fever patients in the workhouse, large numbers of whom are scattered about in different dormitories. Each ward, which is 64 ft. long by 24 ft. wide, will have fourteen windows, seven on either side. Every window has two swivel sashes, one lower than the other: the top one, being close up to the ceiling, will have the effect of preventing any foul air lodging in the wards. In addition to that, ventilators have been constructed on each side of the beds, about a foot below the patient; so that by this means all the impure air will be sent upwards. There are also eight ventilators provided in each ward, on a level with the ceiling, and communicating with the chimney-stack. There is a staircase at each end of the wards, so that in case of fire the patients could be easily and rapidly removed. Fire-places have been constructed at each end,—one with an open flue and hot plate, for the purpose of keeping fluids warm, and the other an ordinary grate. A speaking-tube and double sets of bells, communicating from each ward to the matron's apartments, have been provided. The quantity of air for each patient, when the wards are filled, will be 1,100 cubic feet; but as it is not likely that all the beds will be occupied at one time, it will probably be 1,500 ft. There are six gas-lights in each ward. Attached to the different wards is a nurse's closet, in which is a kitchen range, and a sink with a number of hot and cold water pipes. It might here be stated that none of the nurses are by any means allowed to sleep either here or in the wards, but have to retire to a distinct part of the building. The nurses are changed alternately both night and day. At the other end of the wards is a self-acting water-closet, a hot and cold water bath, a sink and lavatory, which is bountifully supplied with hot and cold water. For men and women separate airing wards have been provided.

The matron's apartment is situate at the east end of the building, at a convenient distance from, and not in direct communication with, the wards, so that the risk of her taking the disease is greatly diminished. Underneath her apartment are the reception-room and the necessary medical offices.

The washing and drying rooms are detached from the buildings, and in these departments the latest improvements have been introduced.

The hospital will cost about 6,000*l*., which sum will have to be provided out of the rates. The architect was Mr. James Wylie, the parish surveyor, and the builder Mr. Edward Hughes.

THE BUILDERS' BENEVOLENT INSTITUTION.

THE seventeenth anniversary festival of the above charitable institution was celebrated at the London Tavern, Bishopsgate-street, on Thursday, the 27th ult.; Mr. Thomas C. Lucas, President of the Institution for the current year, occupying the chair.

There was a greater number of gentlemen present on this than on any previous occasion, covers being laid for 230 friends of the charity.

Among those present we observed Messrs. William Lee, M.P., C. Lucas, Banks, J. Murray, J. Plucknett, W. M. Dunnage, T. Robinson, Tilson Lee, George Smith, G. Spencer Smith, D. Myers, W. Hubbock, J. Sheffield, W. Webb, Steddall, Randell & Saunders, C. Francis, Shepherd, Thorn Brothers, T. Ferguson, J. Dent, W. Dent, W. Downs, J. Taylor, G. Dines, J. M. Stroud, W. Hutcheons, T. Cozens, Dove Brothers, G. Head, R. Head, T. Stirling, W. C. Anderson, C. Hack, Tudor & Co., W. F. Fenton, W. Nicholson, D. Nicholson, M. Hall, S. L. Mann, J. Thorn, &c. &c.

At the termination of the dinner, the usual loyal toasts were proposed and responded to.

"The Army and Navy and the Volunteers" next followed, to which Mr. George Plucknett replied on behalf of the Volunteers.

The Chairman, in giving the toast of the evening, "Prosperity to the Builders' Benevolent Institution," said that they had assembled there for the purpose of furthering the projects of the Institution, and stated the objects and origin of the Society. It had been founded by their friend Mr. Thomas Cozens, and he (the Chairman) was happy to see that gentleman's views had been so well carried out. At the present time they had thirty-six pensioners on their funds, — seventeen males and nineteen females; and since the formation of the Society forty-four pensioners had died. He then referred to the gratifying rise of the Institution since its establishment in 1847, and the pleasing fact that they had now invested in the Three per Cent. Consols the sum of 9,862*l*. He would, however, say that that sum could be made much more, for at the present time there were in London upwards of 16,000 people connected with the building trade, and it therefore might be a matter of surprise that such a sum was not far greater; but he thought some system might be devised by which one-third of that number might become contributors of their half-guinea or guinea a year. He hoped that at the expiration of his year of office he should leave the funds of the Institution in a better condition than he found them. He (the Chairman) then alluded to the necessity of supporting such a society, for many tradesmen who were then prosperous in business might, by misfortune, be reduced and come to nothing. Such cases were not fancy, but a reality. There was another point to which he referred, namely, that owing to a want of funds they were unable to elect all their candidates, and as many as fourth applications were made. The allowance to male pensioners was 24*l*. a year, and to the females 20*l*. Now, what he wished was the funds so increased that a greater number of pensioners might be elected; and further, that the recipients might live with their friends, and not be estranged from them by living in almshouses. He then showed that, as candidates were not eligible for election until they were 65 years of age, efforts should be made to relieve their unfortunate brethren as quickly as possible, so that the latter part of their lives might be rendered comfortable. In conclusion, he called attention to the fact of there being another election in November, and he hoped that his words would convey to them his wish on behalf of the Institution, and that his appeal to them would not be in vain.

The toasts of "The Chairman and President," "The Patrons of the Institution," and "The Vice-President and Trustees" next followed, and were duly responded to. With the last toast, however, was accompanied the name of Mr. Thomas Cozens, the founder of the Institution, on whom the Chairman passed a high eulogium, concluding by wishing him "Long life and happiness."

Mr. Cozens returned thanks, and hoped that the Institution would eventually become one of the first in the world. He was one of those who thought that "we should not live for ourselves."

The next toast, proposed by the Chairman, was "The Treasurer," to whom, he said, they were deeply indebted for his warm advocacy of the Institution, and his taking care of the money.

Mr. Plucknett replied by stating, that they were deeply indebted to their worthy chairman, who had taken so great an interest in the Institution; and further, in obtaining so large a number of friends as were present on that occasion.

The "Architects and Surveyors" was next given, and was responded to by Mr. Banks, of the firm of Messrs. Banks & Barry.

The Chairman then proposed the toast of "The Brighton Branch of the Institution, together with its Chairman, Directors, and Honorary Secretary," which was also honoured.

Mr. Harris, the secretary, then read over the list of donations and subscriptions for the evening, amounting to 760*l*. The following is a list of the principal donations:—

Thomas Lucas, 105*l*.; Lucas, Brothers, 52*l*. 10*s*.; Sir S. Morton Peto, bart., M.P., 21*l*.; Cheswright, Sheffield, & Co., 21*l*.; John Kelk, 21*l*.; Messrs. Hubbock & Son, 100*l*.; J. B. White & Brothers, 10*l*. 10*s*.; Geo. Jennings, 10*l*. 10*s*.; Randall & Saunders, 10*l*. 10*s*.; Wm. Cubitt & Co., 10*l*. 10*s*.; Geo. Plucknett (annual), 5*l*. 5*s*.; W. Webb, 21*l*.; Thos. Ferguson, 10*l*. 10*s*.; Jas. Murray, 5*l*. 5*s*.; J. & W. Eastwood, 5*l*. 5*s*.; Stevens & Son, 5*l*. 5*s*.; Lawrence, Brothers, 5*l*. 5*s*.; Beard & Dent, 5*l*. 5*s*.; Lee, Son, & Smith, 10*l*. 10*s*.; Tilson Lee, 5*l*. 5*s*.; Thos. Lambert, 5*l*. 5*s*.; Kebbel, Shepherd, & Co., 5*l*. 5*s*.; Pfeil & Stedall, 5*l*. 5*s*.; G. Spencer Smith, 5*l*. 5*s*.; George Smith, 5*l*. 5*s*.; Joseph Taylor, 5*l*. 5*s*.; G. Myers & Sons, 5*l*. 5*s*.; R. J. Rankin, 5*l*. 5*s*.; Francis, Brothers, & Pott, 5*l*. 5*s*.; Messrs. W. J. Freeman, 10*l*. 10*s*.; H. C. Bunkell, 5*l*. 5*s*.; Dove, Brothers, 5*l*. 5*s*.; Smith & Son, 6*l*. 6*s*.; S. & W. Tudor, 5*l*. 5*s*.; ditto (annual), 2*l*. 2*s*.; R. W. Kennard, M.P.; 5*l*. 5*s*.; J. G. Lawford, 5*l*. 5*s*.; Wm. Downs, 5*l*. 5*s*.; Thos. Stirling, 5*l*. 5*s*.; J. W. Battley, 5*l*. 5*s*.; Chas. Hack, 5*l*. 5*s*.; W. C. Anderson, 5*l*. 5*s*.; Henry Barrett, 5*l*. 5*s*.; J. May Stroud, 5*l*. 5*s*.; Thorn & Co, (annual), 10*l*. 10*s*.; Wm. Peters (annual), 5*l*. 5*s*.; E. Bennett & Son, 5*l*. 5*s*.; &c. &c.

VISIT OF THE METROPOLITAN BOARD OF WORKS TO CARLISLE.

ON Saturday morning the Metropolitan Board of Works, including the chairman, and about twenty-five members of the Board, accompanied by their chief engineer, visited Carlisle, to inspect the works in operation there for the utilization of the sewage of that city. They proceeded to the Willow Holme, near the main outlet of the sewage of the city, where the works, conducted by Mr. Alexander M'Dougall, chemist, are in operation, and that gentleman explained to the Board the manner in which the sewage is applied to the land he has in hand. The area actually irrigated is about 60 acres. A broad canal is run round the field, which can be stopped up at any point, and sewage diverted into moveable iron channels, from which it is shed upon the land. Mr. M'Dougall stated that the principal part of the sewage of Carlisle is thus utilized. Speaking in rough numbers, the population in the district of which the sewage is not utilized, but is run into the river, is about 7,000 or 8,000; while that of the whole of the other districts of the town (all the sewage of which is applied to the soil) is 22,000 or 23,000 people. Mr. M'Dougall stated there had not been any complaints made of the slightest smell from his land or works, and the Metropolitan Board verified this by their own personal inspection and observation. Mr. M'Dougall further said that he considered the produce on the irrigated meadows

to be about four times as great as that on the land to which the liquid sewage is not applied; and in some parts, where the irrigations had been made more frequently, five times as great.

METROPOLITAN BOARD OF WORKS.

At the last weekly meeting of the Board, the following subjects were considered.

Middle-row, Holborn.

The Board passed a resolution to the effect, that the destruction of Middle-row, Holborn was imperatively called for, and the matter was referred to the Streets Committee for the purpose of taking the necessary measures to carry it into effect.

Expenditure on Thames Embankment.

Mr. Bazalgette made the following report. The total cost of work executed to the present time on contract No. 1 amounted to about 67,000*l.*, of which the sum of 36,180*l.* was for plant, and 30,820*l.* for work done. On contract No. 2, the cost of work done to the present time was about 47,000*l.*, of which the sum of 12,000*l.* was for plant and 35,000*l.* for work. The advances by the Board on Contract No. 1 amount to 60,000*l.*, and on No. 2, to 35,502*l.*

Some members objected to the advance of so large an amount as 90 per cent. when so great a portion of the expenditure was for plant; and at the close of the discussion the matter was referred to the Thames Embankment Committee.

Proposed Improvement Rate.

It was referred to the Streets Committee to consider the desirability of applying to Parliament to obtain authority for the Board to levy an improvement rate on the metropolis, with power to confer with the Government thereon.

Materials for Thames Embankment.

Mr. Bazalgette read a report, signed John Hawkshaw and Thomas E. Harrison, dated 26th ult., in which the reporters say:—

"A considerable portion of the stuff dredged from the river is soft mud, and we are of opinion that this mud is not a proper material to be used in forming the embankment, nor is the embankment formed by the material dredged from the river so solid as that formed by materials obtained from the land and carted on to the embankment. We are further of opinion that a mixture of the materials dredged from the river with the materials obtained from the land will form a better embankment than if the materials dredged from the river alone be used. In the construction of that portion of the embankment forming the immediate backing to the river-wall, we think that materials obtained from the land and deposited by carts parallel to the line of the wall, and thus consolidated as the work advances, will make a better backing to the wall than the material dredged from the river."

The report was referred to the Thames Embankment committee.

LONDON STREET-ARCHITECTURE.

Sir,—Much as I delight to witness improvements in street-architecture in the City, I always turn with pleasure into Austin Friars, to feast my eyes and mind upon the remnants of the fine old church which names the place. It is, as is well known, undergoing restoration; the tracery of the magnificent decorated windows has been renewed; and a fine timber roof crowns the whole. But, as yet, I see no signs of that which is most necessary to impart a thorough and unmingled expression of beauty to the church. The whole of the exterior is stuccoed, and in the centre of the west front, under the great window, is a door, professedly in the Pointed style, yet so mean, so pitiful, so imbecile, as almost to make one believe that the designer, whoever he was, designed it out of spite to the beautiful church he designed it for. Yet this doorway remains, and the stucco remains. The windows are magnificent, though their glass is but tinted; the interior is lofty and spacious; the piers and arches are graceful, but their image is effaced by that of the miserable west doorway. Why not sweep it away? Funds might not allow of the scraping of the building, but the expense of destroying this doorway, and substituting one in harmony with the window above, would not be great, while the good done would be without measure; in fact, as I have said, the rest of the building depends upon it.

While I am speaking of Austin Friars, I might say a word with regard to the new building at the entrance in Broad-street. From Austin Friars it is nothing, being an ordinary plain expanse of stucco. But, passing under the archway, and crossing Broad-street, the view of the building then obtained is rather striking. By the way, this archway is vaulted on the principle of brick tunnels resting on iron girders. These remained in their truthfulness for some time, and looked very well. But I thought it could not last, and the other day I found this vaulting covered with the demon of good architecture. I do not think it is intended to resemble stone; but it was only applied from a repugnance to brick that I cannot understand. Before, the construction was displayed in all its power (I believe the plan is comparatively new, I only know one other instance, externally, in the City), but now it might be anything; it might be mere rotten boards put into the arch form.

This building you mentioned some time ago as being an attempt at the union of the styles. At last it is attempted. The mountain that has been growing for years has at last brought forth its mouse; for a mouse it is, as far as regards the union. I cannot describe the building from the difficulty of standing before it; but I recommend all those who have speculated on the union, to go and see the first attempt, and how utterly it has failed. I do not mean to say that because this building is a failure, the styles cannot be united (though I do say so for weightier reasons); but after so much talk about it, were it practicable, we might have by this time seen it accomplished. But it seems not, and I hope it will never be tried again.

The general effect of the building is good. It is of stone, with a high roof, and stone dormers, with an open parapet between them. This roof and its accompaniments are the best part of the design. The classic ground-floor is ponderous; the cusped windows above are stiff, without life or feeling; but the roof is of good pitch, and is an ornamental feature, which I wish was better appreciated. Though horizontal, its recession produces an angle which connects the horizontal lines beneath it.

In Broad-street, nearer the Exchange, is a small Gothic building, with some good points, of which the tasteful use of brick is the most so; and, talking of Gothic buildings, the example in Cheapside is ruined by the roof being invisible.

In Friday-street is a small Gothic warehouse, with three lofty lancets on the ground-floor, which look very well, and do their duty very well; and, lastly, I hear, to my great regret, that the magnificent pile in Bishopsgate-street, only built a few years ago, I mean Crosby House, is to be pulled down, after a shortlived glory: the reasons for the destruction I do not know.

Ex Stirpe.

ARTISAN ART-EDUCATION.

Will you allow me to add a word or two more to what has been already said on the proposed Art-Result Society? I have tried to bring my views into as narrow a compass as I can, in a prospectus issued. I think there can be no doubt that the idea of bringing into notice and practical recognition the class of men now working out all our *designs* in common things is a good one, and ought to be done fairly, and from those I know would be kindly and gratefully received. My first proposition is that they do *everything* of this kind except *painting*. The *workmen* may be fairly said to be now no longer in fear of forgetfulness, and it will be their own apathy only which can cause them again to fall into neglect.

That the workmen need yet much help and guidance, is clear enough from the Islington show, it being a very unfortunate thing that they all should have got hold of the idea that they are more capable of showing cleverness *out* of each man's trade than in it. All those I had anything to do with in Canon-row, seemed to think this, and that their own special trade skill needed no help or improvement. Nothing but continual urging and reminding will take this notion out of their heads, vital as it is.

I have only been able to hint at the specialities of painting, sculpture, and architecture; but any one who will give the subject a little thought, will soon see what a change will take place if the individual art *hand* work of each artist but once comes to be recognised and *asked* for. The dignity of the Royal Academy must be made to spread itself, and to include the power of indicating the art of common things as in past times. The idea of an Art-Result Association does not exist except in this Royal Academy.

Not to trouble you with more detail, I will but add that I think these three principles will be found to comprehend the general idea which I think we ought to have in view, and which I hope you will agree with.

Premising,—that all the *old art* of any value at all is simply the result of the *hand* and mind labour of each individual artist workman,—there being then really no artists, in our sense of the word;—and further that this old time-honoured way of work is now utterly abandoned by us moderns, except in painting. We have, therefore, to strive, as I think, first, for—

A *practical* beginning for the change towards the *old* method of art work by the hand of the individual artist, and thus to lecture practically, and try to work out in material the recommendations of our lecturers and art teachers.

To enforce the principle that each artist mind is individually valuable and productive, but lost if converted into a mere tool or machine; and that for one artist to work over the art-product of another is simply to expunge it, and thus lose the art-strength of both.

An absolute return to *natural forms* and *life*, whether conventional or otherwise, in all ornamental details, in whatever style of art the artist may be compelled to practise.

I cannot but think that a society founded on these leading principles would do infinite good as a new mode of art-action.

C. Bruce Allen.

CRUMBS FROM THE CLOSET.

1. Nero is said to have been so extravagant as to have shod his horse with silver shoes, and his empress's horse with golden ones. No doubt that is mere chaff. Had they any shoes at all? No equestrian statue,—no bas-relief of horses, Greek or Roman, contains, as far as I know, any trace of shoes. Beckmann says that horses were first shod in England by the Normans. How did Boadicea manage? In the present day, if a horse goes ever so short a journey without a shoe, he is in great peril of getting lame or spoiling his hoof. Beckmann thinks that the Roman horses, as well as the mules and asses, had a sort of sock or sandal drawn on over their hoofs. If they had, the Roman sculptors were so disgusted with their clumsy appearance that they ignored them.

2. The Savoyards were formerly, if they are not still, the chimney-sweepers of Paris. Beckmann says, that in Germany they all came from the Hartz. In England do we grow our own? and why are those poor smutty children such distinguished mummers on May-day?

3. Walpole says that Saxton, Henry VIII.'s fool, was the first to wear a wig in England. Will our lawyers be the last to leave them off?

S. S.

GLAZING.

The plan I find it best to adopt in fixing glass into stone mullions is this:—I first run a coat of double size into the groove, then use common linseed oil putty, with a very little salad oil beaten up with it. The size prevents the oil running into the stone, and showing a stain on the outside: the salad oil prevents the putty ever becoming very hard, though quite firm enough for the purpose of security. The glass, having thus a somewhat yielding bed, will never break by the usual cause.

H. Havell.

ARCHITECTS' PUPILS.

If your correspondent "A. P." will look through past volumes of the *Builder*, he will see that his lament is but a re-echo of letters written long, long since. Year by year the same sad and humiliating plaint appears.

Many architects consider that all they undertake to give their pupils is the "run of the office." This term in practice means that the pupil shall regularly attend and work for his master during office hours, run errands, trace, print, draw, and write according to circumstances. These operations will not make him an architect; yet the master pays but little attention to him, and pockets the premium.

Just contrast the case of a pupil and a junior assistant entering an office at the same time. The first paying a premium of 300 guineas, the latter receiving for his first year 5*s.* per week; 20*l.* for his second year, 25*l.* for the third, 30*l.* for the remaining two years. The pupil (calculating interest at 4 per cent.) will put 468*l.* 6*s.* into the master's pocket; the other, with a like allowance for interest, will have abstracted 121*l.* 6*s.*; the gain, therefore, to the master, by substituting a pupil for a junior, is 607*l.* 12*s.*, an amount which surely entitles the pupil to some consideration.

There are few parents who, wishing their sons to enter a profession, think from 80*l.* to 100*l.* per annum too much to pay for *education*. Nor is it so; but they should be careful to place their sons with a professional man who gives attention to his pupils' education, and they should mistrust those who tell them that "their sons will have all the advantage of the run of the office, will see all the work that passes through it," &c. This is not enough: much

more is needed; and much higher education must be given ere the pupils of our profession can enter into business life in a creditable manner.

There are many energetic men who really work for and with their pupils, though I fear that so much cannot be said for all the members of the profession who accept the responsibility and premium.

It is really a sacred duty, the very life and soul of progress in our art; and it rests with parents to seek out those men who view the education of pupils in the light I now exhibit it. A. F.

*** A pile of letters on the same subject *pro* and *con.* has been received.

FIRE-PROOF FLOORS.

SIR,—The comparative statement of the cost of fire-proof flooring, as given in your issue of Oct. 15, is quite correct, as all are calculated on the same prices; Messrs. Dennet not having made a deduction for tiles and levelling-up for same on the brick arch. The thickness for Fox & Barrett's system varies according to the span; and for 14 ft., the thickness given is what I have had executed under my directions. HENRY M. EYTON.

CIVIL ENGINEERS IN INDIA.

SIR,—Will you allow me—with reference to a letter in the *Builder* of Oct. 22nd, which dissents from the views put forward by me in your number of June 11th—to repeat that I spoke only for the engineers who went out in 1855, to Bengal and Bombay. Your last correspondent, on the contrary, speaks for "Lord Stanley's engineers," the first of whom went out in 1859, and with whose case I am not so familiar; but it appears to be very ably stated in the leading articles of the *Calcutta Engineers' Journal* for June 1st and August 1st, from which it would seem that the case of those engineers, as regards promotion and position, is not quite as put by the different correspondents, but rather that their grievances are,—the alteration of leave and pension rules, the smallness of their pay under enhanced cost of living, and the slowness of promotion in the department generally.

I would suggest that they address a memorial to the Indian Government, setting forth the fair claims of the service, which I am persuaded, with your powerful advocacy and that of the *Calcutta Engineers' Journal*, would have good prospects of success. But they should not weaken their case by groundless or trifling complaints, by charges of unfairness, and attempts to depreciate the military engineers, who stand in need of no defender, whatever may be the defects of the public works' system.

A BOMBAY CIVIL ENGINEER.

COMPENSATION CASES.

Cannon Street, London.—At the Lord Mayor's Court on Saturday, before Mr. Karslake, Q.C., as assessor, and a special jury, a compensation case, "Lawrence and Others *v.* The Charing-cross Railway Company," was heard. Mr. Bovill, Q.C., and Mr. Horace Lloyd, were counsel for the Lord Mayor; and Mr. Lloyd, with whom was Mr. Shiel, represented the Company. The claim in this case was in respect of two houses, Nos. 5 and 6, Common-street, New Turnwheel-lane, which were built in 1852 by Mr. Alderman Lawrence, and let respectively at 350*l.* and 450*l.* One was leased to Baron Rothschild and would expire in 1866, and the other to a public company and would expire in 1874. The principal question raised before the jury was the value of the reversion. All the witnesses admitted that property in the City of London had greatly increased in value within the last few years. It had "enormously" risen in price within the "commercial area," and a question was mooted whether the houses were within that area. Several witnesses described the houses as worth respectively 650*l.* and 850*l.* a year. One was at the corner of Turnwheel-lane. On the part of Mr. Alderman Lawrence the property was valued at upwards of 30,000*l.*, the highest sum being nearly 30,700*l.* On the other hand, for the Company the valuers estimated the worth of the two houses from 21,000*l.* to 21,600*l.*, including the usual ten per cent. for a compulsory sale. Mr. Ryde, the surveyor of the Charing-cross Railway, considered that 21,641*l.* was a liberal price for the property in question, and he offered a sum of 23,000*l.* Mr. Lloyd entreated the jury not to be led away to give an extravagant sum. He thought that at the present time, when money was fetching eight and nine per cent., a gentleman would be glad to receive his money. Mr. Bovill ridiculed the view taken by Mr. Lloyd, as to the culminating point in the value of property and the means of investment at the present time. The value given had been attained in the last ten years, and was increasing. It showed the great wealth of England, and the large sums made by commerce. The question was not what was to be obtained for money at a month or so, which might be eight or nine per cent., but what it would yield as a permanent investment in ivly Funds, which would be from 3 to 3½ per cent. The learned assessor, in placing the case before the jury, contrasted the evidence given on both sides, and told them that the question was, what was a fair and liberal compensation for the property. There was nothing in the Act as to ten per cent. being given for a "compulsory sale." It had been the practice for juries to do so, and it was for them to give the amount, or any other sum. The jury retired, and on their return assessed the value at 25,100*l.*, including 100*l.* for fixtures.

Milton's House, Barbican.—On the 20th ult., at the Lord Mayor's Court, before Mr. Commissioner Kerr and a special jury, a compensation case was tried, "Hayward *v.* The Metropolitan Railway Company," to award a sum for the house No. 17, Barbican, in which Milton had for some time resided. Mr. Hawkins, Q.C., and Mr. Potter, were for the claimant; Mr. Lloyd and Mr. Hollway for the company. On the part of the claimant (a lady) nearly 3,700*l.* were claimed, and on the part of the company 1,500*l.* had been offered. In 1860, a person who resided in Essex, and who, it was stated, could not have known "what he was about," leased the premises at 65*l.* for 21 years, and on the same day the lessee sub-let the premises at 125*l.* That lease had 17½ years to run; and the principal question in the case was the value of the reversion. As an instance of the value of the property in the city of London, it was proved in evidence that as much as 2,000,000*l.* per acre had been given. Mr. Commissioner Kerr told the jury that witnesses became insensibly biassed in favour of the parties for whom they appeared, and that was the only way to account for the great difference in the opinion of the values. The jury eventually awarded 3,250*l.*

WATER SUPPLY.

Bath.—A report has been presented to the town council by the city engineer, Mr. Alfred Mitchell, on the subject of an additional supply of water to Bath. The engineer recommends the use of the numerous springs in the St. Catherine Valley, and he has prepared plans of works, including a high-level reservoir at the head of the valley, 14 acres in extent and 45 ft. in average depth, and capable of containing 90,000,000 gallons, at an elevation of 289 ft. above the Abbey pavement;—as also a low-level reservoir in the Oakford valley, to contain 20,000,000 gallons, at an elevation of 150 ft. above the Abbey pavement level. The cost of the proposed supply he thus estimates:—

Reservoir at Cold Ashton	£15,798
,, ,, Oakford	6,825
Purchasing lands and collecting springs	6,752
18-in. main laying complete	19,937
Engines, pumps, house, and reservoir for Lansdown service	3,200
9-in. main from Lansdown to Combe-down	4,820
Purchase of five mills and rights of water	5,200
Law expenses	1,860
Engineering expenses	1,676
Total	£66,058

Halifax.—The tenders for the construction of three new reservoirs in Luddenden valley, in connexion with the Halifax corporation water-works, have been opened. The number was eleven. They are still under consideration, but we understand that they are all above the engineer's estimates.

Huddersfield.—A short distance above Marsden, near Huddersfield, is a reservoir known as the March Haigh Reservoir, which belongs to the London and North-Western Railway Company, and is used for supplying a canal, by a tunnel more than three miles long. A few months ago, complaints were made as to the state of the embankment, and some repairs were done; but of late more complaints have been made, and the local Board of the township have taken up the matter. They consider that it is highly censurable to keep it full of water in its present condition. The reservoir is only one of several situate on the Standedge range of hills above Marsden.

Cockermouth.—The local Board determined the site for the proposed waterworks, from the several schemes recommended by Mr. Lawson, C.E. After a long discussion on the merits of the various schemes, it was unanimously resolved "That No. 3 scheme in Mr. Lawson's report of the 21st of October, 1864, for taking the water from the Cocker below Rubby Banks Mill, be adopted, and that the engineering committee be empowered to treat with Major Thompson, and carry out the scheme."

FROM SCOTLAND.

Edinburgh.—At a recent meeting of the town council, a letter was read, from Mr. George Kinloch, intimating the intention of a citizen of Edinburgh to present 2,000*l.* towards the expense of erecting a grand ornamental fountain in the West Princes-street Gardens, similar to the one in the Kensington Horticultural Gardens, and exhibited in the International Exhibition of 1862. He suggested that it might be placed at the foot of South Frederick-street, or South Castle-street, which would still leave one of these places open for the Prince Consort Memorial, should a site be chosen in that locality. The price of the fountain was estimated at 4,000*l.*, but it might perhaps be got cheaper; and the donor proposed that a subscription should be made by the public for the remainder of the price and for the expense of erecting an ornamental screen like that behind Sir Walter Scott's monument. He also proposed that the sum of 900*l.*, which the town council had in trust for the erection of statues for Bruce and Wallace, should be expended in connexion with this matter. The letter was remitted to the lord provost's committee.

Aberdeen.—The movement in favour of a public park for Aberdeen has been stimulated by the steps in the same direction now being taken in the metropolis and elsewhere throughout the country. A committee of working men has had several meetings, with a view of bringing the prevailing feeling into practical shape, and a preliminary meeting of employers of labour and other influential citizens is to be convened, to consider the best means of raising funds, and of putting the matter in form, to be brought before a public meeting of the inhabitants.

Kirkwall (Orkney).—The harbour trustees of Kirkwall are at length about to erect an iron pier, which is to run out from nearly the quay-head of their old harbour. The structure is expected to cost from 11,000*l.* to 12,000*l.* There is much complaint for want of harbour accommodation. By the time the new harbour will be completed, another great improvement is intended to be carried out—a matter of the first importance in a town whose principal street, as *John o'Groat's Journal* remarks, makes two "wheelbarrows tremble when they meet." It is purposed to form a new street leading from the lower end of Broad-street, through the vacant space there and the old Castle of Kirkwall, down to the harbour, by removing a block of stores opposite the Aberdeen, Leith, and Clyde Company's office, and by erecting there a landing-quay for the discharge of cargoes and for small craft.

IRELAND.

Dublin.—A house in Grafton-street has fallen. About a week before a house on the south side was taken down for the purpose of rebuilding it, and when the support which this dwelling gave was withdrawn, the house began to show signs that its condition was not at all secure. This, it is stated, together with the high wind which prevailed, accelerated the demolition of the building. A considerable portion of the front fell into the street.

Clonea.—The new Roman Catholic Church of Clonea has been dedicated. It stands in a wild picturesque district of the County Waterford. It was designed by Mr. J. J. M'Carty.

THE COMING WINTER.

AFTER one of the finest summers for fair weather that have been known to most people, the grey clouds, the mists, and the colds of winter, are rapidly closing in; and with this ungenial season there come trials to the poor. They who have seen with their own eyes the privations which exist amongst thousands of families in various parts of the metropolis, even in the bright warm summer time, look with anxiety to the pressure of winter, when work is scarce and household expenses are heavier than at other seasons.

Often, after a bright summer, we have a hard winter; but even if this year should prove an exception to the general rule, there is plenty to be done to bridge over the distress which unfortunately exists not only in the metropolis, but in other towns. The hardships which have been so patiently borne by the cotton-spinners of Lancashire have not yet passed away; and in some localities there is much to excite grave considerations as to the coming cold season. Although in the main the cotton trade is improving, still there are ebbs and flows of the cotton market which cause distress and starvation to thousands. Take, for instance, the accounts we have from Preston, where the office of the relief committee is. It is reported that 2,156 cases, comprising 8,162 persons, were relieved during a week just past. There was an increase of applicants during seven days of 1,001 persons. When the distress was at the greatest in this town, there were 3,347 persons relieved by the fund which was raised by the national subscription. Notwithstanding the figures given by the committee of the management of the relief fund, we find the following state of things:—

"The committee have just taken the census of the factory population, by a house-to-house visitation, when it was discovered that no less than 6,874 factory operatives had either emigrated, found employment elsewhere, or had been removed by the guardians. The chief constable's weekly report shows that in his district there are twenty-three mills closed out of eighty-seven. The number of operatives working full time is 38,253. Five days a week 2,787; four days, 406; three days, 4,503; two days, 67; *and totally unemployed*, 16,985."

Seven deaths from fever have just taken place in Preston in one week, and an inquiry into the state of the infected districts has been ordered. We hope that this sanitary inquiry will be wisely and carefully managed. One point is most necessary to be known, viz., how the pressure of the distress has acted in driving families into limited space.

It is impossible to remove by even the most extensive charity the evil which still hangs over Lancashire; but there, as well as in the parts of London which we have felt it a duty to describe, soup-kitchens and other similar helps might be again established, which would be exceedingly useful in their way; and now is the time to assist in re-opening them.

CHURCH-BUILDING NEWS.

Wherstead (*Suffolk*).—The church here has been re-opened. The porch is of open framework, in oak, the interstices of which are filled with coloured glass. The entrance from the porch into the church is by an old Norman doorway. The stained glass in the west, east, and south chancel windows first draw the attention on entering. The first of these was designed for a memorial of Sir Robert and Lady Harland; the second to Captain George Ashley Dashwood; and the third is a memorial of two of his children. The first of the three has for its subject the acts of charity, Feeding the Hungry, Clothing the Naked, and Visiting the Sick and the Prisoner (Matthew xxv. 35). The window is by Mr. Holland, and till brought here was to be seen at the South Kensington Museum. The east and south chancel windows are by Mr. Gibbs. All the remaining windows also are of stained glass, but without subjects, being in the pattern style, and giving to the west, east, and south chancel windows the desired prominency. There is not a pane of uncoloured glass in the church. The roof is throughout of open oak-work. The old chancel roof, when stripped of the accumulated whitewash of many generations, was found in good repair, and was therefore retained. The style of the new roof of the nave is taken from that of the old roof of the chancel. There is nothing elaborate about it. The walls, which are about 4 ft. in thickness, have been coated externally with dressed flintwork, and the inside has been faced with white Parian cement. The whole church is paved with Minton's encaustic tiles; the main aisle with his red and black diamonds, and the open space within the chancel with a pattern of red and black, lighted up here and there with yellow. Within the communion-rails, which are of brass, the floor is paved with Minton's richest design, the golden *fleur-de-lis* and rose, placed on a blue ground on alternate tiles, the borders being of a rich brown and gold. The font, executed by Mr. Williams, has been covered with sculptured subjects. It consists of an octagonal basin, supported by a clustered pillar. The stone pulpit was the work of M. Abeloos, of Louvaine, carver. The main subject is the Saviour, under the figure of the Good Shepherd. The panels to the right and left of the central one contain "The Rose of Sharon and the Lily of the Valley." Each of these supports a scroll, bearing in the one case the text "Feed my lambs," in the other, "Feed my sheep." The fourth panel is filled with the emblem of wrath assuaged and reconciliation, the fruitful evergreen olive. The north wall occupies what might have been about a panel and a half; the rest, being the side towards the east, is completely open. The work has been completed by the addition of a vestry, and of a heating apparatus, neither of which the church possessed previously. For the restorations Mr. Phipson was the architect, and Messrs. Ringham & Son were the builders.

Haddenham (*Bucks*).—The parish church of Haddenham has been re-opened for Divine worship. The church is one of the most interesting of the parish churches in the county, and includes a unique and beautiful Early English tower, illustrated by Parker in the "Glossary of Architecture." The effect of the interior of the edifice had been destroyed for many years by whitewash, semi-circular plastered ceilings, and other objectionable things; but the old oak sittings, with richly-carved ends, the chancel and chancel aisle, and screens of the early part of the fifteenth century, still remain to testify to the former beauty of the church. Within the last few years an attempt has been made to raise a sum of money for the purpose of restoring the principal features of the church, and the amount subscribed was found sufficient to justify a commencement of the work at the end of last year. The chancel has been re-roofed with open timber framing, a new east window has been introduced in place of the Domestic one which existed, the interior stonework has throughout been cleared of whitewash, and the seats have been re-arranged so as to provide accommodation for an increased number of persons. Such new seats as have been added correspond in design with the old oak seats of the church. The work has been carried out by two of the parishioners, Messrs. Rose & Son, under the direction of Mr. D. Brandon. It is expected that further sums will be forthcoming to carry on the work of restoration.

Aldenham (*Herts*).—The new church which has been built at Radlet, in the parish of Aldenham, has been consecrated by the Bishop of Rochester. The site was the gift of Capt. Phillimore. Messrs. Smith & Son were the architects, and Mr. Harris the builder. The church is in the style of the fourteenth century. The material is flint and Bath stone. The building consists of nave, transepts, and chancel, with a porch at the south side. At the north-east corner is a tower, and a spire of Bath stone. The church contains sittings for 240 persons. At the east end there is a stained glass memorial window.

Tunbridge Wells.—The chief stone of a new church, to be dedicated to St. Luke, has been laid at Broadwater Down, in the parish of Frant, and equi-distant from the Frant and Eridge roads. It is to be erected at a cost of 5,000*l.* or 6,000*l.*, which will be defrayed by the Earl of Abergavenny. The church is intended to hold upwards of 600 persons, and the ground-plan will be in the form of a cross, having a nave and aisles with chancel, and vestry and organ-room adjoining. At the north-west corner will be a lofty tower and spire. The style of the church will be the very early French Flamboyant. It will be built in hollowed walls of stone, lined with brickwork, to prevent dampness. The tracing of the windows, however, and the ornamental part, will be in Bath stone. The roof will be of open timber, springing from carved corbels. Provision is to be made for the erection of a gallery in the church, in the event of its being found necessary. The architect is Mr. R. Roumieu, of London; and the builders are Messrs. Mansfield & Son, of London.

Bristol.—The vestry of St. James's Church determined in the autumn of last year to restore this ancient church. The great difficulty they found, remarks the local *Mirror*, was to enlarge the old church without throwing down the old Norman piers, which were, and still are, considerably out of upright, and composed of a thin outside coating of free-stone, inclosing an interior of rubble work, now little better than sand. It was felt by the architects that it would be an act of vandalism to pull down so ancient a structure, and upon their advice Mr. G. G. Scott's opinion was asked as to the advisability of building a new aisle upon the north side, and the placing of piers to support the ancient flying buttresses existing against the north wall. The whole of the drawings and designs were then made by Messrs. Popes & Bindon, and estimates obtained and the work commenced, which was certainly of no ordinary character, as nearly every one had prophesied the old church would tumble down. The north wall and arches were shored up with timber, and the new aisle built before the old north aisle was demolished. The granite shafts were placed on account of strength, and as being less obstructive to sight than freestone ones of the requisite size, and a style of early Gothic, instead of Norman, so as to afford the height requisite for so large a church. The old flying buttresses were found to be composed of portions of tombstones of the fifteenth century. The lower portion only of the old north wall was composed of Norman masonry, about 4 ft. high, built of Brandon-hill stone. The upper portion was entirely built of Pennant, and of much later date. The new aisle is 26 ft. wide, and extends the whole length of the church. An organ-chamber has been erected upon the north-east corner. The old west end has been washed with Ransom's mixture for preserving stone. The interior Norman shafts have been painted, as in a former restoration it was considered right to enclose them with stucco. The whole of the church has been repewed with stained deal, the aisles paved with Minton's tiles, and the church lighted with gaslights manufactured by Skidmore, of Coventry. Mr. Melsom was the contractor, and Mr. H. Williams sub-contractor. The cost has been about 4,000*l.* The carver was Mr. Margetson.

Sheldon.—A new church has been built in the small village of Sheldon, about three miles from Bakewell, in place of the old structure, which was said to have had the largest churchyard in England, inasmuch as the said church stood on the highway, and was unenclosed. The new edifice, which is situate on ground consecrated some years ago, near the village, is from a design by Mr. Rollinson, of Chesterfield: it resembles the style of the thirteenth century, and has cost under 500*l.* Although of small dimensions, it will be found large enough for the population. The church is rectangular in plan, with a circular apex at the east end, south porch, and vestry: the west end is surmounted by a gabled bell turret: the windows are Early Pointed; and the roof of coupling spars of high pitch, the whole of which, and the benches, are stained and varnished. Mr. Gyte, of Ashford, was the builder.

East Lydford (*Somerset*).—The chief stone of a memorial church has been laid here. The site is in a field, opposite the vicarage. The edifice will consist of a nave and chancel. A tower, the altitude of which will be nearly 100 ft., will be on the north side of the chancel, and there will be a south porch. The style will be Early English, the materials Keinton stone, dressed with Doulting stone, the whole of the interior to be faced with the latter. The length of the nave will be 45 ft. 6 in., width 18 ft.; of the chancel, 26 ft. 9 in. by 13 ft. It will seat about 100. The cost will be nearly 2,000*l.*, the whole of which will be borne by the rector. Mr. B. Ferrey, of London, is the architect; Mr. Davis, of Langport, the contractor for the whole of the works.

Upper Blackley (*Lancashire*). The tender for St. Andrew's Church, by Messrs. Butterworth, of 1,740*l.*, being the lowest of six sent in, has been accepted. Mr. J. Medland Taylor is the architect.

Radcliffe (*Lancashire*).—The new church of St. Thomas, at Radcliffe, has been consecrated. The building is calculated to accommodate 1,200 people, of whom 512 will have free sittings. The building is from the designs of Mr. W. Walker, of Manchester, and it has been carried out under his superintendence. The contractor for the stone and brick work was Mr. A. Pilling, of Bolton, the rest of the works being carried out by Messrs. Allen, Howarth, & Co., of Radcliffe. The heating apparatus was supplied by Messrs. Bland, of Bury; and the altar railing was executed by Mr. Dovey, of Manchester. The sum of 1,500*l.* is required to complete the tower. Up to the present time the building has cost 7,271*l.*

Pimhole (*Bury, Lancashire*). Mr. Openshaw, of Primrose-hill, Pimhole, lately expressed his intention of building a church here solely at his own cost. The edifice is to meet the requirements of the people. The site, which is the gift of the Earl of Derby, contains over 8,000 square yards, and is bounded on the northerly side by Rochdale-road, and on the westerly side by Pimhole-lane. The church will be erected on the north-westerly side, land being reserved on the east for a parsonage-house, and on the south for schools, &c. The architect is Mr. Lawrence Booth (of the firm of Messrs. Blackwell, Son, & Booth), under whose immediate superintendence the church is being built; and the contractor for the foundations, which are now being constructed, is Mr. John Hall, of Lowes. The church is rectangular on plan, having a tower and spire 120 ft. in height, a nave and side aisles, a chancel containing stalls for the choir, and the sacrarium, an organ chapel and vestry. The total length internally, from west end to east end, will be 108 ft. 6 in., and the total width 58 ft. The width of the nave, from centre to centre of the aisle columns, will be 29 ft. 9 in., and the width of the aisles 14 ft. 1½ in. The organ chapel and the corresponding chapel on the south side will be divided from the aisles by means of a screen of open woodwork with metal-work introduced therein. The nave and aisles will be fitted up with benches, as also the chapel on the south side, mentioned above, affording accommodation for about 650 persons. The church will be in the Early English style. The materials will be, for the facing of the main body of the outside walls, parpoints of the Horncliffe stone; the dressings round the windows, quoins, sills, and strings, being of the Fletcher Bank or Birtle stone. Internally, the architect purposes to use a few self-coloured materials, such as wall tiling above the wainscoting, red Mansfield stone in the shafts of the nave columns, and also in the small columns supporting the roof principals. The roof will be open timber, stained and varnished, and plastered between the spars, except in the chancel, which will have a curved and panelled ceiling. The height of the nave internally will be about 48 ft. The whole of the woodwork, with one or two exceptions where oak will be used, will be of red deal, stained and varnished. The coupled shafts in the chancel will be of Cornish serpentine, and the floor of the sacrarium, chancel, and steps leading thereto will be laid with Minton's encaustic tiles, as also the porch, space round the font, and tower.

Fakenham.—The parish church has been restored. The work has been carried out under the direction and from the designs of Messrs. Atkinson, of York, architects, who gave their

rices gratuitously, and Mr. Bennet, of Lynn, routed the woodwork. The church is a large ucture, consisting of a nave, with aisles and estory, and a chancel. It is built mainly in Late Decorated style, except the south porch the embattled tower, which are Perpendicu-

The edifice stood much in need of restora-, and it was resolved last year to re-seat it, d to put it into thorough repair. The galleries ich blocked up three sides of the church have n removed; the west window restored and ned out; the pews replaced by open seats; nave and side aisle re-roofed; all the win-ws repaired and fitted with cathedral glass; a vestry built, and an oak pulpit, reading-sk, and lectern erected in front of the chancel th. The rector has likewise restored the chan-l at his own cost, and furnished it with new stalls and altar rails. The floor has been ved with ornamental tiles, and various other provements effected. The alterations (exclu-e of those in the chancel), have been executed a cost of about 2,700*l.*

SSENTING CHURCH-BUILDING NEWS.

Maidstone.—The foundation-stone of a Con-egational church has been laid here. The ilding will be erected on the site of the old urch, by Mr. Anscomb, of Maidstone, from the signs of Messrs. Habershon & Pite, of London, l will accommodate 800 persons. The style is alian, and the front, being the only part of the terior susceptible of ornament, will be built in ath stone and white brick. School and class-oms occupy the whole of the basement. The st will be about 3,000*l.*

Blowwich.—The chief stone of a new Wesleyan apel has been laid here. The site is a piece of nd abutting upon the High-street, near to the reen. Messrs. S. & J. Loxton, of Wednesbury, e the architects; and Messrs. Butler & March, West Bromwich, the builders. The contract m is 1,400*l.* The building will be in the Early nglish style, modified to suit the nature of the aterials which will be principally used. The ternal dimensions of the building, in the clear f the walls, will be 57 ft. by 42½ ft., and about 0 ft. in height; but in addition to this an rchestra, measuring 12 ft. by 16 ft., is designed. leats will be provided for about 600 persons.

Nottingham.—The new Wesleyan chapel and chool-rooms, in Arkwright-street, have been pened. The style is Perpendicular, but the rchitect has introduced some modifications in he interior for the purpose of giving the preacher an uninterrupted view of his congrega-ion. The roof is steep, without any division nto nave and aisles, and without a clerestory. The ground plan is a parallelogram, about 64 ft. ong by 30 ft. or 40 ft. wide. A gallery runs round three sides, and on the fourth there is a recessed chamber for organ and choir. The roof s a timber, of a partly open character. Two large school-rooms are connected with the edifice, and there are also the usual vestries and other neces-sary accommodations. Mr. Ellis was the builder; and Mr. Lomas the architect. The cost will be 2,200*l.*, and the sittings will accommodate 750 persons.

Knaresbro'.—The foundation stone of the new Congregational Church at Knaresbro' has been laid. The old chapel was totally unsuited for modern use, and was more like a barn than a building set apart for Divine worship. Some months ago it was determined to build a new church upon the site of the old chapel. Plans were advertised for, and of those sent in Messrs. Pritchett & Son's, of Darlington, were deemed the best. A slender tower and spire will rise to the height of 90 ft. at the angle formed by the junction of Gracechurch-street and Windsor-lane. The front entrance is a double doorway, with a four-light window above, 18 ft. high, with geo-metrical tracery. The plan of the church itself is a nave, with small transepts, the whole being built in the Decorated style. Including the vestibule, the extreme length of the church is 59 ft.; the width of the transept, 49 ft.; and the height, 45 ft. The nave is 38 ft. wide; and the transepts, are 35 ft. high. The windows in the side elevations, one of which is set in gable, have all transoms. The transept windows are of three lights. In the interior of the church the pews will be open, low, with leaning backs. There will be a gallery at both ends, and the church at present is calculated to hold 420 per-sons. The whole expense of the erection of the edifice, including warming, ventilating, and the architect's commission, will be about 2,000*l.*

Newcastle-upon-Tyne.—The foundation-stone of a new Wesleyan Chapel has been laid by Mrs. E. M. Bainbridge, in Clarence-street, Shield-field, Newcastle. The chapel adjoins the schools which were opened some time ago, and is in the Decorated style freely treated. It will have a nave and two side aisles; metal pillars dividing the aisles from the nave and supporting the roof of the gallery. The interior of the chapel will consist of seven bays, each 10 feet wide. The staircases of the gallery will be entered from the outside, and will be surmounted with pyramidal roofs. A covered arch will connect the schools with the chapel. The orchestra is at the north end of the building, and at the other end there will be a large gallery for the children. Under-neath the orchestra will be placed the minister's vestry; and beneath the children's gallery will be the entrance-lobby. The roof will be opened and boarded to the structural timbers. The length will be in all about 85 ft.; the interior length, 80 ft.; width, 45½ ft.; and height up to the under-side of the boards in centre of roof, 42 ft. The woodwork of the interior will be stained and varnished. Messrs. Redshaw & Smith, of Gateshead, are the contractors for the work. The building will hold about 800 persons. Mr. F. R. N. Haswell, of North Shields, is the architect, and the estimated cost of the building will be about 3,000*l.* A scheme is on foot for the erection of another chapel; the two to be erected at a cost of 6,000*l.*

Sacriston (*near Newcastle-upon-Tyne*).—The foundation-stone of a Wesleyan chapel has been laid at Sacriston, a colliery village about ten miles south of Newcastle. The site, in the most prominent part of the village, together with such materials as are produced on the estate, have been presented to the undertaking by the owners; and one of them, Mr. Wm. Hunter, sheriff of Newcastle, laid the foundation-stone. The chapel will be in the Gothic style, with red brick and stone dressings, and will accommodate about 300 persons. The length internally is about 50 feet, and the breadth 27 feet. Under the west end, and aided by the natural slope of the ground, is a school-room and class-room, capable of holding 120 children. This communicates by a staircase with the entrance porch on the south side of the chapel. The seats will be open, and those at the west end rise gradually. The roof is half an octagon in outline, and will be boarded on the under side. The whole of the woodwork will be stained and varnished. The plot of ground is to be enclosed by brick walls, except at the east end next the road, which will have a metal pali-sading, with entrance gates. Mr. F. R. N. Has-well, of North Shields, is the architect, and the whole of the works have been let to Mr. J. Gib-son, of Durham.

SCHOOL-BUILDING NEWS.

Wednesbury.—The foundation stone of a new infant school at the rear of the Wesley Chapel, has been laid by Mr. Benjamin Bloomer, of Pel-sall. The new room will be 60 ft. long by 35 ft. in width, and will be supported on brick arches, and erected at a cost of 600*l.*

Wincle (*Cheshire*).—Tenders have been ac-cepted for the erection of a new school building, with master's house, at Wincle, at a cost of about 700*l.* The late Mr. Thomas Ryle Daintry, of North Rode, gave the land for the purpose, and, besides an endowment, by his will left a sum of money in aid of the contemplated new buildings. Mrs. Daintry, desirous to see her husband's intentions carried out, resolved on com-mencing the buildings at once, the parishioners being invited to contribute towards the object, Mrs. Daintry undertaking to make good all deficiency in the funds. Mr. Sugden, of Leek, is the architect employed by Mrs. Daintry.

Salford.—The foundation stone of a new Wesleyan Sunday School has been laid by Mr. W. Holland, in Regent-road, Salford. It is pro-posed, in the first instance, to erect a Sunday School capable of accommodating 600 children, with a large room over it for public worship; and it is also intended, as soon as the necessary funds can be raised, to erect a chapel in connexion with it, the land for which has been purchased, and the plans prepared. When the design is completed, the frontage of the chapel will be to Regent-road, the schools being in the rear, with entrances from Dixon-street and Taylor-street. Altogether between 5,000*l.* and 6,000*l.* will be required to carry out the intentions of the build-ing committee. At present, only about 1,000*l.* have been subscribed. The school building, when completed, will afford the necessary tem-porary accommodation for public worship. It will be a Gothic structure of brick, with stock brick facings, relieved with black Staffordshire bricks in string courses and arches. It will be two stories in height. On the ground-floor there will be an infant school, with four class-rooms, and other offices. The upper floor will form one large room, which will be used as a general Sunday School, and, for the present, also as a preaching-room. The schools are intended to accommodate 600 Sunday scholars, including 150 infants. The architect is Mr. G. Woodhouse, of Bolton; and Messrs. J. Statham & Sons, of Pendleton, are the contractors. The total cost of the school building alone, including 100*l.* for the fittings, and 500*l.* for the land, will be about 2,000*l.*

Golden Cup (*near Blackburn*).—The foundation stone of a new Church of England school, at Golden Cup, on the highway from Blackburn to Over Darwen, has been laid by Mr. R. H. Hutchinson. The school will be 90 ft. long by 30 ft. wide, and when complete will have a schoolmaster's house and class-rooms attached. The site, which contains about 1,300 square yards of land, has been given by the Rev. Joseph Hindle; and the Rev. Philip Graham, of Turn-croft, has subscribed the wall stone.

Pendleton.—The foundation-stone of a new school in connexion with the Independent chapel has been laid. The new school, which will be erected from the design of Messrs. Frazer & Son, of Manchester, will contain twenty class-rooms, with infants' elementary class and lecture rooms. The style of the building will be Geometric. The entire cost of the building, including gas and hot-water apparatus, will be about 2,000*l.*

Buersill, Rochdale.—National schools are to be erected here for Messrs. Radcliffe. The tender of Messrs. Barnes & Howe, of Manchester, 2,324*l.*, being the lowest of seven sent in, has been accepted. Mr. J. M. Taylor, of Manchester, is the architect.

Bradford-cum-Beswick (*Lancashire*).—The tender of Messrs. Thackrah & Peirce, of Stock-port, for parish schools, has been accepted, being the lowest sent in. Mr. J. M. Taylor is the architect.

Lister Hills.—The church and congregation assembling in the Independent chapel, Lister Hills, according to the *Bradford Observer*, have recently enlarged and extended their school buildings, at an estimated expense of 1,200*l.* The new schools are in the Early English style of architecture, in conformity with the rest of the block. Messrs. Lockwood & Mawson were the architects, and Messrs. James Wilson & Sons, the contractors.

Reepham (*Lincolnshire*).—A public school-room having long been much needed in the village of Sall, the Rev. Sir E. R. Jodrell, bart., of Sall Park, has now erected, almost in the centre of the village, near the church, at his own expense, amounting to nearly 600*l.*, a large build-ing, consisting of a school-room, measuring 40 ft. by 20 ft., and a residence for the teacher, in the Domestic Gothic style, with bell-turret. The exterior of the roof is covered with blue and black tiles, whilst the interior is of open wood-work, with blue interstices. The architect was Mr. William Lightly, of London; and the builders were Messrs. Nelson & Sons, of Whissonsett. It is also the intention of Sir Edward to build several model cottages near the school, similar to those built by him last year at Saxlingham, near Holt.

Jarrow (*County Durham*).—A school has been built, and formally opened, adjoining the ex-tensive chemical works of Messrs. S. Mease & Co., at their sole expense, for the benefit of their own workpeople in the first instance, and of the residents in the locality. It will accom-modate 150 children. The buildings are in the Decorated style. The school-room is 55 ft. by 26 ft., with an open boarded roof of polygonal form, 22 ft. from floor in the centre; class-room 20 ft. by 15 ft.; with entrance porch on east side, and play-ground at the south end. Mr. F. R. N. Haswell, of North Shields, is the architect.

Morpeth.—The Bolland Industrial Schools, Morpeth, have just received additions that have doubled their size, and consequently con-siderably augmented the accommodation which the improvements in the school, and increase in the number of scholars, under the auspices of the rector, the Hon. and Rev. F. R. Grey, rendered desirable. The former school serves as the basement for a large, light, airy, open-timber-roofed room, which has been built over it, and projected over an additional area by

means of arches thrown over a fore-court that extended along the front of the former house. This arrangement was adopted by the architect, Mr. F. R. Wilson, to avoid encroaching upon the playground for extra space. The elevation next the street consists of an arcaded cloister of five arches, surmounted by the new school-room, which is lighted by five lancet triplets and five rose ventilating windows in as many gables, each triplet being directly over one of the arches, and under one of the gables. The new school-room is 50 ft. long by 26 ft. The materials are white and red bricks, arranged in bands. The contractors were—H. Hudspeth, mason, and Thos. Forster, joiner, Alnwick; Thos. Cranston, plumber, and John Cranston, slater, Morpeth.

THE THEATRE.

The Haymarket.—In the part of *Mrs. Haller*, in Kotzebue's lugubrious but still effective "Stranger," Mdlle. Beatrice has made her value more evident than before. This lady is a decided gain to the English stage, and we look to see her talents made good use of.

The Olympic.—This theatre, opened under the management of Mr. Horace Wigan, has been improved before the curtain, and decorated with great taste and delicacy, by Mr. Leonard Collmann, with Pompeian proclivity. The proscenium, which is new, is particularly elegant, and includes some figures in bas-relief. The gas, in the ceiling, is boxed in with a glass cup, so to speak, and diffuses a very agreeable and innocuous light, Messrs. Hulett & Co. being the operators. Increased space has been gained for the stalls, and the gallery, we believe, has been enlarged. The new drop-scene, by Mr. Craven, is a sparkling Greek landscape with architectural remains, and might easily be improved by a little more work: parts are crude, and the framework of frets and accordant accompaniments is very carelessly drawn, and should be revised. An act-drop, coming often before the eyes, and remaining so some time without the occurrence of acting to withdraw attention, requires more careful painting than an ordinary scene. Of the scenery for the new drama, "The Hidden Hand," we are glad to speak in warm terms. It consists of four very complete and effective architectural "sets," a vaulted chamber, a drawing-room, a bed-chamber with wall panellings and deeply recessed window, and the court-yard with loggia. The drama itself, adapted from the French, is very ingeniously constructed, highly exciting, and affords scope for some admirable acting, especially on the part of Miss Kate Terry, Mr. Henry Neville, and Miss Lydia Foot;—acting which, conjoined with the interest of the piece itself, will, we have no doubt, carry it through a long run. The new manager has certainly made a good beginning.

The New Birkenhead Theatre.—The New Theatre Royal at Birkenhead was opened last Monday night. It has been erected by a company and has cost about 9,000*l*. It is the first building of the kind having any pretensions to be a first-class place of entertainment provided for the large population of the Cheshire bank of the Mersey. The building has roomy accommodation for 1,600 persons, and is comfortably and elegantly furnished. The scenery, including the act-drop, is painted by Mr. Dalby.

Tusa, Sicily.—At the commencement of the performances at the theatre at Tusa, in Sicily, last month, two rows of the boxes fell with a great crash. After the rubbish had been cleared away by the soldiers who were called in to assist, two persons were found to be dead, and several severely wounded. We mention the circumstance as a reminder, for care.

RECENT PATENTS CONNECTED WITH BUILDING.*

Heating Buildings by means of Hot Water *G. H. Tiers.* Dated 29th May, 1863.—This invention consists in a furnace with a suitable flue, and a boiler with flow and return pipes, the furnace being provided with a self-acting feeder, which, by means of clockwork supplies the requisite amount of coal or fuel to the fire at any fixed time of the day or night. The boiler is of conical shape, with the feeding door placed in the usual position. The flue, instead of being at the side or back, is at the top, taking any turns required by the form of the building to which it is applied. The flow-pipe is, in proportion to the flue, as large again, and contains the flue to the length of the building. The object of the flue passing through the flow-pipe is, that all heat generated within the boiler will be turned to account in the course of the draught, coming in contact with a large portion of metal surrounded by water. A damper is placed just above the end of the flow-pipe, so that when the fuel is well lit up, the heat may be regulated. The feeder is a box or spout, of a semicircular shape, about 1 foot in length, with an opening in the flat side, about 1 inch from the front of the boiler, into which fits a sliding door, with a trap to fill over the orifice when the slide is withdrawn. Into this box the requisite quantity of coal or fuel is placed, and the feeder is then closed by a door. At any time of the day or night to which the clockwork may be set, a cord connected to the clockwork acts on a catch, which action will release the end of a lever, to which a weight is attached, which in its descent lifts the sliding-door in the feeder, and allows the coal in the feeder to slip into the furnace or cavity of the boiler.

Bricks.—*G. H. Cottam.* Dated 2nd June, 1863.—In making bricks for paving stables and other places, the patentee forms the bricks of an oblong shape, as heretofore, but, in place of making the bricks deeper than they are wide, he forms them square in transverse section, so that, in laying them, either side may be placed uppermost. They can also be made in cube blocks, to use all sides alike, when required for paving stable-yards, or at the backs of stalls; all the edges of the bricks are also bevelled, so that, whichever side of the bricks is placed uppermost, there will always be a hollow space between the upper surfaces of two neighbouring bricks. They can also be made without the bevelled edges, so as to form a plain surface.

Construction of Fan Blowers for Ventilating and other Purposes.—*W. E. Newton.* A communication. Dated 20th November, 1863.—This invention consists in gathering and expelling from an apartment of any kind the foul air or gases, and at the same time, and by the same apparatus, drawing in fresh air from without, and forcing it into the apartment to supply the place of that expelled, thus doing two things at the same time, or by one and the same operation, both of which are essential to a speedy change of air in the apartment to be ventilated.

Machinery for Making Bricks and other like Articles.—*W. Williams.* Dated 21st November, 1863.—The patentee constructs a trough or framework of cast-iron or other rigid material, preferably of a circular form, with openings in the bottom corresponding in shape to the bricks or articles to be made. Between and above these openings there are transverse pieces, which join the sides together, so that the trough or framework, when ready for use, resembles, and may be said to consist of, a series of small hoppers. A roller, similar to an edge-runner, to which he affixes projecting pieces, to fit into the hopper-shaped spaces, is made to travel over and in the said trough or framework, and press the clay or other plastic material, supplied to the trough or frame by hand or otherwise, through the openings in the bottom, into moulds placed just under such opening. The roller can be made to travel by any suitable means: a horse could be yoked to the lever or arm coupled to the roller in the usual way, the other end of such lever or arm being connected to an upright shaft resting in a step placed in the middle of the circle described by the trough or framework.

Constructing the Floors of Bridges, Houses, &c.—*E. Finch.* Dated 21st November, 1863.—For the purposes of this invention, in forming a floor, girders or beams, by preference of wrought iron, and constructed as heretofore, are used, but other construction of girders, whether of iron or other materials, may be employed. On these girders or beams bars of T-iron are fixed parallel to each other by riveting or otherwise; or bars of bridge or trough iron, or of angle iron, or bars of other forms may be similarly used in place of bars of T-iron, so long as they are suitable for having the edges of sheet-iron or steel fixed thereto. When using T-iron, the sheets or plates are cut somewhat wider than the spaces they have to fill, and they are slightly curved or bent, and spring into the spaces between the bars of the T-iron, and are there fixed by keys passed through holes formed at intervals in the limb or leg of the T-iron, the head of the T-iron bars being fixed to the beams or girders by riveting or otherwise. This insulating surface is covered with concrete, asphalte, or other suitable material, and over that stone or other flooring is applied. When using bars of other forms, the edges of the bent plates or sheets are fixed to the angle or sides of such bars by riveting: in other respects the construction of a floor is as before described.

* Selected from the *Engineer's* lists.

Books Received.

VARIORUM.

"The Simplicity of the Creation." By William Adolph. Second and enlarged edition. London: Burns & Lambert, Paternoster-row. 1864. The orthodox science of astronomy is undergoing so many modifications, from within as well as from without, in these more and more heterodox and self-asserting times, that soon it will be difficult to draw the line between its pure orthodoxy and its mere heterodoxy, and we shall have to take refuge in the Scottish blacksmith's sarcastic and long-headed definition of the distinction between the two: "When your doxy and my doxy 'grees,—that's orthodoxy; but when your doxy and my doxy differs, weel—that's heterodoxy." Mr. Adolph's very ingenious and original disquisition certainly differs not a little from other doxies,—both ortho- and hetero-doxies,—both from the Hinds and from the Gumpachs of astronomical science; but, as we have before said, we hail with pleasure every new blow at the old idol whose worship has become a superstition; and it is not necessary that we should quite agree with every new-comer, in order that we may enjoy each successive blow. We are only pleased to think that good and truth cannot but come out of the *mêlée* at last. In regard to Mr. Adolph's speculations, which, as he informs his readers in the preface, first of all originated in a theory of the tides to which we gave a place in the *Builder*, it is to be regretted, we think, that he did not take the advice kindly given him, not to mix up doctrinal points connected with one special form of religion with his scientific speculations. Even the more scientific and enlightened members of his own church, we feel assured, would have preferred his not doing so, however conscientious and excusable his motives. As it is, however, this suggestive volume will be found to contain much food for wholesome rumination on very sublime and interesting subjects.——"Introduction to the Science of Wealth," by W. H. Daniels (Hardwicke), is the title of a *brochure* on political economy, that discusses questions of rent, supply and demand, and profit, in a way to incite thought.——A little volume of fun, reminding the reader of the well-known "Comic Annual," will shortly be published under the title of "Vere Vereker's Vengeance: a Sensation." The illustrations, we believe, will be quite as *à propos* to the text as those to be met with in some other recent works. They cannot well be less so. The author is Mr. Thomas Hood.

Miscellanea.

The Higham Ferrers Brasses.—Who is it that has been moving the brasses in Higham Church? Why could they not be let alone?

Monumental.—The monument to Melancthon was to be inaugurated at Bretton, in the Grand Duchy of Baden, on the 30th of October. This monument has been prepared in Berlin by the well-known sculptor Professor Drake.

Iron Defences for Russia.—Not long ago we were very anxious to knock about the forts of Cronstadt. Now English iron-workers are supplying the Russian Government with enormous iron defences for the said forts. Accommodating John Bull!

Sanitary State of Croydon.—According to the quarterly report 170 deaths were registered in the parish in the quarter ending 30th September last,—being at the rate of 19¼ (per annum) in the thousand of the population, now estimated at 35,332. This is very slightly above the average of the last ten years, without allowing for any increase of population since the commencement of the year. In the less populous districts the mortality has been very low; and only at a comparatively high standard in the central district, including the union house.

Architectural Association Voluntary Examination Class.—The meetings of this class have recommenced. On Tuesday next, the 8th instant, Mr. Thos. Blashill, the president, will give a paper on "Iron and Ironwork." A syllabus of the papers up to January next will be found in the annual publication of the Society.

Ancient Bristol: Discovery of Old Paintings.—Bristol is rich in old and curious houses. The office of the *Mirror*, in Small-street, is celebrated as the house of Colston the philanthropist, and has many curious carvings, ancient chimney-pieces, and open roofs. It appears that portraits of Mrs. Paul Bush, Newton, and Smalridge, Bishops of Bristol, were presented to the late Bishop Monk by Archdeacon Thorp, but that they have been missing ever since Bishop Monk's death. They have now been discovered, however, by Bishop Ellicott, under some old packing-cases in a cellar.

The Main Drainage and Thames Embankment Contract.—At a meeting of the Vestry of St. James's, Westminster, Mr. Beal moved a resolution to the effect that it is essential, having reference to the grave charges made against the management, by the Metropolitan Board of Works, of the Main Drainage and Thames Embankment works entrusted to it, that a full inquiry under the Government should be made through the medium of a Royal commission. After some discussion the meeting was adjourned for further consideration of the subject.

Gas-Meter Company (Limited). — At the second annual meeting of this company a dividend was declared at the rate of 6 per cent. per annum for the last half-year, and for the same period a bonus at the rate of 6 per cent. per annum, leaving a balance of profit undivided of 687*l*. The company have completed arrangements for the more accurate formation of dry gas-meters by machinery, for which they have a patent. The report states that 13,000 of their unvarying water-line gas-meters" (Sanders & Donovan's patent) are at present in use. The consulting engineer of the company, Mr. T. G. Barlow, has reported to the directors on the dry-meter machinery. Mr. A. A. Croll, one of the directors, has retired by rotation, but has been re-elected.

Progress at San Francisco.—As an evidence of progress at San Francisco, we may mention that the "Cosmopolitan Hotel," a building on a large scale, has been opened. It stands at the corner of Sansome and Bush streets, and occupies one site of the old Rassette House, afterwards known as the Metropolitan Hotel, covers a full 50-vara lot, and has therefore a frontage of 137½ ft. on both Bush and Sansome streets, and of the same number of feet either way in depth. The building has a full basement, four full stories above, and an attic with rooms as spacious as those in an ordinary first-class dwelling. The clear space between the floors and ceilings of the rooms on the different floors are as follows:—Basement, 9 ft.; first, or main story, 17 ft.; second story, 14½ ft.; third story, 12½ ft.; fourth story, 11 ft.; attic, 10 ft. The building is in the modern French style. The cost of erection was 250,000 dollars.

The Utilization of Sewage at Carlisle.—"Every one in Carlisle," says the local *Journal*, in allusion to the visit *en masse* of the Metropolitan Board, "will admit that Mr. M'Dougall's sewage experiments, here as elsewhere, have proved a decided success. When did the holmes he rents ever bear, before he leased them, anything like such crops as they have borne since? And who, when the sun shone brightest on Carlisle wall, was annoyed by the slightest whiff of malodour from Mr. M'Dougall's meadows? The old-fashioned prophets of evil, who have croaked over liquid manure like a chorus of frogs, have had all their predictions falsified. The visitors from London could not have come to a better place than Carlisle to convince them, or to confirm their conviction, that town sewage can be used for agricultural purposes with great pecuniary profit, and without any sanitary detriment;—that it is a most powerful fertilizer, and can be thoroughly deodorized and disinfected. We heartily rejoice over the success of the local experiment, not merely for local reasons, but because we hope and believe that it will be instrumental in bringing about a sewage reform of almost incalculable national importance." The Metropolitan Board have since been at Carlisle, as already noticed, and afterwards went on to Edinburgh and Glasgow.

Fever at Woodditton, Newmarket.—There are several bad cases of fever and scarlatina raging in this village; caused, it is supposed, through the use, for domestic purposes, of shockingly impure water, and a want of sufficient accommodation and ventilation in the cottages. The Duke of Rutland has given directions for the immediate removal of some families into new and commodious cottages recently finished, and has ordered that those in which they are now living shall be at once pulled down. The duke has intimated his intention to erect other comfortable cottages, and to have wells sunk in various parts of this extensive parish.

Communication between Passengers and Guards in Trains.—Another of the innumerable suggestions for this purpose has been provisionally protected under the title of "New or Improved Arrangement or Mechanism for Communicating between any Passenger and the Guard and Engine-driver of a Railway Train." It consists simply of a pair of arms or shutters, fitted with springs, and affixed to the outside of each compartment of a railway carriage, which arms are held in their positions by a rod passing over the seat. This rod is made sufficiently strong to prevent any person injuring the signal, which, when required in case of accident or otherwise, needs only to be moved in either direction from within the carriage, when the arm or shutter is immediately disengaged, and stands out at right angles to the side of the carriage, so that it can readily be seen by the driver in front, or by the guard at the rear of the train. The carriage-lamp will in this case be situate at the side, and a glazed opening will be made to allow the light to be reflected on both sides of the shutter or arm when disengaged, thus showing the signal at night as readily as in the daytime. The plan is simple enough, but it is not from want of simple enough arrangements that communication between passengers and guards has not yet been made on railways.

New Park for Preston.—At a recent meeting of the Preston town council, Mr. Alderman Miller intimated his intention of presenting to the town a plot of ground for a public park. Already Preston has one park, in Avenham Valley, which has just been laid out by Mr. Milner, the landscape gardener. The ground given by Mr. Miller adjoins that in Avenham Valley, and will be connected with the park recently formed by roads, &c. Mr. Miller has given between 2,000*l*. and 3,000*l*. for the land. The gift is made subject to this condition—viz., that the corporation shall make a yearly grant of 40*l*. for the benefit of the Preston Grammar School. The money will be appropriated in the foundation of a scholastic exhibition. Immediately after Mr. Alderman Miller had made the presentation, and had received the thanks and eulogy of the council, the town clerk announced that legal proceedings were to be taken against Mr. Miller because his mill furnaces did not consume their own smoke. This announcement naturally created rather an odd sensation of surprise among the members of the council.

The Tomb of an Ancient Briton.—A barrow has been opened near to Seale House, Rylstone. The tumulus was 31 ft. in diameter and about 7 ft. high, and situate in a meadow. It was opened from the south-east, and immediately under the sod was found to consist of yellow clay to a considerable depth; then came layers of blue clay, which had evidently been puddled, or worked to a finer consistency, doubtless to keep out the water. Exactly in the centre of the tumulus, at a depth of 7 ft., and on a level with the plane of the field, was found an oak coffin formed out of a tree which had been split and hollowed out, and placed due north and south, the head being placed to the south, as that was the larger part of the tree. After being exposed to the air for about ten minutes it parted at the sides, and it was found impossible to move it except by detached pieces. The body had been wrapped in a cloth or shroud of a texture resembling wool coarsely woven, of which there was a considerable quantity remaining, but the body itself was dissolved by the action of water. The Rev. Mr. Greenwell, the antiquary, considered the interment to have been that of an ancient Briton, decidedly pre-Roman, and doubtless 2,000 years old. He said it was the only instance (with one exception, found at Gristhorp, near Scarborough) where an interment in an oak tree hollowed out had a tumulus placed over it. The coffin was more than 6 ft. in length inside, and about 7 ft. 6 in. outside.

Employment of the Lancashire Cotton Spinners.—A notice has been issued from the Public Works Office, calling upon the local authorities in the distressed cotton districts to proceed with the public works in such a way as to give employment to the largest number of indigent factory operatives, and to withhold, for the present, if needful, such works as are most productive of wages.

Industrial Ragged School for Birkenhead.—Mr. William Jackson, M.P., has undertaken to build, at Birkenhead, an Industrial Ragged School. An application for a site in the Commercial-road, Birkenhead, was made to the Liverpool town council, and the council have resolved to grant the reversionary interest for 160*l*., subject to the approval of the Lords of the Treasury, for so long as it may be used for the purposes for which it is granted.

Operative Coachmakers' Industrial Exhibition.—A large meeting of employers and operatives of the above trade was last week held at the Northern School-rooms, Castle-street, Long-acre. Mr. G. N. Hooper was appointed chairman, and stated the objects to be attained. The meeting determined on adopting the scheme after the plan of the Painter Stainers' Company; medals and certificates to be presented to the most skilled artisans in their various branches. A memorial, numerously signed by both employers and artisans was then determined on for presentation to the Worshipful Company of Coach and Coach Harness Makers of the City of London for the use of their hall.

Public Works in Ashton and Stalybridge.—The corporate seals of these two boroughs have been just affixed, at a special meeting of the council of each borough, to mortgages to the secretary of the Public Works Loan Commissioners, each for the sum of 20,000*l*., and for further advances to Ashton of not exceeding 57,500*l*., and to Stalybridge of not exceeding 62,500*l*. A great deal of this money is to be employed in carrying out the Ashton-under-Lyne and Stalybridge (Corporations) Waterworks Act, 1864. A number of cotton operatives were set to work on Monday morning in making roads and so forth at Swineshaw Brook, the site of the intended waterworks, and the number is to be gradually increased, the men being drafted from Ashton and Stalybridge, so that each borough may participate equally in the benefit of employing the factory operatives now out of work.

Rouen Art-Union.—In the year 1831 a society was formed, with the title of "*La Société des Amis des Arts*," "to aid the progress of art in Rouen, and to encourage artists by the purchase of works from the exhibitions organized by the municipal administration." The condition of membership is the payment of 30 francs on the occasion of each exhibition, and subscribers pay 10 francs each, the pictures purchased being distributed by lottery amongst both classes, every 10 francs carrying the right to a chance. For some years the exhibitions were annual, but at present they take place every second year, and, since the establishment of the society, it has purchased and distributed nearly a thousand pictures, at a cost of upwards of 180,000 francs. The exhibitions are held in the Hôtel de Ville, and the municipality votes a sum of money to cover the expenses, and another in aid of the funds of the society, or for the purchase of works of art for its own public gallery. The number of works of art in the Exhibition now open is 819, and many of those are by well-known artists.

Strikes. — The Birmingham Association of Brick Masters state that the men belonging to the Operative Brick-makers' Society of Birmingham are out on strike, "having left their employment because the masters would not turn off old hands to put on such men as the club might send them."——The nail-makers of the Lye, Cradley, and neighbouring districts, are at present much dissatisfied with some recent alterations in the rate of wages paid to them. A material fall in the rate of wages has led, it is said, to a nailer's earnings being reduced so that he can only get 16*s*. where he formerly got 1*l*. Within the last month, however, the masters have taken 1*d*. off the hob-nails, as compared with the July list; and, in addition to this, one master took 10 per cent. off the "thousand" work; but, owing to remonstrances by the union, this has been stopped. Intimations are now said to have been made that another drop on the "hundred" work and on the "hobs" will take place. Should this occur, it will lead to a general strike.

PROPOSED METROPOLITAN TRADES HALL.—Endeavours are being made to obtain a building in the metropolis for working men's friendly, co-operative, trade, and other meetings. The purchase of St. Martin's Hall for the purpose has been suggested.

VALUE OF LAND AT WINDSOR.—Last week the site of the late royal stables at Windsor, purchased of the Crown by the Great Western Railway Company about twenty years ago, which has been lying waste ever since that period, was submitted to auction, at the Castle Hotel, by Farebrother, Clark, & Lye, first as a whole (about two acres), but 3,550*l.* being the only offer, it was withdrawn, and afterwards submitted in thirteen lots, averaging from 30 ft. to 40 ft. frontage, and about 100 ft. in depth. Only three lots were sold, the reserved price appearing to be about 10*l.* per square foot frontage.

A NOVELTY IN CHAPEL-BUILDING.—A Scotch paper records the opening of a new Baptist chapel, every stone of which has been quarried by the hands of the minister. It is on the island of Lismore, standing almost in the middle of Loch Lhinne, and the minister is Alexander Livingston, one of the agents of the Baptist Missionary Society for Scotland. He has not only given the site, but, to lessen the expense, has with his own hands quarried every stone, besides assisting as a labourer to the workmen. It is 30 ft. long and 20 ft. wide, and comfortably seated for 150 persons.

INFLUENCE OF IRON ON VEGETATION. — A curious discovery, it is said, has recently been made regarding the influence of iron on vegetables. On the chalky shores of France and England, where there is an absence of iron, vegetation has a sere and blanched appearance. This is removed, it appears, by the application of a solution of the sulphate of iron. Haricot beans watered with this substance acquired an additional weight of 60 per cent. Mulberries, peaches, pears, vines, and wheat derived advantages from the same treatment. In the cultivation of clover wonderful advantages have been gained by the application of sulphate of iron on soils where it is desired to produce an early crop. No fruit is so much benefited by iron rust in soils as the pear. So says a New York paper; but we have always understood that iron was rather a sign of barrenness in a soil; and were not aware that the juices of plants, like the blood of animals, derived benefit from iron; which, however, has been regarded as preeminently a vital metal, as respects animal life.

WORKMEN'S DWELLINGS, PARIS. — A correspondent of the *Morning Post*, writing on this subject, says,—"The attention of the Emperor has been directed to some of the pieces of land which have been severed by the construction of the new streets, particularly in the outskirts of the town, where land is of less value. I have just seen the Cité Ouvrière, in the new street, Rue de Campagne Première, leading out of the Rue d'Enfer. This consists of a number of very neat houses, only three stories above the ground-floor, and with two sets of apartments in each. They are inhabited by 600 people, and produce a revenue of 45,000 fr., or 1,800*l.*, a year. Each set has a sitting-room, about 12 ft. square, one bedroom only, and a small kitchen. The height of every story is 2½ metres, or nearly 9 ft. Gas and water are laid on, and there are conveniences for stowing wood, &c. Each set lets for 250 fr., or about 10*l.*, per annum. Although deficient in accommodation, to our English notions, they are a great improvement on the garret and cellar system. The rent is paid readily, and there was not one single apartment to let when I went over the place. But by far better than these are a large row of dwellings which are now in progress by a very public-spirited and enterprising individual, M. Garand, in the Rue Popincourt, Faubourg St. Antoine. They are from the designs of M. Oslin. There are four sets of apartments on each floor, consisting of three rooms and a kitchen, with every convenience. These, though much larger and more commodious than those formerly described, can be let for 300 fr., or 12*l.*, per annum. The principal room is 14 ft. by 12 ft., and 9 ft. high. On the upper or fifth floor are to be, as I understand, single rooms for bachelors, which are to be let furnished for 20 fr. a month, or 9*l.* 12s. per annum. In a country where so much is done by Government, and so little by private enterprise, it is with great pleasure I record the name of M. Garand as a great and worthy benefactor to the industrious classes of Paris.

WORKINGTON WET DOCK.—The walls of the new wet dock at Workington prove to be of insufficient height to admit of vessels loading from the hurries. The blunder, which is a somewhat serious one, is Mr. Rendell's, and the expense of the alterations which will have to be made before the dock can be used is likely to be considerable, as the sides of the dock will have to be heightened to the extent of some 6 ft.—*Whitehaven News.*

ENORMOUS CASTING, SHEFFIELD.—It may be in the recollection of our readers that in July last a successful attempt was made by Messrs. J. M. Stanley & Co., the Midland Works, to cast an anvil block weighing 160 tons. The enormous mass of iron took six weeks to cool, and it was then, by means of hydraulic power, lifted from the mould. Last week the same firm were engaged in casting a second anvil of precisely the same size and weight. The mould, which was 12 ft. square at the base and 11 ft. 6 in. deep, was dug out in the centre of the workshop, and from the five furnaces constructed at intervals round the building, the molten iron was run. The first furnace was "tapped" at six o'clock in the morning, and in about twelve hours the mould was filled.

PROPOSED RAILWAY BRIDGE OVER THE TAY.—A meeting of the principal inhabitants of Dundee has been held to consider a proposal to form a high-level bridge across the Firth of Tay. Mr. Dodds, Parliamentary solicitor, stated that the scheme was brought forward in connexion with a proposed bridge over the Forth above Queensferry. Mr. Bouch, C.E., stated that a line was intended to run along the south shore of the Firth, from Tayport to Newport (about two miles and a half), from which it would cross to Dundee on a lattice girder bridge, about two miles in length with a single line of rails. A double line would run nearly a mile through the town on arches to the general station, where the North British would join the Scottish North-Eastern. The estimate was, for the Tayport line, 70,000*l.*; the bridge, 180,000*l.*; the junction line, 100,000*l.*—in all, 350,000*l.* The Forth bridge would cost about three times that of the Tay bridge. The southern and east coast companies were to build the Forth bridge, and would also give aid to the Tay bridge, but it was hoped the people of Dundee would show their interest in the scheme by subscribing part of the capital. The bridge would be finished in about two years. It would not, being above the port and harbour of Dundee, interfere with the navigation, its elevation being about 100 ft. above the fairway at high water, the same height as the Britannia bridge, reduced at the ends by an incline on either side to 70 ft. The meeting expressed general approval of the object, and appointed a committee to consider the scheme maturely and report upon it.

COST OF PUBLIC WORKS AND HIGHWAYS AT STOCKPORT.—It appears from an official statement of the expenditure by the corporation on public works from October 21, 1863, to October 20, 1864, that the amount paid for skilled labour has been 727*l.* 13s. 1d., against 5,319*l.* 15s. 3d. for unskilled: 3,124*l.* 14s. 11½d. had been paid for carting, stonework, brickwork, lime and cement, pipes, blocks, bends, inverts, &c., and timber; and 2,617*l.* 10s. 8d., for sundries, including pump, asphalte boiler, salaries, stationery, smithwork, and the purchase of Messrs. Rostron's property;—making a total of 13,779*l.* 13s. 11½d. From this must be deducted the cost of Carrington road, 802*l.* 17s. 1d.; leaving the total actual cost of sewerage works 12,976*l.* 16s. 10½d. The expenditure on the highways during the same period is 1,166*l.* 17s. for skilled labour; 671*l.* 8s. 2d. for unskilled; carting, 819*l.* 4s. 3d.; stone, sets and flags, 920*l.* 18s. 9d.; pitch, gravel, coal, smithwork, working plant, lime, timber, and joiners' work, 614*l.* 3s. 1d.; sundries, stationery, &c., 101*l.* 11s. 1d.;—or a total of 4,062*l.* 3s. 5d.

TENDERS.

For new tavern in Union-road, New Wandsworth, for Mr. Fred. White. Quantities not supplied:—

Braithwaite	£474 0 0
Stimpson	470 0 0
Adamson	439 0 0
Lathey, Brothers (accepted)	423 0 0

For the erection of dwelling, shop, and warehouse, in Rampant Horse-street, Norwich, for Mr. T. Priest. Mr. James S. Benest, architect. Quantities supplied:—

Lacey	£1,160 0 0
Balls	1,076 0 0
Gilbert	1,060 0 0
Taylor	1,059 0 0
Wales (accepted)	1,020 0 0

For the Boys' Hospital School, for the Norwich Charity Trustees. Mr. James S. Benest, architect. Quantities supplied:—

Bocking	£613 10 0
Plummer & Bloom	482 10 0
Downing	478 5 3
Wright	469 0 0
Lacey	467 0 0
Browne & Bailey	459 0 0
Spinks	448 0 0
Youngs	447 0 0
Taylor	430 0 0
Murray & Son (accepted)	420 0 0

For new foundry, Teesdale Iron Works. Mr. Charles J. Adams, architect:—

Noble (accepted)	£1,923 11 6

For park-wall and entrance-gates near Edmondthorpe Hall. Mr. R. W. Johnson, architect:—

Halliday & Cave	£645 0 0
Clarke & Co.	609 0 0

For new farm steading, and repairs and additions to house at Horninghold, on the estate of Mr. T. Chamberlayne. Mr. R. W. Johnson, architect:—

Porter	£2,077 0 0
Mason	2,040 0 0
Clifton	2,013 0 0
Fast	1,970 0 0

For repairs to 19, Southampton-street, Bloomsbury, and warehouse in rear thereof, for Mr. J. W. Hollebone. Mr. P. W. Willis, architect.—

Deards	£5,273 0 0
Carter & Sons	5,216 0 0
Patrick	5,185 0 0
Mathews	4,728 0 0
Henshaw	4,656 0 0

For the erection of offices and stores in connexion with Woodside Ferry, Birkenhead. Mr. T. C. Thorburn, architect. Quantities by Mr. W. M. Boden:—

Campbell	£4,231 0 0
Cameron	3,998 11 5
Dobson	3,993 18 0
Lund	3,992 8 7
Ellis	3,560 0 0
Wright	3,500 0 0
Bleakley	3,470 0 0
Hogarth (accepted)	3,349 13 7

For new Board-room and offices for the Guardians of the Parish of St. Matthew, Bethnal-green. Mr. E. N. Clifton, architect. Quantities supplied by Messrs. Williams & Schofield:—

Hill & Keddell (accepted)	£5,525 0 0

For public-house at Bracknell, Berks, for Mr. Allaway. Mr. Jos. Morris, architect:—

Norris (Jas.)	£720 0 0
Grover	602 0 0
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Contents.

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IV. SMITH'S DICTIONARY OF THE BIBLE.
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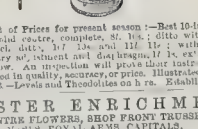
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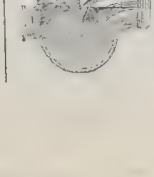
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Railway Urinal Flushing Vessel, complete ... 3 3 0
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YELLOW BATTENS, £9 10s. per 120.

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100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square
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	Per 120 of 12 ft.		Per 120 of 12 ft
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

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¾-inch Flooring, White and Yellow, 10s. 6d. per square.
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2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
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SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.
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	Sprace.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 6d.	13s. 6d. per square.
6 by 7 „	18s.	13s. 6d.	14s. 6d. „
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180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
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30,500 feet in Plank and Board, sawn three years.
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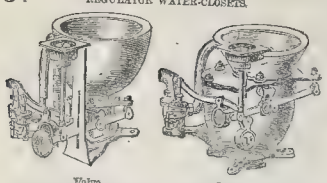


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THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

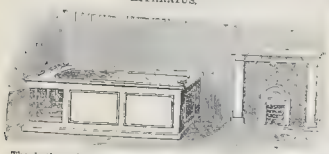
J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

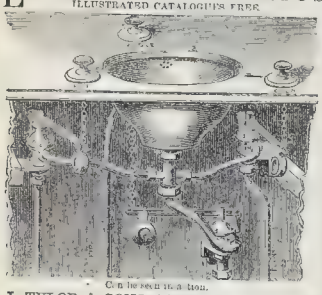
The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one cistern. No pattern-valves, conduits, or waste-pipes required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Makers, J. TYLOR & SONS, Warwick Lane, Newgate street, London.

J. TYLOR & SONS' PATENT BATH
APPARATUS.

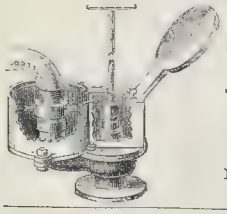


The bath and boiler may be fixed in the same or separate rooms anywhere below the level of cold water cistern. Open or close fire. Pleasure No boiler. Kwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of Buildings
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate street, London.

LAVATORY APPARATUS.
ILLUSTRATED CATALOGUES FREE.

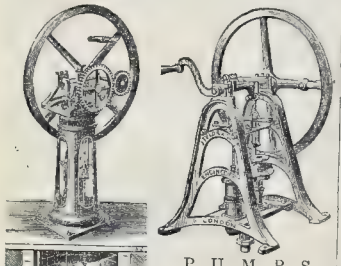


Can be seen in action.
J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.



IMPROVED HYDRANT,

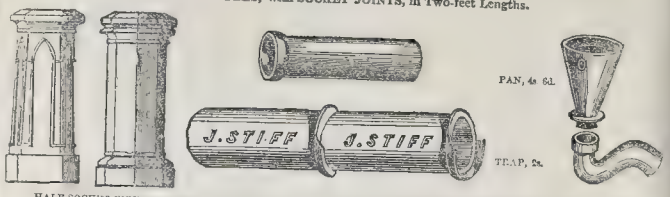
J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.



PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

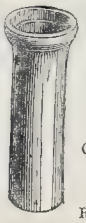
J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET. LONDON.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, at the ends of the pipes, for future connections.
Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

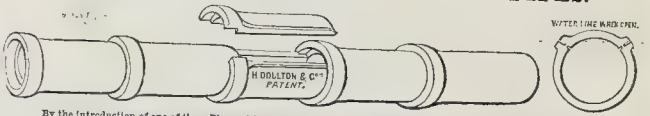
JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.

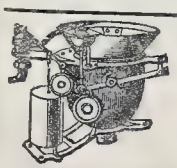


INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
The only Medal "for Stone Ware" has been awarded to
DOULTON & WATTS, LAMBETH POTTERY,
LONDON.
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



Self-Regulating Pan Closet.

THOMAS LAMBERT & SON,



Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.
T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

EVOLVING SAFETY SHUTTERS IN ONE SHEET OF STEEL.

LARK'S
PATENT,
FOR
IOP FRONTS,
s. 2s. 6d. 3s. and
3s. 6d.
Per Foot Super.
E MOST SIMPLE AND
SECURE SHUTTER
EXTANT.
nch Establishments :—
MARKET STREET,
MANCHESTER;
GLASGOW,
UCHANAN STREET;
DUBLIN,
TALBOT STREET.



CLARK'S
PATENT,
FOR
PRIVATE HOUSES,
2s. 6d. and 3s. 6d.
Per Foot Super.
BURGLAR AND FIRE
PROOF.
Branch Establishments :—
PARIS,
42, RUE NOTRE DAME
DES VICTOIRES;
BRUSSELS,
RUE DE L'ECUYER;
AMSTERDAM,
BINNEN AMSTEL;
SYDNEY,
51, HUNTER STREET.

IEF OFFICE, GATE STREET, LINCOLN'S INN FIELDS, LONDON.
WORKS, GEORGE YARD, QUEEN STREET.

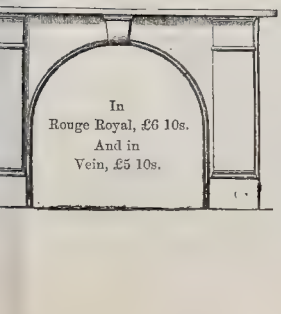
SNOXELL & CO.'S
TENT REVOLVING SHUTTERS, IN IRON OR WOOD,
From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.
BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.
96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
iving made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices :—
Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

OSEPH CLIFF
& SON,
ORTLEY, near LEEDS,
MANUFACTURERS OF
ZED SOCKETED DRAIN
PIPES,
RRA COTTA CHIMNEY TOPS,
BRICKS, CLAY RETORTS,
AND
Fire Goods of all descriptions.



MARCUS BOURNE
NEWTON,
LONDON AGENT
WHARF No. 4,
GREAT NORTHERN GOODS STATION,
KING'S CROSS, N.,
Where is always on hand a
STOCK OF FIRE GOODS,
TERRA COTTA WARE,
AND
DRAIN PIPES,
From 2 inches to 24 inches diameter.



BELGIUM MARBLE
CHIMNEY-PIECES.
THE LARGEST STOCK IN LONDON
ON VIEW AT
THE WESTMINSTER MARBLE WORKS.
T. H. HARTLEY & CO. have received a large consignment of Belgium Marble Chimney-Pieces, which are to be sold at such prices as must be considered extraordinarily low. Also a few lots of Vein box Chimney-Pieces from 3½s. to £8. each.



UNDERHAY'S PATENT
REGULATOR CLOSETS for constant or Intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.
Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.
TO ARCHITECTS, BUILDERS, PLUMBERS, &c.
F. G. UNDERHAY
now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves Gas Meters, &c. on the premises.
CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

NEW TARIFF OF GLASS.

THOMAS MILLINGTON,

GLASS AND COLOUR MERCHANT,

No. 87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF OF SHEET GLASS.

SHEET GLASS.

In Sheets for Cutting up, averaging from 6 to 9 Feet Super.

Average Thickness, 15 oz. to 16 oz.

Fourths quality, per 300 feet Case...	...	...	...	32s. 6d. or about 1¹d. per foot super.						
Thirds	,,	,,	,,	...	...	...	41	0	,,	1⅛ ,, ,,
Seconds	,,	,,	,,	...	...	...	60	0	,,	2⅛ ,, ,,
Best	,,	,,	,,	...	...	...	90	0	,,	3¼ ,, ,,

Average Thickness, 21 oz.

Fourths quality, per 200 feet Case ...	...	...		33s. 6d. or about 2d. per foot super.						
Thirds	,,	,,	,,	...	...	...	42	0	,,	2⅛ ,, ,,
Seconds	,,	,,	,,	...	...	...	63	0	,,	3¼ ,, ,,
Best	,,	,,	,,	...	...	...	89	0	,,	5⅛ ,, ,,

Average Thickness, 26 oz.

Fourths quality, per 200 feet Case...	...	...		44s. 6d. or about 2¼d. per foot super.						
Thirds	,,	,,	,,	...	...	...	56	0	,,	3¼ ,, ,,
Seconds	,,	,,	,,	...	...	...	84	0	,,	5 ,, ,,
Best	,,	,,	,,	...	...	...	116	0	,,	7 ,, ,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

SHEET SQUARES (Cut to Order).

	Under 1 ft. super.	Under 2 ft.	Under 3 ft.	Under 4 ft.	Under 5 ft.	Unde
Average Thickness, 15 oz. to 16 oz.						
Fourths quality ...	1¼d.	1⅞d.	2d.	2¼d.	2½d.	2
Thirds ,, ...	1⅞	2	2½	2¾	3	3
Seconds ,, ...	2	2½	2⅞	3	3½	4
Best ,, ...	2½	3	3½	4	4½	5
Average Thickness, 21 oz.						
Fourths quality ...	2¼d.	2⅞d.	3d.	3½d.	3¾d.	3
Thirds ,, ...	2⅞	3¼	3½	3¾	4	4
Seconds ,, ...	3	3⅞	4	4¼	4½	4
Best ,, ...	4	4½	5	5½	6	7
Average Thickness, 26 oz.						
Fourths quality ...	3d.	3¾d.	3¾	4	4¼d.	4
Thirds ,, ...	3¾	4	4¼	4½	5	5
Seconds ,, ...	4½	5	5¼	5½	6	6
Best ,, ...	5¼	6½	7	7½	8	8

EXTRA WHITE OR CRYSTAL SHEET GLASS,

Very superior, for Pictures and Best Glazing.

Average Thickness, 15 oz. to 16 oz.

Thirds quality, per 200 feet Case ...	...	...		34s. 0d. or about 2½d. per foot super.						
Seconds	,,	,,	,,	...	...	...	56	0	,,	3½ ,, ,,
Best	,,	,,	,,	...	...	...	77	6	,,	4⅝ ,, ,,

Average Thickness, 21 oz.

Thirds quality, per 200 feet Case ...	...	...		51s. 0d. or about 3¼d. per foot super.						
Seconds	,,	,,	,,	...	...	...	84	0	,,	5 ,, ,,
Best	,,	,,	,,	...	...	...	116	0	,,	7 ,, ,,

GROUND OR OBSCURED.

15 oz. per 200 feet Case	40s.	In Sheets	3d. per foot super.
21 oz. ,, ,, ...	5⅓	,, ...	4 ,,

If cut to size, 1d. per foot extra.

FLUTED SHEET.

15 oz. per 200 feet Case	50s.	In Sheets	3½d. per foot super.
21 oz. ,, ,, ...	75	,, ...	5 ,,

If cut to size, 1d. per foot extra.

MATTED or ENAMELLED (Various Patterns).

In Cases, per 200 feet, 58s. In Sheets, 4½d. per foot super

If cut to size, 1d. per foot extra.

ORNAMENTAL COLOURED GLASS.

Ruby, in Sheets ...	... 9d. per foot.	Cut to Size, 3d. per foot ex
Green do. ...	... 9 do.	Ditto 3 do.
Blue do. ...	... 7 do.	Ditto 3 do.
Orange do. ...	... 7 do.	Ditto 3 do.
Purple do. ...	... 7 do.	Ditto 3 do.
Ruby Matted, in Sheets	... 1s. 2d. per foot.	Cut to Size, 3d. per foot ex
Green do. do.	... 1 2 do.	Ditto 3 do.
Blue & Yellow do. do.	... 1 0 do.	Ditto 3 do.
Purple do. do.	... 1 0 do.	Ditto 3 do.
Cathedral, 15 oz. in Sheets...	3½d. per foot,	Cut to Size, 1d. per foot ex
Ditto 21 do.	... 5 do.	Ditto 1 do.

Coloured Borders and Rosettes, Cut and Engraved to Varic Designs and Patterns.

15 oz. Squares usually kept in Stock in 100 feet and 200 feet Boxes.

Stock Squares, per 100 Feet.

in.	in.	in.	in.	in.	in.	in.	in.	Fourths.	Thirds.	Seconds.	Best.
6 by 4	7 by 5	8 by 6	9 by 7	9s. 6d.	10s. 0d.	12s. 6d.	14s. 8d.
6½ — 4½	7½ — 5½	8½ — 6½	9½ — 7½				
10 — 8	12 — 9	12½ — 10½	14½ — 10½				
10½ 8½	12½ — 9½	13 — 10	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10½	13 — 11				
11½ — 9½	12 — 10	14 — 10	14 — 11				
16½—10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.

Stock Squares, per 100 feet.

in.	in.	in.	in.	in.	in.	Fourths.	Thirds.	Seconds.	B
15½ by 11½	16 by 12	1s by 14	20 by 17	11s. 6d.	13s. 6d.	16s. 0d.	18
16 — 11	16½ — 12½	22 — 14	22 — 17				
21 — 11	17 — 12	24 — 14	24 — 17				
13 — 12	18 — 12	22 — 15	20 — 18				
14 — 12	22 — 12	24 — 15	22 — 18				
15 — 12	17 — 13	22 — 16	24 — 18				
15½ — 12½	23 13	24 — 16					

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

Per 100 feet.

	Average Thickness, 15 oz. to 16 oz.					Average Thickness, 21 oz.			
10½ in. by 12½ in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.	20 in. by 12 in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	
20 ,, 12 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	24s. 0d.	27
20 ,, 13 ,,	20 ,, 17 ,,					20 ,, 14 ,,	20 ,, 17 ,,				
20 ,, 14 ,,											

The above Prices are only for the Sizes stated, but if a quantity of any other Size be required, it can be supplied at about Five per Cent. additional, provided time be allowed to manufacture it.

GLASS TILES IN SHEET AND ROUGH PLATE, PLATE GLASS, PATENT PLATE, AND HARTLEY'S IMPROVED ROUGH PLA

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ...	...	30s.	per cwt.	Ground Patent Dryers	... 3d. to 4½d. per lb.
Seconds ,,	,,	...	28 ,,	,, Oxford Ochre	... 3 to 4½ ,,
Linseed Oil Putty	...	...	9 ,,	,, Raw Umber	... 4½ to 6 ,,
Fine Oak Varnish	... 10s. to 12s.		per gal.	,, Burnt do.	... 6 to 9 ,,
,, Carriage Varnish	12 to 14		,,	Green paint, all shades	... 28s. to 60s. per cwt.
,, Crystal or Paper do.	10 to 12		,,	Black ditto	... 24 to 36 ,,

Linseed Oil ...	...	...	3s. 6d. per g
Boiled Oil ...	...	...	3 11 ,,
Turpentine ...	...	...	6 0 ,,
Mineral Turpentine ...	...	...	3 0 ,,
Prepared Oil for Anti-Corrosion			4 6 ,,

Brushes for ditto, &c. &c.

WHITE ZINC PAINT, 34s. per Cwt.

One hundredweight of pure Zinc Paint with three gallons of Linseed Oil, will cover as much as one hundredweight and a half of White Lead and six gallons of Linseed Oil.

Special Dryers for this Paint.

STUCCO PAINT, 24s. per Cwt.

This Paint adheres firmly to the walls, resists the weather, and is free from the glossy appearance of oil paint, resembling a stone surface, and can be made any required shade. It is mixed with rain or pure river water.

IMPROVED ANTI-CORROSION PA

28s. to 34s. per Cwt.

Anti-corrosion paint is extensively used for all k work in exposed situations, on Brick, Stone, Compo Iron Bridges, Conservatories, Greenhouses, &c. easily laid on by any ordinary workman.

MILLED LEAD, IN SHEETS AND PIPES, OF ALL KINDS. OLD LEAD BOUGHT OR TAKEN IN EXCHANGE.

LIFT PUMPS, WATER CLOSETS, AND PLUMBERS' BRASS WORKS OF ALL KINDS.

NET CASH.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required), without breaking a pipe or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT-GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES TERRACOTTA CHIMNEY-POTS, GARDEN VASES, &c. &c. BRICKS, LIME, CEMENT, SAND, LATHS, HAIR, and all other BUILDING MATERIALS

Supplied on the lowest terms direct from the WHARF, or from the WORKS, BOURNE VALLEY POTTERY, near POOLE, DORSET

Illustrated Lists with full Particulars and Prices may be obtained of

STANDING & MARTEN, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

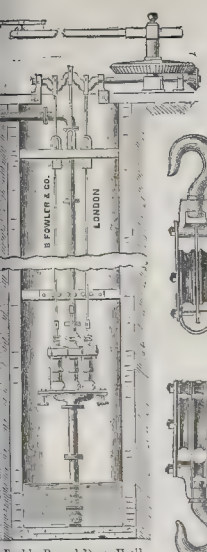
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 9, Conduit-street, Regent-street, W.

TARPAULIN COVERS for HIRE (
stock); also MARQUEES and TEMPORARY PAVILI
FOUNDATION-STONES, &c. Scaffold Cord and Hemp Ro
and Blocks.

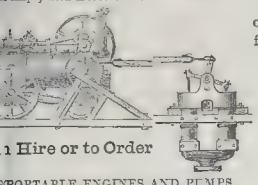
FRED. EDGINGTON & CO.
THOMAS-STREET, OLD-KENT-ROAD, LONDON,

TARPAULINS, MARQUEE
for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
59, Bishopsgate-street Without, E.C Manufacturers, by appo
to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WO
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD,



Treble Barrel Deep Well Pumps, with Horse Gear.



n Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

CLINTON & OWENS

(LATE FOWLER & CO.),

WHITEFRIARS STREET, FLEET STREET, LONDON,

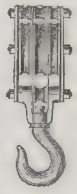
MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

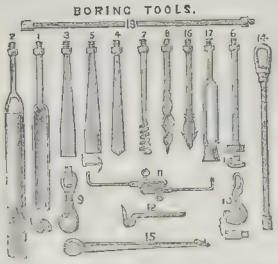
AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.





BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

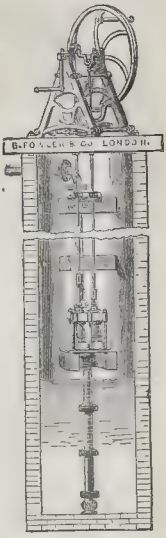
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

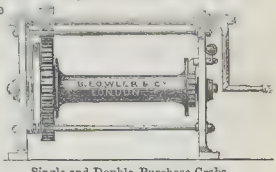
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches £2 10
3 „ 2 15
4 „ 3 15

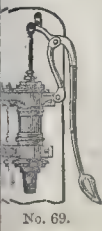
No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

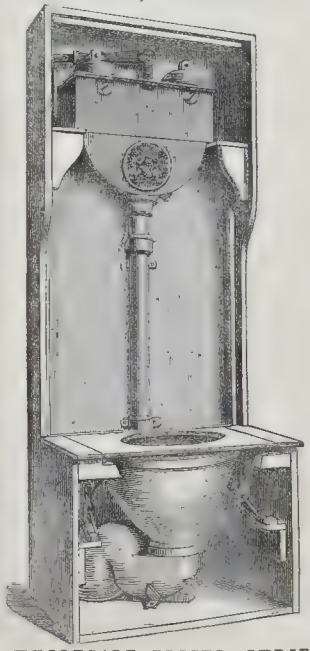
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch .... £4 4 0 } Larger sizes when
3 „ .... 5 5 0 } required.
3½ „ .... 6 6 0 }

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... £3 10 0
3 „ 4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low pressure Service.

Self-acting Closet in Wood Case, complete £4 10
Ditto Work without Wood Case 2 0
Basin and Trap, W. 0 6

Further Description, with Sectional Drawings will be sent on application.



No. 1483.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £2 0 0
Sunk Handle, extra 0 2 6
Blue Basin, extra 0 1 0

No. 1453.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings required for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

BUILDING MATERIALS.—COW CROSS STREET

PULLEN, HORNE, & EVERSFIELD are instructed by SELL by AUCTION, on the PREMISES, on TUESDAY, NOVEMBER 8, at TWELVE, all the BUILDING MATERIALS and FITTINGS of THREE HOUSES, Nos. 34, 35 and 36, Cow Cross-street, Smithfield, of the usual description.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

MARK LANE.—Extensive Sale of Building Materials

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the City of London Real Property Company (Limited) to SELL by AUCTION, on the PREMISES, on FRIDAY, NOVEMBER 11, at TWELVE, in Lots, all the valuable BUILDING MATERIALS and FIXTURES of the spacious HOUSES, OFFICES, and PREMISES, Nos. 16, 17, and 18, Mark-lane: comprising a large quantity of good second brickwork, stout rafters, joists, and other useful timber; plain and painted sashes and slates, glazed sashes, doors, partitions, wainscoting, linings, marble and other chimney-pieces and internal fittings, iron rail ngs, and fire-bars, several tons of lead in gutters, cisterns, and pipes; folding gates, stone paving, coping, and cills, stoves, and various useful fittings up.—May be viewed the day previous, and Catalogues had at the Office of the City of London Real Property Company (limited), 21, Mincing-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

The valuable Materials of the Auction Mart, opposite the Bank of England

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Estate Company (Limited) to SELL by AUCTION, on the PREMISES, on MONDAY, NOVEMBER 14, at TWELVE, in lots, the whole of the valuable MATERIALS of the spacious Building known as the AUCTION MART, in Bartholomew-lane: comprising a large mass of capital stock brickwork, 20 tons of lead in large flats, gutters, cisterns, and pipes, slates and slating boards, prime timber in roof, oak floors, and flooring board, plate glass and other sashes, large skylights, doors, partitions, chimneypieces, wood columns with carved Corinthian capitals, tiles, grates and hobgrates, lofty doors, stone paving, ornamental iron railings and gates the handsome stone front with cornice and pediment and fluted Ionic columns, stone sculpture and wall-dressings, lofty cedar coping, cills and other brickwork, iron columns and girders, cast iron of strong room with wrought-iron door, mahogany shutt ks, and fittings of safe-room large slate tank, stoves, and a great variety of other materials and fittings up of a superior description.—May be viewed on Saturday previous. Catalogues had of E. A. GRUNING, Esq. Architect, 25, Old Broad-street; and of PULLEN, HORNE & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

ALEXANDRA PARK.—Horses, Vans, Carts, Harness, &c.

MR. J. GOWER is instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on the WORKS, near Wood Green Station on THURSDAY, NOVEMBER 17th, at ONE o'clock, Thirty Powerful, Young Active CART or VAN HORSES, several match teams, 5 timber carriages, 5 spring vans, 12 one horse carts, 32 sets of well made chill and chain harness, chaff machine, hoe-bags, cloths, stable utensils, &c. the second portion of the lines here noticed previously for sale during the Exhibition at Alexandra Park. N B The horses have been purchased regardless of cost, the vans, carts, &c built expressly for this contract within the last few months The whole for absolute sale. On view two days prior. Catalogues on the Premises, and at the Repository, Barbican.

THAME AND OXFORD RAIL WHEATLEY STATION Clearance Sale Railway Plant To Engineers, Contractors, Brickmakers, Builders, Iron Merchants, and Others Mr. Brotherhood of Chippenham, Contractor, and Manufacturer of Railway Plant, has instructed

MR. J. GOWER, of Barbican, London, to SELL by AUCTION, at WHEATLEY STATION (as above), MONDAY, NOVEMBER 21, at TWELVE punctually, the PLANT, TOOLS, and ROLLING STOCK, that have been used in forming the above line, now complete: comprising about 60 tons of temporary rails, 200 transverse sleepers, wrought spikes, 10,000 sleepers, 30 dobbin carts, 6 clay trucks, quantity of clay tunnel centres iron lonnel, lagging, guide bars, two winding shafts of tunnel, 2 large wood drums, new brickets, &c.; 10 carts, spring van, 4 timber carriages 2 narrow gauge locomotive engines 25 horse power tital stationary engine with 2 large boilers, water-tank and fittings; also attached a large double brick making machine by Clayton, capable of making 30,000 bricks per day, with driving gear, 14 horse steam engine, with saw-mill; chaff-cutting machine and pump, with driving gear, 2 portable engines by Ransome, Sims, & Head; Blacksmith's and carpenter's shops, and other temporary erections; 200 navvy crowding and bearing barrows pug-mill, 4 brick-tables, quantity of useful timber, scrap iron, firewood, &c. On view two days prior Catalogues will be ready in a few days on the Premises, and of the Auctioneer, at his Repository, Barbican, London

GOLDEN-SQUARE.—To Ironmongers, Builders, Carpenters, and Cabinet makers.

MR. HOLLINGSWORTH will SELL by AUCTION, on the PREMISES, 62, Little Pulteney-street, on MONDAY Next, NOVEMBER 7th, at TEN for ELEVEN, on account of the number of lots, the entire STOCK IN-TRADE of an IRONMONGER: comprising stoves, ranges, locks, latches, bolts, hinges, screws, nails, and every kind of brass and iron work used in the building trades, with an assortment of Furnishing Ironmongery, tajanned goods and cutlery, shop fittings, and trade implements.—On view the Saturday prior, when Catalogues may be had at the Place of Sale, and at the Auction Offices 13, Rich ll Place.

LANGHEDGE NURSERY, near the Bell Inn, Edmonton.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, on TUESDAY, NOVEMBER 8, at ELEVEN, NURSERY STOCK: including fine trained pyramid apples, pears, plums, cherries, &c. Evergreens; consisting of Portugal and common laurels, arbutus, laurustinus, yews, firs, cypress, and hollies, and other nursery stock.—To be viewed two days prior, and Catalogues had at the Gardens, Pond-lane, Edmonton; of the Auctioneer, at his Offices, 13, Rich ll Place, Tottenham.

KING STREET, WESTMINSTER.—The Useful Materials of Extensive Stabling

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed to SELL upon the PREMISES, on TUESDAY, NOVEMBER 15, at ONE for TWO o'clock precisely, in One Lot, the MATERIALS comprised in the several sets of stabling consisting of oak sash, knock, and raised panel doors, and of pine stable doors and hatches, and other useful articles to be viewed the day previous, and Catalogues had at the Office of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Salter's-row, Whitehall, Charing-cross, S.W.

PLAISTOW (ESSEX).—To Builders, Paviors, Dealers, and others.

MR. JOHN M. DEAN will SELL by AUCTION, on THURSDAY, NOVEMBER 10, at ELEVEN o'clock, in lots, on the PREMISES, fronting the Grove Green Road, Plaistow, the entire of the valuable BUILDING MATERIALS and PAVIERS of a family house, coach house, and stabling, about to be taken down: comprising excellent floor boards, joists, and rafters, quantities of bricks, doors and partitions, lead, 3 cwt. pipes, and cisterns, small fencing, 1 hundred yards of oak posts and rails, 2 excellent weighing machines, 2 capital trucks, 2 cwt. scales and weights, 2 iron gates, 2 iron railings, 2 iron hurdles, 2 iron rollers, 2 iron scrapers, 2 iron sieves, 2 iron screens, 2 iron shovels, 2 iron rammers, 2 iron pickaxes, 2 iron crowbars, 2 iron wheelbarrows, 2 iron ladders, 2 iron planks, 2 iron tressels, 2 iron boilers, 2 iron tanks, 2 iron cisterns, 2 iron pumps, 2 iron stoves, 2 iron grates

The Builder,

Architect, Engineer, Operative & Artist.

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BY Order of the Secretary of State for India in Council.

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will, in the year 1865, be open to Public Competition.

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office on application, either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office 14th July, 1864.

DR. HOFMANN, F.R.S. will commence a course of TEN LECTURES on CHEMISTRY on FRIDAY, the 18th of NOVEMBER, at EIGHT p.m. to be continued on each succeeding WEDNESDAY and FRIDAY evenings, at the same hour. Tickets for the whole Course may be had at the Royal School of Mines, Jermyn-street. (price 5s.

TRENHAM REEKS, Registrar.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street.—G. R. BARNETT, Esq., C.E. will deliver a LECTURE to the Members and Friends of the above Institution on MONDAY evening, NOVEMBER 21st. Lecture to commence at half past EIGHT o'clock; subject—"The Geology of the South-Eastern Railway between London and Erith."—Tickets of admission may be had of any of the Members, or at the door, 9 Conduit-street, on the evening of the Lecture.

R. WELSH, Librarian.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood-carving, 20l. and 10l.

For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimpole street)

For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope)

For Opaque Enamels, 10l. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York street, Covent garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Metal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within.

CONTRACTS.

TO BUILDERS.—BUNHILL ROW.—TENDERS are required for TAKING DOWN and RE BUILDING Nos. 114 and 115, BUNHILL ROW, and for Sundry Alterations, Additions, and Repairs, to Nos. 5 and 6, Lamb's-buildings, in the year. The drawings, specifications, and conditions may be seen on the Premises, on and after SATURDAY, the 12th instant. The lowest or any Tender will not necessarily be accepted.

CAST-IRON PIPES.—To IRONFOUNDERS. The Directors of the Dropheda Waterworks Company are prepared to receive TENDERS for the SUPPLY of PIPES, of the following diameters and lengths:—Diameter in inches, 19; length in yards, 4,100; 9 inches to 2 inches inclusive, about 18,000 yards. Specifications and forms of Tender, price 1s. may be obtained on and after the 26th instant, at the Office of Mr. MAGEE, Solicitor to the Company, Dropheda; or from Mr. T. B. FOSTER, C.E. 23, John Dalton street, Manchester. Tenders must be sent in to Mr. FOSTER on the 17th of NOVEMBER. The Directors do not bind themselves to accept the lowest or any Tender.

TO SEWER CONTRACTORS and OTHERS.—The Sewers Committee of the Vestry of the Parish of St. Mary, Newington, Surrey, will meet at the Vestry Room of the Parish Church, on FRIDAY, the 18th of NOVEMBER next, at SEVEN o'clock in the evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS in connexion with the DRAINS and SEWERS in the parish. Printed specifications and forms of Tender can be obtained at the Office of Mr. HENRY JARVIS, the Surveyor of Sewers, 20, Trinity-square, Newington, on payment of 10s. which money will be returned to the parties tendering, when the Tenders are opened. Sureties (Tenders will be received. Sureties will be required for the due performance of the contract, and the Committee do not bind themselves to accept the lowest or any other Tender.

H. & F. CHESTER,
October, 1864. Joint Clerks to the Vestry, 1, Church-row, Newington Butts.

NORTH-EASTERN RAILWAY.—DARLINGTON SECTION.—To BUILDERS. TENDERS are required for the following works, viz.:—the ERECTION of a PAIR of COTTAGES (to be built of brick), at Church-lane, at Cat-flat, and Long-beck-lane Gates, on the Redcar and Saltburn Branch: the PULLING DOWN of an old STONE COTTAGE, and the ERECTION of a PAIR of COTTAGES (to be built of stone), near Barras Station, on the South Durham Branch; the ERECTION of TWO or FOUR COTTAGES (to be built of brick), near Appleby Station, on the Eden Valley Branch. Plans and specifications may be seen on application to Mr. PEACHEY, Architect's Office, Northgate, Darlington, from MONDAY, OCTOBER 31st, to FRIDAY, NOVEMBER 11th. Tenders to be delivered at the Company's Offices, in Darlington, not later than MONDAY, the 14th NOVEMBER, 1864, addressed to the Secretary, and endorsed "Tender for Works." No pledge is given that the lowest or any Tender will be accepted.

(Signed) THOMAS MAC NAY, Secretary.
Darlington, 26th October, 1864.

MIDDLESEX COUNTY LUNATIC ASYLUM, COLNEY HATCH.—TENDERS are required for about 60 rods of RENT PALE OAK FENCING, 6 feet high, at per rod, to be put up at this Asylum Station on the Great Northern Railway, 7 miles from London, with riding to the Asylum.—Specifications to be obtained on application, personally or by letter, to the Steward at the Asylum, before the 10th of NOVEMBER. Tenders to be sent in by MONDAY, the 14th of NOVEMBER next.

CROYDON WATER WORKS.—To ENGINEERS.—CONTRACT No. 1.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the CONSTRUCTION and setting to work of a Single-acting CORNISH PUMPING ENGINE, in accordance with a specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. Such specification may be seen in the said Engineer's Office, in the Town Hall, Croydon, on or after TUESDAY, the 1st day of NOVEMBER next. Sealed Tenders, indorsed "Tender for New Steam Engine," are to be delivered at the Offices of the said Board, in the Town hall, Croydon, on or before FOUR o'clock on the afternoon of TUESDAY, the 15th of NOVEMBER. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

CROYDON WATER WORKS.—CONTRACT No. 2.—Persons desirous of CONTRACTING with the Croydon Local Board of Health for the CONSTRUCTION of THREE SINGLE FLUED CORNISH BOILERS, in accordance with the plans and specification, prepared by Mr. BALDWIN LATHAM, C.E. the Engineer for the Local Board, can inspect such plans and specification in the Office of the said Engineer, in the Town Hall, Croydon, on or after this date. Sealed Tenders, indorsed "Tender for Boilers," are to be delivered at the Board's Offices in the Town Hall, on or before FOUR o'clock on the afternoon of TUESDAY, the 22nd day of NOVEMBER instant. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Croydon, November 2nd, 1864.

RIPON WATERWORKS.—The Local Board are prepared to receive TENDERS, from competent persons for the following Contracts, for the proposed new Waterworks of their district, namely,—

Contract No. 2.—Duplicate Engines, Boilers, Pumps, and Appendages.

Contract No. 4.—Excavating for Laying, and Jointing the Main Pipes and Appendages.

The specifications may be seen, and forms of Tender and other information obtained, on application to Messrs. STEVENSON & UTLEY, Engineers, Halifax; and Tenders, sealed, and marked on the outside "Waterworks: Tender for Contract No. 2" (or No. 4, as the case may be), must be sent in to me, at my Offices in Ripon, on or before THURSDAY, the 17th day of NOVEMBER instant. The Local Board do not guarantee the acceptance of the lowest or any Tender.

R. W. NICHOLSON, Town Clerk.
Ripon, 1st November 1864. and Clerk to the Local Board

CORPORATION of MANCHESTER.—To CLOCKMAKERS.—The Markets Committee are prepared to receive TENDERS for a Public TIME PIECE, to be erected on the New Pedestrian Smithfield Market, Shudehill. Drawings may be seen and Specification may be seen at the Offices of Messrs. PAULL & ANLIFFE, Architects, India-buildings, 20, Cross street, Manchester. Sealed Tenders, endorsed, "Tender for Market Clock," to be delivered at the Town Hall, on the 12th instant, before TEN o'clock, a.m.—By order.

(Signed) JOSEPH HERON, Town Clerk

Dated 9th November, 1864.

CONTRACTS.

TO BUILDERS.—Brighton Club and Norfolk Hotel Company (Limited). The time for receiving TENDERS for REBUILDING the NORFOLK HOTEL, Brighton, is POSTPONED to the 7th of JANUARY, 1865, at TWELVE o'clock. Bills of quantities may be obtained on and after the 14th of DECEMBER, at the Offices of the Architect, HORATIO GOLDY, Esq. Brighton.

TELFORD E. SHARP, Secretary.
Company's Office, Norfolk Hotel.

MARGATE.—Builders desirous of TENDERING for the ERECTION of TWO SEMI-DETACHED VILLAS at Regent-place, Margate, are requested to send their names, on or before the 15th instant, to Mr. DOUGHNEY, Architect and Surveyor, 4, Adelphi-terrace, London, W.C.

TO ENGINEERS and OTHERS.—CORPORATION BATHS and WASHHOUSES.—Persons willing to give TENDERS for the SUPPLY and FITTING UP of all BOILERS, ENGINE, DRYING CLOSETS, WASHING MACHINES, BATHS, VALVES, PIPING, and the like, required in the Corporation Baths and Washhouses now in the course of erection in Thornton-road, for the Mayor, Aldermen, and Burgesses of the Borough of Bradford, may see the plans and specifications, and obtain bills of quantities, at our Offices, from TUESDAY next, NOVEMBER 8th, until TUESDAY, NOVEMBER 15th, on which latter day, sealed Tenders, endorsed "Tender of Baths and Washhouse Fittings," are to be delivered to us not later than SIX o'clock, p.m.—By order,

MILNES & FRANCE, Architects.
30, Hall, Ince Bradford, November 3, 1864.

LANGTON CHARITIES, LEICESTERSHIRE.—To BUILDERS and OTHERS.—Persons desirous of TENDERING for the RESTORATION of the PARISH CHURCH of Church Langton, in the County of Leicester, can obtain bills of quantities on application to the Architects, Messrs. GODDARD & SON, of Leicester, from the present date up to THURSDAY, the 24th instant. The Trustees do not bind themselves to accept the lowest or any Tender.

JAS. H. DOUGLASS, Clerk to the Trustees.
Market Harborough, November 10, 1864.

TO SEWER CONTRACTORS and OTHERS.—The Vestry of the Hamlet of Mile End, Old Town, will meet at the Vestry-hall, Bancroft-road, Mile end-road, on WEDNESDAY, the 16th day of NOVEMBER inst. at SEVEN o'clock p.m. to receive TENDERS for the PERFORMANCE of certain SEWERAGE WORKS in the said hamlet. The work to be done pursuant to drawings and the terms of a specification, which may be seen at the Office of the Surveyor, at the Vestry-hall, between the hours of TEN and FOUR o'clock. The Contractor will be required to enter into a Contract to be prepared by the Clerk to the Vestry at the expense of the Contractor, not to exceed 6l. and find two sureties in the sum of 100l. for the due performance thereof. Tenders containing the names and address of proposed sureties, are to be delivered at the Office before THREE o'clock in the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.
Vestry hall, Bancroft-road, Nov. 3, 1864.

SALE of TURRET CLOCK.—Notice is hereby given that the Secretary of State for War is prepared to receive TENDERS for the purchase of a TURRET CLOCK now in store at the Royal Arsenal, Woolwich, which may be inspected there on application to the Principal Superintendent of Stores.

The clock was made by Smith & Sons, of Cockermouth, and has four wrought-iron skeleton dials prepared for glass faces, 6 feet 4 inches in diameter.

Tenders must be made upon a proper form, which can be obtained at this Office, or from the Principal Superintendent of Stores at Woolwich, but are to be delivered at the War Office, Pall-mall, on or before the 22nd instant, addressed to the Under Secretary of State for War, and marked on the cover "Tender for the Purchase of Clock."

The Secretary of State reserves the right of rejecting any or all of the Tenders.

THOMAS HOWELL, Director of Contracts.
War Office, 5th November, 1864.

TO BRASS FOUNDERS.—The Waterworks Committee of the Corporation of Dublin, being anxious to enable the Public to take Water on Service for the high pressure water-supply about to be introduced when the new works shall have been completed, are now prepared, in accordance with the powers for the Making of Bye-laws contained in the Act for regulating and controlling the Supply of Water, to receive TENDERS, with Specimens, for the following articles, viz.:—

HIGH PRESSURE BALL-COCKS, ½, ¾, 1, and 1 inch bore, complete
HIGH PRESSURE BIB TAPS, ½, ¾, 1, and 1 inch ditto.
FERRULES, for connecting house service pipes with service mains, ½, ¾, 1, and 1 inch ditto.
BRUT-OF or STOP-COCKS, ½, ¾, and 1 inch ditto.
WATER-CLOSET VALVES, on the prevention of waste principle, fitted in cisterns, ready for action, complete.

The Waterworks Committee have not yet determined on any pattern or principle, and are resolved to select the most effective article for its special purpose. Each article sent must be accompanied by a clear explanation of the speciality of the principle of construction, clearly and of the special action, the class of metal used, the price, and the prices of the same class of article in various sizes, by the single article, by the dozen, and in large quantities; in the article patented, and such other particulars as the maker may deem advisable. The specimens are to be sent to "The Waterworks Committee," City Hall, Dublin, on or before THURSDAY, the 1st of DECEMBER 1864, and are to be returned thence to the owner when required to do so, free of all expenses to the Committee, and on the condition that the Committee may purchase any one or all of the specimens, at the prices marked, for the purposes of examination, and obtain experiments as to the efficiency of the principle and the perfection of the workmanship. The Committee will not be bound to accept the lowest or any Tender.

DUDLEY JONES DICKINSON, Secretary.
Waterworks Committee, City Hall, Dublin, 4th November, 1864.

[For remainder of Contracts see next Page.

TO BUILDERS and CAPITALISTS.—A Gentleman of high position requiring first-class SCHOLASTIC PREMISES, is desirous of opening negotiations with any one who will CONSTRUCT the same at Wimbledon and Let them to him on Lease, with the power to purchase within a period to be agreed upon. A site of from two to three acres is desired, and if the right one can be secured, it will be very easy to have premises of the description required. Plans, with their bases, may be sketched out, but the general details will be left for future arrangement.—Mr. W. R. SNELLING of 163, Fenchurch-street, London, will give the fullest information on the matter.

ST. MARY, ISLINGTON.—METROPOLIS LOCAL MANAGEMENT ACT.—The Vestry of this Parish hereby give notice, that a Committee will meet at the Vestry Office, Upper-street, Islington, on WEDNESDAY, the 23rd day of NOVEMBER next, at HALF PAST TEN o'clock in the morning, precisely, to receive TENDERS for the CONSTRUCTION of about 2,300 feet of SEWER, 3 feet 9 inches by 2 feet 6 inches, one brick in substance, and the necessary WORKS in connection therewith, in the Junction-road, Upper Holloway. The form of Tender, which alone will be received, may be obtained, and the specification and draft contract seen, at the Vestry Office (Surveyor's Department), between the hours of TEN and FOUR o'clock. Persons desirous of contracting must attend at the time and place stated, with sealed Tenders, endorsed "Tender for Sewer Works." No Tender will be received after HALF PAST TEN o'clock, nor will any Tender be received unless it contains a Bill Bank of England note, which will be immediately returned to each person whose Tender is not accepted, but will be returned in the other case only until the contract and bond are signed by the parties. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

JOHN LAYTON, Vestry Clerk.
Vestry Offices, Upper-street, 16th November, 1864.

SURBITON.—To BUILDERS and OTHERS.—LAND TO BE LET, on building leases, five minutes' walk from the station, and close to the river, for houses of not less than 80l. a year rent. A portion of the money will be advanced if required.—Apply to Mr. MUDIE, Victoria-road, Surbiton.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms; stabling for eight horses and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the West-end Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 7, Bedford-row.

WATERSIDE PREMISES, City-road.—Messrs. FULLER & HORSEY are instructed to LET, on LEASE, from Michaelmas next, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick-built manufactory of two floors, engine and boiler houses, with 50-horse power steam engine and three Cornish boilers, range of brick built offices, and paved yards with gateway entrances. There is a water frontage of about 207 feet.—For further particulars, apply to Messrs. FULLER & HORSEY, 11, Billiter-street, London, E.C.

BROWNSWOOD PARK, Green Lanes, Stoke Newington.—BUILDING LAND on the above Estate TO BE LET, for 99 years, at 4s. per foot, for the Erection of Houses about 9l. per annum. Good roads and sewers. Brick on the estate advanced cheap.—Apply to Mr. J. B. PORTER, 8, Brownswood Park.

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TO BUILDERS and OTHERS.—WANTED, to RENT, in a thorough good market or seaport town, within a convenient distance of London, a comfortable DWELLING-HOUSE, with roads and premises attached, suitable for carrying on the general business of a builder. The advertiser would not object to take to a fair amount of stock-in-trade. Unexceptionable references can be given.—Address, stating full particulars, to K. W. 50, Lombard-street, London, E.C.

METROPOLITAN CATTLE MARKET.—The Markets Committee of the Corporation of London will meet at Guildhall on FRIDAY, the 18th of NOVEMBER next, at ONE o'clock precisely, to receive PROPOSALS for LEASES for 21 years of TWO HOUSES, or Taverns, known as the Queen's Arms and the City Arms, at the Metropolitan Cattle Market, Copenhagen-fields, Islington. The parties taking the Taverns will have the option of renting a piece of meadow land at the rear of and adjoining the Taverns. Plans of the property to be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.
Guildhall, October 27th, 1864.

WESTON-SUPER-MARE, Somerset.—BUILDING LAND, Freehold, for SALE.—The only land having direct frontage to the sea now remaining unbuilt on in the town. Space for 100 houses, in streets, terraces, and squares; forming an entirely new part of the town. Splendid site for a grand hotel (finished). The whole lies on the sea shore.—Apply to Mr. B. G. PHILLIPS, Weston-super-Mare.

SUNBURY COURT ESTATE.—This Estate is now TO LET on BUILDING LEASES for the erection of detached residences of a superior class. The property is situate within a mile of the Sunbury Station, and within three-quarters of a mile of the Hampton-court Station of the London and South-Western Railway.—For particulars, apply to Mr. R. R. ARNTZ, Architect and Surveyor, No. 4, Cannon-row, Westminster, S.W.

EXHIBITION ROOMS.—TO BE LET, until the end of FEBRUARY, the GALLERY of the SOCIETY of BRITISH ARTISTS, consisting of five large rooms.—Inquire on the Premises. THOS. ROBERTS, Secretary.
Suffolk-street, Pall-mall.

BARKING, ESSEX.—TO BE LET, for the ERECTION of VILLA RESIDENCES, 45 Acres of LAND, with frontage to the main road close to the Station. Twenty minutes' rail from Fenchurch-street. Annual tenants, 7l. Land to be enclosed free of charge. Plans prepared. For plans and particulars, apply to Mr. DENSHAM, Architect, 12, Doughty-street, Mecklenburgh-square, and Post Hall, Essex.

BUILDING SITE REQUIRED.—TO PURCHASE, or LONG LEASE, a PLOT of LAND, containing about 3,000 superficial feet, within one mile north, south-east, or west of Lincoln's-inn-fields.—Particulars to be sent to Messrs. WILLIAM MAYHEW & CALDER, Architects, 8, Charing-cross, S.W.

GIPSY HILL, NORWOOD.—Valuable PLOT of FREEHOLD BUILDING LAND, comprising about 1½ acres, with frontages to two roads. TO BE LET or SOLD in lots, 100l. per annum on a Building Lease; or could be divided, if required. For particulars, apply to Mr. DURRELL, Auctioneer and Land Agent, 1, Walbrook, Mansion House.

TO BRICKMAKERS and OTHERS.—TO BE LET, on Lease, to Farm, at a surface rent and at a moderate royalty, for Brickmaking, about 26 Acres of first-rate EARTH, which is pronounced to contain 7 beds. Near the railway station on the Great Western Railway, and about a quarter of a mile from Botwell Wharf, Hayes, Middlesex.—Order to view and particulars on application to Messrs. E. & C. NEWMAN, Auctioneers, Uxbridge.

FREEHOLD BUILDING LAND, within ten minutes' walk of the Bank of England, FOR SALE. A very large area, suitable for shops and warehouses.—Address, MERCATOR, Messrs. Watell w. Brightman-lane, E.C.

TO BE LET, by the Bridge House Estates Committee, a HOUSE, No. 2, Chatham-place, Blackfriars, in the City of London. Further particulars may be obtained upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

TO BUILDERS and BRICKMAKERS.—TO BE LET, a BRICKFIELD, containing 5 acres, near the water side and a railway-station.—Address, A. B. Post-office, Grays, Essex.

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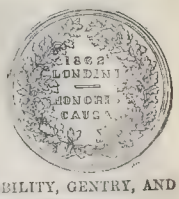
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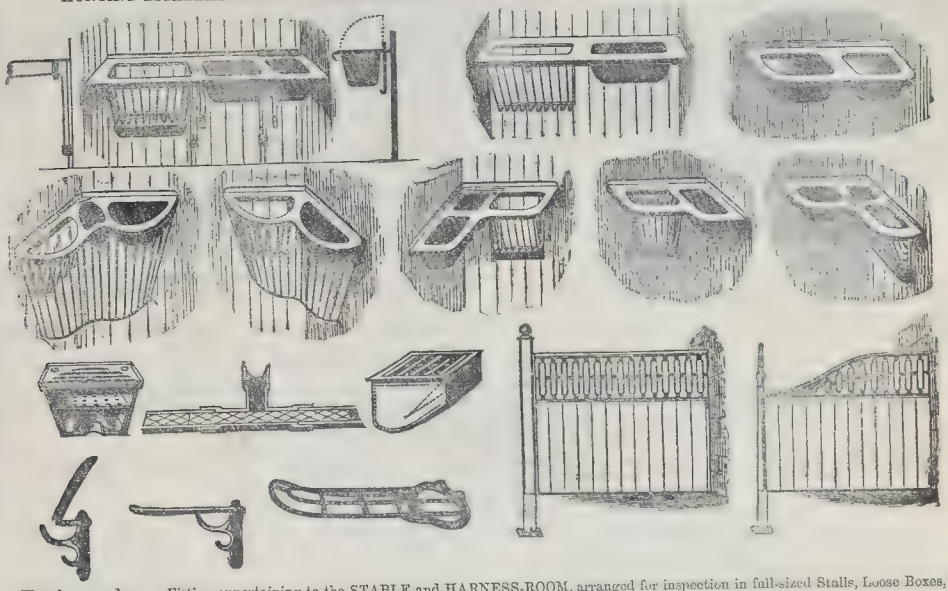
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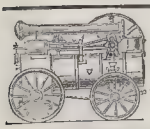
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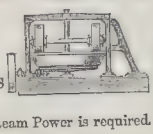
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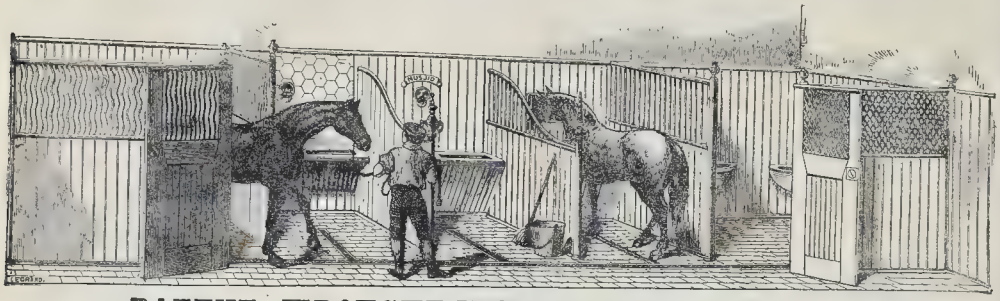
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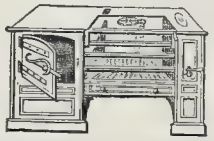
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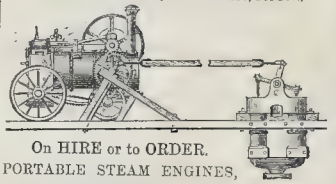
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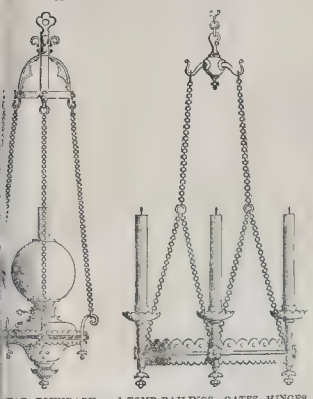
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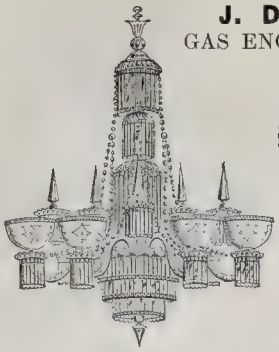
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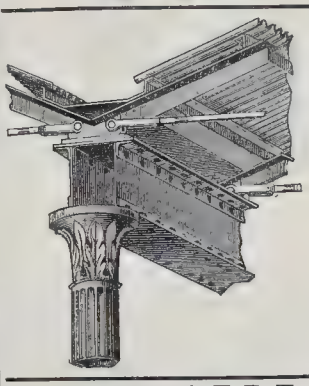


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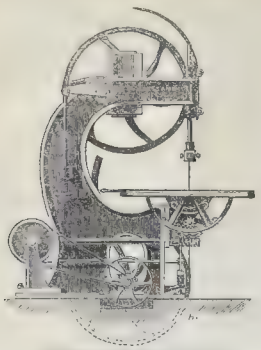
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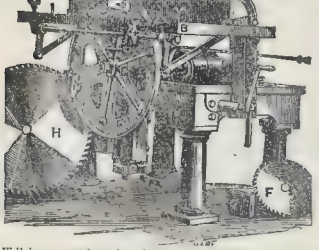


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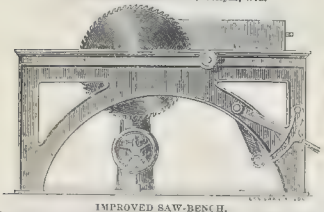
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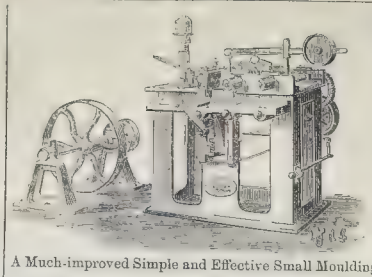
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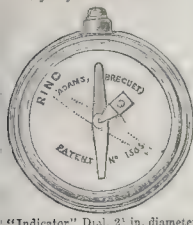
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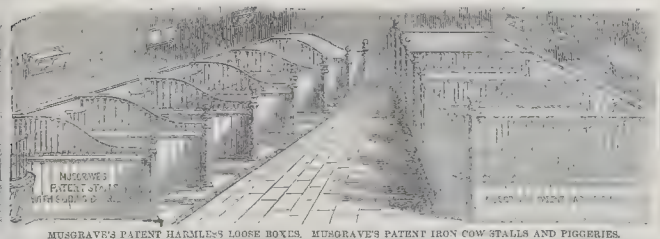
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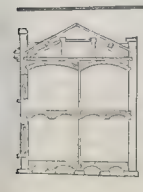
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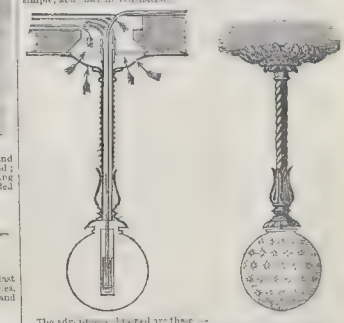
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The Builder.

VOL. XXII.—No. 1136.

The Cathedral of Milan.

ORIO, an old historian of the city of Milan, chronicles the event of the founding, in 1386, of its celebrated cathedral in the following words: "In this year, on the 13th of June, was most happily commenced the marvellous structure of the great temple called the *Duomo*, which most stupendous and renowned church may be affirmed to be chief among all others in the world." And surely the aim here recorded has been worthily pursued within the limits and degree existent. We feel it in the inexpressible emotion awakened by the first sight of this marble sanctuary; we feel it still more after becoming familiar with its aspects in all their grand variety, with the effects of morn and evening, of sunlight and moonlight, in its solemn courts, or on the gleaming surfaces of its statue-peopled exterior; and we are glad to find that the newly-constituted Government has felt, and shown its readiness to act upon, the responsibility involved in the possession of the Lombardic capital, with regard to this edifice. Under the sceptre of the Italian king, the works, only at intervals, though sometimes for long intervals, suspended since the great undertaking was commenced in the fourteenth century, have been effectively, and we believe intelligently, prosecuted.

In our account of a journey in Northern Italy, given in our last volume under the title "Going Along," we alluded briefly to this well-known remarkable building. Many of our readers, however, will doubtless be glad to be reminded more minutely of its history.

The founder of this great church was on the point (singular coincidence) of assuming the crown and title of "King of Italy," when he was cut off by death in the midst of unexampled successes, and at the acme of the greatness to which his dynasty had yet attained. Gian Galeazzo Visconti had raised the revenues of his dukedom to the amount of 1,200,000 florins; and the provinces and towns under his sway were so numerous that, among the pomps of his funeral, 246 mounted retainers were required to display their standards! It has been supposed —we believe on no other ground than conjecture—that he was urged to the founding of this cathedral by the pangs of remorse for the murder of his uncle, Barnabo Visconti, a ferocious tyrant whom he deposed, by a vigorous *coup d'état*, threw into prison, and is said to have caused to die by poison; but it seems far more inconsistent with his character to assume, as do the chroniclers of his city, that an insatiable ambition was the less worthy, whilst possibly an impulse of pious feeling was the purer, motive that urged him: nor is it likely that the conscience of a Visconti could have been much troubled by a *single* murder, whose victim was the oppressor both of his relatives and subjects.

Striking indeed is the contrast between the light of genius that shines from this glorious temple and the moral darkness of the age in which it rose to incipient reality, so triumphant a testimony to the harmonious accord of art and religion. The Visconti who succeeded to Gian Galeazzo was the juvenile Nero who used to hunt his subjects to death with bull-dogs, by way of amusement, in this city's streets, and who delighted to see victims, whether innocent or guilty, suspected or harmless, torn to pieces in his presence by those pet animals; till at last assassination rid the world of this monster before he had completed his twenty-fourth year. Shortly after the beginning of the works for the church, the jubilee, or holy year, was published by Boniface IX.; and that pope complied with the Visconti's request, by granting the indulgences promised for all pilgrims to Rome, *without* the condition of that journey, to all the subjects of the Milanese States who should subscribe two-thirds the amount requisite for the pilgrimage towards the cost of the *Duomo*, with deduction (so carefully did the pontiff keep in view the interests of Rome's *curia*) of one-third that offering for the papal treasury. It appears that the idea obtained, favoured by the gross ignorance of the times, that the *other* usual conditions of the indulgence — penance, the sacrament, the state of grace, &c.—were *not* required in the bull of Pope Boniface; and Verri ("Storia di Milano") supposes that the immense pressure of multitudes with their contributions for obtaining this indulgence was mainly owing to the strange delusion as to what the Papal promises really conveyed and were conditioned by! The Bull may have been grossly misunderstood, morality in no way forwarded by it; but the sacred undertaking prospered thereby; the money was not thrown away. This greatest edifice entirely of marble ever yet raised, stands on the site of a cathedral built in the year 836; and, up to the present day, has absorbed costs to the amount of 544 million francs, without reckoning the intrinsic value of the marble, from the quarries on the Lago Maggiore, all bestowed gratuitously by the Visconti founder. According to the description on sale at present, and offered by guides within the building, *more* than 7,000 statues adorn its exterior and interior, whilst about 3,000 are still wanting to complete the magnificent project of this sculpture-decoration.* Among those recently erected, forty have been the addition made under the present Government; and we counted thirty-nine along the *embouchures* of lateral windows, all evidently new, as shown by the fresh purity of the marble, and in many instances works of high merit. Angels, prophets, patriarchs, apostles, martyrs, prelates, virgin saints,—the leading purpose of this majestic grouping may be said to be the combination of Sacred History, the Old and New Testament, with the entire hagiography of the Church, in one imposing aggregate. Many are unequal,—many placed quite beyond the reach of the criticizing eye; but the power and expression observable in a great number entitle them to all praise; and it is the wondrous harmony of the artistic whole that produces the effect so thrilling, so entrancing.

> A fit abode, wherein appear enshrined
> Our hopes of immortality—

might have been said by Byron of *this* far more truly than of Rome's great basilica. On its summit are 136 pinnacles, each supporting twenty-five statues of angels or saints; and above the single tower, at the juncture of the transepts, rises the spire, surmounted by the colossal figure, in gilt bronze, of the Blessed Virgin. The last added, and in its design, rich mouldings, and open-work, one of the most beautiful among those marvellous pinnacles (we might call them, indeed, subordinate spires), is by the architect Pestagalli, who held the post of director to the works for the *Duomo* from 1813 to 1853, the year of his decease; about half a million francs being the cost of this addition to the splendid pile. We must leave it to the poetry of Wordsworth, for no other language save the truly poetic would answer to convey the impression received when one stands on the summit amidst that marble multitude; whilst draperies and wings, upturned countenances, and glorified heads, are all radiant in the first beams of morning (an effect we secured the enjoyment of), the sense of a spiritual *presence*—that feeling, indeed, excited by all sculpture of the highest order—will here possess the mind as intensely, we believe, as before any other art-creations upon earth. Up to this day the question remains undecided as to who was the actual creator of this celebrated building. Did the idea originate in the Teutonic or the Italian mind? Certain it is that a German, whose name is Italianized into Enrico Gamodia, or Zamodia, was engaged in it so early as 1391, together with eight Italian architects and one named Giovanni Annes, or Annex, of Fribourg. The published list of all the architects, whether regularly appointed or merely consulted for the carrying on of these works, includes no fewer than 182, among which the only foreigners, besides the two above mentioned, are two Frenchmen, one Fleming, and two Germans, Pollack, father and son, of Vienna, appointed 1803-6. During the last years of the fifteenth century Bramante was engaged as chief architect; during the sixteenth century we find such distinguished successors at that post as Giacomo Della Porta, Giulio Romano, Alessi, and Pellegrini. In 1490 the comparatively small cupola was erected by Antonio Omodeo; in 1760, the spire that crowns it by Francisco Croce. In 1806 was completed the façade by two architects, Zanoja and Agosto, who carried out a design, their joint production, without destroying the works of their predecessors in this part. Pellegrini (1567-86) won unfortunate distinction by striking into a new walk, and adopting a style totally adverse to that predominant throughout the grand structure, so far as he had time to carry out, in the façade, his Renaissance purpose,—happily limited, as we actually see it, to the details of portals and windows. From his time the works were but little advanced, and the whole undertaking languished till stimulated into new vigour by the stirring spirit of the first Napoleon (1805, the date of his decree for the ultimation). Again, from 1853 till 1860, the post of directing architect was vacant; but at the commencement of that last year was appointed the present, Giuseppe Vandoni; in the preceding interval some works of construction and repair having been still in progress, under the superintendance of Count Nava, member of the "Administration," or Board, now consisting of eight persons, under the presidentship of Count Renuto Borromeo, responsible for all that concerns the material fabric of the Duomo. Among works whose completion is yet to be expected (and, we understand, in progress), is the coloured glass for the windows, four of which yet want that detail. The ancient glass-painting of Milan is celebrated; and the suffusing radiance that emanates from these windows, at the hours particularly of sunrise and sunset, add a gorgeous yet subdued solemnity to the effect that overwhelms with awe when we pass the threshold of this great minster. Most ancient here is the tinted glass of the year 1400, by artists from Venice and Normandy; next in order of time are the windows of 1438, painted by Milanese and French practitioners; next those of 1570, date at which Giovanni de' Bartoli, a Milanese, established a factory for the preparing of coloured glass, ex-

* The great *Encyclopædia*, whose publication has been going on for some time at Turin, makes the number of these statues, as they stood about ten years ago (or more), 2,602, of which 1,923 were then on the exterior.

pressly to supply this church. Not long subsequently, or in the following century, it seems, this art fell into neglect and oblivion, till in our own times revived by an ingenious family named Bertini, to one of whom, Giovanni, the "Administration" has had a tablet erected, near the finest specimens of his own performance, the choir-windows, with an epigraph, dated 1849, ascribing to him the merit of restoring and perfecting a long-interrupted art-practice. Those three great windows of the choir (the tinted glass of the highest parts alone ancient, the rest by the Bertini), represent the entire history of the Old and New Testaments, besides many scenes from the Apocalypse, figures of prophets and apostles; the designs very unequal, some (as it struck us)* not above mediocrity, the groups crowded, and forms heavy; but we forget to criticize in admiration before the resplendent effect of their rainbow-colours, the fine harmony between this decoration and the structure around.

The five quadrate windows (in form so incongruous) in the western end wall, corresponding to the portals, are other examples of modern work by the same family, with largely-treated subjects, each occupying the entire field; the "Assumption of the Virgin" (central), "St. Carlo Borromeo dispensing Alms," "St. Michael overcoming the Demon," "The Election of St. Ambrose to the Papacy" (not by Rome), to this see, and "St. Thekla (a patron saint of the city) exposed to Lions in the Amphitheatre,"—all treated with ability, though not all equally good, and in colouring alike beautiful. Among the several sculptors engaged for the immense series erected within and without, and still in process of erection, we find no names that are not Italian; to one, Brambilla, who dedicated his labours exclusively to this object for forty years, is placed a tablet recording those services, with the date 1599. A pleasing relief, "The Birth of the Virgin," by Tantardini, placed on an altar-front in the present year, affords a guarantee of progress in this department, under the actually responsible parties.

As to the question of the original architect, a Milanese chiefly, of local literary repute, is quoted by Varri (Storia") in a passage where the claim is at once ceded to foreign genius, "artists summoned from Germany," who (such the reverend critic's judgment) "left us in the great structure of our cathedral a monument of barbaric opulence rather than of good taste!" But Ignazio Cantu (brother to the great historian), who has written an excellent historico-antiquarian Guide to Milan, decides in the opposite sense, naming *four* native architects of the period, one of whom he concludes to have been the originator first engaged for this great undertaking by the Viscontis; and in this the printed list, given in the manual above noticed, agrees with the writer of the Guide, placing first in order, under date 1387, two of those he names,—Marco da Campione and Simone di Orsenigo. That century, the age of Dante and Giotto, witnessed the triumphs of Italian genius in every walk; and though among the renowned minsters then rising to completeness in that country, none strictly analogous with that of Milan can be pointed out; yet when we remember what and how varied are the elements of grandeur and beauty in such cathedrals as those of Florence (founded 1298), of Orvieto and Siena (both in 1290), of S. Petronio at Bologna (1390), we may be the more ready to regard the cathedral of Milan as another monument to the supremacy of art and science in this classic land.*

This celebrated archiepiscopal see has been left vacant since 1859, because the Pope will not come to terms with the constitutional Government for appointing any nominee to this or other of the several Italian sees now in the same condition. Originally matters stood on a very different footing in the Church of St. Ambrose: the people elected *immediately* to this important pastoral post; subsequently, the clergy, but still with deference to the popular approval. These rights being postponed, the emperors assumed the prerogative of appointing, with the much-disputed investiture, to all sees within their states or under their protection. Later the same privilege with regard to Milan was secured for the papacy by the efforts of Urban IV.; but eventually, Joseph II. (in 1783) reassumed that right for the Imperial Crown, though it has since been modified in exercise by the deference to Rome for approval. Shortly before the war of '59, the Emperor had appointed a successor to the late archbishop of this see. The papal sanction ensued; but, as the King of Italy could not accept the nominee of a hostile Government now expelled from these provinces, and the Pope refuses his approval for any other, the vacancy still continues.

* Measurements of Milan Cathedral in *mètres*:—Length to extremity of choir, 131·1; width, including nave and four aisles, 67·781; width of transepts, with chapels at extremities, 87·8025; height of nave to surface of vaulting, 49·82, height to summit of statue on spire, 110.

DISCOLOURATION AND DECAY OF STONE IN BUILDINGS.

We could wish that the observations in our article on "London Architecture and the City," and the reference in articles subsequent, as well as antecedent,—as in our volume for 1862, wherein may be found descriptions of different smoke-consuming grates in the International Exhibition, contrivances respecting which evidence would be desirable, had drawn the serious attention of our readers to the circumstance of the immense impediments that there are to the production of art in buildings, and the perception and appreciation of the art when produced, comprised in the existence of the smoke-nuisance. It may be that the deposition of soot, and the blackening, and the obscuration of the atmospheric medium through which delicate forms have to be viewed, are not to be regarded exclusively as the causes of a production which, as we lately said, is small in proportion to the number of buildings erected, or of an appreciation which is manifested by the tasteless demand for mere members of architecture, or without regard to the manner of their use. There are towns in England where the architectural movement seems to us to possess a higher art-character than is to be credited to the movement in London, at least excepting one quarter of the City of which we have spoken; and in those towns, the quantity of carbon constantly in the atmosphere is greater than that in London. The humidity is also greater; but possibly the stone there, which is much harder than the Bath and Caen stones that have been so largely used in the metropolis, may be less rapidly discoloured by an equal quantity of dirt. However this may be, the deposition, blackening, and obscuration by smoke, are enough to make the buildings in general, in those towns, repulsive; and it must be due to the larger mass of a warehouse-building as compared with that of the front of three windows, to real taste, or to ostentation as a substitute, — and not forgetting the intrinsic merit of the work as designed,—that the effect produced is to a considerable extent one of good architecture, and that it is not entirely unappreciated by the people of those towns. Whether in London, or in the manufacturing towns, it is however to be admitted that the nuisance causes a deduction from realized effect of architecture, which is very considerable in extent and amount, and that it would be easy to show that all our shortcomings in art-work in buildings, and the almost general lack of perception and appreciation of the art proper, may have their origin in the smoke-nuisance alone.

Still, we do not see that either the question of the diminution of the nuisance, or one of the discovery or adoption of some means of preventing or removing the discolouration of buildings, occupies much of the attention of architects. Yet, the better appreciation of the *art* of architecture by the public should directly concern our profession; and so long as the art-work and effects which architects produce, are not lasting as the structures of former times, they can hardly come before the public with a clear conscience in advising the expenditure of money upon decoration. Moreover, the subject of the selection of stone, and of the preservation of the material from decay, remains in a very unsatisfactory state; and it is impossible to avoid here referring to the loss of the services of Mr. C. H. Smith, a man whose information, and the results of whose practical experience, were to be always valued, even by those who differed with him. Of noticeable results of any attention to either subject, the preservation of the original appearance, or that of the material itself, there are none, unless they may be said to be comprised in a partial abandonment of the material in favour of coloured brickwork and terra-cotta. We have shown, however, that in the case of one of these vehicles of decoration, the brickwork, the designed effect suffers by the encrustation and discolouration, scarcely, if at all, less than in the case of stone. As regards terra-cotta, we would at present reserve further opinion than we have heretofore expressed. Stone, of light colour, has usually been considered the material the most serviceable for architectural effect: it is still so in Paris; and in other Continental towns where it can be obtained, and where the decay is by no means so rapid as in London, the freedom from encrustation and discolouration, and the purity and clearness of the atmosphere, allow of such effect of architecture as cannot be imagined by one who has not seen the buildings.

It would seem that the stone which is least subject to disintegration or exfoliation, is not necessarily that which preserves the cleanest appearance. A clean appearance may be the result of decay, in a soft and disintegrating stone; or, in certain other stones, as Portland stone, it may be produced by simple washing. The washing by the fire-engine to which we have so often called attention recommendingly, and last of all in one of our articles above spoken of, has been proved to be effectual in the case of at least three or four of the most important buildings of the City. A paragraph from the *Standard* of March 2nd, 1862, now before us, says:—

"Within the last few days the *façade* of the Mansion House has undergone a complete washing, which has brought out all the characteristic points of the architecture in a striking light; and the process has been as novel as effective. For three hours, on two mornings, between five and eight o'clock, two of the engines belonging to Shand & Mason's steam fire-engine establishment played upon the front of the building alternately, until at length it became almost as white as marble."

The same journal records the application of a similar process to the front of Mercers' Hall, in Cheapside. The result in the case of the Mansion House, particularly noted by us at the time, as well as on a different occasion some years previously, when the engine was worked by hand, was precisely as described by the *Standard*; as it was also in the case of the Royal Exchange, in 1862, cleansed in the same manner as the Mansion House, and as referred to in our former article. St. Paul's Cathedral is washed in some parts most effectually by the rain, only so that the blackness of the parts not washed makes the whole appear more repulsive, perhaps, than it would otherwise. We may, however, conclude that with proper attention, many of the buildings of London might be maintained in their original architectural effect, of which scarcely any impression is at present to be realised, and by the aid of a contrivance always ready, and of the most economical application. But, these buildings, all, would seem to be structures wherein the stone used was hard, and in which the soot had not been absorbed, as it is liable to be by a soft stone, as Bath, even the best.

The common designation, "Bath stone," includes, we need hardly say, numerous varieties. Notwithstanding the determination by the late Dean Buckland, against the use of Bath stone in the works of Westminster Abbey, and the bad repute into which all such stone got by numerous failures, there appears to be such a thing as Bath stone capable of standing well in the metropolis. Whether, having made selection of a good quarry, the architect can always ensure that the supply shall be from the best bed, is another matter. Mr. Smith maintained that in any case of stone required for such a building as the Houses of Parliament, the only safe course was for the architect to have a competent and trustworthy representative to see to the getting out and marking of the blocks at the quarry itself. Had his advice been taken, and had the very moderate remuneration he needed been allowed him, the present decay in the material of the Houses of Parliament, and the unsightly patches of the experimental applications with a view to remedying the decay, would not have been as now apparent. But, supposing, in a London building, a description of Bath stone to be used of the unobjectionable character in the view of the durability, this very stone seems to be so susceptible to blackening, that it must become in ten or a dozen years very unsightly; and the discolouration of such stone, we apprehend, is not to be washed away.

Going up the Edgeware-road, at the corner of one of the streets leading west, is a building which was erected some few years ago for the branch of the London and County Bank. When new it was a particularly effective work, of Palladian or Venetian Italian style, and dependent in great measure for its effect, as all good architecture is, upon well-studied and tastefully-practised detail, including mouldings. The elevation presents one lofty story only: so that the work is one challenging examination from a near point of view. In such a work, a

uarter of an inch, or even an eighth of an ch, more or less height or projection in a oulding, could not have been deemed unim-ortant. At least, if the difference be of no ioment, we have been greatly overrating the erit of the design. The material of the whole ont is Corsham Down stone, with the exception f the cornice, which is the Combe Down stone, onsidered to be harder than the other. The aterial remained in excellent preservation, ructurally speaking, up to some few weeks ince; and the circumstance has been attributed, s in similar cases, and not quite conclusively, o the stone having been well "seasoned" t the quarry, or that the blocks had lain ome time after they were quarried, before eing sent to London. But the ten years, r whatever may have been the short lifetime f the building, were sufficient for the London moke to produce the usual result. The reader ill mark what ensues. The directors, or who-ver have the authority, we suppose remark that he building has no longer prominence over djacent buildings, as it originally had from s architectural character. There had been, of ourse, a commercial object in the production of he art, and excusably so. So, the architect is noved to set to work Mr. Fish, the builder, and is masons, with various scarifying tools, and nallets and chisels, which the hardness of the tone rendered necessary, to take off the crust f soot. But as the penetration was too deep o be got rid of by washing, a thickness of the ighth of an inch, at least, was scraped or hacked way. It was hard work, and according to an ntelligent man engaged upon the business, the tone, in place of continuing as found, in excel-ent preservation, was in all probability, made erishable by loss of the protecting crust. In nother ten years perhaps, the building will gain be thought to need cleansing. The value f the work of architecture, after two or three uch operations may be supposed.

The Army and Navy Club, in Pall-mall, has ately undergone extensive reparation, and has erhaps more than once: and a year ago, the ornice had to be renewed in cement, the stone eing duly hacked to get the proper key; whilst he lions' heads were renewed, also in cement, nd seemingly a size larger than they were efore. Notwithstanding these operations, the uilding is black and patchy as before. In he front of the Carlton Club, in the same treet, and in the western portion of the front which was built last, the mouldings are crum-bling away in parts; so that the face of the tructure seems affected with some cutaneous isease. One of the balusters above the *corni-zione* has fallen. The balusters of the balcony of the smoking-room, in the garden-front, were half gone before the whole building was com-pleted. We wish to have it understood that in the present state of the question of the preserva-tion of stone, we attach no blame to architects.

It is scarcely a matter for surprise that such defects, noticed by the public and those who have to build, should help to extend that use of cement which is every year robing more of London in gloom. For, it is a fatal mistake to suppose that life is given to a brick building by covering it with Portland cement, and leaving it in the usual manner to blacken. To painting or colouring there are objections that we have often pointed out. There is nothing in any brick-built street so repulsive as the effect of Victoria-street, Westminster; and yet, the fronts there have a considerable number of what are ordi-narily regarded as decorative members of archi-tecture. The streets about Covent Garden, where the houses are just now receiving the addition of members similarly meant to be decorative, and which in this case are of such character that they would be effective if in stone, are taking the first step to their contribution to the gloom of London, as may be seen by looking at the cemented fronts which were executed five or six years since, as for instance those of the building at the corner of Bedford-street and Henrietta-street.

Even when stone, good stone, is used, it has sometimes not a satisfactory effect even in the few years that pass from the time of original erection to the general blackening. The use of brickwork as backing to ashlar masonry, is usually followed by an efflorescence on the face of the work. At least that is one explanation offered of the appearance which has been noticed in most of the new buildings of London where the best material has been used. On the front of the Reform Club there was such appearance for very many years, that was most unsightly; but the edges of the efflorescence followed the lines of the mortar beds and joints. As Mr. Smith was in the habit of saying: there was "not a bad stone in that building:" yet the effect was at the time perhaps worse than that of newly applied Portland cement.

In the new building for the National Provincial Bank, at the corner of Bishopsgate-street and Threadneedle-street, and already mentioned by us, Mr. John Gibson, the architect, is adopting a novel arrangement of the ashlar-work and back-ing, chiefly to prevent the efflorescence, which he attributes to the contact of the stone-work with the brickwork. His front walls, including three-quarter columns, may be stated as about 5 ft. thick, of which the brickwork would be 1 ft. 10½ in. Between the brick and the stone is a cavity of 1 in. The connexion, or bond, between the two materials, is effected by means of 6-in. slate dovetailed cramps let into the stretcher-stones, and into stone templates built with the brickwork, and by setting the inner ends of the header or bond stones on sets-off of the brickwork,—two courses of ½-in. slate slab and some plain tiles to make up the height of a course of bricks, being interposed: so that the stone never rests on the brickwork; and, through-out the front, one material never touches the other. Access for air to the 1-in. cavities will be provided by means of channels and inlets from space behind the skirting of the banking-room; and doubtless there will be outlets at the top. In each pier, in the brickwork, behind a column, there will be one of the flues; and the side of this flue, next the cavity, will be formed with Boyd's flue-plates; so that it is expected the heat passing through will promote draft. In building up the work, the cavity will be filled with boards on end, which can be drawn out as the work proceeds; and bits of mortar collected at the bottom of the cavity, will be cleaned out from apertures in the wall, temporarily left at its base. The archi-tect thus, calculating upon getting rid of the chance of efflorescence, we believe anticipates that he will escape retention of moisture on the ex-ternal face,—which moisture would serve to col-lect soot,—and that although his work may not always escape discolouration, it will have at the end of ten or a dozen years, a much more sightly appearance than the buildings in which the ashlar-work is backed with brick on the old system.

PROFESSOR DONALDSON ON THE PRO-GRESS OF ARCHITECTURE.*

I HAVE read with much pleasure and instruc-tion several of the papers written by members of the local societies, and a recent one by Mr. Frith, of Bristol, on the subject of "What should be the Aim of our Architecture at this Time?" contains much suggestive matter and just reflec-tions upon the present state of the principles of taste in our art. To one of his observations, however, I think objection may be taken, when he says that "we must learn to set aside all the decorative features of Italian architecture which do not spring from constructive requirements, such as attached columns and pilasters with all their ordinances—to accept no precedent which does not meet the critic's eye with a more satis-factory reason for its use than what we employ now in saying 'it is quite correct.'" I know not why Mr. Frith does not include under the same restriction Mediæval as well as Italian architecture. But I cannot add my adhesion to this law of *use* to be applied as the test of the proper adoption of many features in our art, for this would reduce it to a mere utilitarian plainness, and strike out from architectural composition many details that give playful-ness, grace, and variety of outline. The very attached columns and pilasters alluded to, may serve as buttresses and counterforts, and give stability and strength to a wall, breaking up its plainness and at the same time be pleasing features, like balustrades, pedestals, vases, and other accompaniments. If we apply this meagre puritanical rule of matter to art, what would Mediæval composition be, deprived of shafts, buttresses, canopies, pinnacles, introduced in its rich screen-work, whether of stone or wood? There must be a certain conventionalism in decorative art, and although it must borrow its leading features from some type that has *use* as its basis, yet the imaginative poetic mind of the artist must have full play and freedom of treat-ment, at the same time that it may be restrained by the sober rules laid down by Horace and Vitruvius. Fancy is a valuable gift; it is that action of the mind which at pleasure presents to itself impressions, the result of preconceived notions, or the forms, images, and representa-tions of things. It may be the result of educa-tion and taste, or of a refined innate sensibility for form and colour. Doubtless it may be very dangerous, when it degenerates into caprice, seeking to express a sudden ill-regulated affec-tion or predilection, disregarding wholly the strict rules of art, yielding to a rather licentious liberty; and yet it may be pleasing and attrac-tive by certain graceful combinations. Such were the styles of the Flamboyant and of Louis XIV. and XV., and many compositions at Rome, as the productions of Bernini and Borro-mini, with all their impurity; and we may quote in the English school Vanbrugh as a brilliant example of poetic grandeur in composition. These were epochs of violent instinct and sudden determination, uncontrollable sympathies and disregard of the material made to minister to the wildest flights, and the fresh excitement of sensuous gratification compensated for the in-herent defects of abrupt impulses. Their works, the result of ardent minds, have excited the wonder and admiration of succeeding times, as the efforts of a gifted race of artists. Human nature is so constituted, that such productions cannot pass unheeded; but, on the contrary, they must influence the feelings, however dis-cordant in many respects. In such instances Mr. Frith's observations apply with peculiar force, and are instructive to the practitioner in every period of life. Precedent has its weight as well as use; the mind, however, of the artist must have a certain range, if we are to expect the highest aspirations of genius, and to profit by its revelations.

I am pleased to observe that the success of this Institute has led our professional brethren in and near the principal provincial towns to form similar societies for the promotion of the art, and the maintenance of a high tone of pro-fessional practice and character, alike honour-able and advantageous to the employer and the employed. Liverpool, Manchester, Birmingham, Bristol, Glasgow, and other great centres of commercial and manufacturing industry, have their architectural meetings, read papers, and discuss questions of general interest, connected with architecture, archæology, and construction. This is the more necessary, as the material pro-sperity of our large towns, with the development of their municipal operations, necessitates the erection of town-halls, libraries, picture-galleries, courts of law, athenæums, hospitals, schools, churches, and other important edifices. These require an education of the highest order, as well as distinguished talents, so that the productions may be worthy of the appeal made to the taste and scientific requirements of the architect. These local associations have been obliged to relax the strict rule of membership observed by us, but generally they are guided by the same principles as ourselves. I have, however, ob-served with regret that some of the provincial societies, instead of strengthening their own position and that of the profession generally, by accepting in its integrity the scale of profes-sional charges adopted after the most pains-taking and deliberate investigation by this Institute, have sought to publish a distinct scale of their own, founded generally upon that of the Institute, without acknowledgment, and introducing modifications of purely a local na-ture. This is a sad mistake. The Table of the Institute has been accepted by legal men in the metropolis, and quoted in the courts as an authentic document drawn up by the heads of the profession, and as authoritative in settling such questions of professional usage, and as mutually binding between the employer and employed. The provincial Table, deprived of the sanction of the great central body, and resting only upon the authority of a limited circle of professional men, cannot have the same weight as the code of the Institute. The resolution of the Architectural Association on the subject is very judicious, as it very properly stated "that it would be most injurious to the profession to have two published lists of charges." . . .

In my address upon the opening of our last session, I alluded to the imperfect means and sources of instruction within the reach of the architectural student. This subject has been

* From the opening address at the meeting of the Royal Institute of British Architects, held Nov. 2nd or 7th. The whole document being before us, we give the follow-ing more widely interesting passages. We shall be truly glad, for the sake of the Institute, when we are again enabled to assist in making its proceedings properly known.

taken up by one at the head of our profession, whose own productions are evidences of refined taste, solid judgment, and extensive learning, and whose skill and experience are instanced in his numerous, and I may say numberless works, many of them the finest productions of modern times in Mediæval art. Mr. Scott, in a carefully written paper, has sketched out a view of the wants of the young architect, and the mode in which the deficiency should be supplied. A committee of the Institute was appointed, consisting not merely of professional men, but of others experienced in the subject, and capable of affording most valuable advice and suggestions; such as Mr. Beresford Hope, Professor Westmacott, R.A., E. W. Cooke, R.A., and Mr. Ruskin. We had several meetings of the most interesting character, and considered the best means of providing instruction; the discussions which have occurred eliciting opinions from some of the most able men, competent to advise in a matter of such professional importance. It has been argued, not in an exclusive or sectarian spirit, nor with preference to any particular part or class of art; for we should love them all with fervour; and it is this profound love which should lead us to desire that all styles of art should be upon a level and have fair play. Each of us may have and has his preferences, but this should not lead us to depreciate the qualities that exist in a style preferred by others. The report of this committee will be submitted for discussion to your consideration at our next meeting. The scheme proposed, suggests that "the instruction should embrace the drawing and modelling of organic forms with a view to the attainment by the student of such an accurate knowledge of their structure as should enable him to apply them in decoration with power and truthfulness, and to form an intelligent comparison of their treatment by the masters of every period of art, and in the monuments whether of ancient or modern times." To carry out such a purpose, proper instructors must be found, and other requisite means of study provided, as also the efficient and vigilant superintendence of the able scheme ensured by the earnest co-operation of the members of the profession. In addition to moderate fees to be paid by the students, it will be necessary in the first place, that liberal contributions from our members should provide the means for procuring the several requisites of fittings and conveniences to commence and carry on the school, and the committee rely upon your generous concurrence to furnish the funds for the purpose. . . . .

The self-respect of our members may be stimulated by the example of one of the highest dignitaries of the Roman Catholic Church in these realms. Cardinal Wiseman has recently delivered before the members of the Architectural Museum a lecture "On the Past and Present, and the Prospects of the Future for Good Architecture in London," and, I think I may add, "*in England*," if I may be permitted to follow up the scope of the remarks of his Eminence. We must all feel grateful that such a topic should have been handled by so high an authority, with such fine perception and discrimination for the monuments of our art, with so wide an acquaintance with its finest productions, and to so practical a purpose. It is of the utmost importance, when one so exalted in rank, and of such cultivated taste, vindicates that which is pure in our art, and raises a teaching voice to the profession, as well as to the public in general.

Nor can it be admitted that there are not topics enough, dark and obscure questions, still to be investigated and elucidated by our thoughtful architects. When the revival of classical literature produced, as a natural consequence, the revival of the study of ancient art and monuments, then the enlightened men of the sixteenth century applied themselves to the patient and earnest investigation of those relations which obtained in the edifices of classic antiquity. They laid down the rules and laws of proportion in regard to the orders, dimly shadowed by Vitruvius. These canons have been misunderstood and misrepresented in later times, and never more so than in the present. They were offered as elementary, liable to change as taste and refinement of perception might suggest; but they have been considered as arbitrary and empirical trammels to taste, and what were meant as merely proximate results have been assumed to be positive and final.

Mediæval art has not as yet been so investigated, and some may say it never can be. Can positive proportions be laid down as to the relations in size in the several parts of a column, the base, shaft, and capital? In the group of a range of mouldings? Or in the mutual relations of proportion in the apertures of doors or windows, or in their respective dressings? No law has been discovered in the relative bearings of piers, or openings of arches of naves in their breadth and height. The just width and height of a nave or tower, or spire, have still to be ascertained. Who has yet had the patience or grasp of mind philosophically to dive into the mysterious relations and parts which constitute the beautiful in the choir of Lincoln, in the nave of Westminster Abbey, in the façade of Cologne, or in the massive energy of Durham? Whence the source of the impressions which these remarkable structures produce?

I would also venture to suggest subjects still requiring investigation, such as the positivism reigning in some minds at variance with the idealism of the poetic temperament in others. Such consider that there is no room for beauty except in absolute stone, brick, or metal, as to the substance, and of use or usefulness as to the application; and that grace, expression, and meaning cannot exist except in some immediate materialism. They acknowledge no poetry or proper fancy, unless embodied in the rarer and more precious materials, and that sensuous impressions are necessary to give reality to those of mere abstract imagination.

Would it be unprofitable to inquire to what extent the happy genius of great artists may by an intuitive instinct have lived in an atmosphere of beautiful ideas and consciousness of grace, expression, and sentiment, so as to translate and embody them in their own creations, as by a divine afflatus? May it not be that in former periods the mysterious relations of beauty were known and laid down practically in positive canons, and that the great superiority of their works consists in the happy temperament of those artists, who felt most powerfully the best mode of applying those canons, so as to convey to others the impressions they themselves experienced and sought to excite?

In the divine order of the universe, it cannot be doubted that there are certain fixed laws of beauty dependent upon certain relations; upon a fitness, harmony, and proportion, as yet unrevealed, and consequently unascertained. So in art we recognise a like influence. It remains for some high intellect and discriminating mind to interpret these laws, and to penetrate and develop the mysterious relation by existing examples.

In what consist the grand peculiarities of Greek art? for its moral grandeur and unequalled purity are not merely legendary, nor is our admiration based upon our religious feelings, as is the case with Mediæval productions. Our recognition of their power is apart from all passion. Our reverence rests upon objects devoted to a distinctly different theological origin. We have no immediate affinity of customs, thought, or literature, in common with those of the times in which they were produced. May we not be considered as impartial judges, uninfluenced by considerations that might otherwise warp the judgment, when we bow with reverence to the mighty genius of the Greeks in art and in letters?

Not to mention the many curious and important questions in construction which arise from the numerous new materials and combinations of materials brought under the notice of architects and engineers, and their structural application, I may perhaps be permitted to suggest that the description of the many important buildings in course of erection will afford much instruction. Probably the greatest profit may result from such communications. It argues no assumption on the part of the architect, for he merely states the requirements he may have had to satisfy, the special difficulties he may have had to encounter, and the means he may have adopted to carry out his conception; and who can explain them so well as he? And we have witnessed such occasions at our meetings, when this plain, unvarnished, earnest, statement has riveted attention, and received the grateful recognition of all present.

I throw out these hints to show how wide a field there is for interesting papers. And in addition, there are the vivid impressions on the minds of those architects who visit the Continent, and who, whether in France, Germany, Italy, or other states, will have found much that ought to be recorded, both as to the productions of past and present times, and as to the place they should hold as works of art. Without the intention of depreciating any, we may be permitted to compare them with those of other periods and countries, to ascertain their true relative value, and to husband them as preciously suggestive. We should also observe the rapid progress made of late in France, where a new era of improvement has made gigantic strides, and architecture, under the presiding enlightened genius of a great mind, contributes to the convenience, health, and dignity of the metropolis and of the provincial towns.

How is it that the Crown, the Government, and the Parliament of Great Britain have a kind of paralytic atrophy of feeling in regard to their duty to endow the country with useful monuments that should add to its comfort, its embellishment, and its grandeur?—regarding each other with a kind of awe, lest the one should ask too much and the other grant too little; each thinking that adequate and appropriate buildings can be erected with a small outlay and a miserable disregard of the nobility of architecture; thinking that a grudging economy is not unworthy of a nation like ours, great in its political position among nations, and rich in its resources. Why are such buildings still to be desired as public offices for our departments, to replace the paltry hired accommodation rented at enormous sums? Why are the law courts of the metropolis, for which the funds are ready and lying idle, not begun? or the accesses to the new quays forming on the banks of the Thames at a stand-still? or the restoration of the Chapter-house at Westminster? or the chapel of the Holyrood at Edinburgh, a disgrace as a religious appurtenance to the palace of our Sovereign, not contemplated? or our harbours of refuge disregarded, as are many other such public works, demanded by the necessities of the nation or the feelings of the public? Why are such to find no place in the estimates of the Chancellor of the Exchequer of an empire whose actual income sits lightly upon it, though reaching to seventy millions? Is the realization of such wants to be left to future generations, and thus the present to be deprived of the enjoyment it ought to possess, if those at the head of affairs conceived their duties aright? Is it to be reserved to us to contemplate the accomplishment of such operations by the history of Imperial Rome of the past, or the example of enlightened Bavaria and Imperial France of the present? Is imperialism necessary for such high and lofty considerations? . . . . .

According to the wise regulations of our Institute, this being the second year that I have been called upon to fill, however inadequately, the duties of your president, the present is the last occasion on which I shall have to address you thus at length, and to reveal to you all my inmost feelings as to our art in reference to our profession. I trust, therefore, I may be permitted, without offence, and without wounding the susceptibility of others, to confess broadly and distinctly my own impressions of the importance of the study of Classic art, as a most essential element in the education of the young architect; and I do this at once to vindicate myself and the highest expressions of artistic thought.

There are those who consider Classical architecture as an incumbrance to the student in his educational career, and therefore ignore it, adopting a more recent class of art, without suspecting that they lose much by the omission; and, in fact, such minds do not lose much by such a conclusion, for the opinions of the learned are to them of little importance. There are others, however, who, without absolutely arriving at such a conclusion, still do not place much reliance on classical studies, and they require reasons why, when there are styles of so much more recent date, and more nearly connected with our history and customs, so much deference should be paid to what they call the alien productions of remoter periods, of distant lands, and of such different necessities and habits of living and thought. Let us now consider what the advocates for Classic architecture may adduce, and how the present style may be improved. All right-thinking persons agree that too much attention cannot be bestowed upon a subject which is calculated to inculcate purity of taste and high elevation of thought. The necessity is admitted of adopting the best models for the formation of correct notions of the beautiful in art. When any monuments of recent times shall have excelled the works of the Greeks and Romans in the full development of their magnificence and splendour, whether as regards their proportion, grandeur, fitness, and refined orna-

ment; and when any subsequent buildings shall have equally united through as many ages the general reverence of mankind, it will be time to discuss the relative pretensions of the two epochs to be considered supreme, as having embodied the soundest canons of refined taste. The architects of Greece and Rome lived in periods when art in those countries was at its culminating point,—when men of the most cultivated minds and of the highest intellectual status in such departments were engaged in discussing in the schools the laws of taste and the utmost refinements of thought. They laid down the laws of proportion with exactness. The sister arts of sculpture and painting were most refined, and the masterpieces of the highest genius were produced. Neither the one nor the other was obliged to depart from the truthfulness of nature in order to conform to the arbitrary peculiarities of architecture. Our own eyes see that the works of Phidias, Scopas, Bryaxis, Timotheus, Leochares, and Pythis were as full of all the just proportions, native grace, and artless pose, as if the living subjects themselves had assumed the positions in which the sculpture is grouped, and as if the statues were intended for independent purposes. Those artists worked for an intelligent people, and had not to seek adventitious means to make their works come home to the convictions of the multitude. No contortions of form; no excess of expression. The poetic fancy of the artists had its limit, and did not run wild. The sacred edifice did not admit the caricature of sacred subjects, but maintained a tone of feeling and thought removed from everything that was lowly, familiar, and debasing. No masked efforts in point of construction. It is amazing to think that Classical art, with all the magnificent remains we have of the genius of the ancients still existing, should be put upon its trial in England. It is true that the monuments are in ruins, that the completeness of their original state, with all their appropriate accessories and the maintenance of their actual use in our times, does not exist, as in Mediæval buildings; and that the fulness of Greek art is to a degree an abstraction, and can only be appreciated by those who have lovingly and profoundly studied the subject; and by so far it stands at a disadvantage with more recent phases of taste. But with such a standard of purity as that revealed by the monuments of Attica, of Asia Minor, and of Rome, not to mention the provinces enriched by the reflex of glory, that sheds its halo on such ruins as those of the South of France, and in Sicily and Pompeii; a school cannot wander far from the true path unless in ignorance it rejects all antique tradition. It must be an impatience of wholesome control, a disregard for sober authority, a wild license of thought and passion for novelty, that would disregard the rich inheritance of the influence of Classic taste; to cripple and destroy which is an act of barbarism and folly, an audacious attempt to throw back civilization, a high treason against good sense. For their temples, which are the highest expression of art in any people as being dedicated to the Deity, and coincident with the deepest feelings of devotion in the heathen mind, were objects worthy the acceptance of the Divinity. They were eminent in conception, choice in every detail, superb in embellishment, calculated to excite feelings of reverence and awe; stupendous as to size, striking as to position.

If we are to ignore the Classic and select the exclusive study of Mediæval art, as the most reasonable and masculine for the mind of youth, which period of Mediævalism are we to adopt? for our present advocates for Gothic architecture—and I speak in the presence of those who can correct me if I am wrong—are at variance in principle and practice upon this point. The three periods of Classic art show the progressive advance of taste, an enlargement of the sphere of invention, not an antagonistic process; for each one was perfect and harmonizing at the same time with the rest. All these could be adopted at the same time with perfect congruity. But shall we adopt the Byzantine? the Norman? the Early Pointed? the Decorated Lancet? or the Perpendicular, or Flamboyant? Will either admit a mixture with the other? We are limited to our one style. The Semicircular will not properly combine with the Pointed; nor the details of the pre-Norman with those of the subsequent epoch; nor the arch of this with the arch of that period. Where is the just ratio between the base, the shaft, and the capital? They are all various. Where the utility, except for show, of the column, elevated in the Classic to the leading maiestic feature of a monument, in Mediævalism reduced to mere shafts of decoration? What the laws of contrast between light and shade, when all the mouldings of a clustered shaft or reveal may be rounded off without a square or plane face to act in contrast and relief? Where the beauty of the exterior of buildings without breadth, cut up by the projecting and flying buttresses, evidences of weakness in construction, destroying all unity, quiet, and repose, and introducing instead a bustling busy succession of shadows, lines, and disconnected parts? What mean those niches with figures therein, following up the sweep of the curved vaulting of a cathedral porch, as if each effigy of solid stone were ready to fall on the head of the worshipper as he entered the sacred edifice? What meant all this magnificence of disposition, that costliness of decoration, that attention to animal luxury and comfort for the residences of men supposed to be devoted to ascetic self-denial? What that influence of art and material bestowed upon the memorials of monk and nun, abbot and bishop, so flattering to clerical vanity, and which the heathen did not admit?

Doubtless there are many daring flights of science and hardihood of construction, showing great skill and handicraft. But there is scarcely a cathedral which is not tottering on its legs, displaying rents and crevices, and threatening ere long entire ruin, unless timely repaired, after only five or six centuries of existence. Whereas there are the remains of monuments in Italy and Greece and Asia, which have survived the shocks of earthquakes, the barbarous violence of the destroyer, and the wasting havoc of time. Despite of all this, they present lines of columns surmounted by heavy entablatures, standing free and upright as on the day of their erection, and as though in their solitary grandeur they still defied the raging of the tempest, the fury of man, and the natural causes of decay and ruin. We conclude, then, that it is best for the student not to be exclusive in his taste, for there are elements of grandeur, fitness and elegance in all classes of art and in all periods. But to train the mind to appreciate the truly beautiful, he should select for his early studies the examples most severe in taste and most correct in form, as the best adapted for that purpose. His education, therefore, should be classical, perfected by a knowledge of all subsequent styles, including the Mediæval; and then he may adopt and exercise safely the one most congenial to his matured taste and experience; for then he will be unprejudiced, the slave of none, the master of all.

In thus frankly stating my views on the relative merits of the two great periods of our art, the Classic and the Mediæval, it is not my purpose to arrogate in practice the exclusive superiority of the one over the other. Each has its peculiar sphere of usefulness and practical application, and that a noble one—in the wants of the present period,—wants as regards taste, wants as regards use. The extreme Classicism is to my own mind as unsuited in many cases to our requirements as the extreme Gothic. Our domestic habits, our public requirements, nay, our religious turn of thought, in God's mercy, happily demand modifications to suit them to the actual and not imaginary state of society. We must not be acting as puppets, and, as on an ideal platform, play the part of bygone thoughts, feelings, and impressions, but work out the honest convictions of the present real stage of life. We may look back, but we cannot go back to the past. I pray you, then, not to consider me as inculcating partizanship in artistic life. It engenders a rivalry of the lowest kind; it embitters the emulation, which should on the contrary be generous; and it gives rise to enmity between those who should be friends: and such an unworthy motive-principle of action in a pursuit like ours, must be utterly repugnant to all honourable minds. The character of the profession depends upon the manner in which it is practised by its professors; and its status is fixed by the aims of those who stand highest in its ranks, and by the mutual respect in which the members hold each other. With noble ideas of art in the abstract, with a devoted love and reverence for the beautiful, all must seek to illustrate these qualities in their productions, irrespective of the applause of the critic or the unenlightened admiration of the public. Uninfluenced by mercenary views, by jealousy, or by selfish ambition, we must be forbearing and just to our brother competitors in the race, and judge them rather by the emanations of their skill and genius than with reference to ourselves. Under such influences the art becomes of noble growth, healthy, hearty, glowing with generous sentiment, and creating an atmosphere, a living principle, worthy of the best of times, and creditable to those engaged in the pursuit. An honourable profession like ours must be honourably pursued.

ROXBURGHSHIRE.

When a writer has spent thirty-five years in collecting materials for a work, he is entitled to be heard. He is not one of those who rush into print with the same careless haste as they who leap before they look. One may conclude that he has had time and acquired taste to winnow his materials of worthless or irrelevant matter. We may, at all events, give the historian of Roxburghshire credit for quite this much painstaking.* Mr. Jeffrey published the first volume of his history in 1836; the second in 1857; the third in 1859; the fourth has just issued from the press, and is by no means the least, either in bulk or value. It treats of the regalities of Melrose and Hawick; the baronies of Galashiels, Wilton, Minto, Hassendean, Cavers, and Bowden; the town and lands of Tessudden; the territories of Maxton, Lilliesleaf, and Liddisdale, with notices of their antiquities, architecture, manufactures, legends, agriculture, roads, eminent men, and indigenous plants.

One of the most interesting of these districts is Liddisdale, the tract of country on the Scottish border-land immediately opposed to the counties of Cumberland and Westmoreland. It derives its name from the river Lid, which flows through the vale, or *dal*, to join the Esk. In Saxon times King Edmund granted the English counties mentioned to Malcolm, king of Scotland, on condition that he would protect the northern part of England, by sea and land, against all comers, in testimony of which gift a cross was erected at Stanmore, on the confines of Westmoreland and Yorkshire, sculptured with the arms of England and Scotland. This grant was the origin of a long series of contentions, involving the burning and pillaging of the district over and over again. The question of the rightful ownership of these lands was contested through the reigns of several sovereigns of both countries, but remained unsettled till the middle of the thirteenth century, when King Henry agreed to assign lands of the yearly value of 200*l.* within the counties of Northumberland and Cumberland to the King of Scotland, if lands of that value could be found without the limits of those towns where castles were erected. In virtue of this agreement, the baronies of Penrith and Sowerby were assigned to the Scottish Crown, when Kershope water, a fork of the Liddel, became the limits of the kingdom. Thus early sown with the horrors and barbarities of warfare, the soil seemed capable of bearing no other crop. Down to the middle of the sixteenth century Liddisdale was a stronghold of lawless men, and the haunt of freebooters. Duels and assassinations were common occurrences. One of the earliest atrocities recorded was the murder of Ranulph de Sules, the chief noble of the dale, in Liddel's *strength* or castle, by his domestics. William de Douglas, a subsequent owner of this noble's lands, became possessed of them by slaying an intermediate possessor of them while out hunting. The same William de Douglas seized Alexander Ramsay, the Sheriff of Teviotdale, and starved him to death in a dungeon of his doubtfully-gotten castle in Liddisdale. He also killed Spens of Kilspendie in a duel. After this last "gentle passage of arms," Angus said to the attendant of his slain foe,—"Go thy way: tell my gossip, the king, that here was nothing but fair play. I know my gossip will be offended, but I will get me into Liddisdale, and remain in my castle of Hermitage till his anger be abated." The contumacious earl, however, did not get off so easily on this occasion as he expected to do; for the king compelled him to exchange territory with the Bothwells, as he found himself unable to exert any authority over him as long as he retained possession of Liddisdale.

There were seventeen clans on the Scottish border: of these Liddisdale had two—the Elliots and Armstrongs. They were all bold, brave men, given to *riding*, or making sallies into other

* The History and Antiquities of Roxburghshire and adjacent Districts from the most remote Period to the present Time. By Alexander Jeffrey, F.S.A., Scot. Vol. iv. Edinburgh: Beton & Mackenzie. London: Whittaker & Co. 1864.

clans' territories for the purposes of plunder. The Armstrongs believed themselves to be descendants of one Fairbairn, an armour-bearer to one of the early kings of Scotland, who rescued his dismounted sovereign from danger by lifting him by the thigh, and setting him upon his own saddle. The Armstrongs attributed their name to this feat, and their possessions on the border to the king's gratitude. Their crest they considered a token of this deed, an armed hand and arm, in the hand a leg and foot in armour, couped at the thigh, all proper. In one of the royal MSS. preserved in the British Museum, dated 1590, it is set forth:—"The chiefe surnames in Lyddesdale stand upon Armstrong and Elwoods. The chiefe Armstrong is of Mangerton, and the chiefe Elwoode at Lariston. These are two great surnames, and most offensive to England at this daie, for the Armstrongs both of Annendale and Lyddersdale, be ever ryding."

Mr. Jeffrey has printed a *fac-simile* of a map attached to the MS. quoted above, which shows that the banks of the rivers Liddel and Hermitage, and their branches in this valley, were studded with pele towers. Near the source of the Liddel stood the pele of Martin Crosier. A short distance from this, on the right bank of Helcaldron Burn, was that of John Copshaw. Going southwards, there were the towers of Sim Elliot, execrated in the ballad of "Hobbie Noble;" of Ladiesfaine, from whose owner all the border Elliots are descended; of Clints; of Castelton; of Potterlain Park; of Whithaugh; of Copshaw, the residence of the famous Johnnie Elliot, from whose wound Bothwell was suffering when visited by Queen Mary, in Hermitage Castle; and of Syde, where lived "Jock o' the Syde:"—

> "He is weel kend, Johne of the Syde,
> A greater thief never did ryde,
> He never tyris,
> For to breik byris
> Ower muir and myris
> Ower gude and gyde."

Only a little to the west of the site of the tower of this famous Armstrong are the remains of another, the Puddingburn Ha', where "Dick o' the Cow" performed the exploit of stealing back his own stolen horse from the Armstrongs, together with one of their best, after *tying the rest with St. Mary's knot*, or cutting their hough sinews to prevent pursuit. This feat is regarded as the more expert because, when it was executed, the Armstrongs were feasting upon "the fool's own cow." Opposite the Syde stood Mangerton Tower; and near it Green Ha'. Hermitage Castle, the chief "strength" of Liddisdale, is in the same locality. Two miles above it stood Goranberry Tower, a pele that was inhabited by a family haunted by a Cowie. This supernatural being took great interest in the execution of the various tasks required for the family's comfort, and very frequently performed very useful offices for them in the night; but he was most valued for the intimations he gave when death was making its approach. He announced this event always a short time beforehand, with wailings of touching intensity. It was not until the last representative of the line was gone that he discontinued the practice. Below Hermitage Castle there was a tower called Milsholm, and another called Hartsgarth, on a burn of that name. Another pele stood at Roan, and not very long ago, when some alteration was about to be made to it, a slab was turned over in the cellar which had the following puzzling lines incised on the under side:—

> "I am set here baith firm and dry,
> That sic up and baup may in me lie;
> Blame me not when you be cold,
> For I am neither in house nor bold."

Between fifty and sixty peles stood in the limited district depicted on this map of Liddisdale. They were for the most part square towers, differing only from Northumbrian peles in the Scottish character of the details. Some of them were on a larger scale than others. They were provided with court-yards inclosed by strong walls, fortified by battlements and turrets, into which the owners' cattle was driven at night, or on alarm. The turrets were thrown out upon corbels and capped with conical roofs. The basement chambers were always stone-vaulted. But few of the large number mentioned are still standing, owing to the literal interpretation and prompt execution of the mandate of James I. of England and VI. of Scotland. He commissioned Sir Walter Selby to enter Liddisdale and raze every place of strength to the ground, so that the two countries might be the more effectually amalgamated. In place of the square-set towers that had weathered so many storms and seen so much service, farm-houses began to appear upon the wild moorland scene. It is probable that many of these were built upon the sites of peles and incorporated their remains. As time passed on, all sense of insecurity vanished, and clay and thatch were used as building materials for purposes where stone walls 4 ft. thick were formerly deemed indispensable. The scores of small dwellings wrought of these frail substances looked ruinously picturesque before they were very old. Under the judicious ownership of the Duke of Buccleuch, they have now become as scarce as peles, and even the more recent thatched cottages are being superseded by wholesome slated houses.

There were no roads in Liddisdale a hundred years ago. The traveller had no choice of conveyance: there was nothing for him but the saddle. Every pack of merchandise, every basket of country produce, was carried to its destination on horseback, over moors, bogs, and mosses. There was not one bridge over the rivers Liddel and Hermitage in a run of twenty-six miles, in 1792, and the traveller had to ford them over and over again as they wound into his route. There are now two railways traversing the valley; and this district of freebooters, where the eagle was seen carrying off a lamb not many years ago, and a crane was shot only last summer, is fast being converted into a soft pastoral landscape.

The interest of the regality of Melrose is of a different order to that of Liddisdale. But this, in its monastic connexion with Melrose Abbey, and its literary and romantic association with Sir Walter Scott and Abbotsford, has been so frequently treated, that we turn to a district of which less is known, as a sample of Mr. Jeffrey's materials. The barony of Galashiels has a special claim upon our notice, because it is situate in the forest of Ettrick, the tract of country with which James IV. endowed his English bride, Princess Margaret. *Gwala* is the ancient British name of the river, and *shiels* is the Saxon word by which shepherds' huts and farm buildings are still called in the north. The ancient town consisted of two streets, with a tolbooth, market cross, and pele tower. The church appears to have been built on the opposite side of the Tweed, and to have been rebuilt on the north side, as a kirk, about 1622, when a report of the commission for the plantation of kirks gave 400 as the number of the inhabitants. About this time the woollen trade was represented by three *waulk-mills*, each paying a rent of 5*l.* per annum. As these were exposed to the elements they were useless in frosty weather, therefore the whole of the male population of the place were compulsorily idle at such seasons. As a relief to the discomfort of this state of things, the laird and parish minister repaired to the market cross, and summoned the frozen-out workers, by bell, to accompany them to the *haugh*, to play at *shinty*. All the men of the names of Hab, Jock, Tam, Andrew, Adam, and Dan, formed one party, and played against the men whose names were not included in this category; and at the end of the game both sides repaired to the manse, where they were regaled with the Scottish dish *nolt's head and brose*. At that date the wool was distributed to 240 women, living in the neighbouring villages and hamlets, for them to card and spin in their own houses. On Saturdays they brought their work into the town, and were paid for their industry at the rate of sixpence per *slip*. In 1780 the first movement towards the adoption of machinery was made, when a *willy* was put up in a garret, and its owner *willied* for the whole town. The next step was the introduction of the carding machine from Leeds. Then followed the covering-in of the Wilderhaugh mill, and the erection of a small wheel to drive the new scribbler; and the rapid adoption of one improvement after another, the building of new mills and application of steam-power. There are now sixteen mills at Galashiels, or sixty setts of machines, and the trade carried on is estimated to be of the annual extent of 420,000*l.* The armorial bearings of this thriving burgh consist of a plum-tree, with a fox sitting on either side of the trunk of it, looking up into the branches. The motto is "*Sour plums.*" This device is interpreted as a memorial of a successful fray with some Englishmen, who had wandered from the main body of the army of David II., in search of the plums which grew in the woods around and on the banks of the river. The Galashiels men turned out to punish their temerity, and slew them all to a man, throwing their bodies into a ditch, known to this day as the Englishmen's Syke. The sour plums are the wrathful proprietors of the sweet plums, of which the thirsty stragglers were in search. Their exploit was handed down in an old song, and the tune "Sour plums in Galashiels" is in great favour among Scottish pipers.

Mr. Jeffrey has touched upon a subject that has caused as much wonderment among the antiquaries of the north, as the incised sculpturings on rocks recently noticed in these columns. This is the occurrence of a number of terraces, one above another, on certain hill slopes, both on the English and Scottish side of the border. They form wide, smooth, level, regular platforms, and are noticed most frequently towards the summits of the hills on which they occur. There are as many as a dozen tiers of them on some hills. The local name for them is *baulks*. The first question that arises is, are they natural or artificial? are they bank-like deposits left by the subsiding of mighty waters, or are they the work of man? They occur on a ridge of hills forming the east side of the glen of Edgerstone, on the Cayle and Capehope waters, near Hownam, at Belford, on the Beaumont, on the Reed water, at Heathpool, on the Colledge, and at several other places in Northumberland, and on the Cheviots. Gordon, in his "Itinerary," gave an opinion that they were Roman itinerary encampments. Pennant and Wallis (the historian of Northumberland), concur in deeming them places for the militia, to arrange themselves upon in time of war, so as to make the most imposing show. Those antiquaries who cherish strong Roman predilections, believe that they are Roman corn-fields. Mr. Jeffrey's own view is different from all these. Pointing out the fact that the Britons had a considerable knowledge of agriculture before the Roman invasion, and, indeed taught their conquerors the use of marle and of the flail, and that in the fourth century there was enough corn grown in Britain to save the inhabitants of the towns and villages on the Rhine from the horrors of famine, he thinks these terraces are either the works of the ancient Britons or of the Saxons. The early abbots of Melrose and Kelso were great farmers, and possessed granges in every district in this part of the country, and so may be reasonably accredited with these curious relics of high farming. On the other hand, these hanging corn-fields are also in the neighbourhood of ancient British remains. In the valley of the Breamish, where there are sites of Celtic huts indicating a population not less than 500 in number, there may be counted sixteen terraces, varying from 10 ft. to 40 ft. in width, on one hill, and several other hills bear traces of cultivation, in a similar manner, to an altitude of 1,000 ft. above the level of the sea. As the low-lying lands in these districts were bogs and forests, we must conclude that the sides of the hills offered the greatest facilities for cultivation, and that they were accordingly used by the first occupiers of the soil in the same way that every patch of ground suitable for a vineyard is picked out by the vine-growers on the steep hill-sides on the Rhine at the present day.

Hawick is just now augmenting its manufactures at a pace that promises to place this town in the foremost place in the south of Scotland. Several public buildings have been erected recently, besides a number of houses; and, generally, there is an aspect of prosperity in its streets. The trade of Hawick began with the sale of the yarn spun by the women of the district of winter evenings. This was either sent to Kendal, Boroughbridge, or Stirling, or sold at the fairs to *riders*, or bagsmen, from England. In the middle of the last century, four men established a carpet manufacture, which was speedily extended to that of carpet-covers, table-covers, and rugs. In 1771, one of the magistrates started the manufacture of stockings with four looms. In 1787, cloth was added to the productions of the town; and early in the present century woollen plaiding and blankets were manufactured. The tweed trade has opened out fresh resources, and run the estimates of the yearly value of the trade of Hawick up to 250,000*l.* sterling. Mixed up with the new mills and flourishing shops are the remains of the ancient town. Here and there may be seen one of the old houses which indicate the style of the former homes of the inhabitants. The ground-floor was appropriated to the cattle; the second story, to which access was gained by an external stair, was the dwelling. Many of the ill-ventilated closes and wynds are still densely inhabited,—an unsanitary arrangement which the town council would do well to look into.

ARCHITECTS AND THEIR PUPILS.

If we may judge from the tone of a number of the letters we have received on this subject, the course pursued with pupils by those to whom they are articled is much more satisfactory than was once the case. A few years ago a complaining letter such as that of "A. P." would have brought us a dozen echoes and no contradiction; whereas the majority of those we have now received deny that pupils generally have much to complain of, and many of them condemn him as taking a wrong view of his position. For example, "Another Pupil" thus writes:—

"In common justice to the architectural profession, will you permit me to offer a few comments upon the letter of 'A. P.' which appeared in your pages? Instead of making out his case to be a very bad one, 'A. P.' proves himself to be in very advantageous position, for he tells us that all the work is done by pupils;' and surely, if his employer has anything like a fair share of practice, there must be more opportunities for acquiring practical knowledge than if the work were entrusted to experienced assistants. 'A. P.' proceeds to complain that no time is allowed for study. This appears little short of absurd. Does he expect his master to grind him in those subjects which should have been mastered at school? A pupil enters an office to study the application, and not the investigation of principles. If 'A. P.' grudges a few hours in the week for study, the sooner he gives up the 'profession' the better. It was not by only working eight hours a day that Barry or Chambers rose to fame.

Of books there can be no lack in London at least, and every country town of any importance has its Mechanics' Institute. Why, sir, at Kensington Museum access can be had to standard works of every description. Every comfort is provided for study, and the charge is only 10s. per annum. The Museum is open till 10 p.m. for three evenings a week. With such opportunities there can be no room for complaint. If 'A. P.' will remember and apply the proverb, 'Where there is a will there is a way,' all difficulties will vanish."

Hear a third pupil:—

"'A. P.'s' letter appears to me to be dictated by feelings of remorse for time misspent and opportunities wasted, and causeless spite against his master, because he did not make him study and learn his profession. But, granting his complaint to be just, and his misfortunes real, why does he take his case as the sample of all others, and say that 'all the benefit a pupil generally obtains from his articles is simply a knowledge of mechanical drawing?' Surely it is a reckless supposition.

My own experiences are totally in opposition to the views contained in 'A. P.'s' letter. I am articled for 4 years, about 2½ of which have expired, and I think I may fairly say that I do possess a moderate knowledge of the various branches of science, the loss of which 'A. P.' so bitterly laments, viz.—mathematics, mechanics, acoustics, chemistry, shoring, materials, and the history of architecture; and have acquired it, too, from no over-application of my own, but rather from the personal teachings, precepts, and kindly endeavours of the gentleman I have the good fortune to be articled to. My work has always been allotted by him, as that most likely and most calculated to improve my knowledge of the art, even at times to his own great inconvenience."

"An Old Hand" is more severe on A. P., but we can give only a part of his letter:—

"'A. P.' pathetically inquires 'where is his knowledge' of sundry sciences? That is his look out. Does he suppose his master is to keep a school and supplement his evident want of early instruction? Surely, with only eight hours out of the twenty-four nominally in the office, he could find two or three hours a day for study, and still have time for recreation. But 'I don't know what young men are coming to.' When I was a pupil a generation ago, office time was nine hours a day, and no half-holiday on Saturdays; and all my knowledge of the theoretical part of the profession was learnt out of office hours. So it is in every architect's office, in every lawyer's office, in every medical man's surgery. The system of apprenticeship is only meant to teach the apprentice the *practical* part of a profession, whatever profession that be: the study of the *theoretical* must be carried on in the privacy and quiet of home. Take the advice of an *old hand*, young gentleman, and remember that an apprenticeship is a give-and-take arrangement for the *mutual* benefit of both master and pupil: that if you make yourself agreeable and useful you will be appreciated and assisted both now and through the future."

A letter from a well-esteemed architect, signed "F. I. B. A.," may serve to close our extracts from a somewhat bulky correspondence:—

"I observe in the *Builder* with pain, a letter from an articled pupil complaining of the difficulties which beset him; and I wish, in a kindly spirit, to say a few words upon this very delicate question. An architect's pupil is an apprentice, and he is bound to do what his master requires, even though it be to run errands connected with his business. The master is not bound to give lectures on mathematics, ventilation, &c.; but he *is bound* to teach his pupils the 'art, profession, or mystery' of architecture. How this is too often done our friend Pecksniff, I fear, has too truly set forth. There is, no doubt, much misapprehension on both sides; but, as an old practitioner, I may be allowed to say no architect ought to take a pupil unless he can, *by actual practice*, show him 'how to do it;' and that no pupil ought to suppose that, by walking down to his master's office and copying drawings, he is acquiring the knowledge he seeks. Both parties must *work together*, the master imparting his knowledge freely and in a kindly spirit, and the pupil diligently studying both at office and at home, and using all the means at his disposal to acquire knowledge. The result will, I am sure, in such case be satisfactory."

VISIT OF THE METROPOLITAN BOARD OF WORKS TO EDINBURGH.

On Monday, in last week, the Metropolitan Board of Works, including Mr. J. Thwaites, chairman; Mr. Creasy, his secretary; Mr. Freeman, chairman of the Main Drainage committee; Mr. Bazalgette, chief engineer to the Board; and about twenty-five members of the Board, paid a visit to the Craigentinny Meadows, at Edinburgh, to inspect the system of irrigation by town sewage which has for years past been carried on there. The members of the Board were accompanied by Mr. M'Pherson, superintendent of streets and buildings. The party first visited the Restalrig Meadows, along with Mr. Scott, the tenant, who explained the process by which the meadows were irrigated with the sewage that flows down from the city. The members of the Board were next conducted to the Figgate Whins, by Mr. Bryce, manager to Mr. Miller, the proprietor of Craigentinny Meadows. The gentlemen comprising the party were then shown about 20 acres of ground, which was originally sand, and worth only about 12s. 6d. per acre, but which, by the application of the sewage manure, had at a small cost been converted into rich and fertile soil, which had during the last thirty-five years yielded rentals varying from 20*l.* to 30*l.* an acre. Several members of the Board, according to the *Scotsman*, expressed their satisfaction at this gratifying result.

THE MANSION HOUSE.

The retiring Lord Mayor (The Right Honourable William Lawrence) and the Lady Mayoress, received, at a *conversazione*, on Friday evening, the 4th, some eight or nine hundred members of the Corporation and private friends, providing for their gratification many interesting specimens of ancient, Mediæval, and modern art. These comprised cases of illuminated manuscripts and autographs from the library of Mr. Tite, M.P.; antique coins, seals, and medals; paintings in water-colours by Turner, Copley Fielding, Fripp, Carl Haagg, Jopling, D. Cox, and D'Egville; an oil painting ("The Bird in the Hand") by Michael Halliday; engravings, and some very curious bronze vases from Japan. The new art of photo-sculpture, too, was illustrated by a collection of statuettes, many of them of public men, so that every one was able to form an opinion of the development that an art, as yet in its infancy, is likely to receive.

In the course of the evening a concert was given in the Egyptian-hall, in which Mr. Santley, Madame Verralli, Miss Louisa Pyne, Mr. Charles Adams, and M. Lotto took part, Mr. Benedict presiding at the pianoforte.

It was a good idea on the part of Alderman Lawrence to bring together his friends to wind up socially the year of office. He has thus shown, and by a large dinner a few days previously, his determination that no lack of hospitality should be attributed to his year of office, although he could fairly have pleaded a sufficient excuse in the sorrow which fell upon his family. His last public act, and one to be long remembered, was the formal opening of Southwark Bridge to the public free of toll, on Tuesday last. Although ostensibly this removal of the toll is but temporary and as an experiment, it is not likely that it will ever be re-imposed. The long-needed new roof to the Guildhall, of which we have given an illustration, also belongs to his mayoralty.

NEW ROOF, GUILDHALL, LONDON.

The new roof in Guildhall, of which we give an illustration this week, is now on the point of completion, from the designs of Mr. Horace Jones, the City architect. The work was commenced as recently as the 22nd day of June last, when the first stone of the new internal cornice was laid by Mr. John Keldey, chairman of the committee, assisted by Mr. R. J. Chaplin, chairman of the City Lands Committee, and Mr. T. Lott, F.S.A., deputy. The length of the hall is 153 ft., and the span of roof 50 ft. The roof consists of eight bays, two of which are not seen in our view. A number of temporary gaseliers, by Dodson, of Fetter-lane, are attached to the timbers. The work has been carried out by Messrs. Geo. Myers & Sons.

THE R.C. CHURCH OF ST. JOHN OF JERUSALEM, GREAT ORMOND STREET, LONDON.

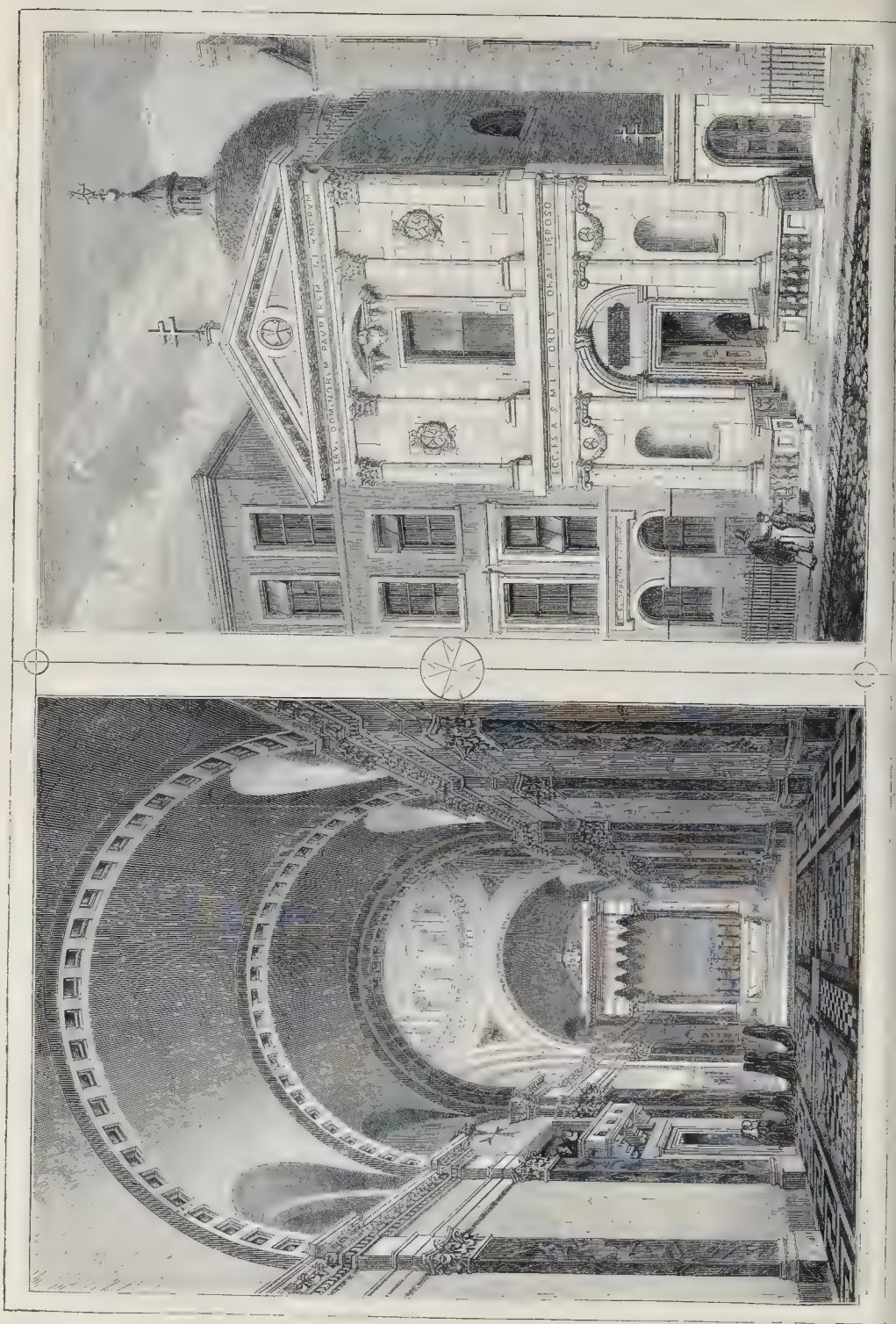
We have before now mentioned the church and hospital in Great Ormond-street, generously founded by Sir George Bowyer, stating that they were erected from the designs of Mr. G. Goldie. In our present number we give an interior and an external view of the church. The façade of the exterior is of two orders, Ionic and Corinthian. Upon the upper cornice is inscribed,—

"Servi: Dominorum: Pauperum: Infirmorum:"

and on the lower are the following words:—

"Ecclesia: S: Milit: ord: S: Johan: Hierosol:"

In the pediment is the cross of the Order of St. John of Jerusalem, and the Imperial crown and shield adorn the window, which forms a feature in the upper order, flanked by two sculptured wreaths. The principal entrance doorway is adorned with carved details, and is surmounted by a marble tablet, on which is commemorated the fact of the foundation by Sir George Bowyer. The whole of this front is of Portland stone. The church within presents a parallelogram, measuring 76 ft. by 26 ft. Slight recesses stand in the place of transepts, and beyond them is the choir for the religious of the adjoining convent and hospital, whilst between rises the cupola, measuring 24 ft. 6 in. in diameter, 37 ft. above the ceiling of the church, and 74 ft. from the floor. The lower portion of the church, which forms the nave, has a vaulted ceiling, embracing lunette windows in the groins, and spanned by richly-panelled arches. An elaborate cornice runs round the church below the ceiling, and rests on pilasters of the Corinthian order, all formed of polished red marble, with marble bases and plinths. At the upper end of the nave a doorway gives access to the hospital, and above it, carried on carved stone consols, is a tribune of polished alabaster, opening into the lowest ward, for the use of the sick. The floor of the nave is of coloured tiles, arranged in a fret pattern. A marble step lifts the sanctuary floor above the nave level, and this upper floor is entirely composed of white marble. The high altar stands immediately beneath the centre of the dome, and is surmounted by a baldachino of marbles of various colours, with a panelled ceiling of wood. Two side altars, both ancient, stand on either side in the small transeptal recesses of which we spoke above. The nuns' choir, behind the high altar, is fitted up on three sides with stalls, in mahogany and pitch pine, with carved elbows, and inlaid crosses of the Order of St. John, all polished. Against the extreme end wall of the church is a large tribune, carried on stone brackets, with a gilt lattice front, for the organ. This opens into the convent staircase immediately adjoining. The whole of the interior is decorated with gilding and colour, the latter, however, very sparingly used at present.





THE NEW ROOF OF THE GUILDHALL, LONDON.—Mr. Horace Jones, Architect.

BOULOGNE-SUR-MER.

THE position of Boulogne on the coast, and its proximity to England, rendered it from the very earliest times a convenient point of departure for invasion on the one hand, and the scene of frequent reprisals on the other; and the history of the place, particularly during the Middle Ages, is a continued record of various expeditions undertaken against England, followed by surprise or siege of the town by the English, who generally laid waste the country as far as practicable, ending with a treaty of peace, or a marriage between some unlucky scions of the opposing royalties, neither of which proceedings prevented hostilities shortly breaking out again, and pursuing the same course as before.

Now-a-days, however, a very different state of affairs exists between the two countries: the Boulonnais not only tamely submit to an invasion, which commences in June, and continues to the end of October, but employ every artifice to attract their former foes to their shores, and by studying their tastes and peculiarities, endeavour to induce them to remain among them. Instead of seeking, as of old,—

"To charge the Volscian home,"

they very much prefer fleecing the stranger abroad, and the innumerable bills, announcing "English spoken," "Furnished Apartments," "Pale Ale," and so forth, indicate that they do not even shrink from braving the difficulties of our language, in order to conciliate our friendship and secure our custom,—a sacrifice which every one who is at all acquainted with the French character will not fail to appreciate at its due value.* Nor is the alteration less marked with our own countrymen; they make excursions to the column intended to commemorate the subjugation of Britain; they traverse indifferently the steep zig-zag path from the site of the *Baraque de l'Amiral*, down which, as a tablet on the wall informs us, the Emperor Napoleon I. descended on horseback at a galop, in the year 1804, and can afford to smile at the statue of the emperor, in the traditional attitude, looking out across the sea towards England, erected by an enthusiastic but slightly unconsequential Briton, according to an inscription (now half effaced) on the pedestal, "on the spot occupied by the tent of the emperor, at the camp of Boulogne, in 1801, and inaugurated on the 14th June, 1856, the day of the baptism of the Prince Imperial, the fourth year of the reign of Napoleon, after the signature of the treaty of peace which terminated the war in the East, and which was carried on by the Allied Armies of France and England."

Boulogne is a very pleasant place of resort in the autumn months, and has been much improved of late years, although the evil odours which assail one's sense at frequent intervals indicate a state of things as regards sanitary matters that needs timely attention on the part of the authorities. It does not do to be too severe, however, in our criticism of these defects, looking to the condition of our own watering-places, and the very recent recognition by local governing bodies in Great Britain of the connexion between drainage and the public health. The municipality of Boulogne are, in many things, far ahead of similar institutions in our own country, and carry out their improvements upon a much more liberal and comprehensive scale than seems possible with us. The new Etablissement des Bains, completed last year, is of quite a monumental character, and in point of size, style, and arrangement is far superior to anything of the kind I am acquainted with in England. It contains a ball-room 93 ft. by 42 ft., which occupies the whole height of the building, the roof rising above the other portions and forming a distinctive feature. Around the ball-room, on the ground floor, are grouped other rooms,—drawing-rooms, refreshment-rooms, &c. On the upper floor are billiard-rooms, smoking-rooms, a ladies' music-room, a card and conversation room; and in front, towards the sea, is a gallery overlooking the ball-room. There are besides, a gymnasium, a swimming-school for both sexes, a croquet lawn, and various games to pass away the time agreeably. The building is of the usual modern French style, with very bold window openings and narrow piers, which, however, do not give any appearance of weakness to the structure: this has, on the contrary, a very solid although graceful air; and it is only at night, when the inside is lighted up, that the extreme slightness of the points of support is noticeable. The architect was M. Debayser, of Boulogne, whose design was chosen in competition.

Very extensive works are in progress for the new floating dock to the west of the port, on the site of a smaller dock, in which the famous flotilla of gun-boats intended for the invasion of England was moored, but which gradually silted up. The works were commenced in 1860, and are expected to be completed in the course of next year. The new dock covers about seventeen acres; the entrance is on the north side instead of on the east, as formerly, and the waterway between the jetties will be considerably increased when the works are finished.

The Calais railway is proceeding very slowly, but appears to be really approaching completion. It has now invaded the garden of the Tintelleries, which it crosses in an open cutting, and thence passes, by a tunnel, under part of the fortifications of the upper town, and finally runs into the terminus of the Northern of France Railway at Capécure, with a very sharp curve, by a bridge over the River Liane.

A new fish-market is building on the Quai des Bains, which will very materially add to the comfort and convenience of the city. The market, which occupies a wedge-shaped piece of ground between the Rue de l'Amiral Bruix and the quay, nearly opposite the Hôtel des Bains, covers an area of about 15,000 square feet, and has a frontage of nearly 150 feet towards the port. It will contain separate markets for the wholesale and retail trade, an auction mart for the sale of fish, a large assembly-room for trade meetings, and offices for the various [illegible]. The stone is from Creil, near Paris, with the exception of that used for the basement, which is from the quarries of Marquise, near Boulogne, and the roof is to be of wrought iron. The architect is M. Lérenx, of Paris, and the probable cost will be about 8000*l*. There is no contract, but the work is to be measured and priced according to a schedule.

There are but few new secular buildings erected of late years, but those few are generally in good taste. The new bank of M. Adam, late mayor of Boulogne, is a very successful work of its kind; and a house in the Rue Napoléon, belonging to M. Devisme, and another in the Rue du Bras d'Or, now erecting, are among the notable examples of recent improvements.

The building of the cathedral is still going on, under the constant supervision of M. l'Abbé Haffreingue, who has devoted more than forty years of untiring devotion to the work, which is now almost finished, at least as far as the body of the church is concerned, and will, I trust, shortly be sufficiently completed to enable the self-sacrificing founder to see his designs realized before his death. This enterprising man is not satisfied with merely completing the fabric of the cathedral, but has commenced decorating the Lady-Chapel and the round church at the east end in fresco, which is being executed by M. Soulacourt, of Paris, and already considerable progress has been made. The crypt under the cathedral is very interesting, and contains some very fine thirteenth century painting, and some curious Romanesque work, although it is to be regretted that the ancient wall-painting has been supplemented by some modern imitation, as well as some figures of saints in chiaroscuro of a most barbarous character.

The church of St. Alphonse, in the Rue Wissocq, has just been cleaned and redecorated, the capitals carved, and the roof diapered with gold stars on a blue ground. This church is by Mr. Hansom, of Clifton, and was consecrated in 1860. It has a wide nave, and the groined roof gives it a lofty appearance; but the details are unmistakably English in character, and the general effect is very cold and depressing.

The Church of Saint François de Salles, at Bréquerecque, by the same architect, is a much more pleasing building, and is of yet more recent construction. Its style is Romanesque, and its plan and details are quite French in character, and consequently more appropriate to the locality. The church exhibits, also, some very ingenious peculiarities of design which are worthy of remark, the confessionals being grouped together in an arcade on the south side of the nave, and the stations of the Cross are formed by *bas-reliefs* on the walls, by which means two very ugly features which disfigure most Roman Catholic Churches are made subservient to the general effect instead of spoiling it, as is usually the case. The capitals of the columns, corbels, &c., which are intended to be carved are, for the present, left in block,—a common practice in Boulogne. The *grille* enclosing the Lady-e Chapel is a literal copy of the celebrated one from the Cathedral at Viterbo, and was executed, I understand, by Messrs. Hart. The high altar is of stone, and is very well carved; there is a fine wooden pulpit, and a very ghastly mortuary chapel at the western end, covered with death's heads and cross-bones in the worst possible taste, both from an æsthetic as well as from a religious point of view.

The Museum, which is located in a large building formerly called the Grand Séminaire, a missionary college which was suppressed during the Revolution of '94, contains a very respectable collection of antiquities, chiefly donations—

"Every clime and age
Jumbled together; celts and calumets
Claymore and snowshoe, toys in lava, fans
Of sandal, amber, ancient rosaries,
Laborious orient ivory sphere in sphere,
The cursed Malayan creese, and battle clubs
From the isles of palm."

Tennyson's words describe their arrangement, or rather want of arrangement, admirably, and the effect upon the mind, upon looking over the miscellaneous curiosities, is something very little short of a nightmare. The Natural History objects are, however, very well arranged, and there is every facility afforded for study and comparison. The country to which each specimen belongs is indicated by the colour of the ticket on which its name is written thus:—Yellow signifies it is a native of Asia; blue, Africa; green, America; rose, Australia; white, Europe; blue stripe, Department of Pas de Calais.

There are a few Egyptian antiquities, probably some of the spoils of Egypt under the First Napoleon; among others, two very fine sarcophagi, one with the mummy partly unrolled, standing upright, and grinning horribly at the spectator. There are some Greek and Etruscan vases, a very large Greek wine-jar in excellent preservation, and a fine Romanesque font from Wierre-aux-Bois, about ten miles from Boulogne, which has lately been added to the museum.

Boulogne exhibits a very good example on a small scale of the advantages of an appropriate system of street-naming. The names of all the streets are affixed in conspicuous positions in white letters on a blue ground, apparently enamelled on iron. The ancient names have been generally retained; and where any alteration has been made, it has been with an object: thus the Rue de l'Ecu is now called the Rue Napoléon,—a change which sufficiently indicates its date as well as its purpose. In others the alteration has been made with the intention of doing honour to some distinguished citizen: thus the Rue Tant-pour-tant-Paie is now called the Rue de l'Amiral Bruix, and the open space in front of the Hôtel Christol is called the Place Frédéric Sauvage, in memory of Frédéric Sauvage, who is said to have discovered the principle of the screw-propeller, and who was a native of Boulogne, where he was born in 1786. There are few traits of character more agreeable than the respect and recognition which celebrated men receive in French provincial towns from their fellow townsmen. In the case of Frédéric Sauvage, it is intended to erect a statue in the centre of the square called by his name; and it would seem that the Boulonnais are not alive alone to the merits of their compatriots only, as they have resolved to erect a statue to Dr. Jenner, to commemorate the introduction of vaccination into France, which took place at Boulogne, and the statue, which is of bronze, will be shortly placed on the Quai des Bains. Whenever the name of a street indicates its position or direction, it has been preserved, and some of the names serve to point out ancient localities which would otherwise have been overlooked or forgotten. The Rue du Jeu de Paume, the Rue des Religieuses Anglaises, and Rue de l'Ancienne Comédie are cases in point, and many others might be

* Some of the attempts at English are very ludicrous: for example, on a board in the Rue de l'Ancienne Comedie are the words:—

"Litthe Carriages
Bath chaise let
english."

Another board announces:—

"Donkey hirer
to Let."

and on a house in the Rue Royale is the following inscription:—

"Ici
on maungle
le linge
maungled."

The *Monde Illustré*, a Paris paper of some pretension, lately gave an illustration of the pneumatic despatch at Sydenham, and in an explanatory article announced that "it goes from the Arsenal to the Crystal Palace, where the Universal Exhibition took place."

ntioned; but these are sufficient to illustrate topographical value of old names.

In the Rue du Château, close to the cathedral, ed and died Lesage, and the house is indicated a neat marble tablet over the door, upon ich is written, in gold letters, "Ici est mort uteur de Gil Blas, en 1747." Nothing could more simple or appropriate than this inscrip-n, which was placed by the Société Agricole Boulogne, and recals, by the omission of sage's name, an observation of Thackeray's, ade, I think, at the Literary Fund dinner, me years ago, that "Gil Blas is as real and as od a man as the Duke of Lerma; and, I be-ve," continued he, "a good deal more so." I mmend this tablet to the attention of Mr. owper and those gentlemen who fear that the loption of a similar method of recording where r distinguished men lived and died would preciate the value of house property. In this stance the memorial positively embellishes d makes interesting an otherwise common-ace house, and I do not know why the same sult may not be obtained in England. In the ne St. Jean, in the upper town, not far from e Rue du Château, died Thomas Campbell. Is ere no English club or association who will do r the author of "The Battle of the Baltic" hat the Société Agricole has done so grace-lly for the author of "Gil Blas"? Churchill, e poet and satirist, died at Boulogne,—it is id in the Rue Neuve Chaussée,—but the house not known. JOHN HEBB.

CONTINENTAL NEWS.

The Rhine.—The Queen of Prussia has caused monument to be erected at Coblentz, to com-emorate the opening of the great railway ridge which now connects that city with all the hief lines east of the Rhine. It consists of a linth column, 28 ft. high, resting on a base omposed of two steps. The Prussian eagle urmounts the capital, and the plinth bears an nscription descriptive of the circumstances in-ended to be commemorated.——The beautiful uins of the old castle of Godesberg, which will be emembered by all our Rhine-travelled readers s coming immediately after Bonn on the up-ard journey, is about to be taken down, having een sold by public auction on the 11th October, ogether with about fifty acres of the surround-ng land. What a pity!——Thomas à Kempis s about to have a monument erected to his emory, at Kempen, his native place. Kempen s a small town near Dusseldorf, on the road to Cleves. The Queen of Prussia, on passing hrough the town, on her late trip to Cleves, ook the opportunity, on being presented with a opy of Thomas à Kempis's works, to place a um at the disposal of the burgomaster for this urpose.——Professor Steinle has painted a arge picture, to be placed over the altar at the Church of the Minorites at Cologne, which we mentioned as undergoing thorough restoration. The picture will cost 6,000 thalers, of which one-hird has been voted by the Rhenish Art Union.

Hamburg.—A large lunatic asylum, the first stone of which was laid in December, 1861, has ust been completed. The buildings are in detached groups, the principal one consisting of a hospital, having a frontage (towards the south) of 580 feet, and two wings at right angles, each 250 feet long. Some 30 yards distant is another building 500 ft. long, forming the fourth side of the square at the back of south elevation. This building is fitted up with cells for the reception of noisy or violent patients, and will have the floors and walls lined with an elastic preparation composed of India rubber and cork shavings. A third group consists of what is called the Boarding House, designed to receive such patients as have the means to secure superior comforts and accommodation, paying from 5*l.* to 10*l.* per month. Smaller detached buildings, as the chief physician's residence, lodges, stabling, and coach-houses, complete the establishment, which has been fitted up throughout with all the improvements and conveniences of the day. Messrs. Timmermann & Schrader were the architects.——The tower of the church of St. Nicholas, which was built from the designs of Mr. G. G. Scott, is advancing towards completion. The funds have, however, suffered considerably, now that the church itself is finished, and hence the progress made is but a slow one. The tower and spire will be 452 ft. high. A very handsome stone pulpit has lately been placed in the church, chiefly executed in England.——A society has just been formed for the purpose of erecting cheap working-men's dwellings, a step likely to be productive of much good, and one which will soon be imitated in other overcrowded German cities.

Italy.—The church of Santa Maria del Fiore at Florence is about to have a façade. The committee is engaged in considering the designs which have been received in competition, and which are now publicly exhibited.——A soldier, whilst bird-nesting among the ruins of the old monastery of the Fratelli Umiliati at Pistoja, was fortunate enough to discover a large silver goblet, richly chased and ornamented with figures in relievo. Connoisseurs of course declare it to be the work of Benvenuto Cellini.

BRISTOL SOCIETY OF ARCHITECTS.

THE students' classes for Session 1864-65, have been formed in conformity with a resolution adopted at the council meeting of July 4th, 1864, for the purpose of helping the students to acquire a greater knowledge of their art than can be obtained in the routine of the various offices in which they are engaged; but any or all of the classes are open to other members of the society. The course of study is to be progressive, and is intended to be preparatory to the examinations established by the Royal Institute of British Architects. It may be comprised under the following sections:—

1. The History of Architecture and the Subsidiary Arts.
2. Drawing (A), from the Greek Antique and the best works of the Middle Ages.
   Drawing (B), from the Life, with Anatomical Lectures.
   Drawing (C), Figure Composition.
   Drawing and Modelling (D), Painting in Tempera.
3. Design—the Science of Construction and applied Mathematics, including Art Processes.
4. Languages, applied to the Study of Architecture.

No student will be permitted to draw from the life, until the examiners are satisfied with the progress he has made in drawing from the round. The fee for each student or other member for the course will be half-a-guinea, to be paid on entering his name. The classes were to commence on November 9th, and various lectures have been arranged for.

THE INDUSTRIAL EXHIBITION AT THE AGRICULTURAL HALL.

THIS exhibition terminated on Monday, on which occasion the Chancellor of the Exchequer presided. The honorary secretary, at the closing meeting, read a statement detailing the statistics and success of the Exhibition. During the eighteen days and evenings on which it had been open 196,926 persons visited the hall. It was the intention of the committee to award prizes, 81 of the first-class, 76 of the second, and 179 of the third; besides ten special prizes. The prizes would be in the form of a certificate in the Renaissance style of Italian art. It was arranged that each certificate should be signed by Earl Russell, who opened the Exhibition, and by the Chancellor of the Exchequer, who was then closing it, and by the Earl of Shaftesbury. The presentation would take place in January next, and most probably in Exeter Hall, on which occasion the Earl of Shaftesbury would preside. Mr. Gladstone, at the conclusion of his speech, said:—"The example you have set has already led to such results that I could give you a list of towns and places in which it is contemplated to hold similar exhibitions. Let us not, therefore, in speaking of this Exhibition as having reached its natural termination in the sense that the doors of the hall will be closed—let us not forget that it still possesses its moral force and social promise. Let us hope that it will be the happy parent of many children, and that it will help to confirm in the minds of the labouring community the useful lessons they have already learned, and will likewise prove to be the effective means for leading them onwards in the path, not of illusory and unsubstantial, but of true and real progress, and of healthful and Christian civilization." The committee, we learn, will relieve those noblemen and gentlemen who put down their names for various amounts as a guarantee fund of liability, and will have a surplus which will render such fund unnecessary on any future occasion. Next year they will be able to offer better prizes and other inducements to the development of the talent and industry of the working classes, and will extend the exhibition to the artisans of the whole metropolis; and thus, it is expected, fill the galleries as well as the basement of the Agricultural Hall with useful and valuable novel productions.

CATHEDRALS AND CHURCHES.

MR. J. HARRIS writes from *St. Alban's*,—Seeing the number of statements afloat with regard to the length of the various cathedrals, I have made this church my study, believing that our venerable pile exceeded them all in length. Chauncy, Clutterbuck, and Carter give it as 600 ft.; Buckler gives it 556 ft., and it is so stated in a guide published by Mr. Langley, of High-street. I have measured the same, and the extreme length from the westernmost point of the buttresses of the great west porch to the easternmost point of the buttresses of the lady chapel, I find to be exactly 556 ft. I think the following table will be found pretty accurate:—St. Alban's, 556 ft.; Winchester, 553 ft.; Ely, 532 ft.; York, 520 ft.; Westminster, 511 ft.

Mr. C. J. Palmer has said as to *St. Nicholas', Yarmouth*,—This church measures from east to west 230 ft., and in width, exclusive of the transepts, 110 ft. It is wider than any English cathedral church,—York being in width, 104 ft.; St. Paul's, 102 ft.; Norwich, 97 ft.; Winchester, 86 ft.; Durham, 81 ft.; Lincoln, 80 ft.; and Ely, Peterborough, and Salisbury, 78 ft. The width of St. Michael's, Coventry, with its spacious double aisles, is, I believe, 104 ft.

"Clericus" says the dimensions of the purely parochial church of *Holy Trinity, in Hull*, as stated in Sheahan's "History of Hull," just published, are as follow:—

"The edifice is 272 ft., long from east to west, the length of the nave being 144 ft. The breadth of the nave of the transept under the tower is 28 ft.; the length of the choir, 100 ft.; the breadth of the nave of the church is 172 ft.; the length of the transept, 96 ft.; and the breadth of the choir, 70 ft. It covers an area of about 25,640 superficial feet.

Of *Tewkesbury Abbey Church*, an inhabitant writes,—The dimensions of Tewkesbury Abbey, in particular as respects its length, will not very frequently be equalled, I think. They are thus given in "Bennett's History of Tewkesbury:"—Length from east to west (inside building), 317 ft. 2 in.; length of transept, north to south, 122 ft.; breadth of nave, 71 ft.; height of west window, Norman arch, 65 ft. It is stated that before the demolition of the lady chapel the building was at least 100 ft. longer.

ARCHÆOLOGICAL INSTITUTE.

ON the 4th, the first meeting for the season of the members of the Archæological Institute was held, the Marquis Camden in the chair. Numbers of objects of archæological interest were displayed on the table.

The Marquis Camden, in opening the proceedings of the meeting, congratulated the members on having been honoured with the patronage of the Prince of Wales, and on the success of their last annual congress at Warwick.

Dr. Rock noticed with regret the loss of Mr. Winston, and attributed his lamented death partly to the excitement of attending the congress at Warwick.

The first papers read were communications from Mr. H. Ross, in reference to excavations recently made on the supposed site of the Roman Vagniacæ, with notes by Mr. Purnell on "Othona." There appears to be some uncertainty respecting the date and the uses of the principal building yet discovered on the supposed Roman site, and whether it was, in fact, erected by the Romans, though the remains of walls in the neighbourhood contained numerous Roman tiles. It was not clear whether the building was intended for a beacon or a church, or was merely a barn.

A communication was read from Mr. Albert Way and Mr. G. Scharf on some paintings from Amberley Castle, near Arundel, mentioned in our last, of the time of the Emperor Maximilian, three of which were exhibited. They represented the figures of three females clad in male armour, and decorated with emblematical devices. The paintings were on oak; and a discussion ensued as to the name of the artist by whom they were painted, the authors of the paper having attributed them to Theodor Bernardi.

DECAY OF WOOD CARVINGS.

THE "Report of the Commission appointed to inquire into the causes of decay in wood carvings and the means of preventing and remedying the effects of such decay" has been printed for the use of the Department of Science and Art, who appointed the Commission with the view of preserving the valuable decorative examples belonging to the public, and now in the South Kensington Museum.

The conclusions arrived at by the reporters,—Messrs. T. Graham, J. O. Westwood, W. G. Rogers, P. Graham, J. C. Robinson, J. Webb, J. G. Crace, and G. Wallis, are as follows:—

"1. That the action of the worm may be arrested and the worm itself destroyed by vaporisation, more especially by the vapour of benzine, as appears from the experiments reported, and also from the successful results arrived at in the Bodleian Library, at Oxford, in the destruction of the book-worm.

It will be advisable to have a room sufficiently large to take in any piece of carved work or furniture which may be required by the Museum and which may show symptoms of decay. This room should be so constructed that it can be closed and made as perfectly air-tight as possible, but with means of renewing the benzine placed in saucers from time to time as it evaporates, without opening the ordinary means of access or entering the chamber; as also of ready ventilation after the objects are considered to have been sufficiently treated and before any person enters the room for the purpose of removing them.

The process must always be carried out during the spring and early summer months, according to the state of the temperature and the observations of those in charge of the carved work, as to the action of the worm, which is manifested by the fine dust falling from the worm-holes, crevices, &c.

II. That the practicability of complete restoration of carved work is fully shown in the results of Mr. Rogers's labours at Belton, as detailed. The important question, however, as to the restoration of gilded carved work, and of panels on which pictures have been painted and which have been attacked by the worm, presents difficulties which, at present, there seems to be no means of overcoming, as in neither case could the objects be immersed in water or submitted to the action of gelatine. That the worm could be destroyed by vaporisation, as in all other cases, appears certain, and there is no reason to suppose that the vapour of the benzine would influence either the gilding of the one or the colours of the other, especially if applied in the latter case to the back of the picture.

III. That after the worm has been destroyed by the course of action proposed, further attacks from it can be prevented by treating the carved work with a solution of corrosive sublimate (chloride of mercury) either in methylated spirits of wine, or parchment size, according to the surface character of the carving or wood-work; the strength of the solution in each case being, as before stated, sixty grains of the chloride of mercury to a pint of fluid, whether spirits of wine or parchment size.

Before concluding this report, we beg to recommend that as there is some uncertainty as to the fact whether *all* the ova of the beetle deposited in one year become developed to the worm state in the next, it is desirable that the two cases in which the experiments tried by the secretary, Mr. George Wallis, during the spring and early summer months of 1863, should be kept with the specimens, intact, until after Midsummer, 1864, in order that Mr. Wallis may observe whether any worms or beetles make their appearance during the ensuing season. This is specially desirable in the case treated with benzine."

In respect to these cases, Mr. Wallis adds a memorandum, in which he says:—

"It would appear that the ova deposited previous to the objects being subjected to the action of chloroform or benzine were not *all* developed in 1863, the season in which the experiments were made; and that in any future action based on the experiments reported, this fact should be taken into account, and the vaporisation repeated more frequently than would otherwise have been necessary if all the ova of one year were developed and came to maturity in the next."

A report to the Commission itself, by Mr. Westwood, their colleague, who is Hope professor of Zoology at Oxford, says:—

"The insects which in this country are found to be the most injurious from their habit of burrowing into the wood of furniture, belong to three species of beetles of small size and cylindrical in form (the better to enable them to work their way through the burrows in the wood) belonging to the family *Ptinidæ*, and known under the systematic names of *Ptilinus pectinicornis*, *Anobium striatum*, and *Anobium tessellatum*.

* * * *

I have had the deal flooring of an underground room destroyed by the *Anobium striatum*, and they are also equally destructive to beams and rafters of houses, churches, &c., making their entrance at the ends if the beams have been varnished (which of course teaches us that the ends of the beams should be rendered obnoxious to them by coats of paint or saturation). In the perfect state, the insects of the genus *Anobium* are well known under the name of the "death watch," as these insects produce the ticking noise occasionally heard in old houses. It is also the *Anobium striatum* which is so injurious in libraries; the grub burrowing through entire volumes, and feeding upon the paper, and especially the *pasted* backs of the books.

The destruction of these insects, when inclosed in articles of furniture, is by no means easy, although with care, much mischief might be prevented. The saturation of the wood with some obnoxious fluid previous to its being used up in the manufacture of objects of value would, I should think, be beneficial. When manufactured, of course the size of the object affords a greater or less degree of facility in operations for the destruction of the grub.

In the cases of articles where many smaller pieces of wood are joined together saturation would be dangerous, as would also the placing of small objects in tin boxes and subjecting them to heat by plunging the tin case into boiling water (a practice which we employ to destroy the grubs which get into our insect boxes).

Various infusions have been used for saturation, amongst which creosote appears to be the most effective. It has, in fact, been found that the woodwork of the jetties at Plymouth saturated with creosote have resisted the action of the marine insects which have done so much damage to the wooden marine erections all round the coast.

A strong infusion of colocynth and quassia, spirits of turpentine, expressed juice of green walnuts, and pyroligneous acid, have all been proposed. In hot climates the ravages of the *Anobium* on books has been prevented by washing their backs with a fluid compound of corrosive sublimate (ten grains) and four ounces of alcohol, and the paste used in the book-covers is there also mixed with alcohol.

Herr Temmnick preserved his books from the *Anobium* by dipping them in a solution of quassia. Except on a small scale, however, the saturation of furniture seems scarcely practicable. Fumigation seems, however, to be more available. For small objects I know no better plan to destroy the *Anobium* than that which has been adopted successfully at the Bodleian Library, on my recommendation, against the book-worm, namely, to inclose a number of volumes in a box, shutting quite close, and placing a small quantity of benzine in a saucer at the bottom of the case. The same plan might be adopted with small ornamental woodworks, inclosing them in glass cases shut as nearly air-tight as possible. This plan, in fact, seems to me the most efficacious, and answers one of the special questions submitted to the Commission."

On the subject of restoration, according to the report of the Commission, some facts communicated by Mr. W. G. Rogers are the most important, and may be considered as decisive as to the practicability of restoring the most delicate works to as nearly as possible their original condition, and even by this restoration rendering them proof against the attack of the larvæ in future.

"In 1855 the carvings by Grinling Gibbons, at Belton House, were in such a condition as to render it absolutely necessary that something should be done to prevent their complete destruction. To this end, they were placed in the hands of Mr. Rogers, who undertook to experiment upon their restoration. This gentleman reports that the first step he took was to have the various pieces photographed, as a means of recording the position of each detail of the ornamentation, &c. The whole of the works were in a serious state of decay, portions being completely honeycombed by the worm. In order to destroy or prevent any future development of the insect within the wood, Mr. Rogers caused the whole to be saturated with a strong solution of corrosive sublimate (chloride of mercury) in water. The colour of the wood, however, suffered so seriously by the action of the mercury, that it was found necessary to adopt some means of restoring the original tint. This was effected by ammonia in the first instance, and subsequently by a slight treatment with muriatic acid. After this, the interior of the wood was injected with vegetable gum and gelatine, in order to fill up the worm-holes and strengthen the fabric of the carvings. A varnish of resin, dissolved in spirits of wine, was afterwards spread on the surface, and then the dismembered pieces were put together in conformity with the photographs taken, as records, prior to the work of restoration having been commenced.

In order to ascertain the present condition of these carvings seven years after the operations detailed had been completed, Mr. Rogers, at the request of the Commission, communicated with the Hon. Edward Cust, one of the trustees of the Earl Brownlow, who desired him to communicate with the clerk of the works at Belton, Mr. G. A. Lowe."

In Mr. Lowe's reply, he says,—"I am glad to inform you there is never any appearance of worm dust from the very beautiful carving by Gibbons since you preserved it some years back."

THE NEW PIER FOR WESTON-SUPER-MARE.

A COMPANY was lately started with the view of constructing a pier, the capital being 20,000*l.* in 2,000 shares of 10*l.* each. The site fixed upon is opposite the island of Bernbeck, the northern point of the bay on which the town is situate, the object being to connect the island with the main land. The pier will start from the main land from a stone abutment. On that will be placed stone buildings, which will be used as toll-houses, between which will be entrance-gates in style with the structure. The main body of the pier, which will be 1,000 ft. in length, and in width 20 ft., will rest on wrought-iron columns, and the roadway will be of wood, covered with asphalte. On either side of that a continuous line of seats will form an agreeable lounge for visitors. On the island of Bernbeck, which will form the head of the pier, it is proposed to construct some abutments and ornamental towers, to correspond with those at the opposite end, and the island itself will be laid out in esplanades, pavilions, refreshment-rooms, &c. A stand will be provided for a band. At the further extremity of the island a breakwater will be formed, with pier, so as to afford shelter for steamers and yachts at all states of tide and in fine weather. The engineer of the undertaking is Mr. E. Birch, C.E., of London; and the contractor is Mr. D. Climie, of Shrewsbury. Almost the whole of the ironwork is ready for fixing. The foundation-stone has just been laid, the occasion being observed as a holiday, with procession, bell-ringing, &c.

VALUE OF LAND IN THE ISLE OF WIGHT.

COMPENSATION CASE.

AT the end of last month a jury assembled at the George Inn, Yarmouth, for the purpose of deciding on the value of certain land, the property of Mr. Benjamin Cotton, of Afton House, of which the Government has taken possession, for the purpose of carrying out the contemplated improvements in making roads, &c.; the above gentleman appearing as claimant for a greater sum than had been offered him, and the Secretary at War appearing by his representatives as the respondent.

Mr. H. T. Cole appeared for the claimant, and Mr. Hawkins, Q.C., appeared for the respondent. Mr. Cole, in addressing the jury, said the claim sent in amounted to the sum of 1,928*l.* 17*s.* 6*d.* The land taken by the respondents was 3 acres, 1 rood, and 3 perches, across Afton Down, for which Government offered 70*l.*, but afterwards increased their offer to 100*l.*

Mr. W. T. Stratton, architect, Newport: In 1857, I made Mr. Cotton an offer for about six acres and a half. I offered him 100*l.* a year for six acres and a half, which he refused: he wanted 130*l.*

By the jury: I have had experience in building villas round Ventnor, Bonchurch, &c.; they are built there from 100 ft. to 300 ft. above the level of the sea; at Shanklin, above 300 ft.; at Blackgang, 388 ft.; and at Alum Bay, about 200 ft. I value the land actually taken as building land, at 3*l.* per acre per annum. From A to B on the plan, 1 rood 23 perches, at 1*l.* per annum, agricultural value, at thirty years' purchase, and 25 per cent. on a forced sale, at 15*l.* From B to C the central portion, containing 1 acre, 1 rood, 27 perches, I value as building land at 8*l.* per acre, 26*l.* 1*s.* From C to D, 1 acre, 2 roods, and 9 perches, I value at 1*l.* per acre, and 25 per cent. for a forced sale at 58*l.* 2*s.* 6*d.* The damage by severance of the land between C and D, at 135*l.*; ditto, B and C, 629*l.* 1*s.*; ditto, B to C, 797*l.*, making a total of 1,895*l.* 4*s.* 6*d.*

Mr. F. Newman, architect, Ryde: I valued it as building land at 9*l.* per acre, and damage and compulsory sale included at 1,916*l.* 13*s.*

Mr. J. Jolliffe, a builder: My value is 10*l.* per acre as building land. I pay myself from 20*l.* to 25*l.* per acre in more sheltered places. I have had applications for land at 600 ft. above the sea, and for my farm as a residence for a clergyman, and the house is 300 ft. above the sea, where I can get even the most delicate plants to grow.

Mr. E. C. Robins examined: I am an architect in London, and I have been acquainted with Freshwater for ten years. I visit it every year, and I agree with Mr. Stratton's evidence. I was consulted in 1860, and I then recommended that a portion of this land should be laid out for building purposes; but I consider that the road would do considerable damage to the Down as building land.

Other evidence on the part of the claimant having been given,—

Mr. F. J. Clarke was examined, on the part of the Secretary-at-War: I am the senior member of Farebrother, Clarke, & Lye, of London. The land in question is *not* building land, and as Down land I value it at 3*s.* an acre, its agricultural value, or 12*l.* fee simple. The land taken is 3 acres, 1 rood, which, at 25 years' purchase, I value at 39*l.*, and 20 per cent. for compulsory sale, 8*l.*, making a total of 47*l.* I have frequently had to sell land of a similar description, and in my judgment I can't see that any injury will be done to it by this military road, and as it is to be an open road, there can be no appreciable damage done.

Mr. Oakley, of the firm of Smith, Son, & Oakley: I valued the land taken away for the road at 8*s.* per acre per annum. There were about 12 acres severed from the rest; and although there was no fence, no injury could arise to the sheep, because they could run across the road, and the farm would let for just as much as it did now, if 15 acres of it were taken off, and the road made.

Mr. C. Lee, London: I value this as very good Down land, at 10*s.* per acre, taken at thirty years' purchase, with 20 per cent. for compulsory sale, at 54*l.* 15*s.* It is not eligible for building purposes, being too much exposed.

Mr. H. Hunt, architect: I shall confine my evidence to this land being building land; and I don't think it is, or every piece of land which you may get access to may be considered as building land, and there is not such a demand for houses here as to justify persons in speculating in this exposed place.

Mr. John Clutton, surveyor to the Commissioners of Woods and Forests: I am also a farmer, and well acquainted with the value of land in the island. I should put the value of the land taken for this military road at 6*s.* or 8*s.* per acre for the whole, but as a strip, I should say 10*s.* per acre, at thirty years' purchase. The road adds to the value of the property. The land has no building value whatever.

Mr. Hawkins addressed the jury at very great length, and contended that Mr. Cotton would be amply compensated if the jury awarded him 30*l.*

The jury, after deliberating amongst themselves for about an hour returned a verdict, awarding the claimant the sum of 61*l.* 5*s.*, with a note as to certain fencing to be appended as part of the arrangement.

The amount awarded, it will be seen, was *twelve times* the sum named by the Government surveyors, though not quite *one-third* of the sum asked for the claimant.

As to the actual value of land at Freshwater, an architect gives us the following facts:—In the spring of the present year, he obtained an offer of 12,000*l.* for 80 acres,—50 of these being close down land in question, and about 30 moorland: at the rate, therefore, of 150*l.* per acre for this large area. This offer was declined, 200*l.*

er acre being required. Shortly after he received an offer of 8,000*l.* for 40 acres, being the wer half of Afton Down. This offer was likerise declined,—250*l.* per acre being required,—t which rate he is now negotiating the sale. t appears that levels have recently been taken r a line of railway, part of which will unite armouth with Freshwater.

ARCHITECTS' CLAIMS.

THE case of Foggett *v.* Harrison was recently tried at he County Court, Preston. This was a claim for 50*l.* by he plaintiff, an architect, of Blackburn, for the preparaion of plans, specifications, &c., for the erection of three emi-detached villa residences, at East Cliff, Preston. It ppeared that an advertisement was inserted in the *Guardian* of October 17th, 1863, by the defendant, Mr. Harrison, solicitor, for competitive designs for the buildngs named; and the plaintiff, among others, supplied esigns, which were accepted. Upon those designs he was nstructed to prepare plans, &c., with a slight alteration, n order to reduce the cost to 2,000*l.* The plans, specifica ions, &c., were made and sent in, and tenders advertised or upon them. Mr. William Fye, builder, of Preston, as the successful competitor, his tender being 1,897*l.* 10*s.* The plans, &c., were subsequently still further altered, at defendant's request, to reduce the cost. During this time negotiations had been going on between the plaintiff and defendant as to the best means of defendant raising the money by a loan for the erection of the houses, and the result was some delay, and ultimate failure to procure the money. On the 25th of May, defendant wrote plaintiff stating that he had let the land to Mr. Fye; that plaintiff was to send his charge in; and to be as reasonable as possible. Subsequently plaintiff sent in his account, amounting to 65*l.* Defendant objected to it as being too much, and ultimately plaintiff, who showed defendant that he was entitled to 83*l.*, reduced his claim to the amount now sued for, and on being refused payment commenced the present action.

For the plaintiff the evidence of Mr. Pownall, architect, Preston, one of the competitors, was to the effect that the competition, if such it could be called, was decided before defendant saw witness's plans, though there was no time fixed for the plans to be sent in; that he had examined the plans and specifications in question, and had carefully noted the evidence given by Mr. Foggett, and was of opinion that the sum first charged was only a reasonable remuneration. He considered plaintiff entitled to payment for making the second set of plans and specifications. Altogether, he considered Mr. Foggett entitled to 65*l.*: he would not have done the work for less. The work done by Mr. Foggett would take him more than a month, single-handed. Witness was asked whether he had known instances of as great disparity in tenders as in the case before them, the highest being 2,500*l.*, and the lowest 1,900*l.*, and replied that he had. Witness was also examined as to the correctness of the plans, but said he was unable to give a correct answer without an examination of the specifications.

Mr. William Pye said he was a builder, residing in Preston, and sent in a tender for the buildings alluded to, which was accepted. He corroborated Mr. Pownall's remarks as to the great disparity which occasionally occurred in tenders. He saw the plans and specifications in question at Mr. Harrison's offices, and never saw a better set, and heard other builders say so too. He did not go on with the work; but took the land at a rent from Mr. Harrison. Five per cent. was the customary charge when the works were carried out, and 2½ per cent. if not carried out; and supposing the detailed drawings were made after the contracts were accepted, and the works not carried out, he should consider the architect entitled to the full per-centage.

For the defendant it was urged that if the plans had been valuable for the purpose intended, 25*l.* would have been ample remuneration; but the plans were utterly unserviceable: no person could carry them out, and therefore plaintiff was entitled to no remuneration for them. Five out of the six tenders were at least 500*l.* over 2,000*l.* The defendant, being convinced that the work could not have been done for the sum represented by Mr. Foggett by any competent person, abandoned the idea. It was quite true Mr. Fye had come within the mark; but, supposing Mr. Fye competent to carry the work out, Mr. Veevers would tell his Honour that it could not possibly be done by those plans.

The defendant, in his evidence, admitted that it was in consequence of his inability to negotiate the loan upon favourable terms that he let the land to Mr. Fye. Before this he had not made any complaint respecting Mr. Foggett's plans. Mr. Richard Veevers, land surveyor and architect, said he had had considerable experience in building. He had examined the plans and specifications before the court, and supposing them to be unobjectionable, 25*l.* would very well pay for them. He did not think the plans were perfect. In the event of the works being begun from them, it would be found when they got to the top of the first floor that it would be impracticable to get any further; there would not be 3 feet from the landing to the ceiling. Mr. Veevers then pointed out several defects, and said the design was nothing but an elegant picture: the plans might have cost some thousands of pounds as extras had they been worked upon. They had not been properly considered. Had made many plans for the erection of dwelling-houses. Did not think Mr. Foggett was entitled to the per-centage he claims; nor was it the custom, although he himself had got 2½ per cent. in similar cases. He did not think Mr. Foggett could explain how the defects named could be met. It would be utterly impossible to carry the works out upon these plans. It was possible for the contractors not to have noticed the defects. If the plans were workable five per cent. would be a fair remuneration. He would not divide the five per cent.

Other evidence was led on either side, and Mr. Hulton, the judge, gave the following decision:—"I have read the correspondence between the parties, and after carefully considering the case, I direct a verdict to be entered for the plaintiff for the sum of 50*l.* The terms on which the plaintiff worked were ascertained, and Mr. Harrison accepted the plans and estimates which were furnished by the plaintiff. The contract with the builder was put an end to by Mr. Harrison on grounds entirely unconnected with the present action; and the defendant afterwards, by his letter of the 25th of May last, strongly and clearly acknowledged his liability to compensate Mr. Foggett. This liability was, however, repudiated by Mr. Harrison at the hearing, when he defended the action on the ground that the work and labour of the plaintiff is entirely valueless. That defence having failed, the only question that remains to be considered is the amount of remuneration to which the plaintiff is entitled; and considering the labour bestowed by the plaintiff not generally connected with the profession of an architect, and the per centage agreed upon, I think the plaintiff is entitled to the sum I have named."

COMPENSATION CASES.

Compensation by Railway Company to Leaseholder.—The case, Healey *v.* The Thames Valley Railway Company, in the Court of Queen's Bench, raised rather an important question of general application as to the proceedings for compensation against public companies, and especially as to the notice to be given by the claimant. The notice given by the claimant, the company having taken his lands, ran thus:—"The said lands, &c., are held by me on lease, and are used partly as and for private grounds and partly for farming and agricultural purposes; and I claim 1,030*l.* as and for the value of my estate and interest in the lands, and as compensation for the damage that has been and will be sustained by me by reason of the lands being compulsorily taken, and by reason of the injuriously affecting the lands adjoining." The question was whether this was a sufficient notice within the Act. The company made no offer upon it, and did not take proceedings to settle the compensation. Upon that the claimant brought his action to recover the full amount of his claim, 1,030*l.*; and at the trial it appeared that though he held under a lease for years, he had only about a year unexpired. Upon this it was objected that the proper procedure would have been before magistrates, and that the company had been misled by the notice, and that it was not sufficient, as it did not state the nature of the claimant's interest. The plaintiff recovered subject to this question. After some procedure on the question the court gave a rule absolute to set aside the verdict.

Messrs. Routledge v. The London, Chatham, and Dover Railway.—In the Lord Mayor's Court, before Mr. Commissioner Kerr. The claimants in this case were the well-known publishing firm, whose premises in Farringdon-street have been taken for the purposes of the London, Chatham, and Dover Railway.

The jury having viewed the premises,

The counsel and parties on each side were engaged in consultation for a considerable period, the result of which was, that a verdict was agreed to by consent for 7,500*l.*, to carry interest from the date of the bond.

ACCIDENTS.

A FLOOR of a publichouse, in Weaver-square, Leeds, has fallen into the ground-floor. One person was severely injured. The floor on a previous occasion had to be supported while it was occupied by a dancing party; but in the present case only three persons were on the floor.

A chimney-stack, recently erected at the chemical works of Messrs. Allhusen & Co. (the Tyne Chemical Works), at Gateshead, fell recently, but without injury to anybody. The chimney was partly erected about twelve months since, when it was left to settle, so as to gain solidity and strength, and when it was thought the structure was sufficiently firm the builders began to complete it. Its height was 240 ft. The builders finished the whole height about three weeks ago; then it began to show signs of weakness; and, from the force of the wind, perhaps, leaned considerably from the perpendicular. The workmen were ordered to raise a scaffold on the inside, that it might be taken down: a railing was placed around it; and the road which passes by was stopped, to preclude any possibility of a mishap. The workmen had barely reached the top of the scaffolding, when they became alarmed and left the place; and soon after the upper half of the chimney, or about 100 ft., fell into the road. The recent heavy rains are blamed for keeping soft the mortar or cement used in the erection.

The roof of a dwelling in North Shields has fallen in, destroying furniture, but not injuring any one. The wood was quite rotten.

At Perth, about two-thirds of the new-built chimney-stalk, in connexion with the works of Messrs. Puller & Son, Mill-street, have fallen. Fortunately no one was injured by the falling bricks, most of the employés having left the work. The stalk, which was 160 ft. high, was just about finished, when it was observed to begin to swing, and Messrs. Puller gave orders to have it taken down: the workmen had been several hours engaged in undoing the work, and had only left for a short time, when the fall took place.

OPENING OF THE RIPLEY HOSPITAL, LANCASTER.

THE new Ripley Hospital, for the endowment of which the sum of 100,000*l.* has been given by Mrs. Ripley, in pursuance of the wish of her late husband, has been opened with fitting ceremonial observances.

The hospital has been erected on a plot of ground adjoining the London and North-Western Railway, in the southern suburb of the town, and near Springfield Hall, which has recently been purchased by Mrs. Ripley, who intends residing there. The foundation stone was laid on the 14th of July, 1856, with great ceremony. The edifice is now complete, and has cost between 30,000*l.* and 40,000*l.* The building has been erected from designs by Mr. John Cunningham, of Liverpool, architect: the contractor, Mr. C. Blades, of Lancaster. The hospital is intended for the education, industrial training, and entire support of orphans and destitute children who are born in the county, or about Liverpool. The inmates will be subjected to industrial training. The children will be uniformly clothed; the boys in dark brown. There are now 47 inmates, and that number will be gradually increased until it may reach 300 in all. The building is in the Pointed style.

THE BUILDING TRADES.

Bradford.—The journeymen plasterers in this town have struck work. Contrary to terms of their own, subsequent to an advance of wages in April last, the men, without previous notice, insist on the interval which may occur between dark and five o'clock, during the winter months, being paid as overtime, and refuse to work by candlelight unless the time after dark is so paid.

Carlisle.—The following notice has been sent to the local Board of Health by the masons of this city:—

"Committee Room, Gleaner Inn,
Oct. 27, 1864.

To the Master Builders of Carlisle.

Sir,—We, the operative masons of Carlisle, have unanimously agreed that our winter working rules be as follows:—That our wages be 24*s.* per week from Nov. 11, 1864, until March 1st, 1865; Monday, Tuesday, Wednesday, Thursday, Friday, at 4*s.* 4*d.* per day, and Saturday 2*s.* 8*d.*; total, 1*l.* 4*s.* Quarter time to be half-past nine o'clock for Monday, Tuesday, Wednesday, Thursday, and Friday; and quarter time for Saturday at half-past eight o'clock. Breakfast to commence Feb. 2nd, 1865."

The Board considered that there were generally two parties to an agreement, but in this case the masons had stipulated their own terms. As the document was not signed, the subject was left in the hands of the surveyor, who would be guided by the other masters in the town.

Galashiels.—The contractor for making the Galashiels and Innerleithin railway tried a dangerous experiment the other night. He proposed a reduction of wages to three hundred navvies, who were standing round the door of his lone pay-office, about two miles from Galashiels. Of course the pay-office was demolished at once; and, but for prompt concessions, there is little doubt that the contractor would have been demolished also. As it was, the indignant navvies trooped into Galashiels, where, being interfered with by the police in the riotous celebration of their triumph, they pulled down the station-house, and nearly killed two constables.

Wurtemberg.—The Workmen's Associations in Wurtemberg have presented a petition to the Chamber of Deputies for the abolition of the law which forbids artisans to marry without first obtaining the consent of the police and of the Administration.

CHURCH-BUILDING NEWS.

Middleton Cheney (near Banbury).—The work of restoration is going on at this church, under the direction of Mr. G. G. Scott, architect. The interior has been cleared of its many obstructions. The walls have been cleaned down, and many coats of whitewash removed, and the natural surface of the stone exposed to view. The pillars and arches of the nave arcade are found to be very much mutilated, and require careful restoration. The chancel arch was found to be in a very bad state, and supported by pieces of timber from the top of the old oak screen. This has been entirely removed; the arch taken out and rebuilt; and the screen is to be restored. There is also to be a new screen dividing the chancel from the aisle (south side), in front of which the new oak stalls are to be placed. The fine old east window is to be filled

in with stained glass, supplied by Messrs. Morris, Marshall, & Faulkner, of London, in memory of the late Mr. William Crombe, of Banbury, and presented by his widow; also the south window of chancel, in memory of the late Archdeacon Churton, formerly rector of this parish, and author of the "Lives of the Founders of Brazen-nose College." The chancel floor is to be laid with encaustic tiles, the nave with Hornton stone, in 18 in. squares. The floors will be lowered to their original level. The oak roofs which were found to be very defective, have been taken off, except the tie-beams of nave, which have been spliced and strengthened, and such of the timbers as were good have been re-used, and the old colouring and paintings preserved. The roofs are to be covered with lead, externally. The walls have been underpinned, and the base courses and buttresses made secure. A new drain has been laid all round the building. The walls will be restored and repointed. The north and south aisle windows are being restored. It was found that the tracery in most of the windows had been removed, and it is now being replaced in its original form. The east wall of the south aisle has been rebuilt, and the window made perfect. The pinnacles and parapets of the tower are to be taken down and rebuilt, and the gutters reformed. A new lightening conductor is also to be fixed. The cost is estimated at about 2,000*l*. Messrs. Davis, of Banbury, are the contractors, and Mr. H. Roome, clerk of the works.

Bangor.—The new church at Bangor has been consecrated and opened. The church occupies a site to the eastward of the road leading from near the cathedral to Garth Ferry. The building consists of a nave, with north and south aisles, chancel, south porch in the second bay from the west end, a small turret spire at the east end of the south aisle, and a vestry in the same relative position to the north aisle. The lower story of the turret forms a porch at the east end of the nave, and a north doorway corresponds with that of the south porch. The vestry has a separate external entrance, and opens internally into the chancel. The style adopted by the architect, Mr. H. P. Horner, of Liverpool, is a plain type of the Early Decorated. The materials used are, externally, the hard dark grey whinstone of the local quarries for walling, and light grey Anglesea limestone, from the Penmon quarries, held by the contractor, Mr. W. T. Rogers, for dressings. The general thickness of the plain walling, without the plaster, is 2 ft. 6 in., and of the turret-wall, 3 ft. The visible stonework, internally, is of Bath stone, from Corsham Down. The bearing-timbers and finished woodwork are of Baltic fir, oak being used for the communion railing, and other more important parts. The plain walling internally is plastered in stucco of a grey tint, without jointing, forming a slight contrast in colour with the Bath stone and the timbers. The nave comprises six bays, opening to the aisles by twelve arches, each 12 ft. 7½ in. span, 8 ft. to the springing, and 17 ft. to the crown. It is lighted at the west end by a five-light window, with traceried head (10 ft. in width, and 17 ft. in height of opening), and by a series of clerestory trefoil lights, eighteen on each side grouped in threes over each arch of the nave. There is also a quatrefoil gable light over the large west window. The roof is of open framed timber of simple carpentry, and is ceiled in plaster between the rafters. There are five windows of three lights each, with pointed segmental heads, in the side-walls of each aisle; and one three-light window, with equilateral arch-head, at the west end of each; and the north aisle has also light introduced by foliated piercings over the doorway on that side. The whole of these windows have simple geometrical tracery of somewhat varied form and their openings to the interior are splayed, and have pointed segmental covering arches. The chancel opens from the nave by a moulded arch, springing from shafted piers, with foliated capitals, the arch being in width between the piers 15 ft. 8 in.; in height, from the nave-floor to the spring, 10 ft. 6 in.; and to the crown, 22 ft. 2 in. The chancel, 25 ft. in length, has its floor raised two steps above that of the nave, and another step forms the kneeling space of the communion-rail. The east window, given by the Rev. E. Pughe, late vicar of Bangor, is of four lights, with tracery head, and is filled with a design on stained glass, from the establishment of Messrs. Forrest & Co., of Liverpool. There is a trefoil gable light over it, also in stained glass. The turret is of simple square form. It passes from the square shape to that of an unequal-sided octagon, at the belfry story, by angular splays and sets-off, and comprises a ringers' loft and space for a light peal of bells. The spirelet, which is built an octagon on plan, with a convex entasis, and has its angles marked by slightly-relieved ribs, springs from eight gabled slopes over the belfry-lights and the four smaller sides of the octagon below, the latter having acute gables, and the larger sides depressed or broken gables, graduated back to the slope of the spire by a series of sets-off. The external masonry of the church is adapted to the fall of the ground, by "stepping" the base tablets, and dropping the external sills of the windows in the western half of the church, forming blank mullioned recesses under the lights. Buttresses of simple design strengthen the external walls, those of the angles placed diagonally, and a slight degree of decoration is given to those of the chancel and nave west gable, by trefoiled canopies in one stage of each. The number of sittings provided is 680, all free. The principal dimensions of the church are these:—

	Ft.	In.
Extreme length internally	112	11
,, ,, over buttresses externally	124	9
,, width internally	55	0
,, ,, over buttresses externally	66	6
Length of nave internally	85	3
,, chancel, ditto	25	0
Width of nave between piers	21	9
,, aisles, from piers to walls	15	1½
,, chancel	19	6
Height of nave, to wall-plate internally	23	10
,, ,, to ridge ,,	41	0
,, chancel, to wall-plate ,,	17	4
,, ,, ridge ,,	33	0
,, aisles, to wall-plate	11	6
,, ,, lean-to	20	0
,, west gable to top of cross	55	6
,, east gable of chancel to cross	40	6
,, turret, to spring of spire	56	6
,, spirelet to top of cross	97	4

OPERA.

Her Majesty's Theatre.—The new undertaking of Mr. W. H. Harrison was commenced on Tuesday night, to a very full house; Miss Louisa Pyne playing *Margaret*, and Mr. Sims Reeves *Faust*, in Gounod's overpraised opera of that name, with immense and deserved success. The part suits Miss Pyne admirably, and the applause was unanimous. The co-operation of Mr. Sims Reeves is a strong point in favour of the new management. A singer fresh to London, Mr. Garcia, played *Valentine*, and both sang and acted remarkably well. In the "Traviata," produced on Wednesday, for the *début* of Madame Kenneth, Mr. Garcia confirmed the good opinion we had formed of him. The new lady is an accomplished and practised singer, but scarcely fitted by *physique* for *Violetta*. Mr. Swift was the *Alfred*.

Royal English Opera.—At Covent Garden Mr. Macfarren's new opera to Mr. John Oxenford's *libretto*, titled "Helvellyn," has satisfied his admirers, and given Madlle. Parepa and Madame Lemmens-Sherrington an opportunity to distinguish themselves, of which they make good use. Mr. Alberto Lawrence also sings his part well, and gives promise. What seems to be wanted here is a really good tenor equal to the house. How is it that we grow so few such in England? What is the Royal Academy of Music doing? The Cumberland scenery for "Helvellyn," though a little too heavy, is well painted, and some country sports and dances supply prettily the looked-for ballet.

Books Received.

Compensation to Land and House Owners; being a Treatise on the Law of the Compensation for Interests in Land, &c., payable by Railway and other Companies. By Thos. Dunbar Ingram, Barrister-at-Law. London: Butterworth, Fleet-street. 1864.

According to a statement by Sir Fitzroy Kelly in 1856, the Lands Clauses Consolidation Act, and others of a series, had been since 1845 applied to above 3,000 local and personal Acts, and by this the printing of 130,000 pages of matter, which must otherwise have been introduced into those Acts, had been spared. The volume before us has for its object to explain in an easy and intelligible way the clauses of those Acts, which, being incorporated with each special Act authorizing an undertaking, enable companies to acquire lands and premises, and which secure compensation, though not always satisfaction, to all parties interested in the lands or premises taken or injuriously affected.

At starting, Mr. Ingram treats at some length the question of how much a company may be forced to take on requiring a part of a property. The difficulty of deciding is lessened day by day by decisions. Thus, quite recently, in the case of Pulling *v.* The London, Chatham, and Dover Railway Company, the question was, whether the company, having taken, for the purposes of their railway, part of a field adjoining the plaintiff's house, were bound to purchase the whole house. The case was heard (on an appeal from a decree of the Master of the Rolls) by the Lords Justices, who held that, where land adjacent to a dwelling-house is not so closely connected with it as to pass by a deed of conveyance of the house, it will not be considered as part of the house within the 92nd section of the Lands Clauses Consolidation Act. Thus the decision of the Master of the Rolls was affirmed.

Mr. Ingram, in his book, alludes very properly to the injustice often suffered by tenants without leases, or whose leases have but a short time to run. The tenant would not, in all probability, have been disturbed but for the works of the company; he may be sent out at a most unreasonable time, his business may be broken up, and yet the company may contrive to avoid payment of any compensation. Certain cases, however, have been settled by magistrates, if we remember rightly, which show that such tenants are not always without remedy.

Various necessary Forms are given in an Appendix, together with the Lands Clauses Consolidation Act, the Railway Clauses Consolidation Act, and the Lands Clauses Amendment Act, in full. There is, moreover, a good index. The author states in his preface that he "has spared no pains to make his treatment of the subject at once clear, accurate, and complete," and we are disposed to add that he has succeeded.

The Railways Construction Facilities Act, 1864. By Charles Wordsworth, Q.C. London: Shaw & Son. 1864.

Mr. Wordsworth's name is a guarantee of the value of the notes which accompany his edition of this important Act. He has likewise given an abstract of nineteen general statutes incorporated with it, and added the Act for giving additional Powers to existing Railway Companies.

The "Facilities Act" should prove of value, and, doubtless, will. By its means, as some of our readers may require to be told, a railway, and works connected with a railway, *all parties consenting*, may be made without obtaining a special Act, but with all the same powers as are usually granted in one.

First Help in Accidents. By Chas. H. Schaible, M.D., Ph. D. London: Hardwicke.

In no instance is the application of the trite saying, "A little knowledge is a dangerous thing," less doubtful than in the practice of surgery, as adapted to the relief of accidents met with constantly in every-day life; and we rather fear that the little work published by Dr. Schaible will tend greatly to disseminate this dangerous amount of knowledge, and to increase that officiousness of incompetent persons which is so frequently apparent after an accident, and is usually hurtful to the sufferer. We must do the author the justice to say, that his advice in the first instance is always to send for medical assistance; but this will have little effect on the class of persons we allude to; for, already sufficiently satisfied with their own attainments, they will, after the perusal of this little book, consider themselves fully competent to undertake, without assistance, any and every surgical casualty. The author has gone too far for the general public, and not far enough for those he professes especially to instruct; viz., those who are called upon to undertake the entire charge of a case,—a fractured bone, for instance,—without the possibility of obtaining professional advice at any period of the treatment,—a class of persons necessarily very limited. The instructions are very clearly laid down, but it is utterly impossible to convey in words that which can only be learned by practice; and it would have been better if Dr. S. had restricted his remarks to those preliminary and urgent matters which may be safely left to non-professional assistance, instead of giving minute instructions for further treatment that cannot properly be carried out. As a test somewhat within our capacity, we have looked in vain for the recommendation of common whitening and

er in the treatment of burns, which has been
ch talked of lately, and highly approved, as
sessing the two great advantages of being
ays at hand and invariably successful; but we
t the old remedy, flour, has a prominent place,
ough it is doubtful whether it is of much
especially if the injury be severe. There is
o useful information as to the transport of
ured persons, although it might have been
complicated, for general use. In conclusion,
re is a great deal in the book that should be
erally known, and as much more that had
ter be left alone by non-professional persons.
The information prominently set forth, that
smallest cubic space for healthful breathing
each adult should be—
In bedrooms, 300 cubic *inches*;
In sitting-rooms, 400 „ ;"
we suppose, a *printer's* error.

Miscellanea.

The Thames Embankment Contracts.—Some the vestries are holding meetings and discussing the statements that have been made. The Board of Works have passed a resolution expressive of great dissatisfaction, and forwarded a copy of it to the Metropolitan Board Works.

Social Science Association.—The law department of this Association has held a meeting, presided over by Lord Brougham, at which Berryer and M. Desmarest, of the French bar, were present, and addressed the meeting. The standing committee of the department, in their address, alluded to the desirability of the concentration of the law courts in a central situation being carried out as proposed; and to the evils of the patent law and the improvement it its present procedure.

Inauguration of the Salford Prince Consort Memorial.—The statue to the memory of the late Prince Consort, the work of Matthew Noble, and erected in the Peel Park, Salford, as a companion to that of the Queen, which was inaugurated by the late Prince himself, has been unveiled, in the presence of a large assemblage of the subscribers and members of the Salford town council. The statue is in white Sicilian marble, with a grey granite pedestal, and cost £1600*l*. The Prince is represented in his robes as Chancellor of Cambridge. The subscriptions received amounted to 1,932*l*., so that a considerable balance will remain in hand, and will be devoted to the museum. The granite pedestals for the statues of the Queen and Prince are from the works of M'Donald, Field, & Co., of Aberdeen. This park now possesses four statues—viz., Sir Robert Peel, in bronze; Mr. Joseph Brotherton, late M.P. for the borough, in bronze; the Queen, in marble (erected in 1852); and that of the Prince Consort, just inaugurated.

Newspaper Press Fund.—A special general meeting of the members of the Newspaper Press Fund was held on Saturday last at the Freemasons' Tavern,—Mr. Godwin, one of the vice-presidents, in the chair. The objects for which the meeting was specially convened were the consideration of certain amendments in the rules and regulations of the society, which have been rendered necessary by the more extended basis and operations of the society. The committee, which was appointed some time since, placed their resignations in the hands of the meeting, but they were unanimously re-elected, with Mr. Leicester Buckingham, Mr. T. D. Chipchase, Mr. H. Corbett, Mr. Callaghan, Mr. Finden, Mr. E. Lloyd, and Mr. Edward M'Dermott. A motion was submitted to the meeting for giving to Mr. Warren, the hon. secretary, a sum of money as a testimonial for the very valuable services which he has rendered to the society for several years past. It was felt, however, that the funds in hand ought not to be applied to any purpose other than those for which they had been subscribed, and that while the opinion was unanimous with respect to the value to the society of the services rendered by their esteemed secretary, it would be the better course for the members themselves to subscribe to a separate testimonial fund, rather than by a vote such as that proposed they should appear to divert any portion of the funds from the objects contemplated at the formation of the society. A committee of five was ultimately appointed to collect and receive subscriptions to the Warren Testimonial Fund.

Death of Mr. Robert Ransome.—We have to announce the death of this esteemed gentleman, the head of the extensive firm of Ransomes & Sims, Ipswich, who died on Sunday evening at St. Goar, on the Rhine, after only a few days of serious illness.

Liebig in England.—The *Journal de Francfort* states that the celebrated chemist, Baron Liebig, has announced his intention of relinquishing his professional chair and laboratories in the University of Munich, in order to settle in London, where he has been offered an important position in connexion with a large scavenging and sewerage company.

Thomas Sutton, of the Charterhouse.—Mr. Robert T. Stothard asks us to say that, being of opinion that a statue of Thomas Sutton, founder of the Charterhouse, known as King James's Hospital, should be set up, he has made an attempt to carve a statuette of Sutton, and that it may be seen at Messrs. Jennings's, Cheapside. We comply for the sake of his name.

Removal of the 1862 Exhibition Building.—Some other portions of the Exhibition building at South Kensington have been blown down by the Sappers and Miners. Unless we are to suppose that the operations have been arranged with a view to protracted interest, there must have been some horrible bungling in the affair. Sir John Burgoyne ought to be asked seriously to explain it.

The Nottingham School of Art. — This school has been transferred to the new building in Waverley-street, adjoining the Arboretum. The edifice is not as yet complete: the front building has been roofed in, but the tower will not be finished for some months to come, and the grounds are necessarily in confusion. The class-rooms, however, are habitable. The lighting of the rooms is from the roof as well as from the walls, the degree being regulated at will by a simple contrivance for raising or lowering the blinds. The inauguration of the building will not take place till next year.

Bradford Street Improvements.—Mr. Picton, the umpire in the arbitration case of Joseph Rhodes *v.* The Corporation of Bradford, has awarded the claimant the sum of 5,410*l*. in respect of his leasehold interest in property in Well-street. The amount asked on behalf of the claimant was 7,000*l*., while the corporation, through the town-clerk, contended that 2,936*l*. would be ample compensation.——Mr. Holme, the umpire, has awarded the Misses Stansfield 1,987*l*. for 183½ square yards in Market-street, making 9*l*. 16s. 10d. per yard, with 10*l*. per cent. added for compulsory taking; and to Mr. Wm. Metcalfe 2,156*l*. for 176½ square yards in the same locality, making 11*l*. 2s. 1d. per yard, with the same addition for compulsory taking.

"English Undefiled."—An energetic purist writes,—"What does your correspondent as to St. Paul's mean by the 'feeble *response*' that has been made,' and in saying that '*decorations* and subscriptions have been *raised*.'—and i.e 'Ecclesiasticus,' too? Such affectations are really annoying. What I chiefly write for, however, is to complain of finding in a leading literary review the expression, *work-a-day world*, spelt 'worky-day world.' I have seen the same somewhere else within the last day or two. This orthography does away with the original meaning of the phrase, which of course must have been 'work all day.' Probably the expression originated in Scotland, where it would be 'work a' day;' and we Southrons, dropping the apostrophe of elision, turned it into 'work-a-day.' That is still a good sensible adjective, but 'worky' is puerile, and sounds like babies' talk." Ugly it certainly is, and very sensible is our correspondent's suggested derivation, which favours "work-a-day." Those who write "worky-day," however, can go to some of the dictionaries for authority, wherein, though marked "obsolete," it is set forth as a corrupted orthography of *working-day*, and backed up with Shakspeare's line,—

"Tell her but a *worky-day* fortune."

It has been suggested that *work-a-day* comes exactly under the category of *now-a-days*, which merely means *now-days* (i.e., the present time); the *a* being introduced entirely *euphonic gratiâ*. So *work-a-day* is equivalent to *work-day*, a much more legitimate formation than either *working-day* or *worky-day*, notwithstanding what we may read in Shakspeare, whose orthography is surely no guide to us *now-a-days*.

Property Insured.—The estimated value of property insured from fire last year was 1,106,450,000*l*. — the amount of duty paid 1,050,679*l*., a fraction more than 1s. 10½d. per cent.

Proposed Roman Catholic College at Oxford.—The site of the old Oxford workhouse has been purchased by Dr. Newman, and a Roman Catholic college and establishment, it is said, will be shortly erected thereon.

Sanitary State of Hyde.—Typhus fever is very prevalent in Hyde, and in some houses there are as many as five of a family suffering from it. With the intention of checking the disease as much as possible, the local board of health are taking active measures to compel the inhabitants in the lower parts of the town to thoroughly whitewash and purify their dwellings.

The Proposed Vestry-hall for St. Luke's. The report of the Parochial Offices Committee was read last week to the vestry. It stated that applications for tenders had been made to twelve builders, but that the result was so much more than they could recommend the vestry to incur, that they had requested their surveyor (Mr. Christie), assisted by Mr. Stent, of Westminster, in consideration of the surveyor's other duties, to modify the plans and specifications; and a reduction had thus been made (from about 9,000*l*.) to 7,000*l*., by substituting cement for stone, deal for oak, and so on. The cost, on loan, payable in thirty years, would average 350*l*. a year, or a halfpenny rate. The consideration of the report was adjourned.

Fall of a Church at Cheriseu. For some time past an edifice, intended for a Congregational church, has been in course of erection on Weybridge Common, opposite the York-road, leading into Oatlands Park, and it was approaching completion. On Saturday in last week, however, as the men were getting to their places on various parts of the building, especially on the tower, which is about 80 ft. high, and where some men were putting on ornamental tiles, the whole structure gave way, the side walls that took the broad span of the roof bulging out, and the tower toppling over, the whole coming to the ground. Fortunately all the men who saw the tower topling over were enabled to get clear of the building, but several that were at work on the tower were frightfully injured.

The Proposed New Bridge over the Tyne. At the River Tyne Commissioners' Rooms, a model of the proposed swing-bridge over the Tyne, on the site of the existing Old Tyne bridge, has been on view. It is the design of Mr. Ure, the engineer to the Commissioners. The bridge has received the sanction of the Board of Trade. It will cross the river on the site of the present structure. It will be of iron, and its width is to be 45 ft., or 11 ft. greater than that of the existing viaduct. About 25 ft. will be given to carriages, and 10 ft. on each side to foot-passengers. Midway in the river, a transverse pier will extend from the west side of the high-level bridge, at its central pier, to the east side of Tyne bridge, forming a platform between the two viaducts; and the swing, when thrown open, will overlie this pier. The engineer has made provision for all the requirements of traffic, both on and over the water, and on the banks of the river.

The Whitcomb Reservoirs at Gloucester. A report from the surveyor was read at a recent council meeting, in which he stated that he had prepared plans and sections for the repairs in regard to the slip at the Whitcomb Reservoirs. The work would be finished in a fortnight. He had discovered that the slip was greater than had at first been supposed. The earth had moved horizontally 20 ft. at the foot of the slip, and for a length of 110 or 120 ft. along the embankment. It would require 6,000 tons of stone, and that quantity would soon be used. The total cost incurred up to the 8th of October was 1,170*l*. 10s. 8d. The approximate estimate for completing the work was 70*l*. 5s.,—total, 1,240*l*. 15s. 8d. The estimated cost, as submitted on the 12th of August, was 1,004*l*. 10s. The excess over the original estimate was due to the necessity of having upwards of 2,000 tons of stone more than was at first thought requisite. A grumbling discussion followed the reading of the report, some of the speakers doubting the sufficiency of the reservoir even when repaired, as a great error had been committed in the construction of the works.

Discovery at Pompeii.—The excavations at Pompeii have just led to the discovery of a temple of Juno, on the flags of which were scattered more than 200 skeletons. They are those of women and children who, during the eruption of Vesuvius, had hastened to the temple to seek refuge and implore the protection of the goddess.

The Hercules Statue, recently Found at Rome.—The jury on the Hercules has made a minority and majority report, the former being that it is a first-rate work of the best epoch of Greek art; the latter being that it is one of the best examples of one of the best epochs of Greek art. The Roman correspondent of the *Star* thinks the latter the right opinion. It is not Phidian, he thinks, by an immense distance. The jury valued it at not less than 35,000 scudi, and not more than 50,000 scudi, and the Government had signified their intention to take it; but as they are not provided with the funds, they propose to open a subscription for the purpose. The owner valued it at 100,000 scudi.

Traces of an Ancient British Town near Edinburgh.—In the vicinity of the "cat stane," about six miles from Edinburgh, and near Craigiehall, the traces of an ancient town have been discovered by Professor Simpson. Accompanied by Dr. Macbean and Mr. Hutchinson, he made an extensive and systematic investigation, the result of which was that they exposed portions of the faces of the three lines of walls, and one of the raised circles inside. They also were fortunate enough to discover a gate which had formed one of the entrances to the encampment. The ramparts are arranged in a fortified manner, as parallels, and towards that part of the hill from which alone any attack could be made, the other sides presenting natural barriers which, in those times, no invading force could have hoped to overcome. Excavations were made behind an old stone kist, which would seem to have been placed just outside the city walls, but nothing of interest was found there.

Falling in of the Sherburn Railway Viaduct. — An accident has occurred at the Sherburn viaduct of the North-Eastern Railway. The viaduct is situate within a short distance of the Sherburn Station. It is built of wood, and was erected many years ago. It is situate in a deep valley, through which the rivulet from which Sherburn derives its name passes, its entire span being something over 100 yards from side to side. Until some months ago the wooden gearing was open, but for greater safety it was determined to fill up the valley without removing the bridge, and large quantities of ballast and rubbish were cast into it. In order to take away the water from the stream, a culvert was constructed in the valley, and under the old bridge. This culvert fell in; a lake of water hence accumulated on the upper part of the valley, and the embankment gave way to a certain extent; but large quantities of rubbish have been added to it for its repair, and an attempt is being made to open a way for the water, which, however, is slowly escaping under the embankment, the culvert being nearly choked up. The people resident or employed in the valley have been warned of their danger.

Hermetically Sealed Building.— A large building is in course of erection at Cleveland, in America, which both in construction and in purpose is novel. The building is 80 ft. by 44½ ft., the side walls being 22 ft. high. The frame is up, and resembles a large church edifice. It is, however, nothing but an immense refrigerator, or sealed can of preserved fruits. The front of the building is to be used as a store: the remainder is to be walled entirely with iron, perfectly air-tight, and divided from the front part by similar walls. Within this inclosure is built another building, also of iron, with its walls about 3 ft. distant from the walls of the outer. The inner building is divided by iron walls into several smaller rooms, each of them being perfectly air-proof. Over-head will be packed tightly with ice, congealed, by a peculiar process, into a solid mass, 7 ft. thick. The small rooms will be filled with fresh fruits, the oxygen of the atmosphere withdrawn, and the room hermetically sealed. The fruit is to remain perfectly fresh until, the season having passed away, a high market is open for them, when the chambers are opened as wanted. The process has been in operation by the patentees, Noyce & Shirk, at Indianopolis, for more than a year, according to the Cleveland *Herald*; and a similar building is erecting for them in Cincinnati.

Landlord and Tenant.—In the case of Rogers *v.* The Hull Dock Company, Vice-Chancellor Wood held that a custom of letting on an estate cannot be imported into an agreement, so as to give to the word "month" the meaning of "calendar month," unless, perhaps, in the case of an estate so large that all persons living in the district may be presumed to know of the custom. The Vice-Chancellor said it was a well-known rule of law, in cases of letting premises, that "months" meant "lunar months," unless the contrary appeared.

Hackney New Town-hall.—A committee has been in operation for two years in order to effect the erection of a more commodious building, and having been by Mr. Tyssen Amherst, the lord of the manor, presented with a plot of freehold ground for a site, designs for a new edifice were accepted from Messrs. Hammack & Lambert, architects, and a contract for building the new hall entered into with Messrs. Maeers, of the Hackney-road. The foundation stone has just been laid. The principal front, facing the high road, is upwards of 100 ft. long, and surmounted in the centre by a clock tower. The material of this front is Portland stone with rustic and rock-work decorations.

Appointment of Architect and Surveyor to the Parish of Liverpool.—In reply to the advertisement which appeared in the *Builder*, numerous applications were received. The finance committee at first reduced the number of candidates to ten, and eventually to two, namely, Mr. James Montgomery, of Belfast, and Mr. Isaac Holden, jun., of Dundee, we believe. Mr. Montgomery was finally elected by a majority of 15 to 5. The salary to commence with is 500*l.* per annum. Mr. Thomas Wylie, the late holder of the office, declined to give up his whole time to the office as required, under 900*l.*, although the select vestry would have willingly given him 750*l.* to induce him to continue.

Health of Towns Act at Wigton.—A public meeting was held in Wigton, last week. The object of the meeting was to hear a lecture delivered by Dr. Elliot, of Carlisle, on some of the elementary principles of physiology, as the digestion of the food, the formation of blood, and its purification, showing the good effects pure air and good water had upon the health. Dr. Elliot strongly advocated the establishment of waterworks and the application of the Local Government Act. The chairman also spoke at some length upon the question, and strongly urged upon the inhabitants of Wigton the advantages that would result from the adoption of the Act. He did not think that the rate of both waterworks and sewerage would be more than a shilling in the pound. Mr. Gordon, city surveyor, Carlisle, was present, and said that he estimated the cost of sewerage at about 3,524*l.* The chairman asked how much of that sum would be spent in the town in wages. Mr. Gordon replied about two-thirds. The meeting declared that it would do its utmost to promote the adoption of the Act.

Origin of the Word "Palace."—"I shall trace the career of a few of those early Roman words, in order to show how words may change, and how they adapt themselves to the changing wants of each generation. I begin with the word *Palace*. A palace now is the abode of a royal family. But if we look at the history of the name, we are soon carried back to the shepherds of the Seven Hills. There, on the Tiber, one of the seven hills was called the *Collis Palatinus*, and the hill was called Palatinus, from *Pales*, a pastoral deity, whose festival was celebrated every year on the 21st of April, as the birthday of Rome. It was to commemorate the day on which Romulus, the wold-chield, was supposed to have drawn the first furrow on the foot of that hill, and thus to have laid the foundation of the most ancient part of Rome, the *Roma Quadrata*. On this hill, the Collis Palatinus, stood in later times the houses of Cicero and of his neighbour and enemy Catiline. Augustus built his mansion on the same hill, and his example was followed by Tiberius and Nero. Under Nero, all private houses had to be pulled down on the Collis Palatinus, in order to make room for the emperor's residence, the *Domus Aurea*, as it was called, — the Golden house. This house of Nero's was henceforth called the *Palatium*, and it became the type of all the palaces of the kings and emperors of Europe." —*Max. Muller's "Lecture on the Science of Language."*

The Patent Stone Bricks.—At the last meeting of the South Wales Institute of Engineers, Capt. J. J. Bodmer read a paper "On the Nature and Manufacture of Patent Stone Bricks." The writer described the process adopted by Messrs. Bodmer, Brothers, Newport, in the manufacture of the patent stone bricks. When they considered that labour was now about 100 per cent. higher than it was about eighty years since, anything which tended to lower the price of so useful and general a commodity as bricks, must be considered a timely invention. The stone bricks, he said, had fulfilled these requisites. Another very great advantage which these stone bricks had over the common bricks was, that they improved by age; whereas the common bricks skinned and deteriorated. Some of the bricks were exhibited to the members. Some had been made of Aberthawe lime and sand; others of sand and cinders; others of broken bricks and lime; and some others had been made out of slags, which were particularly hard and durable. Some of the bricks made by the patent process were stated to have borne a weight of three tons per brick, after having been made but fourteen days: others, which had been longer made, were capable of bearing about thirty tons per brick. The chief difficulty in the manufacture was that of reducing the material employed to the fineness of sand, or, better, to that of powder. We understood the writer to state that the patent stone bricks could be manufactured and sold at 12s. per 1,000. Several places were instanced where these bricks had been used.

The Sewage Question at Northampton.—A special report on this question has been made to the local authorities, by their surveyor, Mr. J. H. Pidcock, in which he states that he considers that the application to the sewage of lime and perchloride of iron, while it was in operation, was attended with greater success than any other process. It paid expenses, and produced a much richer manure, while the resulting overflow was much clearer than in any other way. "Unfortunately," continues the report, "since last spring we have been unable to procure perchloride of iron: this, aggravated by the deficient supply of water, and the now increasingly insufficient size of our tanks, has prevented us from being in such good order as I anticipated, the use of lime alone not meeting our requirement. At the works we have had no nuisance; but owing to the exposure of the liquid to the sun, in the long open ditch, before it joins the river, and its mixing with the discharge from the Asylum, it has undergone fermentation and decomposition, and has, when it reached the river, again polluted the water. To remedy this for the future, I have been experimenting on making the perchloride of iron at the works; and, I am happy to say, so successfully, that I can manufacture a better article than I can buy, at about one-third the cost, which will be a saving to us of about 50*l.* per annum. We must, however, enlarge the tanks, and adopt means for filtration, as suggested in my original report; for, as then looked forward to, the increase of the town has augmented the bulk of the sewage probably threefold, and our tanks, which were constructed on the most restricted scale for temporary requirements, are now quite insufficient for present necessities. The Board will not be led into supposing, by my reporting thus hopefully, that I wish it to be thought that I consider the problem as solved, though it is flattering to believe we are on the right road."

TENDERS.

For the erection of a villa residence at Eltham, for Mr. T. R. Jones. Messrs. H. M. Burton and H. P. Sandall, architects. Quantities supplied by Mr. James G. Lunther:—

Haward	£2,050	0	0
Gates	1,930	0	0
Mitchell	1,859	0	0

For the new Exchange Buildings, Hull. Mr. W. Botterill, architect. Quantities supplied:—

Musgrave	£7,449	0	0
Hutchinson	7,399	0	0
Simpson & Malone	6,995	0	0
Goates	6,900	0	0
Jackson	6,736	0	0
Weatherley (accepted)	6,560	0	0

For stables and cottages for Messrs. Flower & Sons, the Brewery, Stratford-upon-Avon. Mr. Thomas T. Allen, architect. Quantities not supplied:—

Giles	£1,149	0	0
Roberts & Holtom	1,024	10	0
Naden & Sons	990	0	0
Hall & Co.	960	0	0
J. & G. Callaway (accepted)	885	0	0

For building a pair of villas at Forest Hill, for Messrs. Aristie & Barker. Mr. C. H. Driver, architect. Quantities supplied by Mr. Nixon:—

Cook	£1,800	0	0
Saunders	1,700	0	0
Dover	1,535	0	0
Perry	1,493	0	0
Towell	1,475	0	0
Marshall	1,115	0	0
Lathey, Brothers	1,345	0	0
Tarrett	1,330	0	0
Rebell	1,248	0	0
Ashton	1,225	0	0
Gray	1,210	0	0

For building warehouse, 53, Great Tower-street. Messrs. Young & Son, architects:—

Myers & Sons	£1,519	0	0
King & Son	1,510	0	0
Hill & Son	1,499	0	0
Little	1,424	0	0
Conder	1,393	0	0
Hardiman & Sandon	1,362	0	0
Chessham	1,347	0	0
Anley	1,186	0	0

For erecting marble sawing mills, &c., Auckland-street, Vauxhall. Mr. F. G. Widdows, architect:—

Axford & Co.	£2,653	0	0
Hack & Son	2,587	0	0
Downs	2,560	0	0
Childs & Son	2,450	0	0
Palmer	2,391	0	0
Enor	2,332	0	0

For repairs and alterations at No. 118, Great Russell-street, Bloomsbury, for Mr. P. Abrahams. Mr. T. W. Constantine, architect. Quantities not supplied:—

Smith	£195	10	0
Martin	190	14	0
Nash	166	0	0
Lamble (accepted)	149	0	0

For the erection of a pair of semi-detached villas at Forest-hill. Mr. Fred. C. Dyer, architect:—

Amer	£820	0	0
Dublin	730	0	0
Palmer	708	0	0

For alterations and new shop-front for Mr. Simpson, South Audley-street. Mr. Thomas Harris, architect —

Ebbs & Son	£257	0	0
Stoner	239	0	0
Hall	237	0	0
Watson	230	0	0
Mason & Son	203	0	0

For erecting the New Inn, Rushetts, Long Ditton, for Mr. W. F. Hodgson, Kingston. Messrs. Wimble & Taylor, architects:—

Colls & Co.	£1,125	0	0
Mason	1,050	0	0
Adamson & Sons	999	0	0

For alterations and additions to the Commercial Union Life and Fire Insurance Company, 19 and 20, Cornhill. Mr. John Belcher, architect:—

Conder	£9,749	0	0
Mansfield & Co.	9,466	0	0
Lawrence & Sons	9,430	0	0
Rider	9,279	0	0
Myers & Sons	9,127	0	0
Wood	8,983	0	0
Perry	8,977	0	0
Coleman	8,888	0	0

For making the roads on the Groveland Park estate, St. John's Common, for Mr. George Cooper. Mr. F. J. Collins, surveyor:—

Godley	£375	15	0
Hayr	340	5	0
Oddy (for metalling only)	244	15	0

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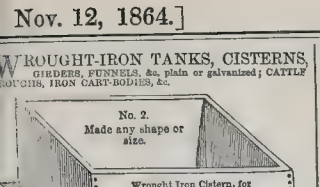
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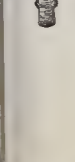


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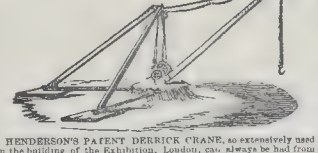
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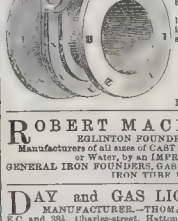
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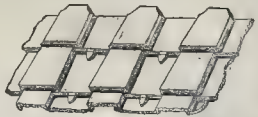
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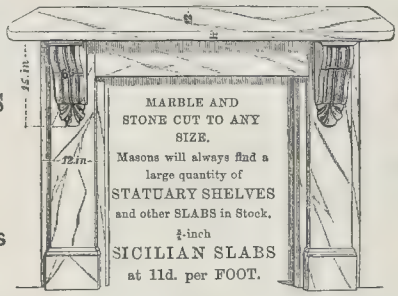
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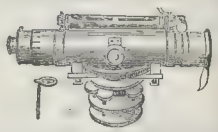
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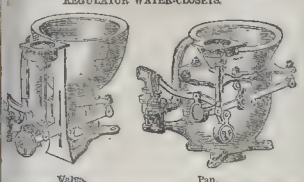
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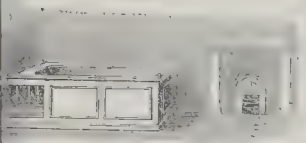
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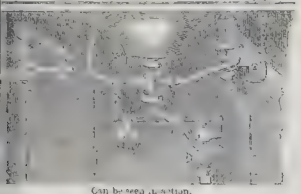
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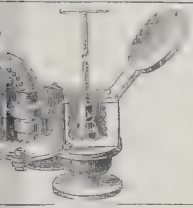
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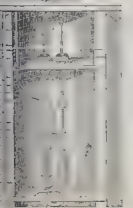


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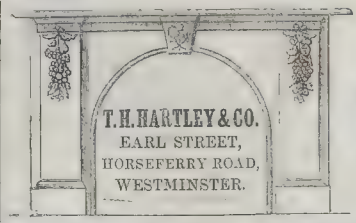






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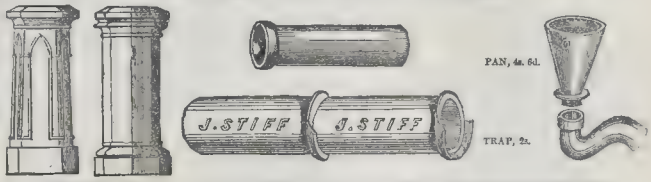
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PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Estate Company (Limited) to SELL by AUCTION, on the PREMISES, on MONDAY, NOVEMBER 14, at TWELVE, in lots, the whole of the valuable MATERIALS of the spacious Edifice known as the AUCTION MART, in Bartholomew-lane; comprising about 400,000 of capital stock bricks, 20 tons of lead in large flats, gutters, cisterns, and pipes, 1½ of best of copper covering, slates and slating boards, prime timber in roof and floors, about 600 feet of cast-iron railing, plate glass and other sashes, large sash-lights, doors, partitions, chimney-pieces, stone and wood columns with carved capitals, plate glass and mahogany lobby-doors, stone paving, ornamental iron railing and gates, the handsome Portland stone front with cornice and pediment and fluted Ionic columns, stone ashlaring and window-dressings, lobster-backs, coping, coils, and other ironwork, iron columns and girders, large slate tank, stoves, and a great variety of useful materials and fittings up of a superior description.—May be viewed. Catalogues had of E. A. BROWNING, Esq., Architect, 30, Old Broad-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, and 40, Parliament-street, Westminster.

To Engineers, Builders, and Others.—Plant, Machinery, and Fixtures, at Belgrave Works, Pimlico.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the London, Chatham, and Dover Railway Co., to SELL by AUCTION, on the PREMISES, No. 1, Belgrave-road, on WEDNESDAY, NOVEMBER 23, at TWELVE, the valuable PLANT MACHINERY and FIXTURES, at Belgrave Works, Pimlico: comprising 15-horse power portable steam-engine, by Garratt & Son; sweep cutting, mortising, and tenoning machines, 3 circular saw-benches and 24 saws, drilling machine, wrought-iron shafting and 3 large wheels, leather bands, steaming and drying chambers, several thousand feet of cast-iron socket and flange pipe, lathes, vices, forges, and bellows, veneer press, chaff-cutting and oat crushing mills, 20 carpenters' work benches, coulters, shelving, lumber and glazed enclosures, iron book safe, desks, drawers, mahogany bookcase, gas fittings, stoves, &c. May be viewed 10 day previous. Catalogues had at Mr. VICERY'S offices, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

ROTHERHITHE.—To Coal Merchants, Lightermen, Contractors, and Others.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, 24, Rotherhithe-wall, on THURSDAY, NOVEMBER 24th, at TWELVE for ONE, by order of the Proprietors, in consequence of a dissolution of partnership, SEVEN OPEN BARGES, in good condition, varying from 70 tons to 90 tons; also several decked and other craft of various tonnage, barge oars, &c.—May be viewed two days previously, and catalogues had at the Place of Sale; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

HOLBORN.—To Horse and Carriage Repository Proprietors, Railway Carriers, and Others, requiring Stabling for 40 Horses in the West Central Horse and Carriage Repository, occupying an area of 12,500 superficial feet

PULLEN, HORNE, & EVERSFIELD are instructed by the Mortgagees to SELL by AUCTION, at GARRAWAY'S, on TUESDAY, DECEMBER 13th, at TWELVE, the very valuable Leasehold newly built PREMISES, lately occupied as the West Central Horse and Carriage Repository, commodiously situate in Wade-street, at the corner of Red Lion-court, Holborn, and comprising an important area of 12,500 feet, and adapted for any business requiring prominent position and space. The premises comprise stable ride or trotting court, 100 feet by 35 feet, covered with an expensive ornamental iron and glass roof, capital stabled stabling for 40 horses, fitted with enamelled iron mangers and racks, and all modern appliances, spacious show-rooms and galleries for carriages, hay lofts, harness rooms, counting houses, &c. There are thirteen sets of dwellings, of two rooms each, for servants and those engaged in the establishment; also three dwelling-houses for foremen and manager. The principal front, in Holborn, presents a handsome and appropriate elevation, with iron entrance gates; and having upon it the two other distinct entrances from Holborn, affording unusual facilities of ingress and egress. The property is held for a term of 60 years, at a ground-rent.—Printed particulars (when ready) may be had of Messrs. NEWSON, EVANS, & CO. Solicitors, 28, Nicholas-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, WEDNESDAY, 16th NOVEMBER, at ONE.

TIMBER	1,000 Loads Foreign and Colonial	
DEALS and BATTENS	150,000 Pieces ditto	ditto
	and other Wood Goods.	

H. FREEMAN & CO. Brokers, 3, Crooked-lane, E.C.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM,

AT F. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH, BRISTOL, on WEDNESDAY, the 23rd day of NOVEMBER, 1864, at ONE o'clock precisely.

Lumber at Half-past Twelve o'clock.

Ornamental of Importers.

30,000 Spruce Deals and Battens
1,000 4 to 8 inch by 7 to 14 inch Spruce
1,000 Quebec Lime and Spruce Deals
10,000 Onega and Archangel Red Deals, Battens, and Boards
5,000 Swedish Red and Yellow Deals, Battens, and Ends
2,000 Under 9, 11, 12, and 14 inch Redwood Deals and Ends
2,500 3 by 9 inch Sundries Red Deals
1,500 Memel 4 by 11-inch Redwood Deals
3,000 Geffe Redwood Deals
1,500 Crown Ring Redwood Deals
7,000 Swedish Redwood Deals, Battens, and Ends
3,000 Finch Norway Redwood and Whitewood Battens
400 Loads Quebec Boards, Yellow Pine timber
60 Loads Quebec Oak
200 Loads Quebec Red Pine timber
500 Loads Quebec Pine
10 Loads Quebec Elm
500 Loads Memel Timber
100 Waney of Oak Logs
40 Logs Quebec Birch
100 Loads Prime Dantzic Redwood Fir
200 Loads Archangel Deals
100 Loads Dantzic Oak
500 Loads Prime Swedish Timber
200 Norway Masts
1,500 Mason Pipe Staves
Flooring

With other Goods.

Catalogues will be issued on the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, November 8, 1864

CHARING-CROSS RAILWAY. City Terminus.—To Builders, Contractors, Paviors and Others.

MESSRS. WILLIS & HARROW are favoured with instructions from the Contractor to SELL by AUCTION, on the PREMISES, on TUESDAY, NOVEMBER 22nd, 1864, at ONE o'clock punctually, the useful MATERIALS of a HOUSE and WAREHOUSE in Turnwheel-lane, ten pitches slates, tiles, lead in pipes, gutters, and ridges, joists, sashes, doors, and a variety of useful fixtures and fittings up.—On view the day prior and morning of Sale, and Catalogues had on the Premises; at the Contractor's Office, Worcester-street, Southwark; and of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey.

TO BUILDERS AND OTHERS.—Important Sale of Building Materials and Standing Timber.

GEORGE TODD will SELL by AUCTION, on TUESDAY, NOVEMBER 22, 1864, at TWELVE o'clock, on the PREMISES, the whole of the BUILDING MATERIALS of BROOKLYN HOUSE Cranham-street, Wandsworth Common, consisting of good sound bricks, slates, timber in joists, quartering, floor-boards, sashes and frames, doors and frames, stoves, lead and iron-work, &c.; and also the Shrubbery, and elm, beech, oak and fir trees.—May be viewed the day prior and morning of sale; and catalogues had of GEORGE TODD, Auctioneer, Surveyor, and Land Agent, at his Offices, Battersea Bridge-road, Battersea Park, S.W.

ISLAND OF GUERNSEY. To CONTRACTORS, BUILDERS, and OTHERS.—BY BE SOLD by PUBLIC AUCTION, on TUESDAY, NOVEMBER 22nd, and following days, by order of H. M. Sheriff, for the benefit of creditors, by

MR. HENRY KAINES, the STOCK and PLANT of several GRANITE QUARRIES, in the island. The stock comprising powerful cranes, several tons of steel and iron, most of which made into quarrying, pitching, and dressing tools of every description; new and second hand blacksmiths' bellows and anvils, and every variety of tools suitable for six forges; carpenters' benches and tools, new flock mattresses, single and double sets of blocks and falls, rolls of felt, small skate carts, hand and wheel barrows, new iron turning-over gig, powder barrels and cans, blasting powder, iron cramps, frame, pit, and other saws, Jenny derrick, gantry carriages, iron and wooden water-troughs, landspikes, harness, sadlery, bridles, and other articles: about 4,000 feet cube of dressed granite, fit for Thames Embankment; 3,000 feet edge and flat curb, 1,200 tons spalls, 100 tons partly dressed blocks, 80 tons pitching; variety of new and second-hand built boats, masts and sails complete (nearly new); also a fine granite quarry.—Catalogues can be obtained of the Auctioneer, Guernsey

SLOUGH, BUCKS. Important Sale of Freehold Building Land

MESSRS. BUCKLAND & SONS have received instructions from the Proprietor to SELL by AUCTION, at the CROWN HOTEL, Slough, on FRIDAY, NOVEMBER 25th, 1864, at TWO for THREE o'clock, in forty valuable FREEHOLD BUILDING LAND, situate near the Great Western Railway station at Slough, abutting on Mackenzie street and the Stoke road, consisting of about 14 acres, with total frontages of 1,780 feet, divided into convenient lots suitable for the erection of first-class residences and business premises. The Auctioneers call especial attention to this Sale, as never did such a plot of land in the most valuable in or near this improving neighbourhood, while the conveniences of the first-class Station of Slough, with its numerous fast trains through the Great Western and Metropolitan Railways make it very accessible to London. A portion of the purchase-money may remain on mortgage. May be viewed at any time prior to the Sale. Particulars at 1 pm of the property may be obtained at the Place of Sale; of F. CHARSLEY, Esq. Solicitor, Slough; of Mr. T. BUCKLAND, 89, Camden-street, London; and of Messrs. BUCKLAND & SONS, Auctioneers, Windsor.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, DECEMBER 12, 1864, at TWELVE o'clock precisely, on the PREMISES, the Great Northern Ironworks, Cambridge street, Bagnigge Wells, the premises being required by the Midland Railway Company, the PLANT and UTENSILS of an IRONFOUNDRY; two wrought-iron cupolas (10 tons and 6 tons), two fans, hydraulic blower, 8-horse power steam-engine and boiler, shafting, core stove, two overhead travelers (10 and 2½ tons), two iron 3-ton jib cranes, crane-shank and hand ladles, stove trunks, smiths' tools, forges, drilling machine, vices, chain cables, foundry tools, steelyard to weigh 3 tons, scales and weights, cast-iron tank, fitters' and pattern-makers' benches, 50 tons boxes, rings, and plates, wood and iron patterns, sound office furniture, two useful horses, harness, two newly new spring carts, timber-truck, and numerous other effects.—To be viewed on SATURDAY previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

HEREFORD-STREET, OXFORD STREET. — Valuable Materials of Two Mansions. Coach houses, and stabling

MR. GEO. HAINES will SELL by AUCTION, on the PREMISES, on THURSDAY, NOVEMBER 24th, at TWELVE for Half-past precisely, the very excellent BUILDING MATERIALS of Nos. 17 and 18, Hereford-street, Oxford street: comprising many thousands of prime sound bricks, several tons of lead, counters slates, and large timbers in the spacious roofs, fine batten doors, sash-lights, sashes, mirrors, marble chimney-pieces, glazed sashes and ornamental doors, cornet, statuary, marble, and other chimney pieces, iron balconies and railings, wrought-iron bond, paving, and fixtures, together with the erections of stabling for eight horses, coach-houses, and men's rooms.—May be viewed. Catalogues of Messrs. HAINES & SON, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor-street West, Eaton square.

To Painters, Decorators, Builders, Owners of House Property, Lead and Oil Merchants, and Others

MESSRS. GREEN & SON will SELL by AUCTION, at their ROOMS, 44, Farringdon-street, on MONDAY, NOVEMBER 14, at ONE, the remaining STOCK of a PAPER-STAINER and DECORATOR: comprising about 20,000 pieces of paperhangings, a large proportion being superior and new patterns, about 6 tons white lead, 1 crates sheet glass, 12 tons driers, tools, utensils, &c.—On view morning of sale. Catalogues at the Rooms, and principal Offices, St. Michael's alley, Cornhill.

DEWSBURY AND BATLEY GAS COMPANY.—Tar and Ammoniacal Liquor.—TO BE SOLD by AUCTION, by

MESSRS. CULLINGWORTH & SON, on THURSDAY, the 1st day of DECEMBER next, at the Company's GAS WORKS, Batley Carr road, Dewsbury, at THREE o'clock in the afternoon, the TAR and AMMONIACAL LIQUOR produced by the said Company at their Works at Batley Carr road and at Batley, between the 1st day of January and the 31st day of December, 1865. The Coal consumed amounts to about 18,000 tons. The Tar and Liquor will be Sold by the ton. The Company have two distinct Works, one at Batley Carr and the other at Batley; and the consumption of coal is about equal at each. Particulars of the quantities can be obtained on application at the Company's Office, Batley Carr road.

W. L. OTTY, Manager.

Dewsbury, 8th November, 1864

THAME AND OXFORD RAILWAY, WHEATLEY STATION.—Clearance Sale.—Railway Plant.—To Engineers, Contractors, Brickmakers, Builders, Iron Merchants, and Others.

MR. J. GOWER, of Barbican, London, has been instructed by Mr Brotherhood, of Chippenham, Contractor, and Manufacturer of Patent Stoves, to SELL by AUCTION, at WHEATLEY STATION, on SUNDAY, NOVEMBER 21, at TWELVE precisely, the PLANT and ROLLING STOCK used in forming the line, now completed: comprising 2 narrow-gauge locomotive engines, 20-horse horizontal stationary engine with 2 vertical boilers, water-tank; A 1 Clayton brick-making machine capable of making 25,000 bricks per day; 10-horse power steam engine, sawpool, and cutting machine, vertical pump, engine, and boiler, 400 gallons per hour, about 150 tons of temporary rails, 2 4-wheeled waggons, wrought-iron wheels, 10,000 sleepers, 30 dobbin carts, 6 clay trams, quantity of elm tunnel centres, iron bound, 2 gins, 3 large wood drums, skips, buckets, &c.; 20 carts, spring van, 4 timber carriages, labourers' cottages, engine houses, stables, blacksmiths' and carpenter's shops, and other temporary erections; 2 one-way crawling and bearing barrows, pug-mill, 4 brick-tables, quantity of useful timber, scrap iron, firewood, &c.—On view. Catalogues on the Premises; at Mr BROTHERHOOD'S Works, Chippenham; and of the Auctioneer, at his Repository, Barbican, London.

ALEXANDRA PARK, Wood Green Station, Great Northern Railway.—Horses, Vans, Carts, Harness, &c.—Messrs. Kell & Grant's Second Portion, that have been employed removing Materials from the International Exhibition to Alexandra Park, some of the finest young H. Lond-n

MR. J. GOWER will SELL by AUCTION, on the WORKS, as above, on THURSDAY Next, NOVEMBER 17th, at ONE o'clock, Thirty Powerful, Strong Active CART and VAN HORSES, 6 timber carriages, 6 spring vans, 12 one-horse carts, thill and chain harness, chaff machine, nosebags, cloths, stable utensils, &c. The horses have been purchased regardless of cost, are worthy the notice of noblemen and gentlemen requiring superior horses for heavy draught purposes; the vans, carts, &c. built expressly for this contract within the last few months. The whole for absolute sale. On view two days prior. Catalogues on the Premises and of the Auctioneer, at his Repository, Barbican.

KENT.—Valuable Building Land, close to the Town of Maidstone, in 4 Wood Lands in the Parish of Boxley.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION at the STAR HOTEL, Maidstone, on TUESDAY, DECEMBER 13, at THREE o'clock, in Eight Lots, the following eligible FREEHOLD PROPERTY, near to the thriving town of Maidstone, in a very pretty neighbourhood, viz. two inclosures of Freehold Land, beautifully situate a short distance from the town of Maidstone, on the north side, containing together about 21 acres, commanding extensive and picturesque views. They have frontages to two roads, and are well adapted for building purposes. Also, on the opposite side of the road to Bearsted, a wood, known as Scrabb's Wood, containing about 20 acres, together with a cottage, garden, and orchard, barn and yard. The also commands fine views. There is a considerable quantity of timber. It is in a good situation for the erection of a first-class residence. Two lots of Building, or Accommodation Land, in the parish of Boxley, close to Maidstone, and with valuable frontages to the river Medway, containing together about 6 acres. These plots adjoin Messrs Macey & Co.'s paper-mills, and are in a capital situation for the erection of manufacturing premises. A Ground-rent of 40l. per annum, well secured upon the paper mills and premises of Messrs Macey & Co. and the dwelling-house adjoining, the whole occupying an area of about 3 acres. Also a thriving Copse, known as Abbot's Little Cowtack Wood, in the parish of Boxley, on the road to Bearsted, containing about 14 acres. Particulars and plans may be had of Messrs. DENNETT, DAWSON, & THORNHILL, 8 Hatton, 2, Nicholas square, Lincoln's-inn; I. P. EVANS, Esq. Grift, near Nuneaton; H. PEPPERCORN, Esq. East Malling, Kent; at the Place of Sale; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

To Timber Merchants, Builders, Cabinet and Pianoforte Makers, &c.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, Camden Town, on MONDAY, NOVEMBER 14th, at ELEVEN for TWELVE precisely, the capital STOCK, viz. 13 loads dry lime-tree (plank and boards), 250 yellow and white pine planks, deals, and battens, 2-cwt. pine planks and deals, 250 pieces pine flooring, mahogany, wainscot, mahogany, and other stuff, 2 feet by 2 square, oak rails, quartering, 3 by 3 ditto, 15 scaffold poles, lads, and all materials, paving, slates, varnish, &c.—Access by Offices, Cardington-street, Hampstead-road.

To Builders and Others.—Builders' Ironmongery, Stoves, Range Stock Piping, Iron Doors, Stock of Paperhangings, removed from City Warehouse, being pulled down; 50 tons of Sash Weights, Marble Chimneypieces, Carpenters' Tools, and various effects, in the Building trades.

MR. W. HOLLINGSWORTH is instructed to REMOVE and SELL, at his AUCTION ROOMS, 13, High Holborn, on MONDAY NEXT, at ONE o'clock, a variety of BUILDING MATERIALS.—For particulars, see catalogues, which can be had of the Auctioneer.

KING STREET, WESTMINSTER.—The Useful Materials of Extensive Stabling.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are instructed to SELL by AUCTION, on the Premises, on TUESDAY, NOVEMBER 15, at ONE for TWO precisely, in Two Lots, the MATERIALS comprised in fourteen sets of Stabling, consisting of stock brickwork, sound Lumber in roofs and floors, stable fittings, and other materials. May be viewed the day preceding, and catalogues obtained on the Premises, and of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Savile-row, W. and 13, Change-alley, Cornhill, E.C.

TO BUILDERS and DECORATORS.

PARTNERSHIP or OTHERWISE.—This genuine advertisement presents itself to a person wishing to EXTEND a LONDON BUSINESS. The Advertiser is very old-established, situated at no less than London, in the branches of a plumber, decorator, and occasionally general repairs. The connexion consists, and is valuable to be, of first-class resident gentry. The offer would be most advantageous, particularly to a London firm, in either of the above trading branches. An interview will be given.—Apply by letter, with name and address, R E R, Money-order Office, Tooley-street.

TO BUILDERS.—TO BE DISPOSED OF (in consequence of the ill-health of the principal) the excellent established BUILDER'S and CONTRACTOR'S BUSINESS carried on by the Advertiser for many years past, situated at Ipswich, and has succeeded to that highly important and improving town. Address, by letter, to Mr. Case of Mr. Charles J. Shoppee, No 11, Dwight-street, London, W.C.

ROYAL POLYTECHNIC.—Patron H.R.H. the Prince of Wales.—Re-decorated and Re-opened. Professor Pepper's new Lecture on "Sound and Acoustic Laws," which will include an instantaneous Talking Head of Albertus Magnus — Professor Wheatstone's Telephonic Concertina, Mechanism of the Piano Bullfinch.—Mr. Pepper's new and beautiful experiment, showing Harmony and Discord. The Ghost Illusion (invented by H. Pepper and Henry Dircks, C.E. inventors).—New Musical Entertainment, by Mr. R Cecil. Pagan's Ghost daily at 4.30 and 8. Sole New Lecture by J. L. King, Esq. on the late Non-Spirit Manifestations (so called), with various Illustrations.—Stokes's Memory.—Open 12 to 5, and 7 to 10.—Admission 1s.

TO BUILDERS.—A Gentleman can obtain ADVANCES for BUILDERS on their Finished or Unfinished Property, or Advances as their Wages proceed.—Address, in the first instance, to H. S. T. 63, King William street, City.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 26th, 14, RUSSELL STREET, COVENT GARDEN, W.C. Advances from 10l to 1,000l upon Freehold and Leasehold Property, for any term up to ten years. Mortgage redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, by the repayment of the advance taken as rent. Greater advantages offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope

EDWARD HARPER, Secretary

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS—their cost, and mode of procedure to be adopted to secure it by the General Patent Company (Limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INDODOROUS FELT For Damp Walls, and Lining from Houses, DOWGATE HILL, London; 2, GORE PLAZZA, Liverpool; and 9, GEORGE SQUARE, Glasgow

SEDDON & CO. MEDIÆVAL CABINET MANUFACTURERS and UPHOLSTERERS, 68, South-street, London, W.—Sole Manufacturers of Holmes's Patent Church Benches and Chairs.

FIRE in GRESHAM-STREET, London, E.C. Messrs. THOMAS TAPLING & CO. Carpet Warehousemen, &c. will, until further notice, carry on their BUSINESS in the premises, all communication, at 44, Gresham street, and 72, Aldermanbury, opposite the house of Messrs. Bradbury, Greatorex, & Beal.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 12, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1137. NOVEMBER 19, 1864. PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

ROYAL INSTITUTE of BRITISH ARCHITECTS, 9, CONDUIT STREET, HANOVER SQUARE.

VOLUNTARY EXAMINATION, 1865.—The LAST DAY for sending in Application Papers and Preliminary Works is SATURDAY, NOVEMBER 26th, 1864. Further particulars of the above, together with blank papers and other information, can be obtained on application to the Librarian. The Book of Regulations for the next year is now published, price 2s.; if posted, twenty-six stamps. The Sessional Papers for the past Session, 1863-4, bound in limp cloth, may now be had as above, price to non-members, 1l. 1s.; to members (one extra copy), 10s. 6d. A few copies of the Transactions of former years are still on sale.

JOHN P. SEDDON,
CHAS. F. HAYWARD, } Hon. Secs.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

The MEETINGS for SESSION 1864-5 will commence on WEDNESDAY, NOVEMBER 23rd, at 23, Sackville-street, Piccadilly, at Half-past EIGHT o'clock.

PART II. of VOL. II. of the COLLECTANEA ARCHÆOLOGICA, containing Mr. Gordon Hills on Ford Abbey; Mr. Yeo's Inrica on the Camps, &c. of Cornwall; Mr. Pettigrew on the House of Gournay, &c. with Twenty Plates, 4to. and other illustrations is NOW READY, and may be obtained, together with the other Publications of the Association, of the Treasurer,

T. J. PETTIGREW,
16, Onslow Crescent, Brompton.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.

The following PRIZES to ART-WORKMEN are now offered:—

For Wood carving, 2l. and 1l.

For Silver Work, 10l. and 5l. 5s. (the latter given by Mr. H. Heather Bigg, of Wimbledon).

For Transparent Enamels, 10l. (given by the Ecclesiological Society and Mr. Beresford Hope).

For Opaque Enamels, 10l. (given by Mr. Ruskin).

Smaller Prizes will be added at the discretion of the Council.

Full particulars may be had either by a letter to the Honorary Secretary, at 13, Stratford-place, London, W. inclosing a directed and stamped envelope; or of the Attendant at the entrance to the South Kensington Museum; or at the Office of "The Builder," York-street, Covent-garden.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Honorary Secretary.

SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION, SOUTH KENSINGTON.

ROYAL SCHOOL of NAVAL ARCHITECTURE and MARINE ENGINEERING. Session 1864-65.

The following course of public lectures will be given in connexion with the above school. Programmes giving the dates of these lectures, which will be delivered from FOUR to FIVE o'clock, in the afternoon, may be had on application at the South Kensington Museum.

Fee for the full course, 5l. and for separate courses, 2l. 5s. 6d. per lecture. Officers in H.M. Service are admitted at reduced fees.

Subject.	Lecturer.
1. Inaugural Lecture	Rev. J. Woolley, LL.D.
2. On the Principles of Mechanics and Hydrostatics. Machinery, and Elements of Mechanism (12 lectures)	The Rev. B. M Cowie, B.D.
3. On the Mechanical and Chemical Properties of Iron; and on the Metallurgy of Iron (6 lectures)	John Percy, M.D. F.R.S.
4. On the Properties of Different Kinds of Timber; its Application and, Durability (3 lectures)	T. Haslett, Timber Inspector, H.M. Dockyard, Woolwich.
5. On the Use and Application of Iron to form Mechanical Structures (6 lectures)	Prof. Pole, F.R.S.
6. On the Practical Construction of Ships in Wood and Iron; and the Method of combining Timber with Iron in Shipbuilding; and on Forms of Ships (8 lectures)	E. J. Reed, Chief Constructor of the Navy.
7. On Marine Steam Engines and Boilers (8 lectures)	A. Murray, C.E., Chief Engineer, Her Majesty's Dockyard, Portsmouth.
8. On the Strength and Materials as applied to Shipbuilding (3 lectures)	Prof. Rankine, F.R.S.
9. On the Motion of Bodies through Water, the Resistance of Fluids, and the Motion of Waves (3 lectures)	Prof. Rankine, F.R.S.
10. On the Stability and Oscillation of Ships (3 lectures)	W. Froude.
11. On the Mechanism of Masts, Rigging, and Sails; and Steering Apparatus. (6 lectures)	F. K. Barnes and N. Barnaby, Assistant Constructors of the Navy.
12. On the Principles of Marine Propulsion (4 lectures)	J. Croshrid, Assistant Constructor of the Navy.
13. On Screw Propellers (1 lecture)	F. Pettit Smith.
14. On the Calculations and the Curves used in Ship-building (4 lectures)	C. W. Merrifield, F.R.S. Principal.
15. On Magnetic Errors, Compensations, and Corrections, with special reference to Iron Ships and their Compasses (2 lectures)	The Astronomer Royal.
16. On the Fitting up, Equipment Stores, Armament, and Outfit of Ships of War (6 lectures)	F. K. Barnes and N. Barnaby, Assistant Constructors of the Navy.
17. On Lloyd's Rules for Classing of Wood and Iron Ships (2 lectures)	J. H. Ritchie, Surveyor of Lloyds.
18. On Naval Artillery and Naval Tactics (6 lectures)	Capt. L. G. Heath, R.N. C.B.
19. On Board of Trade Regulations (2 lectures)	B. Murray, C.E. Engineer-Surveyor to the Board of Trade.

Mr. W. FAIRBAIRN, F.R.S. has kindly consented to give one or more lectures on Strength of Materials, of which the dates will be fixed hereafter.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, 9, Conduit-street, Regent-street.—H. R. HURRELL, Esq. C.E. will deliver a LECTURE to the Members and Friends of the above Institution on MONDAY evening, NOVEMBER 21st. Lecture to commence at half-past EIGHT o'clock; subject—"The Geology of the South-Eastern Railway between London and Erith." Tickets of admission may be had of any of the Members, or at the door, 9, Conduit street, on the evening of the Lecture. R. WEBSTER, Librarian.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Exhibitors must live within the southern postal districts.

MONEY PRIZES, from 1l. to 5l.

Application for space, information, &c. to be made to Mr G. M. MURPHY, 56, Finchley-road, S.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION, 1865.

£5 PRIZE FOR DESIGN FOR MEDAL.

The Committee have resolved, "That a Prize of 5l. be offered for the best design of a Medal of Merit, by a Working Man, the Committee not pledging themselves that the Design should ultimately be the Medal awarded as the Prize."

RULES.

1. Competitors must reside within the Southern postal districts, S. S.E. S.W.

2. Each competitor must attach a motto, or mark, to his design, enclosing a copy of the same, with name, occupation, and address, in a sealed envelope, endorsed, "Medal Competition," and addressed to the Secretary.

3. The successful design to be the absolute property of the Committee, and each design forwarded to be at the Committee's disposal for Exhibition purposes until the Exhibition closes. The publication or placement of the award to be made upon the opening day.

4. The designs must be sent in on or before SATURDAY, DECEMBER 31st, 1864, directed to the Committee, Board Room, Lambeth Baths, S.; or to the Hon. Secretary, Mr. G. M. MURPHY, 56, Finchley road, S.

BUILDERS' BENEVOLENT INSTITUTION.—THURSDAY next.—An ELECTION of THREE PENSIONERS (Two Males and One Female) will take place on THURSDAY, 24th instant, at the LONDON TAVERN, THOMAS C. LUCAS, Esq., President of the Institution, in the Chair. Polling commences at TWELVE and closes at THREE o'clock precisely.

18th Nov 1864. A. G. HARRIS, Secretary.

ARCHITECTURAL ASSOCIATION.—A FIGURE DRAWING CLASS has been established in connexion with the above Society. The Meetings take place on TUESDAYS and THURSDAYS, at SEVEN p.m. at the West London School of Art, 204 Great Portland street. The first Meeting will take place on TUESDAY next, the 22nd instant. This class is not confined to Members of the Association.

EDWARD T. TARVER, Hon. Secretary.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Article, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12 Aberdeen-street Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

COMPETITIONS.

DESIGNS for a NEW CHAPEL and SCHOOLS, in the East India-road, Poplar.—A PREMIUM of TWENTY POUNDS is offered for the best SET of DESIGNS for a New CHAPEL and SCHOOL HOUSE at Poplar. Sketches to be made by Committee Jan. 1. The Designs selected to become the property of the Trustees. Exterior estimate, 2,500l. To seat 1,200 persons. Plans of ground, and particulars, may be obtained of Mr. M. D. ROGERS, Kemp House, East India-road, Poplar, opposite St. Leonard-street.

CONTRACTS.

CLEVEDON LOCAL BOARD of HEALTH.—SEWERAGE WORKS.—To SEWER CONTRACTORS and OTHERS.—The Local Board of Health for the district of Clevedon, in the county of Somerset, do hereby give notice that they are prepared to receive TENDERS from parties willing to undertake the following contract:—

Contract No. 1. For the CONSTRUCTION of BRICK SEWERS, EARTHENWARE and CAST-IRON PIPE SEWERS, MANHOLES, VENTILATING SHAFTS, OVERFLOWS, FLUSHING ARRANGEMENTS, and other WORKS.

Plans sections, detail drawings, and specifications may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices may be obtained on and after Monday, the 21st November instant, on payment of Ten Shillings, on application at the Office of Mr JOHN LAWSON, Civil Engineer, 31, Parliament street, Westminster. Sealed Tenders, endorsed, "Tender for Sewerage Works," must be delivered at the Office of the Local Board, on or before TUESDAY, the 6th day of DECEMBER next. The Local Board do not bind themselves to accept the lowest or any Tender; and they reserve to themselves the right to divide the Contract, if they think proper.

(Signed) HENRY WOODFORDE, Clerk to the Local Board.
Clevedon, 14th November, 1864.

WORKINGTON LOCAL BOARD.—SEWERAGE WORKS.—To SEWER CONTRACTORS and OTHERS.—The Local Board for the District of Workington, in the county of Cumberland, do hereby give notice that they are prepared to receive TENDERS from parties willing to undertake the following contract:—

Contract No. 1. For the CONSTRUCTION of BRICK SEWERS, EARTHENWARE and CAST-IRON PIPE SEWERS, MANHOLES, VENTILATING SHAFTS, GULLIES, and other WORKS.

Plans sections, detail drawings, and specifications may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices may be obtained on and after Monday, the 21st November instant, on payment of Ten Shillings, on application at the Office of Mr JOHN ASKEW, Clerk to the Local Board, Workington, or at the office of Mr. JOHN LAWSON, Civil Engineer, 31, Parliament street, Westminster. Sealed Tenders, endorsed "Tender for Sewerage Works," must be delivered at the Office of the Local Board, on or before SATURDAY the 10th day of DECEMBER next. The Local Board do not bind themselves to accept the lowest or any Tender.

(Signed) JOHN ASKEW, Clerk to the Local Board.
Workington, 15th November, 1864

CROYDON WATER WORKS.—CONTRACT No. 2. Persons desirous of CONTRACTING with the Croydon Local Board of Health for the CONSTRUCTION of THREE SINGLE-FLUED CORNISH BOILERS, in accordance with the plans and specification prepared by Mr. BALDWIN LATHAM, C.E. the Engineer for the Local Board, can inspect such plans and specification in the Office of the said Engineer, in the Town Hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Boilers," are to be delivered at the Board's Offices in the Town Hall, on or before FOUR o'clock on the afternoon of TUESDAY, the 29th day of NOVEMBER instant. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.
Croydon, November 2nd, 1864.

TO STONE MERCHANTS.—The Council of the Borough of Margate are willing to receive TENDERS for BLUE GUERNSEY GRANITE, as under:—

700 feet lineal of Trau, 18 inches on face by 7 inches deep.
700 feet lineal of Flat Kerb, 12 inches on face by 8 inches deep.
15 tons Pitchers, 4 inches by 7 inches deep.
30 to 40 tons of Granite broached to 2 in bearings.

The whole to be delivered in the Borough at Margate, free of all charges, within 12 weeks from the day the Contract for this their acceptance of the lowest Tenders addressed to the Town Clerk, to be sent in before ELEVEN o'clock on TUESDAY, the 6th DECEMBER next. The Council do not bind themselves to accept the lowest or any Tender. WM. BROOKE, Town Clerk.

Margate, 15th November, 1864

[For remainder of Contracts see next Page.

TO BRASS FOUNDERS. — The Waterworks Committee, in compliance with the request of a large body of Brass Founders, have EXTENDED the TIME for receiving Specimens and Tenders, from the 1st to the 24th DECEMBER, 1864.

THE WATERWORKS COMMITTEE of the CORPORATION of DUBLIN, being anxious to enable the Citizens to make timely provision for the high pressure water supply about to be introduced when the new works shall have been completed, are now prepared, in accordance with the powers conferred on the Municipal Council for regulating and controlling the character of the cocks, taps, and other appliances for taking water from the water mains within the limits of the Act, to receive TENDERS, with Specimens, for the following articles, viz :—

HIGH PRESSURE BALL-COCKS, ¾, ½, ¼, and 1 inch bore, complete.
HIGH PRESSURE BIB TAPS, ¾, ½, ¼, and 1 inch ditto.
FERRULES, for connecting house service pipes with service mains, ¾, ½, ¼, and 1 inch ditto.
SHUT-OF or STOP-COCKS, ¾, ½, ¼, and 1 inch ditto.
WATER CLOSET VALVES, on the prevention of waste principle, fitted in cisterns, ready for action, complete.

The Waterworks Committee have not yet determined on any pattern or principle, and are resolved to select the most effective article for its especial purpose. Each article sent must be accompanied by a clear explanation of the specialty of the principle of construction, if any, and of the special action, the class of metal used, the price, and the prices of the same class of article in various sizes, by the single article, by the dozen, and in large quantities, as the article patented, and such other particulars as the maker may deem advisable. The specimens are to be sent to "The Waterworks Committee," City Hall, Dublin, on or before THURSDAY, the 29th of DECEMBER, 1864 and are to be removed thence by the owner when required to do so, free of all expenses to the Committee, and on the condition that the Committee may purchase any one or all of the specimens, at the price marked for the purpose of examination, and detailed experiments as to the efficiency of the principle and the perfection of the workmanship. The Committee will not be bound to accept the lowest or any Tender

DUDLEY JONES DICKINSON, Secretary.
Waterworks Committee, City Hall, Dublin, 4th November, 1864.

TO CONTRACTORS, BUILDERS, IRON-FOUNDERS, and OTHERS.—The Directors of the Peterborough Cattle Market Company are prepared to receive TENDERS for the ERECTION and CONSTRUCTION of their NEW CATTLE MARKET, proposed to be built near the Long Causeway, in the City of Peterborough, in two divisions, as follows, viz :—

No. 1.—Comprising the whole of the Materials and Labour required in Filling, Raising and Trimming the Site, laying down the Sewerage and Drainage, and Constructing the Roads and Avenues, Stalls, Standings or Pens, Sheds, Offices, Urinals, Privies, and all other Works, and completely finishing the proposed New Market.

No 2. Comprising the Furnishing and Delivery and Fixing up of the whole of the Iron Castings and Wrought Iron Work required.

Or, for the Whole of the Works.

The plans and specifications, prepared by Mr. T. C. THORBURN, C.E. may be seen, and all other information obtained, on application at our Office on and after the 19th day of NOVEMBER instant. Bills of Quantities and forms of Tender for the Work have been prepared, and copies may be obtained at our Office on payment of One guinea for Division No. 1, and Half a guinea for Division No. 2, which will be returned to parties sending in Tenders. Sealed Tenders (in the form provided) indorsed "Tender for the New Market, Peterborough," addressed to the Directors of the Peterborough Cattle Market Company," are to be sent to our Office not later than the 6th of DECEMBER next.

GATES & PERCIVAL, Solicitors.
Peterborough, 12th November, 1864.

LONDON, BRIGHTON, & SOUTH-COAST RAILWAY.—LONDON BRIDGE STATION ENLARGEMENT, CONTRACT No. 4.—To BUILDERS and CONTRACTORS.—The Directors of the London, Brighton, and South Coast Railway are ready to receive TENDERS for the execution of the WORKS in the side WALLS of the intended NEW ROOF at the London Bridge Terminus, and in the ERECTION of new BOOKING OFFICES, PARCELS OFFICE, and REFRESHMENT ROOMS at the same Terminus, according to the plans, drawings, and specification, which may be seen, and bills of quantities obtained, at the Office of Mr. F. D. BANISTER, the Company's Engineer, on or after this date. Tenders in the prescribed form only, and properly endorsed, must be addressed to the Secretary, and left at his Office, not later than ELEVEN o'clock in the forenoon of TUESDAY, the 29th instant. The Directors will not be bound to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.
London Terminus, 15th November, 1864.

TO IRONFOUNDERS and SMITHS.—The Burial Board of Rickmansworth, in the County of Hertford, are prepared to receive TENDERS for the ERECTION of 625 feet of WROUGHT IRON RAILING, with Five Gates to correspond, to be fixed in the Churchyard. The specification and description of the railing, together with a plan of the churchyard and railing, may be seen on application to H. W. FELLOWS, Esq. at his Offices in Rickmansworth aforesaid. The Board do not pledge themselves to accept the lowest or any Tender. Tenders to be delivered on or before the 20th day of DECEMBER next.

Rickmansworth, 14th November, 1864.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of BROKEN GUERNSEY GRANITE and other STONE and MATERIALS; and for the Supply of DRAIN PIPES in the whole of the District; also for the EXECUTION of MASONS' and PAVIORS' WORKS, and of the various JOBBING WORKS in Repairing and Making Good to Sewers and Gullies, and for Laying Drain-Pipes in the parish of Putney; also for the Supply of HORSES, on HIRE, and for Barge Work, in the parishes of Battersea and Putney, and also for DUSTING in the parishes of Putney and Wandsworth. The Contracts are to be for One year, from 31st December next. Separate Tenders are to be sent in for each parish, excepting those for Granite and Drain-pipes, for each of which one TENDER for the whole District must be sent in. The specifications may be seen, and forms of Tender may be obtained, at the Offices of the Board, Battersea-rise, between the hours of TEN and FOUR.—Tenders are to be sent in under seal to the Board, indorsed "Tender for , parish of ," on or before TUESDAY, 23rd instant. Security will be required for the due performance of the respective Contracts. The Board do not pledge themselves to accept any Tender. By order of the Board of Works for the Wandsworth District

ARTHUR ALEXR. CORSELLES, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. November 12th, 1864

LANGTON CHARITIES, LEICESTERSHIRE.—To BUILDERS and OTHERS.—Persons desirous of TENDERING for the RESTORATION of the PARISH CHURCH of Church Langton, in the County of Leicester, can obtain bills of quantities on application to the Architects, Messrs. GODDARD & SON, of Leicester, from the present date up to THURSDAY, the 24th instant. The Trustees do not bind themselves to accept the lowest or any Tender.

JAS H. DOUGLASS, Clerk to the Trustees.
Market Harborough, November 10, 1864.



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BRYAN DONKIN & CO.'S
IMPROVED GAS VALVES,
With Wrought-iron Pinions.
From 2 in. to 16 in. price 9s. 6d. to 12s. per in. diameter.
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These Valves are all proved on both sides to 80lb. on the square inch before leaving the works and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun-metal faces.
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SMALL STEAM-ENGINE.—WANTED, a small Second-hand STEAM-ENGINE, of from One to Three-Horse Power, in good condition, suitable for farm-yard work, sawing, &c. If fitted with sawing-gear, preferred.—Address, stating lowest price, J. ELVIDGE, Chilham, Canterbury.

A SMALL VERTICAL SAW-FRAME FOR SALE, to cut 18 inches by 5 inches, and any length.—Apply to DEATH & ELLWOOD, Engineers and Millwrights, Albert Works, Leicester.

PERFECT VENTILATION GUARANTEED for Buildings of any extent. Steam effectually removed from Shop and other Windows by the use of MOORE'S PATENT VENTILATORS.—Seaforde Works, St. James's-walk, Clerkenwell.

KITCHEN BOILER EXPLOSIONS.—J. COOKSON, PLUMBER and GASFITTER, having made the PREVENTION of EXPLOSIONS in KITCHEN BOILERS his study for several years, has now succeeded in bringing out his PATENT SELF-ACTING VALVES in connexion with Kitchen Boilers, by the use of which the circulating boiler can be used either as a high or low pressure boiler, so that no one need fear an explosion either from frost or scarcity of water.—123, Westgate, Bradford.

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For CHURCHES and LARGE PUBLIC and OTHER BUILDINGS;
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For PRIVATE HOUSES, OFFICES, WARDS of HOSPITALS, &c.;
Saves 50 per cent. in Fuel, cures Smoky Chimneys, shows always a Cheerful Fire, and one Fire will warm other Rooms.
HEATING APPARATUS upon the most approved Principles of Hot Water, Steam, &c.
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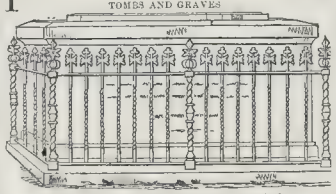
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Rain Water Pipes....	2½-in.	10d.	3-in.	1s. 0d.	per yard.
Eaves Gutter.....	3½-in.	6½d.	4-in.	0s. 6½d.	"
O G Gutter.....	4-in.	11d.	4½-in.	1s. 0d.	"
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COMMUNION RAILINGS, SCREENS, GATES, &c.
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CLARK'S SELF-COILING SHUTTERS are used to CLOSE the ENTRANCE of THEATRES.

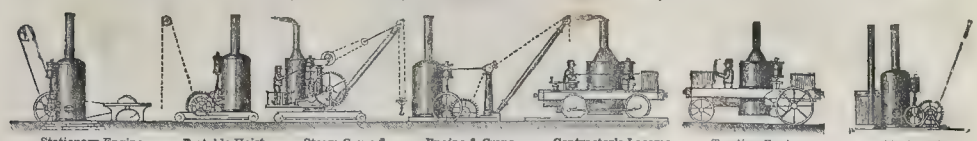
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PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



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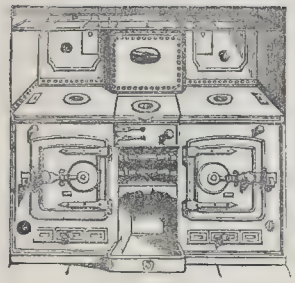
* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

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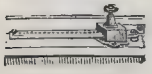


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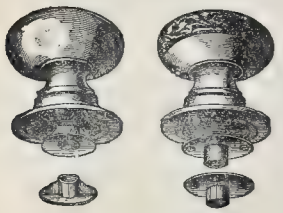
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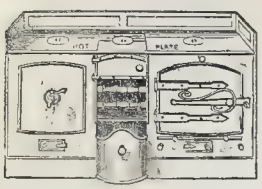
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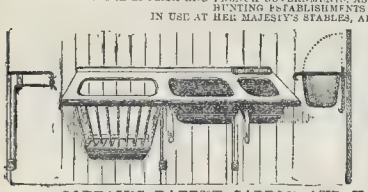
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IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT AND BALMORAL.



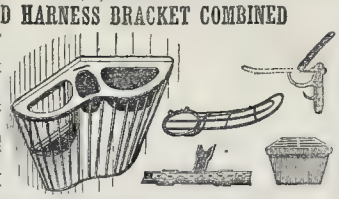
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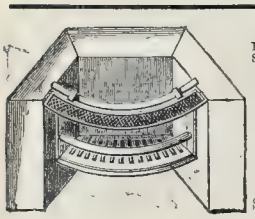


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27	18		.....	16	0	.....	18	0
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36	24		.....	30	0	} Extra strong.		
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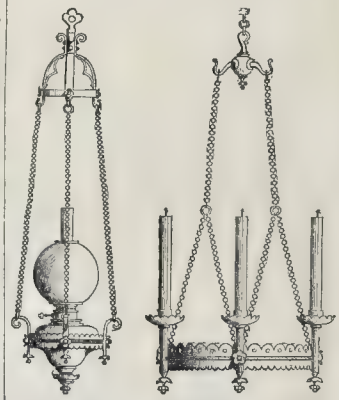
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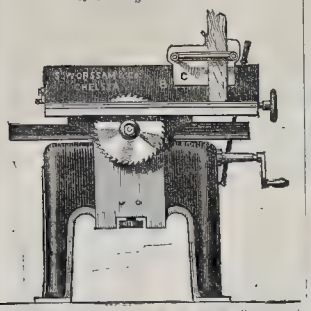
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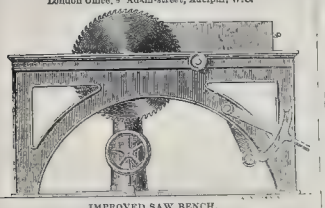
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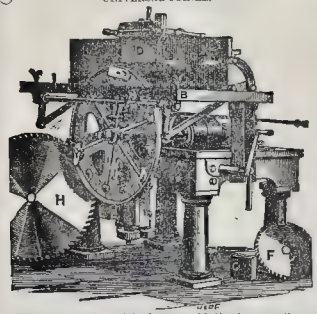
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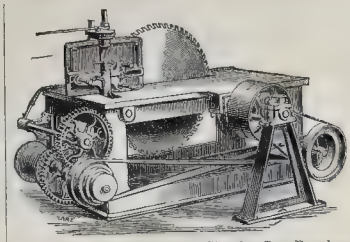


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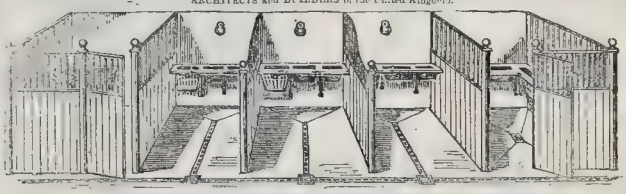
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MUSGRAVE'S PATENT HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW STALLS and PIGGERIES.

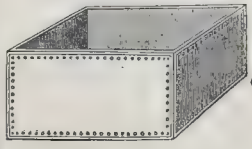


Architects who have not seen these fittings are requested to write for engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition.
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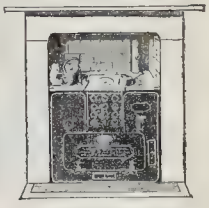
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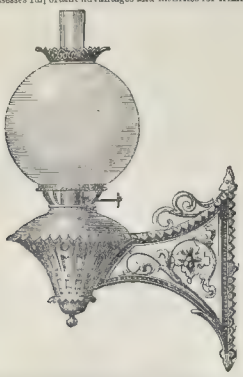
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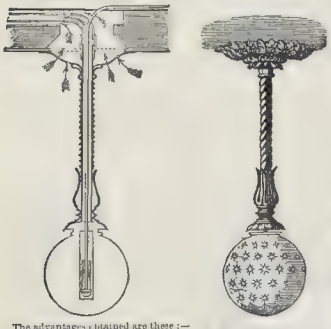
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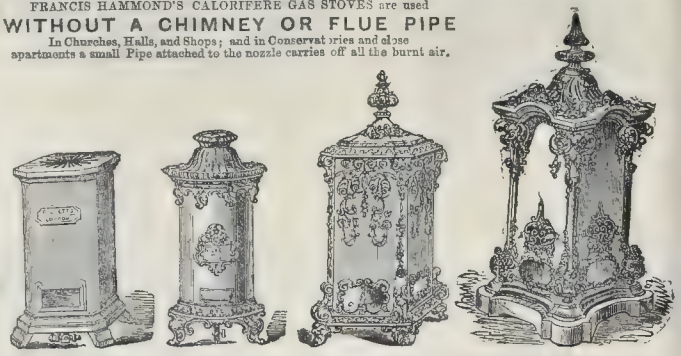
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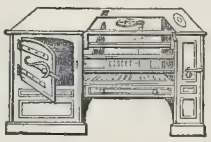


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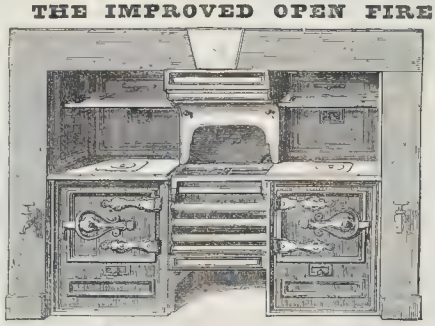
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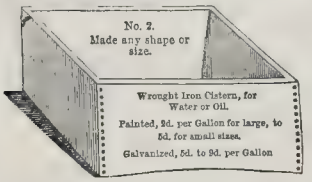
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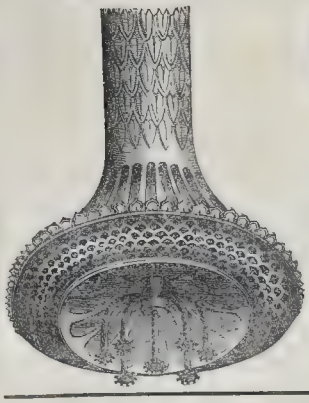
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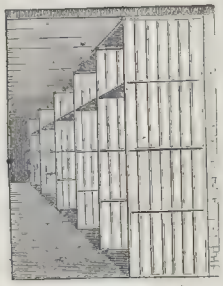
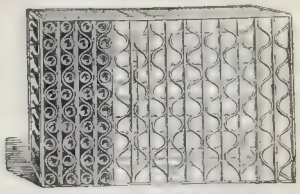
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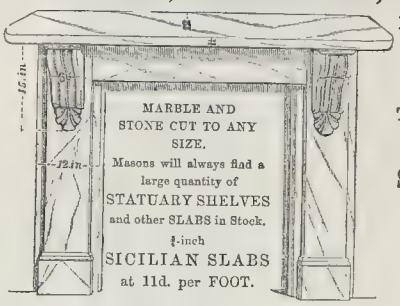
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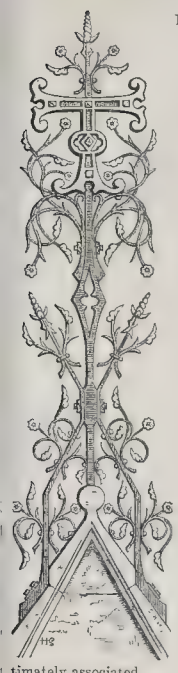
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The Builder.

VOL. XXII.—No. 1137.

*Robert Stephenson.**



HE eventful though comparatively short life of Robert Stephenson may fitly be divided into two periods,—the first that in course of which he most materially aided in maturing and carrying out the great ideas of his father and others; and the last that wherein he originated as well as realized great ideas of his own.

Of the first of these periods, of course, we shall first speak in our brief review of the "Life" now before us. Mr. Jeaffreson has manifested great diligence as well as literary ability in the collection and use of a mass of materials which now for the first time may be said to afford the public a full view of the life of the younger Stephenson, apart, as far as possible, from that of the elder, with whom, nevertheless, during the first period of his life, he was intimately associated.

It is rather satisfactory than otherwise to find that a search for ancestors has failed to elevate the forefathers of the Stephensons into either noblemen or kings; no connexion even with the more respectable Stephenson families of Newcastle having been established; which speaks well for the fidelity of the author's researches. However,—

"A gentleman of high attainments residing in the neighbourhood of Newcastle, in answer to inquiries for ancestors in the male line of George Stephenson, stated that George Stephenson, on a certain occasion, said that his family were natives of Castleton, in Liddisdale, and that his grandfather came into England in the service of a Scottish gentleman."

It is a somewhat singular coincidence that the name of Stephenson,—only spelt in the Scottish mode, with the slight difference of a *v* in place of *ph*, and which mode, perhaps, George, or his father, had they been spellers, ought, being of Scottish origin, to have adopted,—had risen into some celebrity in the engineering line, at Edinburgh, just before George arose out of the coalpits of Northumberland into the light of fame. "Mr. Stevenson, the engineer," was a well-known name in Scotland at that time; and it may be that the families were related.

The grandfather of Robert Stephenson was a fireman, as his father, George, was a breaksman; and he himself began life before his father cast off the slough of poverty and humble occupation; so that, while obtaining the elements of education at a sixpenny-a-week school, he was made useful in carrying the miners' picks to and from the blacksmith's, on his way as he went and came.

Of this we feel assured, that Robert Stephenson, who refused the honour of knighthood in his own country (though, by the way, he accepted it at the hand of the Belgian king), would *not* have regarded himself as any nobler in origin had his sire been a knight but not George Stephenson. His was a father of whom, on the whole, he might well be proud; and, modest as he naturally was, he *was* proud of his father.

It was on the 16th of October, 1803, according to the local Register, that Robert Stephenson was born, at Willington, notwithstanding that Robert's birthdays were always held in November, and he had the notion that he was born in that month. The child—"the father of the man"—was looked upon as "a wee sickly bairn, not made for long on this earth." His mother was consumptive, and died when he was three years old; but, though tainted from the maternal side, Robert inherited his father's strength, both of body and of brain; and the delicate youth grew up to a healthy and vigorous manhood. The domestic guidance of his earlier years fell mainly to the lot of his "aunt Nelly," a sensible and pious elderly maiden sister of his father's; but George was not remiss in his own peculiar style of instruction. Robert, for example, took a fancy, while at school, that he would rather like to go a-gleaning in the fields with his aunt than trudge a mile or two to school, and stay there every day; and his father, who had a high idea of the advantages of that "eddication" of which he was himself so devoid, at once allowed little Bobby to have his way, but with this proviso, that he was to follow his aunt throughout the day, gleaning in earnest, and not merely playing at it. "Weel, Bobby, hoo did the' come on?" asked his father at the close of the first day's gleaning. "Vara weel, faither," answered Bobby, stoutly. To the same question, next evening, the reply was "middlin," with a little less assurance; and on the third, his reply was, "Oh, faither, warse an' warse—warse an' warse: let me gan to the schuil agyen." With a sardonic smile, no doubt, the grim but efficient instructor of youth let his son have his own way in this request too; and next day, which was Sunday, he took him kindly on his knee, where he had often been, and told him that school was the fittest place for the like of him, and that he should thank God that he (unlike his father) did not require, in his childhood, to work hard all day for a few pence. This was, indeed, a sermon fit for a day of rest, and its influence on Robert Stephenson, we doubt not, was lasting, as must have been many another lesson of a like order emanating from so sagacious a master.

Of Robert Stephenson's boyhood there are not many anecdotes extant. He is said to have been rather a mischievous "hempy," but withal given to amusements of a somewhat higher order than those of other boys. He highly amused his father on one occasion as he watched him touching with the copper wire of his electric kite the tail of Anthony Wigham's cow, as it peacefully grazed in an adjacent meadow; but, though George witnessed the cow's cantrips with high glee, his countenance fell when Bobby adjourned from the "coo" to his father's own pony, which he next gave an electric fillip, on which his father seized the pony's whip, and rushed out upon the "mischievous scoondrel" with a threat to "pey" him for it,—a payment which Robert did not wait to receive.

The earliest "drawing" by Robert Stephenson's hand of which there is any record was that of a sun-dial, copied from Ferguson's "Astronomy," and presented by the lad, in 1816, as a token of gratitude to his father's benefactor. This drawing set both father and son to the construction of a real sun-dial, which was fixed over George's cottage door, and there it shows the time even now that both are in eternity.

Robert left school in 1819,—the year in which his father began the construction of his first line of railroad, the Hetton Colliery line,—and was apprenticed to a mining engineer, then acting as the viewer of the Killingworth Colliery, of which his father was at that time enginewright. Even George was then a young man, being only twenty-two years older than his son. Robert entered on his working life with exceedingly economical ideas. He never spent a single penny, it is said, on anything, without first asking himself Sydney Smith's three questions,—Is it worth the money? Do I want it? Can I do without it?

In 1821, when he was about eighteen years of age, Robert was appointed, by his father, as assistant in the survey of the Stockton and Darlington line of railway, of which George had been appointed engineer-in-chief; and such was the pride of the father in his son, that when the task was finished, the name of Robert Stephenson was inscribed upon the survey map as the engineer. Before the survey was made, however, George gave him a well-filled purse, and let him go to London for a holiday. Robert kept a brief journal of his visits to "Sommersite" House, and other London sights, from which it appears that he was not even then very deeply versed in the art and mystery of spelling, any more than his worthy father. After the survey Robert went to the Edinburgh University for a few months, and won a book prize in the Natural Philosophy class, notwithstanding his educational imperfections. Highly as his father estimated certain branches of education, and especially mathematics, he had no ambition that his son should have the education of a gentleman; else he could have well afforded to have sent him to Cambridge, and given him a regular college education. His determination was, that "Robert maun wurk, wurk," as *he* had worked before him.

The next great event in the life of Robert Stephenson was the appearance of his name (though he was then only twenty years old), as the head of the engineering firm of "Robert Stephenson & Co.," which George had founded in 1824, in association with Mr. Pease, and two others, as well as with his son Robert, thus manifesting anew his singular abnegation of self in favour of his son. Robert, however, was intended to act the part of actual head, or superintendent, of the business; and it went sorely against the grain with George when he found his son shortly afterwards greatly bent upon the acceptance of an offer of employment as superintendent of a "Colombian Mining" scheme, for the working of gold and silver mines, and other purposes, in Spanish America. Little thought Robert Stephenson, at that time, that the gold and silver mines which were to yield him 30,000*l.* a year, lay—not in the new world, but—in the old, and more especially in his own native country. The Spanish American scheme was a failure; but Robert, having engaged to remain out for three years, felt in honour bound to fulfil his engagement. While in America, however, he obtained valuable life experience, such as in the command of a set of turbulent workmen, who were greatly inclined to despise and disobey "the clerk," as they depreciatingly called him. On one ocasion, while they were drunk, they fairly mutinied, and were threatening a personal attack when he came quietly in among them from an adjoining room, where he had overheard the threats, which they intended him to overhear, and sat down among them unarmed, merely remarking that as they were drunk and he was sober, he had an advantage over them, of which he had no desire to avail himself if they were willing to wait till morning. As he lighted his cigar, one after another slunk out till the place was cleared, and Robert sat calmly smoking within sight of them, while they were trying to screw their courage up to an actual revolt which never took place by shouting, "One and all—one and all!" by which they meant that one and all, if any, must revolt.

* "The Life of Robert Stephenson, F.R.S., &c." By J. C. Jeaffreson, Barrister-at-Law. In two volumes. Longman & Co. 1864.

While on his way home, a remarkable meeting took place at Carthagena. There he found that eccentric genius, Trevithick, the steam-coach inventor, in a miserable state of poverty. A strange reverse of fortune had come over poor Trevithick since the time when the Peruvians received him with all the honours of a conqueror, in anticipation of the fabulous wealth which it was expected would flow to them from his engineering genius. They had absolutely shod his horse's hoofs with silver. At Carthagena, however, Trevithick was without either funds or credit; and thither he had travelled, footsore and almost starved; having suffered indescribable hardships in exploring the isthmus. To fall in with a countryman of so kindred a genius as Robert Stephenson was therefore a Godsend to poor Trevithick; and there is no doubt, on the other hand, that the original and daring views of the "Cornish giant," with respect to the capabilities of the locomotive, made a deep impression on Robert Stephenson.

On their way home, *viâ* New York, the vessel they were in was wrecked, and a circumstance which then occurred very much struck the mind of Stephenson. In the scramble to get ashore, he and his companions, who were first-class passengers, were thrust back by the mate, who singled out for vacant places in the boat a knot of humble passengers behind them, headed by a petty trader of Carthagena, who was also a second-class passenger, and was well known to be minus the means which might have made it worth the mate's while to show him and his followers any preference. Stephenson naturally wondered at the circumstance, and pondered over it, till he had afterwards an opportunity of asking the captain for an explanation, when he was informed that the Carthagenian and the mate were both Freemasons, and that this was the sole reason for the preference. So struck was Stephenson with this explanation, that he became a Freemason himself ere he left New York.

Meanwhile, George Stephenson was prospering more than ever; and when Robert returned to Liverpool he there found his father, with a salary of 1,000*l.* a year, as engineer-in-chief to the Liverpool and Manchester line, the first of the great national instalments of the new order of things. George had then his hands full with Chat Moss, across which practically bottomless morass he was literally floating a viaduct. George felt himself to be here on his trial as an engineer, and was regarded, too, by every one else as such. Just as that daring and doubtful task might prove a failure or a success, so, as he well knew, would he forthwith either be proclaimed an impudent and ignorant quack or a man of stupendous genius. He was successful; and his renown, even on this account alone, was sufficient to satisfy the ambition of any man, independent altogether of the subsequent triumph of his well-named "Rocket," on the very scene of this first triumph itself. To the success of the locomotive, however, Robert contributed in no small degree, by his exertions at the Newcastle engineering establishment. This success was based upon the multitubular boiler, an idea of Mr. Henry Booth, the Company's secretary, no less than upon the steam blast, which was generally ascribed to the Stephensons, and which had been previously used by George, in an imperfect form, in the "Puffing Billy" of a still earlier date. As Mr. Jeaffreson, however, remarks, "without the blast the multitubular boiler would have been comparatively inoperative; and apart from the multitubular boiler a strong, continuous, and regular blast was impossible."

It is rather remarkable that one of the conditions of the locomotive competition on the Manchester and Liverpool line was that ten miles an hour should be the rate of speed of the loaded train, and that the speed of the "Rocket," when first run, was so close upon that speed that 11 miles was the rate realized. When the "Rocket" went ahead, however, free of its load, "at the rate of 24 miles in the hour, shooting past the spectators with amazing velocity," it may fairly be said that the world was indeed amazed, and no wonder it thereafter ran "railway mad," as Robert Stephenson at the time expressed it in a letter to a friend. It was on this competition trial of the locomotive, as it will be recollected, that Mr. Huskisson fell the first victim to the locomotive Juggernaut. And it was the successful "Rocket" which killed him, just at the moment when he was engaged in a reconciliatory interview with the Duke of Wellington, who was on the line in one of the carriages, attached to another of the competing engines.

The manufacture of locomotives was thenceforth a rich monopoly in the hands of the Stephensons, and so indeed were the railways themselves. The effect of such success on the modest mind of Robert Stephenson was very different from what it must have been had he been a man of greater vanity and of less mental power. Instead of being anywise intoxicated, figuratively speaking, with his own position and his father's, he had fearful misgivings, expressed to a friend,—whom he had left in America, and who had only come home in 1830, when Stephenson's name had already become celebrated,—that his reputation might break under him any day like an egg-shell. It was thus in fear and trembling that Robert Stephenson established his fame.

In this year 1830 he made his first survey for the London and Birmingham line, which was formed solely by him, although his father was the appointed engineer-in-chief. There were tremendous works upon this line, especially the Kilsby tunnel, which, though let by contract for 90,000*l.* cost 320,000*l.*, and the Primrose-hill tunnel, which, though let to a contractor for 120,000*l.*, cost 280,000*l.*

By this time Mr. Stephenson was a married man: he had married in 1828; and, although he never had any children, his married life, which continued till 1841, at the close of which year his wife died, was ever regarded by him as the happiest in his experience; and, although his wife had expressed a desire that he should marry again, he thenceforth lived a single life till his death in 1859.

Having thus introduced the subject of Mr. Jeaffreson's interesting book, we shall hereafter look at it from a more technical point of view.

THE FLORENCE EXHIBITION.

THE twentieth annual Exhibition of the "Society for the Promotion of the Fine Arts" opened a few days after the close of that prepared by the rival society, of recent origin, which has taken the same name, but with the somewhat sentimental addition affixed to its advertisements, "in the bosom of artistic fraternity." This new Exhibition, containing altogether 231 pictures, of which fourteen are in water-colours, with not more than eleven pieces of sculpture, confirms the impression we received from the preceding as to the marked characteristics of the encouraging signs of progress in the Italian art of the present day. Especially in two walks, *genre* and landscape, are the relatively new direction and superior attainment conspicuous in the recent works of this country's schools; and strikingly contrasted are both the style and bias of her artists at present in repute with what we see manifest in the creations of other periods. The comparative sterility of Italian schools in landscape must strike all who regard their creations in past years, or confront the art-produce of this with that of other countries. *Now* it is landscape to which the Italian genius so devotes itself that works of this class fill the prominent place, and generally possess the highest claims to admiration, the noblest characteristics in the exhibitions of modern painting.

Less widely national than that which preceded it, the Florentine exhibition now open comprises, besides a preponderance of works by Tuscan artists, several contributed by natives of Venice, Verona, Milan, Bologna. In the figure-pieces we observe a distinct preference for Italian Mediæval subjects, either historic, poetical, or biographic (*i. e.*, from the lives of artists and poets); as well as (and here this preference has often led to admirable results), for the themes supplied by the great events of recent occurrence—episodes in the war of 1859, or the preceding revolutions. The sacred subjects are few, and their treatment little remarkable; the Holy Families cold and uninteresting, the Madonnas conventional; but one of this class, "Ruth gleaning in the Field of Boaz," has the merits of novelty *as* a subject, and of a pleasing truthfulness in conception, though, indeed, far surpassed by the other groups of the same artist, Fanfani, who has contributed some of the very best works to this collection. We have in the class that may be called national,—the genre subjects that illustrate Italian celebrities,—"Dante Alighieri in Youth" (Trionfi),—a single figure, walking through a street of Florence, absorbed in meditation; another "Dante" (Petarlini), also solitary, reclining on a mountain side above the sea-shore; and, again, "Dante in exile taking refuge at Melazzo, with the Marquis Malaspina" (Parrini), a group far superior in expression and power to the isolated figures of the same poet. "Michelangelo in his Studio, reading his Poems to the Widowed Vittoria Colonna" (Fanfani),—a pleasing and very expressive group; the quiet earnestness of the artist and the matron dignity of the lady alike truthful; a fine mellow tone over the whole picture. By the same, "Cimabue proposing to the Father of Giotto to Undertake his Son's Education in Art,"—a beautiful subject beautifully treated; the benevolent interest of Cimabue, the joyous gratitude of the handsome boy, the prudent deliberation of the old peasant, well and naturally rendered. Also by Fanfani, "Benvenuto Cellini in his Studio;" for explaining which same the catalogue gives an episode out of that artist's autobiography, describing his rage on the discovery of the amours between a young secretary and a model-girl,—the story here told with much dramatic effect by the painter. "Eleonora d'Este meditating on the Episode of Sophronia in the 'Jerusalem Delivered'" (Barzaghi),—a picture in which one misses the indispensable attribute of poetical imagination: the execution admirable; the draperies, hangings, details, elaborated with extraordinary skill; the lady beautiful, but cold and stern in expression, without any apparent consciousness either of loving or being loved. "Ettore Fieromosca finding Ginevra dead" (Sanesi),—a scene from Azeglio's romance, in which the dim solemnity and far receding perspective of Gothic architecture attract rather than the figures. "Medora" (Trionfi),—Byron's heroine watching beside the sea-shore at sunset for her Conrad's return; the solitary figure reminding us of the *pose* of a tragedy-queen on the stage, though her grief is earnestly expressed, her countenance noble, quite "Sidonian" in type, her rich Oriental costume finely treated. As for the largest historic picture here, "The Conspiracy of the Pazzi" (Mussini),—we can find nothing to say in its praise: the passion exaggerated, the attitudes theatrical, the colouring, notwithstanding a profusion of fine dress, cold and hard in effect. Among subjects that bespeak the absorbing interest in political events and the great national cause, we have;—"Prayer of the Zouaves over the Graves of their Comrades slain at Palestro" (Morici),—a small picture, doing some justice (not, indeed, the fullest) to so pathetic a scene; "Riflemen surprising a Brigand" (Raimondi),—a Neapolitan episode, rendered with such spirit and truth that we might suppose it taken from the life; an "Episode in the War of 1859" (Trezzini),—the escape of schoolboys, one a theological student, over the walls of their college, in intent of joining the volunteers for the Italian cause;—a comic, but yet earnest scene, the actualities trivial, the meaning profound. Other subjects indicate the strongly-marked and indeed alarming tendency to hostilities against the Church; not so much regarding doctrines, but practice, that cannot escape attention in the Italy of the present day. "A Victim of the Inquisition," (Moricci),—a nun about to be tortured before the Dominican friars, her judges, by the hooded familiars of the dread tribunal;—all the physical horrors of the scene well rendered, but nothing more; nothing to redeem or elevate into a higher sphere such revolting realities. "A Nun in the Cell of Discipline" (Riccardi), is another miserable victim of ascetic rigour; the torture of the mind rather than that of the body, purely distressing to look upon, though indeed a well-finished figure.

But the landscapes are more attractive, generally speaking, than the other works here exhibited. Before such pictures as those of two masters, certainly pre-eminent, Marko and Bensa, we forget the particular claims of the artist, of style and manipulation, in the sense of awe or delight before the glories of Nature herself,—the manifestation of Deity in our beautiful world. Marko (son of a painter distinguished in the same walk) excels in the fascinating and sunny aspects of scenery, radiant mists, visionary distances, the twilight of the forest, the broad golden lustre of summer evenings. Bensa is happiest in the grand and wildly magnificent,—Alpine solitudes, desolate wintry scenes, where the ruined castle or antique village rises amidst snow-clad heights, beside frozen waters, rocky glens, or lakes embosomed among forests and hills under the solemn effects of sunset and twilight. Besides these masters, of such unquestionable eminence, we may mention others whose landscapes exhibit power and feeling.

Donnini,—sea-coasts, sunset upon mountains, romantic distances beyond pleasant foregrounds; Pianzola,—quiet luminous scenes, lovely effects of light and shade on woods and waters; Corvini and Maioli, both excelling in forest scenery; the former also in the characteristic landscape of the Roman Campagna; Senno,—admirable for the finish of detail, the botanic study of nature, and the light of a feeling that glorifies all it touches; Calvi and Silei, both happy in scenes where a delicious repose is the leading expression; Bertelli, whose power is well displayed in a sunset scene, from the level region of Bologna, striking and truthful; Steffani, who exhibits "The Island of the Cyclops," from the Sicilian coast, a small but very impressive and finely worked up picture. Other genre subjects treated with superior abilities, are,—"The Expectant" (Giuliano),—a poor girl looking out of a cottage-window across the sea; the "Hour of the Meal" (Castaldi),—a girl feeding poultry on the stairs of a cottage-interior; and two that might well be placed together as pendants, "The Family of the Mountebank visiting their imprisoned Father" (Sanesi), and another "Family of Mountebanks" (Malatesta), where we see a daughter dying in a garret, the desponding father who counts his paltry gain, and the other children just returned from performance, still wearing the tinsel finery that enhances the effects of sorrowful realities,—both these last conceived with much feeling; and while we must give the preference to Malatesta's picture for rich and mellowed colouring, both speaking to us with true pathos, conveying lessons fraught with morality. Rapisardi, one of the ablest living masters of Italy, has contributed only a single head, a beautiful female in white drapery, the execution, indeed, worthy of its artist's repute. Among the few sculptors we have only to notice the "Genius of Glory," by Torelli; and the "Genius of Progress," by Ricci, figures of winged boys with attributes and symbols, both distinguished by grace and elasticity, the former the more ideally beautiful, the latter the more spirited and vigorous. In the catalogue are marked prices to each painting and sculpture; and we are surprised to see how low the average; 1,500 francs being the maximum in the former class.

ARCHITECTURAL REVERIES.*

THE WINDOW.

We have seen the window feature steadily advancing in importance, and marking each epoch with its reflex, more or less striking of the spirit of the time. It was, however, in the Christian churches from the tenth to the fifteenth century, in our grand Mediæval cathedrals, that the "window," as a truly decorative and all-important architectural feature, most grandly developed itself. In the earliest days of Christianity, the rites of the new religion had been performed not only in secrecy, but in darkness, in the subterranean recesses of the Roman catacombs. But when its influence had become all-powerful, these conditions were destined to be strikingly reversed in the glorious edifices that the genius of Christian architects eventually reared as the temples of their religion. A Pagan writer, Longinus, in treating of sublimity of style in literary composition (though he had a vast range of classical masterpieces at his command), cites as an example of the truly sublime expression of illimitable power, a passage from the Jewish Scriptures,—"God said, Let there be light: and there was light." It would almost seem as though those Christian architects had seized upon the same passage as their motto when, to admit a vast body of light into their vaulted naves and aisles, they proceeded to construct those broad openings in their temple walls, which were eventually destined to become the chief glory and ornament of those wonderful structures. Unlike the castle, in which the external windows were deep and narrow,—as through them might constantly be dreaded the visitation of a cloud of arrows, or dangerous masses of stone thrown upwards from the catapult,—the Christian temple could widen its window openings without fear. The influence exercised by the Church was at that period nearly omnipotent over all classes. Churches were truly sacred buildings, even the vicinity of which was a sanctuary, the bounds of which could not be forcibly passed, even in pursuit of a criminal who took shelter within the ecclesiastical precincts. There was no necessity, therefore, to make security a consideration in the design and proportion of church windows. Consequently, in order to throw a sufficiency of light within the lofty vaultings of a vast covered area, these features soon began to assume such proportions as rendered supporting mullions necessary; and these, branching eventually at the top, so as to meet the great pressure of superincumbent wall above the wide opening, gradually grew into that exquisite window tracery which forms one of the crowning beauties of the marvellous details of Gothic architecture. The art of staining and painting on glass having developed itself about the same time, these windows were gradually converted into fields for the pictorial illustration of the great story of Christianity; and the churches thus became, as it were, spacious picture galleries, the paintings of which were lighted as no paintings had ever been lighted before, for the light passed through the pictures themselves to the eye of the spectator, giving them a vivid brilliancy such as no pictorial representations had ever been endowed with at any former period, and producing a most striking effect, which, in a decorative point of view, had certainly never been equalled. Even classical art had never achieved such decorative splendour, not even in the highest period of their temple architecture, when a Phidias wrought, in gold and ivory, the celebrated Chryselephantine statuary of the Parthenon and other Attic temples. The effect produced by the translucent pictures of the painted windows was, indeed, most brilliantly rich; and at the same time most appropriate. The light streaming through them imparted an almost supernatural effect, as of pictures of coloured æther; and with these advantages neither the defective drawing of the period, nor the necessity of surrounding every feature of a different colour with the broad line-joints of lead-work, materially injured the grandeur and imposing richness of those vast pictorial compositions which at once both decorated and lighted the great cathedrals of the thirteenth, fourteenth, and fifteenth centuries. The great painted window was, in fact, the most striking triumph of Mediæval art; and it was its great success which led to the continually increasing size of the windows as a field for this kind of church decoration, which proved itself so much more brilliant than any profusion of painting or gilding could possibly be on the opaque walls. Hence arose the extreme development of another striking feature in the Gothic architecture—the buttress,—the increased strength of which was rendered necessary by the abstraction of such large portions of the walls as window space; and, with the increased size and importance of this feature, arose the necessity for its decoration, during which process, with its canopied niches and fretted pinnacles, it became one of the leading features in the external architecture of our Gothic cathedrals.

With the increased decoration of the windows in ecclesiastical buildings, those of private dwellings proportionately increased in richness and appropriateness of ornament, and in general delicacy of architectural treatment. In great cities, indeed, window decoration developed itself in an exuberance of artistic device that often renders each window quite an artistic study in itself. Tracery was not resorted to so profusely as in church windows, where it was a necessary support in such wide openings; but its beauty was so strongly felt that architects could scarcely be expected to abandon it altogether in their domestic architecture. We therefore find it introduced in the upper parts of windows where it would not obstruct the look-out. The amount of this tracery in the windows of domestic architecture greatly differed in different countries, being most profuse in Venice, and in parts of Spain, and perhaps least so in Germany and Flanders, where, on the other hand, the Church Gothic found its greatest degree of exuberance. If, however, in the windows of the household façade the feature of tracery was but sparingly used by Gothic architects, they found a vent for their skill in this class of decoration in the traceried framework with which they often surrounded their dormer windows, some of the work of which is more rich and delicate than any to be found in church architecture; among other examples, those of the Hôtel des Mathurins at Paris, and of the Palais de Justice at Rouen, may be cited as extremely beautiful. And while tracery was thus made available for the gabled top and its surroundings in the dormer window, the decoration of those of the façade by means of the enrichments of the architrave, and the introduction of a surmounting label, decorated with appropriate ornament, in allusion to the profession or trade of the owner of the house, led to a distinct class of ornament in domestic windows which had not developed itself in those of the churches. Even the painted glass was not entirely neglected by the Gothic architect of domestic architecture; but the windows of ordinary houses had to be considered as things of *use*, as well as decoration. They had to be seen through, as well as to admit light; and yet a means was found to introduce it, without inconvenience, by the adaptive skill of those true artists; and in the upper part of the window, far above the eye-line, painted shields of arms and other brilliantly-coloured ornaments were introduced, adding greatly to the richness of the interior decoration, without impeding the view from the window, or materially decreasing the supply of light.

The richness and delicacy of window ornamentation which arose in the next great architectural epoch (that of the revival) was of extraordinary beauty and almost endless variety, so much so, that to dwell fitly upon its marvellous details would be impossible in this essay; but those of Heidelburg, those of the châteaux of Francis I. and Henri II. of France, and many most exquisite and well-known examples in Germany, Spain, and Italy, should be carefully studied by all who would fully understand and appreciate the history of window architecture.

Towards the close of the seventeenth and during the whole of the eighteenth century, the treatment of this architectural feature has but an inferior story to tell; and yet art was not then in a rapid decadence, as has been till recently thought and stated. It had but assumed a new phase, and succumbed, as it were, to a new influence. It was less profuse of striking ornament, less demonstrative, but in many respects more delicate and refined, especially in the last half of the oft-decried eighteenth century; and had not the great revolution—the Neapoleonic era with its classic mania—and the subsequent reaction in favour of Mediævalism interrupted the onward course of the styles of art which were developing themselves in the eighteenth century, they might have rapidly led to very interesting and beautiful results, the precise character of which can never now be known.

The new power to which the direction of art had partially and gradually succumbed during the seventeenth and eighteenth centuries was that of the rapidly increasing female influence. It is in fact, to this kind of influence that the greater delicacy and refinement, and the less demonstrative and somewhat more colourless character of art in those epochs may be traced. The exclusively female qualities of mind had been in matters of art, as in many other fields of human activity, almost a dead letter before those periods; but when the intrigues of the boudoir became a positively influencing power even in matters of state; and when a female coterie could decide authoritatively on the merits, or, at all events, the temporary vogue and fashion of authorship, the productions of the sculptor, the painter, or the architect, it is not to be wondered at that every style of art should feel the influence of the newly developed *régime*. The new features of the artistic progress of this period were, in England, interrupted in their development by the Puritan revolution in the reign of Charles I.; but in France, even in the uncongenial atmosphere of the court of Louis XIII., the first scintillations of a decided change of taste began to make themselves felt, and assumed a very rapid development in the reign of his successor. It was then that the leather hangings, quaintly stamped and gilt, were stripped from the walls where they had hung for ages. It was then also that the rich tapestries of former periods began to disappear. Those heavy drapings from the looms of Arras and Mechlin, grim with sanguinary battle-scenes or with the scarcely less sanguinary proceedings of the Mediæval hunting-field, were not found to be in accordance with the sympathies of the new leadership of art, and gave way to silken hangings of delicate hues, enriched with scarcely visible embroideries. The old wall linings of oak or cedar, heavily carved in quaint and often beautiful devices, were too dark and massive in their effect for boudoir taste, and gave place to delicate panellings, painted entirely white, and relieved only with light and fanciful enrichments of slightly-raised ornaments, heightened with gilding; leaving the

* See p. 804, *ante*.

dresses of the court beauties to supply the rich colouring which had in their favour been made to disappear from the walls; while even the decorative pictures, when introduced, were of light and delicate tones, all more or less modified by the admixture of white, giving to them a kind of tender bloom, and producing somewhat the effect of a picture seen through gauze, or a girl's face through a white veil.

But while interior architecture, and especially furniture, was undergoing the boudoir influence of the eighteenth century, window architecture suddenly ceased to make any decorative progress whatever. Improvements in glass-making furnished larger panes, and the leaden lattice, with its variety of patterns, gave place to a plain wooden framework with its monotonous and never-varying square panes.

As architectural genius was withdrawn more and more from the monumental to the domestic in the course of institutional changes, internal comfort became, as a rule, a greater desideratum in buildings than external effect. And though, in Paris, in the course of the eighteenth century, some elegant façades arose, in which even the neglected window feature was coquettishly adorned with surrounding mouldings, made graceful with chisellings of light and fanciful character; yet the monotonous square panes had firmly established themselves as a given element in window design, and all variety in the glazed portion of this important architectural feature came to a stand, from which, even at the present time, it has not emerged.

Whether this stationary phase of window design be absolutely necessary, as arising out of the nature of the materials used and the object to be attained in the construction of a modern window, is a matter worth examining. The first question that presents itself in the inquiry is, whether wood be really the best material for the framework of the glazed portion of house-windows of a superior class, and whether strong and rudimental objections may not exist to the present system of glazing. As regards objections to this system, it may be urged that, as glass is a very brittle substance, and liable to frequent accidents, it seems a clumsy process to stick the panes in permanently with a substance that hardens in such a way that, when a new pane has to be introduced in place of a broken one, the hammer and chisel have to go to work to extract the broken glass by main force, permanently disfiguring the neatness of the framework, and rendering fresh paint necessary to cover the unsightly patching; while as the fresh paint can never be made to match the old, the whole window ought to be repainted: and even then, if the paint of the other windows of the front be rather old, the only way to make a "good job" would be to repaint the whole of them,—and all this in consequence of an accident to a single pane of glass. Now, if instead of this clumsy and primitive method of glazing, one were adopted in which a fresh pane might be put in with the same ease and neatness as putting a new glass to a watch-face, all this clumsy puttering might be avoided. And this might be easily effected at a very small increase of expense, even with the present wooden frame. But, first, let us see whether metal framing would not be in every respect superior to wooden ones. The old objection to metal, on account of its liability to expansion by heat, is not a valid one, as that quality of metal might easily be provided against. Taking it for granted, therefore, that windows might be cast in metal, either in iron, zinc, or in some mixed metal; the first advantage gained would be, that instead of the eternal square panes (any deviation from which would be very expensive in wood work), we should be able to produce elegant varieties of tracery at the same cost as the plainest rectangular pattern, after the mould had once been prepared. Then comes the subject of glazing, in such a way as that any piece of glass might be taken out and replaced as easily as the process of unlocking the lid of a box and locking it again. The plan proposed is this:—the rebate of each compartment should have a groove, into which india-rubber tubing should be fixed, of a flattened form suitable for the purpose; upon this tubing the edges of the glass would lie; and to secure the pane in its position, a light metal frame of the width of the rebate, and also lined with india-rubber tubing, should be secured to the rebate with two or more screws, thus fixing the glass: and at the same time, as the india-rubber would only offer an elastic resistance between the glass and the metal, the contraction or expansion of the frame might take place without cracking the glass; while the glass could be taken out at any time and other glass put in its place as easily as the renewal of a watch-glass, as has been said above. This process may appear complicated in description, but is in reality exceedingly simple; and when a pattern-frame is cast, with its glass-securing framelets to match, the matter of glazing, even in the first instance, would be absolutely less costly than the clumsy puttying system, while in all cases of renewal it would only be the cost of the glass, instead of, on the old system, a heavy charge for labour (half a day), which expensive labour destroys the beauty of the wooden window-frame, makes much needless dirt, much unpleasant noise, and keeps a family out of a room in daily use to the great incommoding of all the family affairs, while the clumsy piece of pottering is being glazierly and leisurely, and most noisily, accomplished.

The greatest advantage gained, however, would be to art, in the new impetus that would be at once given to design in the various new forms which our window framework would necessarily assume; giving to our domestic architecture an epochal stamp such as all former periods have enjoyed, while our own, in all its most important architectural efforts, has hitherto been one of sheer imitation, with the almost solitary exception of railway work, where entirely new conditions have actually compelled the adoption of new treatment, which is destined to result in very remarkable and very beautiful changes, though at present in a very embryonic state, from which, however, it cannot fail to emerge in due time.

Supposing the use of metal window-frames, of the kind suggested, to be generally adopted, the question arises, what kind of tracery would be desirable, and to what part of the window ought it to be confined? Taking a drawing-room window, opening to the ground, for a first experiment, it will be seen with but slight consideration that the portions of the window-space below and above the eye-line at once suggest themselves as fitting fields for ornament, without obstructing the view; say, to the height of 18 in. at the bottom of the window, and above the height of 6 ft. from the floor at the top, which spaces might be enriched, if not filled, by well-designed tracery. This open tracery might be filled with coloured glass, in graceful design, and well contrasted colours,—sober, or rich, according to the style of the apartment, its fittings, and furniture. The want of colour of this kind has been evidently felt by our modern builders, and borderings—mere linear borderings—of coloured glass, more or less ugly and vulgar, have been frequently introduced; but this has generally been the case only when it has been thought advisable to exclude an objectionable look-out from staircases or back-rooms. It is not, however, in the humble position of a screen that coloured glass is here recommended, but as a conspicuous element of beauty in the design of a window; in which, the forms of the compartments produced by the play of the tracery should be a more important feature than the coloured glass, not only from the exterior, like the stone tracery of church windows, but also from the interior, where church window tracery, on the contrary, sinks into a secondary position in presence of the striking effect of the transparent picture of which it forms the frame. This should not be the case in a drawing-room window, in which a great portion of the central space is necessarily clear glass, surrounding which the traceried framework should conspicuously exhibit its play of lines, to which the coloured glass in the interstices should only perform a subdued accompaniment. The central space of clear glass might be a long oval, in which case, instead of the opening being up the centre, the entire oval might form of itself the opening portion, and the surrounding tracery the frame to which it would be fixed. With such an opening there would be less room for tracery below it than if the window opened down the centre in the usual way, as the bottom of the opening should not be higher than could be conveniently stepped over into a balcony or garden.

Windows constructed and ornamented in the manner described would form very decorative and really novel features in an apartment; and would at the same time tend to the development of new external effects. It has been suggested, as a starting point, to make the clear portion of the window of some new shape, while still leaving the entire framework of the window of the orthodox square form. But that is not necessary; for, not to mention the glorious Catherine-wheel windows of our cathedrals, it is well known that in Chinese architecture,—a by no means contemptible school of art,—that windows of entirely oval or circular form are made to produce most pleasing effects in ordinary domestic architecture, especially where they frame, as it were, a pretty view of lawn or flower-garden, as seen from a room or passage; but even in the external design of the building they produce a novel play of lines that might be made much of by skilful and artistic management; for there is no real æsthetic reason why the basal line of a window should be always a horizontal one. Much more than has been here hinted at remains to be done in window design; it is a fertile field for architectural innovation of the safest kind, in which, if carried on with a true sentiment for art, one might in our reverie imagine many beautiful novelties evolving themselves, if one could but wait to watch them; but this dream about windows has already reached its utmost limits.

LIME ABROAD AND AT HOME.

A VERY remarkable difference in the practice of English and Italian builders in the preparation of lime, is worthy of the attention of the practical workman, as well as of the architect and of the engineer. The specifications of English contracts are directed to the object of insuring that none but perfectly fresh-slaked lime shall be made use of; and it is frequently directed that lime which has been slaked and not mixed or used in the works in the course of the day, shall be removed from the ground, so that not more than twelve hours may elapse between the first damping of the lime and its being placed in position in the building. And in works where the mortar is required to act not only as a bed, but with tenacity that shall resist displacement, as in arches, it is usual to pay strict attention to this requisite.

In Italy, on the other hand (speaking now of Southern Italy), the lime used for building is treated in precisely the opposite manner. The first thing done when a building is to be put in hand, is to slake the lime. Pits are sunk, usually lined with masonry, and a large quantity of lime is thrown into these pits, and kept under water until it is required for use. Three months is held to be the least time proper for this preparation, but as many years are considered to form a better period. The lime is found in these pits in the state of thick cream, of puddle, or even of newly-dug London clay; but it is held to be better to keep the surface of the store constantly under water. It is then fit for use at any moment, either for mixture with sand or with "lapilli," or for use neat.

It may occur to the practical man that so great a difference in the treatment of so essential a portion of the material of the builder must arise from some difference either in the nature of the lime used, or in the effect of climate upon the buildings; and that the mere circumstance of geographical distance is not sufficient to account for so diametrically opposite a practice being adopted by the educated architects of the two countries.

In reply, it may be observed that distance alone has in other instances operated as a bar to the adoption of the most important improvements in engineering practice. The generation is now fast passing away that can remember the introduction into England of that improved system of road-making now universal in the country, and known by the name of its inventor, Macadam. The father of the late Sir James Macadam did not derive his system from acquaintance with the breccia roads of Italy, but from his own observation and reflection in the first instance, and from the experience which he then gained as a country magistrate. The attention of Government was called to the system by the simple fact, that over a few miles of road near Bristol, which had been made according to what was then called the "hobby" of Mr. Macadam, the mails travelled as fast in winter as in summer. In the new arrangement of the time for the winter running of the Bristol mail, the eye of the Post-master General was caught by the fact that no extra time was allowed for this bit of the road; and on being informed, on inquiry as to the cause, that it was not requisite, he made no remark, but ordered his carriage and went to the spot to ascertain the cause. From that visit resulted the present system of English road-making.

And yet at the time when the surface of the

road from London to Edinburgh was half pitched with coarse boulders, the breccia and gravel roads of Italy were as smooth as at the present day. It is not by anything in the nature of the roadway metalling that the traveller can tell whether he is on the road from Chester to Holyhead, or from Naples to Brindisi, and if the latter great road was not as carefully metalled in the time of Horace as it is at the present day, and if the Appian Way from Puteoli to Rome was *paved* more carefully than the turnpike road from Sheffield to Leeds some thirty years since; at all events, the Italian roads of broken stone are far earlier than the date of the introduction of Macadam's improvements.

It does not appear that the difference of treatment in question is due to any difference in the character of the limestones. The stone that is burnt in the neighbourhood of Naples is the Scala limestone of the Apennines. Geologically it is probably the equivalent of the chalk, and lithologically it may be considered to rank between the oolite of Gloucestershire and the Calp limestone of Pembrokeshire. It is burnt in kilns with wood faggots, and it behaves, on coming in contact with water, precisely like the lime with which we are familiar.

It is true that there is a very great difference in climate. The Italian winter is mild, and the hot summers sometimes last for six months without a single shower. But, on the other hand, frosts, though rare, do occur repeatedly in the course of the winter; and it is not the duration or the intensity of frost, but the alternation of frost and thaw that chiefly tries masonry. And again the volcanic tufa, which is the chief building material over a large district of the country, is an exceedingly porous stone, very damp when it is taken from the quarry, and very ready to imbibe damp after it has been dried. The rain, too, when it does come, comes in torrents; and in the narrow lanes of the country. and even in the narrow "vicoli" of the towns, masonry that is never exposed to the sun is damp throughout the winter; so that the action of frost, when it occurs, takes place under circumstances the most trying to the mortar.

It can, hardly, therefore, be thought that the practice of the Italian architects is one that has been found unsuited to England, or that any such difference in the nature of the lime, or in the action of the climate, can exist, as to render that method unsuitable to this country. It is a practical question, and as such well deserves to be put to the test of practice.

Nor can it be denied that, however superior the English carpenter or smith may be to his Italian fellow-craftsman, we may learn much from the Italian mason. Masonry is native to Italy, and there to a great extent displaces woodwork. The shores of a tottering house, or the centres of a bridge, are built by the Italian mason as readily as they are fixed in timber by ourselves, and as clearly and readily removed; and the durability of Italian masonry is well known. From the frequent recurrence of earthquakes there are hardly any large buildings to be found in Southern Italy without conspicuous cracks; but each such crack is a witness of a shock that would have laid an English town in ruins. The great extra thickness of the walls is, no doubt, the main reason that the damage caused by earthquakes is not greater; but the strain is very great on all buildings, and any inferiority in the cement would not fail to be detected; and then the old Roman work existing in Roman monuments, or from time to time brought to light in excavations, is a witness to the imperishable character of the Italian mortar.

For these reasons it may be thought that the introduction of the Italian method is at least worth a trial. It would most likely pay an architect or a builder in large practice to build an experimental piece of masonry, or even a lodge or a cottage, with long-slaked lime; at all events, the subject is one which demands such attention as does not appear yet to have been given to it in this country.

F. R. C.

PROPOSED SALE OF YORK CASTLE.—Amongst the various Parliamentary notices for the ensuing session, there is one for a Bill authorising the sale of York Castle and the Judges' lodgings. The acting justices for the West Riding are the promoters of the Bill, and the real object which they have in view is to relieve the West Riding from any further liability on account of York Castle. The *York Herald* seems to think that the Government will agree to take York Castle into their own hands, but not to sell it.

PROFESSOR W. KING ON THE ANTIQUITIES OF IRELAND.

BEING lately in Dublin, assisting in the Queen's University Examinations, I availed myself of a spare day to visit the vast mound-covered temples of the Boyne, as well as the Pagan and Christian ruins of Monasterboice, in Louth, and Donoughmore, in Meath. I was accompanied in a part of the excursion by a gentleman, a builder, from Glasgow, whose name I inadvertently neglected to note down; but as his practical knowledge of masonry was of the greatest service to me while investigating the round tower and other ruins of Monasterboice, I feel myself called on to acknowledge the assistance which I derived from him.

I may remark, in the first place, that we observed indisputable evidence that the *doorway* of the Monasterboice tower *is an insertion*;—in other words, that the doorway had been built *to the wall* inclosing it, and not the wall built to the doorway, as would have been the case had the latter been an original structure. Among other evidences, I found that an angle of one of the stones of the doorway, on its inner side, and near the bottom, had been deeply cut out, so as to fit over, or overlap, a large projecting stone belonging to the adjoining portion of the wall. The doorway is of sandstone, and the tower of hard silurian schist. But besides this difference, any one might be led to suspect, from the imperfect way the stones of both parts are respectively bonded together, that the doorway is an after-erection: even the figure of it in Dr. Petrie's "Ecclesiastical Architecture of Ireland," p. 405, is of this tendency. It therefore only needed some positive evidence to convert a suspicion, which simultaneously occurred to the gentleman who was with me and myself, into a certainty; and this was afforded by the overlap above noticed, for no sooner had I pointed it out to my fellow-traveller than he declared that a more conclusive proof as to the entire doorway being a *patch* could not be expected.

Having long leaned to the opinion that the round towers of Ireland are of Pagan origin, contrary to the view so ably and fairly maintained by Dr. Petrie (a view which I am sorry to say has become of late intolerant among some of its advocates*), I was induced to extend my excursion to Donoughmore, near Navin, with the object of examining its round tower; the door entrance of which, it is well known, is distinguished from all others in Ireland by having on its arch a rude *alto-rilievo* figure of the Crucifixion. With this exception, the Donoughmore doorway is identical in style, ornamentation, and material, with that of the Monasterboice tower. Now, I hold that, as the doorway of the latter building is an insertion, the Donoughmore one must also have been inserted; and it necessarily follows that the figure of the crucifix, which is an integral portion of the doorway, must equally be considered in the same light. It is doubtful that the Donoughmore tower affords the same positive evidence which I observed at Monasterboice; as not only the *doorway*, but (unlike what is observed in the edifice of the latter place) the *wall*, for a *yard or so on each side of it*, consists of freestone, while the tower itself is of limestone. In Dr. Petrie's figure of this doorway, given in p. 407 of the "Prize Essay" already referred to, *all the parts* represented are of sandstone. The limestone does not come in for some distance on each side of the entrance. It comes in, however, immediately above the large block on which the upper half of the Crucifixion is sculptured. But in this place the limestone blocks are so broken and *imperfectly joined to the subjacent sandstone blocks*, as, if not amounting to a positive demonstration, to be at least *strongly suggestive of a patch*. With this exception, I admit that the insertion has been cleverly managed.

It was fortunate that I went to Monasterboice before going to Donoughmore; otherwise, I admit, I should not have expressed myself so strongly on this point. I fully appreciate the evidence which appears to have led Dr. Petrie and others to conclude that the round tower of Donoughmore and its entrance are contemporaneous; but the important fact stated in connexion with the Monasterboice tower completely destroys, in my mind, the assumed contemporaneity. The Donoughmore doorway and its immediate surroundings may be of a Mediæval age; but I contend that the edifice to which it belongs must be regarded as considerably older.* Some other round towers (Timahoe, Kildare, Brechin in Scotland, &c.), I strongly suspect, will have to be placed in the same category.

At present I am under the necessity of reserving all the evidences which have fallen under my notice bearing on this particular point, as well as on the pre-Christian antiquity of Irish round towers in general; but I purpose returning to these subjects on some other occasion. My object just now is to make a few remarks on an extremely interesting question, lately mooted in your valuable columns, connected with the mysterious megalithic monuments of New Grange and Dowth, near the Boyne, within a few miles of Monasterboice, and an equally short distance from Drogheda. In answer to the Rev. Mr. Graves's statement, that "Irish archæologists are well aware that there is not a vestige of an inscription (though there are many rude carvings) on any stone, now visible, in or about the mound of New Grange,"† you observe, as one reason why they have not been noticed of late, that "it may be that during the last fifty to a hundred years, or since the passage was opened and the incisions exposed to the influence of the air, they may have all scaled off."‡

Having carefully examined the incised figures occurring on the massive blocks and flags (formed of a light-coloured, fine-grained sandstone) in both caves, I feel myself called on to state that I saw nothing materially different from those represented by Sir William Wilde, in his "Boyne and the Blackwater;" and I doubt very much that any such figures have become effaced by atmospheric or other action since the reputed discovery of the caves. The figures are so fresh that it can readily be seen they have been produced by a small pointed instrument. But what is the strongest proof in my mind as to the surface of the stones having undergone little or no scaling off, is that some of the stones are marked with ice-scratches and furrows, such as must have been on them before they were removed from their natural site. The stones are what geologists call glaciated blocks.

Taking various circumstances into consideration, it appears to me that the "traces of letters" and "symbolic characters," observed by Vallancey and others, do still exist; but it must also be admitted that they are nothing more than the "rude carvings," so called by Mr. Graves,—the incised spirals, circles, zigzags, lozenges, runiforms, and other figures, with which all who have examined the caves are familiar. It is Vallancey's interpretations, if they were intended for these incised characters, which may be justly disputed. As to their true meaning, this is a question which may be left in the hands of those able men who are now studying their analogues at Lochgilphead (where there are acres of rock-surfaces covered with them), also in Northumberland, Kerry, and other places. Among these writers I am much gratified to see the name of my old friend and fellow-labourer in geology, Mr. Tate, of Alnwick.

You will, Mr. Editor, I feel assured, excuse these last remarks, referring as they do to structures so singularly resembling in their shape the cruciform cave temples of Salsette, near Bombay, and others in Egypt. The latter, however, have a covering of solid rock; whereas those of the Boyne are each covered with a vast mound of artificially piled-up gravel (eskar drift). In addition to its megalithic subterranean chamber, the New Grange mound has a flattened summit, circumscribed by a large rath-like circle, with a small one in the centre; while there still remain at its base several large monoliths, evidently part of a circle which formerly surrounded the entire mound. The entrance, truly cyclopean in style, has a threshold formed of one or two enormous blocks (I forget the number, but if two, they are placed end to end), lying lengthways, of hard silurian schist, the front of which is crowded with large mysterious incised spirals, looking like mere ornamentation, and almost as sharply defined as on the day they were cut.

Instead of being sepulchral, as some imagine, I cannot but regard the Boyne edifices, as

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* A few months ago, the editor of the *Gentleman's Magazine* refused to insert a paper, by Mr. Brash (one of the ablest opponents of Dr. Petrie's view), in opposition to the opinion advocated on this subject in some able articles on the ancient architecture of Ireland, now in course of publication in its pages.—W. K.

* The Donoughmore tower, in addition to some important repairs which it has undergone, has been furnished with a new cap: besides, from the absence of the four top windows, usual to such structures, I strongly suspect that this tower is now considerably short of its original height.

† See *Builder*, Oct. 15, p. 752. ‡ *Ibid.*

having been erected for religious purposes,—as caves, wherein Druid priests performed their mystic rites. The huge stone basins (one of granite, one of sandstone, and another, broken, apparently of schist) in the three recesses (devoted to tri-theolatry ?), terminating the long entrance-passage in the New Grange mound, may have been used for sacrificial or baptismal purposes (Tertullian). The incised branch-like figure* in the western recess reminds me of the lines by the Druidical bard, Taliesin,—

> "I am acquainted with every sprig
> In the cave of the arch-diviner."

Ireland is classical ground for archaic edifices: her cromlechs, pillar-stones, round towers, mound-covered temples, raths, stone fortresses, primitive pelasgic-styled Christian oratories, and Mediæval crosses, are unsurpassed in number, or interest, by remains in any country of Europe. As monuments of her ancient renown, her sons may be justly proud of them. Let us hope that the growing intelligence of the age will, ere long, rescue them from their present unmerited neglect; and from, as I believe, a false and derogating chronology.† WILLIAM KING.

Behaont, near Galway.

FROM PARIS.

IN most of the new quarters in Paris the habitations replacing those demolished are first-class residences, and only approachable by persons in comfortable circumstances. An exception, however, occurs near the Boulevart Mazas, between the Rue de Châlon and the new Avenue Daumesnil (formerly the Avenue de Vincennes), where the houses are being constructed after a less sumptuous model, and are consequently within reach of the working classes.

The Avenue Daumesnil, stretching through the twelfth arrondissement, passes through the *rond-point* of Reuilly, descends towards the Porte de Picpus, opened on the new promenade lately added to the Bois de Vincennes. Here, also, modest dwellings are being erected suitable to the working classes. There being two stations close by, of the Chemin de Fer de Ceinture, the artisans inhabiting this quarter will have easy access to their *chantiers*.

The works of the new reservoir at Menilmontant have been very much advanced this year. This immense basin, to be supplied from the Dhuis, is to be divided into two stages. The upper basin, of semicircular form, will have its overflow level 354 ft. 4 in. above the level of the sea, and is to contain spring water. Its capacity will amount to 130,802 cubic yards, or 22,009,668 gallons: the depth of the water is to be 16 ft. 5 in., and the reservoir arched over by spans of 18 ft. openings, composed of a double row of bricks laid on the flat, and grouted with mortar and hydraulic cement. At the key of the arch it will be as slender as possible, and a covering of earth and a grassplot will keep the interior always cool. The second reservoir, the highest level of which will be 26 ft. 3 in. lower than the upper one, is to receive the water of the Marne, raised by engines which are now being mounted at St. Maur. These are to be turbines of about 400-horse power. Two conduits of cast-iron, about 9,296 yards long each, will convey the water from the St. Maur works to the Menilmontant reservoirs. These tubes start from Joinville le Pont, cross the Bois de Vincennes, and continue along the Avenue de Vincennes and the *route militaire* till they reach the grand reservoir.

The Menilmontant basins are to send, by means of an engine of 15 horse power, a supply of water to other reservoirs now in course of construction at Belleville. These are on the same plan as those first described, but of smaller dimensions.

According to the new project of the fresh water supply to Paris, there are to be furnished 44,019,335 gallons of water every 24 hours.

The supply canal of the Dhuis, now in course of construction, alone will yield and deliver at the maximum level of 354 ft. 4 in. above the sea, 8,803,867 gallons per 24 hours.

The total length of this supply canal is 83 miles 537 yards, and is for the most part in cutting. The section presented by the portion in masonry is egg-shaped, 5 ft. 9 in. in height under the key, and 4 ft. 7 in. greatest width. The pipes through which the water is forced are 3 ft. 3⅜ in. internal diameter.

The ancient church of St. Mary has been almost thoroughly restored. The nave, transept, choir, side aisles, and chapels have been all renovated and cleaned, so that this church may now take a third rank among the finest in Paris. Built in the fifteenth century, on the site of the ancient chapel of St. Peter, known since the seventh century, it contains numerous fine paintings by Coypel, Carl Van Loo, &c., and some admirable specimens of painted glass by Vinaigrier and de Parray. The choir is in the style of Louis XIV., and was decorated by the brothers Slodtz. It was the Curé de Saint Merry, J. Thomas, who wrote to the Pope John XXII. the curious letter addressed after the execution of Jourdain de l'Isle, the Pope's nephew, convicted of felony. The letter ran thus:—"Very sacred father,—As soon as I was informed that the husband of your niece was about to be executed, I assembled our chapter and represented that we ought to profit by this opportunity of proving to you our very respectful attachment and very profound veneration. No sooner was he hanged than we proceeded in great illuminated procession to take him from the gallows, and we bore him to our church, where he was interred honourably and gratis [*sic*]. Sacred father, we continue to demand very humbly your holy and paternal benediction."*

ÆSTHETICS IN ART.†

ÆSTHETICS, in relation to those departments of art which are comprehended by the generic term architecture, may be described as the effect of a work of art on the mind of its beholder. The nature of this effect must be variable, but the æsthetical condition obtains whenever it is produced through the medium of the observer's perception. There are three elements concerned in the production of the æsthetical condition. 1st. The art embodied in its work, and possessing a power to affect the mind of its beholder; 2nd. The mind of the beholder endowed with a faculty of perception, in greater or less degree of development; and, 3rd, the sympathy of the power in the art with the faculty in the man, or, in other words, that adaptation of the one to the other which renders an intercommunication possible. At first sight this division of the subject may appear more imaginative then essential; but, if I mistake not, further consideration will change the judgment. It cannot be doubted that there have been epochs in the history of art when the power embodied in certain of its works has been both unfelt and unrecognised by the mass of men who witnessed them. The art-sense of the time was not adequate to their appreciation. Though true chords were struck, their music sounded discordantly to ears incapable of harmony. But succeeding generations of men have inherited mind in a higher degree of development, and hence the discovery of powerfulness in works which were no less powerful when their unenlightened ancestors failed to feel their influence. And not only is the faculty of perception necessary to æsthesis, but that faculty must be subjected to a process of education before its full functions can be brought into relation with the external world. And this is true, not only in respect to the higher qualities of taste and discrimination, but to the act of visual perception itself, independent of its more subtle properties. For example, a person born blind, but afterwards receiving the power of sight, is unable to realise the pictures formed on the retina of his eye. Solidity, distance, and even form and colour, cannot be ascertained by the sense new to him, until the course of training to which it is subjected by his other senses has resulted in its mature development. But not only may the æsthetical state be rendered impossible by a defect in the perceptive faculty of the beholder; it will fail also if the work of art be imperfect,—if the significance it bears is too vague or too confused for the production of a definite impression. There must, therefore, be a sympathy or affinity between the faculty of perception and that which strives to operate upon it, and it is this sympathy which I have referred to as the third element in æsthetics. From these considerations it will be evident that the study of æsthetics (properly so called) involves, on the one hand, a close scrutiny of the progress of art from the earliest traces of its existence to the last step in its advancement, and, on the other, a methodical investigation of the growth of intellect; and the parallelism of these two progressive developments will determine the relations which have subsisted between them at different periods of their course, and the record of these relations will be the history of æsthetics. The necessities of such a task must obviously far exceed the limits of a paper, and I shall content myself on the present occasion with the suggestion of a method by which I conceive the science of æsthetics may be most readily and profitably investigated. At the threshold of our inquiry it will be important for us to form a passing estimate of the two principal methods in which art makes the appeal to our sensibilities necessary to æsthesis—the *imitative* and the *suggestive*. Their distinctive qualities will be best characterised by comparison. Suppose, first, the case of a painting designed to portray some object peculiar to civilised life—say, for example, a steam-carriage. Let the picture be simply a correct imitation of the form and colour of the object depicted. What would be the æsthetical value,—or, in other words, the effect,—of such a work of art on the mind of an uncivilized spectator, one who had never seen the original of the portraiture? It is easy to see that he must utterly fail to comprehend the nature of the representation before him. But now suppose that, instead of merely imitating his view of the steam-carriage before him, the artist contrived, by the peculiar treatment of his subject and the management of its accessories, to suggest or imply the property of locomotion. The whole effect would be changed. The man who in the former case looked on the imitative portraiture, and wondered at its strangeness, would, in the latter instance, realise the idea of motion *suggested*; and, combining the idea so realised with that which before only excited his surprise, he would obtain the knowledge of a new locomotive vehicle. Or, again, to take an example from the higher functions of art, suppose the case of a painter seeking to imply the spirituality of a supernatural being under the semblance of a human body, and it will be evident that all that is superadded to the portraiture of a man to make it awaken the idea of divinity in the mind of the beholder must be *suggestive*, or, in other words, powerful to call into action the imaginative faculties of his intellect. There could be no original to imitate, yet there would be a reality to suggest. The work of suggestion may be imperfectly performed, or the observer incapable of imagination, and the æsthetic effect consequently impaired or altogether impossible; but the task of the artist, in whatever degree it is accomplished, must necessarily be something more than mere imitation. Nor is it essential to the perfection of a suggestive work of art that the material element (or, more correctly, the imitative part) of its composition should be strictly accurate. It not unfrequently happens, as in many works of the Italian and other schools of painting, that the objects forming the material of a picture are false to every known fact of the classes from which they are taken; or, as in some Mediæval works, so conventionally treated as to become non-natural; and yet, in spite of the anomaly, a lesson powerful enough to enlighten and influence the whole mental and moral organism of the beholder may be suggested. And, in virtue of the difference which exists between a purely imitative and a suggestive work of art, the latter has the advantage of being independent of the experience of the beholder (as we have seen in the case of a portrait of a steam-carriage); whilst the former can produce no æsthetical effect, but remains unintelligible to the person who is unacquainted with its original. The inexperienced observer in the presence of a mere portraiture of unknown objects is amazed, but uninstructed. He has something to learn concerning them which a purely mistaken art is incompetent to teach him. There can be little doubt, therefore, that the higher class of art-teaching must be accomplished by a method which can do something above and beyond the mere transcription of natural objects, and if I mistake not the method that shall be found capable of such an enterprise will not only employ the materials nature has provided for the handicraft of her disciples, but search out the processes that are employed in her studio, and embody them there as the govern-

* Some have taken this branch-like figure for a rune; others, from its being pinnated, for a representation of a palm-leaf; but to me it appears more likely to be a figure of some species of a willow, or of an ash.

† Of course, the reader will understand that I here refer chiefly to the round towers, and other Pagan monuments.—W. K.

* See Sainte-Foix, Essais historiques sur Paris.

† From a paper by Mr. J. Mortimer Granville, read at the Bristol Society of Architects on the 2nd instant.

ing principles of its own practice. . . . The system, then, gentlemen, to which I propose inviting your attention this evening is founded on the hypotheses,—1st, that there exists a distinct series of elementary forms or symbols of art which have definite significances; 2nd, that these forms or symbols are so constituted that they will combine amongst themselves in definite formulæ, and in these only; and, 3rd, that the æsthetical condition will not obtain unless the property of provoking perception (which is located in the work of art itself), is adapted to the special faculty of perception in the observer. . . . . And now, gentlemen, I must take leave to remark that I believe the great necessity of art in the present day is scientific inquiry. For want of it men set about their work with little appreciation of the difficulties to be encountered, the obstacles to be overcome, and the ends to be attained by them. A general desire to please, or a devoted allegiance to some particular style, is all that represents in art those well-ordered processes and preconceived purposes which guide the experimenter in the science of chemistry. And yet art is a natural system. Nature is not only the example, but the governor, of its practice; and the laws which are embodied in her achivements are no less the constituents of a natural science than are the power and affinities she has provided for the direction of the chemist. They must both be sought in the same way, and realised as rigorously in the daily exercise of their respective philosophies. The laws which govern the designer are no less inviolable than are those which determine the practice of a Liebig or a Faraday, whether his task be analytical or synthetical research amidst the mysteries which surround him. The purpose I have had in view on the present occasion has been to claim for æsthetics the character of a natural science, and to assert for it the prerogative of governance in relation to every work of the true artist, whether architecture (properly so called), sculpture, or painting be his speciality, for the æstheticism of all are identical. The limits of time at my disposal have not, indeed, been sufficient for the statement of my theory and the exposition of its elements; but I regret this the less because, as regards the latter portion of the task at least, what I should have imperfectly attempted is already accomplished in the works on your bookshelves. The want of art-literature in the present day is not so much new information as more orderly treatment of that we have already attained, a better development of natural laws, a less conventional appeal to the customs of art-work as infallible, and a more patient and generalising research amidst the significance of all that is significant, and the powerfulness of all that is powerful, a more complete separation of the idea of portraiture from that of suggestive symbolism, and the assignment to each of its proper sphere in the art-field. The recognition of definite natural formulæ, definite principles of combination, and definite æsthetical effects, inseparably attached to the processes by which they are produced, the studious scrutiny not only of Nature's works, but her methods and mannerisms, and the embodiment of all the information we obtain in the practice of an art which shall be no mere mimicry of the myriad objects in her realm of power and loveliness, but, as it were, an extension of her own creation in the lesser but vastly important domain which has been conceded to the handicraft of her disciples;—a high, nay, even a God-like, because a God-following, task to work out a world of mysteries in the path which the Creator of all things has provided for the progressive development of the being—Man—who was created in His image. If it be a truth that the recognition of great significance and the discovery of lofty motive in an enterprise afford the strongest incentive to its accomplishment, let us admit that æsthetics in relation to art constitute a natural science, and that as such the laws which govern it are promulgated from the same oracle that gave forth the physiological principles of our own existence.

Dimensions of Churches.—"Clericus" has made the mistake of adding 100 ft. to the "width of the nave" of the church of Holy Trinity, Hull. The clear width is 72 ft., and 96 ft. across the transepts, falling far short of the 110 ft. width of both nave and chancel with aisles, and 154 ft. across the transepts of St. Nicholas' Church at Great Yarmouth.—J. P. S.

ABURY AND STANTON DREW.*

The most simple form of Celtic monuments is the Maen-hir, or Long-stone—called also Peulvan, or stone pillar. This is doubtless the earliest as it is the simplest form of monument, and was erected to commemorate a victory, or to mark a boundary, or to denote the resting-place of some person of rank. These single stones are found in all countries, and we have notices of them in Holy Writ. Many of them now may be only the Holy Writ. Many of them now may be only the remains of more extensive monuments which were destroyed when Christianity overthrew the ancient Paganism, for the decrees of Councils of the Church were directed against such like monuments. A.D. 452 the Council of Arles, A.D. 567 the Council of Toledo, threaten with excommunication any bishop who shall not use his influence to destroy all objects of idolatry, among which stones are enumerated. Chilperic in his charters enjoins the destruction of the stone monuments which cover the land, and the Anglo-Saxon laws forbid the worship of stones (Canons of Edgar, ch. 16; also Saec. Laws of Canute, c. 5). These stones afterwards were converted in some cases to Christian purposes, and have been used as monumental stones. Many exist in this island with the names of persons of British or Romano-British extraction carved upon them, and a very remarkable monument of this kind exists near Joinville, in the department of the Meuse, on which is sculptured VIROMARVS ISTALIF, *i.e.*, Viromagus, son of Istalius, which perhaps commemorates a Gaulish chief subject to the Roman power (see Akerman's Archæological Index, p. 18). A Maen-hir stands in the parish of St. Briavel's, in Gloucestershire; and at Trelech, in Monmouthshire, are three, which are said to mark the spots where three chieftains fell in the battle with Harold, who defeated the Welsh in that county. The next monument is the Dolmen, or Trilith, which consists of two upright stones and one placed upon them. These are supposed for the most part to be the remains of ancient sepulchres, which have been covered with earth originally, but from which for various reasons the earth is now removed. There are gigantic trioliths which compose one of the ovals at Stonehenge; but these are different from the ordinary trilith, which seems to have been sepulchral. Cromlechs consist of three or more upright stones, which are capped by a fourth. They are arranged as follows by Sir Gardner Wilkinson (see Rock Basins of Dartmoor, *Journal of British Archæological Association*, 1860, p. 116):—1. The cromlech proper, or three-pillared cromlech, supported on three stones. 2. The four-pillared or cist-cromlech, supported on four slabs, enclosing a square space like a cist or chest. 3. The many-pillared cromlech, with more than four slabs of piers, as Trevethy and Zennor Quoits in Cornwall. 4. The chambered cromlech, with high-walled sides composed of several upright slabs (the Dolmen of France), sometimes with several large covering stones. 5. The subterraneous chamber, like the hollow tumulus; but this is not properly a cromlech.

These cromlechs are probably all sepulchral. The covering stone is generally convex on the upper surface, or sloping at one end, whence the name of cromlech is supposed to be derived,—*crom* signifying bowed or bent, and *llech* a slab. For a particular account of cromlechs I must refer to Mr. Lukis's paper in the *Archæologia*, vol. xxxv., p. 232. The next description of megalithic monument is the stone circle. Of these there are many in our island. We have, first, single circles of stones, as at Penrith (Long Meg and her daughters), and at Arbor Lowe, in Derbyshire, which latter is a single circle, surrounded by a trench having two entrances. Three stones remain in the centre of the circle. Single stone circles are found on Dartmoor and in Cumberland, and other localities of our island. On Dartmoor they are connected with long straight avenues of stones. In other instances these avenues are winding, and pass through the stone circle, giving the appearance of a serpent passing through a circle, as at Abury, or two serpents issuing out of a circle, as at Stanton Drew. Hence they have been called Dracontia, and supposed to indicate the worship of the serpent. This subject has been dwelt upon at considerable length by the Rev. J. Bathurst Deane, in his work on serpent worship. Of Megaliths, the most magnificent in Britain is at Abury, Wilts; the most extensive that of Shap, Westmoreland. Stanton Drew is smaller. The megaliths on Dartmoor are also smaller, but more perfect. All these vary in actual figure, but agree in general analogy. Arberlow, in Derbyshire, has a mound and vallum exactly like to that at Abury. Stanton Drew is considered by Mr. B. Deane as the second dracontium in order of beauty now extant in England. He says the "plan of it is of the ophite hierogram, where two serpents emerge from the circle." Abury he regards as a single serpent, and older than Stanton Drew. On Dartmoor the remains are parallelitha, the lines are straight, and the temples in pairs. At Merivale Bridge, 4 miles from Tavistock, on the Morton Hampstead-road, is a remarkable group, consisting of four temples, viz., two parallelitha and two circles. Of the circular temples only one remains entire, but the central obelisk of the others is still standing, and measures above 10 ft. in height. The circle is formed by eight stones, and is about 18 yards in diameter. Between this and the road are the dracontia, forming a pair of parallel avenues, running east and west, and 105 ft. apart. The average width of the avenues is 3½ ft. The stones are generally 2 ft. high, though some are much higher. The longest avenue is 1,143 ft. It has an oval in the centre, and had a circle at each end, which are now scarcely traceable. The shortest avenue is 792 ft., and terminates in a circle. The first of these Mr. B. Deane considers to be a dracontium of the same order as Stanton Drew, only the avenues are straight. There are other stone structures on Dartmoor of the same description, but not so extensive. On the brook side below Black Tor, are two avenues parallel to each other, running east and west, which may be traced for 300 ft. and 180 ft. respectively. They are 40 ft. apart, and each is terminated at the east end by a circle, 30 ft. in diameter, inclosing a cairn. The stones average the same height as those at Merivale. Similar avenues, but running north and south, occur near Gidleigh Common, of which the pillars are 3½ ft. high, and triangular. They may be traced for 432 ft. and 123 ft. respectively. Many other monuments of the same kind are scattered over the moor.

Shap, Westmoreland.—The stones are not to be compared for grandeur with those of Abury, and the appearance is less interesting than Stanton Drew, but the avenue of Shap was a work of great labour and extent. The avenue is supposed to continue in a sinuous course seven miles. Here, as in all the British structures of the same kind, there are but two rows of stones; these may now be traced at intervals for nearly two miles. They begin at about half a mile to the south of the village of Shap. This extremity of the avenue seems to have been the head of the serpent (says Mr. B. Deane). It is called a circle, but in reality is only a wedge-like area, having the angles of the base rounded off, and the base itself bounded by a slightly-curved line, its vertex opening into the parallelithon. The avenue is said to have terminated at Moor Dovey, near Banton, seven miles from Shap, but only two miles can be satisfactorily traced; there does not seem to have been a great circle as at Abury.

Carnac in Brittany.—This differs in some respects from the megalithic structures in Great Britain, but still all preserve a general analogy, sufficient, as Mr. B. Deane thinks, to point out a kindred religion. The British dracontia have only two parallel rows of stones, whereas Carnac has eleven. But the same concomitant tumuli and cromlechs decorate all. The serpentine sinuosities are the same in the structures of both countries, but that at Carnac is intersected by two curvilinear areas, neither of which can be called in strict propriety a circle. The great Celtic monument at Carnac, known as the "Stones of Carnac," is eight miles in length. (See *Archæologia*, vol. xxv., p. 202.)

Abury.—The most ancient and most magnificent of the megalithic structures in our island is Abury. This is in Wiltshire, and the village of Abury or Avebury is situate on the line of the turnpike road between London and Bath, through Devizes, but lies at some distance from it, and is four miles west from Marlborough. The first person who examined it with attention, and who has left any particular record of it, is John Aubrey. Leland only makes this scanty allusion: "Kenet risith N.N.W. at Selbirihill bottom, whereby hath been camps and sepulchres of men of war, as at Aibyri, a mile of, and in divers places of the plain." Camden does not seem to have been aware of its exist-

* From a paper by the Rev. Prebendary Scarth, on "Some of the Megalithic Remains of Great Britain, especially the large Circles of Abury, Stonehenge, and Stanton Drew," read at a meeting of the Bath Literary and Philosophical Society.

ence. Aubrey first met with it in a hunting excursion, when the chase led through Abury village, "where," says he, "I was wonderfully surprised at the sight of those vast stones, of which I had never heard before, as also at the mighty bank and graffe about it; I observed in the enclosure some segments of rude circles, made with these stones. A.D. 1663, King Charles II. visited Abury, under the guidance of Aubrey, on his way to Bath, who "shewed him that stupendous antiquity, with the view whereof, he and H.R.H. the Duke of York were very well pleased." The king commanded Aubrey to write a description of it, which is extant. He says, "I take this old ill-shaped monument to be the greatest, most considerable, and the least ruinated of any of this kind in our British isle." It is environed with an extraordinary great vallum, within which is a graffe of a depth and breadth proportionable to it. Round about the graffe are pitched on end huge stones, as big, or rather bigger, than those at Stonehenge, but rude and unhewn as they are drawn out of the earth. Within this circumvallation are remaining segments of two sacellæ, and their ruins are not unlike Ariadne's crown. This monument does so much exceed in greatness the so renowned Stonehenge, as a cathedral does a parish church, so that by its grandeur one might presume it to have been an arch-temple of the Druids. It is situate in the country of the stones called Grey Wethers, of which sort of stones both this antiquity and that of Stonehenge were built. From the south entrance runs a solemn walk of stones, pitched on end, about 7 ft. high, which goes as far as Kynet, a measured mile from Abury, and from Kynet it turns with a right angle eastward, crossing the river, and ascends up the hill to another monument of the same kind. The distance of the stones in the walk, and the breadth of it, are much about the distance of a noble walk of trees of that length, and very probably this walk was made for processions. Within the circumference or borough of this monument is now the village of Abury: the houses are built of the frustums of those huge stones, which they invade with great sledges. These mighty stones may be broken in what part of them you please, without any great trouble, by making a fire on that line of the stone where you would have it to crack, and after the stone is well heated, draw over a line of cold water, and immediately give a knock with a smith's sledge, and it will break like the collets at the glass-house. The church is built of them, and the manor-house, and another fair house not far from that." The Beckhampton avenue escaped Aubrey's notice. Dr. Stukely, A.D. 1723, gave a detailed account of the plan upon which this wonderful megalithic structure is formed. He spent much time on the spot, surveyed it thoroughly, reckoned the stones then standing, those that were prostrate, and the hollow places indicating the sites of those that had been destroyed; and this he did, not only with the vallum, but in the avenues and the sanctuary (as it is called), on Kennett Hill. "When I frequented this place," he said, "which I did for some years together, to take an exact account of it, staying a fortnight at a time, I found out the entire work by degrees. The second time I was here an avenue was a new amusement, the third year another; so that at length I discovered the mystery of it which was, that the whole figure represented a snake transmitted through a circle. This is an hieroglyphic or symbol of highest note and antiquity." (See Stukely, as quoted by W. Long, Esq., Wilts Mag., Jan., 1858, vol. iv., p. 323, Paper on Abury.) Within the large outer circle were two smaller ones, not concentric, each, according to Stukely, composed of thirty stones. Of the southern of these circles two stones only remain erect, and three prostrate. Three recumbent stones (says Mr. Long) marked in early impressions of Sir R. C. Hoare's survey of 1812, were removed between that year and 1819. Of the northern circle three stones are now erect and one prostrate: one which was standing when Sir R. C. Hoare described Abury has since been broken up. Within each of these circles Stukely thinks there was a concentric circle of twelve stones. Within the northern of these circles, in its centre, were three very large stones, which formed the adytum, or cove of the temple, as Stukely termed it. The altar-stone is supposed to have been placed in the centre of these three, but to have been removed, as the place for it seemed to have been filled with rubbish (see Mr. Long's Paper, p. 325). In the centre of the southern inner circle of twelve stones, was one stone, described by Stukely as of circular form at the base, of vast bulk, 21 ft. long by 8 ft. 9 in. dia meter, and when standing, higher than the rest. Stukely thought it was the kibla, ambre, or central obelisk, of the temple. Nothing now remains of it.

Stanton Drew is one of the most interesting megalithic monuments of this island, and probably one of the most ancient. It is situate in the county of Somerset, about 7 miles south of Bristol, in the valley of the Chew, and near that river, not far from the range of hills called Dundry, and is overlooked by the portion of that hill called Maesknoll, on which the camp is situate. It lies to the south of the line of the Wansdyke, which can be traced through Wilts to Hampton Down, south of Bath, and on to Stantonbury camp, and by Compton Dando to Maesknoll. It was, therefore, situate within the line of the supposed Belgic boundary. The three great megalithic monuments of the south and west of England are Stonehenge, Abury, and Stanton Drew; and of these Stanton Drew is the smallest. It consists of three stone circles, or more properly a central oval and two small circles, which seem to have been connected with it by stone avenues, and give the appearance of two serpents passing out of a central inclosure. Such it has been taken to represent. The first writer by whom it is mentioned is John Aubrey, A.D. 1664, who says that he was told that the number of stones were much diminished within a few years of his time; and Dr. Stukely speaks of a "late tenant who, for covetousness of the little space of ground they stood upon, buried them for the most part in the ground." Mr. Long states in his interesting memoir of Stanton Drew, in the *Archæological Journal*, vol. xv., p. 200, it does not appear that since Stukely's visit, A.D. 1723, a single stone has been removed, and we trust that the day is past when historical monuments such as these shall suffer wanton destruction. John Aubrey first brought Abury and Stanton Drew into notice, the former A.D. 1648, the latter in 1664. Dr. Musgrave, in his "Belgium Britannicum," vol. i., p. 206, A.D. 1719, gives an account of Stanton Drew, and illustrates it by an accurate plate of the structure as it then stood. Keysler, in his "Antiquitates Septentrionales," 1720, gives a short account of Stanton Drew; but none of these writers appear to have been aware of the existence of the cove, or of the circle which is near it, as their descriptions are confined to the portions of the structure in the field near the river. Collinson briefly describes Stanton Drew in his history of Somerset, published A.D. 1791; and Seyer, in his history of Bristol, A.D. 1821, gives a more detailed account, with measurements of the stones, and lithographic drawings. The best plan of Stanton Drew is that given by Sir R. C. Hoare in his modern Wilts, from a survey by Mr. Crocker. The cove is situate a little to the south of the parish church, and is formed of three stones standing in an orchard. The two side stones are still standing, but that which formed the back is fallen down. These three stones are 18 in. thick, and the respective lengths from 10 ft. to 14 ft. The cove is 10 ft. wide, and about 8 ft. deep, and opens to the S.E. The first circle is distant 157 yards from this cove, in an easterly direction. The number of stones which originally comprised it appears to have been twelve, and the diameter of the circle, according to Mr. Crocker, is 129 ft. There are now remaining in the orchard, in which it is partly situate, six stones, and three in the adjoining field, and one under the wall, which separates the orchard from the field, making ten in all. One hundred and fifty yards from this circle, in a N.E. direction, is the great circle, the diameter of which, according to Mr. Crocker's measurement, is from east to west, 345 ft., and from north to south, 378 ft. It is, therefore, strictly speaking, an ellipse with the longer axis from north to south. The number of stones remaining is fourteen, of which three only are standing; others are said to be beneath the surface. The tallest of the standing stones is 7½ ft. high, and about 6 ft. thick. They are all of a very rude appearance. Eastward from the great circle, at a distance of 150 ft., is a circle of eight stones; its diameter is 96 ft.; four only are now upright. Adjoining this circle on the east and south are seven scattered stones. The general opinion respecting these stones (says Mr. Long) is, that they formed a sharply curving avenue, which connected the circle of eight stones with the large circle. From the mention made by Aubrey that the number of the stones had diminished much within a few years of his time, we may conjecture that the corresponding avenue which led to the great circle from the other circle in the orchard, has been carried away or buried, and thus we have the structure at present in an imperfect state. The stones appear to have been procured near the spot where they now stand, from a stratum about 6 feet under the surface. Most of the blocks are stated to be composed of conglomerate, which has been slightly coloured by red oxide of iron, but there are others of a much finer grain. For a fuller account of the geology of the district, I must refer to Mr. Long's paper in the *Archæological Journal*, which will be found to contain, as I think, nearly all that can be said on the subject of Stanton Drew, and we have reason to feel thankful that in the present day gentlemen of learning, ability, and leisure can be found to undertake the elucidation of these interesting monuments.

Stonehenge.—The remarks of Mr. Scarth on Stonehenge, were similar to those made by him when he conducted the excursion in connexion with the British Association thither, and which were reported in our columns at the time. Having spoken of Stonehenge at some length, the rev. gentleman thus concluded his paper:—We have now traced the megalithic monument from the simple stone, or Maen-hir, to the Dolmen or Cromlech, or stone chamber, and to the stone circle simple, and with the avenue also, and we have seen its magnitude and extent, and how it has at length assumed the more finished form in the circle at Stonehenge. We have considered the curved avenue at Stanton Drew and Abury, as well as the straight lines on Dartmoor. These megalithic structures are not confined to this country alone, or to Brittany, but cromlechs are frequent in parts of India and in other countries, and allusion seems to be made to them by many classical writers, as may be seen in Mr. Deane's chapter on Serpent Temples (see Serpent Worship, p. 398 and following). It is not my purpose, even if time would allow, to follow the conjectures which have been hazarded on this subject, or to submit any of my own. I will only say that in these circles and other megalithic structures, we have evidences of mechanical skill which raise our ideas of the state of society in which they were erected. We have evidences of united labour and united effort in an age when the habits of life were necessarily simple, and the knowledge of constructive arts very rude. But whether we regard these avenues and stone circles as sacred or consecrated localities, or as hypæthral temples, or as dracontia, or as the seats of justice and administration of the laws, we have monuments of a very remote age, and of a very simple and primitive people; and if we would preserve the memorials of our national progress, and treasure up its historical records, we should carefully preserve these records of its primæval inhabitants.

THE METROPOLITAN SEWAGE QUESTION.

This subject is at the present moment exciting no little interest and attention, and statements and opinions given in the *Builder* long ago are being repeated, and will, we hope, be acted on.

A special Court of Common Council of the city of London was held on Saturday, at the Mansion House, for the purpose of taking into consideration a report of the Corn, Coal, and Finance Committee of the corporation upon the subject of the utilization of the sewage of the metropolis, the matter having been referred to them upon the requisition of a public meeting of inhabitants of the City.

The Lord Mayor presided, for the first time since his installation to that office.

The report that was the subject of the meeting had already been made public. It was to the effect that the committee, fully aware of the great importance of the subject, not only to the ratepayers, but to all classes of the community, had attentively considered it in all its bearings, and had been favoured with the assistance and advice of Lord Robert Montagu, M.P., and Dr. Brady, M.P., both of whom had acted as chairmen of committees in the House of Commons upon the utilization of the metropolitan sewage, and they had collected all the information in their power: the result they had arrived at upon the present state of knowledge of the subject was, that nothing should be done at present, but further and thorough investigation should be instituted without further delay, either with the sanction of Parliament or of the Imperial Government.

After some discussion, the report was unanimously agreed to; after which it was moved by Mr. Lawley that the committee should be instructed to take the necessary steps to obtain a Royal Commission, and this led to some further discussion. The Common Serjeant, who was appealed to in the course of the debate, expressed his opinion that it would not be prudent for the corporation to apply to the Government to issue a royal commission, as they had no power to control the scope of such a commission, and the result might be to materially affect the principle of local self-government. Mr. Lawley upon this withdrew his motion, and another resolution empowering the committee to confer with the Government, and to take any other steps they might deem advisable in the matter, was agreed to, after which the court adjourned.

In the report under discussion, the reporters say:—

"Your committee find that two systems of utilisation are advocated,—the one, that of large quantities poured from open carriers over grass exclusively, as at Edinburgh and Rugby; the other, that of moderate dressings of sewage, as applicable to all descriptions of crops, by the hose and jet, as at Cashobury Park, Watford, by the Earl of Essex; at King's Weston, Bristol, by Mr. Philip W. S. Miles, M.P.; and at Tiptree Hall, by Mr. Alderman Mechi.

Your committee are of opinion that the results obtained by Lord Essex, Mr. Miles, and Mr. Alderman Mechi, as well as by other witnesses examined by the two select committees of the House of Commons presided over by Lord Robert Montagu and Dr. Brady, prove that it is by careful and moderate dressings, applied by the hose and jet over large areas, and not by large applications flooded from open carriers over small areas, that the home supplies of food will be most increased by the utilisation of the metropolitan sewage, and that the farmers using that sewage will be best enabled to pay a fair price for the manure; and, having regard to the vast quantity of the metropolitan sewage, and that it will only be used in addition to the farmyard manure made on the land, your committee are of opinion that, to insure its being sold at its value, works of distribution must be laid down, so as to bring it within reach of a very extensive area, it having been stated by a competent witness before the select committee of the House of Commons, that it should not be less than from 500,000 to 600,000 acres. It would be difficult for any company proposing to utilise the sewage on its own lands to purchase or lease so extensive a tract of country; and, if it were possible, it would be contrary to public policy to make over to any company such a vast amount of manure for its own purposes, to the prejudice of the general body of farmers, thus creating a gigantic monopoly. Your committee are therefore of opinion that any company proposing to deal with the London sewage should simply be distributors of the manure to those who would utilise it.

Before, however, any concession be made, your committee would suggest that a further and more searching investigation should be undertaken into the whole of the schemes for the economic sewage utilisation, in order to avoid, as far as possible, all risk of error, and to secure for the best system and the most satisfactory plan such an amount of national confidence and support as shall insure not only the prompt and profitable utilisation of the metropolitan sewage, but that also of the other cities and towns of the United Kingdom."

The letter of Baron Liebig to Lord Montagu is appended to the report.

The Islington vestry had a special meeting on the subject of the utilization of the metropolitan sewage on Monday evening, when Mr. Bolton moved—"That this vestry having heard with surprise that the Metropolitan Board of Works intend to dispose of the metropolin sewage without previously affording opportunity for the consideration of the scheme they intend to select, hereby protests against such a course being taken, and requests the representatives of the parish at the Board to oppose the sale of the sewage until the public have had an opportunity of considering the intentions of the Board."

In doing so he entered at much length into the question, and criticised rather severely the conduct of the Metropolitan Board in dealing with the matter.

Other speakers followed, with equally strong language, deprecating what they regarded as hurry on the part of the Metropolitan Board; and urging the alleged advantages of Mr. Ellis's scheme over that of Messrs. Hope & Napier, which the Metropolitan Board were then on the eve of adopting. Others denied that there had been any hurry, the respective schemes having been for some time before the Board. An amendment disapproving of the disposal of the metropolitan sewage to Messrs. Hope & Napier, and requesting the representatives of the vestry at the Board not to support such measures until due care had been taken to ascertain whether the project of these gentlemen was practicable, and whether the terms they offered were the best that could be obtained, gave rise to an animated discussion of three hours' duration, at the end of which the amendment was put and lost, and the original motion was agreed to all but unanimously; and it was further resolved that a copy of the resolution be forwarded to the Metropolitan Board of Works.

The report of the Main Drainage Committee of the Metropolitan Board on the application of sewage at Croydon, Rugby, Carlisle, and Edinburgh, has been published. The information in it is not very precise. Towards the close of the report, they say:—

"The committee consider that the evidence they have collected will prove of assistance in arriving at a sound conclusion in reference to the sewage of London. At Croydon they saw that the operation was successful, though on a limited scale, and were informed that the results were remunerative. At Carlisle, where the only process was employed to prevent decomposition of the sewage, they learnt very curious statements of its collateral advantages. At Edinburgh they witnessed the beneficial result of many years' experience of the profitable application of sewage to sea-sand. Your committee were not able to ascertain, during their visits to these several places, the chymical composition of the sewage of any of them, or the precise quantity of sewage applied annually, or during a given time; still less did trustworthy experiments appear to have been made as to the quantity which could most advantageously be employed. The same uncertainty prevailed as to the amount of grass cut, or hay made, or cattle fed, upon either the sewaged land or that adjoining, obviously a most necessary element of comparison."

They were told at Rugby that an acre of the land irrigated with the sewage, originally worth 1*l.* 15s. per annum, might now be considered worth at least 3*l.* 10s., but the tenant doubted whether he benefited by the irrigation of his farm.

At Croydon they were told that 3,000 tons per acre per annum of excreta were derived from a population of about 17,000, and that a tenth of the 250 acres irrigated was under irrigation at one time, and that each acre was under treatment thirty-six days in the year. In about five hours the sewage flows over the land, and is entirely deodorized. In two days it flows off nearly tasteless, colourless, and inodorous. The greater portion of the farm is sown with Italian rye-grass, which requires resowing every three years, and appears to produce the largest results; but some parts are still in natural pasture. It is rented by the Croydon Local Board at 4*l.* per acre, and is sub-let to Mr. Marriage at 5*l.* per acre, so that the Local Board obtain an improved rent of 250*l.* per annum, which goes in reduction of their local rates. The committee could not ascertain the exact weight of grass produced.

At Carlisle they found that Mr. M'Dougall had just let 105 acres to a butcher, at a rental of 800*l.*, or a gross profit rental of 482*l.* Here, only, the decomposition of the sewage is prevented by chemical action, to the advantage, it was alleged, of the soil on which it was distributed.

The sewage of a part of Edinburgh, as every one must know, has been used for irrigation for 200 years on the same land. There are comparatively few water-closets to increase its value. The larger area under irrigation has only been about thirty-five years under treatment. Near the shore it is mere sand, originally worth 5s. an acre, but now assessed at 22*l.* an acre. Other parts originally worth 6*l.* 10s. an acre now produce 30*l.* The sewage is not so well deodorized at Edinburgh as at Carlisle and Croydon.

On Tuesday the Metropolitan Board held a special meeting as to the tenders for disposing of the sewage of the metropolis. A report was brought up from the Main Drainage committee recommending the Board to give them authority to negotiate with Messrs. Hope & Napier as to the precise terms on which a concession might be granted to these gentlemen for the disposal of the sewage on the north side of the Thames. Mr. Freeman moved that the report be received and the recommendation of the committee adopted. A very full discussion ensued; and, notwithstanding that several amendments were moved, the original motion was carried by a majority of 26 to 9.

If it be true that an epidemic has already been raging at Woolwich in consequence of malaria caused by the sewage of the northern outfall at Barking Creek, the necessity for prompt measures is made further obvious.

In connexion with the general question of the disposal of sewage, we may add that the utilization of sewage is at present creating a stir in Birmingham; and that the Sheffield corporation have addressed a memorial to Sir George Grey on the same subject, in which they pray that Sir George will introduce a Bill in the next Session of Parliament to carry out the recommendation of the Parliamentary committee, and effectually prohibit sewage and any foul and offensive matter from being discharged into streams and rivers.

The question of an outfall sewer is at present under consideration at Sheffield. The surveyor has been required to prepare plans for one to Blackburn Forge; but an endeavour has been made to induce the council to rescind this order till the surveyor prepare a report upon the whole scheme of carrying the sewage from the town, and utilising it; giving at same time an estimate of the cost. The surveyor meantime has expressed his intention not to report upon the matter or make his plans until he has visited most of the chief sewage works in the country, and seen some of the most eminent engineers who could advise him as to the best plans to adopt.

ST. MARY'S, ABERDARE.

This new church has been consecrated. The building is in the French Gothic style, rather freely treated. The edifice is constructed with the Newbridge stone, with Bath stone dressings. It is divided into nave, side aisles, chancel, side chapels, and a vestry under the tower. The nave arcade is carried on complete. Iron columns separate the aisles from the naves. The shafts on the responses and in the chancel are of green Bridgend stone with carved Bath stone capitals. No clerestory is employed; and the roof, which is of an open wooden construction, springs nearly from the centre of the arches. Some of the side windows are placed in the gables. Most of the glass employed is of a greenish hue. Both nave and aisles are filled with open benches painted in imitation of oak, and calculated to hold about 700 people. The carving, which is profuse, is in the style peculiar to the era. The exterior has a marked appearance, partly derived from the peculiar colour of the Newbridge stone and the profuse Bath stone dressing, as well as from the number of gables (six), thrown up on the south and north sides, breaking up the roofs and relieving it from the monotonous appearance of the slated roof. The tower springs from the south side of the building, and is 90 ft. high, surmounted by a deep roof, topped with ornamental iron work. The length of the building is 100 ft., with a breadth of 52 ft., and enclosed in a courtyard, surrounded by four low walls, with ornamental iron railing at the top. The interior of the yard is planted with trees and shrubs. The whole of the carved work, both wood and stone, has been done by Mr. G. Whittington, of Newport, Salop. The architect was Mr. Arthur Blomfield, of London, son of the late Bishop Blomfield. The builder was Mr. P. Rees, of Aberdare. The contract was taken at 2,090*l.*, but the total cost will be about 3,800*l.*

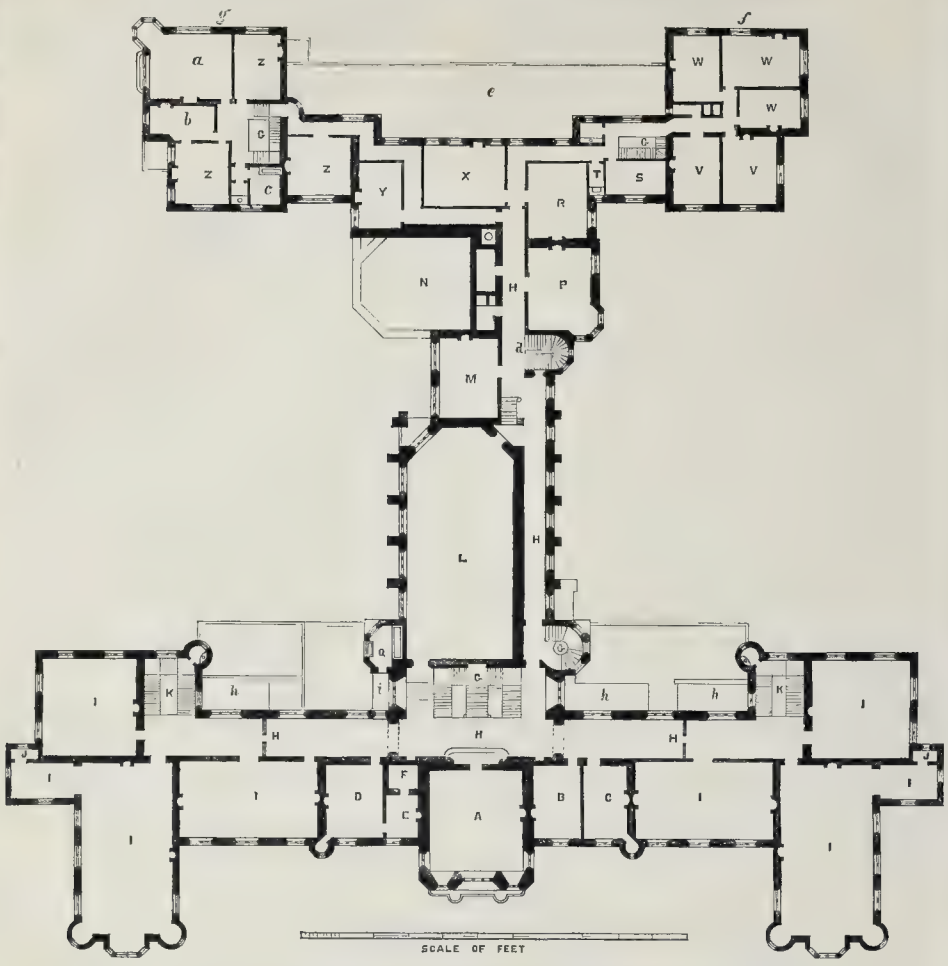
TELEGRAPHIC PROGRESS.

The process of manufacturing the cable for the Atlantic telegraph is rapidly proceeding, and it is calculated that if the submergence of the line be satisfactorily accomplished, the communication between Great Britain and the American continent will be completed by the close of July next. There are seven copper wires to form the conductor. The entire length of the telegraph will be 2,300 miles, so that there are 16,000 miles of copper wire. Every portion of this copper wire is subjected to electrical tests to ascertain its quality for conduction before it is allowed to be worked up. The next stage is to coat these wires with eight successive coats of the insulating material, equal to an aggregate length of 18,400 miles. This core is next covered with jute, wound round it from ten strands, making 23,000 miles of jute yarn. Then comes the outer coating formed of the ten covered iron wires. The iron wire itself is 23,000 miles in length, and each wire is covered separately with five strands of tarred hemp, 135,000 miles of the latter being required, making together an aggregate length of material employed of 215,500 miles, or very nearly as much as would put ten girdles round the earth, or form a line that would stretch almost from the earth to the moon.

FETTES COLLEGE, EDINBURGH.

The first stone of this building, of which we give a view and the plan of one story, was laid at the end of June last. It is being erected from the designs of Mr. David Bryce, architect, and will cost about 70,000*l.* The contractors for the building were,—Mr. Alexander Morrison, mason's work; Messrs. Beattie & Sons, carpenter's work; Mr. M. Carstairs, plumber's work; Mr. Jas. Allan, jun., plasterer's work; Mr. Thos. Crombie, slater's work; Messrs. Todd & Sons, iron-work; and Mr. Parnell, warming and ventilating.

a



FETTES COLLEGE, EDINBURGH.—*Plan of Class-Room Floor.*

The south and main front is 270 ft. in length, and includes a central tower, 190 ft. in height, with corbelled turrets at the angles. In the ground-floor of the tower the principal entrance to the college is placed, and over it is a projecting balcony. Three of the four stories in the tower which rise above the balcony are recessed in the centre, and surmounted by an elliptical arch. Above the arch, the tower resumes its square form for some distance, when it ends in a corbelled balcony, from which the spire takes its rise. On the ground-floor the space on either side of the tower within the projecting wings forms a piazza with an arched front. The wings have corbelled round towers at the front angles above the ground-floor, which are carried up and finished with conical roofs and iron finials. From between these round towers a crow-stepped gable springs, and in the centre of the front of each wing there is a large oriel window, surmounted by a carved parapet. The front portion of the building terminates at either end in a square tower. These towers are finished with spiral ...fts at the angles, and terminate in lofty roofs, ...h spring from enriched cornices. Two slight towers, rising from a buttress at the ... the first-floor, flank, at a short dis... central tower, and relieve the expanse of wall between it and the side wings. These towers are each surmounted by sculptured figures. The main roof contains two tiers of dormer windows, and is finished with an iron brattishing. The ground-floor of the front part of the college is chiefly occupied by the piazza, gymnasium, work-rooms, and accommodation for the warders. At the north-west end of the anterior limb of the college is situate the dwelling-house of the rector. The two portions of the college are connected with each other by the chapel, seen in our view, and a range of offices. The chapel has the dining-hall incorporated with it, the latter occupying the ground-floor. The chapel rises above the buildings attached to it on the north side, and that end of it has been reduced to an octagonal shape. Projecting buttresses, terminating in pinnacles, divide the building into five bays, and at the north-west and north-east angles, double-flying buttresses have been introduced. The arched windows of the chapel are filled with tracery, and each is surmounted by an open traceried gable, crocketed. Internally, both the chapel and dining-hall measure 56 ft. by 30 ft., and the former has an open timber roof. The external walls will be composed of stone, either from Craigleith or from a quarry in Fife.

REFERENCES TO PLAN.

A. Governors' Room.
B. Visitors' Room.
C. Master's Retiring-room.
D. House Governors' Business-room.
E. Charter-room.
F. Safe.
G. Staircase.
H. Corridor.
I. Class-room.
J. Closet.
K. Staircase to Class-rooms.
L. Chapel and Dining-hall below.
M. Upper Servants' Dining-room.
N. Kitchen continued.
O. Pantry.
P. Matron's Room.
Q. Coal Depôt.
R. Work-room.
S. Housekeeper's Bed-room.
T. Housemaid's Closet.
U. Stairs.
V. Sick-room.
W. Women Servants' Room.
X. Store-room for Linen, &c.
Y. House Steward's Bed-room.
Z. Bed-room.
a. Drawing-room.
b. Dressing-room.
c. Bath-room.
d. Private Stairs.
e. Culinary Department below.
f. Laundry Department.
g. Rector's House.
h. Open space.
i. Balcony.



FETTES COLLEGE, EDINBURGH. NORTH-WEST VIEW.—Mr. David Bryce, R.S.A., Architect.

THE ANTIQUARIAN DISCOVERIES AT BRADWELL.

We lately published a short account of the visit of the members of the Essex Archæological Society to the ruins of the ancient city of Othonia, discovered a few weeks ago by a land-reclaiming company, on a point of land in Essex formed by the confluence of the river Blackwater and the German Ocean. We now give some additional particulars, which will be read with interest. The excavations on the south side of the ploughed field, which consists of raised land, have revealed a piece of wall 23 ft. long and 5 ft. 6 in. high. It is 15 ft. in thickness, built of layers of almost squared stones of three courses each, alternated with courses of tiles of three or four rows, and is unquestionably Roman work, and must have been built before the Romans left this country, during the reign of the Emperor Valentinian, about the year 400. Near this wall were found three skeletons. The skulls were close to it; and in each case a Roman coin was found close to the ribs, as if at burial it had been placed in the hands, or under the tongue of the deceased, which was more in accordance with custom, and in time, by the decay of the body, it had fallen. These coins had evidently been placed, in accordance with the heathen custom, for the purpose of paying Charon for ferrying the soul over the river Styx to the land of rest. No sooner was this portion of the wall discovered than it was immediately conjectured by Mr. J. Oxley Parker, the gentleman to whom the land belongs, that it was but a part of some fortress. Accordingly, men were set to dig in various places in the field, and the result was that the same kind of building, having a uniform run of sets-off, was discovered, extending to a great distance and forming nearly a square embracing about three acres. The wall also still revealed the same thickness, and almost every shovelful of earth brought to light some curious relic of pottery, or a bone, the latter being probably the remains of some soldier picked from the cohorts of Rome. Another curious fact noticed was that in some places where the men dug, the very soil which formed the foundations of this massive work was made up of broken materials and rubbish which could only be accounted for by the supposition that before the Romans built this wall there had existed buildings belonging to probably a pre-Roman period. In some places were found skeletons apparently not Roman; for instance, five were discovered laid in confusion, with their faces downwards: no coins were near them, and it is surmised that they were the remains of Saxons or Danes killed in the attempt to make a conquest of the fortress. On the east side of the wall, and about 60 yards from the first-discovered portion, there have been laid bare walls of a different kind, built of rough stones, but firmly held together with intensely-hard mortar, of a light pink colour. This is probably the remains of a villa, for in the rear there is a huge deposit of oyster-shells deep in the ground, the contents of which have probably gratified the appetites of the inhabitants.

Near this villa have also been found several coins, of the following Roman emperors,—Crispus, Julian, Constantius, Gallienus, Gratian, Constantinus, and Caracius; but many have their discs obliterated. A bracelet, such as was worn by ladies of distinction, was found near the same place. At some distance to the left was also observed a dust-hole, or pit, containing the ashes of the station and bones of goats and swine, and here and there pieces of armour. One or two Saxon coins have also been found. It is somewhat singular that these ancient remains should exist close to the building described in the *Builder* of the 5th inst., the origin of which has puzzled all archæologists. The discovery of the ruins, however, has thrown some light on the subject; and although two or three antiquaries who have visited the interesting spot within the last fortnight do not consider it a Roman building, yet others contend that the presence of Roman tiles liberally used in its construction, and its contiguity to the ruins, establish the fact that it is the most ancient building in existence in the county. Some antiquaries recognise in it all the appearances of a Roman basilica. The centre is raised, and, in all probability, has been originally built in that form, and therefore convenient for all the purposes of a building used as a market, a court of justice, or place of religious worship. The eastern end is now built up in modern style, but in the wall there are the remains of an apse similar to the basilica of St. Paul's, at Rome. This, however, has been considered by those who hesitate to pronounce the building of Roman origin, to have been the apse in use when it was converted into a church, or originally built as such. The roof is modern, owing to the destruction of a great portion of the edifice, at some distant period, by fire. This ancient erection is spoken of by old historians as having a tower (probably a small one on the roof) and two bells, and that a priest officiated in it on Sundays, Wednesdays, and Fridays. But so far back as 1442 it appears to have puzzled the learned, for a "verdict" of a jury upon the building at this period informs us that this church had a chancel, nave, and small tower with two bells; that it was burnt; as to the period, however, when the church was founded, and by whom, this jury knew not. In all probability there will be further light thrown on the subject of these ancient erections and ruins in the course of a few weeks by the progress of the excavations. Possibly within the area inclosed by the walls will be found tesselated pavements, skeletons, coins, and other relics of the Roman occupation. It seems, admitted, however, that this spot is to be identified with the ancient Roman city of Othonia, which was subsequently called Ithanacester by the Saxons, a corruption of *Othona* and *castrum*, the castle or station of Othona; and that the sea, after having advanced on this ancient city, and covered it for a thousand years, is now retiring and bringing to our notice not only the remains of a once populous Roman city, but also an ancient pre-Roman town of the early Britons. It is a remarkable fact that several places in Essex were named by the ancient Britons after the gods they worshipped. For instance, Helmsted owes its origin to the goddess Helmsteed; and in the same way Othona, or Ithuna, is probably a corruption of the word Iduna, a goddess of great repute before the Roman invasion.* For the information of those who may wish to visit the place, we may observe that Bradwell-juxta-Mare is sixteen miles from Maldon, the nearest railway station.

THE ACHITECTURAL ASSOCIATION.

The usual meeting of members was held on Friday evening, the 11th instant, at the House, in Conduit-street.

The chair was taken by the President, Mr. J. H. Christian.

The following gentlemen were elected members of the Association:—Mr. A. G. Colpoys, 37, Bedford-place, Russell-square; Mr. J. C. Scoles, 146, Marylebone-road; Mr. B. A. Paice, 38, Upper Bedford-place; Mr. Edward Marfee, 2, Oriental-place, Peckham; Mr. E. H. Bearne, 120, Albany-street; Mr. Isaac Jones, 50, Gerrard-street, Islington; Mr. M. C. Bramwell, Oxford; Mr. S. W. Tracy, Bedford Chambers, Southampton-street, Strand; Mr. J. E. Walker, 26, Chelsea-villas, Brompton; Mr. J. H. Hargrave Stevens, 468, Hackney-road; Mr. G. J. Lough, Tachbrook-street, Pimlico; Mr. F. Payne, 56, King-street, Whitehall; Mr. E. H. Horne, 71, Adelaide-road, Haverstock-hill; Mr. W. R. Tilling, 37, Alpha-road, Regent's Park; Mr. A. Pite, 38, Bloomsbury-square; Mr. W. T. Law, Wood-street, Northampton; Mr. W. Warne, 10, Cloak-lane, City; Mr. R. Groves, 23, Alwyn-street, Islington.

Mr. E. G. Tarver brought under notice the subject of the proposed class for figure-drawing, which, he observed, it would be desirable to organize as soon as possible. The sub-committee which had been appointed to take the necessary steps with regard to securing necessary accommodation for the class had inspected the West London School of Art, in Bolsover-street, where two rooms were offered them. One was a small apartment which might hold twelve or fourteen persons; and the other a large room (containing the casts of the school), which would accommodate fifty or sixty persons. The committee were informed that the large room might be had for two evenings in the week at 3*l.* a month, and the smaller room at 2*l.*; but they had subsequently been informed that the larger apartment only was now available. A competent instructor had been found in the person of Mr. Poynter, who would give his services to the class at a remuneration of 2*l.* per month. The cost of models and other incidental expenses would be about 2*l.* per month more, making a total expenditure of 7*l.* The sub-committee suggested that arrangements should at once be made for the assembling of the class, and that possibly Tuesday and Thursday evenings might be the most convenient for the members joining to attend.

The Chairman observed that if the use of the casts was to be included in the rent of 3*l.* per month, he thought it moderate; and recommended that the offer of the West London School of Art be accepted. He was also glad to hear that the services of so efficient an instructor as Mr. Poynter could be secured.

Mr. Tarver said that the class would have the privilege of using the casts, and that the rent would include lighting and heating the room.

After a short discussion, it was resolved to carry out the arrangement as suggested by the sub-committee, in order that the class might meet with as little delay as possible.

Mr. J. P. Seddon, who had promised to read a paper on "Tone in Architecture," having apologised for the accidental loss of his paper, then proceeded to make some observations on the subject, which he illustrated from time to time with diagrams and the drawing-board. He observed that, in his opinion, English Gothic was the best, and that there were no moderate-sized buildings on the Continent which could compare with such specimens of church building as Great Walton Church, in Norfolk, and that of Stone, in the neighbourhood of the metropolis. Much of the tone of architecture depended upon the materials employed; and, for his own part, he preferred as near an approach as possible to the old Roman brick, 10 in. long by 2½ in. high. With regard to stonework, ragstone was, in his opinion, very awkward to work, and anything but seemly when used. The great thing was to get work long and thin, putting every stone on its best bed, and getting a good quoin formed with a double stone. To insure this, he would have the stone dressed. Irregular rangework, well carried out, had a good deal of tone in it, and made the face-wall look much better than could be accomplished by the introduction of unnecessary and costly architectural details. The quality and colour of the slates to be used were also important considerations. He had himself used some excellent slates from the neighbourhood of Haverfordwest. Stone tiles were, of course, more expensive, but those invented by Mr. Taylor were very satisfactory of their kind. He also recommended young architects to be particular in obtaining really good stained glass and good ironwork, as dissimilar as possible to the quaint spiky stuff which some persons seemed anxious to introduce. Care ought also to be given to encaustic tiles for pavement, and these could be had of Mr. Godwin, or Messrs. Maw & Co., who produced as good an article as any made in ancient times. In conclusion, he recommended students of architecture to avoid vulgar showiness, incongruity, and exaggeration, all of which were inconsistent with a good tone in architecture.

Mr. Webber commented upon the difficulty of getting good thin stone in the metropolis, and inquired of Mr. Seddon what stone of the sort was accessible for London work.

Mr. Seddon replied, that very good stone could be obtained in Monmouthshire and Glamorganshire, and that quarries were to be found at Newbridge, from which it might be conveyed by way of Cardiff to London. He recommended architects not to be always led by information obtained in the immediate locality of the place in which their work was to be carried out, but to examine the old farmhouses and buildings in the neighbourhood, by which means they might probably obtain a better stone.

Mr. Spiers agreed with what had been said with reference to adopting the Roman form of brick as much as possible, and spoke of the enduring properties of those found at Rome and at Herculaneum.

Mr. Webber called attention to a stone from Dorsetshire, now being used for dressings in some new houses in Cheapside. If the stone in question would be found to bear the London atmosphere, its introduction would be desirable; but this time alone could prove. It was not, however, much liked by workmen, because it was prepared at the quarry. On this account, perhaps, it was that they discouraged its use, and described it as a soft sandstone, which he fancied it was not.

A member called attention to the use of an artificial slate made, as he understood, in the neighbourhood of Harwich, which experience had shown to be open to three objections. The first was that it was very heavy; the second that it absorbed a great quantity of moisture, and consequently tended to make the building

* In confirmation of this, the discovery of a Tascian Roman pre-historic small silver coin, in the possession of Mr. J. O. Parker, is a plain proof of the pre-Roman occupation.

especially if open-roofed), very cold; and, hirdly, that when exposed to a low temperature, became extremely friable.

Mr. Eddis said he had found a very useful tone in Mid-Sussex, near Horsham, which, when irst taken from the quarry, was of a dark colour, ut which, after being exposed to the atmosphere, assumed a grey tone very agreeable to he eye.

Mr. Webber observed that, in his experience, he ad tested the desirability of making extended nquiry for stone before selecting that which night be recommended by interested persons on he spot. In one case, he found an excellent tone in an old mansion-house in the neighbourood, and on inquiry he obtained a supply of the ame description on the estate on which the uilding was to be erected, and the cost of which as merely nominal as compared with that hich had been recommended to him.

Mr. Tarver expressed a hope that greater ttention would be paid to iron work. Some ecent examples which he had seen reminded im of fireworks more than anything else, while thers resembled ruled music! He recommended nat such abominations should be carefully schewed.

The Chairman saw no reason why the flat or Roman brick should not be more generally used. He was glad to say that there was no longer much difficulty in getting a supply of them.

After some further discussion, a vote of thanks as passed to Mr. Seddon for his address.

The next subject for the Class of Design is, A Side Elevation," and the meeting on the 5th instant will apply itself to discussing eports and the Architectural Alliance.

BRAIN-WORK.

Within a recent period death has been busy ith persons engaged in literature and art. Men f mark have been called away, when, by years f experience of human life, by long observation f nature in its various phases, and by the acquiition of the mechanical skill which is needed in he production of books or of pictures, they had tted themselves for greater things, so that e might, if it had been allowed for them to ave lived to the allotted time of man's age, ave looked for much that would have been onourable to the labourers and advantageous to he community. The pursuit of literature or of rt, especially when employed in periodical pubcations, involves an incessant wear of the brain. here is a never-ending care for the provision of ch week's materials, and the mind is seldom rest. The mill is incessantly at work: the bow always bent; and, before the due time comes, he mill stops; the bow is broken.

We are often forced into such reflections when e glance around and miss so many contempoaries and associates as we do. Let our readers ok round their own particular circles, and it ill be found how large is the number of those ho, having hardly worked their brains, have for er left their places. The last lost, Mr. John eech, died of a heart disease, which no doubt ad long affected the artist's health, rendering im nervous and irritable; so that he has often mused and delighted others when he has been ill ease himself. The failure of Mr. Leech's health ust have partly prepared his friends for the d event that has taken place; but the end as very sudden, for it appears that he wandered out with a friend on the day before his ath, which was so little expected that a children's party had been assembled at the house the day when the master died.

Of others who were connected with *Punch* its early days, many have been removed to eir last rest; amongst them, Gilbert à Beckett, ouglas Jerrold, Thackeray, Landells, and more. The peculiarities of the style of art which eech has helped to render popular amongst demand a note. We see an evident intenon to produce on a wood-block an illustraon similar to a free pencil drawing, or slight ching, quite different from the heavily and aborately-tinted drawings of the Bewick school. this direction, however, Mr. Kenny Meadows d, to a certain extent, set an example; but to r. John Gilbert and Mr. Leech we are mainly debted for the introduction of this novel and eful style of wood-engraving. A chief merit Mr. Leech's drawings on wood is the remarkle effect which is produced with little apparent ort: a few lines in the background, by the illful way in which they are touched in, indicate a most graphic manner the peculiarities of the scenery, both sea and land: large spaces of white are usually left, but these are so managed that a snowy effect is not given when it is unnecessary. To produce this apparent slightness is of itself a great art, which can only be effected successfully by the greatest care on the part of the draughtsman, the engraver, and the printer.

If we compare the works of Mr. Leech with those of Rowlandson and some others of the small band who have attempted to sketch the passing peculiarities of their time, we cannot fail to notice the neat and careful drawing and the refined feeling pre-eminently shown in the former. The prints by Rowlandson are exaggerated caricatures, and so coarse and unnatural that they would not be tolerated at the present day; but in Leech's drawings we have a combination of artistic excellence, truthful attention to nature, and a display of humour which has seldom been excelled. Moreover, his genius ran in no immoral rut; and, dying, "he has left no block that he would wish to *cut*."

THE STONE-CUTTERS' STRIKE, DUBLIN.

The stone-cutters having applied to the Institute of the Architects of Ireland for advice in this matter, the council, through the hon. sec., Mr. Jas. H. Owen, has addressed a reply to them, suggesting that it is beneath such a body of men to squabble about such a trifle as the setting. In conclusion, Mr. Owen says,—"I hope soon to have the gratification of hearing from you that the stone-cutters have returned to their employment, satisfying themselves with the understanding that neither shall they be excluded from *setting* stone because they are stone *cutters*, nor the masons because they are only stone *masons*; but that competency and the employer's sense of his own interest shall be the only as they are the true tests, and such as are likely from their nature to be permanent."

THE CALIFORNIAN EXHIBITION AT SAN FRANCISCO.

A "Mechanics' Fair," or Great Exhibition, has been held in the capital of California, of which we glean some few particulars from a periodical printed and published in the Exhibition building.

As to the building itself, we are told, with excusable magniloquence, considering that it emanates from a city not fifteen years of age, that,—

"The visitor is completely lost in bewilderment at the vastness of the area, the almost endless variety of the exhibition, and the interminable extent of avenues which have been most judiciously laid out in graceful meanderings among the profusion of tables, stands, pyramids, showcases, columns, and cosy little recesses which appear and disappear by turns, as the admiring visitor threads his way along the mile and a half of distance which he must traverse to make the full round of this glorious palace of Californian industry."

"The very building that contains all these trophies of the victory of mind over matter, to be seen at the present Fair, is a work of mechanical art that will add lustre to the history of the San Francisco Mechanics' Institute Fair of 1864. Its dome—the largest ever constructed in the world of boards and scantling, in beauty of proportion and science of its construction is not excelled by that of the famous St. Peter's at Rome. This beautifully proportioned structure is a worthy casket to contain the many gems of human thought, wrought into forms of power, utility, and beauty more glorious than the diamonds, rubies, emeralds, and pearls of the orient and occident combined."

In speaking of danger from alarms of fire, and the means of rapid egress, our authority, the *Mechanics' Fair Daily Press*, says:—

"It has been suggested by persons fully competent to judge, that though the doors may be few and small, there would be still greater danger if they were larger, and visitors were instructed to make the doors their only places of exit. It is well known that the Pavilion is constructed of a very light description of redwood boards, which any man, with stout boots, may readily kick from their fastenings. There is moreover an abundance of every kind of instrument needed in such an emergency, to readily make openings wherever they may be needed, even through much stronger walls."

Here are one day's receipts:—

"At the door, 1,600 dols.; cheese money, 89 dols.; from skating-pond, 87 dols.; for fruit donated to the Sanitary Fund, 5 dols.: total receipts, 1,781 dols. For Sanitary Commission, 181 dols."

The general nature of the contents of the building may be gathered from the following remarks on the subject:—

"The advance of California in the arts, agriculture, and manufactures, as exhibited by specimens at the present Fair, is most gratifying and important. The manufactures of wool and glass, on exhibition, for variety, quality, and design, are not excelled by similar manufactures in any State in the Union. The value of the articles made directly from the natural productions of our soil—such as resin, turpentine, kerosene, wines, spirits, and others—exhibit the variety of the as yet latent resources at our people's command; while the number, utility, and character of the machines and appliances of machinery for saving labour and other economical purposes, show that the inventive genius of our people is active and triumphant. One important lesson these fairs have taught the people, with incalculable advantage to the country, has been the intimate relationship between art and science."

"Here we find engines constructed with marvellous ingenuity, having for their motive power, steam, hydraulic pressure, running water, caloric and electricity, motors almost unknown in the last century. The very nature of the inventions introduced at this fair speaks volumes in favour of the mental superiority of our local mechanics. Here we find no contrivances to sharpen a pencil, clean a knife, or rock a baby to sleep, such as so many of the Eastern mechanics bother their brains in perfecting; but powerful and effective machines for crushing the hardest rocks to the finest powder, for pumping large volumes of water from vast depths, sawing the largest logs that grow in the world, or to save the impalpable particles of the precious metals."

Towards all who would dare to doubt the superiority of everything San Franciscan or Californian, our enthusiastic authority thus advises his fellow citizens to act:—

"Let us point the new comer to these evidences of our industry, genius, and resources. Where in the wide world at the present, or in all past time, can be found the community, of our age and strength, which can rival, or even reasonably approximate, the display which the mechanics of California are now making in this city? Let us take our new-found and doubting friends by the arm, and walk with them through the aisles and avenues of our magnificent Temple of Industry, and ask then seriously if they can go away and pronounce California anything short of what has been claimed for her by her most sanguine friends. Take them through the Gallery of Arts, and ask them where on the continent, out of the three great metropolitan cities of the East, can they find a better display of artistical talent. Point them to the beautiful floral pyramid which adorns the interior arch of the great dome, and tell them that a display equal to that can be made in this city every month in the twelve! Go with them through our public libraries, and spacious, well-ventilated reading-rooms. Point them to our schools, public and private, and our well-filled collegiate institutions. Have we no literary taste? Take them through our principal streets, point out to them our magnificent churches and other public edifices, and our splendid private residences, furnished with every luxury and comfort known to modern seekers after *otium cum dignitate*. Ask them to consider that they are walking the streets of a city but fourteen years old, and yet the fourth commercial city in the Union, out of whose 'Golden Gate' pours a monthly stream of treasure which, in a decade, has nearly doubled the monetary wealth of the world."

The floral productiveness of the climate all the year round would appear to be rivalled by its frugiferous abundance, if a single bunch of pears in the Exhibition, fifty in number and 19 lb. weight, on a single stem 8 in. long, be any criterion. Our authority may well call this *extra*ordinary; but it seems to augur well for the ordinary fruit crops also.

Taken as a whole, Californians may, it would appear, well be proud of this "grand exhibition of their skill, industry, and taste." It is emphatically, "what it was designed to be—an exhibition of Californian industry." Those who have witnessed the previous exhibitions in this city, according to our authority, "cannot fail to notice the marked superiority of this over either of its predecessors, in the way of a prominence of home over foreign industry."

PUBLIC WORKS IN THE COTTON DISTRICTS.

The last report made by Mr. Robert Rawlinson to the president of the Poor Law Board, shows—"the amounts granted under the Public Works Acts, 1863-64, to each public body, the sum actually paid in each case, and the number of factory and other workmen employed on such works in each district." From this we learn that the total amount at present appropriated is 1,796,646*l.*, of which, instalments amounting to 742,260*l.* have been advanced. The total residue of these loans to be advanced as works progress is, therefore, 1,054,382*l.* But as the whole amount set apart for the purposes of these Acts was 1,500,000*l.* + 350,000*l.* = 1,850,000*l.*, there is yet a sum of 53,354*l.* to be appropriated. Applications exceeding the amount of this balance are, however, now under consideration of the Board.

As to the number of men who were employed upon works during the last week in October, it is seen that there are 4,002 returned as factory operatives, and 2,422 as skilled labourers, making a total of 6,424. But it seems that in Blackburn and in other places, numbers of men, who were formerly factory operatives, and have now, through a long experience upon these public works, become skilled labourers, are unwilling to declare themselves "factory operatives," lest the confession should be taken to invalidate their skill as labourers.

The great demand for stone, bricks, and other

materials, which the execution of improvement works has created, has also been an additional means of providing employment for a large number of persons who are not included in this statement. Mr. Rawlinson estimates them at not less than 2,000, which will make a total of 8,424, who, with their dependent families, will represent a population of from 30,000 to 40,000 persons deriving their subsistence from these works.

Subject to the condition imposed by the Acts, that the works are of public utility and sanitary improvement, the devising, direction, and execution of the works are entirely in the hands of the local authorities and their officers. The Reporter says,—

"Of course the proportion paid in materials, skilled and unskilled labour, must depend upon the character of the works in each instance; but, considering the sanitary advantages of the works undertaken, and the need which existed for their execution, it can hardly be deemed a matter for regret that the local authorities have, in their selection of works, thought as much of sanitary improvement as of the amount of employment which would be afforded to indigent factory operatives."

We can scarcely doubt that great advantages will result from the works that are being executed, quite irrespective of the means of support thus afforded to distressed factory operatives.

MONUMENTAL.

THERE has been erected in the cloisters of the chapel of the Charterhouse a monument to General Havelock, K.C.B., who was educated at that school. The design combines eight different marbles, and the inscription, in letters of gold on the black plinth, runs thus:—"The schoolfellows of Major-General Sir Henry Havelock, K.C.B., erected this monument in memory of him and of other Carthusians who have fallen in war." The face of the monument is divided into fifteen compartments, gilt, on which are to be painted the names of all who have distinguished themselves and fallen in the service of their country.——The Combermere equestrian statue, subscribed for by the gentry of Cheshire and others, is nearly completed by Baron Marochetti. The figure is 8 ft. high, mounted on a charger, and further elevated by a granite pedestal. It will stand in an open space opposite Chester Castle. The cost will be 4,100*l.*——Merthyr is to have a Town-hall, and chief amongst its decorations is to be a bust of the first member of the borough, Sir John Guest. The sculptor is Mr. Joseph Edwards, a native of Merthyr.——The Albert memorial statue for Dublin has been entrusted by the committee to Mr. Foley. ——A monument to the late Lord Massereene and Ferrard is at present in the studio of Mr. J. R. Kirk, Dublin. It is about to be erected in the parish church of Antrim. The size is 14 ft. in height and 8 ft. in width, and the character of the whole structure Lombardo-Venetian. The principal feature is the full-length figure, representing the deceased, which lies in a recumbent position, draped in the robes of a Knight of St. Patrick, with the collar and badge of the Order. The statue is surmounted by carved canopies, on which are numerous finials, small statues, &c. The figure is life-size.

THE WEST-END PARKS.

WE can only judge of things by comparison; and in this way the parks at the west end of the metropolis even now do not show favourably, when we think of the noble examples of landscape gardening which are to be met with in many parts of England. We need, indeed, only go to the grounds of the Crystal Palace, to see how, under energetic, skilful, and tasteful management, a space can be made to assume an aspect of fairy-like beauty. Nearer at hand, at the Victoria Park, we may see how great a change can be wrought in a few years by proper care and judgment. In this park, the display of flowers in their various seasons is delightful to the eye; and in all directions the once flat and unpicturesque site gives indications of what may be expected in forthcoming years. The young trees, skilfully grouped, both foil and harmonize in form and colour, and are each year increasing in size and strength; and there is every indication that we shall have here in due course of time stately trees, forming little groves amid the shrubs and flowers; and all this is done at no great cost.

In some of the suburban cemeteries, in the most unfavourable soil, the success of the gardener is extraordinary. Look, for instance, at Ilford; but in St. James's Park, Hyde Park, Kensington Gardens, and the Regent's Park, a timid policy seems to prevail. Nature has furnished fine trees and other natural advantages; but each storm that blows destroys the decayed branches of the trees. Even the great trees are sometimes taken up by the roots; and those who remember Kensington Gardens, St. James's and the Hyde Parks, a quarter of a century ago, believe that the old trees, before many years have gone by, will have lost the power of throwing forth their greenery, and then those grounds will be dependent on other means for their beauty; and it seems doubtful if the trees which have in parts been planted in with mathematical precision will ever arrive at perfection, or even if they do, will then present an appearance which will be in any way commanding as points of the landscape. It seems to us that the trees that have been planted in recent years show want of attention to grouping, with a view towards general effect. As regards Hyde Park, a large portion must be kept plain for military displays and other public purposes; but there is no reason why the margin of the surrounding carriageway should not be decked with flowers in a far more effective way than they are at present. Mr. Cowper has done a good deal, but might do more, if he were braver.

In connexion with our metropolitan parks there is a want of distinctive features. Is it impossible, by means of a reasonable expenditure, to procure extensive and shady avenues similar to those at Bushy, Hadfield, and elsewhere? Still, in the Regent's Park, the trees at each side of the long walks seem to give promise for the years to come. Similar beginnings should be made elsewhere, and no time should be lost, for those things are slow in attaining perfection. Our metropolitan parks greatly require a combination of architecture and sculpture with the other features. Terraces might be planned at various points with good effect, and in association with them fountains and flower-beds, where the various trees might be shown in large but shapely masses. It used to be said that the public were not to be trusted with such things; that opinion, however, is, now one of the exploded ideas of the past, and too much pains cannot be taken to render the parks elegant places of resort and recreation. What is wanted is a good plan for the future, laid down by a competent authority; and this should be adhered to, and steadily carried out.

COMPETITIONS.

The Sir Tatton Sykes Memorial Competition.—Competitors are complaining that they have heard nothing yet of the decision of the committee.

Chapel and Schools, at Pembroke Dock.—Sir: In consequence of an advertisement which appeared in the *Builder*, on the 22nd of October, I took some trouble to obtain the particulars of a new chapel and schools, to be built at Pembroke Dock. I find that the committee do not intend to employ any architect, and only offer the premium of 25*l.* for drawings, specifications, details, and perspective view, *provided* the design is approved of; which, considering that for the sum of 2,000*l.* a large chapel is to be built, in the Byzantine or Gothic style, to seat 1,200 persons, and also a school-room under, 90 ft. by 60 ft., and 13 ft. high, does not seem very likely, particularly as walling stone is to be brought in its rough state on the ground for 5*s.* per ton.

ONE WHO WOULD HAVE COMPETED.

CISTERNS AND PIPES FOR PURE WATER.

A PRACTICAL plumber, J. Cutler, comments on the known evil resulting in many cases from the retention of water in lead cisterns, and allowing it to run through lead pipes, and urges as a remedy the provision of glass cisterns and glass pipes for the purpose. As a simple mode of arranging this, he says,—"Make a good strong wood cistern, and line it with common sheet-glass, as common as it can be made; say 26 oz. or 32 oz. to the foot; putting bars or fillets of glass, half an inch square, on the corners, and up the angles with shellac, the same as is now used in putting glass letters on windows, or fillets of mastic. I have no doubt but our scientific and chemical men could soon find something that would properly secure the joints in this way. I would suggest that green baize, or some soft material might be put between the glass and cistern. This being done, care should be taken with the pipe supplying the cistern from the main, that when the water is turned off, the pipe should empty itself, to prevent its freezing and stopping the water coming in next day."

CISTERNS AND DRAINS.

WITH reference to a letter (p. 176, *ante*) as to the present system of taking the overflow or waste pipe into the trap or drain, I think this system is highly injurious to health. I have often noticed a thick scum on the surface of the water, produced by the foul air from the waste-pipe; but I think bending the waste-pipe into a syphon would be rather difficult in most cases, because the generality are what is termed trumpet waste-pipes,—that is, 3 in. or 4 in. in diameter at the top, and reduced to 1 in. at the bottom; and if it were not bent exactly, or placed in its proper position, it would leak: consequently, in a few hours, the cistern would be empty. [Moreover, the syphon itself would empty the cistern.] Now, I think that the most simple remedy would be to solder an ordinary bell-trap, according to size, into the top of the trumpet waste-pipe. The additional weight would keep it firm, be easy to remove, and answer the purpose in every respect by regulating the ball-tap so as to keep it always charged.

W. B.

ON THE REPORTS OF THE PROCEEDINGS OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

SIR,—Permit me, through you, to congratulate the Royal Institute of British Architects on the report of the president's opening address appearing in your columns. I might congratulate the whole profession also, as well as the reading public, that such highly-important advice, and such valuable materials for thought and reflection, have not been consigned to oblivion,—*preserved*, like memorials of past time, in the pages only of the Institute's printed "Proceedings."

I hope this report will prove to be the harbinger of a better, a wiser, a more liberal and useful course than that which the Institute has lately adopted, of hiding its light under a bushel so to speak, and not permitting its precious papers and communications to appear abroad.

How the new system may have affected the sale of the printed "Proceedings," published by the Institute, I do not know; but I should expect that it cannot permanently have increased the profits, while it certainly has diminished the usefulness of the Institute to the whole profession, and dimmed its lustre in the eyes of a discerning public. It is desirable for all societies, whether for the advancement of science or the promotion of art, that an early notice of their proceedings should be given to the public. This will be found most profitable in the end, as it assuredly is most proper at the time. Besides other advantages, it diffuses a knowledge of those proceedings among persons who would otherwise never hear of them, and may increase the demand for the official publication, with illustrations, among others than those who are immediately interested in them. There is always a multitude of *outsiders* who can thus gather up the crumbs that fall from the well-furnished table in Conduit-street, and transform them into vital nouriture to their own and their employers' advantage. The professional and public loss sustained by the reports having no longer been permitted to appear, will be brought home to the convictions of all, by reflecting on the loss which would have been incurred had not the present accomplished president's admirable address have gone forth as it has done. *Outsiders* would have known nothing about it; the reading public would never have heard of it; the sound advice and the precious fruits of a life of professional exertion and of philosophical inquiry into the principles and influences of art would have been almost utterly lost; they would have found their way into the printed "Proceedings," fossilized in its pages for some future generations; but their living impressions would have been effaced.

H. C. BARLOW.

SIR,—Every one who takes any real interest in the advancement of art must be thankful to you for the remonstrances which you from time to time address to the Institute, on the question of the publication and proper reporting of their transactions. It is sad to see such narrow-minded counsels still prevail with the governing body. In any society, wise men are often in a minority. It is hard to believe that all those whose opinion is really worth having concur in the present exclusive method of proceeding.

What on earth is the object of the Institute, if it be not to promote to the utmost the improvement of architecture? Surely this object, which is professed loud enough in every set speech which is made at the Conduit street meetings, and in every paper read anywhere on the subject, ought to be more the care and anxiety of

bers than the mere selfish desire to protect the Insti-
s copyright.
e Royal Institute of British Architects is not a "pro-
on society," but a society for the advancement of
itecture and its kindred arts.
is not a "mutual improvement" or "benefit society,"
a public institution; and the public has a right to
w what it is about.
very society which *really* wishes to do good in any
courts publicity as the principal and almost only
ns of effecting the object it professes.
e Institute was not founded only for the good of its
bers, but for the good of the public. I would ask—
he public or are members benefited by the present
lations?
ow are outsiders to know the advantages of the Insti-
if they have no opportunity of ascertaining what
on at its meetings?
a disquisition upon law or social science less valuable
after, in a separate form, because it has been first
lished in a newspaper?
rely it is by means of the publicity thus given to it,
the comments made upon it in columns which are in
y one's hands, that attention is drawn to the worth of
ssay and the talents of its author.
f course, this is quite setting aside the question,
ther some of the Institute papers are worth publish-
at all. Some are undoubtedly very good; but some
as certainly far behind what should emanate from
e who essay to instruct the profession.
ublicity would in time raise the tone of the papers,
beget more care in their preparation.
t all events, if people are able to ascertain from the
lic press that the papers and discussions are really
d, the Institute need not fear but that there will be
ty of opportunity of selling the official copies of the
nsactions.
enclose my card, and am, AN ASSOCIATE.

THINGS TO BE DONE.

SIR,—I am in despair. When are the Houses
Parliament to be finished? When is the
son Column to be finished? When is the
t contract for the Thames Embankment to be
npleted? When is the third contract (Temple
Blackfriars) of the Thames Embankment to
completed? When is the Southern Embank-
at (Westminster to Vauxhall) to be com-
ted? When is New Earl-street to be com-
ted? When is the Charing-cross Hotel to be
npleted? When are the new London rail-
ys to be completed? When is Victoria-street
be completed? When is the pulling down of
l Blackfriars Bridge to be completed? When
the New Law Courts to be completed? And,
, when are the two houses at the foot of Big
n Tower—one called Fendall's Hotel—which
ve been pulling down the last two months, to
completely pulled down? Surely some new
ido Fawkes must have hired them to repeat
tory! You say in your paper that a body of
000 workmen were concentrated on the "last
" of the Northern of Spain Railway; and you
r that on the first contract of the Thames
bankment (Westminster to Waterloo), the
al of which is 520,000*l.*, 31,000*l.* was all the
ork done" up to the last weekly meeting of
e Metropolitan Board. The Act for the said
ames Embankment now lying before me was
ssed in July, 1862. Wake up these rapid
rkers,—pray, Sir, wake them up!

ONE WHO LIKES TO REAP AS WELL AS SOW.

*** Our correspondent is a little unreason-
le in one or two of his queries, but in other
spects we echo his inquiry, and ask, "When?"

STAINED GLASS WINDOWS FOR WHITEHALL.

Sir,—Having lately read much about the windows of
sgow Cathedral being filled with stained glass, and
how much they were admired on a recent occasion
the Right Hon. W. Cowper, Her Majesty's First
mmissioner of Works, it occurred to me to ask,
uld it not be well, if we had a little more of this
d of decoration in our London churches, especially in
r Majesty's Chapel Royal? It would be well, there-
e, to draw that gentleman's attention (through your
umns) to the great want of a stained glass window
r the altar of the Chapel Royal, at Whitehall: as the
ar window is the only one that directly meets the eye
entering the chapel, it would be a vast improvement
r the present plain one, and it would also accord better
h the gorgeous gilded ceiling, and valuable paintings
Sir Peter Paul Rubens, which command so much
ention and admiration from foreigners as well as from
glish people. It is to be hoped, therefore, that this
autiful chapel will not be long without its stained glass
ar window. In fact, such a building as that should not
re *any plain* windows at all, but they should all be en-
hed to a certain degree, and the woodwork screens
uld be removed from the windows in the lower part of
chapel (as in former times), as they exclude valuable
ht, and give the chapel a gloomy and melancholy ap-
arance. This is easily effected, as the wooden screens
e only temporary. It is a great pity that anything
uld disfigure such a fine building, which was erected
Inigo Jones for the Royal Banqueting Hall; but
e former Chapel Royal, being destroyed in the fire that
sumed the other parts of the Palace of Whitehall,
is building (being the only one saved) was converted
o a Chapel Royal in the year 1717, and has been used
such to the present time. Such a chapel as this de-
ands that it should have windows that would correspond
th the general beauty of the other parts of its decora-
ns. A. B. C.

THE PATENT STONE BRICKS.

WITH reference to the notice headed "Patent Stone Bricks," which you have been good enough to insert in the *Builder*, allow us to say, that the whole of the bricks which were exhibited at the last meeting of the South Wales Institute of Engineers were made of sand and lime, with the exception of three, which, instead of sand, contained blast furnace scoriæ (also called slags or cinders), treated according to Mr. Parry's patent process, and subsequently ground to powder, an operation which can be effected without the least difficulty.

Where sand is used in the manufacture of these bricks—and so far we have employed sand almost exclusively, as being the cheapest material—it is simply screened or sifted.

In many localities the patent stone bricks could, no doubt, be produced at the *cost* price of 12*s.* per 1,000; and at some of the iron works at a considerably cheaper rate, by using the powdered slag and white lime, but they could not be so sold with any profit. The cost of the patent stone bricks depends essentially upon the prices at which sand (or its equivalents) and lime can be obtained, and upon the qualties of these materials. The price at which they are sold at Newport is 24*s.* per 1,000.

BODMER, BROS.

OUR CROOKED CHIMNEYS.

SIR,—I am one of those unfortunate persons who have had to administer the law under the consciousness that they may have been guilty in past days of precisely the same offence; or, if not exactly so, are actually, while punishing one class of offenders, conscious that they are conniving (to say the least) at breaches of other portions of our statute law.

It is quite unnecessary for the public to know anything more than that I live in a large house, with a most commanding exterior, and chimneys arranged for architectural beauty in fluted or carved Bath stone; but I very much fear (though I have no *legal* knowledge of the fact) that they are pronounced by our country sweeps impossible to be properly cleaned without the aid of climbing boys. What am I to do?

AN OLD "J. P." AND "D. L."

*** The insertion of a soot-door here and there in the right position might probably enable the machine to work efficiently.

RATING RAILWAYS.

The Midland Railway Company v. *The Overseers of the Parish of Bedgewarth, Gloucestershire.*—This was a question (Court of Queen's Bench, Westminster), as to the validity of a poor-rate upon a portion of the Great Western Railway within the parish, over which the Midland had by special agreement "running powers," and the point was whether in such a case the company having power to run trains on the line of another company can be deemed to be in beneficial occupation, so as to be rateable for relief of the poor. There is a special agreement between the two companies under which each has power to run trains over the line of the other; each company has exclusive powers, as proprietors, over its own line. The parish authorities had rated the Midland Company in respect of the profits of that portion of the Great Western line which they used, and which was within the parish. The Midland Company appealed, and hence the present appeal. The Court decided in favour of the Midland Railway Company and against the rate, on the ground that they had no occupation of the line which was rateable.

AGREEMENT TO BUILD ON A LEASE.

Cubitt v. *Smith.*—This was a suit, in the Vice-Chancellor's Court, for the specific performance of a contract, whereby plaintiffs demised to defendant a piece of land on the Pimlico-road and St. George's-road, with a house to be erected thereon, for sixty-six years, at a rent of 70*l.* *per annum*; and the defendant agreed that he would, within eighteen months from the date of the agreement, build a house on the land, of the value of 700*l.* at the least, of not less than three stories high above the basement, of a character corresponding with the house already built; or according to an elevation, section, plan, and specification to be previously approved in writing by the plaintiffs; and "according to the Act or Acts of Parliament for the time being in force for the regulation of buildings in and near the metropolis." Plans of the proposed house were prepared by defendant and approved by plaintiffs. It was afterwards ascertained that the Board of Works objected to the completion of the house according to the original elevation, and required the frontage towards the Pimlico-road to be put back 3 ft., so as to be on a level with that of the adjoining houses. The defendant, who had expended 400*l.* on the house, then ceased to build on the land, and the house was now unfinished. Hence the present suit.

The Judge was of opinion that the contract was perfectly clear in its terms, and one which this Court would enforce. It was plain that the house was agreed to be built according to the provisions of the Act of Parliament regulating the building of houses in the metropolis; and that agreement and the plans were equally binding on both plaintiffs and defendant. By some inadvertence on the part of both parties, the site was marked out in the plans in such a way as to contravene the rules of the Board of Works, but there was nothing in the case to show that the plans could not be in that respect modified. The defendant was bound to go on with the house accordingly, and a decree was given for specific performance of the agreement, with costs.

LABOURERS' COTTAGES.—The Carlow Agricultural Society has awarded the Earl of Bessborough the Royal Agricultural Society's first-class medal for the improvements which he has effected in labourers' cottages. Lord Bessborough, it is said, has built an extremely comfortable class of houses for the tenantry on his extensive property, and has "shown the Irish proprietors how the labouring classes may be comfortably housed for thirty shillings a year."

METROPOLITAN BOARD OF WORKS.

LAST week, a discussion took place in reference to

The Improvement of Park Lane.

The Chairman explained that there were two proposals, one for widening Park-lane, which would involve a very great expense, and the other to open Hamilton-place.

Mr. Tite, M.P., said the opening of Hamilton-place could be carried out at a small expense, but it would require the sanction of Parliament. He moved that the Streets Committee be authorised to give the requisite preliminary notice for next session of Parliament. The motion was carried by twenty-two members to eight.

The Thames Embankment.

The report of the Thames Embankment Committee was read, in which it was stated, that having regard to the report of Messrs. Hawkshaw & Harrison, the Committee were of opinion that the immediate backing of the Embankment wall should be of material wholly obtained from the land; and that the remainder of the filling-in should be supplied from the land and from the bed of the river, in such proportions as, in the judgment of the engineer, should be best suited to form a solid embankment. That they considered the filling-in would be best carried out with material wholly obtained from the land, but that, having regard to the expediency of deepening the river where it was contracted by the Board's works, they recommend the taking of a portion of the material from the river, so far as the engineer might see that such can be practically done.

It was resolved, after some discussion, that the recommendation of the committee be adopted, and that the order of the Board of the 23rd of September, 1864, prohibiting the contractors from receiving any soil for filling-in behind the embankment other than that supplied by the Thames Conservancy Board, be rescinded.

"A heavily-taxed Ratepayer," writing on the embankment question, says,—"Mr. Hawkshaw is the engineer to the underground railway, extending from Charing Cross to the north of London, out of which many millions of tons of rubbish will have to be excavated, and of course removed.

Now, I desire to ask Mr. Hawkshaw—1st. Could he possibly obtain in London a more convenient shoot for this rubbish than into the Thames along the line of the embankment? 2. Would not his company save at least 10,000*l.* out of the sum they will otherwise have to pay for removing the rubbish to the outskirts of London. . . . If the Thames Embankment be formed of the land rubbish heretofore used it will not solidify for years, and will consequently be a constant source of expense for repairs; but, if formed of sand and gravel from the river, assuming of course that the material be not laid on the ground until the coffer-dam has been completed and the river excluded, it must of necessity at once form into a solid compact mass. It should also be recollected that it is for this sand and gravel the ratepayers of the metropolis have contracted and are paying. . . . Large sums of money, amounting to many thousands of pounds, will now be paid by parties for permission to shoot rubbish into the river to the injury of the stream, and much of which will afterwards have to be dredged out again by the Thames Conservators. Who, then, are the parties to be paid for this permission? Is it Messrs. Furness & Ritson, the contractors, or the Metropolitan Board of Works on behalf of the ratepayers, or the Thames Conservators?"

COMPENSATION CASES.

Ex parte Piper and the Hammersmith Railway Company.—This case raises a question of importance with reference to compensation by railway companies for premises taken by them, the precise point being as to compensation for vibration caused by the running of railway trains. There was a viaduct constructed by the company, on which their trains would run, close to the premises of the applicant, Mr. Piper, which were, he alleged, "injuriously affected" by it in various ways, and for this (no part of the premises being actually taken) he claimed compensation. When the line was opened, and the trains began to run, there was a sensible vibration caused to the house, and this was a main item in the claim. The jury gave compensation for this item of the claim, and hence the present question. On the part of the company it was contended that the right to compensation was only for injury caused by the "execution of the works;" whereas this was vibration caused by the running of the trains, which was allowed by the Act of Parliament authorising the line. Mr. Justice Crompton observed, that so was the construction of the line, yet compensation was allowed in respect of it. You can claim compensation for vibration caused by the running of trains through a tunnel under a house; and how does it matter in what manner the vibration is caused, by going under the house, or going by the side of it? The Lord Chief Justice: It may lead to a house going to pieces some years earlier than it otherwise would. And there may be such an amount of discomfort caused by vibration as practically to render the house uninhabitable, depriving the inmates of all the refreshment of repose. I tried a case at the last sittings here, which is very much in point. It was an action for setting up a steam-engine for grinding coffee close to the plaintiff's premises, and part of the complaint was the vibration; and, although the injury was disputed, no one doubted that it was a ground of action. Mr. Karslake pressed that the Lands Clauses Act only allowed compensa-

tion for the injury caused by the "execution of the works," and this was an injury caused by their use, not their execution. The Court said the point was important, and must be discussed and determined, and, therefore, the learned counsel might have a rule *nisi*.

Ex parte Sinnock and the Metropolitan Railway Company.—In this case the claimant had an agreement for a lease of the premises for five years, but had no lease, and the company deemed the case to fall within the rule as to tenancies from year to year, and therefore refused to issue their warrant for a jury. Counsel urged that the claimant had an equitable interest for the whole of the term. The Court granted a rule.

Chew v. *The Metropolitan Railway Company.—Lord Mayor's Court.*—The claimant in this case is a livery-stable keeper, who formerly carried on business in Little Moorfields. The premises have now been taken down for the Finsbury Extension of the Metropolitan Railway. Mr. Bovill, for the claimant, said, Mr. Chew had tried in vain to obtain premises of a similar character. One part of his trade was completely destroyed by this removal, and to be thrown out of business at his (claimant's) time of life appeared to the learned counsel to be a very great hardship. Mr. Chew kept no regular set of books, and therefore he was unable to say exactly what his annual profits were. The books that had been kept exhibited an annual profit of only 170*l.* a year. Of course there must be some mistake about that. During the last five months of his trading, books had been completely kept. The profits for these five months were 143*l.* 8*s.* 6*d.*, or at the rate of 344*l.* per annum. As regarded the trade the jury must say how much the claimant was entitled to under that head. The learned counsel then summed up the various items of claim, which he said he thought would amount to somewhere between 3,500*l.* and 4,000*l.*

Mr. E. Fox (of Fox & Bonsfield) valued the claim at 2,249*l.* exclusive of fixtures, loss of trade, and loss on stock.

Other evidence having been adduced as to the value of the premises and the loss that must ensue to the claimant, the counsel on either side held a brief consultation, which resulted in a verdict being given by consent for 2,000*l.* A model of the premises, made by Mr. Jolley, was shown in the court.

Lloyd v. *The Metropolitan Railway Company.*—At the Sheriff's Court, Red Lion-square, this case occupied some hours. The property was a freehold house in Charter House-square, which was built in 1703, in the reign of Queen Anne, when Charter House-square was a "fashionable" locality, and numbered several lords as residents. The house was leased in 1856 at 70*l.*, and was now worth 135*l.* a year. Property had gone up in the City, and was increasing. For the compulsory sale 15 per cent. was demanded. That sum, on the part of the company, was called "outrageous," and it was alleged that property had reached its full value in the City, and must go down. It was contended that the price, 2,500*l.*, was most extravagant. In consequence of Mr. Sheriff Dakin being one of the directors of the company, Mr. Humphreys, the Middlesex coroner, presided before a special jury, and placed the case before them. The jury retired, and on their return assessed the compensation at 2,450*l.*

IRELAND.

Dublin.—There is at present a cry out for a new theatre for this city. Last year Mr. Boucicault and a few others made some overtures, with this purpose in view. It seems to have fallen to the ground; but now that Mr. Boucicault has again visited Dublin, where he has produced an original piece, many are giving expressions in the newspapers and otherwise to their views, concerning the insufficiency of the present theatres, two in number,—too few, and in the matter of necessary appliances far behind the age. There is a great want of one,—not, indeed, so large as the Theatre Royal, the better of the two, but of the shape and with the arrangements of the Haymarket, in London. It is to be hoped that something good will result from the present agitation of the subject. One writer uses language rather strong, but on the whole not groundless, and describes the theatres of this city as a disgrace to civilization. He also makes the remark that large theatres are a mistake.

St. Andrew's New Church, Dublin.—The church which gives its name to the wealthiest and most central parish of this city, is now progressing satisfactorily. There has been some delay, pending alterations on the original design, and the prospect of funds sufficient to carry them out in their integrity. A Dublin gentleman had, about a year since, anonymously offered a sum of 1,000*l.* on condition that the committee should have the sum of 1,600*l.* collected on or before the 1st of October, 1864, which would make up the balance of the sum necessary to carry out the design of the Messrs. Lanyon, Lynn, & Lanyon, amounting in all to 12,600*l.* Notwithstanding the efforts of the committee and their clerical officers, not half the required amount has been obtained, and the offered sum has been withheld; the church will in consequence have to be left in an unfinished state, divested of that which in the design, as exhibited, attracted the attention of all who have seen it, namely, its tower and cloister porch. Although the architects already named have designed the church, and are carrying it out, they are obliged to act under the supervision of the Irish Ecclesiastical Board and their professional officers, because a certain limited proportion of the cost is to be defrayed by them. The arrangement is one that does not give universal satisfaction, inasmuch as it is doubted whether the officer of the above-mentioned commissioners is necessarily qualified to direct or control an architect whose education and studies are entirely directed to his own profession.

Eyrecourt, county Galway. — A new church (R.C.), is just completed here: the cost is about 1,800*l.* Its proportions are,—Nave, 85 ft. long, 24 ft. wide; sanctuary or chancel, 22 ft. by 20 ft.; two transepts, each 30 ft. by 20 ft.; a chapel, 15 ft. square, on either side of chancel; and a sacristy. The style is Early English; the chancel window and those of transepts will be of large dimensions, and be ornamented with tracery. The roof timbers will be exposed, wrought, stained, and varnished. To the above are added a bell-tower of moderate height, a porch, and a baptistery. The stone of the locality has been used.

PROVINCIAL NEWS.

Wanstead.—A large hall, designed by Mr. T. H. Lewis, has recently been commenced for the use of the children of the Orphan Asylum, when debarred from open-air exercise, and for public examinations, lectures, &c. Lady Morrison, who provides the hall, laid the foundation stone of the building.

Glastonbury.—A new assembly-room has been erected here. The new hall is 55 ft. long, 35 ft. broad, and 21 ft. high, and is something after the shape of the old hall at Westminster. It was built for 700*l.*, by Mr. Merrick, of the town.

Leek.—The opening of the Temperance Hall, Union-street, has taken place. From 1833 until the erection of the edifice in Russell-street, it has been the chapel of the Congregationalists, from whom it has been purchased by the friends of the Leek temperance movement for 600*l.* The internal arrangements have been somewhat altered, at a cost of about 100*l.* The body of the hall has been fitted up with backed forms, and there is a new orchestra at the upper end.

Burntwood (*Staffordshire*).—The new lunatic asylum is in an advanced state of progress. It occupies a site close to the village of Burntwood, and three miles from Lichfield. The main building for the reception of patients extends westward from the dining-hall for 184 ft., having at its opposite extremity a wing at right angles to the front, with a front elevation of 37 ft. 6 in., and giving a western front of 129 ft. The whole length of the present south front is 286 ft.; but in addition to this there is a projection in the centre of the western front in an octagonal form. In the centre of the main building, between the dining-hall and the western wing, is another projection to the south front, and at this point the building runs back for some distance, and contains bath-rooms, closets, &c., whilst the north-western portion is devoted to idiots, who have a separate airing-ground. The general arrangement of the building consists of a series of large day-rooms and dormitories for the patients, all with a south or west aspect. There are on the ground-floor six day-rooms, varying from 37 ft. long and 17 ft. wide to 20 ft. long and 16 ft. wide; and five dormitories, from 28 ft. 6 in. to 16 ft. 6 in. long, and 16 ft. wide; whilst on the first floor there are four large day-rooms and a number of dormitories. All these are 12 ft. 6 in. high, and the dormitories in the attic floor, the ceilings of which are perfectly flat, and in no degree taken out of the roof—are only a few inches lower. The land and timber cost 6,963*l.*; the builder's contract was 17,555*l.*, with 325*l.* for well, 284*l.* for tank, and 2,037*l.* for engineering works, &c. The other expenses to prepare the building for the reception of patients would raise the cost to about 35,000*l.*; and if the eastern side were built—tendered for to the amount of 10,500*l.*—the whole building would cost 45,500*l.* The architect is Mr. Moffatt, of Edinburgh; and the contractor, Mr. Horsman, of Wolverhampton. The building is being erected under the superintendence of Mr. J. T. Rowland, as clerk of works.

Audley End.—The present noble owner of Audley End (Charles Lord Braybrooke), not having yet taken up his residence there, determined that during his absence the palatial seat of his ancestors should be substantially restored and improved; and the works, which have been for many months in progress, are now fast p ceeding to completion. The commencement the renovations was at the north end of t chapel, the walls of which were taken down the plinth, and wherever by time the walls h become defective they were restored with Kett stone. The restorations extend over the great part of the buildings, and what is called t "bucket" hall was entirely repaired. The gla of the chapel window, of Gothic proportions, h been preserved, but not used in these alteration and all the mullions of the windows of each fro and wing have been restored and filled in wi plate glass. The porticoes appear fresh, and their original state, and the front of the hall h been restored. Richard Aldworth, third Lo Braybrooke, and father of the late and prese lords, laid out 70,000*l.* in restorations and re vations about thirty-eight years ago.

Bacup (*Lancashire*).—The local board ha decided upon the erection of a commodio market house. The estimated cost is 5,00 The plans have been prepared by Mr. Jose Brierley, of Blackburn.

Manchester.—The ceremony of dedicating t new Freemasons' Hall, Cooper-street, the fou dation stone of which was laid in July last ye has taken place with the usual Masonic ce monial. The building has three entrances, t principal one being for the exclusive use Masons, when meeting for craft purposes. T lodge and banqueting-rooms are similar dimensions, each measuring 56 ft. by 28 ft., t former being 26 ft. in height, with a Decorat semicircular ceiling.

CHURCH-BUILDING NEWS.

Elmswell (*Suffolk*).—The chancel of the pari church, after undergoing a thorough renovatio was re-opened with ceremony on the 28th u The whole fabric is interesting, and especial the chancel, which is of fourteenth century wo A new roof has been placed upon the walls, t entire stonework carefully repaired, a vestry add upon the north side, a low stone screen plac at chancel arch, oak carved stalls and subcell tile floor, reredos covering the lower part of t east wall, and a painted east window, by Lave & Barraud, with other accessories, complete t work. The works have been carried out by M Smith, builder, of Rattlesden, at the expense the rector and his family. A spacious recto and schools are rising near the church, the wh being carried out from the designs of M Withers, architect.

Snape (*Suffolk*).—The church of Snape h been re-opened. The recent alterations ha been confined to the interior. Benches of stain deal take the place of the pews: the floor of t church has been raised; the passage down t centre paved with bricks in the place of t broken flag-stones formerly there, and the have been other minor alterations. In sever cases new stone mullions have been substitut for wooden ones in the windows, and one ne stone window has been put in the north wall the place of a wooden one: this is in the Ea English style. The west gallery, in which t school children sit, has been considerably reduce so that it no longer projects in front of the wi dows, and that part of the church is consequent lighter. Whilst the alterations at the east e were going on a piscina was found in the sou wall, and also the remains of a staircase in t thickness of the north wall leading to the l above. The whole building has had a fresh co of plaster and whitewash, and a wooden lini of the height of the benches, and stained uniformity with them, runs round the chur All the alterations have been carried out Mr. Nunn, of Friston: they were planned by t vicar with Mr. Nunn's assistance. Mr. Thurlo of Saxmundham, had the stone-work, and M J. Beard, Saxmundham, stained the wood-wo The total cost of the alterations exceeds 250*l.* large part of which is given by General Vy the patron of the living, the parishioners raisi another part.

West Ogker.—The parish church having be rebuilt, with the exception of the tower, h been opened for Divine service. The pres alterations may be described as consisting of building the north and south arcades; and in t case it is an exact rebuilding of the old, with addition of one bay westwards on the north si because the old aisle did not extend to the sa length as the nave; taking down the north ai and enlarging the same; rebuilding the chan arch; lengthening the chancel in order so

what to overcome the awkward appearance of three gables in a line; and opening the side aisles to the chancel with proper arcades instead of the square openings with lintels that were there before. The Portman aisle has simply been repaired and seated, and a larger arch made into the north aisle. The nineteenth century south aisle has undergone considerable modification. The old porch has been re-erected at the side of this aisle; and as far as funds would allow the whole has been remodelled to the same date and character as the porch, new three-light Perpendicular windows having been inserted in the south side and west end. The tower arch has been enlarged, and a screen placed in the archway, and a new west window has been inserted, under which will, probably, soon be placed a door of similar character. New open timber single framed roofs have been put to the north aisle and chancel, and the chancel roof is divided by curved ribs into three bays. The plastering between the rafters of the chancel roof has been stencilled. This and the emblazoning has been done by Mr. Stansell, of Taunton. An open timber roof has likewise been put to the nave, of near the same date as the old one, though somewhat different in character. The church throughout is seated with plain open benches, and in the nave the old oak ones have been re-used. The chancel is fitted up with oak stalls, and paved with encaustic tiles in patterns, supplied by Messrs. Maw & Co. The stained glass in the east window has been given by the rector, and in the west window by Mrs. Penny. The four windows in the south are likewise to be filled with stained glass. They are respectively given by Mr. Robert Moore, Mr. Israel Rendall, Mr. William Podger, and the working men of the parish. They will be by Messrs. O'Connor. The whole of the works have been executed from the designs and under the superintendence of Mr. M. Allen, of Crewkerne, architect, the contractor for the same being Mr. R. Bartlett, of West Coker.

Brooke (*Isle of Wight*).—The old church of St. Mary the Virgin, Brooke, was destroyed by fire in the winter of 1862, with the exception of the tower. The new church is built almost entirely on the old foundations, and consists of nave, chancel, and north transept, arranged similarly to that of St. Peter's, Vauxhall, with a central column, one-fourth of which is screened off to form a vestry. The church is built of the native rubble with dressings of green Niton stone. The chancel is lined with alternating courses of green stone, chalk, and red iron-stone. All the roofs are open, of red deal. All the windows are filled with grisaille glass, by Lavers & Barraud, that over the altar containing the Crucifixion. The nave is seated with open benches of elm, and the chancel stalled in oak.

Whitbourne. — The work of restoration and enlargement of the church here is about to be commenced forthwith, funds almost sufficient for the purpose having been raised, and plans furnished by Mr. Perkins, architect to the Dean and Chapter of Worcester. The western gallery will be swept away altogether, and in lieu thereof a new north aisle is to be added, which will accommodate some 100 persons, and a new vestry will be built. New open seats are to be furnished for the nave, and new stalls for the chancel, with altar-rails and other necessary furniture, including a reading-desk and stone pulpit. It is hoped also to raise funds sufficient to complete the work by the external repairs that are necessary, and also to provide a warming apparatus.

Worcester.—A parish meeting, convened by the committee recently appointed to consider whether any and what works of restoration and improvement are desirable to be carried out on St. Nicholas's parish church, has been held. The committee have consulted Mr. W. J. Hopkins, of this city, architect, and an engraved plan, showing the alterations recommended by Mr. Hopkins, was put in the hands of the parishioners, together with his descriptive report, in which he says that the present state of the church is very unsatisfactory; for, as well as being greatly in need of general reparation, it is exclusive and unecclesiastical as regards its arrangements, is badly lighted, badly ventilated, and badly warmed.——The Shrub Hill Church is now gradually rising. The timber-work of the roof of the lately-destroyed Guesten Hall appears over the nave, and will be lighted up with a rose window in the western wall. This window is a design by the architect. The rose, or wheel, has radiating mullions terminating in cinquefoils, and in the centre is a triple tau, as an emblem of the Trinity. The window being a Pointed one, there is tracery above the rose, entwining itself in two triangles, having flowing instead of straight sides; and in the spandrels formed between this tracery and the rose are smaller circles cusped. A double doorway underneath this west window forms the principal entrance: it has a central shaft and trefoil heads to the arches, the main arch being of three orders, the mouldings of which are distributed upon as many recessed shafts. Some of the north windows of the nave are copies of those in the late Guesten Hall. Three acutely-pointed arches divide the nave from the south aisle, which has a lean-to roof. There are north and south transepts, with a chapel or recess at the east end of each, one of which is for the organ and vestry, and the other for school children. The chancel will be of the same lofty proportions as the nave, and the apsidal east end has five windows in the apse, each of three lights, and Decorated tracery. At present the chancel is not so far advanced as the nave, but the work is up to the centre of the windows. Mr. Hopkins is the architect, and Mr. Nelson the builder.

Nempnett (*Somerset*).—The parish church of Nempnett has been re-opened, after having undergone a restoration. The floors have in part been laid with Minton's tiles. The seating is all open, with bench ends, designed from a fragment found under the modern floor. The windows have been refilled with tracery made out from broken fragments built into modern walls. The pulpit is of oak—designed to harmonise with the fittings. All whitewash has been removed, and the original faces of stonework brought out without scraping or cutting. The plaster ceiling is taken away, and the decayed timber of the roofing removed and renewed, and the bosses etched with gold. The old carvings under the trusses were found on removing the lime to retain the original colouring. The chancel, which is very plain, has been fitted up with stalls, and the ceiling and walls tinted. The work has been executed from the designs of Messrs. Popes & Bindon, by Mr. Morris, of Bristol, assisted by his sub-contractors, Mr. Wilkins & Mr. Cowlin.

Kirk Sandall (*Doncaster*). — St. Oswald's Church, Kirk Sandall, has been reopened. Coats of plaster and limewash have been removed, and the walls are presented to the view. Mr. Teale, of Doncaster, was the architect employed.

Bradford.—Holy Trinity Church, the seventh of the ten to be built by the Bradford Churchmen in five years, has been consecrated by the Bishop of Ripon. The church is situate in the midst of a large population at New Leeds, a suburb of Bradford; will afford accommodation for about 600; and is built in the Early Decorated style, from the designs of Mr. Paley, of Lancaster, at a cost of about 3,000*l*.

ACCIDENTS.

In High-street, Birmingham, at a spot where premises were burnt down and excavation was going on, a wall bulged out and fell, covering up two girls, who were bruised but not seriously injured. Other seven persons made their escape just in time. The wall had been "secured," but the foundations had been disturbed.

At Liverpool a terrific gas explosion has taken place in the office of the United Kingdom Telegraph Company. The office is a perfect wreck. Some slight personal injuries have been sustained.

At Maryport the front wall of an old house at the bottom of Old Market Brow, familiarly known as Ben Sanderson's Corner, has fallen. It appeared, for some time past, in a rickety state. Still the occupant, a sailor, continued to remain there; and, although the family were all in bed when the house fell, they sustained not the slightest injury.

At Sheffield lately, while a temperance meeting was being held in some workshops, a large portion of the floor gave way and precipitated about 150 people into the shops beneath. After the first alarm had subsided, it was found that the worst injury sustained was a broken leg.

Near Lymm, at the new bridge in course of erection over the river Mersey, at Warburton; some planks, which do not appear to have been properly secured, slipped from a temporary scaffolding; and a young man was precipitated into the river and drowned.

At a lone farm-house near Murat-le-Quaire (Puy-de-Dome), a farmer, having purchased 15 kilogs. of blasting-powder for quarrying, was so imprudent as to lay it to dry on the floor before the fire, while six persons, composing his family and himself, were in the room. The powder exploded, blowing down the house, and setting fire to the adjoining buildings. All the persons escaped from the ruins, but so severely burned that their recovery is considered hopeless. The house, outbuildings, and corn-stacks, were entirely consumed, and nine cows and twenty sheep perished in the flames.

Books Received.

James Brindley and the early Engineers. By Samuel Smiles. London: John Murray, Albemarle-street. 1864.

The Story of the Life of George Stephenson; including a Memoir of his Son Robert Stephenson. By Samuel Smiles. London: John Murray. 1864.

These little volumes, full of matter, each a distinct work, are reproductions, in a cheaper and more compact form, of parts of Mr. Smiles's larger work, "Lives of the Engineers," of which we gave a full account at the time of its appearance. The present arrangement places the most interesting information contained in it within the reach of a much more numerous body of readers, and will be doubtless taken advantage of to a large extent.

Since the appearance of the first edition of the "Story of the Life of George Stephenson" additional information has been communicated to Mr. Smiles, and incorporated in the present issue. It does not seem to have led the author, however, to lessen the share of merit attributed by him to the Stephensons in respect of the railway and the locomotive, concerning which there continue to be two opinions.

The Life of Brindley, forming a companion volume, includes memoirs of the earlier engineers, Vermuyden, Sir Hugh Myddelton, and Captain Perry,—of whom in connexion with the Thames dykes we have recently had occasion to speak. The story of the "ineloquent Brindley," one of the most remarkable instances of self-taught genius to be found in the range of biography, is full of teaching, full of encouragement, and is admirably set forth by Mr. Smiles.

Both volumes are illustrated with engravings, and are very attractive and valuable.

VARIORUM.

We must mention, pending the full examination of the book, the publication, by Mr. Murray, of "A new History of Painting in Italy," in two volumes, by J. A. Crowe and G. B. Cavalcaselle, whose work on the Early Flemish Painters we have often taken occasion to refer to. Their new book purports to be drawn up from fresh materials and recent researches in the archives of Italy, as well as from personal inspection of the works of art scattered throughout Europe. The present two volumes are but an instalment of the whole intention, comprising the History of Painting complete to the close of the fourteenth century, and partially so to the end of the fifteenth. Two subsequent volumes will bring up the history to the time when "the tide of the great Revival halts at the full."——"Naudin's Portfolio," edited by Hamilton Hume, is to present the public, monthly, with a collection of photographic portraits and biographical memoirs of men and women who have made themselves celebrated in the various walks of life. No. 1, now before us, comprises a large photograph of "Gadshill," the country seat of Mr. Charles Dickens, with a group on the lawn consisting of Mr. Dickens, Mr. Fechter, Mr. Wilkie Collins, and others. It also contains photographs of Mrs. Henry Wood (the authoress of "East Lynne"), Mr. Tom Taylor, Mr. Benjamin Webster, and Captain Blakeley (inventor of the Blakeley Gun). The idea of giving views of the country seats of individuals in whom the public is interested is a good one; but in this first instance has not been carried out quite so well as might have been the case. The view is all so dark that the members comprising the group can scarcely be recognized.——The *Social Science Review* for the month is devoted to an account of the York Congress of the Social Science Association, and gives a fair *resumé* of the proceedings.——Messrs. Day's reprint of the first folio "Shakspeare" of 1623, by aid of photo-lithography, has now reached Part V.——Mr. Collingridge has issued, as usual, his "City Diary and Almanac" for 1865. A little more space for each day's entry would be an improvement.

Miscellanea.

Society of Arts.—The hundred and eleventh session of this society commenced on Wednesday evening. Mr. William Hawes, chairman of the council delivered the opening address.

The Sliav-Igrine Inscription.—The Rev. J. Graves informs us that his correction at the end of the name cut on the stone (a C for a crossed out D) imitated ingeniously by our printers (p. 789), was merely a correction (twice occurring) of a mistake of his own in writing: it should stand simply as C, but reversed, Conic having so carved it.

The Calcutta School of Art.—This school, which has hitherto been somewhat mismanaged, is about to take a new start, on more strict and intelligible principles, and under the chief direction of a gentleman experienced in the management of Art-schools in England, according to the *Engineers' Journal* of Calcutta, which has a leading article on the defects and abuses that had crept into the school of late years. The French "plaster professor," it is stated, has been removed, and other improvements are being effected. What good has been done is said to be chiefly owing to the assidnity of the head master, Mr. Garrick, since the beginning of 1860.

Primrose-hill Shakspeare Memorial.—At the last meeting of the Executive it was reported that the Council of the Amalgamated Engineers had expressed a willingness to include some notice of the movement in their next quarterly report to the associated branches throughout the United Kingdom and the colonies, and the council would further supplement such notice by commendatory observations of their own. Mr. G. L. Banks reported a letter received from Messrs. Falconer & Chatterton, of Drury-lane Theatre, to the effect that every person engaged upon or about that establishment, including the company, orchestra, scenic artists, ballet, stage carpenters, property-men, supernumaries, money and check takers, box-keepers, cleaners, bill-posters, &c., in all 1,198 persons, had left subscriptions in the treasury on behalf of the Shakspeare Memorial Fund. The formation of a committee in aid, in the parish of Islington, was reported.

A Compositor's Leisure.—Amongst many interesting and curious items in the recent North London Industrial Exhibition, either encased or otherwise placed so as not to obtain examination by ordinary visitors, we would mention a volume titled "Autumn Rambles in the County of Kent," by Wm. Dampier (for some years a compositor in the printing-office of Messrs. Cox & Wyman, Great Queen-street, and now in the service of Mr. Hardwicke, the West-end publisher), consisting of 250 pages of manuscript and upwards of 100 views and maps. It was commenced in 1859, and completed in June, 1864; the whole of the compilation, writing, and delineation having been executed by him during leisure moments, before and after business hours. The adjudicators gave the author a first-class prize; and we should be glad if this mention of his work should assist him in finding a purchaser for it.

Workmen's Societies in Germany.—The subjoined is extracted from a Leipsic letter:—The congress of the workmen's societies of Germany has just met here. The question of workmen's houses was the subject of interesting communications from Professor Huber, who honoured the congress with his presence, and from M. Hegne, a great building contractor, of Leipsic, who with his own funds has erected a number of houses for the residence of artisans near the city. Like the Dolfus Society at Mulhausen, he gives workmen the opportunity of purchasing the houses they occupy by annual payments. The same builder is on the point of making a canal from Leipsic to Saale, for which he himself will find the capital. Unfortunately, instead of encouragements he meets with nothing but obstacles on the part of the bureaucracy and official architects, always jealous of their own initiative infallibility. The members of the congress devoted two hours to visiting M. Hegne's houses for workmen. The congress decided on recommending the establishment of lodging-houses for travelling artisans, and charged the managing committee to centralize in offices its demands for employment and offers of work.

Altar Cloth.—Messrs. Frank Smith & Co. have executed a richly-embroidered altar cover, designed by Mr. A. W. Blomfield, for the Radcliffe Infirmary Chapel, Oxford. It is a very satisfactory production both in respect of design and execution. The cost was 50*l*.

The Wallace Tower at Stirling.—This monument has now attained a height of 140 ft., leaving only the open crown at the top and the keeper's-house and the court-yard below to be completed. It is calculated that the entire design can now be completed for 3,000*l*., and an appeal is made for farther support to the committee in carrying the enterprise to a satisfactory termination.

Church Extension in Leeds.—In May last it was announced that 25,000*l*. were ready to be subscribed for this purpose, on condition that a like sum was raised within six months. At a recent meeting it was announced that 28,327*l*. had been so subscribed, and that, therefore, the fund already available for church extension, in Leeds, is 53,327*l*. The meeting resolved still to go on with the subscription.

Exhibition in Copenhagen.—A committee appointed to inquire as to a general exhibition of the manufactures and works of art of all the Scandinavian states, in Copenhagen, has just published a report, in which it is proposed "That an exhibition of the products of the three Scandinavian states—Sweden, Norway, and Denmark—should take place in the summer of 1866, and that for that purpose a crystal palace should be constructed at the expense of the state and of the capital."

Prevention of Explosions in Kitchen Boilers.—A patent has been taken out by Mr. J. Cookson, plumber, for this useful purpose. A small open cistern is fixed anywhere convenient to the fire-side on a level with the boiler, and supplied with ball-tap. A spindle valve is fixed in this cistern, the spindle working upwards with a ball or float attached to it, so that the water, rising in the cistern, lifts the ball and closes the valve. A pipe runs from the boiler into the chimney, or where convenient, with a similar valve; and when this valve is open, the pipe acts as an escape or steam pipe. The whole is said to be easily attached to existing apparatus, or to any heating apparatus, for the prevention of explosions.

Academy of Sciences.—At the last sitting M. Becquerel read a paper on the preservation of cast iron and iron in fresh water. He had previously shown that when a plate of either material was in contact with a zinc plate not exceeding the hundredth part of the surface of the former, the intensity of the derived electrical currents on the protected metal (iron) would, in sea water, diminish as the distance from the point of contact of the two metals increased; but nevertheless so that the protection afforded by these derived currents would still extend to a considerable distance from the said point of contact. In fresh water there are fewer divided currents on the surface of the metal, a fact which M. Becquerel attributes to the difference of conductability of the two liquids and the degree of chemical action which each exercises on the zinc, since these two circumstances both tend to increase the intensity of the currents. M. Becquerel concludes with saying that a pile of 9,837 cannon-balls, 12 centimètres in diameter, may be protected from oxydation under water by surrounding it with zinc bands having an aggregate surface of two square mètres.

Belfast: Proposed Street Improvements.—Belfast contains certain narrow straits overcrowded at times by a trading community. The town progresses at the rate of 1,500 houses yearly. New streets, factories, warehouses, banks, shops, and public buildings, are rising on every side; while new docks and railway connexions will stimulate still more its progress as a great emporium. The question, therefore, has been started, What shall be done with these "throttled" arteries, which are daily growing worse? Having regard to this state of affairs, the borough surveyor has prepared a plan (of which the council have approved), which contemplates gradually carrying out the most needed improvements as opportunity may arise. It is proposed to widen existing streets as houses are rebuilt, only one side being taken down, where possible. The council are empowered to devote 1,500*l*. a year to forming a sinking fund for the purpose.

Weston-super-Mare.—Among the new works and improvements here are the Government fortifications and harbour at Brean Down, which were lately inaugurated; the new pier at Birnbeck, just commenced; the Weston-super-Mare and East Somerset Hospital; a new passenger-station, cost, 20,000*l*.; a new terrace at Claremont; new buildings on the South Parade for the West of England banking establishment and for Stuckey's banking company; new waterworks at Worlebury; new houses for the Coast-guard men; a covered riding-school; and shortly, probably, a new parish church.

Roman Remains at Shepton Mallet.—An interesting discovery has been made on part of the site of the New Brewery, now being erected at Shepton Mallet. In making an excavation the workmen came down upon a Roman kiln, or oven, used for baking pottery, numerous examples of which were found, several of them being very nearly perfect, never having been used. The kiln is to be preserved entire. This will be accomplished by turning a solid arch of masonry over the whole, to which access will be given by means of stone steps from the surface.

Hardening Cast Iron.—A patent has been taken out for a new method of hardening the surface of castings. When the piece is filed up, or otherwise finished, it is brought to a cherry red heat, and then immersed till quite cold in a solution composed of 1,080 grammes of sulphuric acid, and 65 grammes of nitric acid to 10 litres of water. It is added, that the thickness of the stratum hardened is sufficient for all ordinary purposes, and that the iron suffers no distortion.

Pumpology.—A handsome pump has been erected at Blandford, Dorsetshire, in which has been inserted a tablet inscribed as follows:—"Erected for public use by Thomas Horlock Bastard, and dedicated by him to the memory of his esteemed friends, George Coombe and Andrew Coombe, M.D., and of their zealous efforts to diffuse a knowledge of the human constitution and of the laws of nature as conducive to the preservation of health and the advancement of morality. October, 1864."

The Chorlton Hospital Contract.—The local guardians have had a long discussion relative to the advisability of placing the work in the hands of Messrs. Warburton, Brothers, as recommended. The committee, on the whole, were of opinion that the contract might be safely intrusted to the builders in question. Mr. Hereford said Mr. Worthington, the architect, and Mr. Taylor, the surveyor to the Board, had both asserted that it was impossible that the contract could be satisfactorily completed for the sum of 15,000*l*. That being the case, there would be a direct temptation to the builder to put in bad work and materials; and they could not guard against that, even though they were to place a clerk of the works at each corner of the building. Mr. Gawthorne said the main question with the committee had been whether they could save the 2,000*l*. difference between the tenders of Mr. Robert Neill and Messrs. Warburton. The strictest surveillance would be exercised, and there was reason to hope that the contract would be executed to the satisfaction of the guardians. On a division, a majority of thirteen against five voted in favour of the acceptance of Messrs. Warburton's tender.

The Sheffield Inundation.—The machinery that was created by Act of Parliament for the relief of the sufferers by the Sheffield flood has now got into working order. This measure constituted a commission for the ascertainment and assessment of damages, and Mr. William Overend, Q.C., was appointed chief commissioner, at a salary of 2,000*l*., and Messrs. J. J. Smith, of Sheffield, manufacturer, and Mr. F. Mills, of Duckmanton, Derby, were named as his colleagues, at salaries of 1,000*l*. each; and a clerk of the court was appointed at 700*l*. The commissioners sit in Sheffield. They have the fullest powers for the discharge of their peculiar duties, and there is no appeal from their decisions. As was anticipated, the number of claims sent in has been enormous. The 29th of October was the last day allowed by the Act, and on the evening of that day the claims numbered 7,200. The aggregate amount of the claims is said to be more than 500,000*l*., but a vast number of the claimants are accepting the sums offered by the water company, and others have found their own estimate of the damage materially reduced by the commissioners.

FURTHER DISCOVERIES AT KEISS.—The tomb of other chief has been discovered at Stain, near aiss, in Caithness-shire. It has the hitherto noticed form of a square enclosure. The eleton is 6 ft. 2 in. long, so that if this were a ief among the little people of the stone era, as is called, they might well have held that here were giants in those days." The skull is id to be of a very low type. Many stone weapons ere found in the cist or tomb, which is based n an ancient sandy sea-beach, and filled with ravel. Similar implements, as lance heads, atchet, hammer, &c., have elsewhere also been und.

THE LOCAL GOVERNMENT ACT AND IMPROVEENT OF TOWNS.—A committee has been apointed by the Bristol Council, to consider the ropriety of adopting this Act in the city of ristol. At Ulverston the Act has been dopted, after repeated attempts to introduce . Dr. Lankester had been lecturing the inhaitants on their sanitary necessities, and on the auses of the heavy mortality of the town. The ajority of the ratepayers in favour of the introuction of the Act, however, was only forty-one. t Bangor, a seaport town in Ulster, Ireland, he Towns Improvement Act has been adopted, mid great rejoicing, illumination with tararrels, &c.

THE DOCKYARD EXTENSION AT CHATHAM.—Progress under the convict system is so slow here, that it has been calculated the extension works will not be completed before the year 900, unless something be done to facilitate perations. The *Chatham News* remarks, that his would not matter much were the extension ittle needed, but that in reality it is already required. The site of the whole extension overs 300 acres, and the basin accommodation will be unparalleled, and the factories Cyclopian in proportions; but at present there is ittle to see, as the results hitherto are excavaions and foundations merely, and are buried in he earth.

LENOIR'S GAS ENGINE.—This engine is not intended as a substitute for the steam-engine, but as a means of obtaining the equivalent of steam-power in cases where the use of steam could not be admitted. In outward appearance the Lenoir gas-engine does not differ widely from that of a horizontal steam-engine; but, with the gas-engine, the necessity for boiler and furnace, with the accompanying expense of stoker and fuel, does not exist. The power is generated within the cylinder itself; and, as no more is generated than is actually required for the stroke to be made, there can be no waste whilst the engine is at work, and the expense will cease entirely the instant the engine is stopped. After lying some time in abeyance, the development of Mr. Lenoir's invention in this country has been undertaken, it is said, and will be energetically carried on, by the Reading Ironworks Company, who propose to construct the machine in four sizes, from ½-horse to 3-horse power, the price of which will vary from 55*l.* to 125*l.*; and these amounts include the electric apparatus connected with the machine, which will require only the gas to be turned into it to set it to work. An annual royalty of from 2*l.* 2*s.* to 3*l.* 3*s.* is charged for the right to use the engine during the continuance of the patent; but this may be commuted by a small immediate payment.

DESTRUCTION BY FIRE OF THE GRAND JUNCTION WATER-WORKS.—To attack water-works is about as impudent a thing as fire can do: it is almost as bad as setting the Thames on fire, which, by-the-bye, old Van Helmont declares was often done when ships were supplied with Thames water, which first stank and then the vapours could be set fire to, when the water became quite pure again. The fire at the Grand Junction Water-works broke out in one of the engine pumping-houses connected with the company, at Notting-hill. The engine was in full operation at the time; and, on the alarm being given, the fire was found to have possession of the interior. The company have hydrants fixed in various parts of the works in case of fire; but of course, as in all such cases, they were not available: the lever for turning the water on them was fixed in the pumping-house itself, and the workpeople were hence unable to get at it on account of the place being in flames, and had to wait until the arrival of engines. By that time the fire had done its work, the roof had fallen in, and the place was a general ruin. The origin is attributed to the overheating of a steam-pipe. The works, it seems, were uninsured.

A NEW WAY OF PRINTING.—The description of a very rapid process for reproducing pencil drawings has been going the round of the Russian journals. The process will be particularly useful in campaigns, where it is often desirable to have a number of copies of a hasty pencil sketch. Some time ago M. Villani-Villanis remarked that if a sheet of paper on which a plan or any drawing or writing has been executed with pencil be moistened with acidulated water, and afterwards inked, the pencil marks alone will take the ink, and the whole drawing may then be transferred to metal or stone.

GIBRALTAR CATHEDRAL.—The first of a series of twelve stained glass windows has recently been placed in Gibraltar Cathedral. The cathedral is in the Moorish style of architecture, and the windows are each in one large compartment, with horse-shoe arch head. In the lower part of the window, which has just been completed, is represented the figure of St. Peter within a vesica, and in the upper or horse-shoe head, within a quatrefoil, St. Peter walking on the sea. The ground part and borders of the window are of geometrical work, arranged from patterns on the walls of the Alhambra. At the bottom of the window is the following inscription:—"To the Glory of God, and in memory of George Tomlinson, D.D., first bishop of Gibraltar, instituted 1842." The window is the gift of the present Bishop of Gibraltar, and is the work of Messrs. Horwood, of Mells, near Frome, who have also others of the series in course of construction.

URICONIUM.—In the report of a visit by the Liverpool Naturalists' Field Club to Shrewsbury and the site of ancient Uriconium, the ruins are thus described:—Arrived at the wicket which leads us to the ruins, we enter upon what at first would suggest the foundations for an extensive range of buildings, the erection of which had suddenly been cut short by want of funds. A closer inspection soon shows that they have vastly more significance. First, to our left is a cellar which has apparently been used by a Roman smith or enameller. There is a rude stone anvil, and also equally rude remains of a furnace. To the right is a square inclosure, said to have been a market-place, and to the entrance of which are two stone steps greatly worn, as if leading to a place of great public resort. Farther on we next enter upon a long series of hypocausts, consisting originally of a thick flooring of composite, resting upon piles of red tiles, and forming a series of passages through which hot air from a common furnace circulated and warmed the rooms, or baths, as the case might be, above. Several specimens of pavements have been discovered, in both red and white tiles; and in one instance some stucco-work on one of the walls had been preserved. Dr. Johnson pointed out an ashpit, in which they discovered pottery, coins, &c.; also, a square hypocaust, in which the skeletons of three persons were found, one in a crouching position, and near to which lay a small heap of coins, the dates of which ran from Tetricus to Valens. This led to the supposition, corroborated by other data, that it was about the year 350 that Uriconium was destroyed. Other human remains, found in various parts, showed that the slaughter at the sacking of the town must have been fearful. The excavations extend over a space of two acres, but two-thirds were again filled up. The ruins of the city are supposed to cover an area of three miles in circumference. The old wall, which rises to a considerable height, stands like a guardian of the abode of the dead; and well it has kept its trust for fifteen hundred years.

ARCHITECTURAL ASSOCIATION, VOLUNTARY EXAMINATION CLASS.—The class will meet on Tuesday next, the 22nd inst., at 7·30 p.m. as usual, when Mr. Thomas M. Rickman will treat upon "Gibbon's Law of Contracts."

TENDERS.

For alterations at the corner of Castle-road, Kentish Town. Mr. James Harrison, architect:—

Henson	£225	0	0
Green	225	0	0
Hyde	193	0	0
Batt	188	0	0

For pair of semi-detached residences, at Woodford, Essex, for Mr. Branscombe. Mr. G. R. Noble, architect. Quantities supplied by Messrs. Linsdell & Giffard:—
Hill & Keddell (accepted) £1,595 0 0

For the erection of three shops, in Alexander-street, Blue Anchor-road, Bermondsey, for Mr. H. Mullard:—
West & Morse (accepted) £659 0 0

For the erection of Brighton workhouse. Quantities supplied by Mr. G. Maynard and Messrs. J. C. & G. Lansdown:—

Henshaw	£40,240	0	0
Colls & Son	44,444	0	0
Simms & Marten	41,693	0	0
Fry & Pepper	40,118	0	0
Myers & Son	39,350	0	0
Moxon	39,294	0	0
Smith	39,163	0	0
Sawyer	38,777	0	0
Robinson	37,680	0	0
Cheesman & Co.	36,341	0	0
Anscombe	35,947	0	0
Chappell	35,854	0	0
Manley & Rogers	35,554	0	0
Kemp	35,100	0	0
Reynolds	30,500	0	0

For villas, at Burton-on-Trent, for Mr. C. Beard. Mr. Jas. Fairclough, architect:—

Smith	£912	0	0
Deaville	906	0	0
Wileman & Wigley (accepted)	900	0	0

Residence at Eltham.—The quantities were taken out by Mr. J. G. Smither, not "J. G. Lunther," as printed.

TO CORRESPONDENTS.

C. W. A.—Messrs. R.—F. R. W.—M. F. D.—C. J. S.—J. T. L.—J. H.—J. T. & Son (from the neighbourhood. Some statement appeared in a local paper)—Messrs. B.—Progress (should send his name and address).—C. F. (arch-way would be more correct)—J. G. S—W. H—Dr. R.—T. E. K.—G. C.—Rev. Mr. R.—H. & K.—E. B. K.—Messrs. L.—Mr. T.—J. W.—J. H.—Constant Reader.—J. T. L. (in type).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.**, *on Thursday.*

[ADVERTISEMENT.]

CHURCH, TURRET, and STABLE CLOCKS. J. W. BENSON, having erected steam-power and improved machinery for clock-making, at the manufactory, Ludgate-hill, will be glad to furnish to clergymen, architects, and committees, Estimates and Specifications of every description of Horological Machine, especially cathedral and public clocks, chiming tunes on any number of bells. A descriptive pamphlet on Church Clocks post free for one stamp. Watch and Clock Maker by Warrant of Appointment to H.R.H. the Prince of Wales, and maker of the great clock for the Exhibition, 1862. 33 & 34, Ludgate-hill, E.C. Established 1749.

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On the 24th of November will be published,
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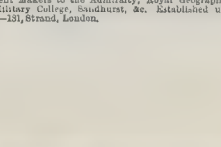
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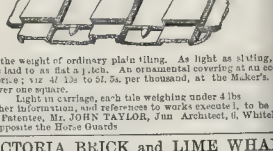
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The simplest, strongest, and cheapest Closets manufactured, acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, workshops, and any situations where subjected to severe usage. Prevents waste of water, saves piping, cranks, wires, service-box, and all the complicated apparatus of self acting closets.
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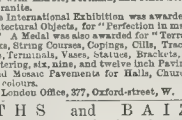
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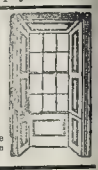


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YELLOW BATTENS, £9 10s. per 120.
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Per 120 of 12 ft.
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¾-inch Flooring, White and Yellow, 10s. 6d. per square.
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2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
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	Spruce.	White.	Yellow.
⅜ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
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STOCK OF FIRE GOODS,

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From 2 inches to 24 inches diameter.

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ood Zinc badly laid will still be a failure, for there is much more importance in the mode of laying than is yet generally known; and parties who will intrust their work to Mr. TYLER will find is important point is thoroughly attended to, and at no extra cost.
his Zinc thus laid is quite as lasting as lead, if the woodwork is arranged according to Mr. TYLER'S directions.

E LLANGOLLEN SLAB AND SLATE COMPANY, LIMITED,

Beg to call the attention of Merchants, Architects, Contractors, and Builders to their present Stock of

SUPERIOR SLATE SLABS

(they have several on hand containing 60 and 70 superficial feet),

N AND THICK ROOFING SLATES (roll and ridge), CISTERNS, SINKS, MANGERS, SALTING TROUGHS, FLOWER BOXES,
ENAMELLED CHIMNEY-PIECES, BILLIARD-TABLES, CHIFFONIERS, TABLE TOPS, AND SLABS.

Their enamelled articles are much appreciated, and are in great demand. Chimney-pieces from 16s.
of Prices and Books of Designs may be had on application to the Manager, Mr. D. B. HARVEY,

At 4 WHARF, SOUTH WHARF ROAD, PADDINGTON, W.

JOHNSON, LANE, & ADDIE

(R. JOHNSON, LATE WITH G. F. NORTH, OF STANGATE),

SLATE MERCHANTS, &c.

3, YORK STREET, YORK ROAD, LAMBETH, S.

late Work in all its branches attended to with punctuality and despatch. Builders and Merchants supplied with any quantity into Barges from Vessels at the lowest Prices of the Trade.



BELGIUM MARBLE CHIMNEY-PIECES.

THE LARGEST STOCK IN LONDON

ON VIEW AT

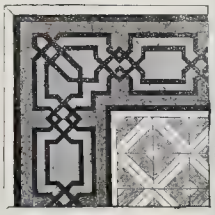
THE WESTMINSTER MARBLE WORKS.

T. H. HARTLEY & CO. have received a large consignment of Belgium Marble Chimney-Pieces, which are to be sold at such prices as must be considered extraordinarily low. Also a few lots of Vein box Chimney-Pieces from 30s. to 40s. each.

RPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
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opegate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
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AWNINGS FOR FOUNDATION STONES.
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SOLID PARQUET FLOORS.—
ARROWSMITH'S PATENTED.



The specialty consists in being "SOLID INCH THICK;" each separate piece grooved and tongued together, and keyed at back (not veneered). Reduced in price from 3d. per foot. Interlaced Oak, 1s. 3d. Walnut and other Woods, from 1s. 6d. As borders to Carpets; for Halls, Libraries, Billiard and Reception Rooms, Altar Floors, &c. (Warmer than stone)

SHOW ROOMS—80, NEW BOND ST. W.

Reference to numerous Works as executed during the last ten years, for the eminent architects, Messrs. W. Burn, D. Brandon, F. C. Hardwick, A. Salvin, Sydney Smirke, G. G. Scott, and others.

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TO ARCHITECTS AND BUILDERS.

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Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON REMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Books of designs sent free by post. No charge for taking plans and giving estimates.

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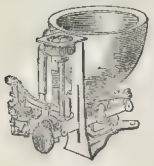
& SONS, 26 and 27, Berners-street, are prepared to supply machine-made patented solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

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Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Strapping for Driving bands, Lathestraps, &c. fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanent contractibility and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Tubing, Soles, Pump-buckets, Fire-buckets, Bosses, Union-joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Tablotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES,
WHARF ROAD, CITY ROAD, LONDON.

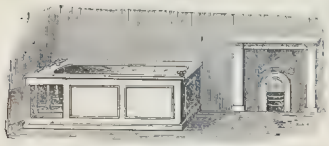
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of building.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS. ILLUSTRATED CATALOGUES FREE.



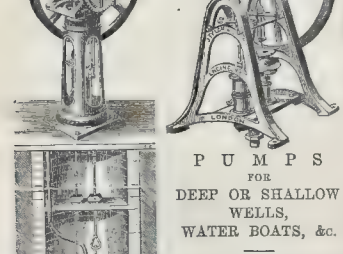
Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



IMPROVED HYDRANT,

J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.



PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

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INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHA

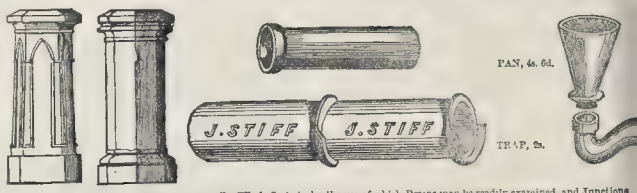
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INV BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

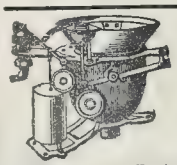


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventil of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTE

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to duce the annexed pattern of their ENAMELLED STONEWARE CLOSET- at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, an in strength, durability, and cleanliness it cannot be surpassed by the most e sive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPL

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LOND

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

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HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONORABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PAR

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national s has been examined, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at th Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is on PENNY PER SQUARE FOOT. Samples, with full directions as to its uses, and the manner of applying it, with TESTIMONIALS, them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. i fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplie a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S factories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the CAMPS of ALDER CURRAGH, SHOEBURYNESS, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of nearly One Million Feet. A Liberal Discount allowed to the Trade.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used

pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON & CO. 2, DOWGATE HILL, LONDON; 2, GOREE PIAZZA, LIVERPOO And 59, GEORGE SQUARE, GLASGOW.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 30 feet in depth,

From 19s.

Every Description of HYDRAULIC MACHINERY in Stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

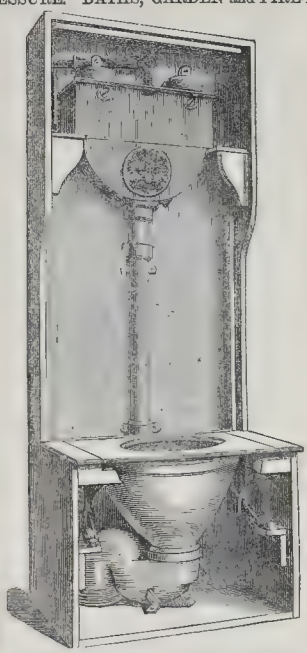
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings, so long considered necessary, render it the cheapest assembly less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 " ..	5 5 0	
3½ " ..	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... ...	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case .. .	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



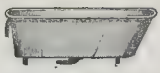
No. 143½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin..... £2 0 0

Sunk Handle, extra 0 2

Blue Basin, extra 0 1 0

No. 145½. Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin .. 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Prices from 50s. each. W. & S. Newest supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

CLINTON & OWENS

(LATE FOWLER & CO.),

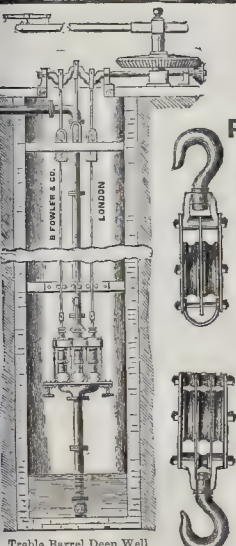
WHITEFRIARS STREET, FLEET STREET, LONDON,

MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

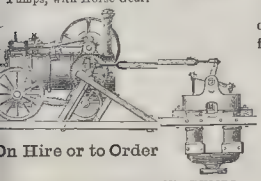
AND OF

BORING TOOLS, CRABS, CRANES, PULLEY BLOCKS, &c.



Treble Barrel Deep Well Pumps, with Horse Gear.

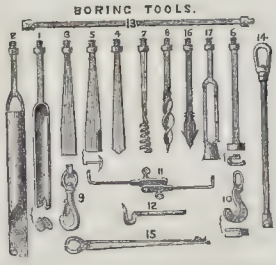




On Hire or to Order

PORTABLE ENGINES AND PUMPS, Of all sizes, for any depth.

BORING TOOLS.



BORING TOOLS OF EVERY DESCRIPTION,

For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

The above Illustrations show various forms of Boring Tools in ordinary demand, and full particulars, with Estimates, will be forwarded upon requirements being explained.

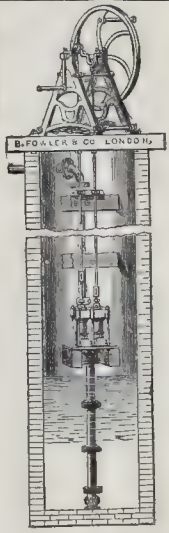
THESE TOOLS MAY ALSO BE HAD ON HIRE.

Illustrated Catalogues, Drawings and Plans to a larger scale, with full particulars of any of the above may be had on application at the

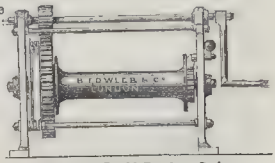
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.



Single and Double Purchase Crabs, Cranes, Pulley Blocks, &c.

SALES BY AUCTION.

To Engineers, Builders, and Others Plant, Machinery, and Fixtures, at Bourne Works, Dublin

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the London, Chatham, and Dover Railway to SELL by AUCTION, on the PREMISES, No. 1 Belgrave-road, on FRIDAY, NOVEMBER 25, at TWELVE, the valuable PLANT, MACHINERY and FIXTURES, at Bourne Works, Pimlico: comprising a 10-horse power portable steam engine, by Garrett & Son; sweep cutting, mortising, and tenoning machines, 3 circular saw-benches and 24 saws, drilling machine, wrought-iron shafting and 12 pair of beds, leather bands, steaming and drying chambers, several thousand feet of cast-iron casket and flange pipe, lathes, vices, forges, and bellows, veneer press, shell cutting and cat crushing mills, 60 carpenters' work-benches, counters, shelving, panelled and glazed enclosures, iron book safe, desks, drawers, mahogany backcase, gas fittings, stores, &c.—May be viewed the day prior, and Catalogues had at Mr. PULLEN'S Offices, Frederick's-pl., Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

FAST SMITHFIELD Valuable Materials of Downe's Wharf.

PULLEN, HORNE, & EVERSFIELD are instructed to prepare for SALE by AUCTION, in the ensuing month, to clear the site for rebuilding the whole of the MATERIALS and FITTINGS of that extensive range of warehouses and other buildings, known as Downe's Wharf, Lower East Smithfield, with the public house and mine, the whole occupying half an acre of ground.—Particulars of the sale will be given in future advertisements.

80, Fore-street, E.C. and 40 Parliament-street, S.W.

CAMDEN TERRACE, CAMDEN TOWN, near the Railway Station

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, on MONDAY NOVEMBER 28th, at ELEVEN for TWELVE, the excellent STOCK, comprising 178 yards of white planks, deals and battens, 2 sub feet white tile square, 210 squares white and yellow flooring, 8 000 feet quartering, 151 yards dry lime-tree, sycamore veneers and beed, mahogany, wainscot, dry cut wall slating battens, pantile laths, scaffold poles, excellent oil materials, slates, paving, coping, marble and stone chimney pieces, &c.—Auction Offices, Cardington-street, Hampstead-road

VALUABLE STEAM ENGINES, BOILERS, &c. at the old Waterworks, Stamford-hill, TO BE SOLD by AUCTION, by

MR. JOHN SOUSTER, on WEDNESDAY, NOVEMBER 30th, 1864, at NOON, at the OLD WATERWORKS, Two valuable Oscillating Horse Beam ENGINES. Two 24-horse BOILERS, a large quantity of heavy iron piping, iron girders, wrought-iron tank (50, 60 to 70,000 gallons), one smaller tank, lift, gearing, & &c. The above are well situated for removal, being within a few yards of the North-eastern Railway Station. They may be inspected on and after the 24th inst. and further particulars may be had of Mr. DAVID THORP, Corporation Surveyor, Town Hall; and of the Auctioneer, 23, Scale-lane, Hull. By order,

DAVID THORP, Corporation Surveyor.

Hull, November 11th, 1864.

BERKSHIRE.—Freehold Building Land, opposite the Wellington College, and close to the Station.

MR. ROBINS begs to notify that the above FREEHOLD BUILDING LAND, comprising 107 acres, cultivated for Public Institutions, or Villa Residences, WAS NOT SOLD, at the recent auction, and may now be TREATED for by PRIVATE CONTRACT. The frontage is most attractive, and the LAND will be SOLD in one or several lots.

6, Waterloo-place, Pall-mall.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, DECEMBER 12, 1864, at TWELVE o'clock precisely, on the PREMISES, the Great Northern Ironworks, Cambridge street, King's cross (the premises being in part let to Mr. Holmes Coupland), the PLANT and UTENSILS of an IRONFOUNDRY; two wrought-iron cupolas (10 tons and 5 tons), two fans, loam mill, 8-horse power steam engine, small forge, casting-pots, stove, two overhead travellers (3 and 2 tons), 3 to 4 ton jib cranes, crane-shank and hand bolts, slide trucks, smiths' tools, forge, fixings, drilling-machine, vices, chain slings, foundry tools, steelyard to weigh 3 tons, scales and weights, cast-iron tank, 6 iron and 3 timber pattern-makers' benches, cottom boxes, flasks, and plates, wood and iron patterns, sand, office furniture, two useful horses, 1 mare, two nearly new spring carts, timber truck, and numerous other effects. To be viewed on SATURDAY previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO BOILER-MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Mills, who is retiring, to SELL by AUCTION, on THURSDAY, DECEMBER 15, 1864, at ONE o'clock precisely, on the PREMISES, No. 65, Osborne street, Whitechapel, the PLANT and TOOLS of a BOILER MAKER, horizontal steam-engine and vertical tubular boiler, set of hand punching and shearing machine, 3 powerful lifting-jacks, 3 double fine Cornish boilers, 5 feet, 6 feet 8 inches, and 7 feet diameter, 16 feet, 26 feet, and 28 feet long; 2 sets of punching and shearing Tannett,

The Builder.

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1138. NOVEMBER 26, 1864. PRICE FOURPENCE. By Post, 5d.

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SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION, SOUTH KENSINGTON.

ROYAL SCHOOL OF NAVAL ARCHITECTURE and MARINE ENGINEERING. Session 1864-65.

The following course of public lectures will be given in connexion with the above school. Programme giving the dates of these lectures, which will be delivered from FOUR to FIVE o'clock, in the afternoon, may be had on application at the South Kensington Museum.

Fee for the full course, 5l. and for separate courses, 2s. 6d. per lecture. Officers in H.M. Service are admitted at reduced fees.

	Subject.	Lecturer.
1.	Inaugural Lecture	Rev. J. Woolley, LL.D.
2.	On the Principles of Mechanics and Hydrostatics, Machinery, and Elements of Mechanism (12 lectures)	The Rev. B. M Cowie, B.D.
3.	On the Mechanical and Chemical Properties of Iron; and on the Metallurgy of Iron (6 lectures)	John Percy, M.D. F.R.S.
4.	On the Properties of Different Kinds of Timber; its Application and, Durability (3 lectures)	T. Laslett. Timber Inspector, H.M. Dockyard, Woolwich.
5.	On the Use and Application of Iron to form Mechanical Structures (6 lectures)	Prof. Pole, F.R.S.
6.	On the Practical Construction of Ships in Wood and Iron; and the Method of combining Timber with Iron in ship-building; and on Forms of Ships (8 lectures)	R. J. Reed, Chief Constructor of the Navy.
7.	On Marine Steam Engines and Boilers (6 lectures)	A. Murray, C.E., Chief Engineer, Her Majesty's Dockyard, Portsmouth.
8.	On the Strength and Materials as applied to Shipbuilding (3 lectures)	Prof. Rankine, F.R.S.
9.	On the Motion of Bodies through Water, the Resistance of Fluids, and the Motion of Waves (4 lectures)	Prof. Rankine, F.R.S.
10.	On the Stability and Oscillation of Ships (3 lectures)	W. Froude.
11.	On the Mechanism of Masts, Rigging, and Sails; and Steering Apparatus. (6 lectures)	P. K. Barnes and N. Barnaby, Assistant Constructors of the Navy.
12.	On the Principles of Marine Propulsion (4 lectures)	J. Crossland, Assistant Constructor of the Navy.
13.	On Screw Propellers (1 lecture)	F. Petit Smith.
14.	On the Calculations and the Curves used in Ship building (4 lectures)	C. W. Merrifield, F.R.S. Principal.
15.	On Masting, Rigging, Dimensions, and Corrections, with special reference to Iron Ships and their Compasses (4 lectures)	The Astronomer Royal.
16.	On the Fitting up, Equipment Stores, Armament, and Outfit of Ships of War (6 lectures)	F. K. Barnes and N. Barnaby, Assistant Constructors of the Navy.
17.	On Lloyd's Rules for Classing of Wood and Iron Ships (2 lectures)	J. H. Ritchie, Surveyor of Lloyds.
18.	On Naval Artillery and Naval Tactics (6 lectures)	Capt. A. G. Heath, R.N. C.B.
19.	On Board of Trade Regulations (2 lectures)	R. Murray, C.E. Engineer-Surveyor to the Board of Trade.

Mr. W. FAIRBAIRN, F.R.S. has kindly consented to give one or more lectures on Strength of Materials, of which the dates will be fixed hereafter.

ARCHITECTURAL UNION COMPANY (Limited).—Notice is hereby given, that the SEVENTH ANNUAL ORDINARY GENERAL MEETING of this Company will be held on WEDNESDAY, the 7th DECEMBER next, at THREE o'clock p.m. at the Premises of the Company, No. 9, Conduit-street, Regent street, to receive the Directors' Report and Balance sheet, to declare a Dividend, and to transact the business required to be transacted at the Ordinary General Meeting of this Company.

JAMES EDMESTON, Hon. Secretary.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Exhibitors must live within the Southern postal districts.

MONEY PRIZES, from 1l. to 10l.

Application for space, information, &c. to be made to Mr. G. M. MURPHY, 55, Finchley road, S.

INSTITUTION of CIVIL ENGINEERS.—MINUTES of PROCEEDINGS.—FOR SALE, a perfect SET of the MINUTES of PROCEEDINGS of the INSTITUTION of CIVIL ENGINEERS, containing Abstracts of the Papers and of the Conversations. Complete from the commencement, 1837 to 1861 inclusive, illustrated by a large number of plates, maps, plans, &c. 20 vols. cloth. Also cloth, only 18l. Perfect sets of these much-valued Scientific Papers are extremely rare and difficult to meet with.

WILLIS & SOTHERAN'S ESTABLISHMENT for ARCHITECTURAL and ENGINEERING BOOKS, 42, Charing cross (opposite Craig's-Court).

SMITHFIELD CLUB CATTLE SHOW, 1864 (in the Gallery).—HENRY CLAYTON & CO. of the Atlas Works, will exhibit some specimens of their improved Patent Brick-making Machines, combining crushing, pugging, and moulding; Brick and tile-Pressing Machines, Combined Moulding and Pressing Machines for Fire-Bricks, Tile and Pipe Making Machines, New Pantile Moulding Machinery, Portable Mortar Mills, Patent Pneumatic system for drying bricks and tiles.—Catalogues free by post, on application at their new Manufactory, Woodfield road, Harrow-road, London, W. (late of Upper Park place, Dorset-square).

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 73—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundery, and steam work.

73—74, Bishopsgate street Within.

LENOIR'S PATENT GAS-POWER ENGINE.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

The Company are now Publicly Exhibiting this motive power, daily, between the hours of 11 and 1 and 3 and 5.

C. W. WOOD, Manager and Secretary (pro tem.)

No. 40, Cranbourne-street, Leicester-square.

COMPETITIONS.

TO ARCHITECTS.—The Committee of the Wakefield Rifle Volunteers are prepared to receive DESIGNS for the ERECTION of a DRILL SHED, ARMOURY, SERGEANTS, HOUSE, &c. A Premium of 10l. will be given for the design selected which will then become the property of the Committee, but they do not bind themselves to employ the successful competitor.—Particulars may be had at the Orderly room, Westgate, where the plans, together with a statement of the probable cost of the same, must be deposited on or before the 10th of DECEMBER.

EDWARD A. MACKIE, Captain Commandant.

5th West York Rifle Volunteers, Wakefield,
15th November, 1864.

CONTRACTS.

CLEVEDON LOCAL BOARD of HEALTH.—SEWERAGE WORKS.—To SEWER CONTRACTORS and OTHERS.—The Local Board of Health for the district of Clevedon, in the county of Somerset, do hereby give notice that they are prepared to receive TENDERS from parties wishing to undertake the following contract

Contract No. 1. For the CONSTRUCTION of BRICK SEWERS, EARTHENWARE and CAST IRON PIPE SEWERS, MANHOLES, VENTILATING SHAFTS, OVERFLOWS, FLUSHING ARRANGEMENTS, and other WORKS.

Plans, sections, details, drawings, and specifications may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on and after Monday, the 21st November, instant, on payment of Ten Shillings, on application to Mr. GEORGE TURNER, Surveyor to the Local Board, Clevedon; or at the Office of Mr. JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster.—Sealed Tenders, endorsed, "Tender for Sewerage Works," must be delivered at the Office of the Local Board, on or before TUESDAY, the 6th day of DECEMBER next. The Local Board do not bind themselves to accept the lowest or any Tender.

(Signed) HENRY WOODFORDE, Clerk to the Local Board.

Clevedon, 14th November, 1864.

TO TIMBER MERCHANTS and OTHERS. The Directors of the London, Chatham, and Dover Railway are prepared to receive TENDERS on or before the 14th DECEMBER, for the SUPPLY of 15,000 RETANGULAR and HALF ROUND SLEEPERS 10 in. by 5 in. delivered free on their Wharf at Faversham. The specification and Form of Tender may be had on application at the Office of Mr. WILLIAM MILLS, the Company's Engineer, Victoria Station, S.W. The Directors do not bind themselves to accept the lowest or any Tender.

W. E. JOHNSON, Secretary.

Victoria Station, November 23rd, 1864.

CONTRACTS.

WORKINGTON LOCAL BOARD.—SEWERAGE WORKS.—To SEWER CONTRACTORS and OTHERS.—The Local Board for the District of Workington, in the county of Cumberland, do hereby give notice that they are prepared to receive TENDERS from parties willing to undertake the following contract:

Contract No. 1. For the CONSTRUCTION of BRICK SEWERS, EARTHENWARE and CAST IRON PIPE SEWERS, MANHOLES, VENTILATING SHAFTS, GULLIES, and other WORKS.

Plans, sections, detail drawings, and specifications, may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on and after Monday, the 21st November instant, on payment of Ten Shillings, on application at the Office of Mr. JOHN ASKEW, Clerk to the Local Board, Workington; or at the Office of Mr. JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed, "Tender for Sewerage Works," must be delivered at the Office of the Local Board, on or before SATURDAY, the 10th day of DECEMBER next. The Local Board do not bind themselves to accept the lowest or any Tender.

(Signed) JOHN ASKEW, Clerk to the Local Board.

Workington, 17th November, 1864.

TO STONE MERCHANTS.—The Council of the Borough of Margate are willing to receive TENDERS for BLUE GUERNSEY GRANITE, as under:—

750 feet lineal of Curb, 18 inches on face by 7 inches deep.
100 feet lineal of Flat Kerb, 12 inches on face by 8 inches deep.
15 tons Pitchers, 4 inches by 7 inches deep.
3 to 40 tons of Granite in sizes to a 2 inch gauge.

The whole to be delivered in the harbour of Margate, free of all charges, within ten weeks from the day the Council signifies their acceptance of the Tender. Tenders addressed to the Town Clerk, to be sent in before ELEVEN o'clock on TUESDAY, the 6th DECEMBER next. The Council do not bind themselves to accept the lowest or any Tender.

WM. BROOKE, Town Clerk.

Margate, 17th November, 1864.

TO CONTRACTORS, BUILDERS, IRONFOUNDERS, and OTHERS.—The Directors of the Peterborough Cattle Market Company are prepared to receive TENDERS for the ERECTION and CONSTRUCTION of their NEW CATTLE MARKET, proposed to be built near the Long Causeway, in the City of Peterborough, in two distinct sections, as follows, viz:

No. 1. Comprising the whole of the Materials and Labour required in Filling, Raising and Trimming the Site, laying down the Sewerage and Drainage, and Constructing the Roads and Approaches, Stalls, Standings of Pens, Pig Offices, Pinfolds, Privies, and all other Works, and completely finishing the proposed New Market.

No. 2.—For supplying the Furnishing and Delivery and Fixing up of the whole of the Iron Castings and Wrought Iron Work required.

Or, for the Whole of the Works.

The plans and specifications, prepared by Mr. T. C. THORBURN, C.E. may be seen, and all other information obtained, on application at our Office on and after the 10th day of NOVEMBER next. Bills of quantities and forms of Tender for the Work have been prepared, and copies may be obtained at our Office on payment of One guinea for Division No. 1, and half a guinea for Division No. 2, which will be returned to parties sending in Tenders. Sealed Tenders (on the form provided) indorsed "Tender for the New Market, Peterborough," addressed to the "Directors of the Peterborough Cattle Market Company," are to be sent to our Office not later than the 6th of DECEMBER next.

GATES & PERCIVAL, Solicitors.

Peterborough, 12th November, 1864.

LONDON, BRIGHTON, & SOUTH-COAST RAILWAY.—LONDON BRIDGE STATION ENLARGEMENT, CONTRACT No. 4.—To BUILDERS and CONTRACTORS.—The Directors of the London, Brighton, and South-Coast Railway are ready to receive TENDERS for the execution of the WORKS in the side WALLS of the intended NEW ROOF, at the London Bridge Terminus, and for the ERECTION of PASSENGERS' BOOKING OFFICES, PARCELS OFFICE, and REFRESHMENT-ROOMS at the same Terminus, according to the plans, drawings, and specification, which may be seen, and the Contract obtained, at the Office of Mr. F. D. BANISTER, the Company's Engineer, on or after this date. Tenders, in the prescribed form only, and properly endorsed, must be addressed to the Secretary, and left at his Office, not later than ELEVEN o'clock in the forenoon of TUESDAY, the 6th instant. The Directors will not be bound to accept the lowest or any tender.

FREDERICK SLIGHT, Secretary.

London Terminus, 15th November, 1864.

TO IRONMASTERS, IRONFOUNDERS, &c.—LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—The Directors are prepared to receive TENDERS for the SUPPLY and ERECTION of the IRONWORK required for their New Line in Battersea, the other Works in connexion therewith, and for Batteries, New Lines, and Sidings in the Brighton Coast Railway, and to obtain a copy of the specification, schedule of price, and form of Tender (on which only Tenders will be received), and to inspect the plans, sections, and drawings, and obtain all particulars, upon application to Sir CHARLES FOX & SON, Engineers to the Company, at their Offices, 9, New street Spring gardens, Westminster, between the hours of TEN a.m. and FIVE p.m. or on Saturdays between the hours of TEN a.m. and TWO p.m. until SATURDAY, the 17th day of DECEMBER, 1864. The Tenders, sealed and marked "Tender for Ironwork for Batteries, New Lines," must be lodged at the Office before ELEVEN o'clock on MONDAY, the 19th of DECEMBER proximo. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

FREDERICK SLIGHT, Secretary.

Secretary's Office, London Bridge Station,
24th November, 1864.

TO BUILDERS.—Immediate TENDERS are required for a 12-Roomed VILLA, Isle of Wight. Quantities ready on the 28th inst. on application to Mr. MARSHALL, solicitor, 7, Bedford-row, to whom sealed Tenders are to be delivered, not later than THREE o'clock on WEDNESDAY next. The lowest Tender accepted.

[For remainder of Contracts see next Page.

TO BUILDERS, BRICKLAYERS, and OTHERS—CONTRACT for BUILDING WALLS.—The Works, Build [illegible] Contract for Vestry [illegible] Parish of St. Mary Abbots, Kensington, will be OPENED, at Twelve o'clock precisely, at the Vestry Hall, Church-street, Kensington, on FRIDAY, the 9th day of DECEMBER next, at which Time and Place Sealed Tenders will be required for the [illegible] and PERFORMANCE of the WORKS [illegible] Vestry Hall, Church-street, Kensington. Tenders are to be delivered [illegible] Vestry Clerk, at the Vestry Hall aforesaid, on or before the Time appointed for opening the same. The Vestry do not bind themselves to accept the lowest or any Tender.

BRYDEN GLEED, Clerk of the Vestry.

Vestry Hall, Kensington, November 21, 1864.

NOTICE to RAILWAY CONTRACTORS.—LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—Notice is hereby given, that TENDERS for the CONSTRUCTION of the Company's New RAILWAYS in Battersea, being a length of Two Miles, or thereabouts; and for certain ALTERATIONS to the Stone Viaduct Works on the IMPERIAL RAILWAY, and other Works in the Neighbourhood, Putney, are required to submit Tenders, upon printed forms, to the Engineer of the Company, John Fox & Son, Engineers to the Company, at their Office, 8, Great Scotland Yard, Whitehall, on Wednesday, between the hours of TEN a.m. and FIVE p.m., or on Saturdays, between the hours of TEN a.m. and TWO p.m., on SATURDAY, the 17th day of DECEMBER, 1864, but no Tender received after that Time will be entertained. Forms for Battersea New Lines, must be delivered at the Office CLEAN o'clock on MONDAY, the 19th day of DECEMBER, precisely. The Directors do not bind themselves to accept the lowest or any Tender.—By order of

FREDERICK SLIGHT, Secretary.

Secretary's Office, London Bridge Station,
21st November, 1864.

TO COACH BUILDERS, WHEELWRIGHTS, and OTHERS.—The Vestry of the Hamlet of Mile-end Old Town, [illegible] Contract Vestry Hall, Alderney-road, on MONDAY, the 28th day of NOVEMBER instant, at NINE in the forenoon precisely, for receiving TENDERS for the BUILDING and SUPPLY of FIVE NEW WATER CARTS, and for the Keeping of them in Repair for Three Years according to the terms of a specification, which may be seen at the Office of Mr. JAMES KNIGHT, the Surveyor, at the Vestry Hall, between the hour of TEN and ONE o'clock aforesaid. Tenders must be required to, addressed to, and [illegible] the Vestry at the expense of the contractor,—not to exceed 6d.—and find two sureties, [illegible] Tender. Forms of Tender may be had on application at the Office. Having the names and addresses of proposed sureties written thereon at the time of delivering the Tender in the manner directed. Parties tendering [illegible] and the Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Vestry Hall, Bancroft-road, Mile-end Road, November 1, 1864.

BOROUGH of STOCKPORT. SEWAGE WORKS.—The Local Board of Health of Stockport are prepared to receive TENDERS for SUPPLY of the several MATERIALS and LABOUR required for the CONSTRUCTION of the HEATON-LANE MAIN INTERCEPTING SEWER, together with the Storm Outlets, Manholes, Ventilating Shafts, Gullies, and the Works connected therewith. Plans, Sections, and Specifications may be seen, and copies of the Bills of Quantities obtained, on and after MONDAY next, on application to Mr. BRIERLEY, Civil Engineer, Blackburn; or to Mr. TAYLOR, Borough Surveyor, at his Offices, Tiviot Dale, Heaton Norris. Sealed Tenders, endorsed "Tender for Main Sewer," addressed to the Town Clerk, Stockport, not later than WEDNESDAY, the 30th day of NOVEMBER inst., at TWELVE o'clock at noon, must be delivered at the Town Hall, Stockport. The Local Board will not be bound to accept the lowest or any Tender.

HENRY WOODCOCK,
Town Clerk, and Clerk to the Local Board.

Stockport, Nov. 17, 1864.

TO ROAD-MAKERS and CONTRACTORS.—Persons desirous of CONTRACTING for MAKING and DRAINING ROADS [illegible] Estate, [illegible] along the Lawn [illegible] are requested to send in their Tenders on or before SATURDAY, the 3rd day of DECEMBER next. The Architect does not bind himself to accept the lowest or any Tender.

HENRY CARPENTER, Architect.

73, Coleman-street, City.

THE KEIGHLEY and WORTH VALLEY RAILWAY COMPANY.—CONTRACTS for SUPPLY of PERMANENT WAY MATERIALS.—The Directors of the Keighley and Worth Valley Railway Company are prepared to receive TENDERS for the SUPPLY of the following CHAIRS, SLEEPERS, KEYS, FISH PLATES, BOLTS, SPIKES, &c. required in the construction of the above Railway. Specification of the [illegible] required may be had on application to Mr. WILKINSON-BOOTH, C.E., Engineer, 23 and 24, Queensgate, Bradford. Sealed Tenders must be delivered to the undersigned, at the Office, on or before MONDAY, the 5th DECEMBER next. By Direction of the Committee. No Tender [illegible] any Tender.—By order of the Line.

JONATHAN GILL, Secretary.

Oakworth, Keighley, 21st November, 1864.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of Rockdown GUERNSEY GRANITE and other STONE and MATERIALS, and for the Supply of DRAIN PIPES in the whole of the District; also for the EXECUTION of MASONS' and PAVIORS' WORK required in the various Local Works of Improvement and Making Good Sewers and Other Roads and Local Communications in the parishes of Putney, [illegible] Battersea, Clapham, Streatham, Tooting, and Streatham, Tooting, and Balham, and Tooting, and Streatham, Tooting, and Balham, and Tooting, and Streatham, Tooting, and Balham, and



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

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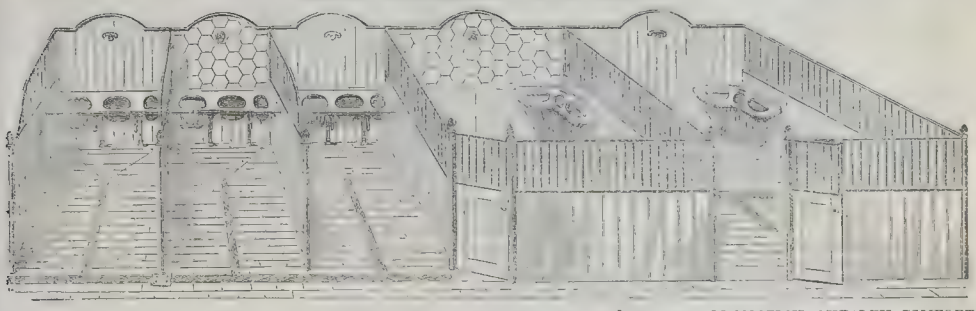
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

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SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs, and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Compounded, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn bins, and every Article requisite for the Stable and Harness-room.

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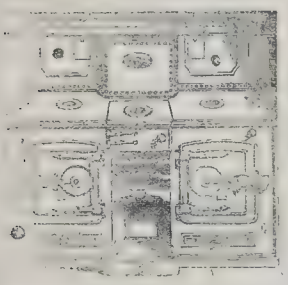
COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

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They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 160*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves with radiating hearth-plates.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER,

BY APPOINTMENT TO H.R.H. THE PRINCE OF WALES,

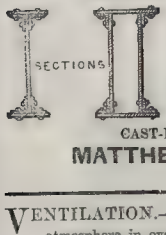
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39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-YARD, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

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Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

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Manufactured in WROUGHT and CAST IRON, and ERECTED.

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EVERY DESCRIPTION OF BUILDERS' CASTINGS.

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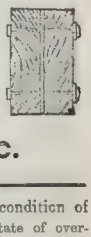
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"*In one instance under our own eye Mr. Boyle has operated very successfully.*"—Article, "Air in the Corners," *Builder*, 15th October, 1864.

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ST. PANCRAS IRON WORK COMPANY,

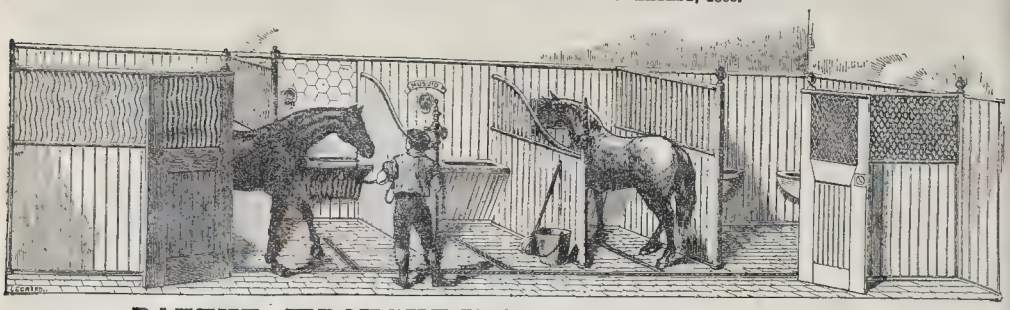
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APPROVAL OF THE ROYAL VETERINARY COLLEGE.

THE MEDALS OF ENGLAND AND FRANCE,

And the Medals and High Recommendation of the Royal Agricultural Societies of England and Ireland.

SECURED BY EIGHT SEPARATE PATENTS. LATEST, 1863.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, with RACK & WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

THE HALTER BALL, ATTACHED BY A NEW IMPROVEMENT, WORKS NOISELESSLY, AND ALMOST WITHOUT FRICTION.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible,—advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

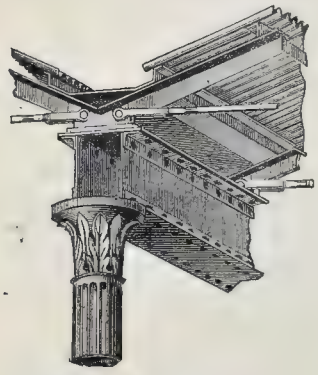
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

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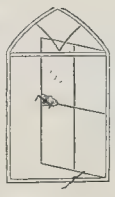
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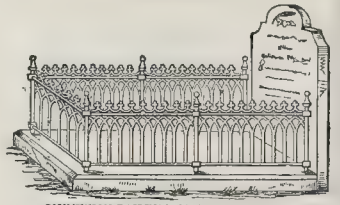
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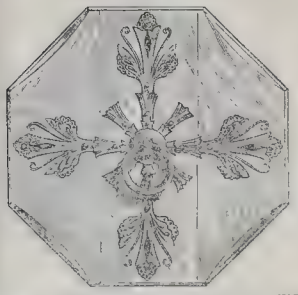


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FOX & BARRETT'S PATENT.
This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.
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Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent,
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NO SHUTTER BARS.



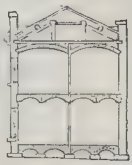
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EXHIBITION PRIZE MEDAL, 1862, AND MEDAL OF ROYAL AGRICULTURAL SOCIETIES OF ENGLAND AND IRELAND.

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Architects who have not seen these Fittings are requested to write for Engravings, as they are unlike those of any other maker, and were admitted to excel all the work of their class in the Exhibition. They can be seen in first-class stables in almost every county in England; and MUSGRAVE, BROTHERS, are now fitting several very large establishments under direct sanction of London Architects, prefer for adopting only what is the best of its kind. Particulars of these, as well as of MUSGRAVE'S PATENT SLOW-COMBUSTION STOVE, will be forwarded on application to
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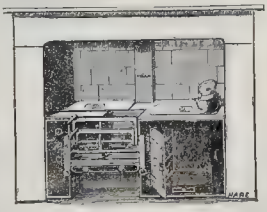
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CURE OF SMOKY CHIMNEYS,
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The most imperfect door can be made air-tight without re-hanging.
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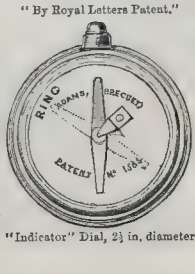


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This Range, also
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The advantages attending this Cap are—it can be thoroughly cleaned by the machine when the chimney is swept, the brush being allowed to pass through the Cap without the trouble of first displacing it; an increased up current, and the impossibility of a down one.

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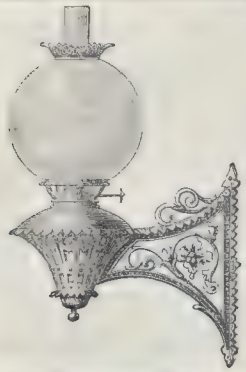
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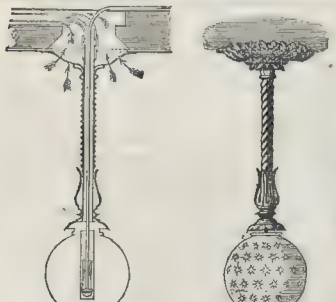
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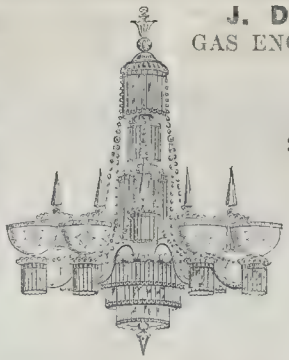


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A GLOBE LIGHT will consume about 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
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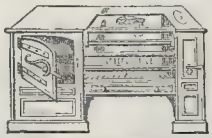


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Best ditto, with Fire-brick Back, from 5d. per inch.
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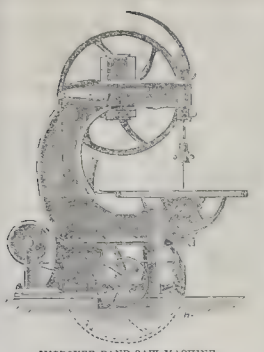
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CRABS,
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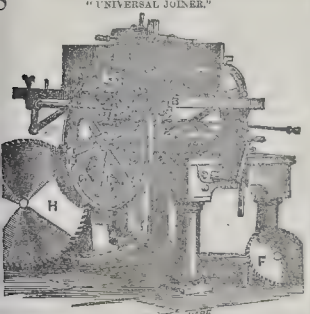
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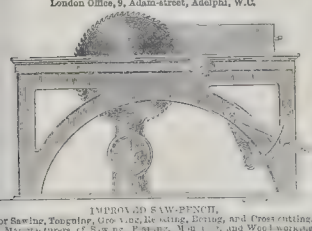
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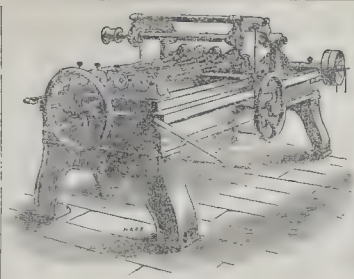
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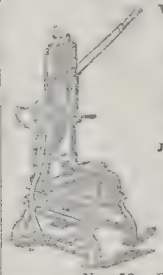
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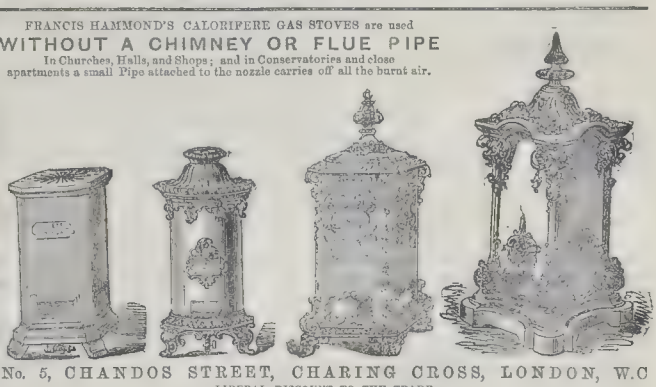
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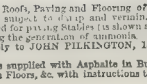
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VOL. XXII.—No. 1138.

The South Kensington Museum and Schools.



WHEN in the South Kensington Museum visitors have generally found their attention taken up by the matchless works of art exhibited, — as in 1862, when the collection of objects that were on loan were displayed, some of which are still to be seen; and but little attention has been lately given to the buildings themselves, which form part of an extensive plan. Indeed, a scheme for a great institution to include the several museums and schools which are under the control of the Science and Art Department of the Committee of Council on Education, or so many of them as may not have been provided for in the Museum and School of Mines in Jermyn-street, has already advanced far to that part of its realization which is comprised in structural provision of a permanent local habitation. The public, however, have no clear idea of the extent and plan of the comprehensive group of structures, and but little knowledge of much that has been done outside of the galleries and courts that are accessible; whilst the distinction between buildings now to be considered as temporary, and galleries and courts built to be permanent, as well as the relation of these latter to the general plan, are not at all understood. In fact it is very difficult, without the aid of a plan drawn, which we do not possess, to explain all that has been done, and what is now in progress. There has been a common impression that the chief location of the South Kensington institution was intended to be on the site of the building of the Exhibition of 1862; and this was helped by the competition for the buildings for the natural history collections of the British Museum, and for the Museum of Patents, or rather by the course taken by many of the competitors in their general plans for allotment of the entire ground in that case. Long before the particulars of that competition were issued, however, a considerable portion of the group of buildings on the plan which we have alluded to as connected with the ground at Brompton, or South Kensington, now and previously in the occupation of the Department (and which is separated by Exhibition-road from that part of the ground of the Commissioners of the Exhibition of 1851, on which the building of the Exhibition of 1862 was raised) had been completed and occupied as schools and residences: before 1862, a plan for appropriation of the whole of this ground had been made; and it appeared in 1860, with a perspective view, along with the Report of the Committee of the House of Commons on the South Kensington Museum. That plan has been since altered; but it would give some general idea of what is still intended. The group of buildings, with large open quadrangles, and with iron and glass roofed courts to the museums, will occupy the entire area between the present eastern boundary and Exhibition-road. The northern limit is already defined by new buildings for the schools; but the Exhibition-road frontage is at present unoccupied; and so is the Cromwell-road end, or southern part of the ground, except eastward, where are the celebrated iron building, and the wood-and-plaster refreshment-rooms. But parallel with Exhibition-road, is the range of buildings of which the upper floors are partly appropriated as residences; and the north end of this line is connected by the new schools just named, forming a return, to the other permanent buildings, east, in which are the art-library and museum, and the Turner and Sheepshanks galleries. The ground floor of the connecting line, with the northern half of the same floor of the building in which are the residences, was lately appropriated to the exhibition of stained glass. It was reached from a large staircase at the north-western angle of the square top-lighted court. This staircase is at the northern end of the Turner and Vernon galleries; to which it may be considered the principal entrance, as also to the gallery running eastward, in which are the early British pictures that were removed from Trafalgar-square. The western front of the residences-building, as may have been understood, will not eventually appear from Exhibition-road. In the southern portion of the total length of this range of building, where the residences are, the eastern front has a very satisfactory architectural character, produced in red brick and light-coloured terra-cotta, with Portland stone for the plinth and some portions of the strings and cornice. The wall of the Sheepshanks Gallery, which is opposite, an experiment of some time since, will, we suppose, be rebuilt to correspond with the front of the residences. The parallel ranges of building we have described, running north and south, and connected at the north, will be similarly joined at two other points,—possibly in one case by an enclosed screen of arches: so that, eventually, main features of the plan will be two large open quadrangles, whereof one in the centre of the whole ground will have elevations with rich detail in terra-cotta, after the character of the short length mentioned; whilst, next the Cromwell-road, there will be two wing or pavilion buildings, and a recessed centre with quadrant-junctions to the wings. The iron structure, at present containing the Educational Museum, the Museum of Patents, the collection of building materials, casts, and furniture, besides on the upper floor, the animal products and food museum, and the naval models, the latter in the gallery formerly appropriated to the Architectural Museum, will be removed, along with the present refreshment-rooms. Also will disappear the present lecture-theatre, and offices, and the corridor leading to them, and continued westward. A new theatre will be the principal feature of a group of buildings in the centre of the whole plan, engaged with the middle one of the three cross or connecting ranges of building. The upper portion of the theatre will be seen, over and beyond the screen, from the Cromwell-road. This group and range is now in course of erection; and whilst the design repeats the character of the residences, Captain Fowke is using the terra-cotta for the cornices and strings where he had in the previous case employed Portland stone. The terra-cotta is unusually free from the defects of burning; and whilst in the first-built front, the stone is much discoloured, the other material retains its original character. Few architects have seen this front. We ought to say that it would deserve attention, not only from the use of terra-cotta, but from the general decorative result of the design. Other work in progress is that of a range of buildings skirting the eastern side of the ground where the separate entrance to the National Gallery is.

The parallel courts that were occupied by the Loan Collection, with the corridor and gallery between them, and the large square court beyond, which are flanked by double recesses or *loggie*, and corridors, are gradually receiving their decoration in colour. In the eastern court of those first mentioned, the ultimate effect may now be judged of; as almost the only thing remaining to be done is the insertion of Minton's porcelain with allegoric representations in neutral tint, or white, and blue, in the spandrels of arches, and in medallions and panels, all which are now filled by substituted paintings on canvas. The similar work of decoration of the western court has just been commenced. The flat ceiling of the corridor under the gallery, and the ceiling of the gallery, with sides sloping to a central rib, are complete.

To understand relative positions on the ground, it will be well to recollect that the corridor just now mentioned as dividing, and parallel with, the two similar courts, is in a direct line with the long corridor of the Museum of Building Materials, and opens at the farther end into the large square court. On the removal of the iron building, the parallel courts and intermediate corridor will be lengthened somewhat southward, to abut upon the block of building which we have alluded to as forming one of the two wings of the Cromwell-road front. The works at present in progress eastward of the iron building and bordering the line of the separate National Gallery entrance which is the eastern limit of the ground, may be considered as forming part of this wing.

The portion of this eastern range which flanks the parallel court and the large square court, some time finished, is now being decorated. Some of the bays or recesses which open into the eastern court are devoted to works of Asiatic art; and the decoration on the ceilings and piers, which is very elaborate, is from the designs of Mr. Owen Jones. The space already decorated will be known as the Indian Court. The whole is treated on the non-naturalistic, non-imitative, or conventional principle; but, still, in one of the ceilings especially, there is a right and perfect bringing of "realities to mind." Mr. Jones has taken great pains with this work, having made a large number of full-size drawings. He is now preparing for the work of the court adjoining, which will be devoted to Chinese and Japanese art, and will be decorated in the Chinese manner. The rooms over these courts, which are reached by a gallery extending across the north end of each parallel court, and starting from the junction of the Sheepshanks and Turner Galleries, are also complete, and in great part decorated, and have been lately devoted to the exhibition of the works of students of the local schools.

These various permanent buildings for the divisions of the museum and the schools, have been progressing more or less during the last five or six years. Taking into consideration the whole of the works, the cost incurred at the commencement and since, for temporary accommodation, would be found very considerable; and should the accounts ever be made clear, we apprehend that the comparison of them with a fair estimate of cost of the complete plan and building, supposing the works had been pursued steadily on the basis of a matured plan, will be scarcely flattering to the nation. If the House of Commons has had any share in this, the case should none the less be brought home. Few architects have any opportunity of making such a number of experiments as have been made in the production of the South Kensington buildings, or would meet with lenient treatment for the errors of design and miscalculation of cost that would be considered to be involved in changes such as have marked the progress of those buildings. There will be something to be set down, however, on the

other side of the account, should the several works be found to have solved any of the questions of museum and picture-gallery planning and construction, questions, as those of lighting, the solution of which is supposed to have been aided by the building of the Sheepshanks Gallery. The experiments made as to the proper material for flooring, and as to the fitting background for pictures and drawings, also deserve to be considered of importance. Chromatically, the effect of the brick-red tiles, with small squares of green inserted with them, is excellent; and the material, from the capability of cleansing, seems to be well adapted for the flooring of a public gallery. We observe that some of the tiles are so much worn that the flooring will shortly require reparation; but, even this could be effected probably with more facility than the reparation of a wooden floor.

As the lines of the general plan are at present, there is a want of parallelism between those of the building of the residences and of the Sheepshanks Gallery; and there would also be a want of symmetry in the parts of the connecting range which are east and west of the theatre-building. Thus, a modification in plan of the Sheepshanks Gallery building would seem to be necessary, and as the modification to get correspondence in the elevations; and it is difficult to see how the whole work will be accomplished without much trouble and cost.

When we reviewed the designs for the buildings proposed to be erected on the site of the Exhibition of 1862, we spoke at some length of different assumed principles of planning for buildings to be appropriated to the exhibition of minute objects, and the purposes of study, and raised the question whether large top-lighted areas, or small side-lighted rooms, were best. It was obvious to us when the Loan Collection was shown, that the top-lighting by day, or by night, was quite inadequate for the purpose exhibition of minute works of art, or specimens, in table-cases. There are conflicting objects; and, to attain them, it may be not sufficient to decide one principle or another: but every architect would do well to note what are the advantages and defects of the system adopted at South Kensington, which is that of large top-lighted areas with recesses and galleries by which they are surrounded. These recesses obtain their light from the areas referred to, rather than from any ordinary windows; and the result is that, where they are to such windows, or the back of the cases, by adjoining buildings, the works are inadequately seen. In the areas themselves, the light in the evening is obstructed by the head and shoulders of the persons viewing the works. We are not imputing blame, but stating facts that must be considered. Where the largest area of roof, generally in the centre of these courts is exposed for light; and great ingenuity and skill in the construction of the roofing, and taste in the ornamentation of same, and, with some exceptions, in the decoration, is shown. The gallery on the upper floor intended to be appropriated for exhibition of works from the local schools, is exceedingly well lighted from the top, or so that the whole wall-space might be utilized; though, indeed, the drawings are hung on cleverly contrived lights, so applied at right angles to the walls, as to be less distracting than that of a great gallery, and altogether most convenient for the purposes of study. The entire space, again, is divided into squares by the ribs which carry the roof and ceiling; and each square compartment has a large flat light in the centre, or below the external sky-light. The glazing of the courts is single, except that of the slopes of the roof. The pilasters or projections from the piers, at the sides of the gallery for the works from the local schools, carry angle post-mouldings and foliated caps, as well as cantilevers to the transverse beams which form the compartments of the ceiling: and the arches and piers are supported by iron ties along the walls. Space in the *plafond* between the cantilevers is arranged for ventilation, which has been generally well contrived in these new buildings. The tympana of the arches on the walls are to be divided into panels, to contain subjects painted or produced in porcelain. A specimen decoration is "erected up." The chromatic treatment is, in great part, of white and gold; but imitation marbles are largely used for the piers and walls. The gilding is not used in the best manner. Parts of leaves or of integral forms are tipped with the gold, in a manner little better than that of house-painters; a manner which we have often spoken against, and had hoped was becoming extinct. It should not be revived by the Department of Art. There are two ways of using gold, whereby it can have great value decoratively. Either it should be the background; or the whole of the leaf or other form should have the gilding. Even in mouldings, the fillet is so much part and parcel with another moulding of some kind, that the gilding of fillets should be practised cautiously. But, to put lines and streaks of gold on curved forms, is to change or destroy such forms. For instance, if it be wished to ornament the cymatium-moulding by gold, the proper course is not to run a line along the convex portion of it,—which would be equivalent to altering the form and proportion of the convexity,—but is to add an anthemion ornament, or other distinct pattern, embracing the whole, exactly on the Greek system, whether of painted or carved enrichment.

During the last few months, the eastern court above described as that one of the parallel courts which is most complete, has received some additions to its chromatic decoration, which are important elements of its effect. The whole design of these courts is of a rather higher order than that of the square court beyond them. Iron and glass roofing is used in both cases: but in the square court, the principle adopted is that of concealing the construction of the lantern by a mask of cantilevers and painted panels, though very good in themselves; whilst in the other cases, it is the structural forms that are the vehicles of decoration. It will be recollected that the roofing in each of two parallel courts, is formed with semicircular ribs of wrought and riveted iron, which are carried by iron columns of decorative character. These columns on the east side of the one court, and the west side of the other, are in advance of the walling; and the last is pierced with arches below, and panelled and arcaded with coupled recesses, and lofty niches, on the opposite side of each court, these are wall arches in perforated iron-work, pierced with small quatrefoils, and carrying the gallery which is central to or parallel with these two courts. The chromatic treatment of the whole of the ironwork is in accord in harmony with the general decorative effect, and with the face of the material. The general surface of the columns and shafts is of the iron-work itself a dark yellowish brown colour; the edges of the flanges of the ribs, and the heads of rivets are gilded; and gold is effectively introduced as back-ground to the ornament which is in a necking at the middle of each of the larger shafts or columns, and in the capitals and bases. The open-work ornamentation of the spandrels of the small arches is entirely bronzed; whilst in the arch-voits, the perforation, in the forms of leaves is divided by medallion bearing gilt pateras, or a monogram. The ornament in the spandrels to the great ribs carrying the roof, which takes the character of anthemions and other ornament, whilst flat on the face is differently treated in the two courts. In the one of which the decoration was first commenced, and which alone is sufficiently advanced for the present description, the ornament in the spandrels is blue on the face; whilst the thickness of the leaves is coloured crimson. The effect from below, however, in this case, is inferior to that in the western court, where the filling-in work to the spandrels is the same as the rest of the ironwork, only excepting that there is a thin line of gold carried round the edge of each form to define the form; and certainly the definition is much better than in the eastern court. On the web is a shaded imitation of relief-ornament, in a neutral tint; and the soffit of the rib, in the western court, exhibits a guilloche in gold, and in the eastern court, leaf-work ornamentation in colour and gold. The spiral fluting and beading of the large shafts, and the ornamentation of the small shafts, exemplify what is right principle of the treatment of metal. Where shafts are of iron, the ornamentation should be distinct from that appropriate to, and habitually associated with, stone; and should combine the production of something specially appropriate to metal. It should, in short, utilize the distinctive properties of the material; and this, the shafts in these courts accomplish, and with good result in each respect: for, mark! there is no question suggesting itself here, as to the security of the spirally-formed supports; the mind has only to concern itself with the beauty of the twisting, feeling assured of the strength in the material.

The decoration of the side-walls above the arches is defective as to the forms of the spandrels or other spaces over the coupled recesses; whilst the centre-medallion there does not fill in harmoniously. But the impression is lessened by the effect of the works painted in these coupled recesses, of which we shall speak shortly. We should add, however, that the painted imitation of festoons, which terminates the wall at the top, and the substitutes similarly for actual relief, or carving, that are inserted in medallion spaces and spandrels of arches, on canvas, in blue and neutral tints, are quite at variance with the principles with which the Department of Art set out, as with our own, promulgated before the Department came into existence. In one conspicuous portion of the work, there is an imitation of panels with water-leaf ornamentation of the mouldings, and cast shadows, or all painted. We expect this sort of thing from the paper-hanger-decorators, but not from the Department of Art, with its antecedents. It is not sufficient to say that the practice we refer to, of substituting shams for true work, was in vogue in the Cinque-Cento decoration of the Italians. During that time, men who were painters much more than they were architects, chiefly were engaged upon the designing and decoration of buildings: the architectonic principles that should have guided the work of the very decoration by the painter's art, as well as the distinction that there is between what is a picture and what is mural decoration, were not appreciated then. The method adopted is quite opposed to the excellent one, as it is in the main, of the treatment of the iron construction and ornamentation. When the artist begins by saying, "I have not the real vehicle of effect [in this case carving, or at least cast-work], accept the inferior and the sham," he begins by a failure,—such as is opposed to all idea of real art; and he simply disgusts by his pretence at a flight that he had not been asked to make, and for which he was not furnished with means and resources. Neither the painter's art, nor the decorator-architect's, has anything to do with the production of things "to be mistaken for realities." It is discouraging to find that these should be so much difficulty where least we could in pursuance of principles which are of much importance to the future of architecture; and in which perhaps there is the only hope of distinctive Christian. Possibly some of the designs described as to be produced in Minton's porcelain, are to be in high relief, as they were,—that is, in relief; but even this would not justify the present injury done to public taste, and cannot apply to the imitations of mouldings.

The present seven bays of the length of each court, give fourteen of these shell-headed recesses in the wall above the arches of the floor-level. In the eastern court, these fourteen recesses are filled each with the portrait of a celebrated artist. In the western court, though the general decoration is only just commenced, two of the panels have been similarly occupied. The whole of the subjects are painted on canvas which is fixed up; and the figures, and any accessories, as buildings in the case of the architects, are executed with gold back-ground, which is either crossed with brown lines to represent mosaic, or diapered. The usual colours are employed, but with a spirit instead of an oil medium. Thus there is none of the reflection which results from the use of oil or varnish, and which is generally unfavourable to architectural effect, and especially to painted decoration. The use of turpentine, however, is not consistent with durability; the reasons of which were adduced, some years since, in our pages, in a series of articles wherein we reviewed the recent researches of M. Chevreul. But the South Kensington works, as we have explained, are not contemplated to be permanent. For permanent work, on plaster, the "marble-medium" used by the late Mr. Stylebrand Le Strange, and encaustic, should be taken into consideration. The application of the gold back-ground is at once seen to result in a particular harmony with architecture. This was the sort of decoration which Sir Charles Barry once told us he would have had generally adopted in the Westminster Palace. The fourteen subjects in the eastern court, with the names of the artists who painted them, are commencing from the north, Torrel, by Mr. Burchett; Wykeham, by the same; Cimabue, by Mr. F. Leighton,—a work reminding us of the white-robed Cimabue in his processional picture which first made him generally known; Nicola Pisano, also by Mr. Leighton,—in a dark tone of colour, somewhat too strongly contrasting with the Cimabue, though, like it, a fine work; Michelangelo, and

Raffaelle, by Mr. Godfrey Sykes; Wren, and Hogarth, by Mr. Eyre Crowe; Mantegna, and Ghiberti, by Mr. Wehnert; Palissy, by Mr. R. Townroe; Durer, by Mr. Cave Thomas; Luca Della Robbia, by Mr. Moody; and Phidias, by Mr. E. Poynter. The two portraits in the western court, are of Inigo Jones, by Mr. Morgan; and Jean Goujon, by Mr. H. A. Bowler. Jones is represented with the Banqueting House, Whitehall, in the background, and with a plan in his hand: with the portrait of Jean Goujon, is the Louvre; with the Phidias, the Parthenon; and so on. The north end of each court is spanned by a bold arch, springing from the level of the floor of the transverse gallery, and with the soffit filled in with square and oblong panels or coffers. The squares are to receive painted or other subjects in colour; the oblongs are to have subjects in the neutral and blue, similarly to the arch-spandrels and the medallions in the body of the court. The gallery of the eastern court leads directly into an anteroom to the gallery for the drawings of the local schools. This room has a coved and flat ceiling with top light, and is altogether well designed.

The flat ceiling to the central corridor, under the gallery between the eastern and western courts, is divided into seven squares, corresponding with the number of bays, and each framed in by a gilt moulding, and a broad band of blue with a guilloche. In the centre of each compartment is a medallion-form, painted with a shield of the royal arms, or with the lion of England, or that of Scotland, or the harp of Ireland. The medallion is surrounded by a representation of bronze scroll-work; and the rest of the space is filled by marginal lines of colouring, and by diapering. The sloping ceiling to the gallery above, is divided into square coffers, which are effectively painted with a broad margin of red, and some ornament of a simple character. At the end of this gallery is a look-out into the square court, from the well-known marble *cantoria* or singing-gallery, which forms one of the acquisitions of the Museum. The segmental arch-headed opening beneath, forming the entrance to the square court from the corridor, has the worst form of stilted segmental arch that we ever saw. The thing is not creditable to South Kensington. The misproportion which there is between the segment of the intrados, the 2 in. or 3 in. of stilting, and the very wide archivolt is preposterous.

We cannot now say more of the collections, than that the Museum of Building Materials is only one of those which should be studied. With the building-materials are many models of roof-timbers, roof-covering, and flooring, and others of contrivances of the greatest importance to architects. And amongst the models are several of historic value, that were formerly in Westminster Abbey; and, besides, there is the model of Wren's original design for St. Paul's. Another model of St. Paul's, which has been presented to the Museum, should be cast away at once. It is incorrect from the form of the dome to nearly every detail. The fine collection of architectural casts, part belonging to the Architectural Museum, and displaced to make room for the naval collection, and part the property of the Government, are all below stairs, in the iron building and the corridor leading out of it to the temporary offices. Most of these works have suffered by the repeated removals. When we consider the utility of such casts, the difficulty in getting them, and how liable they are to be broken or abraded, we should expect them to be preserved with somewhat the same care as old china.

PICTURES ON MUSIC.

In the interest of a bright-eyed circle, we are about to call attention to a particular branch of art which, although it has made progress within remembrance, is yet open to great improvement, the pictorial embellishment of the title-pages of music. The class for whom this ramification of art spreads its attractions is comprised of young people, and principally of young ladies, whose criticism is not of the rigorous nature calculated to stimulate the exercise of any great effort of creative power: it must therefore be from some outside influence that we must look for advancement. It may be questionable whether illustrated title-pages are called for; but, if pictures be used, there is no question but that they should be of a certain degree of excellence. There are, we admit, varieties in the quality of the highly-coloured title-pages displayed to view in the shop windows; but the general impression gained by a cursory glance at them as a whole is that they are scarcely above valentine art, and considerably below that of the French plum-box. Frequently a large bouquet of unbotanical flowers occupies the sheet; in other cases a figure, representing some personage in the opera or ballet with which the music it accompanies is associated, is displayed upon a background on which is depicted in an unfathomable distance a few accessories; or, again, a highly-restive horse with remarkably red nostrils and prominent hoofs is depicted upon the page, either reclined against by a Zouave-like proprietor, or mounted by the military possessor of a very gaudy uniform. We might do something better than this: we ought to do it.

One way of acquiring and of giving impetus to progress, is to review that already made. The fact of growth is then impressed upon the mind, and we argue to ourselves that the next twenty years will be fraught with as much change as the last term of the same period. Looking back, then, for this purpose, over piles of old music, much of which is inscribed to their Royal Highnesses the last Prince and Princess of Wales, the Duchess of York, Duke of Cumberland, and other members of the large family of George III., we are brought speedily to the admission we made at the opening of these remarks. The smart though meaningless title-pages with which our music publishers make their wares showy are improvements upon the devices used for the same purpose in the last age. Portraits of the composer, with a sheet of music in one hand and a pen in the other, were then a favourite embellishment. Ladies in outline, seated at pianos, also in outline, were often likewise placed upon title-pages. But the most curious illustrations are those that accompany descriptive pieces. A piece of music, printed with faded ink on ribbed blue-tinted paper, called "The Fair," is a representative piece. This is headed by an engraving showing a fair, arranged in a symmetrical manner, with much of the appearance of a trim Dutch garden, the people clustered in circles and squares, looking on at the various performances, having a strong resemblance to clipped trees. We quote the title-page with relish, as a photographic indicator of bygone sports and scenes this generation is just able to recall:—"Grand Miscellaneous, Curious, and Comical Piece of Music called 'The Fair,' consisting of a great variety of little Bagatelles, selected and revised (merely) for the amusement of Young Folk, in which is introduced the 'Fall-down of Paris;' the whole concluding with a new and joyful piece of Music, composed for the occasion, called 'The Signing of the Definitive Treaty and the Restoration of France, or Peace proclaimed between Two Great Nations,' announced by the sound of trumpets, bells ringing, playing many peals, and the firing of the guns, most respectfully inscribed to the British Ladies, by Signor Sampieri. Description of this entertaining piece, in which is exhibited a variety of very pleasing scenery, as follows:—Dancing bear, dancing dogs, men fighting, dogs fighting, Punch beating his wife, gallantee show, ballad-singer, woman shaving a man, another, cooking, boy on a swing, carravan with wild beasts, and a great quantity of shops and other things." It will be observed that the author has failed to make it clear whether the "very pleasing scenery" is in the engraving or the music. However, the "joyful piece" opens with the tune of the dancing-bear. Above the line giving an accompaniment for the violin are depicted three tiny figures—a bear with a cap on his head and a stick in one of his paws, a man in knee-breeches leading it by a string from its muzzle, and another tapping a musical instrument carried under his arm. A slight change in the tum-tum-tum-like tune is headed, "The Gallanty Show:" this is illustrated in the same interlineal manner. A little man, rather more than half an inch high, is standing guard over a peep-show as tall as himself, into which three boys are peering, whilst another boy and a girl are waiting their turn to do the same. The dancing-dogs figure at the commencement of the next variation of the tune. There are four of them, standing on their hind legs, under the superintendence of a man and a woman, the latter flourishing a whip. The fall of Paris proceeds without pictorial aid, till peace is proclaimed, when two trumpeters, a bellman, and two gentlemen, with swords and cocked hats, appear walking on the fifth line of the bass clef, as though it were a tight-rope. Three artillerymen fire off three cannons simultaneously from the fifth line of the violin accompaniment. After a passage, in which the ringing of bells is imitated, a little tower appears on the top of the bass clef. The last illustration fills a whole line. It represents "Quick march and retreat of the whole army going to be disbanded." In this there are thirty-three soldiers, all under an inch high, divided into infantry, cavalry, and artillery groups, marching across the page, preceded by a drummer, and brought up by an ambulance or ammunition van. Numbers of the popular pieces of the same period were pictorialised in the same discarded manner. Another mode of embellishment consisted of an engraving placed to head every variation in a piece, called descriptive engravings. "A grand series of musical compositions" before us, "expressing various motions of the sea," is divided into four parts. It opens with "a promenade to the shore, supposing a party going to embark," a light march bearing that title. A view of a bit of shore, with several ladies in scanty skirts, and gentlemen in knee breeches, standing about, with fifteen sails in sight, besides five heavily-loaded boats, illustrates the next movement, "a perfect calm." A second engraving shows a pier, with a light-house at the end of it, from which is unfurled an enormous flag, some shipping very much out of the perpendicular, and a hatless figure, to convey an idea of the sea with "a fresh breeze." And a third illustration renders "a storm" by the aid of some very woolly waves engulphing six vessels of different degrees of proximity, whilst a group of five men, on a bit of landscape in one corner, are attending to another, apparently drowned, just washed ashore. No startling figures appear upon the clefs in this piece; but it is copiously explained as it proceeds. Thus a sort of shake is the "sea immensely high;" the same tremulous motion among the lower notes denotes that the "vessel is nearly lost;" a rattling of octaves suggests that "the waves are extremely agitated," and a chromatic scale makes us acquainted with "the distress of the passengers." We can make as much progress from where we are now as we have done from what we did then. Another illustrated "piece" of this same late Georgian era depicts "The Progress of Nature in various Departments, as follows: the Sportsman, Garden-man, Fisherman, and the Woodman." This is illustrated by four coarse etchings: the first consisting of a country alehouse, with four couples of sportsmen in top-boots and low-crowned hats, out in different directions in the adjoining landscape, and the inn-keeper watching their proceedings over his half-door, with a calculation, doubtless, as to their ultimate thirstiness; the second a very stiff garden, in bad perspective, belonging to a very formal house in still worse perspective, in which three gardeners are at work, all in top-boots, it may be remarked, but without any coverings for their heads, the foremost of whom is supposed to be singing a little ballad as he is digging a leviathan cabbage-bed; the third, a village on a bank of a river, the principal item in which is a large fish-stall, around which every inhabitant of the district appears to have congregated; and the fourth, a ravine into which a wooden bridge is being precipitated just as four passengers are in the act of crossing, whilst a group of people are occupied in the foreground with felling a tree, chopping wood and carrying it away, cheered by the strains of a flageolet played by a man in the characteristic top-boots, knee-breeches, and low-crowned beaver. These etchings, quite caricatures in their coarseness, as well as the gaudy chromo-lithographs of the present day, make but a sorry show against the manuscript music of old, such as that preserved in the library of Durham Cathedral, written on vellum, when the Mediæval men lavished the labour of days upon an initial.

It is curious that music has been thus overlooked in our time as a suitable subject for pictorial embellishment. Poetry and prose have been profusely illustrated and perennially bound for Christmas gift-books and New Year's presents; but it does not appear, yet, to have occurred to artists to illustrate in a first-class manner the grand works of Handel, Haydn, Mozart, Beethoven, Spohr, Mendelssohn, and other great composers. Where could they look for a grander theme than the "Creation" would afford, or for more ample scope than in Beethoven's "Pastoral Symphony?" It would be difficult to suggest a more sublime subject for the most exalted pencil than Handel's "Messiah," with its prophet, angel, and shepherd-singers and eastern scenery.

We are happy to throw out a suggestion which, if acted upon, will open out a new field both for producers and purchasers; and hope to recognise among the gorgeous volumes now annually prepared for gift-books, the majestic compositions of our great musicians worthily embellished by art.

CROWE AND CAVALCASELLE'S "NEW HISTORY OF PAINTING IN ITALY, FROM THE SECOND TO THE SIXTEENTH CENTURY."*

In the two handsome and beautifully illustrated volumes before us we have an ambitious and in some respects careful and able attempt to illustrate the early history of the great schools of painting in Italy. "We have presumed" (our twin writers assert in their brief preface) "to place before the reader an instalment of two volumes, comprising the history of painting [*in Italy*] complete to the close of the fourteenth century, partially so to the end of the fifteenth, leaving the sixteenth untouched." Two more volumes, or "two subsequent volumes," as their authors are pleased to "describe their future labours, will [if we understand their meaning correctly] complete their work;" but in what way this can be accomplished with justice to their subject we are at a loss to understand. Leonardo and Michelangelo and Raffaelle are as yet untouched;—but this is forestalling criticism. In the meanwhile let us be content to say that we welcome and approve the two-volume instalment of a new History to which Mr. Murray has given his Albemarle-street *imprimatur*, strangely enough without a printer's name to either volume. The printers, let us add, could have no reason, that we can see, to be ashamed of their types in general; for the typography, to our Caxton and Cox & Wyman eyes, is in every respect excellent.

This valuable "instalment" of a much-needed work is illustrated with sixty-six plates or engravings, drawn on wood by Mr. Scharf and others, and cut by masters in the art of working on box. These sixty-six illustrations will delight amateurs and artists, ladies and little readers, alike; while the letter-press, if it fail to warm or enliven the reader, will be found continually to instruct; and here let us mention thus early that Messrs. Crowe & Cavalcaselle have not been contented with *printed* materials alone, but have dived into archives and perused manuscript records too little known, illustrative of the labour they undertook with a loving and faithful sense of the greatness and interest which surround a noble and a self-set task.

It has been said, and with truth, that the race of Virgin Mary painters went out with the Reformation, and that the loose hair and lifted eyes of the Magdalen ceased to be scriptural and animated on canvas at the close of the sixteenth century. These volumes, even in their minute outlines, exhibit with exquisite beauty how much action alone will contribute to expression, and occasion a sigh for English art in its loftiest sense when we reflect that the English school has little more to show of high *figure* art than Sir Joshua's tameless "Holy Family" and Sir Thomas's gladiatorial "Satan summoning his Legions," while they at times pleasantly remind us of our "gentle visionary Blake," of John Flaxman, and Thomas Stothard.

Good English writers on Italian art (or art in general), are few in number. Sir Joshua's "Discourses," and Flaxman's "Lectures," are worth the greater part of the professional lumber which the Royal Academy has inflicted on the ears of its students, or endeavoured to engage the eyes of the public with by the types of the printer. On the other hand, men and women, not artists, have written admirably on art. Let us name a few. The elder Richardson, Horace Walpole, William Hazlitt, Allan Cunningham, Mrs. Jameson, George Darley, and Mr. Ruskin.

Hoffner's printed description of Stothard's "Canterbury Pilgrimage," is the best pen description of a picture by an English painter that we can call to mind.

When studying the notices of the several masters included in Messrs. Crowe & Cavalcaselle's two volumes, the student of art will be surprised to find how indifferently rich England still is in examples of the early Italian school. Our National Gallery,—thanks chiefly to Sir Charles Lock Eastlake (to whom these volumes are appropriately inscribed),—has become of late a little academy of early examples of Italian art preceding Michelangelo and Raffaelle. Strange to relate, our all-diligent authors have been unable to find a single stray specimen of the art age they illustrate in the far-famed Bridgwater or Grosvenor galleries; yet, curiously enough, they have found in the Dublin National Gallery, in the Liverpool Gallery, at Locke Park in Derbyshire, and other outlying London quarters, "art treasures" of moment in illustration of the period over which their "New History" extends. The late *still* lamented Prince Consort did much towards a revived appreciation of early Italian art, in which he followed the good examples of Lord Dudley and Ward, Lord Northwick, Lord Wensleydale, Sir John Boileau, Sir Charles Eastlake, Mr. Fuller Russell, Mr. Fuller Maitland, Mr. Dilke, Mr. Layard, Mr. Barker, and Mr. William Coningham.

Authors affect at times to judge of the style of books by their opening paragraphs. Who has forgotten Lord Macaulay's rather servile imitation of Swift in the first paragraph of his "History?" Here is Messrs. Crowe & Cavalcaselle's prologue or symphony of fifteen lines:—

"In the most prosperous times of Rome, the arts never attained to the perfection of the models created by the genius of Greece. Long before the golden age of the Antonines, sculpture and painting had degenerated from the high standard upheld in the great times of the Empire. From that period till the rise of Christianity, they pursued an uniform path of degeneracy, yet they retained such vitality as to impose their laws on the nascent Christian school. It is not the object of these pages to trace the decline of classic art or to record its fall. A study of Christian art from its beginning in the catacombs of Rome and Naples, to its decline and fall in the first ten centuries, and the final development of its genius, as it rose to the perfection of Giotto, Ghirlandaio, and Raphael,—such is the purpose to which these pages are devoted."

After much choosing and constant rejecting, we select as a sample of our authors' skill in conveying their art-knowledge to their readers a passage from a chapter of thirty-five pages devoted to Fra Filippo Lippi:—

"The historians of Italian art may indulge in a justifiable exultation at having rescued one of their great painters from the stigma cast upon him by Vasari. It were to be desired that the character of Fra Filippo should be freed from the stain which rests upon it, as that of Andrea del Castagno has been cleared from the imputation of murder, which made his name for centuries a byword amongst artists. It is unfortunately not possible to give distinct proofs that Fra Filippo was not a monk of loose habits. Yet there is much in the history of his life, such as it lies before the student of this century, to cast doubts on the veracity of his accusers, and to mitigate the censure of the critic.

"Filippo was the son of a butcher named Tommaso Lippi by Madonna Antonia.* Her death, shortly after 1412,—the date of this event,—has deceased two years later, left Filippo an orphan in the hands of an aunt, whose poverty disabled her for the duties of a mother. In 1420, Filippo was registered in the community of the Carmine at Florence.† From that time till 1432, he remained an inmate of the monastery,‡ and probably studied painting in the neighbouring chapel of the Brancacci.§ In 1430 he appears for the first time in the books of the Carmine with the title of painter. In 1432, he left the monastery and ceased to be noticed in its records. Hence the natural conclusion, that the works which Fra Filippo may have executed there, were completed between 1430—1432. We lament the disappearance of these early productions; in one of which, says Vasari, 'the spirit of Masaccio seemed to have entered the body of Fra Filippo.'‖ Such parts of the frescoes of the Carmine cloister as have been rescued from whitewash can scarcely be said to display the characteristics of the friar.**

"Hindeed we attempt, in a rapid sketch, to resume the principal features of his style, we shall find that Fra Filippo's chief excellence was that which distinguished him as the greatest colourist, and the most complete master of the technical difficulties in art, of his time. He may not have stoically held to the severely grand maxims which signalise the genius of Masaccio; but he gave luxurious attraction to his works by a charm of colour, in which indeed he may claim to have been unique.†† A full brush, handled with breadth, produced a deep impasto. A careful return to the parts fused them into a soft fulness, and left a bright clear tone behind. Yet Filippo was not free from the peculiarities of his age. In his effort to reproduce the reality, he did not aim at the roundness of nature, but preferred the characteristic flatness usual in bas-relief. The want of massiveness so produced was, however, compensated by taste and feeling. His compositions were not without grandeur; and if he remained second to Masaccio in the perfect distribution and arrangement of a picture, he supplied his deficiencies by movement and exuberance, chiefly in the numerous pleasant episodes which give interest and animation to the scenes he depicted. His figures individually might be less dignified and grand than Masaccio's, but he threw an amount of life and gentle feeling into the heads and features, that, combined with beauty of colour, create a most pleasing impression. His style as a draughtsman was good. Master of nude form, though frequently generalising the drawing of extremities, his pictures display less progress in the study of detail than those of Uccelli, Andrea del Castagno, Domenico Veniziano, or the Peselli; but, if inferior to them in this respect, he avoided the vulgarity of their realism. His draperies, particularly such as clothed female forms, were luxuriously adorned with ornaments in gilt relief, according to the fashion of the time, and to the example of Masolino.* He did not multiply realistic minuteness in landscape like his naturalist contemporaries, but he preserved simplicity and due subordination. Fra Filippo's style, in fact, was a medium between that of the naturalists and that of Angelico, Masolino, and Masaccio. Perspective owed little of its progress to him. He never ventured to foreshorten figures, and his architecture discloses little knowledge of the art which Uccelli brought to such comparative perfection. He supplied this want, however, to some extent, by atmosphere. At first he followed the architectural style of Angelico and Masolino. In the frescoes of his later time one may observe somewhat heavier proportions. His partiality for luxurious ornamentation in pilasters, friezes, and cornices, was, throughout his career, remarkable."

We have included in our extract the foot-note references, rendering thereby only due justice to researches of Messrs. Crowe and Cavalcaselle. In the meantime we shall wait, in common with others, for the steady completion of a labour of well-selected love for which they are in many respects so well fitted.

Let us add that there is an ample supply of "Index" learning for the palest student of art-knowledge, and one omission of acknowledgment in the volumes before us. The names of the several excellent wood-engravers deserved to have found a corner on the blocks they cut, and on a fly-leaf of their own. With the aid of a magnifier we have been able to discover occasionally the names of J. Cooper, J. Thompson, and S. Williams.

THE PETROGLYPHS IN ARGYLLSHIRE.

There have recently appeared in your journal two highly interesting communications on the subject of the petroglyphs, or concentric circles, incised on rocks, which have excited so much attention among archæologists of late.

They were first observed in Northumberland a few years ago, and were then thought to be confined almost exclusively to the North of England. They have since, however, been found in various localities and countries; among others (as is mentioned in the *Builder*, p. 642), in Argyllshire. I have lately had an opportunity of examining these latter, in company with much better archæologists than myself. You may therefore, perhaps, think that even such a brief and imperfect description of them as I am able to supply may have an interest for some of your readers; for I believe it is only by bringing and comparing together as many examples as possible of these mysterious records of an ancient people that a reasonable hope may be indulged of forming some probable opinion of their true character, purpose, and signification.

There are two localities in which they have as yet been discovered in Argyllshire. These are situate about six miles from each other, in a district which is eminently rich in so-called Celtic remains, such as standing stones, single and combined (including a perforated, or "Odin's stone†"); megalithic circles, more or less perfect; many large cairns; a vitrified fort; Danish or British forts, &c. Both these Argyllshire groups of petroglyphs are sculptured on the smooth crowns and gently-sloping sides of rock-knolls, or bosses of very hard, coarse, sub-crystalline‡ greenstone, which slightly protrude from the braeside about halfway up between the subjacent strath and the ridge of the environing hills. The first and smallest group is situate about half-a-mile above Callton Môr, the residence of Mr. Malcolm, the principal landowner of the neighbourhood. It consists of seven or eight well-defined concentric circles, besides a few others less distinct. They are mostly of the normal type figured in the *Builder* as No. 1, with a cup-like hollow in the middle, surrounded most commonly by three or four concentric circles, through which a radial groove, or channel,

* By J. A. Crowe and G. B. Cavalcaselle. Vols. I. and II. London: John Murray.

* This fact is ascertained from records kindly furnished by Dottore Gaetano Milanesi. According to Vasari, Filippo was born in the Contrada dell' Ardiglione by the Canto alla Cuculia in Florence and behind the convent of the Carmine. (Vol. IV. p. 114.)

† Records, furnished by Dottore G. Milanesi. ub. sup.

‡ Ibid.

§ The doubts hitherto raised on this point are settled now that we know that the frescoes of Masaccio at the Brancacci were completed before, 1428.

‖ Records of Dottore Gaetano Milanesi, ub. sup.

¶ Vas. Vol. IV. p. 116. Fra Filippo's works at the Carmine were, a Pope conferring the rules to the Carmelites (terra verde) in the cloister, a S. John the Baptist in the church, a S. Martial on a pilaster near the organ.

** See antea in Masaccio.

†† This is more particularly true as regards wall painting. And so, the Florentine school gives us, as before, a full sequence of progress in every branch of art.

* A peculiarity in Benozzo Gozzoli also, which Masaccio avoided or disdained.

† Marriages were often contracted at such stones by the male standing at one side and the female at the other, and joining hands through the central hole. Allusion to this was lately made at a meeting of the Archæological Institute.—Ed. B.

‡ I had believed this to be the usual chloritic schist of the district, altered by trap, with which it is in contact; but Professor Tennant assures me it is greenstone.

passes from the central cavity to beyond the outermost circle, in a straight or sometimes slightly curved line, and with a downward (and, here at least, easterly) direction. I should mention, however, that two are not strictly circular, but of a decidedly horse-shoe shape. They are all placed very close together, and are frequently connected with each other, either by the said radial groove, or by a prolongation of the exterior circle. So that, as they occupy the summit of the little rock-knoll, and its sloping face, any sacrificial blood (as has been suggested) or other liquid, poured on the top would flow through them to the bottom. The circles, at this locality, vary from about 5 in. or 6 in., to perhaps nearly 12 in. in diameter. The average dimension of the grooves may be set down at ¼ in. to ¾ in. in depth, and rather more in width; while the central cups are from 1 in. to 2 in. deep, and 2 in. or more in diameter. These grooves have evidently not been worn, or hollowed out, by friction; for they are not smooth, and there are evident marks of their having been chipped, from the outer edge, by a narrow, and seemingly blunt, instrument, probably of flint, of which numerous specimens have been found in the surrounding cairns, derived most likely from the altered chalk beds of the adjacent country of Antrim. Besides these complete circles, there are several of the characteristic cup-like holes, which may in some instances have been intended for the centres of circles that never were finished; but, in others, are placed too close together to admit of such a supposition. I should, however, add, that the surface of the rock is here, as elsewhere, covered with a thin layer of peaty soil and herbage, which has been only very imperfectly cleared away; so that it is by no means ascertained how far these curious incisions may extend; while doubtless many similar rock-sculptures exist in the neighbourhood, yet undiscovered, but which accident may any day bring to light. On the same side, but lower down, and nearer to the mansion of Callton Môr, two similar circles are to be seen, on the top of a small smooth rock, nearly obliterated by exposure. And it is said there were originally many more such sculptures on an adjoining rock, which was destroyed in making a road, some few years since.

I must also observe that at least five such circles, with a central cup, and descending groove, have been found by the Rev. R. J. Mapleton on some tall "standing stones," in the immediately subjacent valley; together with many of the above-mentioned cup-like hollows, evidently artificial, but unsurrounded by circles. This is sufficient at least to connect the rock-sculptures with these (commonly believed Druidical) monoliths. While elsewhere, as I shall have occasion to remark, though not (I believe) as yet in this district, similarly incised circles have been found on the *inside* of the covering slab of as many as ten or twelve cists.

But much the most considerable and instructive collection of these incised rock circles occurs near a small farm, called "Ach-na-breac," about two miles from Lochgilphead, and a quarter of a mile above the *old* road from that place to Kilmartin. This, like the former group, is situate on a tolerably smooth but much larger rock-knoll, projecting from the mossy hill-side, and with two faces sloping, the one towards the east and the other towards the south, but slightly separated by rather broken rock, thinly covered with peatmould, &c. "Breac," I believe, in Gaelic, signifies a spot or freckle, and is the common term used for the marks of the small-pox; but, as it is equally applicable to a "field spotted with stones," I cannot pretend to say whether or not there be here any allusion to the circular marks on the rock above. That rock, however, itself bears the very significant name of "Leach-na-Sluagh." "Leach," of course, means a "flat stone, or rock;" and the Gaelic dictionaries give "host, or army," as the equivalent for "Sluagh;" but the best Gaelic scholars we could interrogate on the spot assured us they commonly used the word for any gathering, or assemblage of people together, for any purpose, civil, religious, or military. On the crown and adjoining eastern face, I counted upwards of forty well-defined circles; on the other and lower side, more than thirty; besides several others, more or less imperfect. But, though some of them have been long uncovered, so as to be overgrown with grey lichen, a large portion has only been lately brought to light, while the soil has been as yet very partially removed, so that it is impossible to say what number of these strange symbols may exist here. Speaking generally, they may be said to preserve the same normal type already described, of a deepish central cup, surrounded by from one to seven or eight concentric circles, traversed by a commonly straight but sometimes wavy radial groove or channel, which often extends to the next subjacent circle. But, as might be expected in so much larger a number, there is here a greater diversity of form and dimension. A few on the crown of the rock are rather more than 3 ft. in diameter, and have seven or eight concentric circles; but their grooves are much shallower and narrower than those of the smaller circles. I do not remember to have observed here any examples of the horse-shoe shape; but two or more figures are sometimes combined in a way not easy to describe without a diagram, by a prolongation of the external concentric groove, or by being included within one and the same circumscribing curve, so as to assume the form that has been termed "kidney-shaped." There are also here very many of those characteristic cup-like cavities, sometimes single and isolated, sometimes arranged apparently in a sort of pattern. In particular, towards the bottom of the southern face, I observed four such circular cavities, 2 or 3 in. deep, arranged in a straight line; and immediately above the end one, another similar cup, connected with the radiating channel, or spout, of the lowest superior circle. So that, certainly, whatever might be the *intention* of such arrangement, the *effect* at least would be that any liquid poured on the upper part of the face of this rock would be conducted through the higher circles into this cup; and, when it was full, would overflow into the others beneath. On the other hand, I must allow that elsewhere, on the eastern side, some, but not many, of the "spouts" are so arranged *athwart* the rock, that the supposed liquid would not readily so pass.

In addition to these concentric circles and artificial holes, I observed in one place the evident representation of a two-sailed boat, cleanly and sharply, though not deeply incised in the rock, and quite overgrown with grey lichen, so as to be, to all appearance, contemporaneous with the circles. It is about 4 in. or 5 in. long, and 5 in. or 6 in. high. Also, on the crown of the rock, are two legs of an acute-angled triangle, deeply cut, and about 3 ft. or 4 ft. long, the termination of them not being very distinct. The apex points to the east; but I much regret that not having a compass with me, I was unable to take the exact bearings of the "legs," or of the several radial "spouts;" for which I am the more grieved, because I cannot help believing their direction has a certain astronomical signification. The two sides of the imperfect triangle especially point to two quarters in the heavens, which, from their position, I think may very probably prove to be the places of sunrise on the longest and shortest days. I have, however, reason to believe that a clerical friend in the neighbourhood, who has taken deep interest in these investigations, will shortly supply this omission, and clear up this point, by accurate measurements of them all. Near this imperfect triangle, but not quite parallel to either of the sides, are two straight lines of small, but very clear, double indentations, more like the footprints of birds in snow than anything else I can think of. These must likewise have their significance, whatever it may be. Not far off, I saw a very much smaller, but comparatively deeper, figure of a triangle, much resembling the Queen's "broad arrow." And lastly, on a spot from which I myself stripped the covering peat, I found, close to a somewhat imperfect circle of the usual character, some rectangular markings, at which I can make no guess.

Such are the chief remarks I made during one long and careful visit I paid to these very curious records of undoubtedly a very ancient race of men, by whatever name we are to call them.

But I need scarcely say that these rude symbols excite a very different feeling, and tell a very much more impressive tale, when seen and mused over *in situ*, on their own wild and lonely hill side, than what can be conveyed by even the most accurate and eloquent description. And what is that tale? Truly, not a very plain one, it must be confessed; nor one that is interpreted alike by even competent observers. I see by the *Gentleman's Magazine* for October, p. 475, that Dr. Collingwood Bruce, to whom has happily been intrusted, by the liberality of the Duke of Northumberland, the task of drawing and describing all the sculptures of this kind found in that county, thus classifies the chief explanatory theories which have been hitherto brought forward:—

"As to the meaning of these markings, we are yet scarcely in a position to hazard a guess. Some have thought they are plans of camps. They do not, however, resemble the camps that are near them. Some conceive they are simply indicative of eternity, and shadow forth the soul's longing for immortality. Others think they have an astronomical reference; others that they refer to sun worship. Although considerable variety exists in them, there is not enough to admit of the supposition that they are hieroglyphical representations. The channel in which my own mind is running at present leads me to conjecture that they may be found to have a reference to the new state of being on which the soul entered at death, and that the development of that new existence might be supposed to be facilitated by the engraving of these characters upon the stones of the tomb, or of some rock in its vicinity. The time, however, has not yet come for expressing an opinion. But I trust that all who take an interest in the investigation will aid me by supplying any information or suggestion they may think useful."

To these theories may be added the one propounded by Mr. Dove in your own pages, which, if I understand it aright, considers them to symbolize the powers of life as radiating from a central sort of "*Anima Mundi*;"* while, finally, many eminent men, who see traces of the "Phallic theory," almost everywhere, are inclined to connect these mysterious symbols with that primæval worship. These hypotheses are confessedly very ingenious, especially that of Dr. C. Bruce. But, it may surely be asked, what collateral evidence have we that the rude Celt, or pre-historic man, who sculptured these mystic figures which are now puzzling his posterity, was familiar with any such deeply metaphysical dogmas as the above? Amidst so much uncertainty and variety of opinion among those so infinitely better qualified than myself to elucidate so difficult a subject, I trust it may not be deemed altogether unwarrantable to accept Dr. C. Bruce's invitation, and offer such suggestions as arose in my own mind on examining these archaic sculptures. First of all, I could have no doubt that they had a *religious*, combined probably with what may be called a *political*, meaning; and most likely were in some way connected with astronomy. I was at once strongly impressed with the conviction that their *form* was derived from that of the Megalithic circles, of which I have before mentioned there are several examples in the immediate neighbourhood; and the purposes to which these latter were applied seem to me to indicate the probable signification of the other. These noble hypæthral structures, of which Stonehenge, Avebury, Callarnish, and Stennis still remain such striking examples, were not only the temples of the most ancient people that have left records of their existence in our islands, but also their senate houses and basilicæ; their sacred places for worship and sacrifice, for making and executing the laws, and occasionally at least for sepulture, in the cases, we may suppose, of men whom they especially delighted to honour. And whether their circular form was originally derived from the visible appearance of the sun and moon and all the host of heaven, and their position determined by astronomical considerations, in accordance with what Wilson and others have taught us as to the position of some such circles at least with distinct reference to the one ever stationary Polar star,† and of others in connexion with "station stones" that marked the point of sunrise on the longest and shortest days; or whether the form naturally commended itself to the primitive human mind by its symmetry and facilities for placing all around at equal distances from the central place of sacrifice, while still divided into their several ranks by the intermediate concentric circles; or whether even, to the *initiated*, that ring-like figure, by its continuity, symbolized the idea of eternity, and, with its avenue of approach through successive circles to the central altar, conveyed to the more enlightened among them an esoteric conception of the passage of the soul to final perfection and felicity;—whatever, I say, may have been the original idea that led to the selection of these concentric circles round a central altar, and with an avenue of approach to it, the structure itself, its form and its distinctive features, must have been associated in the Celtic mind with the most solemn impressions of which it was capable. May it not, then, be well imagined that a conventional representation of these features, such as we see in these rock-sculptures, with their circles engraved round a marked centre, to which a channel leads from without, might very naturally pass into a sort of recognized sacred symbol, or hieroglyph?

Again, remembering how utterly ignorant

* The *anima* of which Mr. Dove speaks is the anima *hominis*—the human soul itself, as a concentrative principle—not the pantheistic anima *mundi*.—Ed. B.

† *Vide* Wilson's Prehistoric Annals of Scotland, vol. i., p. 166, second edition. 1863.

those rude tribes were of any of our modern modes of distinguishing a peculiar site, or commemorating an important event, is it at all improbable that this sacred symbol should be sculptured on the rocks near which they held any of their places of solemn assembly, far up in the hills, where the circles themselves which these symbols represented were not, and could not be, erected? Bearing in mind also the old traditional Celtic name which the rock bears where the largest collection of these petroglyphs occurs, "the Flat Rock of the Host, or of the Gathering," is it a very unwarrantable conjecture that when the tribes met here for unusually important objects, additional circles might be from time to time engraved by vote of the assembly, to commemorate the meeting and its results? These circles, while agreeing in general character, might vary in details (as we have seen they do) according to the subjects to be commemorated. Or might they not even record the distinctive marks of the principal chiefs, or septs, that were present, in a manner somewhat analogous to the tattooing of primitive races in other parts of the globe? or the cartouches of Egyptian kings? or, nearer home, to the characteristic tartans of the Highland clans? And thus, in process of time, these rock-sculptures would become the chroniclers of the tribes—the imperishable, even if obscure, records of the principal events in their past history.

It seems to me perfectly consistent with this view, that if, according to the opinion before alluded to, sacrifices were offered on the top of the rock, the blood might be guided through the circles representing the respective chiefs, or clans, and a more solemn sanction be thereby attached to the vote, or covenant, on which the assembly might have agreed.

Once more, if this sacred character of the symbol be admitted as probable, as well as its connexion with their holiest places of worship, and most venerated sepulture, it need not excite our surprise to find it occasionally engraved on the inside of cist covers; more especially if the above supposition be also conceded, that its peculiar form might bear some distinctive reference to the character, history, or rank of the chieftain, or priest, entombed therein. Still less extraordinary would it appear to find it engraved on the monoliths, or "standing stones," which must, at any rate, have had either a religious or a commemorative character, or both.

I have thus endeavoured to record the impressions that were produced on my own mind, after attentively surveying these Argyllshire Petroglyphs, and reading all the information I have been able to meet with on this very obscure subject. But I chiefly look forward with hope to the collection of facts which Dr. C. Bruce is known to be making from all quarters where the Celtic race have been established, for obtaining any real knowledge of this difficult question.

G. B. H.

MESSRS. NAPIER & HOPE'S LONDON SEWAGE SCHEME.

Preparatory to the discussion which is likely to occur, our readers may be glad to know what the scheme of Messrs. Napier & Hope, for the utilization of the North London sewage, as set forth by the projectors, really is. It consists in the construction of a trunk conduit, with two branches, traversing the whole of South Essex, from west to east; the one branch discharging into the sea on the Dengie Flats, the other discharging on the Maplin Sands, the river Crouch lying between the two branches.

The total length of the conduits will be about sixty miles; and it is now intended to irrigate the entire district along their course with the sewage, which, to a great extent, can be let out of the conduit by direct gravitation on to the lands. Where the levels do not permit this, the sewage will be pumped up into tanks, so as to command the higher ground traversed. Thus the whole length of the conduit is to be considered, they say, as a reservoir from which streams of liquid manure may be discharged on all the surrounding lands whenever required.

At the ends of the two branches the sands are bare at low water for from two to three miles wide, and arrangements will be made with a company already organized to embank these flats, so as to shut them from the sea two large estates, on which the sewage can be advantageously applied. It is not intended at the present time to advance the sea embankments to the full extent of sands uncovered, but only to a perfectly safe and moderate distance, reserving power to extend the enclosures at a future period, so that ultimately 20,000 acres can be reclaimed. But even with the limited area to be at first enclosed, added to the lands commanded in the course of the conduits, it is expected by the projectors that from 60,000 to 80,000 acres will be available on which the sewage can be used.

It has been stated that as much as 7,000 or 8,000 tons of liquid sewage per annum per acre can be used beneficially; but at Croydon only 3,000 tons per acre produce an excellent result. The quantity of the North London sewage will be about 100,000,000 tons per annum, which, if applied as at Croydon, would require 33,333 acres of land only. The working of the company will probably be to apply on such estates as they may acquire or inclose from the sea, the larger proportion of sewage per acre; and, on the farms along the course of their line, such modified quantities as the different crops and soils may require, and such as the farmers will agree to take. The company claim thus to command a large country on which to confer the benefits of cheap manure; a certain outlet on the coast, removed from all but a very thin population; an estate or estates of their own, in the most favourable position for the full realization of the value of the sewage by a scientific application to special crops; and, finally, they offer to the Metropolitan Board a share in profits which they expect will be considerable, and complete relief from risk of claims for damages on account of the discharge of sewage into the Thames at Barking. Mr. G. W. Hemans is the engineer.

THE SEWAGE QUESTION.

Under the title of "Metropolis Sewage and Essex Reclamation," an advertisement announces the intention (of Messrs. Hope & Napier) to apply to Parliament in the ensuing session for an Act incorporating a company to make and maintain the contemplated works for the transmission of the metropolitan sewage from the Northern Outfall sewers to the Essex coast, and for the reclamation of land on that coast; as also to authorise and empower the company and the South Essex Estuary and Reclamation Company to enter into agreements in relation to the latter company's undertaking. We give above an account of the scheme.

Following the example of the members of the Metropolitan Board of Works, the Bedford Commissioners have sent a committee to Carlisle and Edinburgh to inspect the sewage utilization works in these neighbourhoods. The committee have reported to their constituents on the subject; and in their recommendations to the Local Board, they say, —

"Having now submitted a brief account of our inspection of the sanitary works of Carlisle and Edinburgh, we cannot close our report without expressing our unqualified satisfaction with the principle of the sewage works and the general sanitary arrangements carried out at the former city, and we add earnestly recommend the Local Board of Bedford at once to adopt plans similar in principle. We are fortified in this opinion by the general expression of satisfaction by all classes of inhabitants at Carlisle at the completeness and efficiency of the works executed, and which have now been in full operation some years. We may mention that at the outset the Local Board had to encounter a most formidable opposition, but we are assured that the people generally are now fully satisfied as to the wisdom of the steps taken."

The report was adopted, and a committee appointed to take the question into consideration.

At Birmingham, a meeting has been held in the Town-hall, in reference to the utilization of the sewage. The mayor presided. Mr. Thomas Walker, a resident engineer, submitted his plans for carrying out this important work, and in doing it he estimated an annual profit of from 30,000*l.* to 40,000*l.* as the result. A resolution was moved to the effect that it is desirable the sewage of this district should be utilised by distribution over the adjacent lands; and, for this purpose, that the corporation be recommended to grant a concession of such sewage to a local joint-stock company. Mr. Hawksley, the engineer, spoke in favour of the plan suggested, at the same time deprecating the idea that the corporation could estimate or obtain any value from the sewage. The value would be obtained after a costly process, which a company might realize. Considerable discussion took place, and ultimately, it being thought that the subject was not ripe for decision, the resolution proposed was negatived.

At Dorchester, the Rev. H. Moule has been reading a paper to the local Farmers' Club, on "The best Mode of Utilising Town Sewage." Of course, Mr. Moule considers his own dry earth and closet system the best.

Sir,—Your continued exertions in the cause of humanity, in the purifying of our towns and utilizing the filth to the fertilizing of our fields, begin now to bear their fruit,—in the interest which the public begin to take in the matter. The journey of the members of the Metropolitan Board to Carlisle, &c., and their proposed application to Parliament for powers to utilize the sewage, show that, though slow to move, the public is alive to its own interest, when properly aroused and awakened. All honour to you, Mr. Editor, and may you "bear the palm."

In a long practical experience as a land surveyor, I have had much and great practical experience in observing the neglect and ignorance upon this vital subject. When fevers raged and caused the death of thousands, none or few considered that what was death to man was life to the plant, that by management and care, health might be restored to whole districts, and their fields bring forth their increase fourfold.

More than forty years ago, in my youth, I had the pleasure and happiness of being on intimate terms with a miller and a farmer, who was a self-taught engineer, and who turned his knowledge to good account to the public; in fact, he was a public benefactor, for he was the means of extensive districts producing two heavy crops of grass in a season where before there was only one. His mill was on the River Nadder, and he irrigated the pastures on its banks by converting them into water meadows. The landowners on the river soon had the advantage of his knowledge: in fact, many wide districts of the kingdom were indebted to the country miller. Men called "drowners," working practical men, were instructed by him, and their services, far and wide, were sought by large and needful landowners.

The miller was very careful to take the levels so that the water could be quickly drawn or drained from the land, for if allowed to remain beyond a certain point it is hurtful instead of beneficial, causing swamps instead of fertile pastures. The drowners know by practical experience when the water must be drawn off, as soon as a scum appears upon the surface of the water, it shows that it has performed its mission, putrefaction sets in quickly. I believe that to be the real cause of the failure at Rugby of the sewage experiment: provision had not been made properly for drawing off the waste water. As to the sewage being only applicable to some lands, it is all nonsense: it is applicable to all lands; it contains and holds the food of plants and grasses that grow on all soils.

The experiments made at Edinburgh, Carlisle, Croydon, Mr. Mechi's, and elsewhere, should be quite sufficient to convince farmers that it is their interest to obtain the sewage for their lands when it can be obtained.

G. O. Lucas.

METROPOLITAN AND OTHER IMPROVEMENTS.

Among the mass of what we may call Parliamentary advertisements there are some which we may more particularly notice: —

One seeks provision for the protection and improvement of Wimbledon Common, and the appropriation of a part of it (700 acres) as a public park or place for recreation. Earl Spencer, the proprietor, called a meeting lately at Wimbledon, and explained his views. His proposal was to inclose with a light iron railing that portion of the common lying between Kingston-road and the village of Wimbledon. It would be thoroughly drained, and openings would be left at intervals, affording ready access from all points. The present roads would be improved, new roads would be made, lodges built, and it would be generally ornamented and improved, and would be for ever dedicated to the public. He would become its superintendent, with the title of Protector. By-laws would be framed to come into operation when approved by the Home Secretary or some other Government official. These would regulate the details of the management. It was proposed to allow associations of a national character to hold meetings there, and it would rest in the hands of the Protector, acting with the sanction of the Government official, to determine to what associations this privilege should be extended. He would bear the current expenses of management and repairs. To meet this he would have the exclusive right of pasturage. The expense of the formation of the park and compensation to copyholders it was intended to meet by the sale of outlying portions of the common. The compensation would be fixed by the Enclosure Commissioners, and would extend to the rights over the entire common, or over such part only as would be affected by the scheme, according as the copyholders might prefer. Such were the outlines given of the very liberal scheme which his Lordship proposes to carry out.

Another of the advertisements relates to the metropolitan bridges, power to purchase and throw open which, so far as they are impeded with tolls, is sought from Parliament, with authority to levy a public rate for the purpose. It is proposed thus to deal with Southwark, Waterloo, Vauxhall, Battersea, Chelsea (Sus-

pension), Hammersmith, Deptford Creek, and Lambeth Bridges.

The Westminster Improvement Commissioners seek authority to form two new streets, one in substitution of New Tothill-street and Dacre-street, from the north side of Victoria-street, commencing at the west corner of No. 1, Victoria-street, Westminster Abbey, and terminating in the Broadway; and the other commencing in the Horseferry-road, at the south end of Artillery-terrace, running southward, and terminating in Rochester-row, at or about 315 ft. south-westward from the corner of Old Rochester-row. Other powers, especially for the consolidation of Acts, and the winding up of the commission, are also asked.

Under the title of "St. Clement Danes Improvement," power will be asked for to form an association, commission, or company, to effect sanitary and other improvements in the parish of St. Clement Danes, to provide dwellings for the industrial classes, to widen and improve that part of the Strand which lies between the churches of St. Mary-le-Strand and St. Clement Danes, and also to widen and improve that portion of Wych-street which lies between New-castle-street and the termination of Wych-street, near St. Clement's Church, and for other purposes.

A "Ramsgate West Cliff Improvement" Company is also projected, for the construction of an embankment, viaduct, or roadway to the West Cliff; a promenade or drive from the West Cliff Parade, close to Mr. Pugin's, to the village of Pegwell; and for other purposes of improvement at Ramsgate.

INSTITUTION OF CIVIL ENGINEERS.

DECAY OF MATERIALS IN TROPICAL CLIMATES.

THE paper read at the first meeting of the session, November 15th, Mr. M'Clean, President, in the chair, was "On the Decay of Materials in Tropical Climates, and the Methods employed for arresting and preventing it," by Mr. G. O. Mann.

The facts and experience recorded in this paper had reference particularly to the empire of Brazil, the author being the resident engineer and locomotive superintendent of the Recife and San Francisco Railway Company. It was stated that the temperature varied less, probably, than in any other quarter of the globe; but the seasons, which it was believed influenced the decay of materials to a greater extent than the temperature, were not so regular. Thus, the rainfall ranged from 60 in. to 120 in. per annum.

It had been found, on the Pernambuco Railway, that the half-round intermediate sleepers, of timber from the north of Europe creosoted, were in a better state of preservation than the square sawn, joint sleepers of the same material; still, after seven years' trial, it was evident that creosote, when properly applied to suitable descriptions of timber, would prevent decay. In white-sand ballast, since the opening of the first section of the line in 1858, the half-round sleepers had not suffered a depreciation of more than one per cent., while the square sawn sleepers had experienced a depreciation of fifty per cent. The author, after nearly seven years' experience, was confident that properly selected timber of the country would be found more durable than any description of wooden sleeper yet imported. It was advisable, in order to prevent decay, to cut the timber during the dry season, to select large and full-grown trees, to remove the whole of the bark and sapwood, leaving the heart of the timber only, and not to expose the sleepers in the sun when fresh cut, but to stack them in open piles under cover, through and about which the air could freely circulate for a few months.

Respecting timber in general, it was remarked that good timber for building purposes abounded in Brazil, in the greatest variety. Many kinds were impervious to the white ant, which insect generally selected the more porous descriptions, and particularly those in contact with the earth. Latterly it had been the practice to "pay" over with coal tar the ends of all timber built into the gables of buildings, or in any other position in which it was buried, or excluded from the air, and so far apparently with beneficial results.

The only examples of iron bridges in the province of Pernambuco, except that of St. Isabel, completed in 1863, were those belonging to the railway. The result of a careful examination of four of these structures, after they had been erected six years, was to show that the cast-iron pipe piles forming the piers, were likely to remain good for a considerable period; and that the upper structures of wrought-iron would also last well with ordinary attention. The only parts apparently affected were the wrought-iron bracings, and the bolts and nuts below high-water mark. With regard to the preservation of iron bridges, and of ironwork in general, for the tropics, care ought to be taken to insure the iron being perfectly dry before the paint, or any other composition, was laid on. Coal tar had been found to afford a most efficient protection. It was advisable that all small pieces should, before being shipped, be heated to a low temperature, and then brushed with and dipped in tar; the larger parts should be well cleansed, and the tar laid on while hot. Where tar was objectionable, linseed oil might be applied in the same way, and over this there should be a thin coating of zinc paint.

With regard to building materials, stone, wherever it could be obtained at a reasonable price, should be preferred for the abutments and piers of bridges. Stone imported from Portugal, for facing the churches, and in a few old Dutch works of the seventeenth century, had been found to be very durable. Great caution was necessary in the selection of bricks, as those made near the sea-board, with brackish water, were very susceptible to the weather, and mouldered away rapidly when exposed.

CONTINENTAL NEWS.

Belgium.—A company has just been formed in Brussels for the purpose of erecting a permanent Exhibition Building for Arts, Sciences, and Manufactures. The capital subscribed is three million francs, and a site has been taken at Laeken.——The Counts Egmont and Horn, who fell the victims to Spanish fanaticism, are about to have a monument erected to their memory on the square of the Hôtel de Ville. It will consist of a group of four persons, the two counts in the centre; on either side, a little back, two warriors. Unfortunately, it is proposed to place this group on the steps leading to the Maison du Roi (formerly known as the Broothuys), instead of erecting it in the centre of the square.

Prussia.—The new Exchange at Berlin, a model of which our readers will remember near the western dome of 1862,* is said to be anything but satisfactorily arranged. Much fault is found with a general want of accommodation, whilst room is wasted in arcades and corridors. In order to make space for reading-rooms, which are much wanted, the whole staff of telegraphists will be moved to the head station, in the Französische Strasse, and a pneumatic tube will carry thither all messages which may be written at the Exchange.——A new and very roomy gymnasium has just been opened in Berlin. These gymnasia will and can only be in favour amongst a people who seldom take more exercise than is absolutely necessary.——King Frederick William IV. was buried at the Friedenskirche, at Potsdam, on the 15th of October, and the figure of an angel has now been placed over the vault. It is a marble copy of the "Angel of the Resurrection," in the Church of Sta. Maria da Gloria, at Rome, and was ordered by the king himself to be placed where it now stands. The work was executed by Tenerani, sculptor, at Rome.——Cologne is just now very active in the work of church restoration. The dome of the Church of St. Gereon is newly repaired, the Church of Sta. Maria im Capitol is having its chancel and transepts cleaned and re-pointed, and St. Martin's is partly closed on account of repairs. The Committee for the "Dom" has published the amount of subscriptions received during the first nine months of the current year. The sum is 40,707 dollars, or about 6,100*l*. They also announce, that out of the 500,000 lottery tickets issued for the benefit of the "Dom" building fund, some 180,000 have already been sold at a dollar each. Parts of the Gurzenich or Guildhall are undergoing alterations, and the Rathshaus is likewise in the hands of the builders.——A cast-iron effigy of Emanuel Kant has been erected at Konigsberg, near the house in which he taught and died. The statue, together with its granite pedestal, is 18 ft. high.

Austria.—The great saloon of the Arsenal at Vienna is to receive the marble busts of all the chief warriors, from the founding of the empire to the present time. The busts, which are being executed by the sculptors Meixner, Hans Gasser, and others, will be ranged on either side, surrounded by trophies and weapons of their respective periods.——The following architects have been invited by the Minister of State to compete for the new Houses of Parliament:—Messrs. F. Schmidt, Van der Nill, Von Siccardsburg, Hansen, Romani, Schwendenwein & Ferstel, and Messrs. Zidek, of Prague, and Abl, of Pest.

* Now at South Kensington.

EXHIBITION OF ARTS AND AGRICULTURE IN CASERTA, ITALY.

IN a suite of rooms in the king's palace, an exhibition of the natural productions, fine arts, and industry of *Terra di Lavoro*, has been thrown open to the public, with the view of promoting a greater desire of progress in the husbandman and labourer of that province. On Sunday, the 9th of October, at ten o'clock, a meeting was held, where the deputations of the Academics of Naples, expositors, and other personages attended. Gennaro Mara, president of the Directing Committee, occupied the chair, and made an eloquent speech on the present condition of the country. He expressed a hope that the exertions of the Agricultural Association would be of great benefit to the labouring community. He complained of the want of a geological chart of *Terra di Lavoro*, and he hoped to see that important work accomplished. Mechanical factories are very scarce, and the most useful machines are imported from France and England; but the development of industry requires to be promoted by manufactories of those kinds.

The first saloon contains seeds and fruits, among which are enormous gourds, remarkable for their regularity of form, large beetroots, a very fine sort of potato, a peculiar class of lentils; and apples, pears, and other fruit of marvellous size and delicious flavour.

In the entrance court were arranged in the best order the exhibited machines, viz., a reaping-machine on the American system; Weston's patent differential pulley blocks; Turner's patent roller-mills for bruising corn; patent hand-power washing-machine for linen; double-action cotton gins, Mears by system, by Platt, Brothers; drag-harrows, and with spikes and for iron in teeth, for all purposes; portable horse-power (Norton's patent); portable corn-mill for 36-in. stones, on wood frame; iron drag-rake; set of horse work for three horses; horse-power thrashing-machine; thirteen-row drill, for wheat, barley, peas; rove patent iron cultivator, with five coulters; one combined thrashing and finishing machine, for an engine of 8-horse power; an assortment of the most approved English, Italian, French, and German agricultural implements, &c. The greater part of these implements have been exhibited by Messrs. Whitmore & Grimaldi, and public satisfaction has regarded the efforts achieved by them in representing at the exhibition the progress of agricultural machines.

In the meadow near the palace were milch-cows, remarkable for size, colour, and strength. The cattle-breeders have crossed the breeds, namely, Switzerland and Campanian. These were a race of English origin, and every species born in the province was perfect in its kind. But the exhibition in that field has been very scarce, because the political party have spread a report that the exhibition was for imposing a new tax on animals. This reminds us of the Arabs, who refused at first inoculation from the French, because they said that it was the seal of Beylic (government), for bringing their sons to France whenever they chose.

AN IRON AND CONCRETE CHURCH, FRANCE.

AN interesting church has been erected at the Park of Vesinet, near St. Germain, from the designs of M. Boileau, the architect of the Eglise Saint Eugène, constructed of wrought and cast-iron, and concrete or béton aggloméré, M. Coignet's patent. The St. Eugène church was the first in which the application of cast and wrought iron was made to a considerable extent, and when the design of the Vesinet chapel was being made, M. Coignet requested M. Boileau to try the experiment on a large scale, by substituting the concrete for stone. This was agreed to, and the result is that we have a monolithic church, its walls being in one solid piece, as well as the columns and mouldings for the windows, the open-work balustrades, and all the decorations.

The eastern entrance, with a porch, is surmounted by a tower, and is flanked on each side by a small chapel in the line of the side aisles. The church is divided into nave and side aisles,

separated from it by grouped slender columns of cast-iron, which rise as high as the side walls. From these spring pointed arches, of iron also, over the nave and over the bays separating it from the aisle; these arches carried up to the roof completely relieve the walls of the pressure of the arches over the aisles. All the roofing is externally covered with two layers of wrought-iron plate, separated a few inches asunder by a hermetically imprisoned layer of air. The length of the edifice is 170 ft. 7 in., and breadth, 55 ft. 9 in.; height to summit of arches of nave, 55 ft. 9 in., so that the breadth is equal to the height internally. The spire is to be 131 ft. 3 in. high. M. Michel Chevalier said, in 1855, with regard to this new system of cast and wrought iron edifices, "The mass of materials to be lifted to great heights is considerably diminished; the arching is considerably lighter and more permanent in its form; the lateral pressures, so dangerous, are almost all reduced into vertical harmless ones; an iron roof does not weigh upon the walls, and therefore we have been able to suppress counterforts and buttresses; the thickness of the walls is reduced to almost nothing; in fine, with half or perhaps one-third of the expense [of a stone structure] we can enter into possession of a building of the same surface, of a greater height, and of an unhoped-for elegance."

The park of Vesinet, formerly the forest and wood of the same name, is situate at the borders of the Seine, at foot of the terrace of Saint Germain, and forms a worthy rival to the surrounding enchanted spots,—Chatou, Croissy, Bougival, Port-Marly, Le Pecq, Montesson, &c.

M. Pallu, the spirited proprietor, has organised a colony of rural habitations, possessing not only the charm of a country seat, but the pleasures of a complete park, laid out with groups of trees, shady groves, rich flowers in abundance, cascades, and rivulets. Some idea may be formed of the vastness of this enterprise from the fact, that the watercourses through the grounds are of a united length of nearly forty-five miles, and an engine of 120-horse power is constantly at work. All the houses have water laid on all the floors.

ALL SAINTS' CHURCH, WINDSOR.

THE first stone of this church was laid by H.R.H. the Crown Princess of Prussia on Nov. 21st, 1863; and the building was consecrated by the Bishop of Oxford on Nov. 21st, 1864. The architect was Mr. Arthur W. Blomfield, M.A.; the builder Mr. J. D. Hollis, Windsor.

The church consists of a nave and south aisle, the north aisle as now constructed being only temporary, and serving as a passage to the nave seats: a spacious chancel, and a small organ chamber, with a temporary vestry below, complete the present building: there is a bell-turret over the chancel arch pierced for three bells.

The plan, when finished according to the architect's design, will comprise, in addition, a large western porch, and a detached campanile, a north aisle, and a transeptal chapel north of the chapel, with two vestries eastward. About 3,400*l.* will be required to carry out these additions, by which nearly 400 more sittings will be gained. It is seated at present for 600 adults; and the contract was taken for 3,800*l.*, but various ornamental details which have been added by the desire of the committee during the progress of the works will raise the total cost about 4,000*l.* The church is of lofty proportion; the roof is open; and the height from the floor to the ridge is nearly 60 ft.

The materials used in the building are red brick, with black bands externally: internally the walls are faced with ordinary bricks and red bands, red and black bricks being used for the arches. Bath stone is used for the heads and sills of the windows, and in bands, and for the capitals and bases of the columns. Forest of Dean and Bridgend stone are employed for the columns and small shafts in the nave: all those in the chancel are of Devonshire marble. The windows in the aisles are few and small, the chief light being obtained by a large clerestory. The chancel has a polygonal waggon ceiling, divided into panels by a chamfered rib, the whole decorated in colour. The general ground is a dull green, bearing medallions charged alternately with the emblems of the Passion and those of the Apostles, the panels being edged with a border of passion-flowers. Under the east window is a reredos in stone and coloured marbles, having a large cross in the centre under a circular arch, with the emblems of the four Evangelists at the sides. This, as well as all the carving in the church, was executed by Mr. Earp. Over the chancel arch, in a recess formed by the corbelling out of the bell-turret, is a large floriated cross executed in mosaic, from the architect's design, by Signor Salviati. A wheel window in the western gable has been filled with stained glass, presented by Mr. Cooper, of Windsor. A design has been prepared under the architect's direction, by Messrs. Heaton, Butler, & Bayne, for filling the east window, but funds are yet wanting for its execution. The seats in the body of the church are the simplest form of bench in stained deals: the chancel-stalls are of oak. The altar-cloth has been embroidered by a few ladies in the neighbourhood. The communion-plate, which is silver gilt, is from Messrs. Frank Smith & Son, who also made the lectern. The body of the church is lighted by a line of gas jets issuing from a string course running round the nave walls under the clerestory windows. Behind the jets is an ornamental band of incised plaster-work, which serves as a reflector. The chancel is lighted by two brass standards. The gas-fittings and the rest of the metal-work in the church are by Messrs. Peard & Jackson.



Life amongst the Horses.

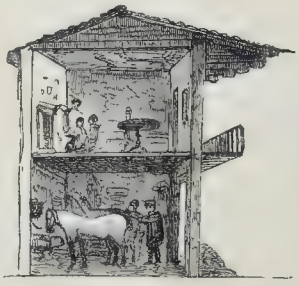
ACCOMMODATION FOR MAN AND BEAST.

A MEWS IN CLERKENWELL.

THE adjoining engravings show a condition of things which it is hoped will soon cease to exist in the metropolis. It may, however, be useful to give a passing note of it. The premises are situate not far from Coldbath-fields prison, and consist of a range of stables, which are reached through a square gateway. The central space for some hours of the day is used as a place for washing cabs. The pavement of the stables and yard is broken up and out of order; the cistern is neglected, and without a cover; and, in consequence, impure matters get into it, which render the water unfit for domestic use. At the time we called here, on a Tuesday morning about ten o'clock, the water supply was exhausted. Throughout the place there were indications of neglect, and the atmosphere was what might be expected in such a situation. The arrangements of the stables, either as regard ventilation or drainage, would not please any one who cares for or who understands the right management of horses.

On one side of the yard some rotten steps lead to a gallery, which is in such a state of decay that it trembles beneath the footsteps. Along this gallery, over the stables, there are several tenements. These rooms are very small, and the condition of the plaster-work cannot well be worse. The smell of ammonia in these apartments is as strong as in the stables below. In parts of the gallery there are two closets, without water supply or traps.

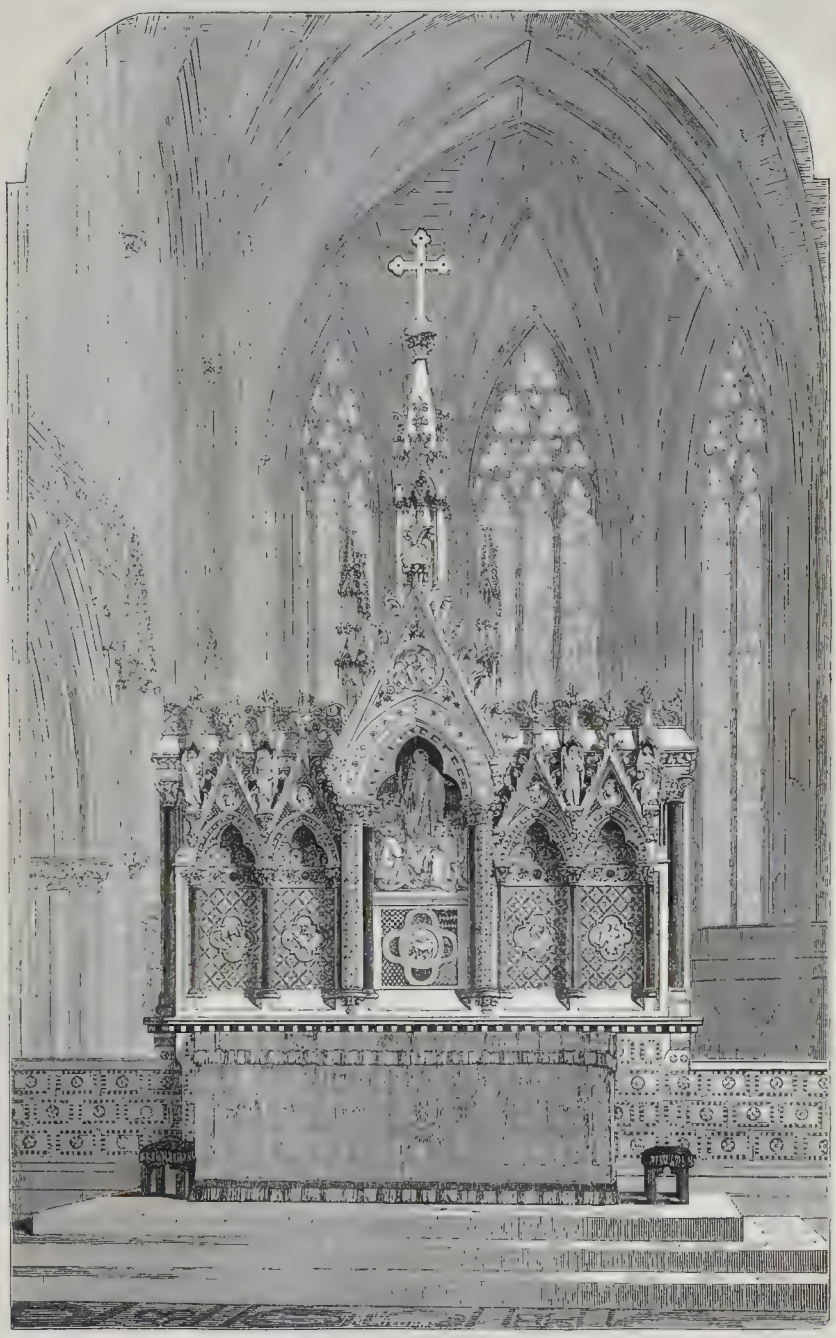
On the opposite side, also over stables, there is a workshop, in which a large number of men are employed during the hours of the day. In the basement of part of these premises there is a place for the reception of the stable refuse, which, for the sake of health, should be removed daily; but we are told that it is allowed to remain, and that, in order to save space, a pit has been formed, which causes the most unpleasant effects when the matter is removed. Glancing into this yard from the thoroughfare, the appearance of the gallery and projecting roof is picturesque; but few would think, until some inspection had been made, that it was inhabited. There is, however, a considerable population here, and sanitary care is necessary.



Sectional View.

NEW REREDOS, LICHFIELD CATHEDRAL.

THE reredos of which we give a view has been placed in the choir of Lichfield Cathedral within the last few weeks. It was designed by Mr. G. G. Scott, and executed by Mr. J. B. Philip. The whole, from top to base, is of alabaster, inlaid profusely with various coloured marbles from Derbyshire. The structure is arcaded, having a centre arch and two smaller ones on each side. The columns to the centre arch are richly worked in patterns and inlaid. The gable or canopy to this arch is surmounted with a carved finial, the crocketing being somewhat large and striking. Between the gables over the smaller arches are figures of angels, under canopied finials. The coped roof behind the gables is crowned with an elegant cusping. In the centre of the work rises a tall slender shaft and pinnacle, capped with a finial carrying a cross of slender form. At the angles of this centre shaft are four small columns. A bas-relief, the Ascension of Our Saviour, adorns the centre compartment of the reredos, and



NEW REREDOS, LICHFIELD CATHEDRAL.—Mr. G. G. Scott, R.A., Architect.
MR. J. B. PHILIP, SCULPTOR.

below this is the Lamb within a quatrefoil, surrounded by mosaic work. The other compartments have the symbols of the Evangelists, in bas-relief, with diapering as a background. The base, or screen, is divided into oblong squares, closely inlaid in pattern as a border; these, alternately green and red, have a patera in the centre, in relief. The total height of the work, from base to top of the cross, is about 20 ft., and the breadth is about 12 ft. The screen, of course, reaches from side to side of the choir. The arcading will eventually be extended on each side. We should observe, the back is as richly decorated as the front.

CAMBRIDGE ARCHITECTURAL SOCIETY.

At a meeting of this Society on the 17th inst., the Rev. G. Williams, of King's College, delivered a lecture on two coloured drawings of the interior of the Dome of the Rock,—popularly known as the Mosque of Omar,—at Jerusalem. He said that he did not like to have these interesting drawings in his possession for a time, through the kindness of the Count de Vogüé, to whom they belonged, without availing himself of the opportunity thus afforded him of bringing them under the notice of the Architectural Society. He complained that the histories of this Mosque, by Moslem writers, were so uncritical that they could not be relied on for an account of the decoration with which it was covered; but this defect in the written histories was happily supplied by inscriptions in the building itself, in which all the principal parts of the ornamentation were dated, generally with the name of the Caliph or Sultan by whose order it was executed. All the historians, and the traditions recorded by them, which go back to a very remote period, agree in this,—that the Dome of the Rock was first erected by Abd-el-Melik Ibn Merwan, in the 72nd year of the Hegira, *i.e.*, A.D. 691-2, and this date is recorded in an inscription in the Mosque itself; while the name of the founder has been altered by a later caliph, who had done much to beautify the building, and wished to have the credit of its erection. Part of the original decoration still remains, as, *e.g.*, the mosaics in the spandrels of the arcades which surround the dome and separate the two octagonal aisles. It was the Caliph Mamoun who substituted his name for that of Abd-el-Melik. He reigned from A.D. 813 to 833. He it was who covered the doors with bronze, and put plates of embossed bronze on the soffits and outer sides of the larger beams which rest on the columns of the aisles. The frescoes on the drum of the dome (corresponding to a blind triforium space and clerestory), which are very similar in general character to the original arabesque mosaics of the lower story, are dated 410 of the Hegira, but have no Caliph's name recorded. The latest restoration and decoration of the building, which was very extensive, was executed by order of Suliman the Magnificent, the son of Selim, who was Sultan of Constantinople from 1520 to 1566.

LONDON WALL.

At the first meeting of the Society of Antiquaries, last week, Mr. Tite, M.P., read an interesting paper descriptive of some recently-discovered remains of the Walls of Roman London. He stated that in the year 1853 a tesselated pavement was found by him under Gresham House, in Broad-street. This discovery had always led Mr. Tite to believe that similar remains existed in the same neighbourhood, further strengthened by the fact that in Trinity-square, just adjoining, a portion of the ancient wall of London still existed above ground, which, although not Roman, was supposed to rest on Roman foundations.* In 1841 the Blackwall Railway, much further north than this point, cut through Roman remains of the great wall, but beyond that slight indication, things remained in the same state until the autumn of this year. In August, 1864, certain large works were undertaken in Cooperrow for the erection of immense warehouses, to meet the increasing trade of London. These were intrusted to Mr. Clifton, architect, who in August of this year brought him a photograph of some curious remains discovered in executing these works. Mr. Tite visited the spot, and found a very extensive fragment of a Norman wall, with archer arrow slits and other defensive appliances. The fragment was 110 ft. long, and in height from the bottom of the foundation to the top of the parapet 41 ft. All the foundations, and a considerable portion of the lower wall, were undoubtedly Roman, built of square stones in regular courses, with bonding courses of Roman brick of intense hardness and excellent cement. Mr. Tite stated that the cement was so hard that he could not procure a whole brick for exhibition, but had obtained one broken in half. This specimen seemed to be as hard as any red earthenware, and was, as was always the case with the Roman, more of what we should call a tile, being about 1 ft. square and 1½ in. thick. The mortar between the bricks, unlike our modern system, was nearly as thick as the bricks themselves, and abounding in portions of pounded brick. Mr. Tite showed the exact place of these remains in an ancient plan of London in the reign of Elizabeth, when the walls and gates were in existence. He then pointed out a few other localities where undoubted Roman remains of these walls were traceable—viz., Camomile-street, the street still called London-wall, and near Moorgate. In referring to the history of Roman London, Mr. Tite pointed out that there could have been no walls at the time when Suetonius abandoned it in A.D. 61. He quoted some Norman historians, who referred the walls to a period as late as the Empress Helena, but his opinion seemed to be that they dated about the second century of our era. Mr. Tite pursued his history of the wall of London through its various phases of ruin and revival until the patriotic Lord Mayor, citizen, and draper, Ralph Joscelyne, in 1477, completely restored all the walls, gates, and towers, in which work he was assisted by the Goldsmiths' and other companies, and by Sir John Crosby, a member of the Grocers' Company. The gradual increase of the necessities of the citizens for more space, and the Great Fire of 1666, completed the destruction of these once important defences, and but few remains now exist to show their extent and value. Mr. Tite stated that the total area, enclosed by the walls, which still constitutes the great "City of London," is only about 380 acres.*

* If we remember rightly, there is no reason to doubt that the lower part of this wall is Roman. We take to ourselves some credit for having mainly assisted in preventing its destruction some years ago.

* In an earlier volume of the *Builder*, some papers, descriptive of the existing Remains of London Wall, fully illustrated, will be found.

THE CAPTAINS OF LABOUR.

The other day, when speaking of the opportunities which had fallen to his lot of forming a just estimate of the working classes, Sir Morton Peto stated, that for years past his firm had employed not less than thirty thousand men in their different works. These consisted, of course, of persons of various classes, who, as this great contractor remarked, were employed in different parts of the world, and comprised the people of many lands. Fifty or sixty years ago the guidance of so many hands by one head for any other than warlike purposes would not have been thought of. It seems even in these days a marvellous fact that Sir Morton Peto's army which is engaged in advancing the civilization of the world, should be as numerous as those commanded by the Duke of Wellington and other noted generals. Besides the advantage of the works which are completed by this enormous human power which is wielded by Sir Morton Peto, there is also to be taken into consideration the additional aid of steam, hydraulic power, and other applications by which, in part, docks, harbours, railways, and other constructions are made. And the amount of money yearly distributed by this firm for labour and for various materials must amount to a vast sum. We have no certain figures to go upon; but if we estimate the wages of all classes of the employed at 1*l.* a week on an average for each man, the item would amount to one million five hundred and sixty thousand pounds in the year. There are many other monster establishments; and it is one of the remarkable signs of the present age that these are constantly on the increase. The writer has noticed the beginnings of many of these now great establishments; their small and seemingly unpromising infancy, and, in spite of the unremitting exertions of the promoters, their slow growth up to a certain age, and then their sudden and wonderfully progressive increase. Then, perhaps, as years roll on, although the operations are so vast, the labours of the principal are less arduous than at first, for he has brought his establishment into working order, and by means of trustworthy heads of different departments on whom he can thoroughly depend, the machine, however huge its size, moves on successfully with comparative ease. A most interesting and instructive book might be written on the rise and progress of the great firms in the metropolis and the provinces. The results are not all good.

THE WANT OF SKILLED LABOUR.

After the delivery of Mr. Hawes's address at the Society of Arts last week,—

Mr. Hartley, as a manufacturer and large employer of labour, called attention to the great scarcity of skilled labour in this country, which he said was the case to such an extent that a very large amount of skilled workmanship had to be sent abroad to be executed. This was a subject which he hoped would be taken up by the Society. There were abundant means of supplying the requisite amount of skilled labour which an increasing trade demanded; and the advantage to in a boy being properly educated as a skilled workman was equal to giving him 600*l.*

Mr. P. Palmer expressed a hope that the influence of the Society and of the chairman, as a member of one of the principal City companies, would be exerted to induce those corporations to exhibit the rich treasures of works of art which they possessed for the benefit of the community. He thought it would well comport with the position and dignity of the great City companies to co-operate with the Society in the way he suggested in aiding the spread of the art education of the country.

Mr. Harry Chester might so far answer, on behalf of the council, the observations just made by stating that the question of skilled labour was one which had largely engaged the attention of that body. They were aware of the great want that existed. They were not, however, at present prepared with any particular plan from which they hoped to derive any great results in that direction; but it was a subject which in various forms had been always more or less before them. The exhibitions which had been suggested by the last speaker might have a tendency in that direction, and it would be most gratifying to the council to give their aid to any scheme which promised to be instrumental in carrying out the extension of their object.

"AMEND YOUR WAYS."

The dark and dreary month,—a time of drizzle, fog, and discomfort, particularly to metropolitan wayfarers—has again come round, after the October leaves have fallen; and now, unless better means are used than were formerly, we shall have those filthy and sloppy conditions of foot-paths and carriage-roads which have been so unfavourably commented on by people from the other cities throughout the three kingdoms, and even by foreigners. The damage caused to shoes and dress must amount to many thousands of pounds a year; and the labour of carriage and horse washing and cleaning must be as great as it would, under proper management, be unnecessary. So long as macadamized carriage-ways are in existence, there will always be a difficulty in getting rid of mud; but in Regent-street this has to a certain extent been managed, by a little extra care and expense; and, in other instances, the carriage-ways have been permanently paved with granite. Nevertheless, the condition of many thoroughfares was shocking during all last winter: it is to be hoped, however, that this vexatious nuisance will at length meet with some remedy. The law as it at present stands ought to be sufficient, if properly carried out, to mitigate the evil. Parish authorities are bound to keep thoroughly clean the roadways; and the occupiers of shops and houses are also compellable, *according to law*, to keep them clean. We notice that some occupants regularly attend to this duty; but, owing to a want of general co-operation in this work, the clean paths of the conscientious and diligent are soon overtrodden with the mud from neighbouring premises. There should be some power, if there be none already, which would strictly enforce the proper cleaning of the roadways by the parish scavengers; for unless this be done, it is not of much use to endeavour to keep the foot-paths in right condition. As regards the latter, both the parish inspectors and the police can

punish all neglects by a fine; and this persuasive is sometimes resorted to after snow-storms; but attention is quite as much required when the pavement is in a slippery state in consequence of the gradual damping of the mud, which in many cases has been allowed to remain for weeks together. Every house front, especially those in the main thoroughfares, should be thoroughly swept, and, if necessary, washed every morning, before a stated hour;* and if the proper purification of the footpaths were insisted upon, this might be the means of affording a certain amount of regular employment to boys and others who are connected with the industrial and ragged schools, and with the shoe-brushing brigades.

There is one point in connexion with the London footpaths that requires attention: we mean the neglected state of the frontages of churches and public buildings, long dead walls inclosing mansions, and so forth. The authorities of the British Museum deserve praise for the care which is taken around their own extensive structure; but in other instances the neglect is evident. Take, by way of example, the north side of new St. Pancras Church; the east side of the Great Northern Railway-station, at King's Cross; and the east and north sides of the House of Correction, Clerkenwell.

As regards the footpaths, we seem to be like the well-known person between two stools: we depend, on the one side, on the parish inspectors to attend to this duty; and, on the other, on the police: neither, however, seem to consider it any especial business of theirs; and so we have again to say, "Amend your ways."

LONDON DUST.

"Dust" seems to be increasing in value, and instead of being a source of expense to parishes has been made a means of profit. Nevertheless the impost of "beer money" is continued, the contractors still underpaying their men. This presses heavily upon the poorer classes, pent up in crowded neighbourhoods, where it is most needful that the refuse should be removed. In those neglected spots there is a difficulty in paying the beer money, and the men drive their carts to where they are more certain of their perquisites.

Now would seem to be a favourable time for the removal of this abuse. The parish authorities cannot complain of any additional and burdensome cost; let us trust, therefore, that in the granting of dust contracts, boards will make it a provision, that the men who collect the dust and drive the carts shall be paid a fair amount of wages, and that the beer money shall be entirely abolished. This may seem to some to be a small matter: experience, however, shows that in many ways it will be of advantage to health.

If an improved system of conveying the refuse from the homes of the poorer classes yield a saving of thirty or forty lives per annum in the metropolitan population, and prevent, to some extent, the spread of pestilential diseases, it will be work well done. The proper removal of the dust, also, leads to tidiness; for with the matters which have been thrown away spread over the yards, in consequence of the dust-bins not being able to contain them, there is not much encouragement for cleanliness. In wet weather, especially, the dirt is brought again into the house, and so one evil leads to another.

METROPOLITAN BOARD OF WORKS.

THE WOOLWICH EPIDEMIC.

At the weekly meeting of this Board, Mr. Bazalgette reported that it is confidently expected that within two months the Crossness pumping-station will be completed, and then the sewage on that side of the river will be discharged at high-water; and, being carried away by the ebb tide, will no longer flow up to Woolwich; but that there appear to be no tangible grounds for attributing the epidemic with which the neighbourhood of Woolwich has been visited to the discharge of sewage into the river. The sewage of London always flowed past Woolwich, while the sewage of the town was cast into the river at low-water opposite to it; and the state of the river was certainly very much more offensive at Woolwich four or five years since than at present. The report was ordered to be entered on the minutes. Mr. Doulton, M.P., asked the engineer whether the Metropolitan Railway Company had taken any steps to construct their line on the embankment. The engineer said the only information he had had was a letter about two months since from Mr. Fowler, the engineer of the proposed line, with respect to a question as to a station. Mr. Doulton said the Board would not care to see the embankment pulled up directly it was finished. The question was referred to a committee.

At the last weekly meeting of the Woolwich Local Board of Health, Mr. Knaggs moved for the appointment of a committee to inquire into the causes of the present great mortality in the district from epidemic disease. He said that the Registrar-general's report proved that the mortality at Woolwich now far exceeded that at the period when cholera raged in 1854. The prevailing epidemic, typhus fever, had struck down the wealthy and the cleanly, even more than the poor and those who were compelled to reside in crowded habitations. Woolwich was naturally a healthy town, twice as healthy as London; but now the rate of mortality was several times greater. After consideration, and obtaining all the information he could, he was convinced that this state of things arose from the discharge of the metropolitan sewage into the Thames at the outfall works near Barking Creek, or from defective trapping of the local sewers. At all events, a searching investigation was required. After considerable discussion, Mr. Knaggs's motion was adopted and a committee appointed.

* In some articles which appeared in the *Builder* on the state of Manchester, we mentioned the use of short hose with pipes fixed to a water-tap in front of the shops, which very effectually cleansed the flag-stones.

GLASS MOSAIC FOR EXTERNAL DECORATION.

From an article which appeared in the *Builder*, upon the "Discolouration and Decay of Stone in Buildings," it would seem that whether brick, stone, or cement be used to form the surface of a London building, in a few years that surface is covered with black in consequence of the smoky atmosphere which ever envelopes it. If the materials used be sufficiently hard to prevent the smoke from penetrating into them, it would appear that the washing by a fire-engine is the best way to remove the dirt; but if they be soft and porous, the smoke eats into them and forms a crust which only the cutting with a chisel will remove. It is also written in the article referred to,—"So long as the art-work and effects which architects produce are not lasting as the structures of former times, they can hardly come before the public with a clear conscience in advising the expenditure of money upon decoration." Now, sir, supposing that London architects were to find a good hard stone that they could always depend upon, even then would they be justified in cutting up that stone with delicate carving if in a few years it must be clodded with soot, and that soot could only be removed by the forcible ejection of water from a fire-engine? The architectural members of a building may be able to stand like men, and have their faces washed in a proper manner; but are the finely-cut lines surrounding delicately-carved foliage,—the children of these men,—which throw life and poetry into the whole,—are they to be exposed to this unceremonious treatment? Surely not: we might as well imagine one of the respectable female scrubbers at the sea-side deliberately standing with a young innocent in the teeth of a dashing wave to "bliss 'is little 'art" with a washing. The art will not stand it; and therefore if the washing must take place, the delicate carving should not exist. But we cannot have a true architectural structure without surface ornament. The question then arises, can we have any substitute for stone-carving in the buildings of our smoky cities? In my humble opinion, the best substitute we can have is glass mosaic. Clouds of smoke in a humid atmosphere may dirty it, but a good shower of rain will at once cleanse it. There can be no question as to its durability, and the colours, including gold and silver leaf, may be had of an infinite variety. The expense of this kind of decoration, however, is continually used as an argument against it; I think, unjustly, when we compare it with other kinds of surface-decoration, such as the carving of stone. The real expense consists, not in the material itself, but in the cutting of it: the smaller the pieces are, the more costly will be the work. Now, it is not necessary that we should have glass mosaic in pieces not exceeding ¼ inch square, as many persons seem to imagine. If the pieces were kept large, say averaging 2 square inches or rather more, I believe the cost would not exceed 10s. per square foot. This size of piece, moreover, will be found to be more in keeping with the architectural detail of a building, especially on the exterior, and at a distance from the eye in the interior.

I will take this opportunity of referring to a specimen of my own in glass mosaic, which has been exhibiting at the Conduit-street Rooms for several months past,—not to bring forward my own work in particular, which is by no means so good as it might be,—but to call attention to a new principle of decoration. I have called this particular kind of glass mosaic "painted opaque glass;" and I will say that the original idea of it does not lie with me, although my specimen was, I believe, the first publicly exhibited. Suppose we have a cartoon of a figure, or other decoration, intended to be used for stained glass, coloured, and with all the leadlines correctly indicated, we could produce in glass mosaic an exact resemblance to such a cartoon; that is to say, we could cut the different pieces out of glass mosaic, instead of out of transparent glass, and the cement lines in the former would take the place of the lead lines in the latter. Black enamel colour would be painted on the surface of the mosaic, and burnt in as in stained glass, so that the whole would be extremely durable. The advantage, then, of this description of work is, that for patterns and figures the pieces used may be large, and therefore the cost small; whereas, in the true glass mosaic, the pieces used for patterns and figures must be very small, and therefore the cost must be great. The former work would probably not cost one-fourth of the latter. It is surely time that this material had a fair trial in one form or another. Even supposing that it were to cost as much as is commonly supposed, the advantage gained in a town from its cleanliness, beauty of colour, and great durability, ought at once to recommend it. The great thing to obtain is good design, a just balance of parts, and the judicious arrangement of harmonious colour.

J. T. Lyon.

"THINGS TO BE DONE."

Surely your correspondent, "One who likes to Reap as well as Sow," is not an architect, otherwise he would rather deplore the *rapidity* with which large buildings in the present day are run up, than complain of the tardy movements of their builders. He asks, amongst other questions, When is the Charing-cross Hotel to be completed?

Did he ever ask *himself* the question how much thought and study are required of the architect to conceive and carry out so large a building, or how much of the reputation of such architect is involved in the successful solution of so difficult a problem? The architect of this building has already suffered most seriously in a former grand work, by the pressure put upon him as regards time, or his talent would have produced at Covent Garden a theatre that would have been a credit to the nation, and *worthy* of the son of the greatest master of Classic architecture that modern times have produced. We have now only a building that is remarkably fine, *considering the rapidity with which it was designed and carried out*; but surely this is but feeble praise. Charing Cross Hotel is suffering from the same cause, if one may judge from the lamentable absence of the *master's* hand in nearly all the detail. Scarcely can we perceive that even the *eye* of an A.R.A. has passed over all the minor portions of the work,—grand as the composition undoubtedly is as a whole.

Now, sir, you have frequently exhorted the younger members of the profession to spare neither time nor trouble in perfecting their designs, quoting Michelangelo's words, that such *trifles* make all the difference between *excellence* and *perfection*, and adding that blunders in stone ever remain to reproach and annoy. May not this exhortation with propriety be given to some of the more advanced members of the profession, from whom great things are expected, especially when they are honoured with the title of Royal Academicians or Associates?

The men of Sir William Chambers's and Sir Charles Barry's type are fast dying out, and generations to come will suffer by the commercial spirit that is being infused into that

which in former ages was a *divine* art, but now, alas! in many cases, is a mere business.

Your correspondent also asks when will the Houses of Parliament be finished? Much more important is the question, When will the Palace-yard front *be commenced?* We can well be content to wait for the completion. Let it steadily progress from year to year, and be as carefully studied in all its detail as the portion already carried out, and the nation will one day have reason to rejoice that it has reaped in due time abundant fruit from the *good* seed that has been sown.

THOMAS PORTER.

CISTERN WASTE PIPES.

A GOOD SUGGESTION.

WHEN the standing waste of a cistern is taken into a drain, it often happens that the small trap into which the end of the pipe is inserted becomes dry, from either the evaporation of the water or the absorption of the water by the material of which the trap is formed (a glazed paint-pot makes an excellent trap for this purpose). To remedy this evil, the most usual course is to adjust the ball-cock, that the water shall overflow the "standing waste" daily, and thereby (very unjustly, I think,) waste a very large quantity of the water supplied for consumption by the water company; and this expedient only answers for so long a time as the ball-cock remains in the same working order as when it is adjusted. With your permission, I will describe to you another means, and a very simple one, too, of effecting this object.

Take a hank of stout knitting-cotton, say 18 in. long (one pennyworth, at the present price of cotton), and having doubled it, tie one end to the outside of the standing waste 9 in. from the top, and let the other end or 9 in. hang down inside the standing waste: the effect of this will be, that when the cistern is full, or within some inches of being full, the water, by capillary attraction, will travel up the cotton and over down the waste-pipe (very slowly, say half a pint in an hour), and thus keep the trap constantly charged. This is a self-acting trap-supply, which once fixed will never fail, and will be the means of keeping back the drain gases, not only from contact with the water in the cistern, but from contaminating the air of the whole house. I may here say (from experience), that the want of water in these small traps is a fruitful source of stinks in a house. The basement cistern is, more often than not, in some out-of-the-way place, and consequently has no attention; and the ball-cocks, many of them, are but cheap and sorry affairs: the trap at the end of the cistern waste emptying itself into the drain, being empty of water, the gases from the drains, and *worse, from the street sewers*, have free access into the house, from basement to attics. The inhabitants are often sickened and almost poisoned by stinks, and they cannot tell whence they come; and all this annoyance and possible illness may be avoided by this very simple means. Need I say, that this appliance would adapt itself well to the syphon standing waste described by a former correspondent.

W. H. C.

A NEGLECTED "TOWN" ON THE SEVERN.

SIR,—Seeing the remarks in your paper as to a *city* on the Severn, I wish to draw your attention to a town on the same river, the capital of the county of Salop, with a beautiful neighbourhood, and possessing scenery in its environs quite equal to that of Worcester. The last census I cannot now refer to, but I believe the population is over 20,000, and I think you would find it difficult to name a town so well circumstanced for railway communication to all parts of the British empire, and where the inhabitants have made so little use of the advantages placed in their hands. I know now several parties who have been on the look-out for dwellings in its neighbourhood, but none are to be found. Capitalists seem to think that it is of no use to build unless the order be given specially. I was looking over its environs the other day, and I found one solitary house erected this summer. The town itself is a discredit to the present age; there are the old pebbles for its foot-pavements in some of its best streets. Improvements there are none, save and except the railway buildings and stations that are going on. There is its noble quarry. But progress seems quite at a standstill; new streets or squares, or improvements of any sort seem not to be thought of. Narrow streets as well as filthy alleys remain. As they were in the beginning, they are now, and ever shall be, seems to be the motto of the folks at Shrewsbury. I wonder your "Lover of Progress" did not begin with Shrewsbury town itself as a start, where he might have taken boat, and slid down the river to Worcester. I write in the hope that the people may arouse themselves from this state of torpor, and bring capital and enterprise to bear upon the improvement of the town. The people seem all asleep to the advantages of their situation.

PROGRESS.

LIMES AND MORTAR.

IN your last impression I read an article, by "F.R.C.," on the important question of the method of using lime. He gives it as the practice in Southern Italy to slake the lime for a considerable time before use. My experience, after many trials and careful attention, convince me that, for all rich, fat, or very meagre limes, this is the best plan; but it is, of course, necessary to keep the lime from contact with the air, by submersion or otherwise. With limes that are moderately or even slightly hydraulic, I hold such a process injurious; as, when once these limes have begun to set, they should not be disturbed, as the setting properties cannot again be restored except by a second calcination, to drive off the chemically combined matter. I think many of the excellent pieces of masonry found in Italy, which have been executed with rich limes, owe their induration in a great measure to the puzzuolanos and other volcanic earths which have been added to the mortar.

J. C.

THE LOCAL TYPE OF ARCHITECTURE.

IN former letters I have endeavoured to point out the superior chasteness and delicacy of English Gothic over French; and now I would only say a few words on keeping to our local types of building. Premising that the architecture of each county is that best suited to its wants, from the fact that it grew up in that county to meet the wants thereof without external aid,—I maintain also that the architecture of each county is that best suited to surrounding scenery, and best expresses the local mind. To keep up, then, these types is for us a matter of tradition, which we can only break through by disregard to common sense, and by an utter want of poetic feeling.

We are nationally bound to keep up the local type. A Lincolnshire church would be quite out of place in Sussex. Norfolk, Oxfordshire, Sussex—each has a local type of domestic building, admirably suited to those counties respectively. But the great fault of our age is in building rich Lincolnshire parish churches in small villages. In a small village you want a simple church. Nothing can equal the simple Sussex church, with its wooden bell-turret, so admirably suited to the county and its wants. It is monstrous to go and build a young cathedral down in such a neighbourhood; it is all out of place, and becomes a perfect parody. It seems to me that our architects can build cathedrals; but they can do nothing simple. I want to see them build a simple village church.

O. O. O.

ARCHITECTS' STRUGGLES.

SIR,—I was one of those happy individuals who paid 150*l.* premium, and gave myself up to five years' theoretical work in a fast office at the West-end (now extinct), and maintained myself during that time, and for two years' afterwards, while improving (?) in provincial offices.

Finding it difficult to obtain employment, I got one of the committee of a proposed building to get me appointed as clerk of works to it. I went again as clerk of works, and again several times, and once as a general manager or clerk of works to a building firm. Now, at first, this hurt my architectural dignity; but I am fully aware of the benefit I have derived from it since, and am quite satisfied that a man cannot be a *practical architect* without having superintended *buildings* daily, and for two or three years. The above I think quite sufficient to entitle me to the term "Architect." But what's in a name?

I really wish some fellow would invent another term for it; for instance, I have been established about five years, and I find I am surrounded by a tribe of small joiners or builders, who *do plans* and style themselves "architects," men working at the banker, who style themselves C.E.s (for the latter, I refer you to Mr. Forrest, secretary of Institution of Civil Engineers, and my correspondence with him, Aug. 3, 1864); and, worse than this, individuals who do work as architects at 2½ per cent., and less.

S. A. L.

CROOKED CHIMNEYS AND THE MACHINE.

SIR,—I thank you for the insertion of my letter about crooked chimneys. Your editorial P.S. about "soot-doors," reminds me of my youthful days, when I offered in vain 100*l.* for a cure for chilblains, and was further gravely assured by a celebrated lecturer on anatomy, as to the disease in the teeth called "caries, or decay," that the remedy was "extraction!"

Why, sir, I have flogged my feet with holly, as a school-boy, and had them sewn up in wash-leather; but, teazed, teazed, and irritated by chilblains, I could not get through my necessary calculations at Christmas-tide with any peace or comfort.

We hear a vast deal in these days about "high art"—about the vast superiority of our Continental neighbours in elegancy of design, &c. I heard enough, and more than enough, about these things, during the five or six weeks I served as a juror in the Exhibition of 1851; but pray, sir, let me plead with you on behalf of the commonsense and utilitarianism of Englishmen.

I inclose you some very sensible remarks in a letter addressed to a provincial journal. The writer tells you that we won't have our rooms disfigured and knocked about with "soot-doors;" and, I may add, we won't have our houses endangered and smoked by them. I have been gravely told by my builder that my chimneys ought to be swept every four or five weeks. Why, sir, he ignores the nuisance to pictures and furniture of every single sweeping. Pray, sir, do tell our young aspiring architects that it behoves them to provide or suggest some practical remedy for the nuisance of crooked chimneys.

AN OLD J.P. AND D.L.

ACTIONS UNDER PUBLIC HEALTH ACT.

Caley v. *The Local Board of Health of Hull.*—This case (in Court of Queen's Bench, Westminster) raised a rather important question under the Public Health Act, 1848. That Act provides (sec. 68) that the Local Board may from time to time cause the soil of any street to be raised, lowered, or altered as they may think fit; and then the next section (69) enacts that in case any street be not levelled, paved, and channelled to the satisfaction of the Board, they may require the occupiers of the premises therein to level, pave, channel, &c.; and, in default, may cause it to be done, and charge them with the expense. The street in which Caley, the appellant, resided, was required by the Board to be raised to the level of the adjacent street; and, in default of the occupiers, they caused it to be done, and charged the occupiers with the expense. He refused payment of his *quota*, and Mr. Travis, the magistrate at Hull, made an order upon him to pay; stating a case, however, for the opinion of this Court, to raise the question whether the enactment extended to such a case, or applied merely to the removal of inequalities, &c., in the particular street.

The Lord Chief Justice, interrupting the counsel, pronounced judgment in favour of his client, the appellant, on the ground that the word "level" did not extend further than to inequalities in a particular street, and did not extend so far as to enable the Board to raise its level with reference to the level of surrounding streets in the town or borough. The order, therefore, was made without jurisdiction.

The other learned Judges concurred.

Judgment for the appellant.

METROPOLITAN BUILDING ACT.

Recesses in 9-in. Walls.—Mr. Knightley, district surveyor, summoned Mr. T. Harvey, of River-terrace, Chancellors, Hammersmith Police Court, for forming recesses in the external walls of a building in Chancellors-street, with backs of half-brick thickness, which is contrary to section 13, rule 1. The case was adjourned for a week, to enable Mr. Harvey's legal adviser to acquaint himself with the facts; but, as there was no answer in justification of that form and manner of construction, the magistrate made an order directing the backs to be constructed 8½ in. in thickness.

District Surveyors' Fees.—At the Clerkenwell Police Court, before Mr. D'Eyncourt, Messrs. Kirk & Parry, of 4, Little Queen-street, Westminster, builders, engaged in erecting a warehouse and printing factory, in Bovay-place, Holloway, for the Printing and Publishing Company, were summoned by Mr. Turner, the district surveyor of East Islington, for refusing to pay his fees.

Mr. Knight, Messrs. Kirk & Parry's agent, appeared and was permitted by the magistrate to represent those gentlemen. Mr. Turner's case was conducted by Mr. Joseph E. Turner, from the office of Messrs. Hilliard, Dale, & Stretton, who stated that the buildings erected were divided under section 27, rule 4, and therefore he argued were two buildings proper, according to rule 1; and that, although united together under section 28, which they were, and which is permissive as to uniting buildings, this section of the Act clearly recognizes the two as separate buildings (always speaking in the plural), and that two buildings could not be united at all, except under the provisions of rule 3 of the section.

Mr. Knight argued that, dividing the building as directed by rule 27, did not make the party-wall come within the definition of party-wall, section 3, inasmuch as it was not built "To be used as a separation of any building from any other building, with a view to the same being occupied by different persons;" and in fact it was only a division of the one building into two compartments, the whole being in one occupation.

The district surveyor and Mr. Knight agreed that the wall was built in every way as required for a party-wall, except that Mr. Knight observed the openings had been made as the work went on, in accordance with section 28, rule 3.

Mr. Joseph E. Turner then called the attention of the magistrate to the definition of cross-wall, section 3, which states,—"It is to be used as a separation of one part of any building from another part of the same building, such building being wholly in one occupation;" and on reference to Part 2, Miscellaneous, rule 1, it is stated the thickness of cross-walls shall be two-thirds the thickness "required for party-walls." Therefore the Legislature clearly, when it required a large warehouse building should be divided by a "party-wall," meant it to be separated as two buildings, either of which might become occupied by different parties; or they would have said it should be divided by a *cross wall*, and have given the public the

dvantage of making it of the lesser thickness required for such a wall. Section 28 again favoured this view, inasmuch as, by rule 4, the openings allowed to be made in the party-wall when the two buildings were in one occupation, are directed to be "stopped up with brick or stone, of the full thickness of the wall," when they cease to be.

Mr. Knight urged that section 28 did not apply at all to a large warehouse building directed to be divided, but to uniting old buildings only.

Mr. D'Eyncourt gave his decision, that by reason of the requirement of the Act, that a party-wall should be erected, which had been done, it made two separate buildings, and therefore two separate fees were chargeable.

BUILDERS AND WORKMEN: THE LOSS OF TIME QUESTION.

At the Shoreditch county court, on the 15th, was tried the action of *Shannon* v. *Myers & Others*. Mr. Steadman, who appeared for the plaintiff, a journeyman builder, said that the question involved in this proceeding was one of the very greatest importance to the whole of the building trade, and it would be for the Judge (Mr. Dasent) to say whether the plaintiff and other labourers employed by builders were entitled to be paid for loss of time. The plaintiff had been employed upon a job for which he was paid 4½d. per hour; but hearing that other men were getting 5d. for the same work, he applied to the foreman for a rise. This the foreman promised to consider during breakfast time, but when plaintiff came back to his work after breakfast, he was ordered off the ground. He was not paid his money, but had to wait for a time; and he was at length given a ticket which he was ordered to take to Belvedere-road. To this the plaintiff objected, but he was finally obliged to go to Belvedere for his money, and in doing so lost four hours and a half. To recover the money for this the present action was brought.

The Judge could not see how the action would lie.

Mr. Steadman pointed out, that his client was paid by the hour or even half-hour, and he could not be considered to be discharged until he had actually received his money. There was no complaint made that the defendants had suddenly dismissed the plaintiff, because it was an understood thing in the trade that each side should have the power to dismiss the men or throw up work at any moment of the day.

Plaintiff said, I had been in the employment of the defendants upon a job at the Imperial Gas Works, Haggerstone, for five weeks up to Saturday, October 8th. I was paid 4½d. per hour. I learned from some of the other men that they were getting 5½d., and I spoke to Mr. King, the foreman, about it. On the morning of Monday, 10th of October, King said he would look into the matter; and I went to breakfast.

Judge.—Were there any more besides yourself that required this rise?

Plaintiff.—Yes. There were eighteen more men. When we came back from breakfast there were two policemen at the gate, though they were not at all required, and those policemen handed us in two by two. When I got inside, I had a ticket offered to me for my money. There was no reason why I should have a ticket, as I had never been paid that way before.

Judge.—When you asked for the rise, what did you say?

Plaintiff.—I pointed out that Messrs. Lawrence & Co. and other large builders, paid the 5½d., and King replied that he could not do anything in the matter unless he saw Mr. Myers. There were due to me six hours and a half on Saturday and two hours on the Monday.

Judge.—How comes it that there was money due to you for the Saturday's work?

Mr. Steadman.—The master builders and contractors always keep Saturday's money until the following week.

Judge.—Well, what happened after you obtained your ticket?

Plaintiff.—I went to the Worship-street Police Court and saw the magistrate. He heard my complaint, and sent a summoning officer to the foreman. When the case was called on, I was left outside the court, and after this a person came out and said it was all over, and the magistrate had decided against me.

Mr. Steadman confessed that this was all new to him. He was holding the brief for a counsel who was not present.

Judge.—I do not sit here to revise the decisions of police court magistrates. You have chosen the tribunal to which you would appeal. You went to the police court and made your statement; and I can easily understand why you were not admitted again. Having heard you, all that the magistrate had to do was to hear the other side; and having done so, he decided against you. It is not for me to say that his judgment was wrong. I may add, I set my face entirely against this loss of time question. The verdict will be for the defendants.

STRIKES.

The operative carpenters and joiners of Bursledem and Tunstall having submitted to the master builders of those towns a revised code of rules for the regulation of the hours of working, &c.; and a number of the master builders of the "Staffordshire Potteries Branch of the General Builders' Association," on the other hand, have held a meeting, at which eleven rules in reference to the hours of labour and other matters have been adopted "for the operative carpenters, joiners, masons, bricklayers, &c.," and which have since been published. The following note is appended at the foot:—"N.B. That as a discharge note will be given on and after the 1st of January next, 1865, the above rules will come into operation at the same time."

At Accrington the guardians lately received a deputation of four operatives employed on the public works. Having heard their complaints, the guardians resolved to reduce the work of the single young men in receipt of 2s. 6d., and the married men in receipt of from 2s. 6d. to 6s., from thirty-three hours per week to twenty-four. The deputation seemed to think the alteration would meet the views of their fellow operatives.

There has been a strike of the quarrymen in the employ of Messrs. Pictor & Sons, Bath stone merchants, at their Box ground stone quarry. It appears that the men wanted a farthing per foot cube extra on the price agreed, on all stone dug from the 1st of November till Christmas. To this Messrs. Pictor & Sons would not agree; but they offered the farthing extra for one month, as they expected the demand to be less in a month or six weeks. The men, after consulting, would not accept of the offer, but ceased work, the whole leaving the quarry in a body. A written notice was sent to the principal men of them, requesting their attendance the next morning, in order that their work might be settled off. They came, and one-half of them agreed to go on work without the farthing per foot asked. Messrs. Pictor & Sons told the remainder that, seeing they had struck work, they would not now give the farthing even for the month. In the course of the next day the remainder agreed to go on, and began to get their men together again. All are now at work.

LINCOLN SCHOOL OF ART.

The annual distribution of prizes to this school has taken place. The mayor was in the chair, and the Bishops of Lincoln and Oxford, and Mr. Bromley Moore, were present, together with a large attendance of influential persons, partly in celebration of the opening of the new school in Silver-street.

The Bishop of Oxford, in his speech seconding a resolution, spoke of beauty in art and its commercial and other advantages.

"The appreciation of art," said his lordship,—"the appreciation of beauty, which is after all the high idea that lies behind all true art,—the perception of what beauty is, is itself given as a first gift to very few in anything like its perfectness. Here and there is a gifted spirit which seems intuitively to have the eye open so that it does perceive thoroughly, and relish purely, that which is, in its true and highest sense, beauty. But this is the exception, and in all schools and in all bodies gathered together to aid others, it is not for these great geniuses, who have their Heaven-sent gift in its perfectness, but it is for the great number who come to them, who are not dullards, who are not without the capacity of entering into what beauty is, but who still, without the cultivation of the faculties which God has given them, will not be able to perceive it: it is for them that Schools of Art and such other assistance are designed. The dower of honest labour, but not the dower of a very high appreciation of beauty in itself, is the natural gift of this English people. If so, observe that a great commercial people has to export not only machines of wood and of iron and the like, but, if it is to compete with other producing nations, it must produce works in which art mingles very highly—for instance, all the patterns upon the fabric in different materials made in the land. In this, as in everything else, the demand must regulate the supply; and if the demand in Great Britain is for hideous things the supply will be hideous things; and the producer will be guided from his own notions of taste and artistic skill by a rule which everybody else would call very hideous. That being the case, I say we must begin by educating a very broad superficies of the consumers of the material, in order to bring their rectified taste to bear upon the producer of the material; that the rectified taste so raised may be brought to bear upon the persons employed to draw the designs and to furnish the materials which are to become afterwards a great matter of export from this exporting country."

The Bishop of Lincoln spoke of the influence of the practice of art on the mental faculties.

"When a youth," remarked his lordship, "has to draw from a copy—still more when he has to draw from a model—he is obliged to mark every minute difference of form and shade. If he lets any portion escape, his copy is incorrect—he can hardly see why it is, but it is gone. Therefore, he is forming the habit of close personal observation—the habit of concentrating his attention upon the matter he is about; and in that lies the secret of intellectual excellence. God has mercifully given us, in the use of our faculties, a source of one of the highest and purest pleasures; and while, on the other hand, He makes it our duty to use all our faculties for some useful purpose, so on the other hand, He has given to us the privilege of enjoying the pleasures attached to them. Now, though it may be perfectly true that the faculty of appreciating works of art or beauties of nature varies in individuals, no less than in different nations, in nearly all they are capable of very great development; and if so it is not only allowable, it becomes almost a duty to avail ourselves of that blessing which God has given us to enjoy that amount of wholesome pleasure which he has put within our reach."

During the meeting a valuable timepiece was presented to the master, Mr. E. R. Taylor, by Mr. Richardson, on behalf of his fellow-students, in token of their esteem.

Monumental.—A small model of the Rowland Hill Statue for Birmingham has been made by the sculptor, Mr. Peter Hollins. Sir Rowland is represented standing, one hand resting on a pillar. He is dressed in modern costume.

COMPETITIONS

Farnham New Market House and Town Hall.—Of the several sets of designs sent in by architects competing for the above, that by Mr. Tarn, of Great Russell-street, London, has received the first premium of 50*l.*; and that by Mr. Wonnacott, of Farnham, the second, of 20*l.*

The City Offices Company.—This Company are taking steps to utilise the large estate lately purchased by them in Bishopsgate-street Within, adjoining Crosby House, and nearly opposite St. Helen's-place, the sale of which to the Company we noticed at the time it took place. They have since acquired two houses in Old Broad-street, by which means an entrance has been obtained from that side. The Company have invited a limited number of architects to send in designs for laying out this property to the best advantage, leaving the disposal of the space and the question of style and cost to the discretion of the competitors; the only material stipulation being that the drawings should be tinted in sepia or India ink, and not fully coloured.

Fulford Parish Church.—In reply to the advertisement for designs for this church, fifty-five sets of designs were submitted, and the one by Mr. Pritchett, of Darlington, has been selected.

PROVINCIAL NEWS.

Chatham.—The new police court, New-road, Chatham, has been opened. The court for the transaction of public business, says the *South-Eastern Gazette*, is exceedingly commodious, the lighting, heating, and ventilating arrangements being as perfect as possible. Lighted by means of a lofty lantern roof, there is plenty of ventilation, which can be judiciously altered. The court is so arranged that magistrates, suitors, solicitors, witnesses, and the general public have all their places. The cells in which the prisoners are confined previously to the examination communicate directly with the court, thus no longer necessitating prisoners, prosecutors, and witnesses all being together, as has hitherto been the case. Adjoining the court, residences are provided for a certain number of police, a gaoler, and superintendent of police, together with stabling, magistrates' rooms, clerks' offices, waiting-room for the witnesses, and other arrangements. The entire building, with the interior fitments, &c., has been erected by Messrs. Naylar & Son, of Maidstone and Rochester. The buildings are from the designs of Mr. Martin Bulmer, the county surveyor.

Deal.—The pier erected at Deal has been formally opened, Mrs. Hugesson, the wife of one of the Cinque Ports representatives, having performed the ceremony. The day was one of general rejoicing in the little town. The dinner which followed the opening was attended by the borough and county members. The pier is constructed entirely of iron. It is 1,100 ft. long, 25 ft. wide, and has a T shape; the head is 120 ft. long, and 50 ft. wide, the abutment being 100 ft. by 407 ft. The body of the pier rests on about fifty ornamental iron columns, of about 18 in. in diameter, which are screwed into the rock: they are tied horizontally by diagonal braces of wrought-iron, and are surmounted by ornamental caps. The pier-head, where steamers can be moored alongside in any state of the tide, rests on the same kind of pillars as the body of the pier, but for greater strength they are tied diagonally, vertically, and horizontally, and are surrounded by a timber fender. The work has been executed under the immediate direction of Mr. Reid, the superintendent. Along each side of the pier is ranged a continuous seat, the back formed of an iron network, which forms a finish to the top of the structure. At the entrance there are two toll-houses, and at the head there is a corresponding shelter-house, which it is expected will be used as a reading-room. Mr. E. Birch acted as engineer; and Messrs. Laidlaw & Son, of Glasgow, undertook the actual erection of the pier.

Shanklin (Isle of Wight).—The foundation-stone has been laid here of a literary institution, to be erected in Grange-road, near the Post-office, on a piece of ground presented for the purpose by Mr. F. W. Popham, the lord of the manor.

Llyswen.—The foundation-stone of a new rectory house for this parish has been laid by Messrs. W. Powell Jones, the rector's wife. The new parsonage is to be built from a design furnished by Mr. Joshua Daniels, of Crickhowell, architect. Mr. C. Evans, of Talgarth, is the

builder. Lord Tredegar and Sir Joseph Bailey have, with their accustomed liberality, presented the stone from their Spendil quarries in this parish, free of royalty.

Bingley.—The new Mechanics' Institute, in the main street of the town of Bingley, has been inaugurated. The institute has been built from the designs of Mr. Waterhouse, of Manchester. The style of architecture is Gothic. The institute consists of a large school-room for the accommodation of the evening classes; four class-rooms, for the teaching of the more advanced branches of education; a library, news-room, and a large hall for the delivery of lectures. This hall is decorated, and is capable of accommodating upwards of 500 persons. The building and furniture have cost 2,600*l.* The opening was celebrated by a *soirée*.

Preston.—For years there have been discussions as to the policy of constructing a new workhouse for the Preston Union in place of the half-dozen now in use; but the question was not finally decided until now, when it has been resolved at a meeting of guardians, by 36 votes to 19, to erect a building at an estimated cost of 32,000*l.*

Keswick.—The re-building of the Queen's Head Hotel has been let to Mr. Hall, of Carlisle, the contractor for the new Railway Hotel.

Hull.—A joint-stock company, on the limited liability principle, has been commenced for the purpose of rebuilding the Theatre Royal, Humber-street, Hull, which was destroyed by fire about five years ago.

Tynemouth. — The arbitration between Mr. Lawton, the contractor for the Tyne piers, and the Tyne Improvement Commissioners (which was adjourned in May last after a few days' sittings), was lately resumed at Tynemouth, before Sir John Rennie (the umpire), Mr. Bidder (arbitrator for Mr. Lawton), and Mr. Leslie, of Edinburgh, for the River Tyne Commissioners. Mr. Lawton's contract for constructing portions of the north and south piers amounted to 166,000*l.*; and the present arbitration is as to the amount due from the commissioners to the contractor for "extras," the latter claiming 105,000*l.*, whilst the former contended that the sum so claimed was 100,000*l.* more than was due to the contractor. Mr. R. P. Philipson, of Newcastle, conducted the case for Mr. Lawton; and Mr. Lloyd and Mr. H. Shield, instructed by Mr. John Clayton, town clerk of Newcastle, and Mr. T. C. Leitch, town clerk of Tynemouth, represented the commissioners. The sittings were adjourned, after certain procedure, in order to enable the parties to make efforts, between themselves, to settle matters in difference.

FROM SCOTLAND.

Edinburgh.—Dr. Cowan gives an account in the *Scotsman* of the frightful condition of the wynds and closes in the old town to which we long since drew attention. Dr. Cowan says of various places he had visited:—

"It might be well to restrain our indignation at American slavery so long as this disgraceful neglect is permitted within five minutes' walk of our own dwellings. The smell of the foul air in these rooms is indescribable; but in two especially, when the door was opened, I was driven back staggering, my brain reeled, and I was seized with nausea which continued for several days. Out of one of these rooms I learned that two cases of typhus fever had been removed to the infirmary the day before my visit. In every 'land' I saw cases of consumption, scrofula, and rheumatism, arising from bad air, damp, and want of proper food. To all this suffering is to be added dire poverty, neglect, and hopelessness."

Stonehaven.—The plans for a proposed combination poor-house which have been prepared by two architects selected for that purpose, viz., Messrs. Matthews and Henderson & Son, Aberdeen, have been exhibited.

Aberdeen.—A school has been recently erected in Holburn-street, in accordance with the will of the late Mr. James Ross, of Cuparstown, who left a large sum of money for the purpose, and also for its endowment. The trustees acquired a commodious site in the centre of a populous district, at a cost of about 450*l.*; and the cost of the building will amount to about 2,500*l.* The centre building is entirely devoted to a school-room, made to accommodate upwards of 300 scholars of both sexes, and is so constructed that it may, when required, be divided into two rooms. It is 62 ft. long by 28 ft. wide, and 36 ft. high to the apex of the roof. The main timbers of the roof form a Gothic arch, the space between each being plastered on the rafters. On either side of the school-room there are class-rooms for the boys and girls respectively, 28 ft. 6 in. by 17 ft. and 14 ft. high: communicating with these are master's and mistress's rooms, with closets, &c., adjoining. At the entrances, on each side, are cloak-rooms and passages of communication to the playing-grounds, at the back of the building. In the tower are rooms for the keeper of the school, a clock and bell chamber in the roof, and a furnace-room and coal-cellar in the basement. The school-room and class-rooms are heated with Perkins's patent hot-water pipes. The whole of the walls and other masonwork are of blue Aberdeenshire granite. The contractors were Messrs. Peter Bisset, mason; D. Macandrew, carpenter; Wm. Thomson, plumber; James Morrison, plasterer; and George Currie, slater. The ironwork for the building was supplied by Messrs. Walter Macfarlane & Co., Glasgow; the iron railing and gates by the Falkirk Company; and the hot-water apparatus by Mr. Robert Ritchie, Edinburgh. The architect was Mr. T. Russell Mackenzie, Aberdeen.

Inverness.—The foundation-stone of a new United Presbyterian Church has been laid in Queen-street. The site adjoins that of the building known as the Bishop's Mission School, and the church itself will be of a plain character, calculated to accommodate some 600 persons. The architects are Messrs. Ross & Joass, of Inverness; and the contractors are—mason work, Mr. Munro, builder; carpenter work, Mr. A. Robertson; and slater work, Mr. Russell.

CHURCH-BUILDING NEWS.

Calne (Wilts).—The old Norman church of Calne will be opened for divine service on the 22nd inst. The church has been restored, both externally and internally. The old high-backed pews have been replaced by seats, all free. Several stained glass windows have been presented, besides a carved pulpit and lectern. The church has been restored under the superintendence of Mr. Slater.

Clifton (Bristol).—The foundation-stone of All Saints' Church, Clifton, has been laid by Mr. Beresford Hope. The site of the proposed building is in a field close to Pembroke House, and abutting on the Pembroke-road, on ground formerly belonging to the Merchant Venturers of this city. The design is by Mr. G. E. Street, of London. The church will be situate in the midst of a populous and still-increasing neighbourhood; and every seat is to be free and unappropriated for ever. The whole cost of the building, when completed, will be 8,000*l.*, of which one-half has been obtained. There will be no seats in the aisles, these being used only as passages, this having been arranged so as to obviate the difficulty which persons in side aisles experience, when seated behind pillars, of seeing the minister. The style will be Gothic, and it will consist of a chancel, nave, and north and south aisles. The chancel will be 45 ft. in length, and 24 ft. wide inside the piers. On either side of these will be a chamber, 18 ft. wide: that on the north side will be used as an organ-chamber. The dimensions of the nave will be—length, 111 ft. 8 in.; width, 56 ft. 6 in. The church will accommodate upwards of 1,200. The aisles will be divided from the nave by five arches along each side, which will rest on octagon piers, having carved capitals. Over each arch will be a three-light traceried window, and at the east end a stained-glass window, under which will be a reredos. There will be two entrances—one, the principal one, on the west side, and another on the south-east side, under the tower, upon which will be a lofty spire. There will be no pews, but chairs will be used in the nave. The whole of the interior of the church will be painted, and, with freestone dressings, will be similar to the exterior.

Nottingham.—The new church of All Saints has been consecrated. The style is called "an approximation to the Early Decorated, of somewhat severer detail." It is a mixed Gothic, conventionally treated, and with some traces of Continental ideas. The tower runs up, equilaterally, to the height of 80 ft. or 90 ft., when it slants off to an octagon, which shape is kept on a gradually diminishing plane until the top of the spire is reached—175 ft. from the level of the ground. The spire is not yet completed; but it will have the customary spirelets and stormlights, surmounted by gables and crosses. Interiorly the nave is divided from each aisle by five equilateral arches, springing from red Mansfield stone columns, with white stone moulded capitals. The roofing throughout nave and aisles is of a plain open-timbered character, plastered between the rafters, and stencilled all over with a Gothic pattern, in which the sacred monogram frequently recurs. At the west end of the nave is a baptistery. The use, in the windows, of green and white glass, in small diapers, has to some extent made up for the absence of stained glass. The chancel is divided from the nave by a Gothic arch. The inner rim is of coloured alabaster, resting on Devonshire marble pillars, with carved capitals and corbels. An arch of similar, but less ornamental, character divides the south aisle from the organ-chamber and vestry, and the north aisle from the chapel. Behind the chancel, in the extreme east, is the apsis. The reredos is decorated all round with majolica of a gold and black diaper pattern, over which is a pyramidal ornament and moulding. In the centre compartment of the reredos are five medallions, containing the apocalyptic symbols of the four evangelists—the face of a man, a lion, a calf, and an eagle, answering to Matthew, Mark, Luke, and John, respectively, while the *Agnus Dei* is in the middle. The lower level of the chancel is paved with parti-coloured tiles, which, together with the majolica ware, came from Messrs. Minton's, at Stoke-upon-Trent. The principal dimensions of the edifice are as follows:—Nave, 78 ft. by 25½ ft.; extreme outer length of the building, 150 ft.; aisles, 13 ft. wide; chancel, 37½ ft. by 21½ ft. In the clerestory are eight three-light and four single-light windows. The material used throughout the body of the church is a Derbyshire stone, popularly known as Coxbench, with dressings of white Ancaster stone, and bands of red Mansfield stone. The roof is high-pitched, and covered with red and blue Staffordshire tiles. The churchyard, which is of limited area, is enclosed by Bulwell stone walls. A space of ground on the south or Radford side is set aside as the site of the parsonage-house, and the Girls' and Infants' School buildings will probably be in the immediate neighbourhood. The architects are Messrs. Hine & Evans, of Nottingham; the builders, Messrs. A. & R. Dennett, also of Nottingham; sub-contractors, Mr. Thompson, of Ollerton, for carved work; Mr. W. N. Nicholson, of Newark, for the ventilating and heating apparatus; Messrs. Thomasin & Co., of Birmingham, for the gas-fittings; Mr. J. M. Marshall, of Nottingham, for coloured decorations; and Mr. B. Wheeler, of Nottingham, for the glazing and plumber's work. Messrs. Taylor & Co., of Loughborough, have contracted to supply a peal of eight bells; while Messrs. Lloyd & Dudgeon, of Nottingham, are constructing the organ.

Dudley.—The movement for the restoration of St. Edmund's Church is proceeding. Earl Dudley has promised to give 500*l.* towards the cost, but he strongly advises that the work shall be as completely done as possible. Mr. John Fisher has intimated that it is his intention to present a stained glass window for the chancel, which shall not cost less than 200*l.* It is proposed to thoroughly restore and alter the interior of the church. The whole of the windows are to be renewed according to an improved design, and the large pillars which divide the nave from the transepts are to be cut down. The total cost of the restoration is estimated at about 1,400*l.* or 1,500*l.*

Darlington.—At a recent meeting of the commissioners for the restoration of St. Cuthbert's church, a report was read from which it appeared that the total amount of subscriptions and guarantees to the fund for the restoration to the present time is 5,816*l.* Contracts for laying the warming apparatus, gas pipes, concreting and flooring the church and transepts, and providing temporary sittings, have been let to Mr. D. Hurworth and Mr. Elwin, at the sum of 226*l.* 4s. 6d., and 221*l.* 12s. The restoration of the chancel by the Duke of Cleveland, will delay the opening of the church beyond the time anticipated. With the exception of the chancel, the edifice was placed in the hands of Mr. Scott to restore. The work is pretty well advanced now, some 7,000*l.* having been expended, and the effect of the whole can be judged. Of course all "lofts" and "pews," ceilings and whitewash, have been removed; the aisle walls partly rebuilt, the roofs, the chief part of which remained, raised to their original height, and the perished stonework carefully restored. The chief work, however, has been rebuilding the two west piers of the centre tower, which were cracking under the weight owing to a disturbance of the sandy substratum caused by the deep drainage of the town. These piers, after propping up the tower at an enormous expenditure of timber, were re-

constructed piece by piece, with hard selected stone. The shoring is now all removed, and the effect of the interior fully seen. The Duke of Cleveland, in addition to 1,700*l.* subscribed by himself and brothers, has placed the chancel in the hands of Mr. S. P. Pritchett, of Darlington, with instructions to carry out its restoration in no way inferior to the rest of the church.

Felling.—The foundation stone of Christ Church, Felling, according to the *Newcastle Courant*, has been laid. The parish church is situate at Heworth, but is at too great a distance for the inhabitants of the Felling to attend. The site is a little to the north of the Felling railway station, and is built from designs by Messrs. Austin & Johnstone, of Newcastle, architects. The style is Early Pointed, and the edifice will consist of chancel, nave, aisles, organ chamber, and vestry. Accommodation will be provided for about 150 persons, and arrangements have been made so that the building may be enlarged, if it should be found necessary. The walls are approaching completion, and the stone was laid in the interior, forming part of one pillar.

DISSENTING CHURCH-BUILDING NEWS.

Nayland (Suffolk).—The new Congregational Chapel and Schools here have been opened. The site of the building allows of the schools being placed under the chapel, very slightly below the ground, as the road at the entrance is considerably elevated. The principal front consists of a central gable, containing a triple window, and surmounted with a coping and finial. On either side is a projecting porch with double doorway, leading to the chapel on the ground-floor, and containing staircases up to the gallery and down to the schools, and forming wings to the centre. The number of sittings obtained is about 300, including 60 children in the gallery at the end over the entrances. The principal timbers of the roof are stained and varnished, the ceiling being level with the collar-beam, 27 ft. above the floor, ventilation being secured within the roof. The sittings are in open benches of white deal and varnished, the gallery front and platform finished to correspond. The schools will accommodate 150 children (allowing 6 square feet to each), besides two class-rooms, with lavatories and other conveniences. The exterior is faced with red bricks, relieved by black bands, the windows and porches and other dressings being of Bath stone. An ornamental wall incloses the front. The contract for the chapel and schools has been executed by Mr. Salmon, of Halstead, builder, for the sum of 900*l.*, from the designs of Mr. F. Barnes, architect, Ipswich.

Worcester.—A new Independent Chapel has been opened at Polesden. The total cost of the building is estimated at 700*l.* The style is Gothic;—internal dimensions, 40 ft. by 20 ft., with vestry 12 ft. by 11 ft., and chapel-keeper's house, with accommodation for meetings. The walls are built with red bricks, and Bath stone weatherings; white bricks to all external quoins, window-jambs, and mullions. The arches to doors and windows are alternated with blue and white bricks, and Bath stone keys. The walls are also relieved with blue brick strings. Light is obtained by four lancet windows on each side, and a three-light window at the west end over the entrance-doors. The roof is open to the apex, with principals springing from stone corbels, and plastered between the rafters. The whole of the timbers throughout are stained and varnished. The roofs are slated with green and purple Bangor slates, in lozenge pattern, and ornamental ridge crests. The benches are all marble, with ornamental cast-iron ends. The architect was Mr. G. Johnson, of this city; Messrs. Holland & Wainwright builders.

Clifton.—The Unitarian Chapel, newly-erected in Clifton, has been dedicated. The building consists of nave, aisle, chancel, organ-chamber, and singers' gallery, and minister's and deacons' vestries. The nave is 72 ft. by 28 ft., and 50 ft. to under side of roof; aisle, 72 ft. by 13 ft.; chancel, 19 ft. by 21 ft. The arrangement of the building is similar to that of an ordinary Church of England. The style is that of the fourteenth century, and the materials used are native stone from the Pembroke-road quarries, with freestone dressings. The nave is separated from the aisle by an arcade of five arches, supported on polished granite shafts from Aberdeen. The chapel is at present fitted up to accommodate 400 persons. Under the windows is a string-course of tiles with a flowing pattern, running round the edifice. The last window is filled with stained glass, representing the "Last Supper," by Mr. O'Connor, of London. The chancel arch is formed with shafts of polished Devonshire marble. The finish of the tower is only temporary, it being the desire of the committee to raise it some 30 ft. higher when their funds will allow. The building was erected by Mr. W. Haines, jun., and the architects were Messrs. Popes & Bindon. The cost has been about 6,000*l.*, including the land.

Cranswick (near Driffield).—The Primitive Methodist new chapel, Cranswick, has been opened. The chapel contains 360 sittings, 110 free. It has been built after designs by Mr. H. Fippard, of York, architect. The cost, including the town clock, but not including old materials, amounts to 500*l.*, 350*l.* of which sum have been contributed.

RAILWAY MATTERS.

Amongst the new railway schemes which will come before Parliament in the next session is one for the construction of a railway under the river Mersey, for the connexion of Liverpool and Birkenhead. The Bill will be supported by the Great Western and London and North-Western Railway Companies.

A new first-class railway carriage has been constructed in France. It contains as many places and is as commodious as those at present in use. A passage, which traverses the carriage in its full length and leads to a water-closet, permits the guards to keep a strict watch over all that passes during the progress of the train. The travellers, moreover, can walk and smoke on a covered platform placed at each end. The construction does not cost more than ordinary. The Strasbourg Railway Company have used this new carriage on their line for several months, and travellers avail themselves of it in preference to all others.

An American, writing to the *Times* on railway subjects, says:—"Each car has a receptacle for cool water for drinking, also a towel and water for the hands, and other conveniences very desirable on long as well as short journeys. A stove of sufficient size is also placed in each car, and thus all parts are in the winter warm and comfortable. Seats are so contrived that they are like sofas, having space for two, the backs of each being made to accommodate the figure, and those using them can always ride facing the engine. One car on most trains is specially placed there for ladies unaccompanied by gentlemen. There are also cars used for night travelling, so constructed that the occupants can lie at full length and enjoy sleep with comfort, which are likewise used during the day, each car having two doors and a passage through the entire centre, which is constantly perambulated by the guard or conductor, there being accommodation for forty or fifty persons." He states that he has sent his luggage from Milwaukee to New York, a distance of 1,000 miles, and found it in his room at a hotel when he arrived.

The traffic receipts of railways in the United Kingdom, amounted, for the week ending the 12th November, on 11,706 miles, to 618,020*l.*, and for the corresponding week of last year, on 11,358 miles, to 569,639*l.*, showing an increase of 348 miles, and of 48,381*l.* in the receipts.

OPERA.

Her Majesty's Theatre.—It was somewhat provoking for Mr. W. Harrison that his first utterance in his new theatre should be in the character of an apologist. However, so it turned out; for on Tuesday evening Mr. Sims Reeves appeared only in the shape of a note from Mrs. Reeves, saying he was too unwell to sing. The pit and the gallery shouted almost in the same words, with more force than elegance, "Shame! He's always doing it!" but, with an evident wish not to let the manager think they attributed any blame to him, took it very easily, and had every reason to be satisfied with an excellent performance of *Faust*, Mr. Swift supplying the deserter's place in an admirable manner. Miss Louisa Pyne, who never disappoints her public in any way, sang most charmingly. On this, Friday evening, "Don Giovanni" is to be given in English, with the whole lady-strength of the company.

Covent Garden.—Mr. Chas. Adams has greatly improved his position by his performance of *Elvino*, in the "*Somnambula*." In much of the music he left little to be desired, notwithstanding a tendency to get occasionally out of tune. The new lady singer, whom the opera introduced to the English stage, Madlle. Martorelle, not unknown in concert-rooms, possesses an agreeable voice, and displayed much grace and elegance. Careful study will give her a good future. The performance of the opera was altogether satisfactory, Mr. Weiss and Miss Illingworth aiding in producing that result. A new opera, by Mr. Hatton, titled "Rose," is advertised for Saturday.

Touching Covent Garden Theatre, a "near resident" expresses the regret which many must feel, that buildings are being erected in Hart-street, nearly close up to the theatre, and so increasing the chance of its destruction by fire.

Drury Lane.—A dozen lines as to the scenery of "Macbeth," in a chronological point of view. The period of the play is *pre*-Norman, as was illustrated at the Princess's Theatre, when "Macbeth" was revived by Mr. Charles Kean. None of the scenery at Drury Lane gives the slightest indication of this fact. So far from it, that in the last scene of the first act, and elsewhere in the play, pointed arches filled in with fourteenth century tracery are depicted, and the ceilings of some of the rooms are of the same or even later date, showing emblazoned shields in the cornice.

Miscellanea.

The Dublin International Exhibition.—H.M. the Queen has graciously consented that the proposed Exhibition shall be announced as under her Majesty's patronage. Prospects are very encouraging.

An Iron Hill discovered.—On the Canadian shore of Lake Superior, a hill 600 ft. in height, and several miles in length, composed mainly of iron ore, yielding 60 per cent. of iron, has been discovered by an Indian. It is said to form part of the Marquette range of iron ore.

A Metropolitan Hydraulic Power Company. A scheme for the supply of London with water at high pressure, for mechanical and other purposes, and for use in fires, is to be submitted to Parliament in the ensuing session, when application is to be made for an Act to incorporate a company with power to open the streets, &c., and erect machinery and apparatus for the supply of hydraulic power.

New Schools at Poplar.—A contract has been entered into for the erection of a new school-building in the rapidly-increasing neighbourhood of North-street. The schools, when completed, will be furnished with all modern improvements, and will afford accommodation for upwards of 200 boys, girls, and infants, together with the necessary apartments for master, &c. The foundation stone of these schools has been laid by the rector.

The Thames Embankment Contractions.—We have received printed copies of a correspondence which has passed between Mr. Ridley and Mr. Thwaites, the chairman of the Metropolitan Board of Works. Mr. Ridley, it will be remembered, sent in the lowest tender for the first part of the Thames Embankment works. That tender was, however, set aside for reasons not given. In examination on the subject before Lord Robert Montagu's committee, Mr. Thwaites hinted that the Board had heard something to Mr. Ridley's disparagement, which he would rather not name. Mr. Ridley naturally considers an insinuation of this kind calculated to do him much harm, and calls upon Mr. Thwaites to make known what he meant. Mr. Thwaites refuses: and Mr. Ridley throws himself upon the public.

The Southampton School of Art.—The annual examination of this school in drawing has been held at the school, in Victoria Rooms. In addition to the students of the School of Art, there were candidates from sixteen public and private schools; and although one large school, where there are 580 children learning to draw, was not represented this year, the large number of 387 papers were worked in the presence of the examiner, Mr. S. S. Hart, R.A., who expressed much satisfaction at the amount of work done, and the general excellence of the drawings made in his presence from a group of objects arranged by him. Mr. Hart expressed his surprise that the School of Art is located in a building so little adapted for it, and pointed out to a member of the committee the "utter impossibility" of the students successfully engaging in the higher branches of art, under such conditions of light and in such a confined space.

INDUSTRIAL MUSEUM AND SCHOOL OF ART FOR NORTH-EAST OF LONDON.—In connexion with the recent exhibition at Islington (the surplus money profit of which will be about 1,000*l.*), a meeting of the local committees of working men has been held, at which it was resolved to endeavour to establish a museum and school of art for the district. Mr. H. Sales attended on behalf of the Society of Arts, and promised aid conditionally; and it was resolved to send a deputation to the Chancellor of the Exchequer on the subject.

ROYAL SOCIETY.—The medals have this year been awarded as follows:—Copley medal: Mr. Darwin, F.R.S., for his researches in geology, zoology, and botanical physiology. Royal medals: Mr. J. Lockhart Clarke, F.R.S., for his researches on the intimate structure of the spinal cord and brain; Mr. Warren De la Rue, F.R.S., for his observations on the total eclipse of the sun in 1860, and for his improvements in astronomical photography. Rumford medal: Dr. J. Tyndall, F.R.S., for his researches on the absorption and radiation of heat by gases and vapours.

IPSWICH TOWN-HALL.—The committee report that they have again considered the plans submitted to them, and have selected two (one by Messrs. Bellamy & Hardy, of Lincoln, and the other by Mr. Phipson), as most capable of improvement. Having conferred with the architects, these plans had been modified, and the committee finally decided on Mr. Bellamy's plan as the best. The report was received, but a resolution for a committee to consider and report whether the required accommodation could not be provided at a much smaller outlay than had hitherto been proposed, was carried by a majority of 15 to 14, and a committee appointed.

THE THAMES MARSHES.—In the course of a paper on the Erith explosion and repair of the breach, read by Mr. Lewis Moore, at the Society of Engineers, on the 7th instant, Mr. Moore said,—It is a very remarkable circumstance that the marshes on the river side of the walls still unreclaimed and termed "salt marshes," are invariably at a level of high water, whereas the land reclaimed is generally 5 ft. or 6 ft. below that level. Whether the constant action of the tide raises the land subjected to it, or whether the absence of that influence allows the level of the marshes to subside, or whether it is due to both these circumstances, is a fit subject for discussion; but, be it as it may, there is no question of the fact that they do so exist.

DUBLIN.—A new Presbyterian church, situate at the top of Rutland-square, and erected at the sole expense of a citizen—Mr. Alexander Findlater—and presented by him to the congregation of St. Mary's Abbey, has been opened for divine service. The centre of the church is lighted by six Mediæval coronas, of thirty lights each, suspended from the roof. These were made for the church, from the design of the architect, Mr. Heaton, of Perth, by Messrs. Edmundson & Co., of Capel-street. The galleries and staircase are lighted by brackets, and the lobbies and vestibules by circular lanterns, with Mediæval brass mounting.

LIVERPOOL ARCHITECTURAL SOCIETY.—At the fourth meeting of the present session, Mr. Joseph Boult in the chair, the principal subject of discussion was the intention of the Great Western Railway Company to apply to Parliament in the next session for power to construct a tunnel under the river Mersey. The company proposed to leave the Chester and Birkenhead Railway at Bebington Station, and, by means of a tunnel under the Mersey, to connect that point of the Cheshire shore with Sefton-street, Liverpool; and from thence the line would be continued to the proposed central station in Ranelagh-street, for which an Act was obtained during the last session of Parliament, the site being the Waterloo Hotel. Mr. Boult remarked that the idea of tunnelling under the Mersey was not a new one, it having been suggested when the Birkenhead and Chester line was projected some thirty years ago, the object being to avoid the annoyance of crossing the river. George Stephenson, who was consulted upon the project, advised against it, chiefly on the ground that the new red sandstone was in a very shattered condition, full of fissures and flaws, and that on this account the work would be dangerous. The general opinion appeared to be in favour of the scheme. Mr. G. A. Audsley exhibited a number of effects of colour produced by a new optical instrument, invented by himself, and called the Trocheidoscope.

THE SANITARY STATE OF BLACKBURN.—It is stated that fever of a malignant type has broken out in the Blackburn Union, where there are now seven thousand operatives out of work, and the guardians of the district are about to appoint an inspector of nuisances to rid the town of many existing nuisances.

THROWING MUD INTO THE THAMES.—The Southwark and Vauxhall Waterworks Company have been fined, at the Wandsworth Police Court, in the sum of 20*l.*, for throwing or slushing what is estimated as 100 tons of mud into the river at Battersea; a practice whereby the company are said to save 600*l.* a year in the cleansing out of their reservoirs!

LEIGH WOODS.—The *Bristol Mirror* says that the preservation of this delightful locality is again attracting public attention. There are two schemes—one propounded by Mr. H. A. Palmer, who proposes purchasing the woods, by funds raised by subscription and a rate distributed over many years, devoting the property to the purposes of a place of recreation for the citizens. A joint-stock company propose to erect villas in certain parts of the woods, preserving the remainder for public purposes, and free from buildings. Mr. Palmer repeats his offer of 1,000*l.* towards a fund for preserving the property. It is to be hoped he will be supported in his desire.

ACCIDENTS.—During recent heavy rains, a large portion of the flint walls of two new houses, building in the Church-field, Seaford, fell down. The walls had been run up very quick, and the season being late, the mortar had not time to dry before the rains came ——One end of an old building at St. Helen's, used as a glass-smoothing shop by Messrs. Pilkington, has given way, carrying with it four young women who were employed on the premises. One of them, who had her thigh broken, and was otherwise seriously injured, was buried some two or three yards beneath the bricks and mortar, but was saved by a broad flag, which prevented the bricks falling on her head, and that of a companion, who also escaped with life. The others escaped with a few cuts and bruises.

MORE ROMAN REMAINS IN THE ISLE OF WIGHT. A correspondent of the *Hampshire Independent* gives an account of the discovery of some Roman remains at Gurnard Bay. Copper, lead, and iron were being continually thrown on the shore, including a copper coin of Antoninus, a silver coin of Sept. Severus, and a bronze one of Augustus Cæsar. A large stone, which had recently fallen from the cliff, had a mass of mortar adhering to it. He ascended the cliff, and on examining the outer face, within about a foot of the top, discovered a long white line, which disclosed a tesselated pavement with a worked stone at the end of it. Mr. J. B. Bird, the agent to the owner of the estate, provided labour, and the result hitherto has been the uncovering a foundation of stone on the north side, of the length (excluding a portion dropped from the cliff of about 7 ft.) of 33 ft. There have been two rooms, about 15 ft. in length by about 9 ft. 9 in. in breadth; whilst attached to them was apparently a small cooking-place, with a raised fireplace in the centre, reached by steps from the inner of the two apartments. Round this apartment on all sides fragments of pottery, one coin, and what appeared to have been an ancient billhook for chopping wood, were found.

ARCHITECTURAL ASSOCIATION: VOLUNTARY EXAMINATION CLASS.—The class will meet on Tuesday next, when Mr. Rickman will continue the subject of Gibbon's "Law of Contract."

TENDERS.

For new offices and warehouses, Crutched Friars and Savage-gardens. Messrs. John Young & Sons, architects:—

Downes	13,930	0	0
Brass	13,200	0	0
Conder	12,988	0	0
Mansfield & Sons	12,980	0	0
Lawrence & Sons	12,892	0	0
Ashby & Horner	12,590	0	0
King & Sons	12,550	0	0
Browne & Robinson	12,285	0	0
Myers & Sons	12,176	0	0

For warehouse, Sussex-place, E.C.

King & Son	£649	0	0

For building a school-room to be attached to a chapel in the Battersea-road. Mr. Charles W. Lee, architect:—

Parsons	£525	0	0
Pitts	509	0	0
Spicer	460	0	0
Pain (accepted)	417	0	0

For new building No. 53, Great Tower-street. Messrs. John Young & Son, architects:—

Myers & Son	£1,519	0	0
King & Son	1,510	0	0
Hill & Sons	1,489	0	0
Little	1,424	0	0
Hart	1,385	0	0
Conder	1,382	0	0
Hardiman	1,362	0	0
Chessum	1,347	0	0
Anley	1,186	0	0

Accepted for the undermentioned works for the North-Eastern Railway, Darlington Section. Mr. W. Peachey, architect.—

Eston Passenger Station.

Shaftoe & Barry (brick, stone, and plaster work)	£1,150	0	0
Wharton (slating)	95	5	6
Smith (carpenter and joiner)	336	0	0
Russell & Sons (plumber, glazier, and gas-fitter)	189	19	0
Close, Ayre, & Nicholson (smiths and iron-founders)	179	5	0
Tomkins (painting)	25	9	0

Three pairs of cottages on the Redcar and Saltburn Branch.

Smith	£895	2	9

One pair of cottages at Barras.

Hepworth	£319	13	2

Two cottages (in preference to four) at Appleby.

Hepworth	£3.8	19	10

For additions and repairs at No. 67, Hatton Garden, for Messrs. A. Rowland & Sons. Mr. F. W. Porter, architect:—

Cox	£479	0	0
Fearun	475	0	0
Glen	394	0	0

For building new show-rooms for Mr. D. Biddle, 81, Oxford-street:—

Saunders	£1,290	0	0
Longmire & Burge	1,289	0	0
Sharpington & Cole	1,253	0	0
Hardiman & Sandon	1,183	0	0
Tracey & Co. (accepted)	1,165	0	0

For rebuilding No. 16, Fenchurch-street. Messrs. Young & Sons, architects.

Ashby & Horner	£1,926	0	0
Myers & Sons	1,920	0	0
Axford & Co.	1,896	0	0
Lawrence & Sons	1,892	0	0
Brass	1,820	0	0
Henshaw	1,815	0	0

For alterations and additions at East Moulsey Lodge, Moulsey. Mr. William Sim, architect. Quantities taken out by Mr. Doughney:—

Sanders	£2,600	0	0
George	2,500	0	0
Dove, Brothers	2,145	0	0
Wheatley	2,075	0	0
Fish	2,060	0	0
Reavell & Sons	1,833	0	0

For premises, No. 1, Raleigh-street, Plymouth. Mr. W. H. Reid, architect:—

Turner	£560	0	0
Matcham	529	0	0
Price	513	10	0
Elliott	449	0	0
Jenkin	448	0	0
Roberts	439	0	0
Clarke (accepted)	415	0	0

For premises, No. 2, Raleigh-street, Plymouth. Mr. W. H. Reid, architect:—

Finch	£1,459	0	0
Lethbridge	1,423	0	0
Turner	1,405	0	0
Call & Pethick	1,391	0	0
Clarke	1,385	0	0
Harvey (accepted)	1,189	0	0

For premises in Bedford-street, Plymouth, for Messrs. Plimsaul, Brothers. Mr. W. H. Reid, architect:—

Matcham	£750	0	0
Jenkin	725	0	0
Finch (accepted)	659	0	0

For drainage works on the Mutley Building Estate, Plymouth. Mr. W. H. Reid, architect:—

Call & Pethick (accepted)	£270	0	0

For drainage works, fencing, and road-making on the Hoe Buildings Estate, Plymouth. Mr. W. H. Reid, architect:—

Call & Pethick (accepted)	£393	0	0

For alterations and additions to Mr. Spittle's house North End, Fulham. Mr. Lott, architect.

Eigles	£269	0	0
Hall	268	0	0
Wilson & Co.	260	0	0
Wigmore & Whittick (accepted)	255	10	0

For sundry repairs and alterations to the "Feathers" public-house, Oxford-street:—

Turner & Son	£420	0	0
Wigmore & Whittick	345	0	0

TO CORRESPONDENTS.

T. J. S. (illegible).—J. D. (has been returned).—N.—W. H. R.—G. E. B.—J. G. W.—A. N.—Mr. B.—J. B.—J. T.—T. & Co.—Rev. Mr. G.—Rev. Mr. B.—Rev. J. I.—S. C. R. (has already appeared in newspapers).—F.—W. K.—E. T.—C. J. G.—J. M. L.—Z. A.—J. R. J.—W. A.—G. C.—W. L.—W. T.—R. L. S.—T. R. L.—G. W. H.—W. F.—A. W. B.—W. R.—C. G. (in type).—W. H. C. (in type).—T. R. I. K. (If good feeling be preserved between "assistant" and "pupils" the former is not likely to object to give reasonable answers to the inquiries of the latter).

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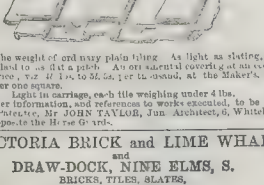
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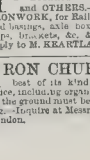
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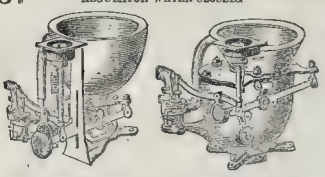
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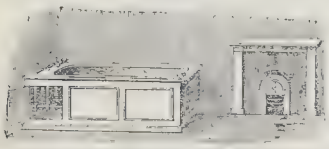
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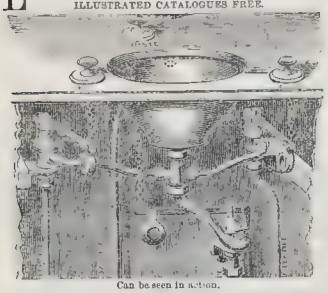
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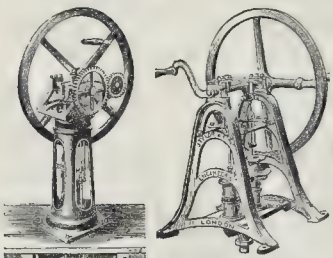
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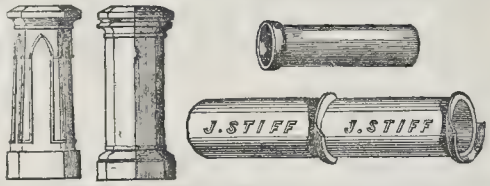
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BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

NELSON'S BLUE LIAS LIME,
16, SOUTH WHARF, PADDINGTON, W
WORKS: STOCKTON, WAREWICKSHIRE.
NELSON & CO. can now deliver by rail or canal, TO ANY PART OF THE KINGDOM.

PORTLAND CEMENT WORKS,
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KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt, they would also call the attention of the public to the very superior quality of their Portland Cement.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.,
24 WHARF, HARROW ROAD, PADDINGTON, W.
FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

HYDRAULIC LIME and ROMAN CEMENT, manufactured by LLOYD JONES & CO. Halkin Works, Holywell, Flintshire. The Halkin Hydraulic Lime is the same as used in the construction of the Liverpool Docks, Manchester, and various waterworks, collieries, and mines throughout the country, being so long celebrated for its strong cementitious and consecting powers for masonry in water. Can be supplied by rail or water to any part of the kingdom, either in lump (loose), or ground, and in barrels and bags. The Limestone can be had in full cargoes, also their Cement in barrels, which is of a very superior quality and warranted pure. Orders to be accompanied by a banker's reference. Apply at the Works; or to E. & W. AARON, Agents, 66, South John-street, Liverpool

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ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTURERS,
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MESSRS. LARK & WHITE,
Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brickwork, or for tidal works, or all cases, and for Lime suitable for trade either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.
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GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
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PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
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FABBRICOTTI, BROTHERS, Carrara
Wharf, Thames Bank, Pimlico, has ALWAYS ON SALE, a well-selected Stock of Statuary, Veins, Paonazzo (or purple vein), Sicilian, and Dove Marble (the produce of their Quarries at Carrara, Italy); also Bardilla, Black and Gold, Greotte, Breccia, Sienna, St. Ann's, Lumachelle, Vert des Alpes, Bleu Turquin, &c.; and Alabaster, in Blocks, with slabs of several of these qualities. Also Solid Marble Baths and Mortars, and Vases and Figures, in Statuary and Sicilian, for Gardens and Galleries. Rough Marbles and Decorative Sculpture Works supplied by contract.

SERPENTINE,
large size and great variety,
EQUAL TO GRANITE IN DURABILITY;
adapted for TOMBS, COLUMNS, CHIMNEY PIECES, and all purposes for which MARBLE and GRANITE are used.
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This stone (which is a perfect oolite) is raised in blocks of any portable size, and is about 4 feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed wise. It works freely with a tooth saw, and is wrought at a cheaper rate than any stone in the kingdom.
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Willington Carrara Marble and Stone Wharf, Regent's Park Basin N.W. have always on Sale CARRARA and other ITALIAN MARBLE, in Blocks or Slabs, viz. Statuary, Vein, Sicilian, Dove, Bardilla, Black and Gold, Genoa Green, Sienna, &c. Also a well-assorted Stock of every quality of French and Belgian Coloured Marbles.

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DR. SALVIATI'S INDESTRUCTIBLE VENETIAN MOSAIC
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999 MARBLE CHIMNEYS now ready for Sale.
336 DRAWING-ROOM CHIMNEYS, at 22s. 6d. each.
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YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
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Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
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The Stone produced from these Quarries has been proved to be the most durable of any in the market, and can be had for Pitching in any sizes, also for Macadamising.—Samples sent, with prices, on application to the Manager, F. M. CROKER, Gunnerslake, Cornwall.

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SLATES.—JONES & CO. have a STOCK of SLATES of different sorts, from the best quarries in Wales. SLABS and CISTERNS delivered at any station in quantities of not less than five tons from their depôts.
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Prices forwarded and estimates given on application.
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Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
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IMPORTANT to BUILDERS and PAINTERS. White Lead (WARRANTED GENUINE) 23s. per cwt.
Linseed Oil, 3s. 3d. per Gallon; Boiled Oil, 3s. 3d. per Gallon.
Turpentine, 6s. 6d. per Gallon.
Oak Varnish, 7s. per Gallon.
Pine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

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Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gliders and Grainers' Tools.
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GARROD & COMPANY'S ENGLISH TURPENTINE
is superior in use to any other, and perfectly free from any offensive odour.
Sample gallons may be obtained at the Manufacturers', price 4s.
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And are manufactured solely by G. B. KENT & CO.
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KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-six years, and may always be depended upon as the best that can be made.

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JOHN WALDEN
(Late Shop-Foreman to Mr. W. SANDS, deceased),
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STAIRCASES and HAND-RAILS.
OFFICE FITTINGS, and all kinds of JOINERS' WORK
Estimates given. All orders punctually attended to
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DRY WAINSCOT,
At 6d. 7d. and 8d. per foot, at
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LADY LAKE'S GROVE, MILE-END GATE.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

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30,500 feet in Plank and Board, sawn three years.
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LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the shortest notice and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City-road, E.C. Extra strong Lead for Churches &c. Estimates forwarded on receipt of particulars.

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THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

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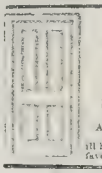
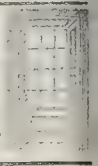
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Designs and Estimates submitted.

PLASTER ENRICHMENTS,
CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
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Best Gelatine, prepared, and ready for moulding 2s. per lb.
Best Fine White Plaster, 2s per cwt. Coarse ditto, 1s. 9d. per cwt.

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London, November, 1864

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MAHOGANY, DEAL, & TIMBER MERCHANT,
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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,
On the shortest notice, and at the lowest Prices.
An ILLUSTRATED LIST of PRICES forwarded on receipt of stamp. ESTIMATES on application.
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YELLOW BATTENS, £9 10s. per 120.
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100,000 Dry prepared Floor-ing Boards ..... from 10s. 6d. per square
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Matched Lining..... from 12s. per square
WHITE BATTENS, £8 10s. per 120.
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Honduras Mahogany .....from 5½d. per foot
SAMUEL PUTNEY,
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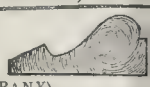
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Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 3l. per Load.
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
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Begs to give Notice that his MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS.
Goods Landed and Carted at Norway Wharf, Ranelagh Road, S.W.
ORDER & RETAIL DEPARTMENT, 40, GREAT PETER ST., WESTMINSTER,
At Prices as low as any House in the Trade.
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YELLOW DEALS, £15 10s. per 120 of 12 Feet.
Per 120 of 12 ft.
WHITE BATTENS .. .. £8 10 | WHITE DEALS.. .. .. £15 0 0
YELLOW ditto .. .. .. 9 10 | ¾-FLOORING from per Square 0 10 6
SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.
T. W. ELLSTON,
No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,
Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

FLOORING, DEALS, BATTENS, &c.
¾-inch Flooring, White and Yellow, 10s. 6d. per square.
¾-inch White Matched Lining ..... 12s. 0d. „
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.
PRICE LIST AND MOULDING PATTERNS, POST FREE.
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(FROM THE GENERAL WOOD-CUTTING COMPANY),
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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

ARCHITECTS, BUILDERS, MERCHANTS, SHIPPERS, AND MASONS

Will find that the CHEAPEST HOUSE in LONDON for the following Goods is at the

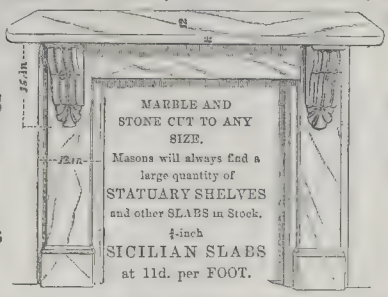
EMPORIUM, J. W. BIRD & CO.'s, 143½ and 145, EUSTON ROAD, N.W.

BOX STONE CHIMNEY PIECES
for 5s. 6d.
Truss ditto ditto, 11s. 9d.

MONUMENTS AND TABLETS
in great variety, equally low in price.

MASONS' WORK OF ALL KINDS
CONTRACTED FOR,
AND EXECUTED WITH DESPATCH IN TOWN OR COUNTRY.

A STOCK OF
500 CHIMNEY PIECES
always to choose from.
PRICE LIST ON APPLICATION.



MARBLE BOX CHIMNEY PIECE
for £1. 5s.
First-class Bed-room ditto, £1 10s.

FIRST-CLASS
TRUSS MARBLE CHIMNEY PIECES
from £2 5s. to £3 5s.

A WELL-CARVED
STATUARY CHIMNEY PIECE
with 13½-inch Piers,
suitable for a Drawing-room, which must be seen to be believed,
FOR THE SUM OF £6.
Net Prompt Cash.
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STATUARY AND OTHER MARBLE CHIMNEYPIECES.

ARCHITECTS, BUILDERS, and MASONS will find at

W. WILLETT'S SHOW-ROOMS, MARYLEBONE ROAD, N.W.

OPPOSITE THE YORKSHIRE STINGO,

A LARGE ASSORTMENT of STATUARY & COLOURED MARBLES, also ENAMELLED SLATE, and STONE CHIMNEYPIECES, at Prices to command their Orders.

CARVED TRUSS STATUARY MARBLE CHIMNEYPIECE, FROM £6. AND UPWARDS.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

SNOXELL & CO.'S
PATENT REVOLVING SHUTTERS, IN IRON OR WOOD,

From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

BRASS SASH BARS, STALL-BOARD PLATES, BLINDS, LIFTS FOR BANKS, HOTELS, &c.

96, REGENT STREET, W. Manufactory—35, OLD STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

Brass Drawn Sash Bars and Brass Stall Plates at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES and TESTIMONIALS FREE BY POST on application at 174, GRAY'S INN ROAD, HOLBORN, LONDON.

JOHNSON, LANE, & ADDIE

(R. JOHNSON, LATE WITH G. F. NORTH, OF STANGATE),
SLATE MERCHANTS, &c.
7, YORK STREET, YORK ROAD, LAMBETH, S.
Slate Work in all its branches attended to with punctuality and despatch. Builders and Merchants supplied with any quantity into Barges in the Vessels at the lowest Prices of the Trade.



STATUARY MARBLE
CHIMNEY-PIECES.

The Largest Stock in London on View at the
WESTMINSTER MARBLE WORKS.

From the great extent of Carving and Sculpture in operation at this Establishment, assisted by Machinery for Sawing, Moulding, and Polishing Marble, with Steam Power, every variety of Marble Work is executed with great despatch, and the Charges the Lowest in London.

THE LLANGOLLEN SLAB AND SLATE COMPANY, LIMITED,

Beg to call the attention of Merchants, Architects, Contractors, and Builders to their present Stock of

SUPERIOR SLATE SLABS

(they have several on hand containing 60 and 70 superficial feet),

THIN AND THICK ROOFING SLATES (roll and ridge), CISTERNS, SINKS, MANGERS, SALTING TROUGHS, FLOWER BOXES, AND ENAMELLED CHIMNEY-PIECES, BILLIARD-TABLES, CHIFFONIERS, TABLE TOPS, AND SLABS.

Their enamelled articles are much appreciated, and are in great demand. Chimney-pieces from 16s.

List of Prices and Books of Designs may be had on application to the Manager, Mr. D. B. HARVEY,

At 4 WHARF, SOUTH WHARF ROAD, PADDINGTON, W.

TARPAULINS, MARQUEES, &c.

for SALE or HIRE.
SCAFFOLD AND HEMP ROPE FALLS.
H. PIGGOTT & SONS,
9, Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

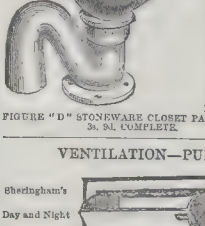
TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.

SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, No. 6340.

3s. 9d.



The ONLY MEDAL "for STONEWARE"
has been awarded to
DOULTON & WATTS,
LAMBETH POTTERY,
LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the ancient pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple in detail and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the blinds are closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

DENT'S TURRET CLOCKS.

—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCK, suitable for STABLES, CHURCHES, and other Large Buildings, by the late E. J. DENT and F. DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. Turret Clocks, with Compensation Pendulum, adjusted for variations of temperature, to work the hands of dials of any size, from 1 foot to 21 feet diameter.

E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

SALES BY AUCTION.

GREAT SCOTLAND YARD.—To Coal Merchants, Contractors, and Others.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Dalgleish & Taylor, in consequence of their Wharf being required for the Thames Embankment, to SELL by AUCTION, on the PREMISES, Great Scotland-yard, Charing-cross, on TUESDAY, NOVEMBER 29, at TWELVE for ONE, Nine powerful Cast HORSES, Wharf and Waggon Weight-g machines, by Pouparl, Dead cutting Machine, Iron safe, Office Fittings, and other Effects.—May be viewed the day previous, and Catalogues had at the Place of Sale; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

CURTAIN ROAD.—To Builders, Masons, Upholsterers, and Others.

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION, on the PREMISES, No. 74A, Curtain road, Shoreditch, on WEDNESDAY, DECEMBER 7, at TWELVE precisely, on account of the number of lots, about 200 Marble Chimney-pieces, of a superior description, including several richly sculptured in statuary marble, suitable for drawing-rooms, and a large assortment of plainer designs in Irish, Sicilian, black, rouge royale, St. Anne's, and other coloured varieties; also upwards of 100 Marble top Wash stands, Table tops, &c.—May be viewed two days previous, and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

No. 2, BEDFORD-STREET, HIGH HOLBORN.—To Builders, Carpenters, and Others.—BUILDER'S STOCK, comprising Ladders, Scaffold boards, Poles, Pudlocks, Cords, Screw Wrench, Tackle and Fall; Work Benches, Seasoned Wood, several Bags of Nails, Screws, Hinges, Panelled Doors, Shopfronts, Stoves, Bricks, Slates, Tiles, &c.

MR. HASLEHAM will SELL the above, by AUCTION, on the PREMISES, on TUESDAY, 29th NOVEMBER, at TWELVE o'clock, without Reserve.—On view day prior to and morning of sale, when Catalogues may be had as above; and at 7, Clerkenwell-green

CUXTON BRICKFIELDS.—To BRICKMAKERS, BUILDERS, and OTHERS.

MESSRS. COOMBES & EVENDEN are favoured with instructions from the Medway Brick Company (Limited), to SELL by AUCTION, on WEDNESDAY, the 30th of NOVEMBER, 1864, at TWELVE for ONE o'clock, on the PREMISES, near Cuxton Station (on the North Kent Line), two miles from Rochester, the valuable PLANT of MACHINERY and IMPLEMENTS, comprising a very superior wash-mill, fitted for steam-power; Fowler's patent main pump, ditto; an excellent water pump, with brass barrel, supply pipes, and all requisite fitments to attach the whole to steam-power; three substantial pugmills, three long pumps, four moulding tables, 100 iron wheeling-plates, fifty main shoots, planks, off-bearing, crowding, soil, and navvy barrows, carts, harnesses, chaff-engine, portable fire-stand, bellows, anvil, vice, blacksmiths' tools, and other effects. Also, the Materials of the Manager's House, recently built, brick and slated, containing seven rooms, with the fixtures therein; five cottages, stable, coal-shed, and other buildings.—Catalogues may be had at the place of Sale; the inns in the neighbourhood; and of the Auctioneers, Strood, Rochester.

VALUABLE STEAM-ENGINES, BOILERS, &c. at the old Waterworks, Spring bank, Hull, TO BE SOLD by AUCTION, by

MR. JOHN SOUSTER, on WEDNESDAY, NOVEMBER 30th, 1864, at NOON, at the OLD WATERWORKS, Two valuable 24-horse Beam ENGINES. Two 24-horse BOILERS, a large quantity of heavy iron piping, iron girders, wrought iron tank (50,000 to 60,000 gallons), one smaller tank, 16 flagging, &c. &c. The above are well situated for removal, being within a few yards of the North-eastern Railway Station. They may be inspected on and after the 24th inst. and further particulars may be had of Mr. DAVID THORP, Corporation Surveyor, Town Hall, and of the Auct. neer, 20, Scale-lane, Hull.—By order,

DAVID THORP, Corporation Surveyor.

Hull, November 11th, 1864.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, DECEMBER 12, 1864, at TWELVE o'clock precisely, on the PREMISES, the Great Northern Iron works, Cambridge street, King's cross (the premises being very conveniently situated for the Great Northern Railway), the PLANT and UTENSILS of an IRONFOUNDRY; two wrought-iron cupolas (10 tons and 6 tons), two fans, loam-mill, 8-horse power steam engine and boiler, shafting, core stoves, two overhead travellers (10 and 20 tons), two iron 3-ton jib cranes, crane-shank and hand ladles stove trucks, smiths' tools, forges, drilling machine, vices, chain slings, foundry tools, steelyard to weigh 3 tons, scales and weights, cast-iron tank, fitters' and pattern-makers' benches, 50 tons boxes, rings, and plates, wood and iron patterns, sand, office furniture, two useful horses, harness two nearly new spring carts, timber-truck, and numerous other effects.—To be viewed on SATURDAY previous to the Sale, when catalogues may be had on the Premises; and of Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO BOILER-MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Mills, who is retiring, to SELL by AUCTION, on THURSDAY, DECEMBER 15, 1864, at ONE o'clock precise, on the PREMISES, No. 21, Gloucester-road, White Pages, the PLANT and TOOLS of a BOILER MAKER, horizontal steam-engine and vertical tubular boiler, set of plate bending rolls by Smith, Beacock, and Tannett, punching and shearing machine, 3 powerful lifting jacks, 3 double fine Cornish boilers, 5 feet, 6 feet 8 inches, and 7 feet diameter, 16 feet, 26 feet, and 28 feet long; 4 new vertical boilers, 4 steam boilers, various; new furnace work, anvils, forges and bellows, anvils, and smiths' tools, force pump, wrought iron tanks, vices and benches, double-purchase crab, blocks and falls, boiler truck, 4 hand trucks, grindstone, shafting and riggers, chain slings, shaping blocks, cast-steel tools, quantity new boiler plate, and other effects.—To be viewed the day previous to the Sale, when catalogues may be had on the premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

CAMDEN TERRACE, CAMDEN TOWN, near the Railway Station

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, on MONDAY, NOVEMBER 28th, at ELEVEN for TWELVE, the excellent STOCK, comprising 1,701 yellow and white stocks, deals and battens, 1,700 feet run of 9-in square, 2,400 squares white and yellow flooring, 8,000 feet quarter-sq. 5,000 feet dry lime-tree, 5,000 feet sycamore veneers and head, mahogany, walnut, pine, 1,000 feet pine, dry oak stuff, match boards, slating battens, pantile laths, two mast poles, ladders, 2 trollies, excellent old materials, slates, paving, coping, marble and stone chimney-pieces, &c.—Auction Offices, Cardington-street, Hampstead-road.

BARNSTAPLE, DEVON.—TO BE SOLD by AUCTION, on TUESDAY, the 12th day of DECEMBER next, by

MESSRS. MANNING & SON, on the PREMISES, Rolle Quay, Barnstaple, at TWO o'clock in the afternoon precisely, the undermentioned valuable MACHINERY, viz.:—A horizontal high-pressure steam-engine, 28-inch cylinder, 2 feet stroke, by Coupe, of Wigan, fixed new in 1861, in excellent condition; two Cornish boilers, one 18 feet long, 4½ feet diameter, the other 22½ feet long, 4½ feet diameter, with the requisite fittings; a rack-bench, 60 feet long, with two circular saws; cast iron saw-bench and circular saw, a sweep cutting machine, by Robinson, of Rochdale, and 3 inch wrought-iron shaft, 45 feet long, with plummer blocks, brass bearings, driving drums, &c. The above have been used in working saw mills and wood-turning works, and will be found well worth the attention of any one requiring such machines.

Dated, Barnstaple, November 22, 1864.

GOVERNMENT CONTRACT.—Cart Horses.—TO BE SOLD by AUCTION, by

MR. J. GOWER, at his REPOSITORY, Barbican, on FRIDAY, DECEMBER 2nd, 1864, at TWELVE o'clock, Thirteen Powerful, Active, Young CART HORSES, the property of Messrs Wilson. Have been employed on Government fortification works at Farnham, Hampshire. Also, by direction of R. Campbell, Esq. Eight Cart or Van Horses, off the Buscot Estate, sold in consequence of the improvements being completed. On view two days prior.

KENT.—Valuable Building Land, close to the Town of Maidstone, and Wood Lands in the Parish of Boxley.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION at the STAR HOTEL, Maidstone, on TUESDAY, DECEMBER 13, at THREE o'clock, in Eight Lots, the following eligible FREEHOLD PROPERTY, near to the thriving town of Maidstone, in a very pretty neighbourhood, viz. two inclosures of Freehold Land, beautifully situate a short distance from the town of Maidstone, on the north side, containing together about 21 acres, commanding extensive and picturesque views. They have frontage to two roads, and are well adapted for building purposes. Also, on the opposite side of the road to Barming, a wood, known as Scrubb's Wood, containing about 20 acres, together with a cottage, garden, and orchard, barn and yard. This also commands fine views. There is a considerable quantity of good timber. It is in a good situation for the erection of a first-class residence. Two lots of Building Land, Accommodation Land, in the parish of Boxley, close to Maidstone, and with valuable frontages to the river Medway, containing together about 8 acres. These plots adjoin Messrs Macey & Co.'s paper-mills, and are in a capital situation for the erection of manufacturing premises. A Ground-rent of 42l per annum, well secured upon the paper mills and premises of Messrs. Macey & Co. and the dwelling-house adjoining, the whole occupying an area of about 3 acres. Also a thriving Copse, known as Abbey or Little Cowback Wood in the parish of Boxley, on the road to Bredhurst, containing about 14 acres.—Particulars and plans may be had of Messrs. BENNETT, DAWSON, & THORNHILL, Solicitors, 2, Newsquare, Lincoln's-inn; I. P. EVANS, Esq. Griff, near Nuneaton; of H. PEPPERCORN, Esq. Red Hollins, Kent; at the Place of Sale; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

MESSRS. WILLIS & HARROW beg to announce that their SALE of MATERIALS in Turnwheel-lane, City, advertised to take place on the 22nd inst. is POSTPONED until WEDNESDAY next, the 30th instant.

3, Newman court, Cornhill, Nov. 24, 1864.

To Dealers in Materials, Lead Merchants, and Others.—Very excellent Building Materials, Hereford-street, Oxford-street.

MR. GEO. HAINES announces FOR SALE by AUCTION, on the PREMISES, on MONDAY, DECEMBER 5, at ELEVEN for TWELVE precisely, all the valuable MATERIALS of TWO Spacious FAMILY MANSIONS, Nos. 15 and 16, Hereford-street: comprising many thousands of prime sound bricks, several tons of lead, the large roofs covered with sound slating and sound timbers; numerous glazed sashes, panelled doors, clean batten floors and stout joists, statuary marble chimney-pieces, water-closets, and useful fittings of the numerous rooms; two principal stone staircases, pavement of hall, iron balconies, railings, and fixtures, with brick erection of two sets of large stables and coach-houses and fittings.—May be viewed. Cards and Catalogues of Messrs. HAINES & SON, Moorgate-street, City; and at the Auctioneer's Offices, Grosvenor street West, Eaton-square, and No. 12, High street Kensington.

IN BANKRUPTCY.—To Plumbers, Decorators, Builders, and Others

MR. NASH will SELL by AUCTION, at 34, Maiden lane, Covent Garden, on WEDNESDAY next, at TWELVE, the GOODWILL of the old established BUSINESS, also at the same time, in Lots, the STOCK and UTENSILS, comprising sheet and pipe lead, traps, service-boxes, spring valve and pan closets, water-butts, brass work, colour cars, cisterns, ladders, benches, office fittings, iron safe, household furniture and effects.—On view day prior and morning of Sale. Catalogues of Messrs. S. J. BENETTA & CO. Accountants, 39, Moorgate-street, E.C.; and of the Auctioneer, 41, Basinghall-street, E.C. and Ball's-pond, N.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception rooms, two being 50 feet in length, eleven bed-rooms, stabling for eight horses and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouse, &c. all of 3½ acres; gravelly soil; near Sunningdale Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell-square.

WESTON-SUPER-MARE, Somerset.—BRILLIANT MARINE SALE.—Freehold [illegible] having [illegible] Sea, [illegible] Pier; [illegible] grass [illegible] per annum. [illegible] to be sold in lots. The whole can be sold in one.—Apply to Mr. B. G. PHILLIPS, Westonsuper-Mare.

SUNBURY COURT ESTATE.—This Estate is now TO LET on BUILDING LEASES for the erection of detached residences of a superior class. The property is situate within a mile of the Sunbury Station, on a line within three quarters of a mile of the Hampton Station of the Thames Valley Railway.—For particulars apply to Mr. R. R. ARNTZ, Architect and Surveyor, No. 4, Cannon-row, Westminster, S.W.

ELIGIBLE FREEHOLD LAND in the heart of the City.—The Court of the Worshipful Company of Mercers are prepared to receive TENDERS for the SITE of the PREMISES numbered 2, 3, 4, 5, 6, and 7, on the east side of Basinghall-street, in the City of London, on a Building Lease of 61 years from Michaelmas, 1865. A plan of the ground, which may be tendered for either in three distinct lots or parcels, or in its entirety, may be seen at the Office of Mr. GEORGE SMITH, Surveyor to the Mercers' Company, Frederick-place, Old Jewry, E.C. where such Tenders are to be delivered on or before TWELVE o'clock on the 31st DECEMBER, indorsed "Tender for Ground, Basinghall-street."

BRICK-EARTH.—TO LET, about FIVE ACRES of good CLAY, seventeen miles from London, near a railway, where building is rapidly increasing, and there is a great demand for bricks.—For particulars apply to Mr MARTIN, Caterham, Surrey

NOTTING-HILL.—WANTED to PURCHASE, a SMALL HOUSE near Notting-Hill or Bayswater Price from 600l. to 650l. Rental not less than 50 per cent.—Address, R. B. Mr Goddard's, 51, Great Portland-street, W. by letter only.

BUILDING LAND.—EGHAM, SURREY. About 70 ACRES adjoining Engle-field-green, TO BE LET, in Plots, or otherwise, on Lease for 99 years.—For particulars and Plan apply to Mr JOHN CLUTTON, 9, Whitehall place, Westminster, S.W.

TO BRICK and TILE MAKERS.—TO BE SOLD by PRIVATE CONTRACT, a FIELD, containing about 6 acres of excellent Brick and Tile Earth, from 5 feet to 45 feet in depth. Price, with tile-kiln and shed, 1,200l.—For particulars, apply to Mr. T. G. BROWNING, Auctioneer and Appraiser, Whitstable, Kent, where sample bricks and tiles may be seen.

SPACIOUS MANUFACTURING PREMISES, TO BE LET, on lease, 2½ miles from the City. Well adapted for any large business; frontage nearly 300 feet, and depth about 150 feet. The Regent's Canal, Bow, and Hackney Railway Trough is but a quarter of a mile distant, and the Brighton line of railway runs over a portion of the property. Covered space about 12,000 square feet. Considerable plant is on the premises, and may be taken or not at the tenant's option.—Further particulars of Messrs. DEBENHAM & TEWSON, 80, Cheapside, E.C. where a plan may be seen.

BUILDING LAND TO BE LET, by Tender, on 10th DECEMBER.—PIPER'S TRUST ESTATE, Windham-road, Camberwell.—Full particulars for Tender and plans can be obtained at the Surveyors' Offices, WALES & SPARKS, 2, Great St. Helen's, E.C.

TO BRICKMAKERS.—TO BE SOLD, a QUANTITY of BRICK EARTH, in a field near Conyer Wharf, Teynham.—For particulars, apply to Mr. GEORGE WEBB, Tunstall, near Sittingbourne.

BUILDING LAND, TO BE LET, Vincent-square, Vauxhall Bridge-road, Westminster.—Block 1, laid out for seven 10-roomed houses; block 2, for nine 11-roomed houses; and four 3 ditto, with large open area in the centre, suitable for a mews or manufactory (lease sixty years).—A block plan can be seen at Mr. J. JOBSON'S, 2, Rochampton place, Vauxhall Bridge-road, Westminster, to whom application must be made

TO BUILDERS, CAPITALISTS, and OTHERS.

The following PLOTS of FREEHOLD LAND, situate at Fulham, S.W. TO BE LET, on Building Leases, on such terms as will enable the lessees to secure from thirty to fifty per cent. improved ground-rentals, with immediate possession. Gravel soil; sand for building. Main drainage nearly completed.

No. 1.—North side of Fulham-road, opposite Munster-terrace; 1½ acres, with a frontage of 1,045 feet to the road; total frontage, including cross roads, 4,500 feet. The 2 acres of the Freehold would be 8 l.

No. 2.—South side of Fulham-road, opposite Mr. Dancer's; 6 acres; 370 feet frontage to road, with a depth of 645 feet; 3,420 feet total frontage.

No. 3.—On south side Hiringham lane, between Mulgrove House and Broom-lane; 343 feet frontage, 200 feet deep; overlooking a meadow of 20 acres.

No. 4.—Blake-road, entered from Princess-terrace, Walham Green; 4 acres; 1,060 feet frontage still unlet; with large back area for stables or cottages.

No. 5.—A Plot of 10 acres, overlooking Sel Brook Common; main-drainage sewer running through it from north to south; main road, 1,860 feet long, 50 feet wide, already formed. Total building frontage, 3,620 feet

No. 6.—Fulham Fields, for the erection of 60 cottages on two main roads.

No. 7.—North End near the Hermitage; 1,100 feet frontage.

No. 8.—On the banks of the Thames, nearly 10 acres; 700 feet frontage to the river, and 440 feet in depth. A large quantity of screened Pit Gravel for Sale, cheap. For particulars apply at Mr. A. MOSELEY'S Offices, 7, Charing-cross, S.W.

BUILDING SITE REQUIRED.—To PURCHASE, or LONG LEASE, a PLOT of LAND, containing about 3,000 superficial feet, within one mile North, South, East, or West of Lincoln's-inn-fields.—Particulars to be sent to Messrs. WILLIAM MAYHEW & CALDER, Architects, 5, Charing-cross, S.W.

CITY of LONDON, near.—TO BE LET, on a Building Lease, a splendid SITE of GROUND, containing about 17,000 feet superficial, in a leading thoroughfare, five minutes from London Bridge; 80 feet frontage; no question of lights; back entrance.—Address, ALPHA, 104, London-wall, E.C.

THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited).

Capital 100,000l. in 10,000 shares of 10l. each.

First issue 5,000 shares. Deposit, 1l. per share upon application, and 1l. on allotment

Subsequent calls not to exceed 2l. per share, and at intervals of not less than three months.

Chairman of Directors—The Viscount de Vesci, M.P.

Bankers—Messrs. Dimsdale & Co. 50, Cornhill, E.C.

Brokers.

Sir Robert W. Carden & Co. 2, Royal Exchange-buildings, E.C.

Solicitor—Henry Smith, Esq. 33, Norfolk street, Strand, W.C

Secretary—H. P. Keighley, Esq.

Temporary Offices—12, Charing-cross, S.W.

The Company having purchased Mr. F. H. Dinchell's patent of his filter for purifying water direct from the cistern, and also a cleaning apparatus, are now prepared to carry out the suggestion of Arthur Aikin, Esq. D. and other sanitary authorities.

The filter through which the water is caused to pass when being drawn will be placed in the cistern, will yield the water pure, limpid, and free from colour and taste; it will arrest the impurities in mechanical suspension, and deprive the water of all organic contamination and metallic oxides in solution. The water is filtered the last moment when required for use, and, therefore, is not liable to acquire fresh taint from standing.

The filter will require no attention on the part of servants or others more than it will be fixed and periodically cleansed, and replaced when necessary, and otherwise kept in order by the Company, in houses in and about London. The cisterns will be cleaned out at least once a year, and oftener if required, at the following annual rentals to be paid in advance upon being fixed, beyond which no other expense will be incurred:—

	Per annum.
	Rental.
Filter No. 1, yielding half a gallon per minute	£0 7 6
Filter No. 2, yielding one gallon per minute	0 12 6
Filter No. 3, yielding two gallons per minute	1 0 0
Filter No. 4, yielding four gallons per minute	1 10 0

The first two of these filters are supplied for drinking purposes with a separate pipe, which may be led to any part of the house below the cistern.

The two last are calculated to filter all the water which passes through the common supply pipe.

The Company are prepared to extend their operations to other large and populous places supplied with water like unto the metropolis, and where agencies can be established. They also undertake the sale of cistern filters where a rental would be impracticable, and to supply them and the softening apparatus to the Naval and Military Services, water companies, clubs, breweries, laundries, steam boilers, hotels, hospitals, workhouses, prisons, barracks, and other Government and large establishments, on terms to be agreed upon.

Testimonials of the efficiency of the filters from eminent members of the medical profession and others who have them in use can be inspected at the Offices of the Company, where the filter can be seen, and any information obtained.

Applications to be made to the Secretary, from whom forms can be obtained. The filter will be supplied on and after the 1st of January, 1865, in the order in which application is made.

Applications for the remainder unallotted shares of the first issue to be sent to the Bankers, Brokers, Solicitors, or to the Secretary, from whom respective forms can be obtained.

THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited) beg to give Notice that the SHARE LIST for the First Issue will CLOSE on SATURDAY, the 10th of DECEMBER next. Upon a further issue, a preference will be given to the then existing shareholders.

THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited).

AGENTS being REQUIRED throughout the metropolis and suburbs, and in other populous places, applications to the Secretary from those desirous of undertaking the Company's Agency, upon terms to be agreed upon, are invited

H. P. KEIGHLEY, Secretary.

No. 12, Charing Cross, S.W.

TO BUILDERS and OTHERS.—TO BE SOLD by TENDER, the Interior FITTINGS and FIXTURES of FLATMER CHAPEL, Sclattergouire, consisting of the pews, pulpit, galleries, &c. Tenders will not be received after the 10th of DECEMBER next.—Further particulars may be had of Mr. T. SMITH, 5, Rose place, Sclattergouire.

WANTED, OAK PARK PALING.—1,000 feet of 5 ft.; 360 feet of 6 ft. 6 in.; and 1,000 of strong garden partition fence, 6 ft. 6 in.—Price for cash of each sort per rod, including putting up, at Ealing.—Apply to Mr. WEEKS, 3, Selsley-place, Whitehall-grove, Chelsea.

WOODEN or IRON ROOM WANTED, about 2 feet wide by 3½ feet or 40 feet long. Must be in good condition and only recently used.—Send price and full particulars to R. B. 125, Houndsditch, City.

London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 26, 1864.

The Builder,

AN ILLUSTRATED WEEKLY PAPER FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XXII.—No. 1139. DECEMBER 3, 1864. PRICE FOURPENCE By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY FIVE APPOINTMENTS in the Third Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examinations, and also a printed Notice of the appointments to be competed for, may be obtained at the Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, R.A. Beresford Hope, Esq.

PRESIDENT—Sydney Smirke, Esq. R.A.

TREASURER.

Philip Hardwick, Esq. R.A. Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by the Treasurer, WILLIAM TITE, Esq. 50 Bedford-place; or by Mr. ALFRED HILL, 33, Tonbridge-street, East-road, W.C.

TURNER, Hon. Secretary, 15, Wilton street.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS (two Males and one Female) will be held on the 24th inst. at the London Tavern, Joseph Bird, esq. in the chair.

Successful Candidates.

G. Merrion	2,479
J. S. Watson	2,345
Mrs. C. Smith	1,585

The others were,

T. Birch	1	G. L. Williams	109
T. Martin	0	T. Stevens	375
W. Terry	1142	Mrs. Crane	804

December 2nd, 1864. A. G. HARRIS, Sec.

ARCHITECTURAL ASSOCIATION, 9, Conduit-street, W.—The Paper on FRIDAY Evening Next, DECEMBER 9th, will be read by W. G. BRANGWYN, Esq. Subject, "GOTHIC MUSIC ART in the MIDDLE AGES." The Chair will be taken at Half-past SEVEN o'clock.

J. D. GLASS MATHEWS, } Hon. Secs.
T. A. W. BRIDGE, }

KING'S COLLEGE, London.—PROFESSORSHIP of DRAWING.—The Council are ready to receive APPLICATIONS from Gentlemen desirous of offering themselves for the appointment.

J. W. CUNNINGHAM, Secretary.

NOTICE.—Mr. LUDWIG DENICKE, of Leipzig, has been appointed AGENT to receive Advertisements, and to supply "The BUILDER," in GERMANY and EASTERN EUROPE.

SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION, SOUTH KENSINGTON.

ROYAL SCHOOL OF NAVAL ARCHITECTURE and MARINE ENGINEERING, Session 1864-65.

The following course of public lectures will be given in connexion with the above school. Persons having the tickets of these lectures, which will be delivered from FOUR to FIVE o'clock, in the afternoon, may be had on application at the South Kensington Museum.

Fee for the full course, £1 and for separate courses, 2s. 6d. per lecture. Officers in H.M. Service are admitted at reduced fees.

Subject.	Lecturer.
1 Inaugural Lecture	Rev. J. Woolley, LL.D.
2 On the Principles of Mechanics and Hydrostatics. Machinery, and Steam and Mechanism (12 lectures)	The Rev. B. M. Cowie, B.D.
3 On the Mechanical and Chemical Properties of Iron; and on the Mechanical Strength of Materials (6 lectures)	John Percy, M.D. F.R.S.
4 On the Properties of Different Kinds of Timber; its Application and Durability (3 lectures)	T. Laslett, Timber Inspector, H.M. Dockyard, Woolwich.
5 On Practical Application of Iron to Form Mechanical Structures (3 lectures)	Prof. Pole, F.R.S.
6 On Naval Construction (12 lectures)	E. J. Reed, Chief Constructor of the Navy.
7. On Marine Steam Engines and Boilers (8 lectures)	A. Murray, C.E., Chief Engineer, H.M. Dockyard, Portsmouth.
8 On the Strength and Materials as applied to Shipbuilding (3 lectures)	Prof. Rankine, F.R.S.
9 On the Motion of Ships in Still Water, the Resistance of Fluids, and the Motion and Waves (3 lectures)	Prof. Rankine, F.R.S.
10. On the Stability and Oscillations of Ships (3 lectures)	W. Froude.
11. On the Mechanism of Masts, Rigging, Sails, and Steering Apparatus (6 lectures)	F. K. Barnes and N. Barnaby, Assts. and Constructors of the Navy.
12 On the Principles of Marine Propulsion (3 lectures)	J. Croskell, Asst. and Constructor of the Navy.
13 On Screw Propellers (1 lecture)	F. Petit Smith.
14 On the Observations and the Curves used in Navigation (6 lectures)	W. Merrifield, F.R.S. Principal.
15. On Magnetism, Terrestrial Magnetism, and Deviation of the Compass, with special reference to Iron Ships and their Correction (3 lectures)	The Astronomer Royal.
16. On the Building up, Equipment, Stores, Armaments, and Outfit of Ships of War (3 lectures)	F. K. Barnes and N. Barnaby, Assts. and Constructors of the Navy.
17. On Laws of the Purchasing of Wood (3 lectures)	J. H. Ritchie, Surveyor of Woods.
18. On Naval Architecture and Tactics (6 lectures)	Capt. L. G. Heath, R.N. C.B.
19 On Board of Trade Regulations (2 lectures)	R. Murray, C.E. Engineer-Surveyor to the Board of Trade.

Mr. W. FAIRBAIRN, F.R.S. has kindly consented to give one or more lectures on Strength of Materials, of which the dates will be duly declared.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Exhibitors must reside within the Southern postal districts.

MONEY PRIZES, from £1 to £10.

Application for space, information, &c. to be made to Mr. G. M. MURPHY, 52, Finsbury-road, N.

SMITHFIELD CLUB CATTLE SHOW, 1864 (in the Gallery).—HENRY CLAYTON & CO. of the Atlas Works, Lambeth, have specimens of their improved Patent Brick-making Machines, combining crushing, pugging, and moulding Brick and the Pressing Machines, Combined Moulding and Pressing Machines for Pressed, Tile and Pipe Making Machines, New Patent Machines, Machinery, Portable Machines, &c. Patent Dryers on the system for drying bricks and tiles.—Catalogues free by post, on application at their new Manufactory, Woodhill-road, Hanover Pond, London, W late of Upper Park place, Dorset-square.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—Prices, apply to the Manager, Mr. TYLER, 12 Aldridge-street Westminster, who will also furnish any information, he has long been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 75, 74, Basinghall street, with a few doors from the late Address, at No. 81. These afford accommodation for a still larger Stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the enlarged business to the erection of all descriptions of hot water bath, sanitary, and steam work.

72 74, Basinghall street Within.

LENOIR'S PATENT GAS-POWER ENGINE.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

The Company are now Publicly Exhibiting this motive power, daily, between the hours of 11 and 4.

C. W. WOOD, Manager and Secretary (pro tem)

No. 40, Cranbourne street, Leicester square.

A BUILDER is desirous to meet with any Party who would ADVANCE him from 300£ to 400£. in the ERECTION of a HOUSE. He will give leasehold property in security for the sum for ten years. Interest to be agreed on.—Address, with real name, Z. D. Office of "The Builder."

CONTRACTS.

WAR DEPARTMENT CONTRACT.—

BULL POINT, near Devonport.

TENDERS are required to be delivered to the Director of Contracts, War-office, London, S.W. on or before the 21st JANUARY, 1865, for the ERECTION of a SHIFTING HOUSE, MESS-ROOM, SERGEANTS' MESS HOUSE, ABLUTION HOUSE, and LATRINES; also for BUILDING a WATER RESERVOIR and PUMPING and LAYING HOME MAINS and BRANCH CAST IRON PIPES.

Printed forms of tender, and other particulars, may be had at the Royal Engineer Office, Devonport, on MONDAYS, between the hours of ELEVEN and THREE, or at the Royal Engineer Office, Bull Point, on any other day of the week.

HENRY GENLIS-EATWELL, Colonel Commanding Royal Engineers, Western District.

Devonport, 29th Nov. 1864.

TO IRONMASTERS, IRONFOUNDERS, &c.—LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—The Directors are prepared to receive TENDERS for the SUPPLY and ERECTION of the IRON WORK required in the construction of a Small Timber Viaduct, Wrought-iron Lattice Girders, Cast-iron Columns, and Cast-iron Screw Piles, at Newhaven, in accordance with Specifications and Drawings, and obtained upon application to Messrs. CHARLES FOX & SON, Engineers, 65, Victoria-street, Westminster. Tenders must be delivered at the Secretary's Office, 8 Terminus-buildings, Victoria, by twelve o'clock at noon on SATURDAY, the 17th of DECEMBER next, and will be opened on the following MONDAY, the 19th, at TEN a.m. and FIVE p.m. or on Saturday, to meet the Directors at TEN and TWO p.m. on SATURDAY, the 17th of DECEMBER next. Each Tender must be accompanied by a Deposit for the due performance of the Contract, and must be made on the Printed Form of Tender, which may be had on application at the Secretary's Office, London Bridge Station, on and after MONDAY, the 28th instant.

The Directors do not bind themselves to accept the lowest or any Tender.

By order,

FREDERICK SLIGHT, Secretary.

Secretary's Office, London Bridge Station,
28th November, 1864.

NOTICE to RAILWAY CONTRACTORS.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of the Company's NEW RAILWAY, being a length of Two Miles or thereabouts, commencing at Peckham Rye and terminating at the Company's Croydon Railway, and other Works connected therewith. Plans and Sections may be seen, and Specifications and Forms of Tender obtained, at the Company's Office, No. 8 Terminus-buildings, Victoria, by twelve o'clock at noon on MONDAY, the 12th of DECEMBER next, when the Tenders will be opened. Each Tender must be accompanied by a Deposit for the due performance of the Contract, and must be made on the Printed Form of Tender, which may be had on application at the Secretary's Office, London Bridge Station, on and after MONDAY, the 28th instant.

The Directors do not bind themselves to accept the lowest or any Tender.

By order,

FREDERICK SLIGHT, Secretary.

Secretary's Office, London Bridge Station,
24th November, 1864.

WORKINGTON LOCAL BOARD.—SEWERAGE WORKS.—To SEWERAGE CONTRACTORS and OTHERS.—The Local Board of the District of Workington, in the county of Cumberland, hereby give notice that they are prepared to receive TENDERS from parties willing to undertake the following contract:—

Contract No. 1. For the CONSTRUCTION of about 3 SEWERS, FARTHENWARE and CAST IRON PIPE DRAINS, MANHOLES, VENTILATING SHAFTS, GULLIES, and other WORKS.

Plans, sections, detail drawings, and specifications, may be seen, and duplicate forms of Tender, bills of quantities, and schedules for signature, may be obtained on application at the Surveyor's Office, in pursuance of Tenders will be received at the Office of Mr JOHN ASKEW, Clerk to the Local Board, Workington; or at the Office of Messrs. JOHN LEWIS & SON, Civil Engineers, Westminster, on and Tenders, addressed to the Chairman of the Local Board, to be delivered at the Office of the Local Board, on or before SATURDAY, the 10th day of DECEMBER next. The Local Board do not bind themselves to accept the lowest or any Tender.

(Signed) JOHN ASKEW, Clerk to the Local Board.

Workington, 12th November, 1864.

BOROUGH of STOCKPORT.—SEWAGE WORKS.—The Local Board of Health of Stockport is prepared to receive TENDERS for the SUPPLY of VITRIFIED STONEWARE PIPES and MATERIALS and LABOUR required in the CONSTRUCTION of the HEATON-LANE MAIN INTERCEPTING SEWER, together with the Storm Gutters, Manholes, Ventilating Shafts, Gullies, and other Works connected therewith. Plans, sections, and specifications may be seen, and forms of tender and all requisite information obtained, on and after MONDAY next, on application to Mr. BRIGGS, C.E. Engineer, Blackburn; or to Mr. TAYLOR, Heaton Surveyor, at his offices, Tiviot Dale, Heaton Norris. Sealed tenders endorsed "Tender for Main Sewer, &c." addressed to the Chairman of the Local Board, will be received at the Office of the Board, on or before WEDNESDAY, the 14th day of DECEMBER next. The Local Board will not be bound to accept the lowest or any Tender.

HENRY GOODWIN,
Town Clerk, and Clerk to the Local Board.

Stockport, Nov. 17, 1864.

THE KEIGHLEY and WORTH VALLEY RAILWAY COMPANY.—CONTRACTS for SUPPLY of PERMANENT WAY MATERIALS.—The Directors of the Keighley and Worth Valley Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS, CHAIRS, SLEEPERS, KEYS, FISH-PLATES, BOLTS, SPIKES, &c. required in the construction of the above Railway. Specifications and Forms of Tender may be had on application to T. MYLAND-POLEY GILL, C.E. Engineer, 21 and 22 Queen-st., Bradford, Yorkshire, from whom information may be had as to the Quantities, &c. Tenders to be delivered at the Offices of the Company, 21 and 22 Queen-street, Bradford, on or before TWELVE o'clock at noon on MONDAY, the 12th day of DECEMBER next. The Directors do not bind themselves to accept the lowest or any Tender. Any order of the Directors.

JONATHAN GILL, Secretary.

Oakworth, Keighley, 21st November, 1864.

[For remainder of Contracts see next Page.

ST. MARY, ISLINGTON.—COUNTY of MIDDLESEX METROPOLIS LOCAL MANAGEMENT ACT.—The IRONFOUNDERS and OTHERS.—Notice is hereby given, that a Committee meeting of the Vestry of the Parish of St. Mary, Islington, will be held on WEDNESDAY, the 14th day of DECEMBER next, at SEVEN o'clock in the evening, to receive TENDERS and to CONTRACT for a SUPPLY of GAS LAMP POSTS and CANDELABRUMS for the ensuing year. The patterns may be seen on application to the Inspector, at the Chapel House, Holloway-road. The average weight of each post and column to be 4 cwt. 2 qrs. The whole to be delivered, weighed, and set well away at the Istchouse, Chapel-de-Ease, by the Contractor, within a month, and the contract price to be paid within the space of a month after the contract shall be completed. Sealed Tenders, stating the price per ton, to be delivered at the Vestry offices previously to the above meeting. Persons Tendering should attend the Committee. No Tender will be received after SEVEN o'clock, nor will any Tender be received, unless it contain one half Bank of England note, which will be immediately returned to persons whose Tenders may not be accepted, but will be retained in the other case, until the Contract is executed; and in default of the contract being duly executed the sum deposited shall be forfeited to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, November, 1864.

TO BUILDERS.—Parties willing to TENDER for the proposed ADDITIONS to the ESTABLISHMENT of the LAITY of NOTRE DAME, at Mount Pleasant, Lower Pond, Hackney, can receive any further information on application to the Architect, Mr. Hardy Dawson, 18, Great Portland-street, Oxford-street, by applying not later than TUESDAY next.

TO CONTRACTORS, BUILDERS, AND OTHERS.

PIT GRAVEL and BALLAST may be had at VERY LOW RATES at Argyll House, Argyll street, Regent-circus, Oxford-street.

GRAVEL, as it rises, is per cubic yard.
BALLAST, screened, 1s. 6d.

For a LIMITED TIME ONLY, to burn on the works. Contractors and others are invited to take a large regular quantity dealt with on still more liberal terms.

Apply to the CLERK of the WORKS, on the Premises, back entrance in Marlborough-mews, Great Marlborough-street; or by letter to G. A. HAIG & CO. 134, Fenchurch-street, City, E.C.

TO TIMBER MERCHANTS and OTHERS.

The Directors of the London, Chatham, and Dover Railway are prepared to receive TENDERS before the 14th DECEMBER, for the SUPPLY of 1,000 rectangular and 3,000 bull-head SLEEPERS, 10 inches by 5 inches, delivered free on their wharf at Battersea. Each Tender must be signed by the Party tendering, and addressed to Mr. WILLIAM MILLS, the Company's Engineer, Victoria-station, S.W. The Directors do not bind themselves to accept the lowest or any Tender.

W. E. JOHNSON, Secretary.

Victoria Station, November 24, 1864.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS.—The Directors are now prepared to receive TENDERS for the CONSTRUCTION of a SHORT BRANCH RAILWAY, about two miles long, to connect the Hereford, Ross, and Gloucester, at or near to Ross, with the Newport and Hereford line, near Hereford. Part of a plan of the locality and the drawings, and a statement of the quantities upon application to Mr. W. CLARK Engineer, 19, Great George-street, on and after MONDAY, the 28th NOVEMBER, between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary, at the Euston Station, London, to be sent in on or before SATURDAY, the 17th DECEMBER 1864 at noon. The Directors do not bind themselves to accept the lowest Tender.—By order,

CHARLES E. STEWART, Secretary.

Euston Station, London, 27th November, 1864

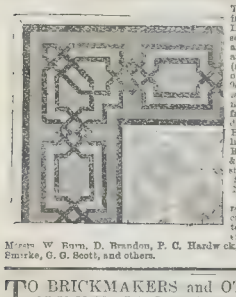
PARQUET FLOORING.
TO ARCHITECTS AND BUILDERS.
JACKSON & GRAHAM

Are the sole Agents in England for the Improved PARQUET FLOORING, manufactured by ANTON MEHLIS of HALBERSTADT, COLOGNE, for which a medal was awarded in the International Exhibition of 1862. Boards of designs sent free by post. No charge for taking dimensions or giving estimates.

34, 44, 45, 47, and 48, OXFORD STREET, LONDON.

PARQUETS SOLIDAIRES.—HOWARD & SONS, 25 and 27, Berners-street, are prepared to supply machine made solid PARQUET FLOORS 50 per cent. cheaper than they have been yet offered.—Illustrated catalogues, plans, and estimates free.

SOLID PARQUET FLOORS.—
ARROWSMITH'S PATENTED.



The special properties in being "SOLID INCH THICK;" each separate piece grooved and tongued together, and keyed at back (not veneered). Reduced in price from 9d. per foot. Inlaid Oak, and Walnut and other Woods, from 1s. 6d. As borders to Carpets; for Halls, Libraries, Billiard and Reception Rooms, Altar Floors, &c. (Warmer than stone)

SHOW ROOMS—6, NEW BOND-ST W

References to numerous Works executed during the last ten years, to the eminent architects, Messrs W. Burn, D. Brandon, P. C. Hardwick, A. Salvin, Sydney Smirke, G. G. Scott, and others.

TO BRICKMAKERS and OTHERS.—TO BE DISPOSED OF by Private Contract, an old-established BUSINESS, pleasantly situate in a town and port in the county of Flint, and of Perfect Title, consisting of Freehold, with Good Residence, and every convenience for a large trade.—For further particulars, apply by letter to A. X. Post-office, London-road, Southwark, London, S.

THE ATTENTION OF ARCHITECTS AND SURVEYORS IS RESPECTFULLY SOLICITED TO

FLEXEN'S PATENT DRAUGHTLESS VENTILATOR.

Now used in various leading establishments in London. It supersedes all others now in use, causing free ventilation, and excluding all draught and dust; requires no alteration of sashes, and effectually producing a cool atmosphere in the most heated apartment. In establishments where a great amount of gas is consumed, or several gas-lights in a room, the Ventilator is fixed round the pendant, thereby utilizing the heat. Can be fixed in any position. Testimonials given, and all particulars obtained.

PORT of ARUNDEL.—The Commissioners of the Port of Arundel, in consequence of the completion of various works and repairs, will INVITE TENDERS for the following CONTRACTS, the delivery of which is to commence on the 1st of DECEMBER next:—

No. 1.—PILE DRIVING, RAILING, &c., in the Arun below the Railway Bridge.

No. 2.—PILE DRIVING ENGINE, length 35 feet, good, with purchase-gear, &c., complete.

No. 3.—PILE DRIVING ENGINE, length 30 feet, good, with purchase-gear, &c., complete.

On application to Mr. C. S. DUNBAR, the Harbour Master at Littlehampton, the conditions may be seen and prices ascertained.

RICHARD HOLLEY, Clerk to the Commissioners.

Arundel, November 26, 1864

TO BRASS FOUNDERS and GAS FITTERS.—WANTED, a CHANDELIER, of bold design, suitable for a Chapel 82 feet by 50 feet. Price, from 30l. to 40l.—Drawings can be seen at the WORKSHOPS, Bolsover-street, Hull, where further particulars, if required, may be obtained.

JOSEPH GIBSON & CO., GAS, VENTILATING, and HEATING ENGINEERS, Manufacturers and Fitters of Lighting Conductors, Valve Lamps, &c., and Sole Agents in Scotland for Mr. Wright's Patent Concentric Ventilators, Lewal's Patent Heating Apparatus, &c.—14, Dundas-street, Glasgow.

THOMAS TURTON & SONS,
MANUFACTURERS OF
CAST STEEL for Cutters, Punches, Taps and Dies, Turning Tools, Chisels, &c.

CAST STEEL Piston Rods, Crank Pins, Connecting Rods, Straight and Cranked Axles, Shafts, &c. Forgings of every description.

FILES marked T. TURTON, Sheffield, and no other make.

(See various Lists in the Times, July 26th, 1861.)

TOOLS of all kinds, for Engineers, Railways, Contractors, &c. &c.

EDGE TOOLS marked WM. GRAVES & SONS' Selected Bessemer Steel, warranted to wear out three Times each of Cast Steel.

DOUBLE SHEAR STEEL,	SPRING STEEL,
BLISTER STEEL,	GERMAN STEEL,

SPRINGS, BUFFERS, AND CAST STEEL TYRES,
For Locomotive Engines, Railway Carriages, Waggons, &c.

SHEAR Works, SHEFFIELD. RING Works, SHEFFIELD.

LONDON WAREHOUSE, 45, QUEEN STREET, CITY,
Where the largest Stock of Steel, Files, Tools, &c. &c. in the World may be selected from.

TO BRICKMAKERS and OTHERS.—FOR SALE, a Powerful WASH MILL, capable of washing clay and chalk for 6,000 bricks and upwards per day, with or without a 14-horse power Portable Steam Engine. For particulars, apply to HENRY CLAYTON & CO. Atlas Works, Woodfield-road, Harrow-road, London, W.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 85, High Holborn, London,
Manufacturers of Gas Chandeliers Glass Lustres, &c. &c.

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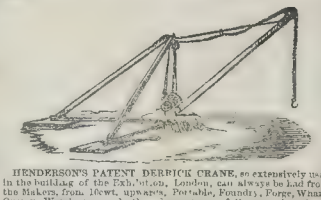
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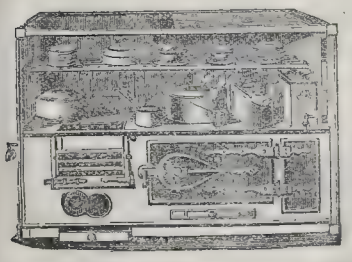
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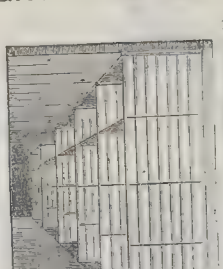
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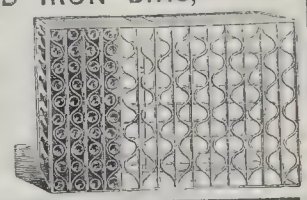
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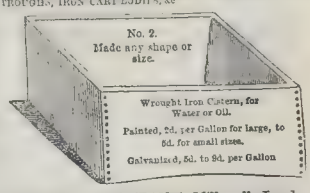
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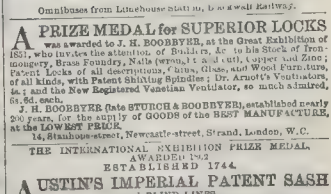
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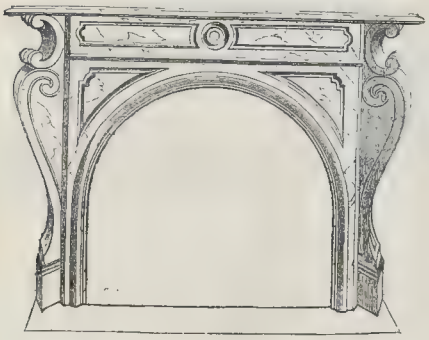
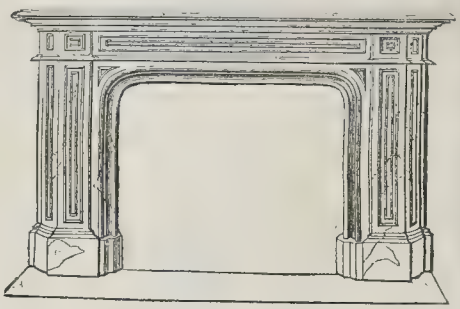
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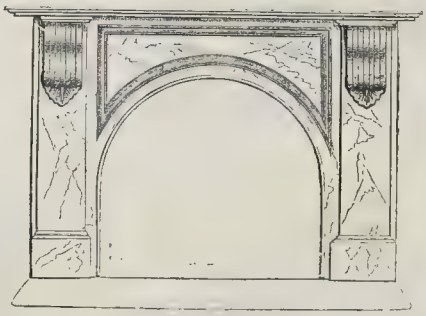
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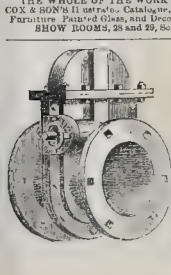
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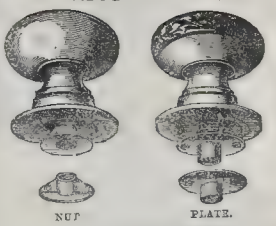
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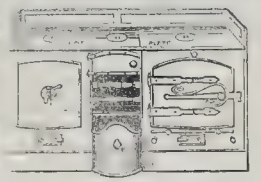
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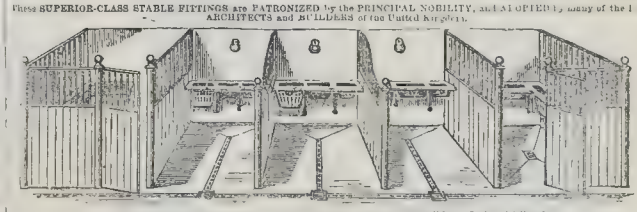
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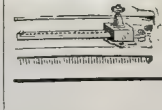
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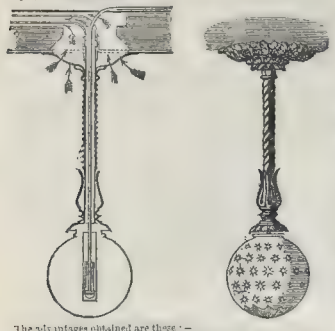
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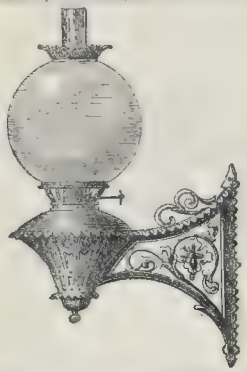
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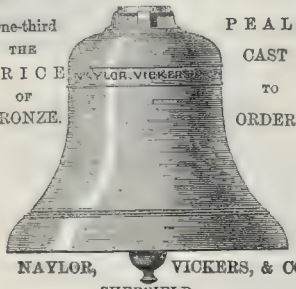
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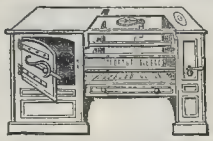
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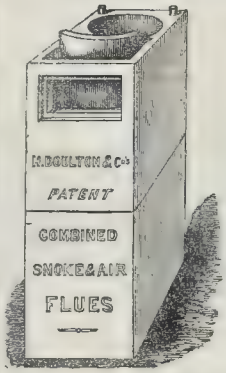
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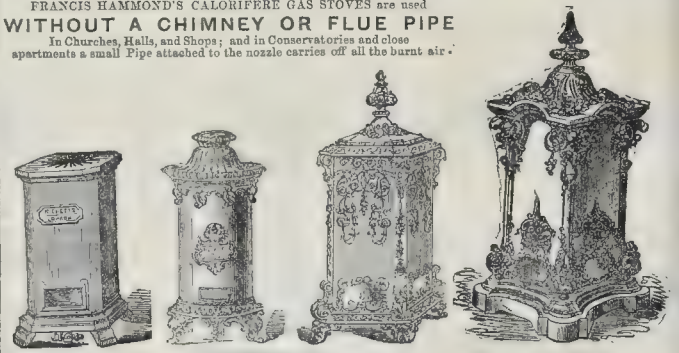
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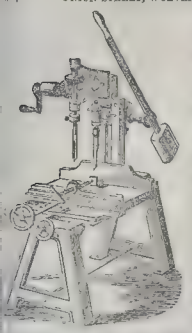
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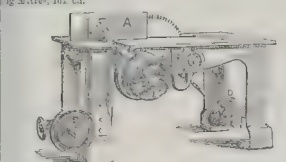


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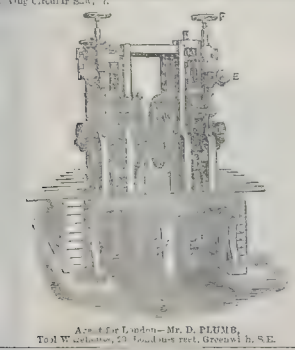
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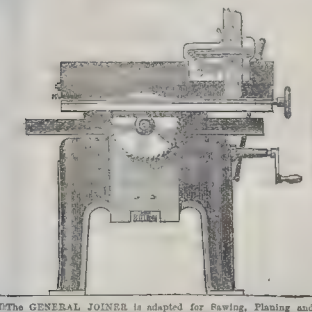


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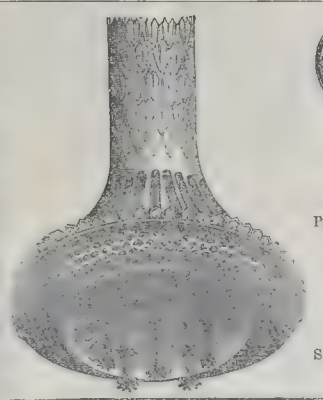


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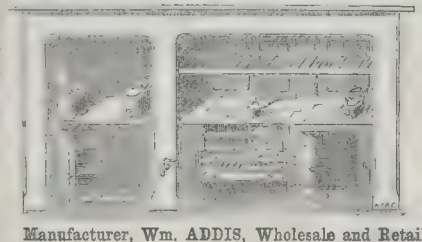
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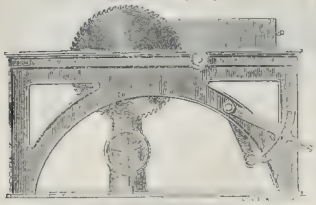




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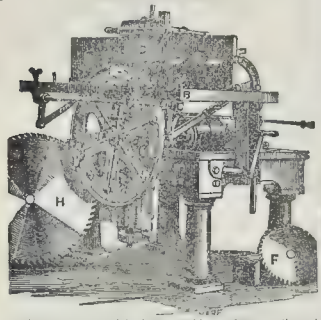
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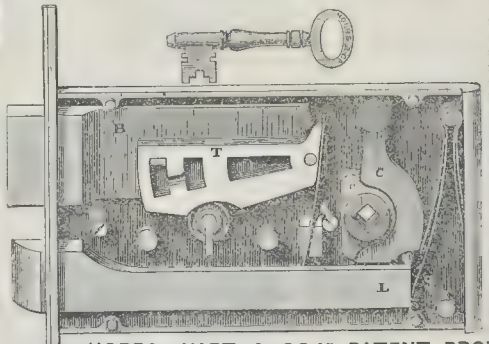


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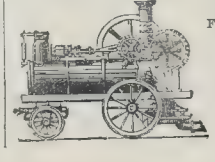
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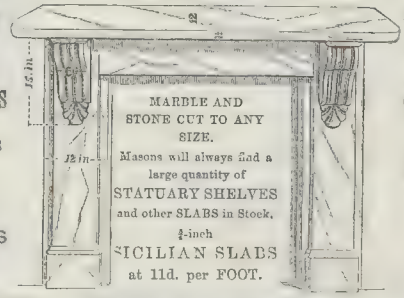
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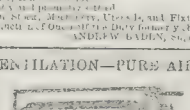
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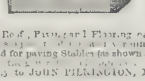
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The Builder.

VOL. XXII.—No. 1139.

Robert Stephenson Pontifex Maximus.

PERHAPS no other thing in the whole range of constructive art is of greater necessity than a bridge. Scarcely anything gives a higher idea of man's power, or affords a wider field for the embodiment of engineering and artistic genius. The modern command over iron in large quantities, while it afforded the material for, also led to the laying down of, railways, and, as a resulting consequence, to an enormous demand for railway bridges. It was estimated by Robert Stephenson, that up to 1856 no less than 25,000 bridges must have been built in Great Britain alone. It was only natural that Robert Stephenson should get the lion's share in the construction of these, not merely as to number, but also as to the magnitude of the bridge-building problems placed before him for solution. The name of Robert Stephenson—to be otherwise mainly remembered as a great builder of railway lines—will thus, literally, pass over to posterity on his great bridges.

His name is more especially connected with three great bridges, as important in their objects as from a scientific and practical point of view. These are the Britannia Bridge, carrying the Chester and Holyhead Railway over the Straits of Menai; the High-level Bridge across the Tyne at Newcastle; and the great Victoria Bridge over the St. Lawrence in Canada. Mr. Stephenson seems to have been conscious that his more enduring fame would rest upon his achievements in bridge work. He took a great interest in the subject; so much so, indeed, that he found time to write the article "Iron Bridges" for the eighth edition of the *Encyclopædia Britannica*. The Britannia Bridge was, at the time it was built, the most original bridge in the world; the High-level bridge is probably the highest; and the Victoria Bridge, over the St. Lawrence, is the largest bridge in the world. A remarkably clear and able chapter is given by Professor Pole* to a popular explanation of the principles, and to a sketch of the history of bridge building. As Robert Stephenson says in his article, "though in elegance and durability iron cannot compete with stone," yet its use has become an absolute necessity for railway bridges "where headway is so frequently of paramount importance, and where rapidity of execution is often a more necessary consideration than even economy or durability; while the defective foundations that have so often to be contended with render the lightness, the independent strength, and the pliable character of iron of the utmost value for such structures." The first bridges were doubtless *beams* of wood laid across the stream or the gap. Then came the *arch*, permitting a much larger span,—an invention of unknown antiquity, and developed in brick and stone with great skill by the Romans. The modern manufacture of wrought-iron has, curiously enough, caused us to revert to the primitive form of bridge,—the beam. Iron bridges were proposed in Italy in the sixteenth century; they were again mooted by Dr. Desaguliers in the beginning of the last century; and an iron bridge was begun at Lyons, in 1755, but was abandoned for a timber bridge. The first iron bridge was built in this country, in 1769, at Coalbrookdale, and in 1794 two small iron bridges were put up in Germany. Telford, in 1796, built an iron arch of 130 feet span across the Severn. In the same year was finished a bridge over the Wear, near Sunderland, said by Stephenson to be one of the boldest examples of arch construction in existence. This bridge has certainly a most romantic history. Its origin is due to the celebrated Tom Paine, who had a great talent for mechanics. He first proposed to construct cast-iron arches with framed open panels in the form of voussoirs, and he made an experimental arch of 80½ ft. span, which he exhibited at Paddington. During the same year the feasibility of superseding the dangerous ferry at Wearmouth was considered by a committee. It was decided to adopt Paine's ideas, and part of the ironwork of his experimental arch was built into the present bridge, and can still be identified. "The span of this bridge, which is in one segmental arch, is no less than 236 feet, only 4 feet less than the centre arch of Southwark Bridge, the largest in existence, and yet it contains only about one-fifth the weight of iron." This very bridge was sold by a lottery in 1816 for 30,000*l.*—8,000*l.* more than its original cost,—and some alterations it subsequently required actually formed the last work of Robert Stephenson. The cast-iron arch was afterwards rapidly developed, until it reached its apogee in the Southwark Bridge, the finest structure of this class.

Then began the present reign of wrought iron, to be, no doubt, in its turn, superseded by steel. The distinguishing property of wrought iron as compared with cast iron is its power of taking a greater tensile strain with a greater range of extension, and with much less weight of material. The first application of the tensile strength of wrought iron to bridge-work was the suspension-bridge, and this form of bridge may be said to have been fully developed by the late Captain Samuel Brown, the introducer of chain-cables into the Navy. The suspension-bridge was then taken in hand by Telford (1819), with the famous bridge over the Menai Straits as a result. This was finished and opened in 1826, three years before the great trials of the locomotive on the Liverpool and Manchester railway. With the introduction of railways a new era began for the application of iron to bridge-work, as well as to many other things:—

"Hitherto bridges had been applied generally to common roads, if the arch was elevated, inclined approaches were of small importance; and in determining the rise of his arch, the engineer selected any headway he thought proper, while every other consideration was likewise made subsidiary to the problem of constructing the bridge itself. If the suspension-bridge was chosen for the purpose, the passing load was light, and its speed of transit could be easily reduced to suit the comparatively weak nature of the structure. But on the introduction of railroads, hundreds of roads, rivers, and valleys, had to be crossed with bridges perfectly level, and of a strength and rigidity sufficient to allow the dashing masses of the tender and swift locomotive, instead of the light coach or the quiet team."

This rapidity of execution became of very much more importance than with the bridges spanning the old roads, as a stoppage at one portion of a railway line is pretty nearly equivalent to a stoppage of the whole length. The flexible suspension-bridge was quite out of the question, while the cast-iron arch was of only limited application, on account of its great weight and its incapability of being cheaply used for large spans. Some new form of bridge was thus necessary, and this was found by going back to the primitive straight beam, which is in fact the parent of many gigantic modern structures. The girder combines in itself the resistance to compression of the arch and the resistance to tension of the suspension bridge. While more rigid and firmer than a chain, it is straight, and affords a clear headway; it does not require abutments to resist horizontal strains; it is lighter than an arch, and is easily erected. Cast-iron was first employed for girders by Messrs. Boulton & Watt in 1800. Then came an important modification of the cast-iron arch in order to enable it to meet the exigencies of railway traffic. The two ends were strung together like a bow, thus taking up the horizontal thrust. The finest bridge upon the bowstring girder principle is that at Newcastle-upon-Tyne. Then came the combined girder, or a cast-iron girder in which the low tensile power of the bottom flange was aided by wrought-iron tie-rods. The progress of this form was greatly checked through the failure of a bridge on this plan at Chester, in 1847. A very full and interesting account is here given of this matter—important in itself and in its consequences. One of its results was the famous Commission of Inquiry into the Application of Iron to Railway Structures—the most valuable investigation that was ever conducted into the strength of materials. Two years previously to 1847, the experiments carried out with a view to investigate the tubular principle effected a complete revolution in bridge-building. In July, 1846, Mr. Stephenson gave instructions for a bridge on this principle, but with a cast-iron top, for a road at Chalk Farm, crossing over the North Western Railway. "This bridge was 60 ft. span; it was completed in March, 1847, and was *the first actual application* of hollow wrought-iron girders to the construction of bridges." As Mr. Pole remarks, the iron-girder bridges may be divided into eight kinds:—1, solid beams; 2, trussed cast-iron girders; 3, bowstring girders; 4, simple **I**-shaped girders; 5, tubular or hollow-plate girders; 6, triangular-framed girders; 7, lattice girders; 8, rigid suspension girders. The four last are modifications and products of the fruitful tubular principle. A very spirited account is given by Professor Pole of the erection and construction of the Conway and Menai tubular bridges; Mr. Stephenson himself has also given a narrative of the early history of the design, and several accounts of the remarkable structures have been published at different times. So much has not, however, been published about the high-level bridge at Newcastle, and the Victoria Bridge over the St. Lawrence.*

The immense importance of the high-level bridge at Newcastle-on-Tyne may be estimated from the fact that before its erection, so long ago as 1844, the cost of conveyance of passengers and merchandise by coaches and omnibuses across the river rose to the sum of 1,000*l.* per week. Robert Stephenson put the design in hand in 1845; it was passed by the Government inspector in 1849, and shortly afterwards opened by the Queen herself. The height of the rails in the upper platform above the river at low water is 120 ft., while the level of the carriage-road is about 23 ft. lower. Some of the piers are as much as 146 ft. high; many of the piles upon which they are founded are 10 ft. long, being 13 in. square, and 4 ft. centre to centre. The greatest weight to be borne by each is 70 tons,—a heavy load, and only to be warranted by the excellence of the strata. "In moderately compact clay it is usual to consider the maximum bearing power of a pile to be about 12 tons; in hard clay, about 25 tons; but in gravel, of which

* "The Life of Robert Stephenson, F.R.S., &c., &c., late President of the Institution of Civil Engineers. By J. C. Jeaffreson. With descriptive chapters on some of his most important Professional Works, by William Pole, F.R.S., Member of the Institution of Civil Engineers. London: Longman. 1864."

* Information on all of these will be found in previous volumes of the *Builder*.

the bed of the Tyne consists, 70 or 80 tons are often allowed." Stephenson, however, with his usual caution, "tested one of the piles, by laying on it a load of 150 tons, which was allowed to remain for several days; but on its removal no settlement whatever had taken place." At the time (1845) at which this bridge was designed, before the labours of the Commission on Iron Structures, the experiments which led to the adoption of the tubular girder were only just begun, so that Robert Stephenson had to make his choice from the only kinds of wrought-iron bridges for large spans then known. There were the suspension-bridge, the compound trussed girder, the cast-iron arch, and the bowstring girder. The suspension-bridge had just been decided by Mr. Stephenson as unfit for railway purposes; he was probably afraid to trust to the compound girder—his experience told him, that with such a great height of pier, it would be unsafe to trust to cast-iron arches—so that there only remained the bowstring girder. It is possible that if he had designed this bridge rather later, he might have used the tubular girder, and he would have thus produced a cheaper, but as certainly an uglier, structure—similar, in fact, to those which now disgrace our metropolis. Each span is taken by four girders, the principal portion of each consisting of a cast-iron bow, the thrust of which is taken by a wrought-iron tie uniting the two ends together. The platform is above the top of the arches, while the roadway below is hung from them by means of wrought-iron suspension-rods. The entire width of the bridge is about 46 ft. The whole forms a very handsome as well as remarkable structure. It is stated that "designs were made for ornamental entrances to the bridge, in keeping with the decorative features of the structure; but the authorities of the railway and the town grudged the few hundreds of pounds necessary for their erection, and the work is left incomplete." A curious fact was noticed during the driving of the piles. "During flood tide the sand became so hard as to resist almost entirely the utmost efforts of driving; while at ebb it was quite loose, and in no way hindered the operation. It was found necessary to abandon the driving on many occasions during the entrance of the tide." Nasmyth's steam pile-driver was here used, and was found to be very useful. After a pile had been driven down as far as possible by the ordinary monkey, it was found that the steam-driver could send it down some 15 ft. deeper. It is also noticeable that the piles used for the coffer-dams were not drawn, but were cut off level with the bed of the river, so that the stumps could be left to protect the foundations. The iron-work was made by Messrs. Hawkes, Crawshay, & Co., but previously to its manufacture, Stephenson undertook the valuable series of experiments in cast-iron, which are printed in full detail in the Report of the Royal Commission on the Application of Iron to Railway Structures, 1849. The masonry amounts to 686,000 cubic feet, and the weight of the iron-work to 5,050 tons. The cost of the work was 243,000*l.*: this includes the cost of the temporary bridge of timber which was put up on account of the great importance of getting along the ravine as soon as possible.

The Victoria Bridge, the largest in the world, was opened a few months after the death of its designer. It carries the Grand Trunk Railway of Canada across the Saint Lawrence to near Montreal, thus effecting a communication between the interior and the sea, during the six months of the year that the Saint Lawrence is blocked up by ice. The Grand Trunk Railway thus

"Traverses British North America in one unbroken line for half the breadth of a continent; it connects and assists as together the several widely-delying dependencies of the British Crown; it affords throughout the year to the inhabitants of the wonderful valley through which it passes constant means of communication and transport which nature has denied them; it opens out the rich prairie country of the Far West; and it unites the whole of the great regions with the neighbouring territories of America, and with the great maritime pathway of the world."

The engineering difficulties in the erection of the Victoria Bridge were peculiar, and scarcely known in English practice. These were the extraordinary effects produced by the Canadian winters. As is remarked by Mr. Logan, in the proceedings of the Geological Society:—

"In consequence of the 'packing' and piling of the ice, as well as the accumulation of the moistened snow of the season, and the freezing of the whole into a solid body, sometimes more than 20 ft thick, the water suddenly rises, and lifting a wide expanse of the entire covering of the St. Lawrence, urges it forward with terrific violence, piling up the rended masses on the banks of the narrower parts of the river, to the height of 40 ft. or 50 ft."

The great problem thus consisted in making the numerous piers of the bridge in such a way, as while impeding the progress of the ice as little as possible, they should at the same time be able to resist the enormous efforts of such a mass in movement. In 1846, a citizen of Montreal, the Hon. John Young, pointed out the advantages of such a bridge, and surveys and soundings were taken by some of the Canadian railway companies. Some years afterwards, Mr. A. M. Ross, who formerly had charge of the masonry on the Conway Tubular Bridge, was engaged by the promoters of the Grand Trunk Railway Company as their engineer in Canada, and one of the principal subjects of inquiry was the crossing the St. Lawrence by a bridge. Mr. Ross suggested that the iron tubular beam principle would be applicable for the structure.

It was deemed desirable by the directors that Mr. Stephenson's opinion should be obtained, and Mr. Ross, on his return to England, laid before him all the information that had been collected. In 1853 Mr. Stephenson and Mr. Ross laid a design and joint report before the directors, and in September the contract was let for the bridge to Messrs. William Jackson, S. M. Peto, T. Brassey, and E. L. Betts, for 1,400,000*l.* At the site of the bridge the river is nearly a mile and three-quarters wide. The level of the river varies during the year; when it is covered with ice, it rises from 10 ft. to 15 ft. above summer level. The current runs with a speed of from seven to eight miles an hour. The bed of the river consists of slate rock, and large boulders were encountered at different portions, and had to be cleared away for the piers. The superstructure of the bridge intended for only one line of railway, consists of a simple iron tube from end to end, through which the trains pass. The most peculiar portion may be said to be the twenty-four piers, and a side elevation of one of these is given in the work.

"They are built of solid masonry, composed of heavy stones, from 5 tons to 20 tons each. They are founded with their footings resting on the solid rock, and are carried up, with the dimensions of about 90 ft. wide by 23 ft. thick, to within 6 ft. of summer water level, at which point the ice-breaking plane begins. This is a slope of masonry in the upside of the pier, inclining backwards at an angle of about 45 degrees with the horizontal, until it reaches a height of about 20 ft. above the highest or winter level of the river. The face of this slope is pointed, like a cutwater, and the masonry is formed of large solid stones worked perfectly smooth, and strongly bound together internally with iron cramps, to resist the enormous thrust upon them. When the large floes, or sheets of ice running down the river, come in contact with these massive constructions, they are turned upwards by the slopes, and, breaking down or toppling over by their own weight on each side of the cutwater ridges, they fall into the open spaces between the piers, and so pass harmlessly down the river."

Above the ice-slopes the piers are carried up to the tubes, and measure about 33 ft. by 16 ft. The two piers at the centre are of rather larger dimensions. The stone used in the piers is a hard grey limestone, and the quantity of masonry is in all about 2,713,000 cubic feet. A line of railway, of the 5-ft. 6-in. gauge used in Canada, is laid on longitudinal sleepers, and a footway, 4 ft. wide, is placed on one side, for the passage of the railway servants. The weight of the whole ironwork is 9,944 tons; more than 3,000 men were employed in the construction of the bridge; and upwards of 2,250,000 cubic feet of timber were used in the temporary works. The credit of the carrying out of the design,—a work of no small responsibility,—is due to Mr. Ross and to Mr. Hodges, the contractors' engineers. The work lasted longer than was expected, as the only available time for operations in the river itself was during the summer months. No temporary works could be left in the river during the ice season, so that the dams had to be so made that they could be readily floated again when the masonry within them was finished. Each caisson was 188 ft. long by 90 ft. wide; and the front part was made wedge-shape, to stem the current, the stern being made movable, to allow of its being taken away when the pier had been built. Some delay occurred in removing two of the dams before the formation of the ice, and they were thus carried away when the ice broke up. It was found that the works were likely to extend over several years, as the available time was scarcely six months, while the severity of the cold rendered sixteen weeks the whole working season for carrying out the masonry of the bridge. In order, however, to carry on the masonry work during the winter, a very ingenious plan was adopted, which had been previously carried out at St. Anne's Bridge, over the river Ottawa.

"Strips of asphalted felt, about 3 in. in width, were laid along the whole of the front of the masonry, at such a distance from the edge that the work might be effectually pointed. On each side of the cross-joints similar strips were placed, as likewise at the back of the stones. As soon as one course of ashlar was laid, it was dressed perfectly fair on the bed to a straight edge, for the reception of another course, which was superimposed in a similar manner, the backing being laid dry, and packed as closely as possible; then spaces or flues were left, about 1 ft. square, throughout the whole height of the pier. The work was completed in this manner during the winter, and as soon as the weather permitted, and the frost was fairly out of the stone, the piers were carefully pointed, and the whole of the interior well grouted from the flues. The whole thus became one solid mass, the clear water which filtered through the joints showing very accurately the progress of the grouting."

This admirably skilful plan is said to have greatly hastened the completion of the works. At last the bridge was opened, on August 25th 1860, by the Prince of Wales, who visited Canada for the purpose. It is to be hoped that this most extraordinary bridge will remain for centuries what it is now—a great monument to the engineering science of Mr. Robert Stephenson, and to the skill and energy of those who carried out the design. There is little to complain of in this very valuable and honest book, but, as is generally the case with biographers, they seem incapable of doing justice to any one connected with their hero. The *lues Boswelliana* seems to be as universal and unavoidable a malady as the measles are with children. In this way, we do not think that quite sufficient justice has been done in this narrative to Mr. Ross, who had such a large share in the undertaking, from its beginning to its practical achievement.

Such is the brief recital of the more prominent of the more glorious of the works of a man of whom England has indeed a right to be proud. Would that all would imitate his kindly, generous disposition, though Robert Stephenson's power of intellect might be unattainable by imitation. It is melancholy to think that this man, the most successful engineer of the age, was yet unhappy a good portion of his later life, through the death of his childless wife. The prominent feature in Robert Stephenson's professional character was undoubtedly his caution. His prudence and foresight, as is very often remarked by his present biographers, much conduced, in the great situations of trust in which he was placed, to his personal success in professional life, and to the success of his individual undertakings. He seems never to have trusted to chance,—never to have hoped for things that might turn up, but were not certain of doing so; he always, like a good general, left himself a way for retreat, and kept himself prepared for all contingencies. Here we have perhaps an instance of what may be termed the influence of disposition, of tendency, on the intellect. Robert Stephenson seems to have been deficient in hopefulness. This tendency, while it kept him from the brilliant blunders of Brunel, also seems to have followed him into private life. After being absolutely satiated with the world's honours,—while being held by all men as the foremost engineer in the world, this great man, great in both intellect and heart, seems to have given way to hypochondriacal despondency. Perhaps a more buoyant disposition, a more hopeful temperament, would have diminished his success as an engineer, but would have made him happier as a man. A most important portion of this book consists in a number of reports, written and signed by Robert Stephenson himself, on such momentous questions as the atmospheric system of railways; the broad and narrow ganges, and on different engineering undertakings that he carried out. They are all written in an admirable style, well suited to the subjects and to the writer—"*le style c'est l'homme*."

We feel no hesitation in saying that this is not merely the best life of Stephenson, but also the best engineering biography which has yet appeared. It is a thoroughly honest and complete book, entirely free from the errors in matters of theoretical and practical science which are so distressing to a professional reader. The life of an engineer can only be written by an engineer, and the professional aid of Mr Pole, given to Mr. Cordy Jeaffreson, fulfils this requirement.

Exhibition of Water-Colour Sketches.—The third Winter Exhibition of Sketches and Studies opened by the Society of Painters in Water-Colour, in their gallery, Pall Mall East, consists of 458 works, and includes specimens by nearly all their members. We must endeavour to return to it.

THE NATION'S PROGRESS IN SCIENCE.

ONE of the most curious trains of thought we can follow is that which leads us back into the early days of the world. It seems paradoxical that the men who lived on the earth's surface thousands of years ago, should not have known so much of the nature of the orb as we who people it at this late period; and that the generations of men who will succeed us, will probably obtain much more definite information than we possess: in other words, that those beings most removed from the period of the formation of the world should be better acquainted with the various facts attending the marvellous work than those who first trod the virgin soil. And that, not only were the early peoples—the men of the ages of stone, bronze, and iron—ignorant of the nature of their vast habitation, but, as time passed on and civilization became developed out of a concretion, as it were, of human sympathies, desires, and aspirations, erroneous theories were built up and accepted by mankind as facts. And it is only in the slow course of centuries that errors are discarded and truths discovered. There has been, too, until recent times, an unaccountable reluctance to receive scientific truths, which circumstance adds another perplexity to the puzzle. The first man who informed his fellow creatures that the earth possessed a diurnal motion, was cast into prison, and kept there till he signed a recantation, declaring that such a propositon was absurd and philosophically false. Many fabulous animals were supposed to exist upon the earth, even by learned men, as late as the seventeenth century, who, at the same time, would not credit the existence of some of the creatures to be seen at the present day in the Zoological Gardens. And, still later, the antagonism with which Dr. Jenner's announcement of the value of vaccination was received, is another familar instance of the old disinclination to welcome scientific truths. But this feeling has been superseded by a wistful, earnest desire to study the wondrous works of the Creator, and read as many pages as we may of Nature's book,—a book that is spread open, it is true, but written in characters many of which are yet unintelligible. The contents of this ponderous tome are, however, too varied to be mastered by any one man. Those most competent to read any part of it know that it is only by confining themselves to one especial department that they may decipher it. Thus it has come to pass that the most distinguished scientific scholars are those who have made a minute subdivision of a chapter the study of a life. A *savant* who has mastered the reading of one page has it in his power to convey the knowledge he has acquired to others, as well as to receive the yield of other men's labours in equally limited spheres. In this way, although the field in which each individual works is small, the general gain is great. A most important influence for the furtherance of science is the organization of associations for its advancement. There was nothing like this in old times. A solitary scholar here and there shone out in the dark centuries of the past as a lighthouse in the sea of time, and the waves of popular indignation or applause beat about his feet according to the measure of favour with which his readings were received. Now there are countless scholars, countless watchers of the heavens, countless dredgers of the deep, countless probers of the crust of the earth, countless gatherers of every herb yielding seed, and their custom is to meet on set occasions at stated places and relate accounts of the additions they have made to the stores of human knowledge. It is not every one, however, who has leisure or other opportunity to attend these various meetings; consequently a large proportion of the human race remains unaware of discoveries that render a history of the world as full of novelties as a tale untold.

The nation's progress in science lays down the proposition that the world we live in is a far more wonderful place than fairy land ever was to us. Indeed, the more facts that are ascertained concerning our habitation, the more wonderful it appears; and the more we think of it, or any part of it, the more must we be impressed with the grandeur and majesty of the system in which it is an item. Looking back from the standing point afforded us by modern discoveries into the coiled up centuries that form the dim past, known as "in the beginning," we learn that the earth was once a ball of molten matter of intense heat revolving on an axis in an orbit round the sun. Some minds speculating on the origin of this ball of fiery matter have deemed it possible that the earth and planets are concretions of nebular matter of which the sun was the nucleus; and certain spectrum experiments made by Bunsen and Kirchhoff certainly favour this view, as they show that the sun is in reality composed of materials, some of which are identical with those of our globe. We will, however, confine ourselves to the modern reading of the history of the earth, reserving discoveries relating to the sun for future mention. The ball of heated molten matter revolving in space was also, at the period of our earliest knowledge of it, gradually cooling and hardening. It is tolerably clear that a thick veil of steam must have surrounded this cooling body in its ceaseless round, which, condensing as the heat lessened, settled upon the surface of the crust of the earth in the form of water. This union of water with the scoriaceous covering of the earth commenced the process by which the lowest stratified rocks were formed. A diligent search amongst these primitive formations has failed to show that life existed at this period; but, in the next stage of the world's history, deposits were made at the bottoms of the early seas which formed the assemblage of strata known as the Silurian system, in which are found the remains of myriads of marine creatures and seaweed like plants. The upper strata of this system contain the remains or scaly coats of fishes. The carboniferous strata yield us evidence that insects and reptiles next disported on the face of the globe, fostered and fed by a luxurious and gigantic vegetation. This era in the history of the world is called the Palæozoic, or that of antique life. In the next great period of time the earth was inhabited by enormous animals, that were of similar forms to our toads and lizards: the seas, by monsters that were half fish and half reptiles, now called saurians; and the air by enormous winged creatures, also bearing a resemblance to our lizards, called pterodactyls. This is referred to by geologists as the secondary period. In the tertiary period the highest forms of life tenanted the earth, and many of the creatures that belonged to the secondary period were extinct. Elephants, rhinoceroses, mastodons, and other huge creatures of the same colossal proportions, roamed in almost interminable forests; and the ox, horse, and deer have also left evidences of their existence in these remote ages. After the earth had thus slowly passed from stage to stage, and its surface had been inhabited by races of organic beings that were successively supplanted by others in the order in which the conditions required for their existence were superseded, man was created. Modern science has calculated the weight of this orb to be about 6,049,836 billions of tons; the diameter to be about 8,000 miles; and the thickness of the crust formed on the still globular mass of molten matter to be about 34 miles. A subdivision of this branch of modern study and research proves that the earth's surface has undergone considerable physical changes since it became the habitation of man. The presence of the remains of the hippopotamus in districts where not a ripple of water is now to be found; of elephants and rhinoceroses in places where the present climate would render their existence insupportable; the upheaval of land, beaches, and sea-bottoms; the receding of some waters, the encroachments of others, are some of the facts bearing upon this subject that have been noted by observers. It has also been ascertained that alterations in the physical geography of the surface of the globe have by no means ceased, but are still imperceptibly taking place.

Recent discoveries inform us that the earliest human beings inhabiting this shifting scene were rude savages. The remoteness of the era when man first appears upon Nature's stage may be best realized when we consider that the mammoth, extinct species of the elephant, rhinoceros, hippopotamus, and reindeer inhabited Europe contemporaneously with him. His tools and implements were all made of one material, stone: his food consisted almost entirely of game. After a long lapse of time, perhaps of centuries, although stone continued to be the materials of the weapons and tools of these early people, their food began to comprise tame animals, and ultimately cereals were added to their fare. Explorations have been made, on the coast lines of Denmark, in the great heaps of refuse, or Kjokkenmödding, left by people of this period, which show that they also, in these situations, ate oysters, periwinkles, mussels, and cockles. Next we come to archæological evidence that they built themselves homes. Some seventy submerged villages have been counted in the midst of the Swiss lakes, composed of groups of huts built on piles, as many as three hundred huts being comprised in one settlement; no less than forty-six examples of similar, though not identical islands, have been observed in Irish lakes; and within the last few months further examples have been found in Scotland. Bones, hammers, axes, celts, hatchets of serpentine, arrow heads of quartz, fragments of rude pottery fashioned by hand, masses of charred wood, lumps of carbonized wheat, apples, and pears, the stones of wild plums, the seeds of berries, and hazel and beech nuts have been dredged from the Swiss lake dwellings. The bones have been traced to fifty-four species of beasts, birds, and fishes: twenty-four species of wild mammalia, eighteen species of birds, nine of fishes, three of reptiles, and the dog, horse, ass, pig, goat, sheep, and several bovine races. That most of these were used for food is surmised from the circumstance that all the bones that contained marrow were split open. Some of the Swiss villages contain tokens of having been inhabited in the bronze age, or period when a mixture of copper and tin was used for weapons and tools. The Irish lake dwellings yielded evidence of the possession of oxen, swine, deer, goats, sheep, dogs, foxes, horses, and asses, by their ancient occupiers. One hut, found 14 ft. below the surface of Drumkellin bog, in Donegal, measured 12 ft. square and 9 ft. high. It contained, when explored, two stories of 4 ft. only in height. The planking presented the appearance of having been split, with great effort, with stone wedges. One of these implements, a celt, a piece of leathern sandal, and a flint arrowhead, were found in this hut. The exact date of man's first appearance and the question of the quality of the intellectual powers possessed by him at that time are subjects which the scientific world is still discussing. To have ascertained that he was contemporary with the mammoth is a step towards the disentanglement of the first question; and the collection and examination of the remains found in future discoveries will, doubtless, throw more light than is now shed on the latter. The evidence yielded by the examination of those skulls already found is by no means sufficient to be conclusive, though, as indicative of the direction in which the results tend, we may repeat that Professor Huxley exclaimed, on viewing the fossilized cranium of a human skeleton found in a cave in the valley of the Dussell, that it was the most ape-like skull that he had ever beheld. So far as we have gone, modern science pictures our early predecessors as low, thick-set, strong-boned people, with protruding brows and receding foreheads. Ten years ago we could not speak thus advisedly. Another period of ten years may reveal the existence of other depositories whose contents will afford more exact information. Before returning from these dim ages into the modern present we may mention, for the behoof of those of our readers who may hereafter be entrusted with works likely to lay bare such places, that several caves have been found in this country and in Wales containing enormous quantities of the bones of extinct animals and of creatures which no longer inhabit these islands. Most of these caves have fissures connected with the surface through which the bones are supposed to have been washed thousands of years ago. The fissures have become choked, and thus the deposits have been, as it were, sealed up. In the ossiferous loam filling a fissure connected with Bosco's Den, in the Gower caves, in Glamorganshire, the antlers of a thousand rein-deer were extracted and nearly as many more appeared to be left behind. These had all been washed into the rent with the bones of the cave-bear, wolf, fox, ox, stag, and field-mouse, and lay in an envelope of ochreous mud. In a cavern, called Longpole, the remains of two species of rhinoceros were found, below which lay two rude flint knives. Sir Charles Lyell quotes the finding of fossil remains in the basin of the Thames at Gray's Thurrock, at Copford in Essex, at Maidenhead, at a spot near Bromley, in the valley of the Avon, at Pease Marsh, in Suffolk, in Somersetshire, in Wiltshire, in Bedfordshire, and in several other counties.

Of the sun, modern science has ascertained many new startling facts. The dark places on its disk, that we familiarly call "spots," are deep chasms in matter that, as we have seen, is found to be of a similar nature to that of which our globe is composed. The world is indebted to Mr. Nasmyth for a still more startling dis-

covery. This gentleman was the first to observe that the bright surface of the sun is composed of an aggregation of apparently solid forms, each some thousand miles long and hundred miles broad, which interlace each other in every direction. These extraordinary and hitherto undreamt-of bodies, crowding round the sun like a cloud of moths round a candle, are of a long narrow pointed form, similar to that of a willow-leaf, and are so regular as to lead to the inference that they are organisms which may even partake of the nature of life. They are observed to line the sides of some of the chasms, and to form a sort of bridge across others. As some aid to realize the vastness of the field on which these objects are seen, we may give the rough calculation that the circumference of the sun is about twice that of the circle described by the moon around the earth; whilst to convey a sense of the awful immensity in which the sun moves, we may add that its diameter is but a three-thousandth part that of the outermost planetary orbit; and that, in company with our globe and the whole solar system, it revolves round another stellar centre, now believed to be situate in the constellation we call the Pleiades; —and, leaving certainty for probability, that savans are disposed to admit that this second sun may be but an item in a still vaster and more distant system. Professor Secchi, of Rome, has ascertained that the heat of the sun is greater at its equator than at its poles. Before we turn from the sun, we must refer to the important prediction made by Sir William Armstrong. He points to the sun as the successor of coal for working our manufacturing machinery. The Falls of Niagara, he indicates, would provide power enough to set in motion all the machinery employed in all the manufacturing processes in the world; and falling waters, raised to the necessary height by the heat of the sun, will be one of the resources future ages will develop for this purpose. Photographs of this luminary have been taken every day that the weather has permitted, for many months, in a room constructed for the purposes of astronomical photography at Kew, by an instrument named the photoheliograph. Not less out of our every-day life, and to the credit of modern science, are the wonderful catalogues of fixed stars made by the Astronomer Royal; or the long lists of luminous meteors made up annually by Messrs. Glaisher, Greg, Brayley, and Herschel; or the calculations that instruct us to look for showers of those erratic strangers travelling through space at the rate of 17 miles a second, shooting stars, on the 10th of August and other given days.

Professor Phillips, Dr. Lee, and Mr. Birt, have made us so familiar with the geography of the moon that it seems, in a fanciful way, only a question of time before a committee of *savans* be deputed to visit and explore it. They have measured the vast plains, surveyed the chains of mountains, named every isolated peak, noted the craters, the valleys, terraces, rocky ridges, and other variations on its surface, as minutely as though the body were one of our colonies. Enormous plains, one of which they have computed to measure 61 German miles long, stretch away till they are fringed with rocky promontories or checked by precipitous mountain ranges. Craters abound in every direction. Some of the smaller mountains resemble cups set in saucers: others consist of dispersed cups. In the centre of some of the larger mountains, as in those named Copernicus, and Gassendi, are masses of broken rocky country, about 6,000 ft. high, having buttresses which die away in collateral ridges. In another large mountain, named Theophilus, the centre is formed of a conical mass of rocks, 15 miles in diameter, full of enormous clefts, which are bright and shining. The whole aspect of the moon is expressive of volcanic action on a grander scale than that which has prevailed on our globe. A continental *savant*, Benzenberg, argues that shooting stars migrate from the moon.

The ascents of Mr. Glaisher in Mr. Coxwell's balloon must not be passed over in a summary of scientific endeavours. The most enriching result of his efforts to the popular mind is the certainty he has proved that our bodies are not adapted for any other sphere than that on which they are placed: to exist under other conditions we must put off our earthly garment. The scientific experiments tend to negative the conclusions formerly arrived at respecting the decrease of temperature with elevation, and to show that rain is only precipitated when cloud exists in a double layer.

The systematical forecasting of the weather by Admiral Fitzroy, and the telegraphic warnings sent to the various ports, is another most useful and marvellous feature of the day. The system, we perceive, has been adopted in France and Holland.

Modern chemists have conferred several boons, on mankind. They have given the world two new metals—aluminium and thallium; a new alloy, formed of a variety of brass, containing a small quantity of iron, combining tenacity with elasticity to a remarkable degree; new dyes from aniline, a refuse material, that only a short time ago was of no account; new disinfectants, &c.; and have applied a new principle to furnaces. The regenerative furnace of Mr. Siemens is looked upon as an agent likely to revolutionize many a chemical art, from its power of attaining a temperature beyond that of other furnaces, with a greater economy of fuel. Chemists, too, have gone into the great question of utilization of our sewage. Baron Liebig has recommended that the liquid portion of the manure should be mixed with superphosphate of lime, before distribution by pipes over fields, as a process likely to increase the value of the constituents in it. Many an experiment, however, must be made before the key to this question, involving an annual gain of millions of pounds sterling to the metropolis alone, be it remembered, is found.

Sanitary science has grown of late years. A wholesome conviction has come to men's minds that many diseases are preventible; and instead of a blind acceptance of epidemics as misfortunes to which we ought to bow without repining, it is agreed that it is more imperative upon us to prevent the ravages of the slayer, by cutting off all chances of his approach. This has led to anxious consideration of the numerous causes that affect the public health, and given rise to marked improvements of many kinds in many places. Various appliances have been elaborated which formerly were scarcely considered, such as tubing for drains, traps, ventilators, contrivances for the prevention of damp and cold in houses, for warming houses, churches, for cooking, for washing, for scavenage, &c. There is still, however, much to be done in this way. The perfecting of gas-fittings, for instance, is a case in point, as it is allowed that a leakage of a tenth of the whole quantity of gas consumed takes place, as a matter of course, and every person who has passed a cutting in a street must have observed the extent to which gas has permeated the soil. And overcrowding, the greatest of all sanitary grievances, has yet to be dealt with.

Tracing civilization from the days when "the earth was filled with violence," to those when she took up science and art in Greece and the power of framing and administering law in Rome, from the days of the canoe to those of our iron-clad frigates, from the days of the hut-building on piles in lakes to those of crystal palaces, we cannot but be stimulated to fresh exertions. The difference in the aspect of our commercial and social relations since the perfection of our railway system, telegraphic communication, and steamboat service, is familiar to all. The inventions in instruments for scientific purposes are as wonderful a proof of our progress as any that we could name; although, perhaps, certain discoveries, such as the dynamical theory of heat with its bearing on the science of gunnery, are still more fraught with power. The theory of the Messrs. Hawthorn, that the railway service may be performed by stationary engines may be worked out before we are many months older, and the laying of the Atlantic submarine telegraph is a task that will not be left uncompleted. Meanwhile, our every-day building occupations will be all the more interesting when we consider the part the various materials have played in the early history of the world.

Proposed Extension of the General Post-Office in St. Martin's-le-Grand.—The application to Parliament, signed by the solicitor to the Post-office, for increased accommodation to that establishment, comprises the appropriation of the whole of the western side of St. Martin's-le-Grand, up to the Nottingham Castle, in Angel-street, to Bath-street on the west and Newgate-street on the south; besides providing for a direct underground communication underneath the main thoroughfare. It is said to be the intention of the Treasury, when the bill is passed, to erect upon part of the site a new Post-office Savings Bank. Notices are being given to the owners of the premises required.

THE CHARING-CROSS HOTEL.

If the amount of public interest which particular buildings excite, were the measure of their merit, and of their due position in the architectural movement of our time, then a high place should be allowed to several of the works that are at present in progress in London. Amongst these would be found the structure now conspicuous in the West Strand, which forms the front of the railway station that has displaced Hungerford Market and many surrounding houses. The excitement of the interest, at least in the case of any building possessing real merit, must be considered as fortunate and favourable for the future of architecture. It is something gained when the common passenger is arrested in his route along one of the busy thoroughfares of this metropolis, and by a work which is not remarkable, as in detail, for mere eccentricities, or in general character and style, for contradiction and anachronism with the buildings near it and the world about it. In the Charing-cross Hotel and Railway Booking-offices, Mr. E. M. Barry, aided by some of the circumstances of the site, has certainly succeeded in one of the aims of a good architect, which we have alluded to above and have referred to often before. He has produced a structure which seizes the attention at once, and not by means that are within the hand of every one without being architect, who has the whim to be pointed at, but by appliances and qualities that are those of buildings such as are appreciated permanently. It is true that he has not carried into every detail of his work, the skill that he has exhibited in general mass, grouping, and sky-line; but in the interests of architecture, both as the art, and as the profession commissioned by the public, we thank him for what he has done.

The Charing-cross Hotel has a two-fold importance in the architectural movement, just now, which we have been inclined to recognise as in progress. It has importance as an example of its particular class of building; as, in the art, it has that which we have alluded to.

It is a curious fact that we, and architects generally, are discussing the first principles of disposition in planning, of certain different classes of buildings that might seem to have been required often before the present day; but which, the principles, along with the details of plan to be provided, somehow have never yet been clearly set forth in treatise or example. Of course, every fresh structure should be expected to be an advance, as well in capability for serving the purpose for which it was planned, as in its art; moreover, wants are changing and progressive: but there are certain requirements that are the same from century to century,—whether in the church, the theatre, the hospital, the picture-gallery or museum, the labourer's cottage, or the stable; and many of these are only now being inquired into by the profession, sometimes with the aid, and sometimes the opposition, of the public, or of those supposed to be acquainted with the special wants. The truth is that till very recently, objects were not served by buildings planned for them,—or since the time when the objects were not multifarious as at present, and were provided for not inadequately in the broad distinctions, as between the church, the monastery, the college, the guild-hall, the *hospice*, the castle, the town-house, and so forth; wherein, though the distinctive characteristics are not confined to decorative features, there is not the recognition of the great variety of wants observed now, both in the entire structures, and in details of plan of each kind of building.

Within the last few years, the want of well-planned, as also well-managed, hotels for travellers, has been loudly complained of; and it has been perceived that the good management, in a large building,—as "on the American system," or where the conveniences may be the greatest, most time-saving, and therefore best adapted for the day,—requires the special and the good planning. The modern hotel thus, is a new class of building; and the principles in planning it, along with the details of accommodation, deserve our attention when an opportunity of examining any actual work occurs.

With the increase of size of the building, which allows of advantages that have been alluded to, certain difficulties or new requirements arise, as those of lighting the corridors without loss of space, of ascent to the upper floors, and of general *service* and communication. In nearly all planning for buildings to contain many comparatively small rooms that have to be well

lighted, difficulty of lighting the corridors is experienced; and the result is generally a compromise. In the Hôtel du Louvre, Paris, the corridors are much too dark, although there are large reflectors. One of the objections to a dark corridor in an hotel is the difficulty of distinguishing numbers on the doors. To prevent this objection in the Charing-cross Hotel, Mr. Barry has placed in the top of each door an oblong glazed panel, with the number or the other designation of the room painted on the glass; which material of course is ground, or not what can be seen through. The glazed panels help to light the corridor. For the ascent of persons, there is, as in the Grosvenor Hotel and other hotels, an "ascending-room," worked by water-pressure. There is a lift close to it, similarly worked, for luggage; and there are numerous other lifts, of the common kind, distributed about the building. The landings of the *service*-staircase are kept 18 in. clear of the wall at the end of the space on plan which the staircase occupies; so that there is in effect, there, a shaft of 7 ft. 6 in. by 18 in. on plan, which besides assisting ventilation at all times, would be of great use should materials for repairs be required to be raised. There is a somewhat similar shaft between the windows of the water-closets and the external wall of the building; and there is a large ventilating-shaft at the end of each corridor. There are, of course, the usual arrangements of speaking-tubes; and the bell-wires are carefully placed to be got at easily when required to be repaired. On each floor there is a serving-room, with lifts; and there is a shaft for dust, with double doors and opening arranged so that the dust does not fall down the actual shaft to the basement, till the door in the room has been closed. and so that, should this door be left open, dust descending from any of the floors above, would not find its way into the room. There will be a coal-bunker on each floor, near the principal lift, to contain 2 tons, and which may be replenished every morning. A cistern, at the top of the building, will contain 17,000 gallons of water; one in the basement will hold 10,000 gallons; and there will be twelve other cisterns for various purposes.

The general plan of the hotel includes a refreshment-room (or rather a *buffet* and restaurant, with distinct entrances) in connexion with the railway-station platform, and having its own kitchen; an end-entrance to the hotel from the Strand fore-court and Villiers street, and one at the side from the railway-station platform; a coffee-room, 48 ft. square, including recesses, and about 24 ft. in height between the beams or divisions of the decorated ceiling; a ladies' coffee-room, 28 ft. by 16 ft.; a reading-room, 30 ft. square; a board-room, 27 ft. 3 in. by 16 ft., which can be used for reception of distinguished personages, being opposite the entrance from the station; a "tap"; a meeting-room, 57 ft. 6 in. by 22 ft. 11 in.; a smoking-room, 26 ft. by 22 ft. 11 in., having lobbies at each end, and a balcony for the whole length, looking out into the station; a room the same size as the smoking-room, which may be used as a billiard-room; a committee-room, 34 ft. 10½ in. by 23 ft. 9 in., and numerous suites, as well as separate bedrooms. The beds number about 214; and there are, besides, 43 dressing-rooms, some of which might be made to contain beds. There are 17 sitting-rooms. The principal suites are provided with dressing-room, water-closet, and entrance-lobby; and the door from the corridor will have a bell. There are 8 bath-rooms in the building, and 52 water-closets. There are five stories above the ground-line, in the centre of the Strand front, not counting two stories which there are in the roof; and there are twelve bays in that part. There are six of the ordinary stories of windows in the pavilions, in the same front; whilst there are four stories in the roofs of these pavilions. One of the stories is a mezzanine, the coffee-room, reading-room, and some other rooms being lofty. There is also a mezzanine, which does not appear in the Strand front, to part of the general ground-floor. One of the upper stories was an addition to the design, after the building had been far advanced. By this, there were gained 39 bedrooms, 8 dressing-rooms, and 3 sitting-rooms. There are three stories below the Strand level; but, as the ground descends southward, these have many well-lighted rooms. At the south end, there are seven perfectly lighted stories above the ground-level; there is one story below, or in the basement; and there is what might be called yet another regular story, though in part lighted by dormers in the roof, and besides the top attics. The kitchen is here wholly above ground, directly under the station refreshment-room, and the hotel coffee-room, to which, or to the attached serving-rooms, there is communication by lifts. The ground story is 21 ft. in height; the principal floor is 16 ft., and the mezzanine is 10 ft. 6 in.; the floor next above is 13 ft. 6 in.; and the other floors are 10 ft. 6 in. each,—the dimensions being stated from floor-line to floor-line.

Having given some idea of the accommodation provided in the building, we may now describe more particularly the manner in which the plan is arranged, and the building is constructed and decorated. And here, before speaking of the relative positions of the rooms, it should be understood what were the conditions imposed by the ground, and by the space occupied by offices and waiting-rooms in connexion with the railway. The land available for the hotel, and exclusive of the fore-court space, formed two sides of a square, or was in the shape of the letter ⌊; the side next the Strand being very nearly 227 ft. The ground at right angles to this, follows the line of Villiers-street, and is 190 ft. 4 in. in length, not including the eastern porch of the hotel, or the railing which bounds the end of the fore-court. But in the Strand front, the whole of the ground-floor was required for the booking-offices, waiting-rooms, and other appurtenances of the terminus, excepting what might be needed for entrance merely to the hotel: thus the Strand front was, or is now, composed of two pavilions and a recessed centre, each pavilion having a porch of its entire width, projecting from the lower story, and the centre having a glazed pent-roof to the footway, —the porch to the east belonging to the entrance to the hotel: but before the drawings could be matured, the requirements of the railway company entailed another encroachment to the disadvantage of the hotel; for, a portion amounting to 14 ft. 2 in. of the width of the Greenwich Booking-office, which is part of the recessed centre as appearing in elevation, is really taken out of the width of the Villiers-street ground; that is to say, the latter is of the full width, or depth from Villiers-street, only from the commencement of the roof of the station, to the end of the ground southward. The position of the booking-offices and terminus quite interfered with the proper lighting of the three stories of basement in the Strand front; and it will interfere with their ventilation, excepting what may be got from gratings in the platform of the station. As to the west side of the Villiers-street building, or east side of the station, some openings have been obtained; and on the street side, the basement is well lighted as before mentioned. Moreover, as to the Strand line, and the Villiers-street line, the building might have had to be lighted in part from space underneath a station-roof, as the Grosvenor Hotel is at the Victoria Station, an arrangement to be avoided so far as possible, considering noise of trains and the steam from engines, and that ventilation can be scarcely equal to requirements. The position of the ground for the hotel with reference to the station, eventually led Mr. Barry to decide to leave space between the Strand building, in the upper stories, and the north end of the station-roof, or above the roofs of the meeting-room, smoking-room, and billiard-room. Another way in which the plan suffered was in that there could be no staircase in the Strand front, starting from the ground floor. There is one there, from the first-floor; but it is reached from another staircase at a considerable distance, that is, one in the middle of the Villiers-street line, which is the grand staircase of the building.

The front of the building to the Strand is not parallel with the street. The deviation from rectangularity of the forecourt is concealed in great measure by the Cross in the centre; and the obliquity of line of the front is rather advantageous to the effect from the Strand and Duncannon-street. The length of the line, which includes the entrances from the Strand, two lodges, and the iron railing and stone piers, is 238 ft. 4 in.; that of the Villiers-street end of the forecourt is 95 ft. 1½ in., including the projection of the porch of the hotel, 13 ft., inside dimension; whilst the length of the western line is about 134 feet. The Cross occupies a space in the centre of the forecourt, which has a breadth or diameter of the octagon of 21 ft., including the steps; but with the footway, connected with the steps, the dimension will be about 35 ft.

The porch of the hotel, which projects from the eastern pavilion of the Strand front, corresponds with that which there is to the pavilion at the west, where the exit-way for cabs and omnibuses from the arrival-platform of the station is, excepting that to the former porch, there is a side-flight of steps from Villiers-street, or additional to the approach from the fore-court. Each porch is lighted at the top, through rough plate-glass.

A wide doorway, which has a small porter's room on each side, in what may be called the reveals, leads directly from the porch of the hotel, into a square entrance-hall. Exactly facing the entrance, is a niche in a broad pier which separates the bar-window, on the left, from the entrance to the main corridor on the right. This corridor continues southward, or in a line parallel with Villiers-street and the longitudinal axis of the station, past the manager's rooms, and past the grand staircase on the one side, and the board-room on the other, and past the service stairs and "ascending-room," straight to an entrance to the railway refreshment-room. In the course of the length of this corridor, it is joined by the entrance-way to the hotel from the railway-platform, as well as by a separate entrance which there is for the passengers' luggage, near the "ascending-room." Adding the refreshment-room, the length of the line would be about 184 ft.; though, as will have been understood, the axis of the corridor is somewhat to the right of that of the main entrance and entrance-hall, owing to the encroachment of the railway booking-offices.

The breadth of each pavilion on the Strand side is 39 ft. from outside to outside, the recessed centre of the front being 148 ft. 11½ in. The penthouse-covering to the footway, between the porches, projects about 15 ft. from the building. The centre of the Villiers-street front, or for a length of 87 ft. 10 in., is recessed as much as 5 ft., so as to allow an ample area for lighting the basement; and the two angles of the pavilions enclosing this recess,—whereof one pavilion is that of the Strand front, and the other terminates the plan southward, and contains the kitchen, refreshment-room, and coffee-room as before described,—are treated correspondingly with one another, but differently from the angles in the Strand front. The latter are 5 ft. 6 in. on the face, in the lower story, and are terminated by square tabernacle-stages, and zinc-covered spirelets; whilst those to the Villiers-street recess are 14 ft., and are carried up as square towers, with belvideres above the general cornice-line of the pavilions, and terminated each by a lofty pyramidal capping, the general rectangular space on plan of the pavilion being covered by its own high Mansard and flat-topped roof, hipped at the ends north and south. We have mentioned that there is a mezzanine to parts of the ground-floor of the Villiers-street building. The board-room, in the centre of the front on that side, the refreshment-room, however, and perhaps the hall, are carried up to the full height; though to the refreshment-room at least, there is an upper range of lights, or ventilation-openings, above the long windows. The arrangement of this mezzanine may, however, be understood on looking at that of the windows of the board-room, in the centre of the front, and the mezzanine windows on each side. The third story of the building, counting from the ground line of the Strand front, is also a mezzanine; but it takes that character throughout the elevations, the coffee-room and reading-room being lighted by two stories of windows; and the actual height of those rooms not being distinguishable in the elevations from the arrangement of the story and mezzanine corresponding. A balcony, projecting on very bold stone cantilevers, for rooms of the first-floor, is a feature of the recess of the Villiers-street front; and the three windows of each story of each front of the pavilions are grouped together, and deeply recessed with columns and balustrades.

The ground story of the Strand building contains the Greenwich Booking-office, and westward of it, a 10 ft. passage-way for luggage; the North Kent Booking-office, and first and second class waiting-rooms; a Main Line Booking-office, smaller than the preceding; a passage-way, 10 ft. 3 in., for luggage; a cloak-room, of about the same width, —which, though the length is 59 ft., would seem inadequate, the exhibit-way, 11 ft. 7 in.; and the parcels' office, and a superintendent's room. The waiting-rooms and booking-offices seem well arranged, and ample in area, as for the whole line traffic. The Greenwich Booking-office includes two sets of ticket-taking

places and ways through to the departure-platform.

The range of booking-offices and waiting-rooms, or between the pavilions, is divided, parallelwise with the line of front, into two unequal parts, by a wall, of 3 ft. 1½ in., which is only pierced with arches for the communication between two rooms, or two parts in the length of a booking-office, or to make the passage-way. This division becomes the actual external wall, south, of the Strand building, where above the smoking-room and other rooms before mentioned of the first-floor: in other words, there is here vacant space between the upper stories of the hotel building, and the end of the station-roof. The space in the first-floor however, is filled by the meeting-room, smoking-room, and billiard-room, with various adjuncts; and each of these rooms is lighted or ventilated through the ceiling, as well as by the windows which look out into the station under the roof of the latter.

Fortunately, light was obtainable to the western end of the corridor of the Strand building; and there is a well-hole for light, at the angle of meeting of the corridors of the two blocks or parts of the entire structure. The first-floor corridor of the Villiers-street building runs direct from the reading-room, which is in the north-east pavilion, to the coffee-room which is in the south-eastern, passing by the principal staircase, the serving-staircase and rooms, and the "ascending-room," similarly to the corridor below; and it is 9 ft. in width.

In another article we shall speak of the decorative features of the building, and may add to our particulars of the construction.

PARIS.

The river Seine is to receive six new weirs, so as to maintain the depth of water between Paris and Rouen at a minimum depth of 2 *mètres* (6 ft. 6⅝ in.), and an inquiry for the purpose has been opened at the Hôtel de Ville, in Paris.

The following is the estimate of the works:—

1st level, between the Andresy lock and that of Meulan	£30,000
2nd, between Meulan lock and the proposed one at Bonnière	57,040
3rd, from Bonnière lock to that of Notre Dame de la Garenne	18,520
4th, from Notre Dame de la Garenne to the lock des Poses	49,640
5th, from the Les Poses lock to that of Martot	5,200
6th, from Martot lock to the Railway Bridge at Rouen	180,000
Total	£340,400

During the past summer considerable alterations have taken place in the Hospice Cochin in the Rue St. Jacques, facing the Observatory. New additional buildings have been erected near the Rue Mechin, on land belonging to the hospital, containing several lying-in wards. These are only to serve alternatively,—that is to say, that one of them will always be left unoccupied, for a certain length of time, to avoid the spread of puerperal fevers.

At the village of Ivry a new hospital for incurables is about to be constructed on hospital lands extending over 43½ acres, and will replace that establishment which is now lodged temporarily at the Caserne Popincourt. It is also proposed to erect at a later period at Ivry a similar hospital for the accommodation of females, to be substituted for the establishment now in the Rue de Sèvres. These two establishments are to be *de facto* separated as regards the buildings, but so united by proximity as to be under the control and services of one staff centrally disposed.

Some of the contractors rebuilding the demolished houses, and running up quickly new mansions, have hit upon an ingenious way of raising materials to the top of the scaffold. As the head of water at the Villette is enough to command any of the houses in Paris, they have simply a pipe turned on from the main up to the top of the intended structure, and by that means can fill a bucket or large tub, which, in descending, draws up a plateau on which the materials are placed. The water being turned into mortar, and otherwise made use of afterwards below, is not lost. Some of the materials are also hoisted by Lenoir's machine (by gas); there is one at work at the Rond Pont de Courcelles, close to the Avenue des Ternes. It seems to be, by timing a weight ascending a certain height, about 2½-horse power. The absence of boiler in these engines is a strong argument in favour of employing them where steady slight power is required. At all events, if they are not endowed with the abundant force of a steam-engine, yet in towns and in confined streets, where only a moderate source of power is required to act in a small compass, noiselessly and without nuisance, we have seen that the required mechanical effect can be accomplished without risk of explosion, and consequent damage and loss of life, either to owners or their neighbours. That is something, at all events.

The following new works have been declared of public utility:—

1. The construction of a new post-office on that plot of ground bounded by the Rues de Rivoli, de Mondovi, Saint Honoré, and Neuve du Luxembourg.

2. The prolongation of the Rue de Mondovi as far as the Rue Saint Honoré.

3. The suppression of that portion of the Rue Mont Thabor which lies between the Rues de Mondovi and de Luxembourg.

The new Hôtel des Postes is to form a vast parallelogram, bounded on the north by the Rue Saint Honoré, on the east by the Rue de Luxembourg, on the south by the Rue de Rivoli, and on the west by the Rue de Mondovi. Within this space will be included the western portion of the Rue Mont Tabor, the Caserne de Luxembourg, and the Eglise de l'Assomption. This church and the neighbouring barracks had a common origin, having both been built in the seventeenth century by the *religieuses* called *les Dames de l'Assomption*. The buildings of the barrack accommodation were the property of the order. The church as it stands, is fronted by a portico with eight Corinthian columns; its interior is circular, and is decorated with four arches, between which are Corinthian pilasters, which sustain the circular cornice. This is capped by a cupola 68 ft. 11 in. in diameter. The intrados of the dome was ornamented by Charles de la Fosse, with a great fresco, representing the Assumption. Honasse, one of the best of Lebrun's pupils, Niel and Antoine Coypel, Jacques Stella, and François Lemoine, co-operated in the decoration of this church. Though the style of this building is far from being irreproachable, yet we would fain see whatever is worthy of being preserved well taken care of under its new masters. It would make a splendid sorting-office, whereas its new destination seems to be that of a record or archives depôt.

OZONE AND REFUSE.

At the last meeting of the Herefordshire Antiquarian Society, the president Mr. William Aston, said, when considering the atmospheric condition of the city of Hereford, we are indebted to a gentleman resident here, Dr. Kemp, who, in a contribution on the subject of ozone, at the Bath meeting, very properly reprehended the local practice of accumulating deposits of street sweepings and other offensive matter in the neighbourhood of our public thoroughfares. His remarks and experiments on the nature of ozone are very important to the salubrity of this city, and the peculiar tests for ozone and its neutralizing power in relation to the gaseous products of effete animal and vegetable matter (which tests he has been at considerable trouble in proving), are of a most interesting character, and his conclusions will well repay perusal and consideration. It is to be hoped that the future extension of rational and scientific knowledge will teach civic authorities the baneful effects of these nuisances, and prevent thoughtless errors in matters which have so important a bearing on the general health of the community.

At the close of the meeting, Dr. Kemp, after explaining the nature of ozone, and how it may be detected in the atmosphere by experiment, proceeded to make some practical remarks, bearing upon the health of Hereford, and to which the public authorities, in his opinion, ought to direct their attention. He mentioned, that in the course of the summer he had made experimental observations with respect to this peculiar condition of the atmosphere, in Widemarsh-street, the Bartonsham, and on the tower of the cathedral. He said, it would be remembered, that during last spring the neighbourhood of Widemarsh-street was particularly unhealthy, in the outbreak of scarlet fever, and other epidemics, which no doubt arose from some property in the atmosphere which was unfavourable to animal life, and the result of their experiments showed, that during this time there was a complete absence of any sign of ozone in that locality. He next spoke of the Castle-green, and animadverted upon the circumstance of the adjoining ground being the receptacle for all the filth of the city.

THE ARCHITECTURAL ASSOCIATION.

The usual meeting of members was held on Friday evening (the 25th ult.), at the house in Conduit-street. The chair was taken by the president, Mr. Christian.

The minutes of the last meeting having been confirmed, the following new members were elected:—Messrs. Thos. H. Myers, 11, Oakley-crescent, North Chelsea; Chas. Shoppee, 61, Doughty-street, Mecklenburg-square; W. J. Cooper, 24, Doughty-street; J. Mathew Byrne, 26, Honiton-street; J. W. Lyon, 13, Berners-street; Edwd. Crosse, 46, Carter-street, Walworth; Saml. H. Hope, 10, Ampton-street, Gray's-inn-road.

Mr. Ridge, the hon. secretary, read a report of the Bristol Society of Architects, in reference to the School of Arts established in connexion with the Society.

The Chairman said that it appeared from the report just read that the Bristol society had placed their School of Art on a much larger footing, and proposed to carry it out for a much smaller fee than the Architectural Association was ever likely to do. They ought to take a lesson from the excellent example thus set them. When Bristol had done so much, London ought not to be found lagging behind.

Mr. Ridge then read the report of the general committee on the establishment of a School of Architectural Decoration, to be called "The School of Art accessorial to Architecture." It stated that the school was proposed to be established in consequence of the evident necessity to the architectural student of a better state of art teaching with respect to accurate drawing and modelling of the human figure, and of animal and vegetable forms, in their application to architectural decoration. The business of the school should be conducted by a committee, consisting of the Presidents of the Institute, of the Architectural Museum, and of the Architectural Association, and of ten members; four to be appointed by the Institute, three by the Architectural Museum, and three by the Architectural Association. The course of instruction should embrace drawing and modelling of organic forms, with a view to the obtaining of accurate knowledge of their structure so as to enable the student to apply them in architectural decoration with power and truth. The committee should supply casts and appliances, and when the instructors and visitors reported that a sufficient number of pupils were capable of studying in the life-school, the life-model should be provided, under such regulations as the committee might define. Prizes should be offered for the best works done in the session, as tested by examination.

In pursuance of the recommendation contained in the above report the following were appointed to act as the committee on behalf of the Association:—the president, *ex officio*, and Messrs. Ashpitel, Burges, and Tarver.

The annual report of the Association, embodying its transactions during the session 1863-64, was then submitted and adopted, as were also the accounts and balance-sheet for the past year.

Mr Tarver read the report of the Class of Design, which was adopted.

Mr. Spiers moved a resolution to the effect, that the syllabuses of the classes of the Association ought to be submitted to the committee of the Association before being printed in the journals. He complained that the class of design had adopted as their subject for this year a large church or cathedral in the Mediæval style, to the total exclusion of the Classic style, and of any other subject in any style whatever.

Mr. Lemon seconded the resolution. He considered it absurd that the plan of a cathedral should be sent in, and perhaps six months afterwards the elevations.

Mr. Blashill and other members expressed their opinion that a mistaken course had been adopted by the class in question.

The resolution was put and adopted unanimously.

Mr. Lewis read the report of the curators and librarians of the Association for the session 1863-64, which was confirmed.

Mr. Blashill read the report of the delegates of the Association to the Architectural Alliance, in reference to the professional practice and charges of architects.

The report was ordered to lie on the table, the discussion on it to be taken at a future meeting.

Some routine business having been disposed of, the meeting adjourned.

DAVID ROBERTS, R.A.

ART ARCHITECTURAL in England has lost a great man. England (Scotland properly) has lost her Canaletti. The fine eyes for transferring architecture to canvas that David Roberts had can see no more,—one of the five or six Scotchmen whom the Royal Academy of Arts in London has condescended to admit among the favoured forty is dead.

David Roberts was born at Stockbridge, near Edinburgh, on the 24th of October, 1796. In what way a love of art came upon him he could not tell. The noble scenery in and around Edinburgh:—

> "Edina, Scotia's darling seat,
> All hail thy palaces and towers!
> Where once beneath a monarch's feet
> Sat Legislation's sovereign powers,"—

has kindled many a poet, and in David Roberts created an inimitable painter.

David Roberts, like his friends David Wilkie, William Allan, and John Burnet, acquired the first lessons of art in the Trustees' Academy at Edinburgh,—an institution, supported in part by Government, for the improvement of manufactures and designs in art. He began as a house-painter, and in coating and re-coating, and in graining on Edinburgh coach and house panels, obtained that mastery of hand which he was soon to turn to a nicer and more profitable use. His skill was soon discovered. Murray, of the Edinburgh Theatre, found for him employment and developed that talent which Mr. Macready, in after-life, and in London, was proud to employ both at Covent Garden and at Drury Lane.

In the year 1822, young David, then in his twenty-sixth year, made his way to London, with a skilled right hand, a strong Scottish accent, and a dogged determination of purpose to succeed, which never forsook him. Unlike David Wilkie, David Roberts was long in becoming known. There was no "Village Politician" for a first picture, no "Blind Fiddler," to follow, with our *second* David from Scotland. He did not at once become famous.

One of his early associates in London was Peter or Patrick Nasmyth, our English Hobbema. David, of twenty-six years of age, carried a letter of introduction to Peter, and was prompt in trying to deliver it; but Nasmyth was not so readily found: found, however he was, at last, and in his favourite "howff" (public house), close to the archiepiscopal Palace of Canterbury. David and Peter were at once friends. Mr. Roberts possessed, and was fond of showing, a little picture by Peter Nasmyth for which he had refused—three times over—many hundreds of pounds. It had cost Roberts little, but was precious, and deservedly so, in the eyes of a true artist and a true friend.

Will the reader pardon in this place and at this time a gossiping story which the writer of these "In memoriam" lines derived from the lips of his honoured and lamented friend? Nasmyth, it is well known, led a hand-to-mouth life, and was constantly in want of money. His art-patrons were the Lambeth pawnbrokers, and Peter had a constant friend with three (two-to-one) balls at the Surrey foot of Westminster Bridge, over against Astley's. "Peter Nasmyths," some fine, others hurried, were there to be seen, and were seen by us (in our boyish days). Roberts, in a careful Scotland-yard and Scottish mood, remonstrated one morning with Peter on the "lowering" of his art, and recalled Peter's attention to the pawnbroker's display of Peter's art. The question and reply on the part of David's friend are alike amusing and suggestive. "Are they outside or inside?" was Peter Nasmyth's question. "Oh! they are in," was David Roberts's reply. "Then," continued Peter, "it's no matter; but, had they been out, I—I wadna hae liked it."

Mr. Roberts, like his friend Mr. Clarkson Stanfield, went *against* "The Royal Academy of Arts" in London, and sought public favour in the Society of British Artists, in Suffolk-street. He was soon distinguished, and was courted for in Somerset House. Nor was he long in yielding to solicitations. He became an A.R.A. in 1839, and a full Royal Academician and Esquire in 1841. "If to become a Royal Academician is an honour," said John Martin, "Roberts deserves that honour. Roberts has a fine eye—he sees well, and can make others see what *he* sees." No mean compliment.

Mr. Roberts was a loving Scot at the heart's core. When, in 1858, he returned, with Stanfield, from a trip "due north," he bore away with him a heart full of affectionate warmth to his native land. The Royal Scottish Academy gave, in true style, a dinner to "Davie and Stanny." The late Sir John Watson Gordon (Raeburn's worthy representative) was in the chair, and David Roberts was King David Bruce on that day.

Rehear, Land o' Cakes and brither Scots, what a fine-hearted man, and a skilled painter, said on that occasion:—"I feel almost, for the first time in my life, at a loss for words to say how much I am sensible of the honour which you have this day conferred upon me. It is the fortune of a great many of my countrymen to leave Scotland and to look to other lands for the purpose of bettering their condition; but there is one thing that they never forget, and that is their love of country. Wherever a Scotchman may be,—in whatever distant lands his lot may be cast,—he always remembers those early impressions which he has received at home; and if there is one desire that is more permanent than another, it is the desire to do honour to his native land. Few—very, very few indeed—return to the place of their birth to receive such an honour as has been conferred upon me this day,—an honour which, as I have already said, I am utterly unable to acknowledge in adequate terms. In a former speech your lordship [the Provost] alluded to my early life, and to the few advantages which I enjoyed while in this country. I have had that which is the birthright of every Scotchman—a good religious and moral education. Early in life I was taught the duty of respect to my superiors; but while giving them all due honour I was also taught never to forget that self-respect which belongs to every honest man. If I have risen in life from humble circumstances, and from a humble position, I hope I have done so with honour, with integrity, and with probity; for whatever country a man may belong to, if these things are kept in view, he will never want friends. I have certainly through life met with many friends; and I very rarely, if ever, lost them. The same principles which have guided me I am sure guide thousands of my countrymen; and if I, a humble apprentice boy, from this my native town, have, by adopting these principles, risen to the highest distinction that can be conferred in my profession, I trust that others, such as I then was, may be incited by an honourable and laudable ambition to follow out the same principles of integrity and honour which must ultimately lead to their advancement in life; and if my acceptance of this mark of the respect of the city of Edinburgh should be an inducement to the apprentice boys of Edinburgh to persevere in a course of laudable and honourable conduct, in their names I accept this honour, and with gratitude return my sincere thanks to you for it. I hope I shall never disgrace this burgess-ticket; I am sure I shall always prize it and do honour to it. Your lordship has alluded to my presentation of a picture to my native town; but I am aware that I have only done that which hundreds of Scotchmen would have been very proud to do if they had been placed in my position. I believe that the arts confer a great benefit on mankind. I am sure that the contemplation of a beautiful picture, whether it be a landscape or a representation of an historical event, must tend to raise the mind to better and higher objects. I believe that the contemplation of a picture in a national gallery appeals to the most uneducated as well as to the best educated and most cultivated minds; indeed, I believe that it has more influence on society than most of us are aware of. I should like to see a national gallery in all the principal towns of my native land. There are thousands who can understand a picture that cannot understand an epic poem, and the influence which a beautiful picture has upon mankind is probably greater than the world is aware of. In that belief, and with that feeling, I presented to my native town a work, of which I shall only say, that I wish it had been better. But, at all events, I hope it will be preserved, and that it may do something towards carrying out that great object which the Scottish Academy have in view, by directing the attention of the citizens of Edinburgh to the promotion of the arts which confer so much good upon society, and which must make us better and wiser men. I again say, that I feel a total want of words to express my sense of the honour which has been conferred upon me; but, wishing success and prosperity to the city of Edinburgh, I thank you for it from my heart."

David Wilkie sent David Roberts to the Holy Land, and both "unlanguaged" carried with them their Scottish tongues and their Edinburgh printed Bibles. The *two Davids* returned with different mental wealth; but both have left—David Roberts especially—noble and enduring monuments of what they saw.

David Roberts should be buried in St. Paul's, near to Sir Christopher Wren and his old artistic enemy and friend—J. M. W. Turner.

FRESCO-PAINTING, AS APPLIED TO THE DECORATION OF ARCHITECTURE.

A PAPER on this subject was read by Mr. J. B. Atkinson at the second meeting for the present session of the Bath Literary and Philosophical Association.

At the outset Mr. Atkinson said he proposed to treat of the relation and reciprocity that might exist between the two arts of painting and architecture. Architecture had been rightly deemed the parent art, whence had sprung, and around which had clustered, the subsidiary arts of sculpture and of painting, as the offspring of the more ancient stock. This family bond of a common birth long held in union even the remote and collateral descendants, content to be housed in concord under one roof. Thus painting was, among ancient nations and in early epochs, always found clinging close to architecture, the very ribs and body out of which it had first sprung. Thus the temples and the palaces of India, of Asia Minor, of Egypt, of Greece, and of Rome, were adorned by paintings which, as faithful allies, sought to enhance the majesty and the beauty of the original master-work. But in the lapse of time schism came to mar this happy union. A Babel uproar of conflicting styles and schools had torn and tortured the once united polity of the accordant arts. Painting, in particular, in her severance from the central stock, had become itinerant and vagrant, had lost in dignity just as much as she might have gained in freedom; and, on the other hand, architecture, denuded of her ordained decoration, instead of being clothed in colour was shrouded in whitewash.

It was the object of that lecture to join once more those arts which since the Middle Ages had unhappily been divorced; to show upon what terms a reconciliation might be effected; to point out what surrender of antagonism must be conceded, so that the varied modes of painting, among which fresco was the chief, might be made, now again, as in all prior epochs, conducive to the harmony and the splendour of architectural composition. He had chosen fresco, because of all the processes of mural decoration it was the one in which the painters of the Middle Ages chiefly delighted; it was the method that had transmitted to us the grandest creations the world had yet known. Notwithstanding the failure and premature decay of the mural paintings in the Houses of Parliament, he still firmly held to the opinion that the ancient process was not only noble and architectonic, but that when executed with knowledge, and with due care in the use of materials, fresco paintings might now in England, as in Italy of bygone centuries, be rendered enduring as the wall and tenement they were designed to decorate.

It might seem little better than a truism to declare that the purpose for which a building was designed must regulate the character of the pictorial subjects employed in its decoration. It would at once be evident that a church for worship, a hall for legislation, and a house for domestic uses, would each call forth distinct and appropriate trains of thought, which, like visions, might be emblazoned on the walls. The devotee of the Middle Ages knelt in a side chapel of the Florentine Church of La Trinita in the presence of a fresco picture representing the death of holy St. Francis. Again, the Podesta, or chief magistrate of the Tuscan Republic, they were told by Vasari, was surrounded in his hall of state with a grand composition by Giotto, the figure of the commune seated in the character of a judge, with a sceptre in his hand, and scales equally poised over the head to indicate befitting rectitude in his decisions. And then, if they turned from the solemnity of the Church, and the dignity of the state, and entered within the sphere of domestic life, they found that Agostino Chigi, the Roman banker, of the sixteenth century, called to his aid Raffaelle, Giulio Romano, and Giovanni da Udine to adorn the stanze and loggia of his palace, now called the Farnesina, with the poetry and romance of the Grecian Parnassus: so that visitors walking in at the garden door were greeted by Venus, Psyche, Cupid, and the Graces; and guests

seated at the table might gaze at Galatea floating in her shell drawn by sportive dolphins. Religion should inspire the decorations of the Church; patriotism should ennoble the adorning of our halls of justice and legislation; poetry should bring to our private dwellings the charm of beauty, and invoke the spell of imagination. Remarking, in passing, that the Church had extended to painting and architecture, the most munificent of patronage, the lecturer went on to observe concerning the choice of a subject, that of the subjects chosen by painters for the decoration of architecture, the boldest, the grandest, and the most imaginative were perhaps Michel-angelo's frescoes in the Sistine, and Correggio's frescoes in the domed churches of Parma. He could see no objection to the repetition of Raffaelle's cartoons along the walls of a country church, and he knew of no reason why the artist who had succeeded in making a broad and bold translation of these compositions for one building might not be employed in the multiplication of the same works until every county should possess at least one church so adorned.

The practice of mural decoration once instituted, monotony might easily be made to give place to variety. The difficulty was to render mural painting popular and widely diffused, at once economic in cost and excellent in style. For that end it would be desirable that several series of subjects should be designed by the first artists of the day. These drawings might become through purchase or premium the common property of the profession and the country, and so be disseminated as cartoons which merely manipulative artists could transfer to the walls of a sacred edifice. In all monumental painting it must be remembered that the artist who with fewest touches, fewest colours, and fewest figures, would tell his story was best qualified for the task of mural decoration. What had been said of subjects suited to a church, would, in a greater degree, supersede the necessity of adding much on the secular side of the question. What might be said of a national palace would stand good for a municipal town-hall. In the chief building of a provincial city national themes naturally gave place to local chronicles, and hence the topics sought after were those which had conferred honour on the locality, or which recorded the virtues of illustrious citizens. Again, the interval between a municipal building and a private dwelling might be wide, yet the essential principles which lay at the root of all mural decoration were subject to little change, and indeed might be pronounced all but immutable. Of private mansions he might safely declare that just in proportion as the mural paintings had less of state and historic import, so might they enter upon the realms of poetry and usurp the regions of imagination. Reception and banqueting halls should be festive and sumptuous; and he knew of no scenes which responded more warmly to hospitality and good cheer than those that the Italian painters borrowed from ancient mythology. He feared, however, that the time was still far distant when English noblemen would emulate the example of the princes of Italy. He trusted that ere long the arts of painting, sculpture, and architecture might receive from the Universities the recognition that would bring to those centres of learning commensurate reward; and then, when the graduate returned to his ancestral domains, he would carry with him knowledge that might direct and inspire the village Phidias and Apelles; and, failing the power of original creation, cunning hands would not be wanting for the transfer of figures from a Greek vase, or for the adaptation to a frieze or panel of the designs of Flaxman.

To sum up the whole matter in reference to the choice of a subject in brief, he would say: "Let the topic chosen commend itself by its simplicity and dignity: cast out from it every figure, incident, or detail which militates against grandeur of effect, or singleness of aim: let the facts expressed have the stability of the structure they adorn; and, above all, let the style, removed above ordinary nature and commonplace, severe, and even stern, reach to a generic type, and be redeemed by its elevated truth and beauty: thus, and thus only, can painting aspire to become the equal and honoured associate of architecture."

Mr. Atkinson next considered the conditions which should govern the composition and treatment of the subject chosen, and spoke strongly against the fitting in, as it were, of frescoes into limited spaces, after the style of a picture-gallery. Architecture, he felt, had reason to complain of the injury she had received at the hands of her sister, Painting. Architectural forms had been but too often violated for the sake of a florid display of colours, and a rampant assemblage of pictorial forms. The question claiming consideration was how a pure and holy alliance may be maintained between painting on the one hand and architecture on the other—an alliance and an allegiance which shall prove equally to the honour and welfare of each. In the interest of that amiable union mutual concessions must be made. Painting, on the one hand, must learn to be monumental; and architecture must submit to be decorative. Lastly, Mr. Atkinson proceeded to lay down some of the leading principles for the use of fresco painting as a means of colour. Colour had often proved to architecture a snare. Rich marbles, gold and other glittering and precious materials, had frequently corrupted purity of form, and given in exchange but barbarity of grandeur. To escape that abuse, colour must be employed in strict subjection to structural fitness. It must serve to build up, not to seek to undermine, the edifice to which it should cling as an ally, not attack as a foe. For this aid it must assist to develop form, it must enhance light and shade.

The lecture was illustrated by chromolithographs and engravings of various specimens of fresco painting.

THE BASINS OF THE ST. OUEN DOCK COMPANY.

On Sunday, the 13th ult., took place the inauguration of the great basin, and the launching of one of the floating warehouses of the Saint-Ouen Railway and Dock Company. In spite of the rain, which never ceased to pour in torrents all the day, a vast concourse of persons assembled to witness the ceremony. This company, entitled La Compagnie Anonyme du Chemin de Fer et des Docks de Saint-Ouen, with a capital of 400,000*l.*, has executed immense works around the ancient station of St. Ouen, with a view of uniting, on the same level, at Paris, the *réseau* of all the railways with that of the navigable canals. The St. Ouen Railway starts from the Chemin de Fer de Ceinture, traverses the fortifications,—the rampart by a tunnel, and the moat by an iron bridge,—passes the route De la Révolte on a level, and ends at a spacious goods station. Here the lines of railway divide into innumerable segments, in all directions, by means of turntables, and present a united development of about 2,200 yards. These are so disposed that the waggons and boats can transfer conveniently and directly merchandise from one to the other at suitable quays and under roof. The large basin is 9 ft. 10 in. deep, from 164 ft. to 492 ft. broad, and measures about 13a. 2r. 14p. in area. The wall surrounding the dock is of solid masonry, built vertically, and is in development about 2,200 yards. Behind this are sheds, stores, and warehouses, accessible by rail, water, cartage, or any conveyance imaginable. This magnificent piece of water communicates with the Seine by means of a lock, 197 ft. long by 39 ft. wide. An avenue, 65 ft. 7 in. wide, and 650 yards long, communicates with the west of Paris by the Avenue des Batignoles; another will lead to the east of the town through the Boulevart Magenta. The warehouses and *halles* of the Saint-Ouen-Paris Dock Company will, when completed, compete with those of London or Liverpool. They are to consist of, in addition to the depôts, magazines, and platforms of the ancient Saint-Ouen station, a variety of immense constructions, all fire-proof, built with wrought and cast iron, bricks, and stone, occupying nearly fifty acres of ground. These are to be—1st. A loading and unloading quay, between the canal and the rail, 547 yards by 26 ft. 3 in., with twenty powerful cranes, and roofed over. 2nd. Warehouses five stories high, presenting 59,800 square yards of flooring divided into 500 chambers, each of 119·6 square yards, for dry goods of all sorts. 3rd. Floating warehouses, of which two are already in the water, and three more are being constructed. These consist of a group of 100 cylindrical wrought-iron tanks, each holding 5,500 gallons—in all 550,000—admirably adapted to contain oils, spirits, petroleum, &c., or any inflammable liquid. These are moored in the centre of the basin, free from all risk from fire. In case of danger, they can be at once drifted into the Seine. 4th. A storage platform 547 yards long by 29 ft. 6 in. broad, forming a surface of 1a. 0r. 18p., and capable of maintaining 500,000 tons per annum. 5th. Behind this platform a covered roadway of the same length, and 26 ft. 3 in. wide, forming a surface of 4,784 square yards. 6th. Between this covered way and the street circulating the exterior of the docks, and forming the ground-floor of the warehouses, 131 arches each, being 13 ft. 2 in. wide, 16 ft. 5 in. high, and 26 ft. 3 in. deep: these are to be apportioned thus—six near the entrances for guards, &c., and the arrival and despatch offices, twenty-five for the custom-house officers and commercial agents, and 100 to merchants. 7th, and lastly. On the third story of the warehouses, five large halls for counters, with a glazed gallery to contain specimens and samples of all sorts. All the above described structures are grouped together round the basin, and are capable of holding in stock 50,000 tons at a time of merchandise of all sorts. The whole of this work has been designed by M. Préfontaine.

YORK SCHOOL OF ART.

The annual meeting of the subscribers and friends of this school has been held in the Institution. There was a numerous attendance, and Lord Houghton occupied the chair.

The Chairman, in course of his opening speech, spoke of the question of payment to schools for results. His lordship said, that when he was a member of the House of Commons, he took a different view from the Government, as he did not believe such a provision could be advantageously carried out. He thought that some consideration should be shown to teachers in this and such establishments, not only as to their material advantages, but as to their moral position; and it appeared to him, that a master either in the school of letters or of art, who has to depend on anything so fluctuating as the intellectual results produced on the minds of his scholars, feels an uncertainty of position, and therefore a discomfort of mind, which, in nine cases out of ten, incapacitates or weakens the capacities of such a master. Whatever rules were established, however, by the department to which he had alluded, he hoped they would submit to them cheerfully, and make the best of their position, even though they did not like it.

Reverting to the general question of the advantages of schools of art, even to those who were not artists, he said the topic was one upon which he could enlarge for some time, because it was very cognate to one in which he had himself taken considerable interest. There seemed to him to be a great analogy between the art of design, as prosecuted in that school, and poetry, to which he had given some little study. He had felt from his own experience, and had said to others, that he believed one of the great advantages of the study of the art of poetry was not the desire of becoming a poet, or succeeding in so wonderful and difficult an art, but that it enabled them to cultivate their own faculties and nobler perceptions, and they would find, that any man who could write decent verse would be likely to write good prose, and be otherwise a man of general culture. So it was in application to art. A boy taught to draw well, correctly, precisely, would find it of advantage in after-life, even in totally different and distinct pursuits. In his moral culture, in the punctuality of his habits, even in the cleanliness and decency of his person—in all these things the boy who had cultivated the study of art would find advantages in after-life, even although obliged to give up the pursuit of art altogether. He thought, too, that these studies acted most advantageously upon the general and moral well-being of the country. They might all see with satisfaction that there had been of late years very great progress in the general artistic tastes of the people. Just look at the number of engravings and good pictures found in all sorts of places, even in the houses of the very poor. Look at the general improvement in the decoration and architecture of their towns. Look at the increased enjoyment various localities experienced almost every day in the exhibition of their own magnificent works of art; and they need have no stronger instance of this progress than in the interest which that city had taken in opening out their glorious Minster, and exhibiting it after so many ages in something like its true grandeur.

Mr. J. Swallow, the master, spoke of what had been done by schools of art,—adequately supported. It is scarcely possible, he remarked, to

estimate the exact amount of resultant good that has been attained. Many of the rising artists and architects have received some part of their education in these schools. It is evident that great improvement has been visible since their establishment, and more especially in art manufacture. How much of that may be due to French influence I cannot pretend to state; but we must not forget that formerly all our designs were imported, or were of foreign origin, and that we are now in many departments of our manufactures indebted to them. But, on the other hand, we know that the schools of art have had a beneficial effect on the educational taste of the country. They have assisted to develop dormant tastes in the people and amongst artworkmen. English damask has been much improved. The Norwich shawl manufacturers almost entirely rely upon English designs. Mr. Clabburn, one of the principal manufacturers, thinks our shawl designs are equal to the French. It is admitted that in the Potteries there are now many hundred young men who can draw intelligently and well, and who have improved their position. Pressers and moulders have become modellers. Gilders attend the School of Art to become painters, and so on. English pottery designers have greatly improved, but are said to be still inferior to foreign modellers and painters. In the Nottingham lace, the case is altogether the reverse, and the French are said to pilfer the English patterns. Sheffield is noted for its designers in metal work. Birmingham, Edinburgh, and some other schools have a deserved reputation. There is also improvement distinctly marked in glass, furniture, and other trades. Nor must we forget that the wide-spread teaching of mechanical drawing in the schools must be of great advantage to engineering workmen, in enabling them to make working drawings, and to intelligently carry out those of others. These, then, are some of the advantages already conferred by schools of art.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the first meeting, held November 23rd, Mr. Godwin, V.P., in the chair, the Chairman called attention to the prosperous condition of the Association, and referred to the success of the Congress held at Ipswich in August, and the great attention paid to the objects visited, and the members present, by the President, Mr. George Tomline, M.P. Many new members had been added, but the Society had unfortunately experienced a great loss by the decease of the Duke of Newcastle, K.G., Mr. Hudson Gurney, and the Right Hon. Thomas Erskine, zealous associates. The Congress for 1865 had been arranged to be held in August, at Durham, under the presidency of the Duke of Cleveland. A list of thirty-five new associates was read. Mr. Syer Cuming, in laying before the meeting a variety of pseudo antiques cast in lock metal, reviewed the steps taken by the Association in regard to the detection of these forgeries, proceeding to trace them as springing from an idea in France, its development in this country, and its extraordinary progress in objects in lead. The sale of these, from the various exposures, particularly by the trial at Guildford (Eastwood *v. Athenæum*), for publishing a report of the proceedings of the Association, rapidly decreased. In 1863 came forth casts in lock metal, a composition of two parts copper and one of lead; it melts at a low temperature; and in plaster of Paris moulds have been produced spear heads, daggers, celts, &c.; some of considerable size. Mr. Cuming exhibited several of these, and as the trade still flourishes, repeated his caution to antiquaries on the subject. Mr. Gould, Mr. T. Wright, and others confirmed Mr. Cuming's statement, and gave examples in illustration. Mr. T. Wright exhibited some pieces of Greek Samian ware from Tarsus, in Cilicia, and pointed out their resemblance to the red Samian pottery of the Romans found in Britain and Gaul. A letter from Mr. Thompson, of Leicester, was read, announcing that under the direction of the Leicestershire Society important excavations had been commenced at the mass of Roman masonry in that town known as the Jewry Wall. Dr. Brushfield forwarded a paper on Roman Intaglios, discovered at the station Petriana, on the great north wall of Hadrian. They were six in number, and impressions of them were exhibited. Two were gnostic seals in sardonyx, the others in red composition and in blood stone. Lord Boston exhibited a portrait of Henrietta Maria, upon paper spread on an oval panel, and attributed to Sir Peter Lely, but bearing a close resemblance to one of Vandyck's pictures of the queen.

Mr. Planché read a paper on the "Nine Worthies, Male and Female," in illustration of a series of curious paintings on panel, in Amberley Castle, Sussex, referred to in our pages recently, and which were thought by Dallaway to be allegorical representations of Flemish provinces. After giving several lists of the nine worthy men and nine worthy women, all varying one from the other, not only in the names of the personages, but in the coats of arms absurdly attributed to them, and, therefore, showing that no dependence could possibly be placed upon the integrity or congruity of any particular series, he referred to a catalogue of French worthies in Andrew Favine's "Théâtre d'Honneur," published in 1620, consisting principally of Queens of the Amazons, who are therein described as bearing armorial insignia generally resembling, and in three instances identical with, those painted on the shields of the armed and crowned ladies portrayed on the Amberley panels. Mr. Planché exhibited photographs of five of these pictures, and described from Mr. Gordon Hills's account the three remaining perfect. A fragment of a ninth had since been noticed by Mr. Hills, who is engaged in the restoration of the church adjoining, confirming Mr. Planché in his theory respecting them. The name of Cassandra had been deciphered under one of them, and the word "Babylon" under another. Cassandra was not included in any of the lists the reader had seen; but Semiramis, Queen of Babylon, was mentioned in two of them. It was very probable that the painter had substituted the celebrated prophetess for some other illustrious personage, although the rest of the inscription was too illegible to render it clear by the context that the name actually applied to the portrait. The main object of the paper was to show that nearly every author selected his own nine worthies, and that the painter of these panels must, from the very remarkable character of the coats of arms, have been acquainted with some catalogue closely resembling that which has been preserved by Favine.

THE LIFE ASSOCIATION OF SCOTLAND ASSURANCE COMPANY.

THE extensive and costly pile of buildings styled the Life Association of Scotland Chambers, having been just completed, the office was opened for public business a few days ago. The site selected for the structure is, perhaps, the most central in the city of Dublin, presenting a frontage of 41 ft., in Dame-street, opposite the Chamber of Commerce, and returning 43 ft. in Trinity-street adjoining. No expense has been spared to render this building a creditable representative of the magnificent offices erected for the company in Edinburgh, founded in 1838. The entire of each façade, five stories in height, being faced with dressed ashlar masonry from the Kenmure quarries.

The Italian style of architecture, of Palladian character, has been adopted. The ground floor, presenting a series of rusticated piers, extends to the top of *entresol* story, having moulded joints and vermiculated faces, surmounted by a frieze and cornice. The windows in upper stories are ornamented with balconies and balusters, moulded architraves, carved consoles, and alternate, straight, and segmental pediments. A deep frieze, enriched with metopes and modillions, and high balustrade, conceals the windows which light the apartments in the roof. The office entrance, situate in the centre of the principal front, is decorated with pilasters supporting projecting consoles and rusticated arch, with enriched keystone and pediment. The doors are of Riga oak, panelled, moulded, and varnished.

The ground floor affords accommodation for the business of the company, consisting of public offices, secretary's room, fireproof safe, board-room, doctor's-room, retiring-room, &c.; having a commodious set of offices for letting, on the right of central entrance, with basement story for each suite of offices, lighted by windows above the level of street paving.

The works have been executed by Messrs. Morrison, under the directions of the consulting architect, Mr. Bryce, of Edinburgh; and superintending architect, Mr. Charles Geoghegan, of Dublin. The total outlay on the premises has been about 8,000*l.* The execution of the office counters, desks, framings, and furniture, is well calculated to sustain the reputation of the manufacturer, Mr. William Brunton.

APPLICATION OF SEWAGE TO AGRICULTURAL PURPOSES.

AT the last ordinary meeting of the Middlesex magistrates, Mr. Henry Pownall in the chair,

Sir Alexander Spearman, chairman of the committee of visitors of the Hanwell Lunatic Asylum, moved, "That it having become necessary to relieve the river Brent and the canal from the sewage of the asylum, and it being desirable to utilise the sewage upon the land of the asylum under cultivation, a sum not exceeding 1,500*l.* be granted by the Court for the purpose of providing the requisite irrigating, pumping apparatus, steam engine, collecting tanks, machinery, and works for carrying into effect a plan for the utilization of the sewage of the asylum, which has been approved by the committee."

The motion having been seconded,

Mr. Mitchinson said the Court ought to proceed with great caution in this matter, for some years ago the practice of sewage irrigation at Feltham was carried on, and the consequence was that 75 per cent. of the boys then in Feltham school were found to be suffering from ophthalmia, but when they ceased the sewage irrigation ophthalmia disappeared, and there was not a single case of complaint.

Mr. Kemshead said they did not come to the Court without some experience, as they had tested it at Hanwell for six or eight months, and he was not aware of any complaints having been made at Feltham.

Mr. Thwaites thought they might irrigate the land by moderate dressings of sewage with perfect safety, and he believed with profit, and at the same time it would save the neighbourhood from a great deal of mischief which would arise from the pollution of the streams into which the sewage was turned. This was a rapidly-growing evil, and he had no doubt that, in the next session, Parliament would be called upon, by stringent legislation, to prevent that which might undoubtedly become a great evil; for if a panic should arise they might have sudden legislation, which was always unhealthy, and therefore he thought that the committee had taken the right course, and he should give the motion his hearty support.

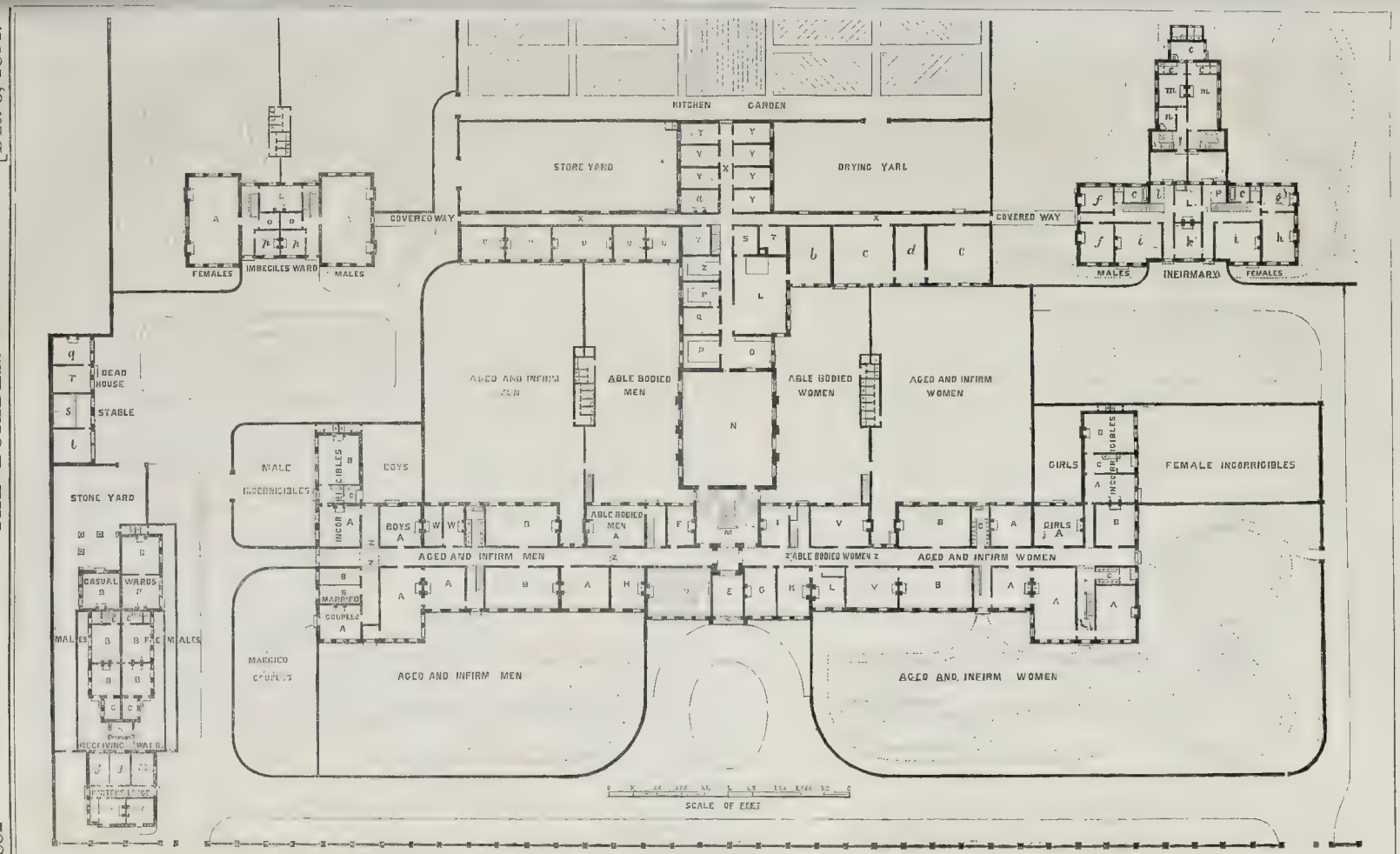
The motion was put and unanimously agreed to.

NEW WORKHOUSE, WEST LONDON UNION.

WE give a ground-plan and view of this building, now in course of erection in the Cornwallis-road, Upper Holloway. The house is designed for about 500 inmates. The buildings are of brick, with bright yellow malm facings and red brick bands at intervals. The dressings to the doors are in Portland stone. The dining-hall and chapel over, and the principal staircase, will be heated by hot water, and cold water will be laid on to all the baths. The contract (23,492*l.*) was taken by Mr. Henry Hart, of Great Dover-street, Borough. The architects are Messrs. Searle, Son, & Yelf, of Bloomsbury-place. The board-room and offices, the relieving officer's and other offices, will be erected somewhere within the limits of the union.

REFERENCES TO PLAN.

A A. Day-rooms.
B B. Dormitories.
C C. Lavatories and Bath-rooms.
D Committee or Board rooms.
E. Entrance hall.
F. Master's Office.
G. Master's Parlours.
H. Master's Stores.
I. Matron.
K. Matron's Parlour.
L L. Kitchens.
M. Principal Staircase.
N. Dining Hall (Chapel over).
O. Serving-room.
P. Larder.
Q. Bread-cutting Room.
R. Bread.
S. Bread-making Room.
T. Boiler.
U U. Workshops.
V V. Workrooms
W. Superintendent of Labour.
X X. Corridors.
Y Y. Stores.
Z. China.
a. Storekeeper.
b b. Scullieries.
c. Laundry.
d. Drying-room.
e e. Washhouses.
f f. Sick Wards.
g. Surgical.
h. Lying-in.
i i. Convalescent.
k. Surgery.
l. Coals.
m m. Fever Wards.
n. Nurse.
o o. Padded Rooms.
p p. Attendants.
q. Post-mortem Room.
r. Dead-house.
s. Stables.
t. Coach-house.
u. Oakum-room.
v. Oven.
w w. Porter's Rooms.
x. Porter's Offices.
y y. Clothes Stores.
z. Iron gates separating classes.



NEW WORKHOUSE, WEST LONDON UNION.—*Plan of Ground Floor.*



INTENDED NEW WORKHOUSE, WEST LONDON UNION; IN UPPER HOLLOWAY.—MESSRS. SEARLE, SON, & YELF, ARCHITECTS.

ST. SAVIOUR'S CHURCH, BACUP, LANCASHIRE.

THE town of Bacup is situate about 20 miles north of Manchester, at the head of the valley of Rossendale. From a small village it has increased of late years to a considerable cotton manufacturing town of 14,000 inhabitants. The old church, built about a century ago, has long been too small for the population, as with galleries it only seats about 600 persons; and, being in a very insecure state, it has been found necessary to close the galleries and shore up the south wall until funds can be raised for rebuilding. A few years since a small church was built at the east or upper part of the town, or rather out of the town; but the inhabitants of the lower and newer portion have been for a long time without proper church accommodation. To remedy this evil a new district has been formed, and a church, parsonage, and schools have been built at the entire expense of Mr. James Maden Holt, J. P., and upon his estate; the architect employed being Mr. E. Wyndham Tarn, of Guildford-street, London. The schools were first erected, and have been licensed for divine service until the completion of the church; but the congregation having outgrown the dimensions of the school, which seats about 600, the erection of the church has been hastened forward, and its consecration by the Bishop of Manchester will shortly take place.

The total internal length of the church is 120 ft.; width of nave and aisles, 53 ft. Seats are provided for 750 adults on the ground-floor, and for nearly 300 children in a west gallery.

The nave arches are seven in number, and supported on polished red Aberdeen granite shafts, 14 in. diameter. The chancel is terminated by an octagonal apse, and has a roof formed of curved timber ribs, springing from corbels, and boarded over. Four white marble panels, 11 ft. high, are let into arched recesses between the windows of the apse, and on them is engraved the decalogue, creed, and Lord's Prayer.

The nave is covered with a polygonal ceiling of timber, with semicircular main ribs springing from corbels between the arches, and formed of three thicknesses of 3-in. planks on the De l'Orme principle, the centre thickness being cusped. The polygon, which is divided into panels by moulded purlins and intermediate ribs, is boarded throughout, the centre compartment being pierced for ventilation with tracery, filled in with perforated zinc, coloured blue, which opens into an air-chamber formed in the upper part of the roof, having louvre ventilators to open and shut at each end.

The aisle roof is of open timber, boarded on the upper side. All the roofs are boarded, and felted under the slates. A small transept is built on the south side, to form a private chapel, having an arcade on each side, with serpentine columns and alabaster panels, on which inscriptions are engraved in memory of several members of the donor's family, who are interred in a vault adjoining the church.

The tower, which is placed at the north-east corner, is 20 ft. square at the base, and the height to the top of the cross is 150 ft. The lower portion forms an organ-chamber, having arches opening into the chancel and north aisle. A peal of bells will be placed in the upper story, and a clock will be placed in a gabled dormer on the north side, at the base of the spire, one of the spire-lights being omitted on that side for this purpose. The basement of the tower is occupied by the warming apparatus, the hot-air system of Messrs. Haden, of Trowbridge, being used.

One peculiarity of the church is the baptistery, provided for the immersion of adults (when required), which is sunk in the middle of the chancel, with a descent of five steps; the whole being covered by ornamental gratings, laid level with the floor. This position is selected as being near the vestry.

The pulpit is of pitch pine, on a stone base, supported by four columns of verd-antique. The desk, fittings of chancel, and lobbies to the entrance-doors are also of pitch pine, the whole having been made by Messrs. Cox & Son, of Southampton-street. The benches of the church are open, and of stained yellow deal.

The lighting is by two gas coronas in the nave, and one in the chancel, with brackets in the west gallery and to the pulpit and desk, the whole supplied by Messrs. Hart & Son, of Wych-street. The aisles are lighted by means of Hammond's ventilating gas-lights, made from the architect's designs, by which vitiated air is removed from the church.

The passages are laid with kamptulicon, upon a concrete foundation, floated with Portland cement and surrounded by an edging of 6-in. red and black tiles. The chancel is paved with Maw's encaustic tiles.

Three years have passed since the foundation of the church was commenced, some delay having been occasioned by the necessity which arose of opening a fresh quarry on Mr. Holt's estate, from which the greater part of the stone has been obtained.

The mason's work has been done without any contractor, and under the superintendence of Mr. Robt. Mulley, the clerk of the works, the "banker masons" having been paid by the piece, and the wallers and setters by the day. The locality being peculiarly subject to driving rains, blue lias lime was used for the mortar, which was mixed in a mill. The carpenters' work has been done by Messrs. Barlow & Pott, of Bacup; the plumbing by Mr. Bulcock, of Bacup; and the slating by Messrs. Goodwin, of Huddersfield. Messrs. Edmundson, of Manchester, supplied the glazing; and Mr. Field, of Parliament-street, the marble.

CHURCH-BUILDING NEWS.

Hornsey-road, London.—The foundation-stone of St. Barnabas's Church, Hornsey-road, has been laid. The site is in the Harvest-road, Hornsey-road. The edifice, when completed, will be in the Gothic style, Early Decorated, and the dimensions 62 ft. by 94 ft., with sittings for 1,270 persons, 690 of which will be free. A tower and spire will also be erected, of the height of nearly 100 ft., and the whole, from the design of Mr. Green, architect, has been given for erection to Messrs. Carter & Sons, builders.

Cheam.—The new parish church at Cheam has been consecrated. The edifice has been erected on a site in the churchyard, parallel with the site of the old church, but exceeding that in its dimensions. The nave and tower were commenced in the early part of last year, and the whole has now been completed by the addition of the remaining portions, with the single exception of the tower, which is at present carried up to the height of the ringing-chamber only, but which is destined ultimately to support a spire. The building is in the style of the later First-pointed Gothic, and is faced externally with Kentish ragstone and Bath stone dressings, and internally with red bricks, relieved by bands of black, and having Bath stone stringcourses, voussoirs, &c., and columns of blue Pennant stone, with carved capitals. The plan consists of a nave with five bays, 65 ft. long, with lean-to aisles; a tower at the north-west angle; an apsidal chancel with an organ-chamber, and a vestry on the north side; and on the south a chancel aisle appropriated to the national school children. Provision has also been made, by a *quasi* north transept, for the accommodation of the pupils belonging to Cheam school. Altogether the total number of sittings amount to a little over 600. Stained glass, presented by Mr. J. Hibbert Tate, and executed by Messrs. Clayton & Bell, has been already placed in the four western lancets of the nave, and it is hoped that the large rose-window above, and the chancel lights, may also very shortly be similarly embellished. The subjects of the stained glass already fixed are taken from the life of St. Dunstan, to whom the church is dedicated, commencing with his education by the monks at Glastonbury, and terminating with his burial in Canterbury Cathedral. The church has been erected from the design and under the supervision of Mr. F. H. Pownall, architect, London; and the contractors are Messrs. Sharpington & Cole, of Lambeth; Messrs. Edwards & Son, of London, having furnished the warming apparatus. The total cost of the building will amount to about 4,500*l.* Of this, only 250*l.* now remain to be subscribed. It is intended to retain and fit up as a receptacle for the monuments existing in the old church a portion of the old chancel known as the Lumley Chapel, which will thus be left standing as a detached building in the churchyard.

Abbot's Langley (Herts).—St. Paul's church, Langley Bury, has been consecrated. It has been built entirely at the expense of Mr. Jones Loyd, of Langley Bury. It is situate in the hamlet of Hunton Bridge, about two miles distant from the parish church. The new church is in the Decorated style. Mr. Woodyer, of Graffham, near Guildford, was the architect; and Messrs. George Myers & Sons, of Lambeth, were the builders. The church consists of a nave, north aisle, chancel, with vestry, organ chamber, and south-west porch; and a private mortuary chapel on the south-east side, for the Loyd family. The church is built of squared flints and Bath stone. The tower with spire is 130 ft. high. The latter is made of wood covered with oak shingles. The length of the church is 108 ft.; the nave is 18 ft. wide, and the chancel 16 ft. 6 in. There are sittings for 200 adults and sixty children, exclusive of those in the chancel: 100 sittings are free. The seats are of wainscot oak, and of modern style. The roofs are of stained timber, open to the ridge, with white plaster between the rafters. The interior pillars are composed of clustered columns, of Forest of Dean stone, with moulded bases and carved capitals. The carving both within and without the church was done by Messrs. Myers. The arcades are carved with figures of angels in postures of prayer and of praise. The chancel arch is carved. It is supported on Forest of Dean shafts. The chancel is paved with Minton's encaustic tiles, and the nave with those of the Pottery company, of Poole, Dorset. The tower contains a peal of six bells, cast by Messrs. Mears, of London, the chief tenor of which weighs 8 cwt., given by the congregation, and a foreign bell given by Lord and Lady Rokeby. The church is heated by hot-water pipes, supplied by Minton & Son. Mr. Beckensall was the clerk of the works, and Mr. Shillitoe, the foreman.

Tenbury (Worcestershire).—Woolferlow Church, near Tenbury, which has been undergoing restoration for some time past, has been re-opened. The church is an Early English structure (with relics of Norman work), dedicated to St. Andrew. From age the building has become much dilapidated. It is now restored from the designs of Mr. Cranston. A great portion of the walls has been rebuilt. The framework of the roof is new, of red deal, after the pattern of the original. The bell-turret remains, surmounted by a spire of cleft oak shingles. The tracery of the windows and the new font are of Bath stone. The floor has been laid with black and red quarries, and open seats are substituted for the high-backed square pews. A vestry and stone porch have also been added. The edifice now affords sittings for upwards of 100 persons.

Paignton (South Devon).—The recently restored chancel of the parish church has received a permanent decoration, the work of an amateur artist, Mr. Vernon Benbow. The east wall, from the ground to a sufficient height above the altar has been painted in a diaper of green, with vermilion and black, and illuminated with gold crosses. This is finished above each end of the wall with a cresting of gold, surmounting the word "Alleluia." Immediately over the altar the words "I am the Bread of Life" are painted, the initial letters being adorned with representations of the vine, corn, and holly. A border of Passion-flowers runs round the text, and in either corner is an appropriate design. Other decorations, also, have been effected.

Llangollen.—Messrs. Roberts & Co., builders, have commenced to alter and enlarge the parish church, having contracted for the work. The plans have been made by Mr. S. P. Smith, architect, Shrewsbury. The church when enlarged will contain sittings for about 1,000 persons. The carved oak roof will be preserved, and it is said to be probable that no antique feature of the edifice will be demolished. About 2,000*l.* have been already contributed towards the work.

Aberdare.—With reference to St. Mary's Church, described on the 19th of November, we are authorised to state that the seats are stained and varnished; that the carving, which is not profuse, was executed by Mr. Whittingham; and that the contract was taken at 2,797*l.*; and in the building itself (which seats 700 adults), the extras, if any, can only be of trifling amount. This is exclusive of boundary walls and gates.

Liverpool.—St. Philip's Church, Hardman-street, has been formally re-opened. The improvements in the church include the reseating of both body and gallery with open benches, the repainting and colouring of the interior, the addition of several stops to the organ by Gray & Davidson, and several minor alterations. Two painted memorial windows have been made at the west end of the church, the windows being presented by the Rev. C. H. Barton, in memory of his children. Mr. Barton has also fitted up the baptistery at his own expense. The architect has been Mr. Grayson; the builders, Nicholson

& Eyre; the painters and decorators, Gardner & Son, of Duke-street; and the memorial windows have been designed by Mr. Forrest.

Slawston (*Leicestershire*).—The church of All Saints, Slawston, was, until recently, one of the most defaced and dilapidated churches in the county; but it has undergone a restoration, and has been re-opened for divine service. Before restoration the tower arch was also blocked up, and there was a gallery which projected as far as the south door, and which had a very unsightly and heavy appearance. This gallery has been removed and the tower arch opened. There was formerly a low dilapidated brick porch at the south door: this has been removed, and a bold arch erected, with a high-pitched roof. The chancel is entirely new or rebuilt, except the gable end. There is a new east window of Decorated design. The clerestory has been rebuilt, and a new south porch made. The new chancel is of the Early Decorated period, in keeping with the church. The fittings of the church consist of open seats, new roof, new reading-desk, lectern, and pulpit, all of deal. By the restoration, above thirty additional sittings are gained. Messrs. Goddard & Son, of Leicester, were the architects, and Messrs. Loveday, of Kibworth, and Mr. J. Stanyon, of Market Harborough, the contractors; the former doing the wood-work, the latter the stone.

Bromborough (*Cheshire*).—A new parish church for Bromborough, the foundation-stone of which was laid about two years ago, has been consecrated by the Bishop of Chester, and formally opened for divine service. The new building has been erected on a site adjoining the old parish church. Mr. C. K. Mannering, lord of the manor, gave an acre of land adjoining the old churchyard, a donation of upwards of 2,000*l.*, and agreed to provide red stone from a neighbouring quarry sufficient to build the church. The new church has been erected by Messrs. Holme & Nicol, of Liverpool, from the designs of Mr. Gilbert Scott, of London. The style is Early Gothic. The roof is of open timber, with the exception of the apse, which is close timbered, ribbed, and decorated. Some portions of the building are embellished by carving and decorations, and over the communion table is a memorial window. The interior comprises a nave, two aisles, chancel, vestry, and chapel. It is calculated to seat 600 persons. The cost of the building will be about 5,000*l.* It is intended to add a tower and spire.

Campfield (*Manchester*). — St. Matthew's Church, Campfield, has just been repaired and painted. In addition to the various improvements and decorations, there are two large painted glass windows, in the sides of the chancel. These windows were exhibited in the Kensington Museum, London, last summer. The windows are each composed of three lights or openings, and tracery. The central divisions of each window are filled with subjects illustrating incidents in the life of our Saviour; in one compartment, "Blessing little Children," in the other, the "Charge to Peter." The side openings, four in number, contain representations of the Evangelists, Matthew, Mark, Luke, and John, life size. The tracery is filled with ornamental forms, containing sacred emblems and monograms Agnus Dei, cup and vine, pelican, and emblems of the Trinity, with I.H.S., and "Alpha" and "Omega." The work was designed and executed by Messrs. Edmundson & Son, of Manchester, who also designed and executed a short time ago the central memorial window. It is composed of three lights, and contains representations of the "Ascension" (in the middle opening), the "Last Supper" and "Baptism," in the side divisions. The tracery is filled with a figure of our Lord in his sovereignty, and angels bearing scrolls with Scriptural texts. The organ has undergone a restoration, and several new stops have been added to the great and choir organ.

Roughton (*Norfolk*).—The parish church of St. Mary, Roughton, having in the course of the year undergone restoration, has been re-opened for Divine service. The roofs of the nave and aisles have been entirely renewed, partly in oak, and partly in fir, the original designs having been adhered to. The walls have been plastered throughout in a warm tint. The floors have been laid in red and blue 4-in. Staffordshire tiles, except within the communion-rails, where the floor is of Minton's encaustic tiles. The chancel arch has been rebuilt, and the stonework of the windows, arches, pillars, &c., cleaned and repaired. The aisle and clerestory windows have been glazed in a pale olive green, with a white border; and the tracery of the east window has been filled with stained glass by Hardman, of Birmingham, the lights being for the present fitted with quarries of tinted cathedral glass. The screen and all the chancel fittings are of oak, carved in light open tracery, in keeping with that of the windows. The pulpit is also of oak, carved, with a stone vase. The old high pews have been replaced by low open benches, with carved ends, which will afford seats for 216 persons, the accommodation being thus considerably increased. The whole of the work was committed to Mr. R. Cornish, builder, North Walsham.

Lakenham.—The new chancel of Lakenham church has been consecrated. The new chancel is twice the length of the old one, affording about seventy additional sittings. It is oblong in form, with an apsidal end, and is built of flint with stone dressings, finished with a traceried parapet. It contains in all nine windows—three at the end and the others on either side. They are in the Perpendicular style. One of the three end windows is already filled with stained glass, and the remainder, it is expected, will be similarly furnished by next Easter. Internally, it is finished with coloured stucco, with stone dressings and coloured arch stones. The light open timbered roof does not, strictly speaking, harmonise with the roof of the church itself. The cost, when the whole has been completed, will be about 1,000*l.*, including gifts. Mr. J. Brown, of Norwich, is the architect; and Mr. Worman, the builder.

Weybread (*Suffolk*).—The parishioners have decided upon restoring their church, at a cost of about 1,000*l.* Plans have been prepared by Mr. R. M. Phipson, architect; the contract has been taken by Mr. Grimwood, of Weybread; and the works will be commenced forthwith. The restoration consists of putting an entirely new roof to the nave, of the same design as the old one, which has become very rotten; repairing the two aisle roofs; benching the church throughout; building a new vestry and organ chamber; restoring the chancel; putting in new east window; laying the floors with Minton's encaustic tiles; and other repairs.

SCHOOL-BUILDING NEWS.

Bloxham. The new buildings added to All Saints' Middle School, Bloxham, have been opened. The building is situate on high ground, at the north end of Bloxham. The school was opened in January, 1860, with *one* boy: it now numbers over fifty boarders, besides day-boys, and it was to provide for the increasing numbers that it was found necessary to add the new buildings. A close of 5½ acres immediately adjoining the premises has also been recently added to the playground, and the school now stands on grounds of its own of more than 10 acres in extent. The new buildings have been executed by Mr. Thomas Barrett, of Bloxham, builder, from designs by Mr. G. E. Street, the diocesan architect.

Newport (*Monmouth*).—The building for the Ragged School has been opened. It is situate in Dock-street, at its junction with Mellon-street. It is a building of two stories, the design in the Gothic style; but owing to the restricted means at the disposal of the committee is necessarily plain in character. It consists of two school-rooms, capable of accommodating about 100 children each: the lowest room is for boys, and the upper room for girls. Each school-room measures 40 ft. by 21 ft. 6 in.; the boys' 12 ft. high, and the girls' room, being partially in the roof, is 15 ft. high. The buildings are of ballast-stone, faced towards Dock-street and Mellon-street with Bodmer's patent bricks. Freestone is sparingly used for dressings, and red bricks are introduced in the arches. The roof is covered with slates. The building has been erected by Mr. L. B. Moore, under the superintendence of the architect, Mr. Samuel Hancorn, of Newport, whose design was chosen in a competition among local architects.

Fladbury (*Worcestershire*).—The first stone of a new National School and master's house has been laid here. The school-room, designed to accommodate 120 children, will be 51 ft. in length by 19 ft. in width; the walls of red and black brick, with bands and dressings of stone. The style is Early Decorated. The architect is Mr. Preedy, of London; builder, Mr. J. Griffiths, Eldersfield.

Manchester. — The foundation-stone of St. Catherine's Schools, Newtown, has been laid. The architects are Messrs. Speakman & Charlesworth, of Manchester. The contract was taken by Messrs. Statham & Son, Pendleton, builders; and the estimated cost, according to the plans which have been approved by the Committee of Council on Education, inclusive of the school fittings and the extra cost of the excavations that will be entailed by the nature of the soil, is 1,900*l.* The building will be of Gothic design, of common red brick, interlaced with bands of blue bricks to give relief; and will accommodate about 800 children. The boys' and infant schools will be on the basement floor; the former being 42 ft. by 30 ft., and the latter 51 ft. 6 in. by 20 ft. There will be separate entrances to these, and also to the girls' schools, which are to be situate on the floor above. To each school will be attached class-rooms; and on each floor there will be lavatories and other conveniences. The girls' schools are to be divided by a moveable partition, which can be easily shifted, and the two converted into one large room, to be used for tea meetings and other public purposes. On the basement floor the requisite appliances for cooking will be supplied.

North Shields.—The additional Roman Catholic schools, in Nelson-street, North Shields, have been opened. The first school was built by the late Rev. Thomas Gillow, twenty-four years ago. It was capable of holding 200 children; but it has long been too small, and on the 26th of July last, the foundation of an additional building was laid. The new building is on the south side of the old one, and fronts into Cecil-street, having a good piece of playground in front. The architect was Mr. Thomas Gibson, North Shields; and Messrs. Honeyman & Son were the builders.

STAINED GLASS.

Gorton Church (*near Manchester*).—A stained-glass window has been erected in this church by Mrs. Grimshaw, of Woodland Bank, Stockport, to the memory of her late husband, Mr. Geo. Grimshaw. It is in one opening filled with rich borders and canopy work. The subject is the Raising of Lazarus, with the text, "Lazarus, come forth." An inscription running across the base of the window shows the object of its erection. The window was the work of Messrs. R. B. Edmundson & Son, of Manchester.

St. Thomas's Church, Oxford.—A window has just been erected in this church, to the memory of the late Mrs. Skene, of Frewen Hall. The window contains on the right light a figure of our Lord, as represented in Rev. ii. 12, standing between the seven candlesticks, and bearing the seven stars in His right hand; His feet resting upon an altar. This is intended to symbolize the Church Militant. In the other light, which represents the Church Triumphant, is the figure of a "Bride adorned for her husband" (Rev. xxi. 2), attended by angels, and bearing in her hands a picture of the new Jerusalem. The artists were Messrs. Clayton & Bell. The subject, we believe, was chosen to harmonise with the east window of the aisle to which it comes next, and it is hoped that eventually all the windows in this part of the church may be filled with a series of apocalyptic subjects.

Staindrop Church. The new memorial window to Henry second Duke of Cleveland, in the old church at Staindrop, is now finished. The stone-work was executed by Mr. D. Harworth. The window contains five lights, with tracery, under an elliptic arch, and is adorned with copies of the subjects which were in the same window in the year 1314. These have been discovered, through the exertions of the Rev. James Hodgson. The figure of the Saviour forms the centre light, and in the right are full-length representations of St. Ambrose and St. Jerome. The other two lights contain figures of St. Augustine and St. Gregory. On the upper part of the window are seven shields, bearing arms, and representing the shield of the Duke of Cleveland, Neville De Ros, and Dacre. The glass was supplied by Messrs. Clayton & Bell.

York Tea Church, Blackwater. — The east window of this church has this week been filled with stained glass. In the centre light is introduced the subject of the "Ascension;" in the dexter light, "Raising of Jairus's Daughter;" and in the sinister light, "Suffer little Children," &c. This window has been placed in the church by Captain E. A. Anderson, of the 18th (Royal Irish) regiment, in memory of his wife, who died 15th April, 1861, an inscription to this effect being inserted on the stone sill immediately under the window. The artists were Messrs. Heaton, Butler, & Bayne, of London.

WORKING MEN'S EXHIBITIONS.

EXHIBITIONS of the hand-work of the industrious classes appear likely, for some time to come, to prevail, both in the metropolis and in many of the provincial towns; it is, therefore, a matter of great importance to consider if the arrangements of these exhibitions are such as are best calculated to improve materially our art manufactures. Take, for instance, the recent collection in the Agricultural Hall, Islington, and let us—while admiring the motives which caused it to be brought together and praising much that it contained -glance at the effect which this exhibition was likely to produce on the exhibitors and visitors.

In many departments there were remarkable displays of ingenuity and patience, and most of these were effected in a line of work to which the authors had not been regularly educated; moreover it was to be noticed that there were not many works of invention shown which will be of eminent usefulness: this may have been in part caused by fear on the part of inventors that their plans might be taken up without proper care for the discoverers, and in some cases there would be a want of inclination or means to defray the charges of the Patent Office. For the full success of such expositions as this, and even in connexion with the greater gatherings of the world's industry, changes in the law of patents and the registration of designs are needed. It proceeded, however, more especially from the fact that people are rather prone to dabble in attempts to show their skill in other ways, than to strive for perfection in their own especial branch.

In certain instances a versatility of talent has advantages, and leads at times to important results. It may be shown how ship-carpenters, joiners, sailors, and blacksmiths, have become skilled painters, and some who have "whistled at the plough," famous men of science, poets, and philosophers. These instances are encouraging, but it should be remembered that they are but few in number, even in the course of a century. Gladly should we hear that the Islington exhibition had been the means of directing the attention of some to a more brilliant and valued kind of labour than that on which they had been previously engaged; but it seems to the writer that a chief aim of such meetings as this has been too much overlooked. Many would have liked to see architectural carvers in stone and wood striving, in their leisure hours, to produce the very best work they could, in both design and execution, and not branching into other directions, and showing at the best but indifferent attempts; and it would have been more useful if the makers of musical instruments had devoted the strength of their ability to productions of that kind instead of to carvings in wood and stone. It is not our wish, in the few remarks here made, to throw damp on such gatherings which, besides many other advantages, are the means of bringing various classes together; but with an earnest wish to get the ingenious into a right working channel, we throw out this hint—to the young men especially who are engaged in artistic and skilled manufactures, —and urge them to produce good work in their particular crafts. A year or more will elapse before there will be another exhibition of this kind in North London. There are the long nights of winter coming, when they might be thinking over their intentions. Let those who are engaged in branches where design is needed, avail themselves of the artistic books in the Mechanics' Institutions, or in the schools for art instruction, in various parts of the metropolis available, or in the Kensington Museum, and then let them see what they can do in their own way. If this course be followed, we predict an exhibition on another occasion of quite as much general interest as the last, and of far more utility.

It should be one of the chief advantages afforded by such exhibitions, that those who are beginning life in various paths should be able to show examples of their ingenuity and work, and that employers of labour should go there with a practical intention.

On Wednesday evening last a meeting was held at Allen's Riding-school, Bryanston-square, for the purpose of affording information and obtaining support for a proposed scheme of a working men's industrial exhibition for Marylebone. The Right Hon. W. Cowper occupied the chair, and opened the business of the evening. The meeting was also addressed by the Rev. Eardley Wilmot, who represented the central committee for carrying out the exhibition, and he explained the opening of the undertaking, and the means by which they proposed to carry it into effect. The following resolution was adopted:—"That this meeting cordially approves the proposed Working Men's Industrial Exhibition for the borough of Marylebone, and pledges itself to use every exertion to make it a success." A district committee was subsequently appointed, and arrangements were made for providing a guarantee fund to meet the necessary expenses.

SANITARY STATE OF TOWNS.

As we predicted in the course of the extraordinarily dry summer, the health of the community is now suffering from a very general prevalence of fevers. Of course, where such diseases normally prevail, the evil shows itself in an increase, though not in an origination, of the fever.

Such is the state of some parts of Liverpool, that the Privy Council have sent down Dr. Buchanan, one of the physicians to the London Fever Hospital, to investigate the matter. In their letter to the local authorities, their lordships state that "they find from documents which, at their request, have been supplied by the Worshipful the Mayor of Liverpool, that epidemic fever has, for a very considerable period, been prevailing in that borough; that for two years past the fever deaths have been, in proportion to population, more than have occurred in any town in England, so far as their lordships are aware, since the famine fever of 1847; that within the last few weeks this already excessive mortality has all but doubled its weekly average; and that there is reason to fear, as winter approaches, a still further extension of the disease. Their lordships consider it of great public consequence that the causes and circumstances of so serious an epidemic should be thoroughly investigated, and that nothing should be left undone which can be done to prevent its further ravages." The inspector has been very politely received, the parish and union authorities having resolved to facilitate his inquiries in every way.

At Lincoln, it is said that fevers and small-pox prevail in all parts of the city. A correspondent of the local *Chronicle* says on this subject,—"The Local Government Act is imperatively required; and although in the present peculiar stage of the sewage question it would not be advisable to decide upon any definite system, yet we ought to be in a position to avail ourselves of its powers, and act upon them without delay, for it is life or death. Our present pretence of drainage could not be worse, and in no village of savage Africa, or town in Germany, is there such carelessness and filthy unconcern, such wanton neglect and suicidal wastefulness, as is to be found in this city."

At Canterbury scarlet fever is very prevalent. Some families have lost three or four children, and in almost every street half-closed shops are to be seen. As many as ninety cases of fever are reported to have occurred in one parish within a short period, and the epidemic appears to be rather on the increase than otherwise.

SANITARY STATE OF MARYLEBONE.

THE monthly report of the health and climate of St. Marylebone, during July, August, September, and October, 1864, by Mr. John Whitmore, M.D., the new medical officer of health for the district, has been printed by order of the vestry. From this report it appears that the total deaths in the parish from all causes during July, August, September, and October, amounted respectively to 330, 288, 295, 319, which were less in the aggregate by 19 than those of the corresponding months of the year 1863. The deaths from diarrhœa for the same period amounted to 126, of which no less than 112 were amongst infants and children, under the age of five years, whilst the returns from eleven charitable institutions in the parish give the large number of 4,335 cases under treatment for the same complaint. Diseases of the zymotic class generally have ranged high during the past four months: 316 persons have died from them, of whom small-pox destroyed 5, measles 30, scarlatina 43, and typhus and typhoid fever 33. "In former years," remarks the reporter, "the mortality and sickness in London and other large cities and towns, were highest in the summer months, arising principally from the prevalence of fevers and other diseases of this class; but the legislative enactments of late years, in regard to sanitary measures, have effected a great change, and we now find that the highest mortality prevails in winter. Still, the ravages from what may be termed preventible diseases in this parish are so obvious, as shown in the figures here quoted, that, beyond the facts before us, little else is needed to stimulate all who are engaged,—officially or otherwise, to persevere in the work of social and sanitary improvement."

THE MOSQUE AT HEBRON.

To get rid of a standing argument against some of his expressed opinions, Mr. James Fergusson has been to Syria; and, asone result, has given in the *Times* an account of his visit under fortunate circumstances to the long-hidden sanctuary at Hebron. We repeat his description of the mosque:—

"The first glance of the court-yard on entering is certainly disappointing. It is surrounded on three sides by low buildings, wholly destitute of architectural ornament, and without even a respectable moulding. Externally they are of stone; but internally the walls and roofs are plastered and whitewashed.

In two very small chambers in these buildings are placed the cenotaphs of Abraham and Sarah. The real tombs,—if they exist,—are of course in the cave below the floor. Those which are shown are covered with curtains of silk, green and red respectively, richly embroidered with gold. They are however, very much faded, and never could have been either so rich or so beautiful in design as that which covers the tomb of Neby Daoud at Jerusalem. Like the building which covers them, and all those which surround the court, the cenotaphs were placed there by Nazivel Malik ibn Kalaoun, the Sultan of Egypt, in 732 Hegira, A.D. 1331.

Having satisfied myself regarding these, I at last crossed the threshold of the mosque, and a few seconds sufficed to reveal its history. It is a Crusaders' church, built after the 6th crusade, A.D. 1228. The clustered piers,—there are twelve shafts to each, -and the form of the vault of the roof preclude the idea of its belonging to the first kingdom of Jerusalem. If we take 1250 as a mean date, it cannot be many years from that either way. The length from the door to the altar is 70 ft.; the width across, 97 ft. It consists of a nave with a clerestory, supported by three very irregularly-spaced pointed arches; and beyond the nave, on either hand, a low aisle, the outer wall of which is identical with the old Jewish wall of the harem. The roof is a pointed vault of intersecting arches, of the form universally prevalent in Italy in the thirteenth century.

The most beautiful thing in the mosque is the pulpit. According to a Cufic inscription on it, it was originally made for a mosque at Askalon, and finished in A.H. 484, A.D. 1091,* and tradition says was brought here by Saladin. There is a similar pulpit in the Aksa at Jerusalem, nearly a century later in date, and neither so elaborate nor elegant as this, which is without exception the most beautiful specimen of wood-carving I am acquainted with. It also interested me to find that both these were in the same style as the cathedral gates made about the same time for the tomb of Mahmoud, of Ghuznee, which Lord Ellenborough brought away in triumph under the mistaken notion that they had once belonged to the temple at Somnath."

"On the north side of the court are two small apartments containing the cenotaphs of Jacob and Leah. They are of the same style as the other buildings of Ibn Kalaoun, with this difference, that there are two small domes on the range of buildings which contain them, which are the only domes in the place."

"When I had completed my notes, and my pulse had become steady after the excitement of the morning, I turned to an old cavass, who was smoking in the passage, and expressed a desire to go and visit the city. He readily agreed to accompany me, and preceded by him, and followed by my own servant and a horse-keeper, I sallied forth."

"When I reached the mosque I was allowed to examine and measure all the accessible parts, not only without obstruction, but without being annoyed by pressing curiosity. The conclusion I arrived at from this part of my survey was

* I am indebted to the extracts from Mahomedan authors, contained in a *brochure* published by Dr. Rosen, the Prussian consul at Jerusalem, for several of these dates. They are amply confirmed by the architecture.

that the outside wall is undoubtedly Herodian of the same age, indeed, as the Wailing-place of the Jews and other portions of the substructure of Herod's Temple. Here, however, the stone is better and more uniform in texture than at Jerusalem, and consequently better preserved; but there does not seem a shadow of reason for supposing that the Jews ever erected such a building before the Romans infected them with their megalithic propensities."

Mr. Fergusson tells us that his examination of the localities at Jerusalem was tolerably exhaustive, and he has come back more confirmed than before in the correctness of all he has written or said with regard to the Holy Places. He has nothing to unsay and very little to add.

THE BUILDERS' BENEVOLENT INSTITUTION.

On Thursday, the 24th ult., a general meeting of the friends and subscribers of this charitable institution was held at the London Tavern, Bishopsgate-street, to elect three pensioners (two males and one female) on the funds of the Society. Owing to the absence of Mr. Thomas C. Lucas, the president, through indisposition, Mr. Joseph Bird was unanimously voted to the chair. Among the gentlemen present were Messrs. Plucknett, Dines, Hutcheons, Phillips, Ebbs, jun., Joseph Bird, W. Todd, G. M. Hall, R. Richardson, G. Head, J. R. Head, Hubbock, J. G. Howard, G. Hibberd, &c. &c.

The Chairman in opening the proceedings, said they had assembled for the purpose of electing three additional pensioners upon their funds, and regretted that they were unable to elect more of the candidates who then presented themselves, they already having thirty-six recipients of the benefits of the institution. He would not further detain the meeting, but at once declare the poll open.

On the return of the scrutineers, Messrs. Cozens and Stirling, after the close of the poll,

The Chairman announced the following as the successful candidates:—

George Merrion, aged 70, of Hoxton, who had suffered from losses in trade, and was greatly afflicted with gout, which rendered him unable to work for his living.

J. S. Wilson, aged 71, of Kingston-on-Thames, who was unable to earn his living through rheumatism. He had been ten years a subscriber to the Institution.

Clarissa Smith, aged 70, widow of the late George Smith, builder, of Puttenham, near Guildford, Surrey. She is blind, and had no means of support but what she received from her relations.

The Chairman, in allusion to those candidates who had on that occasion been unsuccessful, said that through the energy and kindness of their president, Thomas C. Lucas, esq., the donations at their last annual dinner had exceeded any former year, and he therefore had little doubt, but that in May next there would be another election. He found that at this election there were a great number of votes unrecorded, amounting to some thousands, and it was, therefore, necessary that a little more exertion should be used on the part of the candidates to ensure a return.

Some votes of thanks closed the proceedings.

ISLINGTON INSTITUTIONS.

The profit, about 1,110*l.*, which has arisen from the Industrial Exhibition in Islington, is a satisfactory fact, and shows that by means such as this funds may at times be raised which might be devoted to the foundation of establishments which will be of permanent advantage to the working classes. It has been suggested that a part of this sum should be applied to assisting in the erection of a school of art. In Islington, notwithstanding the general intelligence and well-doing of the inhabitants, there has been comparatively little done to promote the welfare of the poorer part of the community. There are no public baths and washhouses in this large parish: there is no public library, where, even by payment, working men may procure books. It would surely be an easy matter to establish a free library there—similar to that in Manchester—and a portion of the fund arising from the exhibition might be usefully put towards the building of a place for this purpose, which might be erected by voluntary subscriptions, and then, if this were done, a rate of about a halfpenny in the pound per annum on the rental would serve to keep up and extend the library. It is worth consideration if it be not possible to have in a building, in some central situation, accommodation for a free library, a school of art, and a hall for popular lectures. The advantage of such an arrangement would be great; but, unfortunately, in the metropolitan parishes, there is a want of that spirit of emulation respecting public institutions which exists between towns. If we could but get that concentrated attention to these matters, in Islington, St. Pancras, Marylebone, and so on, which is paid by business men in Manchester, most satisfactory results would be the consequence.

THE CAB FARE ACROSS HYDE PARK.

Some cabmen, it seems, still choose to assert their right, when they take a fare through Hyde Park, going, say from Chelsea to Hyde Park Gardens, to charge as if they had travelled round by Park lane. They should be warned in time that they have not this right. We have before us a correspondence between Mr. S. Lahee and Lieut.-col. Paschal, on the part of Sir R. Mayne, ranging from May 20, 1863, to the 20th of October, 1864, during the whole of which long time Sir Richard was promising that measurements should be taken, and the tables of fares revised to meet this difficulty. On that last date Col. Paschal informs his correspondent, that "a table of distances and fares across Hyde Park to points on the north side has been fixed at the standing near Queen's-gate, Kensington, and that another is ready to be fixed at the standing near Hyde Park Gardens, giving the same information to points on the south side." Mr. Lahee naturally asks whether these will be deemed sufficient notice to *all* cab-drivers, and whether all cab-fares, shortened by the new road, whether from these stations or not, will be affected by them; and he can get only the unsatisfactory reply that the magistrates must decide when any case is brought before them! Surely we ought to have the matter put at once on a better footing than this.

SUBMARINE AND OTHER FOUNDATIONS

An arrangement proposed by Captain Heathorn, R.A., has for its object improvements in the construction of foundations in deep water, under the circumstances of a level, shelving, or sloping bottom of a varying density, possibly covered with mud, or shingle.

His method of constructing the foundations for such structures upon a level bottom is as follows:—A caisson of annular construction, but so shaped as to give the space it encloses a conical form, is made of sheet-iron: the bottom portion is floated out to sea exactly over the spot upon which the building is to be erected, and there anchored: concrete is then placed in the caisson, so as to cause it to sink equally; and as soon as it is sufficiently deep in the water, an additional height of the caisson is fixed, and more concrete placed therein to sink it deeper. This operation continues until a firm foundation is obtained by the weight of the caisson, with its interior filling of concrete causing it to sink through the mud or other soft ground to the hard ground beneath. The interior is then filled up with stone or concrete, upon which, and the concrete in the caisson, the superstructure is erected. For shelving or sloping bottoms the caisson will bear only upon the highest side of the same, and to preserve the perpendicular of the caisson, immediately it touches the hard ground stones are placed in the interior of the caisson, which will naturally settle themselves in such position as to form a wall underneath that portion of the caisson which does not touch the hard ground, thereby forming a foundation upon which the caisson may rest.

"MEND YOUR WAYS."

A correspondent writes,—"Nothing can be more desirable than your suggestions on this subject in your last number; but will you kindly consider the situation of hundreds of occupants of houses of moderate and small size in many of our streets, in which there is *no male resident*, or, if there be any, their duties as clerks in offices and shops quite prevent them from handling the broom and shovel daily. Surely it would be far better that the duty should be performed by the *parishes*, and a *small* rate levied for the purpose."

Of course, we do not contemplate occupants handling the broom themselves. There are plenty of unemployed boys to be found.

METROPOLITAN BOARD OF WORKS.

THE CHARGES AGAINST THE BOARD.

At the last weekly meeting of the Board, Mr. Freeman called attention to the evidence respecting the Board given before Lord R. Montagu's committee, and to the statements made in public vestries relating thereto. He complained that charges had been made against the Board, not only of want of wisdom and discretion, but actually of conduct that was not honourable. These charges were made before a committee of the House of Commons, certified by two members of the Board, taken up by some men of mark in various vestries, and thrown broadcast over the whole length and breadth of the metropolis. That showed the necessity for inquiry by the Board, for the purpose of giving to the public the most calm and dispassionate answer they could furnish. If they remained longer silent they would be unjust to themselves, to those who sent them there, and to the principle of local self-government, which they were supposed to represent. He denied that the Board had acted unjustly, or that they had squandered the public money. He thought the time had come when a committee should inquire into the matter, and send forth to the public an answer that would show whether they had done injustice. He moved, "That the evidence and reported statements before Lord Robert Montagu's committee be referred to the Main Drainage Committee for consideration and report."

Some discussion arose on this motion, and the previous question was moved; but the amendment was negatived by a majority of 22 to 10, and the motion was carried by a majority of the same number.

There was no escape from this inquiry, as we said not long ago.

PLYMOUTH.

A correspondent informs us that, among other local improvements, a terrace of seven first-class houses is being erected on a field adjoining the Esplanade, and fronting the Hoe. A main street has been constructed through the property direct to, and with an entrance for foot-passengers on, the Hoe; thus affording a direct approach to this much-to-be-admired public promenade from the west end of the town. The land for the terrace was purchased some time since by Messrs. Call & Pethick, contractors, of Plymouth; and the houses are being built in accordance with designs supplied by Mr. W. H. Reid, architect, the surveyor to the estate. The outlay will not be less than 20,000*l.*; and as the object of all parties concerned is to supply the long-felt want of superior houses with accommodation for large establishments, it is to be hoped the views of the promoters will be fully realized. It was originally intended to restrict the terrace to private residences; but an offer having been received from the committee of the Royal Western Yacht Club, to purchase one house for the use of the club, the restriction was withdrawn. The architect for the internal arrangement of the club-house is Mr. O. C. Arthur; and, although the original elevations, prepared by Mr. Reid, have been subjected to some modification, consequent on the difference in plan, the architecture of the terrace remains unaltered.

STRIKES AND COMMERCIAL COMPANIES.

At the opening meeting of the Society of Arts, the Chairman of the Council in his address, said:—

In connexion with the progress of our manufactures and the prosperity of the working classes, the Society has also given its attention to the question of strikes, the existence of which in the aggravated form lately exhibited in Staffordshire, notwithstanding the great improvement which has taken place in the education of the people, proves that something is still wanting to afford them individually and collectively a true knowledge of their own interests. This subject will, I hope, be again brought before the Society during the coming session. It appears to me that the legislation of the last two years, with regard to commercial and manufacturing companies, opens to working men an entirely new relationship to their employers, which requires much consideration and the special attention of those who direct the education of their children. The large number of industrial establishments hitherto entirely under the control of

individuals, but which have recently been formed into joint-stock companies, with limited liability, will I hope be the means of gradually preventing the recurrence of those differences between the employers and the employed which have been prolific in causing mischievous combinations of workmen, and led them to follow the *dictum* of self-constituted committees, whose object appears to be the attainment of irresponsible authority over their fellow-workmen, rather than the real and permanent welfare of the class to which they pretend to belong. Hitherto the workmen have seen their employers accumulate vast capital, increase and extend their works, and live in almost princely style, upon profits derived in a great degree from their constant toil, and the intelligent exercise of their labour; whilst their own position, from the day they commenced life to their maturer years, has scarcely been improved. They still live in the same ill-ventilated, incommodious, ill-drained houses, in which it is almost impossible for them to maintain their families in health or decency; and perhaps, with the exception of obtaining better education for their children than they could get themselves when children, they are relatively in a worse social condition than their fathers were before them. Such facts, apparent to all, afford to the demagogue ample means and opportunity of exciting feelings of jealousy and distrust between workmen and their employers. Rightly or wrongly, they look at the one practical result, that the employers of labour year by year improve their social condition, whilst they see no prospect whatever of any similar advantage being enjoyed by themselves. Under the law of 1862, the great manufacturing and trading companies recently organized must prepare properly authenticated balance-sheets, and thereby enable the workmen to know the exact results of their labour to their employers. Should these results be highly remunerative, and large profits be realized by the union of the capital and intelligence of the master and the skilled labour of the men employed, it will, I think, be difficult for the directors of such companies to avoid considering in what manner they can distribute amongst all connected with such establishments some proportion of the profits obtained. At all events, it will afford fair ground and ample knowledge upon which the workmen can press their claims before the directors, who, if they cannot meet them by reason and sound argument, will subject themselves to an amount of disaffection among their men which must ultimately end in the workmen endeavouring to enforce their reasonable requests by declining to work for such employers.

THE SCALE OF ARCHITECTS' CHARGES.

SIR,—I was sorry to see in the opening address of the president of the Institute some incorrect statements respecting "scales of charges." Mr. Donaldson says,—

"I have observed with regret that some of the provincial societies, instead of strengthening their own position and that of the profession generally by accepting in its integrity the scale of professional charges adopted, after the most painstaking and deliberate investigation, by this Institute, have sought to publish a distinct scale of their own, founded generally upon that of the Institute, without acknowledgment, and introducing modifications of purely a local nature. This is a sad mistake. . . . . The provincial table, deprived of the sanction of the great central body, and resting only upon the authority of a limited circle of professional men, cannot have the same weight as the code of the Institute."

Now here, sir, is a remarkable series of errors, which in the interest of truth and in justice to the "provincial societies," I wish to point out in as few words as possible.

1. The only scale of charges published by "a limited circle of professional men," is the scale published by the Northern Architectural Association; and as it was published October 18, 1861, before the Institute scale (January 27, 1862), it cannot be "founded generally upon that of the Institute without acknowledgment."

2. If Mr. Donaldson means the scale drawn up by the Architectural Alliance, July, 1863, it was not published at all, but only circulated among the members of the Alliance, "with a request that they will consider the same, and return it to the secretary of the Alliance with any alterations they propose."

3. The only scale "published," "on the basis of the Institute scale," is the one published by the Alliance after their annual meeting, July last; and this is not "without acknowledgment," for it is headed "Scale," &c., "as confirmed at the special general meeting of the *Royal Institute of British Architects*, held 13th and 27th of January, 1862, and *adopted by the Architectural Alliance*, at the annual meeting, July 6, 1864, with the appended note."

The Provincial Societies, therefore, instead of undermining the influence of the scale, as Mr. Donaldson asserts, have added *immensely* to its influence, as the Alliance which comprises them does not consist of a "limited circle of professional men," but numbers 850 members, from every part of the kingdom; whereas the Institute numbers, of all classes of "Fellows," "Associates," "honorary and foreign members," "students," and "visitors," only 502.

I may here take the opportunity of correcting the impression which some of the great men in the Institute have, that the Alliance is a *rival* to the Institute: it is no such thing. All the officers of the Alliance are also Fellows of the Institute, and have, since the Alliance was established, obtained from among its members many Fellows and Associates for the Institute. The Alliance is established to *supplement* the Institute, and do work which, by its exclusive constitution, the Institute cannot do.

The Institute has this year admitted that its country members should have some share in its government, and have decided that two of its council shall be elected from among its country members. Let them extend the principle to its legitimate extent, and elect on the council members from the country in proportion to the number of country members, and allow them to vote by proxy, and I, as one of the promoters and officers of the Alliance, should be happy to see the Alliance delegates merge into the Institute council.

J. P. PRITCHETT.

TO CLEAN CROOKED FLUES.

YOUR correspondent, "An Old J.P. and D.L.," would probably find, as I have done, in old houses, great advantage in cleaning his flues by having a machine of his own, constructed with an iron wheel, to assist the same over flat "gathers," but worked from the top instead of the bottom, a heavy iron bull and rope being first let down, and the machine worked up and down by a man at the top and another at the bottom, a rope being, of course, substituted for the usual rods. Your correspondent might first try the effect of this with a branch of holly and a 14 lb. weight, the holly being a far better sweeper than the whalebone machine. Soot-doors, of course, would dispense with the need of this; but if the gathers are flat where passing through rooms, they are very unsightly; but, generally speaking, a soot-door in the roof will enable the sweep to clean any flue, only sometimes he leaves it open. The machine and rods, even if they get round a flat gather, generally bind tight on the top surface, and do little good to the bottom. Instead of sweeping the flues every "four or five weeks," I think that they must be bad indeed, or pinched somewhere, if "holly-bushing" them once a year will not keep them clean. Probably the mortar dropped from the top when building them now lies on the gathers; and the boys who may have been sent up to clean the same when the house was just finished dared not, I know, force the mortar past themselves, for fear of being wedged by it at the waist. The holly-bush will remove this.

A YOUNG ARCHITECT.

MUSIC PICTURES.

IT gives me great pleasure to see you have found space to call attention to the above subject, in which there is so much room for improvement; for if a piece of music is worth illustrating, it is surely worth illustrating well—a thing, I am sorry to say, rarely done, the generality of studies one sees in the windows of music-vendors being in all points bad, very bad: it is lithographically bad, the drawing is bad, and the colouring in many instances worse. The best specimens appear to be those in which there is nothing but the title, in colours, perhaps, sometimes with illuminated capitals; but this kind is seldom met with. There are, perhaps, few things in which worse taste is shown than in this same music illustration. What, for instance, can be worse than this: a scene from a play or opera is depicted, and across this—diagonally, perhaps—is written, in large characters and vivid colours, the title of the piece. This kind may be nearly always seen. Surely, in this age of chromolithography, the cost of good drawing would be very little more than that of the rubbish now published; but I am afraid the publishers will not pay that little while they have critics no more severe than the generality of music purchasers are likely to be; so that if through the medium of your valuable publication a better state of things could be arrived at, it would be another case to swell the list of those in which you have been the means of bringing about a lasting improvement.

The only objection I find it possible to make to your article is, that it is not half so severe as it might have been; but you are, doubtless, wishful to exercise a Christian forbearance when called upon to point out any crying evil; so tempering justice with mercy. E. W.

NORTHERN ARCHITECTURAL ASSOCIATION.

AN ordinary meeting of this Association was held on the 22nd ult., in Newcastle-upon-Tyne, Mr. Pritchett, V.P., in the chair. The chairman briefly stated the proceedings that took place at the last meeting of the Architectural Alliance. Some time had been occupied at the meeting with fixing the scale of charges, but it was also agreed that no architect should be considered as having infringed the rules of the Association, though his charges might not be exactly the same as those that they had agreed upon. The Nottingham Association was received into the Alliance. The meeting then proceeded to the election of the office-bearers for the ensuing year as follows:—President, Mr. Dobson; vice-president, Mr. F. R. Wilson; honorary treasurer, Mr. Johnson; honorary secretary, Mr. Oliver; honorary solicitor, Mr. G. W. Hodge; committee, Messrs. Howison, Dunn, Moore, Pritchett, and Peachey. It was then resolved that the Association at present suppress its own scale of charges, and that the charges recommended by the Institute be used in the mean time. Mr. Oliver read a paper on "Ventilation," for which thanks were voted.

COMPETITIONS.

Tenterden.—The Local Board of Health, having taken the opinion of a consulting engineer upon the plans, sent in competition some months ago, for the drainage and water-supply of this town, have selected those submitted by Mr. Benest, of Norwich, and have awarded him the premium.

RATING PROPERTY.

RIGHT TO DEDUCT SEWERS RATE.

IN the case, Hall Dare *v.* The Overseers of Wennington, Essex, the question relating to the right of deducting sewers taxes from the rateable value of premises occupied by the owner, is considered of general importance in cases of rating. We, therefore, give a report of the judgment of one of the Judges, which sets forth the legal grounds of the judgment in favour of the appellant, and allowing the deduction.

Mr. Justice Shee said,—I am of the same opinion as the other members of the Court—in favour of the appeal. The appellant, who is the owner and occupier of 400 acres of land in the parish of Wennington, has been rated for them on an estimate of their value, in which no account has been taken of the annual charges to which they are subject in respect of the sewers rate; and the question is whether he is not entitled to have the estimate reduced by the amount of those charges. This brings us to the construction of the 6th and 7th William IV., cap. 96,—the Act to regulate parochial assessments, by the first section of which it is provided that the rate shall be made upon an estimate of the net annual value (*i.e.*, the value above all charges) of the hereditament—that is to say, of the rent at which the same might reasonably be expected to let from year to year, free of—*i.e.*, disregarding, or without taking into account—usual tenant's rates and taxes and tithe commutation rent-charge, if any, and, *&c.*, but deducting therefrom—that is, from the net annual value or rent, as before explained—the average annual cost of repairs which fall upon the landlord, unless under express contract between him and the tenant the tenant is to bear it; insurance, which also falls upon the landlord, and other expenses—*&c.*, as I read it, outlay on the premises necessary to maintain them in a state to command—that is, to be worth—such rent. The scheme of the Act is to ascertain the net annual value of the hereditament, whether let to a tenant or not, as a basis of the assessment, and to deduct from that net annual value the average annual cost of repairs, insurance, and landlord's outlay to keep the hereditament up to that net annual value. "Rex *v.* Adams" (1 *B. & Adol.*). On these grounds I am of opinion in favour of the appellant.

DEATH FROM LEAD POISONING.

A CORONER'S inquest has been held on the body of a woman who had been employed at a white-lead factory in Limehouse for four months. When first engaged she was in good health, but she soon became ill. Her joints became weak, her teeth turned black, and she got palsied. She then was unable to work all the days of the week, and at length could not go to the factory at all. She was then seized with violent convulsions, and died. One witness said there were about twenty females employed at the factory. The hours were generally from six to six; but sometimes there was overtime, and they worked till nine, or even eleven o'clock at night. The females employed were for the most part young, but one person had been ten and another fifteen years in the factory.

A juror said that he knew numbers of healthy young women who were completely poisoned and "used up" in three or four years in white-

lead factories. A few only became acclimatised to the poisonous atmosphere.

Dr. Arnold said that he told deceased, while ill, that she was suffering from lead poisoning, and that her death was inevitable unless she gave up her work at the factory. She said that she had an aged mother to support as well as herself, and that she had no choice but to go to the factory or starve. Her death resulted from lead poisoning, accelerated by want of food. Doubtless she was rendered unable to take or eat sufficient food by the state of her teeth and gums, &c. from the poisoning of the blood. Some constitutions gave way under the action of the lead poisoning much sooner than others.

The jury returned a verdict "That the deceased died from the poison of white-lead, and that her death was accelerated through want of food, which the action of the poison rendered it difficult for her to take; and the jury are of opinion that, considering the deadly nature of the occupation, the hours of employment in white-lead factories are too long; and also that it would be desirable that there should be a systematic inspection of such establishments by a Government officer."

IRELAND.

Dublin.—The new Presbyterian church in Rutland-square has been opened. The edifice is in the Early English style, and occupies a frontage in Rutland-square of 62 ft., and measures from front rear, in North Frederick-street, a depth of 160 ft. The stronger portions of the building are constructed of Dalkey granite, and the ornamental columns, &c., of Portland stone. The quoins of the spire, which is octagonal, are constructed of Portland stone, and carved. The tower is pinnacled. It contains two-light windows, fitted in with slate louvres. The turret is about 100 ft. high, and the spire rises to a height of 180 ft. in all. Entering the church the vestibule is first reached. It is lighted by a stained-glass window in front. The flooring is of encaustic tiling. From the left a staircase leads to the gallery, which is fitted up to accommodate about 100 persons. Above it is a memorial window. It has six lights, and is filled in with stained glass. Gothic tracery fills the upper, and various texts and an inscription are depicted on the lower portion. The first, third, fourth, and sixth lights have a number of the beatitudes inscribed on them, and texts. Running along the lower part of the window, inscribed in coloured old English characters, is the line:—"This window was erected by the congregation of Mary's Abbey, to commemorate the munificence and perpetuate the name of Alexander Findlater, the founder and donor of this church." Mr. Ballantine, of Edinburgh, was the artist. From the vestibule doors open into each of the two aisles of the church, with their rows of pews on each side, capable of accommodating about 900 persons. The pews are constructed of red deal, stained and polished in imitation of oak, and each is ornamented in a *fleur-de-lis* end, differing alternately. The roof, which is about 80 ft. high, is groined in wood, and formed by numerous diagonal beams intersecting and resting upon pillars of Caen stone in groups of columns. A rose window, nearly 19 ft. in diameter, the work of Mr. Ballantine, is placed directly over the pulpit. Three stained-glass five-light windows are placed along the right side of the church; but there are none to the left, the existence of a building outside effectually preventing such a desideratum. Hot-air pipes are run along under the flooring of the building, and perforated plates above them, for heating purposes. Messrs. Edmundson & Co., of Dublin, have erected the gas-fittings. They consist of a series of coronas of polished brass, with thirty lights each. Below the church is an extensive school-room, 62 ft. long by 52 ft. wide, and at the farther end is a suite of rooms, including a large apartment for congregational purposes, with session and minister's rooms. Mr. A. Heiton, of Perth, was the architect; and Mr. Bolton, of Dublin, the builder. The estimated cost was 10,800*l.*; but the final cost has been upwards of 16,000*l.*, the whole of which has been defrayed by Mr. A. Findlater, of Dublin.

Iron Bridges for Servia.—Prince Couza has granted to an English company the concession for the construction of six iron bridges over the principal rivers in Servia. They are to be completed in three years.

RECENT PATENTS CONNECTED WITH BUILDING.*

Improvements applicable to Chimney-Tops and Ventilators.—*G. F. Chantrell & J. Reymond.* Dated 18th March, 1864.—The objects of this invention are to obtain an upward current in flues, and to prevent down-draughts therein; and a convenient mode of manufacturing the said chimney-tops and ventilators from clay, terra-cotta, and plastic or other material usually formed in moulds. A chimney-top or ventilator, constructed according to this invention, may consist of an octagonal, circular, square, or other suitably-shaped vertical hollow shaft, which the patentees prefer to enlarge at the base, and from near the bottom of which are formed three, four, or more air-passages, which extend obliquely upwards from the exterior of the base of the shaft, and open into the interior thereof at about say one-fourth the height of the shaft. The upper portion of the shaft they surround by a casing of larger internal area than the exterior of the shaft, and which tapers upwards, and is domed or otherwise contracted at the top above the main vertical shaft, to have an internal opening of equal or nearly equal area to the opening of the shaft. This outer casing they divide internally into eight, or any other convenient number, of vertical passages, by means of vertical diaphragms or partitions; these air-passages are open at the bottom, and extend above the edge of the vertical shaft within the same, or contracted head of the casing. The upper edge of the casing they surmount with a spiked or other suitable circlet.

Producing and Burning Combustible Gases for Heating and Lighting Purposes.—*F. J. Arnoldt.* A communication. Dated 19th February, 1864.—This invention consists, first, in constructing apparatus for producing combustible gases for heating or lighting purposes, of an upper and lower chamber in close contiguity, heated in any suitable manner, in the lower one of which chambers steam is decomposed by being made to pass through highly heated substances, with which the oxygen of the steam combines, while the liberated hydrogen is made to pass into the upper chamber, there to combine with carbonaceous gases resulting from the volatilisation of oil or liquid hydrocarbons introduced into such upper chamber, and whence the resulting combustible gases are conducted through one or more pipes either to burners situate below and serving to heat the apparatus, or to wherever required. Secondly, in the arrangement of apparatus for producing and burning combustible gases, as described.

A Machine to Press Bricks.—*A. Julienne & J. C. De la Combe.* Dated 25th February, 1864.—This invention cannot be described without reference to the drawings.

Artificial Stone.—*F. Ransome.* Dated 27th February, 1864.—Artificial stone has been manufactured by the present patentee by compounding sand and similar substances with soluble silicate of soda or potash, and then converting the soluble into an insoluble silicate by means of a solution of chloride of calcium, or other soluble salts capable of similarly acting on the soluble silicate. The chloride of calcium or other salt thus employed remains in excess in the artificial stone, and if it be afterwards dissolved out, either intentionally or by exposure to the weather, the stone is left slightly porous. Now, according to the present invention, he treats the artificial stone thus manufactured with a solution of such a nature as to decompose and precipitate an insoluble substance from the chloride of calcium, or other soluble salt, used to act upon the soluble silicate. The solution which he finds most suitable, and most commonly employed, is one of carbonate of soda, which decomposes the excess of chloride of calcium and precipitates from it carbonate of lime, which is deposited in and well fills the pores of the stone.

Piles or Cylinders for Piers, Embankments, Coffer-dams, etc.—*J. Phillips.* Dated 30th January, 1864.—This invention has for its object to render more or less perfectly water-tight the vertical joints, interstices, or spaces existing between metal piles or cylinders employed for structures that are wholly or partially under water, and consists in forming grooves, recesses, shoulders, or flanges upon the contiguous sides of such piles, and then inserting into such grooves or recesses, or against such shoulders or flanges, pieces of wood or other suitable material, so formed that the pressure of the water causes them to fit tightly against one or more surfaces of the grooves, recesses, shoulders, or flanges of two contiguous piles or cylinders, thereby preventing the water from penetrating through the joints, interstices, or spaces between the two piles to the back of the same. The patentee prefers to make the grooves in the piles and the pieces of wood to be inserted of a rectangular form, and he forms the lower extremity of the piece of wood with a double incline, so that, when driven into the ground in the said grooves, it is made of itself to press against the back surfaces of the two grooves and the side surface of one of them.

* Selected from the *Engineer's* lists.

Books Received.

The Domestic Service Guide. London: Lockwood & Co. 1865.

The comprehensive scheme of this work will be best and most briefly explained by quoting its full title. It is called "The Domestic Service Guide to Housekeeping, practical cookery, pickling and preserving, household work, dairy management, the table and dessert, cellarage of wines, home brewing and wine making, the boudoir and dressing-room, travelling, stable economy, gardening operations, &c.; being a handbook of the duties of the housekeeper, cook, lady's maid, nursery-maid, housemaid, laundry-maid, dairy-maid, butler, valet, footman, coachman, groom, and gardener; from the best and latest authorities, and the communications of families, in several hundred new receipts."

The author, we happen to know, is a most experienced and laborious literary man, and this is not the only work of its class issued by him; but his previous work has long been out of print as well as out of date in its information. The object of the present volume is to supply a book of information on domestic service, in which the best and latest notices of invention and discovery shall be made available for what the late Prince Consort once declared to be "the largest of all the classes of her Majesty's subjects in England,"—the class of domestic servants, now considerably above a million in number.

The work is no less adapted for the use of masters and mistresses than of servants of all kinds. It is well classified, and its information is made still more easily accessible by a good index. We are glad to observe that in each section special attention has been paid to health-giving and sanitary cautions and to adulterations of food, prevention of accidents by fire, and many other most useful and important subjects.

There are various minor improvements which might be made in a second edition, which the work will certainly not be long in reaching. Thus receipts might be given for other summer beverages besides ginger-beer, which stands alone in its class in the present volume. Lemonade, for example, is a preferable drink, but no receipt for it is given. Something should be said, under "Candles and lamps," as to the now very extensive use of petroleum oils among the middle classes. In a receipt for removing superfluous hairs, on page 205, we should advise a more clear allusion to the fact that one of the two receipts given itself contains arsenic, which substance is very properly reprobated as an ingredient in depilatories. And so on. The book will form a standard work of its class; and it well merits the attention of the public.

Lighthouses. By David Stevenson, F.R.S.E., M.I.C.E. Edinburgh: Adam & Charles Black. 1864.

This is a reprint from the Scottish periodical named "Good Words." It gives a condensed account of Robert Stevenson's Bell Rock Lighthouse, built in the years 1807-11, and of other lighthouses,—their modes of construction, illumination, and management. Of the Bell Rock Lighthouse we have already fully treated in the *Builder*. This small volume gives a popular and interesting account of it, by a relative of its well-known engineer.

VARIORUM.

"Letter to J. Thwaites, Esq., Chairman of the Metropolitan Board of Works. By James Knight, Surveyor." The author of this pamphlet has experimented on a small scale with sewage and other manures on land, and he is of opinion that neither the liquid nor the solid form is the most suitable, either for the soil or for farm practice; but that "slop," of the con-

sistency of new cheese, and capable of being conveyed in trucks, would be the best form of it for profitable application to the land, the filtered fluid from the sewage being run into the river. He recommends the adoption of such a plan for the southern sewage, and deprecates the scheme of Messrs. Hope & Napier as impracticable, and valueless to the ratepayers. The value of the metropolitan sewage in the form of slop, taken out to the country in railway trucks, and sold to farmers, he estimates at 80,000*l.* per annum; the quantity being calculated at 400,000 tons, and the price 3s. to 5s. per ton.——The author of "The Curiosities of London" announces a volume of "Walks and Talks about London," in which the great metropolitan changes now in progress will be prominently referred to.

Miscellanea.

THE NATIONAL GALLERY.—The Vestry of St. Martin's-in-the-Fields have received notice from the Office of Woods and Forests that the Government will require the whole of the workhouse and the site for the purposes of the National Gallery, and invites that body to send in their estimate of its value.

THE PROPOSED WATER COLOUR PAINTERS' SOCIETY.—The promoters of the proposed new general exhibition of water-colour drawings, which is to be distinct from anything now in existence in England, inasmuch as its members will not be banded together into a society, have secured, we hear, the Dudley Gallery of the Egyptian Hall, Piccadilly. The exhibition is to open on the 20th of February next.

PHOTOGRAPHING ARCHITECTS' DRAWINGS.—Our attention has been called to some photographic copies of engineers' drawings by Mr. W. Willis, of Birmingham. By means of a photographic process, copies of drawings can be made rapidly and cheaply of the same size as the original. The original drawing is in no way injured by the process, and the copy is produced by simple superposition over the chemically-prepared paper, and is a positive copy direct without the intervention of a negative.

PORTSEA.—An application has been made to Parliament for procuring certain amendments in the Act for regulating the affairs of St. John's Chapel, says the *Portsmouth Times*, of the 19th November. The chief amendments are that the incumbent may in future participate in the funds at the disposal of the Ecclesiastical Commissioners; that the right of presentation to the benefice be vested in a body of trustees, who are to be elected by the proprietors of pews; and that marriages may be celebrated in the church.

A MEMORIAL OF THACKERAY IN WESTMINSTER ABBEY.—Immediately after Mr. Thackeray's death, a committee of gentlemen, with Mr. Shirley Brooks for hon. secretary, determined on the erection of a memorial to their friend, and obtained the sanction of the Dean of Westminster to its location in the Abbey. The exact site has now been selected, and a marble bust of the author of "Vanity Fair," will shortly be placed close behind the effigy of him whom Thackeray so honoured and eulogised—Joseph Addison. The bust will be executed by Baron Marochetti, who was on terms of intimacy with Mr. Thackeray.

NEW QUEEN'S PRINTING ESTABLISHMENT, CANADA.—The new Queen's printing-offices now in course of construction at Ottawa, for the united provinces of Upper and Lower Canada, are being erected for Mr. George Desbarats and the Hon. Malcolm Cameron, Queen's printers for the provinces, with rapidity; Messrs. Stent & Laver being the architects. The building, six stories in height, is constructed with solidity and with some taste. The total cost when completed will be about 10,000*l.* The contractor for the whole work is Mr. James Goodwin, of Ottawa. The erection of this building is regarded in Canada as a precursor of the early intended removal of the Government from Quebec to the new capital, selected not only by the Queen as the capital of the united Canadas, but also named from its central location as the Federal seat of Government by the intercolonial delegates who recently held a convention at Quebec to devise the best means for uniting from the Atlantic to the Pacific all the British American dependencies.

THE ROYAL MAUSOLEUM, FROGMORE.—The massive sarcophagus, which is intended to be placed in the new mausoleum at Frogmore as a receptacle for the remains of the Prince Consort, has been conveyed to the grounds at Frogmore. It is of a dark polished Scottish granite.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—At the annual general meeting of the Architectural Institute of Scotland, to be held in the Hopetoun Rooms, Edinburgh, on the 7th instant, the Right Hon. the Lord Provost in the chair, the report of the Council will be read, and a paper by Mr. John Dick Peddie, "On the Doric Temple."

THE CONSERVATIVE LAND SOCIETY.—The twelfth annual meeting was held on Tuesday, the 29th November. The report stated that the receipts for the year were 81,242*l.* 15s. 3d., an increase over the previous year of 5,488*l.* 9s. 10d.; that the grand totals were 782,389*l.* 13s. 10d.; the sale of land, 368,800*l.* 13s. 10d.; the total withdrawals 231,487*l.* 1s. 7d.; that the society has acquired fifty-five estates in twenty-one counties; that 21,228 50*l.* shares have been issued, representing 1,061,400*l.*; and that the reserve fund was now 11,000*l.* A dividend of 5½ per cent. per annum was declared.

"JUNIOR ATHENÆUM CLUB."—This new club, intended to consist of members of both Houses of Parliament, members of the Universities, Fellows of the Learned and Scientific Societies, and gentlemen connected with literature, science, and art, is now fairly launched, and we are disposed to think quite successfully. Premises have been obtained in King-street, St. James's (29), and have been tastefully fitted for the purpose, decorated and furnished, under the direction of Mr. E. Roberts. These are exceedingly snug and commodious, but will probably have to give place to a more extensive building in a few years. The committee dined together in the new house with some few friends, on Saturday last, Mr. James Heywood, F.R.S., presiding genially, when it was stated that more than 900 names of candidates for membership had come before them. From these about 300 had been elected, the committee looking jealously as to eligibility. There is wide room in this yearly increasing Babylon for another club, where men of all parties treading the paths of art, literature, and science may meet on common ground; and we think it will be found that the Junior Athenæum has not been established too soon.

MRS. LIRRIPER ON BUILDERS.—Ah! it's pleasant to drop into my own easy-chair my dear, though a little palpitating, what with trotting upstairs and what with trotting down, and why kitchen stairs should all be corner stairs is for the builders to justify, though I do not think they fully understand their trade and never did, else why the sameness and why not more conveniences and fewer draughts and likewise making a practice of laying the plaster on too thick I am well convinced which holds the damp, and as to chimney-pots putting them on by guesswork like hats at a party, and no more knowing what their effect will be upon the smoke bless you than I do if so much, except that it will mostly be either to send it down your throat in a straight form or give it a twist before it goes there. And what I says speaking as I find of those new metal chimneys all manner of shapes (there's a row of 'em at Miss Wozenham's lodging-house lower down on the other side of the way) is that they only work your smoke into artificial patterns for you before you swallow it and that I'd quite as soon swallow mine plain, the flavour being the same, not to mention the conceit of putting up signs on the top of your house to show the forms in which you take your smoke into your inside.—*Mrs. Lirriper's Legacy.*

THE SAXONS.—Mr. John Brent has finished his excavations in the Saxon cemetery, at Sarr, in Thanet, for the present year. He laid open nearly 300 graves, some of especial interest. As an example one contained four fibulæ (two circular and two cruciform); five gold pendants, which, with the fibulæ, are elaborately ornamented; a very large crystal ball, set in a silver-gilt frame for suspension; a silver-gilt perforated spoon, set with garnets; an elegant footless glass cup, a silver ring, beads, and other objects, such as buckles, shears, and keys. The weapons, implements, and ornaments from Sarr, are deposited in the Charles Museum, at Maidstone. The Kent Archæological Society provided the funds at Mr. Brent's disposal in aid of the expenses for labour, &c.

CAMBERWELL.—Application is to be made to Parliament by the South Metropolitan Gaslight and Coke Company, for power to purchase Christ Church, Camberwell, and provide a new site for a church in its place.

AN OLD WAY OF PAYING WAGES.—In the Norwegian mines, a singular custom is observed in paying the weekly wages of the men. They all present themselves on Saturday evening to the inspector, who, having settled accounts with each, bids him turn round, and writes in white chalk upon his black back the sum due to him. Thus numbered, the man goes to the cashier, who also turns him round to look at the figures, and pays him without having a word to say.

WOLVERHAMPTON BOROUGH SURVEYORSHIP.—There were fifty-five candidates; and, after the committee had devoted about four hours to the examination of the testimonials, the number of candidates was reduced to six. The following are the gentlemen thus selected:—Mr. Anthony Morgan, Leamington; Mr. Joseph Gordon, Carlisle; Mr. Samuel Harpur, Merthyr Tydvil; Mr. William Crutchley, Wakefield; Mr. James Lemon, Spring Garden, London; Mr. John William Gray, 31, Cloudesley-terrace, London. We have received just complaints that proper attention could not have been paid to the testimonials submitted in four hours!

PUBLIC BUILDINGS FOR BURTON-UPON-TRENT.—At a private but influential meeting held at the local Commissioners' Offices, Mr. Bass, M.P., moved "That it is the opinion of this meeting that public buildings are required in the town of Burton-upon-Trent, and that such building should include some or all of the following, viz., a market-hall, town-hall, including assembly-rooms and reading-rooms, town-commissioners' offices, baths and wash-houses, museum, and dispensary." The resolution was carried unanimously, and a committee appointed to inquire into the most eligible site for the proposed buildings, and to report to a public meeting.

THE PROPOSED ROAD FROM CADOGAN PLACE TO SOUTH KENSINGTON.—We are glad to find that notice has been renewed of intended applications to Parliament in the ensuing session to introduce a Bill for the construction of a new thoroughfare from Cadogan-place, Chelsea, to the South Kensington Museum. The Bill will give power to the company intending to apply to Parliament for it to make a street or road commencing at Pont-street, in the parish of St. Luke, Chelsea, crossing Cadogan-place and Sloane-street, and terminating in the Cromwell-road or Brompton-road, Old Brompton, near the east end of the South Kensington Museum.

ANOTHER SCOTTISH "NATIONAL MONUMENT" SUGGESTED.—A correspondent of the *Scotsman* proposes, for the projected Albert Memorial, the crowning of the brow of the imaginary lion formed by the sky outline of Arthur's Seat, one of the Edinburgh hills, with "an open shrine, in the shape of a colossal regal crown. Visible from all sides, and even from the sea, nothing," he continues, "could be more graceful than the arched ribs of the crown meeting in the centre to support an ornamental cross. The whole structure, including the rim of the crown, should consist of open work, and this would render its outlines perceptible and distinct at distances whence an opaque building could hardly be discerned. In the interior, immediately below the cross, a statue might be placed." Another correspondent thereupon sarcastically suggests, that to complete the likeness of the lion with the regal crown, the tail must be considered. "It might at first sight seem desecration," he remarks, "to break the sublime curve of the rump by the insertion of this appendage; but a deeper study of the subject will undoubtedly prove that it would add to the completeness of the design, and bestow on it a fresh beauty. The whole structure of the tail should consist of open work, so as to render its outlines perceptible and distinct: it should, in fact, be a lofty arch of masonry, springing from the brow of Sampson's Ribs, on which a bold mass of appropriate stonework, slightly curled, would represent the hairy tuft that terminates the caudal appendage of the genus *Leo*; and, rising gradually across the Queen's Drive, terminate at the appropriate part of the leonine back above. Visible from all points, and even from the sea, nothing could be more graceful than this arched tail—a tail under which glimpses of the heavens would appear, and which would give an animated and dignified aspect to the whole lion."

South Shields New Theatre Company.—At a meeting of the intending shareholders and others interested, it was resolved to apply forthwith for the registration of the company. Directors and officers for the company were appointed.

Fires.—Another great fire has taken place at Bermondsey, where extensive premises at the Dockhead, containing saltpetre, jute, sugar, and other stores, have been destroyed, after burning on for several days without ceasing. The jute, from the joint action of water and fire, swelled so as to burst out the walls, a large portion of which 30 or 40 yards in length and 18 ft. or 20 ft. high, fell into the road. At Devonport Dockyard, also, a store has been destroyed by fire. Surely all these serious fires will at last lead to a reform in the construction of such buildings as those destroyed, so as to render them thoroughly fire-proof.

Tyne and Newcastle-upon-Tyne Improvements.—Notices have been given of intention to apply to Parliament for provisions for facilitating the construction of Tynemouth Docks,—extension of time for completing works; additional works at Northumberland Docks; supply of water to Northumberland Docks by Newcastle and Gateshead Waterworks Company; powers for removal of water-pipes and use of the High-level Bridge of the North-Eastern Railway Company; tunnel under River Tyne for gas and water pipes; and for other purposes connected with the improvement of the Tyne. For the improvement of Newcastle-upon-Tyne, the notice relates to provisions for new police-court; further powers as to sewerage and utilization of sewage; removal and rebuilding of certain hospitals; further powers of improvement; new streets and improvements, &c.

St. George's Church, Campden-hill, Kensington.—This church has been consecrated by the Bishop of London. The edifice contains above 1,100 sittings, of which one-third are free and unappropriated. Mr. Bassett Keeling was the architect. The district to be attached to the new church will include 154 villas built, or about to be built, in Holland Park. When the present vicar of Kensington, Archdeacon Sinclair, was appointed, three churches and an unconsecrated chapel formed the whole parish provision for public worship in connexion with the national church. There are now seventeen churches and chapels, affording accommodation for 19,640 persons. The whole population of the parish is about 80,000. It is proposed to build three additional churches,—one between St. Paul's, Onslow-square, and St. Mary's, West Brompton, which is about to be commenced; another in Notting-hill; and a third, St. Stephen's, South Kensington, for which subscriptions are in progress, but which cannot be proceeded with until the precise direction of the proposed railway between Kensington and Brompton has been determined.

Sanitary State of Bath.—The Board of Guardians of the Bath Union lately commissioned one of their medical officers, Mr. Frederick Hanham, to report upon the health of the districts in the vicinity of the Avon, from Bathford westward to Twerton. Mr. Hanham has accordingly submitted to the Board an elaborate statement of the results of his investigations, from which it appears that there is pressing necessity for an increased water supply; and better drainage and purification of the Avon. Details are given sufficient to prove that the localities nearest the stream are the unhealthiest, and that the disease which there proves fatal in a large number of instances is one which is universally attributed to the noxious exhalations inseparable from bad drainage and a contaminated stream. The average mortality of the city districts was 25 in every 1,000 of the population; the average mortality of the rural districts 24 in every 1,000, taking the returns of the year ending September last; so that the country parishes bordering on the river were not, as a whole, much better than the city, and no one of them was so salubrious as Bathwick. The investigations have brought out one special point very clearly, viz., that the parts of Bath inhabited by the opulent, such as the upper sections of Lansdown and Bathwick, are healthier than many country parishes. Another point is, that a large per-centage of the mortality in the lower quarters of the city, and in the villages skirting the Avon, may be reduced by the improvement of the drainage and the purification of the river.

The Carlisle City Surveyorship.—Mr. Gordon, the city surveyor, having applied for an increase of salary, or for leave to accept private practice beyond the municipal boundary, the Council have adopted the latter alternative in order to retain his services. Mr. Gordon had become a candidate for the surveyorship of Wolverhampton, where the salary is 400*l.* a year, whereas Mr. Gordon's is only 240*l.* He would have expected 100*l.* more from the Carlisle Council. Mr. Gordon was one of the fifty-five candidates for the office at Wolverhampton, and had been selected as one of the six among whom the final competition lay.

The new Iron Floating Bridge connecting Portsmouth with Gosport.—This is 100 ft. long (or 16 ft. longer than the present bridge) and about 60 ft. wide. The contract was taken by Messrs. Lewis & Stockwell, iron ship-builders, of Blackwall, London, who entrusted the engines and machinery to the firm of James Watt & Co., of London and Soho. The engines are of the collective nominal power of fifty horses, with duplicate boilers,—the condenser, air-pump, and frame being all combined. Two large and roomy cabins, above 8 ft. high, are placed at each end, and are well lighted by means of domes or cupolas, which are further utilized on the upper deck to form comfortable seats for the passengers. Attached to the machinery are a pair of oscillating engines, which may be worked on the carriage-deck by means of a lever, and which give the option of raising and lowering the prows by either hand or steam power.

Water Supply, etc.—A Company has been formed for the purpose of erecting Water-works, Baths, Public Assembly and Reading Rooms at West Worthing. The capital required is 20,000*l.*, to be raised in 2,000 shares of 10*l.* each. Arrangements have been made with the West Worthing Investment Company, to supply sea and spring water to all the houses to be erected upon twenty-five acres of their land which lies immediately adjacent to the company's property. The company also proposes to erect a swimming bath for ladies, and another for gentlemen.——Soon after the death of the Prince Consort the inhabitants of Frant resolved to form a public well, and identify the undertaking with the memory of the Prince. Unavoidable delay occurred, but subsequently a well was sunk which yielded an abundant supply of pure spring water. The chief stone of this well has just been laid by Lady Caroline Nevill amid great rejoicings of the inhabitants.——A spring of water having been presented to the inhabitants of Chippenham by Mr. M. Esmeade, the cost of introducing it into the borough for the supply of the town has been given by Sir John Neeld, Bart. The cost will not exceed a hundred guineas.——The inhabitants of Ruthin have resolved on the erection of water-works to supply that town.

TENDERS.

For new chapel at Patriotic Asylum, Wandsworth. Mr. Rhode Hawkins, architect:—

Cubitt	£5,496	0	0
Mansfield	5,440	0	0
Clemence	5,380	0	0
White	5,263	0	0
Longmire & Burge	5,240	0	0
Myers & Sons	5,135	0	0

For additional water works, Rugby:—

Contract No. 1.

To construct engine-house, reservoir, filter, and filtered water tank; also laying about 2,250 yards of 7-inch cast-iron pipes, with bends, and sundry other pipes:—

Knowles & Docwra	£1,700	0	0
Hilton	1,133	0	0
Read & Bounce (Pipe-laying, 3s. per yard)	1,190	10	0
Bromwich	1,295	0	0
Bennett (accepted)	1,033	0	0
Freeman (special)	639	0	0

Contract No. 2.

For grass-hopper engine, capable of raising 200 gallons of water per minute to a height of 200 ft. through the 7-in. pipe; a set of three-throw pumps; also a centrifugal pump, with driving-gear, suction-pipes, and cocks:

Handyside & Co.	£695	0	0
Death & Eldwood	630	0	0
Middleton (accepted)	636	10	0

Contract No. 3.

To supply about 2,250 yards of 7-in. cast-iron socket-pipes, with bends, at per ton:—

Keighley	pipes	£6	12	6
	bends	10	0	0
Bromwich (for each sort)		6	19	0
Stanley Iron Company	pipes	7	17	6
	bends	8	17	6
Oakes & Co.	pipes	6	15	0
	bends	9	5	0
Cochrane & Co.*	pipes	5	15	0
	bends	6	0	0

* Accepted.

For alterations and additions to a semi-detached residence, New Malden, Surrey, for Mr. W. Tebb. Mr. G. Welch, architect:—

Masers	£270	0	0
Jones	195	0	0
Parker	193	0	0

[Sir,—I think you will join me in my opinion that publicity ought to be given to the following tenders:—]

For alterations to the casual wards of Fulham Union. Quantities not supplied. Mr. W. L. Gomme, architect:—

Pitts	£113	8	0
Snelling	357	0	0
Mansell	348	0	0
Chamberlin	330	0	0
Wilson	240	0	0
Martin (accepted)	194	0	0

For alterations to "Duke of Sutherland," Lorrimore-road. Mr. Isaac Bird, architect:—

Tracey & Co.	£648	0	0
Brown	640	0	0
Rowe	621	0	0
Marsland & Son	550	0	0
Henshaw	545	0	0

For Alterations and additions to the City of London Tavern, Bishopsgate-street:—

Tracey	£573	0	0
Selleo	556	0	0
Bryant & Baugh	550	0	0
Harvey	476	0	0

For completing three houses, Woodford. Mr. Gliddon, architect:—

Alfred Skinner	£977	10	0

TO CORRESPONDENTS.

Ignoramus (must do his own "sums").—H. B. & R.—J. O'D.—G. S.—W. J.—T. D. B.—S. & S.—G. L.—An Engineer.—G. A. A.—Fact (kind of course have attention of subscribers).—C. O.—G. R.—A. W. B.—J. F. H (Institution of Builder's Foreman, Art. 9, Conduct street).—Mr. C. (forwarded).—R. P.—J. P. P.—W. E.—J. B. P.—P. C.—W. S.—J. W.—J. B.—W. L.—F. & Co.—S.—H. C.—T. K. G.—E. W.—W. H. R.—J. H. M.—G. H. R.—T. M. T. G. W.—Mr. W.—Vice Admiral G.—H. de M.—J. C.

A Looker-on (complains that, a contractor having failed, the architect won't let allow the sureties to employ their own builder to finish, but to the work to be clerk of the works, the sureties having to find all). We cannot discuss such a matter ex parte.

—J. P. I. (at top).—W. & B. (hereafter).—M. N.—R. P. (not yet published).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

[Advertisement.]

CHURCH, TURRET, and STABLE CLOCKS. J. W. Benson, having erected steam-power and improved machinery for clock-making, at the manufactory, Ludgate-hill, will be glad to furnish to clergymen, architects, and committees, Estimates and Specifications of every description of Horological Machine, especially cathedral and public clocks, chiming tunes on any number of bells. A descriptive pamphlet on Church Clocks post free for one stamp. Watch and Clock Maker by Warrant of Appointment to H.R.H. the Prince of Wales, and maker of the great clock for the Exhibition, 1862. 33 & 34, Ludgate-hill, E.C. Established 1749.

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A GENTLEMAN, 23 years of age, who has had considerable experience in the different branches of the profession, is open to an ENGAGEMENT. Can speak French. Has no objection to go abroad.—Address, J. F. MITCHELL, 121, Curtain-road, E.C.

AS FOREMAN or WORKING FOREMAN of MASONS, a thoroughly efficient and practical Man, accustomed to every description of masonry, and of set out expertise. Is a neat draughtsman, first class letter cutter, and carver on wood and stone. Undeniable reference from last situation. Town or Country.—Address, T. L. P. Office of "The Builder."

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A THOROUGHLY Practical CLERK of WORKS, of many years' experience on first-class works, is open to an ENGAGEMENT.—Address, G. T. care of Mrs. Atkinson, 21, Lambeth road, opposite the British school, Lambeth, S.

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ELIGIBLE FREEHOLD LAND in the Parish of the City. The Court of the Worshipful Company of Mercers are prepared to receive TENDERS for the SITE of the PRIMERS' almshouses, to be erected on the ground, which may be tendered for either in three portions, four parcels, or in its entirety, and may be seen at the Office of Mr. GEORGE SMITH, Surveyor to the Mercers' Company, Frederick's-place, Old Jewry, EC, where Tenders are to be delivered on or before TWELVE o'clock on the 31st DECEMBER, indorsed "Tender for Ground, Basinghall-street."

BUILDING LAND.—EGHAM, SURREY. About 70 ACRES adjoining Egham field green, TO BE LET, in Plots, or otherwise, on Lease for 99 years. For particulars and Plans, apply to Mr JOHN CLUTTON, 9, Whitehall-place, Westminster, S.W.

BUILDING LAND TO BE LET, by Tender, on 15 h DECEMBER.—PIPER'S TRUST ESTATE, Wyndham-road, Camberwell.—Full particulars for Tender and plans can be obtained at the Surveyors' Offices, WALES & SPARKS, 8, Great St. Helen's, E.C.

BUILDING GROUND, CITY of LONDON.—Notice is hereby given, that the City Lands Committee will meet at GUILDHALL, on WEDNESDAY, the 14th DECEMBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE, for Eighty Years, of the SITE of the PREMISES known as No 134, Fenchurch-street, and No. 17, Billiter-street, in the City of London. Further particulars may be obtained upon application at the Architect's office, 6, Finsbury-circus.

FERDINAND BRAND, Comptroller.

Guildhall, November 15, 1864.

GUILDHALL, 15th November, 1864.—The Committee for Letting the City Lands will meet at Guildhall, on WEDNESDAY, the 14th DECEMBER next, at ONE o'clock precisely, to receive PROPOSALS for LEASES for TWO HOUSES, Nos. 5 and 6, Cross Lane-court, New Broad-street, a House, No. 14, Old-street, and a tenement at the rear in Middle-row, and a House, No. 29, Old-street, St. Luke's; a House, No. 10, Tabernacle-walk, and Two Houses, Nos. 48 and 61 Leonard-street, Finsbury. Plans of the Property may be seen and forms of Tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

LARGE, Light, Substantial WORKSHOPS TO BE LET, presented and ready for occupation, about 1,000 square feet, with five rooms and a lot of yard at three shillings. Also, together or separately, a House and shop in the main thoroughfare adjoining.—Apply on the premises, Office 21, Widnes.

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PREMISES.—Very valuable PREMISES, at present in a main and populous neighbourhood, one mile north of the Bank, containing about 1,500 square yards, and lately occupied by a Coach Builder and Jobmaster, who resided there on. The great facility of premises, owing to the increase of railways in the metropolis, renders them peculiarly adapted for the wants of any extensive carrying business, and a desirable valuable space.—Apply to E & W STURGE, Bridge Wharf, City-road, E.C.

TO BE LET or SOLD, extensive BUSINESS PREMISES and RE-LICENCE, newly erected, and comprising about 20,000 feet superficial of ground floor and stores.—For particulars, apply to Messrs. HUNT & STEPHENSON, 1, Pall's Head Chambers, Watling-street; or to Mr. VIGERS, 3, Frederick's-place, Old Jewry, City.

MR. J. TAYLOR has to announce that the Lease of the CLAPTON PARK ESTATE, which were not sold on the 7th November may now be PURCHASED by PRIVATE TREATY. Nine-tenths of the price or any less amount can remain on contract or mortgage, to be paid off at any time by instalments of three years, with interest at the rate of five per cent per annum.—Plans may be ascertained on personal application, to the Auctioneer, at No. 7, Fenchurch-street, City.

EXTENSIVE PREMISES and GROUND in Bath street, St Luke's, EC 238 feet deep and 146 feet frontage, known as the French Hospital, TO BE LET, for Building purposes or otherwise, on Lease, by TENDER, for a term not exceeding 99 years. Persons desirous to be entrusted to the Governor and Directors on or before the 1st day of FEBRUARY, 1865, at the French Hospital, where forms of Tender with a plan of the ground may be obtained; or at the Office of Mr R L ROUMIEU, 19, Lancaster-place, Strand.

VALUABLE BUILDING SITE TO BE LET; BILLITER STREET, City.—The Clothworkers' Company is prepared to receive TENDERS for a BUILDING LEASE of the SITE of the premises known as No. 18, Billiter street; term, eighty years, as from March as next. Particulars and a plan may be obtained of R BADWIN, Esq. of Cadbury-house, Hackney, 47, Mincing-lane. The Tenders are to be delivered on or before TUESDAY, the 27th instant, at Clothworkers' Hall.

By order, FREDERICK W. FORDER, Surveyor.

16, Russell square, W.C. December 1, 1864

WATERSIDE MANUFACTURING PREMISES, with steam power.—Messrs. FULLER & HORSLEY are instructed to LET on LEASE, the entire WATERSIDE PREMISES occupying a site of 2,000 square feet, adjoining the Whitefriars Basin, City-road and comprising large and substantial modern brick built manufactory of two floors, engine and boiler houses, all 30-horse power steam engine and three Cornish boilers, range of brick-built offices and paved yards with railway entrances. There is a water frontage of about 240 feet.—For further particulars, apply to Messrs. FULLER & HORSLEY, 13, Finsbury-circus, London, E.C.

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MONEY.—IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, REVERSIONS or ANNUITIES, WINE, SPIRIT, and TIMBER WARRANTS, FURNITURE, SHARES, &c.

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EDWARD HARPER, Secretary.

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By order of the Board,

J. W. DANIELL, Secretary.

THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited) Capital 100,000l. in 10l. shares, of which 1l. each.

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Bankers.—Messrs. Dimsdale & Co. 50, Cornhill, E.C.

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The filter through which the water is caused to pass when being drawn will be placed in the cistern, will yield the water pure, limpid, and free from colour and taste; it will arrest the impurities from animal and vegetable matter, and destroy the germ of all organic contamination and impurity, as also in solution. The water obtained by this treatment when in use will be fine, and the office, a lot loaf each are more ready than from a spring.

The filter will require no attention on the part of servants or others with it, it will be fixed and kept in order by the Company, and placed in all towns and country and others as kept under the control in houses in and about London. The cisterns will be cleaned out once or a year, and a former if required, at the following annual rates to be paid in advance upon being asked, beyond which other expenses will be incurred:—

	Per annum
Filter No. 1 supplying half a gallon per minute	0 7 6
Filter No. 2	1 10 0
Filter No. 3	1 1 0
Filter No. 4 yielding 2 gallons per minute	1 1 0

The first two of these will have accumulators for drinking with a separate pipe, which may be laid to any part of the house by the client.

The two last are calculated to filter all the water which passes through the supply pipe.

The Company are prepared to carry on their operations to other large and populous places supplied with water like unto the metropolis, and will engage upon terms to be agreed upon. This has undertaken for the Government, Corporations, and Companies, and to supply them and the offices of Parliament, the National Mercantile Insurance companies, the museums, libraries, steam vessels, hotels, clubs, hospitals, workhouses, prison barracks, and other Government buildings and establishments, on terms to be agreed upon.

To the trade of the supply of the filters from merchant members of the trade a profit on and others who have them in use for the sale and the different to the Company, where the filter can be used, and any information obtained.

An application must be made to the secretary from whom forms can be obtained. The filters will be fixed on and after the 1st of January, 1865, in the order in which applications are made.

Applications for the shares, and other terms of the first issue to be sent to the Bankers, Brokers solicitors, or to the Secretary, from whom respective forms can be obtained.

THE LONDON and GENERAL WATER PURIFYING COMPANY (Limited).

Applications for the SHARES, and other terms of the first issue to be sent to the Bankers, Brokers solicitors, or to the Secretary, from whom respective forms can be obtained.

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AGENTS being REQUIRED through out the metropolis and country, and in other populous towns, applications to be necessary from those desirous of undertaking the Company's Agency, upon terms to be agreed upon, are invited.

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TO BUILDERS and OTHERS.—TO BE SOLD by TENDER the interior FITTINGS and FITTINGS of LATIMER CHAPEL, Notting-hill, consisting of the pews, 114; galleries, &c. Tenders will not be received after the 15th of DECEMBER next.—Further particulars may be had of Mr. T. SMITH, 5, Rose-place, Notting-hill.

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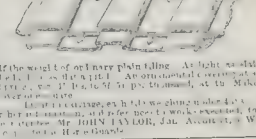
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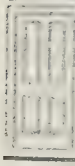
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Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square. Laths, 3is. per Load.

Good Yellow Deals ..... £16 10 0 per 120, or 2½d. per foot.

Spruce Deals ..... 15 0 0 „ 2½ „

2½-inch Battens ..... 9 0 0 „ 1½ „

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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¾-inch Flooring, White and Yellow, 10s. 6d. per square.

¾-inch White Matched Lining ..... 12s. 0d. „

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

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	Spruce.	White	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
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1 by 7 „	15s.	15s. 6d.	16s. 6d. „
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18 Feet run, 7 inches to the square. 120 Feet run, 9 inches to the square.

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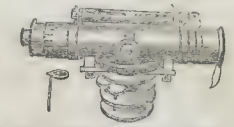
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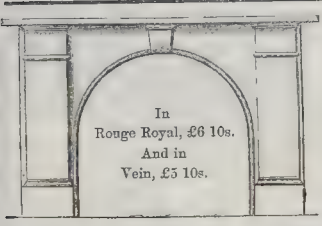
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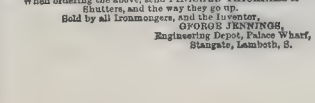

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SUPERIOR SLATE SLABS
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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London
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DAWLEY GRAVEL PITS,
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To BUILDERS and ROAD CONTRACTORS.
Sifted Stones for roads, unsifted Gravel for concrete, Hoggin for paths, may now be had in any quantity, delivered alongside by the Grand Junction and Regent's Canals.
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Apply, for prices, &c. to
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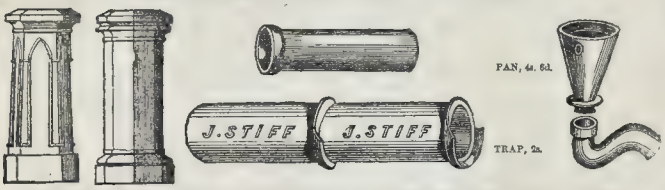
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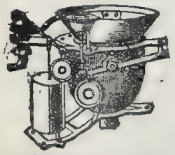


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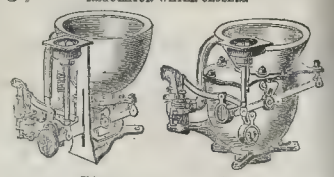
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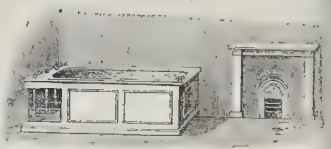
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Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, a perfect flushing is insured. Any number can be worked by one supply pipe. No stem-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

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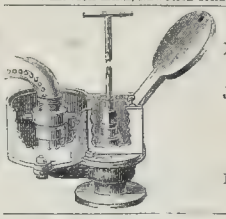
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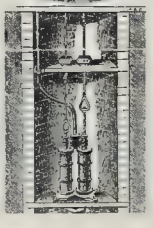


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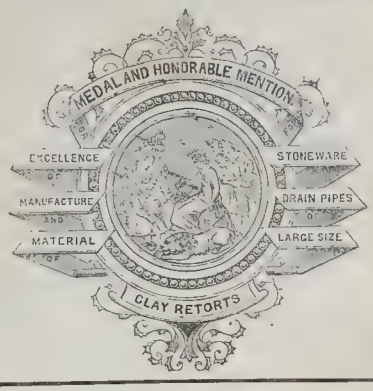
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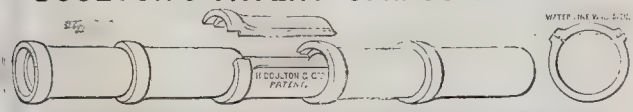
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From 2 inches to 24 inches diameter.

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Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete from 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
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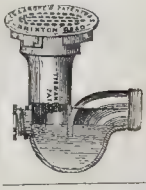
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In exp[illegible] a greatly increased sale, D. & W. have determined to introduce [illegible] pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the [illegible] of the commonest description of earthenware.
Experience has shown that this shape is the most simple and efficient, and that [illegible] strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
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By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
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CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
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SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.


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Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.
TO ARCHITECTS, BUILDERS, PLUMBERS, &c.
F. G. UNDERHAY
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The simplest, strongest, and cheapest Closets manufactured, acting efficiently with or without Supply Cistern, and at high or low pressure. Specially adapted for railway stations, offices, public buildings, workshops, and any situations where subjected to severe usage. Prevents waste of water, saves piping, cranks, wires, service-box, and all the complicated apparatus of self acting closets.
The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharges being regulated by a simple tap, thus saving an immense quantity of water which ordinarily runs to waste.
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Average Thickness, 15 oz. to 16 oz.

Fourths quality, per 300 feet Case...	...	...	32s. 6d. or about 1½d. per foot super.							
Thirds	,,	,,	,,	...	...	...	41	0	,,	1¾ ,, ,,
Seconds	,,	,,	,,	...	...	...	60	0	,,	2½ ,, ,,
Best	,,	,,	,,	...	...	...	90	0	,,	3¾ ,, ,,

Average Thickness, 21 oz.

Fourths quality, per 200 feet Case ...	...	...	33s. 6d. or about 2d. per foot super.							
Thirds	,,	,,	,,	...	...	...	42	0	,,	2½ ,, ,,
Seconds	,,	,,	,,	...	...	...	63	0	,,	3¼ ,, ,,
Best	,,	,,	,,	...	...	...	89	0	,,	5½ ,, ,,

Average Thickness, 26 oz.

Fourths quality, per 200 feet Case...	..		41s. 6d. or about 2¾d. per foot super.							
Thirds	,,	,,	,,	...	...	..	56	0	,,	3¼ ,, ,,
Seconds	,,	,,	,,	...	...	..	84	0	,,	5 ,, ,,
Best	,,	,,	,,	...	...	...116	0	,,	7	,, ,,

Supplied also in 32 oz. 36 oz. and 42 oz. per superficial foot.

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	Under 1 ft. super.	Under 2 ft.	Under 3 ft.	Under 4 ft.	Under 5 ft.	Under 6 ft.
	Average Thickness, 15 oz. to 16 oz.					
Fourths quality ...	1½d.	1¾d.	2d.	2¼d.	2¾d.	2¾d.
Thirds ,, ...	1¾	2	2½	2¾	3	3½
Seconds ,, ...	2	2½	2¾	3	3½	4
Best ,, ...	2½	3	3½	4	4½	5
	Average Thickness, 21 oz.					
Fourths quality ...	2½d.	2¾d.	3d.	3¼d.	3¾d.	3¾d.
Thirds ,, ...	3	3¼	3¾	3¾	4	4½
Seconds ,, ...	3¼	3¾	3¾	4½	4½	4¾
Best ,, ...	4	4½	5	5½	6	7
	Average Thickness, 26 oz.					
Fourths quality ...	3d.	3½d.	3¾	4	4½d.	4½d.
Thirds ,, ...	3¾	4	4½	4¾	5	5½
Seconds ,, ...	4½	5	5½	5½	6	6½
Best ,, ...	5½	6½	7	7½	8	8½

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Very superior, for Pictures and Best Glazing.

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Thirds quality, per 200 feet Case ...	...	...	34s. 0d. or at out 2¼d. per foot super.							
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Best	,,	,,	,,	...	...	...	77	6	,,	4¾ ,, ,,

Average Thickness, 21 oz.

Thirds quality, per 200 feet Case ...	...	...	51s. 0d. or about 3¼d. per foot super.							
Seconds	,,	,,	,,	...	...	...	84	0	,,	5 ,, ,,
Best	,,	,,	,,	...	...	...	116	0	,,	7 ,, ,,

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21 oz. ,, ,, ... 54 ,, ... 4 ,,
If cut to size, 1d. per foot extra.

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21 oz. ,, ,, ... 75 ,, ... 5 ,,
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If cut to size, 1d. per foot extra.

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Green do. ...	... 9 do.	Ditto 3 do.	
Blue do. ...	... 7 do.	Ditto 3 do.	
Orange do. ...	... 7 do.	Ditto 3 do.	
Purple do. ...	... 7 do.	Ditto 3 do.	
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Blue & Yellow do. do.	... 1 0 do.	Ditto 3 do.	
Purple do. do.	... 1 0 do.	Ditto 3 do.	
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Ditto 21 do.	... 5 do.	Ditto 1 do.	

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in.	in.	in.	in.	in.	in.	in.	in.				
6 by 4	7 by 5	8 by 6	9 by 7	Fourths.	Thirds.	Seconds.	Best.
6½ — 4½	7½ — 5½	8½ — 6½	9½ — 7½	9s. 6d.	10s. 9d.	12s. 6d.	14s. 8d.
10 — 8	12 — 9	12½ — 10½	14½ — 10½				
10½ — 8½	12½ — 9½	13 — 10	15 — 10	10s. 6d.	12s. 0d.	14s. 8d.	17s. 3d.
11 — 9	13 — 9	13½ — 10½	15 — 11				
11½ — 9½	12 — 10	14 — 10	14 — 11				
15½—10½	16 — 10	14½ — 11½	15 — 11	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d

Stock Squares, per 100 feet.

in.	in.	in.	in.	in.	in.	in.	in.				
15½ by 11½	16 by 12	18 by 14	20 by 17	Fourths.	Thirds.	Seconds.	Best.
16 — 11	16½ — 12½	22 — 14	22 — 17				
21 — 11	17 — 12	21 — 14	24 — 17				
13 — 12	18 — 13	22 — 15	20 — 18	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.
14 — 12	23 — 12	24 — 15	22 — 18				
15 — 12	17 — 13	22 — 16	24 — 18				
15½ — 12½	23 — 13	24 — 16					

ORCHARD HOUSE SIZES, as supplied to Mr. Rivers.

	Average Thickness, 15 oz. to 16 oz.				Per 100 feet.				Average Thickness, 21 oz.			
16½ in. by 12½ in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.	20 in. by 12 in.	20 in. by 15 in.	Fourths.	Thirds.	Seconds.	Best.
20 ,, 12 ,,	20 ,, 16 ,,	11s. 6d.	13s. 6d.	16s. 0d.	18s. 0d.	20 ,, 13 ,,	20 ,, 16 ,,	14s. 6d.	18s. 6d.	21s. 0d.	27s. 6d
20 ,, 13 ,,	20 ,, 17 ,,					20 ,, 14 ,,	20 ,, 17 ,,				
20 ,, 14 ,,											

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Turpentine	... 6 0	,,	
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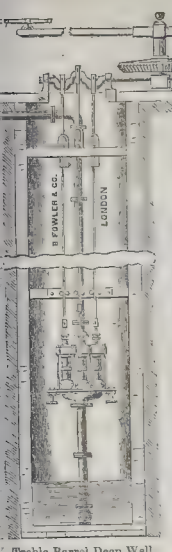
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MANUFACTURERS OF

PUMPS OF ALL DESCRIPTIONS,

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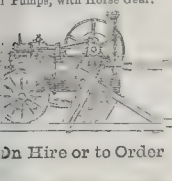
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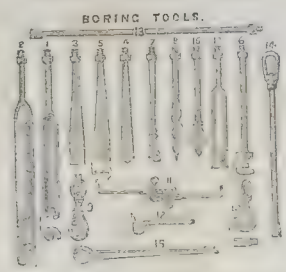




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For Testing Ground for Bridge Foundations, and other Works, Miners' Use, and for Artesian Wells.

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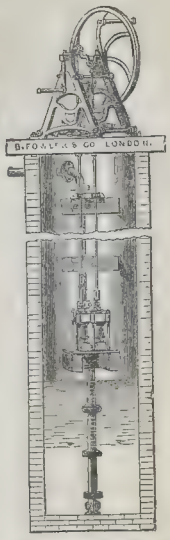
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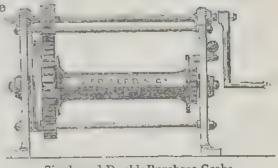
WORKS, WHITEFRIARS.



Contractor's Portable Hand Pumps.



Double Barrel Deep Well Pumps, with Hand Gear.

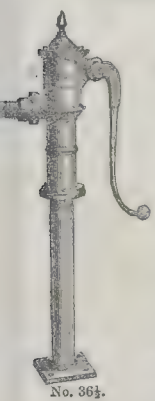


Single and Double Purchase Crabs, Cranes Pulley Blocks, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36¼.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

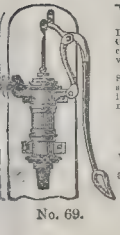
No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth.

From 10s.

Every Description of HYDRAULIC MACHINERY in stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Casters, &c., is recommended for the simplicity of its construction, and the ease with which it works.

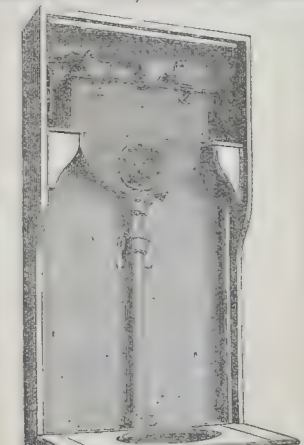
By the introduction of the Vibrating Standard, the cumbrous cast-iron lever, expensive brass and gun-metal unnecessary, and terrible friction considerably less than Pumps made on the old plan.

2½ inch	£1 1 0	Larger sizes when required.
3 "	5 5 0	
3½ "	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 "	4 0 0



IMPORTANT TO WATER COMPANIES.

No. 206, B. C. WARNER'S Improved SELF ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low pressure Service.

Self acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin.. ..... £2 5 .

Bunk Handle, extra	0 2
Blue Basin, extra	0 1 0

No. 154½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0

The above prices are subject to a liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS are also supply all Fittings requisite for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

CURTAIN ROAD.—To Builders, Masons, Upholsterers, and Others

PULLEN, HORNE, & EVERSFIELD have received instructions to SELL by AUCTION on the PREMISES No. 74, Curtain road, Shoreditch, on WEDNESDAY, DECEMBER 7, at TWELVE precisely, on account of the number of Lots, about 2 Hydraulic Lifting Jacks, 2 sets of Lifting Screws, 2 Hydraulic Presses, several rich wrought and stained Pews, Pulpit, Communion Rails, and Altar, on the Nave, Chancel, and Side Aisles of a Church, comprising 4 Gothic Arches, Tracery Work, Shafts, Caps, Bases, Mullions, Transoms, Quatrefoils, Crockets, and Finials, also upwards of 1,000 Yards of Moulded Stone Work, Cornices, Architraves, Sashes, Doors, Frames, Shutters, Plaster Designs in Panels, Scagliola Columns, Pilasters, Capitals, and Bases, Marble Top Wash-stands, Table Tops, &c. May be viewed two days previous, at Catalogues had on the Premises, and of PULLEN, HORNE & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

HOLBORN.—To Horse and Carriage Repository Proprietors, Railway Carriers, and others requiring space for premises.—The West Central Horse and Carriage Repository, containing an area of 12,000 superficial feet.

PULLEN, HORNE, & EVERSFIELD are instructed by the Mortgagees to SELL by AUCTION, at GARRAWAY'S, on TUESDAY, DECEMBER 13th, at TWELVE, the very valuable Leasehold newly-built PREMISES, lately occupied as the West Central Horse and Carriage Repository, comprising a fine situate in the wide and best part of High Holborn, near Red Lion-street, occupying an important area of 12,500 feet, and adapted for any business requiring prominent position and space. The premises comprise a noble ride or trotting court, 100 feet by 55 feet, covered with an extensive ornamental iron and glass roof, capital stabling for 150 horses, fitted with requisite iron mangers and racks, and all modern appliances, spacious show-rooms and galleries for carriages, hay lofts, harness, &c., coachmen's &c. There are thirteen suits of rooms for the use of coachmen and those engaged in the establishment; also three dwelling houses for foreman and manager. The premises front, in Holborn, presenting handsome and substantial elevations, with iron railings, &c.; and there are also two other distinct entrances from Holborn affording in most facilities of ingress and egress. The property is let for a term of 60 years, at a ground-rent. May be viewed, and printed particulars (when ready) had of Messrs. NEWTON, EVANS, & CO. Solicitors, 28, Nicholas-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

ROTHERHITHE. The Valuable Stock of Timber, Barges, and Effects of a Barge Builder.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. B. & E. Talbot, who are discontinuing their business, to SELL by AUCTION, on the PREMISES, Church-passage, Rotherhithe, on TUESDAY, DECEMBER 13, at TWELVE for ONE precisely, a NEW OPEN BARGE of 50 tons, a ditto barge of 27 tons, seven river barges, varying from 25 to 50 tons, a lug, 2 ship's boats, skiff, and punt; also the very valuable stock of seasoned timber, comprising fifty thousand feet of planks of various thicknesses, 40 inch oak stitchers, 500 large bolts, 2 floor timbers, 400 stem knees, 4 pair of rock cranklings, stern posts, wing posts, fallers, rood-ends, &c.; 2,000 feet of beech, ash, and elm boards, 400 inch, 3-inch, and 2½-inch low Dantzic deals, elms, oak 3 logs of large scantling, a quantity of black in the shop, or loose, of shod and unshod anchors, grapnels, iron pumps, anchor chains, office fittings, and other effects. May be viewed on Saturday, the Monday previous, and Catalogues had on the Premises; also of Messrs. J. & W. BUTLER, Solicitors, 5, Bucklersbury, E.C.; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

To Dealers in Materials, Lead Merchants, Stable Keepers, and Others

Very excellent Building Materials, Hereford street, Oxford-street.

MR. GEO. HAINES announces FOR SALE by AUCTION, on the PREMISES, on MONDAY, DECEMBER 12, at TWO for THREE precisely, the valuable MATERIALS of TWO Large MANSIONS, Nos. 44 and 45, Hereford-street, comprising many thousands of prime bricks, several tons of lead, the wrought roofs, covered with slates, and strong timbers; the partitions to the entire of which are very slight, chiefly stud, lath, and plaster, batten doors, single sash, and shallow skirtings; the whole being fresh, choice, and free from paint, with some capital marble chimney-pieces, bells, wires, gas pipes, stoves, ranges, oak staircases with mahogany rails, bright stair rods, and fittings; with the erection of two detached stone houses—May be viewed. Open Tuesday Next. HAINES & SON, Myddelton-square, Pentonville. At Auction to be held at Grosvenor-street West, East Finchley, on No. 2, High-street, Kensington.

IN BANKRUPTCY.—KILBURN.—Leasehold Investment.

MR. E. DRESSER ROGERS is instructed by the Assignee of William Cuney, to SELL by AUCTION, at GARRAWAY'S, on TUESDAY, DECEMBER 20, at TWELVE, SIX DWELLING HOUSES and SHOPS (1 of the latter let on lease, and 3 there unfinished), situate on the thoroughfare, Chichester road, Kilburn, held for a term of 99 years, at a ground-rent of 71 10s. per annum; estimated to produce a rental of 235l. per annum. For further particulars apply to the Auctioneer, 15, HAVILAND, Esq. Solicitor, 36, Carey-street, Lincoln's-inn-fields; at Garraway's; and at the Auctioneer's Offices, 7, Union Chambers, Penton-pl.

To Mr. Builder, and Others—Without reserve

ALEX. HUMPHREY will SELL, by AUCTION, on TUESDAY, DECEMBER 6, 1864, at TWELVE o'clock, by order of Mr. Needham, the proprietor, in the WORK SHOPS, on Prince road, Wimbledon, Surrey, the remaining PLANT and MACHINERY comprising 8-horse power engine and boiler, wood-mill, two lathes, rest by the Hook patent, iron bench, with circular saws, patent chaff-cutting machine, spiral sugar cutter, and the usual requisites for joinery.—View Monday, and cat losses near 2l. Catalogues at Messrs. Currie's Bank.

KENT.—Valuable Building Land, close to the Town of Maidstone, and Wood Lands in the Parish of Bearsted.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the STAR HOTEL, Maidstone on TUESDAY, 13 DECEMBER 13, at THREE o'clock, in Eight Lots, the following eligible FREEHOLD PROPERTY, near to the thriving town of Maidstone, in a very pretty healthy situation, and two minutes walk from the Rail, consisting of a very eligible and valuable Building Estate, called the Bearsted Wood Estate, containing together about 21 acres, in most convenient sizes for villa residences, having frontages to two roads and are well adapted for building speculators. There is a considerable quantity of good timber. It is in a good situation for the erection of a first-class residence. Two lots of Building, or Accommodation Land, in the parish of Detling, close to Maidstone, and with valuable frontages to the river Medway, containing together about 16 acres. Lot 1.—Sold by Messrs. Macey & Co.'s paper mills, and are in a capital situation for the erection of a first-class residence. A Ground rent of 11l. per annum will be required out of the property. Lot 2.—Messrs. Macey & Co. at present occupy the dwelling house adjoining, the whole occupying an area of 4 acres. Also a Building Lot, known as Abbey's Little Cowback Wood in the parish of Boxley, on the road to Bredhurst, containing about 4a 2r 20p. Particulars and plans may be had of Messrs. SENNETT, DAWSON, & THORNHILL, 8 Holborn, 2, Newsquare, Lincoln's-inn; 1 P. EVANS, Esq. Griff, near Nuneaton; of H. PEPPERCORN, Esq. East Malling Kent, at the Place of Sale, and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place Pall-mall, S.W.

Brick-making Machinery, Steam Crane, Building Materials, Sash and Moulding Sash, Doors, Deals, Battens, and Fire Bricks and Clay-sheds.

MR. GAIRDNER is instructed to SELL by AUCTION, at the YARD, near the Victoria Docks Station, North Woolwich Line, on WEDNESDAY, the 14th of DECEMBER, at ELEVEN o'clock, a CLAYTON'S PATENT BRICKMAKING MACHINE, double geared, with 4 moulds, 2 pugs, 2 end-delivery brick waggons, iron and wood skips, pumps, and general brick making plant, a powerful steam-crane, a double-purchase landing-crane and chains; the materials of engine-house and drying-sheds, 10 navvies' capital shafting, lead gutters, several thousand feet of wood battens, rafters, and timber purlins, the erections of 4 brick kilns, furnaces, &c., and 500,000 of new kiln bricks, protected and for sale. There is a river jetty and railway siding on the premises with every facility for land and river carriage.—On view two days prior. Catalogues on the Premises, and free by post on application to Mr. GAIRDNER'S Office, 159, Tottenham-court road, W.

TO ENGINEERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on MONDAY, DECEMBER 12, 1864, at TWELVE o'clock precisely, on the PREMISES, the Great Northern Railway Goods Depôt, Kentish Town, by order of the Receiver appointed by the Court of Chancery, Robert Company, the PLANT and UTENSILS of an IRONFOUNDRY; two wrought-iron cupolas (10 feet and 6 feet) and tuyeres, engine and blower power steam engine, 24-horse, shafting, six stoves, two vertical travellers (11 and 2 ton), two iron jib cranes, crane chain and hook, 10 in. screw traverse, several trolly frames, cast-iron screw pumps, iron planing, slotting, and screwing machines, drilling machine, foundry tools, steelyard to weigh 3 tons, scales and weights, cast iron tank, fitters' and pattern makers' benches, screw boxes, taps, and dies, sand and iron moulding boards, office furniture, new 6-inch Lowes lantern, two 10-ply new spring carts, timber truck, and manner of other effects. To be viewed on TUESDAY next, in the Sale when and open to view on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO FOILER MAKERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Mr. Mills, who is retiring, to SELL by AUCTION, on THURSDAY, DECEMBER 15, 1864, at ONE o'clock precisely, on the PREMISES, No. 68, Osborn-street, Whitechapel, the PLANT and TOOLS of a BOILER MAKER, horizontal steam engine nearly new, 10-inch cylinder, 2-feet stroke, by Smith, Beacock, and Tannett, punch and shearing machine, 3 powerful lifting jacks, 3 double fine Cornish boilers, 5 feet 6 inches, and 7 feet diameter, 16 feet, 20 feet, and 26 feet long, 2 vertical boilers, 4 steam boilers, various; new furnace work, smiths' forges and bellows, anvils, and the usual tools, forge pump, wrought iron tanks, iron and brass fittings, cast and wrought iron girders, chain cables, shipping tackle, cast steel tools, quantity new boiler plate, and other effects.—To be viewed Tuesday previous to the sale, and catalogues had on the Premises, and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

To Engineers and Others

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at their OFFICES, No. 13, Billiter-street, on MONDAY, DECEMBER 19th, at TWELVE, TWO 16-horse power engines by the NEW PATENT INDIA RUBBER, in sheets ⅛, ¼, and ½ inch thick, 250 new boiler tubes, Lloyd's make, 6 feet long, 2 inches diameter, 339 lb. Tuck's patent tackle, double and single sheaves, and 12-thread cordage, 12-inch circular steel saw, by Smith, Beacock, and Tannett, 12-inch ditto, 2 sets of the best name-frames, and 10 gauge lathes, by Hall, Hope's Wharf, Upper East Smithfield, where the whole may be viewed.—Samples may be seen at the Auctioneers' Offices, 13, Billiter-street, London, E.C. where catalogues may be obtained.

BLACKWALL.—Sale of Surplus Materials.

MESSRS. FULLER & HORSEY are instructed, by the Directors of the Blackwall Railway Company to SELL by AUCTION, on MONDAY, DECEMBER 19, 1864, at TWELVE o'clock precisely, on the WORKS, adjoining the Poplar station of the Blackwall Railway, SURPLUS MATERIALS; including four engine-house doors, with hinges and patent double bolts by Jones & Potts, in serviceable condition; an 8 horse power portable condensing steam engine by Jones & Potts; 17 pairs of railway carriage-wheels, chiefly Brattle's patent; 5 ton compound wheel crane, 4 tons four-throw pit headstock pumping gear, and gun metal, 4½ tons of old gun metal, double-headed rails, 50 tons of cast iron, old cast iron, and other old materials.—To be viewed on Saturday next, and catalogues had on the Premises; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

PIMLICO, formerly lately occupied by the Victoria Station Improvement Line for sale, in Portions or in the whole of 35,000 square feet, held for a long term of years, at a small rent.

MESSRS. FULLER & HORSEY are instructed by Messrs. Smith, Payne, & Smiths, who have resigned their lease, to SELL by AUCTION, on MONDAY, JANUARY, 30th, 1865, at ONE precisely, at GARRAWAY'S COFFEE HOUSE, Change-alley, City, in 21 lots, the valuable LEASEHOLD PROPERTY, comprising an area of 35,500 superficial feet situate in Gillingham-street, Pimlico, having a frontage of about 200 feet to Victoria-street, and in the immediate vicinity of the Victoria Station, the Grosvenor Canal, and the Thames, and consisting of two extensive premises, suitable for a brewery, distillery, or other manufacturing purposes, together with the commodious dwelling-house, offices, counting-house, and residence for a principal or manager, with suitable offices, also a dwelling-house in Hindon-street, adapted for a foreman. The whole held at a low rental for the long term of 99 years, and producing a small ground-rent of 135l. per annum. To be viewed till the sale, by cards only, which may be had of the Auctioneers. Particulars and plans may be had of Messrs. LOVELL, Hallam, Inn-chambers; of Messrs. LOVELL, HENSEY, & HUBBY, Solicitors, No. 10, Newgate-street, Lincoln's-inn, W.C.; at Garraway's Coffee House, Change-alley; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TEMPLE MILLS, GREAT MARLOW, BUCKS.—FOR SALE by AUCTION, by

FULLER & HORSEY, in JANUARY NEXT,—unless previously disposed of by private contract of which due notice will be given,—PART of the PLANT and MACHINERY of the old-established Corn and Paper Mills, now in full work, and which will be sold in lots, comprising 6 overshot wheels, 4 breast wheels, 2 turbines, 4 pair of stones and gear, 2 sets of rag engines, 4 beating engines, 2 engines, 2 stuff chests, 2 washing machines, 2 rotary pumps, &c. The Mills and Premises, with dwelling-house, &c. are included in the property sufficient to constitute a first-rate Corn and Paper Mill, and in lots of dry-use unders, are To be Let, with water power derived from two wheels, each 24 feet diameter, and two ditto, each 22 feet diameter, and the unrivalled right to the whole stream of the River Loddon by the side of the navigation. There are also two other convenient Mills to be let for water power, and to these a small lease even will be granted. The above will be on view on and after MONDAY, the 19th DECEMBER. Rates are paid to the mill wharf. The Mills are situate about 2 miles from the Temple Marlow Station, Great Western Railway, and are equally accessible from the Marlow town Station on the Wycombe Branch, and to be within the same distance of the station at Henley-on-Thames; from either of which plan and every necessary information may be had. Particulars apply to Messrs. BLOXAM, ELLISON, & CO. Solicitors, No. 1, Lincoln's-inn-fields, London, W.C.

Freeholds in the City of London

MR. METCALFE has received instructions to SELL, by AUCTION, at GARRAWAYS, on TUESDAY DECEMBER 13 at TWELVE, in 9 Lots, a valuable and important FREEHOLD PROPERTY, comprising the Row and old-established Mansion House, the construction of which is about to be commenced. An opportunity which has not occurred for many years for investment in property certain to increase in value, in the city of London, a section proposed to be rebuilt immediately, with a new road to be built at the Back of same. GEORGE BROWN, & Barristers, of Messrs. LAY LAY & GIBSON, Solicitors, 9, Great James-street, Bedford-row, W.C.; and Mr. WILLIAM METCALFE, Surveyor and Compensation Valuer, 11, Poultry, London, E.C.

ST. MARYLEBONE.—Builders' Surplus Stock.

MESSRS. LEREW will SELL by AUCTION, on the PREMISES, 14, Nottingham Mews, Hinde-street, on WEDNESDAY, DECEMBER 7th, at TWELVE precisely, a quantity of Mahogany, pine, cut stuff, quartering, &c. 4 wk benches, grindstone, spring truck, clock, 2 tanks, 8 marble chimney pieces, slabs, stages and racks, gas fittings, &c.—Auction Offices, Cardington street, Hampstead-road.

Two Days' Sale.—Camden premises, Camden town, near the Old Eagle Tavern and Camden road Railway station.

MESSRS. LEREW will SELL by AUCTION on the PREMISES, as above, on MONDAY, DECEMBER 12, and following day, at ELEVEN for TWELVE, a quantity of oak, and mahogany, wainscot, and yellow deals, counting-house, Cornish, and other doors, oak sills, wrought sashes, mantels, grates, stoves, gas fittings, 2 sets of counters, 2 desks, oak and mahogany fittings, &c.—Auction Offices, Cardington street, Hampstead-road.

To Marble Chimney-piece, Stove and Grate Dealers, and Others

Furnishing spacious Premises

MESSRS. VENTOM, CLARKE, & BULL have received instructions to SELL by AUCTION, at GARRAWAY'S, Coffee-house, Change-alley, Cornhill, on FRIDAY, the 16th DECEMBER (UNLESS previously disposed of by PRIVATE CONTRACT of which notice will be given), the LEASE of those commodious PREMISES, now in the occupation of the Assignees of Messrs. Collins & Green, being No 3 Backfriars-road, and known as the Rummer Tavern, together with the DWELLING HOUSE, No. 2. The premises are admirably adapted for any business requiring good frontage, combined with ample room, and comprise a noble suite of spacious and lofty rooms, two excellent bar fronts, extensive wine vaults, and the spacious grounds, forming one of the most convenient and desirable sites now in London, for the former Royal Albion Tavern, in which a trade of the first class has been conducted. A purchaser will have the option of taking the stock-in-trade, which is all modern and in excellent condition, at a fair valuation.—The Premises may be viewed, and Particulars and Conditions, with Orders to view the Stock, had shortly be published, and may be had of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, 7, Walbrook; and at the Offices of the Auctioneers, 8, Bucklersbury.

To Marble Chimney-piece Makers, Stove and Grate Dealers, Furnishing Ironmongers, and others—Extensive and valuable Sale of the very Valuable and extensive Stock in Trade of Messrs. Collins & Green.

MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees to SELL by AUCTION, at the ROTUNDA, 24, Blackfriars-road, on MONDAY, DECEMBER 19, and Following Days, at TWELVE each precisely (unless previously disposed of by Sale, by whole of the costly and well-assorted STOCK-IN-TRADE, comprising a large quantity of chimney-pieces of the most effective workmanship and of the most expensive marbles, including statuary, griotte, pyrenean, jasper, Genoese, Alpine, and other choice grecs; St. Beaury, Languedoc, verd antique, Sienna, &c.; a quantity of statuary, marble tablets, tazze, assortment of fancy marbles, and other requisites for the trade; stoves of the most approved and modern designs, kitchen ranges, hot-plates, kitcheners, &c.; a large set of patent bright fenders, and register stoves, &c. The remaining stock is of a large quantity of partly-manufactured marble mantels, tazze, tables, &c.; unmanufactured statuary, veined and other slabs, stone fronts, &c.; a spring van, a few lots of office furniture, and other effects.—May be viewed three days previous to sale. Catalogues will shortly be prepared, and may be had of the Auctioneers, who will undertake to purchase for Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, 7, Walbrook; at the Premises; and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, E.C.

NEW BRIDGE-STREET, BLACKFRIARS.—To the Trade.—Stock of Marble Chimney-pieces, Register Stoves, &c. at a considerably reduced Cost.

MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees of Messrs. Collins & Green, to SELL by AUCTION, at their PREMISES, No. 3, New Bridge-street, on WEDNESDAY, DECEMBER 21st, at TWELVE precisely, the well-assorted STOCK of about 50 handsome chimney-pieces of the most approved and fashionable designs and marbles, including the preceding and following lots of sale. Catalogues may be had at the Premises; and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, E.C.

LARNSTAPLE, DEVON.—TO BE SOLD by AUCTION, on TUESDAY, the 13th day of DECEMBER next.

MESSRS. MANNING & SON, on the PREMISES, Bude Quay, Parish of Pyworthy, at TWO o'clock in the afternoon precisely, the valuable PLANT and MACHINERY, 24 horse power high pressure condensing steam engine, 36 feet stroke, by Wigan, fitted new in 1861, in excellent working order, two boilers, each 30 feet long, 7 feet diameter, the 3 feet best iron, by Lee, Bromley, and Co. with patent self-acting safety valves, 2 pair of stones, with two-thirds iron spur gear, bolting mill, dressing machine, bench and circular saw, a sweep-cutting machine, by Robinson, of Rochdale, and 3 inch wrought-iron shaft, 45 feet long, with plummer blocks, and 4 pair of wrought-iron pulleys, 2 pair of 4 feet ditto, 1 pair of 3 feet ditto, and 1 pair of 2 feet ditto, 2 pair of 3 feet wrought-iron spur wheels, and 1 pair of 2 feet ditto, and the second-hand wrought-iron shafting, pulleys, and bearings, &c. &c.—Further particulars may be had of Messrs. Dalrymple, Bude; and of Messrs. MANNING & SON, Auctioneers, Bideford, Barnstaple, and Torrington.

NEW & STRAND.—The Lease and Goodwill and Entire Trade of the old-established Business of a Pastrycook and Confectioner, carried on for many years by the late Mr. William Cull.

MR. FREDK. PRIEST will SELL by AUCTION, at the AUCTION GALLERY, 10, Upper St. Martin's-lane, on WEDNESDAY, DECEMBER 14, at ONE, in lots, the LEASE, the GOODWILL and PREMISES, and the WHOLE of the trade and other effects, including the Counter, Fixtures, &c. of J. HENRY JONES, Esq. Solicitor, 8, Hart-street Bloomsbury-square; and at the Auction Offices, 10, Upper St. Martin's-lane, W.C.

ROYAL POLYTECHNIC.—Patron H.R.H. the Prince of Wales.—Professor Pepper and Mr. Bachoff's Lectures and Readings, which will include an entirely New Lecture by Professor Pepper, entitled "Ghosts, Past and Present," illustrated by the Polytechnic Ghost, Mechanism of the Piping Bullfinch—Pepper's new and beautiful experiment, showing How to Lend Dresses like Gas.—The Diving Bell.—The Lecture on Electricity, by Mr. Bachoff.—New Musical Entertainment by Mr. Reeves.—Illustrated Lecture on Pepper's Ghost daily at 4.30 and 8.45.—New Science by J. L. King, Esq. on the Various Sounds produced by the Human Voice, illustrated by Musical Illustrations.—Stokes on Memory.—Open 12 to 5, and 7 to 10.—Admission 1s.

WILLIAM MULLER, Artists' Colourman, 62, High Holborn, London. Drawing Paper, Tracing Paper, Colours in Oil or Water, Drawing Instruments. Lay Figures for Sale or Hire.

DENT'S TURRET CLOCKS.—The attention of Public Bodies, Gentlemen, and others, is respectfully requested to the Improvements made in the Construction of CLOCKS, as fitted for STAGES, CHURCHES, and other Large Buildings, by the late E. DENT and FREDERICK DENT, Clock and Chronometer Makers to the Queen and Prince Consort, and Makers of the GREAT CLOCK for the HOUSES of PARLIAMENT, &c. These Clocks, with Compensation Balances, adjusters, &c. for very Long and Short Periods, to work the hands of dials of any size, from 1 foot to 30 feet diameter, by E. DENT & CO. 61, STRAND (adjoining Coutts's Bank); and 34 and 35, ROYAL EXCHANGE, LONDON.

TURRET CLOCKS.—FOR SALE, One quite new, to go eight days and strike the hours, bounding all recent improvements, suitable for a gentleman's stable; also one second-hand, to go eight days, suitable for a church.—Apply to JOSEPH FAIRER, 188, St. George's-road East, London.

TO BUILDERS and CONTRACTORS.—The BATH FREESTONE COMPANY are prepared to supply BATH FREESTONE of LOCK, or in any of the usual forms, of the best workmanship and quality. Having steam power applied to the purpose, they are enabled to do the same at very low rates, and to execute with despatch any of Gothic tracery, mullions, and other pieces of ornamental stonework. Tables forwarded on application by return of post for prices of hard ready for fixing.—Apply to Mr. E. BILL, Combe Down, Bath.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 3, 1864.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1140. DECEMBER 10, 1864. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

New Offices, Chancery lane Mr A W. Blomfield, Architect .. 901
Messrs. Heat n, Butler & Bayne's Premises, King street, Covent Garden.—Mr. A. W. Blomfield, Architect 901

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BY Order of the Secretary of State for India in Council.

Notice is hereby given, that Ten Junior Appointments in the Engineer Establishment of the Department of Public Works in India will, in the year 1865, be open to Public Competition.

A Competitive Examination will, accordingly, be held in this Office in the month of June next. Full printed particulars of the conditions on which Candidates will be admitted to the Examination may be obtained at this Office, on application either personally or by letter addressed to the "Under Secretary of State for India, India Office, London, S.W."

India Office, 14th July, 1864.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Exhibitors must live within the south ten postal districts.

MONEY PRIZES, from 1l. to 10l.

Applications for space, information, &c. to be made to Mr. G. M. MURPHY, 55, Finchley-road, S.

SMITHFIELD CLUB CATTLE SHOW, 1864 (in the Gallery).—HENRY CLAYTON & CO. of the Atlas Works, will exhibit specimens of their improved Patent Brick-making Machinery, consisting of Pug-mills and Brick and Tile-Pressing Machines, Combined Moulding and Pressing Machines for Paving Bricks, Tile and Pipe Making Machines, New Patent Moulding Machinery, Portable Steam Mills, Patent Pan Mills, Tile system for drying bricks and tiles—Catalogues free by post, on application at their New Manufactory, Woodhall road, Harrow road, London, W. (late of Upper Park place, Dorsetsquare).

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger Stock of their Patent Register Metal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72—74, Bishopsgate-street Within.

LENOIR'S PATENT GAS-POWER ENGINE.

PRIZE MEDAL INTERNATIONAL EXHIBITION, 1862.

The Company are now Publicly Exhibiting this motive power, daily, between the hours of 11 and 1 and 3 and 5.

C. W. WOOD, Manager and Secretary (pro tem)

No. 40, Cranbourne-street, Leicester-square.

COMPETITIONS.

PROPOSED NEW CHAPEL and SCHOOLS at POPLAR.—MONDAY, DECEMBER 31st, 1864, will be the LAST DAY for receiving Designs, &c. as advertised for in "The Builder"—To be forwarded, under seal to Mr. ROGERS, Kemp House, East India Dock road, Poplar, E

TO ARCHITECTS.—The Guardians of the Leicester Union are desirous of obtaining DESIGNS, with Specifications and estimated Cost, for a proposed SCHOOLS and WORK HOUSE, at the Workhouse.—Further particulars, together with plans and sections of the site of the proposed buildings may be obtained on application to their Clerk, Mr. B. G. CHAMBERLAIN, New-street, Leicester.

SWANSEA INFIRMARY.—The Committee of the Swansea Infirmary are desirous of receiving PLANS and ESTIMATES for the NEW HOSPITAL for 100 BEDS. The cost not exceeding £12 per Bed. Plans to be sent in to the Secretary, on or before the 6th JANUARY, 1865.

No. 6, Heathfield street, Swansea, 2nd December, 1864.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—BULL POINT, near Devonport.

TENDERS are required to be delivered to the Director of Contracts, War Office, London, S.W. on or before the 2nd JANUARY, 1865, for the ERECTION of a SHIFTING HOUSE, SMITH'S SHOP, SCOURING HOUSE, ARTIFICER HOUSE, and PALISADING, also for BUILDING a WATER RESERVOIR and PROVIDING an 8 INCH CAST IRON MAIN and BRANCH CAST IRON PIPES.

Plans, Specifications, and all other particulars may be viewed, at the Royal Engineers' Office, Devonport, on MONDAYS, between the hours of ELEVEN and THREE; or at the Royal Engineers' Office, Bull Point, on any other day of the week.

HENRY CUNLIFFE OWEN,
Colonel Commanding Royal Engineers, Western District.
Devonport, 30th Nov 1864

BOROUGH of STOCKPORT.—SEWAGE WORKS.—The Local Board of Health of Stockport is prepared to receive TENDERS for the NEW MAIN SEWERS, and MASONRY and LABOUR required in the CONSTRUCTION of the HEATON-LANE MAIN INTERCEPTING SEWER, of Brick work, 4 feet by 2 feet 8 inches, and 8 feet by 2 feet, and in length about 1,200 yards, together with the Storm Outfalls, Manholes, Ventilating Shafts, Chambers, and other Works connected therewith. Plans, sections, and specification may be seen, and Forms of Tender and all requisite information obtained, on and after MONDAY next, on application to Mr. BRIERLEY, Civil Engineer, Blackfriars; or to Mr. TAYLOR, Borough Surveyor, at his Offices, Tiviot Dale, Heaton Norris.—Sets of Tenders, endorsed "Tender for Main Sewer, &c" to be sent to my Office, not later than WEDNESDAY, the 14th day of DECEMBER next. The Local Board will not be bound to accept the lowest or any Tender.

HENRY COPPOCK,
Town Clerk, and Clerk to the Local Board.
Stockport, Nov. 17, 1864.

THE KEIGHLEY and WORTH VALLEY RAILWAY COMPANY.—CONTRACTS for SUPPLY of PERMANENT WAY MATERIALS.—The Directors of the Keighley and Worth Valley Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS, CHAIRS, SLEEPERS, KEYS, FISH-PLATES, BOLTS, SPIKES, &c. required in the CONSTRUCTION of their above Railway. Specifications and Forms of Tender may be obtained upon application to J. M'LANDSBOROUGH, Esq. Civil Engineer, 21 and 22, Queen-street, Bradford. Sealed Tenders must be delivered to the undersigned on or before MONDAY, the 19th DECEMBER next. The Directors do not pledge themselves to accept the lowest or any Tender.—By order of the Directors,

JONATHAN GILL, Secretary.
Oakworth, Keighley, 21st November, 1864

TO BUILDERS.—Parties willing to TENDER for the proposed ADDITIONS to the ESTABLISHMENT of the LADIES of NOTRE DAME, at Mount Pleasant, Liverpool, may obtain the necessary information on application to the Architects, Messrs. HADFIELD & SON, Corn Exchange Chambers, Sheffield, by applying not later than DECEMBER 15th inst.at.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—SOUTH LONDON, TOOTING, and SUTTON LINES.—CONTRACT for WORKS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the undermentioned LINES of RAILWAY to a single line of Rails, London Standard, with the Permanent Way and Fencing complete, including the several Stations, Goods Sheds, Engine Turntables, Water Tanks, &c. between Sutton and Epsom Downs, and also between Wandsworth and Merton, unless they think fit to accept the lowest or any Tender.—By order,

JAMES BRICKS SLIGHT, Secretary.
Secretary's Office, London Bridge Terminus,
2nd December, 1864.

RHYL PROMENADE PIER COMPANY (LIMITED).—TO CONTRACTORS.—The Directors are desirous of receiving TENDERS for the ERECTION of an IRON PIER, of the Area of Rhyl, 1,050 yards long.—Plans and specifications may be seen, and Forms of Tender obtained, on application to Mr. W. WYNNE, the Secretary, Rhyl, or Mold. The contractor will be required to take a portion of the amount of his contract in paid up shares of the Company. The Directors do not bind themselves to accept the lowest or any other Tender.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National school-rooms, Walham-green, in the County of Middlesex, on WEDNESDAY, the 4th day of JANUARY, 1865, at SIX o'clock in the evening precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for BUILDING a CHAPEL for the performance of the Burial Service according to the rites of the United Church of England and Ireland, on the ground purchased by the Board, as a burial ground, situate on the north side of the road leading from the entrance of Fulham to Hammersmith, and containing 6a. 2r. 22p. according to the plan approved by the Bishop; Building a Chapel for the performance of Burial Service on such part of the ground so purchased as shall be consecrated, for persons not being members of the United Church, and also Building a Lodge at the Entrance of the said Ground; and also Walls and Piers round the said Ground. Plans, specifications, and detailed drawings of the works can be seen, and bills of quantities prepared by a competent surveyor, and other particulars obtained, with the Form of Tender, on personal application at the Offices of A. W. BLOMFIELD, Esq. the Architect, No. 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock of the said 4th day of JANUARY, 1865, and not later. Every Tender must be accompanied by a Deposit Note for £50, and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties for the due performance of the undertaking, in conformity with the plans, specifications, and conditions to be prepared by the Solicitor to the Board. The Board does not pledge itself to accept the lowest or any Tender.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National School rooms, Walham-green, in the County of Middlesex, on WEDNESDAY, the 4th day of JANUARY, 1865, at SIX o'clock in the Evening precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for DRAINING and LAYING OUT the GROUND purchased by the Board as a BURIAL GROUND, situate on the north side of the road leading from the entrance of Fulham Town to Hammersmith, and containing 6a. 2r. 22p. A plan of the Ground and a specification of the Work to be done can be seen, and other particulars obtained, with the Form of Tender, on personal application at the Offices of A. W. BLOMFIELD, Esq. the Architect, 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock of the said 4th day of JANUARY, 1865, and not later. Every Tender must be accompanied by a Deposit Note for £50, and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties for the due performance of the undertaking, in conformity with the plans, specifications, and conditions to be prepared by the Solicitor to the Board. The Board does not pledge itself to accept the lowest or any Tender.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National school-rooms, Walham-green, in the County of Middlesex, on WEDNESDAY, the 4th day of JANUARY, 1865, at SIX o'clock in the Evening precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for PROVIDING, PAINTING, and PAINTING the IRON RAILINGS and GATES and within the Walls of Piers round the ground purchased by the Board as a Burial Ground, situate on the north side of the road leading from the entrance of Fulham to Hammersmith, and containing 6a. 2r. 22p. A plan of the ground and a specification of the work to be done can be seen and obtained, with the form of Tender and other particulars, on personal application, at the Offices of A. W. BLOMFIELD, Esq. the Architect, No. 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock of the said 4th day of JANUARY, 1865, and not later. Every Tender must be accompanied by a Deposit Note for £50, and the party whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties, for the due performance of the undertaking, in conformity with the plans, specifications, and conditions to be prepared by the Solicitor to the Board. The Board does not pledge itself to accept the lowest or any Tender.

LONDON, CHATHAM, and DOVER RAILWAY.—The Directors are prepared to receive TENDERS for the purchase of the following OLD MATERIALS:—

1. Three old Locomotive Engines and Tenders.
2. A quantity of best Malleable Scrap Iron, principally parts of Engines.
3. Cast-iron, Cylinders, &c.
4. Gun Metal.
5. Iron Turnings from Yorkshire Tyres.

Lists of the quantities can be had at the Loughboro' Works, on application to Mr W. MARLEY, who will give any further information required. Tenders to be forwarded to the undersigned on or before the 14th day of DECEMBER, 1864, sealed, and endorsed "Tender for Old Stores."—By Order,

W. E. JOHNSON, Secretary.
Victoria Terminus, London, December 1, 1864.

TO BUILDERS, MILLWRIGHTS, and OTHERS.—STAFFORD COUNTY PRISON.—Persons disposed to TENDER for the ERECTION of TREAD WHEELS, CORN MILL, and KITCHEN at the above named prison are to see the plans, specifications, and conditions of contract, and may obtain printed forms of tender on and after TUESDAY, the 27th inst. THURSDAY, the 29th of DECEMBER. A deposit of £1 1s. will be required for each copy of the drawings, which will be returned on delivery of a bona fide tender. Tenders must be delivered at my Office by TEN o'clock on THURSDAY, the 29th DECEMBER, but neither the lowest nor any tender necessarily accepted.

ROBERT GRIFFITHS, Architect and County Surveyor.
County Surveyor's Office, Lancaster street, Stafford,
December 1st, 1864.

TO BUILDERS.—TENDERS WANTED for BUILDING FOUR EIGHT ROOMED HOUSES, in Lamb's Place and Street, Islington, and erecting, between SIX and EIGHT o'clock at Mr MILNS, 27, Burton road, Lower Kennington Lane, Tenders (addressed and later than EIGHT o'clock on MONDAY EVENING, DECEMBER 19, 1864. Three Advances will be made during building &c. The Advertiser does not bind himself to accept the lowest or any Tender.

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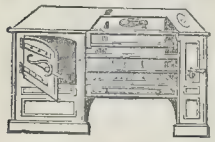
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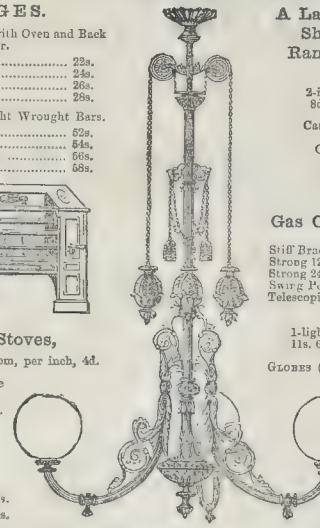
Register Stoves,

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Best Cut Clasp and Rose Nails.

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1½-in.	15s 6d.
1¼-in.	17s 6d.
2-in.	11s. 6d.
2½-in.	11s.
3-in.	13s. 6d.

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A Large Assortment of Bar, Sheet, and Hoop Iron, Range and Stove Metal.

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O G Gutters, with Clips on,

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11d.	1s. per yard.

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Stiff Brackets, with Gallery, to 10 in. . . 16s.
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1-light.	2-light.	3-light.
11s. 6d.	16s.	21s. each.

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Brass Fittings for Iron Pipe of every description.

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SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS;
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TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufactured by Dr. Arnold's Improved Ventilators.
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DEVAUX'S VIEILLE MONTAGNE THICK ZINC ROOFING on IMPROVED PRINCIPLES.
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ESTABLISHED 1744.
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To BUILDERS, CARPENTERS and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

THE ATTENTION OF ARCHITECTS AND SURVEYORS IS RESPECTFULLY SOLICITED TO
FLEXEN'S PATENT DRAUGHTLESS VENTILATOR,
Now used in various leading establishments in London. It supersedes all others in its simplicity, free ventilation, and excluding all draught and dust; requires no alteration of sashes, and effectually produces a good and agreeable air in the most heated apartment. In establishments where a great amount of gas is consumed, or steam is generated, this Ventilator has fully carried out the requisites pursued. Office, 46, Skinner-street, Snow-hill, E.C. where models can be seen, references given, and all information obtained.

NORTH-LONDON ZINC WORKS, 17, Exmouth-street, Clerkenwell.—Improved LAY ZINC PLATE for Builders.—J. DORE continues to LAY ZINC PLATE complete at, No. 14, 4d. per foot super; No. 11, 4½d.; No. 12, 4¾d.; No. 13, 5d. Pipes and Gutters equally low. Chimney-flues, 1s. and 1s. Cowls from 4s. each. Sheet Zinc, 2½ per ton. FOR CASH

TRAVELLER.—WANTED, a Secondhand 10-ton OVERHEAD TRAVELLER (about 30 feet span), with the necessary Hand-gear and Rack complete, for re-erection. The price must be moderate. Apply, by letter, prepaid, to G. A. Mr. Roberts, Bookseller, Arabella-row, Pimlico.

WANTED to PURCHASE, 10,000 BRICKS, Stocks, Place and Grizzle. For Cash Delivered at Chelsea R. Sc. Battersea—Address, A. M 14 Basil-street, Knightsbridge, S.W.

BY HER MAJESTY'S ROYAL LETTERS PATENT
FOXLEY'S CORRUGATED BRICKS,
For GARDEN WALLS.



Are ornamental, cheap, and durable; the most effectual remedy against all the evils attending the present system of training fruit trees.
As compared with trellis of iron, these bricks are only one tenth of their cost, and will last as long as the wall stands. The bending furnishes a protection against the spring frosts, and prevents cold draughts; while the trellis, by leaving a clear space behind the trees, causes a draught. Any kind of trellis is expensive, cumbersome, and perishable, and instead of preventing increases the accumulation of insects and dirt. It may certainly be true that iron is preferable to fruit-trees; but, at any rate it is safest to have only a brick wall, and decidedly the best to have such a wall as will furnish at the least cost and trouble, the largest quantity of the finest fruit. The Patentee challenges the whole world to produce anything comparable with these bricks for that purpose.
They can be seen anywhere, and used everywhere. The principle is so plain and simple, that a child may understand it, and requires no argument or trial to prove its benefits.
The apparatus for building, Press, and further particulars, on application to J. FOXLEY, Stanley Stratford, Bucks. Agents wanted to make them in every large town in the kingdom where they are not already appointed.

NEW STOCK NOW READY.
FINE WHITE BRICKS.
BEST RED BRICKS
White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN COPINGS.
Plain and Ornamental ROOFING and RIDGE TILES.
Delivered to Vessels in the Dock alongside the Kilns, in the River Medina.
Pattern Sheets and all information, may be had of R. LANGLEY, Agent, East Cowes Park, Isle of Wight.

SAMPLES of BRICKS, TILES, &c. Made at EAST COWES PARK.
Can be seen in the Constructional Department, KENSINGTON MUSEUM.
R. LANGLEY, Agent.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of this plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licences for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
,, 8-inch Pavings, 55s. per 1,000.
,, Floor Bricks, 40s per 1,000.
White Rock Ditto, 45s per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

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By Messrs. Cales Birch & Co. Ware, Herts.

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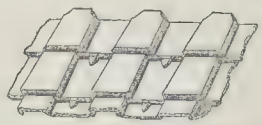
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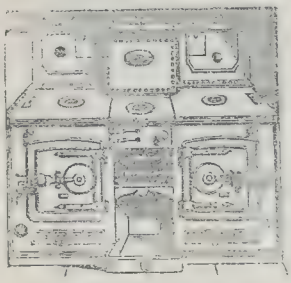
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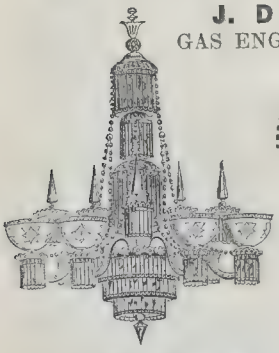
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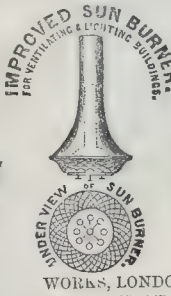
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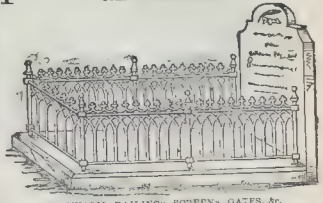
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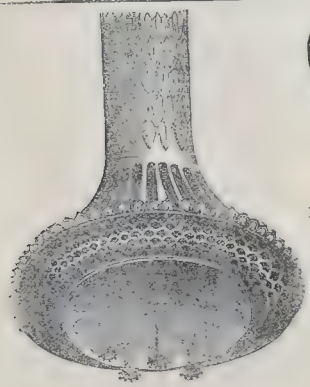
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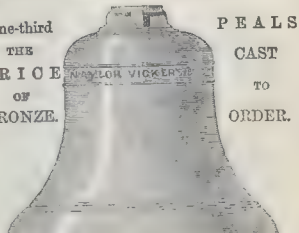
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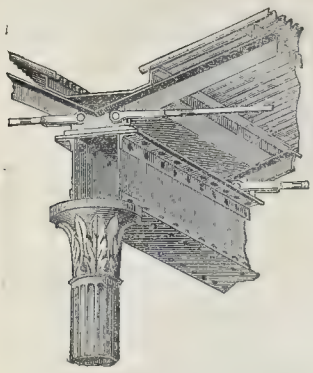
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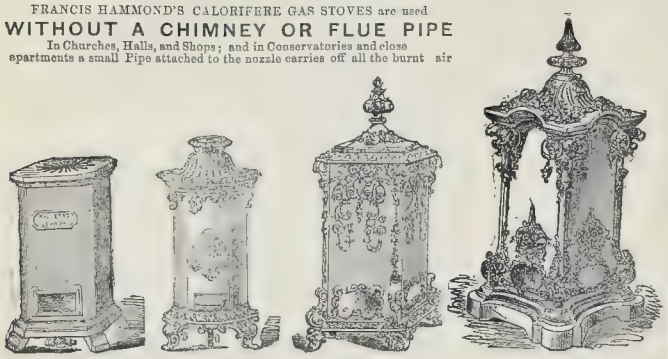
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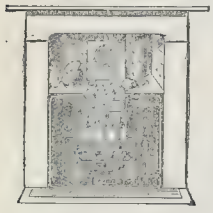
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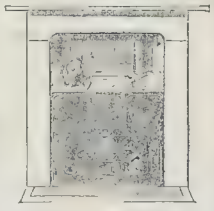


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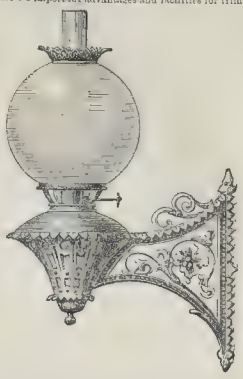
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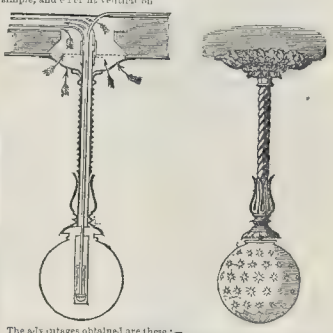
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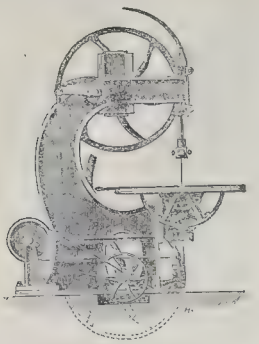
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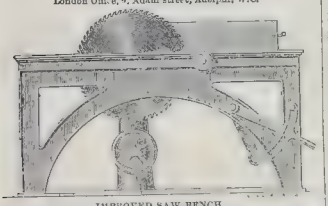
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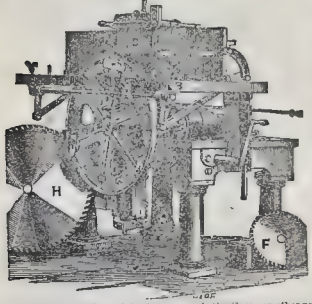
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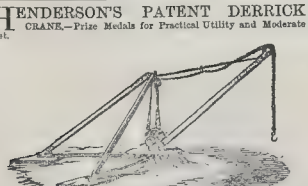
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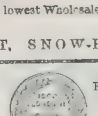
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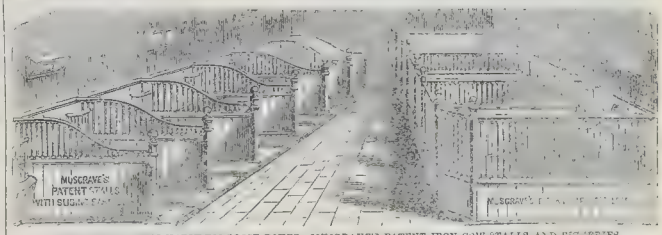
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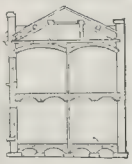
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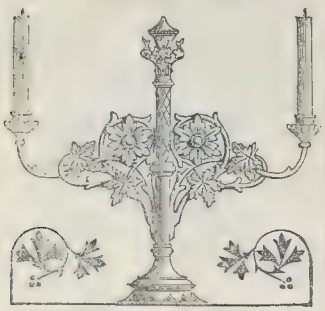
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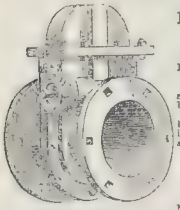
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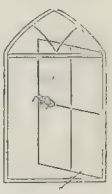
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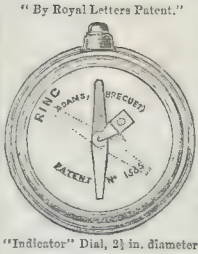
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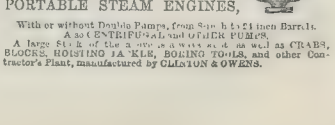
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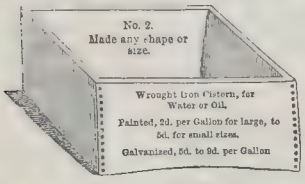
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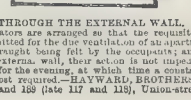
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The Builder.

VOL. XXII.—No. 1140.

The Future Capital of Italy.

FLORENCE, the capital of United Italy! This seems a brilliant destiny, yet the tidings that such was the future worked out for her were received there calmly and seriously: no popular demonstration ensued, nor did any enthusiasm manifest itself; many, perhaps, having been prepared for this change, whilst a minority (the lingering friends of the *ancien régime*) make no secret of regretting it. As to the political, military, historic, and traditional grounds on which this transfer may be justified, we need only observe that they are acknowledged (as the accordance of Italian journalism on the subject clearly shows) by the general sense of the nation. It is our object here to glance at the past and future of this beautiful city, with reference to the local change already effected, and still to be anticipated, in consequence of her promotion to such new dignity.

Looking down from the dizzy height of that stupendous tower which overtops the Palazzo Vecchio, or from the pleasant slopes of the villa-studded Bellosguardo, upon the fair panorama of the Arno valley, with the city embosomed in the midst, like a gem set in splendid framework, the feature that will perhaps most impress every beholder is the admirable harmony between the old and new, the blending and reconciling of contrasted details in the Mediæval majesty of the past and the gay prosperity of the present life. The Middle Ages are not obliterated, as in Rome; nor are they, as in many historic Italian towns, intruded before us to the exclusion of signs and tokens that bespeak the spirit of progress, the realities of a vigorous work-day existence. If, without taking the trouble to ascend to any high places, we observe the scene spread in view from the favourite promenade of the Lung' Arno quays, we cannot fail to be struck by the picturesque accord between the handsome new buildings that extend in this direction towards the Cascine Park, and the many monuments of olden time comprised in that attractive picture. The Ponte Vecchio, built by Taddeo Gaddi, 1333, with its quaint rows of goldsmiths' shops overhanging the river, and Vasari's arcades, supporting the covered way between the two once grand-ducal palaces that traverse its length; the distant and wider arches of the Ponte delle Grazie (the most ancient public structure of Florence extant, her octagonal Baptistery alone excepted, the date of this bridge being 1237), with the curious little mansions pendant at each side of its heavy piers; to our right, beyond the Arno, Baccio d'Agnolo's tower and Brunelleschi's cupola of the S. Spirito Church; to our left, the far more majestic dome of the cathedral, and Giotto's glorious Campanile glistening in the sun, as if its marble had been chiselled but yesterday; the aërial, but solid and massive tower of the palace, now more appropriately styled "of the Signoria," instead of by its former vulgar name, "the old palace,"—above, crowning the cypress-shaded hill that overlooks the impressive scene eastward, the Mediæval Italian Gothic of S. Miniato, and the historic tower raised beside it by Agnolo, still bearing marks of the injuries inflicted by the siege in 1529;—all these details, so contrasted, are yet in such manner combined as to satisfy the eyes and taste while they excite the imagination, wakening a host of associations from the memories of the "Etrurian Athens."

Shortly after the great step, decisive to her destinies, had been resolved on, a distinguished officer was sent hither from Turin, to inspect the chief public buildings, and confer with the magistracy as to the choice of those most suitable for the seats of government business and centres of ministerial affairs. We learn of the result in the appropriation of the Signoria Palace; the "Hall of Five Hundred" (*cinque cento*), constructed in 1495, for the Republican Comitia, on the suggestion of Savonarola, the original architecture by Pollajuolo (or Cronaca), completed and embellished by Vasari and Bandinelli, under Cosimo I., will become the Chamber of Deputies; another spacious and richly decorated hall, on a higher story, hitherto used by the Tuscan municipal council, will be the meeting-place of the Senate; another suite of rooms will serve for the Ministry of Foreign Affairs, in the same edifice; the Riccardi (formerly Medici) Palace, one of the noblest examples of civic architecture, commenced in 1430 by Michelozzi, about a century later receiving new details from the designs of Buonarotti, and almost doubled in size by the additions, in style truly accordant with the original, raised in 1715, after the Riccardi family had become owners—this will be the seat of two ministries, those of the "Interior" (or Home Affairs), and Finances. The modern Crocetta Palace (a spacious, but not otherwise notable residence, once grand-ducal) will serve for the Council of State; a principal section of the large convent, S. Firenze, built in 1772, for the Oratorian fathers, will be used for other public offices, as also a part of the S. Spirito Convent, one of the finest monastic edifices of this city, its outer cloister by the architect Parigi, the inner and most nobly designed one by Ammanati. Another project is the enlargement of the city, by enclosing certain suburbs, especially on the northern side, towards Fiesole; throwing down the old walls, and eventually restoring them, so that their cincture may comprise new extents of surfaces mapped out with streets and piazzas. These walls, the third fortifying girdle within which Florence has been enclosed at several epochs, as her developments successively required, were commenced conformably to decree of the Republic, in 1281; carried on but slowly and at intervals, as inferable from the known fact that the works were still progressing in 1388; and now measure in circumference, French *mètres*, 9530·62. No longer of any real utility for strategic purposes, they have, through repeated restorations, lost even the appearance of time-worn and venerable antiquity, except only on the southern side, where ponderous square towers, large ruinous turrets, and dusky curtains of rude irregular stonework still entitle them to rank among the picturesque relics of Florence's Mediæval life. In every direction are new lines of building in progress, new houses, worthy of first-class character, starting up, especially in the quarters marked by pretentions and preferences of fashion, nearest the limits of the Lung' Arno quays towards the Cascine, and around the largest piazza, built under grand-ducal government, first called after the last reigning grand duchess, "Maria Antonia," but now, with nobler meaning, "dell' Independenza." And in the style of the domestic architecture, whose claims are daily becoming more conspicuous, we are glad to observe that, even if designs be open to criticism, no uniformity is aimed at, no long fronts of showy structure present the perpetual repetition of a single builder's idea; but each mansion stands distinct, while in several (the best) examples is a laudable intention to imitate the good points of those grand old residences that so dignify this city's streets,—the ground-floor story of Tuscan stonework, with its rough surfaces and distinctly-marked joinings, the round-arched windows and doorways, the string courses or cornices dividing upper stories, the flat pilasters between windows, and sometimes interstices adorned by statuary in niches, or shields sculptured with the armorial devices of the republic and her various guilds or political parties. Besides the works for creating of the new, we have to commend others for the demolishing of the old, the removal of unsightly and inconvenient buildings, accomplished in sundry late instances; and in one example now before us, the labours, slowly indeed advancing, for the destruction of the Corsi Palace, once the residence of the nuncio;—a great heavy incumbrance, impeding the transit between the St. Trinita piazza and the renovated streets that lead to that of the Cathedral. Where these demolitions have been fatal to any structure of historic note, civic patriotism has not suffered the site to be forgotten, the memorial slab being invariably erected with the epigraph that tells where it may be recognised; as the records in the crowded Via Calzaioli of the once very prominent Mediæval tower and loggia of the Adimari family, taken down about twenty years ago for the widening of that great thoroughfare, now a chief centre of traffic and business; and another such record of the Buondelmonti palace, burnt down, in a burst of popular hatred against that family, in 1378, a portico alone being left of their residence, until this was finally removed, and a substantial modern house raised on its site (Borgo Santi Apostoli) in 1840. That appropriate and judicious method of honouring the illustrious dead by inscribed tablets to tell us where they lived, which supplies one interesting feature in Florence's streets, has of late been exemplified in several instances; and we are thus reminded of departed genius before the house of the dramatic poet, Niccolini (deceased 1862); before that where the historic painter, Sabatelli, saw the light (who died at Milan, 1850); most affectingly, for gratification to all English eyes, by the epigraph dictated with such appreciative feeling on that "Casa Guidi" made classic by the pages of our great poetess, Mrs. Browning; and by, we believe, the last-erected tablet, in the Via Porta Rossa, to the memory of the goldsmith and chaser, Bernardo Cennini, much esteemed among artists of the fifteenth century, who assisted Lorenzo Ghiberti in the workmanship of his magnificent bronze portals for the baptistery.

The various Mediæval restorations accomplished here within late years have been noticed in our pages. Generally speaking, intelligence and liberality have manifested themselves in all such undertakings carried out by Tuscan authorities. At S. Miniato, where the architectural restorations are now finished, other works are in progress for raising a quadrangle of sepulchral deposits, with round arches, to occupy an ample terrace, at a somewhat lower level than the esplanade before that church's front; and when the solemnities of All Souls' Day last attracted throngs to that fine old basilica, five designs were exhibited in the sacristy for these places of sepulture, all with the leading features of the round arch, and alternate courses of black and white marble, conformably with the incrustations of the church. Another work, truly for restoration, is now advancing to completion, at the Orphan Asylum, on the piazza of the baptistery, known by the old name Bigallo, built about 1248, and, as supposed, after the designs of Niccolo Pisano, originally appropriated for the offices and oratory of the well-known *Misericordia* Company (devoted to duties of charity, and espe-

cially to the burial of the dead). This small but beautiful edifice had an open loggia, with arcades, carried along two fronts, built up, with the worst taste, in 1697, so as to deprive the exterior of its olden character—presently, however, to be reproduced by the reopening of those archways, without any alteration to the antique features still conspicuous and beautiful on its time-worn surfaces, its front towards the baptistery being adorned with statuettes of the Madonna and Child, and two attendant saints, under Gothic canopies; also with some curious frescoes (now almost effaced) of miracles in the life of St. Peter Martyr, the Dominican missionary and inquisitor; its arcades with twisted pilasters, elaborately chiselled into decorative forms, and the archivolts surrounded by reliefs of apostles or other sacred subjects, as busts within quatrefoils. The *round* arches of this building entitle it to be considered the earliest Florentine example of a return to the Classic,—an anticipative Renaissance, indeed, in antagonism to the long-dominant influences of the Italian Gothic. Under its reopened portico is to be appropriately placed a statue of Giotto, no doubt so as to represent the great artist in imagined contemplation of his own splendid creation, the campanile towards which the angle between the two fronts of the Bigallo is turned, as a like idea is presented in the statues of Arnolfo and Brunelleschi, on the piazza before the Duomo, both gazing with upward glances on that majestic temple, their joint creation.

We should notice also the judicious restorations, just complete, after long labours, of the fine old battlemented palace, between the Lung' Arno and Piazza S. Trinita, now known as the Ferroni, but formerly the Spini residence, built by the same Arnolfo, about the end of the thirteenth century, but much altered by inappropriate new features in the last century; now brought back to a style more accordant with the original, the windows arched, and the heavily overhanging machicolations repaired in their feudal character, as first fashioned by that great architect.

We learn that the municipality intends to raise forty million francs for the proposed enlargement of this city, and that its circuit will not only be made to extend northwards towards Fiesole, but also southward, so far as to comprise the once grand-ducal villa, Poggio Imperiale, with the now garden-clothed height on which it stands, reached by a long avenue of cypresses. The appropriation of the S. Firenze convent is, as we have heard since writing the above, abandoned for economic reasons; but other convents will be required to cede portions of their ample buildings to Government uses. Hitherto monastic property throughout Tuscany has been left untouched, exempt from the law rigorously applied in almost all other provinces of the Italian kingdom; and this indulgence, we believe, is out of regard for the more friendly feeling towards such institutions that prevails, at least in this country's rural districts.

VALENTINE ART.

A new custom is gaining ground with us, that has made a large call upon artistic ingenuity of a particular kind. All at once it has become pretty general to send Christmas and New Year cards from friend to friend. These represent the season, pictorially, with little snow scenes of whitened villages and bare trees; four cross-roads, with finger-posts crusted with rime and inscribed with pleasant words of good wishing, and coaches laden with school-boys and Christmas hampers coming into view; robin red-breasts perched on stiles and palings, or hopping before latticed windows seeking wistfully for crumbs; with frosted landscape in garlands of red-berried holly. One idea only is expressed in them all,—that winter has come with its social responsibilities; but it is pleasing to note the various modes in which a mere message of "compliments of the season" can be artistically rendered. We have another custom, not quite so new, that has met with a different treatment at our hands. The Christmas and New Year card is the birth of a "fancy free" social life after the introduction of a penny postage; the *valentine*, to which we would allude, has had to work its way into favour from the early part of the century, when a letter from London to the coast cost eightpence, and to the north a shilling. With the dead-weight in the shape of postage the valentine languished for years in a sphere composed principally of cooks, housemaids, policemen, and butcher-boys; and, when not slipped under the front door in country places, in a region almost restricted to the area of the twopenny post: they have had to work their way up from Seven Dials to the West-end. The compliments of the season bloomed at the West-end, and are as yet unclaimed by Seven Dials.

If anything should be more artistic, or exhibit greater exaltation of fancy, than another, it is a valentine, the gift of youth to beauty, or of the fair to the brave and kind. With photography, chromo-lithography, and skilled pencil, such as those which our best illustrated serials display, it is a marvel that the large demand for these articles of annual sale has not called forth a supply of a better quality into the market. Those now manufactured are the laughing-stock of the witty, the foolish, and the wise alike, either for their absurdity, their tawdriness, or their vulgarity.

We have said that the valentine enjoys a rapidly-increasing consumption. The very term is a modern adaptation. The word "valentine" of old meant a sweetheart chosen by lot on Valentine's Eve. Brand, in his "Popular Antiquities," mentions that he has found unquestionable authority evincing that the custom of choosing valentines was a sport practised in the houses of the gentry in England as early as the year 1476; and his painstaking editor, Sir Henry Ellis, cites Chaucer, the Paston Letters, John Lydgate, the Monk of Bury, in corroboration of this statement. But in course of time the drawing of lots was discontinued, although chance was still relied upon as the arbitrator of destiny in the matter; and it became customary to consider the first person seen on the morning of the eventful day as a valentine. Grose explains a valentine to mean the first woman seen by a man, or man seen by a woman, on the 14th of February. In the dictionary compiled by the nephew of Milton, Edward Phillips, the word "valentine" is defined as follows:—"A certain Roman bishop, whose festival is kept Feb. 14th. Whence, among the Papists, those saints that are chosen as patrons for the year ensuing are called Valentines; and in England the custom of choosing valentines, or special loving friends among young men and maidens, on that day; about which time the birds choose their mates, and begin to couple." Johnson, 1805, defines the word as a sweetheart chosen on Valentine's Day. Nuttal's edition of Webster, 1861, however, gives the present acceptation of the term, "A love-letter sent on St. Valentine's Day." When we now speak of a valentine, we mean the love-letter last mentioned; but when we write of one in these letters, we doubtless mean as Chaucer, poet and clerk of the works, meant when he wrote,—

> "On St. Valentine's day,
> By my statute and through my governaunce,
> Ye doe chese your mates, and after flie away
> With hem as I pricke you with pleasaunce."

We have seen printed valentines fifty years old. They consisted only of long and somewhat tedious verses, surrounded by a printer's ornamental border in black ink, and looked very much like a handbill relating to the undertaking business. These staid productions heralded in the well-whiskered gentlemen in blue coats making love to ladies in flowery bowers, who for many years, in various places, served as headings to verses as tedious as those less attractively embellished. After these came different combinations of loving couples in bright raiment, frequently with arrows stuck in their breasts like modern martyrs,—with an increasing number of accessories, such as hearts strung together or detached, in flames or *au naturel*; Cupids blind-folded or looking on; Hymen's altars with or without a material sacrifice upon them; darts, torches, doves bringing notelets or rings in their beaks, &c. As valentines were approved in wider circles a more expensive kind was introduced, consisting of two layers of paper, both printed and coloured by hand. The topmost sheet, generally figured with a nosegay, was cut into a kind of paper netting, like a fly-cage, and the central part of it was capable of being lifted up by a piece of cotton or silk attached to it for the purpose, when it disclosed a pair of lovers on the lower sheet enwreathed in festoons of smoke and flames from Hymen's altar, the latter either delineated or understood according to the price. A valentine of this class costs from eighteenpence to half-a-crown. It was superseded about twenty years ago by the innovation of ovals or other insertions of white satin, laden with devices, and bordered with hot-pressed embossing to represent lace-work; or of rice paper tablets, painted like transparencies. Little tufts of moss, with sugar-plums gummed on to them, to look like birds' nests with eggs in them, formed another feature of this stage: they typified the delightful, peaceful home to which the lover invited his chosen mate. The leaves of artificial flowers next found their way into the composition, then the flowrets themselves. And now we have arrived at a semi-theatrical, semi-peepshow-like mixture of gold and silver paper, satin, gauze, artificial flowers, rhyme, colour, fancy stationery, and bad art. If we have added to the diversity of the materials, we have deducted from the size of these annuals; for formerly they were as large as a letter: they are now of the dimensions of a note.

There is a branch of valentine-art distinct from this. Besides affording a vehicle for those who wish to express real preference, valentines are frequently made use of to convey scorn and rejection. Those manufactured to meet this demand are of a cheap kind, probably from a conclusion matured in the manufacturing mind that non-admirers are not likely to spend much money over the objects of their fancied or real distaste; but they are very numerous. It must have been an ingenious person, by-the-bye, who hit upon the idea of making a large old umbrella a medium for the display of this class of valentine in the street, the kind of person invaluable at need, thrifty, clever at adaptations and makeshifts, and full of moral courage. We are familiar enough with the sight now, but it must have appeared like the proceeding of a lunatic when the originator of this idea inverted his umbrella upon the curbstone, lined it with valentines, and took his stand by it awaiting purchasers. There is a little crowd, now dissolving, now concreting, nearly all day long round these portable galleries, and even of a wet Saturday night; but the sharpest of the spectators would be puzzled to see any connexion between the coarse caricatures of human weaknesses and individual peculiarities, and the pious, charitable Bishop Valentine, or with the ancient custom identified with his name. Enormous headed and little bodied monsters, both male and female, goggle-eyed, bandy-legged, crooked, painfully attenuated, or bulbously stout representatives of different trades, coarsely printed and daubed with cheap colour, Prussian blue, gamboge and lake, are catered to suit the taste of people who wish to discompose the feelings of their acquaintances. There is not a particle of wit in any one of these so-called valentines; nothing more redeeming than buffoonery and abuse. The last season or two saw the introduction of the materials of clothing into them, and a reduction in their size. Away with them altogether!

The returns of the post-office show that there is an increase of letters on and about Valentine's day involving the use of several thousands of pounds worth of postage stamps. As there would be but few valentines that cost less than the stamp, we can make a rough guess at the large sums spent annually in their purchase. Taking this into consideration, it is clear that the production of artistic elegancies could not fail to be a profitable undertaking in every sense. It may be asked what sort of treatment we would suggest for these pictorial trifles; and we might reply, in an essay on ornament, inquiring whether the first step was a dot or a notch, and who made it. Was it some ancient warrior hitting upon a device by which to distinguish his bow or arrows from other braves who hunted in the same grand old forests, or was it the effort of some maiden in the dim, dim past to identify the coarse clay vessel in which she carried water to the huts of her people from those of other maidens engaged in the same office? If the first artist was a man, is it not likely that the first ornament consisted of notches; if a female, was it not, probably, a dot or puncture by some needle-like implement? But it is by no means our intention to do more than suggest to those whom it may concern, that there is an article of large sale falling into the hands of young people, year after year, in which there is scope for the display and remuneration of decorative skill, pictorial fancy, and genuine thought. The poets stand in favourable contrast to artists in this department. The words of some valentines, written by able pens and "ready writers" to their Dorindas, Maries, Annas, and also to their wives,—may their shadows never be less,—are as graceful as diction can make them.

We might have reserved our remarks till Valentine's Day was close at hand; but as we

write for a practical purpose, we prefer to attend to the lock of the stable while the steed is safe in hand. There is ample time for this seed of warning to bear fruit before the coming spring. If we are to have valentines at all, do let them be artistical.

GREAT GRIMSBY DOCKS.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting, 29th ult., Mr. J. R. M'Clean, president, in the chair, the paper read was "Description of the Great Grimsby (Royal) Docks; with a detailed Account of the Enclosed Land, Entrance Locks, Dock Walls, &c., by Mr. E. H. Clark.

The author stated that the old dock, formed from a natural creek, measuring in extent about 19 acres, was comparatively useless, by its shallowness, and by the narrowness of the entrance channel. When the means of carrying out an extensive water commerce at the port of Grimsby were contemplated, the Manchester, Sheffield, and Lincolnshire Railway Company, who had become the proprietors of the old haven and dock, presented an extensive project to Parliament, designed by the late Mr. J. M. Rendel, which was sanctioned in the year 1845, and had since been completed. It comprised the formation of an entirely new dock, the entrances of which lay beyond the limits of low water, the new works being advanced into the River Humber, for a distance of three-quarters of a mile, and embracing an enclosure of 138 acres of land reclaimed from the river. The works of this enclosure were commenced in the spring of 1846. They comprehended the construction of wharfs, embankments, and a coffer-dam, together nearly 1¼ mile in length. The coffer-dam was remarkable for its magnitude, exposed position, and independent stability. Considerable difficulties were encountered in several places in obtaining a firm foundation for the wharfs and embankments; but these were successfully overcome through the exertions of the late Mr. Adam Smith, the resident engineer, principally by loading the soft ground with chalk stone. The enclosure was completed by the end of the year 1848, when the interior works were commenced. These comprised the construction of a dock of 25 acres, with a depth of 6 ft. at low water, and of 25 ft. 6 in. at high water, ordinary spring tides; of two entrance locks to the dock, the larger one being 300 ft. in length between the pen-gates, and 70 ft. in width, and the smaller one 200 ft. in length by 45 ft. in width; and of a tidal basin of 13 acres, enclosed by timber piers, with an entrance 260 ft. in width. There were also extensive timber-ponds, a graving-dock with a width of entrance of 70 feet, and on the quays, which were 3,600 ft. in length, transit sheds and bonding warehouses, granaries and cotton-sheds, cattle-pens and coal-spouts, with a railway passenger station, and branch railways through the warehouses, besides a small dock, for fishing craft, 6 acres in extent, and having an entrance 20 ft. in width, with the usual appurtenances connected with that trade.

The contractors for the coffer-dam were Messrs. Linn, of Liverpool; and for the dock works, Messrs. Hutchings, Brown, & Wright.

The coffer-dam* was 1,500 ft. in length, and consisted of two circular arcs, with a straight return on the west side, the versed sine of the curved portion being one-fifth of the span. It was situate where the average velocity of the tide in the River Humber was five miles per hour, and the rise of tide was 25 ft. There were three parallel rows of whole timber sheet piles, of Memel fir, averaging 60 ft., 47 ft., and 37 ft. in length respectively. The piles were driven in bays of 10 ft., and there was a space of 7 ft. between the outer and the middle rows, and of 6 ft. between the middle and the inner rows. Clay puddle was filled in between the rows. The tie-bolts connecting the rows of piles were arranged so as to break joint, to prevent a run of water directly through the dam. The chief novelty was, however, in the counterforts, or supports, placed at intervals of 25 ft. along the whole length of the dam, and extending for 18 ft. in depth, so as virtually to give the coffer-dam a base of 32 ft. in width. The counterforts were composed of whole timber sheet piles, and were firmly attached to the dam, by wales and struts. The total quantity of timber used in the dam amounted to 709,000 cubic feet, and its construction occupied two years and a half.

The wharf extended from the old dock entrance to the west end of the coffer-dam, a length of 2,431 ft., and from the east end of the coffer-dam eastward for a length of 1,208 ft., where it was joined by an embankment 1,800 ft. in length. The wharf was constructed of a single row of whole timber sheet piles, with a dry rubble wall of chalk stone at the back, in the centre of which there was a puddle wall.

The embankment was composed of the stiff clay thrown up from the foreshore, and was faced with chalk stone on the seaward side, which had a slope of 5 to 1, while on the inland side the slope was 2 to 1.

The two entrance locks were separated by a pier of masonry 70 ft. in width. Each lock was provided with two pairs of pen-gates and one pair of flood-gates. The ground over the whole area of the locks, centre pier, and wing walls, was excavated to a depth of 8 ft. below the cill of the larger lock, and bearing piles were driven in rows, 5 ft. apart from centre to centre, and in some places 4 ft. apart from centre to centre, over this area. A pile was considered to be sufficiently driven when it did not move more than a quarter of an inch with a blow of a ram weighing 1 ton, and falling through 12 feet. The heads of the piles were then cut to a uniform level, the ground was removed to a depth of 2 ft. below this level, and this space was filled up with concrete. Whole timbers, so connected as to form continuous ties across the locks and centre pier, were then laid transversely, in parallel rows, on the bearing piles. Other similar timbers were laid at right angles to the transverse bearers, concrete being filled into the upper surface of these longitudinal bearers, which were then covered with planking, to serve as a bed for the masonry. Upwards of 254,000 cubic feet of timber, in addition to the sheet piles, were thus employed.

The masonry of the pointing cells, gate-tables, inverts, aprons, platforms, square quoins, and culverts, was of Bramley Fall stone; the hollow quoins were of stone from the Calverley Wood quarries; while the backing to the walls was of chalk stone, hammer dressed, laid in regular courses, and well bonded with the ashlar. The inverts and platforms for the gates were wholly of stone; the cills were straight, and the joints of the masonry radiated horizontally and vertically, corresponding to the radius of the inverts. There were three main culverts, one in the centre pier and one in each wall of the larger and smaller locks, communicating with the dock, with branches and outlets to these culverts, for filling and emptying the locks, for scouring the entrance channel, and for clearing the gate tables.

From the treacherous nature of the ground on the site of the proposed dock walls, and from the necessity of obtaining good foundations for the granaries and transit sheds, Mr. Rendel decided to form the walls of piers, varying from 40 ft. to 80 ft. in length, and generally about 6 ft. thick, built of chalk rubble masonry, faced with ashlar, the space between the piers being arched over with brickwork. The backing of the walls consisted of a slope from the back part of the arch to the dock bottom, with a batter of 2½ to 1, composed of puddled clay, faced with rough chalk stone.

Blue lias lime, from Lyme Regis, was used in the preparation of the mortar. It cost, delivered at Grimsby, 10s. 6d. per ton. The mortar was of two kinds; the proportions of that employed for pointing and facework were, ten parts of slacked lime, eight parts of screened sand, one part of forge ashes, and one part of pozzuolana. The other, used chiefly for the backing of walls and buildings, was composed of sixteen parts of slaked lime, twenty parts of screened sand, three parts of forge ashes, and one part of pozzuolana. The cost of the former was about 16s., and of the latter about 12s. per cubic yard.

The gates were of timber, chiefly of oak from the Black Forest, but teak and mahogany had been used. They were regular trussed girders, each pair of bars being trussed by wrought-iron straining-rods. Each leaf of the gates for the 70-ft. locks weighed about 75 tons; and when completed, in 1850, they were considered to be the largest timber lock-gates ever made. It having been found on trial, when the large gates were being erected, that the ordinary roller, fixed on the outside, was out of the vertical plane passing through the centre of gravity of the gate, causing the gate when moved to twist considerably, it was determined to have two rollers, one on each side of the gate, but both to travel on the same path. The inner one was necessarily of smaller diameter than the outside one, and a cast-iron box was provided for the inside roller to fall into when the gates were closed. There was a false door at the back of this box, and when any hard substance was forced against this door, a bar at the back was broken. During the twelve years these rollers had been in use, these bars had only required to be replaced about twelve times in the three pairs of gates. The gudgeon on which the heel-posts of the gates revolved was of solid cast-iron, and the cup which fitted into the horn of the heel-post was of the same material, but in the top of the cup there was a piece of brass of a converse shape. The pointing cills of the gates were straight, and corresponded with the bottom bars of the gates. They were protected by cast-iron face-plates, jointed and planed so as to form a perfectly water-tight joint. The cost of a pair of gates for the larger lock, 70 ft. wide, was 2,300*l.*, exclusive of the machinery for working them. This was the first instance of the application of Sir W. G. Armstrong's hydraulic machinery for opening and closing lock-gates, and its cost for the six pairs of gates in both locks was about 4,000*l.*, including foundations and cast-iron pits for the chains to work in. Two men only were required to work the gates of both locks, which could be opened in two minutes and a half; and the machinery, which had now been in use for ten years, had required very few repairs, and had answered admirably.

The piers forming the boundaries of the tidal basin were of open timberwork, constructed in bays of piles in clusters, each bay being 25 ft. apart. The whole of the timber had been thoroughly creosoted, at the rate of 15 gallons of oil per load of timber. The channel from the mouth of the basin to the entrance locks averaged 260 ft. in width, and was kept to the level of the lock cills by frequent scouring, and by occasional dredging. Immediately outside the tidal piers the channel was 3 ft. below the level of the larger lock cills, and the scour of the tides past the pier-heads had gradually deepened the channel since the construction of the dock works from 3 ft. to 4 ft. In addition to the means provided for sluicing the silty deposit from the channel of the tidal basin, the back water from the country, which originally flowed into the old dock channel, was now diverted into the tidal basin.

A graving-dock had been constructed since the opening of the new docks, with a width of entrance of 70 ft., the cill being laid at the level of 6 ft. above the cill of the larger lock, giving an average depth of water of 19 ft. 6 in. The length of the dock for keel was 350 ft., the width of the floor was 52 ft., and at the level of the coping 96 ft., tapering to 84 ft. at the ends. The area of the dock was surrounded by a row of Memel fir sheet piles; and rows of piles were driven in the centre line of the dock, to support the weight of the ships when blocked. The ground within this area was removed to the depth of 6 ft., and was replaced by concrete. The inverts and gate tables were of Bramley Fall stone, and the joints were radiated both vertically and horizontally. The floor was curved, instead of concave or flat, as was the usual plan; thus giving greater space for the workmen, and allowing of better ventilation round the sides of the vessel. The sides of the dock were in nine steps, each step being 3 ft. in height, with a width of 3 ft. The graving dock was supplied with water direct from the Royal dock, and was drained to the level of low water into the tide-way; but as the floor of the dock was 3 ft. below the level of low water of ordinary spring tides, a depth of water of from 3 ft. to 4 ft. had to be removed by pumping. This was effected by a centrifugal pump, supplied by Messrs. Simpson, fixed in a well adjoining the dock; and its cost complete, including pipes and erection, was 413*l.* These pumps were deemed to be very suitable for the drainage of graving docks, as they were not liable to become choked, like valve pumps, from the chips and rubbish which found their way into the well. The gates were of oak timber, and were similar to those of the locks, 70 ft. wide. They were, however, worked by powerful double-purchase crabs, instead of by hydraulic machinery, as being so seldom used in comparison with lock-gates, it was considered that this plan would be less expensive. The total cost of the graving dock, including the engine-house and well, but not the engine and pumps, was 32,000*l.* It was designed by Mr. Adam

* A "Description of the Coffer-dam at Great Grimsby," by C. Neate, is given in the Minutes of Proceedings, Inst. C.E., vol. iv., p. 1.

Smith, and was constructed, under the superintendence of the author, by Mr. J. Taylor.

Two lines of railway, laid on a timber staging, ran into the dock, having coal spouts at their extremities. These spouts, or wrought-iron shoots, were fitted with hinged joints, and were capable of being raised or lowered, by winches, to the height of the deck of the vessel. There were doors in the bottoms of the coal waggons, and breakage of the coal was in a great measure prevented, by a door being fixed inside the spouts, hinged to one of its sides, and connected by a chain with a winch above, by which the rate of the coals entering the vessel was entirely under control. The waggons, when emptied, descended by their own gravity down the return line. About 100 tons of coal per day could be loaded at each spout.

A tower, having a total height of 300 ft. was erected, and in this, at a height of 200 ft, a wrought-iron tank was fixed, capable of holding 33,000 gallons, for the purpose of serving as an accumulator of water pressure, for working the machinery of the lock-gates and cranes, and of supplying fresh water to the shipping. The water was forced into the tank by two pumps, each 10 in. in diameter, worked by a duplicate horizontal engine of 25-horse power. The engines, pumps, pipes, and machinery, were supplied by Sir W. G. Armstrong.

THE SKETCHES AND STUDIES OF THE SOCIETY OF PAINTERS IN WATER-COLOURS.

The third Winter Exhibition of Sketches and Studies by the members of this Society now exhibiting at their Gallery in Pall-mall East is as attractive — to appearances that include admiration for most of its component items and the avidity with which everything buyable is at once bought—as usual; and as instructive, when such instruction is necessary, in the exemplary patience and painstaking evinced by those who, having the means at their fingers' ends of expressing a life-long intimacy with such phases of nature as they may wish to illustrate, still most humbly devote themselves to the closest observation and imitation of them, year by year.

But in these times a great number of our best landscape productions are strictly and confessedly studies unalloyed by any such dross as the imagination, or that poetical adaptative element which formerly established an individuality of style in treating similar objects, and invested them with an autographic, dissimilar yet equal, value now unknown, except where the elders of the profession afford instances that provoke the remark by the unapproachable position they retain, and where a very few of the younger show any signs or promise of possessing it.

Photography has been a wizard, who, disclosing such views and representations as defy denial, though working with a negative, has been too widely accepted as the all-in-all friend of the artist,—as one in whom he has but to confide positively and be successful; but if the conjuror happen to burst upon them one day in his own and true colours, they will find their occupation gone, and their reflections fixed by a new process not fugitive enough this time, involving as it would a new theory and a new practice.

However, the present collection of works, whether sketches, studies, or finished pictures, offers inducements to the most fastidious, whose tastes make them frequenters of art exhibitions, and whose appreciation of old acquaintances is enduring enough to withstand any craving for novelty; and there are some good things of which some never tire, let the adage say what it will to the contrary. Still, allowing that it does partially apply, and considering the little significance that can be attached to any attempted distinction, or, at least, sufficiently achieved distinction, between the two presentations of the year, it might be suggested, that on such occasions as these the members could well afford to share, and might offer opportunities to others not of the Society to contribute works; or better still, offer prizes to graduates in their art, if only bronze medals, since acknowledgment by them would be honour enough for many who, it may be supposed, would avail themselves of a liberality that would benefit the profession, and help to augment their own strength presently.

Of course, it would be unreasonable to expect that from such adventitious aid anything more than variety and freshness could accrue; but how valuable that would be where the repetition of the one unvarying bill of fare promises satiety, even to the greediest at the feast, however appetible and delicious it might once have been, and where the stereotyped emanations season after season render it impossible to make other than the stereotyped remarks upon them, and make it seem an absurdity to expatiate again and again upon merits that are no longer questionable.

What can be said that has not often been said before of the life-like impersonations, whether cavalier or rustic, that Mr. Frederick Tayler delights in portraying, with the purest and most forcible appliance of the medium possible; for who is there that can so strictly educe the legitimate resources of water-colour in all its luminous qualities, and find in it such means of expressing so perfectly any desired result,—or of the consummate ease with which he can foreshorten horses, seat his riders, and indicate heathery hills, open daylight, and air? or of Mr. Gilbert's picturesque adaptations of a dexterity and talent quite his own? or of Mr. Carl Haag's Eastern heads (197), "Abyssinian" or (188) "Bedawee," and his love for gorgeous colour, as may be seen in (212) "Un Procuratore di S. Marco, Venice," tending to exaggeration in his otherwise admirable architectural drawing (91), "Study at Genazzam, Sabine Hills?"

It is just as impossible to find fresh words of laudation for Mr. Dodgson's studies at Knole, or for his exquisite scene (190) "At Sonning, on the Thames," so suggestive of hot sunshine, the hum of insects, and the tinkle of distant sheep-bells; or for Mr. E. Duncan's faithful and beautiful combinations of earth and sea, and ships in all kinds of weather, as to set in new eulogy Mr. Birket Foster's little gems of a natural worth, indigenous as well as imparted, if they needed it, for he has the rare gift of judicious selection, or the rarer acquirement of alchemy. (107) "Saved, the Sketch for the Drawing exhibited in the Gallery, 1864," by Mr. F. W. Topham, leads to fresh embarrassment; it is too good, and seen too soon after its more matured double, not to assist materially in confusing the occasions of their exhibition. Mr. Burton's (22) "Study in Chalk," from a fine model, is superlatively executed, and, like all he does, marked by a refinement that in no way interferes with the most conscientious representation of what he sees, as the interior of a very primitive "Church near Rothenburg" (98) will bear witness to. Although Mr. E. Lundgren has more important testimony of sound abilities in some well-finished and powerfully-coloured productions, we like nothing the less his clever sketches of children in (94) "Arab School;" and Mr. F. Walker quite keeps pace with the expectations formed of him, that he will prove a great acquisition to the ranks he has just fallen in with. His "Study of a Garden" (401), with its elaborated flowers and shrubbery, through the gate of which a postman is delivering a letter to a maid-servant,—for designative incident, is wrought with marvellous care and effect, and with his "Sketch for Subject, from Denis Duval" (420), where the hero is having his hair dressed by his mother, betoken power and accomplishments of very high order.

Mr. E. B. Jones must be seen in colour to meet with due appreciation of his merits, his several studies for draperies and quaint realizations, making every allowance for a grotesque approach to grace and exalted feeling, have somewhat the appearance of not over-successful copies made in the print-room of the British Museum or Royal Academy, when the use of bread and india-rubber was prohibited, rather than the result of an untrammelled evocation of an original conception and peculiar conviction. But looked at apart from their surroundings as intended for Mediæval decoration, their value is much more easily recognised, and their aptitude understood at once.

In despair of characterizing the works collected in any but a general assertion of their excellence, it is only necessary to state, that all the contributors deserve a share of the credit attached to the amount of industry and proficiency displayed; but it may be questioned whether, in the interest of those amongst whom the responsibility of celebrity subsists to so widely-acknowledged an extent, they are wisely advised in exhausting themselves by a double tax upon their exertions, and unassisted by any peculiar features of attraction, how far they may be justified in expecting the untiring attention of the public for so many months in the year, without entailing serious disadvantage at last.

COLD SLAKED LIME.

BEATEN FLOORS.

With reference to the communication signed J. C., in the *Builder*, p. 868, as to the use in this country of lime that has long been slaked, it would be a service to the readers of the *Builder* to indicate the localities in this country where this process has been adopted, and the geological position and chemical composition of the limestone employed. It is stated that in Dorsetshire this mode of preparation is now made use of; but all information on the subject will be of value in proportion to its precision.

The lime referred to as used in Southern Italy is not of a hydraulic nature. The country is for the most part deficient in good sand; and a pure silicious grit would no doubt be preferable to the substitutes employed.

There is, however, one volcanic production of great value to the builder, that which is known by the name of "*lapilli*." This material occurs in thin veins in the tufa or superincumbent soil; it is of a pure white colour, has the gritty feeling of coke, and yields a ringing metallic sound when struck. It would, no doubt, make very excellent mortar; but it is of too much value to be thus used, as it is set apart for the construction of the beaten floors or roofs common in Southern Italy.

To form these floors a mixture is made of lime and "*lapilli*," of the consistence of very fine concrete. A palm (10 in.) or a palm and a half of this concrete is carefully spread over the levelled surface which it is to cover, and about a dozen men, or more if the floor is large, then commence a continuous operation of a nature that would be considered an intolerable nuisance in any English town. Each of these men is furnished with a low chair, usually rush-bottomed, and with a wooden beater, some 2 ft. long, and 3 in. or 4 in. square. Sitting in a line, these men keep up a constant hammering at the floor, which they carry on for a fortnight at least, the work being covered with straw when they leave off for the night, and an inch or so of fresh material being laid on from time to time. The men do not work their beaters as paviors in England use their rammers, but bring them down with a hard *slap* on the broad side, stooping forward in their low chairs so as to sit much as a gorilla does on a tree. The din is most deafening, and can be heard at a great distance; and few things can be more appalling to the invalid than to see a row of rush-bottomed chairs make their appearance on a neighbouring roof, or to be awakened at four o'clock on a keen May morning by the sound of a tapping at first delusively gentle, but which will turn each nerve of the system into a medium of torture before the late hour at night when the beaters are allowed a brief repose.

The sufferer becomes soon aware that the annoyance is permanent. Next he becomes able, if of a mechanical turn of mind, to estimate the increasing solidity and hardness of the floor by the increasing sharpness of the reverberations. Brief lulls in the work, or sudden softening of the sound of the blows, will from time to time inform him of the application of a new bed of concrete, or of the use of the water-pot over the surface already formed. Day by day the noise becomes more intolerable. The workmen, moreover, instead of appearing at all to regard the neighbourhood with deprecatory humility, seem to take a fiendish delight in the tortures they inflict, and for the most part there is to be found among each gang of beaters one endowed with a stentorian voice, who overtops the noise of the blows on the much-enduring floor by that savage howl which is so well known over Southern Italy,—a howl which each performer utters in precisely the same cadence and measure, but in which no ear but that of a Neapolitan can distinguish words. A repetition of this dolorous chant for six or seven minutes is usually succeeded by a shrill scream from all the workmen, either in unison or in succession, and then for two or three minutes more you are relieved by hearing no sound but that of the beaters.

The floor formed by this savage process is one of great excellence. It is smooth, hard, and enduring, and is quite water-tight. In buildings of a superior class, more attention is given to the process than in ordinary cases. The concrete is finer, the successive layers are thinner and more numerous, and the operation is more protracted. A surface is thus formed upon which the painter is set to work, either to cover it with some deep shade of colour in harmony with the

papering or other decoration of the apartment; or to trace designs and patterns. A few scraps of carpet only are required to be laid on these painted floors in the summer; and the expense of the upholsterer is thus diminished by the builder. In winter more carpeting may be used, but this is by no means always the case.

In a country where the energy of insect life, and the destructive effects of a parching summer render it matter of great importance to use as little woodwork as possible in domestic architecture, the beaten floor is probably the best substitute for boarding. It is more durable, more handsome, more smooth, than any other kind of floor, except marble; and probably cleaner than any other except marble or glazed tiles. It cannot compare with the luxury of a marble floor in hot weather; but marble is confined by its costliness to the mansions of the few who can afford it; and, by its weight, in most instances to the ground-floor or staircase. In a lofty room with a marble floor, the hottest weather known in Europe is not only tolerable, but delicious.

The beaten floor has not the cooling effect of the marble, and it has a tendency rather to fatigue the feet, and with some persons to produce the sensation of burning in the feet; but it has not nearly the fatiguing effect of an asphalte floor. In this country it might be used with advantage for railway-station platforms, large halls, or ball-rooms; but the intolerable character of the process thought necessary to produce it is likely to prohibit its introduction in any place where a nuisance is indictable.

"LIME ABROAD AND AT HOME."

MY experience being somewhat at variance with the statements put forward under this and a like heading in the last two numbers of the *Builder*, it may, perhaps, be worth giving. The mode described of making mortar in Southern Italy has been practised in this country, time immemorial. A pit is dug in the ground, maybe 30 in. deep, large enough to contain perhaps a one or two horse-load of lime. Water is put into the pit, the lime is shovelled in gradually, while at the same time it is stirred to and fro with a mortar-fork, and so on till the whole is dissolved to the consistency of thick cream: the stones of course settle at the bottom, and when the lime subsides the water is run off. In a short time a firm bed of putty is ready to make mortar of, then or at any time within six months, if the lime-pit be protected from rain and sun. Of course a hard film or protective coating forms itself on the surface: under this the lime remains fresh and mellow to almost an indefinite length of time. Of mortar made with lime so prepared, I can testify from twenty years' experience to its hard-setting and durable qualities. It has never occurred to me to test exactly the qualities of this as compared with any other mortar prepared from fresh-slaked lime; but I may observe that the practice of making mortar from lime-putty, and in the rough and ready way above described, seems to be dictated by necessity rather than choice. It prevails chiefly in the country where, from the great distance it has sometimes to be carted, it would be impracticable, for ordinary building purposes, to have fresh-slaked lime on every occasion. W. M.

THE BUXTON LIME.

IN answer to some remarks in your paper as to the desirability of slaking lime some time before use, I may state that the Buxton lime, used in the neighbourhood of Liverpool, is generally run in a pit before the building commences, enough being run to finish the job, and is not submerged in water at all, as spoken of by your correspondent as being advisable. Indeed, the longer it is kept the better it is; and for plasterers' work, it should be run at least one month. This makes excellent mortar; and if the sand is clean and sharp, and the lime is fresh-burned, and run through a grating in a wooden box with a flood-gate, and the mortar well mixed and punched with a punner (something like a paviour's rammer), nothing better could be desired.

A LIVERPOOL ARCHITECT.

P.S. For pressed brickwork, the mortar is generally hand-punched through a sieve.

VENTILATION.*

NOTHING could be more opposed to the ascertained principles of modern science than the arrangement of our ancient Mediæval towns. The good old architects and builders seem to have had no more idea of levels than they had of nerves! Go-ahead men, they planted their cathedrals on a piece of table-land on the summit of a hill, and they drawled their streets up to it, house by house, irrespective of the conformation of the ground. The streets were apparently made for neighbours from opposite sides to shake hands with each other. Story after story of their houses projected over the other, as if the sun were a nuisance and fresh air a poison. Steps would not unfrequently *go down* to their dwelling-rooms, and it was quite a customary thing for the privileged free burgess to be able to touch every ceiling in his house!

We in Newcastle rejoice in the possession of many of these relics. The Broad Chare—nearly 15 ft. broad on an average—and other chares and courts, we can boast of. But what have we to lament? In these neighbourhoods—and I refer now more especially to those avenues which branch off from the Stock Bridge to the Quayside—there is an atmosphere in which oxygen and nitrogen form but a very small proportion. The sun never penetrates these localities; they are uniformly damp, I may say *wet*; a peculiar slimy mud adheres to everything about, even the walls on either side for at least a yard upwards; and the *smell*—the peculiar smell!—not exactly the "concentrated essence of sink," but a dilution of street sweepings, sewer exhalations, and decomposing—what in the vernacular is called—"clarts!" And yet our merchants have their offices in some of these places! It is not surprising that many of them die before attaining the meridian of life.

It has been said that, for longevity, these localities will hold their position amongst the best in the town. That may be. But why? Among the poorer classes the delicate all die off in infancy or youth. Naturally of a hardier constitution than those who are the offspring of the delicate as well as the strong, when they do become acclimatized—and nature is very accommodating to the healthy—they not unfrequently become octogenarians, or centenarians. But how many fall in youth and in manhood. Perhaps they do not average twenty-five years taken altogether! As illustrating the anomalies of nature, I remember reading in the *Builder*, many years ago—to the editor of which publication I am indebted for more than my interest in ventilation, and to whose pages during the preparation of this paper, I have had occasion to recur—of a woman who resided in London, and fell into ill-health: her medical adviser ordered her into the country for change of air. She went. But she grew gradually worse day by day. After careful consultation, it was found that in London the front door of her house opened upon the gully-hole of a drain; the ammonia from which was indispensable to her comfort and her health. Of course—as the tales have it—she lived there ever afterwards. But is that a good reason why every front-door should be placed opposite a gully-hole?

London, Paris, Liverpool, Edinburgh, Newcastle, and other *par excellence* architectural towns, in modern times, have adopted the objectionable plan of building their houses in a quadrangular form, inclosing a space in the middle. The objection to this is, that a free current of air cannot traverse from end to end of the space so inclosed. The new parts of Sunderland furnish the best street-ventilating plan that I have yet seen. Both back and front are open. There are no archways, inclosing yards, midden-steads, privies, and filthy back lanes: the eye extends from one end to the other. And next to ventilation, *light* is a capital thing.

I feel it my duty to draw attention, at this point, to the fact that in this town—more especially in the higher portions of it—the drains are all untrapped, and consequently become ventilators of nuisance, smells, and disease; and that the streets, being badly swept, give out a large amount of ammonia, owing to the overfilling of the manure-carts. Go up Northumberland-street and neighbourhood any morning before ten o'clock, and you will find litter from stables spread over a few thousand yards, sufficient to create an epidemic. And when the *horse fairs* are held in the town, why, it is not only dangerous in more senses than one, but immoral.

Open spaces in towns must greatly facilitate ventilation; and where these are planted with trees, shrubs, and flowers, as the squares of London are, they must be of great benefit to the neighbourhoods; for trees absorb carbonic acid, and give out oxygen.

Once upon a time, before Newcastle was deluged with smoke, the green grass and the tall poplars of the Forth were an attraction to the inhabitants. Now, a large railway-station occupies its site. To whom did it belong? I mean the Forth with the grass and the trees. It belonged to the people of Newcastle; and, if I am not misinformed, the corporation who sold the people's land said, when they did so, that they would provide another place equally useful and equally beautiful: but have they done so? Where is it? Is it on the Leazes or on the Moor? No; and the freemen—unkind both to man and beast—won't allow a tree to be planted or a shrub to be grown there! They have hundreds of acres, all of which are surrounded with trees—a proof that trees will grow in the vicinity of Newcastle; and except the water-rush, nothing but third-rate grass vegetates on these fine and extensive lands. Professor Johnston says, "Every green leaf that waves on field or tree, sucks in, during the sunshine, carbonic acid from the air. It is as indispensable to the life of a plant as oxygen is to the life of the animal." But are there trees within Newcastle to do this? Once the garden of the north, with its bowing branches falling into Tyne, it has become a withered Eden. The hawthorn, sturdy plant as it is, cannot produce its "May;" the poplar withers up like a birch rod; the Durham birch, which will grow anywhere, has ceased to live; and the American poplar is wan ed and crusted before it is three years old. Our apple and pear trees—where are they? Our corn-fields—what have they become? With coals, and iron, and salts, and alkalies, we shall become impoverished in oxygen, health, size, vigour, and strength.

The injury arising from living in atmospheres impregnated with smoke, the products of alkali works, and other manufactures, is probably more than we suspect. I well remember that, when the old pit-heap used to burn at Monkwearmouth, when the wind blew from the north or north-west, the silver plate of the inhabitants of Bishopwearmouth, in one night, would look like dull aluminium gold! And only last month I happened to be at St. Helen's, in Lancashire, when a wind blew fair from the numerous alkali works to my sleeping-room window, and I found to my surprise that my watch and studs were coated with a dull—something I do not know the name of. Yet, I breathed that atmosphere. I wonder if my lungs were coated also? In a population of 150,000 persons, and in a district where coal is comparatively cheap, and where it is the custom to have large fires and large fire-grates, nothing so economical and also so beneficial can I recommend as what is popularly called "the *Builder's* fire." I have adopted it for the last few years, and I think with great advantage: I am *certain* that I have done so in my office. The process is this:—"Cover the bottom of the grate with a plate of sheet-iron. This alone will save more than one-fourth the coal, and preserve a better fire. At a cost not exceeding 1s. the experiment may be tried. The saving will be more than half this in each week." I can certainly affirm that, whereas a coal-scuttle was most essential to keep the fire alive up to six o'clock in the evening, I now need no such thing; and I have, moreover, a fire that can burn from six to eight hours without stirring (with Newcastle coal, too), and from which no smoke of any importance ascends. The fact is, as the fire burns *downwards*, it consumes the carbon, and hence there is no smoke. I now come to

Our Dwelling-Houses.

After a dry foundation to a dwelling-house, a free circulation of air underneath is the next best thing. I once had the misfortune to live in a house in the centre of which was discovered an unused well; and to worship in a church in which a huge rubble drain crossed, which at times gave out a hazy rainbow appearance. And I have seen grass growing under sitting-rooms, shavings decomposing under floors, and earth heaped up against the outside walls of a house nearly up to the window-sills. Cesspools have been known to be within the open yard of a residence, in which also was to be found a well of drinking water! I once saw,—I must admit that it was many years ago,—a donkey that

* From a paper by Mr. Oliver, read at meeting of Northern Architectural Association, as mentioned in our last.

lived under the stairs which opened to the room! On the one hand, in cosey, old-fashioned houses, we see the tidy-looking sand-bags on the sitting-room windows, to keep out the dust and the draught; on the other hand, we see the modern middle-class Mrs. M'Clarty shutting up her rooms till they are fusty, and opening them only on special occasions for the pleasure and benefit of her visitors! She "could-na be fashed" to open doors and windows, and to dust the furniture every day: besides the things get soiled and destroyed.

Bad as this may be, it is nothing to the danger to be apprehended by closing the fireplace in sleeping apartments. I have heard the remark more than once, "Oh! it is *only* a bed-room!" As if it were no matter about the room in which one spends the larger portion of one's life. Conceive of a room with a bed and a sleeper in it: sand-bags are on the windows; the keyhole is stopped up with paper or rag,* and the fire-board nailed against the fireplace. On the supposition that the air of the room has been changed during the day—and I believe the air of some rooms has not been changed for months—the sleeper inhales the oxygen and exhales the carbonic acid. As he sleeps the poison rises upwards, fouling portions of the pure air as it ascends. From the ceiling, as hour by hour passes, the foul air gradually accumulates and forms a stratum thickening with every respiration. In his bed, perhaps requiring steps to get into it, and with drawn curtains, the deadly poison lowers itself until it comes in contact with his face. No fireplace opens its throat to carry off this poison; no window crevice sends in a draught of air to supply the exhausted oxygen. Let him lie on but a few hours more, and the insidious gas will lull him to a deeper slumber,—till—if Providence prevent not—he sleeps for ever! Such a case occurred only last year at East Hampstead, on the estate of the Marquis of Downshire. Three men slept in a room 10 ft. 10 in. by 8 ft. 10 in., and 6 ft. 7 in. high. In the morning one was found lying face downwards, dead. The surgeon deposed that he believed death had arisen from suffocation, and from the unwholesome air of the room.

Bed-room windows should be opened the first thing every morning, both top and bottom. They should remain open all day, and if possible a little all night. There is a great deal of unreasonable prejudice about night-air. Miss Nightingale, in her admirable "Notes on Nursing," observes, in reference to night air, "What can we breathe at night but night air? The choice is between pure night air from without, and foul night air from within. Most people prefer the latter. What will they say if it is proved that fully one-half of all the disease we suffer from is occasioned by people sleeping with their windows shut? An open window most nights in the year can never hurt any one. In great cities, night air is often the best and purest air to be had in the twenty-four hours. One of our highest medical authorities on consumption and climate, has told me that the air in London is never so good as after ten o'clock at night." A few years ago, I had occasion to spend the night with a professional brother in the neighbourhood of Manchester. He informed me that he always slept with his bed-room window open. The way that he became accustomed to it was this: when on a sketching tour in Norfolk, the only lodgings he could get in the village were at a small cottage. His sleeping apartment boasted of two small windows, in both of which was a broken pane. Although it was cold weather, he informed me that he found it so pleasant and agreeable, that he had adopted the plan ever since. The varying temperature between night and day, summer and winter, bad weather and good, is in harmony with the laws of our constitution. "Nature," Miss Nightingale says, in her "Notes on Hospitals," "affords air both to sick and healthy, of varying temperature at different hours of the day, night, and season, always apportioning the quantity of moisture to the temperature."

It is a pernicious habit, too, to "make the beds," as it is termed, before being ventilated or aired. Bed curtains should be abandoned; gas should be sparingly used; blinds that darken the window should be substituted by light ones; shutters of course are inadmissible; overcrowding with children or otherwise should not be allowed; and plenty of pure air should always be a guest in your chamber.

* Dr. Arnott mentions an instance where he saw this done.

I am indebted to our local inspector of nuisances for the following:—"On the 29th of June last, at half-past two p.m., with fine weather, a moderate temperature, and very little wind, out of 415 bedroom windows in the neighbourhood of Northumberland-street, only 111 were open, and not one-third of these were open top and bottom!"

When her Majesty took up her abode at Windsor Castle, Mr. Rawlinson states, "the whole drainage of the castle was passed into the cesspools; upwards of fifty of them permeating the base of that building. There was not a single window in any of the Royal apartments that could be opened from above, all the fresh air being obtained by small casements. The basement of the castle was rooted up to its foundations. The vile cesspools and abominable drains leading into them were removed. The windows were all made to open by an apparatus ingeniously contrived, by which a lady, with a key not much larger than a watch-key, could open the windows from above."

Before leaving this portion of my subject, I wish briefly to refer to the ventilation of water-closets. Perhaps no greater source of disease exists around us than these. Under our staircases, beneath a sleeping-room, almost always within the thick protecting walls of a house, they act as ventilators to the drains, and vomit forth both day and night a pestilential atmosphere, adulterating, more or less, the whole air of the house. Water-closets should, where possible, be built out, and be shut off by double doors. A small loophole of a window is not sufficient to create a draught to carry off all the impurities that arise: there ought to be two windows, opposite to each other; and where thorough ventilation cannot be secured, disinfecting agents ought to be resorted to, such as chloride of lime, or Dr. Bishop's sanitary powder. "Many gases," says a writer in the *Medico-Chirurgical Review*, pass through fluids and so-called solids. Hydrogen gas and its compounds easily pass through the pores of stucco; so that plastered walls or ceilings are no barriers to the diffusion of cesspool emanations."

I fear I have already exceeded the time I had intended to allow myself, and I shall, therefore, only very briefly refer to one or two other subjects before reviewing the several systems of ventilation, and the patents taken out by inventors. I now refer you to our public buildings. Courts of law are notoriously badly ventilated. Very cold looking in the morning; sweaty about noon; suffocating at night. Our churches and chapels are now nearly all pretty well ventilated. Censorious people, when these buildings are overcrowded, always complain of the want of ventilation; and when not over well filled, complain of the cold and draught. As if an architect, or any other person, could, with limited means, so arrange the ingress and egress of air, that as each person entered the building, his share of air should enter also, and an additional opening be made for its exit! Public halls and hospitals, though ventilated in the present day on essentially different principles, are nevertheless now found to be both comfortable and healthy. I regret my time will not allow me to refer to the ventilation of hospitals. I may observe, however, that the best ascertained mode of ventilating, is that by open windows and open fire-places. When you go to Paris again, let me advise you, one and all, to visit their magnificent hospitals. Our shops are now ventilated. I can remember the day when a clothier's or a draper's shop used to be foul up to the very entrance door. By Arnott's & Sheringham's valves, Watson's & Muir's two and four point ventilators, Chownes's reversed syphon or Chadwick's archimedean ribbed conductor, shops may now be made as healthy as a well-ventilated office. Our vehicles, however, want attention. First-class carriages, I consider, are very well ventilated; but second-class carriages are not ventilated at all; and it is not very surprising to observe delicate ladies, when travelling in these carriages, sit with their faces to the wind to catch a breath of air. Our cabs are very badly ventilated. Many of them are regularly used by delicate people, and perhaps these very cabs, not an hour before, had conveyed a person in disease to the Infirmary or Fever Hospital, or a dead child to the cemetery!

Liverpool Architectural Society.—At the weekly meeting on the 28th ult., Mr. Joseph Boult presiding, Mr. W. Stubbs, C.E., read a paper entitled "Notes on the Building Sciences." A discussion followed.

ACCIDENTS IN LONDON.

The number of deaths from negligence and accident, as returned by the Registrar-General during last year in the metropolis alone, is of serious amount, and they are thus divided, viz.:—Fractures and contusions, 728; drowning, 392; suffocation, 341; burns and scalds, 340; poison, 58; and some other causes, which make the total deaths in the year 1,888.

It will be seen by the above death-list that there is a large excess of fatal cases to be attributed to fractures and contusions; nor is this much to be wondered at when we look around amongst the immense masses of the metropolitan population at the numerous causes by which these are produced. The multitude of vehicles which are moving at all paces along the crowded streets; the heavy, swift-going railway vans; the express messengers on horseback who ride to and from the various goods stations; the cabs, omnibuses, and other carriages; the hard-riding butchers' boys, the brewers' drays, and the countless number of various conveyances for goods and passengers, are all sources of danger to wayfarers. With care and better management on all parts, — on that of the drivers and others of the community,—much of this mischief might be prevented. Many accidents from carriages happen to children. Little ones scarcely able to walk are allowed to stray into the thoroughfares, and get under the feet of horses and the wheels of carriages. Boys, by riding behind funeral coaches, cabs, and carts, often get run over when they jump or are driven off by other carriages. The number of deaths from this cause alone is considerable. There is also the carelessness of omnibus drivers and conductors, who drive away before passengers are off the steps, or leave elderly people and strangers to the bustle of London in the middle of the streets, where vehicles are rushing in all directions. Some are knocked down at crossings by the starting away of frightened horses. There are other dangers to which the wanderers in the London streets are exposed, such as the ill-fastening of the iron openings to coal-cellars, the decay and other neglect of cellar-flaps, the falling of flower-pots, the want of proper care in cleaning windows, and during the demolition or erection of buildings (more care is, however, used in this direction than formerly), the failing of scaffolding, and the mishaps to men and lads engaged in the various branches of the building trades, in the railway works, amongst the shipping on the river and in the docks. In the time of fogs in frosty weather the mischances are largely increased; and when it is considered that 728 accidents are fractures and contusions, the number which, although serious, have been treated without loss of life in hospitals and elsewhere must be enormous.

The deaths from drowning are considerable, and this might be abated by attention to the canals, a matter to which we have before referred. But where there is such an extensive water traffic there will always be a serious number of fatal accidents from this cause.

The 392 deaths from suffocation are far more easily preventible, for the chief of these arise from the carelessness and too often the drunkenness of mothers, who over-lay their children, or smother them in the bed-clothes or shawls. In the course of our examination of the poorer districts, we have often felt pain and surprise at the apathy with which loss of life from this cause is viewed by those immediately concerned, or by the neighbours. To this unsatisfactory state of things the coroners and medical officers of health have often directed attention, but seemingly without much avail.

Burns and scalds, 340: this number, in connexion with fires at houses, would be increased very largely but for the exertions of the fire brigade, and those who are connected with fire-escapes, which are stationed at so many points of London; and the majority of the deaths from the above cause are to be attributed to want of care. In the houses of many of the industrious and poorer classes deaths result from children being allowed to play in their night-dresses while a lighted candle is on the floor; others by the want of fire-guards, and in consequence of being allowed to play in the front of fireplaces, by the upsetting of pans and kettles, to be in part attributed to bad construction of the stoves for family uses; drinking the scalding contents of tea and coffee pots; falling into pails of hot water, which have been left heedlessly in the way. Most of these fatal accidents might be avoided, and so might the

jority of those which are caused by the wear-
g of crinoline, by the explosion of fireworks,
y lucifer matches, and other matters of this de-
cription. There are a few instances of burning
hich may be attributed to the practice of read-
ng in bed; but this is not so usual as formerly,
nce bed-hangings have become disused, and
etter kinds of lights have been brought into
se.

Throughout England the number of deaths
not suicides), registered by the Registrar-Gene-
al, in 1862, were,—fractures and contusions,
,397; burns and scalds, 2,767; drowning, 2,463;
uffocation, 1,219; hernia, 782; poisoning, 216;
unshot, 111. This, in round numbers, shows
nearly thirteen thousand accidental and careless
leaths.* This of course includes the metropo-
itan accidents.

It is a good work to endeavour in every
way to reduce this long, black list, and to lessen
he number of cripples who are made each year,
of but little use to themselves or to the com-
munity; and, there is little doubt that, with
care in our mines and manufactories, by the
proper inspection of boilers and machinery, and
by attention in the homes of the people, the
number of accidents might be reduced enor-
mously.

SHREWSBURY IN 1864.

THE editor of the *Shrewsbury Chronicle* quotes a recent letter which appeared in our pages under the heading, "A Neglected Town on the Severn," and instead of adding a mere exhibition of *esprit de corps*, condemning the writer and denying any necessity for improvement, as on some similar occurrences we have seen elsewhere, wisely points out to his fellow townsmen some of their shortcomings, and calls on them to ascertain for themselves how far they are liable to the heavy charges made against them by our correspondent, and the true causes which have kept material progress in their town so long in the background. The writer gives what he considers the reason, in concluding his well-timed observations:—

"No measure," says he, "however good its object may be, has a fair chance so long as it is viewed through the jaundice eye of politics or of individual crotchets. These have been from the beginning, and still are, a curse to the town, and the true obstacle to all public improvements and social progress; and so long as its inhabitants are content to indulge in their annual faction fights for municipal honours, so long as they continue to prefer fighting the battles of party politics here—a Whig and Tory in preference to seeing to the material improvement of the town, the reduction of their burdens, and the general health of the borough, so long will progress be at a stand-still, and capital and enterprise wisely keep their distance from Shrewsbury."

We sincerely hope that what has been said may have the effect of rousing the good people of Shrewsbury to necessary improvements, and lead them to make right use of the advantages of their situation.

IRISH ANTIQUITIES.

WE feel much pleasure, says the *Galway Vindicator*, in transferring to our columns to-day an article which appeared in our valuable contemporary, the *Builder*, from the pen of the learned Professor of Geology in the Queen's College, Mr. William King. The writer has thrown some new light upon those interesting remains of a long bygone period, the Round Towers of Ireland, which serves to show that, contrary to the opinion that has generally prevailed of late years, they should be considered to belong to a pre-Christian era. The object for which these edifices were erected, their representative signification, their age, have long been subjects of keen inquiry among archæologists; but since Mr. Petrie's elaborate work on the subject, few authors have ventured to regard them otherwise than as connected with the first establishment of Christianity in our island. Mr. King, however, who is evidently an observant and thoughtful man, takes a different view; and should his discovery, that the doorways and towers of the structures he examined differ from each other in the material of which they are formed and the time of their erection, be found applicable to other such edifices, it may be that we shall have to reverse the decision to which Mr. Petrie's book has almost universally led. Mr. King has extended his researches to other objects also, highly attractive to the antiquarian,—the mound-covered cromlechs met with in the region of the Boyne; and his remarks, we are sure, will be read with the attention they merit. Although our own locality cannot boast of constructions so mysterious, nevertheless it abounds in relics of a high antiquity. The isles of Arran are rich in their stone fortresses, their "pelasgic styled" Christian oratories, their old carved crosses, and have for this cause been named "The Sacred Isles;" while Kilmacduagh is a perfect Palmyra of Pagan and Christian ruins. We have also nearly at our doors a Round Tower at Roscom, whose existence is known to but few, as far as we can learn, but which is deserving the observation of all who wish to become enlightened regarding the nature of those edifices. All these treasures have, we know, long engaged the attention of Professor King, while devoting himself to elucidating the geological structure of this district, and we hope in due time the results of his researches will be given to the public in a form worthy of his reputation.

* The deaths from railway accidents are not included in the above list. By the Board of Trade returns the deaths from railway accidents in 1861 amounted to 35 passengers killed, and 461 injured in the United Kingdom; but of this number 21 deaths were attributed to their own misconduct or want of caution.

THE MANCHESTER ALBERT MEMORIAL.

THIS long-projected memorial is, after much protracted discussion, at last to be proceeded with. Mr. Worthington is the architect. The memorial will be erected by Messrs. Patterson, Oxford-road, whose tender has just been accepted by the executive committee, at the sum of 2,679*l*. This will include the whole of the masonry, the geometrical tracery, and the simple ornamentations. The carving and decorative work, with the *grille* and other ornamental ironwork will be supplementary. The cost will be greater than was originally anticipated, owing to the nature of the foundation. The ground is riddled with drains, foundations for buildings, and culverts; and it becomes necessary to excavate down to the rock, at a depth of 17 ft. below the surface. The cost of the brickwork to the level of the street will be about 600*l*., and of the granite steps at the base about 700*l*. These have already been prepared by Messrs. Patterson, to whom the contract had been let. The site of the memorial will be in the centre of the intended new square, which is to be named after the late Prince Consort. It is to be hoped, says the *Courier*, that this suitable site will also be selected for the contemplated new town-hall. In that case the monument will stand opposite the middle of the façade, and will occupy a central position in the Albert-square. The area of the space occupied by the granite steps will be 25 ft. square. There will be five steps, rising to a height of 5 ft. above the ground-level. The size of the main structure will be about 20 ft. square, and rise to a height of 70 ft. to the summit of the spire. We have already given an engraving of the design.

GENERAL BUILDERS' ASSOCIATION.

THE first annual general meeting of this Association was held at Nock's Hotel, Temple-row, Birmingham, on Tuesday, November the 29th, 1864, and was attended by upwards of 120 persons, including members from Kidderminster, Leicester, Walsall, Burton, Bilston, Wolverhampton, Stourbridge, Derby, Wednesbury, Nottingham, Coventry, Dudley, Bromsgrove, and the Potteries.

The report, which was read by the secretary, concluded thus:—

"Your committee, before resigning their charge into your hands, cannot let this opportunity pass of urging you strictly to adhere to the discharge note, never disclosing in any instance from using it, or enforcing its use; and they feel assured that it cannot fail to meet the end in view, and will ultimately be looked upon by the steady industrious workman as one of the greatest blessings offered by the employer. They would further suggest that no man should be taken into your employ unless he brings either his discharge-note or, in case of his previous employment by a non-member of the Association, a character from his previous employer. By this means you will always secure getting good workmen, and remove the possibility of the unions dictating to the employers whom they shall employ; for, why should the building operative be free from that test as to his ability and honesty that every other operative is subject to? Or, to place it in other words, why should he refuse to give to a builder what he would not hesitate in giving to a manufacturer when he asks for employment? Again urging the above remarks upon your consideration, your committee have great pleasure in resigning their arduous task."

On the motion of Mr. Ife, seconded by Mr. Ratcliffe, it was unanimously resolved "That the report be adopted and printed for circulation."

COMPETITIONS.

City Offices Company.—The first premium has been adjudged to Messrs. Francis, who, it is understood, will carry out the works required for the proposed new offices in Bishopsgate-street and Old Broad-street, and the second premium to Mr. Parsons.

New Welsh Presbyterian Chapel in Prince's Park-road, Liverpool.—A limited competition of about fifteen sets of drawings, furnished entirely by local architects, the plans containing the different authors' ideas of what a place of worship should be, has been exhibited. There was every variety of design, says the local *Journal*, from the dog-kennel style to elaborate Classical and Gothic. For the first prize the plans marked "Ich Dien" were selected. They consist of two sets of designs, by Messrs. W. & G. Audsley, and are both Early Gothic, with a slightly French feeling in the details.

New Church at Fulford (Yorkshire).—For the new parish church which is about to be erected at Fulford, fifty-five sets of designs were sent in by architects residing in various parts of the country. The design which has been selected is one by Messrs. Pritchett & Son, of York and Darlington.

THE CITY MEAT MARKETS COMPETITION.

A CORRESPONDENT writes,—"The designs for the new (London) City meat and poultry markets have been sent in, and it is said that the City architect is to carry out the design. Now this is certainly not quite the thing, because it is not the premium, but the more substantial reward, that established men go in for; and a few remarks in your journal may change the feeling of the corporation, and induce the committee to employ the architect whose design is selected to carry out the work."

THE METROPOLITAN BOARD OF WORKS.

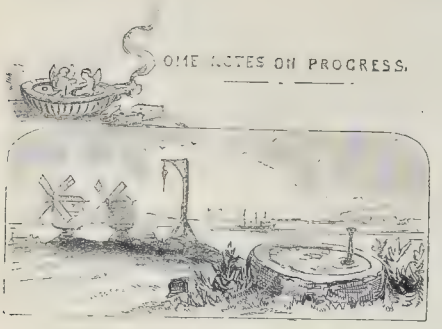
THAMES EMBANKMENT AND MAIN DRAINAGE.

AT last week's meeting, the engineer reported that with respect to the Embankment works, on the first contract, between Waterloo and Westminster bridges, a coffer-dam of nearly 300 ft. in length was nearly completed, and caisson-sinking, filling-in, and such like works had been progressing. The approximate value of the works, material, plant, and machinery on this contract was about 70,000*l*., or 3,000*l*. in excess of last month. This contract, in the engineer's opinion, was not progressing so rapidly as it should; and Mr. Farness, the contractor, had been urged to make greater progress. On the second contract, between Waterloo Bridge and the Temple Gardens, the brick foundations had been finished in the completed portions of the coffer-dam, the three lower courses of Hull granite and five courses of the Dalbeattie had been bedded, thus bringing this portion of the wall up to within about 6 ft. of Trinity high-water mark. Other works were also proceeding favourably on this contract. The total estimated value of the work done, materials, plant, machinery, &c., was about 55,000*l*.

Mr. Samuda gave notice of his intention to ask the solicitor what power the Board had of compelling the contractors to press on with their contracts.

The engineer then went on to report the progress made with the Main Drainage Works. He said that the riveting of the aqueduct over the Metropolitan Railway had now been completed, and when this aqueduct had been lowered in its place, and a few minor connexions made, the whole of the Middle-level sewer would be completed, the approximate cost of which was 316,000*l*. Nearly four miles of the western sewers had been finished, at a cost of 64,500*l*., and nearly one-half of the Low-level sewer had been completed, at a cost of 29,000*l*. Upwards of seven miles of the southern low-level sewers, with various branches, had been constructed, at a cost of 180,000*l*. On Greenwich and Deptford sewers work had been done to the amount of 7,100*l*., and at the Crossness outfall works the approximate value of the work executed was 270,000*l*.

The report, except that part relating to the Embankment, which was referred back, was ordered to be entered on the minutes.



Those who have lived during the last half-century cannot fail to wonder when they think of the changes which in their time have taken place, and how many of the once familiar objects have gone out of use, some of them so gradually that they have scarcely been missed; indeed, it is only when some peculiar circumstances occur, which bring the old things to the memory, that we are enabled to form some estimate of the numerous matters of curiosity, which either have already vanished, or are rapidly vanishing, from the view.

Now the bugle of the royal mail and the stage-coach guard no longer sounds its cheering notes in the thoroughfares of busy towns, cathedral cities, or rural hamlets, waking by the way the echoes of hill and dale. The stage waggon,—that huge unwieldy vehicle, of greater bulk than that of half a dozen full-grown elephants, moving at snail-like pace to and from the metropolis,—is no longer seen; on the main roads the post-chaise is seldom to be met with; and the few post-boys who still linger about the now-deserted inns are old boys indeed, who have fallen into "the sere the yellow leaf."

From the turnpike-roads and their margins many formerly well-known objects have been removed,—amongst them the ghastly gibbet, which here and there marked scenes of robbery and murder: the stocks and whipping-posts, the cages and other temporary prisons, have nearly all disappeared; even the once well-known idiots are no longer allowed to roam abroad, but are gathered up and cared for in unions and asylums. The pedlar and his pack and the wandering "number man" have both nearly lost their vocations,—the one in consequence of the ready means of access which there is to the neighbouring market towns, the other owing to the extensive circulation of good and cheap periodical literature by other agencies.

Windmills—even water-mills—are declining before the power of steam machinery, which is rapidly changing the agricultural implements; so that before long the hand-thrashing flail will be as rarely seen as now are the distaff, the spinning-wheel, or stocking knitting-needles and sheath.

From the middle-class schools there will be missed the truant-clog, the dunce's cap, the leathern taws, the black-hole, and other means of torture and persuasion; also the goose-quill pens; the *pounce*, which was formerly so much used instead of blotting-paper; the round ebony rulers which were required before the machine for ruling writing-paper was invented; the book of the "Heathen Mythology;" and other matters, the absence of which will be as little regretted as those terrible "horsings," and other punishments which were so common in schools at the beginning of the present century, and for some time afterwards.

In the streets of London we no longer see the yoked dogs in the cat's-meat barrows, or the dancing dogs and bears, the camels, dromedaries, and other shows of the wandering Italians; the wooden puppets, and the galantee show. Even famous Mr. Punch is now not often to be met with. The bells of the dustmen, and that of the parish bellman, and the cry of the little chimney-sweeps have been silenced. The aspect of the shops has been completely altered. After dark we no longer see in them dim lights struggling with the darkness; and both in these places and throughout the many miles of streets, brilliant gas has been the means of snuffing out the oil-lamps, which served but little other purpose than that of rendering the darkness visible. The strong power of the law has prevented the exhibition of monster cars and other moving advertisements; and, by the same means, the matrimonial minstrelsy of the marrow-bones and cleavers, and the "rough music" which was commonly performed on certain joyous occasions, have been nearly brought to an end.

In the last half-century, the variety of costume which has been seen in the streets of the metropolis is curious. Amongst the details were pig-tails; hair-powder; wigs of various shapes; high-crowned, low-crowned, broad-brimmed, and narrow-brimmed hats; Hessian boots; shoes with shoe-buckles; scanty skirts, short waists, and large coal-scuttle bonnets of the fair sex: these and other toggery too numerous in the present space to mention, have gone out of use. It may, however, be noticed, that at the beginning of the present century, hair-powder, pig-tails, cocked-hats, dress swords, &c., were worn by several artists, engravers, and gentlemen of other professions: now, hair-powder is used only by servants; and it is worth while to note how long fashion lingers in this way, and how much now the footmen behind the carriages in St. James's-street, on a drawing-room or levee-day, resemble in their dresses the fine gentlemen of fifty or sixty years ago.

From most of the snuff and tobacco shops the effigies of the friendly Highlander, carved of goodly size, and coloured to the life, proffering his gratuitous pinch, has been removed; so have the men of Africa and the party-coloured rolls which were supposed to represent packages of the fragrant weed; and the signs and emblems of particular trades have fallen much into disuse. Even the signs of public houses and taverns are now seldom delineated by either pictorial or sculptured art; but "The rising Sun," "The Fox under the Hill," the red, white, and black Lions, "The Goat and Compasses," are merely described by means of letters.

The changes in the manner of conveyance in London are very distinct; but on this point we will only remark that the writer has been informed on good authority that including both the north and south side of the Thames there was last year only one licence taken out for a hackney-coach,—that is, one of the lumbering carriages on four wheels drawn by two horses, which were once to be met with in such large numbers: whither the remainder of those public carriages and their ancient weather-beaten drivers have gone it is not easy to say.

Inside the houses, during the time mentioned, many objects once familiar have either vanished from the view altogether or are now seldom to be seen; and some of them are kept rather for ornament or curiosity than for use: amongst these the heavy unwholesome hangings of the best beds, and the warming-pans; the predecessor of the lucifers,—the flint-and-steel tinder-box; black leathern "jacks;" horn drinking-cups; pewter and wooden platters and spoons; cradles with rockers; very common prints of Scripture subjects, nailed to the walls and margined with dark-coloured list; the semi-transparent pictures of Lord Nelson's funeral; rude plaster casts of the Virgin Mary; the gaudily-coloured and ill-shaped parrot; the cock that "crowed in the morn," have now become rare; and it is more than twenty-five years since the writer of these notes saw in a remote part of England the turnspit-dog made to work in the wheel. This brings to mind that several kinds of dogs which used to be common in and about houses have become very scarce; for instance, the pug-dog, the representative of which will live for ages yet to come in Hogarth's portrait of himself; and that formidable animal the truly-bred English bulldog. In connexion with the interiors of houses there is one thing the disuse of which is to be regretted; that is, the cleanly and neat application of stencilling, which is pleasant to the eye and also prevents the assemblage of troublesome insects to the same extent as with wall-paper.

From amongst the once well-known London exhibitions we miss the wild beasts at Exeter Change, and those of the Tower Menagerie; Miss Linwood's needle-work, Mrs. Salmon's wax-work, the Lowther Arcade, Polytechnic exhibition, and fifty others of greater or less celebrity, including now the Colosseum in the Regent's Park. During the last twenty-five or thirty years the present writer has seen the end of several celebrated metropolitan institutions. He has, for instance, heard the last notes of the bell which, after use during several centuries, closed Old Smithfield Cattle-market;—seen the civic procession which "eyed" for the last time the very ancient fair of St. Bartholomew's;—heard "All out" called for the last time in the old Reading-room of the British Museum;—seen the last interments in the Old St. Pancras and other metropolitan grave-yards; and other events which, although they now belong to the past, will throughout lifetime linger in the memory.

Except for the crime of murder, England is now no longer degraded by public executions; and although chains and shackles are represented on the outside of some of the prisons, they are but seldom used inside.

On the Thames, the changes during the past half-century are not less marked. Old London Bridge, Blackfriars Bridge, and Westminster Bridge, have given place to other structures. The crowds of watermen are no longer seen at well-known points; the *Maria Wood* is in jeopardy; and the barges of the City companies which used to make such a goodly show, have either been disposed of or are in boat-houses, gradually falling into decay.

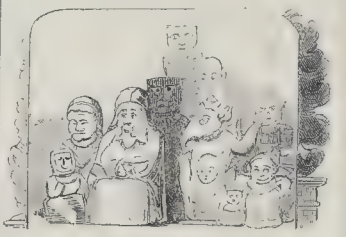
Let us glance at another part of the subject. While admitting to the fullest extent the exquisite and indescribable beauties of much ancient art as we find it illustrated in examples of architecture, sculpture, painting, and articles for domestic and other uses which have been left to us, it seems that in many instances there is an affected admiration of things which have no claim to it in an artistic point of view, and are only praised because they are old. The action of time, by rendering scarce once familiar objects, and by giving a picturesque indistinctness and peculiar colouring to matters not of themselves beautiful, produces a pleasing effect upon the imagination.

To some persons, everything old is worthy of praise: ugly mugs, and objects which are absolutely unpleasant to the sight, are affectedly regarded as objects of delight. The proper consideration of this subject is of consequence, and it may be worth while one day to direct attention to some of the points which are connected with it.

When looking from our present point of view at the works of modern sculptors, it is necessary to compare them with the remains of the ancient and Mediæval times. How, for instance, do the carvings of the Houses of Parliament bear comparison with those around the shrine of Henry V. in Westminster Abbey? or how will our modern statues bear contrast with those of the ancient personages which are placed so closely in connexion with them? Will the halo of antiquity give something of the same charm to the monuments of Watt, Wilberforce, Mansfield, Peel, and others, which is noticeable in the effigies of kings and queens of days long since gone by? Probably not.

This subject has many aspects, but we must here be content to put the following queries:—Has the hand-skill of masons, carpenters, and bricklayers declined? Is our glass for building purposes of a better or worse quality than formerly? Is it no advantage in these days to have geometrical skill applied to carpentry, and iron in combination with other building materials? and how will the new city streets bear comparison in after-years with those which have passed away?

What has been said may be a hint to lead others to pursue this line of reflection.



Ancient Gods.



NEW OFFICES, CHANCERY LANE. [Mr. A. W. Blomfield, Architect.] MESSRS. HEATON, BUTLER, & BAYNE'S PREMISES, KING STREET, COVENT GARDEN.

LONDON STREET ARCHITECTURE.

Messrs. Heaton, Butler, & Bayne's Premises, King-street, Covent Garden. — The ground on which these premises are built is part of the estate acquired by the Metropolitan Board of Works, to form the new street in continuation of Cranbourne-street to Covent Garden. Prior to this alteration, the then existing houses, or hovels, were inhabited by persons of the lowest possible description. Now a good street of first-class houses has been substituted, the Garrick Club-house forming the centre and most considerable building. Opposite to this, and on a most irregular and apparently inconveniently-shaped ground, are the premises of which we engrave a view, built from the design of Mr. Arthur W. Blomfield, for Messrs. Heaton, Butler, & Bayne's stained glass works. Mr. Howard, of Chandos-street, Covent Garden, was the builder.

There are in all fourteen rooms, one of them including the height of two stories, and used for a show-room, with a yard and back entrance in Long-acre. The kilns are built in the front basement. The front is of brick, with varicoloured arches and bands, and some few stone dressings.

We elsewhere mention a good Trade Book recently published by the firm for whom this manufactory has been erected.

Offices, 87, Chancery-lane. — The building shown at the side of the last-described has lately been erected, for Mr. W. G. Romaine, C.B., secretary to the Admiralty, by Messrs. Brown & Robinson, from the designs of the last-named architect, Mr. Blomfield. The face is of brick, with red bands, and Bath stone for heads and sills of windows, and caps and bases of columns. The columns in the windows are of green Galway marble. The carving is by Mr. Earp.

It is intended to be let as chambers, of which there are two sets on each floor. The plan presented considerable difficulty, the frontage to the street being only 14 ft., while the depth is 82 ft.

PROPOSED GREAT IRON GIRDER BRIDGE.

A great railway undertaking, resembling in character the Britannia, Saltash, and Victoria bridges, and surpassing even these in point of dimensions, is to be submitted for the sanction of Parliament in the ensuing Session. The North British and Edinburgh and Glasgow Railway Companies have given notice of a Bill empowering them to construct a great iron girder bridge across the Firth of Forth from near Blackness Castle, three miles above Queensferry, on the West Lothian coast, to Charleston, in Fifeshire. The plans of the bridge have been prepared by Mr. Thomas Bouch, C.E. The length of the proposed bridge is 3,887 yards, or two miles 367 yards. It will be about seventeen miles from Edinburgh and thirty-four from Glasgow, and is intended to accommodate an express route from these cities to the north of Scotland, in connexion especially with what is known as the "east coast" route. Instead of a single span of 600 ft., with two side spans of 300 ft., which was the scheme of last year, it is proposed to make four spans of 500 ft. each over the navigable channel, the spans diminishing to 200 ft. and 100 ft. on either side. The clear height of the bridge in the channel will be 125 ft. at high-water of spring tides, thus giving ample height beneath for the tallest vessels frequenting the ports of Grangemouth and Alloa. The frame of the girders over the widest spans will be about 70 ft. giving a total visible elevation of 195 ft. for the distance of nearly half a mile, the height diminishing at the ends of the bridge as the spans become reduced in width. Taking the submerged part of the work, the height will be 25 ft. of foundation below the silt bottom, 50 ft. of depth of water at ebb spring tides, and 18 ft. of fluctuation of tides, making in all 285 ft. in height of work to be executed. The middle piers will be of stone to the height of 10 ft. above high water at spring tides, and the rest of the structure will be of malleable iron. The bridge will be built for a single line of rails, with a gradient in the south end of 1 in 134, and in the north end of 1 in 100, so as to give the necessary elevation in the middle. The dimensions of the Britannia Bridge may be stated by way of contrast:—Span, 460 ft.; height, 104 ft.; depth of tube, 30 ft. The cost of the bridge is estimated at between 500,000*l.* and 600,000*l.*, but, on the other hand, the companies would save the capital cost of piers, breakwaters, and steamboats, and cost of working the ferries. In connexion with the Tay Bridge an unbroken express line would be provided between Edinburgh and Dundee, saving the inconvenience, uncertainty, and delay of the Burntisland and Tayport ferries.

THE CONSTITUTION OF COMMITTEES ON ART MATTERS.

A correspondent whose opinion is entitled to consideration writes as follows on this subject:—I would say a few words as to the constitution of committees which deal with art subjects. According to my professional experience, nothing can be worse than the conduct of committees to artists in many instances. In architectural matters it often amounts to perfect swindling. In sculpture it is perfectly scandalous how private predilections operate to the *public* disadvantage. There is, generally speaking, less judgment in sculpture on the part of the laity than in any other branch of fine art. Hence the monstrous statues which are so often erected to public men. Those self-created *soi-disant* judges who so often manage these public commissions, frequently give the order to men who never made more than a bust. They seem to think that, if a man can model a bust, he can make a monumental statue! And thus monuments are erected which are perfect eyesores to every man of taste, and which prevent the uneducated from ever improving; on the contrary, convey false impressions altogether of the true nature of art.

It occurred to Mr. Wilson, with reference to the Glasgow windows, that this really monstrous state of things might be amended by a different constitution of committees, and he proposed that the window committee *should report* to the subscribers, and should print and publish its report. The subscribers could then decide as an entire body, and could, if it approved, reappoint the committee. The committee acted on that principle. They inquired, reported, and presented themselves to the subscribers, who reappointed them, with *defined* duties.

Observe, this cut away the ground of all private jobbing or patronage, had there been a thought of such a thing; besides, the protection to the committee was immense. If pressed from without, they pointed to the nature of their constitution. If Government accidentally misled, or a solitary recalcitrant subscriber involved the committee in an apparent difficulty, they pointed to the agreement, and so steered the ship in safety.

I think that if every committee instructed with the erection of a public monument were at first appointed to *report only*, we should see much less of the perverse jobbing now so universal.

The *Builder*, and other journals devoted to art, have long been pointing at these perversions of duty; but I venture to think that the plan which was adopted in Glasgow with the very object of preventing jobbing has been successful. Any one acquainted with committees knows how one loud obstinate man can drive the others into an erroneous path; how rarely men are found to make a firm stand in favour of principle. Art committees, above all others, are subject to the tyranny of a member of strong will, because so many Englishmen yield a ready obedience to pretenders to judgment in art which only a few profess to understand. A committee on any subject familiar to men of business is likely to act fairly: each member knows his subject, and has a will and a judgment; it is not so in art, and the system generally fails when it is a question of art. The interests of art are constantly sacrificed in this way. In most towns there are some busy-bodies who make small reputations, and *even capital*, of perpetual interference in matters of art; they are rarely practical patrons by buying. Their expenditure consists in talking about art, till they are put on all art committees; and the patronage of local art passes into the hands of the worst judges in reality in the community,—for no worse judges exist than these *soi-disant* judges. They have no catholic feeling, but are narrow, bigoted, and sectarians in art matters. There is nothing to cure this but publicity, and that such committees shall give evidence of real work, real thought, real inquiry, real knowledge. A report implies all this; if it does not exhibit this the committee is found out; hole-and-corner work is put an end to, or made very difficult.

SCHOOLS OF ART.

The Carlisle School.—The annual meeting of this school has recently been held, under the presidency of the mayor. The report stated that the school was conducted entirely to the committee's satisfaction by the master, Mr. Lees. The number of students was steadily increasing, especially in winter, and the receipts of the past financial year showed an increase over those of the last few years. In the examination of the works of students of all the schools throughout the kingdom, this school had been eminently successful, taking twelve local medals, one national medallion, which is only awarded to the best works of each division, and two honourable mentions in the national medallion competition. Mr. Potter, M.P., who was present, made the following remarks in the course of his address:—The whole sum subscribed by the manufacturers to the different schools throughout the country in 1862, he said, did not reach 1,000*l.* a year; and he was afraid that in the centres of manufactures, in proportion to their size, the schools had succeeded worse than anywhere else. It was admitted that it was no part of the duty of Government to assist the manufacturers. His own idea was, the Government had no right to assist any class—except those who had not the means to find education for themselves. It might be desirable, however, in some classes of schools which could not be self-supporting. He believed that thoroughly good drawing-schools could not be self-supporting without Government aid. The training school at South Kensington had supplied first-class masters to upwards of ninety schools. That was a great step gained. At the same time, he thought the schools were entitled to more than the 20,000*l.* a year they had been getting. That sum included what was given to South Kensington, so that he did not think the country schools received more than 15,000*l.* or 16,000*l.* a year. The teaching was very good, and they had got to that point when the schools might be established upon a sound basis, and be amazingly valuable.

The Bristol School.—The annual meeting of the supporters of this school has also been held, Mr. P. W. S. Miles presiding. The attendance was large. One of the hon. secretaries read the report, which document stated that the experience of the past year had fully justified the favourable report presented at the last anniversary. There had been under tuition in art 1,370 children in public schools, and 95 students in private schools. These children and pupils won a total of 88 prizes and 132 certificates. To the students in the central school were awarded 11 prizes and 36 certificates, making a total on the outside and central schools of 99 prizes and 168 certificates. To these must be added six distinctions under the head of honourable mention, one national medallion, and 15 local medals—nine of the works which gained these medals being deemed worthy of selection for national competition. The finances of the school, which for some years had to struggle against difficulties, had at length assumed a more sound position. Subscriptions were annually received for the payment of interest on and towards the liquidation of the existing debt; and the current expenses of the school, it was hoped, would in future be covered by the income. It was a chief object of the revised regulations (continued the report) to extend more widely among the industrial populations of this country a knowledge of practical art. Accordingly, your committee have sought to bring under tuition a greater number of public and parochial schools, and they are now happy to report that these affiliated schools, which had once fallen to three, are now augmented to ten.

The Kidderminster School.—The third annual examination of this flourishing institution has just taken place, under the direction of Mr. E. Crow, and the results show a very great improvement over those of last year. Not only are those of the examination of the students at the central school satisfactory, but the branch schools are prospering, and the pupils have gained a much greater number of prizes and certificates than at any previous examination. The results are most creditable to Mr. Kennedy, the head master, and his assistant, Mr. Perks. The central school has carried off two national medallions, 13 local medals, and obtained one honourable mention. Last year it obtained 1, 11, and 2 respectively. The students have also gained 10 prizes and 20 certificates in the second grades of freehand, geometry, model and perspective drawing, as against 9 and 12 in 1863. The prizes are

boxes of colours, crayons, sepia, &c. The public schools have also distinguished themselves. The total number of medals, prizes, certificates, honourable mentions, &c., last year, was 108; and in 1862 it was 66. This year it is 210, showing an increase over 1863 of 102, and over 1862 of 144. The number of pupils in 1862 was 520, in 1863 it was 508, but this year it has increased to over 1,000.

The Taunton School. — The annual meeting of the friends and supporters of this School has been held in the Hall of the Institution, under the presidency of Mr. A. Mills, M.P. The report says,—"It is very gratifying to the committee to be able to report that from its establishment in 1855 to the present time the Taunton School of Art has continued in a most satisfactory manner to fulfil the objects for which it was instituted. Two national medallions and thirteen local medals were distributed, together with a great number of prizes and rewards; there were besides two honourable mentions in the national competition and three in the local." The report, after alluding gratefully to the exertions of the art-master, Mr. Gunn, says,—"The committee could not but look with some anxiety to the operation of the recent minute of Council, and to its effect upon the income of the art-teacher. They are happy, however, to be able to report that the result of the examination last spring has not diminished the allowance previously made by the Department in consideration of the certificates obtained by Mr. Gunn. The number of the pupils taught in the School of Art during the year 1864 has been 117, being 17 in excess of those in the school the year preceding, and it is gratifying to find that the accessions have been from the artisan class, to whom the knowledge of drawing is so important. In addition to these, about 55 pupils from private schools are likewise taught here. The number of the children of the industrial and working classes in Taunton and Wellington, who are now instructed in drawing by the assistant-master, Mr. Tucker, in connexion with the School of Art, has reached the very high number of 1,060."

WORKING CLASSES' INDUSTRIAL EXHIBITIONS.

What is the intended use of Industrial Classes' Exhibitions? In theory, I believe, to stimulate to proficiency and perseverance the working classes, and encourage them to spend their time usefully. In practice, they will encourage, I fear, a feigned simplicity or ignorance, which will be more petted and noticed than genuine work.

A butcher who would send, say, a wretched attempt at a water-colour drawing, and state that it was done with one of his skewers instead of a brush, would stand a much better chance of having it noticed than would a professional painter if he sent a first-class drawing, done in the ordinary way.

Just so with wood-carving, of which I want to speak more particularly, and of which, at the late North London Exhibition, there was a little of the best, and a great deal of the very worst, I have ever had the pleasure or pain of seeing.

I was awarded a second prize for a piece of carving which three years ago gained a first prize at a competition of wood-carvings alone, and was engraved in the *Art-Journal*; while some of the most wretched attempts by amateurs were sent to the first rank. These latter are all invariably done with a knife (also exhibited); and I believe, if I had gone a step farther, and said mine was done with a knife *and fork* (and exhibited the knife and fork), I should have got not a second or first, but an extra prize.

The experience I have learnt by the late North London Exhibition is, that professed workmen stand no chance in such exhibitions against amateurs; and, unless some alteration be made in the way of awarding prizes (so that a professed workman receive more honour for superior work and design, than an amateur for ridiculous work, but showing perseverance and industry only), I am sure the intention of this class of exhibition will be frustrated, and professed art-workmen will be unrepresented at them. R.

*** "R." will see that at the time he was writing his letter we were expressing an opinion similar to his own (p. 887). Whether his work, however, three years old, and already rewarded elsewhere, should have received a prize at all, is another question.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

The committee have prepared for the current year twenty-one mounted photographs of French churches and cathedrals, from which subscribers of one guinea are entitled to select any ten, and subscribers of two guineas any twenty subjects. They may have extra plates for 2s. 6d. each. The subjects include several views of Amiens Cathedral, interior and exterior; Church at Andelys, and Ancient Half-timbered House; the Churches of Agincourt, south-west view of Church; Belloy (Renaissance), two views; Cires les Mello, two views; Luzarches (Renaissance), Mogneville, Montataire, Morienval, Nogent les Vierges, Tracy le Val, Vertheuil; Noyon, Cathedral Cloisters; and View of the Chateau Pierre-fonds.

Several of the churches, mostly of simple type, the towers with saddleback roofs, are charmingly picturesque; as, for example, that of Tracey le Val. As photographs, the best amongst the subjects we have seen are the view of the Cloisters at Noyon, the Chatean Pierre-fonds, and the Sculpture in the South Transept of Amiens Cathedral.

Subscriptions, for which the photographs form a very good return, may be paid to Mr. Lightly, the honorary secretary.

THE ARCHITECTURAL MUSEUM PRIZES.

In reply to the offered premiums of 20*l.*, 10*l.*, and 1*l.* 1s, for the first, second, and third best carving in wood, illustrative of the Good Samaritan, only five works have been submitted, in the majority of which the figures are very unsatisfactory; the foliage and architectural accessories, where introduced, are much better. One of the specimens, marked with a sketch of a Mediæval door-handle, is a work of very great merit, and is so far superior to the others, that the committee will probably have no difficulty as to the award of the chief prize.

For the prizes 10*l.*, 5*l.* 5s., and 1*l.* 1s. for the best reproductions in silver of a group of leaves, there are six competitors; and for the prizes offered by the Ecclesiological Society for Enamels there are five.

REPRODUCTION OF EXAMPLES OF ARCHITECTURAL DECORATION.

The following minute, passed at South Kensington on the 1st day of December, 1864, by the Right Hon. the Lords of Her Majesty's most Hon. Privy Council on Education, speaks for itself:—

"I. My Lords take into consideration what additional examples of architectural decoration, as well of British as of foreign origin, it is desirable should be obtained to complete the collections in the South Kensington Museum, and with this view they desire to have the advantage of the advice and suggestions of the Institute of British Architects, the Architectural Museum, and the architectural profession generally.

II. The objects of decorative art especially referred to are:—

a. Ornamental sculpture in marble, stone, or wood.
b. Wall decorations, in painting, mosaic, &c.
c. Hammered and chased metalwork.
d. Ornamental pavements in mosaic, encaustic tiles, &c.
e. Examples of stained glass.

III. It is desirable that the objects should be the finest specimens of their class, complete in themselves, and not too large for exhibition; and by way of illustration, it may be stated that casts have been obtained of Archbishop Grey's Tomb from York Cathedral, the Priors' gateway in the Cloister of Norwich Cathedral, the Singing Gallery in Exeter Cathedral, the Pulpit of Giovanni Pisano from Florence, the Ghiberti bronze gates from the Baptistery at Pisa, and the like.

IV. The finest typical works in stained glass and mosaics might possibly be reproduced in materials like the original; and the same observation applies to hammered iron-work. Other reproductions may be obtained by means of casting, electrotyping, or large copies by painting or otherwise.

V. In respect to objects of Northern Mediæval and Renaissance Art, in which the varieties of style are very numerous, it would be desirable to form in the first instance a list of a few of the finest examples which illustrate each epoch of the Art and each class of Art. Art in the formation of such a list, the experience of the different Architectural Societies and Architects would be of the highest utility.

VI. Besides making a collection of such reproductions as proposed, to be established in the Museum, My Lords will cause to be compiled general Art Inventories, briefly naming the most remarkable objects which are known to exist, and showing the locality and site where they may be seen and studied. Photographs may be added occasionally to illustrate these inventories.

VII. These Inventories will be kept in type to admit of revisions and additions, and only a few copies be printed from time to time. Copies will be sent to the Architectural Societies; and to any Architects who may apply, and be willing to contribute notices in aid of their completion."

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

A general meeting of the Institute was held on Thursday week. The hon. secretary read the report of the Council for the session 1863-4, which stated that the members of the Institute had been increased by the admission of five Fellows, twelve Students, and eleven Associates during the session. The Institute had to regret the death of Mr. Patrick Byrne, R.H.A., who was one of its vice-presidents, and of Mr. Edward M'Allister, who had been recently elected a Fellow of the Institute.

The following are the Council and officers for the ensuing year:—

President—Mr. Charles Lanyon, R.H.A. Vice-Presidents—Mr. J. Owen, Mr. G. Wilkinson, Sir John Benson. Council—Sir T. Deane, R.H.A.; Messrs. F. V. Clarendon, G. C. Ashlin, S. Symes, J. J. M'Carthy, R.H.A.; J. Rawson Carroll, W. F. Caldbeck, E. M. Carson, W. H. Lynn, Parke Neville. Honorary Secretary—Mr. James H. Owen. Assistant Honorary Secretary—Mr. J. J. Lyons. Treasurer—Mr. W. G. Murray, R.H.A. Auditors—Mr. N. Montgomery and Mr. J. M'Curdy.

ARCHÆOLOGICAL INSTITUTE.

An ordinary meeting of the members of the Archæological Institute was held on the 29th ult., in their rooms in Burlington-gardens,—Sir John Boileau in the chair.

Mr. Purnell read a paper, by Mr. C. W. King, "On Ancient Gem Engraving," in which he undertook to show that the art of engraving on gems was not practised in Europe during the Gothic period, from the time of Charlemagne until five hundred years afterwards.

Mr. O. Morgan, M.P., exhibited a very curious example of engraving on hard stone, the property of Mr. Bosanquet, from Babylon. Also a cameo, on which was a figure of St. George, of Cappadocia. A brief discussion arose, in which Professor Westmacott and the Rev. Dr. Rock took part, on the question whether our St. George and St. George of Cappadocia were identical, or were different personages.

Professor Westmacott then read a paper on the statues recently added to the British Museum, in which he directed attention almost exclusively to the nude figure of a boy, who is represented to be standing, resting his weight on one leg, and to be tying a fillet round his head. This statue, Professor Westmacott considered there was sufficient inherent evidence to show, was sculptured about five hundred years before the Christian era, and that it is an excellent copy of the celebrated Diodumenus, by Polyclitus, if not the original.

THE ENGINEERS OF THE VICTORIA BRIDGE.

Sir,—Within the past few weeks the engineering world has had its breath taken away by the again repeated eulogies on the name of Stephenson. This name seems to cover and extinguish all the major and minor talents of this engineering era. Many of the eulogies are, we all well know, fully deserved; but have there not been other men, also engineers, who have laboured skilfully and powerfully, and produced vast results? How little the outside world knows of those many meek-minded workers who are absorbed in the making up of a hero! and how the world and the biographer like to centralise their *éclat* in one person!

In your last number you very justly say, in speaking of the Victoria Bridge:—"We do not think that quite sufficient justice has been done in this narrative [life of R. Stephenson], to Mr. Ross, who had so large a share in the undertaking from its beginning to its practical achievement." Also, "credit is due to Mr. Ross and Mr. Hodges, the contractors' engineers." Now, it is well known to all those employed about the works of the Grand Trunk Railway, and also to many outsiders, that Alex. M. Ross, and *he alone*, did design and carry out the Victoria Bridge, at Montreal. This is no mystery to the initiated. Mr. Stephenson did not see the plans, and had not to do with the work until all details were matured. The first plans prepared by Mr. Ross, unaided, are those substantially of the bridge itself. Mr. Stephenson only saw the site of the bridge once; never saw the works at all; was only called in to *float* the undertaking as a Stock

Exchange expedient; was not the engineer of the Grand Trunk Railway proper (this post being alone held by Mr. Ross); did not design, or even conceive the cut-waters or ice-breakers to piers, which are the great peculiarities of the bridge; and did not in any way influence the general design of the bridge. True, the iron-work of the structure was inspected by some of Mr. Stephenson's assistants — before leaving England (Mr. Ross being in Canada). This is about all that was done on his behalf after the inspection of the site of the bridge. The conception of the tube of course had its parent in the Britannia Bridge, but the special application of the same and its multifarious belongings, were purely the results of Mr. Ross's thought. Mr. Ross was not the engineer to the contractors, but to the railway and Grand Trunk Company, and he was a man of independent action and thought. How beautifully and absorbingly, too, does the biographer take into the great man's reputation the idea of Mr. Hodges, the contractor's engineer, in making the felt joints to the masonry in the winter months, and afterwards in the spring grouting up same solid. These and many other matters fall in so glibly to a great man's reputation, to the expense of others. Poor Mr. Ross has done his work, and his large powerful brain and original thought are no more for this world, but his reputation still lives in enduring works. Who that ever knew his peculiar modes of construction, and saw the Victoria Bridge in its finished state, noting its characteristics—the batter of the piers, the broad chisel draft to the masonry quoins, the proportion of the piers, the arrangement of the masonry, the quaint shaved appearance to the cap stones, the length of the abutment being the same as adjoining opening of the viaduct, the Egyptianised character of the masonry, and many other peculiarities,—but would say that the work comes from him and none other.

I do not wish to decry the name of Stephenson; we all owe it much; but then the world is large enough for all comers. Let not reputations and talents be immolated by sensational biographers, or treated with *polar* coldness, to gild one man's shrine, although that man may have been a giant! "Honour where honour is due," and pray let some of the pigmies have a line.

One of the Grand Trunk Explorers.

GLASS ENAMEL.

I have read in your valuable journal a treatise on a very important subject, viz., glass mosaic, which your correspondent, Mr. Lyon, recommended to be adopted in England for architectural decorations, and which he advises for exterior use on account of its being non-porous. Certainly every kind of decoration hitherto attempted has been spoiled by the smoke, which abounds more in England than in any part of the world; therefore Mr. Lyon advises the glass mosaic on account of its surface being smooth, so that it is impossible for the smoke to penetrate, and is easily cleaned by the rain.

This question being of very much importance in England, I would like to be allowed to make a few observations of my own in the matter; and, although they are opposed to your correspondent, I hope he will not be offended. Firstly, I must say that the enamel is preferable to the glass mosaic,—for this reason, that enamel is stronger and more durable than glass; and we have the proof in the ancients who, on this account, preferred the enamel.

Secondly, the mosaic being the reproduction of the picture, the enamel is more suitable for such scope, because the glass is transparent, and the enamel purposely opaque. Imagine to have a figure to reproduce in mosaic: adopting the glass mosaic, the figure and robes would be transparent, which is not natural; at the same time, by using the enamel, you are enabled to reproduce the figure perfectly in every tone and shade of colour necessary to represent nature.

Your correspondent also, in order to make the mosaic as cheap as possible, and so bring it within the means of all classes of society, proposes to work it in large pieces of about 2 square inches; and he says that in such a manner he can reproduce figures and ornamentations.

I have treated the art of mosaic for many years, and have executed commissions in Venice, Egypt, and England: so I hope that my observations on the subject in question will not be despised, — that we shall never have a good decoration if we work the mosaic in such large proportions; and, to prove my assertion, I shall take the above argument, "That the mosaic is the representative of the picture." Then, in a picture, we never find so large a continuation of a colour as 2 in., and especially in the natural figure where the variations of shade are so many and imperceptible as to be scarcely discernible to the naked eye. In this case, in order to have a good mosaic, the pieces of enamel must follow the law of the picture; if not, we shall have a face without either expression or likeness, and a dress without folds or shades. Perhaps the large pieces can be used in some kinds of ornaments of geometrical drawing; but in this case, also, there must be exceptions to break the monotony of colour.

Of course it is well to try to bring this system of decoration within the reach of all classes, but in order to have it cheap, I should never advise to spoil its beauty and nature.

Gillio Salviati.

THE LAWS OF PROPORTION.

MEASUREMENTS WANTED.

May I venture to refer to a sentence in Professor Donaldson's address, reported in the *Builder* of the 12th ultimo? Speaking of the elucidation of the rules and laws of proportion in architecture, he says;—

"Mediæval art has not as yet been so investigated, and some say it never can be . . . . . Who has yet had the patience or grasp of mind philosophically to dive into the mysterious relations and parts which constitute the beautiful in the choir of Lincoln, in the nave of Westminster Abbey, in the façade of Cologne, or in the massive energy of Durham? Whence the source of the impressions which these remarkable structures produce?"

The question is, indeed, "Who is to do it?" Architects have no leisure; amateurs cannot obtain sufficiently accurate measurements. I am sure that there are many of the latter who would willingly and earnestly labour in this cause if there were any means by which they could be furnished with *accurate and systematic measurements*. These could be, and doubtless are, made by architects during repairs and restorations; but to the public they are a sealed book. How gladly would a few of these be welcomed by

A Humble Amateur.

MR. SEWELL ON STEAM BOILER EXPLOSIONS.

Sir,—In one of your late impressions, a correspondent claims the new theory of boiler explosions for Mr. W. Sewell. I should be very glad to be exactly referred to the work in which Mr. Sewell first put forward this theory.

S. K.

INAUGURATION OF SIR G. C. LEWIS'S MEMORIAL AT NEW RADNOR.

The Radnorshire memorial of the late Sir George Cornewall Lewis, bart., has been inaugurated at New Radnor. The design was selected in competition from among sixty sent in. It was the original intention of the committee to erect the memorial on the top of the Castle-hill, at Radnor, which is about 100 ft. above the common level of the town. But on opening the ground, walls of great thickness at right angles with one another were found in all directions; and after the removal of much *débris*, which had been tumbled into what once were dungeons, and vaults, and courtyards, it was found necessary to abandon this spot, on account of the insecure state of the earth, even at a depth of from 10 ft. to 14 ft. from the surface. The expenses of examining the ground, however, as observed by the *Hereford Journal*, in describing the discovery, were more than compensated for by the discovery of several ancient stone doorways and windows in an almost perfect state of preservation, some of which contained the ancient iron stancheons and gratings. Some of these reliques of the masonry of the old castle possessed good mouldings of an early date, with other good architectural features. It is to be hoped that the whole of the remains of the old castle will be exposed, and a careful examination made by some learned archæologist.

The site on which the memorial now stands was then selected. The locality is that part of Radnor where the road from Kington separates right and left into the town.

The memorial, of which we have already given a view and description, is formed chiefly of Box stone, with red Mansfield stone columns. It is 77 ft. high, by 25 ft. at the base. The plan is octagonal throughout; and the arches, gables, cornices, and various parts are carved in a semi-conventional style of ornament. In the sub-base is a band of encaustic tiles. In one of the four gables near to these tiles is a medallion of the late baronet, by Mr. R. Boulton, sculptor, Worcester.

On the chief stage of the memorial are four large statues of Justice, Truth, Literature, and Oratory. These statues are from the chisel of Mr. W. Forsyth, of Worcester.

The contractor for the work was Mr. W. Mansfield, of Kington. The architect was Mr. John Gibbs, of Oxford. The total cost of the memorial was 1,000*l.*, exclusive of the architect's charges and other expenses.

JAVA.

It is asserted that a photographer, who has been employed by the Dutch Government to take views of the most beautiful points on the island, has discovered an entire city buried beneath the lava of a volcano close by, which has been extinct for several centuries. If this be true, and our account says that excavations have already been ordered, what a rich treasure of interesting remains may we not expect from this Pompeii of the Pacific!

CALNE CHURCH, WILTS.

The fine parish church of Calne has just been re-opened, after undergoing most extensive restorations under the superintendence of Mr. Slater, of London.

Previously to the present works being undertaken, the church, though very large, did not afford at all good accommodation for the worshippers. The aisles, transepts, and chancel aisles were blocked up with unsightly and inconvenient galleries: a sloping floor extended from the second detached column of each arcade; and, commencing at the paving level at the point indicated, at the west wall, as high as the caps of the columns; over this raised stage was a large gallery, and yet again over that another for the organ. The west window was thus entirely shut out from the church, and the west door rendered useless.

The church consisted previously to the restorations of a nave of five bays, with aisles on each side. Eastward of the nave was the area originally occupied by the ancient tower, which fell down in the seventeenth century. This space has since been taken into the nave and roofed like it. There were also north and south transepts, for the most part modern. The eastern part of the church consisted of a spacious chancel, with large aisles or chantries on either side. There were also north and south porches, the former being elaborately vaulted.

Opening from the north porch is an old aisle or chapel, lying outside the original north aisle of the church, and communicating with it by an archway. This additional aisle is still known as the "Cross Market;" but was, prior to the recent restorations, used as a vestry.

The tower, as before mentioned, *originally* stood at the intersection of the nave and transepts; but when this fell down in the time of Charles I., carrying with it much of the adjoining work, it was apparently thought better not to rebuild it in the old position; the new tower, therefore, which was begun a few years after the fall of its predecessor, and finished about the year 1675, was erected at the north end of the north transept. This tower has a remarkably good outline, and is altogether much better than might have been expected from the date of its erection. It has been, indeed, suggested, that it is from the designs of Wren, or from plans left by Inigo Jones, who is known to have reported upon the former tower before it fell.

The arcades of the nave are of Norman dates, the aisles and other parts of the church are of the Third Pointed period. The nave roof is very fine.

By the works recently carried out, the south transept has been enlarged, and the "Cross Market" and the space under the tower have been thrown into the church. A new additional south aisle has been built, corresponding with the "Cross Market," and a new vestry added at the east end of the north aisle of chancel.

The west front has been entirely rebuilt, and a new west door and window inserted. The whole of the seats and galleries have been removed, and

e church thrown open, and seated with open nches of oak. All the seats are *now entirely* e to all the parishioners. By the old system appropriation, much of the church was often actically not used at all. The nave roof has en repaired, and the space between the trusses nelled with oak. The north transept is entirely w: the roof is of oak. The roofs of the south nsept, chancel, and north and south chancel isles have been panelled with deal.

The organ has been removed from the west id, and placed under the tower. The chancel as been laid with ornamental tiling, from the rchitect's designs. The chancel seats are of rved oak. The new reredos is of alabaster, bloured cements, and tiles, by Messrs. Poole & on. The new pulpit is carved, and is orna- ented with figures of the twelve apostles. his is the gift of Mrs. Guthrie. The lectern is ne gift of Miss Gabriel, of Calne. The east indow and the stained glass in it were given y the late Marquis of Lansdowne, before the ast of the works were undertaken.

The general works have been carried out by Ir. H. W. Penning, of Marlborough. The wood- arving is by Mr. James Forsyth, of London. The gas-fittings are by Mr. Singer, of Frome; nd the warming by Messrs. Haden, of Trow- ridge.

CHURCH-BUILDING NEWS.

Denford (*North Hants*). The parish church of Denford, a small village about a mile from Thrap- ston, has been re-opened, after having under- one a restoration. Before the restoration some portions of the church, particularly the lower part of the tower, were in a very dilapidated condition. The old-fashioned high-backed pews have been replaced by open stained deal seats. A western arch, which was formerly blocked up, and partially hidden by an old organ, has been re-opened, the organ-gallery having been re- moved, and the space behind the arch thrown open. The west window has been replaced by a plain stained window from the establish- ment of Mr. Powell, of London. The entire area of the church has been re-floored, and an old screen, in the west part of the north aisle, has been restored. The old pulpit has been replaced by a modern and simple one, constructed of stained deal. The chancel has been paved with Maw & Co.'s tiles, and there are new altar-rails and table. The chancel roof consists of open rafters, which have been painted and decorated, and the roof of the other parts of the church has been stained. The edifice is warmed by hot- water pipes by Mr. Roberts, of Northampton. All the doors are new, and the windows have been re-glazed. The tower has been restored. It has been under-pinned, new buttresses have been added, and the foundations have been re- stored and strengthened. New crosses have been erected at the end of the nave and at the end of the chancel, and the tracery of the whole of the windows has been restored. The windows, too, have been re-glazed. The ground in the churchyard, which had accumulated up to the string-courses at the bottom of the windows, has been lowered. The restorations have been car- ried out under the direction of Messrs. Wadmore & Baker, of London, architects, and the builder is Mr. Walter Parker, of Thrapstone. The original contract was for 750*l.*, but the total cost of the restorations will amount to about 900*l.*

Exeter.—Thorverton Church, which has lately been enlarged and improved, has been re-opened for public worship. A north wing with an open roof, deal stained, has been added to the old building. The chancel has been raised, and paved with Minton tiles of *fleur-de-lis* pattern, ornamented with a marble border. The galleries have been removed. The old columns and stone- work have been cleaned down and the carving restored. The old seats have been replaced by new ones of oak, carved by Messrs. Rattee & Ketts, of Cambridge. The tower has been thrown open, so that the west window may now be seen from the interior of the building. A good many of the windows have been restored. The cost of the whole of the work done is about 2,200*l.* Mr. T. H. Elliott, of London, prepared the plans and superintended the execution of the work. Mr. Seymour, of Taunton, executed the stone carving.

Cheltenham.—The new cemetery at Prestbury has been consecrated. The burial-ground and approaches embrace an area of about 18½ acres. The property was purchased for about 3,420*l.* Mr. Knight, of Cheltenham, was the architect for the cemetery buildings. The chapel is in the Early Decorated style. The total amount expended upon the cemetery is nearly 11,000*l.* Burial spaces are provided for 39,000 persons.

Talachddu.—The church of this place has been re-opened by the Bishop of St. David's. The church, dedicated to St. Mary, was in an un- sightly state. This has been changed, under the direction of Mr. W. Nicholson, of Hereford, archi- tect, whose plans were carried out by Mr. W. Williams, jun., of Brecon, at a cost of nearly 500*l.* A painted window has been placed in the chancel, new side windows inserted, the roof boarded under the tiles with stained deal, below which shows the old framework of the roof; a chancel arch added, with new seats throughout; a vestry on the northern side of the chancel; and the tower rebuilt in timber, with tiled roof.

Trefeglwys (*near Llanidloes, Montgomery*). The church here has been re-opened by the Bishop of Bangor. The old church being in a state of general decay, it was determined, after a survey, to take down the walls to within a few feet of the foundation, they being in some places in a dangerous condition. The edifice, as re- erected, consists of a nave, chancel, and north porch; and, owing to the unusual length of the church, it was found necessary to curtail its length by the introduction of vestry, and bell- ringers' chamber, at west end, to confine the nave to its proper proportions. A bell-turret, with recessed louvre boards, rises from the roof at this point, underneath which are hung the bells from the old church. The style adopted in the rebuilding is Early Decorated; some coloured material discovered in the old walls being intro- duced in the arch stones, bands, &c. The general facing of the work is constructed of the blue rubble stone of the district. The church roof is varied by dormer lights, underneath which are traceried windows. The roofs are covered with blue Machynlleth slates, with ornamental ridge cresting—that for the chancel being of metal. Internally the roof is open to the ridge. A moulded Early Pointed arch separates the nave from the chancel. The seating is all open, with accommodation for 250 persons. The floors are laid with Maw's encaustic tiles. The carvings have been executed by Mr. Griffiths, of Chester. The entire works have been designed and erected under the supervision of Messrs. Poundley & Walker, of Kerry, Montgomeryshire, and Liver- pool; the contractors being Messrs. Evans & Son, Llanbrynmair. In connexion with the erection of the church, we understand that it is intended to erect new school premises.

Fladbury (*Worcestershire*).—The chancel of Fladbury Church is now undergoing a repair and restoration, under the direction of Mr. Preedy, the contract having been taken by Mr. Epsley, of Evesham, builder; and the masons' work under the charge of Mr. Hurn, of Worcester. A large stained-glass window for the east end, and one for the south of the chancel, in commemora- tion of the late rector of Fladbury, are in course of preparation by Mr. Preedy.

Boroughbridge (*Yorkshire*).—A subscription list having been opened for the completion of St. James's church, with a certain prospect that the necessary funds would be forth- coming, the churchwardens and committee have completed the fabric. Gas has been introduced, and the edifice is now lighted by standards of nine lights each. The vestry has been enlarged, and lighted with gas. The pews, which had been varnished in an unsatisfac- tory manner at the erection of the church, have been cleansed, and re-varnished. To these must be added the erection of a reredos, besides other decorations of the chancel. The reredos has been executed by Messrs. Mawer & Tugle, carvers, Leeds, from designs from Messrs. T. H. & F. Healey, architects, Bradford. The roof of the chancel has also been painted a sky-blue, and ornamented with gold stars.

Mendlesham (*Suffolk*).—The chancel of the parish church has undergone a restoration. The old oak roof which was in a very dilapidated state has been removed, and a new open timbered roof substituted. The south-east corner has been taken down and rebuilt, and a new stone window put in the east end, and all the other windows restored and re-glazed. Two rows of seats have been fixed on each side, with carved tracery fronts and poppy heads to bench ends. The communion rail is of polished oak, supported by four wrought-iron ornamental standards, manu- factured by Messrs. Skidmore & Co., of Coventry. The works have been carried out by Mr. W. Rednall, builder, Stowmarket, from the designs of Mr. Christian, architect to the ecclesiastical commissioners.

Thetford.—Lord Ashburton has decided upon rebuilding Igborough church at his sole expense. The works are to be carried out in the style of the original church, which dates from the thir- teenth century. The Duchess of Grafton gives the east window, and the pulpit will be pre- sented to the church by the Hon. Alex. Baring, M.P. The timber used will be entirely oak, and the inside walls of the church will be of free- stone throughout. The whole of the works are to be carried out from the designs and under the superintendence of Mr. R. M. Phipson, of Ipswich, Architect.

FROM IRELAND.

THE Dublin Corporation have resolved to erect a new supper-room to the Mansion House, at a cost of 450*l.*, and carry out some other alterations.——A movement is on foot in this city for the organisation of a society or com- pany for the improvement of working-class dwellings on the principle of the London ones. Plans are being prepared by Mr. Charles Geoghegan, with a view only to remodelling or renovating houses, not for building new ones at present. The want of improved dwellings has been keenly felt in the city. Artisans are pay- ing high rents for miserable accommodation, and the object of the company will be to provide clean, well-ventilated, wholesome habitations for less rents than those now being paid for the dens in which the working classes are com- pelled to burrow.

There is now some prospect that an improve- ment is going to be effected in the streets of Belfast. A joint-stock company is being formed for the extension of Donegal-place, the Broad- way of Belfast, to the end of York-street; then to run a wide street from it down through that nest of filth and corruption into Smithfield. It is to be hoped, however, that the question of dwellings for those to be removed will not be overlooked, otherwise matters may only be made worse than they are as regards the poorer dis- tricts of the town.

PROVINCIAL NEWS.

Plymouth.—The foundation-stone of a Roman Catholic convent has been laid at Eldad. The architect is Mr. Joseph A. Hansom, of London, and his assistant Mr. Charles Clifton, of Stoke. The builders are Mr. S. Hallett, of Plymouth, and Mr. T. Jenkins, of Devonport. Mr. John Ley is clerk of the works.

Hexham.—At a meeting of the shareholders of the proposed Corn Exchange and public build- ings for Hexham, the chairman said that the meeting had been convened, first, for the pur- pose of considering the propriety of abandoning the first plans that were submitted to the share- holders for their new buildings; secondly, for the purpose of adopting the new plans now before him. The reason for these steps was, that every effort except letting their premises at the expense of encumbering the property had been tried to raise the capital of 8,000*l.*, but in vain; and the directors had agreed to have plans on a more limited and less expensive scale. Mr. Beaumont proposed, at his own expense, to get new plans prepared, and to take care that those plans were within the sum they had now subscribed, viz., 6,000*l.* These plans they had before them, and Mr. Johnstone, the architect, assured the directors that the buildings could be erected according to these plans for the sum named. The meeting approved of what had been done and adopted the plans.

UTILIZATION OF THE SEWAGE.

St. Saviour's.—The St. Saviour's District Board of Works have passed a resolution (to be forwarded to the district boards and vestries) to the following effect:—"That in the consideration of this meeting the time has not yet arrived for coming to a decision upon the best method of disposing of the sewage of the metropolis, as sufficient information as to its value is not pos- sessed by any public body having the power to dispose of it; and therefore, in the opinion of this meeting, the subject should be investigated by a committee of the House of Commons; and farther, that the clerk be entrusted to prepare a petition for presentation to the House of Com- mons, and that the parliamentary representatives

of the borough be requested to support the prayer of such petition."

Kensington. The Kensington vestry have resolved (as an amendment on a motion of approval), "That it is the opinion of this vestry that the interest of the ratepayers has not been sufficiently considered by the Metropolitan Board of Works in the scheme adopted by them for utilising the valuable sewage of the metropolis."

Dorchester.—This subject was brought before the Dorchester Local Board, in a report by Mr. Jowett, the surveyor. It is proposed to raise the sewage by steam-power, and to apply it by gravitation to extensive meadows in the neighbourhood. The surveyor also recommended the application of the dry earth system to a portion of the town that had not been fully supplied with waterclosets, so that the system might be fairly tried.

RAILWAY MATTERS.

The entire length of the Metropolitan Extension of the Chatham and Dover line commencing at Beckenham, running direct to Herne-hill, where it branches off in two lines, one going to the City, the other to the West End or Victoria Station, is now in working trim, the only portion not yet completed being the short length from the Blackfriars Station on the Surrey side to the Ludgate Station. The entire length will be within a few yards of 12 miles. The bridge across the river is now ready for traffic, but the station at Ludgate is not quite completed. The capital authorized for this extension amounted to 5,783,000*l.*, or a cost of about 500,000*l.* per mile. The result of the working on this portion of the line during the last half-year was by no means of a satisfactory character: the total receipts were but 31,355*l.*, or about 100*l.* per mile per week. After deducting the working expenses, which were set down at 50 per cent., the balance available to pay interest on nearly 6,000,000*l.* of capital was but 15,677*l.* The extension to Ludgate Station, and ultimately to Farringdon-road, will, of course, add considerably to the traffic receipts.——New plans have been prepared for the enlargement of the present Brighton Railway Station, London Bridge, and tenders are invited for its construction. The additional station accommodation has been rendered necessary by the prospect of the traffic which will be brought to London Bridge upon the completion of the South London line in May. The line between Bermondsey and London Bridge has been widened, and two additional rails have been laid. The station will come close to the back of the International Hotel, and will extend to the south side of St. Thomas's-street. In connexion with this widening of the line, the directors have carried out the formation of a new and wide thoroughfare direct from St. Thomas's-street to Bermondsey. One side of this new street is formed by the station and viaduct of the line.

MAGNESIUM AND ITS LIGHT.

Aluminium's nose is being put out of joint by its Magnesian sister, whose luminous powers better entitle it to the name of Aluminium than aluminium itself. The interior surfaces of caves, mines, catacombs, and pyramids will now be revealed in endless photographic *fac similes*; for magnesium yields a light which vies with the electric or the solar light itself. It burns with facility in the form of fine wire which costs in retail some 3d. a foot, and when the demand for it increases the price will be far less. A lamp has also been invented for its use. The light is visible by night for 28 miles at sea, and how much farther remains to be seen. It is said some shopkeepers intend to astonish the Londoners this winter with its brilliancy. For illuminations it will be splendid. The light is of a rich and mellow white hue. The supply of magnesium is inexhaustible. Immense quantities exist in the form of stratal rocks, and the ocean abounds with it. Light in weight as aluminium is (2·60), magnesium is only one half its specific gravity almost, being only 1·74, or less than a fifth of the weight of copper. If aluminium was a marvel of lightness, therefore, magnesium is a marvel of marvels. When pure the metal is white as silver, and it readily receives a high polish, and is easily kept clean. In some cases it is very tough, but in others it is brittle, in this resembling zinc and aluminium itself. Improvements in the economy of its production are still being made. M. Sonstadt produces it by a new process. It is interesting to witness the production of wire from a mass of magnesium by hydraulic pressure through a small orifice, from which it issues like a little stream of silver, but solid. It is said that 2¼ oz. of this magnesium wire will give out as much light as 20 lb. of the best stearine. At this rate magnesium is already not much dearer than composite candles; and as the process by which the metal is now produced is but about four months old, we may hope that still further improvements will be effected, so as to render the substance commercially suitable for ordinary purposes. Hence peril to the gas companies, as well as to the oilman and the tallow-chandler. The magnesium light is so purely white that it exhibits every colour it falls upon with the fidelity of the sun itself. Another extraordinary fact is this, that the magnesium flame gives off no noxious fumes,—no sulphurous gas, carbonic acid, sulphuretted hydrogen,—blacks and stink, and heat and wet,—damaging paperhangings and the finest furniture, corroding metals, and injuring health. The burning of magnesium simply produces the oxide,—magnesia, which domestic economists may gather up for the benefit of the family medicine-chest. Nor is there any risk of explosion, as in the case of gas and some oils.

CASES UNDER METROPOLITAN BUILDING ACT.

Party Walls.—At the Hammersmith Police Court, Mr. Knightley, district surveyor, attended in support of a summons against Mr. C. Horn, for erecting the walls of water-closets in the rear of premises in the Askew-road, of a thickness of 9 in. instead of 8½ in. The defendant argued that the Act did not apply to water-closets. Mr. Dayman decided against him, and said he should apply to the Metropolitan Board for permission to retain the walls. The summons was adjourned for a month, to allow Mr. Horn an opportunity of applying to the Board.

Wooden Buildings.—A summons was heard against Mr. James Anatias, for building a wooden stable, in St. John's-terrace, Latymer-road, instead of enclosing it with 9 in. brickwork. The defendant said the back of the stable was of 9-in. brickwork. The district surveyor said two sides of it were wood; the other two sides rested against the house and garden walls. Mr. Dayman said the defendant had subjected himself to a penalty. He was liable to have an order made to enclose the stable with brickwork, and in default to a penalty of 20*l.* for every day it was not done. The defendant said it was done. Mr. Knightley said it was not done when he last inspected it. The defendant had given him a great deal of trouble. Mr. Dayman then made an order for the work to be done in a month, and for the payment of 2*s.* costs.

Books Received.

Designs for Works in Stained Glass. By Messrs. Heaton, Butler, & Bayne. King-street, Covent Garden.

Under this title, Messrs. Heaton, Butler, & Bayne have issued an excellent Trade Book, containing as well as representations of a number of windows executed by them, some sensible observations on glass-staining, and a tariff of prices for various descriptions of work. Information is also afforded as to the cost of painted decorations and memorial brasses. Amongst the works executed by them, of which outlines are given, are the west window, Watford; west window, St. James's, Dover; Acts of Mercy window, Sprowston Church, Norfolk; and the east window, St. Chad's, Lichfield. The illustrations are very artistically set forth. We should be sorry to infer, though we might have been led to do so by one of the notes, that the firm consider that bad drawing of the human figure is preferable in stained glass to good.

The same note mentions the curious circumstance, that while the fine old windows in the cathedrals of Bruges and Chartres are composed of nine or ten tints of glass, nearly 140 different tints are now used in the production of a stained window. We have advanced in science, not in art.

Messrs. Heaton, Butler, & Bayne's publication cannot fail to advance their object.

VARIORUM.

The Council of the Art-Union of London have issued their capital little Almanack. It may be worth while to repeat that this almanack contains, besides the usual information, particulars of artistic and scientific bodies, public exhibitions, British and other collections of pictures not to be found elsewhere in a collected form. The Society's Annual Report is now ready for distribution. The print of the year ought to get a large subscription-list. —— The Christmas extra number of "London Society" includes contributions from Mr. Mark Lemon, Mr. H. J. Byron, and others, with numerous illustrations. We quote a paragraph or two, showing how the first-named writer obtains sensations in *Thames street*:—"We have more than once sought the excitement of Thames-street when business was at its height, and have found that a walk down that river-side thoroughfare has dispelled every other feeling but one of thankfulness for a safe deliverance from danger and death. Let any *malade imaginaire* try it. The bags, barrels, and bales swinging over-head from every gradation of height, the jamming of carts and cabs, the unparliamentary 'cheeking' (we believe that is the word) of cabmen, carters, and truck-haulers,—the bawling of grimy coal and corn-porters (who certainly ask, 'By y' leave,' but require such an immediate compliance, that if you hesitate a moment you are pirouetting in the gutter), the roaring which comes from the opened windows of gloomy tap-rooms, filled with half-tipsy fellows, emitting clouds of most villanous tobacco, are a combination of exciting causes sufficient to stimulate the most desponding."——The editor of the *Art Journal* closes his volume with an excellent number, including a forcible engraving by Brandard after Turner's "Bligh Sand," "Hunt the Slipper," by E. Goodall after F. Goodall; an illustrated memoir of Mrs. E. M. Ward; and a charmingly-written notice of the admirable acting of Miss Helen Faucit as *Imogen*, under the heading "Art on the Stage," wherein we detect the kindly enthusiasm and elegant pen of Mrs. S. C. Hall. "The Early Potteries of Staffordshire, by Mr. L. Jewitt, and the "History of Caricature," by Mr. Thos. Wright, illustrated by Mr. Fairholt, are carried on a stage effectively. We are glad to observe that Mr. Hall intends to publish in the new volume his "Memories, from personal Acquaintance, of the most illustrious Authors of the Age," the outlines of which, in the shape of lectures, have already given pleasure and information to large numbers of persons. A series of papers, by Mr. Ruskin, entitled "Right and Wrong in Art," is also announced.——We are glad to see that Mr. Edwin Chadwick's suggestive and valuable address delivered at the York meeting of the Social Science Association is published in a cheap form for distribution (Hardwicke). It treats of the effect of manufacturing distress, manufacturing progress, and of the improvement of the condition of the wage classes in agriculture as well as in manufacture ——The *Gentleman's Magazine* for December (Parker, Strand) contains several interesting papers, as on Jarrow Church, by Mr. O. Jewitt; on Holed Stones, by Mr. R. R. Brash; on the Corona Lucis at Aix-la-Chapelle, and others, besides the usual monthly intelligence of various kinds. The paper on holed stones is a curious one. From it we find that in Europe, Asia, Africa, and America, are found the holed stone no less than the stone circle, the cromlech, the pillar stone, and the rocking stone; and, as the author remarks, "we are not to suppose for a moment that the reverence for sacred stones in India originated with the polished and metaphysical Brahmin: it is evidently, as with us, a remnant of the primeval religion of a primeval race." Traditionary practices show that curious ideas as to the regeneration were associated with holed stones. Children were passed through the holes, and so became regenerate, reminding one of the passing of children "through the *fire*" to Baal,—or god-possession. When the hole was not large enough, the hand was passed through, and this was held equivalent to the whole body passing through. Compacts and engagements were also made while hands were joined through the orifice; and marriage compacts even were thus solemnized, no doubt with a mystical allusion to that divine marriage (in the regeneration) to which the coming of the heavenly kingdom in man is compared. The superstition of the efficacy of "passing through" is said to be prevalent among the Turks; and of the Hindus the author remarks that "the passing through caves, holes between rocks, and holed stones, was with these people symbolical of passing through the sacred yoni,—being born again,—regenerated."—— *Fraser's Magazine* for December (Longman & Co.) contains an amusing paper on Curiosities of the Patent Office; one full of wise saws, titled "Concerning Ten Years, with some Account of Things learned in them, by A. K. H. B.;" a leading paper on Ireland; and much other interesting

and entertaining matter.——The *Social Science Review* for December contains a leading paper on the International Congress of the Social Sciences; some hitherto unpublished verses on the pre-Adamite world and the creation of man; a paper on wet-nursing by strangers and its ill effects; one on town and village kitchens for the poor; and others.——"Report of the London and Provincial Turkish Bath Company. The Hammam, Jermyn-street. October, 1864." From this Report it appears that the Turkish-bath system, so far as regards the Hammam, at least, is prospering in London. The directors propose a dividend, at the rate of six per cent. per annum, for the last half-year. Several alterations and additions have been effected in the bath building.——"The A B C., or Alphabetical Railway Guide" (Tweedie), "showing at a glance how and when you can go from London to the different stations in Great Britain and return; together with the fares, distances, populations, and cab-fares from the different stations; also a new map," is certainly an improvement on Bradshaw, if not quite "as easy as A B C."——"A Hand Book of Formulæ, Tables, and Memoranda, for Architectural Surveyors and Others engaged in Building." By J. T. Hurst, C.E. (London: Spon, Bucklersbury, 1865). This is a concisely written "hand-book," in a convenient form, and though with no pretensions to originality, it contains several formulæ and tables now published for the first time; and some surveyors' subjects have also been expressly written for the work in hand.

Miscellanea.

Architectural Association, Voluntary Examination Class.—The class will meet as usual, on Tuesday next, the 13th December, at 7·30 p.m., when Mr. R. Lidstone (Clerk of Works), will explain the construction and practical use and efficiency of "Scaffolding and Shoring."

Pictorial Decoration.—Mr. Scott, recently master of the Newcastle School of Art, whose pictures illustrating the history of Northumberland, and intended for the decoration of a hall at Wallington, a seat of Sir W. C. Trevelyan, were exhibited in London, has been commissioned by that baronet to fill the spandrels over an arcade, which forms a sort of triforium above those pictures, with subjects from "Chevy Chase."

Premiums, Winter Exhibition.—The prizes offered by Mr. Wallis of 100*l.* for the best figure picture, and 50*l.* for the best landscape in the present exhibition, have been awarded, the former to Mr. W. G. Orchardson, for "The Challenge;" and the latter to Mr. H. W. B. Davis, for "Morning on the Salaises of Boulogne," the adjudicators being Messrs. E. M. Ward, R.A.; R. Redgrave, R.A.; F. R. Pickersgill, R.A.; Tom Taylor, Lewis Pocock, and A. J. Brunton. Mr. Wallis has also given an extra prize of 50*l.* to Mr. J. Morgan for his picture of "Raising a Church-rate."

Modern Illuminations.—The Illuminations by Female Artists, sent in reply to the offer of premiums by Messrs. Fuller & Co., are now exhibiting. The temptation was not very great, and the works are for the most part poor. For the money prize seven have been sent, of which the two marked respectively *Labor omnia vincit* and *Non vi sed voce*, seem to have most claims. In the miscellaneous collection, some by Miss J. Batty and Miss L. Batty deserve praise. There are several well-written texts. The introduction of photographs, to mask the prevailing inability to draw the figure, is a mistake.

The Park Lane Improvement.—A deputation from the Metropolitan Board of Works had an interview with the First Commissioner of Works, on Monday, at Whitehall-place, to explain the plans for this improvement, and ask the aid of Government in carrying them out. Mr. Cowper said the plan for widening Park-lane would be a very expensive improvement; but for the opening of Upper Hamilton-place every facility would be given on the part of the Crown. The cost, however, should be at once faced by the Metropolitan Board, unless it could plead poverty. Mr. Cowper gave no hope of Government aid in paying the cost of the improvement, but he said they might give up their property for a public object, like other people.

British Archæological Association.—At the meeting on Wednesday, December 14th, papers will be read by Dr. Kendrick on the Discovery of Roman Brine Pans at Northwich; and by Mr. Blashill on Sepulchral Crosses in Herefordshire.

Proposed Industrial Exhibition at Wakefield.—It is proposed to hold an industrial exhibition in Wakefield, on the plan of the one lately held in the north of London. A meeting of gentlemen to consider the feasibility of the thing was convened in the vestry, and a resolution was arrived at to solicit the opinion of the employers of labour in the town.

Monster Whistle.—An extensive apparatus, of iron and brickwork, is in course of erection, at the west pier-head, Kingstown, Cork, for the purpose of sounding a loud whistle, similar to a steam one, in foggy weather, so as to prevent casualties occurring to the mail-steamers or other vessels approaching or leaving the harbour during thick weather. The coves of Cork will be pleasantly enlivened by this new warbler.

The Survey of Jerusalem.—Mr. Fergusson states that the survey of Jerusalem under Lieut. Wilson and his party of Sappers is going on most satisfactorily. The Pasha's authority affords them complete protection, and he gives them every facility they require, so that by next summer we may hope to have as perfect a survey of Jerusalem as we have of any English city, and to know as much as can be known of its mysterious water supply, and of the means by which its sanitary condition may be improved.

East London Industrial Exhibition.—The committee finding themselves unable to obtain a proper building for the proposed Exhibition, have now given their attention to obtaining the erection of a large Exhibition Hall, with museum, large and small meeting-rooms, offices, &c., to carry out every effort which bids fair to benefit workers of both sexes and all ages, who, by the labour of their hands or minds, provide for themselves, their families, or their dependants, and this by a Limited Liability Company, with a capital in 1*l.* shares, to be held, if workers will, by workers, which company shall raise the premises required, to be devoted entirely to the advancement of their intellectual and physical condition.

Colour: the Trocheidoscope.—With reference to a notice of the meeting of the Liverpool Architectural Society, in a recent number, Mr. G. A. Audsley writes:—"The general principles on which my instrument is constructed are the same as those on which the instruments invented by Mr. Rose some years ago, the common 'Colour Top,' and the 'Trocheidoscope' of Mr. Goodchild are arranged. All I can claim for my machine is, that by adopting a vertical position for my revolving discs, &c., instead of the usual horizontal one, and by a very brilliant mode of illumination, I render the effects of colour visible at a great distance, and to any number of persons at a time. I have also introduced a series of compound motions, by which I obtain some striking effects as well as continuity. Although I may have done a little towards the development of a very useful and interesting class of instrument, I lay claim to no credit connected with it, much less to being its inventor."

Dwellings for the Working Classes in Liverpool.—At a meeting of the Liverpool Health Committee an important discussion took place on the question of the demolition of badly-constructed court and alley houses at present inhabited by the poor. It was urged, that by the demolition of these places thousands of working people would, by the destruction of their dwellings, be placed in a worse position than that which they now occupy. Mr. H. T. Wilson moved a resolution to the effect that the council be requested to instruct the finance committee to give every facility for the erection of model cottages on land belonging to the corporation. He also urged the necessity of erecting such cottages close to the docks, where the majority of these poor people work and reside. Mr. J. R. Jeffery believed, that if the different railway companies were appealed to, they would not only permit model cottages to be erected in the neighbourhood of their line, but they would carry the working classes from and to their homes at cheap rates. Ultimately the motion of Mr. Wilson was agreed to. The model cottages will surely be built and ready for occupation before the old dwellings are demolished.

Graphic Society.—The first *conversazione* will be held on the 14th inst., the committee being Mr. Frost, Mr. E. Goodall, Mr. Maguire, and Mr. Ward. The new members who have been selected are—painter, Mr. W. J. Grant; sculptor, Mr. Joseph Durham; architect, Mr. E. M. Barry.

Operative Coachmakers' Industrial Exhibition.—The Company of Coach and Coach-Harness Makers of the City of London have granted the use of their hall for the purposes of this Exhibition. The Society of Arts, with the Company of Coachmakers, will nominate judges and present the prizes and certificates of merit.

An Offer to Sell a House is Selling it.—The Marchioness of Ely offered to sell her house to Mr. Chinnock for 10,000*l.*, but she afterwards changed her mind and asked him to withdraw his offer to take it. He would not do so, and her ladyship's solicitor then imposed conditions which he objected to, and he filed a bill in Chancery for specific performance of the agreement. The Vice-Chancellor held that her ladyship must sell Mr. Chinnock her house.

The Bells of Santiago.—The South American steamer *Osiris*, from Hayti, has brought home thirty-three bells, as part of her cargo. These bells formed the chimes of the church of San Juan, Santiago, previously to the sad catastrophe which destroyed that edifice. They bear upon them proofs of the intensity of the flames, in which so many lives were sacrificed. The ornamentations by which the bells are embellished are rich and profuse. Each bell is dedicated to some particular saint, and is in its designs typical of the leading features in the life of the saint in whose honour it has been cast. The bells were made in 1819, and range in weight from 40 cwt. to 5 cwt. They are brought to this country to be recast, and sent out to Santiago again.

The Bakehouses' Regulation Act.—A crowded meeting of operative bakers was held on Saturday night at the Cranbourn Hotel, St. Martin's-lane, to receive the report of the deputation which had waited upon Mr. Leyard, M.P., on Tuesday last, with respect to the defective manner in which the provisions of this Act were carried out. The result was that the Home Secretary had consented to receive a deputation from the journeymen next week, when, if they could prove their statement, steps should be at once taken to remedy the evils and enforce the provisions of the Act. A long and animated discussion ensued, from which it appeared that all the evils the Act was intended to remove still existed in full force, the great majority of those present personally experiencing them. It was then resolved, that Messrs. Bennett, Blake, More, Webb, and Pidgeon should form the deputation to Sir George Grey. A resolution was then adopted, declaring it to be desirable that nightwork in the baking trade should be abolished, and that the hours of working should be from 4 a.m. till 4 p.m.

The Bar Gate, Southampton. The restoration of the south side has been completed by the insertion of the stained glass window presented by Mr. Councillor Lanham. The stucco which until about two years ago defaced the south front of the Bar has now been completely cleared away, the whole stonework renewed, and in place of the old windows there are four equilateral headed windows, in the Decorated style, with trefoil heads, the two lights having cinquefoil cuspings. The corbel heads supporting the weather moulding, and also the stained windows themselves, present, in chronological order, those of monarchs who have granted charters to the town of Southampton, and who consequently are supposed to have been in some way or other connected with the building. That at the public entrance to the Guildhall contains the figure of Queen Victoria. These improvements were carried out under the superintendence of Mr. Stevens, builder. Upstairs, the first window on the left hand contains in the trefoil head three roses, the borough arms. The whole of these trefoil heads are fixed so as to admit of their being opened for ventilation. Each of the lights in the windows contains a shield within a label or wreath, the quarries being filled with designs and banded with labels. These windows have been supplied by Messrs. Heaton, Butler, & Bayne, of London, at the expense of Mr. Councillor Lanham. In order to make the hall correspond with the windows, it requires to be painted and decorated.

Hindoo Incinerator.—A design by Mr. W. Clark, engineer to the Calcutta Justices of the Peace, for a "proposed incinerator for Hindoo burning ghat," has been published in the form of a lithograph, from a copy on transfer paper prepared by Mohumed Azeem, and printed at the Surveyor General's Office, Calcutta. The lithograph gives sketches of the front elevation in furnace form, with plan, and side and end views of the interior, showing the cross piles of wood and the body stretched among them; with plan of the flue leading to the chimney.

The Proposed New Law Courts.—Circulars from the solicitors to the Commissioners of Works and Buildings have been received by the leaseholders, freeholders, and occupiers of the houses and buildings situate in Carey-street, Lincoln's-inn, Bell-yard, Fleet-street, the Strand, Old and New Boswell-court, St. Clement's-lane, Ship-yard, Serle's-place, Yeates's, New, Plough, Star, Crown, Hemlock, and Newcastle courts, in order to ascertain, by the 15th inst., whether they assent, dissent, or stand neuter, in the application to Parliament for an Act to empower the commissioners to acquire the respective properties, by purchase, for a site to erect the new courts of law, with the offices connected therewith.

Guildhall-yard, City.—An agreement has been entered into between the Court of Common Council and the City Commissioners of Sewers to carry out some improvements in Guildhall-yard. The Commissioners have arranged to take possession of the churchyard of the parishes of St. Lawrence Jewry and St. Mary Magdalen, Milk-street, for the purpose of improving the thoroughfare leading into the Guildhall-yard. The sanction of both the above bodies has been obtained, and it is expected that in a short time the alterations will be effected. The newspapers say, adjoining to these alterations it is proposed to erect on the site of the Guildhall Tavern an extensive building as a public auction mart, in consequence of the original auction mart in Bartholomew-lane, opposite the Bank, having been disposed of.

Registration of Designs.—The Court of Queen's Bench has decided that the 20 & 21 Vict., chap. 70, sec. 5, which enacts that the registration of any pattern, or portion of an article of manufacture to which a design is applied, instead or in lieu of a copy, drawing, print, specification, or description in writing, shall be sufficient, applies to cases where the novel design is a combination, as well as to cases where it is a simple design, complete in itself. The point arose in the case of Macrae *v.* Holdsworth, where the inventor of a design to be applied to woven fabrics, consisting of the combination of a certain groundwork with ornamental stars of a particular form, had registered a portion of the woven fabric to which the design had been applied, unaccompanied by any explanation or description of the design which he claimed as his invention. The Court held that the registration was sufficient.

An Iron Letter.—By the last American mail a letter, which is remarkable both as a documentary curiosity and as a specimen of manufacturing skill, was received by the *Birmingham Journal*. It is written on iron rolled so thin that the sheet is only twice the weight of a similar sheet of ordinary note paper. The letter is dated, "South Pittsburg (Pennsylvania), November 6th, 1864," and says:—"In the number of your paper, dated October 1st, 1864, there is an article setting forth that John Brown & Co., of the Atlas Works, Sheffield, had succeeded in rolling a plate of iron 13½ in. thick. I believe that to be the thickest plate ever rolled. I send you this specimen of iron made at the Sligo Iron-works, Pittsburgh, Pennsylvania, as the thinnest iron ever rolled in the world up to this time, which iron I challenge all England to surpass for strength and tenuity. This, I believe, will be the first iron letter that ever crossed the Atlantic ocean.—Yours, &c., John C. Evans." The iron is said to be of exceedingly fine quality, and the sheet by far the thinnest ever seen in this country. The letter will be deposited in the Museum of the Midland Institute. Tested by one of Holtzappfel's gauges, the thickness of the sheet is found to be one-thousandth part of an inch! A sheet of Belgian iron, supposed hitherto to be the thinnest yet rolled, is the six hundred and sixty-sixth part of an inch thick; and the thickness of an ordinary sheet of note paper is about the four-hundredth part of an inch.

The Building Trades.—At Maidstone meetings of carpenters have been held for the purpose of considering the best means of procuring an increase of wages for carpenters and joiners. It was decided to present a memorial to the builders of the town, asking for an increase of 6d. per day.——There is a strike among the builders' labourers at Holme Head, near Carlisle. In a letter addressed to one of the leading firms in the town by the committee of the Labourers' Society they say, "If you are desirous of employing them according to the rules of the Society we are quite willing to comply with that request, provided that you expel the non-society men. If not, you will not get one man to attend." There are some sixty or seventy "society men" in the town on strike; but the masters are not likely to give in upon the point in dispute, as they have already supplied their wants.——The plasterers of Carlisle have struck work, to the number of about twenty, against the short-day reduction of wages to the extent of 2s. a week.

Bursting of a Reservoir in Cumberland. A reservoir of three acres, near Harrington, has burst, and deluged the main street with a wide stream described as some 4 ft. or 5 ft. in depth, the main body of the water finally emptying itself into the harbour. The torrent came rolling along in high waves, inundating houses, sweeping off movables, and occupying several minutes in passing. Fortunately no one was injured, all the damage done being confined to property. The reservoir was one recently constructed to supply new ironworks of Messrs. Bain, Blair, & Patterson. It was constructed in a valley, the adjacent hills forming the two sides, and the low end being shut in by an embankment about 300 ft. in length and 20 ft. high. This bank was 5 ft. thick at the top, and gradually spread out, of course, towards the base, sloping on either side. The sides were formed of battered earth and clay, a section of clay puddle being placed in the middle. It is about ten months since the construction commenced, and it was almost completed when the catastrophe occurred. The water burst through a chasm some 10 ft. wide. As soon as the danger was seen to be impending, the alarm was given to the town, and the streets were cleared. The parapet of a bridge was washed down; deep holes were made in the main street; and the foundations of a railway bridge were injured.

An American Saw-setter.—Nash & Doland, Watertown, Jefferson county, N. Y., manufacture a saw-set which is said to be good for setting hand-saw teeth of every size. It is grasped in one hand, as one would take hold of a pair of forceps. As described, it consists of a small iron frame, with two ears which support a short lever and a part of the handle, and one end of the lever is acted on by a short portion of the handle; then there is a spring to throw back the lever, and there is also a set-screw and gauge to set every tooth little or much, and they are set with the greatest accuracy without battering the teeth.

Hot Water in Houses.—We hear of a new apparatus, contrived by Mr. W. Binks, of Manchester, for conveying hot water through houses and buildings. The *Manchester City News* thus speaks of it:—It may be described as an ordinary bath boiler placed behind the fire (when fixed), and connected therewith is a small cylinder—called the safety cylinder—of a nature hitherto unknown in the trade. This cylinder is connected in the usual manner with the old water-circulating cistern; but instead of being at the highest point of the building, by means of two long lengths of circulating pipe, it is placed in immediate contiguity to the bath boiler. The consequence is, that the water, having only a short space for action between the safety cylinder and bath boiler, it is constantly being circulated at a rapid speed throughout the various pipes in every part of the house or building, thus rendering the water as hot at the highest point as it is in the boiler—that is to say, whether the water is drawn directly out of the boiler or out of a tap in the top-most room of the house, its heat is nearly equal. It will thus be seen that the small cylinder produces such an action of the water in the boiler and pipes that an explosion is absolutely impossible. Neither frost nor short supply of water can affect the working or safety of the apparatus. The bath boilers at present in use are constantly liable to burst from various causes, and from past experience we know how serious are the consequences arising from such explosions, not only to life, but to property.

St. Patrick's Cathedral, Dublin.—A window memorial of Sir John Andrew Stevenson, Mus. Doc., has just been erected in St. Patrick's Cathedral. It is the work of Messrs. Ballantine & Son, Edinburgh. The subject of the window is Early English, treated in the mosaic style. It introduces David singing one of his psalms, accompanied by himself on the harp, and surrounded by groups of Israelites listening to his divine strains. In the upper medallion of the window are seen three angels with musical instruments, as if repeating the melody. At the base is a harp suspended on a cross, the whole being surrounded with groundwork and border ing, in the early style of glass.

TENDERS.

For a public-house, at Warlingham, Surrey. Mr. R. W. Drew, architect. Quantities supplied by Mr. J. A. Bunker:—

Turner & Sons	£1,049	0	0
Diblin	975	0	0
Wood	968	0	0
Dawson	912	0	0
Child & Son	857	0	0

For alterations required for additional accommodation to tramps' wards, Fulham Union. Mr. W. L. Gomme, architect:—

Pitts	£413	8	0
Snelling	357	0	0
Mansell	348	0	0
Chamberlin	330	0	0
Wilson	240	0	0
Martin (accepted	194	0	0

For the completion of a pile of buildings in Victoria-street, Westminster, for the Freehold and General Investment Company. Mr. Henry S. Legg, architect. Quantities supplied by Mr. D. J. Brown:—

Haward	£31,100	0	0
Gammon	29,371	0	0
Sewell & Son	28,470	0	0
Brass	27,963	0	0
Lawrence & Son	27,920	0	0
Patrick & Son	27,750	0	0
Hill & Keddell	27,670	0	0
Trollope & Co.	27,543	0	0
Myers	26,287	0	0

For sundry alterations at the Southampton Railway Hotel, Surbiton. Mr. Frederic Warren, architect:—

Hards	£255	0	0
Wells	236	0	0
Mudie	200	0	0
Towill (accepted)	180	0	0

For building a public-house, in King Edward's-road, Hackney. Messrs. Hammack & Lambert, architects:—

Johnson	£2,396	1	9
Kilby	2,389	0	0
Earl	2,357	0	0
Ferry & Judson	2,300	0	0
Hedges	2,295	0	0
Newman & Mann	2,286	0	0
Macers	2,162	0	0
Wood	2,123	0	0

For the erection of a new church, to be called the Church of All Saints, Camberwell. Messrs. Bassett, Keeling, & Tyrie, architects. Quantities not supplied:—

Dove, Brothers	£5,000	0	0

For new offices and roof-walls, London Bridge Station, London, Brighton, and South Coast Railway. Contract No. 4. Mr. F. D. Bannister, architect. Quantities supplied by Mr. C. H. Driver:—

Reanie & Co.	£22,745	0	0
Patman & Fotheringham	20,200	0	0
Perry, Jun.	19,000	0	0
Chappell	17,988	0	0
Myers	17,486	0	0
Sawyer	16,960	0	0
Simms & Martin	16,620	0	0

For the erection of two warehouses, in Commercial-street, Whitechapel. Mr. N. S. Joseph, architect.

Axford	£5,050	0	0
Read & Son	4,937	0	0
Coleman	4,859	0	0
Lawrence & Sons	4,770	0	0
Newman & Mann	4,765	0	0
Ashby & Horner	4,709	0	0
Hill & Sons	4,642	0	0
Piper & Wheeler	4,597	0	0
King & Sons	4,489	0	0
Hill & Keddell	4,357	0	0
Brass	4,332	0	0
Browne & Robinson	4,260	0	0
Conder (accepted)	4,256	0	0

Accepted, for new club, at Bradford, Yorkshire. Messrs. Lockwood & Mawson, architects. Quantities supplied by Mr. D. J. Brown:—

Burnley & Son (Masons)	£2,530	0	0
Wilson & Son (Joiners)	1,390	0	0
Walton & Brear (Plumbers)	610	0	0
Dixon (Plasterer)	433	0	0
Slater (Ironfounder)	369	0	0
Hill & Sutcliffe (Slaters)	141	10	0
Briggs & Mensforth (Painters)	71	13	6

For building a villa, stables, coach-house, fences, and gates, at Sandy. Mr. Usher, architect:—

Bryant	£1,676	0	0
Twelvetrees	1,593	0	0
Joy	1,529	0	0

For Messrs. Saltzr's new stables, Grosvenor-street West, Pimlico. Mr. Thos. Cundy, jun., architect:—

Holland	£6,086	0	0
Higgs	5,950	0	0
Brass	5,880	0	0
Trollope	5,725	0	0
Anson	5,540	0	0
Myers & Sons	5,521	0	0

For carcases of houses, at Kentish Town ... Mr. Edward Clark, architect. Quantities supplied by the architect:—

Ratt	£2,112	0	0
Simpson	2,021	6	0
Manley & Rogers	2,015	0	0
Venthem	1,960	0	0
Rowe	1,767	0	0
Mann	1,745	0	0
Simmonds (accepted)	1,736	0	0

TO CORRESPONDENTS.

Zinc.—A correspondent wants to know the result of experience of the use of zinc as a lining for water cisterns.

W. H. K.—W. & B. (shall be attended to).—A. C. (no general index of the *Builder* has yet been made). L. M. H. (has already appeared elsewhere).—H. R.—W. G.—J. H. (who says he has "employed his leisure hours for some years in making drawings for the construction of machinery, to work by hydraulic power, for the use of large and small manufactories preventing the nuisance of smoke and danger of boiler explosions," should ask his questions of a patent agent).—B. F.—T. J. S.—J. J.—N. & M.—B. C.—E. C.—S. H.—W. G.—V. W.—W. M.—J. B. A.—Mr. B.—Leusdonim (not unlikely).—W. H. H.—R. P. P.—J. A.—F. E.—Mr. M.—D. S.—E. J. T. (next week).—T. C. C. (ditto).—A. J. R.—T. M.—O. H. D.—Plymouthian.—A. & W. O'C. (shall have attent. n)

We are compelled to decline pointing out books and giving addresses.

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[ADVERTISEMENT.]

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ADVERTISEMENTS.

To Barge Builders and Owners, Timber Merchants, and Others.—Caversham Bridge Wharf, Reading, Berks; Purton, Wilts; Basingstoke, North Warnborough, and Crookham, Hants.

MR. ALFRED WHITE is favoured with instructions from Mrs. R. & E. Talbot (who are dissolving partnership) to SELL by AUCTION, at CAVERSHAM BRIDGE WHARF, on MONDAY and TUESDAY, DECEMBER 19th and 20th, 1864, at ELEVEN o'clock each day, the whole of the valuable STOCK, comprising about 200 loads of capital oak, elm, ash, and larch, for Timber, 10 loads of oak planks, of various thicknesses, 30 loads of ash, 5 load of beech, and 5 loads of elm planks, 100 Dantzic fir planks, 30 yellow barrens and deals 5 loads of oak scantling, 600 oak posts, 6,000 cleft and sawn oak pales, 600 oak rails, 40 ash and beech axle beds, 600 oak and elm stocks, 1,200 elm and ash felloes, 1,000 bundles of lath, 800 ladder rounds, a large quantity of cooper's staves, hoop hacks, peck handles, &c. &c.; a new well-built long canal barge (90 tons), canal boat, two punts (one quite new), three prime ship planks, 400 boat crooks, 12 compass beams, a loat of swan plank, 10 oak barge heads, 20 barge floors, 5,000 tenails, 2,000 lb. gubbitts, oak windlass rolls, &c. 3 cwt. of iron plate knees, 5 cwt. of barge nails, six pair of iron clamps, four screw-jacks, and one patent ditto, portable forge (new), two vices, anvil, &c.; two useful horses, five-year old pony, three timber carriages, four timber bobs, one tip-cart, pony gig and cart, brace, thill, and gig harness, coal weighing machine (by Rogard), chains, coal sacks, wheel barrows, hand truck, chaff cutter, iron and oak 5-bar red gates, and a variety of effects requisite in the barge building and timber trades. Also, the joint interest in the Lease of a portion of the Premises and the erections thereon, consisting of a saw mill, fitted with a 14-horse power horizontal steam engine, with a 15 inch bore; Cornish boiler, 30 feet by 6 feet 6 inches in diameter, band and rack frame, circular saws 1 foot 10 3 feet 6 inches in diameter, band and rack benches, shafting, straps, &c. (by Barrett, Exall, & Andrewes), barge-building sheds, 90 feet by 48 feet, stables, timber and sawing sheds, carpenter's shop with bench, offices, &c. &c.—On view three days prior to the Sale, and catalogues may be had one week prior to the same, at the Place of Sale, and of Mr. ALFRED WHITE, Auctioneer, Estate Agent, &c. Basingstoke, Caversham Bridge, and Hants, who will forward them by post on application.

GEORGE'S ROAD, BROMLEY, KENT. By order of the Mortgagee.

MR. G. T. CLARKE will SELL by AUCTION, at the BEECH TREE TAVERN, Bromley, Kent, on TUESDAY, DECEMBER 13th, at ELEVEN for TWELVE o'clock, the LEASES of FOUR well-built RESIDENCES, having a term of 99 years from Christmas, 1854, at the low ground rent of 22 per house. Premium. The property is weekly, and must always command good paying tenants. Also, the Carcases of four others, immediately adjoining; and the Carcases of Four Villa Residences abutting the main Sevenoaks-road.—Particulars of Messrs. PRESTON & DORMAN, Solicitors, 13, Gresham-street, E.C.; Beech Tree; and Offices of Auctioneer, 8, Surrey-place, Kennington.

GEORGE'S ROAD, BROMLEY, KENT, near the Beech Tree Tavern. By order of the Mortgagee.

MR. G. T. CLARKE will SELL by AUCTION, on the PREMISES, as above, on TUESDAY NEXT, DECEMBER 13, at ELEVEN for TWELVE, the whole of the PLANT, STOCK, and EFFECTS of Mr George Freeman, builder, &c., comprising upwards of 100 000 stock and other bricks, vein marble, block paving, timber battens, deals, pine, and other planks, quantity of iron, ironmongery, brick carts, cheap cabs, powerful draught horses, a very useful grey cob, harness, and numerous effects.—Catalogues of the Auctioneer, 13, Gresham-street, E.C.; at the Beech Tree, Bromley; at the neighbouring Taverns; and Auctioneer, 8, Surrey-place, Kennington.

FREEMAN'S BRICK-FIELD, PERRY VALE, LOWER SYDENHAM, KENT.—By Order of the Mortgagee.

MR. G. T. CLARKE has received instructions to SELL by PRIVATE CONTRACT, the WORKING PLANT of the above, by TUESDAY, DECEMBER 13.—Particulars of Messrs. PRESTON & DORMAN, Solicitors, 13, Gresham street, E.C.; and at the Offices of Auctioneer, 8, Surrey-place, Kennington.

To Carriage Manufacturers, Marble Chimney-piece, Stove and Grate Dealers, and Others, requiring Stock in Premises.

MESSRS. VENTOM, CLARKE, & BULL have received instructions to SELL by AUCTION, at GARRAWAY'S coffee house, Change alley, Cornhill, on FRIDAY, the 16th DECEMBER, 18.4 AT ONE o'clock precisely, the LEASE of those commanding PREMISES, now in the occupation of the Assignees of Messrs. Collins & Green, being No 3 Blackfriars road and known as the "Rotunda Galleries," together with the GOODWILL of the BUSINESS. The purchaser will have the option of taking the stock-in-trade, which is all modern and in excellent condition, at a valuation. The Premises may be viewed and Particulars and Conditions, with Catalogues of the Stock, will shortly be published, and may be had of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, 7, Walbrook; of Messrs SMITH & BURDEKIN, Solicitors, Sheffield; and of the Auctioneers, 8, Bucklersbury.

To Marble Chimney piece Manufacturers, Stove and Grate Dealers, Furnishing Ironmongers, and Others.—Important Sale of the very valuable and extensive Stock in Trade of Messrs. Collins & Green.

MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees to SELL by AUCTION, at the ROTUNDA GALLERIES, Blackfriars road, on MONDAY, DECEMBER 19, and four following Days, and on TUESDAY, DECEMBER 27, at TWELVE o'clock precisely each day (unless previously disposed of in one lot), the whole of the costly and well assorted STOCK-IN-TRADE, comprising a large number of chimney-piece of the most artistic workmanship and of the most expensive marbles, including statuary, griotte, porphyry, paper, Guinea, Alpine, and other choice greens; St. Remy blue, rouge royal, Bardiglio, Sienna brack, &c.; a quantity of statuary, ormolu, mental tablets, a large assortment of burnished steel, ormolu, and other register stoves of the newest and most elegant designs, kitchen ranges, hot-plates, kitcheners, &c., a large stock of polished steel fenders and fire implements. The remaining stock consists of a large quantity of partly manufactured marble pilasters, friezes, trusses, &c., unmanufactured statuary, veined, and fossil marbles, slate tombs, &c.; a spring van, a few lots of office furniture, and other effects.—May be viewed the Saturday preceding the Sale. Catalogues will shortly be published and may be had (price 1s each, which will be returned to purchasers) of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, 7, Walbrook; of Messrs SMITH & BURDEKIN, Solicitors, Sheffield; at the Premises; and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, London, E.C.

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MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees of Messrs Collins & Green, to SELL by AUCTION, on the PREMISES, No. 3, New Bridge-street, on THURSDAY, DECEMBER 29th, at ELEVEN for TWELVE precisely, the well assorted STOCK of choice marble chimney pieces, steel register stoves, &c. and a large quantity of excellent cutlery, a few lots of household furniture, and several portfolios of valuable engravings.—May be viewed the day preceding and morning of Sale. Catalogues may be had at the Premises; and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, E.C.

TWO DAYS' SALE at CAMDEN TERRACE, CAMDEN TOWN, near the Old Pack Tavern and Camden road Railway station.

MR. LEREW will SELL by AUCTION, on the PREMISES, as above on MONDAY DECEMBER 12th, and following day, at ELEVEN for TWELVE, a quantity of PLANK, DEALS, BATTENS, wide pine boards, dry red stuff, 3 in squares of flooring, mantelpieces, mahogany, cedar, mahogany, sycamore, mezzine, birch, deal, square, scaffolding, ladders, oak sill, work-benches, old materials, &c.—Catalogues may be had on the Premises; and at Mr. A. H. LEREW'S Auction Offices, 9, Carlington street, Hampstead-road, near the Euston Station.

BARNSTAPLE, DEVON. TO BE SOLD by AUCTION, on TUESDAY, the 13th day of DECEMBER next, by

MESSRS. MANNING & SON, on the PREMISES, Rolles Quay, Barnstaple, at TWO o'clock in the afternoon precisely, the undermentioned valuable MACHINERY and PLANT, viz.: horizontal high-pressure steam engine, 18-inch cylinder, 3 feet stroke, by Coupe, of Wigan, fixed new in 1861, in excellent condition; two Cornish boilers, one 18 feet long, by feet diameter, the other 20 feet long, 4½ feet diameter, with the usual fittings, a rack bench, 60 feet long, with two circular saws, cast iron sawbench and circular saw, a sweep cutting machine, by Robinson, a planing machine, with cast iron shaft, 15 feet long, with planer blocks, brass bearings, driving-drums, &c. The above have been used in working saw mills and wood turning works, and will be found well worth the attention of any one requiring such machines.

Dated, Barnstaple, November 22, 1864.

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MR. W. BROWN will SELL by AUCTION at the GEORGE INN, North-parade, on TUESDAY, DECEMBER 13, 1864, at TWO o'clock, the Prime BEECH TIMBER TREES, a quantity of small beech for turning purposes, and the timber, bark and underwood together with the whole of the timber in Dyke, Stockley, and Cock Grove Woods, close to Stanstead, say in the parish of North Lynch, 2 miles from the Liphook Station of the London and South-Western Railway, and 1 mile from the Grand Junction Canal, and upwards of 200 fine beech trees in Dryst Wood, near Chiddingfold, 3 miles by road from Petworth, and 1 mile of Woolbeding. Lots and specimen trees of these, also at the Kings Arms, Berkhamstead; Rose and Crown, Hemel Hempstead; Crown, Chesham; Royal Hotel, Tring Station.—Plans of Sale; and at the Offices of Mr. W. BROWN, Land Agent, Tring.

Annual Clearance Sale of Stocks suitable for Builders and Decorators, by order and Executors of Firm.

MR. EDWIN WHITE will SELL, without reserve, at 12, HOLBORN BARS, and 1, CASTLE STREET, HOLBORN, on TUESDAY, DECEMBER 13 at ONE for TWO precisely, a very large Assortment of PAPER-HANGINGS, including French and English Flocks, Gilds, Satins, Grounds Tints, Bandings, Siennas, Granites, Oaks, Flats, and Architectural Decorations, &c. Also gilt room mouldings, and many hundred cancelled slate chimney-pieces in every variety. May be viewed in bulk (not merely by patterns), and Catalogues had on Monday the morning of Sale.

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DECEMBER, 1864.—The Line Engravings in the ART JOURNAL for December, engraved on Steel by "Bolton Abbey," by R. Brandard, F.S.A., after J. Linnell; "The Sick Lamb," by E. Goodall; and Durham's "Go to Sleep," by E.W. Stocart. The Sun has also produced Thirty-seven Woodcuts, illustrations of T. Wright's "History of Caricature"; L. Jewitt's "Potteries of Staffordshire"; J. Dafforne's Notice of Mrs. E. M. Ward's Works; and other Articles.

1864.—The VOLUME of the ART-JOURNAL for the present year, 31s. 6d. cloth gilt, will be ready on MONDAY DECEMBER 12th. It contains Thirty-six Line Engravings, after Pictures and Sculpture, by eminent Artists; about Five Hundred Woodcuts, and, besides other interesting Articles, the following Papers on the following Subjects:—"The History of Caricature and of Grotesque in Art," by Thomas Wright, F.S.A.; "Wedgwood and Etruria," by Llewellyn Jewitt, F.S.A., an Illustrated Article of the Months, from original designs by W. Harvey, etc.; by the Editor, "Portrait Painting in England," by Peter Cunningham, F.S.A.; "Bewick Anecdotes," with Illustrations of the many works he produced; "Dolbadern," "The Secular Clergy of the Middle Ages," by the Rev. E. L. Cutts, B.A.; "The Art-work of the Months—January to December," by the Rev. J. G. Wood, M.A. &c.

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FREDERICK W. PORTER, Surveyor. 16, Russell-square, W.C. December 9, 1864.

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METROPOLITAN CATTLE-MARKET. Notice is hereby given, that the Markets Committee of the Corporation of London are prepared to receive PROPOSALS for the LEASE, for 21 years, of TWO HORSES or STALLS, known as the Quick Cattle and the Dray Cattle, at the Metropolitan Cattle-market, Copenhagen-fields, Islington. The letting together of the two will have the option of renting a piece of meadow-land adjoining.—Plans of the property may be seen, and further particulars obtained, upon application at the ARCHITECT'S OFFICE, Guildhall.

FERDINAND BLAND, Comptroller.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Stopping for Driving Bands, Lettings, &c., fully justifies the strong recommendations they have everywhere received. Their durability and strength, permanency of their width and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water; and the facility with which the only joint required can be made in lengths of Forty Feet or Upwards, render them superior to leather for nine at all working purposes, and decidedly more economical. Every variety of Gutta-Percha Articles, such as Driving Bands, Pump Buckets, Fire buckets, Hoses, Union Joints, Flasks, Bottles, Bowls, Toilet-trays, Curtain-rings, Galvanic Batteries, Talbotype Trays, &c. &c. manufactured by the Gutta-Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA PERCHA COMPANY, PATENTEES, WHARF ROAD, CITY ROAD LONDON

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD AND HEMP ROPE FALLS. H. PIGGOTT & SONS, 59, Bishopsgate-street Without, E.C. Manufacturers, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS. TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TO INVENTORS. All intending Patentees should procure the PRINTED INFORMATION regarding PATENTS — their cost, and mode of procedure to be adopted—issued gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M. LAIDLAW, Secretary.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTED FELT ROOFING, BOILER, RAILWAY, SHEATHING, and INDODOROUS FELT, For Damp Walls, and Lining from Houses. DOWGATE HILL, London; 7, CROPPER PIAZZA, Liverpool; and 59, GEORGE SQUARE, Glasgow.

FIRE in GRESHAM-STREET, London, E.C.—Messrs. THOMAS TAPLING & CO. Carpet Warehousemen, &c. will, until further notice, carry on their BUSINESS in the premises, all communicating, at 44a, Gresham-street, and 74, Aldermanbury, opposite those of Messrs. Bradbury, Greatorex, & Beall.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Window Lead, on the most liberal terms and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 8, Bath street, City-road, E.C. Extra strong Lead for Church Sashes &c. Estimates forwarded on receipt of particulars.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cromwell-street, Soho, W.C.

ALFRED OSBLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING. MESSRS. CLAYTON & BELL, 311, REGENT STREET, W. Adjoining the Polytechnic Institution.

STAINED GLASS, MOSAIC, WATER GLASS, and other CHURCH MURAL DECORATIONS. MR. PREEDY, 18, York place, Baker-street, Portman-square, London, W.

PAINTED GLASS WINDOWS and MURAL DECORATION. LAVERS & BARRAUD, ENDELL STREET, BLOOMSBURY, LONDON, and 46, JOHN DALTON STREET, MANCHESTER.

PURE SILVER LOOKING-GLASSES manufactured by NEW PROCESS.—The parties on the Highway, Not liable to injury from damp, heat, or handling. EMBOSSED, ORNAMENTAL and PLAIN GLASS, SILVERED, at MODERATE RATES.

PATENT SILVERING COMPANY (LIMITED), 7, LOWER KENNINGTON LANE, S.

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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 313, Oxford-street, W.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, verandahs, exhibition and counter cases, aquariums, ferneries, &c. combining perfect transmission of light, durability against rust or decay, and economy in the joints with which they are provided. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flat glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

CRYSTAL WHITE SHEET GLASS.— WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE. British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Rolled Plate, Enamelled, and every description of Glass. Estimates and Price-lists forwarded free on receipt of business card addressed to R. MITTAM & CO. 30 and 31, PRINCES STREET, SOHO, LONDON, W.

THE NATIONAL BOILER INSURANCE COMPANY (Limited). CHIEF OFFICES—11, CROSS-STREET, MANCHESTER. PRINCIPAL OFFICE IN LONDON—64, CANNON-STREET, E.C. Take out Policies for Insuring Steam and Hot Water Boilers against Explosion, on application at the Offices of the Company. A full Statement of the terms of all Policies may be had at the Offices, where the Company's Patent Double Safety Plug is fixed. By order of the Board, J. W. DANIELL, Secretary.

THE AUCTION MART COMPANY, LIMITED.—Incorporated under the Companies Act 1862, by which the liability of each shareholder is limited to the amount of his shares.

Capital £500,000 in 20,000 shares of £25, each. Deposit 1l. per share on application, and 4l. on allotment.

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Daniel Norton (Messrs. Norton, Hoggart, & Trist), 62, Old Broad-street, E.C. chairman.

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Henry & C. Chinnock (Messrs. Chinnock, Galsworthy, & Chinnock), 11, Waterloo-place, Pall-mall, S.W.

Frank G. Debenham (Messrs. Debenham & Towson), 80, Cheapside, E.C.

Robert C. Driver (Messrs. Driver & Co.), 4, Whitehall, S.W.

John Oakley (Messrs. Daniel Smith, Son, & Oakley), 13, Waterloo-place, Pall-mall, S.W.

George Tritt (Messrs. Norton, Hoggart, & Trist), 62, Old Broad-street, E.C.

With power to add to their number.

Solicitors—Keyser & Norman, 23, Essex street, Strand, W.C.

Bankers—London and County Banking Company, 21, Lombard-street, E.C.

Auditors—Quilter, Ball, & Co. Moorgate-street, E.C.

Architect—G. Somers Clarke, 20, George-street, S.W.

Secretary (pro tem.)—Henry J. Cowden.

Temporary Offices—62, Old Broad street, E.C.

PROSPECTUS.

This Company is formed for the purpose of effecting in the City of London a Public Auction Mart for the sale of private estates and other property, now absolutely necessary in consequence of the late Auction Mart recently situate in Bartholomew-close, City, having been converted to other purposes and the insufficient accommodation afforded to the public elsewhere.

The Directors have secured on favourable terms an extensive freehold area on Tokenhouse yard, next to the offices of the General Credit Company having a frontage of upwards of 100 feet. The site is admirably adapted by the requirements of the undertaking, not only from its central position, being close to the Bank of England, the Royal Exchange, the Stock Exchange, and the principal Banking Houses and Merchants connected with the Money Market, but from the great advantage it possesses in being free from the noise and confusion of a leading thoroughfare.

The Directors propose to erect on the site of the existing houses, a handsome and substantial building, retaining on the ground and first floors several large and suitable Show Rooms, with spacious Entrance Halls on the ground-floor on the east and Clerks' Rooms, which are to be approached by a separate entrance and staircase in the most convenient and economical manner, which can be used, as occasion may require, for auctionrooms, or for offices. The basement will contain suitable refreshment accommodation and additional cellarage or offices to be let or off.

It is proposed to keep a Classified Register of the prices of property sold at the Auction Mart, on the principle of the present Estate Exchange to which Shareholders will have access upon such a small fee, thus affording a useful reference for the purpose of valuations and otherwise.

The revenue of the Company will consist:—First, of rents to be received from the auctioneers for the use of the Sale Rooms, the amount for which is continual increasing. Secondly, fees to be received in respect of the Retreats at Deptford, and Dartford, and from the rents received for the Offices, Auctioneers' Rooms, Cellars, &c. from both sources the Directors confidently expect a most satisfactory income will be realized.

The Directors are desirous that the undertaking should be supported by the professional interest, and applications for shares from auctioneers both in London and the country will therefore receive special consideration.

The undertaking originates with the Directors. There will be no promotion money paid to any one either directly or indirectly, but the preliminary expenses will be confined to such as are actually necessary to be incurred.

The Articles of Association can be inspected at the Offices of the Solicitors to the Company.

The Shareholders will incur no liability beyond the amount of Shares registered in their name. Applications for shares must be made upon the annexed Form. Each applicant will be required to pay to the Bankers of the Company 1l. per share on the number of Shares applied for, and upon allotment to make a further payment of 4l. per Share on the Shares allotted to him. The remaining Calls will be made at such times and for such amounts as the requirements of the Company may demand.

If the amount so made the deposits will be returned in full.

Prospectuses and Forms of Application for Shares may be had of the Solicitors; or of the Secretary, at the Temporary Offices, 62, Old Broad-street, E.C.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,

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Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.



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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.

J. E having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS.



FLOORING! DEALS! MAHOGANY
YELLOW BATTENS, £9 10s. per 120.

YELLOW DEALS, £15 10s. per 120.

100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square

10,000 Dry Pine Planks ..... from 3s. 6d. each

Matched Lining ..... from 12s. per square

WHITE BATTENS, £8 10s. per 120.

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Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared)	11s. 6d. per square.	Laths, 3½.	per Load.
Good Yellow Deals	£16 10 0	per 120, or 2½d.	per foot.
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Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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Begs to give Notice that his MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS.

Goods Landed and Carted at Norway Wharf, Ranelagh Road, S.W.

ORDER & RETAIL DEPARTMENT, 40, GREAT PETER ST., WESTMINSTER,

At Prices as low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity.

FLOORING, DEALS, BATTENS, &c.

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½-inch White Matched Lining ..... 12s. 0d. ,,

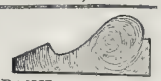
2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

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Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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At 6d. 7d. and 8d. per foot, at
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Bridge Wharf, Bankside, keep a large and well-seasoned stock o
stantly on hand, which, from the facility afforded by river
premises as compared with inland yards, they are enabled to sel
the very lowest prices.

FLOORING, MATCH BOARDS, DEAL
&c. as low as advertised, White Battens, 9l. per 120, 12 fe
Yellow ditto, 10l. ditto ditto; ¾ Floor Boards, well prepared, fr
11s. 6d. per square; Matched Lining, from 12s.; Venetian Bl
Laths from 3s. 6d. per 100 feet super.—CHARLES CUTLER, Sur
Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OA
30,500 feet in Plank and Board, sawn three years.
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KEENE'S CEMENTS.
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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Co
Chimney Pots, Trusses, Copings, &c.; Stoneware Drain Pipes, &c.
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WORKS near NEWPORT, Monmouthshire,
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The Company are now prepared to supply, at the shortest possib
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THE ONLY WHARF IN LONDON WHERE N
OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by hast
rail, or cart, and to every part of the kingdom by canal or rail.

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BELMONT LIME WHARF,
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Nearly opposite Entrance to Goods Station, Great Northern Railwa

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Whereat can be obtained, of the best quality:—
GREY STONE, CHALK, FLAKE, and BLUE LIAS LIME.
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BENNETT'S PATENT INDURATING and QUICKENING SOLU
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COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and
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D to 10d ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS,
SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED KERBERS
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED,
BLUE, and BUFF, also GARDEN EDGINGS.
TERRO METALLIC GROOVED SCABLE BRICKS, CHANNEL
BRICKS, and CLINKERS, also DUTCH CLINKERS.
Dales, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH
CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall
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WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS,
LUMPS and TILES, of every description and Size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
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Goods forwarded by Railway with despatch.
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MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS,
TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
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DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or other purpo
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in
-fourth the usual time, as Parian Stucco may be painted or paperec
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URHAM BRICK, LIME, and CEMENT
COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAM-
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ve Premises, and have ON SALE, GAULT BRICKS, TILES
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er CEMENTS, and BUILDING MATERIALS of all descriptions
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cted on the banks of the Medway by the late Thomas Cubitt.
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ality of their Portland Cement.

ELSON'S BLUE LIAS LIME,
16, SOUTH WHARF, PADDINGTON, W.
WORKS: STOCKTON, WARWICKSHIRE.
NELSON & CO. can now deliver, by rail or canal, TO ANY
PART OF THE KINGDOM.

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E. BAKER & CO.,
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FIRE-BRICKS, LUMPS, SQUARES, and
LS, of all dimensions.
GAS RETORTS always in Stock.
GARDEN EDGINGS of various Patterns.
ORNAMENTAL BUILDING BRICKS.
GRATE BACKS in various Designs.
Contracts entered into to set Retorts, erect
Furnaces, &c.
SHIPMENTS ON THE SHORTEST NOTICE.

HYDRAULIC LIME and ROMAN
CEMENT, manufactured by LLOYD JONES & CO. Halkin
erks, Holywell, Flintshire. The Halkin Hydraulic Lime is the
me as used in the construction of the Liverpool Docks, Manchester,
d various waterworks, collieries, and mines throughout the
untry, being so long celebrated for its strong cementitious and
nnecting powers for masonry in water. Can be supplied by rail or
ater to any part of the kingdom, either in lump (burnt), or ground,
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to their Cement in barrels, which is of a very superior quality and
warranted pure. Orders to be accompanied by a banker's reference
pply at the Works; or to E. & W. AARON, Agents, 66, South John-
reet, Liverpool.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
o whom the Prize Medal was awarded in 1851, are prepared to supply
y quantity of the very best PORTLAND CEMENT, manufactured
y them for all purposes to which cement is applicable.—Orders
ceived at Great Scotland yard, Whitehall, and at the Works.

TO BUILDERS, CONTRACTORS, AND ENGINEERS.
PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTURERS,
STROOD DOCKS, on the River Medway, KENT.
MESSRS. LARK & WHITE,
Late Lark, Fletcher, & Co. are prepared to supply their Cements,
f the best quality and on the most advantageous terms, either for
reezing, brickwork, or for tidal works, or otherwise, and for home
nd foreign trade, either direct from the Manufactory, or at the
WHITE LION WHARF, BANKSIDE, LONDON.
N.B.—Shipping merchants for the foreign trade treated with on the
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QUALITY.

GEORGE ALLEN (late W. & T. N.
GLADDISH),
IME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES,
CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH
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DANVER'S WHARF,
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PURE HYDRAULIC LIME, Manufactured
from the best HALKIN MOUNTAIN LIMESTONE, same as
pplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver
he above, in lump or ground, packed in bags, into wagons, at the
Holywell Station of the Chester and Holyhead Railway, or on board
essels at Greenfield Wharf, Chester River.
Prices and particulars furnished in application to Mr. EVAN
EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that
used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No application attended to without a
banker's reference.

LITTLE CASTERTON FREESTONE.
Apply, for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD,
The Owner; and see Specimen at the Museum of Practical Geology,
Jermyn street, W.
This stone (which is a perfect oolite) is raised in blocks of any
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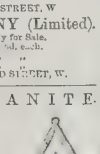
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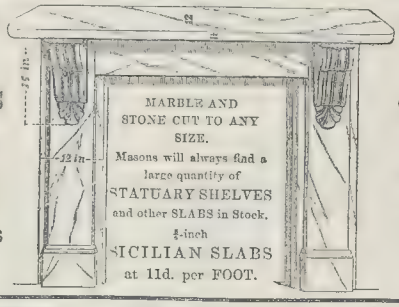
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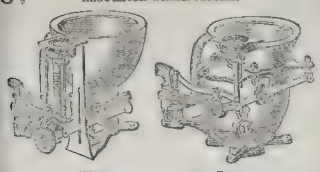
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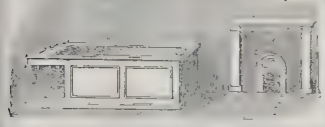
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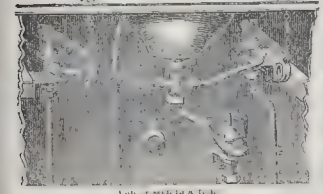
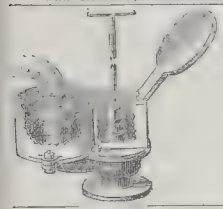


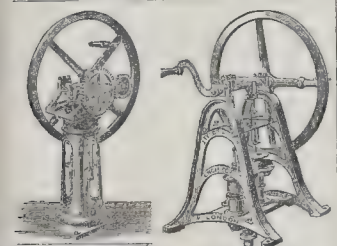
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By their process, which is patented, pure Zinc Paint is cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, AND VARNISH WORKS, 24, LIME STREET, LONDON.

NEW TARIFF FOR JUNE, 1864.

THOMAS MILLINGTON'S
NEW LIST OF PLAIN AND ORNAMENTAL WINDOW-GLASS, COLOURS, &c.
See Advertisement first Saturday in the Month, or on application.
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.



The only MEDAL for "STONEWARE PIPES" has been awarded to

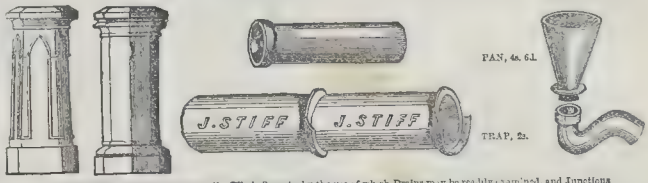
HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



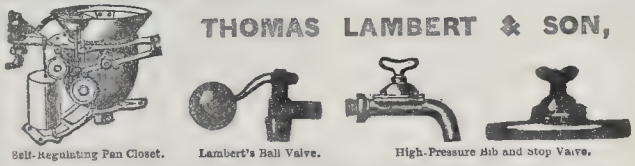
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further Connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

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T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

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DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PORTLAND CEMENT.
This material, submitted to the severest tests by the English and French Governments for hydraulic and other works, manufactured by
FRANCIS, BROTHERS, & POTT,
NINE ELMS, VAUXHALL, AND MEDINA MILLS, NEWPORT, ISLE OF WIGHT.
ROMAN, MEDINA, PARIAN, AND OTHER CEMENTS.

HOWARD & CO.
MANUFACTURERS OF WOULDHAM PATENT
PORTLAND CEMENT AND GREY STONE LIME.
WORKS,—WOULDHAM, NEAR ROCHESTER, KENT.
OFFICES, 2, DARTMOUTH STREET, NEAR WESTMINSTER PALACE, LONDON, S.W.

GENERAL BUILDERS' ASSOCIATION.

Notice is hereby given that, on and after the 1st day of JANUARY, 1865, every member of this Association shall, upon paying off any Operative desirous to join a DISCHARGE NOTE, which it will be necessary for him to produce to any other Member of this Association by whom the Operative may desire to be employed.

December 1, 1864.

BIRMINGHAM.
Briggs & Son
Hardwick & Son
Parker & Son
Mathews
Jeffery & Pritchard
Cranwell
W. & J. Webb
Godfrey
Jones
Harley & Bloore
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Wilson
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Clarke
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Baxter
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Browning
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Holmes & Facon
C. Low & Co.
J. B. Grange
Samuel Hall
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GLOUCESTER.
Jones & Son

MALVERN.
M'Cann & Everall
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H. Mackenzie
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E. Hulditch
R. Lunt
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T. Bole
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S. C. Harris
C. M...s

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W. Beasley, Kate's-hill
W. Beasley, Wilkinson road
W. Jacson
W. Holland

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J. Wilkes
H. Cope
G. Butler
W. Williams
J. Shakespeton
H. Astley
E. Bagley.

WILENHALL.
J. Taylor
J. Chapelle
J. Wyrley
S. Baker

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H. Beckett
College & Scott

WITHYBROOK.
Tomlinson

RUGBY.
Parnell
Bramwich

LONGTON.
G. Spicer
Cantlow & Jessop
G. & W. Derbyshire
J. Harvey
Meir
Colls & Hudson

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J. Ogden
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G. Ellis
C. Woolridge
R. Small
J. Baddern
J. Greene
J. Robinson

BERKSWELL.
C. Hope

WEDNESBURY.
W. Birch
W. Stevenson
J. Brewer
J. Hill
W. Trow & Sons

WOLVERHAMPTON.
G. & P. Higham
H. Lovatt
J. Cockerill
J. Guest
P. Bawater
C. Burkitt
Elliott & Whitfield
G. Heveringham
J. Palmer
R. Whalon
J. Plant
J. Plank
Trow & Sons
J. Thompson
P. Horsman
G. Tait
C. Ford
H. Clarke
C. Farrington
J. Buckler

HOLBORN.—To Horse and Carriage Repository Proprietors, Railway Carriers, and Others.—Valuable premises.—The West Central Horse and Carriage Repository, occupying an area of 12,500 superficial feet.

PULLEN, HORNE, & EVERSFIELD are instructed by the Mortgagees to SELL by AUCTION, at OAR RAWES', on THURSDAY, DECEMBER 15th, at TWELVE, the very valuable Leasehold newly-built PREMISES, lately occupied as the West Central Horse and Carriage Repository, commandingly situate in the wide and best part of High Holborn, near Red Lion street, occupying an important area of 12,500 feet, and adapted for any business requiring prominent position and space. The premises comprise a noble ride or trotting court, 100 feet by 35 feet, covered with an expensive ornamental iron and glass roof, capital stalled stabling for 65 horses, fitted with enamelled iron mangers and racks, and all modern appliances, show-rooms and galleries for carriages, harness rooms, counting houses, &c. There are thirteen sets of dwellings, of two rooms each, for servants and those engaged in the establishment; also three dwelling houses for foreman and manager. The principal front, in Holborn, presents a handsome and appropriate elevation with iron entrance gates; and there are also two other distinct entrances from Holborn, affording unusual facilities of ingress and egress. The property is held for a term of 60 years, at a ground-rent.—May be viewed, and particulars had of Messrs. NEWMAN, EVANS, & CO. Solicitors, 26, Nicholas-lane; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

ROTHERHITHE.—The Valuable Stock of Timber, Barges, and Effects of a Barge Builder.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. R. & E. Talbot, who are dissolving partnership, to SELL by AUCTION, on the PREMISES, Church-passage, Redriff, on TUESDAY, DECEMBER 13, at TWELVE for ONE precisely, a NEW OPEN BARGE of 65 tons, a canal barge of 72 tons, seven river barges, varying from 25 to 56 tons, a lug, 2 ship's boats, skiff, and punt; also the very valuable stock of seasoned timber comprising several thousand feet of oak plank of various thicknesses, 45 inch oak planks, 80 barge heads, 200 floor timbers, 40 crutches, 3 pair of oak combings, stern-posts, windlasses, tillers, rowing cheeks, &c.; 3,000 feet of 1-inch, 2-inch, and 3-inch elm boards, and 4-inch, 3-inch, and 2½ inch Dantzic deals, about 4 tons of bar and round iron, fittings of blacksmith's shop, erection of the same as now in building crane, iron pumps, anchors and chains, office stove, and the usual effects.—May be viewed on Monday, and on the Premises; also of Messrs. J. & W. BUTLER, Solicitors, 191, Tooley-street, S.E.; at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

Government Stores, Westminster

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, at the STORE YARD, Great Smith-street, Westminster, on FRIDAY, DECEMBER 16, at TEN for ELEVEN, a quantity of OLD STORES, comprising mahogany and walnut tables, desks and presses, oak chests and boxes, Turkey, Brussels, and felt carpets, mats, &c. iron and cast iron, old bolts, locks, feet, &c. 4 chairs, curtains, brooms, tinware, pewter, wrought and cast iron, and other effects. May be viewed one day prior to and catalogues had at the Office of Her Majesty's Works, &c., 12, White-hall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

EAST SMITHFIELD.—The valuable Building Materials of Downes' Wharf—Two Fifty Lighters, Trade Fixtures and Wharf Utensils, and Public House property.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 65, Lower East Smithfield, on FRIDAY, DECEMBER 30, at TWELVE, the MATERIALS and FITTINGS UP of an extensive Range of Warehouses and Offices known as Downes' Wharf, and the St. Andrew Public House adjoining, comprising 240 feet of York, Memel, and Dantzic timber, 3,000 feet of Memel and Dantzic deals and battens, 2,000 feet of Riga and Petersburgh fir, 1,000 feet of Memel and Dantzic planks, 1,000 feet of oak timber, 1,000 feet of Memel and Dantzic boards, 1,000 feet of Memel and Dantzic flooring boards, 1,000 feet of Memel and Dantzic scantling, 1,000 feet of Memel and Dantzic battens, 1,000 feet of Memel and Dantzic quartering, 1,000 feet of Memel and Dantzic lining boards, 1,000 feet of Memel and Dantzic match boarding, 1,000 feet of Memel and Dantzic ceiling, 1,000 feet of Memel and Dantzic pitch pine, 1,000 feet of Memel and Dantzic fir, 1,000 feet of Memel and Dantzic mahogany, 1,000 feet of Memel and Dantzic walnut, 1,000 feet of Memel and Dantzic cedar, 1,000 feet of Memel and Dantzic oak, 1,000 feet of Memel and Dantzic ash, 1,000 feet of Memel and Dantzic elm, 1,000 feet of Memel and Dantzic beech, 1,000 feet of Memel and Dantzic birch, 1,000 feet of Memel and Dantzic sycamore, 1,000 feet of Memel and Dantzic lime, 1,000 feet of Memel and Dantzic chestnut, 1,000 feet of Memel and Dantzic poplar, 1,000 feet of Memel and Dantzic alder, 1,000 feet of Memel and Dantzic willow, 1,000 feet of Memel and Dantzic hornbeam, 1,000 feet of Memel and Dantzic maple

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1141. DECEMBER 17, 1864. PRICE FOURPENCE. By Post, 5d.

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THE BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, THURSDAY, FEBRUARY 23rd, 1865. Adam's Band.
JOSEPH BIRD Hon. Sec. Hanover Cottages, Regent's Park.

ARCHITECTURAL ASSOCIATION, 9, Conduit-street, W.—On FRIDAY evening, DECEMBER 23rd, the Association Prize Essay, by R. R. BAYNE, Esq., on "IRON as APPLIED to ARCHITECTURE," will be read. The Chair will be taken at Half past SEVEN o'clock.
J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

SOUTH KENSINGTON MUSEUM.—The ANIMAL PRODUCTS COLLECTION and PART of the STRUCTURE COLLECTION will be CLOSED to the Public after the 1st of JANUARY, 1865, in order to prepare for removal of part of the Iron Building.
By order of the Lords of the Committee of Council on Education.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.
Exhibitors must live within the Southern postal districts.
MONEY PRIZES, from 1l. to 10l.
Application for space, information, &c. to be made to Mr. G. M. MURPHY, 55, Finchley-road, S.

DUBLIN INTERNATIONAL EXHIBITION OF FINE ARTS and MANUFACTURES, 1865.
Under the Special Patronage of HER MAJESTY THE QUEEN
Intending Exhibitors are informed that the 31st DECEMBER is the latest day on which APPLICATIONS for SPACE will be received.—The requisite forms can be obtained at the House of the Society of Arts, John-street, Adelphi, London, W.C.; or at the Exhibition Palace, Dublin.—By order, HENRY PARKINSON, Secretary.

THE MODELS of NAVAL ARCHITECTURE, from 1488 to the present time, contributed by the Admiralty and private shipbuilders, &c. will be OPENED to the PUBLIC on and after MONDAY, the 19th DECEMBER current, at the SOUTH KENSINGTON MUSEUM Mondays, Tuesdays, and Saturdays Free, from Ten a.m. till Four p.m. Wednesdays Thursdays, and Fridays, from Ten a.m. till Four p.m. Admission Sixpence.
By order of the Lords of the Committee of Council on Education.

NOTICE.
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, lain dry, and steam work.
72–74, Bishopsgate-street Within.

BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr TYLER, 12, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

LENOIR'S PATENT GAS-POWER ENGINE.
PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.
The Company are now Publicly Exhibiting this motive power, daily, between the hours of 11 and 1 and 3 and 5.
C. W. WOOD, Manager and Secretary (pro tem.)
No. 40, Cranbourne-street, Leicester-square.

COMPETITIONS.

TO ARCHITECTS.—The Guardians of the Leicester Union are desirous of obtaining DESIGNS, with Specifications and estimated Cost, for proposed SCHOOLS and WORK-ROOMS, at the Workhouse.—Further particulars, together with plans and sections of the site of the proposed buildings may be obtained on application to their Clerk, Mr. B. G. CHAMBERLAIN, New-street, Leicester.

FULFORD, YORK.—The Church Building Committee desire to tender their sincere thanks to the fifty-five Architects who have competed for the new Church, and to say that the designs have been returned. They will feel obliged to "Labour is worship," and to "Messrs. Lamb & Wyon," to send their full address.

BURNLEY MARKET COMPANY, LIMITED.—The Directors are prepared to receive DESIGNS for the LAYING OUT of their MARKET PREMISES, and for the ERECTION of a NEW MARKET HALL, at Burnley. A premium of 30l. will be awarded for the best Design, and one of 20l. for the second best Design, to be delivered not later than 1st of FEBRUARY, 1865. Plans, with printed instructions, may be had on and after the 9th instant, on application to Messrs. PICKARD & STOCKS, Accountants and Auditors 12, Hargreaves-street, Burnley; or at their Offices Square-road, Halifax.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS
TENDERS are required for the ERECTION of a new BLOCK of BUILDINGS, at the Military Hospital, at Stoke, near Devonport.

Parties desiring to Tender for the said erection of those Works must leave their names at this Office, on or before the 24th day of DECEMBER, instant, and lay the sum of five shillings for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The secretary of State does not bind himself to accept the lowest or any of the Tenders.

HENRY CUNLIFFE OWEN.
Colonel Commanding Royal Engineer, Western District.

Royal Engineer Office, Devonport, 10th December, 1864.

THE KEIGHLEY and WORTH VALLEY RAILWAY COMPANY.—CONTRACTS for SUPPLY of PERMANENT WAY MATERIALS. The Directors of the Keighley and Worth Valley Railway Company are prepared to receive TENDERS for the SUPPLY of RAILS, CHAIRS, SLEEPERS, KEY, FISH-PLATES, BOLTS, SPIKES, &c. required in the construction of the above Railway. Specification and form of Tender may be obtained upon application to J. M'LANDSBOROUGH, Esq. Civil Engineer, 23 and 24, Queensgate, Bradford. Sealed Tenders must be delivered to the undersigned on or before MONDAY, the 19th DECEMBER next. The Directors do not bind themselves to accept the lowest or any Tender. By order of the Directors,

JONATHAN GILL, Secretary.

Oakworth, Keighley, 21st November, 1864.

TO BUILDERS, MILLWRIGHTS, and OTHERS.—STAFFORD COUNTY PRISON.—Persons disposed to TENDER for the ERECTION of TREAD WHEELS, COKE MILL, and KITCHEN at the above named building may inspect the plans, specification, and quantities, and obtain blank forms of tenders, at the Office named after TUESDAY, the 13th instant, and THURSDAY, the 22nd of DECEMBER. A deposit of 1l. will be required for each set of quantities, which will be returned to all parties who tender for the works. Tenders must be delivered at my Office by TEN o'clock a.m. on THURSDAY, the 29th DECEMBER, but neither the lowest nor any Tender will necessarily be accepted.

ROBERT GRIFFITHS, Architect and County Surveyor.
County Surveyor's Office, Eastgate-street, Stafford,
December 1st, 1864.

TO BUILDERS, &c. Parties desirous of CONTRACTING for the ADDITIONS and ALTERATIONS to the PAVILION of the Marylebone Cricket Club, are requested to communicate, by letter only, with the Architect, Mr. HARRY B NEWTON, 6, Argyll-street, Regent-street, W.

CONTRACTS.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National School-rooms, Walham-green, in the county of Middlesex, on WEDNESDAY, the 4th day of JANUARY, 1865, at SIX o'clock in the evening precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for BUILDING a CHAPEL for the performance of the Burial Service according to the rites of the United Church of England and Ireland, on the ground purchased by the Board as a burial ground, situate on the north side of the road leading from the entrance of Fulham to Hammersmith, and containing 5a. 2r. 22p. according to the plan approved by the Bishop; Building a Chapel for the performance of Burial Service on such part of the ground so purchased which is not consecrated, for persons not being members of the Established Church, and also Building a Lodge at the Entrance of the said Ground; and also Walls and Fences round the said Ground. Plans, specifications, and detailed drawings of the works can be seen, and bills of quantities, prepared by a competent surveyor, and other particulars obtained, with the form of Tender, on personal application at the Offices of As. W. BLOMFIELD, Esq., Architect, No. 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days (previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock in the Evening of the said 4th day of JANUARY, 1865; and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties for the due performance of the undertaking, such contract and bond to be prepared by the Solicitor to the Board. The Board does not pledge itself to accept the lowest or any Tender.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National School-rooms, Walham-green, in the County of Middlesex, on WEDNESDAY, the fourth day of JANUARY, 1865, at SIX o'clock in the Evening precisely, to receive sealed TENDERS from parties who may be willing to CONTRACT for DRAINING and LAYING OUT the GROUND purchased by the Board as a BURIAL GROUND, situate on the north side of the road leading from the entrance of Fulham Town to Hammersmith, and containing 5a. 2r. 22p. A plan of the Ground and a specification of the Work to be done can be seen, and other particulars obtained, with the Form of Tender, on personal application at the Offices of A. W. BLOMFIELD, Esq. the Architect, 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock of the said 4th day of JANUARY, 1865; and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties, for the due performance of the undertaking, such contract and bond to be prepared by the Solicitor to the Board. The Board does not pledge itself to accept the lowest or any Tender.

FULHAM BURIAL BOARD.—The Board hereby give notice that they will be ready, at a meeting to be held at the National School-rooms, Walham-green, in the county of Middlesex, on WEDNESDAY, the 4th day of JANUARY, 1865, at SIX o'clock in the Evening precisely, to receive sealed TENDERS from parties who may be willing to contract for PROVIDING, FIXING, and PAINTING the IRON RAILINGS and GATES on and within the Wall and Fences round the ground purchased by the Board as a Burial Ground, situate on the north side of the road leading from the entrance of Fulham to Hammersmith, containing 5a. 2r. 22p. A plan of the ground and a specification of the work to be done can be seen and obtained, with the Form of Tender and other particulars, on personal application at the Offices of A. W. BLOMFIELD, Esq., the Architect, No. 8, Adelphi-terrace, Strand, London, on MONDAY, the 26th day of DECEMBER, 1864, and the succeeding days previously to the 4th day of JANUARY, 1865, between the hours of TEN and FOUR o'clock. The sealed Tenders to be addressed to the Chairman of the Board, at the said School-rooms, Walham-green, on or before SIX o'clock of the said 4th day of JANUARY, 1865, and the party whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties, for the due performance of the undertaking, such contract and bond to be prepared by the Solicitor of the Board. The Board does not pledge itself to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.
The Burton-upon-Trent Improvement Commissioners, as the Burial Board for their District, are prepared to receive TENDERS for FORMING the ROADS and DRAINS, Laying out the Ground and Fencing round for the Erection of Two Chapels, Lodge, Entrance, Boundary Wall, &c. at the proposed new Cemetery, Scalp Cliff Hill, near Burton upon Trent. The plans, specification, and copies of quantities can be seen at the Gas Inspectors' Office, High street, Burton; or at the Offices of the Architects, Messrs. LUCY & LITTLER, 9, James street, Liverpool. Tenders, endorsed "Tender for Cemetery Works," addressed to the Chairman, Burton Improvement Commissioners, are to be sent in on or before the 3rd day of JANUARY, 1865. The Board do not bind themselves to accept the lowest or any Tender, and the contractor will be required to find sureties for the due fulfilment of the contract.—By order,

WM. COXON Clerk.

Burton, December 12, 1864.

TENDERS for the ERECTION of a large SCHOOL ROOM, with DWELLING HOUSE attached, in Love-lane, Shadwell, E. are required to be sent in to Mr. ROBERT WEBSTER, 2, Bromley-street, Commercial-road, on or before the 31st of JANUARY, 1865. Plans of the work, and all other particulars obtained, and the Form of Tender had from Lovegrove, Shadwell, between the hours of TEN a.m. and FIVE p.m.

ROBT. WEBSTER, Hon. Sec.

TO BUILDERS AND OTHERS.—TENDERS are required for TAKING DOWN and CLEARING AWAY a MANSION HOUSE, called Southcliffe, near Shanklin, Isle of Wight.—Application for particulars to be made at my Office, as undermentioned after the 19th instant.—Tenders to be delivered to me on MONDAY, JANUARY 2, 1865, by SIX o'clock p.m.

EDWARD BROWNING, Architect, Stamford.

December 15, 1864.

[For remainder of Contracts see next Page.

SAINT SAVIOUR'S UNION.—To BUILDERS.—The Guardians of this Union desire to receive TENDERS for the ELECTION of a VAGRANT WARD in the Stone Yard of the Union situate in Marlborough street, Blackfriars road, in the county of Surrey.—Plans and specifications of the Works required may be seen at the Office of Mr HENRY JARVIS, Surveyor, No. 29, Trinity square, Southwark; and sealed Tenders must be sent to him, Office, on or before WEDNESDAY, the 21st day of DECEMBER instant, and the Guardians will meet here on THURSDAY, the 22nd DECEMBER instant, at THREE o'clock punctually, to open the same, when persons Tendering are required to attend.—The Guardians do not bind themselves to accept the lowest or any Tender. Dated the 8th day of December, 1864.

JAMES J. BLAKE, Clerk to the Guardians.

John-street West, Blackfriars road, S

TO BUILDERS. The Chairman and Guardians of the Parish of St George the Martyr, Southwark, are prepared to receive TENDERS for the ERECTION of NEW VAGRANTS' WARDS. The works are to be executed under the superintendence of Mr T. F. FRANKLIN, of No. 5, Adelaide place, London Bridge, E.C. Quantities may be obtained from Mr. J. T. CHRISTOPHER, of No 11 Dean street, Soho, W.C. upon the payment of 2l. 2s. which amount will be returned to all bona fide tenderers delivering Persons invited Tenders not approved of by the Architect or the Surveyor, will not be TWELVE o'clock on MONDAY, DECEMBER 19. The Guardians will meet to open Tenders at FIVE o'clock on WEDNESDAY, 21 DECEMBER 21. They do not bind themselves to accept the lowest or any tender.

TO BUILDERS.—The Trustees of Judge Fellows Hospital, Shipbuilding, are willing to receive TENDERS for the ERECTION of a new HOSPITAL or ALMSHOUSE at Harrow-green, Leytonstone, Essex. The plans &c may be seen at Mr. JAMES TOLLEY's, the Architect's, Office, 14, Angel court, Throgmorton-street, E.C. on the morning of Wednesday, when the Trustees will meet at One o'clock to be present. Builders who deliver Tenders at the Vestry room, Stratford Church, on WEDNESDAY, the 4th of JANUARY next, at One o'clock. Tenders to be upon printed forms prepared for the Trustees. The Contractor will, if required, give security for the due performance of the Contract in the sum of two sureties each with handsome and responsible property in the sum of 400l. The Trustees do not bind themselves to accept the lowest or any Tender. By order.

SOMERSET J. HYAM, Clerk to the Trustees.

164, Church street, Spitalfields, 14th December, 1864

CORPORATION of MANCHESTER.—To BUILDERS.—The Cemetery Sites Sub-Committee are prepared to receive TENDERS for the ERECTION of the requisite BUILDINGS at the new Cemetery, near Manchester, consisting of three separate chapels, offices, and house for the registrar, two lodges, and two entrance Drawings and specification, and quantities of contract, may be seen at the Offices of the Architects, Messrs PAULL & ALLEN, Bowling Lodge, Cross-street, Manchester Quantities will be furnished, and may be obtained of the Architects, upon deposit of 2l. for each set, the said deposit to be returned to all bonâ fide Builders from whom bona fide Tenders are received Sealed Tenders, endorsed "Tender for Cemetery Buildings," and addressed to the committee, to be delivered at the office of the Architects, not later than TEN o'clock a.m. on MONDAY, the 16th of JANUARY, 1865. The Tenders may be for the whole of the works, or for the masonry, &c. separately.—By order.

JOSEPH HERON, Town Clerk.

Town-hall, Manchester, 9th December, 1864.

N.B. Early application for lists of quantities should be made by letter, to the Architects, that the requisite number of copies may be ordered

TO MILLWRIGHTS and ENGINEERS.—CONTRACT for TREADWHEELS.—The Visiting Justices of the House of Correction, at Coldbath Fields, will meet at that Prison on FRIDAY, the 30th day of DECEMBER instant, at ONE o'clock, to receive TENDERS for the CONSTRUCTION, FITTING, and FIXING of NEW TREADWHEELS at the said Prison. The brick, stone, and timber work on which the Machinery is to be fixed will be provided by the Visiting Justices. The plans and specification can be seen, on application at the Prison on any week day but Friday, between the hours of ELEVEN and THREE. The Tenders to be sent in addressed to the Visiting Justices at the Prison by TWELVE o'clock on FRIDAY, the 30th instant, and the parties Tendering to be in attendance at ONE on that day, prepared with the names of two responsible sureties for the due performance of the Contract if the Tender be accepted. The Contract will be prepared at the expense of the Visiting Justices. The Visiting Justices do not bind themselves to accept the lowest or any of the Tenders. JOHN S. SKAIFE,

10th December, 1864. Clerk to the Visiting Justices.

TO STONE MERCHANTS, CONTRACTORS, and OTHERS.—The Vestry of the Hamlet of Mile and Old Town will meet at the Vestry Hall, Bancroft-road, Mile-end-road, on WEDNESDAY, the 21st day of DECEMBER instant, at SEVEN p.m. precisely to receive TENDERS for the SUPPLY of 1,000 YARDS of BROKEN GRANITE RAG STONE, to be delivered pursuant to the terms of a specification, which may be seen at the Office of Mr. JAMES KNIGHT, the surveyor, at the Vestry hall, between the hours of TEN and ONE. The contractor will be required to enter into a contract at his own expense, to be prepared by the Clerk of the Vestry, at a cost not to exceed 6l. and find two sureties in half the amount of the contract, for the due performance thereof. The Tenders, containing the names and addresses of proposed sureties, endorsed "Tender for Rag Stone," are to be sent in to my Office before THREE o'clock in the afternoon of the day of the meeting. The Vestry do not bind themselves to accept the lowest or any Tender. THOMAS PRICE, Clerk to the Vestry.

Vestry-hall, Bancroft-road, Mile-end-road E. Dec. 6, 1864.

CROYDON LOCAL BOARD of HEALTH. CONTRACT for SEWER TRENCHES.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the EXCAVATION and RE-FILLING of 7,000 lineal yards of TRENCHES for SEWERS, in accordance with the specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. The specification may be seen at the Engineer's Office, in the Town Hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Sewer Trenches," are to be delivered at the Offices of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 3rd day of JANUARY, 1865. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Town Hall, Croydon, December 14, 1864.

TO CONTRACTORS.—RHYL PROMENADE PIER COMPANY (LIMITED).—The Directors are desirous of receiving TENDERS for the ERECTION of an IRON PIER into the Sea at Rhyl, 1,050 yards long.—Plans and specifications may be seen upon application to Mr. W. WYNNE, the Secretary, Belvoir Hotel, Rhyl. The contractor will be required to take a portion of the amount of the contract in paid up shares of the Company. The Directors do not bind themselves to accept the lowest or any other Tender.

HANCOCK'S IMPROVED HORSE GAS-SINGEING APPARATUS, with INDIA-RUBBER TUBING, ST PLUGCOCK, and TWO BURNERS, with Combs complete.

No. 1 Best quality ..... 9s. per set.
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FLEXIBLE TUBING for Ditto.

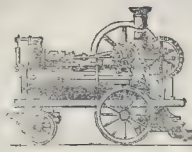
Plain.	Per Foot.	Snake Pattern.	Per Foot.
¼ inch	2d.	¼ inch	3½d.
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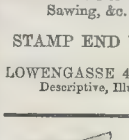
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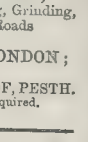


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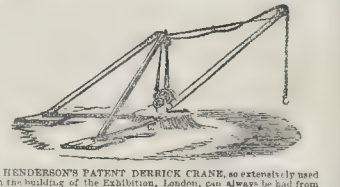
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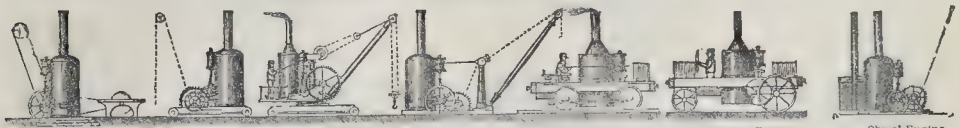
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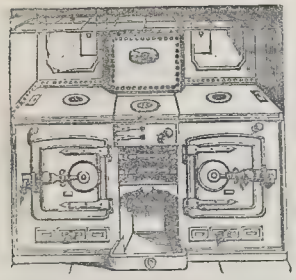
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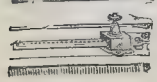
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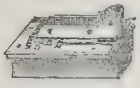
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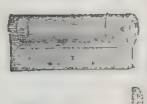


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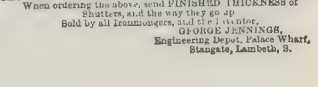


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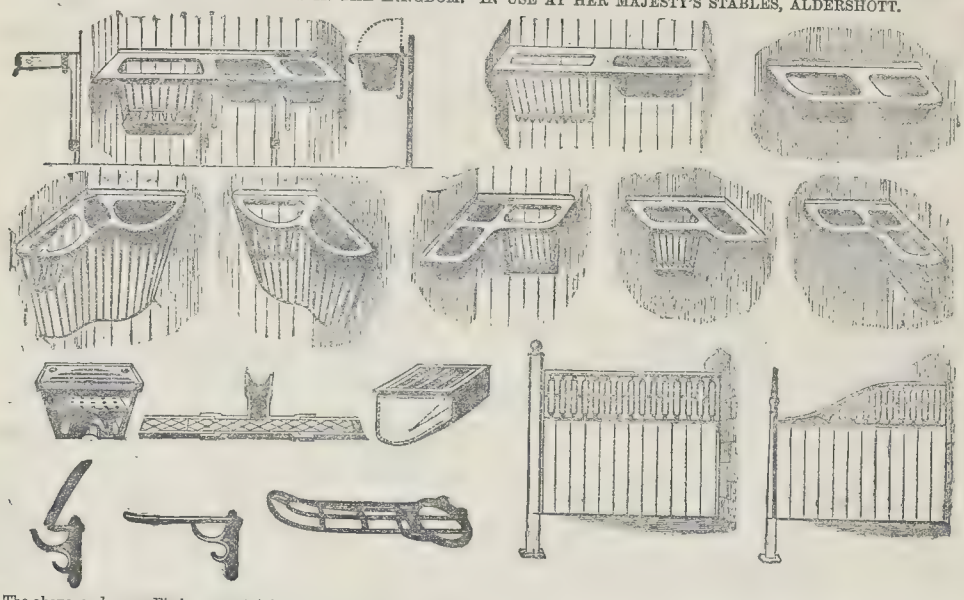
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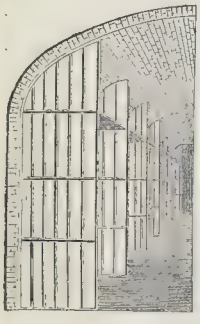
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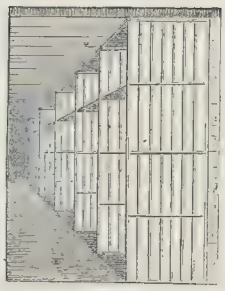
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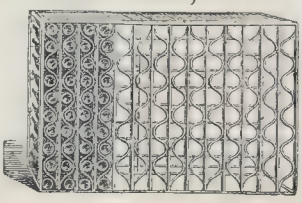
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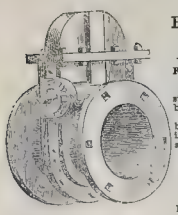
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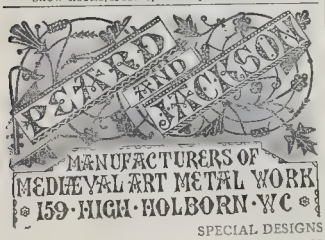
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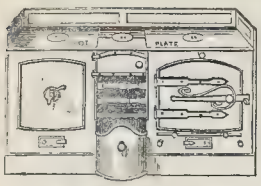
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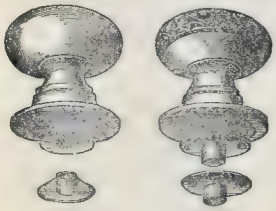
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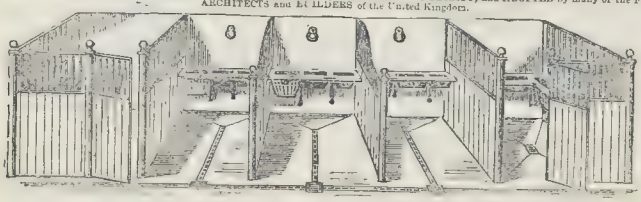
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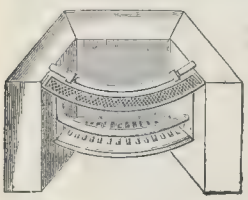
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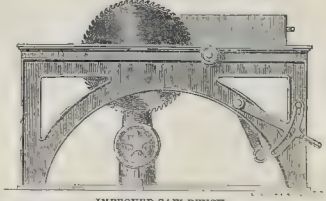
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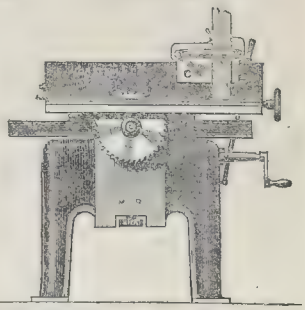
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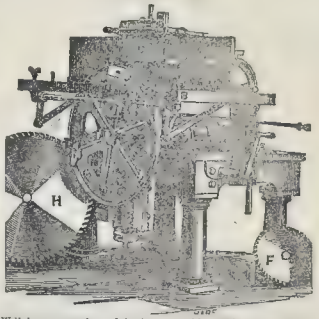


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The advantages attending this Cap are—it can be thoroughly cleaned by the machine when the chimney is swept, the brush being able to pass through the Cap without the liability of misplacing it; an increased up current, and the impossibility of a down one.

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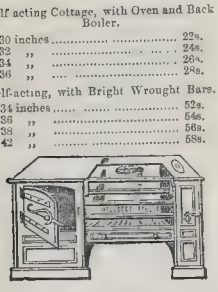
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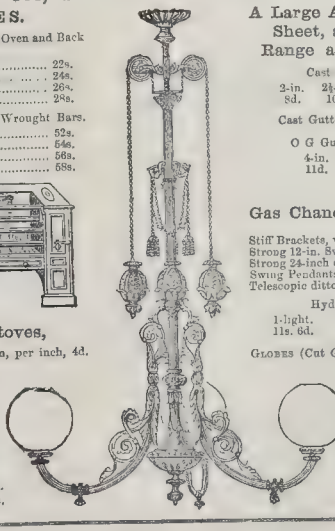
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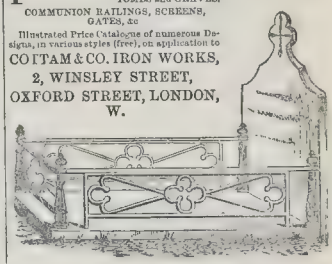
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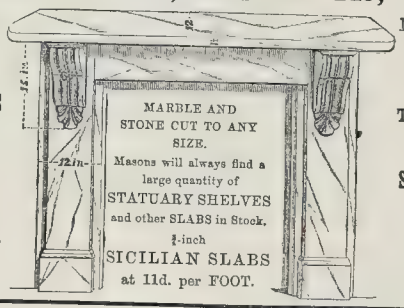
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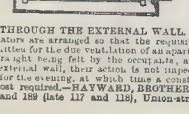
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VOL. XXII.—No. 1141.

An Action for Libel.



IN May last we received a letter from an architect describing the evil condition of a fishmonger's yard into which the window of his office opened. Knowing the writer and considering it to be a duty to endeavour to remedy the state of things therein described, the letter, after much consideration, was inserted. No name was mentioned, the locality was merely hinted at, and we did not ourselves know to what premises the letter referred. The occupier of a supper-house and shell-fish shop, however, in the neighbourhood indicated brought an action for damages against the publisher of this journal, and the cause was tried at Westminster, last week.

The plaintiff, being examined, denied the correctness of the statements published, and said his business had fallen off in the month following the publication to the extent of 54*l*. A boy in his employ gave similar evidence so far as related to the state of the yard. The local inspector of nuisances said he had never seen anything in the yard more than would be there in the usual course of business. In 1862, he continued, there had been a complaint, and the plaintiff was summoned to Bow-street in reference to his copper, when it was arranged that there should be a hood to it. There had also been a complaint since. The medical officer of health said that, since the summons at Bow-street, he had received complaints of the yard from Craig's-court, and he had visited the place on those occasions. Except the effluvia from the shellfish, he never experienced anything that would warrant him in giving notice to the vestry of a nuisance to be removed. On the part of the defendant, the architect who wrote the letter swore distinctly and positively to the truth of every word of it. He had complained at the vestry-house of the nuisance. He had been unable to open his window for the smell, and had suffered great inconvenience from the state of the yard. Another architect, who had occupied part of the same house, his assistant, a fourth gentleman who had formerly lived in the house, his clerk, and the housekeeper, confirmed various portions of the first witness's testimony.

The editor of the paper deposed that it had long been devoted to the furtherance of sanitary improvement, and that the letter, vouched for by a known correspondent, was inserted simply on public grounds.

The Judge (Chief Justice Erle) told the jury that unless they were of opinion that the defendant had proved the truth of all the statements in the letter, they must find a verdict for the plaintiff. He further, after bearing testimony to the excellent character of the paper, laid down the extraordinary doctrine that the conductor of a "powerful organ" such as that was, should not permit the insertion of any statement reflecting on the conduct of a fellow-man. Thus a statesman might sell his country, a general betray her armies, or a judge her liberties; but the conductors of powerful organs were to admit no word of warning or exposure. There may have been qualifying terms in the Chief Justice's address, though we did not hear them; but the impression left on his hearers was what we have stated; and the jury, after a brief retirement, returned with a verdict for the plaintiff, damages 50*l*.

In the interest of social improvement and the public health, and in the interest of the press as a public safeguard, we feel it to be a duty to record here thus briefly the facts of the trial, leaving our readers to draw their own inferences. They will ask themselves which set of witnesses had the least reason for disingenuousness, and they will doubtless reflect on what the doctrine of the Chief Justice would lead to if it could be enforced.

The counsel for the plaintiff, whose general knowledge, by the way, seemed to be like a joint-stock company he alluded to, "limited," pretended to be very indignant that "this Mr. Editor" should seek to expose sanitary defects and dangers, and obtain improvements, when there were an Act of Parliament and local boards of health purposely to regulate such matters. We take the liberty of telling "this Mr." Barrister, that when the very Act of Parliament to which he referred was brought as a bill into the House of Commons, the Government showed the necessity of passing it by reference to the investigations made and the statements as to the sanitary condition of the people published by this very journal. Moreover, that the advantages resulting, spite of the obstructions offered by the ignorant, the prejudiced, and the interested, from the efforts made in these pages with that end in view, have been thankfully recognized from time to time all over the kingdom.

With strong conviction of the enormous importance of the subject, and abundant evidence that our well-meant endeavours have not been without avail, we are not likely to be deterred from pursuing the course in which we have now for many years, and with some personal sacrifice, laboured earnestly, however humbly. We are not the first who have been made to suffer for disinterested efforts in the service of the public.

CONDITION OF OUR TOWNS: STIRLING.

THE ancient and royal burgh of Stirling is situate at the apex of an irregular triangle, of which a line drawn from Edinburgh to Glasgow would form the base. It is distant from Edinburgh about 36 miles, on the north-east; from Glasgow, about 30 miles, on the north-west; and it lies in the very centre, and possesses the most commanding aspect of the picturesque valley of the river Forth. Stirling very much resembles Edinburgh on a small scale—the most striking resemblance consisting in the old, grey, weather-beaten castle, which is perched on the summit of a precipitous rock or "crag," and in the peculiar declivity which the town receives as it retreats from the castle to the level of the river. These "crags," or "craigs," as they are called in Scotland, occur very frequently in the district, and appear to be destined by nature for the sites of those numerous hill fortifications which, previous to the invention of gunpowder, were considered impregnable. Having long survived their usefulness for this warlike purpose, the utilizing genius of the Scotch people in our day runs strongly in the direction of converting them into cemeteries and sites for monuments.*

Nearly all the historical interest of Stirling is concentrated in its castle. It is highly probable that the elevation on which it stands was made the seat of a military station under Agricola. It also seems to have been a fort, the possession of which was eagerly disputed by the celebrated factions of the Peghts and Scots. But it was not until the reign of Malcolm Canmore (A.D. 1057) that it assumed the character of a regular fortress. During the long and destructive wars of Edward I., a principal object of the contending parties was to hold possession of this important position; for, in a strategetical sense it was possessed of great value. It was the key of all the country which lies north of the river Forth; it was the most accessible point for crossing that river; and no invader, with a due regard to his own safety, could leave it behind him in the possession of a hostile garrison. It is hardly necessary to mention that, from these reasons, it constituted the *immediate* cause of the celebrated battle of Bannockburn, which was fought on the rising grounds in the neighbourhood.

Stirling, in course of time, became a favourite residence of the Scotch kings. James II. was born here in 1430; and here, in 1452, he murdered, under a promise of safe conduct, the great Earl of Douglas. James III. made Stirling Castle his chief residence. James IV. frequently dwelt here; it was the birth-place of James V.; here, too, Mary, the hapless Queen of Scots, was crowned, while yet an infant of nine months old; and here her son, James VI. of Scotland and I. of England, spent his boyhood, under the tuition of George Buchanan—a pedagogue who carefully instructed his pupil in the doctrines of king-craft, but forgot, as it should seem, to enlighten him concerning the far nobler duties of filial affection. One curious anecdote of this monarch, we think, is worth relating. From the French battery in the castle (so called from having been constructed by the soldiers of Queen Mary of Guise), we overlook a series of small picturesque elevations, extending from the Castle-rock to the old bridge of Stirling. One of these hillocks is called the *Mote-hill* (the former golgotha, or place of execution, for state criminals in Scotland). This *Mote*-hill is still popularly known by the name of "Hurly-Hawkie" (Scottice "Ride-cow"), from a juvenile pastime of James VI., who used to amuse himself by sliding down its steep slope on the skeleton of a cow's head!

Most of these sovereigns contributed to the enlargement and adornment of the castle; and many of their works still remain to attest their magnificence, although a good deal injured by the hand of time, the events of war, the consequences of neglect, alteration, and accidental fire. During Cromwell's invasion it was bombarded and taken by General Monk; and the national registers, which had been deposited here for security, were seized and sent to London. After the Restoration they were ordered to be sent back; but, unfortunately, the smacks in which they were freighted foundered in a storm, and thus the Scottish registers were unfortunately lost. Once more the Highlanders, under the Pretender, Prince Charles Stuart, made an unsuccessful attempt to reduce Stirling Castle, in the year 1746; and this was the last occasion upon which hostile batteries were erected against the venerable fortress. The celebrated "Douglas Room" was destroyed by fire somewhere about nine years ago.

The beauty of the surrounding scenery at Stirling is best observed from the castle; and we are quite certain there can be very few lovelier landscapes in Scotland. We stand, as it were, in the centre of a spacious amphitheatre, richly wooded and watered, bounded on every side by masses of hills and lofty mountains. The middle distance is everywhere cut up by picturesque villages and arable farms; several "craigs," like Craig Forth and the Abbey Craig (the latter impaired for ever in its natural beauty by that ill-fated Wallace monument which stands half-finished on its summit), jut out here and there from the plain, half-buried among venerable sycamores and fir-trees; while far below the river Forth pursues its zig-zag course through the rich alluvial "links" and meadows in the centre of the valley. The horizon is bounded on the north-east by the Ochil hills, which stretch from the valley of the Forth to that of the Tay; on the westward by the Campsie Fells; from the south-east, Edinburgh and the Lammermoor hills may be distinguished; while far in the north-west the view is terminated by the lofty peaks of Ben Lomond and Ben Ledi, and by other conspicuous mountains in the range of the Grampians. No language can convey an adequate description of this splendid panorama. From any point of view it is beautiful; but the finest prospect is that which is obtained after crossing the Castle garden at the north-western rampart

* Compare the necropolis at Glasgow, the Calton Hill at Edinburgh, and the Abbey Craig at Stirling.

a spot, we are told, at which her Majesty expressed so much admiration of the scene during her visit in 1842, that it has since acquired the somewhat odd *sobriquet* of "the Victoria look-out."

Of the castle itself we shall have very little to say in the way of description. There is an esplanade, of course, a double wall and fosse, a drawbridge and portcullis, with the customary sentinels to be passed before we reach the interior. This consists of a quadrangle which must at one time have been spacious and noble, but which is now extremely dilapidated and broken down. The Parliament-house, which forms the eastern side, has been barbarously disfigured in the process of converting it into barracks. The arsenal, which forms the northern side, is built on the site of a famous Chapel Royal. The palace of James V. and his Queen Mary of Guise, which constitutes the south side of the square, is the only structure which preserves its ancient exterior; and certainly gives us a very clear idea of the licentious style of the French architecture which then came into vogue at the Scotch Court. The walls are adorned with statues representing deities of the Greek mythology—Diana, Venus, Omphale, and Perseus,—mingled with statues representing members of the Royal Family, most of which rest upon curious balustrade pillars, supported by grotesque figures and corbels, all, we must say, exquisitely carved for the period. The Douglas Room, which is contained in the western side of the quadrangle, was, as we have said, recently destroyed by fire, and is now, with the rest of the building, converted into barracks. The general impression we have retained of this ancient fortress, palace, and seat of government, is one, no doubt, of romantic interest; but accompanied with a much stronger feeling of regret at its dilapidation and decay. The very rock upon which it stands is gradually disintegrating: in plainer language, it is slowly but surely falling to pieces.

The rock upon which Stirling Castle is built rises to a perpendicular height of about 220 ft., and bears a considerable resemblance to the rock of Edinburgh Castle, though much inferior in dimensions. Both constitute that species of igneous rock which geologists denominate "crag-and-tail,"—that is, they present an almost precipitous front on one extremity, and on the other a gradual declivity at a well-known and nearly constant angle. We must not stay to speculate on their geological structure. It is sufficient to say that the best authorities suppose them to have been produced partly by the action of running water and partly by the erosion of moving ice. One conspicuous effect of the peculiar configuration of such rocks is, that the precipitous crag is continually exposed to the *weathering* influences of the atmosphere—to variations of temperature, to thunder, lightning, rain, and particularly to frost: hence their gradual though silent decay is as certain, although not so apparent, as any other ordinary operation of nature.

After a pretty close examination of the rock upon which Stirling Castle is built, our impression was that it had reached that stage of decay which might well be pronounced dangerous. There is no security whatever that an unlucky tourist who is walking round the castle bank for the purpose of enjoying the exquisite scenery, may not any day become a victim to the sudden separation of an outlying crag from its parent rock. If we may judge from the enormous masses of detached rocks and decayed boulders which are scattered about the slopes and lower grounds of the castle, such a phenomenon as the excavation of a hundred tons or so of "trap" or "conglomerate," would not be, at all events, a novelty. And if we might venture to point out a particular instance of potential danger, we must say that the masses of columnar basalt, probably 80 ft. or 90 ft. high, which support on their summit the ancient palace of James V., at this moment filled with Highland soldiers, seem to be in a rather tottering condition. From a point immediately above the castle "sludge-pool," we could easily perceive numerous vertical chasms and fissures which extended deep into the crag, and were evidently the consequence of long-continued exposure to the weather. Of course we are quite aware of the greater security of basaltic columns as a foundation when compared with any form of stratified or metamorphic rock; still we are not satisfied with their appearance. If we confine ourselves to the assertion, which we believe will not be readily disputed, that this foundation cannot be so secure as it was 500 years ago, then it becomes a mere question of degree. We cannot do better than recommend the whole subject to the Government engineer, if there be such a functionary in Scotland. For although we are not alarmists ourselves, and cordially dislike the school of prophets who are constantly predicting evil, we must still point out that these are days of "appalling catastrophes;" and it is our duty to do what in us lies to avert even the possibility of such a calamity as that of a military barrack tumbling over the face of a decayed rock. The ivy which partially conceals the interstices is a most frail and deceitful protection.

What good purpose is served, after all, by making troops bivouack on these cold, bleak promontories of Edinburgh and Stirling is quite beyond our capacity to perceive. Their use as the sites of fortresses has gone past: one or two heavy Armstrong guns would batter the best of the old military castles in Christendom to atoms. Still less can we account for the infatuation of "the authorities" in converting these castles into powder magazines. There is nothing more certain than that their explosion—a probable enough occurrence—would reduce the surrounding cities to a mass of indistinguishable ruin! To speak of the vandalism of converting royal palaces into bad military garrisons, were now out of the question. We can only speak of the results, and these may be briefly summed up. It was an error from the beginning, and will be so to the end. Indeed, the only excuse we can discover for the delinquents seems to be that by the treaty of Union it was stipulated that the four castles of Edinburgh, Stirling, Dumbarton, and Blackness were to be kept in repair and garrisoned. But surely such antiquated political considerations ought to give way to the health of the troops. It is no longer a matter of opinion that the high death-rate of the army is chiefly sustained by colds and consumption; and we could scarcely conceive of conditions more favourable to the growth and increase of these fatal maladies than to force our soldiers to eat their meals and sleep on the summit of an isolated and precipitous "craig"—particularly where cold raw east and north-east winds predominate as they do in Edinburgh and Stirling. For the poor Highlanders—who, by a foolish superstition at the Horse Guards are still kept innocent of breeches—it is really too bad. In their case it is adding insult to injury; for if these poor men are worse clad than other regiments, surely they are better entitled, by all the laws of compensation, to have warmer barracks!

We have lingered so long on the castle of Stirling that we must get over the rest of the ground more rapidly. At the foot of the Esplanade stands "Argyll's Lodging," a rather extensive quadrangular building in the latest Scotch Baronial style, which is now converted into a military hospital—with what result we cannot say. Lower down the hill there is a large half-ruined or half-finished building, that goes under the name of "Mar's Work," containing some curious lintels and doorways. It is said to have been built by the Earl of Mar while Regent of Scotland, chiefly from the stones of the ancient abbey of Cambus-Kenneth, on the other side of the river, which, for this purpose among others, was thus despoiled at the Reformation. Close to this building is situate the principal church in Stirling, evidently the ancient cathedral of the burgh transformed into a Presbyterian Church, as was the fashion in Scotland. From the general appearance of the building—the remains of the heavy stone roof of the chancel, the square western tower which rises to a height of 90 ft., the walls and buttresses with canopied niches and pinnacles, and from the eastern doorway (now disused) which is arched and deeply recessed, possessing heavy clustered shafts with enriched capitals, we should say it belongs to the later period of the fifteenth century. Close beside the church is Cowan's Hospital, founded in 1639, which contains a rather fair specimen of a guildry hall of the Tudor period. In St. John-street, leading down the steep incline, stands the County Prison, erected at a cost of 10,000*l.*; and close beside it lies the former town mansion of the Earls of Linlithgow, now converted into dwelling-houses. Hard by is an obscure and humble-looking tenement, now let as common lodging-houses, which is all that remains of the residence of Bothwell. The ancient Royal Mint of Scotland, now doing duty as an ale-house, is still pointed out. But we need not continue to enumerate the antiquities.

The bridges over the Forth are, however, worth noticing. Even the ancient bridge, which is supposed to be about 400 years old, is still deserving of study. It consists of four arches, with a very narrow roadway elevated in the centre. Although now disused, it was for many a long year the only point of communication between the north and south of the river. Formerly it was defended by two towers at each end, with a gate between them; and other two towers occupied the centre—a useful precaution in the days of Highland caterans. About a hundred yards farther down is the new bridge erected in 1831; a very handsome structure, built of granite. Close to this are two railway bridges, one of iron and the other of timber, both resting on stone piers, and both very good specimens of railway construction.

The churchyard, which lies between the castle esplanade and the church, is one of the great attractions of the place; indeed, we have met with no sweeter cemetery in all our wanderings than that of Stirling. It owes, no doubt, much of its beauty to nature; but much has also been done for it by art. We believe that Mr. Drummond, an opulent seedsman of the neighbourhood, has spent nearly 5,000*l.* in embellishing this romantic burying-ground—and we must not complain if his tastes are somewhat *rococo*, if not positively out of keeping with the sacred character of the place. The neat rustic bowers, ornamental fountain, and miniature iron bridge, are well enough in their way, perhaps; but surely a fish-pool is a bad idea in a cemetery. Nothing can be more appropriate or more touching in its silent expression than the plain runic cross of red Aberdeen granite, which records the death of the Highland soldiers who fell in the Crimea. We cannot say as much for the pretentious group of sculptured angels, in white Carrara marble, which is supposed to typify the sufferings of the Wigton martyrs. Nor do we understand how it happens that all the Presbyterian divines that ever lived, from Calvin and Knox down to Erskine and Guthrie, should have statues in this Walhalla of Stirling Churchyard. The massive pyramid of freestone which has been erected to the memory of the Covenanters, profusely decorated as it is with intaglio crowns, sceptres, and other emblems of immortality, in white and blue majolica, might have extorted our commendation; but we most unfortunately discovered on the lower plinth of the surbase a tiny inscription, in white marble gilt, to the effect that certain religious tracts—"The Light of the Star," "The Valley of the Rock," "The Anthem of Grace," &c., are all published at such a depôt, in such and such a street! What a climax! *Ut pol, Hercalem*, says the ancient proverb—which being freely translated into our most classical modern language, signifies, "Who's Griffiths?" Some uncharitable people might suppose that the whole thing was an advertisement, not so much of the poor Covenanters as of a certain well-known Sectarian Scotch church.

In truth, however, the Stirling people may take what they get in the shape of public spirit and be thankful. With the exception of the county gaol, one or two branches of Edinburgh banks, some recent warehouses and suburban villas, there are very few buildings in Stirling that can pretend either to good taste or magnificence. The modern churches are for the most part destitute of the principles of design, and in point of construction they are not much better. One Free Church we visited put us in mind, in its timber-work, of the interior of an old Dutch man-of-war. Another Scotch Episcopalian church had the beam of its gallery supported at one extremity by a transome resting on a single mullion and jamb of a tall pointed window.

The public buildings, the Court-houses, the Town-hall in Broad-street (before which formerly stood the city cross, long since demolished, of course), and the Athenæum in King-street, are all of them very poor structures. The latter, which overlooks the principal square of the town, is disfigured by a hideous freestone statue of Wallace,—a sort of cross between the Farnese Hercules and a Red Indian,—surmounting a badly-designed porch, that seems to have been erected for the purpose of a pedestal. On the lintels of this porch are carved divers inscriptions concerning liberty and freedom,—very good sentiments, but very badly represented by this artistic production. Indeed, the Scotch, it must be said, are unfortunate in their statues of Wallace; for every sculptor that has hitherto tried his hand on the subject, from Patrick Park to Handyside Ritchie, has failed egregiously. Nor can it be said that they are one whit more successful with their monuments. Indeed, since we have mentioned this illustrious patriot, it

may be worth while to inquire whether some of his countrymen are not doing their best in the matter of monuments to bring his name into discredit. The monument on Abbey Craig, about two miles from Stirling, languishes for want of 3,000*l.* more. Since it has advanced so far it would be a pity not to finish it; but we will take an opportunity in another article to point out some even more pressing requirements in Stirling than raising monuments to ancient heroes.

THE MATERIALS FOR THE NATIONAL ALBERT MEMORIAL.

AT the present moment, when the extensive sculptured works connected with the Prince Consort Memorial in Hyde Park are about to be executed, the following paper by the late Mr. C. H. Smith, written some time before his regretted death, will be read with interest, and would seem to demand consideration:—

In offering a few remarks respecting the proposed memorial to the late Prince Consort, I may first observe that, at no other period in British history have the people collectively contributed so large a sum as, at the least, 100,000*l.* for a monument to the memory of any individual; therefore, it seems to me, that the universal desire should be to construct it, if possible, with such materials as are likely to endure from generation to generation, deriding equally the destructive petty thief and rapacious wholesale plunderer, as well as the frigid rains and scorching solar rays, with as little decay or need of reparation as the accumulated learning, science, and experience of the nineteenth century will enable the directors to exercise in the management of so unusual, so important, and so costly an undertaking.

I do not attempt to put myself foremost, or even in the ranks of chemists, mineralogists, geologists, or other scientific classes; nevertheless, circumstances have repeatedly favoured me during the long period of more than half a century with opportunities, not only of observing and remarking, but of vigilantly watching, from time to time, the extraordinary effect of weather in the rapid destruction of certain varieties of stone or marble, and the determined resistance, during ages, of other varieties, against the most severe atmospheric influences, although the scientific observer or chemical analyst might pronounce such specimens to be similar substances. Much as I reverence the judgment and opinion of those individuals who have devoted their lives to the contemplation and advancement of physical science, I cannot help noticing that many instances occur wherein nature and time together overthrow some of the most ingenious theories, so as to perplex or baffle the learned philosopher in seeking for an explanation.

The competitors for the Prince Consort Memorial seem to express an opinion, that marble should be extensively used in the construction and decoration of the edifice; and, in order to protect it from decay, they recommend that the statues and sculptured groups should be under cover. No doubt, the most durable variety of white, or statuary marble, is that which is unaccountably named "Sicilian;" but all the varieties of Carrara marble have perishable qualities which ought to preclude them from ever being applied to external purposes when intended to last for a century, or more, in our climate. The white statuary, Italian veined, dove-coloured, and Ravaccioni (called "Sicilian") marbles, are but very slight variations of the same substance; the dove, and Sicilian, have a little more carbonaceous matter in their composition: they are all procured from quarries in the immediate neighbourhood of the town or village of Carrara, in Tuscany.

The decay of nearly all limestones takes place by *decomposition* from the surface only; the solid part which remains is unaltered; but when Carrara marble has been exposed to the weather, and to variations of temperature, during thirty or forty years, *disintegration* through the entire mass, but mostly on or near the surface, has evidently taken place, and the crystals no longer adhere firmly to each other. The external appearance may remain unaltered, but the destructive influence of climate will continue to penetrate deeply into the mass, the cohesion of the particles will be imperceptibly destroyed, and after the lapse of a century, more or less, according to quality of the marble, the entire substance will fall into a kind of sparkling sand. The group of Queen Ann, &c., in front of St. Paul's Cathedral, executed in Carrara marble by Francis Bird, in the beginning of the last century, has long since been painted, in order to preserve it a little longer from total ruin. The statue of George III., executed in marble by J. Wilton, R.A., and placed in one of the niches, under cover, at the old Royal Exchange, was taken down to be repaired about forty years since, and was found to be too much decomposed to be put up again; it has long since actually crumbled to dust. A mural monument made of similar material, by J. Nollekins, the sculptor, about the year 1780, and erected over the centre door within the portico of St. George's Church, Bloomsbury, hence, well protected from rain, snow, &c., fell from the wall on to the pavement of the portico, during the winter of 1837-8; it was so thoroughly pulverised, and widely dispersed on the floor, as to resemble a fall of snow rather than blocks of marble.

Many sculptors, masons, and others, entertain a high opinion of the durability of Ravaccioni marble, erroneously called Sicilian, and name the archway entrance to Hyde Park from Oxford-street, as a specimen. There certainly is reason to believe it to be a material likely to resist the action of an English atmosphere longer than Italian veined, or white Carrara marble; but on attentive examination, it will be found that its chemical and mineralogical character scarcely differs from them, except in weight, hardness, and containing a little more carbonaceous matter. These qualities are by no means sufficient, to warrant an idea that the Ravaccioni marble will last considerably longer, than such as have heretofore been in general use, in our country. The marble arch was removed from its former site, twelve or thirteen years since. While it lay in detached pieces, on the ground in the Green Park, I had a good opportunity of minutely examining the condition of those parts which had been exposed to the most severe tests of weather, such as cornices and other projections; they were all unquestionably in an early stage of decay, and before the blocks of marble were again erected in their present situation, not fewer than a dozen, probably twenty, masons and labourers were employed, to rub with sand and stone, all the surfaces which had been exposed, thereby removing a minute portion which was observed to be in a state of disintegration. Therefore, the marble of this edifice should only be inspected as a work of twelve or thirteen years weathering. In the burial-ground of St. John's-wood Chapel, between Regent's Park and Edgware-road, there is, close to the chapel, a large sepulchral monument, executed entirely in Sicilian marble, by Sir F. Chantrey, about forty-five years ago, to the memory of David Pike Watts; all the exposed parts are most certainly mouldering away, and may be abraded off with the fingers, like sand. This tomb I believe to be the oldest specimen in London, if not in England, of the material now under consideration; therefore it is the most suitable example I can recommend for examination, as regards the durability of such kind of marble, when exposed to the weather, in or near London. Numerous other instances might be stated, but it is presumed the above are sufficient to show the unfitness of that description of marble for such purposes. It is not known to a certainty from whence the Romans procured their marble, but this is certain that the Roman antiquities are not of Carrara marble.

The question may be asked, "Why have the Elgin marbles, and other ancient Greek and Roman sculptures, resisted the mouldering touch of time for more than twenty centuries?" A long and highly interesting article might be written about this subject; but, for the present, suffice it to say, that the same elements uniting in the same proportions do not necessarily generate the same substance: common white chalk, Carrara marble, and many of the oolitic limestones, present scarcely a trace of difference in their chemical composition. To all appearance, the marble of Pentelicus, in the neighbourhood of Athens, is an aqueous deposit, similar to the stalagmites, travertines, and other calcareous formations, constantly operating in the fresh-water currents of Italy; most of which are extremely durable when applied to sculptural or architectural purposes. Taking many circumstances into consideration, besides the curious progress of decay in Carrara marble, and comparing them with a long series of experiments, undertaken many years back by Sir James Hall, to verify a principle previously assumed by Dr. Hutton, in his "Theory of the Earth," we are induced to believe that Carrara marble has been considerably altered or modified in its crystalline structure by volcanic agency, acting under excessive pressure of superincumbent earth, or perhaps earth and water, while excluded from the atmosphere. In one case the same elements are consolidated through the agency of water; and in the other by the influence of fire; therefore we must expect that the produce will vary considerably in duration if subjected to the same atmospheric influences: and the instances already mentioned are quite sufficient to show that Carrara marble is a material unfit to be placed in situations exposed to the weather in this country; even if it be protected from rain and snow, its ultimate ruin will not be much prolonged, as frequent changes of temperature destroy Carrara marble more rapidly than the influence of wet and dry: the mantel, or that portion above the fire, of a marble chimney-piece, is invariably disintegrated long before any other part.

Within a few years it has become the fashion amongst the wealthy to have monuments in cemeteries constructed entirely of marble; either to gratify their vanity by surpassing a humble neighbour, or under the impression that it is more lasting than ordinary stone. As a general rule, masons and sculptors recommend it; and whoever attempts to argue or remonstrate with the manufacturers against its use is sure to be answered that "it will last our time, it yields the largest profit, and consequently it makes good for trade."

Having pointed out the defects in all kinds of Carrara marble, I will now name a few examples of good and bad varieties of Portland stone. During the whole time that these quarries have been worked, there has been no want of proofs to show that most excellent stone and also the most perishable may be obtained from the same neighbourhood, and generally even from the same quarry: therefore, if the parties who have the management of a building are ignorant or careless in this matter, there will certainly be some portion of the stone introduced of an objectionable quality; perhaps the whole elevation may be constructed with the perishable kind. A few instances in London may be mentioned by way of illustration. The two archway entrances from Piccadilly to the Green Park and to Hyde Park were both erected by the same mason, under the direction of the same architect, very nearly at the same time—about 1820 to 1824; yet the Ionic building is infinitely more decayed than its Corinthian neighbour. All the masonry of the river front of Somerset House above the terrace is gradually mouldering away; whereas other elevations of the same building are nearly as perfect as ever they were. To show that the southern aspect, with exhalations from the river, has little or no influence on the destruction of the stone, the lower part of the same elevation, that is to say, all below the terrace, is in excellent condition. The upper and lower portions were built by different masons, from designs by the same architect, about 1770 to 1775. Exactly one century earlier, Sir C. Wren was the architect of Temple Bar, and "The Monument," near London Bridge; both these buildings were in hand at the same time—about 1670; yet, at this time, many of the projecting parts of the western front of the City gate, are so much effaced by weathering, that it would be difficult to decide what form they had originally presented. The contrary effect is most conspicuous on the sculptured front of the pedestal of the before-named City column, which also faces the west, and which is an example of a large surface, composed of about forty blocks of Portland stone, carved in very bold relief, consequently exposed to all the severest atmospheric effects of frost and thaw, wet and dry, hot and cold, during the long period of 200 years, the stone being at this time *perfect*; nor is there any reason to entertain an idea, that another two, or even three centuries' weathering, will appreciably alter the appearance of Gabriel Cibber's grand carving of the Fire of London.

The same arguments will apply with equal force to the numerous class of magnesian limestones, such as that used at the Palace of Westminster, or any of the superior kinds of calcareous building stones. The before-named parallel cases show that good Portland, or other durable stone, may at all times be obtained or insured for any building, provided the party engaged, whether architect, builder, or mason, understands the subject, or knows the distinction between good and bad, without waiting for the test of twenty or thirty years' weathering.

No department of the science of architecture is at this time less understood, or generally less appreciated, than that which relates to the qualities of building-stone. Palatial-looking edifices are sometimes adorned with polished granite in an elevation constructed with a perishable variety of the softest stone ever used for building: hence, abundant evidences of decay are conspicuous long before the structure can be fairly said to be finished.

Any of the good and durable building stones erected in or near the metropolis soon become blackened with the smoke in a London atmosphere. Should any appear from a distance to retain something like their natural colour, the cause may arise from a constant disintegration going on, and thereby occasionally presenting a fresh surface. There are eight or ten marble statues in niches within the three porticos at the National Gallery, which are as black and dirty as any part of that building. It has been recommended that white or light-coloured marble should form an important feature in the edifice now under consideration; and as experience and observation plainly show that Carrara marble is decidedly unfit for the purpose, in its place I now propose a material which will most probably answer the same purpose, without its objectionable properties. At Hopton Wood, near Warksworth, in the county of Derby, there are very extensive quarries of enchrinital limestone, which have been worked in the neighbourhood during time immemorial, and used especially at Chatsworth, Belvoir Castle, Trentham Hall, and Drayton Manor. The material is decidedly *marble*, for it is fine-grained, compact in texture, and quite hard enough to take a brilliant polish. The colour is pale brownish white, certainly as white as Sicilian marble, which approaches to a bluish gray. It is much heavier than Portland stone, but lighter than Carrara marble. Blocks of very large dimensions may be obtained, free from serious defects; and as it is an aqueous formation, hard and well crystallized, there is no doubt of it standing weather extremely well. Both material and workmanship, in London, are less expensive than that of Sicilian marble. The Hopton Wood stone, or marble, has never been used for building in London; but there is a large quantity of this material which was laid down about eight or ten years since for foot-pavements and steps, close to the Parliament Houses in Old Palace-yard, and part of Abingdon-street, Westminster; and although in a situation where it forms a public footpath which is in constant use, no symptoms of decay or of the surface wearing away are perceptible.

Metal.

One of the competitors has stated that "there can be no question as to the enduring qualities of bronze; it has been dedicated to the use of works of art of an important and historical character from time immemorial." This is a generally received opinion, and it may be correct as regards natural decay; but there are considerations to guard against far more important than the mouldering touch of time. Human nature has been the same in all ages, in all countries, and will continue to be the same whenever the same temptations are offered. Bronze, silver, and gold, have been objects of rapacity throughout the world, from the dawn of civilization until the present time. The history of every nation where the fine arts have been promoted teems with almost marvellous descriptions of numerous sculptures, executed in valuable materials. The statues and other decorations, of gold and silver, at Babylon and Nineveh, said to be worth twenty millions of our money, were quite sufficient to excite the desire of plundering conquerors. Some of the most insignificant colonies of Greece and Italy are recorded to have possessed several thousand bronze statues, many of which were of extraordinary colossal dimensions. Perhaps we may pronounce, with little fear of contradiction, that except a few diminutive specimens, scarcely a remnant remains in its original shape of that host of metallic images, the whole having been destroyed for the value of the bronze. In all probability some fragments of the Colossus of Rhodes, or of the Phidian Jupiter, would have remained to this day, had they been sculptured in granite, Greek marble, common stone, or any other material that is intrinsically of little or no value.

In our own country, during the Middle Ages, the high altar in most of the large churches shone with a brilliant profusion of the precious metals in images of saints, candelabra, vessels for holy water, &c., of an incredible value. These rich shrines presented fine objects of plunder, either to merciless invaders, or to a monarch who might determine to enrich his exchequer under the pretence of reforming abuses of the Church. At Westminster there is a remarkable instance of the misapplication of material. Queen Katharine caused a statue of her husband, Henry V., to be placed on his tomb. It was carved in oak, and covered with plates of silver. The head was made of massive silver, and consequently all the valuable material was very soon stolen, in which headless condition the wooden core alone remains to this day. The other royal tombs in the Confessor's Chapel have suffered severely from the hands of sacrilegious plunderers. Sceptres, canopies, crowns, and nearly all the small parts which could be easily pilfered, have been stolen for the value of the metal. The same remarks will apply to innumerable instances of wilful destruction and purloining of the memorial brasses from gravestones and marble slabs in our cathedrals and village churches throughout England. Here and there, left to its fate, as if by accident, a small fragment of brass may be observed, or a few holes where the metal had been fastened to the stone; but, generally, every bit which could readily find a purchaser was stolen, leaving the indent as a memento of something that had at one time been there.

Monuments of an important character, the same as pictures, ought to be valuable in proportion to the amount of talent displayed in them as works of fine art; and, if intended to be lasting, they should not only be executed in a material which is proof against the decomposing effects of weather, but should also be, as near as possible, valueless for any other purpose, so as not to create mercenary ideas in the mind of a needy observer, either of high or low condition in society. The granite statue of William IV., near London Bridge, will probably be left as a material almost worthless, scarcely worth the labour or cost of throwing down to break to pieces for the purpose of macadamising the roads.

The learned and the fashionable of all nations, in all civilized ages, have been, and still are, unanimous in their admiration of the effect of gold for statuary. It is improbable that the purely refined taste of the Greeks, or the gorgeous display of the magnificent Romans, would have been satisfied with the appearance of many thousand dirty-looking, dark-green, or black statues. Many antiquaries are of opinion that the numberless bronzes of the ancients were generally, if not universally, either wholly gilt, or coloured in some way, to give them an appearance of finish, which the gloomy effect produced by weathering could never have presented; nor is it likely that the base metal would satisfy the eyes of educated people. If the substantial mass of the statue, or group of figures, is to be wholly covered or hidden, so that an observer can form no conception of what is under the surface, why should it be made of bronze or other metal, which is intrinsically of value at all times; therefore, at one time or another, sure to be melted and applied to other purposes? If the entire surface of the sculpture is to be enriched with gilding, why not carve it in good stone, and gild upon that, when, if properly done and viewed from a moderate distance, the most scrutinizing eye could see only the external film of precious metal? Hence the effect would be the same as if it were of solid gold, or of bronze with a gilt surface.

I know the difficulty of contending against prejudices in favour of long-established practice, and fancy I hear the din of uproarious voices against "*shams*;" but as regards the application of gold on a large scale, we are accustomed to such *shams*, without supposing they are meant to delude by false appearances. Ornaments, either large or small, whether made of silver, brass, stone, or plaster, and afterwards gilt, are decidedly *shams*. Neither is it likely that any individual could be so simple-minded as to suppose that the frames of pictures and looking-glasses which he had noticed in the state apartments of Windsor Castle were made of solid gold; whereas he would feel sure that the articles in use for similar purposes which he might have observed in humble residences were all "*shams*." The pictures within the frames are all *shams*, for they really are not that which is represented, and the more deceptive they are the greater is their merit, and the higher their value as works of art.

Respecting mosaic work externally, on a perpendicular ground, with *our present knowledge*, I fear there is no cement that will permanently attach the little vitreous tesseræ to a ground that will endure for years the extremes of temperature, from Zero at four or five o'clock on a winter's morning, to 120 Fahr., during an afternoon's sun in summer time. C. H. Smith.

PLEASANT APARTMENTS IN PADDINGTON.

While directing attention to the ill-condition of the east London districts, we must not neglect places elsewhere which require great care. Take parts of Paddington, for instance. Here is a note of the condition of a room in the basement of a house in North-street, in this parish, which is occupied by a shoemaker, his wife, and six children. The room is very small, and barely allows of persons moving about. The dilapidated condition of the place is shocking. The floor is full of holes, into some of which a cat can enter, and in one day has brought up as many as five or six rats. These animals in the day-time, in the absence of pussy, become somewhat tame, and run about the room. There are two beds in the room, one on the floor. A person calling noticed a movement of the bed-clothes of one; and, thinking it was caused by a child, directed attention to the circumstance. On examination, it was found that a large rat had burrowed into the flock. Some of the children sleep on a bed on the floor; and, to keep the rats away, the holes are stopped up with rags and other matters. But this is not effectual; and often the man has been obliged to get up in the night for the purpose of driving them away. There is something revolting in such a state of things. The floor is so rotten that it shakes when the occupants walk over it; and the drain from the closet passes somewhere near the fire-place, and causes a most dreadful smell. Nevertheless, the rent is 2s. 9d. a week. The next apartment to it was originally a wash-house; but from this the landlord has removed the copper, and lets the place for a habitation, at a rent of 2s. a week; while the copper has been set up in the yard, without covering, close to a window; and when the fire is lighted, the smoke and the steam are almost unbearable. Some will say, why do the occupants keep their children in such a place? But it is not easy to find houses where they will take so many children. We therefore, for the present, refrain from giving the address of this house, lest the family should be turned into the street. But it would be well if the sanitary officers were to look about in that direction, for the landlord refuses to attend to the complaints of the poor people.

HALIFAX SCHOOL OF ART.

The annual *soirée* of this institution has taken place in the new Assembly Rooms, on which occasion there was a very respectable attendance, the walls being as usual adorned with the productions of the students. The chair was occupied by Col. Akroyd.

Mr. C. Ryan, head master, read the report, which stated that the progress of the school for the past year had been steady, and that he saw no reason to doubt that its future would be better than its past. The attendance at the central school was improving: there were then on the books 137 students, or twenty-five more than last year's total. Of this number, 36 had been carpenters, mechanics, carvers, &c.; 14 designers, architects' apprentices, and draughtsmen; 31 teachers and pupil teachers; 32 clerks and youths, and 24 ladies. The number of those who had passed the Department's examination, last June, was unusually large: 30 had passed the superior or second grade, and 57 the first grade or elementary examination. The total number passing from all the schools and classes was 87, whilst that of last year was but 46. The total number in and connected with the school, either in public or private classes, was 1,101, showing an increase of 89 on last year. The number of local medals taken this year was 19, being the largest number yet gained in this school, and two honourable mentions; and also, for the first time, two national medallions, and one national honourable mention. The total value of art-works awarded this year, on account of medals and medallions, has been 29*l.* 10*s.*

"THE PUISNE'S WALKE ABOUT LONDON."

The following ballad (now first printed), detailing, pleasantly enough, a "Bumpkin's visit to London," may be safely assigned to a period as early as the reign of Charles I. I have transcribed it from a MS. in the British Museum (Harleian MS. 3,910, fol. 37), and added a few notes. The references and other allusions to the Lord Mayor on horseback (in his robes, of course), carry us back to the days of Holinshed and Stow, while the Tabor, in Fleet-street (what will Mr. Babbage think?), speaks of holiday and Tarlton mirth in London when peelers, and gas, and cabs, and 'buses, were alike unknown. What my ballad-monger would have said and sung had he seen London now (under Messrs. Thwaites & Co.'s clever manipulation and transmogrification) I cannot pretend to think, even as a "Puisne" Judge. PETER CUNNINGHAM.

"When I came first to London Towne,
I was a novice as most men are;
Methought yᵉ King dwelt at yᵉ sign of yᵉ Crown,
And the way to Heaven was through yᵉ Starr.

I sett up my horse, and walkt to Paule's,
'Lord,' thought I, 'wᵗ a Church is heere!'
And then I swore by all Christen soules,
'Twas a myle long or very neere.*

Nay, methought, 'twas as high as a hill,
'A Hill!' quoth I, 'nay, as a Mountayn;'
Then up I went wᵗʰ a very good will,
But gladder was to come down againe.

For on the topp my head turn'd round;
For be it knowne to all Christen people,
The man's not a little way from the ground
That's on the top of all Paule's steeple.

To Ludgate, then, I ran my race:
When I was past I did backward looke;
Ther I spyed Queen Elizabeth's grace,†
Her picture guylt, for all gould I tooke.

And as I came down Ludgate-hill
Whome should I meet but my good Lord Mayor,
On him I gap'd, as yongsters still
Gape on toyes in Bartelmew faire.

I know not wᶜʰ of 'em to desire,
The Mayor or yᵉ horse, they were both so like;
Their trappings so rich you would admjre,
Their faces such non could dislike.

But I must consider perforce
The saying of ould, so true it was,—
'The gray mare is the better horse,'—
And 'All's not gould that shines lyke brass.'

In Fleet-street then I heard a shoote;
I put of my hatt, and I made no staye;
And when I came unto the rowte,
Good lord! I heard a Taber playe.

For, so God save mee, a Morrys Daunce:
Oh! ther was sport alone for mee,
To see the hobby horse, how he did prraunce
Among the gingling company.

I proffer'd them money for their coats,
But my conscience had remorse;
For my father had no ostes,
And I must haue had the hobbie horse.

To see the Tombes was my desire,
And then to Westminster I went:
I gave one twopence for his byre,
'Twas the best twopence yᵗ e'er I spent.

'Here lyes,' quoth hee, 'King Herry the Third.'
'Tis false,' said I, 'hee speaks not a word.'
'And here is King Richard yᵉ Seacond inter'd;
And here is good King Edward's sword.

And this,' quoth hee, 'is Jacob's stone,
This very stone here under yᵉ chaire.'
* * * * *

I tooke a Boate, and would stay no longer;
And as I towards yᵉ Bridge did rowe,
I and myself began to wonder
Howe that it was built belowe.

But then my friend, John Stow, I remember,
In's Booke of London call'd the Survay
Saith that, on the fifthe daye of September,
With wooll-sacks they did it underlay.

Then through yᵉ Bridge to the Tower I went,
With much adoe I wandred in;
And when my penny‡ I had spent,
Thus the spokesman did begin:—

'This Lyon's the King's, and this is the Queene's,
And this is the Prince's yᵗ stands by him.'
I drew nere, not knowing wᶜʰ hee means.
'Wᵗ ayle you, my frend, to go so nigh him?

Doe you see yᵉ Lyon this yᵗ lyes downe?
It's Henry the Great, twoe hondred years olde.'
'Lord bless us!' quoth I, 'How hee doth frown!'
'I tell you,' quoth he, 'hee's a lyon boulde.'

Now was it late, I went to my Inne;
I supt, and I slept, and I rose betymes,
Not wak't wᵗʰ crowes, nor ducks quarkling,
But wᵗʰ the noyse of Cheapside chymes.§

* The nave of Old St. Paul's was very long.
† The statue of Queen Elizabeth, formerly at Ludgate, now at St. Dunstan's, Fleet-street.
‡ Our ballad-monger lived in the days when Peacham published his "Worth of a Penny," and a penny peep was a penny's worth.
§ Bow bells.

THE ROCK AND SORCERY-HALL SYMBOLS.

My first letter on Rock Symbols, of date *2nd July* last, which called forth the interesting account of Mr. Tate's discoveries in the *Builder* of 3rd September,—succeeded, as *it* was, by your correspondent "G. B. H.'s" account of the Argyllshire petroglyphs,—appears, however, to have been first of all quickly followed up by an address of the Rev. Dr. Bruce, on 29*th July*, to the Archæological Institute, which is that referred to by "G. B. H." as reported in the *Gentleman's Magazine* for October.

In speaking of the theories slightly alluded to by Dr. Bruce (prematurely, as he himself conceives) in that address, the following remarks on my theory are made by "G. B. H.,"—as if (by the way) he were speaking of an additional theory published *since* Dr. Bruce's address was delivered, or was printed, and not of the first and only attempt (as it is, even yet), to set before the public *any* theoretical views in respect to an order of symbols some of which, with all the usual characteristics, it appears, have been known for years,—without any theory having ever been publicly suggested until just after mine appeared in the *Builder*:—

"To these theories [alluded to by Dr. Bruce] may be added the one propounded by Mr. Dove in your own pages, which, *if I understand it aright*, considers them to symbolize *the powers of Life as radiating from* a central sort of 'Anima Mundi;' while, finally, many eminent men, who see traces of the 'Phallic theory' almost everywhere, are inclined to connect these mysterious symbols with that primeval worship. These hypotheses are very ingenious, especially that of Dr. Bruce."

That "G. B. H." does *not* understand my theory aright will be very obvious to those who have given a little consideration to the psychological key (in the *Builder* of 11th July, 1863) to all such symbols, which was repeatedly referred to in my letter on rock and other symbols, and is the fruit of occasional reflection for at least the last thirty-five years of my life. That key comprised a long letter in itself, and could not therefore be repeated on every occasion. "G. B. H.'s" misunderstanding may arise from his not having seen or considered this key, without which it is impossible that any one can be competent to give an enlightened or reliable opinion on the relative merits of my rock and sorcery-hall symbol theory, by comparison with the theories of those who have since publicly treated on the subject, and who, even then, have merely hinted at modifications of that already published theory, which, I submit, seems to have struck the key-note, as it were, of all such modifications as the Phallic theory; Dr. Bruce's theory of "the *new state of being* on which *the soul* enters at *death*, and the *development* of that existence;" or even the quasi-astronomical, or at least the "sun worship" theory. It is indeed notable that my letters on the probable original meaning of the "enigmatical" rock symbols in general, though developing one especial theory, comprised for the first time in print every one of those religious theories since alluded to by Dr. Bruce and "G. B. H." And no less notable is it that, although I forwarded copies of my first letter, of 2nd July last, on rock and other symbols, and of the psychological key itself, to Dr. Bruce; nevertheless, in since speaking of theories, he avoids making even the slightest allusion to *this one and only theoretical endeavour*,—then (or even now) actually *before the public*,—to deal with the subject; and it remained, therefore, for your correspondent, "G. B. H.," by way of addendum, so far to do me that justice.

As regards the idea alluded to by Dr. Bruce, that "they are simply indicative of *eternity*, and shadow forth the *soul's* longing for *immortality*," a glance at what I have written in connexion with the psychological key to all such symbols will show that I have regarded the spiritual or radiative life of god-possession in the initiation of entrancement, which these symbols, as I conceive, originally indicated, to be a life not in time at all, but in *eternity*,—a life, moreover, the influence of which, on soul and body, was, as I have shown, believed to be *immortalizing*, and hence to have converted those practising such god-possession after initiation, as their nightly rest, into a "*deathless* brotherhood." As to "*sun* worship," I have also repeatedly shown that the same radiative life was esoterically the true Sun and Apollo or central Hee or Hu of the Druids. And as for Dr. Bruce's own theory,—"the *new state of being* on which *the soul* enters *at death*," and "the *development* of that existence,"—just constitute an obvious modification of my theory, known to him when he read his paper, although he ignored it; the sole difference being that he substitutes the death *of corruption*, not at all doctrinally peculiar to the Druids, and which I advisedly rejected, for the death of entrancement, really or ostensibly practised in the Druidical initiations. The "future state" I have distinctly and explicitly shown to have been regarded, in the Druidical and other religions, as evokable, and fully evolvable, or *developable, in the death of entrancement*, and *altogether on this side of the death of corruption*; although, in the idolatrous and other degradations of religions, the secret death of entrancement was gradually lost sight of, and the very knowledge of its possibility lost; so that the *death* which divides the life of the soul and body, or "this life," of the ordinary waking state, from its immortalising *rest* in *eternity*, or in the spirit-life, came to be regarded solely and exclusively as the death *of corruption and the grave*. And this may well have been so in the latter era of the Druidical religion as in that of the cognate Egyptian, for example; the degradation of which, in idea, I have spoken of in one of my letters on Wing Symbols, in the *Builder* of 16th October, 1858, now out of print, and which I therefore take the liberty of here quoting from:—

"In the 'mysterious paradisa' of Osiris, 'dead' men 'became' the living 'god.' Now this rather startling dogma is not so unintelligible in its origin as may at first sight be supposed. Iamblichus, in his treatise on Egyptian mysteries, says that in the invocations of the god (to constitute an oracle), the invoker himself '*became* a sort of divine person.' Again, he says, 'In the contemplation of blessed visions *the Soul* assumes [puts on] ANOTHER LIFE, operates in another manner, and justly esteems itself *no longer man*. It *often* EXCHANGES its own life for the most blessed *life of the gods*; for the gods are immediately present with and *united to* all those who make the least approaches to them.' [Iamblichus de Mysteriis Egyptiorum, ed. Gale, pp. 22—27.] It is thus easy to conceive how, *in the decline* of such a doctrine, it might become confused with an idea that the mummied forms of the *actually dead*, ferried over to 'Osiris,' or the souls which had existed in these bodies, became Osiris himself.

The Soul *translated* to the gods—whether 'often' or only once,—in the true sense indicated by Iamblichus, was that of a living human being, who thus, for a certain interval, *exchanged* his own life for the 'life of the gods' [or the Spirit life of initiative entrancement]; and hence had no longer his own life *while* so translated; and was, therefore 'dead' to it. In fact, he was supposed to be 'dead *in the flesh*, but quickened *by the Spirit*,'—to use an expression which denotes the reality of what *may* have been but simulation in an Egyptian oracle."

As for the Phallic theory, I need scarcely remind your readers that a sexual idea is inextricably involved in my theory of the principles of *Life* in Soul and Spirit—to which I have maintained that the rock and sorcery-hall symbols refer;—the life of the Soul, the concentrative life, or "this life," being masculine, and *its centre its virility*; and the life of the Spirit, the radiative life, or "the new state," emanating from that centre, being feminine, and the conjunction or marriage of these two, in the death of entrancement or initiation, involving the whole mystery.

Thus, I humbly submit, in my letters to you in the *Builder*, which contain the first and even yet the only published attempt to theorize on this subject, I have, as I have said, struck the key-note of every religious theory of life since hinted at—I cannot even yet say propounded—in a published form.

As regards my own special psychological views of the probable original meaning of the rock and sorcery-hall symbols; so far from considering "the powers of life as *radiating from* a central sort of 'Anima Mundi,'" I have repeatedly shown the chief power of "this life," —the Soul itself,—to be a principle *concentrating to* a centre,—that centre of every Soul being the manhood, and "the Head, of every man," which universal Head, as I have remarked, is the Christhood of and *in* the man, whence the radiative Spirit emanates. It must be this grand unitive and identitive "Head of every man," or centre of every Soul,—the internal Christ of Fénélon, Coleridge, and others, and the one common centre of conjoint life, concentrative *and radiative*, animate *and Spiritual*, human *and Divine*, whom *not I*, but "G. B. H.," terms "a sort of *Anima Mundi*."

From or out of that one common centre of the concentrative, or Soul, however, I *have* described the divine Spirit as a power of life, *radiating*, not only "above measure," or as a greater or solar Light, in the ecstatic life of entrancement; but also as a lesser or lunar light, in the ordinary life of the Soul, or waking life, wherein it constitutes "the Light which lighteneth every man that cometh into the world;" illuminating his darkness in the life of the soul; while, in the highest region of the life of the Spirit itself, this Spirit, in full *possession* both of soul and of body, as a "Spirit of watching," constituted that sacred or

divine and *supernal* Spirit state which (or a demoniac and *infernal* simulation of which) was regarded, in various ancient religions, the Druidical inclusive, as the oracular state of god-possession, which formed the grand end and object of all their initiations, so long as these remained anything more than a mere mockery and empty form of real religion. And however beclouded with idolatry and other errors these religions may at length have become in their decline, still they possessed some of the essential forms of true religion even when utterly divested of all its substance. Thus it was that in the Phallic *centre-and-circle* symbol of all nations, the "bridegroom" *centre*, or virility of the soul, was pre-eminent; and the Hee or Hu of the Druids—"the Leader" or Captain of *salvation*, or of the *deathless* brotherhood, was that centre, round which they circled and danced in their frantic orgies.

God-possession, *in truth, has been the grand leading idea of all religions.* The translation of the soul to the gods, or to the oracular spirit life of initiation, was the god-possession both of body and of soul in the temporal death of entrancement—*not in the death of corruption*; and it was "thence," or out of the *eternity* of god possession in deathlike entrancement that the soul was "returned" into the temporality of "this life;" so that "this life" was "*often* exchanged for the blessed life of the gods" in the oracles and other initiates.

My leading idea, then, is that the rock and sorcery-hall symbols related *originally* to this grand doctrine; and the only difference between this theory and that now published by Dr. Bruce as his own, is, that he substitutes the actual death of corruption,—which did not occur in the Druidical initiations, but happens to every one,—for the mystical death of entrancement, only practised in the initiations of the Druidical Taliesins, and such-like religionists.

Before concluding, I would wish to make one other remark. In the address reported in the *Gentleman's Magazine*, Dr. Bruce says, "I trust that all who take an interest in the investigation *will aid me* by supplying any information or *suggestion* they may think useful," in reference to the rock symbols. Now, it is right that those who feel inclined to comply with this request should know, that for my part, I received not the slightest acknowledgment from Dr. Bruce, in return for the *suggestions* which *I* forwarded to him, with my card, in the shape of copies of the printed letters in the *Builder* already referred to; and, considering that Dr. Bruce *has* requested communications (MS. ones, however, no doubt) to be forwarded to him, and that it was in deference to what I had understood to be even his previously-expressed desire to that effect that *I* did so, he cannot plead, in extenuation of his suspicious want of ordinary courtesy, the stupid idea (which some people seem to have) that such an act of deference and respect was merely taking an offensive and unwarrantable liberty with him, which merited only a dignified silence by way of polite acknowledgment.

J. E. Dove.

THE DISPOSAL OF SEWAGE QUESTION.

The long-foreseen crisis is at hand when this great question must be settled. Municipal heads throughout the whole country are ruminating on it, and the elements of the question may be said to be fermenting towards a final settlement, whatever that may be, in which what is impracticable will be cast forth, and a definite and final issue of utility be attained. And that some such issue *will* ere long be attained we have every hope. But in the mean time municipal authorities only feel that they are in a great difficulty, out of which they cannot clearly see their way as yet. The deputation from various towns,—from Birmingham, Nottingham, Derby, Wolverhampton, Coventry, Preston, and Bath, to Sir George Grey, made this pretty evident. Their purpose was to pray him to introduce a public general Bill for the utilization of sewage (which was nonsense, for no Bill can cause the sewage to be useful, or compel landholders to use it), and also for preventing the pollution of rivers and streams. Now, although Government has long been notorious for skill in the way of "how not to do" many things, they are not the likely body corporate to teach either town councils or landowners how to do it,—how to prevent the pollution of rivers and streams. On the contrary, Sir George insisted on the deputation showing him how to do it; but so far from their being able to do so, they could not tell him precisely even what it was they wanted of him; and when each severally pointed out what his local circumstances led him to want, Sir George drew their attention to the fact that they already had what they wanted in the shape of power to deal with the subject. However, there were some points in which their power seemed to be defective, as in encroaching on or crossing land in the disposal of sewage, in combining with, or compelling, minor districts, to carry out with them a general system for the purification of rivers and streams; and so on. The one resolution to which they had arrived previously to the interview was—

"That in the opinion of this meeting it is absolutely necessary that a Bill should be introduced into Parliament in the ensuing Session by her Majesty's Government to enable local authorities to deal with and utilize the sewage of their towns and districts so as to prevent the pollution of rivers and streams."

This resolution they laid before Sir George; and it was finally agreed that a case should be stated; and at the close Sir George said the subject was a very important one, and had been under the consideration of the Government; but what he wanted was to have some practical suggestions as to the remedy which they asked.

The general opinion is that we *must* come speedily to some definite and practical conclusion in this most important matter; but at present there is an evident want of confidence in the plans which have been hitherto proposed; and many practical men are afraid that the sewage cannot be utilized near large populations, and that it is not yet sufficiently shown that the methods of deodorization are entirely to be depended on; and we fear that there will never be anything effectually carried out throughout the country until we have shown the successful completion of some one experiment on a great scale. This, we hope, may be decided in connexion with the metropolis ere long; but we trust that the experiment will be made, as now intended, at a sufficient distance from the nearly three millions of dwellers of the London population.

On the question of the impunity with which diluted sewage can be put upon land, Mr. White, M.P., expresses doubt; and refers to instances in this country, but more especially in China, where the liquid sewage is extensively used, showing that the effect is offensive, and injurious to health. Soon after the assemblage of Parliament, however, we shall have extensive, and, it is to be hoped, satisfactory evidence on the disputed points. At the meeting of deputies just referred to, there was an almost universal opinion expressed that we cannot continue to poison the rivers and streams, by draining the refuse of towns, &c., into them. As to this point, years ago, when advocating the water-closet drainage of the metropolis and large and populous towns, we directed attention to the results now every day becoming more apparent. We have referred to the Thames, the Tyne, and other important rivers; to the pollution of the waters in the neighbourhood of Manchester; to the immense population which drains into the Thames for many miles above London. It is to be regretted that a cure has not been sought for before the nuisance has in many situations become intolerable.

In the interview which the gentlemen above mentioned had with Sir George Grey, for instance, Mr. Higgins stated that at Warwick they were now in an awkward position, for a bill in Chancery had been filed against him by the Earl of Warwick for polluting the local river, and they had done all they could to take out 100 tons a day of solid sewage; but where they had put it to dry it had become an intolerable nuisance to the neighbourhood. But, in this case, why is not deodorizing tried?

The Cheltenham commissioners, we may here remark, having been threatened with legal proceedings for discharging 750,000 gallons of liquid refuse daily into the Chelt, have commenced some experiments, with the view to its utilization. The sewage runs into a large tank in the middle of Moor's Farm, on the Tewkesbury-road, and is thence distributed over the land. The experiments will be watched with interest.

The Rotherham Board of Health have memorialised Sir George Grey, praying for the introduction of a Bill into Parliament to prohibit the discharge of sewage into rivers, and blaming the Sheffield sewage in the Don for the ill-health at Rotherham; which, however, had long since been shown to be chiefly attributable to the want of water and the consequent choking of drains.

St. Saviour's District Board of Works, as we noticed last week, have passed a series of resolutions on the important subject of the utilisation of the sewage of the metropolis, as follows:—"That, in the opinion of this meeting, the time has not yet arrived for coming to a decision upon the best method of disposing of the sewage of the metropolis, as sufficient information as to its value is not possessed by any public body having the power to dispose of it; and, therefore, in the opinion of this meeting, the subject should be more thoroughly investigated by a select committee of the House of Commons, with a view of determining which of the plans for dealing with the sewage will be most beneficial to the ratepayers; and, further, that the clerk be instructed to prepare a petition to the House of Commons, praying for the appointment of such committee, and that the representative of the borough be requested to support the same." These resolutions having been read in a vestry of St. James's parish, it was resolved unanimously, "That this vestry concur in the resolution just read, and adopt the same; and that the clerk do communicate the same to St. Saviour's District Board."

MODERN ARCHITECTURAL WORK.

A correspondent, "W. H. H.," in the course of some observations on a recent letter in our pages referring to a work now in progress, says:—

Every architect and every man who loves good works because he really feels that there is something divine in art, is ready to admit that, in designing even the most insignificant building, it should be his delight to study even the most insignificant detail, so as to produce something in which the elements of true art are apparent. Now, this can be done by a master when he has really time to consider his work; but when a man has a large building to construct which is full of intricate work, and requires great care in the saving of time and expense, and which must at the same time be well adapted to the use for which it is intended; and when all this must necessarily be completed in a given time; where is the architect who can produce a work which shall be in every detail removed from the possibility of criticism? The Greeks, who certainly did understand architecture in a *divine* sense better than any other nation has understood it, were not compelled to deliver up their work, complete in so many months, as we are. It mattered little whether the Parthenon took ten months or ten years in building, so long as it *was* built. Time was no particular object then; but what is the case in these busy times, when expedition is the very essence of success, when companies are springing up in every direction, and when shareholders are impatiently awaiting a good percentage for their money? Buildings must be designed and built in so many months. As soon as a public building or railway station of importance is commenced, the public, desirous of being benefited by its accommodation, are clamorous for its completion. The architect, anxious to produce something which shall be better in design and accommodation, and which shall embrace more of the modern facilities for expedition than anything at present in existence, has scarcely time to keep the builder going with plans; and who is to blame him if he does occasionally make some small architectural slips?

THE FIGURE-DRAWING CLASS OF THE ARCHITECTURAL ASSOCIATION.

The above class is now in working order: eight meetings have been held, on Tuesday and Thursday evenings, at which the average attendance has been twenty. Above thirty members have joined the class, and the subscription of each one—the monthly expenses (amounting to 8*l.*) being equally divided amongst them—is very trifling. The class may consider itself fortunate in having secured the large room at the West London School of Art, in Great Portland-street—entrance 72, Bolsover-street. This room is, by its lighting and warming, and by the casts that it contains, well adapted to the requirements of the class. Mr. Poynter attends at least once a week, and has, up to this time, been present every evening. He divides the class into two portions, putting the beginners to casts and the more advanced students to the study of the living model. It is to be hoped that this class will be well maintained, until the scheme proposed by the Institute is fully carried out and made capable of replacing it. Mr. Tarver is the hon. secretary.

SCHOOL OF ART ACCESSORIAL TO ARCHITECTURE.

MEMBERS of Committee nominated to act with the President of the Royal Institute of British Architects in carrying out the objects of the proposed school.

Institute :—T. L. Donaldson, President; Owen Jones, T. Hayter Lewis, G. Godwin, F. P. Cockerell.

Members nominated by the Architectural Museum :—A. J. B. Beresford Hope, President; Joseph Clarke, J. Ruskin, G. Gilbert Scott, R.A.

Members nominated by the Architectural Association :—J. H. Christian, President; A. Ashpitel, W. Burges, E. J. Tarver.

COMPETITIONS.

Proposed Church, Pontypool.—In the late competition for proposed new church, Pontypool, a design submitted by Mr. Hancom, Newport, Monmouthshire, was selected, and the premium was awarded to him. Mr. Hancom has been instructed to prepare the contract drawings. Seventeen designs were submitted.

Bradford.—A design has been chosen in a select local competition for a Wesleyan chapel, intended to be built in Little Horton-lane. The style is Gothic, and the building will consist of a nave and aisles, organ-gallery, chancel, and minister's vestry. The front in Horton-lane has a central gavel, with a decorated vestry window, and at one side of this a spire rising to the height of about 130 ft. There is a staircase (one in the tower), and on each side of the entrance. The roof timbers are supported by iron columns, which are ornamented with tracery. The chapel is intended to accommodate upwards of 1,000 persons. The design has been prepared by Messrs. Andrew, Son, & Pepper, of this town, and will be carried out under their superintendence.

CONTINENTAL NEWS.

France.—Excavations recently commenced on the edge of a wood, about a mile outside the city of Lyons, have brought to light a number of objects which clearly prove, what was long suspected, that this was the site of a Roman camp. In parts, those engaged in this inquiry have gone down to a depth of 18 ft., and amongst the articles found, in a more or less good state of preservation, are rings, buckles, metallic mirrors, swords, axes, lance and arrow heads, fragments of helmets and shields. But few coins have as yet been found, all of which, with one exception, are of bronze, and of the time of Antoninus and Marcus Aurelius. The exception is a silver coin, with the "image and superscription" of Albinus, the rival emperor of Severus, and there is little doubt but that this was one of the camps of Albinus, previously to the battle of the Rhone, in 198. In this battle some 50,000 men were engaged on each side. Severus was conqueror, and Albinus was decapitated and thrown into the river.——Greuze, a painter of the end of the last century, is to have a monument at Tournois, in Burgundy, his native town, and it is to be erected at the sole expense of the emperor. Greuze was a *protégé* of Marie Antoinette, and fashion made him great and famous. But with the Republic came the change of his fortunes, and he died in 1804, in the greatest misery, neglected and forgotten. When the first Napoleon heard of this, he said, "Why was he too proud to come to me? I would have given him a ewer of the finest Sèvres filled with gold, wherewith to mend all his broken pitchers." This was in allusion to one of Greuze's most celebrated pictures, "The Broken Pitcher."——The subscriptions of the Béranger Monument are advancing satisfactorily: the committee is presided over by Baron Taylor, with whom are men like Ernest Legouvé, Havin Géroult, Dupont, and others.

Bavaria.—The old king seems again to have found out a spot where a monument ought to stand, for he lately undertook a trip to Harlaching, on "the banks of Iser rolling rapidly." It was here that Claude Lorraine lived for many years in a small château, which has, however, long disappeared, and now the great landscape-painter will have a statue or a monument on this spot.——The two towers of the Cathedral of Regensburg (Ratisbon) are to be restored and completed; and much of the work of restoration has already been done during the past year, when some 30,000 cubic feet of masonry were worked up. The south tower is completed as far as the foot of the spire, whilst the north tower has only reached the windows next above the transition from the square to the octagon. ——A sad accident occurred at Munich the other day. A new three-storied house, which was being erected in the new quarter near the Rondell, suddenly fell in about 11 a.m., burying a number of workmen under its ruins. Some escaped in various extraordinary ways, but seven men were dug out in a sadly mutilated state, whilst two were still missing, having been probably precipitated into the cellars. Bad materials and undue haste were the chief causes of the building suddenly collapsing.

BYZANTINE ARCHITECTURE ILLUSTRATED.*

THE collections and drawings of M. Texier, illustrating Byzantine architecture, have long been known in certain circles, and from these collections, with the able co-operation of Mr. R. Popplewell Pullan, best known in connexion with the Budrum Expedition, a sumptuous, learned, and valuable volume has been produced and published by Messrs. Day. It contains seventy plates, tinted lithographs, chromo-lithographs for the mosaics, and twenty-seven wood engravings. Of the latter we reproduce a few as serving to show the range of country embraced in the volume.

To follow as closely as possible the march of the new faith as it crossed the regions of Asia, and to traverse, with the Apostle St. Paul, the districts which were the first scenes of his preaching, they give a view of Perge (Fig. 1).†

In the first place, it is of importance to remark, that the apostle, instead of selecting some quiet village where he could preach in secret, chose for his first abode in Asia Minor, after leaving Antioch, this celebrated city of Perge, renowned for its worship of the Pergean Diana. This place was the flower of Pamphylia, a town rich with marble edifices, which still present the spectacle of the most splendid ruins a Greek town wonderfully preserved can offer for the investigation of the historian. Every step in the city (which seems to be asleep rather than deserted) reveals traces of the elegant and easy life of its former inhabitants.

Perge, or, as it is sometimes called, Perga, is situate on the Cestrus, a small river which joins the sea at the distance of a few miles from the town, and is encircled by strong walls flanked by towers. It stands at the foot of a hill, square in form, which was surmounted by the temple of Diana, in somewhat the same manner as the Acropolis at Athens is crowned by the Parthenon.

On the right of the gate stands as fine a theatre as ever was constructed by the inhabitants of a Greek town. It accommodated 12,000 persons easily. The marble proscenium, adorned with the richest sculptures, presents to the gaze of the spectator numerous representations of Olympic deities carved upon its pilasters and frieze. Two large divisions of steps encircled the *cavea*, which was crowned by a portico of the Ionic order. All the science of Roman construction, combined with the elegance of Greek art, is visible in this edifice.

Fig. 2 is a tomb cut in a pyramidal rock at Urgub. Our authors say,—

"We might give a hundred examples of chapels and tombs bearing the indelible stamp of Christianity; one, however, of incontestable origin, will be sufficient. In an isolated cone in the valley of Urgub, near the village of Marichian, there has been dug a tomb in the form of a chamber, about 16 ft. each way. In the ground there are sarcophagi; the walls are destitute of ornament, but almost the whole surface of the ceiling is occupied by a cross, with four equal arms, the three upper ones being surrounded by a nimbus. There is no doubt of the Christian origin of the tomb, as the cross forms part of its original decoration. The doorway has a horseshoe arch: this is a proof that this arch is of Byzantine and not of Arab origin."

The churches cut in the rock in the environs of Surp Garabed are remarkable. Fig. 3 shows the entrance-front of one of these, and Fig. 4 the plan of it. The rude mode in which the mouldings are cut does not allow one to ascertain from them the precise date; but their general character is that of great antiquity.

On the side of one valley there is a portico of three arcades sustained by massive Doric columns; the archivolts are without decoration; the rock above is scarped, so as to form a panel bordered by a simple band. Under the vestibule, open right and left two square chambers, measuring 10 ft. or 12 ft. in length. From thence we enter the nave, which is cut parallel to the valley. At the end is a semicircular apse with a stone altar cut in the body of the rock. The walls are ornamented with pilasters rudely indicated; the nave is covered by a vault; the light of day is admitted only through a small door and window. We pass afterwards into a smaller chapel, which is so dark that it must have been impossible to officiate without the light of candles. Its form is the same as that of the church; it has a nave, an apse, and a stone altar. But the congregation would have been suffocated in the chapel if they had not taken the precaution to carry a ventilating funnel to the surface of the mountain—a work of great difficulty to a people poor and without resources.

"It is possible that the second chapel was made for the purpose of concealing the sacred utensils, or fugitive Christians when pursued; for, if the entrance to the chapel were closed by a slab, it would be impossible to suspect its existence."

At Edessa they find constructions of the Byzantine epoch in the walls of the castle (Figs. 5 & 6); and the fountains all remain, they think, as in the days of Justinian.

The eye of the stranger entering Edessa is especially struck with the imposing aspect presented by the ancient castle, which stands on an eminence 100 yards high; the wall of which, scarcely breached by time, forms a most picturesque background. It is the same castle that was constructed by Justinian after he had destroyed the ancient and useless fortifications of

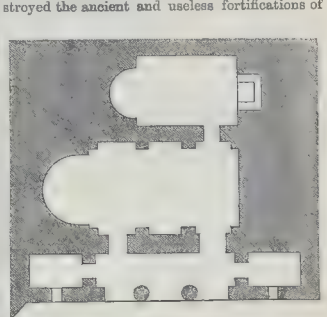


Fig. 4.

old Edessa. Its form is that of a parallelogram, of about 400 yards in length, by 200 yards in breadth. It is defended by several square and by two large semi-octagonal towers. The walls are not prolonged in a straight line, but form several projections; these form keeps or prisons, which overlook the vast enclosure of the town. There are two gateways to the castle,—that leading to the town, which still exists, which communicates with the interior of the place, and that leading to the country, which was closed by a drawbridge. The latter is at the western extremity of the castle.

The interior of the enclosure was occupied by the barracks and the arsenals, which still exist complete. The arcades of the great barrack have horseshoe arches, of the time of Justinian.

The moat of this immense work is not the least remarkable part about it. This fosse, as seen in the accompanying plan, included the three-quarters of the circumference of the castle; the fourth part is connected with the town. It is about 33 yards in breadth, by 22 yards deep.

One of the courtyards of the castle forms upon the side of the town a terrace, on which terrace were placed two columns, which still exist in a perfect state of preservation (Fig. 7). They are of the Corinthian order, and are placed about eight yards apart. The diameter of each column is nearly two yards. Each column consists of twenty-one drums of solid stone. It is evident that this monument has never been finished, for all the drums have projections on them, which have been used for raising and adjusting them. These capitals are surmounted by blocks of solid stone, which show that they were intended to have some further decoration, probably the statues of Justinian and Theodora.

Mr. Pullan says in his preface, and this will serve to show a leading intention of the book, —"We believe that its perusal will modify certain preconceived notions regarding Byzantine Architecture. Some authors affirm that

* Byzantine Architecture, illustrated by a series of the Earliest Christian Edifices in the East. By Charles Texier and R. Popplewell Pullan. London: Day & Son, Gate-street, Lincoln's-inn-fields. 1864.

† See p. 919.



Fig. 5.—Castle of Ehrenbreitstein.



Fig. 6.—Plan.

there was a school of Byzantine painting, but not of architecture; we shall endeavour to show that such a school existed. Others assert that the Gothic is the only veritable Christian architecture; we shall prove that Christianity did not last for twelve centuries without having discovered a monumental form of expression." In the chapter relating to the conversion of Pagan temples into churches, our authors give a series of monuments of various periods and countries, serving to show that the Christians, so far from entertaining feelings of hatred for Pagan buildings, as some persons have supposed, preserved and adapted them to Christian purposes. We have always entertained the opinion ourselves that this was the case, but others have thought differently; and to the removal of this opinion the illustrations given address themselves. Our intention on the present occasion is simply to announce the publication of the work, to afford a general idea of its scope and purpose, and to recommend the purchase of it by public libraries, and by those who are interested in the history of Early Christian art. In another article we shall go into the matter of the volume more fully, and discuss some of the opinions expressed in it.

THE MODE OF CONNECTING IRON COLUMNS IN TIERS.

If there were records of the different kinds of failures in buildings, considerable advantage might accrue: for, as much may be learned from a defective piece of construction as from an example or a precedent of ingenious contrivance. Little, however, has been attempted in the way of description or diagramatic illustration of the failures we allude to. In Wightwick's "Hints to Young Architects," may be found a few suggestions, with diagrams, respecting certain arrangements of structural work that should be avoided; and in Mr. Fairbairn's book on the "Application of Cast and Wrought Iron to Building Purposes," are some particulars of the failure of a mill at Oldham, from the erroneous construction and inadequate strength of the fireproof flooring. But the sum of what there is chronicled in order to warn off the young architect from the repetition of defective arrangements,—forms of construction likely to present themselves to him as sufficient,—is small. Generally, it is not easy to be acquainted with the occurrence of accidents which parties interested may be disposed to keep concealed. We are anxious, however, to present particulars of failures when sufficient information reaches us. We lay before our readers this week, illustrations of a failure that lately occurred in a certain form of connexion of the iron columns in the tiers in a flour-mill at Huntingdon. To these we add illustrations of the method which has been adopted for remedying the defect; and, for the sake of comparison, diagrams showing one of the several forms of connexion that have been used

elsewhere where the construction is fireproof, which that in the Huntingdon case is not.

The building wherein the failure to which we have referred occurred, is known as the New Mill, Huntingdon, and was erected for Mr. Potto Brown, under professional direction. The exact dimensions of the structure are not reported to us; but they are unimportant to our present object. The dimension one way, however, between walls, was 38 ft. 9 in.; and this breadth was divided on plan, by two rows of iron columns, into a centre bay of 13 ft. 9 in., and two side bays of 12 ft. 6 in. each, the measurements being taken from the lines of the centres of the columns. The flooring was of wooden girders and binders, carried by the columns in the manner shown at the top of page 918, in the two sections. These, with the plan, show also the nature of the failure which ensued. (Diagrams 1, 2, & 3.)

Great strength in walls, or sufficient tie between opposite walls, is of the utmost importance in buildings for storage where, as in the case of grain, all particles that are above and outside of the lines of simple repose, forming the sides of a pyramid or heap whose base-line is the floor, press directly upon the walls. The walls must be of extra-thickness; or they must be counterforted, or tied, at short distances in the height, as by keeping the floors of moderate height. In the Huntingdon mill, the continuity of the girders passing through shoe-heads of the columns, is most serviceable to the object of tie between the walls; but in providing this, the architect so designed the feet and heads of the columns that are connected, that the line of downward pressure was broken: cross-strain was thrown upon a portion that was left weak, of the foot of each column; and failure was the result.

There are eight stories in the mill, varying from 10 ft. 9 in. to 9 ft. in clear height. In the three lower stories, which are 10 ft. 9 in., 10 ft., and 9 ft. in height, counting upwards, the walls are 3 ft. in thickness. Each of these floors, or including the basement, is appropriated to machinery and corn, the flour in sacks also being in the basement. In the fourth story, 10 ft. in height, the floor is loaded with corn-dressing machinery, which is as heavy as corn; and the floor next above, where the story is 9 ft. in the clear, is loaded with corn exclusively, as are the two stories, 9 ft., and 9 ft. 6 in. next above; and as the top story, 9 ft., called the stage floor, may be. The fourth and fifth stories have walls 2 ft. 7½ in. in thickness, and the three other stories, walls 2 ft. 3 in. It will be seen that each bottom column might have to sustain about 60 ft. in height of wheat. Or if we regard the columns of the second story from the ground, as those in which failure from insufficient support would be most likely to manifest itself, the load may be taken as 50 ft. in height. The superficial area sustained by each column, thus loaded, has been given to us as averaging about 120 square feet; though that would seem within the proper figure. The best wheat weighs, we believe, about 54 lb. per cubic foot; or, we may say, half a hundred-weight. Taking the 120 ft. as the superficies, and the 50 ft. before mentioned as the height, and multiplying the one by the other, and the product by the half-hundred-weight, we get 3,000 cwt., or 150 tons, as the weight on each of the columns of the story lowest but one, without taking in the weight of the floors and columns above that story.

The result was that nine of the columns in the mill gave way at the base, in the manner shown at A A in our diagrams at the top of the page, even when the floors were only partly loaded. It was not deemed prudent to entirely load the floors. Beyond the obvious disadvantages of such a condition of things, the failure was annoying, inasmuch as the mill had been erected with the intention of its forming a gift, or bequest, in place of money.

Methods of remedying the defects were considered. It was first proposed to pack up the space shown vacant in the section, or between the top of the girder and the foot of the column, with hard oak wedged in. The space seems to have been originally left vacant; but supposing it had been otherwise, the mere shrinkage of the timber would have taken away the support, and would have left the cross-strain which had been incorrectly allowed to be exerted upon the base, to produce the fractures that are shown. Any wedging, even with iron, would still not have provided for the shrinkage in the girder.

Two alternative methods of construction were open to selection on making the design for the building. One of these, which is only mentioned because it could not have been followed by these particular defects, would have been to set the bases of the columns directly upon the girders; so that the latter, and not any box-heads to columns below, would have carried the columns above. Of course, by that arrangement, each column and floor would have sunk in some degree, and the top floor and roof the most of all. But the safety of the structure could scarcely have been compromised as it was by the arrangement which led to positive fracture. In the event of fire, indeed, in such a structure, the whole of the tiers of columns and the roof would have gone with the floors. We apprehend that the method of construction just described has been followed in numerous cases. The other alternative would have been to make the shoe or box-head, at the top of the column, with its sides much closer together, or so that they would have fallen directly under the sides of the one column and above those of the other, some provision being made for the projection of the bases and capitals, so that the former at least should be a source of strength instead of weakness; and it might have been necessary to bear in mind here the objection to unequal thicknesses of metal, on the score of their different rates of cooling. By the alteration suggested in the box-head, the girder would have been weakened as a tie. But it might have been bolted through horizontally, with the ends of the shoe; or some tie, supplementary to the diminished girder, might have been devised. Or a couple of girders might have been substituted for the one, and carried by brackets from the lower column, the lines of direct downward pressure and connexion of the columns being between the two girders. However, this pressure not having been provided for, without the interposition of parts subject to cross-strain, by the continuity unbroken, of a material nearly incompressible, as iron is by ordinary weights, it became necessary to supply the omission, or make up the continuity, by some insertion of iron. To manage this without the removal of the columns and girders, or in short, that of the entire internal structure of the mill, was of course the difficulty. The matter had by this time been placed in the hands of Mr. John Fowler, the civil engineer, of Westminster. We may observe that the diagrams showing the original construction, and which were the best we could procure, do not seem quite accurate in some points; and it is not easy to tell how the binders which are carried by shoes cast on the larger shoes or box-heads, would be fixed. But the defect which it has been our object to illustrate is exhibited clearly enough.

The arrangement designed and carried into effect by Mr. Fowler, for making up the continuity of downward pressure and restoring the feet of the columns, is shown by the two sections (4 & 5) and the small plan that are below those we have already referred to. Premising, here, that temporary wooden supports to the beams were first put in on each side of the iron columns, we may say that the timber girder passing through the box-head of the column, in each case, was chased or mortised out in the centre, for a width of rather more than 4 in. as shown by one section,—and sufficiently, or as shown by the other section, in the length and in form without materially weakening the girder, to allow the casting designed to support the upper column (and shown separately in plan) to be introduced, and placed in its proper position. This casting, perfectly sound, and of the dimensions figured, was planed on the upper surface to an incline or taper of a quarter of an inch in 21 inches; and a groove was cut in the centre, from end to end, as shown in the sections. For the planing, a planing-machine was brought to the building, and was placed during the progress of the work, where power from the engine could most conveniently be had. The casting mentioned was carefully seated on a piece of sheet-lead of 6 lb. to the foot, 17 in. long and 4 in. wide. The packing between the top of the casting and the foot of the column above, was made up of a piece of sheet-lead, a wrought-iron plate 17 in. long, 12 in. wide, and 1½ in. thick, set true and flat, and a wrought-iron or steel wedge, 6 in. wide, and of sufficient length to extend beyond the plate and casting 1 in. at each end when driven to the permanent position. The upper surface of the wedge was made quite flat, whilst the lower was planed to the taper required, and determined on the spot by actual fitting of the wedge to its place in each separate case. Two pins were fitted to the lower surface of this wedge, which just fitted into the groove planed in the upper surface of the supporting piece: thus the wedge could be exactly guided into its place.

The work of inserting the several supporting castings, plates, and wedges, and the lead-packings, was commenced at the bottom of the building, the temporary wooden supports being left in the floors above. By screw-jacks, the floor above was lifted just sufficiently to allow the wedge to be properly fitted, and previous packing to be removed. Then the casting, plate, and lead, being inserted, the wedge was driven well to its place. The screw-jacks were then removed, and the floor-boards made good. The work was thus proceeded with till all the columns requiring support had been treated in the same manner. In addition to the supports described, however, it was necessary to fit new bases to some of the columns.

For this we do not find that the columns were removed. The bases of the columns requiring the renewal were carefully cut away; and, according to one account, the new bases were inserted, making sure that there was a perfectly true surface of contact, metal to metal; which being insured, a wrought-iron hoop was tightly fitted over the joint.

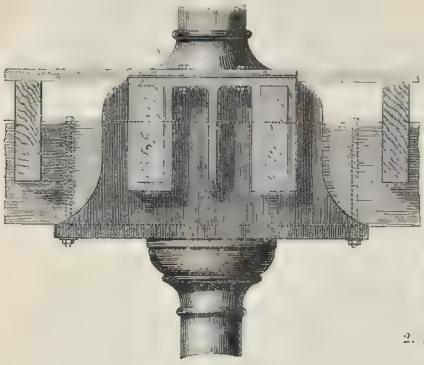
We have appended to the diagrams to which we have referred above, others which illustrate one of the arrangements which may be adopted for the connexion of columns in a tier, preserving the continuity or direct downward pressure, and preserving also tie between the walls, in the case of a building which is fire-proof. The arrangement represented is that used in the City Flour Mills, in Thames-street, the lofty brick building, which since 1850, or 1851, has marred the prospect of St. Paul's Cathedral from Blackfriars Bridge. The building itself is, however, very well constructed. The columns and flooring were designed by Mr. F. J. Bramwell, civil engineer. It will be seen that there would be a nearly perfect continuity of the downward pressure, — from the manner in which the upper column is set directly upon the lower one; and that whilst the girders tie in the walls, and are attached to the tiers of columns, they might be removed, leaving the columns, and with them the roof, standing. The little "clearance"-space left between the top of the girder and the foot of the upper column, is a feature to be noted: it prevents any action of the girder, when the latter is deflected, from touching the column, action such as in the case of the binders in the Huntingdon Mill, may have helped to the fracture of the base-plates by bending them upwards. We should draw attention, however, to that part marked A, of the lower column, as seeming to be not absolutely free from the defect which there is where any portion of the casting is subject to cross-strain, instead of to simple compression. In the execution of the work, the bases of the upper columns were faced and bored, and the tops of the lower columns were faced and turned on the horizontal bands. These bands, in each case, had four openings, or chases, down them, into which keys were driven to adjust the ends of the girders which embraced the head of the lower column, the openings serving as rough key-beds or guides for the keys. A column was first erected: on this were placed the ends of a pair of girders, the other ends of which were carried by the walls; the portions projecting at their sides, of the girders, were united as shown in the diagrams, by wrought-iron hoops shrunk on; the head of the column, and the girders, were then adjusted by the keys; and then the upper column was put on. The flooring, of Valentia slate, is carried on wrought-iron joists which are let into pockets on the girders, every other joist being fastened by a pin into the pocket.

There are, we need hardly say, other arrangements in use, for the connexion of iron columns in a tier, preserving the continuity of the bearing or pressure, and for the connexion of the flooring with the columns. In some cases, besides the girders transversely, as in the City Flour Mills, there will be a line of girders corresponding on plan with the line of the columns. Then the flooring, on plan, would be divided by the girders, or in a building of considerable extent, into large squares,—a column being at each angle of a square. In that system of construction, the end of each girder is attached by screws and nuts to the two girders next to it, at the meeting parts, which would be on the diagonal lines corresponding with those which we have marked BB in the plan illustrative of the City Flour Mills arrangement.

a

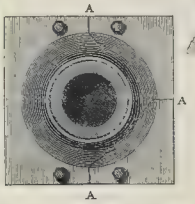
THE MODE OF CONNECTING IRON COLUMNS IN TIERS.

DIAGRAMS (1, 2, 3) SHOWING ORIGINAL ARRANGEMENT AND CONNEXION OF THE COLUMNS AND FLOORING: NEW MILL, HUNTINGDON.

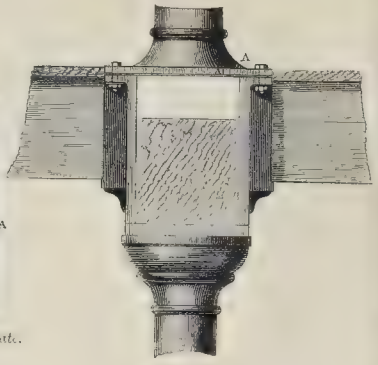


1. *Section across Binders.*

Note.
Fractures as indicated at A A; *but they varied.*

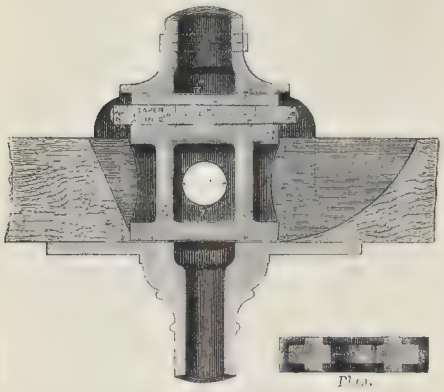


2. *Plan of Column and Base-plate.*

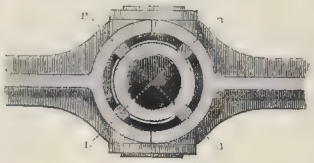


3. *Section across a Girder.*

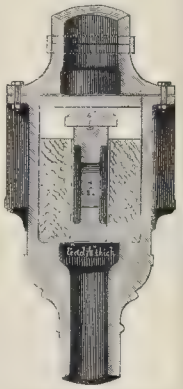
DIAGRAMS (4, 5) SHOWING THE NEW ARRANGEMENT AND CONNEXION, TO ESTABLISH CONTINUITY OF PRESSURE OF THE COLUMNS.



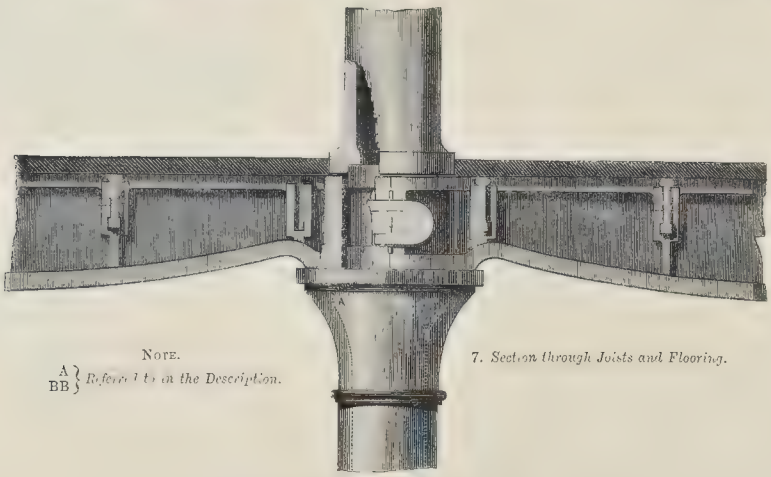
4. *Longitudinal Section through Girder and New Packing.*



6. *Plan.*



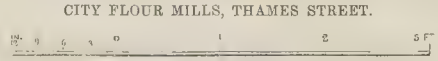
5. *Cross-section through Girder and New Packing.*



Note.
A, BB } *Referred to in the Description.*

7. *Section through Joists and Flooring.*

DIAGRAMS (6, 7) SHOWING THE ARRANGEMENT AND CONNEXION OF THE COLUMNS AND FLOORING IN THE CITY FLOUR MILLS, THAMES STREET.



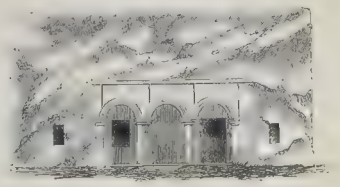
SCALE TO ALL THE DIAGRAMS ON THIS PAGE.

BYZANTINE ARCHITECTURE.



Fig. 1.—*View of Perge.*





Figs. 2 *&* 3.—*Churches cut in the Rock, near Surp Garabed.*



Fig. 7. *Corinthian Columns, Edessa.*

THE BUILDING TRADES

The Birmingham carpenters and joiners feel much aggrieved with the "discharge note" of the master builders, and we think they have good grounds for it. No doubt, the masters have been instigated by the doings of the men throughout the country; but although, in some cases, the men, in their endeavours to make themselves as independent as possible of the masters, have struck out wildly, and shown a disposition to be masters themselves rather than servants; still there is no doubt that the masters, by resorting to such a measure as the discharge note, are only giving countenance to the idea that they *are* inclined to tyrannise over the men and to place them entirely at the mercy of any capricious or spiteful person, in the rank of master, who may desire to enslave his men. We would, therefore, put it to the masters as a class, whether they do not think that the already serious enough differences between the employed and the employers are likely to be greatly aggravated by such a mode of procedure, especially considering that it is the idea however perverted or mistaken—of a *supposed* undue and enslaving power of the masters already over them, which has led to protracted struggles, and to great evils, both to master and to men.

A large meeting of the carpenters and joiners of Birmingham has been held in the Odd Fellows' Hall, Temple-street, to consider the proposed discharge note. The hall was crowded. Mr. Price occupied the chair, and in opening the meeting explained that the "note" proposed was to be given to a man on leaving his master's employ, and was to state what the man's character was, what his wages had been, and the cause of his leaving. The members of the Master Builders' Association had pledged themselves not to employ a man without one of these satisfactory "notes." Mr. Bruton moved,—"That we, the operative carpenters and joiners of Birmingham, express our intense regret that a notice has been issued by the masters who belong to the Master Builders' Association, stating their intention of issuing a 'discharge note' on and after January 1, 1865; and we further pledge ourselves to oppose it to the utmost." The resolution was unanimously carried. Mr. George Dalton moved,—"That we, the carpenters and joiners of Birmingham, determine not to resume work until the Masters' Association come to a perfect understanding with our committee in respect to the 'discharge note,' and pledge themselves not to introduce it at any future time." Mr. John Michael moved, as an amendment, "That the operative carpenters and joiners of Birmingham do give notice to the masters whose names are appended to the notice respecting the 'discharge note' placed in the shops on Saturday, that, unless the said notice be withdrawn on or before Monday next, the 12th inst., the men in their employ will strike." For the amendment nine hands, out of as many hundreds, were held up: and the resolution, to the effect that the men would not resume work, was carried with loud cheering.

Two brickmakers, Slater and Cheetham, have been sentenced, at the Manchester assizes, to penal servitude for twenty years, for a murderous assault. There was a strike among the brickmakers at Roddish, and the prosecutor in this case went to work before the strike was finished. Five men, among whom were the prisoners, came to him when he was alone one night, and beat the poor fellow in the most cruel manner, leaving him for dead.

The following, among other remarks on strikes, were made lately by Mr. Justice Byles:—"Is not the mode of adjusting disputes between men and masters by means of strikes very barbarous in a free country like this? I say this because in a neighbouring country there are courts regularly formed, consisting of masters and workmen in small numbers, for the adjusting of their disputes. They have found means of obtaining a satisfactory reference of those points on which they disagree; therefore, what I address to you is not mere speculation. I cannot help thinking that, if some such courts were established in some such trades as you have here, great good might result. Generally speaking, the respective representatives of such bodies on both sides might agree; but where they do not, I think it would not be impossible to find a referee of practical knowledge who would command the attention and secure the respect of both sides. The arbitration should have (as now awards under the Acts for the arbitration of workmen's disputes) the force of law. Nor does it seem to me to be any infringement of the principle, because if a man makes a contract for six months, the law enforces it; and, if that is so where the contract is made directly, why should it not be also where the contract is made indirectly through a referee? I believe there are very few subjects more deserving of public attention than this, especially in this country and at this time. Although I rarely venture to say anything on these subjects, yet this is a topic suggested by the contents of this calendar, and I suggest it to your special attention."

FROM SCOTLAND.

Edinburgh. — The designs for the national memorial of the late Prince Consort have been handed in to the committee. It is supposed they will be deposited in the National Gallery, and that finally the public will have an opportunity of inspecting them. Mr. Cousin, the City architect, sends in to the committee an elaborate design, after the model of a Greek temple, to be erected on the "ridge running N.N.E. from Arthur's Seat, and about 540 ft. above the sea." Concerning the site and the design, Mr. Cousin writes,—"The site in question has been much animadverted on in the public prints; and were the memorial restricted to sculpture alone, there might be some force in the objection; or were it proposed to erect an obelisk or other tall upright structure, such as the Scott Monument, so admirably adapted to its situation in Princes-street, the objection would perhaps have still greater force, such structures being entirely out of harmony with the general contour and grouping of such mountain scenery as that of Arthur's Seat. On the other hand, nothing could be more appropriate as a site for a temple of the pure Greek form." Such a monument so placed would be seen to great advantage from Princes-street, the North Bridge, as well as from many other parts of the city, from Holyrood, from all parts of the surrounding districts of the country, and from the Firth of Forth, as far as the eye can reach, forming a leading feature for the eye to rest upon, and giving a classical expression to the scene, and a further warrant to our fair city for being named the Modern Athens."—— In the National Gallery improvements have been made, both in the altering of the arrangement of the pictures formerly in the gallery, and by the exhibition of several important new acquisitions. The "Scott Drawings" consist of nearly fifty water-colours, by some of the most eminent English masters, bequeathed to the trustees of the National Gallery by the late amiable John Scott, of the well-known firm of Messrs. Colnaghi, Scott, & Co., of London. This series of drawings comprises, water-colours by Danby, Girtin,—one of the founders of the English School of Water-colour Painting,—Collins, David Cox, Roberts, Lewis, Cattermole, P. Derrint, J. D. Harding, Joseph Nash, Knell, Callow, Fripp, Elmore, and several other distinguished artists; as well as pencil drawings by Patrick Nasmyth, William Dyce, Sir Edwin Landseer, and Samuel Prout. Among the most remarkable of these drawings are those by Joshua Cristall, born at Truro, in Cornwall, in 1768, and one of the founders of the original Society of Painters in Water Colours, in 1805. ——The Edinburgh Workmen's Houses Improvement Company (Limited) have held their third annual general meeting. The report congratulated the shareholders on the completion of the two rows of houses at Dumbiedikes, containing 132 separate tenements, provided with every convenience necessary for a family. These houses had been built at a cost of upwards of 19,000*l.*, and were now all occupied by respectable tenants, at rents ranging from 9*l.* 10s. to 12*l.* Several of the houses had been sold at a moderate profit, at prices varying from 150*l.* to 185*l.* It was the object of the directors as much as possible to encourage the tenants to purchase their houses. The houses having been only partially occupied during the past financial year, the revenue appearing on the present account did not represent what might fairly be anticipated, now that the houses were fully tenanted, and the company in fair working order; yet there was a net surplus for the past year of 709*l.* 3s. 4d., which the report recommended to be applied in paying a dividend to the shareholders at the rate of 4 per cent., leaving a balance of 61*l.* 12s. 4d.

Roberton (*Selkirkshire*). The church which has been erected by the heritors of Roberton parish, in the county and presbytery of Selkirk, was opened on the 20th ult. Mr. Rhind was the architect. The site was given by the late Mr. George Pott, of Todrig.

Burntisland: Sewerage and Waterworks.—Since the completion of the contracts for the sewerage and waterworks for Burntisland, in Fifeshire, Scotland, various improvements and extensions have been found necessary to bring them to a state of efficiency. It would appear that this object has been accomplished. The outlay on the sewerage works amounts to 3,357*l.*, which sum, except 700*l.* borrowed, was received from the town council. The waterworks have been executed at a cost of 2,453*l.*, the sum of 1,400*l.* having been advanced by the town council, and 1,050*l.* borrowed by the commissioners.

PROVINCIAL NEWS.

Ipswich.—It is proposed by the Freemasons of this locality to erect a large Masonic Hall, capable of affording accommodation to the lodges of other societies, and of being at the same time of service to the public as a music-hall and a place for large public meetings, on a site in Brook-street.

Coventry.—This city is making progress in street architecture, by the erection of several new buildings in its main thoroughfare. One of these—the best and only stone front of modern date—has just been completed in High-street for a general carpet and furnishing warehouse. The building consists of five flats, each comprising a single room, the lower room being devoted to the storing of mattings, floor-cloths, druggets, &c. The floor is composed of cement, and the room is lighted by means of two patent daylight reflectors. The ground-floor, or shop, has two good-sized windows for the display of goods, and is entered by glass folding-doors. The first-floor is the carpet-department, and is approached from the shop by an oak staircase, of great width, the newells and banisters being of carved ornamental oak. The three upper stories are severally devoted to carpets, rugs, bedsteads and bedding, &c. The front of the building is composed of stone pilasters and carved capitals, from whence spring semicircular carved architraves and key-stones, the upper windows having stone columns and carved caps. The whole front is of Venetian architecture. The architects were Messrs. Nevill & Son, and the builder Mr. J. Marriott.

Kidderminster.—An extensive worsted mill, the property of Mr. Thomas Lea, of the Larches, is now approaching completion. It is erected on a site between the canal and the works of the New Cotton Spinning Company, and is to be called "The Sling Mill." The building was commenced in July, 1863, from designs furnished by Messrs. Lockwood & Mawson, architects, Bradford, and the work has been executed by Mr. Purnell, builder, Rugby. The mill and warehouses are built of red Staffordshire brick, with blue and white strings and arches over the doors and windows. At the western end is a chimney 180 ft. in height, and this is near completion. The mill is 195 ft. long, 50 ft. wide, and 80 ft. to the top of the roof; and there are four floors besides the ground-floor, the top one being lighted by skylights; and there are upwards of 200 large windows in the mill besides. The warehouses adjoin, and these buildings are 144 ft. long by 26 ft. wide. There is also a dining-hall for the use of the workpeople, 57 ft. long by 26 ft. wide. Two engines of 40-horse power each are being fixed, and the machinery will soon be introduced. The works will cost, with machinery, &c., nearly 50,000*l.*

Worcester.—The extension of the new engine works, at Shrubhill, is being rapidly carried on, under the superintendence of Mr. Wilson, the company's engineer. The embankment on the left of the passenger station is being carried away, and the soil will be deposited in the valley in the rear of the workhouse. The embankment near the Newtown-road Bridge is cut through. A great portion of the deep valley will be filled up, and on the site will soon be commenced a capacious goods station, for the Midland Railway Company, who purchased the land some time ago for this purpose.——Messrs. Woodward's renovated establishment, opposite the Old Bank, according to the local *Herald*, has been uncovered by the removal of the scaffolding. The house, being now in a recess, breaks up the long monotonous line of straight-walled houses and square-headed windows, and its removal back 5 ft. 6 in. is the first instalment of a desirable widening of the street at that point. There are

three stories, the lowermost being an entire frontage of shop-window, except the central doorway. The second story is lighted with Gothic pointed windows, or, rather, a range of arcades; and the top story is also furnished with pointed and transomed windows, those in both stories having quatrefoils in the head tracery; the whole terminated with three gables and pierced barge-boards. Mr. Perkins was the architect.

OPENING OF CLIFTON SUSPENSION BRIDGE.

BRISTOL has been holiday-making and rejoicing in the long looked-for opening of the Clifton Suspension Bridge, on Thursday in last week. This bridge, as our readers are aware, has been formed out of the old Hungerford suspension bridge at Charing Cross. But although the Clifton Bridge has been completed in December, 1864, its foundations may be said to have been laid in December, 1753—more than a hundred years since—when 1,000*l.* were given by Mr. William Vick to the Society of Merchant Venturers, to be placed at interest till it amounted to the sum of 10,000*l.*, when it was to be applied to the construction of a bridge over the river at Bristol. Vick contemplated the erection of a stone bridge at Rownham ferry. An iron bridge, however, was thought preferable, and in 1830, when 8,000*l.* had been accumulated, plans were advertised for, and Telford was ultimately commissioned to prepare a design; but the estimated cost was no less than 52,000*l.* An Act of Parliament was got, and new designs were obtained from Brunel, Telford, and other engineers; but still something like 50,000*l.* seemed to be requisite. Mr. Davies Gilbert gave his advice, and Brunel's plan was agreed upon. Telford would have had the bridge supported on gigantic columns, reared at great trouble; but his more daring rival determined to make the cliffs support the structure, and he estimated the entire cost of the construction at 57,000*l.* Fortified with their design, which was satisfactory to the majority of the inhabitants of the city and neighbourhood, the trustees, in 1831, determined to commence the all-important undertaking, the Society of Merchant Venturers having given the land necessary on the Clifton side of the river, and Mr. P. J. Miles the stone from the quarry at Leigh necessary for constructing the pier at that side of the river.

The first stone was excavated, but the Bristol riots put the arrangement out of joint, and little was done till 1835, when wire was in the ascendant as the projected material of the bridge, and 35,000*l.* the estimated cost. Mr. Brunel then modified his scheme, but the Bristolians were not satisfied. Still the preliminary works were in progress; a wire was stretched across the river; and the foundation of the Somersetshire buttress was laid when the British Association visited Bristol. In 1837 the contractors became bankrupt, but in 1840 the buttress was completed, and in 1843 the money was all spent, 45,000*l.* having been realised and disposed of in massive piers, &c., ere one-half of the iron-work for the bridge, flooring, toll-house, &c., were executed, and 30,000*l.* more were requisite to finish the work. In 1853 the works ceased, and the undertaking was for the time abandoned. For seven more years matters remained *in statu quo*, when the idea of using up the Hungerford Suspension Bridge was entertained, after Lieut.-Colonel Serrell, C.E., of the United States, had offered to complete the bridge with wire for 17,000*l.* It was in 1860 that Mr. W. H. Barlow and Mr. J. Hawkshaw were consulted, and gave a favourable opinion as to the use of the Hungerford materials; and it is from these materials the bridge over the cliffs has at last been completed. The materials were purchased for 5,000*l.* The total cost of the bridge has been nearly 100,000*l.* The bridge is 30 ft. wide, the iron-work weighs 500 tons, and the bridge has a span of 703 ft., the largest of any chain-bridge in the world. The engineers who have completed the bridge, though it may be said to have been designed so many years ago by Mr. Brunel, are Messrs. J. Hawkshaw and W. H. Barlow, the resident engineer being Mr. T. Airey. When viewed from the river, or from Clifton Down, the chains are more like threads than the substantial supports of a bridge on which it is estimated 8,000 persons might stand without the slightest danger to the structure. A view and details will be found in a previous volume of the *Builder*.

The purchase of Leigh Woods, the beautiful and favourite resort of the citizens, to which the bridge leads, has been concluded. The sum to be paid is 40,000*l.* The property is to be held in the hands of two trustees until the whole amount is cleared off, and afterwards in behalf of the purchasers. The capital to be raised is 50,000*l.*, of which 26,000*l.* have already been subscribed. A primary condition of the agreement is the preservation of the hanging woods, including Nightingale Valley, or a space of 64 acres, from building purposes.

CAMBRIDGE ARCHITECTURAL SOCIETY.

ON December 1st the Rev. W. J. Beamont read a paper on "The Requirements of English Church Architecture in the Nineteenth Century." He commenced by explaining the object of worship, and showed that it was essential that the clergyman should be in such a position as to be both seen and heard by the people, as he was leading their devotions, praying *with* them, not *for* or *to* them. He then entered into a description of the forms of many ancient churches, showing that as far as plan was concerned almost any form that could be adopted would have some precedent; and showed how many advantages might be obtained from having a large central polygonal or circular space covered either by a dome or lantern. The former he should wish much to see attempted in Gothic work, as it was a very beautiful form, and there seemed to be no definite reason why it should be so rigidly excluded. He strongly advocated that churches should be made as light as possible, and would prefer mural-painting to window-painting, as the latter tended to diminish the light.

THE DEMOLITION AND REBUILDING OF DWELLINGS FOR THE POOR IN LIVERPOOL.

THIS important subject came before the town council last week, when the first report of the medical officer under the new demolishing powers of the Council was made. Mr. Bowring then directed the attention of the council to the necessity for replacing the dwellings to be demolished. Under the report referred to, he remarked, thirty courts were to be dealt with; ninety-one houses were reported, in the opinion of the medical officer, as such as ought to be demolished; four were to be structurally altered; and 150 filthy privies and ashpits were reported as to be destroyed. Action such as that now contemplated could not but be fraught with an immensity of good. It would open out vile spots and remove malignant sores from which Liverpool had been suffering so long; and the committee hoped that letting light and air into those courts and places from which both light and air had been so persistently excluded, would do a very great deal of good, both to the physical and moral health of the population. But for this good—for this permanent benefit, as he hoped it would turn out to be, for the inhabitants—a temporary evil would have to be sustained, *and would have to be met*. According to the usual average of inhabitants of houses, 619 persons would be thrown out of their habitations by the step which was now suggested. It would, therefore, be desirable that some arrangements should be made, if possible, in order to provide against the very great evil of pressing people who were so thrown out of their habitations into the remaining houses in the neighbourhood. He hoped that the Council would heartily join in passing this resolution of the Health Committee, which he now proposed:—

"That the Council be requested to instruct the Finance Committee to afford every possible facility for the erection of model cottages for the labouring classes on land belonging to the corporation available for the purpose, such cottages to be erected to the satisfaction of the council; and also to instruct the Finance Committee to use their best exertions with the owners of land in the vicinity of the borough, and with railway companies having stations in the town, for the erection of suburban dwellings for the above classes, and conveying workmen by railway to and from their work at cheap prices."

A smart discussion ensued, in course of which Mr. H. T. Wilson recounted the various instances in which the poor had been driven out of their dwellings. Firstly, he remarked,—

"There was the Act of 1843, which closed all cellar dwellings in courts, and all cellars less than 7 ft. in height; this, up to 1846, had displaced about 3,000 families. Then came the more stringent provisions of the Sanitary Act of 1847, which emptied 5,000 more cellars, and dispersed 20,000 persons within a period of less than two years. Since that we have had in operation the Improvement Bills of 1858 and 1861, which destroyed 321 houses; and we are now about to apply for another Bill which will remove 191 more houses. Then there is the new Sanitary Bill for rectifying or demolishing ill-ventilated courts and alleys, under which a vast amount of cottage property will be destroyed. The railways also, the London and North-Western and Lancashire and Yorkshire, now occupy by their roads, yards, sheds, and stations, the sites which once teemed with population. But probably the most extensive agency in dislodging the artisan has been private commercial enterprise, which has erected warehouses, manufactories, offices, and shops, in the central and lower districts of the town, on localities previously possessed by cottage property. The change is of an extent and magnitude sufficient seriously to jeopardise the health and comfort of the labourer, and therefore worthy of our most earnest consideration. Now, let me ask, 'what has been done to meet this vast dislocation of our labourers from their homes?' I will not say, done in compensation, but in mitigation of the unavoidable hardships of his position. I regret to find that our predecessors in the Council took no prominent action to remove the difficulties to which I am now referring."

Mr. Picton reprobated the idea of converting the Council into a charitable institution for the supply of dwellings, or into a speculative building society either,—forgetful, we fear, that the Council were here not merely neutral or passive spectators in this business, but active demolishers of the dwellings of the poor, which, surely, it is their duty to see replaced; and as to charity, that this is not what is called for, nor speculative profit either.

Mr. Bowring said,—

"He never intended the corporation to 'give' the land. The overcrowding was due to the architects and builders. The demand had been active, while the supply had been sluggish. Who were the proprietors of the tunnel middens? Who were the proprietors of the houses in which miserable people lived from year to year? He asked Mr. Picton to answer that question, for he knew well who the owners were. Mr. Picton had asked why they did not build houses of 70*l.* or 80*l.* a-year. They had never destroyed a house of that value, but they had destroyed the houses of the poor, and they asked the council to put the working man in a position to house himself—not a charitable act, but merely a friendly act of assistance."

The resolution was withdrawn, and an amendment was passed referring the subject to the Health Committee to report what might be advisable.

THE INSPECTION OF FOOD.

ENORMOUS quantities of unwholesome meat are still seized every week in some of the metropolitan markets,—a natural result of strict inspection in the City. The infliction of heavy fines, and, in certain cases, the imposition of imprisonment with hard labour, tend to drive the nefarious sale of poisonous food into other districts of the metropolis. In drawing occasional attention to this subject, we have always maintained that, besides the markets, it is necessary for the shops, especially in the poorer neighbourhoods, to be most carefully looked after by the parochial authorities. It is satisfactory to notice that the medical and other health authorities of Islington appear to have set to work in earnest; and the good example will not be lost in other districts; for, whether willing or not, the local authorities will be forced in self-defence to protect themselves from the impurities which will be driven out of Islington. In this way there is a wide field for work; and we would especially direct attention to the goods offered for sale by the costermongers in the Brill, New-cut, Leather-lane, and other markets, to the sausage and pie shops, to the dealers in pickled and other pork, Ostend rabbits, Irish bacon, and American cheese. The dealers in tripe, ox and sheep's heads, &c., should not be overlooked any more than the ordinary butchers, and the surveying of those places should not be confined to the parts of the premises which are exposed to the public view, but should also be extended to cellars and other parts of the premises. We have long known that the evil of the sale of poisonous food is of gigantic extent, and extensive inquiry will show this. Only recently a case in point under the Amended Nuisances Removal Act of the present year, has been brought before the Clerkenwell magistrate. The charge was that William Johnstone, wholesale pork-pie and sausage-roll manufacturer, of Essex-street, late Lower-road, Islington, had on his premises a large quantity of meat which was unsound, unwholesome, and unfit for human food; and further, that his bakehouse was in a dirty state, contrary to the provisions of the recent Act for the regulation of bake-houses. Mr. Dunham, the inspector of nuisances, gave a most unpleasant account of some of the matters found in these premises; and Dr. Ballard said that the meat (which consisted of pork and veal), "showed spots of hemorrhage, and the fleshy pieces large and extensive extravasation of blood, mostly on the inner side. These are

the appearances which are met with in hogs which have died of the disease variously known as hog typhus, hog cholera," &c.

Mr. Barker, the magistrate, considered this a very bad case, and fined the defendant 15*l.* for the unwholesome food, and 1*l.* for the dirty bake-house; and told him that if he came there again on a similar charge he would not get off so easily.

A few more prosecutions of this kind will prove of great advantage to the poor, and will show dishonest dealers who would disguise and sell poison, that they will not be allowed to do so with impunity.

METROPOLITAN BOARD OF WORKS.

THE THAMES EMBANKMENT.

At the usual weekly meeting of the Board, Mr. Samuda asked the solicitor for information respecting the powers of the Board under Contract No. 1 to enforce the due progress of the works.

The Solicitor replied that if the works were not carried on with due diligence, the Board was authorised to take the works out of the contractor's hand, and employ persons and procure materials for the completion of the works. The Board had power, under the circumstances referred to, to determine the contract, and take possession of the works and plant, to have the works completed. They had power, also, to enforce a penalty of 100*l.*

Mr. Samuda said he thought the time was arrived for taking active measures to insure the due fulfilment of the contract. The contract was for 520,000*l.*, and there was a clause to perform the whole of the work in two years and a half. One year had already elapsed, and the whole sum received by the contractor only amounted to 60,000*l.* It would take eight years to complete the works if the progress should continue to be as slow as up to the present time.

The engineer read letters addressed by him to Mr. Furness, respecting the slow progress of the Embankment works, and a letter in reply from Mr. Furness, explaining the causes of delay.

After some discussion, a resolution was passed to the effect that the contractor having failed to carry on the works with due diligence, as required by Contract No. 1, it be referred to the Thames Embankment Committee to report to the Board the steps necessary to enforce the more speedy execution of the works.

Two letters have been published by the Thames Conservancy Commissioners as to the Embankment. They relate to the material now being dredged from the river, and which the contractors for the Embankment say is not suited for the filling in of that work. Mr. Joseph Cubitt and Mr. Nathaniel Beardmore are the writers of the letters, and they declare that the material is the best that could be used for the purpose, but that it is wasted by the manner in which it is thrown into the river.

KING'S CROSS STATION.

Sir,—The Great Northern Railway Terminus at King's Cross is, I think, both in its construction and external design, well suited to its particular purpose; but why should its general effect be so shockingly marred as it is by the unsightly *close-boarded fence* next the pavement, which has so long remained in front of and shut out all view of the building? The insertion of this query in your journal will, I am sure, do much towards the removal of such a slur on the taste of the directors of the Great Northern Railway.

G. W.

ACCIDENTS IN LONDON.

It appears to me that some of the causes of accidents referred to in your number of Saturday, might be prevented by the interference of the police. For instance, the ill fastening of the plates in coal-holes, boys riding behind carriages, the omission of inhabitants of houses to sweep the pavement in snow and frosty weather. Why are not the police on duty instructed to see to the observance of the law, and enforce the penalties for infringement? We seldom or never hear of the police summoning parties for neglects or omissions, and why not?

C. J. Palmer.

LIST OF NEW BELLS.

It is the practice now, and has been for some time past, to publish in divers periodicals an account of the many painted glass windows set up in our churches throughout the length and breadth of the land, most of them under the name of "memorials." Surely there is no reason why the same publicity and report should not be given of new bells, whether a whole peal or a single bell restored: on the contrary, it seems very desirable. They are all either gifts or the joint productions of divers contributors, and are of far greater intrinsic value than the most costly windows, and perhaps more durable. It must, therefore, be gratifying to know that attention is being called to the long-neglected state of our towers and bells; and it is hoped that this feeling will increase. With a view of helping on such a movement, I send you a list of bells supplied by the three principal founders in the year 1863: it may tend to bestir others to do the same.

E.

New Bells supplied by Messrs. Mears, of Whitechapel, London, in 1863.

	cwt. qr lb.
Foxearth, Essex	7 0 17
Ditto	4 1 10
Ditto	3 3 16
Renfrew, N.B.	21 1 16
Sevenhampton, Berks	6 2 5
Staunton, Gloucestershire	4 0 0
Belfast, Ireland	4 0 0
Sampford Peverel, Devon	13 2 1
Selby Abbey Church	18 3 10
Ditto	6 2 23
Ditto	6 0 20
Sawston, Cambridgeshire	5 3 3
Tranmere, Cheshire	6 1 9
Long Sutton, Somerset	17 1 22
Ditto	14 1 26
Ditto	11 3 14
Set of quarter-hour bells ..... total	8 3 7
St. Mary's, Reading	18 4
Heywood, St. Luke's, peal of 8, tenor 22 3 2	90 1 16
Ditto, clock bell	8 2 1
Ditto, 3 0 1; ditto, 3 0 19	6 0 20
Red River, three bells, tenor 4 3 13 ..... total	12 1 27
Clock-bell and quarters	13 1 19
Southam	7 2 14
Ditto	6 0 4
Ditto	5 1 16
Burford, 4 bells, tenor 5 1 1 ..... total	17 2 8
Paisley, N.B.	7 2 8
Leap, Cork, Ireland	3 0 15
Coopersall, Essex	4 1 14
Ellesborough	7 0 0
Brenchley, Kent	5 2 19
Horstead, Sussex, 5 bells, tenor 11 2 21 ...total	36 2 27
The gift of Mr. F. Broadwood.	
Shebbear, Devon	9 3 22
Ditto	4 2 13
Birch, in Manchester, 8 bells, tenor 13 2 19	57 2 4
Adderbury, Oxon	9 2 22
Eastnor, Hereford	4 1 9
Lavant, Sussex	10 0 13
Walton-on-the-Hill	7 1 15
Bugbrooke	8 3 9
Cuddesdon, Oxon	14 1 18
Ditto	9 3 19
Ashton-under-Lyne	4 0 10
Cothelstone, Somerset	18 1 25
Ditto	6 3 24
Kelmanark	7 3 8
Montreal, Canada	52 1 0
Titchmarsh	7 3 8
Wolverhampton	3 0 13
Tewkesbury, Gloucestershire	7 3 20
Bishop's Caundle, Dorset	8 1 25
Wycliffe, near Darlington	3 1 6
Wolverhampton	4 1 23
Tunbridge Wells, Kent	12 1 1
Fovant, Wilts	9 2 21
Crossby, near Liverpool, 6 bells, tenor 10 0 0	40 2 27
Rotherhithe	16 1 20
Ditto	13 0 1
Hepworth, Yorkshire	3 2 27
Auchterarder, N.B.	10 2 15
York	6 0 8
Perth	3 1 27

New Bells supplied by Messrs. Warner, of London, in 1863.

Wentworth, 6 bells, tenor 10 3 9	45	0 0
The gift of Mr. J. Duke, of Denley Hall.		
Reading, Berks, a new tenor added	12	0 9
Rhyll, North Wales	1	2 6
Wing, Bucks, tenor recast	29	0 9
Bramley, York, 6 bells, tenor 11 2 17 ..... total	50	3 0
The tenor and a clock the gift of Sarah, wife of Mr. Richard Nichols, of Hill top, Bramley.		
The 5 bells were the gift of Mr. John Musgrave, of Sandford House, in memory of his late uncle, Mr. Abraham Musgrave, of Bramley.		
Putney Hill, 2 bells	3	1 7
Huntstanworth, Blackland	2	2 11
Bodenham, Herefordshire, tenor recast	12	2 7
Ellesmere, Salop, 2 bells	4	3 0
The gift of Mrs Mainwaring, of Oteley Park.		
Llanwnog Caerws, Montgomeryshire, 2 bells	11	0 0
Higham, Rochester, 5 bells, tenor 7 0 0	20	0 0
Longbourne, Louth	5	2 20
Craigaonite, Australia	8	2 0
Moreton, near Liverpool, 4 bells, tenor 5 3 17	19	0 0
Montreal, 1 bell	18	6 0
Laxton, Newark, a treble	6	1 10
The gift of Mrs. R. H. A. Martin.		
Clannaborough, Devon, 2 bells		
Bishop of Newcastle, Sydney	2	0 0
Clapham, Surrey	11	2 0
Calcutta, a peal of 8, tenor 9 0 0	40	0 0
Clyst St. George, Devon, new tenor	13	1 13
In memory of the sole grandson of the rector, aged 10.		
Hascombe, Surrey, 3 bells	9	1 0
Totnes, Devon, 2 bells	40	1 19
The gift of Mr. J. Pender, M.P.		
East Sheen, Surrey, 1 bell		
Eastbourne, Sussex, 3 bells		
Bethnal Green, 1 bell		
Preston, Candover, Hants, a peal of 5	12	0 0
Holy Trinity, Lee, Kent, 1 bell		
Critchill, Dorset, peal of 5	36	0 0
Notting Hill, 1 bell		
Tibbenham, Norfolk, 1 treble	7	1 0
Hoddesdon, Herts, new tenor	11	0 25
Christiania, 2 bells	3	0 0
Wangford, Suffolk, 1 bell	4	1 9

Bells supplied by Messrs. Taylor, of Loughborough, in 1863.

Batley Carr, York, 6 bells, tenor 11 0 0		
Kirk Deighton, York, 6 bells, tenor 10 0 0		
Shirecoaks, Nottingham, a peal of 5, tenor 8 0 0		
The gift of the Duke of Devonshire, who built the church.		
Turriff, Aberdeenshire, 1 bell	10	0 0
The gift of Mr. John Adam, of Scobback.		
Tompson, Norfolk, tenor recast	11	0 0
At the expense of Lord Walsingham.		
Deane, Northamptonshire, 1 recast	9	0 0
At the expense of the Earl of Cardigan.		
Pontefract, Yorkshire, a peal of 6, tenor	11	0 0
Walsall, Staffordshire, 2 trebles		

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Sir,—I have read with some attention the remarks made by yourself and your correspondent "R." in the last two numbers of the *Builder*: so have several of the committee of the South London Working Classes Industrial Exhibition; and I can honestly assure you that, if we are on the wrong track, we are very willing to be set right.

Our suggested rules were remarked upon in the *Builder* of June 25: the approved rules also received notice upon October 1. We have been advertising for weeks upon your first page, as well as in other journals, our willingness to impart information to any who may apply; and it is really too bad that, after this, we are to be so misunderstood and misrepresented. I inclose you a copy of our rules, from which you will see that my language is not incorrect. For instance, your correspondent says,—"In practice, they [Industrial Exhibitions] will encourage, I fear, a feigned simplicity or ignorance which will be more petted and noticed than genuine work." Now, sir, please to put against this statement our Rule 2,—

"That the Exhibition be managed by a committee, elected at a public meeting, who shall have in view the encouragement of inventive skill, excellence of workmanship, and the wise employment of the workman's spare hours; for which purpose pecuniary or other prizes shall be awarded to the successful exhibitors."

Then, again, "R." says, "Professed workmen stand no chance in such exhibitions against amateurs." How true this is may be seen from our Rule 7,—

"Prizes for skill in design or execution will be awarded to:

1. Producers of articles calculated to promote domestic, sanitary, and social advantages.

2. Producers of useful, artistic, scientific, and ingenious designs, works, models, &c.

3. Special reference will be made in the distribution of prizes To mechanics and artisans peculiarly skilled in their own and other departments. Also to the unskilled and self-taught who shall prove themselves worthy of a place beside the more experienced. Articles exhibited by females are eligible for all prizes."

Of course, it is open to your correspondent, or any other person, to criticise or impugn the correctness of a decision at which adjudicators may arrive; but in my opinion your correspondent has received more than his due; at least he has obtained more than he would do if he were to exhibit in "the sunny south," as you will find by rule 8:—

"No money prize shall be more than 10*l.*, or less than 1*l.*; *and no article shall be eligible which has already received distinction from any exhibition.*"

Surely in three years your correspondent might have improved upon his previous production: if not, I am afraid his receiving a first-class prize then has encouraged him to do something worse than feign simplicity or ignorance. I must not trespass upon your valuable space to inform your readers as to the objects we had in view in originating industrial exhibitions. Their value, if wisely conducted, must be patent to every well-wisher of his kind; and we have to thank you and your brethren of the press for the many genial and commendatory notices we have received.

George M. Murphy, Hon. Sec.

*** The observations to which Mr. Murphy objects were founded on what has been done on the occasion of past exhibitions with a view to improvement in those to come. He fully admits by his letter the justice of what we desire, and we are glad to believe that the objection we have pointed out will be avoided in the coming Exhibition of the South London Working Classes.

ARCHITECTURAL COMPETITORS.

SIR,—You have from time to time taken much interest in the subject of architectural competitions, and your paper has contained valuable hints thereon. Can you say whether the following practices are recognised as legitimate in competitions:—

1st. To send in three designs in three distinct styles when one is asked for?

2nd. Is it usual or right for the judges to choose from all three, thereby giving three chances to one against every other competitor?

3rd. Is it legitimate to send in elevations to half the required scale, such being prepared in a short time without elaboration of detail and possessing all the characteristics of sketches?

4th. Is it customary to send, in addition to the three sets, alternative plans on each of the same?

An answer to these queries may enable the writer to know what to do in the event of again competing, having once got over the difficulty now felt that such are neither the right nor the true methods of competition fairly conducted. AN INQUIRER.

STATE OF THE JUNCTION ROAD, UPPER HOLLOWAY.

SIR,—Kindly aid us by your powerful pen in exposing the filthy and disgraceful state of this road. It has been in a rotten state for many years, and the two parishes, St. Pancras and St. Mary's, Islington, receive the rates between them for lighting and repairing roads and footpaths, and nothing for it. The Metropolitan Board of Works, Sir George Grey, and others, who have been written to, refer the applicants to the two parishes in question, who laugh at their superiors, and defy the ratepayers by stating the road does not belong to their parishes, but is in the hands of trustees. A few lines in your valuable Journal would be of great service to the ratepayers, and might be the means of bringing those who are responsible to their senses quickly. S. G. SYMONS.

P.S. At the present time should you send any gentleman to inspect the road, he might have a chance of seeing more mud between Park-street, Camden Town, and the Archway Tavern, Highgate-hill, than could be found in all other parishes in the metropolis.

ECCLESIASTICAL DILAPIDATIONS.

A CHARGE for dilapidation in the Deanery House, Dublin, has been made by Dr. West, the present Dean of St. Patrick's, against the executors of his predecessor, Dean Pakenham. The claim amounted to 1,400*l.*, and was objected to on several grounds,—chiefly that the dilapidations arose not from neglect, but natural decay. The Deanery House, the subject of this proceeding, was built in 1782, at an expense of 2,761*l.* 18s. 7½d. It was newly slated and repaired in the year 1839, at an expense of 250*l.*, charged on the benefice. In 1843 Dean Pakenham obtained a certificate against his predecessor, Dean Dawson, for the sum of 508*l.* 11s. 6d., and there is evidence that in 1845 Dean Pakenham expended 388*l.* 5s. 1½d. of that money in building a porch, and in repairs and improvements; but for this outlay he did not obtain a certificate. The report of the present commissioners, who were appointed on the death of Dean Pakenham, charges his executors with 1,324*l.* 8s. 9d., to be expended in present repairs, without charging anything upon the benefice for dilapidations occasioned by lapse of time. In 1839 the value of the preferment was stated in Dean Dawson's memorial to be 1,700*l.* a year. Now, after deducting taxes and other outgoings, it is probably about 1,000*l.* The case was before the Consistorial Court for several days, and judgment has been pronounced by Judge Battersby. The Judge allowed for the repairs of the roof, since they were thought necessary; but, as the dilapidations were the result of natural decay, and caused by no default of the late Dean, he charged them on the benefice.

WRONG QUANTITIES.

AT the Sheffield County Court, a case of some importance to builders,—Harrison *v.* Horsfield,—has just been decided. The action was brought by Mr. John Harrison, builder, to recover from the defendant, Mr. George Horsfield, modeller, the sum of 26*l.* 19s. 3d., damages sustained by the plaintiff owing to having been supplied by the defendant with improper quantities for a chapel, upon which quantities the plaintiff had contracted for certain work. In giving judgment, the Judge, after stating the facts of the case, said it was clear that if any person in a profession or skilled trade contracted with any other person who employed him to do certain work, he was bound to bring a proper amount of skill in the execution of that work. In this case, however, the employed person being a modeller, he thought the plaintiff should have exercised more caution than to rest satisfied with the quantities the defendant had supplied him. The case would have been different if the defendant had been an architect, or had represented himself as such. The only doubt was, whether it made any difference that in this case the plaintiff had employed the defendant, but the quantities had been thrust upon him by the trustees of the chapel. But upon consideration he was satisfied that it did not, for the plaintiff had two courses open to him: firstly, he could have refused to contract; and, secondly, he might have got the quantities checked by a competent person. The defendant told the plaintiff that he thought the quantities were right, but not trusting his own judgment he had got them checked by a bricklayer and a mason. It was clear, therefore, that the defendant did not hold himself out as having skill, and it should therefore have put the plaintiff upon his guard. The damage, if any had been sustained, was entirely owing to the plaintiff's want of caution, and he would be nonsuited.—Mr. Blackburn, for plaintiff, asked if it would make any difference if he were to prove that the defendant had since the occurrence held himself out as an architect? To this the Judge replied, I cannot ask him what he is now, but what he was at the time the cause of action arose. A case was granted on the application of Mr. Blackburn.

CHURCH-BUILDING NEWS.

St. Luke's, Berwick-street, Soho, London.—We are asked to correct statement that the works here were done "under the direction of Messrs. Cox and Mr. Teulon,"—the fact being, that Mr. Teulon was the architect, and Messrs. Cox were the builders employed by the committee.

Oxford.—Worcester College Chapel has been re-opened. The ceiling has been divided into panels, which have been elaborately decorated with figures and arabesques on a ground of colour and gold; and the whole surface of the walls has been ornamented in the same style, though with somewhat less richness. The woodwork which blocked up and disfigured the body of the building has been for the most part replaced by low seats of walnut-wood inlaid with box. The four niches at the angles of the building have been filled with statues of the four evangelists. A sum of money which will provide a lectern has been subscribed by the scholars elected under the new system. Four stained-glass windows have been already inserted, and three more are in course of preparation. These windows were designed by Mr. Holiday. They form a series representing the chief events in the history of our Lord. They have been executed by Messrs. Lavers & Barraud. The completion of the works will require at least 1,000*l.* more.

Abingdon (Berks).—The chief stone of a new church has been laid in the Conduit-field, Albert Park. The church is designed for 650 sittings, part of them appropriated. It will consist of a nave, with a north and south aisle, chancel, and chapel, and is in the Decorated style, with a bell-turret over the chancel arch. The architect is Mr. G. G. Scott.

Sibbertoft (Northants).—The parish church of Sibbertoft, a small village, about five miles from Market Harborough, and near the famous Naseby battle-field, has been re-opened, after having undergone a restoration. A new south aisle has been added to the church, which is divided from the remainder of the edifice by an arcade of three arches which spring from carved caps. A new porch has also been added on the south side. One of the usual old organ galleries has been removed, and the tower has consequently been thrown open. The north aisle has been extended eastward, and a vestry constructed, the latter being divided from the aisle by an oak screen, the upper panels of which are perforated by quatrefoils. The nave is divided from the chancel by a low oak screen, with tracery and carved head. The pavement throughout, except that in the north aisle and the vestry, has been paved with Minton's tiles, the patterns being designed by the Rev. Lord Alwyne Compton. They were laid by Mr. W. Schofield, from Messrs. Minton's manufactory. The vestry is paved with the old tiles from the altar steps, and the pavement in the north aisle is constructed out of the old stone ledgers, the margins being formed of new tiles. All the old pews have been removed. The seats in the chancel and new south aisle are now of oak; they also have some carving in the front. The roofs of the chancel, the two aisles, and the vestry, are now open-timbered roofs of stained deal, resting on carved corbels. The chancel roof has been decorated by Mr. Lea, of Lutterworth, and the whole of the roofs are covered with Colyweston slates. The architect employed was Mr. Browning, of Stamford, and the builder Mr. Law, of Lutterworth. The original contract was for 820*l.*, but it is expected that the total cost will be about 1,000*l.*

Barnwell (Cambridgeshire).—The chief stone of St. Matthew's Church, Barnwell, has been laid. The edifice is in course of erection from designs by Mr. R. R. Rowe, the architect of the Archdeaconry of Ely. It is somewhat peculiar in plan, owing in some measure to the shape of the site: it has a nave and transepts with a fully developed chancel, terminated by a semi-circular apse. The angles at the *crux* or junction of the nave and transepts are cut off obliquely, so that the body of the church is an octagon, similar in plan to the lantern of Ely Cathedral. The roof over this central portion is carried up for a height of 40 ft., and terminated with an octangular clerestory or lantern, which will give light and ventilation to the building. The material employed is the brick of the locality, relieved with mouldings and dressings in red brick. On the south side of the chancel there is a vestry with a furnace-room below, and with an organ-chamber over it. There are two entrance porches. All the seats are free. The church will seat 650 persons, and the cost of its erection will be under 2,000*l.* The contract for the walls and roof has been taken by Messrs. Bullock. For the completion of the church fit for service, 600*l.* are still required.

Melton Mowbray.—A meeting of the most influential inhabitants of this place was called to hear the opinion of Mr. Scott, concerning the state of the parish church. The Right Hon. the Earl of Wilton was present. Mr. Scott, in his remarks, said that the lower part of the tower, and the two large transept windows (north and south) were in a bad state of repair, and wanted great attention. With regard to the roofs, he was unable to examine them: the heating of the fabric, he said, would have to be by hot water, or hot air, the present system of heating being by large stoves. He did not propose any plan of restoration at present, but would send an efficient person whom he generally employed for such purposes, thoroughly to examine the state of the roofs. He would then give an estimate of the probable expense of the complete restoration of the fabric, which estimate he would give in parts. The Rev. W. M. Colles, M.A., said that nearly 2,000*l.* had already been promised towards the *complete* restoration of the church (4,000*l.* being the estimated cost).

Masbro'.—The new church of St. John the Evangelist, Masbro', has been consecrated by the Archbishop of York. The church is built of rubble stone, in the Transition style of architecture. Externally it has a somewhat heavy appearance. The open seats are of plain varnished deal, and the flooring is of lintens and encaustic tiles. The walls are bare, and the roof is of open varnished rafters. Gas jets from the columns light the building, and it is heated by a patent Gill stove. Seat accommodation is provided for 600 adults and 200 children, all free. The cost of the building is about 3,600*l.*; but, to complete it with tower and spire, according to the plans of the architect, 1,400*l.* more will be required.

Whitwood Mere.—A new church in the populous district of Whitwood Mere, near Castleford, has been consecrated by the Archbishop of York. It is called All Saints' Church, and is built upon land sold at a mere nominal price by Mr. T. D. Bland, of Kippax, who previously gave the site for a Sunday-school, and has since added a further gift of land for a parsonage-house. The new church is situate close to the Castleford and Normanton Road. Its architecture is in the Early English style, the architect being Mr. H. F. Bacon, of London; and the builders, Messrs. H. & W. Kassall, of Goole. It contains sittings for 320 persons, including accommodation for 96 children. The cost up to the present time has been rather more than 1,000*l.* The tower has only been carried a sufficient height to form a porch. It will be raised higher, and surmounted with a spire, when sufficient funds for the purpose have been obtained. The church is built of stone got in the neighbourhood, and the walls are lined with brick. The interior consists of a chancel, nave, and aisle. The latter communicates with the nave by three arches, and there is also an organ chapel, and vestry. The roofs are of fir, stained and varnished, and covered with slate. The seats are all open, constructed of plain fir, and simple in character.

DISSENTING CHURCH-BUILDING NEWS.

Bedford.—The foundation stone of a new Wesleyan Chapel has been laid. The chapel is to be in the Florentine Gothic style. The length, including the adjoining school, will be 104 ft.; the width, 47 ft.; and the extreme height, 68 ft. The pulpit, communion, and organ, will be opposite the south doors; and the gallery for the children and others will be under the south window. The architect has so arranged the building that at a future time it can be readily enlarged by means of a transept, and this without closing the chapel. The floor will be above the ground level, and the chapel will consequently be approached by a flight of steps. The architect is Mr. Palgrave, of London.

Devonport.—Christ Church, belonging to the Unitarians, has been opened. It is one of the most conspicuous buildings in the town. It will seat 480, and should an end gallery be erected, for which provision has been made, 600 persons. Its cost is about 2,100*l.* The style of the building Early Decorated. It is built of dark limestone, with relieving dressings; and consists of a nave 81 ft. long, with a recessed chancel, elevated two steps, at the north end; and a west transept 20 ft. deep, with organ-loft over. The south gable, in Duke-street, is 60 ft. high, and

is surmounted by a large crest. There are three entrances, two in Duke-street and one in the ope between Duke-street and Cumberland-street, along which the side of the chapel extends. In the ope at the north-east angle of the building are a tower and spire 80 ft. high. The roof is partly open-timbered, and panelled; the arched trusses resting upon polished marble shafts supported by carved and foliated corbels of Caen stone. The seating is of stained and varnished open benches, which are crimson-cushioned throughout. The large south window, 26 ft. by 12 ft., has been filled in with stained glass, for the execution of which the congregation is indebted to the gratuitous labours and skill of two of its members. The other windows are glazed with patterned glass. The chancel and the aisles are laid with encaustic tiles. The stone carving has been executed by Mr. Webber, of Stonehouse. The ten corbels supporting the roof timbers are all of different design, being respectively—the conventional Gothic vine; the national emblems, the rose, shamrock, and thistle; ivy with berries; English oak and acorns; geranium with flowers intertwined with clematis; white leaves and ears; passion-flower; vine; ivy leaves with berries; large white lilies intertwined with lilies of the valley. The terminals and finials of the reredos are carved to represent grapes, the hawthorn, lilies and buds, primroses, and ivy; and in the capitals of the pulpit columns similar subjects are introduced. The architect was Mr. Alfred Norman; the builder, Mr. Condy, of Plymouth. The staining and painting were undertaken by Mr. Fielder, and the gilding by Mr. Coveney. The gas and metal fittings were furnished by Gould & Company, Devonport. The organ was built by Mr. John Banfield, of Birmingham.

Chester.—The chief stone of a new chapel for the Presbyterian denomination has been laid by Mr. Barnes, M.P. for Bolton. The building is to be erected on the west side of the new street leading to the railway-station, half-way between the bridge and Foregate-street. It is to be in the Italian style of architecture, approached from the street by a flight of steps under a Roman portico. The interior will be fitted up with open benches, stained and varnished, accommodation being provided for 460 sittings, there being no galleries. A platform will be introduced in lieu of a pulpit. The dimensions of the chapel are as follows:—57 ft. long, 41 ft. 6 in. wide, and 22 ft. high, and it is proposed to heat it by hot water. School-rooms have been provided underneath the chapel the whole size of the building, and 12 ft. high, divided in the centre by a movable partition. The contract has been taken by Mr. R. Bellis, of Chester, for the sum of 1,525*l.* The architect is Mr. M. Gummow, of Wrexham.

STAINED GLASS.

St. Giles's Church, Fore-street, Cripplegate.—A three-light window, with tracery head, on the south side west end of this church, has been filled in with stained glass; this being the last filled with stained glass on that side. It contains three subjects, one in each opening,—the left hand, the Shepherds watching their Flocks; centre compartment, the Nativity; right-hand opening, the Three wise Kings. Each opening is surrounded with a rich border, in various colours, and the backgrounds are filled with ornamental coloured leaves. The three subjects are placed on a blue background, and the other parts of the window are filled with geometrical and foliated work and devices. The tracery head contains the Trinity in top spandrel; left hand, a figure of St. Giles; right hand, one of St. Luke. At the base of the window is the following inscription:—"Presented by the parishioners of St. Luke's in commemoration of the union of the Gift Estates, and in grateful remembrance of Edward Alleyne, founder of Dulwich College, and other benevolent donors. Richard Phillips, John Dall, churchwardens. 1864." The stonework of the window is entirely new, and the whole cost, including the stained glass, has been defrayed by the parishioners of St. Luke's. The window was painted by Mr. Charles Gibbs, sen., of Marylebone-road. This is the eighth window Mr. Gibbs has executed for the church.

St. James's Church, Bury St. Edmund's.—The stained glass for Mr. Scott's window above the chancel arch in this church, has been fixed in its place. The design represents one of the apocalyptic visions. In the centre light our Lord is represented throned in glory on the rainbow, with the right hand raised in the act of benediction, and the left holding upon his knees "the opened book," on the pages of which are inscribed the "Alpha" and the "Omega." At his head and feet the four living creatures pay him worship. In the smaller lights, to the right and left, angels are engaged in adoration, with censers and with trumpets; and in the tracery appear a multitude of the angelic host. In designing the tracery the architect had this subject in view, and the stonework forms a canopy over the centre light, so as to give greater dignity to the principal figure. The glass was designed and executed by Messrs. Hardman & Son, of Birmingham. The whole window is erected in memory of the late Mrs. Haggittt by her children.

Staindrop Church (Durhamshire).—This chancel has been farther enriched with some painted glass. The window filled is on the south side. The style of the stonework is Late Perpendicular. The design of the glass has been treated harmoniously. One subject fills the whole window, viz., the Ascension of our Lord. This has been arranged into a series of six groups, enshrined in tabernacle work,—the three lower showing the kneeling apostles and the two angels in white standing in the midst of them; the three upper showing our Lord ascending, surrounded by angels with musical instruments. These angels are continued into the tracery opes, the whole being surmounted by a cross of glory fitting into the stonework, which itself forms a cross. The window (as is stated on a tablet at the base) is placed by Lady Augusta Mary Poulett to the memory of her sister Sophia, Duchess of Cleveland, eldest daughter of John, fourth Earl Poulett. The artists by whom the design and execution of the work have been carried out were Messrs. A. & W. H. O'Connor, of London.

RAILWAY MATTERS.

Nearly 400 notices of intended applications to Parliament in the ensuing session have been given for railway, canal, and dock bills, all connected with railways. Plans and sections have been deposited at the Board of Trade for 354 projected new railways and works, being 46 more than those deposited last year, and it is believed the largest number since the year 1846. In the last session of Parliament it was found difficult to get through the work, and the railway business for next session promises to be much heavier than last session. Notices for twenty-seven bills have been given for lines and junction lines for the metropolis and the suburbs alone, but none of them are equal in magnitude to any of those of last session. The Metropolitan District Company (part of the inner circle) merely propose to divide their authorised double junction line with the West London Railway, from Kensington to Fulham, and to purchase land, houses, and property for the purpose. The East London (Thames Tunnel line) have come forward with a modified scheme for constructing a railway from the Great Eastern at West-place, Bethnal-green, passing through the Thames Tunnel to the London and Brighton Railway at Deptford, with a branch to the South-Eastern Railway, and also to the Great Eastern at Liverpool-street, to Whitechapel, and to the London and Blackwall Railway at Mile-end Old Town. The Eastern Metropolitan propose to construct a railway from Aldgate to Mile-end. The Metropolitan and St. John's Wood Railway Company ask for power to extend their line to Willow-road, Hampstead. The Waterloo and Whitehall Company propose to make a railway from Great Scotland-yard, passing under the Thames to the Waterloo station of the London and South-Western Railway Company. The London, Chatham, and Dover, propose to make a junction line from the Lambeth to the London and Brighton Railway at the west end of Denmark-hill tunnel, a junction railway from their Peckham line at Camberwell to the London and Brighton Railway at Hanover Park-road, to oblige the Crystal Palace and South London Company to abandon the construction of the portion of their line from Camberwell to Denmark Hill, to make a junction line at Beckenham, and to abandon the whole of their Bickley and other authorised junctions: they also propose to enable the London and South-Western Company to work over and use with their engines and carriages the railways, sidings, and stations of the London, Chatham, and Dover Company in Surrey, Middlesex, and London. The *Times* is of opinion that the London, Chatham, and Dover Company are unusually modest in their demands this time.——The traffic receipts of railways in the United Kingdom amounted for the week ending the 26th of November, on 11,732 miles, to 605,631*l.*, and for the corresponding week of last year, on 11,395 miles, to 574,629*l.*, showing an increase of 337 miles, and of 32,002*l.* in the receipts.——The directors of the Scottish Central Railway Company have given orders for fitting up some of their first-class carriages with plate-glass panes betwixt the different compartments, as first suggested in the *Builder*.

GAS.

A movement is at work in London to reduce the price of gas from 4s. 6d. to 2s. 9d. per 1,000 ft., at which latter price the supply is given at Plymouth, which seems to be chosen as a special instance of what can be done by liberal management, both for behoof of the public and of the shareholders, who reap the highest profits allowable, while supplying the public at the lowest possible price. At the last meeting of the London Court of Common Council, petitions were presented by Sir F. G. Moon and Deputy Reed from the inhabitants of the wards of Portsoken and Cripplegate, praying the court to take some steps for the relief of the inhabitants from the injurious monopoly they now suffer in the supply of gas, and to have the supply increased, the quality improved, and the price lowered. The court was also prayed to take the necessary steps to procure an Act of Parliament to enable the corporation to supply the consumers within the City, and thus put an end to the present unsatisfactory, expensive, and insufficient supply. Eventually the petitions were referred to the General Purposes Committee.

At Brighton, the following arrangements have been proposed by Mr. Rutter, on behalf of the Brighton Gaslight and Coke Company, and accepted by the Provisional Directors of the Brighton Gas Consumers' Company:—The price of gas to be reduced from 4s. 9d. to 4s. 6d. on 25th March, 1865; on 24th June following, from 4s. 6d. to 4s. 3d.; and on 25th December, 1865, from 4s. 3d. to 4s. per 1,000 cubic feet. After 25th December, 1866, such further reductions are to be made as may be found practicable.

At Crewe, in consequence of a resolution by the directors of the London and North-Western Railway Company to compel all gas consumers to deposit 5s. for each gaslight, a great public meeting has been held, where it was shown that such a deposit was unreasonable and uncalled for, that the interest on the gross deposits would amount to nearly 600*l.* per annum (for which the gas consumers received no equivalent), and that the present price of gas—6s. per 1,000 ft.—was preposterously high. It was resolved that the directors be memorialised, through the local Board, to abandon the demand of a deposit, and which for some time has been exacted from new comers. The starting of a new gas company was very favourably spoken of.

At Kirkaldy, in Fifeshire, Scotland, a ship has been despatched for the island of St. Thomas, with full cargo (nearly 500 tons), consisting of gasometer, gas-pipes, bricks for building in the gasometer, retorts, &c., to be used in the erection of works for the manufacture of gas to light the principal town on the island of St. Thomas. She also took out a number of mechanics, who are to be employed in the fitting up of the works.

In Cork the Gas Consumers' Company have reduced the price of their gas to 4s. per 1,000 cubic feet; and for street-lamps, 3*l.* each, to be lighted the whole year round. The company is paying 8 per cent. The original capital of the company was 40,000*l.*

A Paris journal gives the following statistics respecting the manufacture of gas in Paris:—In 1854 the total quantity produced was barely 40,000,000 of cubic mètres. The ten gasworks of Paris employ 2,691 persons for the in-door service, whose salaries amount to about 2,342,000f. Besides these there are 448 lamplighters, &c., who each receive 60c. a day, amounting in all to about a million yearly. The whole length of gas-pipes laid down in Paris exceeded 200 leagues in 1861.

The Hague *Dagblad* states that M. N. D. Goldsmid, of that town, has acquired a concession for lighting Moscow with gas. It is granted for thirty years, and gives him an exclusive privilege of laying gas-pipes and other fittings in the streets of Moscow for that time. The number of public gas-lamps is to be 10,000, and private buildings will require 150,000 lights.

Moscow has more than 400 hotels and 3,000 coffee-houses, inns, and gin-shops. These are open all night, as the inhabitants seldom go to bed before two or three in the morning, and during the winter scarcely ever remain in the street. The number of shops and magazines is four times greater than in St. Petersburg.

Books Received.

What Men have said about Woman. Compiled and analytically arranged by Henry Southgate. With Illustrations by J. D. Watson. London: Routledge & Co. 1865.

In all respects—even in paper and printing—this is a very choice volume; but above all, in subject,—as "a collection of choice thoughts and sentences;" and in illustration of woman,—as the girl, the maiden, the sweetheart, the wife, the mother, the ministering angel. In all her brighter aspects woman truly merits the choicest of volumes. And the compiler of "Many Thoughts of many Minds," having tried his "'prentice hand" on man, has here shown his experienced ability to undertake "the lasses O." The writers are many with whose thoughts and sentences as to woman Mr. Southgate has here manifested his acquaintance; but he speaks modestly in his little prefatory address to the "gentle reader," of simply having gathered "here and there a flower" from among "thousands still unculled" as a tribute "to the homage civilized man, in every country, is ready to pay to the fairest portion of creation." Who can say too much for them? As Bunyan writes, with more elaborate illustration (Mr. Southgate has missed this by the way), it was a woman who stood at the foot of the Cross; it was a woman went first to the Sepulchre. For steadfast devotion, patience, confiding trustingness, abnegation of self, woman stands alone; while there are few departments of mental work wherein she cannot maintain an equal position with man. Man but pays back a small part of his debt when he acknowledges her excellence.

Miscellanea.

Wolverhampton Surveyorship.—Mr. A. Morgan, of Leamington, has been elected to the vacant office.

Doncaster: Officer of Health.—The Doncaster Corporation, acting as a Board of Health, have appointed Mr. Francis Carbutt Fairbank, surgeon, health officer for the borough.

Royal Academy of Arts.—The ninety-eighth anniversary of the foundation of the Royal Academy was held on Saturday, the 10th instant, when the medals and prizes were awarded to the successful students. The travelling studentship of 100*l.* for a year was gained by Mr. Phené Spiers.

Voluntary Examination Class.—The meeting of the class will be held as usual on Tuesday next, the 20th inst., when Mr. R. O. Harris will take up the subject of "Timber Roofs." This will be the *last* meeting of the class this session, but it will be recommenced after the examination has taken place.

Architectural Union Company.—At the general meeting of shareholders, held at the House in Conduit-street, on the 7th instant, a dividend of 5 *per cent.*, free of income-tax, was declared. Spacious accommodation, with lighting, warming, and attendance, for any one night of the week, can still be had at 35*l. per annum.*

Moulds for Casting Metal.—Mr. H. Cochrane, of the Ormesby Ironworks, has patented an invention which has for its object the formation of permanent moulds for casting iron and other metals, that shall not act injuriously on the casting by chilling the surfaces of the same, or by engendering gases. For this purpose he makes such moulds of a composition consisting of fire-clay mixed with black-lead or plumbago, or of fire-clay mixed with black-lead and silicon, or of black-lead mixed with silicon; the composition which he has found suitable for the purpose being one-third of black-lead mixed with two-thirds of fire-clay, with a small proportion of silicon, but he in no way limits himself to these proportions. The moulds, when made, are, by preference, dried gradually at a moderate heat.

Okehampton Water Supply, Devon.—The scheme and plans of Mr. Edward Appleton, of Torquay, for the water supply of this town, have been selected.

American Cathedral.—The largest church in the American States, St. Paul's and St. Peter's Cathedral at Philadelphia, was consecrated on the 20th ult. It has been the work of eighteen years' labour, and has cost nearly 500,000 dollars.

Art-Workmanship Prizes, Society of Arts. Ninety-six articles sent in competition for the Art-Workmanship Prizes, have been received from seventy-three competitors, and will be arranged for exhibition in the society's rooms on and after Wednesday, the 21st instant.

The New Exchange at Hull.—The committee of the Hull Exchange Company have appointed Mr. William Lewis as clerk of the works. The work of excavation is already begun, and the building, it is expected, will be completed in about eighteen months.

Mural Decoration, Paris.—M. Robert Fleury has been commissioned to execute four large works for the decoration of the great hall of the new Tribunal of Commerce, which has been recently erected, facing the Palais de Justice, and between it and Notre Dame. The work will occupy the artist about three years. The river façade has recently been completed: it is ornamented with four colossal figures, representing Law, Firmness, Justice, and Prudence, executed in Caen stone, by the sculptors Elias Robert, Endes, Hippolyte Chevalier, and Jules Salinson, and with caryatides by A. Carrier.

Land in the City.—In the Lord Mayor's Court the case of "Prince's devisees *v.* The Metropolitan Railway" was tried before the Recorder, the claimants being represented by Mr. Hawkins, Q.C., and Mr. Cowie; the Company by Mr. J. H. Lloyd and Mr. Hollway. The claimants were the reversioners of property known as No. 17, Little Moorfields, at present let on lease for eighteen years to come at 45*l.* a year. Their witnesses valued the property at from 1,800*l.* to 1,900*l.*, while the evidence offered by the company was intended to show that it would be fairly purchased for little more than 1,200*l.* The jury, however, gave the claimants 1,700*l.*

A new Music Hall for Shoreditch.—In Commercial-street, Shoreditch, near the Great Eastern Station, a new hall, to be called "The Royal Cambridge Music Hall," has been erected and opened. There are shops on the ground-floor, which are let independently of the hall. The hall itself is marked by an entrance corridor, which has detached columns on either side, and tesselated tile paving and stone steps the full width of the entrance. Here is the principal staircase, which has been constructed so as to ensure security from overloading. The outside edge is carried on iron girders supported on columns, while the other edge is pinned into the wall. The architect has placed the orchestra in the middle of the longest side. With respect to ornamentation, more reliance is placed on colour than on devising ornaments. The decorations have been executed by Mr. Homann. The lighting is by ornamental stars suspended from the ceiling, which have been executed by Messrs. Buckley & Beach.

Cannon-Street Extension of Charing-Cross Railway.—The original estimate for this extension of five-eighths of a mile in length, says the *Railway News*, was 800,000*l.*, but the plans have since been considerably enlarged and many alterations made, which will no doubt bring up the cost to more than 1,000,000*l.*, that being about the average mileage cost of the Charing-Cross main line. We should probably not be far wide of the mark if we took the cost for this extension at the rate of nearly two millions per mile, including, of course, the large station in Cannon-street. The cost of the land has been enormous, and as in the case of the Chatham and Dover Railway, the Legislature has imposed upon the shareholders the task of improving the adjoining thoroughfares to the station. The City authorities had the modesty to ask the Charing-Cross Railway Company to widen Walbrook, being the narrow street connecting the Poultry with Cannon-street. The company have purchased property in the City at enormous prices, and have given to the public the benefit of the purchases to the extent of more than 8,000 square feet.

West Derby Local Board Surveyorship.—The West Derby Board, Liverpool, have raised their surveyor's salary from 150*l.* to 200*l.* per annum. A proposal to raise it to 250*l.* was negatived.

New Reservoir for Dorking.—Surveys have recently been made of some of the most elevated positions near Dorking, with the object of selecting a site for the construction of a new reservoir, in connexion with the present waterworks. A new undertaking upon the limited liability principle is talked of.

What Strikes bring about.—A large coal-cutting machine has been introduced into the Oaks Colliery, in South Yorkshire, and it is reported that it works most admirably. The colliers at the Oaks pit have been on strike for about thirty-seven weeks, and the coal-cutting machine has been developed to supply their place. It will probably be extensively used in a short time, as the patentees are said to have already received several orders.

History of Naval Architecture.—The collection of models of naval architecture which has hitherto been deposited in the vaults of Somerset House, has been removed to the South Kensington Museum, temporarily, until suitable premises are built. It will be opened to the public for the first time, without restriction, on the 19th December. The series begins with the *Great Harry*, of Henry VII.'s time, and is continued to the iron ships now building both in her Majesty's dockyards and private yards.

Chatham Dockyard.—An enlargement of Chatham Dockyard to four times its present size, as we have ere now noted, is projected. Estimates are now in course of preparation and the Lords of the Admiralty have been inspecting the works in actual progress, as well as those contemplated, in order to decide on those which will be carried out, together with the probable sum necessary to be taken for the purpose in the estimates. The principal of the works now in progress are those in connexion with the formation of the new docks, basins, factories, workshops, and other buildings at the eastern extremity of the present dockyard, on the site of St. Mary's Island, the whole extent of which, as well as some of the adjacent land acquired by the Crown, has been absorbed for that purpose, the entire new works extending over an area of 300 acres. The present dockyard covers an area of barely 100 acres, so that the additional space will enlarge Chatham Dockyard to four times its existing size. Up to the present time the work has been done by convicts, of whom there are from 800 to 1,000 daily employed on St. Mary's Island.

The Temple of Venus Victrix at Rome.—We have before now told our readers of the discovered statue of a youthful Hercules. In making further excavations to find, if it might be, the pedestal and missing foot of the statue, they have opened up the walls and pillars of the Temple of Venus Victrix, of solid masonry. A correspondent of the *Athenæum* says:—This temple was built on the summit of the Cavea of the theatre: it is, of course, mutilated. It has always been known to archæologists that the temple had stood in this part of the theatre. It was erected by Pompey, in order to enable him to have his theatre inside the walls of Rome; for in his days theatres were badly looked upon; they were considered very demoralizing places, and were not permitted within a mile or two of the city. By having the temple there, he invited his friends to worship the goddess, and then treated them to theatricals. The portico adjoining the theatre was called Hecatonstylon, or hundred-columned, and ran to the rear of the stage, inclosing within its ranges beautiful gardens and a senate-house: the latter has been made memorable by the death of Cæsar, which occurred within its walls at the base of Pompey's statue. This morning I descended into the hole, as it is called, and found myself walking about on the Plates, or ground-floor of Pompey's Theatre. I walked up to the foundations of the Temple of Venus, and near there into some of the corridors supporting the sloping tiers of seats from whence the spectators viewed the spectacle. The Cavaliere informed me that he intends to excavate the whole of the ground there belonging to him; and, instead of filling it up afterwards, he will protect the whole space with a vaulted building, and have gas laid all through it, so that the archæologist hereafter may be able to explore, study, and enjoy it.

Testimonial to Sir Rowland Hill.—At the request of the subscribers, Sir Rowland Hill has intimated his wish with regard to the application of the 400*l.* subscribed in Liverpool as a testimonial for his public services, that the money be laid out in paintings, to be selected by Sir Rowland himself, and to bear appropriate inscriptions on their frames.

Proposed Public Parks.—The project of forming a public park or recreation-ground at Colchester has been revived, and the extensive garden-grounds known as Lord's Land, some 12 acres in extent, and once intended as the site of the Cattle-market, have been suggested as a suitable site.——The Rev. C. Hesketh, rector of North Meols, offers to give to the town of Southport thirty acres of land at the north-east boundary for a public park. A public meeting is about to be held to give the public an opportunity of expressing their gratitude.

Sheffield Inundation Claims.—Some rather strange claims have been brought before the Sheffield Inundation Commission. A grocer claimed compensation for the drowning of customers, and for the destruction of houses which had caused customers to remove to other parts of the town. A rat-catcher sent in a claim for damage, "because the flood had drowned all the rats in the district that he was accustomed to operate in." A surgeon sent in a claim for damage caused by the removal (in consequence of the flood) of many ladies whom he would otherwise have had to attend at their confinements!

Destruction of Sherburn Hospital Church, Durham.—This ancient church has been totally destroyed by fire. It may be mentioned that the entire buildings formed a quadrangle, inclosing an area of about an acre, and the chapel was situate at the south-east side. The immediate cause of the fire is attributed to the overheating of the flues, which having ignited the woodwork above, it speedily spread to the other parts of the chapel. The fire was lighted on Saturday evening, in order that the church might be properly warmed for divine service the following day. About four years ago we understand a similar fire occurred from the same cause, but on that occasion the damage, which was confined to the western portion of the building, was not of a serious nature. The usual winter's crop of flue fires is thus already ripening.

Brighton New Workhouse.—The directors and guardians have come to the ratepayers for their sanction to the expenditure of 30,500*l.* in the erection of the new workhouse, which is to be built on the site adjoining Elm-grove. They had already full power to proceed with the work, the plan (that of the parish surveyor) having been approved by the vestry in May last, and sanctioned by the Poor-Law Commissioners, who were also willing to advance the necessary funds. But the amount of the lowest tender given in upon the plans (30,500*l.*) exceeded by some 7,000*l.* the estimate of the guardians. The proposed expenditure of 30,500*l.* will, it is thought, be condemned, and the directors and guardians directed to obtain fresh plans for a building, the cost of which shall not exceed 18,000*l.* It is curious that accepted plans for the new workhouse have been before rejected on account of expense; but it was then the Board which rejected them.

Enormous Weighbridge.—A new weighbridge has been placed by the Manchester markets committee, in Liverpool-road. The platform is 16 ft. 6 in. long, and 9 ft. wide, in one solid casting, and the machine is adjusted to weigh from 2 lb. to 70 tons. It has been tested up to 50 tons. The transferring lever is 25 ft. 6 in. long, and is made upon a new principle, as applied to weighbridges, being constructed of wrought-iron boiler plates riveted together in the proper form, after the manner of the modern tubular bridges. Its strength was demonstrated when the machine was tested with 50 tons, which remained on the platform forty-three hours, and the deflection of the lever at that period was very slightly over the eighth of an inch at the middle of its length. The weighbridge was made for the markets committee by Mr. Thomas Steen, of Burnley. The foundations are cased with a space between each to lessen vibration from passing carriages, and, together with the machine-house, were erected from plans and under the direction of Mr. Lynde, the city surveyor.

Electricity applied to Organs.—Mr. Barker, organ-builder, Paris, is said to be the inventor of a mode of applying electricity in the construction of great organs, so that the largest organ may be played as easily as the piano, and the pipes may be distributed anywhere through a church. This invention is now being applied to a great organ in course of construction for the church of St. Augustin, in Paris.

Church Bells in France.—The new belfry of the church of St. Germain-l'Auxerrois will soon receive a set of chimes similar to those for which Strasburg, Dunkirk, Bruges, &c., are celebrated, but with the improvements suggested by the progress of modern mechanical art. M. Collin, who is entrusted with their execution, has rejected all the cumbersome old contrivances which exclude the possibility of playing several tunes except at an enormous cost. While the cylinder or barrel which works the chimes at Bruges, for instance, cost 60,000 francs, M. Collin's barrels will cost only 250 francs each, so that as every tune requires a barrel by itself, a great variety of tunes will be obtained at a very trifling cost. Instead of the enormous weights attached to the works under the old system, he employs Lenoir's gas-machine as a motive power, whereby he forces air into a reservoir, so as to produce a pressure of 2½ atmospheres. The air thus accumulated passes into a series of bellows, replacing the levers of the old system; and thus the artist who sets the chimes in motion finds an instrument as easy to play as a piano. The chimes will consist of forty bells, and will play two different tunes daily—one at 2 p.m., and the other at 8 p.m.

St. Cross Hospital, Winchester.—On Saturday, November 25th, the Bishop of Winchester inspected the restoration now being carried on in the Church of St. Cross. This church was extensively altered and adorned in the fourteenth century, by John de Campden, the friend of Wykeham, and then master of the hospital. From that time to the present, though it has received repeated coats of whitewash, and been considerably mutilated in some parts, it has undergone no material alteration, so that all its distinctive features may be traced, and it presents unusual capabilities for genuine and successful restoration. Many of our readers may be aware that, in consequence of the munificent donation of "Z. O." last year, the work was commenced in earnest, under the direction of Mr. Butterfield; and that the master has succeeded in raising a second 500*l.* to meet "Z. O.'s" donation. It was to inspect the mode in which this sum of 1,000*l.* is being spent that the bishop of the diocese visited the church. His lordship, in expressing his entire satisfaction with what had been done, warmly recommended the master to make a vigorous effort to raise a sum commensurate with the real importance of the work; and the bishop himself offered on the spot a further donation of 100*l.* for this object, and expressed his conviction that not less than 2,000*l.* more would be required for its successful prosecution. The large and influential party assembled completely concurred in this opinion. Those who have not seen the interior of the church for some months, can scarcely bring themselves to believe that so many beauties lay concealed beneath the plaster and wash, requiring so small an effort to reproduce them in all their original grace and loveliness. We heartily wish success to the work, and commend it to the best attention of our readers.

How the Language becomes enriched.—One murderer gave us the word "burke;" a second appears likely to add to the vocabulary of trade. In a small shop not far from Sloane-square, Chelsea, may be seen the following tasteful announcement:—"Hats muller'd here"!

TENDERS.

For alterations and additions to Fredville House, Wingham, Kent, for Mr. C. J. Plumptree. Messrs. Stevens & Robinson, architects. Quantities supplied:—

Fry & Pepper	£4,775 0 0
Wilson	4,605 15 0
Bowley (accepted)	4,589 0 0

For building vagrant ward, on the ground opposite the Workhouse of the parish of St. George's-in-the-East. Mr. A. Wilson, architect:—

Hill & Keddle	£1,350 0 0
Worskett	1,350 0 0
Palmer	1,209 0 0
Hearle	1,292 0 0
Johnston (accepted)	1,235 0 0
Ennor	1,179 0 0
Dudley	1,175 0 0

For new school-room and class-room, Finchingfield Essex. Mr. C. Pertwee, architect:—

Gardner (inclusive of old materials)	£410 0 0
Brown	400 0 0
Sudbury	340 12 6

For new school, class-rooms, and vestry, Baddow-lane Chelmsford. Mr. C. Pertwee, architect:—

Patten, Pinnock, & Raffell	£962 5 0
Baker	795 0 0
Roper	784 0 0
Fincham & Last	779 10 0
Thorn	753 0 0

For residence in the Avenue-road, St. John's-wood, fo Mr. J. N. Palmer. Mr. J. P. Eade, architect. Quanti ties supplied by Mr. J. M. Roberts:—

Hibbert	£3,653 0 0
Conder	3,322 0 0
Simpson	3,191 2 0
Henshaw	2,889 10 0
Prichard	2,881 0 0
Robinson	2,837 0 0
Scrivener & White	2,767 0 0
Roberts (accepted)	2,655 0 0

For erecting villa residence, at Lower Sydenham, fo Mr. A. Rowland. Mr. E. Badger, architect:—

Glen, Brothers	£721 0 0
Amar	710 0 0
Barrett	695 0 0
Jones	645 0 0
Jerrard	644 0 0
Rees	639 0 0

For alterations and additions to 114 and 115, Bunhill row, and 5 and 6, Lamb's-buildings, in the rear:—

Scrivenor & White	£4,398 0 0
Stone & Pierce	4,040 0 0
Manley & Rogers	3,881 0 0
Childs	3,878 0 0
King	3,785 0 0
West & Morse	3,779 0 0
George	2,973 0 0
Ashton	2,692 0 0
Perry	2,345 0 0

For the erection of a villa on Kirtley Cliff, South Lowestoft, for Mr. Robert Ware. Mr. W. Oldham Chambers, architect:—

Rix (accepted)	£880 0 0

TO CORRESPONDENTS.

Magnesium (a dozen correspondents, in consequence of our notice, ask who are the parties preparing the magnesium wire. We must leave them parties, however, to make themselves known).—J. F.—E. V.—C. G.—W. H.—J. H. (the form of expression is not unusual).—Mons. C. F.—J. M. W. (sent).—W. L.—F. P. P. (an accident is not likely; but the arrangement should be looked to).—H. T. E.—S. S. T.—H. T. O.—G. J. B.—M. C.—M. P.—Mr. K.—B. & B.—Messrs. H.—H. & J. J.—J. F. F.—J. T. L.—J. C.—R. W.—B. W.—H. C—2 E. A.—G. T. (next week).—R. B. (ditto).—Messrs. S. & E.—M. & C.—E. J. T.—G.—C. G.—S. H.—G. L.

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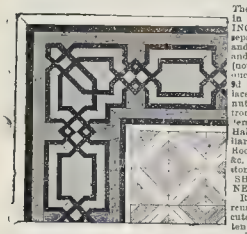
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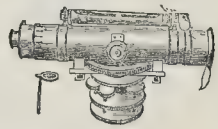
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Architect—G. Somers Clarke, 59, Cockspur-street, S.W.
Secretary (pro tem.)—Henry J. Dowden.
Temporary Offices—62, Old Broad-street, E.C.
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The Directors have secured on favourable terms an extensive freehold site in Tokenhouse-yard, next to the offices of the General Credit Company, having a frontage of upwards of 100 feet. The site is admirably adapted to the requirements of the undertaking, not only from its central position, being close to the Bank of England, the Royal Exchange, the Stock Exchange, and the principal banking houses and establishments connected with the Money Market, but from the street advantage it possesses in being free from the noise and disturbance of a leading thoroughfare.
The Directors propose to erect on the site of the existing houses, a handsome and substantial building, containing on the ground and first floors several large and smaller Sale Rooms, with a spacious Entrance Saloon on the ground floor, on the second and third floors, which are to be approached by a separate entrance and staircase numerous rooms and other accommodation, which can either be used, as Sale Rooms, or for auctions, or let for offices. The basement will contain suitable refreshment accommodation and additional cellarage or offices to be also let off.
It is proposed to keep a classified Register of the prices of property sold at the Auction Mart, on the principle of the present Estate Exchange, to which Shareholders will have access on payment of a small fee, thus affording a useful reference for the purpose of valuations and otherwise.
The revenue of the Company will consist:—First, of rents to be received from the auctioneers for the use of the Sale Rooms, the demand for which is constantly increasing. Secondly, from rent to be received in respect of the Refreshment Department; and thirdly, from rents to be received for the Offices, Arbitration Rooms, Cellars, &c. from which sources the Directors confidently expect a most satisfactory dividend will be realized.
The Directors are desirous that the undertaking should be supported by their professional brethren, and applications for Shares from auctioneers both in London and the country will therefore receive a preference in the allotment.
The undertaking originates with the Directors. There will be no "promotion money" paid to any one either directly or indirectly, and the preliminary expenses will be confined to such as are actually necessary to be incurred.
The Articles of Association can be inspected at the Offices of the Solicitors to the Company.
The Shareholders will incur no liability beyond the amount of Shares allotted to them. Applications for Shares must be made upon the annexed Form. Each applicant will be required to pay to the Bankers of the Company 1l. per Share on the number of Shares applied for; and upon allotment, to make a further payment of 4l. per Share on the Shares allotted to him. The remaining Calls will be made at such times and for such sums as the requirements of the Company demand
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	£	£ s. d.	£ s. d.
441,411	92,540	222 4 4	120 19 2
460,136	12,000	63 0 0	35 0 0
484,173	6,800	35 14 0	19 16 8
503 975	5,000	7 10 0	4 6 4

THE RATES OF PREMIUM ARE IN NO CASE HIGHER than those charged by the other principal offices giving no Bonus to their Insurers.
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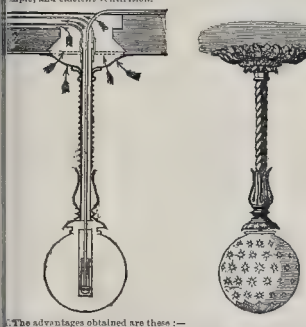
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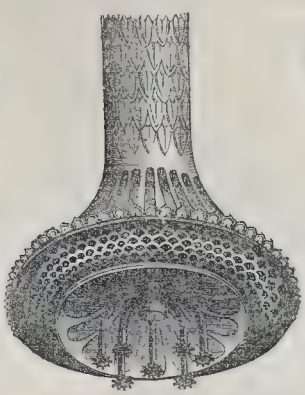
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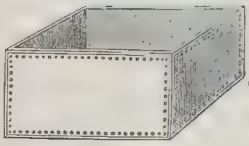
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Builders, Contractors, and Others, supplied with Nails Iron, a Ironmongery of every description, at the
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HEATING and VENTILATING ENGINEER, PATENT And MANUFACTURER of the
IMPROVED SMOKE-CONSUMING APPARATUS,
For CHURCHES and LARGE PUBLIC an OTHER BUILDINGS;
Consumes the Smoke, Warms the Building with pure Atmosph Air, and saves Coal and Labour;
And of the APPARATUS with PRISMATIC TUBES,
For PRIVATE HOUSES, OFFICES, WARD of HOSPITALS, &c.;
Saves 50 per cent. in Fuel, cures Smoky Chimneys, shows alwa Cheerful Fire, and one Fire will warm other Rooms.
HEATING APPARATUS upon the m approved Principles of Hot Water, Steam, &c.
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Works: MARTIN STREET, STRATFORD,

THE ATTENTION OF ARCHITECTS AND SURVEYORS I RESPECTFULLY SOLICITED TO
FLEXEN'S PATENT DRAUGHTLES VENTILATOR,
Now used in various leading establishments in London. It sup sedes all others now in use, giving free ventilation, and excluding draught and dust; requires no alteration of arches, and effectu producing a cool atmosphere in the most heated apartment. establishments where a great amount of gas is consumed, or steam generated, this Ventilator has fully carried out the required purp Office, 40, Sk ner-street, Snow hill. E.C. where models can be se references given, and all information obtained.

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MANUFACTURER.—THOMAS FOX, 90, Hatton Gard E.C. and 38½, Charles-street, Hatton Garden, E.C. A large sas ment of Silvered Glass Globes, Lamp Spires, &c. always on hand. kinds of Bevel Glass to order.
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ESTABLISHED 1744.
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To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wi to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly rec mends that in all cases they should be purchased in preference to PATENT LINES made from Jute, which article has neither STRENGTH nor DURABILITY of Flax, consequently cannot giv much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchan Factors, and Wholesale Houses, in Town and Country.

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Exmouth-street, Clerkenwell.—Established 1832.—J. D continues to LAY ZINC FLATS complete at, No 10, 11 per super; No. 11, 46d.; No. 12, 42d.; No. 13, 5d. Flues and Gut equally low. Chimney-tops, Iron and Cowls from 4-inch. Sh Zinc, 28l. per ton; Perforated, 4d. per foot. FOR CASH.

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YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	½-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

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Two minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

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Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.



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Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP, On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.

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YELLOW BATTENS, £9 10s. per 120.

YELLOW DEALS, £15 10s. per 120.

100,000 Dry prepared Flooring Boards ..... } from 10s. 6d. per square

2000 Dry Pine Planks ..... from 8s. 6d. each

Matched Lining ..... from 12s. per square

WHITE BATTENS, £8 10s. per 120.

SPRUCE DEALS, £15 per 120.

Oak Sills ..... from 2½d. per foot.

Honduras Mahogany ..... from 5½d. per foot

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Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

	Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 31s. per Load.
Good Yellow Deals	£16 10 0 per 120, or 2½d. per foot.	
Spruce Deals	15 0 0 „ 2¼ „	
2½-inch Battens	9 0 0 „ 1¼ „	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

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At Prices as low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity.

FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.

⅝-inch White Matched Lining ..... 12s. 0d. „

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

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SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of PLAIN WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

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	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅝ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	..... 15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	..... 17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

All MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

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At 6d. 7d. and 8d. per foot, at

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SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

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LIME BURNERS, AND LATH RENDERS.

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(coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade.

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GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

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Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 60, CONDUIT STREET, REGENT STREET,

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Late Lark, Fletcher, & Co. are prepared to supply their Cements, of the best quality and on the most advantageous terms, either for stuccoing, brick work, or for tidal works, or otherwise, and for home and foreign trade, either direct from the Manufactory, or at the WHITE LION WHARF, BANKSIDE, LONDON.

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From 2s. per foot super. (without machinery). Reference to fourteen years' use without repair or trouble.

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Having made great Improvements in the manufacture of Wood or Iron Revolving Shutters, are enabled to supply the public at the following reduced prices:—

Wood Revolving Shutters, with all requisite Gearing complete, from 2s. per foot. Iron Revolving Shutters, with all requisite Gearing, complete f 3s. per foot, suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

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By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. When sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such stuff. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

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EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

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The Company are now prepared to supply, at the shortest possible notice, their WELL KNOWN HYDRAULIC LIME to any part of the United Kingdom, in large or small quantities.—All orders, inquiries &c. to be addressed to

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Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, floating work, or otherwise

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The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

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The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

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With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours A finer quality produces a beautiful and hard sculptola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

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FIRE-BRICKS, LUMPS, SQUARES, and TILES, of all dimensions.

GAS RETORTS always in Stock.

GARDEN EDGINGS of various Patterns.

ORNAMENTAL BUILDING BRICKS.

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SHIPMENTS ON THE SHORTEST NOTICE.

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FOOT OF BATTERSEA BRIDGE, CHELSEA.

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Having increased his machinery appliances for the Manufacture of Bricks by erecting a number of the most approved patent machines, Architects, Builders, and Contractors are respectfully informed that they can be Supplied with GAULT BRICKS of the best quality, and at moderate prices. — Prices and particulars furnished on application to

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The advantages of this plan are two-fold.

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Red Pantiles, at 47s. 6d. per 1,000.
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The BALLINGDON DEEP BLACK RUBBING and BUIL BRICKS, and the CHALFONT and BALLINGDON DARK BRIGHT RED RUBBERS.

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Blue Vitrified Grooved and Chequered Pavings for stables, ways, warehouses, &c

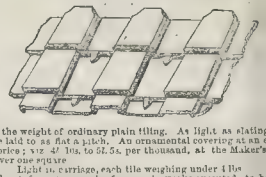
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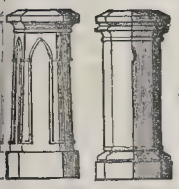
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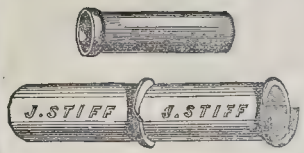
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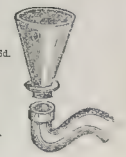
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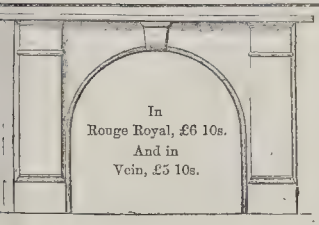
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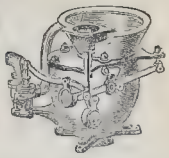
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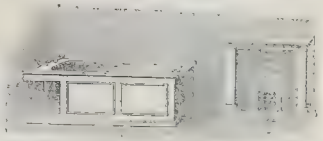
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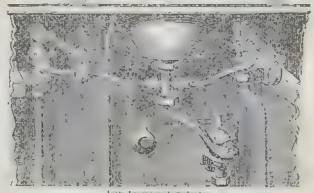
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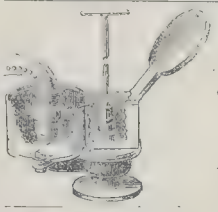
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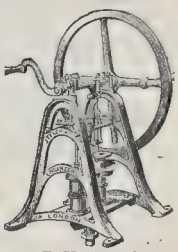
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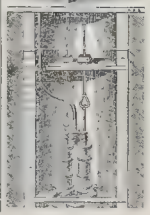


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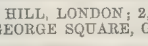
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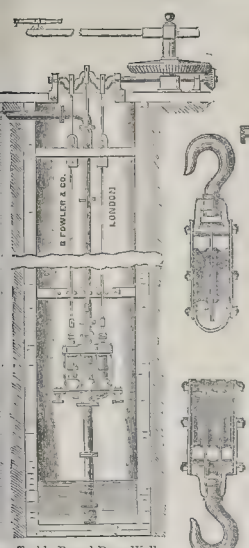
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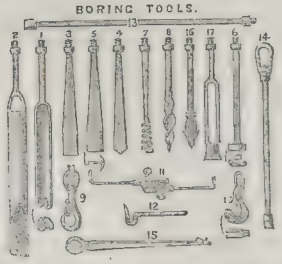
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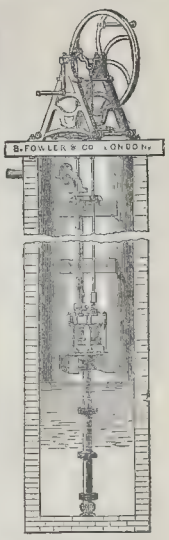
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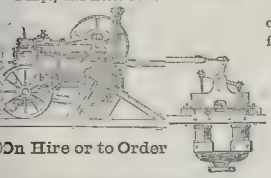
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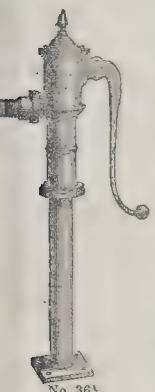


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HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36½.

IMPORTANT TO BUILDERS.

WARNER'S NEW IMPROVED

CAST-IRON LIFT & FORCE PUMP,

LINED WITH BRASS.

With this Pump One Man will force water to a height of FIFTY FEET in a continuous stream.

2½ inches	£2 10
3 "	2 15
4 "	3 15

No. 35. WARNER'S PATENT

CAST-IRON LIFT PUMPS,

For Raising Water from Wells not exceeding 25 feet in depth,

From 10s.

Every Description of HYDRAULIC MACHINERY in stock.



No. 69.

WARNER'S PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cottages, &c. It requires no fixing for the standard, is of simple construction, and fits case with which it works.

By the introduction of the Vibrating Standard, the cumbrous cast-iron crank, pitch pipe, and other appendages are dispensed with, rendering the pump extremely less than Pumps in the ordinary old plan.

2½ inch £1 4 0
3 " 5 5 0
4 " 6 6 0
} Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch..... £3 10 0
3 " 4 0 0

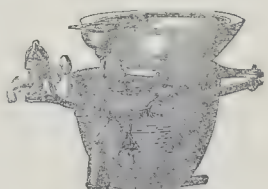


IMPORTANT TO WATER COMPANIES.

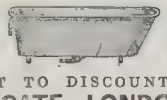
No. 206, B. C. WARNER'S Improved SELF-ACTING APPARATUS for SUPPLYING WATER-CLOSETS ensures a perfect and thorough Flushing of the Closet Basin, WITHOUT THE POSSIBILITY, EITHER BY ACCIDENT OR DESIGN, OF A WASTE OF WATER, and is applicable for High or Low-pressure Service.

Self-acting Closet in Wood Case, complete	£4 10
Ditto Work without Wood Case	2 0
Basin and Trap, W.	0 5

Further Description, with Sectional Drawings will be sent on application.



No. 143.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 6
Blue Basin, extra 0 1 0
No. 145.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin 3 15 0
The above prices are subject to a Liberal discount.



WARNER'S Baths can be had of either Copper, Zinc, or Galvanized Iron. Prices, from 37/ 10s. each. J. W. & SONS are prepared to supply all Fittings required for the same.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

EAST SMITHFIELD — The valuable Building Materials of Downes' Wharf Two Quay Lighters, Trade Fixtures and Wharf Utensils, and Four-Roomed House fittings

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 95, Lower East Smithfield, on FRIDAY, DECEMBER 30, at TWELVE, the MATERIALS and FITTINGS UP of an extensive Range of Warehouses and Offices known as Downes' Wharf, and the St. Andrew Public House, adjoining, comprising 200,000 capital bricks, stout oak and fir timber in roofs, warehouse floors, quarter partitions and upright sashes, boarded, glazed sashes and doors, iron guttering and rain-water pipes, plain and partly-ornamental stone pitching, pebble and other paving, lead gutters, cisterns and pipes, gates and loophole doors; also two quay lighters, and the trade fixtures and wharf utensils, consisting of iron and wood, jib cranes, weighing-machines, trucks, sling chains, iron safes, office fittings, &c.; a metal top counter, beer engines, and the usual bar fittings and fixtures of a public house May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fores-treet, E.C.; and 40, Parliament street, S.W.

To Engineers and Others

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at their OFFICES No 13 Billiter-street, on MONDAY, DECEMBER 19th, 1864, at Half past TWO o'clock precise y, in lots, 4,000 lb NEW VULCANIZED INDIA RUBBER, in sheets ¼, ⅜, and ½ inch thick, 250 new boiler tubes, Lloyd's make, 6 feet long, 3 inches diameter, 539 lb Tuck's patent packing, 400 tube brushes, 36 India-rubber valves, and 12 glass hydrometers (How's patent); the whole of the best manufacture, and in good condition, lying at Fowell's Wharf, Upper East Smithfield, where the bulk may be viewed.—Samples may be seen at the Auctioneer's Offices, 13, Billiter street, London, E.C. where catalogues may be obtained.

BLACKWALL.—Sale of Surplus Materials.

MESSRS. FULLER & HORSEY are instructed, by the Directors of the Blackwall Railway Company, to SELL by AUCTION, on MONDAY, JANUARY, 30th, 1865, at TWELVE o'clock precisely, at the WORKS, adjoining the Poplar Station of the Blackwall Railway, SURPLUS MATERIALS, including four locomotive steam-boilers, with brass tubes and copper fire-boxes, by Jones & Potts, in serviceable condition; an 8 horse power portable condensing steam beam engine by Barnes & Miller; 17 pairs of railway turntables; Bessemer's patent 5-ton cast-iron post wharf crane, 4 tons of copper and brass pipes, old copper and gun metal, 40 tons of old permanent double-headed rails, 50 tons of scrap iron and iron, and other effects. To be viewed on Saturday previous and morning of Sale. Catalogues may be had of A. WIGHTMAN, Esq. Blackwall Railway; and of Messrs. FULLER & HORSEY, 13, Billiter-street, E.C.

PIMLICO, immediately adjacent to the Victoria Station. Important Long Leasehold Property, occupying a site of 35,500 square feet, held for sixty years, at a ground-rent.

MESSRS. FULLER & HORSEY are instructed by George Smith, Esq. who has removed his establishment to Commercial-road and South-street, Grosvenor-square, to SELL by AUCTION, on MONDAY, JANUARY, 30th, 1865, at ONE o'clock precisely, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, unless an acceptable offer is previously made by private contract, an important LONG LEASEHOLD PROPERTY, occupying an area of 35,500 superficial feet, situate in Gillingham-street, Pimlico, immediately adjacent to the Victoria Station, and having an entrance also from Hindson-street, peculiarly eligible, for its extent and close proximity to the railway station, for a building speculation, or for any large manufacturing established ment. The buildings comprise a substantially-erected factory of two stories, each floor having an area of 4,500 feet; blacksmith's shop, engine-house, masons' sheds, stabling, saw-pits, seasoning sheds, a capital residence for a principal or manager, with suitable offices, also a dwelling-house in Hindon street, adjoining for a foreman. The whole held on a building lease for a term of sixty years, at the nominal ground-rent of £35 per annum. To be viewed until the sale, by cards only, which may be had of the Auctioneers Printed particulars, with plans, will shortly be ready, and may be had of Messrs. LAW HUDSEY, & HULBERT, Solicitors, No. 10, New square, Lincoln's Inn W.C.; at Garraway's Coffee House, Change alley; and of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

INTERNATIONAL EXHIBITION, 1862.—Materials of Buildings.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on MONDAY, JANUARY 23rd, 1865, and following days on the Site of the INTERNATIONAL EXHIBITION BUILDING, Soul Kensington, in Lots, the remaining MATERIALS: including 140 cast-iron 8 inch round columns, 25 feet high; 2,052 inch spiral girder, 25 feet high; 40 wrought-iron 9 inch web girders, 100 circular stone columns, with enriched caps, 15 feet high; 300 cast-iron lattice girders, 24 feet long; 20 cast iron web girders, 24 feet long; 132 iron face girders, 24 feet long; 24 feet 6 inch cast-iron girders, 24 feet long; 1,500 feet cast-iron ornamental pinnelloe; 12+ wrought iron trussed principals, 25 feet span; 300 tons tie bars, with shoes and brackets; 10 tons ornamental balusters, 2,300 feet 9 inch rainwater guttering; 280 iron rafters, with wood backs; 50 tons rail and bar iron, 100 T-iron trussed rafters, 20 feet long, with wood backs; 2,000 feet rainwater-pipe, 700 yards half-round guttering, 100 9 feet lengths 9-inch cast-iron socket-pipe, 6 9 inch sluice valves, 14 cast-iron urinals, with 8 slate divisions to each (Jennings's), 3 water meters, 40 gas stoves, 70 water-closet pans, 4,000 earthenware drain-pipes, from 4 inches to 15 inches; 95 washing-basins, with slate tops; 1,000 loads pond Ballast; timber, 270,000 feet run of 8 by 2½-inch yards 40,000 feet 9 by 2-inch joists, 7,000 squares, 1-inch boarding, 200,000 feet quarter-ing, 200,000 feet sash bars, 3,000 feet run of ventilating flaps and frames, 500 sashes, 500 fathoms fire-wood, 30 tons scrap iron; 10 ton weighbridge, portable offices and stove; quantity of old felt, and various other effects. To be viewed on Friday and Saturday previous to the Sale. Catalogues will be ready ten days prior to the sale, and may be had, at 6d each, of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

To Builders and Others —80,000 Best Slates.

MR. V. BUCKLAND will SELL by AUCTION, at SMITH'S BARGE BUILDING WHARF, Upper Fore-street, Lambeth, on WEDNESDAY, 21st DECEMBER 1864, at ONE for TWO o'clock, in lots suitable to purchasers, 80,000 BEST SLATES, of various sizes.—Catalogues on the Premises, and at 89, Cannon-street West; or will be forwarded by post on application.

To Marble Chimney-piece Manufacturers, Stove and Grate Dealers, Furnishing Iron mongers, and Others —Important Sale of the very valuable and extensive Stock in Trade of Messrs. Collins & Green.

MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees to SELL by AUCTION, at the ROTUNDA GALLERIES, Blackfriars-road, on MONDAY, DECEMBER 19, 1864, following days, and on THURSDAY, DECEMBER 22, at TWELVE o'clock precisely each day (unless previously disposed of in one lot), the whole of the costly and well assorted STOCK-IN-TRADE, comprising a large number of chimney-pieces of the finest workmanship and most expensive marbles, a quantity of statuary, monumental tablets, a large assortment of burnished steel and ormolu stand and bar register stoves, with the newest and most elegant designs, kitchen ranges, hot-plates, kitchensets, &c.; a large stock of polished steel fenders and fire implements. The remaining stock consists of a large quantity of partly-manufactured marble pilasters, friezes, trusses, &c.; unmanufactured statuary, veined, and Sicilian slabs, stove fronts; a spring van, a few lots of office furniture, and other effects.—May be viewed the Saturday preceding the Sale Catalogues with shorter particulars and may be had three days before, which will be returned to purchasers) of Messrs. J. & J. H. LINKLATER & HACKWOOD, Solicitors, 7, Walbrook; at the Premises; and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, E.C.

NEW BRIDGE-STREET, BLACKFRIARS The capital Stock-in-trade, recently Household Furniture, Oil-Paintings, &c.

MESSRS. VENTOM, CLARKE, & BULL are instructed by the Assignees of Messrs. Collins & Green, to SELL by AUCTION, on the PREMISES, No. 58, New Bridge-street, on THURSDAY, DECEMBER 22nd, at ELEVEN for TWELVE o'clock, the well-assorted STOCK of choice marble chimney-pieces, steel register stoves, &c. and a large quantity of excellent cutlery, a few lots of household furniture, and several portfolios of rare old engravings May be viewed the day preceding and morning of Sale Catalogues may be had at the Premises, and of Messrs. VENTOM, CLARKE, & BULL, 8, Bucklersbury, E.C.

THREE DAYS' SALE.

To Barge Builders and Owners, Timber Merchants, and Others.—Caversham Bridge Wharf, Reading, Berks; Purton, Wilts; Basingstoke, North Warnborough, via Brookham, Hants

MR. ALFRED WHITE is favoured with instructions from Messrs. R. & E. Talbot (who are discontinuing barge building) to SELL by AUCTION, at CAVERSHAM BRIDGE WHARF, on MONDAY, TUESDAY, and WEDNESDAY, DECEMBER 19th, 20th, and 21st, 1864, at ELEVEN o'clock each day, the whole of the valuable SHOAL, comprising about 300 loads of capital oak, elm, ash, and larch fir Timber, 100 loads of oak plank, of various thicknesses, 30 loads of ash, 5 load of beech, and 5 loads of elm plank, 100 Dantzic fir plank, 36 yellow battens and deals 5 loads of oak scantling, 600 oak posts, 6,000 left and 1,000 sawn oak rails, 400 oak rails, 40 ash and beech axle beds, 6 00 oak and elm stocks, 1,200 elm and ash felloes, in lots; supplies of lath, 500 ladder rounds, a large quantity of cooper's staves, brush backs, peck handles, &c. &c.; a new well-built long canal barge (80 to 90 tons), canal boat, two punts (one large new), three prime ash planks, 40 boat crocks, 12 compass bends, a lot of old metal, 1,000 oak barge heads, 300 barge floors, 50,000 treenails, 2,000 ship dittо, oak window sills, &c. 5 cwt. of iron plate knees, 5 cwt of barge bars, six pair of iron clamps, four screw-jacks, and one patent ditto, portable forge (new), two vices, anvil, &c.; two useful horses, five-year old pony, three timber carriages, four timber bobs, one tip-cart, pony gig and cart, trace, thill, and gig harness, coal weighing-machine (by Pouparl), chains, coal-sacks, wheel-barrows, hand truck, chaff cutter, four new oak 5-barred gates, and a variety of effects required in the large building and timber trades Also, the joint interest in the Lease of a portion of the Premises and the erections thereon, consisting of a saw mill, fitted with a 10-horse power horizontal engine, with a 36-inch cylinder Cornish boiler, ten circular saws, 1 foot to 3 feet 6 inches in diameter, hand and rack benches, shafting, straps, &c. (by Barrett, Exall, & Andrewes), large building sheds, 20 feet by 40 feet, timber and sawing sheds, carpenter's shop, with bench, offices, &c. &c —On view three days prior to the Sale, and catalogues may be had one week prior to the sale, at the Place of Sale, and of ALFRED WHITE, Auctioneer, Estate Agent, &c Basingstoke and Greywell, near Odiham, Hants, who will forward them by post on application.

Annual Clearance Sale of Stocks suitable for Builders and Decorators by order of West End Firms.

MR. EDWIN WHITE will SELL, without reserve, at 12, HOLBORN BARS, and 1, CASTLE-STREET, HOLBORN, on TUESDAY, DECEMBER 13, at ONE for TWO o'clock punctually, a very Large Assortment of PAPER-HANGINGS, including French and English Flocks, Golds, Satins, Grounds, Sanglas, Lincrustas, Granites, Oaks, Floral and Architectural Decorations, &c Also gilt room mouldings, and marble and enamelled slate chimney-pieces in every variety. May be viewed in bulk (not merely by patterns), and Catalogues had on Monday and morning of sale.

On WEDNESDAY Next, at ELEVEN for TWELVE —Clearance Sale.

To Builders, Carpenters, Cabinet makers, and Others

MR. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, near the Old Eagle, on WEDNESDAY, DECEMBER 21st, 500 planks, deals, and battens, 200 squares flooring, wide pine, drs cut stuff, quartering, mahogany, birch, scaffolding, ladders, 2 work-benches, old materials, paving stone, slates, &c.—May be viewed the Tuesday prior Catalogues had at the Yard, and of Mr. A. H. LEREW, 2, Cardington-street, Hampstead-road.

By order of Trustees —To Ironmongers and Others.

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, 122, Fenton road, on TUESDAY, JANUARY 10th, 1865 (Two following days, at ELEVEN for TWELVE o'clock, the STOCK-IN-TRADE of a GENERAL IRONMONGER: comprising a large assortment of brass work and ironmongery, earth work, including cob and yard arms, axles, springs, 3½ tons of coach bolts, 130 gross ditto of screws and clips, 4 tons of nails, rivets, and studs, 4 tons of bar and rod iron, 100 dozen files, and other tools, 14 kit boilers, range and various patterns of castings, a punching and cutting machine and numerous effects —Catalogues to be had of the Auctioneers, 9 and 10, Bunhill street

FULHAM.—Exceedingly valuable Estate (to be rendered Freehold) offering to the investor large advance at an early purchase

MESSRS. EDWIN FOX & BOUSFIELD are desired to SELL by AUCTION, at GARRAWAY'S SALE ROOMS, Change-alley, Cornhill, on TUESDAY, DECEMBER 20th, at TWELVE, in one lot, a very important PROPERTY, comprising 23½ acres of Land, on the banks of the Thames, with 1,060 feet of river frontage, entered from the Kew-road by the Decoy-lane and road. The greater portion of the estate will be required for the approaches to the Wandsworth New Bridge (Act obtained next in July), the remains of which start from this estate, and the remainder be opened up for building purposes, the success of which, with frontages to such noble and important thoroughfares, as also to the river Thames, cannot be too highly estimated. The property is held on lives, the youngest of which is 34; and a price is fixed for the enfranchisement, whereby it becomes freehold —Particulars, with plans, are now ready, and may be obtained at GARRAWAY'S, of J PATTISSON, Esq. Solicitor, 13, Furnival's-inn; at all the Taverns in the vicinity; and of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, City

To Builders, Carpenters, and Others.—The Stock in Trade of a Builder.—By order of the Trustees of Mr. Hewlett.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, at No. 1, CAMBRIDGE TERRACE, London-road, Hackney-road, on MONDAY, DECEMBER 19, 1864, at TWELVE, the above: comprising useful prepared joiners' work in sashes and doors, dry and stuff, prepared flooring, carpenters' battens building materials, two iron safes, and effects —On view morning of sale. Catalogues had of N. WETHERFIELD, Esq. Solicitor 35, Moorgate-street; and of the Auctioneers, 21, Holywell-row, Finsbury square, E.C.

ELIGIBLE FREEHOLD LAND in the heart of the City —The Court of the Worshipful Company of Mercers are prepared to receive TENDERS for the SITE of the PREMISES numbered 2, 3, 4, 5, and 7, on the east side of Bartholomew-street in the City of London, on a Building Lease of 61 years from Michaelmas, 1865 A plan of the ground, which may be viewed for either of three portions, for further particulars, identify parcel, and at the Office of Mr. GEORGE SMITH, Surveyor to the Mercers' Company, Frederick's-place, Old Jewry, E.C where sealed Tenders are to be delivered on or before TWELVE o'clock on the 31st DECEMBER, indorsed "Tender for Ground, Bartholomew-street."

BUILDING LAND.—EGHAM, SURREY. About 70 ACRES adjoining Englefield-green, TO BE LET, in Plots, or otherwise, on Leases for 99 years.—For particulars and Plans, apply to Mr JOHN CLUTTON, 9, Whitehall place, Westminster, S.W.

SUNBURY COURT ESTATE.—This Estate is now TO BE LET, on building leases, for the erection of Detached Residences of the first class. The property is situate within a mile of the Sunbury Station, and within three quarters of a mile of the Hampton Station of the Thames Valley Railway.—For particulars, apply to Mr. JOHN ARNIZ, Architect and Surveyor, 4, Cannon-row, Westminster, S.W.

VALUABLE BUILDING SITE TO BE LET; BILLITER STREET, City.—The Clothworkers' Company are prepared to receive TENDERS for a BUILDING LEASE of the SITE of the premises known as No. 18, Billiter-street; term, eighty years, as from the 25th inst. Particulars and plans may be had of R. BOWSE, Esq. at Clothworkers' Hall, Mincing-lane The Tenders are to be left at or before TUESDAY, the 27th instant, at Clothworkers' Hall

FREDERICK W. PORTER, Surveyor. 16, Russell square, W.C. December, 1864.

SYDENHAM. — PLOTS of valuable FREEHOLD LAND, abutting on good roads, TO BE SOLD (Land Tax redeemed), and at the right minutes' walk from either Upper or Lower Sydenham Stations For particulars, apply to Mr. NICHOLAS LAKE, Architect and Surveyor, 1, Adelaide place, London Bridge.

WATERSIDE MANUFACTURING PREMISES, with Steam-power.—Messrs. FULLER & HORSEY are instructed to LET on LEASE, extensive WATERSIDE PREMISES, occupying a site of 31,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick built manufactory of two floors, engine and boiler houses, with 20 horse power steam engine and three Cornish boilers, range of brick built offices, and paved yards with gateway entrances. There is a water frontage of about 287 feet —For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

BUILDING LAND TO BE LET, at WANDSWORTH, close to Station.—For particulars, apply to Mr. W. JOY, 5, Bond-court, Walbrook, E.C. from Ten till Five; or at North-end, Croydon.

AN ACRE of LAND is WANTED to BUILD Ornamental ALMSHOUSES on. The north side of London, and near a railway station, preferred —Particulars to be sent to Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street, S.W.

CLERKENWELL ESTATE, belonging to the Governors of the Charter House.—TO BE LET on Building Leave or Leases, all that Piece or Parcel of GROUND situate on the north side of Allen-street, Clerkenwell; containing in front, next Allen-street, from east to west, about 142 feet, and in depth, from north to south, about 93 feet, admirable suited for warehouses or other commercial buildings, or for dwelling houses.—A plan of the ground may be seen, and further particu ars ascertained, at Mr. HARDWICK'S Office, Henrietta-street, Cavendish square, where Tenders for the same will be received, on or before the 10th of JANUARY, 1865.

A FREEHOLD MANSION TO BE SOLD The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bed rooms; stabling and coach-houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 25 acres; gravelly soil; near Sunningdale Station South-Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY Esq. Solicitor, 67, Russell-square.

GRANVILLE PLACE, PORTMAN SQUARE.—LAND TO BE LET, on building leases, for private houses also a PLOT, in the rear of the houses in Oxford-street 300 feet in length, including one or more houses in Portman street and entrance to the Oxford street, suitable for showrooms for coachmakers, upholsterers, and others, or for exhibition-rooms.—Apply to Mr. BARLOW, 8, Portman-street, W

EXTENSIVE PREMISES and GROUND in BATH-STREET, ST. LUKE'S, E.C. 208 feet deep, and 106 feet frontage, known as the French Hospital, TO BE LET for building purposes or otherwise, on LEASE, by TENDER, for a term not exceeding 99 years Sealed Tenders to be addressed to the Governor and Directors, on or before the 1st day of FEBRUARY, 1865, at the French Hospital, where forms of Tender, with a plan of the ground may be obtained; or at the Office of Mr. R. L. ROUMIEU 10, Lancaster-place, strand.

TO BUILDERS and OTHERS, desirous of building about twenty or less small weekly tenements —TO BE LET, or SOLD, a PIECE of GROUND, most eligibly situate, at Turnham-green.—Apply, T. N. 5, Kensington-green, Lambeth, any day before Eleven o'clock a.m.

N.B.—The proprietor may build a part, if required.

ON the BEDFORD ESTATE.—TO BE SOLD, a newly-built light and convenient WORKSHOP near the British Museum. Ground-rent, 6l. a year.—Apply at No. 7, Gilbert street, Museum street, W.C

SEAHAM HARBOUR, COUNTY of DURHAM. LAND for BUILDING and MANUFACTURING PURPOSES may be obtained at this thriving seaport on liberal terms. Its excellent railway and shipping accommodation, with its abundant supply of lime and coals of every description, and convenient tip room, constitute it a very eligible site for rolling mills, glass houses, and other manufactories. Application may be made to F. G. SHAW, Esq. Londonderry Offices, Seaham Harbour.

TO CARPENTERS and BUILDERS.—Twenty Years' LEASE of suitable HOUSE and SHOP to BE DISPOSED OF. Only seven minutes' walk from the Hammersmith Railway Station. Good space at the back and entrance to it for horse and cart. Good business part.—Apply at Mr. KEEN'S, 91, King-street, Hammersmith.

TO BUILDERS.—First-class BUILDING SITES TO BE LET or SOLD, at Hampton, Teddington, and Kingston. Each of them is situate within a few minutes' walk of the railway station —Plans can be seen, and further particulars obtained of Mr. G. R. GREEN, Architect, 15, Bedford-row, W.C. Advances made to responsible builders on any of the above estates.

WANTED, a BUILDING or SITE eligible for a Tavern.—Address, W. EASTY, 51, St. John's-street Clerkenwell.

TO BUILDERS, CARPENTERS, and WHEELWRIGHTS —TO BE DISPOSED OF, an Old-Established BUSINESS, with every convenience to any one as wet inside trade in Building, Joinery, Wheelwrighting, Rent moderate, and a lease may be had for nineteen years. The present proprietor wishing to retire through ill health.—For particulars apply to ROBBINS & CO. Timber Merchants, Priory-street Wharf, near Marlbro, Wilts; and of MAY & HASSELL, Timber Merchants, Bristol.

MONEY. — IMMEDIATE CASH ADVANCES on FREEHOLD and LEASEHOLD PROPERTY, on DEBENTURES and ANNUITIES, WINE, SPIRIT, and LUMBER WARRANTS, FURNITURE, SHARES, &c.

Mr. RICHARD CROSSLEY, 17, Moorgate-street, Bank, E.C.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1853), 34, RUSSELL STREET COVENT GARDEN, W.C Advances from £5 to £5,000 upon Freehold, Leasehold Property, for any term up to ten years Mortgages redeemed, and the balance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Country agents desire offers to borrow from £10 to £1,000, on Security of Freehold, to subscribe for, or recommend for an advance, and to deduct from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed envelope.

EDWARD HARPER, Secretary.

KAMPTULICON FLOOR CLOTH for CHURCHES, PUBLIC BUILDINGS, BILLIARD ROOMS and PRIVATE HOUSES

GOUGH & BOYCE, No. 76, CANNON-STREET WEST, E.C.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of Fox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said Charles Wyman, at the Office of "The Builder." New York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 17, 1864.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1142. DECEMBER 24, 1864. PRICE FOURPENCE. By Post, 5d.

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DUBLIN INTERNATIONAL EXHIBITION of FINE ARTS and MANUFACTURES, 1865

Under the Special Patronage of HER MAJESTY THE QUEEN

Intending Exhibitors are informed that the first DESPATCH in the latest day on which APPLICATION for SPACE will be received.—The requisite forms can be obtained at the House of the Society of Arts, John street, Adelphi, London, W.C., or at the Exhibition Palace, Dublin.—By order, HENRY PARKINSON, Secretary.

THE MODELS of NAVAL ARCHITECTURE, from 1688 to the present time, contributed by the Admiralty and private Shipbuilders, are NOW OPEN to the PUBLIC at the SOUTH KENSINGTON MUSEUM Mondays, Tuesdays and Saturdays Free, from Ten o'clock till Ten p.m. Wednesdays, Thursdays, and Fridays, from Ten o'clock till Four p.m. Admission Sixpence By order of the Lords of the Committee of Council on Education.

PRIZES to ART WORKMEN. SOCIETY of ARTS.—The Articles sent in Competition are now arranged for Exhibition in the Society's Rooms. Workmen and others interested in the subject are invited to inspect the Exhibition at the Society's House, John street, Adelphi, on any day after MONDAY next, the 26th DECEMBER, between the hours of TEN and FOUR. By order, P. LE NEVE FOSTER, Secretary.
Society's House, December 22, 1864

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.
Exhibitors must live in the following postal districts.
MONEY PRIZES, from £1 to £10.
Application for space, information, &c. to be made to Mr. H. M. MURPHY, 55, Finchley road, S.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.—SPECIAL NOTICE! Intending Competitors for Metal Design will be lodged by DECEMBER 31st, 1864 their Specific Exhibits should send in their Application for Space on or before JANUARY 2 of, 1865
GEORGE H. MURPHY, } Hon. Secs.
55, Finchley-road, S. J. J. FREDERICK, }

DR. TYNDALL, F.R.S. will commence a COURSE of EIGHT LECTURES, on "ELECTRICITY," on WEDNESDAY the 28th DECEMBER, at EIGHT o'clock, to be continued on the evenings of the 29th and 30th, and the 2nd, 3rd, 4th, 5th and 6th of JANUARY, 1865. Ticket to be had at the Royal Institution of Mines, Jermyn street, price 5s. for the whole course
TRENHAM REEKS, Registrar.

NOTICE
BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72—74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Steam Cooking Utensils, to meet the great public demand; and also for the subsequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.
72—74, Bishopsgate-street Within

LENOIR'S PATENT GAS-POWER ENGINE.
PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.
The Company are now ready to Exhibit this native power, daily, between the hours of 11 and 1 and 3 and 5
C. W. WOOD, Manager and Secretary (pro tem)
No. 40, Cranbourne street, Leicester-square.

THE BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, THURSDAY, FEBRUARY 23rd, 1865. Admission 21s.
JOSEPH BIRD, Hon. Sec. Hanover Cottages, Regent's Park.

Now ready, in 2 vols. 8vo. with 2 Portraits and 17 Illustrations on Steel, at 1 Wood, price 25s. cloth,
LIFE of ROBERT STEPHENSON, F.R.S.
By J. C. JEAFFRESON, Barrister-at-Law; and WILLIAM POLE, F.R.S. Members of the Institution of Civil Engineers
London: LONGMAN, GREEN, & CO. Paternoster row.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of the City of Newcastle are prepared to receive PLANS and SPECIFICATIONS for the ERECTION of a PUBLIC and LOWER SCHOOL HOUSE, on the Bell's Close Estate, Sandgate, for the education of 300 Boys and the CONVERSION of the House at present standing thereon into a convenient RESIDENCE for a MASTER, at a cost not exceeding £2000. Such Plans and Specifications to be sent to me, at my Office, on or before the 31st of JANUARY next.
CHAS MARSH LEE, Town Clerk.
Public Offices, Salisbury, December 19th, 1864

SWANSEA INFIRMARY. — The Committee of the Swansea Infirmary are desirous of receiving PLANS and ESTIMATES for the NEW HOSPITAL for 100 BEDS, to cost not exceeding £2000 per Bed. Plans to be sent in to the Secretary, on or before the 1st of FEBRUARY, 1865.
GEO. I. STROUD, Secretary.
No. 6, Heathfield-street, Swansea, December 2, 1864.
N.B. The secretary will reply to the various letters received after the next meeting of the committee.

CONTRACTS.

COAST GUARD CONTRACT.—
NOTICE to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Ramsgate, in the county of Kent, may inspect the Drawings and Specifications at the Walmer Boat Station, Ramsgate, at the Office, between the hours of TEN and FOUR, from MONDAY, the 2nd, to TUESDAY, the 24th day of JANUARY, 1865, and both inclusive (Sundays excepted).
Tenders to be sent in to the Office not later than TWELVE o'clock at noon, of the 25th JANUARY 1865, under seal, and directed to the Commodore Controller-General of Coast Guard, and endorsed "Tender for Ramsgate Station."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any Tender.
Dated this 15th day of December, 1864, at the Admiralty, Coast-Guard Office, 12, Spring gardens, London, S.W.

TO BUILDERS, MILLWRIGHTS, and OTHERS.—STAFFORD COUNTY PRISON.—Persons disposed to TENDER for the ERECTION of TREAD WHEELS, CORN MILL, and KITCHEN at the above named Prison may inspect the plans, specification, and conditions, and obtain bills of quantities, at my Offices on and after TUESDAY, the 20th, until THURSDAY, the 29th of DECEMBER. A deposit of £1 1s. will be required for each copy of quantities, which will be returned if not further submitted. Tenders for the works. Tenders must be delivered at my Offices by TEN o'clock a.m. on THURSDAY, the 29th DECEMBER, but neither the lowest nor any Tender will necessarily be accepted.
ROBERT GRIFFITHS, Architect and County Surveyor.
County surveyor's Office, Eastgate-street, Stafford,
December 14, 1864

TO BUILDERS, &c.—Parties desirous of CONTRACTING for the ADDITIONS and ALTERATIONS to the PAVILION of the Marylebone Cricket Club, are requested to communicate, by letter only, with the Architect, Mr. HARRY E. NEWTON, 6, Argyll-street, Regent street, W.

TO BUILDERS and CONTRACTORS.—The Burton-upon-Trent Improvement Commissioners, as the Rural Board for that District, are prepared to receive TENDERS for FORMING the ROADS and DRAINS, Laying out the Ground and Fencing, and for the Erection of Two Chapels, Lodges, Entrance, Boundary Walls, &c. at the proposed new Cemetery, South Clifton Hill, near Burton upon Trent. The plans, specifications, and copies of quantities can be seen at the Commissioners' Offices, High street, Burton; or at the Offices of the Architects, Messrs. LUCY & LITTLER, 9, James street, Liverpool. Tenders, endorsed "Tender for Cemetery Works," addressed to the Chairman, Burton Improvement Commissioners, are to be sent in on or before the 3rd day of JANUARY, 1865. The Boards do not bind themselves to accept the most or any Tender, and the contractor will be required to find sureties for the due fulfilment of the contract.—By order
Burton, December 12, 1864 WM COXON, Clerk.

TO MILLWRIGHTS and ENGINEERS.—CONTRACT for TREADWHEELS.—The Visiting Justices of the House of Correction, Wakefield, will meet at the House of Correction on FRIDAY, the 30th of DECEMBER instant, at ONE o'clock, to receive TENDERS for the CONSTRUCTION, FITTING, and PAINTING of NEW TREADWHEELS, as directed Prop. The whole, strong, solid timber work on which the Machinery is to be fixed will be provided by the Visiting Justices. The plans and specifications can be seen on application at the Prison on any week day but Friday, between the hours of ELEVEN and THREE. Tenders are to be sent in addressed to the Visiting Justices at the Prison by TWELVE o'clock on FRIDAY, the 30th instant, at the place aforesaid, to be written upon at One on that day, properly with the names of two responsible parties for the due performance of the Contract if the Tender be accepted. The Contract will be prepared at the expense of the Visiting Justices. The Visiting Justices do not bind themselves to accept the lowest or any of the Tenders JOHN S. SHAIPE,
14th December, 1864. Clerk to the Visiting Justices

CONTRACTS.

TO BUILDERS and OTHERS. TENDERS are required for TAKING DOWN and CLEARING AWAY a MANSION HOUSE called Sinkarth-upon-Test Stanford-in-Ashe, Hants. Tenders to be made out by Builders on and after the 24th instant.—Tenders to be delivered to me on MONDAY, JANUARY 2, 1865, up to Noon o'clock, p.m.
EDWARD BROWNING, Architect, Stamford.
December 15, 1864.

CORPORATION of MANCHESTER. To BUILDERS.—The Cemetery Sites Sub-Committee are prepared to receive TENDERS for the ERECTION of the intended BUILDINGS at the new Cemetery, near Manchester, consisting of three separate Chapels, offices, and Lodge for the registrar, two Lodges, and two entrances. Drawings, and specification, and conditions of contract, may be seen at the Offices of the Architects, Messrs. PAULL & AYLIFFE, Infirmary buildings, 21 Cross street, Manchester. Quantities will be furnished, and may be ordered of the Architects, upon deposit of £2 for each set, the said deposit to be returned to all builders from whom bona fide Tenders are received.—Sealed Tenders, endorsed "Tender for Cemetery Buildings," and addressed to the committee, must be delivered at the Office of the Architects, not later than TEN o'clock a.m. on MONDAY, the 16th of JANUARY, 1865. The Tenders may be for the whole of the works, or for the masonry, &c. separately.—By order
JOSEPH HERON, Town Clerk.
Town-hall, Manchester, 5th December, 1864

N.B. Early application for lists of quantities should be made by letter, to the Architects, that the requisite number of copies may be ordered

CROYDON LOCAL BOARD of HEALTH. CONTRACT for SEWER TRENCHES.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the EXCAVATION and RE-FILLING of 7,000 lineal yards of TRENCHES for SEWERS, in accordance with the specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. The specification may be seen at the Engineer's Offices, in the Town Hall, Croydon, on or after this date, sealed Tenders, addressed "Tender for Sewer Trenches," are to be delivered at the Office of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 3rd day of JANUARY, 1865. The Local Board do not bind themselves to accept the lowest or any Tender.
HENRY RICHARDS, Clerk to the Board.
Town Hall, Croydon, December 14, 1864.

TO CONTRACTORS.—RHYL PROMENADE PIER COMPANY (LIMITED).—The Directors are desirous of receiving TENDERS for the ERECTION of an IRON PIER into the Sea at Rhyl, 1,050 yards long.—Plans and specifications may be seen upon application to Mr. W. WYNNE, the Secretary, Bee Hive Hotel, Rhyl. The Contractor will be required to take a portion of the amount of his contract in paid up shares of the Company. The Directors do not bind themselves to accept the lowest or any other Tender.

LUNATIC ASYLUMS, IRELAND.—TENDERS are invited for the CONSTRUCTION of STEAM BOILERS, Apparatus for Cooking by Steam, Pumping and Pumping Engine and Pipes to convey steam to the Outhouses, Lighting to be laid on, Well Sinking, &c. for the Asylum at Castlebar, in the County of Mayo, and Letterkenny, in the County of Donegal.—Particulars can be seen at the Office of Mr. WILKINSON, Architect, 10, Westland-row, Dublin. Tenders, endorsed "Tender for Steam Works for —— Asylum," to be sent in or delivered, addressed to R. M. ARMSTRONG, Esq. Secretary to the Lunatic Asylums of Ireland, the Castle, Dublin, on or before the 5th day of JANUARY next. The lowest or any Tender will not necessarily be accepted.
December 14, 1864

LUNATIC ASYLUM, CASTLEBAR. To GAS-FITTERS.—TENDERS are invited for PROVIDING 120 LIGHTS for the above Asylum, including main pipes, gas stove, and all other incidental works.—Specification and particulars to be seen at the Office of Mr. WILKINSON, 40, Westland Row, Dublin.—Tenders to be sent to R. M. ARMSTRONG, Esq. Secretary of the Commissioners of Control, the Castle, Dublin, on or before the 5th JANUARY next. The lowest or any Tender will not necessarily be accepted.

TOTNES (SOUTH DEVON) WATER SUPPLY.—To IRONFOUNDERS.—Persons desirous of SUBMITTING TENDERS for the SUPPLY and DELIVERY of CAST-IRON WATER-PIPES (cleared by Dr. Angus Smith's process), at Totnes, South Devon, can inspect the drawings and specification, at my Office, in Torquay, on and after MONDAY, JANUARY 2, 1865. Tenders, endorsed "Totnes Water-supply," to be sent to me, on or before JANUARY 17, 1865. There is water and railway communication with Totnes.—The lowest or any Tender will not necessarily be accepted
EDWARD APPLETON, Assoc. Inst. C.E.
Torquay, December 20, 1864.

HACKNEY UNION.—To BUILDERS and OTHERS.—ENLARGEMENT of SCHOOL BUILDING. Notice is hereby given, that the Guardians of the Poor of this Union are ready to receive TENDERS, and to Contract for certain New Buildings, at the Schools, at their Union House, according to the plans, specifications, and conditions, which may be seen upon application to the Master, any week day before TUESDAY, the 10th day of JANUARY, 1865, between the hours of ELEVEN and THREE o'clock. Persons tendering for the performance of the works, are required to deliver their New Bills at the Schools, to be sent to the Clerk, at the Union House, on or before TUESDAY, the 10th day of JANUARY, 1865, at which time all such Tenders will be opened in the forenoon of the same day, at TWELVE o'clock, when the parties tendering must be in attendance, to answer when called for. Payment to be made upon the certificate of the surveyor to the Guardians, when one-half of the gross value of the works executed from time to time shall have been certified. Each Tender must be accompanied by the names of two responsible parties willing to enter into sureties for the due performance of the Contract, if the Tender be accepted. Dated this 8th day of December, 1864.—By order of the Board of Guardians,
CHARLES HORTON PULLEY, Clerk.
Hackney Union, Lower Homerton, N.E.

[For remainder of Contracts see next Page.

PARISH of CHELSEA, in the County of MIDDLESEX.—GRAVEL, &c.—The Vestry of this Parish will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 3rd day of JANUARY, 1865, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to Contract until the 24th day of September, 1865, for the SUPPLY of the Best Clean, Sifted, Pit Road GRAVEL, SHINGLE, and the GRAVEL HOGGING, to be delivered upon the roads or footpaths, at Kensal New Town, Harrow-road, and Kilburn lane, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders signed by the proposed Contractor, and the names and description of two sufficient Sureties for the due performance of the contract, to be delivered to the Clerk, by or before TWELVE o'clock on TUESDAY, the said 3rd day of JANUARY. No Tender will be received or accepted, unless made on one of the printed forms, to be obtained at the Office. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, December, 1864.

PARISH of CHELSEA, in the County of Middlesex.—NEW MOUNT SORREL BROKEN GRANITE.—The Vestry of this Parish will meet at the Vestry Hall, King's-road, on TUESDAY, the 3rd day of JANUARY, 1865, at THREE o'clock, to receive and consider any new TENDERS (sealed) for the CONTRACT, until the 30th day of SEPTEMBER, 1865, for the supply of the best MOUNT SORREL BROKEN GRANITE, to be delivered on the Barrow and Kensal Stones, at such times and upon such parts of Roads as the Vestry may direct. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, signed by the proposed Contractor, with the name and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock on TUESDAY, the said 3rd day of JANUARY. No Tender will be received or accepted, unless made on one of the printed forms, to be obtained at the Office. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, December, 1864.

TO DUSTMEN, BRICKMAKERS, and SCAVENGERS.—The Crown Estate Paving Commissioners hereby give notice that they are ready to receive TENDERS from persons willing to enter into a CONTRACT for the REMOVAL of DUST, DIRT, ASHES, and CINDERS, from the Houses within the district under their jurisdiction, for the term of ONE YEAR, from the 29th day of JANUARY, 1865, specifications and forms of Tender for which may be had on application at the Paving Commissioners' Office, No. 1, Whitehall-yard, Horse Guards, S.W., where Tenders, sealed and addressed to the Crown Estate Paving Commissioners, and described "Tenders for Dust," are to be delivered before or before ONE o'clock on WEDNESDAY, the 4th day of JANUARY, 1865.

FRANCIS ADAMS, Clerk to the Commissioners.

1 Whitehall-yard, 20th December, 1864.

TO WELL-SINKERS, BORERS, and others.—The Directors of the Northampton Water-Works Company are desirous of having TENDERS for DEEPENING and REPAIRING their present WELL in Northampton. The work will consist of taking down the brickwork to the depth of 30 feet of the present well, 8 feet 6 inches diameter; providing and sinking about 60 feet of cast iron cylinders, 8 feet diameter; deepening the well about 100 feet; turning the same with 18 inch brickwork in cement; and other works at Northampton. The Contractors must be prepared to satisfy the Engineer of their ability to execute the work by reference to other works of the same description executed by them, before they can be allowed to execute this. The printed specification and Form of Tender, can be seen at the Offices of the Engineers, Messrs. EASTON, AMOS, & SONS, The Grove, Stamford, London, S.E.; also at the Water Company's Office, No. 5, Newland, Northampton.—Tenders (enclosed in a sealed envelope) endorsed "Tender for New Well," to be sent to the Secretary, No. 5, Newland, Northampton, on or before the 23rd day of JANUARY, 1865. The Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS. Persons desirous of TENDERING for the ERECTION of NEW BANKING PREMISES at Bath are invited to apply for the Local and Chief Bank, and inspect the plans and specification at my Offices, on and after THURSDAY, the 5th of JANUARY, when Tenders will be received before ELEVEN o'clock A.M. on MONDAY the 16th of JANUARY, at the London and County Bank, 21 Lombard-street, London. The lowest or any Tender will not necessarily be accepted.

PHILIP O. CHANCELLOR, Architect,
Parsonage Chambers, Old Broad-street, London.

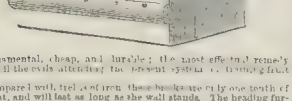
SAMPLES of BRICKS, TILES, &c. Made at PAST COWES PARK, Can be seen at the Crystal Palace, Battersea, KENSINGTON MUSEUM, or F. LANGLEY, Agent

NEW STOCK NOW READY. FINE WHITE BRICKS. BEST RED BRICKS. White, Black, and Red Cutters. Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Tiles and ornamental ROOFING and RIDGE TILES. Delivered to Vessels in the Dock alongside the Kilns, in the River Medina. Pattern Sheets and all information can be had of F. LANGLEY, Agent, East Cowes park, Isle of Wight.

VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S. BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN PIPES AND RED GOODS, PEDRA COTTA. BPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER PAVIORS, RED AND WHITE FACINGS, STAFFORDSHIRE AND TILE GOODS, MALM CUTTERS, PICKINGS, AND BUILDING GOODS GENERALLY. A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S. Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman at Gardiner's Hermitage Wharf, Wapping, E.

BY HER MAJESTY'S ROYAL LETTERS PATENT FOXLEY'S CORRUGATED BRICKS, For GARDEN WALLS.



Are ornamental, cheap, and durable; the most efficient remedy as yet for all the evils attending the present system of training fruit trees.

A comparison with the old iron tiles or bricks are only one tenth of their cost, and will last as long as the wall stands. The heading furnishes a protection against the spring frosts, and prevents cold draughts; while the trellis, by leaving a clear space behind the trees, carries away all moisture. Any kind of trees can be trained, and espaliers, and instead of preventing, increases the accumulation of insect and bird life. It may certainly be said that there is no wall for fruit-trees; but, at any rate it is safest to have only a brick wall, and decidedly better to have such a wall as will furnish, at the least cost and trouble, the largest quantity of the finest fruit. The Patentee challenges the whole world to produce anything comparable with these bricks—for shape.

They are now in use everywhere, and need everywhere. The principle so plain and simple, that a child may understand it, and requires no argument or trial to prove its benefits.

The patent of the Patentee, Mr. J. Foxley, of further particulars, on application to FOXLEY'S Agency, 8 Strand, Bricks and Tiles may be had for trial, to make the flowers to try for themselves, as they are not already up, at

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Pavings, 56s. per 1,000.
" Floor Bricks, 40s. per 1,000.
White Kiln ditto, 46s. per 1,000.
Ridge Tiles, at 76s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line of the Great Eastern Railway. Quantities may be delivered by Vessel, at any of the Thames Wharfs.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS. By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS. By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields: by Messrs. J. Batcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & C. Parker, of Wickham, near Strood.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

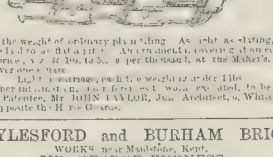
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour PAVING TILES, in various Colours to order. Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Paving BUILDING and SEWER BRICKS. Architects' designs carried out on the shortest notice. Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD, Belvedere-road, Lambeth, and Kent-road Bridge.

THE NEW ROOFING TILES.



Half the weight of ordinary plain tiling. As light as slating, and may be laid to as flat a pitch. An ornamental, covering, and economical price, 27s. 6d. to 35s. per the square, at the Maker's. Lee will cover one yard.

Light enough, each, to weigh under 11lbs. Further information, testimonials, &c. can be had, to be had of the Patentee, Mr. ROBERT TAYLOR, Jun. Architect, of, Whitehall, S.W. opposite the Horse Guards.

AYLESFORD and BURHAM BRICK WORKS, near Maidstone, Kent. MR. GEORGE FURNESS

Having increased the mechanical appliances for the Manufacture of Bricks by erecting a number of the most approved patent machines, Architects, Builders, and Contractors are respectfully informed that they can be Supplied with GUALT BRICKS of the best quality, and at moderate prices. — Prices and particulars furnished on application to

MR. SLATER, Thames Embankment, Cannon Wharf, Westminster.

TO BRICKMAKERS. — All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr ROBERT WHITE, and which may be seen in operation at the Brickfields of

J. B. WHITE & BROTHERS, Erith, Kent.

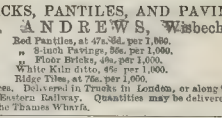
The advantages of this plan are two-fold.

1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.

2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.

Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

JOHN ARCHBUTT & SONS, 201, Westminster bridge-road, Lambeth, near Astley's Theatre



Revised List of Prices for present season:—Best 10 inch Dumpy Level, with solid centre, complete, 8l. 10s.; with 3 compass, 9l. 9s.; 11 inch ditto, 10l. 10s. and 12l. 12s.; with Bubble's improved reversy adjustment and diaphragm, 1l. 1s. extra. Prospectuses sent free. An inspection will prove their instruments cannot be surpassed in solidity of work, power, illustrations, or cheapness. N.B. Levels and Theodolites on hire. Estimates given.

AUSTIN, SEELEY, & CO. 371 - 375, EUSTON-ROAD, Near the Regent's Park.

Manufacturers of PORTABLE GARDEN SEATS, FLOWER VASES (in Terra-cotta), SUN DIALS, BASKETS, RUSTIC WORK, IRON SEATS, ORNAMENTS for GATE-PIERS, and CHIMNEY-TOPS.

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EDWARD HARPER, Secretary.

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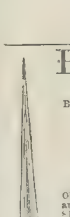
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A. MOORE, Secretary.

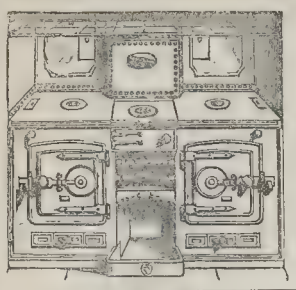
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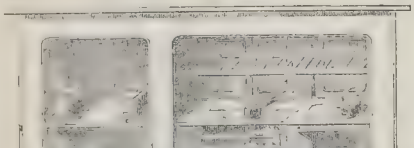
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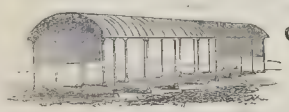
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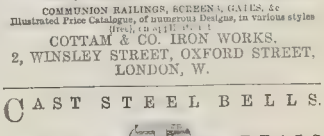


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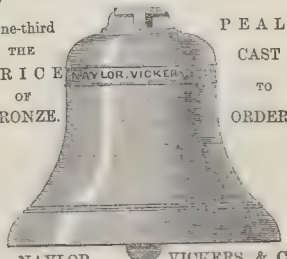
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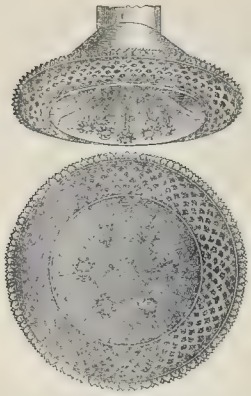
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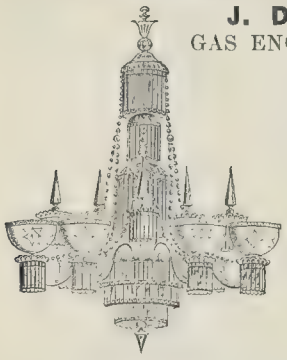
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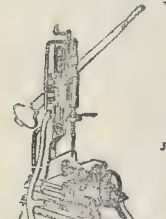


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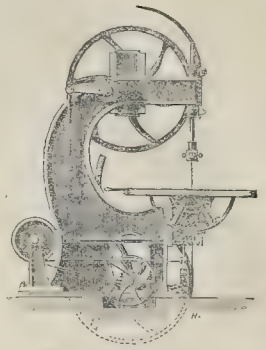
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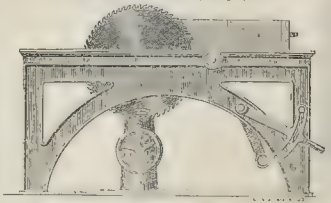
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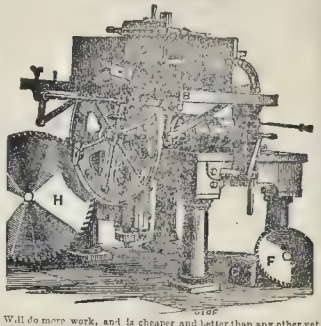
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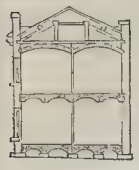
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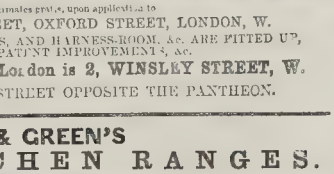


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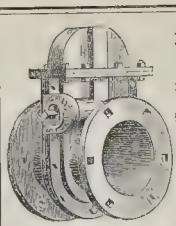
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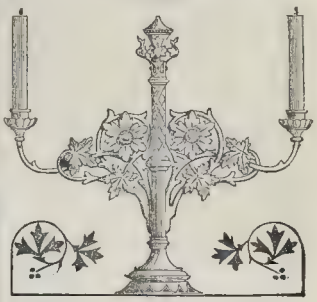


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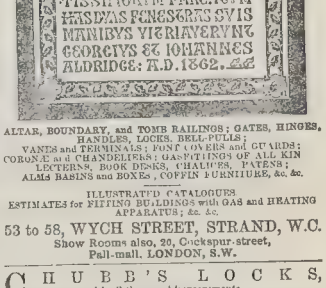
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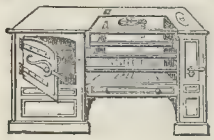
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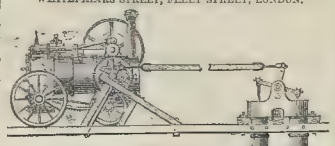
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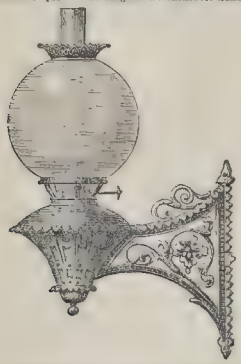
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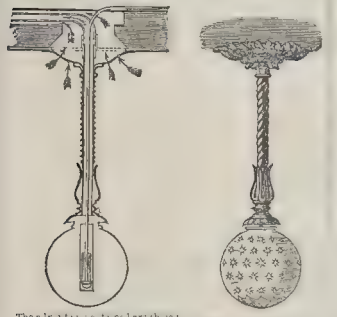
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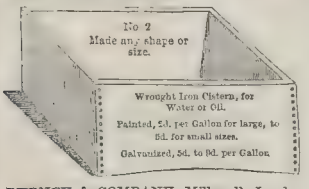
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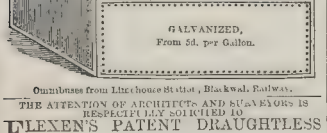
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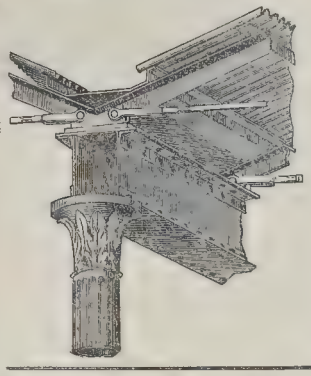
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VOL. XXII.—No. 1142.

Condition of our Towns: Stirling.

THE river Forth at Stirling might form the subject of an interesting inquiry, if our object were to investigate the conditions of material prosperity and the growth of trade. There is an old proverb to this effect,—that he who does not know his way to the sea should follow the course of a river. If he did so at Stirling, he would get a roundabout or rather zigzag journey. For example, the distance to Alloa is only about six miles as the crow flies: but by the river it is something above twenty miles. However beautiful as a landscape these "links" and windings may be, they act as a powerful barrier to the extension of commerce. Indeed, partly from this cause, and partly from the decay of its local manufacture and salmon fishing, Stirling was gradually subsiding into a state of stagnation and atrophy, until it became a principal station of the Scottish Central Railway, which has vastly improved its condition. The neat and commodious station of this railway deserves notice,—if for nothing else, for its cleanliness,—a rare characteristic of Scotch railway stations.

The town of Stirling, as we have said,* has a very picturesque and rather quaint appearance, arising from the declivity of the Castle Rock upon which it is built, and its close proximity to the verdant links of the Forth. It is easy to see that it has extended greatly of late years. Many snug modern villas and terraces are creeping out in a landward direction, as if disdaining in its old age the protection of that venerable fortress which in fact gave birth to the town. The peculiarity of site gives also great facilities for thorough drainage; and it is an easy business to supply a town with water, when it is situate in the centre of a district of granitic mountains; but of these inestimable natural advantages Stirling seems to have only partially availed herself.

The water supply is, of course, abundant. In the year 1848 an Act of Parliament was obtained, by which power was given to certain commissioners to bring a supply of water from the neighbouring hills; which has been done up to a certain extent with great success. The town itself seems well supplied; and we were glad to perceive an efficient number of public wells in the principal thoroughfares and most densely populated wynds. But the neighbouring villages, such as Raploch and St. Ninian's, which now form almost part of the suburbs of Stirling, are still, as far as we can see, left without a supply. This, we think, ought to be amended; for it is precisely in these quarters that a good supply of water is productive of the greatest benefits. The water seems to be supplied on the constant service system; the quality of the water is excellent; the assessment up to this year, at all events, has been moderate; and, on the whole, we may rest satisfied with the condition of the Stirling water supply.

We wish it were possible to say as much for the drainage,—which, as far as it exists, is very bad (as the smell from the gully-holes informs us), but which over the larger part of the burghal area does not exist at all. The first maxim of the principles of modern drainage—*i.e.*, that every dwelling-house shall have a soil-pipe communicating with a common sewer,—does not seem to have been understood in Stirling up till within a very recent period. For example, Allan-park, which may be regarded as the Grosvenor-square of Stirling, and which cannot be more than thirty or forty years old, consisting of excellent self-contained three-floor houses, was originally planned without space for water-closets. The only convenience provided was in the garden behind the houses, right under the drawing-room windows,—an arrangement which is still common even in the best parts of the town. Of course, when the better class of houses were thus unprovided with water-closets, it would be in vain to look for such things in houses of the poorer classes. For their uses we ascertained there were two or three public places throughout the town, two of which we had the fortitude to inspect. The first was under the Corn Exchange Hotel, the second in a close in Baker-street; and the revolting condition of them both was such as we cannot venture to describe in our columns. Their construction was curious enough to arrest our attention: a large trough, of the ordinary description, was divided into seats, and roofed in with boards, like a dog's kennel, with holes cut in this boarding like the opening for an elliptical storm-window. Truly the most curious *cabevêts-de-convenance* we ever saw in respect to their covering, and probably adopted from motives of security to the inhabitants. It is to be understood that such places are only used by adult males and boys; for the women and children there remains only the old Scotch contrivance—the pails! Some people may think our examination of such places too minute; but let us look to the consequences. On the high roads to the Bridge of Allan, for example, a lady is never safe if she walk on the footpaths. Round the castle walks we observe here and there constructed rustic seats of stone and turf in shady recesses, where the lover of nature might safely take shelter from the heat of the sun or the high wind, and admire the beautiful prospect around. But few tourists, we imagine, can enjoy them; for they are all converted to the basest uses. Nor do the closes and wynds in the town escape the contamination. They are not so bad, certainly, as those we have seen in Edinburgh or Glasgow, for the tenements are not so large and lofty, and the population is not so thick; but the gutters flow with the same sort of abomination, and produce in due time their proper equivalents of disease. Dr. Thomson, a well-known medical authority in the district, some years ago pointed out that the cases of fever and small-pox in the Stirling wynds and closes exceeded those of the better quarters of the town by an enormous ratio.

In addition to these little sanitary difficulties, Stirling has its quantum of suffering inflicted in the shape of chemical works. In the centre of the pretty valley slope, which lies between Murray-place and the river, there are one or two manufacturers of parafine, and the products of the distillation of coal-tar. Such, at least, we suppose them to be, for a certain air of mystery is kept up in the works. But whatever their character is, the bad smells which they produce are intolerable, and must be highly pernicious and injurious to health. The gasworks, which are situate in the same neighbourhood, are not, as we can testify, free of very bad smells: these at least ought not to be difficult of cure. Of course, we heard on all sides complaints of the town council as guardians of the public health; and we are afraid we cannot acquit them of supineness. Some excuse for them may doubtless be found in the nature of Lord Rutherford's Act (the Health of Towns Act for Scotland), under which they exercise their powers of sanitary police. But the New General Police Act for Scotland would probably remedy this defect, and we recommend its adoption by all means. It is clear, however, that municipal government, as exercised in an ancient and royal burgh like Stirling, is not the proper exponent of sanitary reform. From what we could ascertain of the proceedings of the town council, by reading the local reports and otherwise, we could easily see that they are often composed of discussions about mere trifles,—such as the order of precedence in receiving the Prince of Wales at the station, the cost of the high constable's dinner, and whether a policeman ought to be checktaker at the cattle show.

One thing about the Stirling corporation we cannot excuse, and that is the failure to make a decent entrance, or, rather, exit, to the Castle Hill, from the north side. As it stands at present, a stranger may enter by the richly-wooded acclivity at the Dumbarton-road, and after walking round the footpath find there is no other mode of exit than a narrow circuitous passage through a series of filthy privies, dungheaps, and piggeries, the very smell of which is enough to obliterate all the sensations of pleasure he may have experienced in the distant view of Ben Lomond. The expenditure of a few pounds, at the very utmost, would make a decent and cleanly approach. Since we are on this subject, we may also point out that the banks of the river are sadly neglected. We do not refer so much to their noxious condition as to their absolute want, in certain places, of footpaths. Even to repair the footpaths which already exist would not cost much; and if a model be required, it is not far to seek. The old monks of Cambus-Kenneth Abbey seem to have had a magnificent terrace between their monastery and the river, and the example is not too old to imitate, although it does not proceed from a Presbyterian kirk.

We happened to be in Stirling during a serious fire. It broke out on the premises of an extensive baker and grocer, in Baker-street, whose bakehouse had been recently fitted up, at a great expense, with steam machinery. The fire was first discovered between the hours of seven and eight o'clock in the evening, and in a short time the whole interior of two massive stone tenements was completely given up to the flames, which shot upwards with a brilliant effect, and illuminated the sky for a distance of at least twenty miles around. The small body of police which Stirling can boast of were very active, and the old-fashioned town engines were speedily on the ground; but the miserable hose-pipes were shamefully inefficient: they burst and gave way in all directions, and a long delay occurred before a volume of water could be brought into play on the raging element. At one time considerable alarm was felt for the neighbouring property; the sparks flew thick over the Royal Hotel into Murray-place; and had it not been for the stout old walls of freestone rubble, which resisted the heat evolved from the burning timber, we might have had to record a more startling result. As it was, the credit of putting out the fire, or, rather, of preventing the fire spreading, is due to the military in the castle, the whole battalion being immediately ordered out, under the command of Colonel Nugent. Their discipline and effective work were soon distinguishable: and Stirling, we thought at the time, was fortunate in being the station of a military depôt. The fire burned during the whole night, and was not extinguished till a late hour the next morning. It was said to have been unexampled in the district for many years; the last occurrence of such a serious character being the fire in the Douglas Room, when one of the most interesting antiquities in Scotland was reduced to ashes.

* See p. 909, *ante*.

We made some notes on the condition of the villages which surround Stirling. Raploch, a long straggling row of cottages, conspicuous from the castle, is, we believe, the Irish colony of the place, and of course the most unsalubrious and unhealthy. On walking through it we could easily detect symptoms of every conceivable form of nuisance, and every stage of overcrowding. Occasionally, we were told, during the period of any sudden Celtic irruption, thirty or forty persons might be found huddled together in some of the cottages. One thing occurs to us worthy the attention of the authorities, and that is the long slimy, stagnant ditch, which is, in fact, a long open cesspool, that lies in front of the cottages. Although concealed from observation on the highway by a luxuriant hedge-row, its deadly effect will, nevertheless, make itself felt. It might be easy to direct a stream of water through it, if nothing else could be done.

St. Ninian's is an excessively dirty though rather extensive village, having a church which presents the extraordinary spectacle of a clock tower and belfry standing apart from the body of the church. The explanation, we believe, was this:—When the Highlanders were retreating to the north, in 1716, the existing church, which was then connected with its tower, was used as a powder magazine. By design or accident, it is not said which, the magazine exploded, and the church was blown to atoms. Strange enough the steeple received no damage, and was allowed to stand on its old site, while the new church was built a little distance, but unconnected with it. The practice of the people in this village is to empty their refuse on the roadway. Where it goes to we cannot tell, unless it is absorbed by the soil, which is of course a very dangerous condition of things, particularly if there be draw-wells in the place.

Milltown is celebrated as a colony of nail-makers. If we remember rightly, Adam Smith tells us a story of Milltown, that in his day the inhabitants of this village carried nails to the ale-house in place of the current specie of the realm. Close by, the house is still shown in which James III. was assassinated, not the only victim of the royal line of Stuart to the turbulence of the Scottish nobility. Milltown is rather better in point of sanitary observances than some of the other villages. There is something purifying about a forge always. But in a little hamlet between Milltown and St. Ninian's we observed a most extraordinary domestic arrangement. It was a small cottage divided by a single partition, through which was a doorway: in the one compartment was the nailmaker's forge, *and a cow*; in the other single apartment was the nailmaker and his wife and family!

Bannockburn is a large manufacturing village. A little stream called the Bannock supplies it at once with the name and the motive power for a number of mills engaged in the woollen tartan trade. Some of the older cottages are dark dismal hovels, but some of the newer erections call for approval. The "Pollution of Rivers Bill" might be appropriately put in force here, after the Lord Advocate succeeds in getting it passed.

Cambus Barron, to our thinking, is the cleanliest village near Stirling. Most of the cottages are well though roughly built, and some are of a very superior order. A few have little gardens in front adorned with autumn lilacs and fuschias; and a small running stream passing through the village keeps it well drained and comparatively pure.

Cambus Kenneth is the very reverse of this in every respect. "The Field of Kenneth," as its name implies, is situate on the opposite bank of the Forth from Stirling, whence it is reached by a ferryboat. The chief object of interest here is the venerable grey tower of the ancient Augustine monastery, despoiled and torn down, as we have mentioned, at the Reformation. Even in its ruins it is still noble-looking. The crowfoot gables, so conspicuous in Scotch ecclesiastical architecture, and the massive strength of the walls and buttresses, are deserving of study. And so is the sanitary condition of the village. It is enough to make one melancholy. We are certain the vassals of the monastery in the fifteenth century could hardly have possessed more wretched hovels than the present inhabitants. These are chiefly hand-loom weavers, engaged, as we could see, in working the black and magenta striped stockings which are fashionable among the stout-limbed lasses of the Forth. We did not inquire what wages they made, for we knew instinctively that the answer would have been, *barely* as much as will keep soul and body together. Some of the old thatched cottages are not more than 9 ft. square by 6½ ft in height, lighted with two miserable bull's-eye panes of glass; others are half ruined; others we really could not distinguish from the pig-sties to which they were connected, so villainously diminutive, ill-lighted, and dirty did they seem. To every cottage, however, we were glad to see attached a kitchen-garden in more or less flourishing condition.

We had something to say about the Bridge of Allan, a fashionable Scotch watering-place about three miles from Stirling; but we must reserve our remarks as to its mineral well and other peculiarities. We will only note further that the whole neighbourhood both of Stirling and the Bridge of Allan is so infested with beggars that we are led to infer some grave defect either in the character or the administration of the Poor-laws in Scotland. One would suppose that the whole juvenile population and all the old women of the place were trained to beg. We need not enlarge upon the disagreeable effect of this on visitors and strangers; the demoralizing effect on the people themselves is of far higher consequence, and should not be overlooked. A juvenile beggar systematically trained to whining and imposture is not far removed from a juvenile thief. We point out these things not by any means in a spirit of hostile and ungenial criticism, but simply with a full knowledge and long experience of their evil effects. Stirling is pre-eminently a neighbourhood for people who seek retirement; and the Bridge of Allan is celebrated as a suitable residence for invalids. A vast number of tourists and sportsmen also pass through Stirling on their way to the north. If the local authorities wish to increase these sources of revenue, they must not disfigure their natural beauties nor destroy their natural amenities; and, above all things, they must give convenience and encourage habits of personal cleanliness in the poorer orders of the people.

THE CHARING-CROSS HOTEL.*

In our previous notice of this building, we gave general information of the accommodation provided, and of the arrangement of the plan, and intimated that we should further speak of the decorative features and of the construction.

The Strand front, which includes the railway booking-offices, the exit-way from the station, and the main entrance to the hotel, consists, as we said, of a centre of twelve bays of openings, and of the two pavilions. The centre is in five stories above ground, besides two stories in the roof. In the pavilions, which are at the ends, however, we should correctly speak of the stories as in number six, besides three as appearing to belong to the roof; for, one of the stories in each pavilion, the sixth, has the character of an ordinary story externally only: the ridge-rafters of the high-pitch roof start in fact from the level of the general cornice-line of the building; and the rooms are retrenched correspondingly inside; though the story appears externally with a cornice and balustrade, and with the principal dormers above it. This explanation may prevent any seeming discrepancy between our former description and the character of the building.

The recess in the Villiers-street front, in the centre, between towers which are there attached to the pavilions, is of twelve bays; and the stories correspond with those of the Strand front, excepting that there is an additional range of openings to the mezzanine which extends over a portion of the ground story, and excepting that one, or in part of the length two, of the three ranges of basement windows appear above the sloping line of ground; whilst the kitchen being of the height of two basement stories, its windows are the same, and owing to the declivity are wholly above ground.

The third and fifth stories, in the centre of each front, counting from the ground-line on the Strand side, and the sixth story in the pavilions, have the openings coupled; or, they are two in the place of one window of the story below. In the top range, the openings are arch-headed, with a central pier; whilst the exterior forms a screen to the actual windows, which the thickness of the wall allows to be set inwards sufficiently for considerable addition to the effect. The third story being in fact a mezzanine, the windows are of moderate height; and they are square-headed and not recessed. Those in the north-eastern pavilion may give light to the upper part of the Reading-room; and those in the southern pavilion in Villiers-street will light the corresponding part of the Coffee-room, as we have already described. In the greater number of the details, the two fronts correspond with one another; but there is considerable difference in the elevations from the much closer setting of the windows in the centre of the Villiers-street front, the addition of engaged columns to the narrow piers in the second and fourth stories, and the substitution of unbroken lines of cornices and balconies, for lines broken by the projection of the windows as in the Strand front; from the greater height of the building, at the south pavilion especially; from the belvidere-storied and pyramidally-roofed towers in place of the mere piers with tabernacles and spirelets, to two of the angles of the pavilions; from the first-floor balcony boldly projecting on stone cantilevers; and from the substitution of a basement characterized by a peculiar rustication in the brickwork, for that in which the most prominent features are the two porches and the pent-roof to the footway to the station entrances.

In the Strand front, the four principal stories of the centre have pilasters, and cornices or regular entablatures, to all the windows, and balconets, which last do not advance beyond the face of the pilasters, excepting in the case of the first-floor mezzanine, where the cornice of the first-floor windows is carried by trusses. A novel form of balustrade having a semicircular-topped centre, and a cross in a circle between elaborate ornament, is here introduced. This feature cuts off part of the height of the mezzanine-windows as seen from the exterior. The balustrade referred to, like the greater portion of the ornament throughout the elevations, is in terra-cotta of Mr. Blanchard's manufacture. In both elevations there is an appearance of considerable enrichment in balconets and other features which are executed in this same material. In the second and fourth stories, the capitals to columns or pilasters, are all of terra-cotta, varied from the Corinthian by the introduction of a cross on the bell. A cross, and the letter C doubled as a monogram, appear in many parts of the building, internally as well as externally. The frieze to each window of the first-floor exhibits the monogram and other ornament. The cornice to the mezzanine window is carried by small trusses or consoles, somewhat larger trusses forming the capitals to the pilasters and the support to the quasi-balcony of the fourth story, as the pilasters and entablature of the windows of that story form support to the similar feature of the fifth story. The pattern of balustrading is varied in each of the stories. To the first floor, a peculiar form of ornament is alternated with balusters of a common pattern: to the fourth story, there are curves of contrary flexure, alternated with balusters which take the form of square *antæ*: in the fifth story, the forms are intersecting circles; and, for the crowning balustrade, the square-anta pattern, or what much resembles it, is used alone, and has the best result. The main cornice of the building, with cantilevers of the Vignola character in terra-cotta, is sufficiently effective, as also are the cornices to the several stories, in their combination with the broad angle-piers of the pavilions. All the mouldings however are of Portland cement. The angle-piers have the same character of rustication in brickwork, to be hereafter noticed, as the basement of the Villiers-street front, and for the whole height of the five ordinary stories. In the sixth story of the pavilions, the angle-piers have small niches; and they are crowned, in the Strand front, by the square tabernacles, or turrets, which are themselves terminated by the domical covering and spirelets, and by finials of gilt copper of highly decorative character. Similar finials, more or less conspicuous, or others in terra-cotta with gilt balls, terminate the high pyramidal roofs to the two turrets of the Villiers-street front, the several dormers, and the main balustrade.

The window-openings of the pavilions, not including the towers on the Villiers-street side,—which are separately treated, being carried up to a balcony where the belvidere-story commences,—are grouped three together, on plan, as a centre; and the greater thickness of the wall allows of detached columns, and of much effect from recession of the window-frames. Somewhat greater enrichment also is given to the balconies of the fifth-story windows in the pavilion, than to those of the centre of each front.

* See p. 876, *ante*.

The dormers to the lowest story in the roof, both in the pavilions and in the centre of each front, have arch-headed openings, pilasters, and pediments. The dormers of the upper range in the centre, are also arch-headed in the openings, but are less important both in size and decoration; and the opening is terminated by a label-moulding, finished by volutes or spirals, of a pattern resembling that used for the capping of the brick-piers of the adjacent bridge. The roll and volutes do not form an elegant feature of detail, on the large scale or the small. The upper range of dormers, or lunettes, stands upon a line of mouldings combined with a fascia of coloured tiles, each tile exhibiting the figure of the cross. The dormer-windows of the two upper ranges of the pavilions are smaller in size; but though they are not very conspicuous, they light some good rooms.

The ridges of the hips and top of the pavilion-roof are ornamented with stamped and cut zinc; and a cresting of the same material and character of ornament surmounts the roof of the centre. All this zinc-work had to be executed in France; and that circumstance caused the architect no slight trouble.

The chimneys, which are amongst the most important of the features of the building decoratively, have been managed with much skill. The flues in the building must be over two hundred and sixty; indeed, there is scarcely a room without a fire-place; and to get these flues up to chimneys which would intersect the ridge, and at the same time to leave headway in the top corridor, was not an easy matter. The chimneys above the roof are enriched with cornice and base-mouldings, and panelling; but much of their effect is derived from the plan of the shaft, or the relief afforded by slight breaks in the sides, and from the coupled columns in red terra-cotta which are affixed to the shaft, at each end.

Two flag-staves surmount each of the three pavilions. Flowers in vases will probably be placed on the balustrade of the Villiers-street front, and upon the porches; and with the glitter of lights at night-time around the fore-court, this one of the hotels "calling themselves Limited, but called Unlimited by Major Jackman, rising up everywhere, and rising up into flagstaffs where they can't go any higher," would seem likely to be attractive enough to satisfy even Mrs. Lirriper. The effect of the porches, one to the hotel, and one forming the cab-exit from the station, is much better than when we first noticed them seemed at all likely. The segmental arch springing from columns is still an eyesore; but the ornament that has been introduced in the tympanum of the pediment and elsewhere, is so good, that attention is in part drawn away from what is defective. The columns have polished red granite shafts, dark-coloured granite plinths, and stone capitals richly carved. The stone piers to the railing of the fore court,—some of these bearing lamps, and others globular-formed terminals in stone, with gilt finials,—and the two lodges next the Strand, are certainly effective. The lodges are particularly clever; but there is an exception to this in the small triplet or Venetian window. The arch of the centre-opening is made to appear rather less than a semicircle, by the mouldings to it, which form a label; and the little red granite shafts are not sufficiently conspicuous (though this is most remarkable at night) to prevent the appearance of an unsightly form of single opening instead of that of the three openings actual and intended to appear. The effect of the Cross in the centre of the fore-court has yet to be seen. Of the questionable propriety of there erecting such an object, of the confusion likely to arise by giving the name Charing-Cross to the locality, whilst there is a Charing-Cross at some distance, and of the mistaken course in art which such a restoration must exhibit, however well done, we have spoken more than once.

The capitals generally, and, as we have said, the balusters, and the trusses, and nearly all the ornament, are in terra-cotta. These features, as work, are at least equal to anything that has been done; and we do not know of any modern instance of such an extensive application of the material. But if equal to what has been done, the work is certainly not all that is required to reconcile us to the absence of stone-work; and in the design of this ornamentation, there is more of the manufacturer, bent on showing off his manufacture, than there is of the architect. The divergence from rectiliniarity, and from horizontality or perpendicularity, in the separate pieces, is slight; but what there is becomes important in the general effect, repeated as it is. As to the matter of design, there is a merit in novelty, and there ought to be difficulty in finding words to exactly describe features of a new building; but there cannot be all the merit that there should be of the art-work, unless it will without much loss, stand comparison with what has been done before. To apply this to the case before us, we would say that simple balusters of an ordinary pattern, would in our opinion have been more effective than the somewhat too enriched and rather uncouth forms that have been alternated with ordinary balusters in the Charing-Cross Hotel. If, as is possible, the new forms were introduced in order that defects of the material might be less apparent, then the circumstance only corroborates the view that the material has disadvantages, or that the sort of design suited to it has yet to be discovered. In some of the balconets to windows, ordinary forms of balustrading are altogether eschewed; and here, dissonance between the ornamentation of the building and the architect's main forms and outlines is great. The most effective part of the building, if we except the chimneys, wherein terra-cotta is used, is the cornice, as already remarked. All the mouldings have been run in cement. We should have preferred stone; but had the terra-cotta been used for any of the right lines of the design, the effect would scarcely have been what at present it is.

The Portland cement, used for the pilasters to the windows, and for the strings and cornices, however, and the general wall-facing of Suffolk brick, will shortly become sombre in appearance; and the cement will the soonest, unless indeed it be coloured.

The general outline of the pavilions, the arrangement of their openings, and the treatment of their angle-piers are very effective. The piers throughout the height from ground-line to cornice, and the basement in Villiers-street, we have said are ornamented with a peculiar kind of rustication. This we take to be the invention of Mr. Barry. Every sixth course of the brickwork is set with bricks specially moulded, so as to make a line of dog-tooth or nail-head ornament; the next course of bricks above, and that below, being slightly chamfered. A similar kind of rustication is introduced on a smaller scale in some of the stone piers of the forecourt, and in the lodges.

The south pavilion, as approached from the river, is one of the most effective features in the building. It differs from the other pavilions chiefly by the height, the introduction of a projecting balcony to the coffee-room window on that side, the addition of two great shafts which enclose smoke and ventilating flues from the kitchen and coffee-room, and the prominence given to the dormer-lights, which are grouped together under a pediment. There is a very good elevation towards Brewer's-lane, or westward; but it is so closely shut in as to be visible only from the opposite side of the lane, 10 ft. or 15 ft. in width.

Looking to the interior of the building, we find much that calls for notice in the decoration, and in different contrivances besides what were noted in our last article.

The 48 ft. square mentioned as the size of the coffee-room, is in fact inclusive of four wide recesses: two angles in the plan are taken up by the shafts, 8 ft. square, and two by corresponding spaces. The shafts, features southwards in the elevation of the pavilion terminating the building, are thus formed. In the centre of the 8 ft. space, three flues are carried up, in iron, the middle one in each case being an air-flue, and the two others smoke-flues, the spaces between the ironwork and the brickwork being for ventilation also. The angles of the four projections into the coffee-room are splayed off; and the fire-places are arranged on two of the splays; whilst sideboards will project from the two others. At each of these four corners of the central space in the ceiling, will be a sun-burner light; and possibly there may be a chandelier in the centre to give a moderate amount of light to the ceiling. The ceiling is arranged with a large circular low domical-formed coffer in the centre, to have various enrichments in papier-mâché or Jackson's composition within it. Around this, is ornament in plaster, some of it too minute. A monogram referring to the name of the hotel, is introduced in medallions. Around the room will be columns with shafts of red marble, and pilasters with enrichment in scagliola. To the windows of the lower level, which are arch-headed, will be columns, with shafts of dark-coloured marble, carrying the archivolts, and with Corinthian capitals. The space above the principal order, corresponding with the mezzanine, is arranged in the recesses as a small arcade, with shafts of dark-coloured marble, the openings being filled with glass of ornamental pattern. At the corresponding level, the sides of the angle projections are filled in with panels for ventilation, whilst the splays will receive probably two clocks, and two indicators of the state of the weather. In the construction for the support of the rooms and corridor-walls in the stories above this space of 48 ft. square, and to avoid such depth of girders as would have encroached greatly upon the height of the room, part of the support is obtained by girders to the floor of the story which is second above the mezzanine; the flooring and partitions of the story first above being partly suspended from the upper girders. The leading forms of the ceiling of the coffee-room have been cleverly arranged in combination with this construction, little space being lost in bracketing. The coffee-room, we fear, will be found much too small.

In the room below the coffee-room, the railway refreshment-room, the large central space of the coffee-room is carried by square piers, which become effective features of decoration. Oblong openings, above the principal windows, are glazed ornamentally, in casements which are swivel-hung for ventilation. The coloured decoration of this room, has been given, not by the architect, into the hands of Messrs. Jackson & Graham, with 100*l.* as the limit of expense; and Mr. Owen Jones mainly has decided what has been done. The greater portion of the height of the walls and piers has received a very dark tone of colour,—the plinths, indeed, being black; whilst the upper portion of the walls and the ceiling are decorated with paperhangings of Mr. Jones's designs. The cutting line of division between the dark and the light tones of colour, seems to us not in harmony with the room as planned and designed at first; and the paperhanging decoration generally is inferior to the ornamentation on the piers, which, besides good design, has all the precision and delicacy of workmanship which Mr. Owen Jones is so well able to secure. The piers and walls above the plinths are an Indian red, the ornament upon those parts being ochre-colour, as are also the mouldings of the bases. The portion of the ceiling corresponding with the centre or main area of the room, is divided into nine square compartments, which are diapered, as are also the coves to them; and the soffits of the beams are ornamented with frets, in which the more prominent colours are crimson and blue. From this refreshment-room there is a narrow stair leading to wine-vaults which are in the railway arches; and at the north-east of the same room is the kitchen for the railway department, the hotel-kitchen being underneath.

The Reading-room, on the same floor as the Coffee-room, but in the north-eastern pavilion, will have a rich ceiling with a bold cove, and glazed in part, and a centre or plafond filled with octagonal coffers. The ceilings of many of the rooms have ornamentation of superior character.

The grand staircase, with the space of the corridor in immediate connexion with it, measures on plan 31 ft. 10 in. by 28 ft. 3 in. The steps, which are of stone, are carried next the well-hole by iron girders. There will be marble balusters, and a hand-rail of ornamental wood. There will be a sun-burner at the top. Looking into the staircase from the serving-room on each story, will be a circular window. The staircase in the Strand building, which starts only from the first-floor, is carried in the usual manner of a geometrical staircase, or without the girders; but above the first-floor, the position of the corridor being shifted to what there becomes the centre line, and the stairs being shifted from the north to the south, the landing between, to form the portion of corridor, is carried by girders. Messrs. Cochrane produced most of the iron-work in the building, but the railing of the fore-court is the work of Mr. H. Grissell.

Considerable effect is obtained in the corridors of the ground and first floors, merely by skilful disposition of a few columns, arches, domes, and pendentives. In the plastering, the angles are run in Keene's cement. Wooden angle-staves, as well as strips of iron for arrises, may now be considered old-fashioned. The best rooms are stuccoed, and the corridors are plastered in Parian cement. This latter material, it may be

right to say, does not always bear painting upon, as supposed, quickly. Keene's cement is considered by many, the harder material.

The coal-bunker which is to be on each floor, and to contain 2 tons, will probably be arranged somewhat on the principle of a common dust-bin, but with inclined bottom, so that the coals will always slide down to a small opening, at which, in the luggage lobby, scuttles can be filled. The bunker will be filled from the luggage lift.

The frames for the glass of the heads of semicircular-headed windows, in place of being made to open by the unsightly lines and pullies, will be worked each by a cord attached to a crank fixed, within the wall, to one end of a rod which will form part of the bottom-rail. It would however be desirable that the opening should be more than the intended 8 in. The ordinary top-sash will be fixed; and the bottom one will be made to open.

There is much contrivance in details connected with the roofs. The architraves of the dormer-windows are carried on pieces of landing, the gutter passing underneath. The down-pipes are all inside the building; and to lessen chance of damage to the rooms, overflows through the cornice are carefully provided from each cesspool-head; whilst the top of the pipe is protected by a cover of galvanized iron-work, which is fixed. The common lead-rose, which is usually not fixed, is always stolen; besides the holes do not allow sufficient passage for the water. The overflows have already prevented serious leakage into the building. To keep the attics cool, there is besides the ordinary ceiling to rafters, a thickness of lath and plaster in the middle of the depth of rafters, so as to get two air-spaces. No felt is used. These spaces are in communication with the hollows of the red terra-cotta columns of the chimney-shafts.

The closets, placed two together, are lighted by one gas-burner, which is in a glass globe in the partition. From this globe there is a pipe which reaches to the exterior, to convey the products of combustion; whilst the air is drawn through small openings at the base of the globe, from each closet: thus, if there be no down-draught, perfect ventilation will be secured. Urinals, throughout the interior of the building, have been advisedly eschewed.

We may also mention that in each of the corridors there is a 12-in. space on each side, for pipes; so arranged that the stones can be easily taken up and the pipes got at, without removing a large surface of flooring. There are many other contrivances, of which the advantage will be found.

The building is likely to cost about 130,000*l.*, or including the furniture, 150,000*l.* Mr. E. M. Barry, A.R.A., we have already mentioned as the architect. Messrs. Lucas are the builders; and Mr. McGill is the architect's clerk of works.

METROPOLITAN CABS AND RAILWAYS.

The London cabmen complain bitterly of the marked decline of their custom, both by day and by night; and they seem puzzled sufficiently to account for this. It seems easy enough to do so, however; but, in the first place, it is worth while to glance at the way in which the cab-business of the metropolis is generally managed.

A large number of cabs belong to, or are worked by, the railway companies, and many others belong to proprietors who have large sums invested in cabs and horses. These public carriages are numbered and inspected by the police. The horses are required to be of fair quality. As drivers, some men are needed for night and others for day duty. The day cabman commonly begins work about nine o'clock in the morning, and returns to the stables about twelve o'clock at night. The night cabman commences about six o'clock in the evening, and continues at work until about nine o'clock on the following morning. Thus the London streets are never without cab accommodation. Each horse and cab are lent to a cabman, who is expected to pay to the proprietor, at the end of his day or night work, a some of 7s. 6d. or 8s.; and this must be paid whether the driver has earned as much or not. Deficiency in the estimated sum he must make up, or, on failing to do so, he is liable to be sent for a term of confinement to a felon's prison.

Although the cost for horse and cab for the day or night is, in many instances, from 7s. 6d. to 8s., we have heard that, in some cases, the chargo for a night cab is 7s. 9d. in the summer, and part of the spring and autumn. At this time of the year, towards Christmas, the charge for a night cab is only 5s. 9d.; but at Christmas the price per night comes to 7s. 9d. again.

The railway cabs are charged to the men at a higher rate. At the Great Northern, for instance, the sum which the men have to make up for the loan of a horse and cab from nine o'clock in the morning to about twelve o'clock at night, is,—For horse and cab, 11s. 6d.; to be paid at the yard, 3d.; and for rail, 6d.; in all, 12s. 3d.

At a recent meeting of the cab-drivers, it was stated that the number of men employed in connexion with cabs is over 40,000. From this it will be seen what a large and important matter the cab business is.

The history of many a cabman would make each a curious book. Most of them have been unsuccessful in other pursuits of life, and have taken to the driving of cabs as a last resource. They must, however, be men of fair character.

At all times cab ranks are under police supervision; for the watermen, as they are called, are nearly all superannuated policemen who are under the control of the Scotland-yard Commissioners. For the most part, the night cabs, &c., are in worse condition than those used during the day. Some of them, notwithstanding the regulations, are dilapidated carriages, with very sorry horses; and some of the drivers would barely pass muster in the day-time.

The cabmen complain of the harshness of their treatment by the Commissioners; of overcharges for straps and other matters, respecting which we have had no opportunity of making inquiry; as well as of the difficulty which there often is in paying their masters; even without taking into account what is necessary for the support of themselves and families. There can be no doubt that the cabmen lead a hard life; and we know of no more seemingly miserable kind of employment than that of the night cabmen, who, in fair weather and foul, in the depth of winter, as well as at other seasons, are exposed for so many hours in the open air. It must also be admitted that these men are sharply looked after, and that some of the regulations are severe. This, however, has in a great measure been caused by the former extortion, incivility, and other misconduct of many of the men themselves. But there has of late been a marked improvement in the manners of cab-drivers; and we are glad to hear that there have been established among them provident institutions; and that there is a large attendance at Sunday and other lectures, &c., which are given for the advantage of this class.

As we have already said, the men at present complain of especially hard times. One man, for example, says he has driven for fifteen hours during each of three days; and, instead of profit, he has had to make up more than 5s. of deficiency at the yard. Another man who worked during three nights states that on one night he was deficient in the amount of his master's money; on another he had 9d. over for himself; and the next night he barely got enough for the horse and cab hire. Similar accounts are given by others. One, we recollect, complained that he had been on the stand from six p.m. till one a.m., when the writer of this engaged him from a printing-office home, and that during all that time he had not earned a single penny, and had not tasted anything; and that every shop being shut, by the new regulations, he must fast till four o'clock, although he had then the means of obtaining refreshment.

As regards the night cabmen, the badness of trade has evidently been caused by the closing of the Haymarket and other night houses throughout London, many of which were places of infamous resort; and although the measure is bad for cabmen, it is in other ways of excellent effect. But besides this, there are other agencies which help to lessen the demand for cabs: one of the most important is the opening of the metropolitan railways. Amongst the thousands who daily travel by the Underground Railway to the City and the other stations, a large number would have used cabs; but few think of doing this when they can travel so well and so quickly, either a long or a short distance, for so small a sum as twopence or threepence; and when the system of the metropolitan railways is completed, it is probable that the demand for cabs will be still further lessened. There will soon be railway communication for passengers and luggage between the various railway termini; and a glance at any of those places, on the arrival of trains, will show how immense is the present cab-traffic, and how materially that traffic will be reduced when the new lines are finished and in working order. The day may come when poor cabby will be as rare an animal as the mail-coachman.

At the time of the International Exhibition cabmen made a great deal of money, and many new carriages were sent upon the already crowded ranks: when the extra demand ceased but few of these were withdrawn, and this made it generally worse for the men. Of late, too, the omnibuses have begun to work several new suburban and other lines, a circumstance which materially affects the demand for cabs.

PRIZES OF THE ARCHITECTURAL MUSEUM.

The prizes to art-workmen have been awarded. The following is the report of the Council:—

"It is with no pleasant feelings that the Council has to announce that it declines to give any prizes for wood-carving this year. Encouraged by the success which attended the competition of last year, it offered for 1864 prizes larger in value than it had ever done before, viz., a first prize of 20*l.* and a second one of 10*l.*, with extra prizes of 1*l.* 1*s.*, or upwards, according to the merit of the specimens, and it proposed for the subject a narrative which it believed was familiar, above all others, to every one from earliest infancy, viz., the parable of the Good Samaritan. It made sure that so well-known a subject and such ample remuneration would have produced tenders of more than average merit, and probably a larger number of them. When the time for sending in the subjects had arrived the Council was astonished to find that only five competitors had entered the lists. When their works came to be examined, the Council, to its regret, discovered that the five panels were, while slightly different in comparative merit, alike unsatisfactory in conception and clumsy in execution. It was the unanimous opinion of all who assembled at the adjudication that none deserved a prize, even of a reduced value; so the year which, it was hoped, might have been marked as an epoch of progress will be noted in the records of the Architectural Museum as a blank, as far as the prizes for carving are concerned.

The Museum has a different record to make of the new prizes for silver work. The Council of the Architectural Museum offered a first prize of 10*l.* for the best, and Mr. H. Heather Bigg, of Wimpole-street, a second prize of 5 guineas for the next best reproduction in silver, on a reduced scale, of a cast in the Architectural Museum Collection representing a group of leaves. The special object of this prize was to encourage hand-tooling or chasing. The length of the leaves in the works sent in competition was not to be more than 3-8ths of an inch. The group of leaves was to be either chiselled from the solid, or cast and carefully chased, or the leaves made in detail and brought together by soldering.

Six specimens were sent in, of which two were considered to be disqualified from their non-fulfilment of the exact conditions. The first prize was given to Mr Henry Whitehouse, jun., employed by Mr. Whitehouse, of 9, Chadwell-street, St. John-street-road; the second to Mr. Septimus Beresford, employed by Mr Richards, of 29, Myddelton-street, St. John-street-road; and an extra prize of 3 guineas was voted by the Museum to Mr. George J. Langley, of 25, Wynyatt-street, Clerkenwell. Moreover, the work of Mr Walter Harrisson, apprentice to Messrs. Garrard, which was disqualified from the competition from its non-fulfilment of the conditions, was considered to possess such merit that a gratuity of 1 guinea and a bound copy of Labarte's 'Handbook of Arts of the Middle Ages' were voted to Mr. Harrisson.

The colour prizes usually given by the Ecclesiological Society and Mr. Beresford Hope, through the Architectural Museum, were this year transmuted by the donors into a prize of 10*l.*, for a rosette, executed in transparent enamels on silver. The colours to be of not less than nine separate tints, and of the same class and character as those in the head of a crozier (from the Soltykoff collection), and two triptychs (silver gilt, and with plaques of translucent enamel, date *circa* 1350 to 1400), exhibited in the Precious Metal, Enamel, and Jewellery Court of the South Kensington Museum. The central compartment of the rosette to contain two tints without an intervening thread of metal, which need not be sunk to a depth of more than 1-30th of an inch.

Another prize of 10*l.*, given by Mr. Ruskin, was offered for a rosette, of similar size and design to the above, executed in opaque enamels on a ground of copper. The colours to be of not less than nine separate tints, and of the same class and character as those of the Soltykoff Chasse, in the South Kensington Museum, or of any fine specimen of Chinese executed enamel. The central compartment of the rosette to contain two tints, without an intervening thread of metal. The copper to be hollowed to the depth of not less than 1-16th of an inch, and the metal surfaces to be fire-gilt.

These two prizes were to be adjudicated by the committee of the Ecclesiological Society, together with Mr. Ruskin, Mr. J. C. Robinson, and Mr. Burges. For the first prize two competitors strove, and, acting on the discretionary power contained in the instructions, the judges divided the prize into one of 7*l.*, to Mr. H. de Koningh, of 79, Dean-street, Soho, and one of 3*l.* to Mr. Frederick Lowe, of 13, Wilderness-row, London. Mr. de Koningh's work was remarkable for the success with which he had enamelled good ruby on silver, a feat which Cellini pronounced impossible, though comparatively easy on gold.

For Mr. Ruskin's prize there were three competitors, and the prize was assigned to Mr. Alfred Gray, in the employ of Messrs. Elkington, of Birmingham. Mr. de Koningh, however, competed with so much spirit, not only with the prescribed rosette, but with a volunteered imitation of Chinese *cloisonné*, that although the latter had no equitable claim to a prize, the judges recommended the Architectural Museum to recognise its merit by a gift of 'Labarte's Handbook,' which was voted accordingly. (Signed) Joseph Clarke, Hon. Sec.

December 14, 1864."

A course of lectures is being arranged to commence early in March, 1865.

A NOTE ON COLOUR AND EFFECT IN LINE ENGRAVING.

WHEN recently examining with care a number of fine engravings of the English school, by Strange, Woollett, Heath, Doo, Goodall, Smith, Cousens, and others, from copper plates, we were more than ever struck by the great pains which had been taken, and the skill shown by the arrangement of lines printed in black and white, to imitate the colours of the pictures which are translated. By means of rich thick and flowing lines, the reds and scarlets are shown with admirable effect: with straighter and closer lines, the blue and other cool tints are imitated; and by means of interlining, cross-hatching, dotting, and by the graduation and power of lines, an excellent idea of the other varied hues is produced. It is in this respect, and also in the ability for art required in the difficult process of reducing a coloured work of art to the proper light and shade in one simple tint, and also the large amount of manipulative skill which is needed to produce a high class engraving on a metal plate, that we find reason for thinking that not sufficient credit is given to the line engravers for artistic ability.

In the practice of engraving on wood the drawing is placed by the draughtsman carefully on the block. There are all the details marked for the engraver, and the light and the direction of the lines are for the most part clearly indicated. It is not so in picture engraving on metals. In this kind of work, he has make his outline by reduction from large paintings or drawings, he has also to attend to the somewhat difficult processes of laying his etching-ground, and the different preparations required for "rebiting," as a means of darkening the tints.

The engraver on steel or copper has a bare plate to begin with, on which he has, with his own hands, aided by long practice and a knowledge of his art, to lay the foundation of the intended effect. Not having the use of actual colour, he must in his first etching provide for his aërial and distant tints by attending to the perspective of lines. He has also to study the nature of the lines which, by means of their boldness in the foreground will drive the distance back, or the parts where great depth and darkness of tint are required. There are also the free and graceful delineation of the foliage, the texture of the various objects, and other important matters to be attended to in the first etching. This done, and the acid applied, there is need of the utmost care. From time to time the acid must be removed from the wax wall which has been fixed round the plate to keep the corroding liquid at a proper depth, and the delicate parts stopped out with varnish, which will prevent them from becoming dark blots. On copper, by means of the repeated application of the acid, the etching is got into a workable shape; but even then, to the uninitiated, an impression from the plate would have a flat and uniformly grey appearance. Now comes the second trial of the artistic ability of the engraver. By the dabber and etching-ground he lays over the plate the material which protects the surface, but allows in the parts where it is needful the acid to thicken, deepen, and darken the lines: having sufficient strength of tint to work upon, he tones portions with the graver, steadies and flattens the lighter parts with the burnisher, and gradually, by means of re-etchings, re-bitings, and delicate working with the dry-point, the work slowly but surely in skilful hands assumes the aspect of the picture and the solidity and also the atmospheric appearance of nature.

The etching may be compared with the dead-colouring of pictures; and many engravers have had their groundwork prepared for them by persons who have never attempted to finish a plate, and who, although they had great merits, are but little, generally, known to fame. In this way Milton, whose etchings of landscapes are exquisite, worked with Woollett; but it is to the later working of the last-named great engraver that we are indebted for the marvellous variety of the deep, transparent tints, the rich texture of the thatch of picturesque cottages, the crops of varied herbage and mosses, the varieties of wood, stone, and other work, the lights and depths of foliage, the peculiarities of the bark and branches, the glowing colours of sunrise or sunset, and the cool quiet repose of other times. In many ways the vigorous landscape engravings of Woollett remind us of the pictures by Sir Joshua Reynolds, for there is to be seen in them the same power of hand and boldness of execution. In the works of the engraver, the charm of effect is in chief manner caused by the general strength and fatness of the lines,* which in their way resemble the deep, rich, and transparent colours of some of Reynolds's best productions.

In some of the finest works of the English school of engraving, it is to be noted that the etching and every portion have been completed by the same hand: and many are of opinion that it would have been better if this plan had been more generally carried out. It may, however, be asserted that certain parts of the etching, and also the middle working of plates, may be very well executed by able assistants under the eye of the master, and thus enable him to elaborate, refine, and finish a greater number of works. Many an artist can make admirable sketches who will never be able to complete a work of merit: it requires faculties of a peculiar kind to do this. In the same way, there are persons who can well do parts of engravings who would not be able to carry them beyond a certain stage. And it may be remarked that in painting, celebrated artists have extensively availed themselves of help, especially portrait-painters, in the working of the costume, drapery, and back-grounds.

On comparing some of the proofs from copper-plates with those from steel, there is a marked difference in the general colour. On copper there is a more warm and golden hue; on steel, tints have a cooler and more silvery effect. In some cases there has been more than the usual force given to large steel engravings; as may be seen, for instance, in some of the last plates by the late Mr. Willmore.

* In some of these plates the depth and strength of the lines are remarkable, and in some of the impressions the ink stands up from the surface of the paper, and is clearly perceptible to the touch; and this is one of the advantages which line engravings will always have over wood engravings, which, being printed from the surface, can only produce on the paper an equal flat quantity of printing ink.

ARCHITECTURE AND PAINTING.

THERE is is one circumstance indirectly connected with David Roberts's position among his contemporaries which has not been adverted to in any of the recent notices of him;—namely, that he had all to himself that special walk of art in which he earned fame. Among our oil-painters, he was the only one who employed his pencil on architectural subjects; consequently his death has occasioned a gap that, to all appearance, is not likely to be soon filled up; for, strange to say, Roberts's success has not stirred any one up to the following his example.

Some few years ago I earnestly advised a clever young artist who showed ability far exceeding that of a mere skilful draughtsman, to take up oil-painting; and, instead of architectural drawings, produce what the public would accept as *pictures*. Of course, I told him, he would have to qualify himself duly and diligently for the change from water to oil, since he could not expect to become all at once quite expert in the management of a vehicle of colour quite new to him. Eagerly did he catch at the idea, exclaiming, "By Jove, the very thing! I'll do it; you shall see if I do not," and a great deal more of that sort; but I have since neither seen nor heard anything of him, therefore suppose that he has slipped down through one of those fatal trap-doors on the highway of life which the unwary tread upon, and suddenly find their exit and finis.

Not a little surprising, if not mortifying also, it surely is, that a class of painting which presents us, so to say, with two different arts at the same time,—viz., art architectural and the skilful pictorial representation of it,—should be so little practised among us. Hardly can it be attributed to the want of sufficient encouragement or inducement, since many of Roberts's works obtained prices that might be deemed almost fabulous for subjects of the same kind if they smacked more of the drawing-board than of the easel. True it is they possess little interest for untutored eyes: to the majority of exhibition visitors they are downright *caviare*; they greatly preferring the hackneyed, common-place, namby-pamby subjects, of which we get by far too many on the walls of all our exhibition-rooms. Or we sometimes find a great deal of manual ability thrown away upon the *fac-simile* representation of objects that are in themselves not only quite trivial, quotidian, and uninteresting, perhaps even repulsive, save for the glamour-charm shed over them by the witchery of the pencil.

As to their subjects, architectural pictures may be divided into two classes,—that of matter-of-fact portraiture of existing buildings, and that which gives us original compositions, in which the painter shows himself architect also, and can freely follow the impulses of his own imagination, be it ever so luxuriant. Additional interest may, too, be imparted by the introduction of figures that shall be something more than mere subordinate accessories, and give dramatic action. In compositions of that kind, Louis Haghe has shown great mastery; so, too, has W. Collingwood, an artist who is not yet appreciated as he deserves to be, for his skill in representing both the "dead life" and the "living life." For mere still-life representation, I should perhaps adjudge the palm to Joseph Nash, some of whose drawings are in the series of inaccessible private apartments in Windsor Castle. Of one so eminently gifted it is painful to record more, for I have understood that shortly after completing the above-mentioned series of drawings his mind became terribly affected. Certain, at least, it is, that he then all at once disappeared, much to the regret of those who, like myself, had stood fascinated before some of his almost matchless productions. Nash, it may here be added, was a pupil of the elder Pugin, and fellow-pupil of the ultra-Gothicist, his son, Welby.

Pity it is that artists generally do not make themselves so sufficiently acquainted with architecture as to be able to represent its forms intelligently wherever there is occasion for representing them at all. Such knowledge would not come amiss even to the portrait-painter; for he would thereby be able to give us something far less hackneyed, and more sensible also, than the eternal red curtain and bit of a tall column, which, unless broken off much, penetrates into the attics.

Had the committee of the Architectural Exhibition their wits about them, they would endeavour — even with some strain of effort — to correct the miserable nakedness of their walls, with regard to *interiors*. Of those of churches we have enough and to spare; and they are all tethered down to one idea, from which, it seems, they must not even attempt to break loose, or all the orthodox ecclesiologists, alias architectural old women, would dart out all their porcupine quills against the rash innovator. Here, with or without your permission, I break off,—perhaps to break out again afresh.

ART-LOVER.

ART AS APPLIED TO FURNITURE.

AT the last monthly meeting of the Bristol Society of Architects, Mr. C. S. Fripp in the chair, after Mr. E. W. Godwin had made some observations on the progress of the students' class,

Mr. H. Crisp read a paper on Art as applied to domestic Furniture, of which we give an outline:—

The present century, he remarked, has witnessed a revival of art, and this revival has shown during the last few years a decided advance, generally speaking, in the right direction. But with all this little, if any, encouragement has been given to the manufacture of art furniture, the public, as a rule, being quite satisfied to place themselves in the upholsterers' hands, thus being entirely guided and controlled in their selection of the articles they may require, as to what is the correct thing for this room or that room, by the opinions and assertions of a man who, though he may be a respectable and honest tradesman, is, with very few exceptions, no more competent to thus adjudicate than the veriest child. We may often meet with men, and women too, whose knowledge of the fine arts and whose opinions thereon pass current in the world, and sometimes happily right in their choice or judgment in such matters. But, when they come to the question of furniture, all they really know of the matter is what they want, and what they like or dislike, and for which likes and dislikes they can assign no better reason than that they do so like or dislike. What course, therefore, is pursued by those persons of otherwise good and cultivated views when they are called upon to furnish their houses, and in the building and decoration of which they have, perhaps, given evidence of the possession of cultivated minds? They go to their upholsterer, and, if they do not actually ask for his opinion, they tacitly allow themselves to be persuaded into this or that as "fashionable," "genteel," and "much in request." The

result is that, instead of having their walls covered with stories on grounds of plain or diapered colours, you see large and unmeaning patterns, "the last new design," full of confusion and distortion. The same thing applies to their curtains, and hideous and senseless scrolls, and twists, and mouldings, and carving, and perhaps gilding and tasteless decorations, are seen in their massive and expensive furniture. It is really at times matter for wonderment who and where are the designers of all these tortuous twists and absurdities; and what makes the matter more offensive is that in many things, such as glass frames, cornices, &c., all this elaboration and show is but mere deception, consisting of composition work stuck on in different pieces, which many an innocent and unsuspecting purchaser, when too late, discovers to his surprise and cost. It is an easily proved fact that scarcely ever is an article to be found coming from a modern upholsterer's shop which can in any way obtain credit for possessing the commonest principles of good design. How often are to be seen articles of furniture, which, if left almost entirely to their own simple and necessary form of construction and framework, would be good in design and pleasing to the eye, but which are turned into shapeless and ugly objects by having the structure carefully concealed by all sorts of paddings, stuffings, carvings, and twistings. Take, for example, the puffed, and blown-out settees and couches in the fashionably-furnished drawing-rooms, and the common easy-chair of the present day. When we see our domestic architecture improving, why should the accessories of our dwellings be, as a matter of art, so much neglected? Because, unfortunately, so little has the public eye been accustomed to, and educated in any good design or style of furniture, that, from want of knowing better, the prejudice in favour of the before-described upholsterers' trumpery is very strong; and so I expect that art in its application to furniture will have quite a battle to fight, and find but few friends. This, however, should not discourage us, but make us more determined to help it on, and as much as lies in our power we should embrace every opportunity of encouraging its growth by studying it in connexion with every object, however trifling and inferior. Now, the question arises, how to introduce and make popular good designs, which may be generally adaptable and attractive as well as economical. In an economical point of view, until the carrying out of good designs became general, it is to be feared our modern furniture would have the advantage, especially when we consider the tempting advertisements to "those about to furnish," in which every article and requisite are fully described for a house of so many rooms, and the whole to be had for the extraordinarily low sum of £—. Now, the cheapness of this furniture depends on the regular trade system of its construction, one man making exclusively one portion of an article, and in only one pattern; another man another portion exclusively; and so on, machine-like, to the end of their lives. This daily habit enables each one to execute and turn out his part with much rapidity. Again, in this cheap furniture, which so much tempts the public, the very fact of deficiency of art helps the tradesman in selling at low prices, because much bad material and inferior work may be passed off when concealed by mere stuff, having no form or comeliness about it. Again, much of our modern furniture is admired because of the profusion of its so-called ornament, and which, from repetition, has acquired so firm a hold on the minds of ordinary men, that the profusion is taken for art. Now, it cannot be doubted that this error, so firmly rooted in the habits and customs of the century, would make a strong stand against the introduction of any commonsense system of design. "A gradual change from simplicity to complex forms and unlicensed ornament seems to be the fate of the fine arts." This may truly be said of our modern furniture as compared with that of olden times. The question, Can the character of our furniture be improved? presents at first sight an almost overwhelming difficulty. For, "after the eye is accustomed to profuse ornament, simplicity is at the risk of appearing lifeless and insipid;" and this would be the first Paynim knight to battle with in our endeavour to restore the ancient simplicity which was, and is, ever at the root of noble design. . . . . The question naturally arises, How is an interest in our furniture to be created? The reply is,—1. To avoid all complexity of form, all elaboration, all excess and profusion of ornament, thus starting on the real and only foundation of all art work, simplicity. 2. Let each part have, and as far as practicable show, a purpose, both in construction and ornament, and thus say what it has to say. Ornament may be of three descriptions,—carved, inlaid, or painted. In either we may tell a tale or history, and so create immediate interest for the mind.

THE FORTHCOMING DUBLIN EXHIBITION.

A paper on "The Recent Progress and Present State of Industry in Ireland; and the Dublin International Exhibition of 1865," was read at the Society of Arts, on the 14th of December, by Sir Robert Kane, F.R.S., President of Queen's College, Cork, and Director of the Museum of Irish Industry, Dublin, at the request of the executive committee of the Exhibition which is to be held next summer in Dublin.

Sir Robert explained that the opportunity of organizing the Exhibition has arisen from the fact that a number of gentlemen, including the Duke of Leinster, Mr. Guinness, and Mr. Dargan, possessing at once the inclination and the power, have undertaken to provide for the citizens of Dublin a great winter garden and buildings containing concert and lecture rooms, supplying, but on a smaller scale, the resources and enjoyments of the Crystal Palace at Sydenham. An independent executive committee having been formed to organize and carry out an International Exhibition, the directors of the Winter Garden have most liberally placed their fine buildings altogether at the disposal of the committee for that purpose, and the executive committee have gladly availed themselves of this truly patriotic proposal. It has been arranged that all funds arising from the receipts above the payments of the expenses incidental to the Exhibition, shall be vested in a committee of noblemen and gentlemen, under whose direction the excess shall be applied to public purposes for the advancement of arts and sciences in Ireland.

The building is situate on the south side of Dublin, and in what may be considered the most fashionable quarter of the city; close to the terminus of the railway which leads to the beautiful mountain scenery of Wicklow. The space accommodation is very large. The principal portions of the Exhibition will be located in the great conservatories of the Winter Garden, constructions in glass and iron which rival the Crystal Palace itself in elegance of design, although of course much inferior in extent, and affording advantages as to supply of light and means of display which could not be surpassed.

Under these favourable circumstances, he continued, it may be hoped that, not merely on public grounds, but even on the lower but more directly practical basis of individual advantage, we may hope for the co-operation of the manufacturers of Great Britain, who cannot fail to derive material benefit from bringing the products of their factories and workshops under the immediate cognizance of the Irish people.

The executive committee have good grounds for expectation that the industrial resources and products of our Colonies and of the European Continental States, with scarce an exception, will be adequately represented on that occasion. Gentlemen of great activity and intelligence have visited, on the part of the executive committee, the governmental authorities and the industrial centres of the Continental States. They have been uniformly received in a most friendly spirit, and have received promises of active co-operation.

In the discussion which followed the reading of the paper,—

Lord Powerscourt, as chairman of the Fine Art Department of the Exhibition, said he was happy to state that the prospects of the Exhibition in that department over which he presided were most encouraging, and he had no doubt that the artistic display in Dublin, in 1865, would be of a very attractive character.

Mr. Vesy Fitzgerald said, more than anything else with which he was acquainted, these Industrial Exhibitions demonstrated the fact that individual effort, in the present age, attained the largest results when it availed itself of the power inherent in the principle of co-operation; for such exhibitions depended on the co-operation of class with class, of country with country, and of man with man. He expressed his conviction that the principle of improvement inherent in these exhibitions was most powerful in its operation, and that the extent to which it might probably be felt was obviously impossible to estimate.

Mr. Hercules Macdonnell said, that as one of the executive committee, it fell to his lot to put himself in communication with foreign Governments, and more particularly those of Southern Europe. In France he was happy to find that so able and enlightened a Government gave its assistance and co-operation to the enterprise. Prince Napoleon, who was not only a prince, but a man of great talent and large experience in exhibitions, took up the matter warmly, and he (Mr. Macdonnell) had reason to think the opening of the exhibition would be honoured by his presence. Backed by the example of so great a nation, he next proceeded to Belgium, where, he was happy to say, he met with ready and almost enthusiastic co-operation. Thence he proceeded to Holland, where he met a very warm response, as well as at Frankfort and in Switzerland, Italy, and Austria. He believed every country in Southern Europe would be represented in its art and manufacturing productions.

Mr. Antonio Brady said he had been deputed to visit the north of Europe. He had taken the Scandinavian nations, and he also reported good results. The Swedish minister had especially referred to the excessive expenditure incurred in the last Paris and London Exhibitions. He was also met in many places with the idea that Ireland was a sort of Poland, in a state of anarchy and revolution, and there was no security for articles exhibited; and he was glad to find that Sir Robert Kane had given a very different and more truthful view of the general condition of the country. As regarded Denmark, the enlightened Government of that country, from the king downwards, had, after due consideration, promised hearty co-operation. The king, himself no mean artist, had promised to contribute to the Exhibition.

Mr. Chichester Fortescue, M.P., said, he was not prepared to state in detail what the colonies respectively were prepared to do, but in general terms he might safely state that they were ready to respond to this invitation, and that the colonies of Great Britain would be properly represented in the capital of Ireland, as they had been in the capital of England.

Mr. Henry Cole, C.B., said, he hoped the Managing Committee of the Exhibition would provide for that which was now attracting great attention in London, and which might be made an interesting feature of the Exhibition in Dublin, viz., an exhibition of the industry of the workmen of Ireland, as a separate section.

Mr. William Hawes and other gentlemen, including the chairman, Lord Dufferin, K.C.B., also took part in the discussion, which was closed by Sir R. Kane thanking the meeting for the favourable way in which the subject of his paper had been received.

PROPOSED ART-WORKMEN'S EXHIBITION IN MANCHESTER.

We are glad to hear that the arrangement for the proposed Exhibition is making good progress. The council of the Royal Institution have placed their galleries at the service of the Exhibition Committee. The committee have also received considerable encouragement from their wealthier neighbours. The Mayor, the Dean, members of Parliament, bankers, justices of the peace, and a majority of the architects of the city have already given the project their cordial approbation. The committee have received applications for space from decorative artists, designers, wood and stone carvers, makers of encaustic tiles, modellers, glass stainers, &c., and there is good reason to anticipate that the exhibition will add to the reputation of the art-workmen of this district. Every article exhibited will bear the name of its manipulator; this, indeed, forming the fundamental principle of the exhibition.

The circumstance of this being the first experiment of the kind made in the North of England, and embracing as it does every town within twenty-five miles of the Manchester Exchange, will commend it to the support of all who want to see what workmen of the district can do, and who are the men who do it.

Short Water Supply.—Several persons are claiming damage of the Halifax Corporation for the non-supply of water to their manufacturing premises during the late very dry summer. The total claims amount, it is said, to 6,000*l*.

NATIONAL SCOTTISH MEMORIAL.

AMONGST the designs submitted is a joint work by Mr. Joseph Durham, sculptor, and Mr. J. Robinson, architect, and which is proposed to be placed on "Arthur's Seat." The principal feature is a monolithic obelisk of grey granite, nearly 60 ft. high, in front of which stands a colossal statue of the Prince Consort, to be in bronze. The obelisk and statue are erected upon an elaborately-wrought basement of red granite, at the angles of which are seated four winged angels, 9 ft. high, bearing wreaths. This basement is raised upon a flight of steps, with pedestals at each corner, giving the lower portion of the design an octagonal form. Upon these pedestals are lions so composed as to have the effect of guarding the whole structure. The designers have been influenced in adopting this form of design, firstly, by the belief that its contrast with all objects around would ever make it more conspicuous than any other, remaining distinct from the surrounding scenery; and, secondly, by the knowledge of the desire the Prince Consort himself had, that a lofty monlithic obelisk should be erected.

The death of Sir John Watson Gordon, president of the Royal National Academy of Scotland, who had been nominated by her Majesty one of the six members of the Committee of Advice on the Scottish National Memorial of the Prince Consort, having deprived that committee of its only professional artistic element, the council of the Academy have lately held various meetings with the view of considering how they might express their opinion on this important subject; but a letter received from Colonel Phipps by Mr. Harvey, Sir John's successor in the presidentship, nominating him as the successor of the late president in the Committee of Advice, renders any expression of their opinion unnecessary at present.

THE MOSQUE AT HEBRON.

As you have already reprinted in the number of your journal of the 3rd of December all that referred to the mosque at Hebron in my letter to the *Times* of the 28th ult., it will not be necessary for me to repeat what was there so fully described. I would only add, in anticipation of any errors that may hereafter be detected, that the circumstances of my visit were not such as are conducive to accurate plan-drawing or calm architectural observation. During the whole time I was in the mosque I was surrounded by thirty or forty persons, all of whom were anxious to be civil to me,—through an interpreter; while, on the other hand, I was most anxious—not only for my own sake, but for that of those who might follow me—not to do anything that could offend; nor to seem to pry into their secrets more than was necessary for the purpose of my investigation. Notwithstanding this, I feel convinced that the plan I forward herewith will be found substantially correct in all the main features.

The dimensions of the Gothic building, which is the most interesting object in the interior, were obtained first by pacing the whole length in each direction, and then re-pacing each aisle and arcade separately; and as I found the addition of the parts to agree with the totals, I felt sure I had made no mistake there. The length of my paces I afterwards verified by external measurements. If the external walls are 7 ft. 6 in. in thickness, the principal dimensions, 96 ft. east and west, is 1 ft. too small. If they are 8 ft. 6 in. thick—which they may be—my pacing gives 1 ft. in excess. I had no means of measuring heights; so those shown in the section must be taken as eye sketches only. I am afraid I have made the external walls too high, but the excess, in that case, is rather below the floor of the mosque than above it.

The plan of the Mahometan buildings surrounding the court is not so much to be depended upon. While I was examining the court which they surround, I was much more anxious to try and discover some mode by which access might be obtained to the caves below, than to measure or examine buildings of no architectural interest, and whose date was perfectly apparent. One consequence of this is, that I am very uncertain as to the position of the two domes at the north end—the only two in the Haram. I, certainly, at the time, thought they covered the tombs of Jacob and Leah; but in drawing out the plan and comparing it with my notes, I feel very doubtful whether they ought not to be where shown in the plan. They are small and insignificant, like all the buildings surrounding the court.

The dimensions of the exterior may be looked upon as certain within the limit of fractions of a foot. They have been measured by others besides myself, and all seem to agree in making them 198 ft. north and south, and 112 ft. east and west.

The longer faces have sixteen pilasters, the shorter eight, each 3 ft. 9 in. wide, with 7 ft. spaces between; and the angle pilasters are each 9 ft. 6 in., which is the width of the minarets at the alternate angles. The exact thickness of the walls is more a matter of doubt. The entrance doorway has been revetted with marble slabs by the Moslems, and is otherwise so encumbered that the original masonry cannot be seen. From such observations as I could make, I have assumed it at 7 ft. 6 in.; but this, I am inclined to believe, is rather under the truth.

With regard to the age of these buildings, it is easy to assert, without fear of error, that the wall of enclosure is Herodian,—that the Gothic building was erected in the last half of the twelfth or first half of the thirteenth century, and the buildings surrounding the court, by the Mahometans, in the fourteenth century; but when we attempt to fix the exact date of each portion, we are stopped by unexpected difficulties.

Curiously enough, history is entirely silent with regard to the two first, though sufficiently distinct with regard to the third. Josephus, to whom we naturally first turn, does not mention the enclosure. He merely says, "The tombs of the patriarchs were to be seen in his day in the city of Hebron, made of marble, and wrought with the most elegant workmanship." This of course refers to sarcophagi or monuments of some class, not to the enclosure. The description of the Bordeaux pilgrim, in the time of Constantine, is so indistinct we can make nothing of it. Antoninus, in the time of Justinian, says, "A basilica is erected there," "in quadriporticus," whatever that may mean,—"atrium in medio discöopertum;" and Arculfus, at the end of the seventh century, says "that the cave is surrounded by a low wall" (humili circumvertitur muro), a curious expression as applied to a wall certainly not less than 60 ft. in height, however much more it may be, and says nothing of the basilica. We are therefore left to its analogies with other buildings for its date, but in this instance there is no great difficulty. The masonry of the Jews' wailing-place, which is certainly a part of the substructure of the temple as rebuilt by Herod, is identical in all essential respects with the constructive peculiarities of the Hebron enclosure. In addition to this, the remains of a building have recently been discovered near the Church of the Holy Sepulchre at Jerusalem, whose masonry is identical with that of Herod's Temple, and has also the peculiarity of being adorned with pilasters like the enclosure at Hebron.

The only other building with which it can be compared is that at Arak el Emir, alluded to by Mr. Tristram in his letter to the *Times* last week. The usually assumed date of that building (176 B.C.) rests wholly on an assertion of Josephus, who, though so invaluable an authority regarding what came actually under his own cognizance, is never to be trusted without collateral evidence in such a question as whether a building was erected fifty or two hundred years before his time. The building is not a "strong castle," as he asserts,—hardly a residence, most probably a temple, and the frieze of animals surrounding it is so flagrant a violation of the second commandment, as to render it doubtful whether it was erected by a Jew at all. Besides this, the details of the Corinthian order as drawn by De Vogüé, look very much more modern. When De Saulcy's work is published, we may be in a position to give an opinion on the subject. At present, all that can be said is, that the date of the building is most doubtful, and to found any argument upon it premature. We are thus left to the analogy of the two Jerusalem examples, but these suffice to fix the date of the Hebron enclosure within the great building period of the Jews. Between the advent of the Romans under Pompey, and the destruction of the city by Titus, and most probably as near the centre of that epoch as possible.

Though we cannot fix absolutely the date of the Gothic building, we can do so within narrower limits than that of the Jewish enclosure. It was certainly erected after 1167, and before 1250; but, when we try to approximate more nearly, we are met by difficulties which the present state of our knowledge hardly enables us to surmount.

If, for instance, we compare the mosque at Hebron with the choir of the cathedral at Canterbury, which is one of our most advanced examples, and the date of which is quite certain (1175—1184), no one would feel any difficulty in asserting that the Eastern example is very much more modern. On the other hand, the French at this period were nearly a quarter of a century in advance of us; but even then were still behind the style of the Hebron building.

But the most curious anomaly is, that generally the Eastern Gothic is what we have been accustomed to regard as the Italian variety, and almost the earliest example we know of this style is the Church at Vercelli, commenced in 1219. If, therefore, the mosque at Hebron, was erected before the destruction of the first kingdom of Jerusalem in 1187, it follows that the Italian Gothic style was perfected in the East at least thirty years before it was introduced in its most primitive form in the West. Count de Vogüé, whose book is certainly the best, if not the only authority on this subject, feels this difficulty in speaking of the churches of Sebaste and Lydda; but the historical difficulty seems to him insuperable; and he is content, therefore, to assume, without further inquiry, an earlier development of the Pointed style in Syria.

If this should prove to be the case, the Western nations must give up all claim to the invention of the Pointed *style*, as they have been obliged to abandon the invention of the Pointed *arch* to the Easterns, and we must be content to rewrite that chapter of our architectural history in a humbler mood. It may be so, but we require much more knowledge on the subject before it can be considered as proved.

Be this as it may, the Church of the Holy Sepulchre at Jerusalem was completed, internally at least, in or about the year 1167-8.

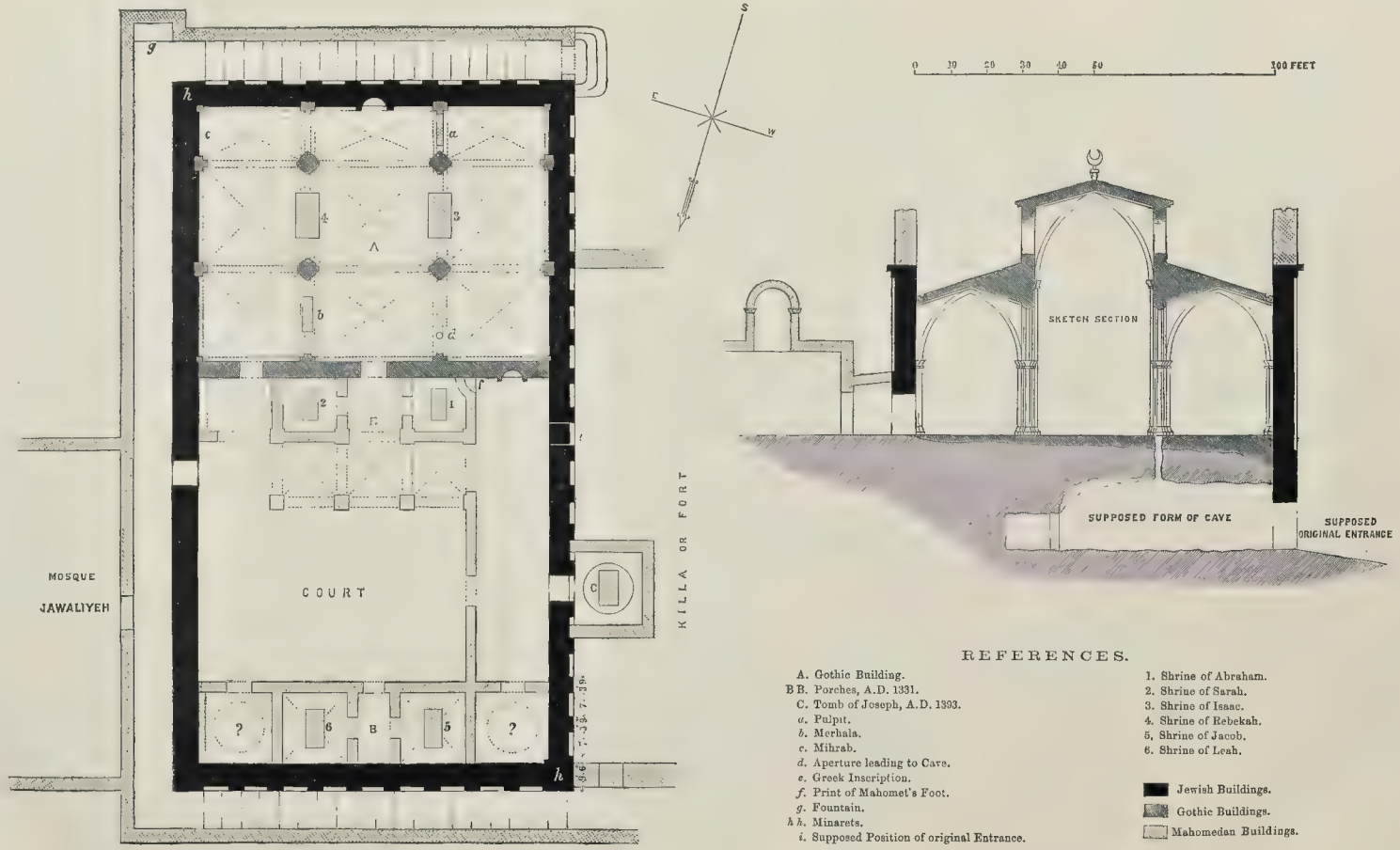
The mosque at Hebron is much more modern in style, but if it was built by the Crusaders during the first kingdom of Jerusalem, it was erected between that period and 1187, when the Saladin took that city, and in that case it remains a solitary exceptional example of its style at that date. As an escape from this dilemma, could it be possible to assume that the Moslems, after the recovery of Hebron, employed a Christian architect to erect a mosque in the enclosure, in the style then usually employed in Syria? We know that Mahomet II. did this on the conquest of Constantinople. Hence the Byzantine form of the mosques of that city. The plan of the building, it must be confessed, somewhat favours this hypothesis. It has no apse, which no other church of that age in that country is known to be without; and the depth from the door to the altar is less than the breadth, which, as a general rule, is a Mahomedan and not a Christian peculiarity.

Since the historical difficulty was pointed out to me, I have tried every means of escape from it, but fear its exact solution must be postponed for future investigation, beyond the fact that it is a Gothic building, erected after the year 1168, and not later than 1250 A.D.

Unfortunately for its effect internally, the modern Syrians have a mania for whitewash more inveterate than that which possessed English churchwardens in the last century; and this building, as well as some of those at Jerusalem, has so frequently been treated with this specific as almost to obliterate all the more delicate mouldings. The effect, in consequence, is light and cheerful, but not impressive. At the same time, it must be admitted that its size is not such as to entitle it to any high rank among architectural examples; nor are its details such as to redeem its limited dimensions.

On the whole, I am afraid that the result of my visit to Hebron must be considered as a disappointment. The real interest of the place centres in the outer wall; and that could be, and had been, examined before I went there. To enter and find nothing inside but a small Gothic building, of somewhat uncertain date and origin, and a few Moslem additions of still greater insignificance, is but an impotent solution of so great a mystery. Had I been able to obtain access to the caves below, the result might have been different; but, so far as I could ascertain, that was impracticable. In one respect, however, it was a success. After admitting me so publicly, it will be impossible to refuse permission to any one who goes properly recommended; and I have no doubt, in consequence, that any defects in my investigation will shortly be rectified, and before long we shall know all that can be known regarding the mosque at Hebron.

JAMES FERGUSSON.



SKETCH PLAN AND SECTION OF THE MOSQUE AT HEBRON.—By Mr. James Fergusson.



ST. ANDREW'S, THURSFORD, NORFOLK: AS RESTORED.—Mr. W. Lightly, Architect.

ST. ANDREW'S, THURSFORD, NORFOLK.

The parish of Thursford is situate a few miles from Fakenham, in Norfolk, and belongs for the most part to Mr. J. S. Scott Chad, at whose expense the restoration of the church is being carried out, under the direction of Mr. W. Lightly. The church, which is dedicated to St. Andrew, is principally in the Perpendicular style, but the arcade and some other parts belong to a much earlier period.

Considerable progress has been made with the restoration; and though the works are for the time suspended, the complete restoration of the old fabric and several important new additions are contemplated. The old roofs of nave and south aisle which were decayed have been removed, and replaced with new open roofs of yellow deal, covered with plain tiles, made of the excellent earth which is found hard by. The tile floor has been lowered, and a Porrit's stove introduced, and new moveable open benches of deal have been substituted for the old pen pews which have been cleared away. The Mortuary Chapel, on the south side of the chancel, has been taken down and entirely rebuilt. In it are placed, temporarily, the organ and the new stained glass for the east window of chancel, which latter was executed by Messrs. Powell, of Whitefriars, from the designs of Mr. Albert Moore. It is in three lancet-lights, and represents the Birth, Resurrection, and Ascension of our Lord, beneath which are the twelve apostles, ranged in two rows. The nave and aisle windows have been filled with Messrs. Powell's quarries. The new font is of Bath stone, with alabaster die: it is raised on three steps: the bowl is sexagonal, and on its several faces are represented the Crucifixion, the emblems of the four Evangelists, and the Cross of St. Andrew. The communion-table of carved oak, is also new: both were executed by Mr. Forsyth, of London. The Mortuary Chapel, which is reached by a flight of steps from the aisle, is built of flints, faced on outside, the buttresses, windows, &c., being of wrought stone, and the shafts to the triple arch next chancel of red Mansfield stone.

THE STORY OF A WOOD-CARVER AT ST. PAUL'S.

More than once we have received from obliging correspondents a copy of a manuscript said to be in the British Museum. It purports to be a letter written by an ingenious country lad, Philip Wood, from London, in 1669, to his "sweet mistress, Hannah Haybittle," only daughter of Ralph Haybittle, at Sudbury, describing the means he adopted to procure employment as a carver at the works in St. Paul's Cathedral, then erecting by Sir Christopher Wren, and runs thus:—

"No. 9, Ivy-lane, London,
September 3, 1669.

Dearest Hannah, my sweet Mistress,—Pray God that this may find my own sweet hearte and lyfe well. I hope that James Herbert put into your hands one letter which I sent. I gave him the letter myself, and he promised most faithfullie to find occasion to conveye it to you. I know, my dear Hannah, you think it both hard and wrong to hide anything from the knowledge of so kind a father as yours. The waggon returns into London on Tuesday, so I went to the yard in Bishopsgate, and waited for it to arrive. At last I heard the bells; and Jim Herbert, as he turned under the gateway, smiled at me pleasantlie, and he said, 'Wait a bit, young chap, I have somewhat to say to thee.' After a while he came to me, and told me how he met you walking on the croft, with your maid Susan, and how he contrived to give you my packet unseen of her. To think of such craft under a waggoner his frock! But no letter from you. He says that you looked well, and seemed happy to receive my letter, and I am contente. But had you no opportunitie to write one line? I know how it is, dear Hannah; you dislike any artifice. Indeed, it is hardly right for me, who owe so much to your good father, even the abilitie to write this, as he sent me, a poor orphan, to the free school,—to tempt you in this matter.

I can no longer put off telling you the good news. God has, indeed, been good to us. Little did I expect such happiness when I left Sudbury last May. That morning, when I looked for the last time from the hill, I thought my hearte would surely burst, and at one moment I was inclined to turn back; but then came to my mind what kind neighbour Smith should say she heard your father say about London; so I plucked up courage, and walked very fast over the Tye. Dear Hannah, it is a very sad lyfe to be alone in a great city. At Sudbury, I did contrive to see you, though at a distance, every day; and I could walk in the pleasaunt fields, and think about you, and read Master Shakspear his plays which you gave me, and which trulie have been, latterlie, with my Bible, my onlie comforte. In the evening I could pass your house to catch a glimpse of your shadowe on your casement, or to hear your spinnet sounding; and sometimes I found the neighbours showing the carvings to a farmer or two who had been at the market; and it was sweete to my poor vain heart to hear them tell how the rich merchant, Master Haybittle, retired from London to his native town, and bought a house, and employed a poor young man who showed some taste for such matters, to carve upon the woodwork elephants and lions, and other wonderful beasts from the distant lands where he used to send merchandise. Then all said the carver must go up to London, and become a great man.

Well, I got to London, but no one would employ me, and my little pittance of money got lower and lower; and I used, for want of employment, to go to the Churchyard of Saint Paul, and watch the building, which will certainlie be one of the wonders of the world. Suddenly it struck me one day, that they would surelie put into such a grand building carvings, such as I have often seen at Melford and the other churches; and I spoke humblie to the foreman, but they repulsed me, saying, 'We want no hedge-carpenters here.' Nevertheless, I went day after day to look on at a distance; and a week yesterday, as I stood as usual, in great admiration, a gentleman approached, with papers in his hand, and he talked with the workpeople; and at last his eye fell on me, and he said to the foreman, 'What does that young man want? I will not have any person about here unless they have business.' And the foreman answered, 'Please you, Sir Christopher, he is a country fellow, who troubles us to give him some of the carving work to do.' On this the gentleman, who I then knew to be the great architect, beckoned me towards him, and said, 'Friend, you want carving work. What have you been used to carve?' Hannah! indeed you will hardly credit it, but I was so confused that, forgetting all but what I earned my bread by whilst I was in the country, I answered, stammeringlie, 'Please, your Worship, Sir Christopher, I have been used to carve troughs.' 'Troughs,' said he, 'then carve me, as a specimen of your skill, a sow and pigs; it will be something in your line; and bring it to me this day week. I shall be here.' On which he went away smiling, and all the foremen and workpeople burst into loud laughter.

I do not know how I reached my lodginge, but when I did I throwed myself on the bed, and shed bitter tears, and reproached myself for losing such an opportunitie of explaining what I had done on your father his house. In the evening the good Quaker woman, whose backgarret I rent, came upstairs, and, entering my room, said, 'Friend' Philip, I have not seen thee since morning; I feared thou wert ill; see, I have brought thee some broth.' But I could not touch it; so she said, 'Tell me, I pray thee, thy trouble; it may be I can help thee.' So I told her, and she said, 'Thou art wrong, for if the man who is building that great steeple-house requires such and such a thing done, why, if thou really hast skill, it will be showed as well in that as in any other matter.' Her words were comforting to me, and I sat up on the bed, and ate the broth; and then I took my last guinea, and I went out and bought a block of pear-tree wood, and worked at my task continually; and yesterday morning I dressed myself in my best, and wrapping it in an apron, borrowed from my landlady, I went to the building. The workpeople jeered me, and pressed very much that I should show it to them, but on no account would I do so. I waited two or three hours, and then it was rumoured that Sir Christopher Wren was arrived with a party of the quality, to whom he was showing the building. At last he and the rest passed where I stood, but when I would have gone forward to speak with him, the foreman and others would have hindered me, saying this is not the proper time; you may see that Sir Christopher is otherwise engaged.' But necessity made me then bolder, and I said, 'He himself appointed me this morning,' and I pressed through them. Directly his eye caught me, he beckoned, and I went towards him, and I bowed and undid the apron, and presented the carving to him. For a minute he held it in his hand,—Oh! deare Hannah! what an anxious minute!—and then said, 'I engage you, young man; attend at my office to-morrow forenoon.' Then he walked on with the party, still holding the sow and pigs in his hand; but when he got a little distance, he turned round, and said, 'Wait until we pass back.' So I waited; and, when they returned, Sir Christopher came up to me, and said, 'Mr. Addison (I think he said 'Addison' or 'Addington') wishes to keep your carving, and requests me to give you ten guineas for it.' I bowed, and then he said, "I fear I did you some injustice, young man; but a great national work is entrusted to my care, and it is my solemn duty to mind that no part of the work falls into inefficient hands. Mind and attend me to-morrow.' So I bowed, and ran home, and my kind landlady was also overjoyed.

This morning I have been at the office, and I am indeed engaged to do carving in this most wonderful building.

I leave at your discretion to acquaint your father of this matter, and if you would write to me only one line, it would increase the happiness of, Deare Hannah, your faithful servante untill deathe,

Philip Wood."

It is added,—

"The following notice of Wood's further career appears in the Report of the Commissioners of Public Works, respecting the building of St. Paul's Cathedral:—

'Philip Haybittle, subpœned from Sudbury, Suffolk, deposed that he received certain sums of large amount, as per receipts, given during the years 1701-2-3-4-5-6-7, for carved work in the Cathedral Church of Saint Paul. On inquiry from their honours the Commissioners, respecting the difference betwixt his name and the name on the various receipts, the said Philip Haybittle deposed, that he married Hannah, only daughter of Ralph Haybittle, some time a Merchant in Cheapeside, and by the terms of the will of his said father-in-law, he was obliged to change his name.'"

The story would seem to be all untrue, but it is sufficiently interesting to excuse us for finding room for it. At the date given, 1669, nothing had been done towards the rebuilding of the cathedral, the first stone of which was not laid until 1675.

ON THE PRODUCTION OF NATURAL FORMS BY ART AND MANUFACTURE.

Under this title, the first series of Cantor Lectures was commenced, at the Society of Arts, by Mr. Waterhouse Hawkins, on the 12th inst. The lecturer said the subject to which he especially desired to direct attention was the application of natural forms to art and manufactures. In his introductory remarks he referred to the greatly advanced appreciation of art by the English people since 1851, and pointed out the educational advantages which had resulted from the Great Exhibition, by the establishment of a National Museum of Art Industry at South Kensington. Notwithstanding the improved appreciation of art by the public, and the advantages which existing art-collections afforded to the student and workman, he nevertheless deplored the inability of the English artist to produce designs suited to the requirements of the British manufacturer, equal to those produced by the foreign designer and artist. He then proceeded to discuss the reason of this deficiency of the English artist, and stated that he considered it resulted from the nature of the training to which art-students were subjected in England, as compared with the system pursued in continental countries. In England the art-instruction tended to create skilful copyists, great precision, and steadiness of hand in the use of the pencil, but at the same time crippled the mind; whereas on the Continent the student was taught to take broad views of art by observing the structural forms of objects in nature, a system which left the mind and hand much more free. He believed that the Englishman's impediment was not a want of material in which to produce, nor yet examples to study, but resulted from a heavy drill, which created good imitators, but did not tend to create inventors. In order to invent or create successfully good designs for the art-manufacturer, it was necessary that the artist should possess a thorough knowledge and appreciation of the structure of natural objects, without which knowledge it was impossible for the draughtsman to adapt the frames of men or

animals to the requirements of the ornamentist and the processes of production; and ornament, if produced without a knowledge of structure, inevitably resulted in imperfect drawing or unnatural distortions. He then proceeded to point out that one universal law of structure pervaded the whole of the animal kingdom, a knowledge of which enabled the designer to correctly represent and apply the conception of his mind to the ornamentation of matter.

The second lecture, given on the 19th, treated of the unity of plan in the external forms of animals, the just appreciation of which facilitates the work of the artistic producer, and adds to the enjoyment of the intelligent possessor of works of art.

SANDRINGHAM.

THE Prince of Wales's Norfolk hunting-seat is making rapid progress in improvements. The house is a plain brick mansion, having on the east front a modern Gothic porch, with stone dressings and carr stone panels. The west front is stuccoed, and has a terrace. At the south end of the house is an orangery. To the house, which has about twenty-seven rooms, exclusive of the servants' hall, &c., there has been at present nothing done, but a design for a new house has been made by Mr. Humbert, architect. At the termination of the fine avenue of limes that runs towards Dersingham, from the east front of the house, have been fixed the Norwich gates. To these wings have been added, consisting of wrought-iron palisading, introducing the hawthorn, with a casting formed of the rose, shamrock, and thistle. Above the shafts are capitals enriched with foliage in wrought iron, the whole being ornamented, as also are the two stone piers, by heraldic animals supporting shields. Great improvements have been made in the garden and pleasure-grounds in front of the house, chiefly under the superintendence of Mr. Toward, her Majesty's gardener at Windsor. The comptroller's new residence near the church is built of shell carr, magnesian lime, and Mansfield stone. The Bachelor's Cottage is in the Swiss style, and is built with hollow-brick walls, with a rough-cast exterior. The Prince's stables originally accommodated nineteen horses, but have been enlarged so that they can now accommodate forty. The fittings comprise all the modern improvements. Over the stables are built sixteen dormitories, and under the clock-tower has been fitted up a meat-room, and a kitchen has also been built for the cookery for the men. The old floor of the coach-house has been taken up and relaid, and Sandwich girders have been inserted. The drainage of the stables has been rendered complete, and the court-yard has been partially paved with granite. The entrance to the court-yard is not yet completed, but iron gates are to be attached to the stone and brick piers already erected, and a couple of wings of iron palisading. The park wall has been extended, and four entrances provided with oak gates and brick stone piers. The gardens comprise sixteen acres of the Home Farm. Seven acres have been inclosed by brick walls averaging some 14 ft. in height. On the south side of the north wall are arranged 300 feet of conservatories for grapes, peaches, &c., and on the opposite side of this wall buildings are being provided for fruit-rooms, gardeners' dwellings, and the officers nominally required in connexion with gardens of such an extent. There being 5,400 ft. of length in these walls, a large number of wall-fruit trees may be trained on it. On the outside, at the north-west corner of the walls, a semi-circular house for camelias has been made. The whole of the works connected with the garden have been designed by and executed under the immediate superintendence of Mr. James Carmichael, the working steward.

The unsightly buildings which formerly existed on the site of the old keeper's house have been removed, and at the extreme east corner of the park, on a pleasant piece of table-land, is built a Gothic house for the head keeper. It is built with Holkham white brick, projecting quoins, with shell carr panels, the ornamental parts consisting of string labels, and bay windows of freestone. The roof is covered in with blue and red Staffordshire roofing tiles, laid in designs. There are a dairy and other outbuildings attached, which form a prominent feature in the general effect of the building. In connexion with this house is another range of buildings, consisting of a venison larder, cowhouse, stables, and other offices, likewise built of the carr stone of the neighbourhood. On the table-land in front of the keeper's house, a pheasantry consisting of eighteen yards, each being 30 ft. square, has been constructed. Three other keepers' houses have been erected at Wolferton, Dersingham, and Frankfort. A game larder has been erected in the park, near the house, octagonal in shape, and built with brick quoins and shell carr panels, and has progressive eaves, supported by rustic fir trees. The roof is covered with Staffordshire blue and red tiles. The interior is fitted up with galvanised iron rods and hooks, and is capable of holding from twelve to fifteen hundred head of game. The floor is laid with rubbed York stone, having a channel formed connected with the drainage outside. Contiguous to this is a new gun-room.

The Prince has evinced great interest in the cottage accommodation on his estate. Several new cottages, of good construction, are inhabited, and others are on the eve of completion. The cottages are built of brick and carr, with slate roofs; the windows and door frames of English oak, the former being of an extra size, giving an abundance of light to the lofty rooms. The cottages are set back 30 ft. or 40 ft. from the road, so as to afford an opportunity for a garden in front. The garden for the growth of vegetables extends back in the rear of each cottage about 100 ft. What was formerly a barn has been converted into a school-room, and a house for the mistress, with the playground and garden in front, enclosed with a wall. At Appleton, a house is in course of erection for Mr. S. O. Cresswell, who farms about 800 acres on the estate. The farmhouse is of some considerable extent; it is built of the carr stone of the neighbourhood, with angles of brick burnt on the farm. Contiguous to this house are the farm premises, which were erected last year, and cover a large area of ground. The keeper's house, cottages, well, game larder, and Appleton premises have all been designed and erected by Messrs. J. & M. Goggs, of Swaffham.

BRADFORD STREET IMPROVEMENTS.

IN the case Pearson *v.* The Corporation, before a Sheriffs' jury, Mr. Price stated the case of the claimant, whose property is situate in Bridge-street, opposite the end of Market-street.

The claimant was called and examined, after whom Mr. Wm. Andrews, architect, &c., gave his evidence. He said that he had had considerable experience in erecting warehouses and shops in this town. Property had increased in value in Bradford during the last ten years, and there had been a continuous increase latterly. He had made a valuation of the claimant's property as it now stood, and (giving the rental of each floor) it produced a gross rental of 306*l*. 6s. 6d. He deducted 10 per cent. for leakages, insurance, and repairs, which was 30*l*. 10s. 6d., leaving 275*l*. 10s. He proposed to lay out 250*l*. in making alterations and improvements in the buildings, and, making a deduction of 7½ per cent. upon this, 18*l*. 13s., the net rental would be 256*l*. 15s. He capitalised this sum at 17 years' purchase, which would realise 4,364*l*. He added 20 per cent. for compulsory sale, 873*l*. He added for 60 yards of open frontage, the property of the claimant, the value of 5*l*. per yard, or 300*l*. This made a total of 5,537*l*.

Mr. T. Dixon, land agent and valuer, supported the evidence of Mr. Andrews; as also Mr. George Knowles, architect. Other witnesses were called, after which Mr. Lloyd addressed the jury for the Corporation, maintaining that 19 years' purchase on the present net rental, which was 185*l*., was ample compensation, with 10 per cent. for compulsory sale.

Mr. G. B. Smith, surveyor and land agent, was called. He estimated the rental deducible from the claimant's property at 200*l*. He made a deduction of 7 per cent. for insurance, repairs outside, and leakages, which gave 185*l*. as the net value. He put upon that 19 years' purchase, which gave a capitalised sum of 3,515*l*. He added 10 per cent. for compulsory sale, 351*l*. 3,866*l*. 10s. was the full value of the property.

Mr. E. Milnes, architect, expressed his concurrence in this estimate. He said, however, that if the property was his, he would gut it, and would convert it into a large ironmonger's shop; and he estimated that by an outlay of 340*l*., a net rental of 290*l*. might be obtained.

Mr Joseph Smith, land agent and surveyor, supported the evidence of the previous witnesses, and the jury gave a verdict for the claimant of 5,000*l*.

THE ARCHITECTURAL ASSOCIATION.

GOLDSMITH'S ART.

THE ordinary meeting of members of the Architectural Association was held on Friday evening (the 9th instant) at the House in Conduit-street.

The chair was occupied by Mr. Joshua Webber, the vice-president.

The following gentlemen were elected members of the Association:—Mr. A. W. Tanner, 15, Devonshire-road, Greenwich; Mr. L. T. Richel, 2, Richmond-villas, Pinner; Mr. Walter Seagill, 12, South-square, Gray's-inn; Mr. J. Allen Britton, 10, Lime-grove, Lewisham; Mr. Hunt, 5, Theresa-terrace, Hammersmith; Mr. Corbin, 50, North End, Croydon; Mr. William Orellier, 4, Holland-place, Brixton-road; Mr. Henry Walker, 16, Gloucester-road, Regent's-park; and Mr. R. Mann, 2, Ashburnham-villas, Greenwich.

Mr. W. C. Brangwyn read a paper "On the Goldsmith's Art in the Middle Ages, including a Description of the various Instruments used in the Services of the Church." The processes to which he referred, were engraving and niello, filigree, enamel, repoussé work, piercing cast and chased work, and jewelling. The decoration of a metal surface by engraving was of very high antiquity, and was practised by the Egyptians, Greeks, and Romans. Niello merely differed from engraving by the lines being more deeply cut and filled in with a composition of sulphate of silver. A specimen was to be found in the borders of Dr. Rock's portable altar at the South Kensington Museum. Monumental brasses might be described as niello on a large scale. This art was one of the most beautiful practised in the Middle Ages, and was first found in work of the seventh century. From thence to the twelfth century it flourished, but fell, like enamel, into disrepute, and from the twelfth to the fifteenth century was almost lost sight of. One of the most beautiful specimens of Italian niello was a pax engraved by Maso Finiguerra, in 1452, at present preserved in the museum at Florence, and of which two sulphur casts were in existence. Filigree was a very beautiful and widely used decoration, and was principally used during the eleventh, twelfth, and thirteenth centuries, but the work of the twelfth century was of the finest character. This mode of ornamentation was used very much in book-covers, chalices (the stems of which in some instances were covered with it on an enamel ground), reliquaries, and, in fact, every article in which the art of the goldsmith could be brought into requisition. Enamelling was, undoubtedly, very ancient, but it was questionable whether it existed previously to the Christian era. The Saxons seemed to have cultivated the process very little, and the only specimens remaining were the jewel known as Alfred's, and some brooches found at Abingdon and London, and now preserved in the British Museum. A few finger-rings had also been found, in which the engraved letters were filled in with vitreous paste, but bearing a closer resemblance to niello than enamel. Repoussé work was the mode of enriching a plain sheet of metal by means of raising the surface by punches into figures, foliage, and other patterns. For large works and groups, it was usual to model the subject in brass or some inferior metal, and then beat over it a very thin plate of silver. Among the finest works remaining in this style of art, were a frontal of silver of the twelfth century, the pala'd'ora, of gold and jewels in the treasury of St. Mark's, Venice (said to be Constantinopolitan work of the tenth century), and an altar frontal of silver at Moura. In all the more rich and elaborate works of Mediæval times jewels were an important feature, and were employed in combination with filigree on the covers of books, on knobs of chalices, and sunk in the surface of Limoges work. Having described in detail the manner of ornamenting the various vessels used in the service of the Church, Mr. Brangwyn particularised specimens in the South Kensington Museum, and recommended a careful examination and study of them.

At the conclusion,

The Chairman observed, that the subject which Mr. Brangwyn had chosen for his paper was a most interesting one. Some valuable specimens of the goldsmith's art in the Middle Ages were to be found in the South Kensington Museum, but the finest examples,—the marvels of the art,—were to be found either in the old cathedrals or the religious houses of the Continent. There was a very fine collection at Milan, and also in the crypt of the chapel of San Carlo. He hoped that the members of the Association would study the paper, and profit by the examination of the objects within their reach in the South Kensington Museum.

Mr. G. H. Birch called attention to some examples of the art which had come under his own notice on the Continent, and, in reply to an observation from the Chairman, said that the general complaint there was that the best specimens of the goldsmith's art had found their way to England.

Mr. Spiers said, he was not aware that engraving was the earliest mode of decorating a surface: filigree work appeared also to be a very primitive description of ornament. The most beautiful ornaments found in the neighbourhood of Rome were those taken from the Etruscan tombs, and which were somewhat similar in design and treatment to those found in Ireland, and were to be seen in the Architectural Museum at South Kensington. It was to be regretted, however, that some of the finest Etruscan ornaments were immoral in their character, and consequently could not be repeated in the present day. Mr. Brangwyn had referred to early altar fronts, to be found in Italian churches. Many of these were very beautiful, but he thought it was to be regretted that in the later works pinnacles, crockets, and buttresses, were represented, which had nothing whatever to do with metal work. There was not, in his opinion, any work of the present day (not even in France, where the art was brought to a very high state of perfection) which could compare with the wrought metal work found at Pompeii, the beauty of which was almost incredible. Some fine specimens of it were to be found in the British Museum, and he recommended an attentive inspection of them. The reason why the fine arts,—painting, metal-work, sculpture, &c., were brought to such perfection among the ancients, was, in all probability, because the greatest minds of antiquity, having neither books nor printing whereby to convey their thoughts, resorted to the arts. No wonder, therefore, that they were the finest creations of the human mind. Were a similar system pursued in the present day the results might be the same. How beautiful, for instance, would be a capital carved by Tennyson, if he could succeed in putting all his poetry, fancy, and sentiment into it.

Mr. Ridge observed, that the study of metal-work showed, that in olden times architects appeared to work upwards from details, but that in later days the principle was reversed, and we worked from architecture down to details.

Mr. Birch referred to the circumstance that the old key pattern of the Egyptians was now used in jewelry work to the exclusion of almost every other form.

Mr. Blashill could not agree in thinking that architectural types were not appropriate forms in which to model vessels used in the ceremonies of the Church. Many of these objects, especially reliquaries, were designed as the models of particular churches; and, in his opinion, nothing could be more legitimate.

A vote of thanks was accorded to Mr. Brangwyn for his paper.

The Chairman announced, that the next drawing for the class of design would be the transverse section of a church; and that at the meeting on the 23rd instant, the prize essay on iron would be read.

FROM AUSTRALIA.

Melbourne.—Mr. Hassall, the superintending-inspector of the Central Board of Health, has published some very sickening details in a report on the sanitary condition of Melbourne. The local *Despatch* gives a digest of its contents, viz., that until a system of underground drainage be established, the health reports must always contain similar complaints; that in other respects the city has greatly improved in cleanliness; that a great change for the better has taken place in the common lodging-houses; and that the Chinese lodging-houses in Little Bourke-street are periodically overcrowded, "which is an evil," says the *Despatch*, "easy of cure." Not so easy, perhaps, as the writer fancies!——The City Council have at last arrived at the determination to spend a whole hundred pounds upon the erection of a temporary fish-market near Prince's Bridge.——A Mr. Phillips has invented a traction engine, and has said that it would prove of great utility in opening up parts of the colony not at present traversed by railways. "The mode of traction is by a kind of chain of levers, the engine being attached to a central iron rail firmly fixed in the road to be traversed." "Mr. Phillips calculates that the engine could travel up or down a very steep grade if necessary;" and proposes to drive the engine at a speed of ten miles per hour. A proposal for testing the practical value of Mr. Phillips's invention will be made at a meeting which we are told will soon be held.

Sandhurst and Echuca Railway.—The celebration of the "keying in" of the last rail on this railway came off on the 17th September, when Messrs. Collier, Berry, & Co. entertained their workmen on the banks of the Murray,—that is, at Echuca. About 120 guests started from Sandhurst terminus in the forenoon at 10, and reached Echuca at 1 p.m. A sumptuous repast was served to the guests; after which, Mr. Higginbotham, the engineer-in-chief, drove in the last key, amid the cheers of the workmen assembled. The workmen, to the number of about 500, were then invited to a "spread" prepared for them in the open space fronting the Bridge Hotel. The local papers say that the opening of this railway will be of immense importance, as it will connect Melbourne, Sandhurst, and Echuca. The latter is situate on the Murray, and the Murray is connected with the Edwards, Murrumbidgee, and Darling rivers, which, it is expected, will connect the Billabong, Lachlan, and Goulburn. When the railway party reached Echuca, one steamer was starting for Hay (on the Murrumbidgee), and another had just arrived from Wahgunyah. The extension line to Echuca (60 miles in length) has been finished in less than two years. The whole line of rail now runs from the seaboard at Melbourne to the river Murray, the boundary of New South Wales, the total length being 160 miles, which is the most extensive line in operation in the southern hemisphere. This line will bear comparison, says a local paper, with any of the oldest in Europe; but the enterprise has not pleased the New South Wales Government, which has imposed a restrictive duty on all goods crossing the river into New South Wales. "The Murray River Railway," says another Australian journal, "is at length completed, and the inhabitants of Riverina are now within six hours' ride of the sea. Already the goods trains have commenced running, and the first of the season's wool has been sent to Melbourne. A side line conveys the bales direct from the river-steamers to the railway, so that there is but one unloading." The passenger traffic was expected to commence in November last.

FOREIGN NEWS.

Stettin.—At Stettin, an industrial exhibition, under the direction of the Polytechnic Society of that town, is to take place during the months of May and June, 1865. All nations are invited to contribute specimens of industry and manufacture, the committee of management, of course, reserving the right of refusal when objects are either trivial or inadmissible. The opening is to take place on the 15th of May, and the closing on the 30th of June. Exhibitors are requested to send to the committee a specification of the objects proposed to be exhibited, not later than the 1st of January, 1865. In order to cover the expenses of the undertaking, exhibitors are required to make two payments, one according to the value of the article exhibited, and another for the space occupied. The space is to be paid for at the rate of 2½ silbergroschen per Prussian square foot, whether it be wall or counter; the other sum is at the following rate:—From 1 to 49 thalers, 10 silbergroschen; 50 to 149 thalers, 20 silbergroschen; and those above 150 thalers value are to pay half per cent. Objects occupying considerable space, such as machinery, carriages, &c., are only liable to half the above rates. A Prussian foot is 0·3138 mètre, and the square foot = 0·09847044 square mètre, or 152·64 square inches English. Taking the thaler (30 silbergroschen) at 3·75 francs, or 3s. sterling, the price of the space at the Stettin Exhibition turns out to be 2·83d. per English square foot, and at the rate of 3·17 francs per square mètre.

Naples.—The inhabitants of Naples are in high spirits on account of the proposed public works. Deficient in water-supply, over-crowded in population, in want of a new port, and of a railway communication with the rest of the Italian lines, the city is on the point of having these evils remedied by the new administration. As to the water-supply, seven quarters out of twelve have none but what is collected from the rain in cisterns. Five only have running water supplied. Signor Abate, the engineer, proposes to make use of the ancient Roman aqueducts. Two new quarters have been commenced; one at Chiaja, another at l'Arenaccia, towards Vesuvius. As to the port, General La Marmora has listened to the prayer of the Neapolitans, and accorded the new port to be made at Naples instead of far off from the town near Portici. He also showed his good-will for these people in giving preference to the line from Naples to Foggia by Benevento, which could be finished in April, 1866; while the other railway, on which they were at work already, by Salerno and Basilicate, could not be completed under five years. There is no reason why Naples, hitherto a military port, should not become a commercial one.

M. Boullé, ancient architect of the town of Rennes, and who resided for some time past at Saint Bricuc, died a few days ago.

On the 11th inst., died, M. Gerson Lévy, aged 81. He was the founder of the Imperial Academy of Metz, and honorary president of the Jewish Society of Arts and Manufactures. Formerly a bookseller, he was *gérant* of the *Indépendant*.

According to a report just issued upon the Paris sewerage, the quantity added to the group this year has been 39 kilomètres,—15 in the central division and 24 in the suburbs; last year the length added was 36 kilomètres. In order to give some idea of the difficulties to be overcome in giving to the Paris sewerage a somewhat regular fall, it is necessary to remark that the slopes of the basin of the Seine, instead of descending in a uniform inclination towards the river, are rendered very irregular by natural or artificial hillocks. Thus, between the Faubourgs St. Antoine and du Temple there projects, from the heights of Belleville a counterfort which, extending from the Barrière des Amandiers to the Boulevard du Temple, terminates at the foot of the Rue Meslay. To the south-east of this undulation a sort of plain, formerly a swamp, extends, and is separated by the Canal St. Martin into two portions, the Faubourg de St. Antoine and Le Marais. At the north-west of the basin a valley, opening out as it approaches the river, is bounded by the heights of Montmartre, Beaujon, and Chaillot, on the north and west. On the south bank of the river three valleys intersect the river banks, and are separated by the Butte des Moulins, the Montagne Geneviève, and a sort of hill upon which stands the Church of St. Germain des Près. All these irregularities of surface have been studied by the engineers so as to give to the subterranean arteries as nearly a uniform inclination as possible.

COMPETITIONS.

Bolton Town Hall.—Forty designs for this building (to cost 40,000*l.*) have been sent in, and were exhibited to the inhabitants on Monday and Tuesday in this week. Considering that the designs have been sent in under mottoes, and are supposed to be anonymous, it is strange to find the local *Chronicle* saying, after giving some general particulars, "We append minute details from the designs of *our local artists*, and conclude our present notice with the gratifying reflection that Bolton stands well in this honourable competition." It does not read as if it *were* very honourable.

The Brighton Workhouse.—The vestry, having, as was anticipated, rejected the scheme for the erection of a new workhouse at a cost of 30,500*l.*, being the amount of the lowest of sixteen tenders, have requested the guardians to offer 200*l.* as a premium for fresh plans for a workhouse, to hold 600 inmates, at a cost not exceeding 18,000*l.*, although it appears to have been not an unprecedented circumstance that 700 persons have been squeezed into their present workhouse. The guardians have resolved to communicate the result of the vestry meeting to the Poor-Law Commissioners, who had given their consent to the proposal of the local guardians to erect a workhouse at an estimated cost of 23,000*l.*, which the lowest actual tender, however, had increased to 30,500*l.*

Church of Shire Oaks, Nottingham.—Will you pardon me pointing out an error in "E.'s" list of new bells, supplied by Messrs. Taylor, Loughborough:—"Shire Oaks, Nottingham, a peal of five; tenor, 8 cwt., the gift of the Duke of Devonshire, who built the church." The church was built by the late Duke of Newcastle, from designs of Mr. J. L. Hine, architect.—C. H. W.

"WANTED, A GENERAL FOREMAN."

WE insert the following letter that builders and contractors may know opinions entertained by some of their workmen:—

Sir,—I frequently observe in the advertising pages of your publication, "A General Foreman Wanted," and "Wanted, a Situation as a General Foreman;" and I always consider these announcements make both the master builder and the would-be general foreman appear ridiculous. If a man can be produced that thoroughly understands all the trades of a builder, he ought to be exhibited. It is quite time the master builders' eyes were opened to the way these "general foremen" place their men in each other's way, and do some part of their work two or three times over through ignorance. Some builders select a carpenter, others a mason, to be their "general foreman," and expect him to know everything, and to be over every man in a building, which makes them of so much consequence that it is quite an obstruction to the other foremen; and many of them are afraid to do their work the right way, because this general foreman has ordered them to do it differently.

I have been a foreman of painters, both in town and country, for the last twenty-five years, and have thrown up two appointments because I would not allow a carpenter to interfere with my department; and I would resign the one I now fill rather than submit to such an insult; but my employer, being a practical man, is well aware that my assertions are correct. There should be a practical foreman for each trade, and no foreman allowed to interfere with any branch but his own. T. M.

ST. FIN BAR'S CATHEDRAL, CORK.

I PERCEIVE by a newspaper paragraph that the demolition of St. Fin Bar's Cathedral, at Cork, has commenced. Whilst I am truly glad that a noble structure is to replace the shabby apology for a cathedral which has long disgraced Cork, may I ask if the architect will not spare the ancient west doorway, a remnant of Mediæval work, which was spared when the cathedral was rebuilt in the Classic style in the last century. Of course, it would not be suitable for a grand west portal; but yet it would be most desirable now, when so many of our antiquities are disappearing, to preserve in some part of the new fabric this peculiar and graceful archway, just as we often find Norman doors remaining undestroyed through several rebuildings in the Gothic style. I anxiously hope to hear, through your columns, of the fate of the old archway, and relic of the Middle Age St. Fin Bar's. J. W. HARDMAN, LL.D.

THE CAB FARE ACROSS HYDE PARK.

IN your paper of the 3rd inst., you have a short article headed with the above words, and you conclude that article as follows:—"Surely we ought to have the matter put at once upon a better footing than this!" implying that cab-drivers should be made to know that the notices placed by the authorities of Scotland-yard, at Queen's-gate, on the south, and Victoria-gate on the north, are binding on them. Such, however, was not the case up to Tuesday last, as on that day a cab-driver positively denied any knowledge of such notice, and refused to recognise it. Can you, Mr. Editor, do nothing more for the public in this matter? A BROMPTONIAN.

THE VALUE OF LAND IN THE CITY OF LONDON.

ON the 17th, at the Lord Mayor's Court, in a railway compensation case, Hodges *v.* The Metropolitan Railway Company, some evidence was given of the value of land in the city of London.

On the part of the claimant, 4,275*l.* were asked in May, 1863, which was said to be too little. The second claim was 5,600*l.*, and the surveyors examined on the present occasion made the amount 7,112*l.*

On the part of the company the value was estimated by the witnesses at about 3,500*l.* The theory was, that as land was so valuable in the City, by removing the stables, which were part of the property, the land would be more valuable for warehouses. The property was in Milton-street, which had been known as "Grubb-street."

Mr. Serjeant Parry, for claimant, said that all small property would soon disappear in the City, and large buildings take their place. Property had "wonderfully gone up" in the City.

Mr. Lloyd said he wondered at the claim, or he should rather say, from his experience, he wondered not at any claim made against a railway. The property was leasehold, and held for fifty-nine years, and could not be converted into warehouses.

The jury, after a long investigation, assessed the compensation at 6,250*l.*

THE ROMAN REMAINS IN CHESTER.

AT the second monthly meeting of the session of the Chester Architectural Society, Dr. Brushfield read a paper on "The Remains of the Romans in Chester, with a detailed Description of those discovered in Bridge-street, in June, 1863." The lecture was copiously illustrated with drawings prepared expressly for the evening. In opening the subject the lecturer said,—I regret my assent to give this lecture the more because the discovery has excited a very large amount of interest in the archæological world, through a paper which was read before the society of Antiquaries in January last, by Mr. W. Tite, which I believe to be inaccurate. He then proceeded to give a slight historical sketch, to show what it was that induced the Romans to come to this part of Britain, and their reason for fixing on the present site of Chester, followed by a brief glance of the 20th legion. He then described the site of the recent discovery of the Roman remains, followed by a detailed description of everything that was discovered. The lecturer said he believed that the remains threw considerable light on the formation of that great peculiarity, the Chester Rows. In speaking of the origin of the city, he said that, although we had no authenticated account of the first founding of Chester by the Romans, yet it probably took place between A.D. 78 and 80. Was Chester a British or a Celtic town before the Roman period? Wherever the primeval inhabitants dwelt, they left their marks in the form of earthwork, funeral remains, &c., none of which was there any record of having been discovered in the immediate vicinity of Chester. Agricola probably selected the site of Chester as the principal basis of operations, forming a large entrenched camp after the ordinary Roman model, the stamp of which Chester, in its surrounding walls, bears to the present day. In regard to any doubts as to Chester being the Roman Deva, he need only quote the words of one of the authors of "Magna Britannia,"—"That Chester was the Deva of the Romans is a matter beyond all controversy." The lecturer stated that the excavated portion which contained the bulk of the Roman remains (which we have ere now described), was about 128 ft. in length by 88 ft. in width. After describing these remains, he stated that not one is now visible in its original position. Some have been used in the buildings now in progress, some have been removed to the Water Tower Museum, and some are in private hands; so that, with regard to their original site, they are now practically obliterated. In their original position they were of the utmost interest to us as lovers of archæology, and of practical use to antiquarians in general, as exhibiting some new phases of Roman work, and for the sake of comparison with other remains of the same era in other parts of Britain; and, moreover, they bore with them all those marks of veneration, a feeling for which is so prevalent among the large section of the travelling Americans, one of whose principal delights in visiting the old country is for the purpose of seeing and examining the venerable ruins and remains of past ages which he does not possess in his own land. The paper then went on to examine the remains in detail, first noticing the manufactures in clay, such as plain tiles, pantiles, flue tiles, cylindrical tiles, hexagonal roof slabs, and tile tombs. Passing on, it took into consideration Roman pavements, including not only the floors of residences, but those of court-yards, offices, and the streets. Then came a notice of the tesselated pavement, the various shapes and colours being described, and specimens of them exhibited. Dr. Brushfield concluded by stating that, at the next meeting, he proposed to describe Roman masonry in Chester, and after that the hypocaust. He would then enter into the question as to the character of the building,—whether it was, as Mr. Tite said, a temple, or whether it was a public building at all; and, if a public building, whether it might not have been a series of public baths.

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

SIR,—Will you permit me, through your columns, to remind your readers who intend either to compete for the "Medal of Merit" Design, or to become exhibitors, that the days are growing short for either designs or applications being sent in. Full information is given in your advertising columns of to-day, and while the Committee have no desire to exclude any from competition, permit me to remind "Southerners" that delays are dangerous.

GEORGE M. MURPHY, Hon. Sec.

WINTER CLOTHING.

NOW that the cold weather has come on, this important subject, in connexion with the life and health of both old and young, urges itself on the notice of every one. Attention to it is requisite at all periods of life; for it is often during the prime and stalwart age of men that the want of a little attention to winter clothing lays the foundation of serious and fatal disorders in after-life; and as regards young children, it has been the opinion of both English and foreign medical men, that the practice of exposing their arms and legs to such an extent as is usually done, is the cause of a considerable amount of disease and loss of life. In winter, at all events, the extremities should be well covered from the cold. When boys come to be about seven years of age, their legs are encased in trousers, and the arms covered to the hands. *Why should children at a more delicate age be exposed to the weather?*

As regards persons of greater age, especially those who are exposed out of doors during the winter, without any considerable amount of active exercise,—take, for instance, police constables, soldiers on guard, and many others,—in the way that clothing is usually made there is no extra protection to those parts of the body which are especially exposed to the action of the cold, although the chest is generally protected. To provide against this, which is often the cause of rheumatism, in the winter-time there should be extra defences to the legs and arms, and particularly to the joints. There need not, in making these provisions, be any interference with the *cut* of the tailor. A little attention to this might be the means of preventing long intervals of uselessness and pain. Of course, amongst private persons this matter must be left to the consideration of individuals; but amongst the police, the military, and the sailors of the navy, this provision should be made by Government clothiers.

Can any one give a reason why in winter, as well as in summer, the throat and chest, which are in most need of protection, should be left exposed by the dress of the sailors in her Majesty's service? If we were to resort generally to such a practice throughout the metropolis, we should have an account of the ravages of bronchitis which, when reported by the Registrar-general, would create both surprise and alarm.

METROPOLITAN BOARD OF WORKS.

AT the last ordinary weekly meeting of the Board the following among other subjects came before the Board:—

Improvement of Park-lane.

This question was brought forward by the Solicitor, who stated that the next step to be taken was to present a petition in favour of the "Piccadily and Park-lane New Road Bill," the usual notices for which had been served. Mr. Richardson observed that it would be absurd to present a petition in favour of the Bill, as though the Board really intended to carry out the improvement, when there was a great difference of opinion among the members as to the course which should be adopted. Another member suggested that the subject should stand over. The Chairman replied that it was necessary the petition should be presented at once, in order that the Board might maintain its *locus standi* before the House should it be decided to make the improvement. After some conversation the petition was sealed.

Improvements in Thoroughfares.

A report was brought up from the Building Act Committee, recommending that the line of thoroughfare extending from Rose-street on the north-eastern side, and from King-street on the south-western side, to Long-acre, in the parishes of St. Paul, Covent-garden, and St. Martin-in-the-Fields, be re-numbered; that the names King-street and New King-street be abolished; and that the line of thoroughfare be named Garrick-street. The report was agreed to. The same committee recommended that the line of thoroughfare between Newington-causeway and Harper-street, now Union-road and Horsemonger-lane, be all called Union-road. Agreed to.

The Pneumatic Despatch Company.

The engineer reported that the plan proposed by the Pneumatic Despatch Company for laying their tubes in High Holborn would seriously interfere with the sewers, and he recommended

that the solicitor be requested to enforce the necessary requirements of the Board in respect to them. The suggestion was put as a resolution and adopted.

FROM SCOTLAND.

Edinburgh.—The hall of the Parliament House has, during the last few years, been enriched by statues and portraits of departed members and senators of the College of Justice, and the whole of the east side of the hall now presents the appearance of a picture-gallery. During the last day or two several works have been added to the already large collection. The most attractive of the recent additions is the full-length portrait of Lord Brougham, in his robes as Chancellor of the University, painted by Mr. Macnee, of Glasgow.

Glasgow.—At the last fortnightly meeting of the Police Board, it was stated that during the past fortnight 307 cases of fever had been reported to the Sanitary Committee, against 261 during the previous fortnight; and 8 cases of smallpox, as compared with 2 of the previous fortnight.

Falkland.—A bronze statue is to be erected here to the memory of Mr. Tyndall Bruce. Mr. John Steell, R.S.A., of Edinburgh, has already designed and cast the statue, but some delay has occurred in consequence of the absence of Mr. Bryce, the architect, who is in Spain. The figure is in a standing attitude, and cloaked.

Health of Scotland.—The Registrar-General's return for the eight principal towns of Scotland shows births and deaths both above the average in the month of November. It appears from this return that 44 per cent. of the deaths occurred among children under five years of age. One death in every three was caused by the zymotic (epidemic and contagious) class of diseases; one in every ten of all the deaths was from typhus fever, which was by far the most fatal of the epidemics, and, indeed, was alarmingly on the increase. Aberdeen was the only one of the eight towns in which the number of deaths from this cause was not greater than in the previous month.

CHURCH-BUILDING NEWS.

Newington.—The first stone of a new Church in Newington, to be called the Church of All Saints, has been laid by the Bishop of London. The site of the new church is the central piece of ground in Surrey-square, Kent-road, Newington. The ground on which the church is to be built is about an acre in extent, and is the gift of the Rev. J. C. Clark, B.D. The new church will be in the Decorated style, with open timber roof, and will afford accommodation to 800 persons; half the seats free. The dimensions will be 120 ft. long by 60 ft. wide, and the entire cost is estimated at 5,000*l.* The architect is Mr. R. Parris; and the builder, Mr. W. Higgs, both of London. About 1,000*l.* are still required to complete the building fund.

Hackney.—The Church of St. Michael and All Angels, South Hackney, has been consecrated by the Bishop of London. The site was given by Dr. Williams, and a large portion of the amount required was raised by public subscription. The style of the building is Early English, the dimensions 175 ft. by 60 ft., and 45 ft. in height. Sittings have been provided for 1,200 persons, a large portion free. The total cost, inclusive of tower and spire, will be about 5,500*l.*, nearly 500*l.* of which are still to be raised.

Kempston (*Beds*). The Parish Church has lately undergone considerable repairs and improvements. The roof of the nave having fallen into decay, the Vestry determined to restore it. Tenders were invited, and the late Mr. Conquest became the contractor, under the superintendence of Mr. Horsford. The new roof of oak beams and deal planking, covered with lead (the principals resting upon carved stone corbels), follows the general plan of the former roof. The battlements have been re-constructed and slightly heightened; the exterior of the nave, aisles, and tower re-pointed; the windows of the tower restored; and the doorway of the porch renewed. In the interior a change has been effected by the removal of the western gallery and the opening of the Norman arch of the tower, which was previously blocked up and also hidden by the organ. The west window has been filled with figured quarries, by Chance, of Birmingham, at the cost of Master Talbot Barnard, of Kempston Hoo. The walls of the nave, aisles, and tower have been re-plastered, and the benches re-varnished. The expense incurred by the parish in carrying out these works is 440*l.*, the remainder (about 100*l.*) being defrayed by Mrs. Talbot Barnard, through whose liberality also the organ, in the hands of Mr. J. Trustam, of Bedford, has been improved, and placed at the east end of the north aisle. Three *coronæ* have also been presented by Mrs. Barnard.

Wokingham.—The Bishop of Oxford has consecrated a new church in the old Forest-road, called the Nine-mile Ride, running from Ascot and Finchhampstead, and traversing the heaths and plantations between Wokingham and Wellington College, chiefly occupied by brickmakers and "broomdashers." The church is placed on a gentle eminence, by the roadside, near the entrance to Ravenswood, heretofore Hanniken's Lodge, the seat of Captain Sawyer, who has given the site. It is a very simple structure, in the style of the thirteenth century, of brick and Bath stone, the latter sparingly employed. It consists of a chancel, a nave, and narrow north aisle, separated by wooden pillars, and a southern entrance under a double arch, surmounted by a gable, with louvre boards, for the reception of a bell. The cost was 800*l.*, and the church will accommodate 160. The architect was Mr. Butterfield. The edifice is dedicated to St. Sebastian. The west window is a representation of his martyrdom, treated in Mediæval fashion. For the present the building is a chapel-of-ease to the old church of All Saints, at Wokingham.

Batcombe.—The church of Batcombe, in the diocese of Salisbury, has been re-opened. The rood-screen, of Hamhill stone, which separates the chancel from the nave, has been restored in accordance with the old one, seriously damaged by the falling in of the chancel arch while the work was in progress. The nave roof-ribs, in the few places where they have decayed, have been replaced by new work, toned down to agree with the remainder. The walls of the nave have been made in keeping with the new chancel. An east window of Hamhill stone, like the others, replaces the old one, which has been inserted in the north side of the nave; and the chancel roof coincides with the other parts, decorated with carved bosses in oak. An ancient piscina was found built into the wall of the chancel, and has now been placed for its proper use. It is in the form of a small pillar, and of somewhat similar character to a very old font which has now been put under the tower arch. The porch has been rebuilt. The designs were supplied by Mr. J. Hicks, of Dorchester, architect, and they have been executed, under his direction, by Mr. Wellspring, of the same place, builder.

Llanwrin, Machynlleth.—The parish church has been re-opened for divine service, after undergoing a restoration, at a cost of nearly 1,100*l.* The style is Early English. Mr. Benjamin Ferrey was the architect, and Mr. T. Cloutman clerk of the works. The old stained glass of the east window has been restored and reframed by Messrs. Lavers & Barraud, at the expense of Sir W. W. Wynn, bart., who contributed altogether 500*l.*

Rawdon.—The church has been almost entirely rebuilt, and enlarged by the addition of a new south aisle and chancel chapel. The new edifice has an open high-pitched roof, which is boarded on the under-side with deal, stained and varnished. The windows are in the Geometrical style. Two of them have been filled with stained glass from the works of Mr. Wailes, of Newcastle-on-Tyne. The seats are open, of deal, stained and varnished. The improvements have been carried out under the superintendence of Mr. A. Crawford, architect. The total cost of the alterations has been about 1,200*l.*

Long Sutton (*Lincolnshire*). Sutton Church is about to partake of the benefit of the spirit of restoration that characterises the age. Mr. Slater has been called in to give plans. The church is remarkable; and should means be raised for a roof of high pitch, with new west window and clerestory consistent, its general character will be enhanced. The upper and available clerestory, as it exists at present, is debased, and spoils the appearance of the church.

Oundle.—The church, after having undergone a restoration from plans prepared by Mr. Scott, has been re-opened for divine service. The galleries have been removed, as have also the high-backed pews, and in their place are carved oak open seats. The western arch was formerly blocked up by some boarding. This has now been removed. The windows have been restored, and a stained-glass window has been put into the chancel by Clayton & Bell, of London. The figures in the first flight represent the Apostles St. James, St. Matthew, St. Mark, St. Peter, St. Paul, St. Luke, St. John, and St. Jude. In the second flight are represented the Nativity, the Baptism, the Crucifixion, the Resurrection, and the Ascension of our Saviour; and, in the last flight, the Enunciation, the Presentation, Christ's Agony in the Garden, St. Peter and St. John running to the Sepulchre, and the Charge to St. Peter. The stonework has been repointed in the nave, transepts, and aisles; and that in the chancels and chapels has been plastered. The whole of the walls and arches were formerly covered with plaster and whitewash, a specimen of churchwardens' architecture of former days. Attached to the church there is a crypt, which was formerly used as a charnel-house: this has now been cleaned out, and is used as a receptacle for fuel. The edifice is heated on Mr. Gurney's principle, now in use in the Houses of Parliament. The chancel is not yet finished, as subscriptions are now being raised to purchase a reredos. Mr. Walker, of London, is building a large organ for the church. The restorations have been carried out by Mr. R. Hall, of Nottingham, whose original contract was 3,500*l.* The total cost of the restorations, however, it is expected, will amount to about 5,000*l.*

Kirstead.—The church of this parish has recently undergone extensive restoration, and has been re-opened for Divine service. A tower has taken the place of the wooden *campanile;* and an apsidal chancel in the Early English style has been added to the church. The lights of the chancel are lancet-shaped and all stained glass; while the glazing of the nave is semi-opaque, with the sacred monogram introduced throughout. The pulpit and font are new, and the church has been re-seated. The architect employed was Mr. H. W. Hayward, of London and Colchester; the contractor being Mr. Wordingham, of Norwich.

Lowestoft.—A circular was issued in October last inviting plans for the proposed Cunningham memorial church, the site of which is fixed in the square, at the bottom of Nelson Score. The building was to be in the Pointed style, with stone dressings, to contain 400 sittings for adults and 100 for children—all on the ground-floor; the sittings to be open, and of stained deal; the whole, including gas-fittings, not to exceed in cost 1,200*l.* Seven gentlemen were applied to for designs, but only two were sent in, which were submitted to the committee, when that of Mr. Phipson, architect, Ipswich and Norwich, was selected.

Ragnall (near Retford).—The parish church of Ragnall has been restored and re-opened. The old church consisted only of a nave and south aisle, with a tower at the west end. This has been enlarged, and a new chancel aisle has been erected. The chancel is nearly as long as the nave. The chancel aisle is approached by a Third Pointed arch, and the aisle is attached to the chancel by two arches resting on pillars, with the abacuses ornamented. The roof is now an open one, and all the stalls are free and unappropriated. There is a new stone font near the entrance to the belfry. The east window, of three lights, is a memorial one. In the centre is the Crucifixion. The window is a memorial one, by Mr. Wailes, of Newcastle. The altar is reached by three steps. The floor is of encaustic tiles, of different patterns and colours. The nave is lighted up with four three-light windows, filled with cathedral glass and edged with clear glass. The stonework was done by the late Mr. William Lee, of East Retford, and the woodwork by Mr. Tomlinson.

Oxford.—We may add to our brief notice last week of the works in Worcester College Chapel, though the information has been given before, that Mr. W. Burges was the architect, and Messrs. Harland & Fisher were the decorators employed.

STAINED GLASS.

Blunham Church (*Beds*).—The east window of this restored edifice has been filled with stained glass. The old east window was an insertion of the most debased style of the Perpendicular period, flat-headed and disproportionate; but has been replaced by a window of the fourteenth-century style, designed and completed by Messrs. Ward & Hughes, of London. There are four lights, which contain representations of four great events in our Lord's life upon earth. In the upper portion of the window there is a quatrefoil containing a representation of the Saviour in judgment. In the tracery on each side are angel figures, and in the four divisions below are the emblems of the Evangelists. Then come the chief subjects which fill the four principal places

between the mullions. In the first compartment is a representation of the "Adoration of the Magi," with a scroll beneath bearing the announcement "Unto us a child is born;" in the second, "The Crucifixion," with the passage inscribed "It is finished;" in the third, "The Ascension," and the words "I ascend unto my Father;" and in the fourth, "The Angel at the Sepulchre" announcing "He is not here, but is risen." There is canopy work over these subjects.

Chichester Cathedral.—A painted window has just been added to those which already adorn this cathedral. Although every scrap of the old painted glass which existed here was destroyed during the Cromwellian period, when the city was besieged by Sir William Waller, yet it is rich in modern painted glass. There are a good many windows by Wailes, of Newcastle, nearly all those at the east end of the building being his work, as well as the two west windows. There are also specimens of the work of O'Connor and of Gibbs, of London; of Hardman, of Birmingham; of Willement, and of Miller, of London. The new window is the work of Messrs. Clayton & Bell. The stonework of the window has been restored under the superintendence of Mr. J. Marshall. It now consists, as it did originally, of two lancet-headed lights, surmounted by a cinquefoil. The unsightly window which it replaces was only placed there some sixty or seventy years ago. This is a memorial window, as nearly all the others are, and the expense of its erection was defrayed by Miss Hersee, of Chichester. There are four medallions, which contain representations of the principal events in the life of St. Peter. The first compartment gives his call by the Saviour, the next his walking upon the sea, the third the transfiguration of our Saviour, at which he was present, and the last his release from prison. In the cinquefoil above, the head of St. Peter is represented, and in two smaller circles below those of St. John and St. James, each with his distinctive emblem. The spaces between these medallions are filled with coloured diaper work, and the whole surrounded with a border.

Congresbury Church (Bristol).—It is said, that a young lady of thirteen—Miss Brown, of Glastonbury—has presented thirteen painted windows to this church.

Sutton Church.—A stained glass window has recently been placed in the south chancel aisle of the parish church, in memory of Laura Frances Still. In the centre light is a representation of the Crucifixion as recorded by the evangelist St. Luke. The figures at the foot of the cross are "Mary, the mother of Jesus" and "the Disciple whom he loved." Below, in the same light, is represented the offering up of Isaac, foreshadowing that greater sacrifice which is commemorated above. In the northern light is depicted the agony of the Saviour in the garden, an angel presenting the cup. In the foreground are the three disciples asleep. In the light on the other side is the Resurrection. Our Saviour is seen coming out of the tomb, the aureola encircling the body, while the guards are falling to the ground from fear. In the upper tracery of the window is the glorification or enthronement of our Lord as described in Revelations. In the two small trefoils are angels, respectively representing Alpha and Omega. The designs were furnished by Mr. Bensley, of London, to whom the execution was entrusted. The glass was from the manufactory of Messrs. Lavers & Barraud, of London. We understand the latter have a commission in hand for filling in the centre light of the east window.

Culham Church.—Messrs. Clayton & Bell have lately erected in Culham parish church four windows, of early type, corresponding with the latter part of the thirteenth century. The windows are situate on the south side of the church, and combine two of two lights and two of single lancets. The two-light windows contain in the one case four incidents illustrative of the parable of "The Good Samaritan," and in the other a similar number selected in illustration of the works of mercy. The former, looking south, contains the following incidents:—The Attack by the Robbers; Priest and Levite passing by a wounded Man; the Succour by the Good Samaritan; the Journey to the Inn. The latter, looking east, represents the following mercy works:—"Thirsty and ye gave me drink," "Hungry and ye fed me," "Sick and ye visited me," "Naked and ye clothed me." The parable window is treated with canopied panels in two tiers. The mercy-works window has a proportion of grisaille in the place of canopies. The two single lights contain respectively figures of SS. Peter and Paul, under low canopies, with panels of floriated ornament above and beneath. A mural brass, designed also by Clayton & Bell, is to be affixed near the largest window in the nave, with the inscription, "In Dei honorem." The windows on this (south) side of the nave, and those in the transept, were placed to the memory of James Morrell, of Headington Hill, and lord of the manor of Culham. The vicar and the committee, as soon as there are sufficient funds, intend to place painted glass also in the only remaining window, on the south side—a lancet.

Bremhill Church (Wilts.)—A memorial service has been held in this church to "inaugurate" a window erected in memory of Henry Drury, late rector of the parish, and for a short time Archdeacon of Wilts. The late archdeacon had restored his church, but the west window in the tower had been left undone. This has now been finished, the architect who was called in by the committee being Mr. Butterfield, and the artists in glass were Messrs. Hardman, of Birmingham. The window is a rather large four-light one. In each light is a subject, representing respectively,—1, Christ cleansing the Leper; 2, Christ feeding the Multitude; 3, Christ giving Sight to the Blind; 4, Christ raising the Dead.

Lichfield Cathedral.—There has recently been placed in the south aisle of this cathedral a memorial window representing several scenes of the scriptural account of David and Goliah. It is dedicated to the memory of their fallen brethren in arms, by the officers of the 64th (Second Staffordshire) regiment, past and present.

St. Anne's, Dublin.—Three memorial windows have been erected in this church, by Messrs. O'Connor, of London. One side of the church is now altogether filled with painted glass, except the window adjoining the apse.

Books Received.

WE at present simply announce the publication of "The Gentleman's House; or, How to Plan English Residences," by Professor Kerr: an octavo volume of 484 pages, with forty-four large plates, mostly of plans (many of them necessarily from our own pages), twenty woodcuts, and a descriptive Index. Every architect, and a great many others, must obtain this book, which is the result of much careful study by a well-qualified mind. Mr. Murray is the publisher.——Let us also mention, for the information of our readers, and we may hope to the advantage of the author, that "The Farm Homesteads of England, a Collection of Plans of English Farms existing in different Parts of the Country, with a Digest of Leading Principles," by Mr. J. Bailey Denton, is now completed, and is issued (by Messrs. Chapman & Hall) in one handsome volume, with sixty-eight lithographed plates and various woodcuts of details. It will be found of value by all who are interested in the subjects of which it treats, and has our cordial recommendation. We shall return to it.——We have received several Illustrated Books for Children, scrawled over on the outside and defaced "with the publishers' compliments." Both the art and the literature within seemed to be exactly worthy of such treatment, and they have been consigned to the waste-paper basket.——"Daddy's Makings, Little Rhyming Undertakings," deserves precisely the same treatment. It is really a public duty to protect the taste of poor little children from such eye-damagers.

Miscellanea.

THE BAR-GATE, SOUTHAMPTON.—We are authorised to state that the restoration of the Bargate was carried out under the direction and superintendence of Mr. J. G. Poole, Architect and Surveyor to the Corporation; Mr. Stevens being the contractor who has executed the work.

INDUSTRIAL EXHIBITION FOR READING.—A public meeting has been held in the Town-hall, Reading, according to the local *Mercury*, when resolutions in favour of holding a working class industrial exhibition in the town-hall in June next, and of raising a guarantee fund for the purpose, were unanimously passed.

WEST DERBY LOCAL BOARD SURVEYORSHIP.—In our paragraph last week, noting the raising of Mr. Orridge's salary, the figures should be reversed, the surveyor's salary having been increased to 250*l.* per annum, and the proposal of 200*l.* negatived.

THE LOCOMOTIVE AND THE BALLOON.—The terrestrial and aërial powers of locomotion were very nearly coming to close quarters on the 11th inst., near Colombes. The train from Paris to Rouen had to slacken pace on account of Godard's fire-balloon being on the rail. The telegraph wires were damaged by the grapnels.

ROYAL GALLERY OF ILLUSTRATION.—We understand that Mr. German Reed, induced by numerous requests, has set aside Tuesday and Thursday morning, during the holidays, for the representation of his "Opera di Camera" entertainment, which will consist of Mr. Macfarren's "Soldier's Legacy" and Offenbach's "Too Many Cooks." Mr. and Mrs. Reed, with Mr. John Parry, will of course appear as usual in the evenings.

INDUSTRIAL ART AND THE SOCIETY OF ARTS.—At the meeting, on Wednesday, of the Society of Arts, a paper by Mr. Davenport, on the efforts of the Society to promote Industrial Art progress, was read, and an interesting discussion took place on the subject, the report of which, however, we must postpone till next week. The works of art submitted in competition, about ninety in number, are now on view.

ROME SUBTERRANEAN.—The projected work of the Chevalier de Rossé, entitled "La Roma Sotterranea Christiana descritta ed illustrata," is published by order of the Pope. The *Publishers' Circular* says,—The first volume of this important publication, which will probably contain a far more complete account of the traces of the Early Christian Church in the Catacombs than has yet been presented, is now published at the price of 64½ francs. It contains 40 chromo-lithographic illustrations in large 4to. The extent of the work is not yet determined, but each volume will be issued to subscribers independently.

WASTE-PIPES.—I quite agree with those who trace the source of poisonous smells in a house to the supposed traps of the waste-pipes. In fact, these traps very often supply a house with poisonous gas, just as a balloon is supplied, *i.e.*, by a small pipe laid on to the main. The importance, therefore, of proper traps is not to be over-estimated. Allow me to state what I have done, in many cases, to prevent the danger. I have taken the waste-pipe through the wall, and made it discharge its contents on to the top of a trapped grate outside the house, thus preventing any direct communication between the sewer and the interior of the house.—W. JACKSON.

CONGRESS OF SOCIAL SCIENCE ASSOCIATION.—At a meeting of the council, held on the 16th inst., the place for the next annual meeting was considered, Mr. Edwin Chadwick, C.B., in the chair. A deputation from Sheffield, headed by Mr. Roebuck, M.P., and including Alderman Parker and other members of the corporation, attended. A deputation from Gloucester had conveyed an invitation to the Association at the previous meeting. On the motion of Mr. Godwin, seconded by Dr. Lankester, and warmly supported by the Rev. Dr. Burgess, Col. Sykes, M.P., and other members, it was resolved that the next annual meeting should be held in Sheffield, the metropolis of iron and steel, as Mr. Roebuck called it. The deputation, on being informed, said the decision would afford the town great gratification.

REPORT ON VARIOUS HOSPITALS OF GENEVA, TURIN, AND MILAN.—This is a document, by Anthony Roulliet, addressed to the French Minister of the Interior, and is an instalment of the information which is being collected by a commission appointed, by imperial decree, to inquire into the alimentary and sanitary systems of hospitals. The *Journal of the Society of Arts* says,—The inquiry is intended to embrace all the hospitals of Paris and London, and also those of several other towns in France and other countries. The returns obtained from the French hospitals, with the aid of the authorities, are said to contain much important information. As regards London, it is said that nothing has yet been done. The report includes, amongst other things, plans of the buildings, apparatus for ventilation, systems of washing, cleansing, baths, medical and pharmaceutical services, and tables of mortality.

Indestructible Ink.—A receipt for a new kind of indestructible ink is given in one of the German scientific journals, and may interest our readers. The ink is said to be composed of twenty grains of sugar dissolved in thirty grains of water, to which are said to be added a few drops of concentrated sulphuric acid. Upon heating this mixture the sugar becomes carbonized by the acid; and when applied to the paper it leaves a coating of carbon which cannot be washed off. This stain is rendered more permanent by the decomposing action of the acid itself upon the paper, and when thus made it resists the action of chemical agents.

Pneumatics applied to Telegraphy.—The Electric and International Telegraph Company have lately opened a central station in York-street, Manchester; and to facilitate the despatch of messages to it from their branch offices at Ducie-buildings and Mosley-street, they have connected the offices with pneumatic message or carrier tubes, similar to those they have applied in London and Liverpool. The new system will enable the company to perform the service required of them more expeditiously and cheaply, and to obviate the liability to error consequent upon the transmission of messages by telegraph between the central and branch offices.

Salvage for the Great Eastern.—There *must* have been some wrong-headed mismanagement connected with the past history of this great ship. The American Courts have just given what appears to be a righteous decision against the late management and in favour of Mr. Towle, an American engineer, who was a passenger in the ship from New York in September, 1861, when her rudder-post, it may be remembered, was twisted off, and she was left for several days at the mercy of the waves. After her captain and crew had all failed to regain the control of the rudder, Mr. Towle volunteered his services, and succeeded in saving both ship and crew, passengers and cargo; but the managers or owners refused to recognise or reward his services because he was a passenger and had an interest in saving the ship as a means of saving himself. This was a mean excuse; and the American Courts have just awarded Mr. Towle 15,000 dollars out of the results of an arrest at New York.

Rochester: an Ancient Building.—During the time the workmen of Messrs. Foord & Sons were engaged in excavating and removing the foundations of the old Crown hotel, which has recently been demolished to make way for the improved approaches to Rochester Bridge, they came upon a vaulted building, which appeared to have lain some depth below the old hotel. Several archæologists examined the building, which was pronounced at first to be a crypt of an old chapel which formerly stood at the spot, and was believed to have been built somewhere about the eleventh century. Subsequent researches, however, led to the opinion that it was a kind of corridor of a house formerly occupied by one Simon Potyn, who kept the Crown Inn, about the middle of the fourteenth century.

The Manchester Ladies' Sanitary Association.—The annual meeting of this association has been held in the mayor's parlour, at the Town Hall. The mayor presided. On the table there was a large variety of tracts, such as those which the ladies are in the habit of distributing to the poor. The Rev. Mr. Richardson read the report, which detailed the great amount of benefit that had arisen through the visits of the ladies to the homes and haunts of the intemperate, the degraded, and the poor, and also stated, that after the last meeting many ladies had joined the association. The annual payment for membership was only 2s. 6d. Mr. P. Turner moved a resolution, "That the members of this association earnestly invite the hearty co-operation of those who feel how real and widely spread are the evils of intemperance and inattention to the laws of health." To carry out the suggestion, he said it would require the co-operation of every kindred mind, and he believed the ladies might congratulate themselves that they formed as good a bond as any association in the city, and he certainly believed it to be the most humane. He particularly urged upon the ladies to advise in their visits vaccination, and the doing away with opiates. Infanticide, too, was now very prevalent; this was a dark blot upon us, and one which ought to be repugnant to the best feelings of our nature. The resolution was unanimously passed.

Fires in Churches.—A correspondent of the *Times* recommends all church flues to have a connexion, by means of a gutta-percha pipe, with a water-tank, so that when overheated they would melt the pipe, and become deluged with water.

The Law of the Streets.—The United States Circuit Court, New York, has given a verdict of 4,000 dollars to a person for damages sustained while crossing the street from a stage-coach. The law is that pedestrians have the first right to the crossing of the street on foot.

Paignton, South Devon.—The Local Government Board for this district are about to exercise the borrowing powers of the Act for carrying out a system of sewerage. Mr. Edward Appleton, of Torquay, has been engaged to prepare the scheme and superintend the execution of the several works.

Local Government Act.—At Bishop Stortford, in consequence of complaints as to the state of the lower drainage, the local Highway Board called a meeting, which was attended by a large number of the inhabitants, to consider plans offered by Mr. J. Adams, for the disposal of the sewage, at a cost of from 2,500*l.* to 3,000*l.*, when it was nearly unanimously resolved to take the proper steps for the adoption of the local Government Act.

Railway Matters.—A sad occurrence has taken place at the Blackheath Tunnel, where a ballast train had come to a stand from the slippery state of the rails in the tunnel. An express train was waiting a signal that the way was clear which signal appears to have been given while the ballast train was at a stand in the tunnel. The express train ran into the ballast train, killing at once five persons and seriously injuring many others.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 3rd of December, on 11,732 miles, to 608,064*l.*; and for the corresponding week of last year, on 11,395 miles, to 568,875*l.*; showing an increase of 337 miles, and of 39,189*l.* in the receipts.

Sanitary Condition of St. Mary's, Islington.—The Medical Officer of Health for the parish of Islington, reports, for November, as follows:—The deaths for four weeks have again risen to nineteen above the corrected mean for November. But it is to be remarked with this fact that the number of cases of sickness has not risen proportionately to the mortality, but has been smaller than in October. The deaths in four weeks have risen from 216, in October, to 308; while the cases of sickness have fallen from 2370 to 2286. The mortality from scarlet fever, though greater than in October, has not exceeded the usual November average.

Edinburgh Architectural Association.—This association held their usual monthly meeting, on the 14th inst., in the rooms of the Institute, George-street, Mr. J. W. Smith, president, in the chair, when a paper "On Building" was read by Mr. R. T. Shiells. The subject was treated in a practical manner. The various kinds of foundations met with in Edinburgh and the adjoining district were explained, as well as the methods adopted for avoiding settlements and the prevention of damp rising in the walls. Allusion was also made to the most improved systems of house-drainage and mason-work. A criticism was then given by Mr. Robertson, followed by discussion, in which many of the members took part.

Monthly Report on Health of St. Marylebone.—The report for November, of Dr. Whitmore, the medical officer of health for the parish of St. Marylebone, has been printed, by order of the vestry. It states that, "the weekly returns of the registrar-general, for the month of November, show a gradually increasing mortality in the metropolis, which in the third week became excessive, and subsided slightly in the fourth week. Precisely in the same ratio has the mortality of St. Marylebone progressed, and from causes very nearly identical. The deaths from all causes in the parish, for the four weeks ending Saturday, the 26th ultimo, amounted to 350, the average number for the corresponding month of the past eight years being 317; this large excess is referrible to the somewhat sudden accession of inflammatory diseases of the respiratory organs, consequent, probably, upon the great reduction of the temperature in the first fortnight of the month, and the prevalence of easterly and north-easterly winds.

Traffic on Clifton Suspension Bridge.—During the first day of regular traffic over the Clifton Suspension Bridge, more than 12,000 persons passed. The toll is a penny each way, but "return tickets" cost only three halfpence.

St. Mary's Tower, Taunton.—As we noted at the time, the cost of the repair of St. Mary's Tower, which has just been effected by Mr. Davis, the builder of it, amounted only to 50*l.* 8s. It was at one time feared that the damage by lightning was much more extensive. The outlay will be paid by the insurance company.

Opening of Romsey Corn Exchange.—A new Corn Exchange has been opened at Romsey by Lord Palmerston, who has shown a lively interest in the undertaking. The building has been advanced far enough towards completion to enable the Romsey Agricultural Society to hold its annual dinner in it.

Lyttelton.—*The Cathedral.*—Mr. Robert Speechly, appointed by the cathedral commission, with the approval of Mr. Scott, to superintend the building of the cathedral, arrived in the *British Empire*, just as the ordinance for effecting the desired improvement in the site of the cathedral received the assent of the superintendent. Excavations will be made for the purpose of ascertaining the nature of the subsoil. Mr. Speechly took out with him the alternative plans for the construction of the interior of the nave in stone, and we are now in a position to state that the idea of the wooden columns and clerestory has been abandoned in favour of stone.——*The Tunnel.*—The progress of the tunnel works has been unprecedentedly rapid during the past month, the length accomplished being about 180 ft. Since the date of Mr. Dobson's report, the miners have struck a stream of water measuring no less than 4 in. in diameter, on the Lyttelton side.

The Crystal Palace Company.—The nineteenth ordinary general meeting of the proprietors of this company was held at the London Tavern last week. The directors stated in their report, that the result of the year's working shows a balance in favour of revenue of 52,550*l.* 9s. 4d. After payment of all preference charges and interest, there remains at the credit of the general revenue account the sum of 20,812*l.* 5s. 3d., available for division amongst the proprietors of ordinary capital. Out of this sum the directors recommend the payment of a dividend of 2 per cent. (2s. per share), which will leave a balance of 758*l.* 15s. 3d. to be carried forward. An increase has taken place in the number of visitors during the year over those of last year, of 173,972, making the whole number 1,661,083 as against 1,487,111. This is the largest number attained in any year since the opening of the Palace, except that of the recent International Exhibition. The report was adopted and the dividend agreed to.

Portable Engines: Saving of Fuel and Water.—The patent double expansive portable and fixed steam-engine at work on the New Foreign-Office buildings, and of which we gave a description as employed at the State Paper Office, is again brought under our notice. The engine, which has been at work for the last fourteen months at the Foreign-Office, we are told, has driven eight stone-saw frames for fourteen hours a day upon 4 cwt. of common (Cannel coal) gas coke, costing at the gasworks 9d. per cwt. These results are worth recording, and show what may be done by expansive working, especially where the cylinders are steam-jacketed. Mr. D. K. Clark, C.E., superintendent of the Western Annexe, Exhibition, 1862, and one of the judges of the Royal Agricultural Society, and consulting engineer to the North Lincolnshire Agricultural Society, says of this engine:—"I have examined and tested an 8-horse power portable engine, on Allen's system, which is now, and has been some months, at work in the contractor's yard at the New Foreign-Office buildings. The engine worked well and steadily. The gearing is simple and permanent, and it cannot be tampered with like ordinary expansion gear with special valves. The pressure of the steam, even when worked with a greater degree of expansion, is exerted with a near approach to uniformity. If the fire-boxes be properly lagged, and the cylinder covers steam-jacketed, as well as the outside of the cylinder (both being simple applications), such engines will be found capable of working with a consumption not exceeding 4 lb. of Welsh coal per dynametrical horse power."

A LADDER.—A ladder has been invented and patented by Mr. Henry Druce, solicitor, of Oxford. It is constructed on the telescopic principle, and consists of a series of pieces or lengths, each of which forms a single and distinct ladder of itself. These ladders are made to slide one into another, so that the ladder can be extended to any length according to the convenience of the person using it, and the number of pieces of which it is composed. When closed up it is about 6 ft. long.

BATH SCHOOL OF ART.—The distribution of prizes to the pupils who passed the examinations held some time since in connexion with this school has taken place at the Guildhall. The mayor, who presided, said, it might not be generally known that the range of this school of art was very extensive indeed. He found that upwards of 2,000 children were taught by it in the various schools of the city. He was informed the mode of instruction was, that a scholar from the Bath School of Art was sent to each school, that scholar being in his turn instructed by the master himself. The total number receiving instruction in drawing, in or through the agency of the school, during 1863, has been 2,187, showing a total increase of 1,274 since last year. The total amount of fees has been 150*l.* 1s. showing a decrease of 17*l.* 17s. 6d. from the sum received last year.

THE PNEUMATIC LOOM.—Mr. Thomas Page, C.E., reports on a new system of weaving by compressed air in the pneumatic loom. The improvement will affect the working of nearly 500,000 power-looms, the labour of more than 775,000 persons, and the manufacture of about 1,200,000,000 lb. of cotton alone. The principle upon which the new loom acts is that of discharging a jet of compressed air from the valves of the shuttle-box, upon the end of the shuttle, at each pick or stroke, and thus substituting for the imperfect motion of the "picker" the pneumatic principle, simply applied. The working velocities will be in the proportion of 240 strokes by the new machine per minute, to 180 strokes of the old in the same time. This improvement applied to the whole of the power-looms in the United Kingdom would represent a total increase of 1,400,000,000 yards over the produce of the same number of existing machines.

GAS.—The Barnet gas consumers are resolved to have a reduction in the price of their gas to 5s., while the gas directors hesitate to give more than one-half the required reduction.——The Maidstone Gas Company have agreed to lower their price to 4s.——At Canterbury, a reduction from 5s. 6d. to 5s. is announced.——The Marlborough Gas Company have reduced the price of their gas 2s. 6d. per 1,000 feet. To consumers of 30,000 ft. the cost will now be 6s. 6d. per 1,000; under that quantity, 7s. 6d.; whilst to those who use 5,000 feet and under, the cost will be equalized by a charge of 1s. per quarter for the use of the meter.——Lower Gornal is now being lighted with gas.——A gas company has been formed at Epworth, and a site procured for works.——There is a movement at Leamington for a reduction of the price of gas from 5s. 5d.

MONUMENTAL.—A carved altar-tomb has been erected in the Presbytery of Lincoln Cathedral, immediately under the great east window, in memory of Mr. W. Hilton, R.A., and Mr. P. de Wint. The tomb is composed principally of Caen stone, the top being of polished marble, and the panel of white alabaster. The sculpture on the panels is taken from the works of the deceased, the first, reading from the left, representing Mary anointing the Feet of our Lord, from a large painting by Hilton, in St. Philip's Church, College-hill, London; the second, the Crucifixion; and the third, the Raising of Lazarus, from a painting by Hilton, in Newark Church. The end panel is taken from a drawing by De Wint, representing the west front of the cathedral from the top of the Castle-hill. On the top of the tomb is the inscription.——The Queen has given directions for a tablet to be placed in Clewer Church, to the memory of a faithful servant of the name of Glover. Her Majesty inspected the grave last week.——A memorial of the late Mr. Jonas Webb, in the form of bronze, is to be erected in Cambridge. The sum to be expended will not exceed 1,000*l.*, including the pedestal and every expense attending the same. The committee recommend the work to be entrusted to Baron Marochetti, if he will undertake the execution of it upon these terms.

ACCIDENTS.—As some men, engaged in the erection of a large brewery in Great Charles-street, Birmingham, were removing the supports of newly-completed vaults, a large mass of the brickwork gave way, burying several men beneath the ruins. Five of the more seriously injured were taken to an hospital, but it is said that none are likely to lose their lives by the accident.——At Coppice-street, Tipton, two men have been killed, by the falling of four houses, from what cause the inquest jury could not discover.

NORMAN AND SAXON RELICS AT BRADFORD.—During the reparation of Bradford Church, two fragments of carved stone, of Saxon (?) workmanship, were recently discovered, built in the lintel over the door of the south porch. The patterns are somewhat similar to those found in illuminated Irish and Welsh MSS. of a very early date. In the same porch was also found the upper portion of a recumbent stone figure of a lady, extending to the waist. Its date is believed to be about the close of the reign of Edward I. The colouring remains, and shows that the figure had been painted to imitate life. The eyes are blue; the body of the dress red; with sleeves of green hue. The figure reclines on a slab, painted green, and beneath the lady's head are two pillows, the lower painted in red diapered squares, and the upper in greenish blue, diapered. In another wall the arm of a churchyard cross has been brought to light, a curious Norman tomb-stone, displaying zigzag ornamentation, and sundry pieces of Norman work painted and gilt.

THE ATLANTIC TELEGRAPH.—The new Atlantic cable is being coiled from the company's premises (late Glass, Elliott, & Co.'s), Morden Wharf, Greenwich, on board the *Amethyst* Admiralty vessel, for conveyance to the *Great Eastern* at Sheerness. The necessity of keeping the cable constantly under water has led to the erection of eight enormous tanks on the company's premises, into which the cable is daily being coiled from eight corresponding closing machines, at the rate of 80 miles per week. From these tanks it is being transferred to tanks on board the *Amethyst*, which will hold 110 miles. Another vessel, named the *Iris*, also lent by the Admiralty, has been altered and fitted with tanks which will hold 153 miles. The *Great Eastern* has been fitted with five large tanks, and it will occupy three days to transfer the cable from the *Amethyst* to that vessel. The cable will be laid across the Atlantic by Messrs. Canning & Clifford in June next. The *Great Eastern* will have 500 hands on board, with a weight of 15,000 tons, including 4,500 tons of cable and 8,000 tons of coal.

EFFECTS OF TIME ON WROUGHT-IRON GIRDERS.—In an article treating of this subject, the *Engineer* says,—A glance at the printed proceedings of our engineering institutions will show that very much has been argued for and against the supposed deterioration, through vibration, of axles and other forms of wrought iron. It is certain, however, that no instance can be adduced of any deterioration of wrought iron by strains of an amount within the limit of elasticity. Apart from this question, it has been generally noticed in England that the fractures of axles begin with a crack at the shoulder or other weak part, and do not take place all at once. Numerous observations, extending over a number of years, and made with much more precision, conducted in France by two Government engineers, have proved the same thing. The axles were, indeed, deteriorated, not by an essential metamorphosis of their internal structure, but simply by a brittleness induced by the repeated bending to and fro, just as a tough bit of wire can be thus deteriorated, and at last snapped in two. It is generally acknowledged that strains, within the limits of elasticity, do not injure structures; and upon this supposition all the principal ones have been proportioned. It is known, and well manifest, that strains in excess of the limits of elasticity must at last cause destruction: what seems to be wanted is more knowledge of the effect of vibration on dead weight. There is one action on wrought-iron work which is undoubtedly accelerated by time, and this is the effect of corrosion. As long as we have not found out any means to stop the chemical action of moisture on wrought-iron, spreading literally like a cancer, further and further, and eating deeper and deeper every year, it is certain that chemical, or rather galvanic, action, tends to make the endurance of our wrought-iron bridges a mere matter of time.

THE UTILIZATION OF SEWAGE.—A number of noblemen, including the Dukes of Sutherland, Marlborough, Wellington, Rutland, and Manchester, have appended their names to the following resolution:—"That the pollution of rivers, by house sewage and by other matters, is a serious evil, affecting most injuriously the health and wealth of the population. We, the undersigned, are therefore anxious that the sewage of towns should, generally, so far as possible, be utilized on our respective estates." The Earl of Clarendon and Lord Ebury signed the resolution in the following form—this was the form in which it was first agreed to, but it was inadvertently altered in being copied:—"That the pollution of rivers by house sewage and by other matters is a serious evil, affecting most injuriously the health and wealth of the population. We, the undersigned, are therefore anxious that the sewage of towns should be utilized on our respective estates, and generally so far as possible."

TENDERS.

For building tanks, engine-house, &c., at the Lunatic Asylum, Hanwell, Middlesex:—

Nias	£490 10 0
Gibson	400 0 0
Hanson	397 0 0
Nye (accepted)	325 0 0

For Trinity Church, Sydenham. Quantities supplied:—

Piper & Wheeler	£12,658 0 0
Jackson & Shaw	11,963 0 0
Longmire & Burge	10,842 0 0
Carter & Sons (Hornsey)	10,836 0 0
Carter & Sons (Westminster)	10,800 0 0
Trollope	10,693 0 0
Myers	10,643 0 0
Manley & Rogers	10,417 0 0

For the restoration of the parish church at Church Langton, in the county of Leicester. Messrs. Goddard & Son, architects:—

Timms	£3,751 2 6
Law	3,689 0 0
Herbert	3,581 0 0
Johnson	3,453 0 0
Osbourne, Brothers	3,264 0 0
Booker	3,197 0 0
Thompson	3,162 0 0
Ward	3,137 0 0
Stanyon	3,044 0 0
Loveday	3,044 0 0

For additions to Spital-hill Works, Sheffield, for Messrs Lockwood, Brothers. Messrs. Hadfield & Son, architects, Sheffield. Quantities supplied:—

Clarbrough	£1,650 0 0
Illingworth	1,530 0 0
Wade	1,400 0 0
Rodley	1,399 0 0
Slack & Grayson	1,385 0 0
Larder	1,380 0 0*
Carr	1,340 0 0†

* And to be completed in four months.
† And to be completed in three months. Accepted.

For new shop and warehouse for Messrs. T. B. & W Cocksayne, Sheffield. Messrs. Flockton & Abbott, architects. The contractor to take all the old materials:—

Wilson	£9,600 0 0
Messrs. Craven	9,450 0 0
Neill	9,235 0 0
Gomersall (accepted)	9,000 0 0
Robertson	8,708 0 0

For four residences in the Hurley-road, Lower Kennington Lane, for Mr. Mills:—

Cranch	£1,360 0 0
Neal	1,305 0 0
Flexman	1,240 0 0
Rugg & Co.	1,180 0 0
Packer & Hopman	1,125 0 0
George	1,097 0 0
Stone & Pearson	1,080 0 0
Soper	1,080 0 0
Nightingale	1,060 0 0
Peskett	900 0 0
West & Moore	882 0 0
Gorry (accepted)	864 0 0

For additions and alterations to Moor Court, Gloucestershire. Elmslie, Franey, & Haddon, architects:—

Wood & Son (accepted)	£6,000 0 0

For Girls' School, Colwall, Herefordshire. Elmslie, Franey, & Haddon, architects:—

Davis (accepted)	£538 0 0

TO CORRESPONDENTS.

Answers, &c.—We have to thank several correspondents for obliging and flattering communications on the subject of services in this case, tending to oppose, to organise a subscription. It would not become us, however, to print them.

R. B. (cancelled, having appeared elsewhere)—Positive (Mr. Page was the architect and engineer).—W. & J. C. (see Notices in last number). E. B. D. (next week)—H. D.—Constant Reader—J. D.—H. & J. J.—H. O.—F. E.—J. B. D.—T. K.—J. F.—An Architect.—J. W.—E. O.—Dr. H.—D.—J. D. P.—A Builder.—J. L.—An Old Builder.—One dissatisfied with the "Note."—W. J. & Sons.—An Old Firm.—F.—J. W. H.—J. K.—W. S.—R. P. P.—B. B. H de M.—D. J.—M. H.—C.—W. S. & J. M.—An Architect.—Messrs. R. & Son.—A F F. S.—P. & A.—A. M.—P. H.—Caution (the possibility is well understood. We have often alluded to all).—J. B.—J. R. & Co.—Mr. L.—C. T.—G. & Son.—Engine-driver's Christmas-day (in type).

We are compelled to decline pointing out books and giving addresses.

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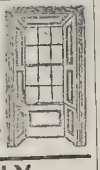
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BALLAST, screened, 1s. 6d. "
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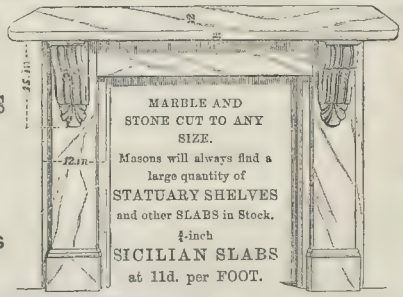
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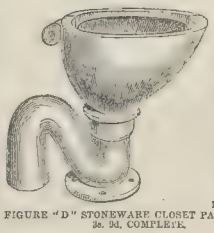
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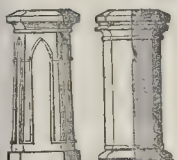
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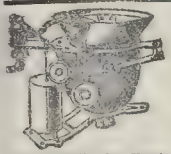
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HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Lengths may be readily remedied, and Junctions inserted, in the event of re-laying earthen pipes.

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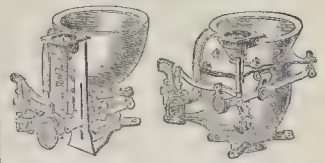
By [illegible] which is patented, runs Zinc Paint cheaper than White Lead. It does not [illegible] ...

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The Regulator Valve gives a perfect control over the supply of water [illegible] ... water, perfect flushing [illegible] ... No [illegible] ... Manufactory, and [illegible] ... the Manufacturers, J. TYLOR & SONS, Warwick Lane, Newgate-street, London.

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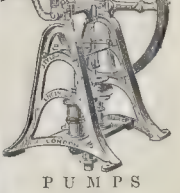
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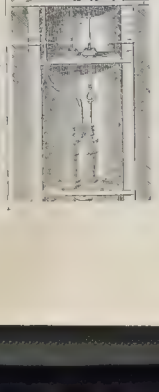


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PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 85, Lower East Smithfield, FRIDAY, DECEMBER 30, at TWELVE the MATERIALS and FITTINGS UP of an extensive Range of Wharf Buildings known as Dymond's Wharf, and the St. Andrew Castle House, having a strong, compact, and capital brick, stone, slate, and fir timber roofs, warehouse floors, quarter partitions and upper floor boards, glazed sashes and doors, iron guttering and downcast pipes, cast and wrought iron girders, granite paving, pebble and other paving, cast gutters, cisterns and pipes, gates and loopholes doors; also two quay lighters, and the trade fixtures and wharf utensils, consisting of iron wood, jib cranes, weighing machines, trucks, sling chains, iron safes, office fittings, &c.; a marble top counter, mahogany and other useful bar fittings, fur niture and fixtures of a public house, comprising 28 lots, as per catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C.; and 40, Parliament street, S.W.

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PULLEN, HORNE, & EVERSFIELD are instructed by the Hon Commissioners of Sewers to SELL by AUCTION, on the PREMISES, on THURSDAY JANUARY 5th, at TWELVE o'clock until completed, the BUILDING MATERIALS and FIXTURES of a substantial Residence, with R W thereto adjoining, being No 70, Little Britain and at rear at 51, Long Lane, comprising superb marble new brick walls, counting house, warehouse and other fronts, rubber roofs and floors, sashes, doors, deal boards, marble chimney pieces from parlour and drawing rooms, cupboards, slates, and other useful timber, iron and lead, 3 lots of 1 Hip to Gable Roofing, and extra copper, full particulars, Parliament street S.W.

Building Materials of Six Houses, Tokenhouse-yard, to clear the site for the erection of the new Auction Mart.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Auction Mart Company, Limited, to Finance Pub. to be SOLD by AUCTION, on the PREMISES, on MONDAY, JANUARY 9, the whole of the Valuable BUILDING MATERIALS of the Six Houses, Nos. 22 to 27, Tokenhouse-yard, close to the Bank of England. Further particulars in a few days, when catalogues may be had of Messrs. KINGSFORD & DORMAN, Solicitors, 28, Essex street, Strand; of G. SOMERS CLARKE, Esq., Architect, 20, Cockspur street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street S.W.

CRUTCHED FRIARS.—Extensive Sale of Building Materials.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JANUARY 10, at TWELVE in Lots, the whole of the valuable BUILDING MATERIALS of the spacious Residence, with Offices, No. 24, Crutched Friars, and extensive range of Warehouses adjoining, extending to the rear to 23, Seething Lane. Further particulars in a few days, when Catalogues may be had of Messrs. JOHN YOUNG & SON, Architects, King-street, Cheapside; of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street S.W.

PIMLICO, immediately adjacent to the Victoria Station.—Important Long Leasehold Property, occupying a site of 25 ft in square feet, held for seventy years, and rental

MESSRS. FULLER & HORSEY are instructed by George Smith, Esq. who has removed his establishment to Commercial road, south street, Grosvenor square, to SELL by AUCTION, on MONDAY, JANUARY 9th, 1865, at ONE o'clock precisely, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, unless an acceptable offer is previously made by private contract, an important LONG LEASEHOLD PROPERTY, occupying an area of 2,000 superficial feet, situate on the north side of Pimlico, and fronting Pimlico-place, Nos. 1 and 2, and Bridge-street, and having an entrance also in Bridge-street, pimlico, eligibly adjacent to the extensive and close proximity to the railway station, for a building speculation, or for any large manufacturing establishment. The buildings comprise, a substantially-erected factory of two stories, each floor having an area of 2,000 feet; blacksmith's shop, engine-house, masons' sheds, stabling, saw-pits, seasoning sheds, a capital residence for a principal or manager, with suitable offices, and dwelling-house in Bridge-street, adapted for a foreman. The whole held on a building lease for a term of sixty years, at the nominal ground-rent of 1s per annum. To be viewed by leave only, which may be had of the Auctioneer. Printed particulars with plans, will shortly be prepared, and may be had of Messrs. LAW, HUSSEY, & HULBERT, Solicitors, No. 10, New square, Lincoln's Inn, W.C.; at Garraway's Coffee House, Change-alley; and of Messrs. FULLER & HORSEY, 14, Billiter-street, London, E.C.

INTERNATIONAL EXHIBITION, 1862. Materials of Building.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on MONDAY, JANUARY 23 d, 1865, and 6 following days, on the Site of the late INTERNATIONAL EXHIBITION BUILDING, South Kensington, in Lots, the remaining MATERIALS (including 140 cast iron 8 inch round columns, 26 feet high; 200 12 inch square ditto, 26 feet high; 24 web ditto, 26 feet high; 100 circular entrance columns, with enriched cap, 18 feet high; 300 cast-iron lattice girders, 24 feet long; 20 cast-iron web girders, 24 feet long; 112 iron face girders, 24 feet long; 36 lattice girders, 12 feet long; 1,500 feet cast-iron ornamental panelling; 120 wrought iron trussed principals, 23 feet span; 300 tons tie bars, with shoes and brackets; 10 tons ornamental balustrade, 1,200 feet 9 inch rainwater guttering; 330 iron rafters, with watch tacks, 70 tons red and blue ridging, 14 iron trussed rafters, 21 feet long, with wood backs, 2,400 feet rainwater pipe, 700 yards half-round guttering, 100 9 feet lengths 9-inch cast iron socket pipe, 8 9 inch sluice valves, 12 cast-iron urinals, with 8 slate divisions to each (Jennings'), 3 water meters, 40 gas stoves, 70 water closet pans, 4 to 3 earthenware drain pipes, from 4 inches to 15 inches; 25 washing baths, with slate tops; 1,000 loads good Baltic timber, 20,000 feet run of 8 by 2½-inch joists, 44,000 feet 9 by 3 inch joists, 5,000 squares, 1-inch boarding, 2 square feet quarter ing, 2 square feet match lining, 1,000 feet run of moulding, doors and frames, 300 sashes, 500 fathoms fire-wood, 30 tons scrap iron; 10 ton weighbridge, portable office and stove; quantity of old felt, and various useful effects. To be viewed on the Saturday previous to the Sale. Catalogues will be ready ten days prior to the sale, and may be had, at 6d. each, of Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, the 3rd of JANUARY, 1865, at SIX o'clock precisely, by order of Importers, &c

DEALS and BATTENS, 11,844 pieces Yellow.
MAHOGANY, 9 & Logs Honduras.
CEDAR, 2 Logs Honduras.
TULIP WOOD, 2 Logs.
Wainscot Oak, and other Goods.

Catalogues may be had of THOMAS SWEETS & CO. Brokers, 9, Billiter street, E.C.

The valuable Building Materials of the extensive Range of Premises Nos. 62 and 63, Cornhill, No. 124, Bishopsgate-street, and No. 2, White Lion-court.

MESSRS. EDWIN FOX & BOUSFIELD will SELL by AUCTION, on the PREMISES, 62 and 63 Cornhill, and No. 124, Bishopsgate-street, and 2, White Lion-court adjoining, on TUESDAY, the 3rd day of JANUARY next, at TWELVE, the VALUABLE MATERIALS and FITTINGS UP of the above extensive BLOCK of BUILDINGS, comprising sixteen good sound bricks, timber in roofs and floors, stone, plain sashes, deal flats, joisting and rafters, glazed skylights, fixtures of shops, floor boards and wainscoting, deal re sashes, glazed partitions, lead cisterns, stoves, marble chimney pieces, iron fronts at 3 shutters, iron railings, ditto column supporting gas fittings and 3 pumps, fixtures, and useful effects, &c. May be viewed the day prior and morning of Sale. Any detail can had shortly of Messrs. ASHURST, MORRIS, & CO. Solicitors, 4, Old Jewry; of EDMUND WOODTHORPE, Esq. Architect, 28a, Basinghall-street; and of Messrs. EDWIN FOX & BOUSFIELD, 61, Coleman-street, Bank, E.C.

WANTED, immediately, first-class MAIN SCOT GLAZED CASES.—Reply to N. E. care of Mr Stewart, Tailor, Chesapside.

ELIGIBLE FREEHOLD LAND in the heart of the City. The Court of the Worshipful Company of Merchant Taylors are prepared to receive TENDERS for the SITE of the FREE MEN'S numbers 1, 2, 3, 4, 5, 6, 7, on the east side of Basinghall street in the City of London, on a Building Lease of 61 years from Michaelmas 1865. A plan of the ground will be forwarded on application at the Company's Office, Merchant Taylors' Hall, 30, Threadneedle-street, E.C. Further particulars may be had of Mr. GEORGE SMITH, Surveyor to the Merchant Taylors' Company, Frederick place, Old Jewry. Proposals are required to be delivered at the Company's Office on or before TWELVE o'clock on the 31st DECEMBER, indorsed "Tender for Ground, Basinghall-street."

SUNBURY COURT ESTATE.—This Estate is now TO BE LET, on Building leases, for the erection of Detached Residences of a superior class. The property is situate within a few of the Sunbury Station, and within three quarters of a mile of the Hampton Station on the South Western Railway.—For further particulars apply to Mr. R. B. TOWSE, Esq. at Clothworkers' Hall, 32, Mincing-lane, The Tenders are to be delivered on or before TUESDAY, the 27th instant, at Clothworkers' Hall.

FEL. ERICK W. PORTER, Surveyor.

16, Russell Square, W.C. December 1, 1864.

WATERSIDE MANUFACTURING PREMISES, with Steam power.—Messrs. FULLER & HORSEY are instructed to LET by LEASE, extensive WATERSIDE PREMISES occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick built manufactory of two stories, and boiler house, with 8 horse power steam engine and three Cornish boilers, range of brick built offices and private dwelling, with gateway entrances. There is a water frontage of about 267 feet. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

A FREEHOLD MANSION TO BE SOLD.

The elegant Furniture may be had at a valuation. There are 6 capital rooms, each being 26 feet in length; eleven bed and dressing rooms; stabling for six horses and coach houses for four carriages, suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; pretty well near Shalford Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell square.

AN ACRE of LAND is WANTED to BUILD Ornamental ALMSHOUSES on. The north side of London, and near railway station, preferred.—Particulars to be sent to Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street, S.W.

TO BUILDERS. First-class BUILDING SITES TO BE LET or SOLD, at Hamilton, Tavistock, and Kingston. Each of them is situate with a view unsurpassed in the railway station.—Plans can be seen and further particulars obtained of Mr G. B. GREEN, Architect, 23, Bedford-row, W.C. Advances made to responsible builders on any of the above estates.

TO BUILDERS and OTHERS.—TWO FREEHOLD PLOTS of LAND, the property of the Worshipful Company of Clothworkers, to BE LET by TENDER, on Lease for Building purposes for the term of 99 years; land tax redeemed. For plans and particulars, apply to Mr YOUNG Surveyor, 28, Basinghall-street. Clothworkers' Hall. Tenders pending for the above Premises and on the same under mentioned, to Mr. W. C. MANSFIELD, the Clerk to the Company, No. 1, Ampton-place, Gray's Inn road, will be received, under sealed cover, on or before the 12 h day of JANUARY next, but the Company do not bind themselves to accept the Lowest or any Tender.—By order,

W. C. MANSFIELD, Clerk

MANUFACTURING PREMISES WANTED, within a mile west of St. Paul's suitable for a Printer. For area of from 2,500 to 3,000 feet, by 20 feet.—Particulars to Mr. CHARLES J. WRIGHT, Builder, 38, Lonsdale-road, Barnsbury.

ST. MARY-AXE, in the City of London.—TO BE LET, on a BUILDING LEASE a new eligible PLOT of FREEHOLD GROUND, on the west side of St. Mary Axe, having to the Worshipful Company of Skinners. The frontage to St. Mary-Axe is 27 feet, the depth 120 feet, and it contains about 3,240 feet superficial.—Per plan of the premises may be sent to the Office of Mr. F. K. KEMP, Solicitor, Hall, 3, Basinghall, E.C. on or before the 31st JANUARY, 1865, where a plan of the premises may be seen

TO BUILDERS and OTHERS.—The Advertiser is seeking PREMISES suitable for AUCTION ROOMS.—A note, addressed ALPHA, 107, Offord-road, Barnsbury, will meet with prompt attention.

GIPSY HILL, NORWOOD.—Valuable Plot of FREEHOLD BUILDING LAND, comprising about 6,000 feet, to be LET on Lease for 99 years, at £50 per Annum Rent. Plan may be seen on the land, or lease would be granted for repayment by monthly instalments.—Apply to Mr. MURRELL, Auctioneer and Land Agent, 1, Walbrook, Mansion House.

PREMISES WANTED.—WANTED, in some Central part of London, commodious PREMISES, with large hall at the back, or room at, 40 feet by 25 feet, for the use of one.—Apply to the Rev. H. SOLLY, the Secretary of the Working Men's Club and Institute Union, 186, Strand, W.C.

TO CARPENTERS and BUILDERS.—TO BE DISPOSED OF, by order of the Executors, an old established BUSINESS in the above line, situate on the Dulwich Estate, producing over £400 per year. For particulars, apply to Mr. PREECE, Auctioneer, & c., 13, New-road, Commercial-road, E.

TO TIMBER MERCHANTS, YARD KEEPERS, or those who may require Roomy Premises, and others.—TO BE DISPOSED OF, the LEASE and GOODWILL of a Lucrative Business in the above trades, the Proprietors retiring from business with a handsome competency. The premises comprise two commodious dwelling houses, with large yards, sheds, and standing, all commanding and fully using The whole standing upon an area of many thousand superficial feet.—For full particulars apply at Mr. PEAKES Offices for the Disposal of Estates, 41, Fenchurch-street S.E.

TO BUILDERS, CARPENTERS, and WHEELWRIGHTS.—TO BE DISPOSED OF, an old-established BUSINESS with every convenience for carrying on the trade in Building, Carpentering, and Wheelwrighting. Rent in shed, and a lease may be had for nineteen years. The present proprietor wishing to retire through ill health.—For particulars, apply to ROBBINS & CO. Timber Merchants, Honey-street Wharf, near Marlboro, Wilts; or MAY & HASSELL, Timber Merchants, Bristol.

GRAVEL and HOGGIN, of the best quality and colour, from the well known DAWLEY GRAVEL PITS, near Hayes, Middlesex.

To BUILDERS and ROAD CONTRACTORS.

Sifted Stones for roads, washed Gravel for concrete, Hoggin for paths, may now be had in any quantity, delivered alongside by the Grand Junction and Regent's Canals.

THOMAS MAYNARD, PROPRIETOR, Dawley, near Hayes, Middlesex.

THE AUCTION MART COMPANY, LIMITED.—Incorporated under the Companies Act 1862, by which the liability of each shareholder is limited to the amount of his shares.

Capital £75,000 in 3000 shares of £25, each. Deposit £1. per share on application, and £2 on allotment.

Directors.

Daniel Norton (Messrs. Norton, Hoggart, & Trist), 62, Old Broad-street, E.C. Chairman.

William J. Beal (Messrs. Beal &), Gresham street, E.C.

Frederick Chinnock (Messrs. Chinnock, Galsworthy, & Chinnock), 11, Waterloo-place, Pall-mall S.W.

Frank G. Debenham (Messrs. Debenham & Tewson), 80, Cheapside, E.C.

Robert C Driver (Messrs Driver & Co.), 4, Whitehall, S.W.

John Oakley (Messrs. Daniel Smith, Son, & Oakley), 10, Waterloo-place, Pall-mall, S.W.

George Trist (Messrs. Norton, Hoggart, & Trist), 62, Old Broad-street, E.C

With power to add to the number.

Solicitors—Messrs. Chinnock, 11, Regent-street, Square, W.C

Bankers—London and County Banking Company, 21, Lombard-street, E.C

Auditor—GILBERT R. MACE, Moorgate street, E.C.

Architect G. Somers Clarke, 20, Cockspur street, S.W.

Secretary (pro tem.)—Henry Howe.

Temporary Offices—20, Cockspur street, E.C.

ABRIDGED PROSPECTUS

This Company is formed for the purpose of erecting in the City of London a Public Auction Mart for the sale of land estates and other property, and for such other business as may be found of the late Auction Mart recently situate in Bartholomew lane, City, having the use of the offices, plans, and the unexpired term of the lease and goodwill of the present business.

The Directors have secured on favourable terms an excellent freehold site in Token house yard, two minutes from the General Post Office having a frontage of upwards of 100 feet. The site and area is adapted to the requirements of the undertaking, not only from its central position, but from the great advantage it possesses in having three entrances, rendering it necessary in case of the late Auction Mart recently situate in Bartholomew lane, City, having the use of the offices, plans, and the unexpired term of the lease and goodwill of the present business.

The Directors have secured on favourable terms an excellent freehold site in Token house yard, two minutes from the General Post Office having a frontage of upwards of 100 feet. The site and area is adapted to the requirements of the undertaking, not only from its central position, but from the great advantage it possesses in having three entrances, rendering it necessary in case of fire to have separate exits.

The Directors propose to erect on the site of the existing houses, a handsome and substantial building, containing on the ground and first floors a large Sale Room; and further particulars, on the second and third floors, which are to be approached by a separate entrance, number of rooms suitable for offices. The basement will contain suitable refreshment accommodation, and additional cellarage or office as the case may be.

The revenue of the Company will consist, First, of rents to be received for the Sale Rooms, the Rooms, Cellars, &c. from which sources the Directors confidently expect a most satisfactory Revenue will be realized.

The undertaking originates with the Directors. There will be no "promotion money" paid to any one either directly or indirectly, and the preliminary expenses will be confined to such as are actually necessary to be incurred.

Prospectuses and Forms of Application for Shares may be had of the Solicitors, or of the Secretary, at the Temporary Offices, 62, Old Broad-street, E.C.

THE AUCTION MART COMPANY (Limited).—Notice is hereby given, that the SHARE LIST of this Company will be CLOSED on WEDNESDAY, the 11th of JANUARY, 1865, for London, and on THURSDAY following, 12th for the Country.—By order, H. J. DOWDAN, Sec. pro tem.

Temporary Office, 62, Old Broad-street, E.C.

PATENT CONCRETE STONE COMPANY, Limited.—The Offices of the Company will be REMOVED on the 31st instant, to more commodious Premises, at No 2, QUEEN STREET PLACE, SOUTHWARK BRIDGE, E.C.

THOMAS PIPER, Secretary.

31, Parliament street, S.W.

ALBERT INSURANCE COMPANY (Limited)
FIRE and MARINE.

Premiums charged consistent with the most liberal risk. The utmost liberality in all matters and in every transaction. Agents wanted

Offices: 8, FINCH LANE, E.C., WALPOLE PLACE, FALL MALL.

MORRELL FIRBALD, Manager Fire Department.

IMPERIAL FIRE INSURANCE COMPANY, No. 1, Old Broad street, and 16 and 17, Pall-mall, London. Established 1803.

Subscribed and Invested Capital, Re-insurance Fund, 1,000,000

Insurance may be effected at Christmas, if the Policy is renewed within fifteen days thereafter, and all Insurances in Force, and Claims in Trade, will be entitled to a REDUCTION of ONE-HALF of the DUTY hitherto paid. ANDREW BADEN, Superintendent.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
The Rt. Hon. Jas. Stuart	John Dorrien Magens, esq.
Octavius Edwards Coope, esq.	John Timothy Oxley, esq.
William Cotton, esq.	Benjamin Shaw, esq.
George Arbuthnot Farrer, esq.	Wm. John Thompson, esq.
Charles Edmund Gabriel, esq.	Hy. Heyman Toulmin, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.

John Hodgson, esq. . . Peter Martineau, esq.
Joseph Samuel Lescher, esq.
Stephen Gladstone Lovell.

ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met, by this Company, are well known; and the importance of its relations with the public may be estimated from the fact that among its establishment it has paid more than Eight Millions and a Half Sterling in discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Christmas must be renewed within fifteen days thereafter, or they will become void.

Receipts of former years may be presented at the Counter, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

THE NATIONAL BOILER INSURANCE COMPANY (Limited).

CHIEF OFFICE—145, CHEAPSIDE, LONDON.

BRANCH OFFICE—22, ST. ANN'S SQUARE, MANCHESTER.

Tables of Rates of Insuring Stationary and Marine Steam Boilers can be had on application at the Offices of the Company.

A reduction of 10 per cent. will be made off all Premiums in cases where the Company's Patent Flushing Safety is used.

By order of the Board,
J. W. DANIELL, Secretary

WHEELS.—KING'S CROSS PATENT WHEEL COMPANY (Limited).—Carriage, Omnibus, Waggon, Cart, and Rail Wheels of every description made of the best materials and workmanship, on the shortest notice, for home use or exportation, at their Works, Copenhagen Cottages, Pentonville road, King's Cross, London, N.W. near the Great Northern Railway Station.

CHAS. SAUNDERSON, Chairman.

London, November, 1864.

London: Printed by CHARLES WYMAN, Printer, at the Printing office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's Inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 24, 1864.

The Builder.

AN ILLUSTRATED WEEKLY MAGAZINE FOR Architect, Engineer, Operative & Artist.

VOL. XXII.—No. 1143. DECEMBER 31, 1864. PRICE FOURPENCE. By Post, 5d.

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BY Order of the Secretary of State for India in Council.—NOTICE is hereby given, that TWENTY-FIVE APPOINTMENTS in the Upper Class of the ELECTRIC TELEGRAPH DEPARTMENT in INDIA will, in the year 1865, be open to PUBLIC COMPETITION.

A COMPETITIVE EXAMINATION will, accordingly, be held in this Office in the month of MAY next.—Full printed particulars of the conditions on which candidates will be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter, addressed to the "Under Secretary of State for India," India Office, London, S.W.

India Office, 1st July, 1864.

THE MODELS of NAVAL ARCHITECTURE, from 1688 to the present time, contributed by the Admiralty and private shipbuilders, &c. is NOW OPEN to the PUBLIC at the SOUTH KENSINGTON MUSEUM. Mondays, Tuesdays, and Saturdays Free, from Ten a.m. till Ten p.m. Wednesdays, Thursdays, and Fridays, from Ten a.m. till Four p.m. Admission Sixpence.

By order of the Lords of the Committee of Council on Education

SOUTH LONDON WORKING CLASSES INDUSTRIAL EXHIBITION.

Exhibitors must live within the Southern postal districts.

MONEY PRIZES, from £10 to £1.

Application for space, information, &c. to be made to Mr. G. M. MURPHY, 55, Finchley road, S.

ARCHITECTURAL ASSOCIATION, 9, Conduit street, W. The next Paper will be read on FRIDAY Evening, JANUARY 6th, 1865, by LACY W. RIDGE, Esq. A.R.I.B.A. "On Norrow Church, Sussex." The chair will be taken at Half-past SEVEN o'clock.

J. DOUGLASS MATHEWS, } Hon. Secs.
LACY W. RIDGE, }

ROYAL SCHOOL of MINES, Jermyn-Street.—Dr. HOFMANN, F.R.S. will commence a COURSE of THIRTY LECTURES on ORGANIC CHEMISTRY, on WEDNESDAY NEXT, the 4th JANUARY, at TEN a.m. to be continued on every week-day but Saturday, at the same hour. These Lectures will be delivered at the College of Chemistry, Oxford-street. Fee for the course, £3.

TRENHAM REEKS, Registrar.

LECTURES to WORKING MEN.—The SECOND COURSE of SIX LECTURES on GEOLOGY, by Professor RAMSAY, F.R.S. will be commenced on MONDAY, the 9th JANUARY, at EIGHT o'clock. Tickets may be obtained by Working Men only, on MONDAY, the 2nd JANUARY, from Ten to Four o'clock, upon payment of a fee of 6d. for the whole Course. Each applicant is requested to bring his name, address, and occupation, written on a piece of paper, for which the ticket will be exchanged. Applications by post cannot be attended to.

TRENHAM REEKS, Registrar.

BILLING'S PATENTS.—CHIMNEY TERMINALS.—THROAT VALVES.—NOTICE to ARCHITECTS.—The Proprietors of these PATENTS have given the Widow an Interest in the same, and have considerably reduced the prices of the Articles, trusting that by so doing these useful Inventions may be introduced more generally in all new buildings.—For prices, apply to the Manager, Mr. TYLER, 13, Abingdon-street, Westminster, who will also afford any information, he having been for many years engaged with the late Mr. BILLING, in the practical curing of Smoky Chimneys.

THE BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, THURSDAY, FEBRUARY 23rd, 1865. Adams's Band.

JOSEPH BIRD, Hon. Sec. Hanover Cottages, Regent's Park.

NOTICE.

BROWN & GREEN'S KITCHEN RANGE WAREHOUSE is now REMOVED to the NEW PREMISES, 72–74, Bishopsgate-street Within, a few doors from the late Address, at No. 81. These afford accommodation for a still larger stock of their Patent Prize Medal Ranges and Stoves, Cooking Utensils, &c. to meet the great public demand; and also for the consequent more extensive execution of all descriptions of hot water, bath, laundry, and steam work.

72–74, Bishopsgate street Within.

LENOIR'S PATENT GAS-POWER ENGINE.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

The Company are now Publicly Exhibiting this motive power, daily, between the hours of 11 and 1 and 3 and 5.

C. W. WOOD, Manager and Secretary (pro tem.)

No 40, Cranbourne street, Leicester-square.

COMPETITIONS.

FULFORD CHURCH, YORK.—A RETURNED CASE of DESIGNS, belonging to Mr. MITCHELL, Architect, Westminster, London, is at the KING'S-CROSS STATION, but WANTS a CORRECT ADDRESS.

TO ARCHITECTS.—The Town Council of the City of New Sarum are prepared to receive PLANS and SPECIFICATIONS for the ERECTION of an UPPER and LOWER SCHOOL HOUSE, on the Bishop's Estate, Salisbury, for the accommodation of 200 Boys and the CONVERSION of the House at present standing thereon into a convenient RESIDENCE for a MASTER, at a cost not exceeding £2000. Such Plans and Specifications to be sent to me, at my office, on or before the 1st day of JANUARY next.

CHAS. MARSH LEE, Town Clerk.

Public Offices, Salisbury, December 16th, 1864

BURNLEY MARKET COMPANY, LIMITED.—The Directors are prepared to receive DESIGNS for the LAYING OUT of their MARKET PREMISES, and for the ERECTION of a NEW MARKET HALL, at Burnley. A premium of £50 will be awarded for the best Design, and one of £25 for the second best Design, to be delivered not later than 22nd FEBRUARY, 1865. Plans, with printed instructions, to be now ready, and may be had on application to Messrs. PICKARD & STOCKS, Accountants and Auditors, 19, Hargreaves-street, or St. Mark's road, Halifax.

TO ARCHITECTS.—The Directors of the Cheltenham College Boarding Houses Company, Limited, are prepared to receive DESIGNS for BOARDING HOUSES proposed to be erected near the College, Cheltenham. A premium for the plan selected by the Directors as the best, and Should the author of the best design be appointed Architect to the Building, the premium awarded will be included in the commission that may be agreed to be paid to him.—Full particulars of the requirements of the Directors, together with plans of the sites, may be obtained on application to the Secretary of the Company, on and after the 2nd JANUARY, 1865. All Designs to be sent in by the 28th FEBRUARY next

Cheltenham, December 28, 1864. W. L. BAIN, Secretary.

DESIGN for a FRONT ELEVATION (only) of a MANUFACTORY, of four floors, with utmost amount of light to each; 100 feet long, 40 feet high, 50 feet deep. Brick and Iron may be employed. Simplicity, considered with elegance, strength, and cheapness must be observed; and a rough estimate of cost accompanying it, assuming all four sides to be alike. 10l. and 5l. will be given for the two selected as preferable, and the others returned within a week of delivery.—Inclose to M. E. care of Messrs. LETTS, 8, Royal Exchange, E.C.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Ramsgate, in the county of Kent, may inspect the Drawings and Specifications at the Watch Room, Ramsgate, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 2nd, to TUESDAY, the 24th day of JANUARY, 1865, and both inclusive (Sundays excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon, of the 25th JANUARY 1865, sealed and addressed to the Commodore Controller-General of Coast-Guard, and endorsed "Tender for Ramsgate Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 15th day of December, 1864, at the Admiralty, Coast-Guard Office, 12, Spring-gardens, London, S.W.

TO BUILDERS, &c.—Parties desirous of CONTRACTING for the ADDITIONS and ALTERATIONS to the PAVILION of the Marylebone Cricket Club, are requested to communicate, by letter only, with the Architect, Mr HARRY E. NEWTON, 9 Argyll-street, Regent street, W.

TOTNES (SOUTH DEVON) WATER SUPPLY.—To IRONFOUNDERS.—Persons desirous of SUBMITTING TENDERS for the SUPPLY and DELIVERY of CAST-IRON WATER-PIPES (plated by Dr. Angus Smith's process), at Totnes, South Devon, can inspect the drawings and specifications, at my Offices, in Torquay, on and after the MONDAY, JANUARY 2, 1865. Tenders, endorsed, "Totnes Water Supply," to be sent to me on or before JANUARY 17, 1865. There is water and railway communication with Totnes.—The lowest or any Tender will not necessarily be accepted.

EDWARD APPLETON, Assoc. Inst. C.E.

Torquay, December 20, 1864.

CONTRACTS.

CORPORATION of MANCHESTER.—To BUILDERS.—The Cemetery Sites Sub-Committee are prepared to receive TENDERS for the ERECTION of the intended BUILDINGS at the new Cemetery, near Manchester, consisting of three separate chapels, offices, and house for the registrar, two lodges, and two entrances. Drawings, and specification, and conditions of contract, may be seen at the Offices of the Architects, Messrs. PAULL & ALLIFF, Jun. buildings, 24, Cross street, Manchester. Quantities will be furnished, and may be obtained of the Architects, upon deposit of 2l. for each set, the said deposits to be returned to all builders from whom bona fide Tenders are received.—Sealed Tenders, endorsed "Tender for Cemetery Buildings," and addressed to the committee, must be delivered at the Offices of the Architects, not later than TEN o'clock a.m. on MONDAY the 16th of JANUARY, 1865. The Tenders may be for the whole of the works, or for the masonry, &c. separately.—By order,

JOSEPH HERON, Town Clerk.

Town-hall, Manchester, 9th December, 1864.

N.B. Early application for bills of quantities should be made by letter, to the Architects, that the requisite number of copies may be ordered.

CROYDON LOCAL BOARD of HEALTH. CONTRACT for SEWER TRENCHES.—Notice is hereby given, that the Croydon Local Board of Health are prepared to receive TENDERS from persons desirous of CONTRACTING with them for the EXCAVATION and RE-FILLING of 7,000 lineal yards of TRENCHES for SEWERS, in accordance with the specification prepared by Mr. BALDWIN LATHAM, C.E. their Engineer. The specification may be seen at the Engineer's Offices, in the Town Hall, Croydon, on or after this date. Sealed Tenders, endorsed "Tender for Sewer Trenches," are to be delivered at the Offices of the Local Board, in the Town Hall, Croydon, on or before FOUR o'clock in the afternoon of TUESDAY, the 3rd day of JANUARY, 1865. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY RICHARDS, Clerk to the Board.

Town Hall, Croydon, December 14, 1864.

PARISH of CHELSEA, in the County of MIDDLESEX.—GRAVEL, &c.—The Vestry of this Parish will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 3rd day of JANUARY, 1865, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to Contract until the 29th day of September 1865, for the SUPPLY of the Best Clean, Sifted, Pit ROAD GRAVEL, SHINGLE, and 300 GRAVEL RUGGING, to be delivered upon the roads or footpaths, at Kensal New Town, Harrow road, and Kilburn lane, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock on TUESDAY, the said 3rd day of JANUARY. No Tender will be received or accepted unless made on one of the printed forms, to be obtained at my Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, December, 1864.

PARISH of CHELSEA, in the County of Middlesex—NEW MOUNT SORREL BROKEN GRANITE.—The Vestry of this Parish will meet at the Vestry Hall, King's road, on TUESDAY, the 3rd day of JANUARY, 1865, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, until the 29th day of SEPTEMBER, 1865, for the supply of the best MOUNT SORREL BROKEN GRANITE, to be delivered on the Harrow and Kensal Roads, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, signed by the proposed contractor, with the name and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk, by or before TWELVE o'clock on TUESDAY, the said 3rd day of JANUARY. No Tender will be received or accepted, unless made on one of the printed forms, to be obtained at my Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, December, 1864.

TO DUSTMEN, BRICKMAKERS, and SCAVENGERS.—The Crown Estate Paving Commissioners hereby give notice that they are ready to receive TENDERS from persons willing to enter into a CONTRACT for the REMOVAL of DUST, DIRT, ASHES, and CINDERS, from the Houses within the districts under their jurisdiction in that respect, for a period of ONE YEAR, from the 25th day of JANUARY, 1865. Specifications and forms of Tender can be obtained upon application to me here. The Tenders, sealed and addressed to the Crown Estate Paving Commissioners, and endorsed "Tender for Dust," are to be delivered here at or before ONE o'clock on WEDNESDAY, the 4th day of JANUARY, 1865.

FRANCIS ADAMS, Clerk to the Commissioners.

1, Whitehall-place, 16th December, 1864.

TO BUILDERS.—TENDERS are required for BUILDING a NEW BAPTIST CHAPEL, in the Canterbury-road, Kilburn. The drawings and specification may be seen at 29, Canterbury-road, between the hours of TEN and TWO. Tenders to be sent in not later than JANUARY 14, 1865, addressed to Rev. T. HALL, 29, Canterbury road, Kilburn. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—Persons willing to CONTRACT with the Justices of the County of Kent for the ERECTION of a Second-class POLICE STATION at North-fleet, may inspect plans and specifications at the Office of the County Surveyor, Maidstone, any day (excepting Sunday), between the hours of TEN and FIVE. The work is to be Tendered for agreeably to the form of Tender to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed "Tender for North-fleet Police Station," are to be delivered by TEN o'clock in the forenoon on TUESDAY, the 10th day of JANUARY, 1865; and persons Tendering are to be in attendance at the Courts of Justice, Maidstone, at Half-past TWELVE o'clock on that day. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars, and security will be required for the performance of the Contract.

H. A. WILDES, Clerk of the Peace.

Maidstone, December 23rd, 1864.

[For remainder of Contracts see next Page.

TO WELL-SINKERS, BORERS, and OTHERS.—The Directors of the Northampton Water-Works Company are prepared to receive TENDERS for DEEPENING and REPAIRING their present WELL at Northampton. The work will consist of taking down and re-building about 6 feet of the present well, 8 feet 6 inches diameter; providing and sinking about 60 feet of cast-iron cylinders, 8 feet diameter; deepening the well about 100 feet; steining the same with 18 inch brickwork in cement; and other works at Northampton. The Contractors must be prepared to satisfy the Engineer of their ability to execute the work by reference to other works of the same description and in quicker time, they have executed successfully. The plans, specifications, and Form of Tender, can be seen at the Offices of the Engineers, Messrs. EASTON, AMOS, & SONS, The Grove, Southwark, London, S.E.; also at the Water Company's Offices, 87, Newland, Northampton. Tenders (enclosed in a sealed envelope) endorsed "Tender for New Well," to be sent to the Secretary, 87, Newland, Northampton, on or before the 21st day of JANUARY, 1865. The Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS and OTHERS.—TENDERS are required for TAKING DOWN and CLEARING AWAY a MANSION HOUSE, called Southorpe, near Stamford. Application for particulars to be made at my Office, on and after the 26th instant. Tenders to be delivered to me on MONDAY, JANUARY 9, 1865, by SIX o'clock, p.m.

EDWARD BROWNING, Architect, Stamford.

December 17, 1864.

OSWALDTWISTLE LOCAL BOARD, County of Lancaster.—WATER-WORKS CONTRACT.—The Local Board of the District of Oswaldtwistle are prepared to receive TENDERS for the CONSTRUCTION of TWO RESERVOIRS together with the necessary mains and other works, and for the supply of the said district with water. Plans and specification may be seen, and forms of Tender obtained, at my Office in Blackburn. Sealed Tenders, endorsed "Tender for Water-Works," will be received by me on or before the 21st day of JANUARY next. The Board do not bind themselves to accept the lowest or any Tender.

JOHN PICKOP, C.E., Frances street, Blackburn,
Oswaldtwistle, Dec. 22nd, 1864. Clerk to the said Board.

TYLDESLEY with SHAKERLEY LOCAL BOARD WATERWORKS.—T. Bonfounders, Brassfounders, Sluice Valve, and Hydrant Makers.—The Local Board for the District of Tyldesley with Shakerley, in the County Palatine of Lancaster do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake either of the following Contracts:—CONTRACT No. 1.—For Supplying Cast-iron Water pipes and other Castings.

CONTRACT No. 2.—For Supplying Sluice Valves, Hydrants, and other Street Fittings.

Specifications and lists of quantities, with duplicate forms of Tender, may be had on application to Mr. THOMAS HESSLEGRAVE, the Surveyor of the Board, at his Office, in Tyldesley, on payment of 10s.; or on application to J. L. HUNTER, Esq. C.E. the Engineer of the Board, Wigan. Sealed Tenders, endorsed "Tender for Cast iron Pipes, &c." (as the case may be) must be forwarded to the Office of the Local Board, Tyldesley, near Manchester, on or before SATURDAY, the 14th day of JANUARY next. The Local Board do not bind themselves to accept the lowest or any Tender.

THOMAS HESSLEGRAVE, Surveyor.

Tyldesley, near Manchester, December 23, 1864.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW BANKING PREMISES at Ramsgate for the London and County Bank, can inspect the plans and specification at my Offices, on and after THURSDAY, the 5th of JANUARY, 1865. The Tenders to be delivered before ELEVEN o'clock on MONDAY, the 16th of JANUARY, at the London and County Bank, 21, Lombard street, London. The lowest or any Tender will not necessarily be accepted.

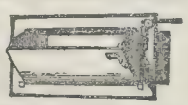
FRED. J. FRANCELLON, Architect,
Pinners' Hall, Old Broad-street, London.

TO BUILDERS, or DECORATIVE PAINTERS, PLUMBERS, &c.—This genuine advertisement presents itself to any person wishing to EXTEND a BUSINESS, or enter into a Partnership. The Old-established Connexion, in the Business of Plumber, Painter, Decorator, &c. which has been carried on for seventy-six years, is principally resident gentry of the neighbourhood, within a short distance of London. This offer would be very advantageous to a London firm, or any other person with moderate capital.—Apply, by letter only, to Mr. J. HATFIELD, Builder, 21, Argyll street, Regent-street, W.

TO BE DISPOSED OF, with immediate possession, the STOCK, TOOLS, FIXTURES, GOODWILL, &c. of an old-established CARPENTER'S and JOINER'S BUSINESS, situate in a healthy town about thirty-five miles from London, and within less than half a mile of a railway station. The House and Premises can be had on lease at a moderate rent.—Address, M. A. F. Post-office, Baldock, Herts.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London.

LEAD GLAZING for CHURCHES and other BUILDINGS, Plain Quarries, Geometrical Patterns, or Fret Work. Builders and the Trade are supplied with every description of Lead Lights and Work at the Manufactory, on the shortest and lowest terms, by F. ODELL, Plain and Ornamental Lead Glazier to the Trade, 5, Bath street, City-road, E.C. Extra strong Lead for Churches, &c. Estimates forwarded on receipt of particulars.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES FOR the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS WINDOWS and GLASS MOSAIC.
J. T. LYON & CO.
13, BERNERS STREET, OXFORD-STREET, W.
Illustrated Catalogue, Drawings, &c on application.

PAINTED GLASS WINDOWS and MURAL DECORATION.
LAVERS & BARRAUD,
ENDELL STREET, BLOOMSBURY, LONDON, and
43, JOHN DALTON STREET, MANCHESTER.

NOTICE OF REMOVAL.

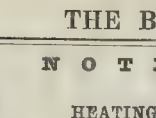
MR. G. LEWAL,

HEATING and VENTILATING ENGINEER, has REMOVED to

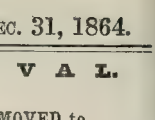
No. 8, NORTHUMBERLAND STREET, STRAND, W.C.

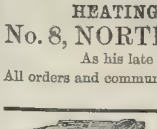
As his late Offices, 5 and 6, Philpot-lane, E.C. are about to be pulled down.

All orders and communications to be sent henceforth to No. 8, NORTHUMBERLAND STREET, STRAND, near the Charing-cross Railway Station.

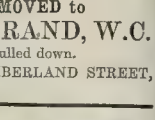


PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



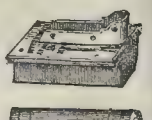


PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS. BIRMINGHAM.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.—HEATON, BUTLER, & BAYNE'S New CATALOGUE, containing 18 pages of Illustrations, including completed Windows of the highest character; also Church Decorations and Memorial Brasses. Now publishing, 3s. 6d. post free.
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PATENT and BRITISH PLATE GLASS.
JAMES HECKEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also, on receipt of particulars, furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

PURE SILVER LOOKING-GLASSES manufactured by NEW PROCESS.—Unequalled in brilliancy. Not liable to injury from damp, heat, or handling. EMBOSSED, ORNAMENTAL and BENT GLASS, SILVERED, at MODERATE RATES.
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GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
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30 and 31, PRINCES STREET, SOHO, LONDON, W.

PAINTED DECORATION and STAINED GLASS.
CHARLES BLACKMORE,
372, EUSTON ROAD, LONDON, N.W.
Designs and Estimates submitted.

DEVAUX'S VIEILLE MONTAGNE THICK ZINC ROOFING on IMPROVED PRINCIPLES.
JAMES W. TYLER, CONTRACTOR,
19, ABINGDON STREET, and 4, WOOD STREET, WESTMINSTER, close to Victoria Tower.

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FLEXEN'S PATENT DRAUGHTLESS VENTILATOR,
Now used in various leading establishments in London. It supersedes all others now in use, giving free ventilation, and excluding all draught and dust; requires no alteration of sashes, and effectually producing a cool atmosphere in the most heated apartment. In establishments where a great amount of gas is consumed, or steam is generated, this Ventilator has fully carried out the required purpose. Office, 16, Skinner-street, Snow hill, E.C. where models can be seen, references given, and all information obtained.

PORTABLE ENGINES! PORTABLE ENGINES.—To Contractors, Miners, Colliery Owners, Agriculturists, &c.—Why give extraordinary prices for Portable Steam Engines when you can buy them fitted with all the recent improvements, and everything ready for getting steam up, neatly covered with hair felt, wood, and sheet iron, and mounted on wood wheels, equal to those by any other maker, and tested to 100 lb. per square inch? Several engines now ready for delivery.

Horse power.	£.	Horse power.	£.
4	130	12	245
5	140	14	250
6	150	16	265
7	160	18	360
8	170	20	380
10	220	25	460

For general description, diameter of cylinders, &c apply to WILKINSON & CO. Perseverance Foundry, Scarborough, Yorkshire.

GARDNER'S SUNLIGHT GAS BURNER and FITTING ESTIMATES
Offer important advantages to Architects, Builders, and the Public generally.—GARDNER'S, No. 453, Strand, Charing-cross, four doors from Trafalgar-square, London.
ESTABLISHED 1752.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT & CO, 53, High Holborn.

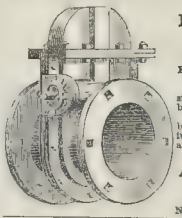
HANCOCK'S IMPROVED HORSE GAS-SINGEING APPARATUS, with INDIA-RUBBER TUBING, STOP-COCK, and TWO JETS, with Combs complete.
No 1 Best quality ..... 9s. per set.
No. 2. Second quality ..... 6s.

PLAIN.	Per Foot.	SNAKE PATTERN.	Per Foot.
½ inch	2d.	½ inch	3½d.
5-16ths inch	2½d.	7-16ths inch	4d.
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HOSE-PIPES to convey HOT or COLD WATER to Baths, Brew-houses, Fire-engines, Green houses, &c.
Illustrated Price-lists on application
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, Goswell-mews, and 2nd, Goswell-road, London, E.C.

THE INTERNATIONAL EXHIBITION PRIZE MEDAL, AWARDED 1862.
ESTABLISHED 1744.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country



REDUCED PRICES OF
BRYAN DONKIN & CO.'S
IMPROVED GAS VALVES,
With Wrought-iron Pinions.
From 2 in. to 18 in. price 9s. 6d. to 12s. per in. diameter.
List of prices, with full dimensions of all sizes up to 36 in. to be had on application.
These Valves are all proved on both sides to 30 lb. on the square inch before leaving the works, and are always kept in stock. Valves made with outside racks to order.
Also Screw Water Valves, with gun metal faces.
BRYAN DONKIN & CO. ENGINEERS
Near Grange-road, Bermondsey.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY

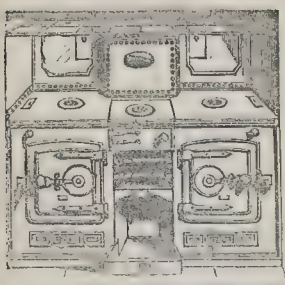
CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS:
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road E.C. near the Canal Bridge.
BENJAMIN SLATER
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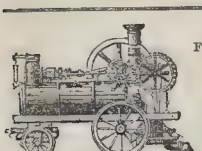
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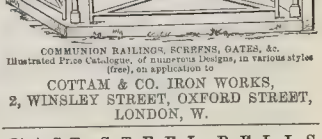
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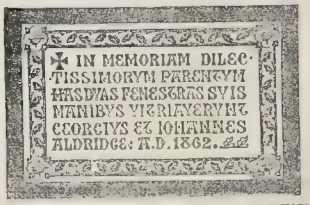


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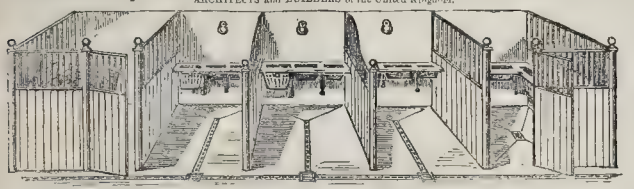
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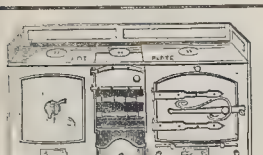
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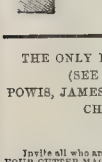
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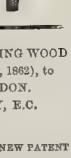
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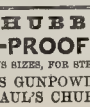
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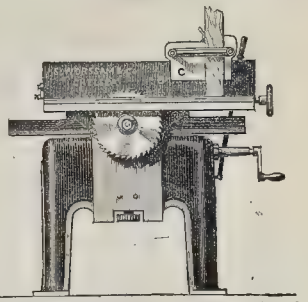
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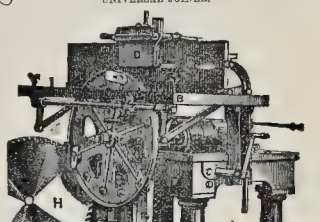


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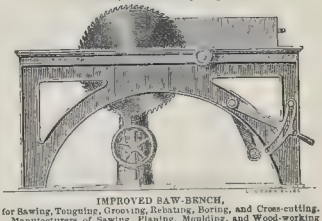
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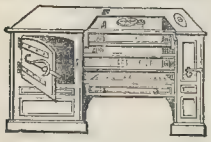
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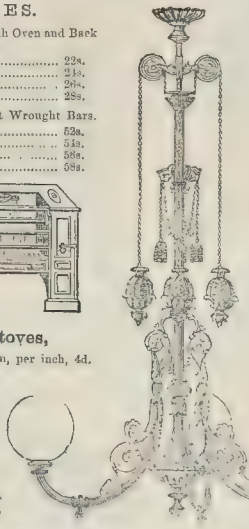
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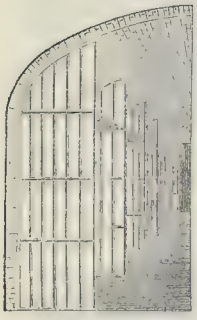
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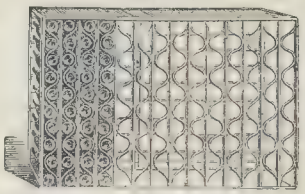
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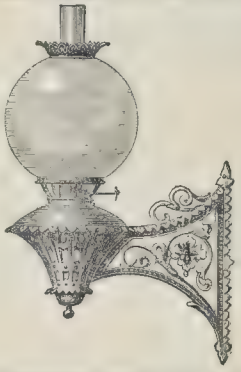


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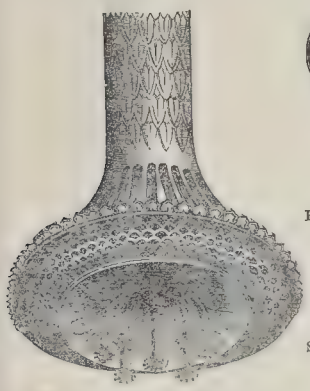
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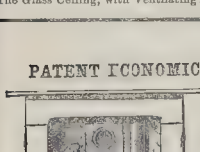
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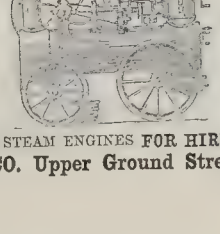
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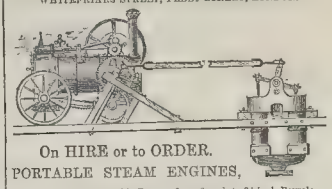
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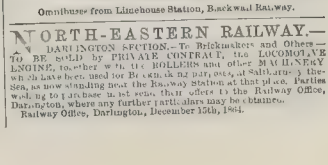
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The Vieille Montagne Zinc possesses a well-known reputation for purity and excellence, superior to the production of any other mines, and that Company had acquired, by nearly half a century's practical experience, a complete and thorough knowledge of all the requirements that constitute a well-laid Zinc Roof, the most economical, because it is the most durable mode of covering.

This established fact has mainly contributed to the large sales by this Company on different markets, which amounted, in the year 1863, to the enormous quantity of 52,000 (fifty-two thousand) tons.

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No. 86, Oxford-street	14 and 15	1,200 ,,
Drill Shed, London Docks (the whole building)	14 and 16	11,400 ,,
Three Private Dwelling Houses in Holland Park	14	7,000 ,,
Slip Roof, Sheerness Dockyard	15	4,000 ,,
Shed, Woolwich Dockyard	15	4,000 ,,
Large Roof, Eastney Barracks	15	33,000 ,,
Royal Insurance Office, Lombard-street	15	2,500 ,,
Langham Bazaar, Regent-street	15 and 16	12,500 ,,
Ventilating Granary Company, Rotherhithe	15 and 16	21,000 ,,
Shed, the Dockyard, Malta	15	5,000 ,,
Railway Station, Bognor	14	5,000 ,,
Winter Garden and Exhibition Palace, Dublin	14 and 15	33,500 square feet.
Roof of British Orphan Asylum, Slough		9,500 ,,
Railway Station, Charing-Cross	14	49,000 ,,
Several Stations on South Wales Railway	15	28,700 ,,
Music Hall, Commercial-road, Shoreditch	15	6,000 ,,
Brisbane Railway Stations, Queensland	14 and 15	46,500 ,,
Little Hampton Station	15	3,000 ,,
Grosvenor Hotel, Pimlico	14	4,100 ,,
Roofs at Islington Music Hall	14	2,500 ,,
New Stations on South-Eastern Line	15	26,900 ,,
Patent Glucose Sugar Company, Spitalfields	15	1,000 ,,
Paper Mills, Snodland, Rochester	15	6,900 ,,
Railway Station at Newport	16	10,000 ,,
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Besides a vast number of other Roofs in different parts of England and the Colonies (some of the latter of very considerable magnitude, such as the stations on the Madras Railway (400,000 feet), Cape Town and Wellington Railway (60,000 feet), the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet), &c. &c. absorbing from 1860 to the end of 1864 five thousand tons of Roofing Zinc, corresponding to about seven millions of superficial square feet). The Company strongly recommend that for roofs on boards, no gauge thinner than No. 14 be used, and for roofs without boards, No. 15 or 16; further, as the demand for thick sheets is increasing, they have resolved to prepare also, and stamp, specially for roofing, Nos. 17 and 18, principally for gutters; and they will, through their superintending Architects, supply, gratis, steel-cut ganges notched for roofing numbers only, by which the proper thickness of the sheets may be readily tested.

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Stamped ornamental Zinc has been used with good effect, amongst others,—on the Charing Cross Hotel; the Langham Hotel, Regent-street; and at No. 14, Piccadilly.

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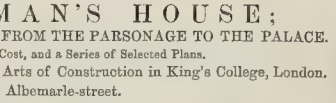
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The Builder.

VOL. XXII.—No. 1143.

An Eastern Picture: Damascus.



E are standing on the summit of one of a row of hills looking down upon an extensive plain, all aglow in the rays of an evening sun. The range of our vision extends to a distance of twenty miles at least, and it is bounded by a tawny-coloured expanse of sandy desert, here and there relieved by grey mountains in the dim distance. Not a blade of grass is to be seen; the plain and the mountain on which we stand are parched and burnt up by the constant heat of the sun of the East. But most refreshing to the eyes of travellers who have endured eight hours of a transit across the burning Sahara is the billowy sea of foliage rippling and waving almost at our feet,—a sea of dark green some five miles broad by eight or ten in length,—a dark patch upon the yellow sand, without a softening border of verdure, looking as though it had been cut out of some Amazonian forest, and put down in the desert purposely to gladden the heart of the weary traveller.

In the midst of the sea there is a mud-coloured island—a city of flat-roofed houses, with minarets springing up amongst them as though to catch the rays of light ere they depart. Here and there, between the masses of green formed by cypress, poplar, and palm-tree, may be seen silvery lines of light—numerous streams, the secret sources of all this wealth of nature. We descend, anxious to explore the recesses of these forests, and to enter the half-concealed city. Instead of entering immediately, we make a half circuit round its battlemented walls, and approach a ruined Roman gateway situate on the opposite side of the city to that from which we first beheld it.

The gateway consists of a mass of wall, about 90 ft. in length by 50 ft. in height. It is divided into three compartments by narrow pilasters. Each compartment has an archway, that in the centre being 21 ft. wide, the others narrower. They all have pilasters and architraves, with semi-circular arches above, and two of them are built up. We enter the third by a circuitous passage, formed for the better security of the city in case of attack. But where are we? Surely in a city of the dead. As far as we can see before us and on both sides, are ruined houses. All is desolation. As we proceed, we peep into what were formerly the courts of luxurious mansions. Mosaics are still upon the walls. Traces of painting are still to be seen, together with richly-carved wood and stone work, half destroyed. We see churches levelled to the ground, and cottages unroofed. What has caused all this destruction,—water, fire, or earthquake? The fire of fanaticism burning in men's bosoms. We are in the street called Straight, in the Christian quarter of the holy city of Damascus, rightly named Sham,—beautiful without, but within "all death, all rottenness, and bones," where, a few short years ago, hundreds of Christians were massacred for their faith, and thousands had their property stolen and their homes rendered desolate. We pass on to the central quarter, over heaps of rubbish from the ruins. Here the houses are mean enough externally, the walls being plastered with mud, and the windows latticed, and the doorways low and unobtrusive; but when we enter we find the houses the most beautiful in the world. Our hotel, for instance,—an ancient mansion, recently appropriated by Demetri to the accommodation of travellers,—might be passed a hundred times without being noticed. It has no sign. Its outer door opens into a small court; from thence a passage leads into a second court, 80 ft. or 100 ft. square, surrounded by buildings. In the centre of the side opposite the entrance, is a recess, 20 ft. square, with a pointed arch the full height of the house in front of it. It is ceiled with wood covered with arabesque patterns painted in positive colours. All round it there is a low divan, and it has a dado of inlaid marbles. This is the *lewan*, in which visitors are received, common to the mansions of Damascus. On either side of the *lewan* there are guest-chambers. On another side of the court is the *salon* where we dine, and opposite the *lewan* is a still finer building, the plan of which may be best understood by imagining six squares arranged so as to form a block, three squares in length and two in depth. The central division towards the court, or hall, is higher than the rest; those divisions contiguous to it at the sides, and that at the back, open into it, and are separated from it by pointed arches as high as that of the *lewan*. The two other divisions are separated from the rest by walls, with doors and windows in them. The pavement throughout is of marble mosaic, and in the centre of the hall is a fountain, the splashing of whose water is so essential to the Oriental when he wishes to make *kief*. The ceilings are all beautifully diapered, and the walls painted in stripes of red, blue, and white.

The water-supply of Damascus is excellent. The rivers Abana and Pharpar and their numerous streamlets supply every house with water through a tank which is placed in the centre of the court, and surrounded by orange-trees and myrtles. Wherever there is water in a hot country there is vegetation; and where there are trees and pasturage there are inhabitants. For these reasons we can easily imagine how, in the early ages of the world's history, nomad tribes were induced to form a settlement here, and thus founded Damascus, the town of Eliezer, Abraham's steward, and one of the four oldest cities in the world.

Our hotel is but one of the smaller of the magnificent palaces which adorn the town. We afterwards visit the finest, which belonged to one of the first men of the city,—a wretch who hounded on the rabble at the time of the massacre, and was in consequence sent to comfortable banishment in the island of Rhodes. The general features were the same as those of our hotel, except that it had three courts, the third and largest, or harem, being 500 ft. or 600 ft. in length. Here the *lewan* and women's apartments were situate. The decorations throughout were much more gorgeous than those just described, the walls being lined with delicate arabesque patterns, in coloured marbles, set in a white ground. The first court was for servants and slaves, and the second for the accommodation of guests.

We visited also the modern house of a rich Jew, which had one court, also enriched with painting, gilding, and inlaid marbles—but garish and gaudy—not so pleasing in effect as in the older mansions, where the ornamentation is of a freer character, and the colours are toned down by age.

There is no greater contrast between the manners of the inhabitants of the East and West than in the mode in which they build their houses. Popkins, the citizen of London, when he builds his suburban villa, makes it smart and showy outside; he decorates it with compo columns and cornices, or makes it still more attractive by the extravagance of variegated brickwork used without stint, because it is *bizarre*, and therefore fashionable. Abou ben Sakal, merchant of Damascus, on the contrary, lavishes his thousands on the interior. He builds his palace of marble, he ceils it with cedar, and paints it with ultramarine and vermillion; and then plasters the exterior with mud, so that no one would surmise the wealth that was within it. But Popkins is right, and Abou is wrong: one builds for the public,—in the warmth of his benevolence he wishes to show them something tasty; the other builds a splendid den for himself and his harem, and lives in it a sensual, sordid life, careless of all that goes on around him. He builds his house for himself, and he enjoys it in his selfish way. Such men as he it was who instigated the murderers of the Christians. Demetri, who was a survivor, tells us how it all came to pass. One evening he was standing on the terrace of his house, looking down into the street, when he saw a crowd of mere boys rushing from the bazaars to the Christian quarter, with sticks and stones in their hands, crying "Death to the Nusrani!" This was but a little leaven, but on the morrow the whole of the scum of the city rose, and began to pillage, and then, finding there was no resistance, began to slay. They were soon joined by wandering Arabs and Druzes from without, who scented their prey from afar, and flocked by hundreds into the city. The work of destruction was done very systematically. Every day thirty or forty houses were sacked, and their inhabitants—young men or grey beards, women or children—were beaten to death with clubs, stabbed, or torn to pieces on their thresholds. Poor lambs! they offered no resistance: they were Christians, and thought it no loss to be martyrs.

Now, we do not as a rule admire the Eastern Christian; and would much rather do business with a Turk. But in this last act of heroism they beat us,—their superiors in all else. Suppose all those who would confess themselves Christians in Belgravia were sentenced to be butchered, and all in Cheapside were to have their heads chopped off, would all stand true to their colours? How many confessors would there be? There is no doubt but that the assassins were stimulated to exertion by the heads of the chief families. But amidst all this Moslem fanaticism there was one noble heart, that gallant gentleman,—call him saint, or saint, as you will,—Ab del Kader, who sallied forth at the head of his body-guard and rescued hundreds: he for some days fed and sheltered them in his konak; and, when they became too numerous to be accommodated, escorted them to the citadel.

The centre of attraction in Damascus is, of course, the great mosque anciently a Christian church, and before that a Roman temple. It is so surrounded by the bazaars that no part of it can be seen until its court is entered. This mosque being one of the three holiest in the world, was closed to the Christian, until the visit of the Great Opener of holy places in the East—the Prince of Wales. Porter, who was five years in Damascus, and who has given a description of it, derived from a Christian workman employed in repairing it, never entered it. De Saulcy and Schubert had to climb to the roof of the bazaar to get a glimpse of it; nor was Miss Beaufort more fortunate. We know of no published description of the interior, though it is to be hoped we shall have an accurate one before long. The following notes were hurriedly taken in the midst of a scowling, sneering

crowd, and therefore they must be received with due indulgence. The English Consul being at his summer residence in the mountains during this visit, we availed ourselves of the escort of two cavasses from the Prussian Consulate, sent for the protection of one of our party. We passed through the bazaars rapidly, for fear of attracting a crowd, and descended through the book bazaar by a flight of steps to a lower level. Here we passed under a ruined Roman archway, the top of which we afterwards saw from the yard of the mosque, and between two rows of fine marble columns and Corinthian capitals. There had been ten on each side; those that remained were built into the bazaar walls. This was the chief approach to the ancient temple. We then entered an oblong court-yard, on the north side of the mosque, which was the full length of the building, 431 ft., and about half its width. The court has a cloister running round it on the three sides not occupied by the mosque. On the east and west sides it is divided into compartments by square piers. In each compartment there are three semicircular arches springing from marble columns, with Corinthian capitals, and large blocks forming the *abaci*. On the north side the arches are, for the most part, of the horse-shoe form, and they spring from piers. A second story runs round the court, having a recess above each arch, occupied by a two-light window with round arches, and a slender column in the centre.

The mosque itself is an oblong building with three roofs running longitudinally. It is divided into two equal parts by a transept, the side walls of which rise above the ridge of the central roof. In the centre of the transept there is a dome. The side walls of the mosque are divided by piers about 25 ft. in height, from which spring pointed arches. Above each arch are two windows with semicircular arches; the head of the arches and all the windows are filled with patterns in stucco or stone, such as are generally to be seen in the windows of mosques in the East. The transept on the north has three pointed arches, springing from rich marble columns with large *abaci*, and above there is a three-light round-arched window, all circumscribed by a large pointed arch. What we missed most on entering was any distinct arrangement of the interior showing that the building had once been a Christian church. There was neither apse nor indeed any defined chancel. Two ranges of Corinthian columns, ten on each side, with *abaci* making them the same height as the outer piers, reached to the transept, which was separated from the nave and aisles by the large pointed arches. In the wall above the arcade, were openings corresponding with the windows on the north side. The roofs are quite plain, with the beams and other timbers visible. The nave was about a fourth wider than the aisles. On the other side of the transept the arrangement was exactly similar. Both the east and west ends were flat and quite plain.

Pococke says that the altar stood under the dome; but how that could be, unless the eastern part of the church has been lengthened, one cannot well see. Without doubt, the building has undergone great changes. It seems, from the great number of columns surrounding it (there was a colonnade of twenty columns on the west, another of forty-two to the east, and on the south side a quadrangular inclosure of eighty-six columns) to have been originally one of those immense edifices, or collections of edifices, dedicated to the worship of Baal, like that at Balbec, or like Tadmor, in the desert. An inscription discovered some years ago, but subsequently destroyed, stated that it was converted into a church, and dedicated to St. John the Baptist, by Arcadius, the son and successor of Theodosius. Arcadius reigned from A.D. 395 to A.D. 408. To this period may be assigned the arcade and nave walls; but the outer walls and dome were built by the Mahometans, who took Damascus from the Christians in the commencement of the seventh century. They brought rich marble from all parts to rebuild the edifice, and decorated the dome with representations in mosaic of the cities of Mecca, Medina, and Jerusalem, between rows of palm trees. These are still visible. As the Crusaders never succeeded in taking the holy city of El Sham, it has remained in the hands of the Moslem ever since. Before leaving the mosque we mounted to the gallery of a minaret on the north side of the court, and obtained a rough sketch of the side of the mosque in spite of the murmurs of the crowd. We unwillingly came to the conclusion that, though the mosque is a magnificent building, there is but little in the plan or general character of the edifice that indicates its Christian origin; though when careful measured drawings come to be made of it, many details may be brought to light which are not easily to be perceived by the observer who is now able to pay only a hurried visit. In the meantime, the student of Eastern ecclesiology must be content with the plan engraved in Porter's "Damascus," and the interesting remarks that accompany it.

THE FUTURE CAPITAL OF ITALY.

The commissary sent from Turin to determine on the localities for Government offices in Florence, had instructions to the effect that, in every instance, the interests of fine art and public monuments were to be regarded, and their sites undisturbed. We may confidently expect therefore that, amidst the new appropriations to be made and new aspects presented by the future capital, her artistic character will be religiously respected, and nothing bearing the monumental stamp be allowed to suffer prejudice.

Having just visited the sculptors' studii, where two works of really a high character are now being prepared, ordered by public commission for erection in conspicuous places, with worthy addition to the art-adornments of this city, we trust that one more report on this subject may be acceptable to the readers of the *Builder*. After long familiarity with modern Italian sculpture during years of residence at Rome, we cannot but give our suffrages to the merits of those works by Pazzi and Fedi, as among the noblest produced by Italian chisels within any modern date. "Dante,"—a statue about 6 mètres high, to be erected in the piazza before the S. Croce Church, and solemnly inaugurated on occasion of the centenary festival in the great poet's honour, 27th of May, 1865,—is by far the finest treatment of its subject yet produced in the sculpture of this land, and hitherto the most successful work of Signor Pazzi, a native of Ravenna, who is still a young man, intelligent, and ready with obliging frankness to explain his ideas to visitors. He represents the poet with the laurel crown on his head, the volume of the "Comedy Divine" in the right hand, whilst the left holds up the folds of a long flowing mantle; an eagle (symbol of the Imperial supremacy he reared, and demanded as the inalienable right of Rome, or, at least, of the successors to her ancient sway) standing at his feet; the costume strictly historic, and somewhat like that of Franciscan friars, minus the scapular and cowl. In the treatment of the countenance the artist has been guided by the *norma* supplied in a most interesting relic possessed by the Torrigiani family in this city, the genuine mask, or cast, of the original taken after death, a plaster of which, from the Torrigiani Palace, we see in his studio, giving the idea of a physiognomy far more expressive and finely marked than is the traditionary type of Dante's head seen in most of the art-groupings where he is introduced. When Signor Pazzi invited us to ascend the scaffolding in which this statue is now, so to say, encased, we were able to appreciate the mournful yet noble intellectuality of this countenance far better than, in the present stage of his work, is possible whilst we regard it from below; still more could we, from this nearer point of view, perceive the high merit of his conception in the plaster, from the clay model of the head, or smaller scale that serves as original to the assistants labouring on the marble colossus. The blending of a majestic sorrow with a deep-felt but tempered indignation in this head reminding us of Byron's line—

"My heart shall be pour'd over thee and break,"—

is a condensed expression of the "immortal exile's" feeling towards his ungrateful country. Signor Pazzi regrets the necessity imposed upon him of finishing this statue by a given date; and he has yet to execute three reliefs for the fronts of the pedestal, which, we heard with surprise, is to stand higher by one-fifth than the statue itself,—12 Florentine *braccia*. Two of the subjects for these reliefs he has chosen, and judiciously,— the meeting with *Sordello* in the "Paradise," and the colloquy with St. Peter, in which that apostle sublimely denounces the vices and worldliness of his successors in the Papal See, a theme sure to strike the chords of Italian feeling as now wound up for response. In his studio we see two statuettes, presentiments of the various ideas adopted by this artist before evolving that which he has finally worked out in the colossal "Dante;" and we may pay him a sincere compliment in pronouncing decidedly in favour of the last above the previous phases of that idea's development.

In the May of next year will also be ready another colossal work of sculpture, that by Fedi, purchased with commendable spirit and appreciation by subscription among citizens mostly of the artizan class, for an honourable, and, indeed, deserved location in the portico of Orgagna's loggia, to stand beside the "Perseus" of Cellini, and the "Rape of the Sabines" of Giovanni Bologna. We very much regret the choice of such a subject, neither national nor historic, and failing to appeal to any existent sympathy or conviction, as "Pyrrhus sacrificing Polyxena," the sanguinary expiation to the manes of Achilles, about to offer which the warrior is seizing the hapless girl in his arms, trampling upon the body of her youthful brother, and spurning the agonized Hecuba who crouches at his feet, vainly endeavouring to detain her child from his grasp. The only conception or treatment by which such a subject could be elevated into a high or poetic sphere, is that which strikes us as forming the distinctive merits of Fedi's group; a subordinating, namely, of the contrasted passions and vehement action of this scene to effects of dignity and grace in form; still more, the investing of the sanguinary sacrifice with a character of religious duty and solemn obligation, as, indeed, appears finely indicated in the calm, the heroic resolve of Pyrrhus, whose features are moulded on the true type of Greek beauty, distorted by no passion, yet terrible as the God of War himself. In execution this group is admirable, and the hurried movement, the helpless despair of the victim, the anguish of the mother, are alike powerfully conveyed. Fedi's is one of the best filled among studii of sculpture in Florence; the "Genius of Tuscan Civilization" is one of his single figures recently finished for the Prince di Cariguano; but all his other works are far surpassed by the great creation destined for the loggia. One thing that strikes us in modern Tuscan art, both painting and sculpture, is the inferiority manifest in that class of subjects once the especial and triumphantly asserted province of Italian genius—the traditionary religious and devotional. The pictures on sacred subjects in the Exhibition of Modern Art now open are quite below notice, if above mediocrity; and it seems that in this walk Italy has arrived at an epoch of transition: on one hand, manifest decline; on the other, promise and progress.

Engineers have been appointed for the several sections into which the works for enlargement of Florence will be divided. Much activity is now noticeable in the labours for lowering the level and laying out new street-lines along spacious and hitherto unoccupied lots of ground between the gates of S. Gallo and Pinti, at the city's northern limits. It is announced that the amplification in the same direction, beyond the existing line of walls, will be to such extent as to include the church of S. Domenico, beautifully situate on a terrace of the ascent towards Fiesole, and distant a good three-quarters of an hour's walk from the Porta Pinti. The old convent annexed to that church, founded about 1406, is that where Fra Angelico da Fiesole made his novitiate and took vows as a friar; one of those many religious houses suppressed by the French Government in the early years of the present century, now let for lodging to families, but the cloisters tenantless and silent, though still a pleasant scene, their arcades being filled with lemon-trees and flowers, the area within cultivated as a vegetable garden for the Capponi family, now proprietors. From these cloisters we pass into a large vaulted refectory, dim-lighted, and filled with the same fruit-laden trees, where an old gardener draws aside folding shutters to display a veritable treasure of art, the "Crucifixion," a fresco, with life-size figures, the Mother and St. John standing beside the Cross, St. Domenic kneeling below, by Angelico. Poggio Imperiale, the royal villa on a height amidst gardens, which mark a limit of the proposed civic extension on the southern side, is about twelve minutes' walk from the Porta Romana. The report that S. Miniato, with its steep hill, is also to be comprised, seems questionable; but we may believe it probable that another project will be carried out for isolating that fine old church, by throwing down a block of unsightly buildings that now unite it with the adjacent long-deserted monastery, and also con-

verting the spacious esplanade in front into a species of Valhalla, with monuments of the illustrious dead. Another pleasant villa certainly will be included within the future city, that becomes Classic as the imagined scene of the *Decamerone*, to which Rogers refers with so much delight in his "Italy," and which stands beautifully amidst cypresses and other evergreens, on a slope above a cultured valley, towards Fiesole; long a deserted home, for this residence, known as Schifanoia, was bequeathed to the last Grand Duchess by its former owner, a wealthy English lady named Farrel.

A committee has been formed for erecting by subscription a monument to the dramatic poet, Niccolini, at S. Croce, where he was buried with public honours; and it is worth noticing (not for the sake of the amount, but as proof of sympathy from afar,) that 800 francs have been contributed from the Venetian provinces.

Of the ten or eleven journals (most of them daily) now published here, not one occupies itself, *ex professo*, on either Belles Lettres or Fine Arts a deficiency, indeed, that ought to be considered in the new capital of Italy, as neither creditable nor just towards claims of the meritorious classes. But the witty little *Gazzetta del Popolo* was pleased to be sarcastic, the other day, respecting certain subordinate restorations lately effected in the sculptured ornaments of Orgagna's Loggia: the small figures of couchant lions on mensolæ, four of which are placed round the lower part of each pilaster supporting the arcades of that majestic structure; and assuredly the *new* lions that now show their faces in this series, are, as the *Gazzetta* declares, rather like bad imitations of cats than genuine effigies of the lord of the forest.

One of the projects now in discussion is the uniting of all the public libraries of Florence in one great centre, for which has been suggested the present Hospital of S. Maria Nuova, an immense establishment, once a convent, till purchased for charitable appropriation in 1300. The library of the Accademia delle Belle Arti, a valuable though but small collection (about 8,000 volumes), purchased in its nucleus from the heirs of the architect Salvetti, by the young King of Etruria, 1801, to be bestowed on that institution, is public only during the winter months. On the 25th of November were opened the schools of drawing, bas-relief, architecture, perspective, and *ornato*, at this academy, for admission into which experimental examinations must be passed through, or certificates presented by candidates of the completed course of studies in other schools at the Istituto Tecnico. It was in 1339 that this Art Association had its origin as the "Company of St. Luke," aggregated to the "Guild of Physicians and Chemists;" afterwards raised by Cosimo I. to the rank of an academy; and by Peter Leopold endowed with its present ample *locale* in a suppressed hospital, augmented by the addition to its buildings of a suppressed convent, and enriched by its present inestimable collection of Early Christian art under French government. In the time of Peter Leopold, only limited numbers—18, 12, 8, &c.—were admitted into its several schools, as the *alumni* gave proofs of superior claims satisfactory to the board of directors; but a more liberal system, free of such restriction, is that now prevailing, to the regret, we understand, of veterans attached to the old *régime*. The "Society for the Encouragement of Theatric Art in Florence" has lately published three competitions for prize comedies (subjects not determined), one of these *concorsi* being called by the name "Ristori;" and at the same time is invited the concurrence of young amateur Thespians to assist the *alumni* of the "School of Declamation," which gives *quasi* public performances at its theatre in the academy-buildings once a week during winter, in the production of the successful pieces.

We regret to have no tidings respecting the façade of the cathedral, other projects nowabsorbing public attention, and, it may be supposed, public funds likewise; though assuredly this, so important to the dignity of Florence, will not be forgotten. Photographs from the several designs, at sale in the shops of principal streets, constantly remind pedestrians of the great *desideratum*.

CLARING-CROSS HOTEL.—We are asked to mention that all the plaster enrichments inside, the cement pediments with arms in porches outside the building, the carving of panels in porches, and arms, &c., in lodges, were modelled and supplied by Messrs. Mabey & Son.

ART-INDUSTRY AND THE SOCIETY OF ARTS.

IN the paper read at the Society of Arts on the 21st inst., Mr. Davenport, after setting forth the various steps taken by the Society during many years to promote Industrial Education, and the endeavours it is still making, concluded with the following suggestions:—

"At the present moment it is, jointly with the Company of Coach and Coach Harness Makers, about to give patronage to the workmen engaged in that trade who are about to hold an exhibition of the products of their skill and industry. Out of London it has contributed to a prize fund for the promotion of improved design and increased skill and ingenuity on the part of the Whitby jet-workers; and the question at once arises, would it be possible to induce a combined action on the part of the eighty City companies, the Chambers of Commerce, and other Bodies in aid of the industrial education of the youths of the present day, as well as to encourage skilled workmen by the offer and award of prizes in each of their respective industries.

The Society of Arts has already begun the work, both by awarding prizes to skilled workmen and the institution of lectures on the application of science to industry; it will doubtless continue and extend its action in both directions; but to attain real instruction in science, more than lectures are necessary. Classes, under competent professors must be formed, if industries are to be benefited. At the close of the Great Exhibition of 1851, in order to attain more education in technical knowledge, it was said that the effort should be made to educate downwards—to give less classical and more practical education. The Society did not accept that proposition, but, beginning with the working classes, has been endeavouring to educate them upward; and now that its examinations have enabled their education to be tested and the fitness of youths to be advanced into classes where they may acquire precise knowledge as affecting industries, one of the difficulties in the way of the establishment of classes for industrial instruction is got rid of. The certificates of our own examiners, of those awarded at the Oxford Middle Class Examinations, which arose out of our own action, of the London Universities and others, should be the passport to our industrial classes.

If, then, the City Companies could be induced to co-operate with the Society of Arts in establishing a system of instruction and a test of the degree of knowledge acquired by those who are apprenticed by their corporations; if they would assist and co-operate with the Society of Arts, by offering and awarding prizes to the skilled workman, the Society might again create for the benefit of the public, Annual Displays and Exhibitions of the Products of British Industry, to which British manufacturers might send selections from their yearly commercial products, not advertising specimens got up for great exhibitions regardless of cost; the highly-finished and mechanical inventions of each year might also be added, as well as samples of raw produce and imports, or selections from them. To effect the latter object it might be necessary to urge upon Government the propriety of its doing for commerce what it already does for literature, by compelling the deposit in our national library of a copy of each work produced for sale; in like manner it might compel the deposit, when required, of samples of new imports.

Thus we should have an aggregation of the products of Arts, Manufactures, and Commerce, from which to select specimens for a National Trade Museum, which would again form the basis for a continued course of industrial instruction."

At the close of the paper, the Chairman, Mr. William Hawes, having invited discussion,—

Mr. H. Cole, C.B., remarked that there was one paragraph in Mr. Davenport's paper with which he could not agree. That was with regard to the Government compelling the deposit in some national museum of a copy of each manufactured work produced for sale. He thought Mr. Davenport was mistaken in supposing that Government could compel people to make such a deposit. For his own part, he should be sorry to see any such compulsory law as that hinted at. Indeed, he thought it was not creditable in the present day that there should be a law compelling authors to deposit gratuitously copies of their works in the library of the British Museum and other public institutions. It was not an agreeable thing for a public officer, in the exercise of his duties, to be constantly summoning publishers to the police-court for not conforming to the law in this respect. He believed it was detrimental to literature, and he conceived it would be so to manufactures; and further, he felt certain that to build a huge Babel to hold specimens of the character named—good, bad, and indifferent, as the case might be—would be most tiresome and uninteresting to visitors. He would now turn to the Exhibition arranged for inspection [the works of Industrial Art submitted for prizes], and he must congratulate the competitors upon it. Although he had been unable to do more than take a cursory view of the objects, he felt assured that a considerable advance had been made in the quality of the work over that of last year. He had no doubt this idea of inducing artist-workmen to exhibit specimens of their handicraft would fructify. It would go on increasing, as was the case with the Royal Academy, which more than a century ago had started from small beginnings. In the outset of such a work as this, however, no doubt there would be some errors in detail which might require amendment, more especially as to the conditions attaching to some of the prizes offered. He feared that these conditions in some instances had perhaps prevented the sending in of so many specimens as might have been expected. For instance, a dozen casts of the bust of Clytie had been sold to workmen, but one only had been finished in bronze and sent in. This led him to fear that there was some condition connected with that matter which impeded competition. It might be that the bust was not delivered in time for the work to be done in the workmen's overtime, for it should be remembered that these things were executed in the workmen's overtime. He hoped the same bust would be competed for next year, so that the labour of those who had bought the cast this year might not be thrown away. Then again, it might be considered that the works which the council had put forth to be done were not such as, when finished, would be saleable commercial articles. That was, no doubt, partially true, though in their selection the council had endeavoured to bear that principle in mind. He thought, however, he saw among the articles exhibited some which might properly be bought for the South Kensington Museum, and he hoped the Lord President would take that view. As an individual member of the Society, it occurred to him whether, in the selection of objects to be presented for execution in their next programme, it would not be well to take the workmen themselves into consultation, and ascertain which they would suggest as most fitted for the purpose; and he also thought the object might be still further promoted by a little co-operation on the part of those who were interested in special manufactures. He thought the council would do well to receive suggestions from those quarters as to the subjects to be selected for competition. He would only further remark, that though some of these articles now exhibited might not be immediately saleable, yet he believed in many instances they would be the means of producing commissions for the producers of such articles. He might state that at South Kensington wood carvings were wanted; and he saw specimens this evening which led him to think that the persons who executed them might be called on to do something for that national establishment. He was gratified at seeing indications of a new branch of industry springing up, viz., glass mosaics. The heads exhibited there were the first publicly-exhibited specimens of glass mosaics by English artisans he had ever seen. He considered these worthy of great attention, as he was satisfied before many years there would be a very extensive application of glass mosaics for decorative purposes. He had reason to believe that more than one of these specimens had been produced by females. It was a branch of industry in which that sex might be well employed, and he would only throw out the hint to those who might hereafter desire to engage in it, that, as an indispensable preliminary, they should possess a sound knowledge and power of drawing.

Mr. D. Roberton Blaine had listened with great pleasure to the admirable paper; and his single objection to what had been advanced in it was confined to that part which had been alluded to by Mr. Cole, the compulsory deposit of specimens of manufactures at the expense of the manufacturers themselves.

The Chairman, quoting the passage of the paper referred to, said the suggestion only applied to "new imports" of raw materials employed in manufactures.

Mr. Blaine said the suggestion was an admirable one, if it were done at the expense of the Government; otherwise he took exception to it. In the case of the precedent that had been quoted, viz., on the compulsory deposit of copies of literary works in public libraries, he knew it operated in many cases as a great hardship upon authors and publishers, especially in the case of the more expensive works. If they wanted copies of works to be deposited, he thought the Government and the universities ought to pay for them. With regard to the many beautiful works which they saw before them, they afforded illustrations of the rapid advance which was making in art-workmanship in this country. Mr. Blaine named one or two as obviously good. He referred with great satisfaction to the testimony borne by the French artisans who visited the Great Exhibition to the great progress made in this branch of industry by the workmen of this country. That was one great proof of the benefits of international exhibitions. The French people were now pressing upon their Government the importance of following the example of this country in promoting schools of art, because they saw the

wonderful progress which had been made in England since the Government Schools of Art had been established.

Mr. Peter Graham, referring to the selection of the special objects for execution, remarked that he regarded this as a necessary step, in the first instance, as serving for a guide to the competitors as to the class of works on which their skill should be exercised. On future occasions he thought more scope might be allowed, and that workmen might be permitted to bring their original works as proofs of talent in design as well as power of execution. It was due to Mr. Davenport to thank him for several excellent suggestions he had thrown out in his paper. It would be a most desirable thing to obtain the co-operation of the wealthy City companies and guilds: take, for instance, the Goldsmiths' Company: he thought it was rather a reproach to that important company that it had not come forward to encourage by prizes the development of those beautiful arts with which it was identified. It possessed immense wealth; and he did not know how it could better promote the interests of the guild, or do anything more creditable than to offer prizes in every branch of the goldsmith's art. The same remarks applied to other companies. One of the poorest and most obscure of those guilds, the Painter-Stainers, had been the first to set an example in this direction. He had not yet minutely examined the collection of objects before them, but he could see at a glance that there was a great advance upon the display of last year; and, no doubt, if it was carried on in a right spirit, they would see improvement year by year, till the art-workmen of England were equal in execution to those of any other country in the world.

Mr. Winkworth said that he thought his friends Mr. Cole and Mr. Blaine had occupied too much time in discussing a point which was not important to the immediate object of the paper, and respecting which they had not quite apprehended Mr. Davenport's precise meaning. He had not, as they supposed, approved the policy, amounting to confiscation, of compelling authors to deposit copies of their works at the British Museum, the Universities, and other public institutions; but, assuming that it was to continue a law of the land, might it not be usefully extended, in the way suggested in his paper, to the promotion of art-manufacture education? Mr. Davenport had favoured them with a well-digested historical epitome of the action of the Society in the direction of industrial education, and in so doing could not fail to pay a tribute of recognition to the services Mr. Harry Chester had rendered to the cause of adult education in all its branches, by suggesting and initiating a system of competition which had bornemost gratifying fruit, and the benefits of which were being daily extended. That which he had organized might be introduced into a sphere of education which should give to the artisan a kind of technical knowledge, of which English workmen were for the most part ignorant or with which they were only partially acquainted. He had in his paper suggested several new directions, as, for instance, lectures and classes, conducted by professors, by which instruction in art and science, so far as they bore on skilled industry, might be properly communicated; and one original way in which this might be encouraged, the action of the trade guilds and companies, might be invoked, as in the case of the Painter-Stainers' Company and others. To this he (Mr. Winkworth) cordially assented; but Mr. Davenport should not indulge the hope that the suggestion would meet with universal acquiescence, for it must not be forgotten that many of those corporations had outlived the trades for the promotion of which they were ostensibly established. Others, again, as the Fishmongers' and Spectacle-makers', did not seem to afford scope for the offer of prizes for new discoveries or appliances in their particular branches of trade. The bulk of the members of many of the City companies had, in fact, no idea of the crafts they were apprenticed to learn, and the secrets of which they were sworn not to divulge. Others, again, had no funds that could be legally diverted to objects external to their own. But, on the other hand, the City companies were in the aggregate wealthy and patriotic; and, whether their own specialities afforded scope or not for the offer of prizes to elicit talent in the cultivation of them, they would no doubt, if suitably approached, be found willing to contribute of their abundance towards objects so legitimate and praiseworthy as Mr. Davenport in his paper had so luminously pointed out. He doubted whether, as the articles in and around the room which had attracted so much attention—and to some extent admiration also—were sent in competition for prizes, it was judicious or fair to anticipate the awards of the adjudicators hereafter to be appointed, by specially noticing certain specimens of art in the room which, in the opinion of the speaker, Mr. Blaine, were beautifully designed and executed.

Mr. Godwin could not allow the last observation to pass without comment, as it seemed to him the claims and defects of the various objects exhibited could not be discussed too much, since this would aid in leading to a fair adjudication. He confessed he did not take quite the same satisfactory view of the articles exhibited which the gentlemen who preceded him had done. That the collection was much better than on the previous occasion there could be no question; but that it came up to the inducements held out by the Council of the Society he was unable to say. Premiums to the extent of nearly 600*l.* were offered by the Society for objects in all branches of art-industry; and though there were many excellent works in the collection, he was afraid, when the majority came to be critically examined, a small number only would be found entitled to high commendation. The inference to be drawn was, that there was yet something more to be done than the mere offering of prizes. They had to labour to induce a greater appreciation of the necessity of art-education. Looking at the means now afforded to working men and to those above them, advance was comparatively easy. He had been frequently called upon by old workmen, journeymen carpenters, bricklayers, and plasterers, for advice as to what they could do for their sons, in order to get them out of the fixed drudgery in which they themselves had been compelled to labour for so many years. His first simple advice was, and he wished the hint might find its way into the workshops of this country,—let them learn drawing. There were schools of design throughout the metropolis, and in nearly every large town. If it was necessary, the parents must make a little sacrifice to enable their children to do this. Sacrifices had to be made by all classes. In so doing, they would at once enable their children to rise above their own position. Their course was now easy compared with what it was formerly: schools of design were plentiful; competitions were open; there were the examinations and prizes of the Society of Arts; and there was a wide field open for the development of the fine arts for decorative purposes, domestic and ecclesiastical. The moment a man showed ability he was sure to be taken by the hand, and to raise himself a step beyond the position in which his father was toiling. They wanted in addition, however, some little effort on the part of manufacturers and from the large builders. He thought the system of apprenticeship had been too much neglected. It should be urged upon the large builders and others that they should aid their men in pushing forward their sons; that they should take the sons into their establishments, and enable them to gain a superior position in their trade. It was a lamentable fact, that notwithstanding what had been already done, the great body of building artisans of the present day were inferior in skill as a class to the artisans of seventy years ago. They could not get the same proportion of good bricklayers, or an equal number of carpenters with the same amount of geometrical knowledge as formerly. The system of contract work had led to a demand for quantity rather than quality. The absorption of various trades into one person's hands, in the shape of contractors, had destroyed emulation, and stood in the way of the small masters. As an instance, he referred to the fine plastering which was to be seen in some of the older houses in London. There were not many men now to be found to do this work. It therefore behoved this Society to go on in its course of stimulating the education of the artisan. At the late Exhibition of the Architectural Museum, only five specimens of wood-carving were sent in for competition for prizes up to 20*l.*, and none of these had been considered by the Council (though he thought differently himself) entitled to receive a prize. That showed how small the response had been there; and it was small on the present occasion, taking into consideration the large sum offered in premiums by the Society of Arts. The notion had been entertained by himself and others that it would be well to invite the skilled artisans of London to a conference in that room, in order that they might state why they had not competed more largely, and under what circumstances they would compete. Such a proceeding would put them in possession of facts which would enable them to obtain larger results. What was sought for by these competitions was the encouragement of a more intimate union between the fine arts and manufactures—the wedding of Venus and Vulcan. Speaking of the latter, he was sorry to note how small was the response as regarded hammered iron and brass work. It was ridiculous that there should be only three small specimens of this description of work sent in in response to the appeal that had been made. He was sure all present would thank Mr. Davenport for his paper. He was not certain that they could look to the great City companies for more than pecuniary aid. The competitors would require to be assured from the beginning that those who were to be the judges of their work had some practical acquaintance with it. Companies were not qualified themselves to be the adjudicators of the prizes; and the workmen would not have confidence in their judgment. With regard to lectures, they were important and valuable, but they would not alone make good artisans or good art-workmen. There must be actual practice in the studio and workshop. He again urged the importance of a right system of apprenticeship.

Mr. B. Waterhouse Hawkins would venture to support the suggestion made by Mr. Cole, and repeated by Mr. Graham, viz., giving a little more liberty in the conditions of the competition, to the extent that while certain photographs and models might be selected as the type of the work to be performed, the workmen should be at liberty to enlarge upon the original design, that it might be employed in the decoration of some article of utility, so that the person who succeeded in that direction might find his reward in having produced an article which in itself would be saleable, and not a mere abstract work of art. In the production of these works, it must be remembered that the artisan occupied his time after the ordinary hours of labour, and hence he thought the time allowed was scarcely sufficient. The greater part of the work could only be performed during the evenings in summer time. He was inclined to think that by giving a longer time they would have a larger collection of works sent in.

Mr. Thomas Jones, with reference to the co-operation of the City companies, remarked that, so far from the Goldsmiths' Company assisting in the production of works of art, their practice in testing the purity of the metal employed, and sent to them for that purpose, did much injury to them. Works of excellent truthfulness and perfection of form sent there to receive the certificate of the company that the material was of a given standard, were, from the manner in which they were treated, unnecessarily disfigured, and rendered unfit for sale until they had a second time passed through the hands of the workman. It would be a great benefit if this Society could become the means of inducing that distinguished company to treat the works of art confided to them a little more carefully. It had been stated that the Painter-Stainers' Company had been the first in the movement of promoting competition of the character under discussion this evening. He, however, believed it was the Loriners' Company to which that honour belonged. Unfortunately, however, the effort was discontinued, in consequence of a feeling on the part of some of the members of that guild that the funds ought not to be diverted to the rewarding of persons outside their own pale.

Mr. P. L. Simmonds cordially approved of the suggestion of Mr. Davenport, that raw materials of commerce should be deposited with the Society, for the purpose of scientific examination and report. There was at present no convenient public place of deposit where such articles could be seen and examined. He knew many new oil-seeds, fibres, gums, paper materials, &c., were received by brokers and merchants in this great commercial port from time to time, which were either entirely overlooked or but little appreciated, and yet many of these might become most important for manufacturing use.

Mr. Philip Palmer said the object of the co-operation of the City companies had been introduced by him at the first meeting of the session. He would follow up what he then said by adding, that, in the observations he submitted, he did not mean that companies should institute separate competitions or separate exhibitions, but that they should render their assistance to the competitions of this Society. In this respect he apprehended there would be no great difficulty in obtaining the co-operation of such companies:

for instance, the Mercers' Company might contribute prizes in connexion with textile fabrics; the Grocers' Company might render their assistance in the matter of colonial productions, as suggested by the observations of the last speaker; the Spectacle-makers' operations might, he apprehended, be extended to the whole range of optical instruments. He agreed with Mr. Godwin that it would be a great advantage to all branches of trade that a proper apprenticeship system should be established.

Mr. Joseph Ash stated his belief that the small exhibition of wood carvings at the Architectural Museum, alluded to by Mr. Godwin, arose from the almost entire absence of practical working men in the Council of that Institution, who acted as the adjudicators of the prizes. He thought it of the utmost importance that the competitors in such competitions as these should have confidence that the merits of their works would be decided by a competent tribunal of practical men.

Mr. George Lock claimed to be the originator of the scheme for prizes in wood-carving which had called forth the present competition in that department; and he begged permission to say a few words on points which had been suggested by this and the preceding display. He agreed with the last speaker, that the paucity of specimens at the exhibition of the Architectural Museum was in a great measure due to the cause which had just been pointed out; and he suggested that in these exhibitions it should be a condition, that the jurors appointed to decide on the merits of the competitors should include a fair proportion of practical men in each branch of the subjects. He felt if that were not done these competitions would suffer. With respect to the subjects selected by the council for the wood carvings, he believed there were no cause for complaint, inasmuch as in addition to the models and photographs issued, there was in the programme this year a series of prizes offered for original works in wood carving, no design or model being prescribed. Complaint had been made on the part of a few employers, who were not themselves art-workmen, with regard to the indefinite period for which the articles were required to be left in charge of the Society. Some tradesmen considered it an inconvenience to lose a portion of their stock for a lengthened period, and he thought it a matter worthy of consideration previously to the next competition. Another point he would suggest was a more extended publicity being given to these competitions; and with that view he suggested that they should be advertised in those newspapers which were mostly read by working men. The mere announcement in the Society's *Journal* was not sufficient, as that publication was not seen by working men. He had been told by one of the promoters of the North London Exhibition, that not one of the fifty persons who acted with him had heard of this intended competition. He concurred in the suggestion that the competitors should to a certain extent be consulted as to the subjects which should be selected as models on which they should exercise their skill. Mr. Lock then alluded to the proceedings of the Society in respect of its competition of a similar character to this in the latter part of the preceding century, when the sculptors Banks, Nollekens, and Bacon were among those receiving rewards. The last-mentioned artist succeeded in carrying off several valuable prizes, and the advantage of the system to him in after-life was acknowledged in a letter to the then Council of the Society.* In conclusion, Mr. Lock expressed a hope that the Council would consider the desirability of exhibiting ancient works of art in connexion with this display of the articles sent in competition for prizes. He believed that such a course would give additional interest, and would be of great value to the competitors and art-workmen generally.

Mr. H. Hale said one reason why the response on the part of the wood-carvers had not been more extensive was to be found in the fact that that class of workmen had been so much occupied by the pressure of business of their employers during the last year, that they had no leisure to prepare objects for this exhibition.

The Chairman said, the time having arrived for closing the discussion, he thought Mr. Davenport might congratulate himself on his paper having elicited one of the best and most useful discussions of the session. There were, however, one or two observations, especially those of Mr. Lock, which required some notice from him as Chairman of the Council. Mr. Lock had stated that complaints had been made in some quarters of the length of time the specimens were kept in the Society's charge, and that whilst such specimens were kept out of stock they might become unsaleable. Now, with regard to articles taken out of a tradesman's stock, if that were known to be the case they would not be admitted to competition, for it was not the object of the Society in these competitions that persons should compete who were able to keep works in stock, and employ others to do the work. The great object was to do for the art-workman in his special handicraft that which had already been done in another direction in testing the knowledge of candidates by the examinations instituted by the Society. The Society sought to stimulate the art-workman by giving opportunities for testing his skill, and by placing before him models and photographs of the best examples in each branch of industrial art. With respect to the character of the subjects and the conditions of the competition, he might state that out of the ninety-eight articles sent in, thirty-four were in connexion with that division of the programme in which no restriction was laid down as to choice of subject, and for which no examples were prescribed. The competitors were free to do that which they thought best suited to their individual talents and powers. He could not help alluding to the beautiful carving of the head of a child behind him, in illustration of this statement. No model or photograph was furnished for that beautiful work. Having referred to some other works exhibited, the Chairman went on to remark upon the co-operation of the City companies in this work. He said it was a difficult but an interesting question. Taking the twelve leading companies in their order of seniority—the Mercers and Drapers might be asked to offer prizes for the finest productions of the loom in all the branches of textile fabrics. Again, the Fishmongers' Company might be brought into the field. The most beautiful of old china was replete with forms of animals in all sorts of relief. That company might offer prizes for the best designs in earthenware or china exhibiting the best drawings of the denizens of the seas and rivers of this country. Of the Goldsmiths' Company he need say no more, now that it was to be hoped that, instead of converting watch-cases into cocked hats, they would test the quality of the gold, and allow the beautiful work of the lathe or the tool to be returned to the owner uninjured, and offer prizes for the best specimens of chasing or of ornamental jewelry. The Vintners' Company, again, might, in like manner, do their share in this good work, and encourage the artistic embellishment of metal-work, by offering prizes for ornamental designs, in which the beautiful stem, leaves, and tendrils of the vine might be most elegantly introduced, and with which many of the most beautiful ancient bronzes were ornamented. In this way something might be done by the great majority of the City companies; but it could only be effected by great attention and labour on the part of the Council, and whether they would have time to enter upon it during this year he could not at present say. Another observation required remark, viz., that relating to want of sufficient publicity being given to the rewards offered by the Society. He believed Mr. Lock did not know what had been done by the Council, who had distributed bills containing their programme very freely among the principal workshops; and to prove that the workmen were aware of the competition, he would state that nearly 600 copies of the photographs and engravings had been bought by the workmen at the Society's house; and further, with respect to the insufficiency of the time allowed, he would add that the notices were issued in February for works to be delivered here in the November following. Then, with respect to the time the articles were delivered, and the period which elapsed between the exhibition and the adjudication of the prizes last year, he must say that the works were not sent in till June, and they could not name a day for the distribution of the prizes until the Prince of Wales became the president, and appointed a day for that purpose; and he believed the recipients of the awards were more gratified at the honour of receiving them from the hands of his Royal Highness, than disappointed on account of the time they had to wait for them. On the point referred to by Mr. Godwin, who spoke from his own knowledge, which was very extensive, that the workmen of the present day were not as a class equal in skill to those of seventy or eighty years ago, he thought that remark required some qualification. They might not be able to get plasterers to do the splendid work which they saw in some of the old city halls. It was a description of work not executed now, because the most beautiful forms of ornamentation were produced more quickly, and they could not afford the time for it. But if they tested the skill of the workmen as a whole,—in the precious metals, in plate, in china painting, or the works of the loom, they knew that the French artists had expressed their surprise at the wonderful progress made in this country.

Mr. Godwin said the remark he had made applied merely to building operatives.

The Chairman said, then he would carry his remarks no further, but he would ask the meeting to thank Mr. Davenport for his very interesting paper, and to congratulate him on the interesting discussion which had followed the reading of that paper.

The vote of thanks having been passed,

Mr. Davenport, in acknowledging the vote of thanks said, in reply to the observations made by Mr. Cole and Mr. Blaine, that the idea which he intended to express was this:—If art, manufactures, and literature are beneficially promoted by the protection which the Government of the country gives to the author, the artist, the designer, the manufacturer, and the mechanic, by means of the copyright laws, the Registration of Designs Act, and the patent laws,—in each of which cases, where a monopoly is granted, a copy of the design or specification of the article to be protected is deposited for the information of the public in some duly appointed repository,—might not the Government, with equal justice and advantage, be asked to give to the person who discovered, in a foreign country, products fitted for and applicable to industries, be enabled to obtain a right of import from such country of the product which he had discovered, and of which he was the first and the true importer; and in consideration of such right being granted he might be required to deposit samples of the product, which could be deposited in a national trade museum.

THE BOARD OF TRADE *v.* LLOYD'S PROVING HOUSE, AT POPLAR.

It was only a short time ago that a serious accident took place on Ludgate-hill, through the giving way of one of the chains used in hoisting a girder. The insecurity of, and yet necessity for, chains are fully understood by practical men, who would thus look with satisfaction on an extension of the Bill passed last session for testing the chain-cable of ships, to all kinds of chain. Of course the *sine qua non* of any operation of the kind is accuracy, and we thus inserted a communication some time ago, from Mr. F. A. Paget, C.E., on the forms of testing machines necessary for the attainment of such accuracy. We understood that the Government regulations for the many different testing machines now being established throughout the country, carry out the opinions this gentlemen publicly expressed some eight months ago, and before the Bill was carried; and he has also been requested by the Board of Trade to report on the Government requirements, in company with Sir W. G. Armstrong, Mr. W. Fairbairn, Mr. John Penn, and Mr. Hick, of Bolton. One of the most unfortunately constructed machines has been found to be that of Lloyd's, at Poplar. Not merely is the pull of the hydraulic press wrongly measured, but the chains were tested *after* having been painted, and they are also tested in such enormous lengths as 75 fathoms, or 450 ft. Lloyd's Committee have given way upon the two first points, but upon the third they appear to intend to make a stand. We have been given to understand that the engineer of Lloyd's has made a report which disagrees with

* The following is a copy of the letter sent by Bacon to the Society, on presenting his original statues of Mars and Venus to that body, both being life-size:—

"Session 1769-70.

The honour you have done me in your acceptance of my statues of Mars and Venus affords me an opportunity, which I gladly embrace, of acknowledging the many obligations I owe to the Society.

It was your approbation which stimulated, and your encouragement which enabled me to pursue, those studies which a disadvantageous situation had otherwise made difficult, if not impossible. Believe me, gentlemen, I never think of the Society without gratitude, and without the highest idea of the principles on which it is formed, and which justly place it among the institutions that do honour to human nature, raise the glory of a nation, and promote the general good of mankind."

He had shortly before received the gold medal of the Society, and from Reynolds the first gold medal the Royal Academy awarded for sculpture.

that of the Inspectors of the Board of Trade in respect to testing such long lengths as 75 fathoms. This report has been sent to the Board of Trade, accompanied by a letter from Lloyd's Committee, requesting the Board of Trade to appoint two other engineers to examine the question. We understand, however, that Government have refused to alter their published regulations, as they state that their requirements have only been settled after taking the best advice. The Board of Trade, however, offer to refer the report of Lloyd's engineer to the same engineers who have previously been consulted on the question, viz., Sir W. G. Armstrong, Mr. W. Fairbairn, Mr. J. Penn, Mr. J. Hick, and Mr. F. A. Paget. We greatly regret to see Lloyd's in collision with the Board of Trade, but we hope that, in this case also, the spark of truth will be elicited from the shock of discussion.

PARIS.

Two new Jewish synagogues are to be erected in Paris; the two already existing in the Rue de Lamartine and in the Rue Notre Dame de Nazareth having been found inadequate to accommodate the Israelites in the town. The new buildings are to stand, one in the Rue de la Victoire, another in the populous quarter of the Marais, in the Place Royale, on the site of the ancient Mairie of the eighth arrondissement. This ancient hotel was formerly the residence of many illustrious personages, the last being the Baron de Breteuil, Ministre de la Maison of Louis XVI., and Laurent de Villedeuil, Intendant-général of Rouen. The town council of Paris has consented to furnish half the sum necessary for these new places of worship on condition that the community interested furnish the other half. This having been subscribed at a public meeting, held the 13th instant, it is expected that the works will begin in April next.

New abattoirs are being erected at La Villette; and a cattle-market, replacing those of Sceaux and Poissy, is to be annexed to it. A decree of the 11th inst. authorizes the town of Paris to contract for the building of a new cattle-market in the nineteenth arrondissement, and to connect it, by a branch line, with the circular railway. The market is to be held for a tenure of fifty years.

In order to commemorate the heroic defence of Paris in 1814, by Maréchal Moncey, the municipal authorities have determined to erect a monument at the ancient Barrière de Clichy. Several distinguished sculptors, including Cavelier, Clagmann, Aimé Millet, Vital de Bray, and Maillet, have been appealed to in order to represent in marble or stone the episode.

By command of the Emperor of the French, on the 16th inst., the Minister of Public Instruction received, at the Imperial Library, from the hands of M. Léon Duval, the heart of Voltaire, inclosed in a gilt metal case bearing these words: "The heart of Voltaire, deceased in Paris XXX May MDCCLXXVIII." It will remain for the present in the department of the medals, until the works are completed of the department of manuscripts and printed works, where it will be placed in conjunction with the statue of Voltaire, by Houdon, and the complete collection of his medals, correspondence, manuscripts, and printed works.

THE CIRCULAR RAILWAY OF PARIS.

The adjudication of the section of the circular railway of Paris, from the Javel Viaduct to the Route de Châtillon, a length of 2 miles 1,700 yards, on the left bank (south) of the Seine, took place on the 26th. The line, traversing the Seine by the double bridge of Point-du-Jour, continues on a viaduct, after having crossed the Quai de Javel by a stone arch, 65 ft. 7½ in. span. After continuing for 50 or 60 yards, the viaduct ends on an embankment of a height varying from 20 ft. to 33 ft. Opposite the Porte de Sèvres, a bridge 39 ft. 4 in. span, under the line, is to serve for the communication between Issy and Grenelle. Here will be a passenger station, and farther on a goods shed. At the extremity of the Rue de Sèvres there is another arch of 39 ft. 4 in. under the rail, and for the passage of the Rue Notre Dame three arches will be left in the embankment, each 32 ft. 10 in. high, the centre one being of 65 ft. 7½ in. span. Between the Rue du Hameau and the Grande Rue de Vaugirard the line is carried on a viaduct of fourteen arches, twelve of which are of 29 ft. 6 in. span, one of 45 ft. 11 in. for the Rue du Hameau, and one of 62 ft. 4 in. over the Rue de Vaugirard. Beyond this, the ground rising abruptly, the line enters into cutting as far as the Rue de la Poterne, and between these points the Vaugirard Station is to be established. A little before arriving at the Rue de la Poterne the first tunnel of this section commences, and, in length, 357½ yards, is continued through ancient quarries, thus presenting extraordinary difficulties. The masonry, to support the line through these caverns, is to consist of massive piers built up from the solid rock, and united by arches. Under the Impasse des Péricheux, these piers will have to be carried up through two stages or floors of quarries, in order to give the necessary basis for the railway, the intervening floors not being sufficiently solid to bear the weight. Beyond the tunnel the railway will continue in cutting across the plateau of Plaisance. The Rue Turbigo will cross the cutting by a bridge, 39 ft. 4 in. wide, and 59 ft. span. Here a loop siding will effect a junction with the Chemin de Fer de l'Ouest, which passes over that described above, on a viaduct, and the stations of the two lines will be placed in immediate correspondence. Farther on the circular railway is crossed by the Rues de Vanves and Des Plantes, and at the Rue de Chatillon it will join into the rest of the line now in course of construction.

THE NEW ANATOMICAL MUSEUM IN BERLIN.

Owing to the great increase in the number of medical students at the University of Berlin, and also because the anatomical curiosities have multiplied much of late years, a new and large museum, that should combine accommodation both for the exhibition and for the study of anatomical objects, became a real necessity. On the occasion of the fiftieth anniversary of the Frederick William University, on October 15th, 1860, the King, at that time Prince Regent, promised them this new building, at the same time granting them a site in the park of the Royal Veterinary College. Mr. Albert Cremer, architect, was commissioned to prepare the plans, and the building was forthwith commenced. It consists, in the main, of a front and two wings, at right angles, and in advance of the centre. The hollow of this square faces the south; whilst the theatre and preparing-rooms are at the back, thus receiving a north light. The centre block contains hall, vestibule, cloak-room, porter's room, a large dissecting-room, and a flight of stairs leading to the first-floor, which contains the auditorium, or theatre. The right wing contains examination and work rooms, and stores of chemicals on the ground-floor; and collections of chemical and physical objects on the first-floor. The left wing is one large dissecting-room on the ground-floor, the ceiling of which is carried by ten cast-iron columns supporting a groined brick vaulting. Over this is the exhibition of dry specimens. Besides these, there are also microscopical work-rooms, apartments for the director and the operators, &c. The basement is arranged as dead-rooms, ice, wood, and coal-cellars, sculleries, washhouses, &c. Every resource which would assist in the proper ventilation and cleanliness of a building of this kind has been applied. All the walls and ceilings of the dissecting-rooms are painted in oil; whilst the floors are asphalted and laid to falls for carrying off the water, which is laid on in every room; and thus a hose fixed to the hydrant will thoroughly cleanse all surfaces likely to become infected. Subjects will be raised from the basement to the upper stories by means of an hydraulic lift, to be worked by the Berlin Waterworks Company, known here as the "Englische Compagnie." The character and style of this building are plain and unpretending; but the internal arrangement contains much, especially in a sanitary point of view, that might be adopted by us with advantage in the erection of our hospitals and asylums.

Early Masonic Remains.—In a report of the Tin Hill Mine, St. Anstell, Cornwall, furnished by an agent, to the *Mining Journal*, he announces the discovery of a stone coffin, or walled grave, in the form of a coffin, about 7 ft. long, 20 in. deep, 15 in. wide at the end, and 2 ft. 6 in. at the breast. In the coffin there are about four gallons of ashes and a few cinders, and in the ashes he found a seal of yellow metal, in good preservation, with the Masonic arms engraved in the stone.

THE NEW "GLOBE" OFFICE, TORONTO, CANADA.

The original plan of this building, which has been erected as a testimonial to the Hon. George Brown, by his political friends, was drawn by Mr. Alfred Brunel, but the architect is Mr. Kauffman, who completed the design and carried on the works. Mr. Kauffman, who was educated in the profession on the continent of Europe, has, during a lengthened residence in Canada, had great experience in the erection of large edifices of various kinds. In the construction of the *Globe* Office, white pressed brick and Ohio stone have been used. It has a frontage on King-street, the main thoroughfare of the city, of 34 ft., and is three stories high. In style it is modern, and adapted to the necessities of the climate. On the ground-floor is the publishing office. Entrance is gained to it by a door on the right-hand side. On the opposite side, its counterpart, is another door, at the foot of the main staircase. Between the doors are two large arched windows, of plate-glass. They are surrounded with stone-work, and rest upon a panelled soffit of the same material. The second story is lighted by a large arched window, divided into three compartments, reaching to the floor, and two of smaller dimensions are on each side. From the centre window admission is gained to a stone balcony, with sculptured front. The third story is lighted by five semicircular windows, also arched, and, like all the rest in the front, corbelled, and resting upon a strong course of stone. The slanting roof is furnished with a cornice, semicircular in the centre, on the highest point of which is a globe, from which springs a flagstaff. The cornices of the whole building are of galvanized iron, bracketed. The contractors for the excavation, mason, cut-stone, brick, and plaster work, was Mr. James Worthington; for the carpenter's, joiner's, roofer's, painter's and glazier's, tinsmith's, and smith and founder's work, Mr. John Plenderleith; for the plumbing, Messrs. Cumming & Wells; for the gas-fitting, Mr. Ritchie; for the steam-heating, Mr. D. S. Keith; for the office furniture, Messrs. Jacques & Hay. The sub-contractors were,—Mr. Gibson, for the plastering; Mr. Ringham, for the galvanized iron and tinsmith work; Mr. Forbes, for the roofing; Mr. Labor, for the smith and founder's work; Mr. Thompson, for the painting and glazing; Mr. Gatshore, of Dundas Foundry, the boiler; and Hamilton & Son, of Toronto, built the engine.

COMPETITIONS.

I propose a question vital to the profession. Can anything be done to stop the present system—I had almost said disgraceful system—of competitions? My own idea is, that no good can be done until the profession, *as a body*, resolve upon united action. It is quite in vain for one or two individual members now and then to throw into the gap, as it were, a sand-bag or two, to be swept away by the torrent; and so the breach daily widens, and eventually all the best interests of the profession will be swept away.

Nothing short of a long, strong, pull-altogether will ever do any real service. Weekly the tempting advertisements appear, and, sure enough, there are ever found those who are willing to compete for *the chance of a premium*, which, were they certain of it, would not represent what they should honestly have for their labour. They still compete, and take no warning by the fate of those disappointed ones who rush to the pages of the *Builder* with their grievous story of insult and injury sustained in the battle of competition. Who can estimate the money value of the brain-labour thus annually wasted? Unless something definite be done, the competition mania will become so general that a *bonâ-fide* private commission for any important work will be quite a rarity, and confined to a very select and favoured few.

Personally, I have no objection to fair, honestly-conducted competition within proper limits. I am not complaining of injustice done to myself; for, although I have practised some years, and have executed many public and private works, I never yet engaged in a competition, so that I am not writing under the smart of defeat; but I do really feel for the position of those who may come after me, when the profession shall have degenerated into a mere selfish race for a most unworthy prize. What will be the professional *studies* when any boy, now educating and training

for it, shall enter upon the race? If he can obtain honourable and remunerative employment by industry and skill, well; but if he is to work his brain in the toilsome task of preparing drawings whose merit is to be judged by a green-grocer or a tailor, alas! alas! it were better for me now to turn the current of his thoughts into the commercial channel, where one-half the effort will more surely produce a tenfold chance of competency.

As I before stated, it rests entirely with the members themselves to prevent the ruin of their calling. Will the *heads* of the profession help us? I fear, perchance, that they will be immovable, and not care for their shivering brethren, whilst they themselves can say, "Aha! *I* am warm." But this should not be so, for in time, if the value of professional services is to continue to degenerate, it will at last reach even the heads themselves, and there will be no sound part in the whole body.

Now, to be practical. I beg, with much deference to the opinion of others, to suggest one fundamental rule to guide us in all competitions; that is, that we enter upon no such unless it be guaranteed that the successful competitor shall be employed to carry out the work at the usual and customary commission of 5 per cent. If the brethren of our craft would adhere to this simple rule, we should soon weed out a great lot of most thankless and sham *jobs* offered to our notice; and, in announcing the name of any successful competitor, it should at the same time be distinctly stated whether this condition was complied with, so that we should know who are the persons who are willing to give their services for such unworthy reward as a mere premium only. If this could be done a great point would be gained, and we should not hear quite so much of architects' plans being *amended* and carried out by local builders, nor should we have to lament the acceptance of such wretched terms as some members of the profession, who, having the hope of a commission within their grasp, in their eagerness to "clutch it" (yes; "clutch it," that's the word), forget everything that is due to themselves, and to the profession to which they belong.

Our noble art ought to beget and keep alive in us nobility of soul; and while we run we ought to keep our heads well up, nor stoop to any mean or tarnished prize. J. B.

ANNUAL GENERAL MEETING OF THE INSTITUTION OF CIVIL ENGINEERS.

THE General Meeting was held December 20, Mr. John Fowler, V.P., in the chair. In presenting an account of the proceedings during the past twelve months, the Council reported, that the characteristic feature of steady progressive development was never more fully exemplified in any similar period since the first establishment of the Institution. The meetings had proved very attractive, the discussions had been well sustained, the library was fast becoming rich in all professional and scientific works of this and other countries, the number of members and associates had greatly increased, and the financial condition was very satisfactory. The importance to engineers of being connected with the Institution was felt more and more every day; and although the time had not yet arrived, when it was considered imperative for every one practising the profession to have received the diploma of the Institution, yet in general opinion it might fairly be said, that that position had been attained. On these grounds, therefore, it was more than ever essential, that the qualifications of all candidates for admission should be most scrupulously examined; and that the members should satisfy themselves, before signing any proposition paper, that the person so recommended, possessed such character, practice, and experience, as to entitle him to the distinction he sought.

The tabular statement of the transfers, elections, deceases, and resignations, showed that the number of elections had been 93, of deceases 25, of resignations 6, and of erasures 7, leaving an effective increase of 55, and making the total number of members of all classes on the books on the 30th of November last, 1,095. This was an increase of nearly 5·3 per cent. in the past twelve months.

The abstract of the receipts and expenditure for the year ending the 30th of November last, as prepared by the auditors, showed that the payments during the twelve months had amounted to 2,955*l.* against the receipts from all sources of 4,414*l.*; and that the amount obtained from subscriptions and fees alone, without including the dividends upon investments and the sums derived from other sources, had exceeded the disbursements by about 150*l.*

The propriety of establishing a Benevolent Fund in connexion with the profession received the serious consideration of the Council. Private inquiries among a few of the members of the Institution having shown that such a fund, if properly managed and adequately supported, could not fail to be productive of immense good, it was determined to appeal to the general body, and the result had been such a response as fully to justify the course which had been pursued. Already from 224 contributors, donations to the amount of 21,884*l.*, and annual subscriptions to the extent of 487*l.* had been promised.

If the object of the profession of a civil engineer be, as described in the charter of incorporation of the Institution, "the art of directing the great sources of power in nature for the use and convenience of man," it might fairly be asked, what other profession played so large a part in developing the material resources of the world, and in facilitating the intercourse between nations which tended to promote peace and goodwill. It should then be the constant endeavour to make the Institution the depository of the accumulated knowledge of all the members; and all should strive so to sustain and consolidate the Institution, that it might continue truly and faithfully to represent the important interests committed to the care of the civil engineer.

After the reading of the Report, a Telford Medal and a Telford Premium of Books were presented to Mr. W. Lloyd; a Telford Medal to M. Pernolet; a Telford Medal and the Manby Premium, in Books, to Mr. G. H. Phipps; Telford Premiums of Books to Messrs. J. D. Redman, W. Parkes, T. Sopwith, jun., J. M. Heppel, and G. R. Burnell; and Watt Medals to Messrs. T. Sopwith, jun., W. Bridges Adams, and J. Cross.

The following gentlemen were elected to fill the several offices on the Council for the ensuing year:—John F. M'Clean, President; J. Fowler, C. H. Gregory, T. Hawksley, and J. S. Russell, Vice-Presidents: Sir William Armstrong, W. H. Barlow, N. Beardmore, J. Cubitt, T. E. Harrison, G. W. Hemans, J. Murray, G. R. Stephenson, C. Vignoles, and J. Whitworth, Members; and John Aird, jun., and A. Ogilvie, Associates.

HEAD-QUARTERS OF 1st SURREY RIFLES.

THE foundation-stone of the head-quarters of the 1st Surrey Rifle Corps has been laid by Col. M'Murdo, in presence of a large concourse of spectators, in the Brunswick-road, Camberwell New-road. The present head-quarters of the corps, at Hanover Park, Peckham, are to be destroyed by the London, Chatham, and Dover Railway Company. Four acres of ground having been secured in the Brunswick-road, not far from Camberwell Park, Mr. J. T. Lepard, of the Adelphi, honorary architect, and an officer of the regiment, prepared the plans and specifications of the various buildings necessary, and under his direction they will be erected. The head-quarters will contain "mess-rooms," for refreshment, &c., an armoury, lavatories for the use of the men after cartridge practice, and dress-rooms. They will also contain a residence for the sergeant-major and canteen-keeper, officers' quarters, and committee-rooms. In the same building a concert-room, 66 ft. long by 25 ft. broad, will form a hall of reception for friends of the corps. The drill-shed is to be 150 ft. in length by 50 ft. in breadth. A gallery for visitors will be constructed at one end, accessible from the main building, and so arranged as to afford a view of the parades, whether in or out of doors. The buildings will be of coloured brick, with stone facings. The estimated cost is 5,000*l.* Mr. W. Winder is the contractor.

THE BRADFIELD DAM, SHEFFIELD.

MESSRS. SIMPSON, Hawksley, Bateman, Fowler, and Harrison, the engineers appointed by the water company, dissent from the opinion of Mr. Rawlinson and Mr. Beardmore as to the cause which led to the rupture of the embankment. They state that there was no fracture of the pipes, and that the embankment was composed of materials which would not have slipped if the base on which it rested had been immovable. They say:—"After a full consideration of the collateral circumstances, we are unanimously of opinion that the accident was occasioned by a landslip, which occurred in the ground immediately on the east side of the embankment, and which extended beneath a portion of its outer slope, involving in its consequences the ruin of that portion of the bank, and producing the catastrophe which followed." The document is prefaced by a correspondence with the Home Office, in regard to the resumption of work on the Agden Reservoir, which was stopped by the directors immediately after the accident at Bradfield. The reply from the Home Office says:—"Sir George Grey does not see what additional information could be obtained by a further investigation made at the instance of the Government. The directors, with this information in their possession, having now decided, as you inform Sir G. Grey, that they are justified in proceeding with the Agden Embankment, Sir George Grey can only remind them that he has no power to interfere with their decision; and that if the works are proceeded with it must be upon the undivided responsibility of the company, and without any sanction, expressed or implied, on the part of her Majesty's Government."

"ACOUSTIC" POTTERY.

BENIORD CHURCH, NORTHAMPTONSHIRE.

WE mentioned recently the completion of various works in this church, executed under the superintendence of Messrs. Wadmore & Baker, architects. In repairing the church some curious "acoustic" pottery was discovered over the sedilia in the north side of the chancel, one of the vases being nearly perfect, and the forms of others to be clearly traced in the mortar in which they had been bedded. They are about 8 ft. above the level of the pavement, and are formed of unglazed pottery, about 9 in. deep, 6½ in. diameter at the mouth, 10½ in. in the middle, and 9 in. at the bottom. They appear to have been perfect until about fifteen years since, when they were removed or broken, and the openings filled up by a local builder, and covered with stucco. No traces of pottery could be discovered over the sedilia on the south side, but the masonry had evidently been disturbed,—a window of more recent date introduced, partially occupying the space. As an interesting archæological discovery, it was considered not desirable to re-stucco the walls; the joints of the masonry have, therefore, been pointed, and the pottery is left in the state in which it was found. We have engraved a representation of the appearance it presents, from a drawing obligingly made for us by Messrs. Wadmore & Baker.

DESIGN FOR A LABOURER'S COTTAGE.

IT will be remembered that premiums presented by Mr. Bailey Denton were offered by the Society of Arts, for the best design for a labourer's cottage, under certain conditions. One premium was offered to all comers, and a second to the members of the Architectural Association. To those sent in by the latter body no premium was awarded. From amongst the designs sent in by the general public, the premium was awarded to one by Mr. John Birch, of which we present illustrations, including elevations, plans, and sections. These will fully explain the arrangement. The plan, we may say, shows on the right-hand side the ground-floor, and on the left-hand side the chamber floor.

We take from the specification some passages which explain the designer's intentions:—

The several walls are built with good, sound, hard, kiln-burnt, stock bricks. The roofs are covered with countess slating, or well-burnt plain tiles laid to close gauge. The gutter and flushings to chimney, &c., of lead. All the timber to be of the best Dantzic, Riga, or Memel fir; the battens of the best St. Petersburg. All the internal finishings (excepting ground-floor), to be of best white deal, carefully selected, free from knots, &c., and thoroughly dry.

With respect to the scantlings and construction generally, the memorandum of the Inclosure Commissioners (as applied by them to agricultural buildings under the several Improvement Acts), has been adhered to.

The estimated cost of the pair of cottages is 203*l.*, which includes the buildings, well, drains, cesspool, tanks, &c., fixtures and fittings, and every requisite necessary to render them complete and fit for occupation.

Should any of our readers carry the design into execution, we shall be glad to hear how this estimate is borne out.



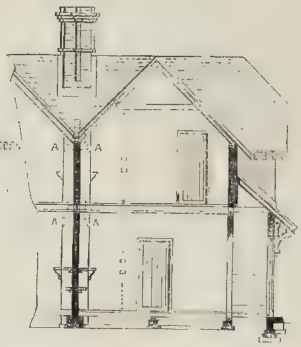
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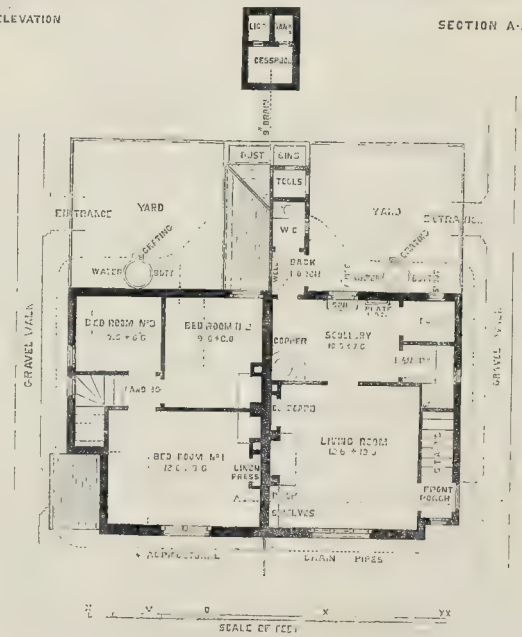
SIDE ELEVATION



BACK ELEVATION

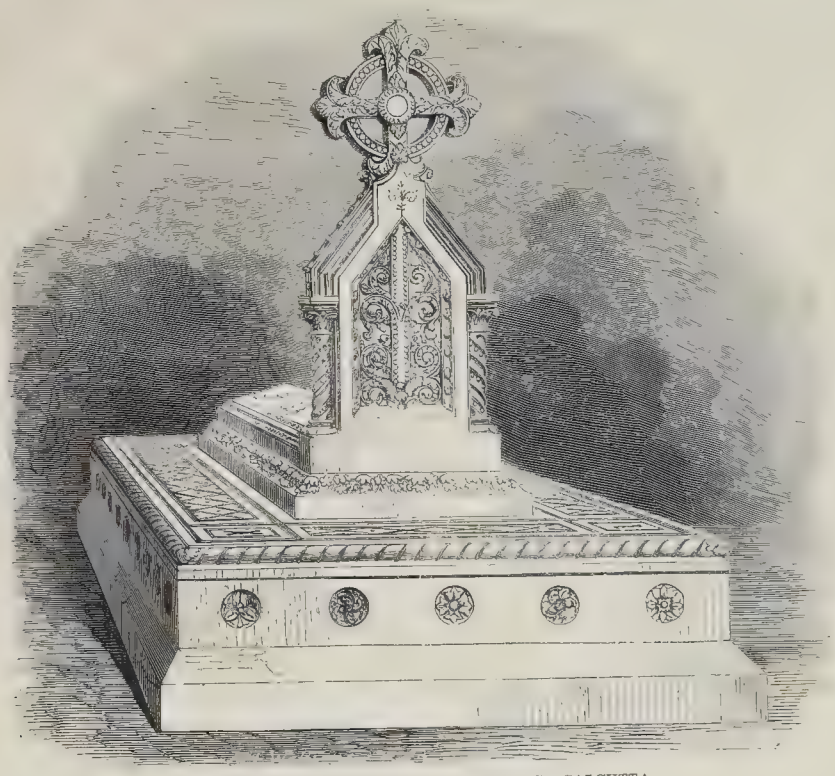


SECTION A-A



LABOURERS' COTTAGES.

DESIGN BY MR. JOHN BIRCH TO WHICH PRIZE WAS AWARDED BY THE SOCIETY OF ARTS.



MONUMENT TO VISCOUNTESS CANNING: CALCUTTA.

MR. G. G. SCOTT, ARCHITECT. MR. PHILIP, SCULPTOR.

MONUMENT TO VISCOUNTESS CANNING.

THE monument to the Viscountess Canning, of which we give a representation, will shortly be despatched to Calcutta, where it will be placed over the square mound which now marks the spot where the remains of the deceased lady repose, in the garden of the Government House.

The monument is entirely of Sicilian marble, inlaid with various other marbles, in geometric forms, upon the flat of the body of the tomb, where are also inlaid the arms of the Canning and Stuart de Rothesay families. Around the edge of this part of the tomb is a sort of cable pattern. The sides are ornamented with pateræ, five at each end, and nine on each side. Upon the centre of this base or body, is a ledger, richly moulded on the edge, in foliated pattern, delicately rendered; upon this is a *dos d'ane* shaped slab, having a cross,—along the middle, inlaid also, -and bearing below the arms a Viscountess's coronet and shield. The edge of this slab carries in letters of gold the following inscription:—"Sacred to the memory of Charlotte Elizabeth, eldest daughter of Lord Stuart de Rothesay, born at Paris, 31st March, 1817; died at Calcutta, 18th November, 1861; wife of Charles John Viscount and Earl Canning, first Viceroy of India." From the head of this slab rises a handsome headstone, capped with a cross. The sides of this stone are decorated with a twisted column, and the back is rich with ornament. The height is about 15 ft., of the base nearly 4 ft. The length is 15 ft., and breadth about 9 ft. The design was by Mr. G. G. Scott: the sculptor was Mr. J. B. Philip.

The epitaph is as follows:—

"Honours and praises written on a tomb are at best a vain glory, but that her charity, humility, meekness, and watchful faith in her Saviour will, for that Saviour's sake, be accepted of God, and be to her a glory everlasting, is the firm trust of those who knew her best, and most dearly loved her in life, and who cherish the memory of her

Departed.
The above words were written,
November 22, 1861,
BY EARL CANNING,
Who survived his
Wife but seven
months.

He left India on the 18th March, died in London on the 17th June, and was buried in Westminster Abbey, on the 21st June, 1862."



"ACOUSTIC" POTTERY IN DENFORD CHURCH, NORTHAMPTONSHIRE.

MOSAICS FOR EXTERNAL DECORATION.

Every one interested in the subject of coloured mosaics for external decoration would be glad to read the letter of Dr. Salviati in your journal. I venture to think that we only differ in technical terms. I recommended glass mosaic to be used for external decoration. By that term Dr. Salviati evidently supposed me to mean thick pieces of ordinary coloured glass, which, when set in a wall, have a semi-transparent effect. Nothing was further from my mind when I used the term glass mosaic. I meant what he evidently means by his term "glass enamel"—pieces of coloured opaque glass, such as was used by the ancients. I believe that the term "glass mosaic" is generally used in England to express this opaque material, and the term "glass tesseræ" to express the semi-transparent material. This latter, in my opinion, is unworthy the artist's consideration.

Dr. Salviati has also referred to that part of my letter which recommends the use of pieces averaging two square inches for figure subjects, and he says that supposing the mosaic to be the representative of the picture, we should not have pieces of this size, for the reason that there are not two square inches of one continuous tint in the human body, and the pieces alluded to, if used at all, must have one tint throughout. This argument is entirely founded on the supposition that the mosaic is the representative of the picture. But should the mosaic be the representative of the picture? I have the strongest conviction that it should not; and I now beg to offer my reasons for this conviction. If my reasoning be wrong, I sincerely hope to be corrected.

It will, I suppose, be generally admitted that the whole of that art we denominate the Beautiful may be divided into two arts, viz., creative art and imitative art. Any art which is not a direct representation of Nature we call (for want of a better word) creative; and any art which represents Nature as we naturally see her, we call imitative. The primary object of the mosaic art evidently is to beautify a surface; and the question is, should that surface be beautified by the direct or indirect copying of Nature?

One essential feature of imitative, or what for the beautifying of a surface we generally term pictorial art, is, that the surface upon which we work always becomes lost; and one essential feature of creative art is, that the surface is always maintained.

The delicate handling of the painter's brush, and his infinite variety of tints and shades, render him capable of representing Nature in a most faithful manner, and cause him to convey an idea to the mind of the beholder that he is not looking on a flat surface, however truly he may know that he is. The innumerable tints of the human flesh the painter can softly melt into each other, as in Nature; and not a harsh line is to be seen in the whole composition. The mosaic picture, on the contrary, is crowded with harsh lines, because every tint is distinctly separated from every other tint. What is the result of this? That the surface on which we are looking is not lost; yet, because the subject is treated pictorially in light and shade, with its lines of perspective, the surface is not wholly maintained. The art is neither purely imitative nor purely creative, but something between the two. Everything is done to convey to the mind of the beholder that the work is a representation of delicate, lovely nature; and yet the harsh lines scattered throughout will ever take away that pleasing idea. The consequence is, that the work must fail to satisfy.

But the mosaic artist who believes in pictorial representation may go further than this, and appear to answer our objection about the harsh lines in a conclusive manner. He may say,—"I can do away with these harsh cement lines, by bringing the different mosaic pieces into such unison that the naked eye will not detect them." What is the result of this? That we no longer believe it is a mosaic, but a painting. This is the mosaic being the representative of the picture with a vengeance! How evident it is, and yet how slow persons are to see it, that when an art comes to this, it completely destroys itself. To the ordinary observer (and do we not work for ordinary observers?) the mosaic passes for a painting, and the mosaic artist gets no credit for his work; nor, indeed, does he deserve the credit, when our senses are so imposed upon.

The above argument holds good, not only in the mosaic art, but in many other arts at the present day, which seem to have for their object the committing of suicide, and the deception of the beholder. The Gobelins tapestry work is a striking instance of this; and so are those insipid paintings on glass which the Germans produce.

The treatment desirable for glass mosaic on walls is the same as for coloured glass in windows. The cement lines of opaque glass mosaic may be justly compared to the lead-lines of transparent glass mosaic. The German, who believes in pictorial art for glass, tries to hide these necessary lines, and, like the mosaic artist alluded to, may be successful in his attempt; but his art would appear the more absurd of the two, because, on account of the light shining through portions of his work, the surface cannot be lost as in a mosaic, and therefore he can never be wholly successful in his attempt at pictorial representation.

The only true way to get over the difficulty of harsh lines in both of these arts is to do what our great Mediæval artists did,—honestly to acknowledge that the lines must exist, and to draw our subject conventionally, in order to allow for them. This conventional art is the basis of the work of most of our English glass-painters. There is, no doubt, a great difficulty in drawing well conventionally, living, as we do, in such a world of imitative art; but for that very reason everything should be done to encourage those who would study the conventional.

To return to the mosaic art. I think enough has been said to show reason why it should be treated in a conventional manner, and therefore why we may, as in transparent glass, use pieces of a large size, and paint on them. If the price of the work will admit of it, of course we should use pieces of the smallest size; only let us take care always to make the subject flat and conventional, and not round and natural.

J. T. Lyon.

SANITARY ARRANGEMENTS IN INDIA.

In your issue of the 21st of May, 1864, is a short communication signed by "Charles S. Hill," purporting to give data of the climate of India, as showing that the cause of defective sanitary arrangements in that country is not attributable to deficient water-supply; a deficiency to which, by the way, I did not allude, either directly or by inference, in my former letter, but to the defective supply provided for the Indian barracks as asserted and re-asserted by Miss Nightingale and other reliable authorities and reporters on the subject.

What, I would like to ask, are Mr. Hill's data worth? First, leaving out the incredible statements about Cherrapoonjee and "several other places," let us take Singapore, which, in the first place, is *not* in India, but in Siam, and is moreover situate on several islands; and islands, as a rule, are noted for the regularity of their rain-fall,—excepting Ascension, where no rain whatever falls. Then Bombay may be placed with Singapore, as it also is situate on islands; but what about the country around Bombay? Is it not an elevated table-land or mountainous district, which description of country is not a fair criterion of India in general? Then Calcutta is instanced, and the rain-fall is set down at 75 in. annually; whereas it is only found to have averaged 65 in. for six successive years. Let Mr. Hill take the following data into consideration, and then he will perhaps come to the conclusion that there really is a deficiency of water-supply in great portions of India. I will take an immense tract of land in the north of India; say the Punjab, Delhi, and Oude. In the Punjab, the average rain-fall during the years 1855-6 was 15·18 in. In Delhi the climate is characterized by aridity, and the district is supplied with water by a large aqueduct and by wells sunk to an immense depth. In Oude, the annual rain-fall is very irregular, varying from 70 in. to 30 in., extending over a period of from four to two months, after which, in September, the climate becomes unhealthy from the rapid exsiccation of the watercourses and marshes; while in the province of Sindh the annual fall of rain does not exceed 8 in. It is needless to pursue this subject further, but instances could be multiplied to show the great uncertainty of water-supply both in India and Australia. The climate of the northern provinces of India is not unlike that of many parts of Australia, comparing their meteorological observations.

C. T.

Brisbane, Queensland.

THE SIZE OF GREAT CHURCHES.

Some letters in the *Times* and the *Builder* about two months ago, asserting the claims of various churches to be the largest or the longest, showed that there is great difficulty in obtaining accurate information on the subject; and any one who tries to get it will soon become still more sensible of the difficulty. Most local histories and architectural books, even those expressly on the cathedrals, abound more in epithets than figures: the figures that are given are often discordant, and, therefore, some of them necessarily wrong; and so many others are proved to be wrong in other ways, that it is impossible to know which to trust, except from authors of known accuracy, who have measured for themselves, and perhaps where they all agree. Printed plans in books are still less to be trusted without figures, as they frequently differ from known dimensions, and are sometimes scandalously wrong either by their own scale or any other you can invent for them.

I have, however, done my best to balance the evidence of the different books, and to get plans and measures of all our largest churches, sufficient to enable me to make out a comparative table of them, down to the size of the smallest cathedrals, and one below. If any other are entitled to a place in the list, I shall be thankful for plans of them, however rough, with accurate internal dimensions. It certainly includes all the very large ones, for the sake of which it was undertaken. And what was called the great London churches do not come near it: 8,000 ft. of area, or room for 1,000 people on the floor, seems to be quite their maximum. Having been enabled to make out the catalogue by the kindness of various clergymen, architects, and others, whom I have asked for information, I cannot do less than offer it to the public; and as nothing of the kind is to be found elsewhere, it can hardly fail to be interesting, if not useful, to the readers of the *Builder*. After what I said just now, it is almost needless to add that absolute accuracy is unattainable; and though I have no doubt the figures are substantially correct, I dare say some of them admit of still more correction.

The first column is the area inclosed within the walls, in square feet; and the second the greatest internal length in any one straight line, in feet. The measures are taken as usual (so far as I can secure it) above any plinths, and not on the floor only; and they include all towers, vestries, chapels, and other appendages, which are architecturally part of the church and open to it, or easily capable of being so. Thus the galilees of Durham and Ely are included, and Henry VII.'s Chapel as part of Westminster Abbey, and all similar projections, however low or narrow. Indeed, York and Lincoln alone, of all the churches down to Ripon, carry their full width and height through their entire length. Ely without its galilee, which is practically only a porch, shows the same unbroken length of body as Lincoln, and more than Winchester or Canterbury. The galilee gives it the greatest visible internal length of any, as that of Winchester is not visible from any one place.

I exclude porches and chapter-houses, with their approaches; and the Consistory Court of York Minster and the Lady chapel or Trinity Church of Ely, which is as distinct as any chapter-house; and, *à fortiori*, that of St. Alban's, which is still more cut off, and is a school; and the tower of St. Michael's, Coventry, which is not, and cannot be, open to the church. If those chapels and the chapter-houses were added, it would add 107 ft. to the length of St. Alban's, which already has the longest nave, 4,600 ft. to the area of Ely, 5,500 ft. to that of York, and proportionately less to the other fourteen cathedrals marked C, which still have complete chapter-houses, including Southwell Minster, whose chapter-house is just half the diameter of the York one.

The desire of everybody to make his church look as large as possible on paper, has led to the practice of comparing churches by what is called their area covered; and that is taken to mean all the space that would be bounded by a wall outside all the buttresses, which makes the area depend on the depth of buttresses, and sometimes includes several thousand feet of grass not covered by the church at all. This mode of measuring would give King's College Chapel and Amiens Cathedral credit for just as much area if the spaces between the buttresses were left outside, instead of being inclosed into the church. The importance of the distinction will appear from the two areas I give for King's;

and still more from this:—Cologne Cathedral has hitherto had credit for being the largest Northern Gothic church; whereas, in fact (according to Mr. Fergusson's plans and figures, which, he says, I may rely on), Cologne contains a rather less area than Amiens, and 4,500 ft. less than York. Old St. Paul's, according to the plan and scale in Dugdale (which falls far short of the dimensions recorded on an old tablet), contains one-eighth more than York, though it was 10 ft. narrower; but it was about 600 ft. long, and the transept 300 ft.; the nave vault is said to have been 100 ft. high, and the "new choir" (probably above the crypt and steps) 88 ft.

The third column is the general width across the nave and its aisles; of which Chichester, Manchester, Coventry, Kendal, and Taunton have four for the whole or part of their length, and Oxford to its choir, and Leeds three throughout. The nave and two first aisles of Chichester are only 63 ft. wide, which I mention with reference to the height. Boston, with its long chancel of 88 ft., and a few of the smaller churches, have no chancel aisles; but the choirs of the cathedral and abbey churches, and some others also, are so generally of the same width as the naves, that it is not worth while to distinguish them. The choir of Ripon is 19 ft. narrower than its wide unvaulted nave, and York 6 ft.; while those of Winchester and Canterbury are a little wider than their naves. With the single exception of Lincoln, the width of the nave and its two aisles in such churches is practically double that of the nave alone, measured between, not the faces, but the centres of the pillars. At Lincoln the clear width of the nave is half the entire width, which is the cause of that nave looking so low, though it is quite the full height according to the rule which I shall state presently. In unvaulted parish churches no rule is observed, either for the height of roofs or the width of aisles, except that, in all old cross churches, the choir or chancel is almost invariably the same height outside as the nave, and the transepts also, except where there has been some alteration of a clerestory.

The fourth column gives the height of all the nave vaults, and of some ceilings and open roofs besides. And it plainly shows what the real rule for height was, viz., that it was to be practically equal to the entire width. And as the clear width of the nave varies inversely with the thickness of the pillars, and sometimes a little more besides; it is also evident that the height bears no such definite relation to the clear width as has been sometimes looked for. It would have been better if it did, and if the height had been always twice and a half the clear width, as it is at Salisbury, Winchester, Canterbury, Norwich, Beverley, and Chichester, and was (or more) in Old St. Paul's. Of the first twenty-two churches in the list (putting the Gothic St. Paul's for the Italian) only Worcester and Lichfield, and in a less proportion Durham, fall materially short of the rule I have stated throughout their whole length. Westminster alone exceeds it greatly, being 103 ft. high. Of course choirs raised by steps are no real exception; and though the nave of York is certainly too low for its enormous width, yet the rule holds no less in that great choir, which is 100 ft. wide and 101 ft. high, than in the comparatively small vaults of Christ Church (Hants), Sherborne, and Redcliffe; and even in King's Chapel the height is exactly the same as the entire width, notwithstanding its peculiar construction and the vault being as wide as that of York, which is not of stone. The aisle vaults are generally half as high as the nave, except at Bristol, where they are all of the same height, as in the Temple Church. People not acquainted with architecture probably have no idea that stone vaults never rise higher than a flat wooden roof or ceiling, and indeed seldom quite so high.

The fifth column is the length of the transept, or the great or west transept where there are two, as at Lincoln, Salisbury, Durham, Canterbury, Worcester, Wells, Exeter, Beverley, Rochester, and Southwell. The only transepts with two aisles are York, Winchester, Ely, Wells, Beverley, Redcliffe, St. Paul's, old and new; and the small church of Patrington, in Yorkshire, which was built for vaulting; besides the north transept of Westminster and the south transept of Chester, which is strangely the longest of them all, though its north transept is very small. Beverley alone has a double-aisled great transept and a small one, with an eastern aisle besides. The others with eastern aisles are both the great and small transepts of Lincoln, Salisbury, Canterbury, Hereford, St. David's and St. Mary's, Beverley; and the great ones of Durham, Peterborough, Lichfield, and Ripon. None have west aisles only.

Bridlington is only the nave of a church on a larger scale generally than Beverley Minster, and about the same length. Bristol, Carlisle, Llandaff, and Hereford, have lost all or part of their naves, and Selby its south transept. I give them as they are.

The highest spires, &c., are Salisbury, 404 ft.; St. Paul's, 356 ft.; Coventry, 320 ft.; Norwich, 313 ft.; Louth, 294 ft.; Grantham, 274 ft. Chichester was 271 ft.; Newark not known accurately; Lichfield, 252 ft.; Wakefield, 247 ft.; Trinity Church, Coventry, 237 ft.; and several others (not of this list) are said to be about the same height. People will measure spires to the top of the weathercock; and so it is only fair to give them all so. Boston tower is 268 ft.; Lincoln, 262 ft.; Canterbury, 229 ft.; Gloucester, and the two of Westminster, 225 ft.; Ely and Durham, 215 ft.; the three of York, and the two west towers of Lincoln and Beverley are, and Worcester probably will be, about 200 ft.; the queer lantern of Newcastle, 192 ft.; All Saints', Derby, 180 ft.; Doncaster, 170 ft.; Wells, 165 ft.; Bath and Ludlow, 162 ft.; Taunton and St. Cuthbert's, Wells, 150 ft. I know of no others of that height; and it is not worth while to go lower or add further details.

33, *Queen Anne-street.* E. B. DENISON.

	Area. Ft.	Long. Ft.	Wide. Ft.	High. Ft.	Trans. Ft.
York (C)	63,360	486	105	93	222
St. Paul's (New)	59,700	460	94	88	240
Lincoln (C)	55,680	468	80	82	220
Winchester	53,480	330	83	78	209
Ely	46,000	317	78	72	179
Westminster	46,000	366	76	103	190
Durham	45,240	273	81	70	179
Salisbury (C)	43,515	311	82	84	206
Canterbury (C)	43,215	414	75	80	190
Peterborough	41,090	426	79	78	185
Norwich	33,750	288	70	72	180
Worcester (C)	33,380	387	78	65	126
Wells (C)	32,130	358	69	57	132
Chester (C)	31,680	320	74	73	180
St. Alban's	31,140	125	65	—	175
Gloucester (C)	30,600	408	83	82	142
Exeter (C)	29,600	383	72	69	140
Beverley	29,600	344	64	67	167
Chichester	28,000	360	92	61	135
Lichfield (C)	27,860	370	66	57	144
Hereford	26,856	325	74	70	144
Ripon	25,280	270	87	78	132
Tewkesbury	25,100	301	51	57	124
Rochester (C)	23,300	225	63	55	122
Yarmouth	23,085	228	112	—	148
Coventry	22,950	252	120	—	—
St. David's	21,950	288	70	46	129
Romsey	21,470	255	74	—	131
Southwell (C)	20,340	306	60	49	121
Boston	20,270	284	99	—	—
Newcastle	20,110	243	74	46	127
Hull	20,040	272	72	—	96
King's Chapel	18,720	280	78	78	—
" nave only	13,150	245	62	—	—
Manchester	18,340	215	112	—	—
Christ Church	18,300	303	60	58	101
Southwark, St. Sav.	18,200	272	61	—	121
Selby	17,800	283	58	—	88
Newark	16,900	214	72	—	113
Bath	16,600	215	72	73	126
Windsor, St. George	16,400	235	66	54	106
Redcliffe	15,500	230	56	54	117
Grantham	15,440	198	78	—	—
Carlisle	15,270	211	71	75	142
Ludlow	14,860	204	80	—	150
Bristol (C)	14,200	171	72	76	118
Louth	14,100	182	76	53	—
Kendal	14,000	140	101	—	—
Beverley, St. Mary	13,750	197	69	59	110
Leeds	13,140	160	83	—	104
Sherborne	13,110	200	60	60	95
Bridlington	12,580	185	68	72	—
Doncaster	12,550	169	65	72	92
Sheffield	12,000	179	61	50	96
Nottingham	12,000	208	66	—	83
St. Asaph	11,600	150	68	60	108
Derby	11,500	180	83	—	—
Oxford (C)	11,342	155	91	44	102
Coventry, Trinity	11,180	176	67	—	176
Wakefield	11,050	180	66	—	—
Wimborne, M.	10,725	185	54	50	106
Bangor (C)	10,650	214	60	34	107
Wisbech	9,790	140	84	—	—
Llandaff (C)	9,600	170	66	—	—
Taunton	9,000	155	86	—	—

THOROUGHFARES.

ALLOW me two suggestions, with a view to lessen obstructions in the streets of London.

1. As to Park-lane:—To continue either Park-street or South Audley street into Piccadilly. This would also have the advantage of opening and increasing the healthiness of May Fair.*

2. To take down, carefully, Temple Bar, and re-erect it, in its present form, on the south side of Fleet-street, where it might make one of the approaches to the Temple. This would preserve an old memorial, and leave it still, but more emphatically, Temple Bar. J. D.

* This has been suggested before, and is a desirable improvement; but, if effected, it would not supersede the necessity of widening Park-lane, or getting fresh approach to it westerly, as by Hamilton-place.—ED.

WARMING RAILWAY CARRIAGES.

TRIALS were made a few days ago, in Prussia, of a new method of warming railway carriages by steam. The boiler for the purpose is placed in the luggage-van, and the steam passes through tubes into wooden cylinders in the *coupé* of each carriage. Safety-valves are provided to carry off the excess of pressure, which is limited to $\frac{1}{4}$ of an atmosphere (about $3\frac{3}{4}$ lb.), and a lever is placed in the carriage, so that the temperature can be regulated according to the will of the occupants. The experiments, it is said, succeeded perfectly.

THE GENERAL BUILDERS' ASSOCIATION.

CARPENTERS' AND JOINERS' STRIKE.

SIR,—I shall be glad if you will permit the following to appear in your earliest impression, in order that the press and public at large may thoroughly understand the relative positions of masters and men in the Midland counties.

Before doing so, however, I must ask you for a patient hearing; and I trust the present strike will afford opportunity for the subject of capital and labour being so thoroughly discussed and ventilated that some means will be adopted by arbitration or otherwise that all future strikes may be adjusted, so that the fearful distress occasioned by them amongst the operatives, and the great inconvenience and loss to the contractors and public, will be done away with. You are aware that for some years past a praiseworthy effort has existed amongst the operatives to improve their social condition, increased, to a certain extent, by associating themselves in benefit societies or unions, the original motives of which were to provide funds for the sick and aged members, as also at death, and possessing in addition many other advantages for the benefit of the operatives. Latterly, however, the good intention of these societies has been perverted, and they now become, instead, the chief sources of support during strikes in the various trades, or, as the operatives say, "to vindicate free labour against the tyranny of capital."

But, Mr. Editor, the reverse is the fact. These unions have become so powerful, that they attempt to usurp the rights of capital, and not only to dictate to the masters the terms of labour, but endeavour to deprive them from having a voice in their portion of the agreement, and frequently dictate what men shall be employed, and the amount of labour executed, usually taking advantage of a contractor when his year's contracts are made, and the work commenced.

You will say, why do not the masters prevent this dictation? The simple fact is, that during the period in which the men have availed themselves of combination in union to a very powerful and dangerous extent, the masters have remained inactive, and have individually combated each strike, or turn-out, or difficulty, as it has arisen, feeling unable, in the disorganized state of themselves, to do otherwise than succumb, in the best way they could, to the demands made upon them. The builders of the midland counties have happily now considered these things, and have resolved in all future strikes to act in union as do the men.

To this end simply has the Association been established, and not to interfere with the freedom of action amongst the operatives, as set forth by the press.

The masters feel the growing power of union amongst the operatives, and consider themselves justified in resisting further inroads upon them.

The "discharge note" (the cause of the present strike) is one amongst other rules laid down by the Association. The members simply wish to know the antecedents of the men (and not their character); although I feel sure honest, industrious men will be glad to avail themselves of a character which the masters will never refuse.

The masters have decided not to employ any workmen on strike, for they feel that by so doing they contribute power to the unions and weakness to themselves; for doubtless you are aware that as soon as a strike commences all the young men seek work in other towns, and send weekly contributions to support the few that are left in the town where the strike exists. Therefore the masters were powerless until union was established among them. I can quite understand that the operatives are averse to the union among masters, because they will henceforth have to combat against their own

weapons. I shall rejoice to see every master in England join an association, and earnestly entreat the immediate co-operation of all builders and contractors with this Society, so as to establish a general bond of union. The only thing that should regulate capital and labour should be supply and demand, the latter generally being in favour of the operative, and no doubt his wages and other requirements will be, from time to time, advanced. I shall give you on a future occasion a few of the numerous instances of interference and annoyance, illustrating the treatment of masters by men; you will then see still further why immediate combination is so requisite for the protection, not only of the masters' interests, but of those of the public also. Alfred Stinton, Secretary.

THE "DISCHARGE NOTE."

Sir,—I venture respectfully to say that it is not the "Discharge Note" that has given the offence, but the fact that some 350 builders in this district (Birmingham) have formed an association for their mutual benefit and protection.

The men have combined for the purpose of regulating the rates of wages, hours of labour, whom they will work with, and how the work shall be done; and, in fact, with the exception of making arrangements for the various works, and finding the needful, the men, on all large jobs and in the larger towns, are completely masters.

With this fact before them, the builders saw no other remedy than meeting the men on their own ground, by combination and adopting a bond between themselves that could be put in operation if needful. At the present moment there may not "appear to be any cause for the movement on the part of the builders;" but the same remark will apply with equal force to the existing workmen's trade unions, in their too frequent action and unexpected demands.

Without claiming for builders a higher character for honourable dealing than other men, I submit that the men could not possibly be so much the subject of "spite" or "caprice" as many unfortunate contractors have been by the usurped power of trade unions.

No sane man will deny the right of a master to inquire into the antecedents of any workman he may be about to employ. The discharge note is therefore, in my view, simply a more business-like and systematic mode of ascertaining these matters. If a workman should be of a character likely to disturb the peace of my workshops, I have a right to know it, and therefore to refuse him work. This might teach such that honest labour would be better than meddlesome conduct, and infusing strife where satisfaction would otherwise exist. Workmen's wages would improve, if circumstances justified it, on the unalterable law of supply and demand, without the too frequent ignorant interference of men who only want the money without giving an equivalent for it. The workmen have an undoubted right to combine for the protection of labour; and, on the same ground, the builders have a right to combine for the protection of capital, which is all they seek to do in the present movement; and if the workmen complain of the masters' combination, and its effect in checking the aggressive demands of the men, let them first give up their unreasonable interference with the rights of capital, of which masters have just cause of complaint. A Builder.

Sir,—I was much surprised to observe, on reading your article entitled "The Building Strikes" (in last week's number), the encouragement and advocacy therein given to workmen in resisting the introduction of the "discharge note." I cannot understand why master builders should be accused of tyranny, in their endeavours to obtain that which every other trade or profession enjoys, and which every one soliciting employment knows to be a *sine qua non* to his preferment, viz., testimonials, and reference as to character and suitability from his recent employers. The "discharge note" is nothing more than this, and is designed simply to protect the masters from the unjust tyranny of the workmen, to which they have been too long subject. Hitherto masters have had no protection against their workmen on strike,—the men well knowing that if their demands were not acceded to, they had only to go to the next town (in consequence of the abundance of work in the country) and at once obtain employment,—the men in all probability neither asking for nor receiving that for which they had struck in the neighbouring town. The masters throughout England must unite in one powerful society, and resist the further tyranny and dictation of their men, or ruin must be the inevitable result.

John Barry, Contractor.

THE ENGINE-DRIVER'S CHRISTMAS-DAY.

Above him floats the drifting steam,
Around him flies the parted snow:
While, flashing in the wintry gleam,
The piston glances to and fro.

No track of path, no blade of green,
O'er all the wide expanse appears;
The frosty air is cold and keen,
And whistles fiercely in his ears.

He heard, this morning, ere 'twas light,
The bells of the great city ringing,
The tidings of the holy night
With joyous voices round them flinging.

He heard the carol far away,
Nor murmur'd that the joyful strain
Waked others to a holiday,
But call'd him to his work again.

He thinks how all the bells would ring,
In his old village church at home;
And how the waits were wont to sing,
As they from house to house would roam.

And in the roaring of the wheels
He hears their echo evermore:
The changes of the gladsome peals,
The waits beside the cottage-door.

The well-known scenes before him rise,
The snow-clad church, the village train,
All stand in thought before his eyes,
As if he were a boy again.

Before the whistle's piercing scream
The stillness of the landscape broke;
Before the roaring of the steam
The cavern's slumbering echoes woke:

Before the iron way was laid,
By field and hamlet, tree and tower,
Or people thought to be convey'd
To town at "forty miles an hour."

Ah! yes—those times are past and gone.
One glance around—the dream is fled:
The snow is o'er his pathway hone—
The steam-cloud floating o'er his head.

He eats his Christmas dinner there,
Beside the roaring engine fire,
Contented with his humble fare,
And never seeks or asks for higher.

That bunch of holly, green and bright,
Beside the shining boiler-dome,
He means shall decorate ere night
The whitewash'd chimney of his home.

For so each village home was gay
At Christmas, when he was a boy;
And he would make the festive day
Still to his children speak of joy.

Before them spreads no village scene—
The housetops bound their narrow view;
But they will love the bit of green
More than their father used to do.

How they will run his steps to meet,
With sparkling eyes and voices merry,
And prize it in that dingy street,
And number o'er each scarlet berry!

And when the day is almost done,
And the dim light is nearly spent,
And the stars twinkle, one by one,
In the clear frosty firmament;

When in the steam-cloud overhead
Bright sparks drift in the rushing wind,
When lighted are the front lamps red,
And the bright tail-light gleams behind;

How cheerful is the ruddy glow
By the red furnace shed around;
Kindling with light the winter snow,
And flashing on the frozen ground!

Yet brighter, to his eye, at night,
His humble cottage fire shall burn,
What time his children, with delight,
Run forth to greet his safe return.

When the closed door, the candle lit,
Leave nought of snow and storm to dread;
Then round their humble board they sit,
By careful housewife neatly spread.

When the bright holly hangs display'd,
To ornament the chimney wide,
Which all day in the wind had sway'd
The boiler's polish'd dome beside.

When in the cheerful faggot's blaze,
The children gathering round his chair,
He tells of bygone Christmas days,
Then closes this with praise and prayer.

For he may have a thankful heart,
Although he could not join the throngs
Who pour'd from city, lane, and mart,
To meet in prayer and joyful songs.

And he may serve who strives to hold
On his plain course of duty right:
Was not the heavenly message told
To those who "watch'd their flocks by night"?

So shall he sleep in thankful cheer,
And scarce the thought his rest may spoil,
That "Christmas comes but once a year,"
And is for him a day of toil.

CORK CATHEDRAL.

Dear Mr. Editor,—I have much pleasure in replying to Mr. Hardman's question respecting the destination of the old fragments of St. Fin Bar's Cathedral, at Cork. The following clause of the specification will, I think, show him that the subject has already received careful consideration:—

"Any pieces of ancient carving, &c., found in pulling down the church, to belong to the dean and chapter, and to be fixed by the contractor wherever directed by the architect."

As regards the present western doorway, according to Mr. R. Caulfield, who has taken great pains with the history of the building, the said doorway does not belong to the Cathedral at all, but has been brought from the Dominican Abbey of St. Mary-in-the-Isle. Certain it is that the material is red sandstone, while all the rest of the church is white limestone.

Doubtless many remains of the old building will be found in the walls and foundations; and I think I may say, on the part of the dean and chapter, that every care will be taken to build them up in the walls of the new structure, and thus preserve them for posterity.

W. Burges.

THE CLOSENESS OF SHREWSBURY.

Sir,—A short time ago you made some very just remarks on the sanitary condition of Shrewsbury. The illiberal spirit evinced by some of the burgesses would scarcely be believed in other places. About five weeks since, observing a house to be let, I applied to the owner, Mr. ——, who asked references, and I gave most unexceptionable ones; but when he found I was not a Shrewsbury man, he declined to accept me as a tenant, although I offered one year's rent in advance. Every week since then the house has been advertised in the local papers at 1*l.* less rent than I offered. The owner's conduct seemed so strange, that I called and asked him if he would make me a suit of clothes. He said, yes. I asked if that would be proper, as I was "not to the manner born." He answered, that was different, but if strangers were let houses, the town would be overrun, and the natives ruined and robbed of their living!

H. R. Evatt, Assurance Superintendent,
Salop.

CROOKED CHIMNEYS AND HOW TO SWEEP THEM.

I see that your correspondent, "An old J.P.," protests against the use of soot-doors on account of their disfiguring the rooms; but if soot-doors are placed where they should be, viz., in the external face, they need be no disfigurement. The soot-door forming the ground of a sunk stone panel should be made to fit accurately, and to fasten with a thumb-spring. The soot-door being placed over the top of the grate, previously to sweeping, he should have a piece of sheet-iron or thin wood made to fit tight between the jambs of the chimney-piece in front of the grate to prevent the falling soot drifting into the room; and a soot-box should be passed through the aperture or soot-door outside, just over the top of the grate, so that when the chimney is swept, the box is removed, and the soot with it, without the sweeper coming into the room at all. This arrangement is also applicable to flues that are not in the external walls; for the back of the grate is often in some unimportant room where a soot-door might be placed of an ornamental character. Every building of this kind should have an apparatus for sweeping it,—but not with a holly-bush, as recommended by "A Young Architect," as you would have to be continually climbing to the top of the house, breaking the slates or tiles, and doing infinite damage to the flue by raking off the pargetting and mortar out of the vertical joints in the brickwork by the repeated scratching of the boughs. The method I should recommend is to have an iron rod securely fixed to the top of the chimney, with a brass pulley in the top of it, about a foot above the top of the flue, and from this pulley have an endless copper-wire rope always hanging down the flue, with a ring at the bottom of it level with the soot-door. The brush to be a large stout indiarubber ball, about 12 in. or 14 in. diameter, inflated with air, and lined with a soft leather covering, studded with short steel bristles, about $\frac{1}{16}$ in. long; the ball to be

hooked on the ring, and, by pulling the wire-rope, the ball goes up; and by pulling the reverse side, you bring it down again, and put by until wanted again. The box being taken out, and the soot with it, and the door refixed, the sweeping is done. An apparatus of this kind would sweep almost any flue, however crooked, as the ball when it came in contact with the bends and flats would give way on those parts hardest pressed, and adapt itself to the form of the flue, always pressing closest on those parts of the flue that require the most sweeping; and the steel bristles would more effectually scrub the soot off than could be possibly done by a scraper or machine. HENRY PRICE.

METROPOLITAN BOARD OF WORKS.

Thames Embankment.

At the last week's meeting of the Board, a report was presented from the Thames Embankment Committee in reference to Contract No. I. The committee reported that Mr. Furness had attended before them; explained the course which he proposed to take in reference to the future execution of the works; and expressed his confident anticipations of proceeding with much greater rapidity than hitherto. He stated that the necessary arrangements will occupy about a fortnight from this time, after which he will be in a position to construct the requisite cofferdam at the rate of 100 ft. per week, and to complete the works within the time limited by the contract. The committee had instructed the engineer to report, at the expiration of a fortnight, the progress made in carrying out the proposed arrangements, and request authority to report from time to time on the state of the works. The report was approved.

The Committee also reported that they had arrived at the conclusion that the monthly advances to be made to the contractors for the Thames Embankment Works shall be as follows, viz., 90 per cent. on the work executed in accordance with the contract, 90 per cent. on materials brought upon the works, and 75 per cent. on the plant. This report was finally agreed to.

In reference to a letter of complaint from Mr. Thomas Scott, Mr. Bazalgette explained that he did not say, as alleged, that Mr. Gilbert Scott was not using Mr. T. Scott's granite. He had written to Mr. Cubitt to know if he had selected Mr. Scott's Downshire granite for the piers of the new Blackfriars Bridge, and he stated in reply that he had not yet decided on the granite to be used for the new Blackfriars Bridge piers.

Mr. Bidgood apologized to Mr. Scott for the trifling error he had made.

Mr. Doulton called attention to the Act of last session authorising the construction of the Metropolitan Railway in the line of the Thames Embankment, and moved that a letter be addressed to the directors urging them to take the necessary steps for so carrying out their undertaking as to avoid interference with the Board's works after their completion. The motion was agreed to.

Estimated Expenditure for 1865.

The estimate of expenditure for 1865 was presented to the Board, making the total sum required 130,501*l.* 6*s.* 4*d.*

Mr. Dalton called attention to the fact that in the past year the ratepayers had to pay 3¼*d.* in the pound, whereas in 1865 the rate would be only 2¼*d.* in the pound. He moved that the estimate be agreed to. The consideration of the matter, however, was adjourned until Friday (yesterday).

RUTHIN CHURCH, &c.

SIR,—You have lately mentioned that, in alterations at Llangollen Church, the carved ceilings would be preserved. Will you allow me to mention that there is, I doubt not, not having seen the interior at Llangollen (whose patron saint, Collen, has such a very long genealogy), a still more beautiful one,—at least, for one of its two aisles,—in the not distant church of Ruthin, in same county. This building was probably longer, as the present chancel is (or was) very short; and the tower at the east end of the north aisle. It has also a noted ring of six bells, especially the tenor; was formerly collegiate; and its incumbent is, perhaps, nearly the only parochial one now styled "warden."

It is rather singular that there are other town churches in Wales with two large aisles only, generally of almost exactly the same dimensions. The only similar instances I know of in England (though there are, perhaps, some large village ones in Cumberland, or in adjoining county, and also some in Guernsey), are St. Helen's, Bishopsgate, Truro, and St. Paul's, Bedford. D.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ON December 14th, Dr. James Copland, V.P., in the chair, Mr. Bidder exhibited a bronze statuette of Mars, said to have been found in London. It was considered of Etruscan fabric, and resembled an example brought from Mr. Cuming's collection obtained in Italy in 1854. Dr. Kendrick gave an account of a Roman brine pan (perfect) in the Warrington Museum, found at Nantwich, Cheshire. It is of lead, and obtained with portions of others 10 ft. below the surface. One fragment has the word *DEVE* inscribed,—the ancient name of Chester. The pan appears to have been cast in its present form, and is an interesting object.

Mr. Carmichael called attention to a legend in Irish characters on the base of a cross found in a bank through which the House of Friars Carse is approached. This and other objects are thought to have been brought many years ago by a former owner from Dumfriesshire. The inscription reads "ORA PRO ANIMA," followed by the name "COMERGHIE DE JA. . H."

Dr. Palmer, of Newbury, local secretary for Berkshire, gave an account of the progress of researches being carried on at Silchester, by direction of the Duke of Wellington, under the supervision of the Rev. J. G. Joyce. Excavations have displayed the course of the roads, position of the houses, tesselated pavements, &c. A diary is kept of every article obtained, and plans made of the buildings.

Many other exhibitions were made, and Mr. Irvine addressed a letter to the Association, urging their continued attention to the preservation of the ancient and interesting church of Okeford Fitz-Payne, in Dorset, threatened with demolition.

CHURCH-BUILDING NEWS.

Lyminster (*Sussex*).—The church here, which is now being restored, has a chancel 45 ft. long, being three times its width; a nave 63 ft., being also exactly three times its width; and a north aisle, separated from the nave by an interesting arcade of four bays of Transition from Norman to Early English period. The doorway at west end of nave is of the same character. This was the external door before the tower at west end of nave was built. This is of rather later date, the belfry stage having been erected still later, as also the porch. Just above the nave (circular) piers, heads of windows have been opened, and now remain so: these were the original small Norman ones in the north wall, before the aisle was added. There is also a Norman font, a Norman window, and blocked up round-headed doorway in south wall of nave. The plaster ceilings have been removed, the timbers of roofs being now visible. The galleries are now down. New lancet windows have been added to aisle, which was before lighted by dormer windows in the roof; and the whole length of aisle, 64 ft., with its most interesting old roof, has been opened to the church, 10 ft. at east end and 16 ft. at the west having previously, with one bay of the arcade, been blocked off for various purposes. The seats, pulpit, flooring, &c., will be new, and the whole, inside and out (except chancel), will be entirely restored, if sufficient funds can be obtained to proceed with the tower and porch, which are not included in the contract. Mr. George Truefitt is the architect, and Mr. Bushby, of Littlehampton, the builder.

Standon, near Ware.—On Friday, the 23rd inst., the restored church of St. Mary, Standon, Herts, was opened, the Lord Bishop of Rochester preaching on the occasion. The structure is one of great interest; the chancel, with remarkable chancel arch, Early English; and the nave decorated. The latter has been restored at the cost of the parishioners and the friends of the Rev. C. Puller, the vicar; and the chancel at the cost of his Grace the Duke of Wellington; Messrs. G. & H. Godwin being the architects. After service a luncheon was given by the parishioners, Mr. Abel Smith, M.P., presiding, supported by the bishop, Mr. Wigram, Mr. Puller, Mr. Hanbury, and about 200 friends. The chancel is elevated some ten or twelve steps above the nave, and has at the east end a fine triplet window filled with stained glass, a memorial of the late Mr. Puller, M.P., subscribed for by the county. We shall give an interior view of the church before long.

Bisley.—The inhabitants of this parish and their friends have succeeded in their endeavours to get up a subscription for two new bells, which have been added to the parish church tower, making a peal of eight. The peal was opened by the ringers of Stroud Church, under the superintendence of Mr. H. Marmont, of Stroud. They rang some touches of grandsire triples, composed by Mr. Marmont for the occasion. A dinner was provided at the Red Lion Inn, to which about forty of the gentry and subscribers, besides the ringers, sat down.

Saltash (*Cornwall*).—A correspondent of the *Church Times*, under the signature of "Clericus," complains of the way in which St. Nicholas's Church, Saltash, is to be restored. He says:—"I regret that the plans which have been adopted, and the arrangements in contemplation, are by no means in accordance with correct principles. For instance, the choir, as I understand, are to be placed somewhere in the north aisle, and the beautiful old tower arch is still to remain blocked up with lath and plaster, and the basement of the tower is to be converted into a vestry, for what reason I cannot possibly imagine, there being every convenience for a vestry in the south side of the chancel, where the original priest's door still remains."

Burton-under-Needwood (*Staffordshire*). The parish church has been re-opened. The first stone of the new and greatly-enlarged aisles of the nave was laid by Mrs. Hardy, of Dunstall Hall, on Whit-Monday in the present year, and since then the works have been pushed forward by Messrs. Elliott & Lilley, of Ashby-de-la-Zouch, under the direction of Messrs. Stevens & Robinson, of Derby, architects. The chief features of the work now done are these: All the high pews have been swept away, and the galleries, of course, fell with the aisles, which they had long choked up and darkened. The organ is now placed in the chancel. The brickwork which filled up the tower-arch and entirely hid the west window has been taken away, and the window restored. A new doorway has been placed in the tower-wall, and the tower thus becomes the principal porch of the church. A porch has been built to the new north aisle; a new doorway has been put into the south aisle of the chancel; a new chancel arch has been erected; and the whole area of the church refloored, and the passages repaved. The multiplied coats of whitewash have been scraped off, and wherever stone existed it is now shown, and where it did not exist the walls have been plastered. The floor of the nave has been sunk 9 in., and thus an increased elevation is given to the chancel, and height to the pillars and arches supporting the clerestory. Something remains to be done. The chancel, though swept clear of the pews, is only temporarily seated with benches, all within the communion-rails and the rails themselves remaining as before. The windows, too, in the south chancel aisle, are merely patched up, and stand in need of a thorough restoration; and the same may be said of the clerestory windows.

Patrick Brompton (*Yorkshire*). — For some months past the church here, which is dedicated to St. Patrick, has been undergoing a restoration, and it has been re-opened. The work was placed in the hands of Mr. G. F. Jones, of York, architect, who proposed that the whole of the church should be re-roofed and re-seated; that the floor and the whole of the stonework should be restored; that an entirely new porch should be erected; and that the tower, which was too small for the proposed restoration, having originally been one attached to a much smaller church, should be enlarged and made proportionate with the remainder of the edifice. The church consists of the tower, nave, aisles, chancel, and the south porch. The chancel is of the Decorative period, with two-light windows on the sides, and a large east window, of five lights, with flowing tracery. The windows of the aisles are of a similar character, and there have been three new ones placed in, one on the north side and two on the west. As the funds for the restoration of the tower were insufficient to rebuild it entirely, the architect has encased the whole or greater portion of it in new work; and, with the addition of buttresses, and raising it to about 90 ft. in height, it now bears proportion with the renovated appearance of the church. It has an embattled parapet, ornamented by eight crocketed pinnacles, behind which a pyramidal roof rises, 25 ft. The belfry windows are in unison with the style of the others of the church, and in the lower stage of the tower is a two-light window, opening into the church, which has been filled with stained glass. A new tower arch has been introduced, which has mural tablets on each side. The roofs of the church are

all high-pitched and open, and boarded in panels, the ribs springing from corbels in the nave and aisles, and from carved wooden brackets in the chancel. The porch and the font are the special gift of Mr. Jonathan Rigg. The porch incloses the old south door, which is in character with the arcade inside. The font is of Caen stone, carved, with marble shafts, and monograms inlaid in marble on the sides. There is a stained-glass window put into the south side of the aisle, to the memory of the married daughter of the incumbent and her husband, both deceased. The ashlar work of the chancel and walls has been brought out by removing the old whitewash. The edifice has been warmed by two of Rimington's stoves. Externally the stone-work has merely been repaired where it was defective, and new tracery inserted into the windows. New crosses have also been added to the east gables and over the porch. The external doors are all of oak, but some of the old ornamental iron-work has been re-used. The old bells, which are three in number, have been rehung in the tower. The church-yard has been extended and inclosed in a new wall supplied with oaken gates and stone pillars. The edifice will now accommodate three hundred. The wood-carving has been carried out by Mr. Jones, of York; the stone-carving by Mr. Cole, of York; and Mr. Palliser, of Northallerton, has been the general builder.

Richmond (Yorkshire).—Trinity Church, which has been undergoing restoration, has been formally opened. This church was built about the middle of the twelfth century, and consisted of a chancel and a nave, with north and south aisles. The chancel and south aisle, however, have been allowed to fall into ruin. The north aisle was walled off from the nave and used as a consistory court. The first step towards the restoration was to alter the present short chancel, which was done in 1859. The work now completed comprises the rebuilding of the north aisle, and the re-seating and general re-fitting of the church. The seats in the aisle are all longitudinal, facing south, and are slightly raised towards the back. A memorial window of stained glass has been inserted in the west window of the aisle, by the family of the Rev. James Tate. The east window of the chancel was filled some time ago with stained glass, by Mr. Alderman Cooke. All the windows of the chancel are filled with plain glass, excepting the above. Messrs. Austin & Johnson, of Newcastle, were the architects.

Dewsbury.—The Bishop of Ripon has announced that an anonymous person has offered 300*l.* towards the erection of a new church in Dewsbury, on condition that an equal sum be raised in three months towards the same purpose; and that the church accommodate 400 adults.

DISSENTING CHURCH-BUILDING NEWS.

Bristol.—Grenville Wesleyan Chapel, after having undergone considerable alterations and improvements, has been re-opened for Divine worship. The schoolroom has been enlarged to double its original size, so that it will now accommodate 350 children. A heating apparatus—which also heats the chapel—has been erected in it. Two new class-rooms, each about 15 ft. by 10 ft., have been built adjoining the schoolroom. One of the principal improvements in the chapel itself is the removal of the pulpit, or rather the erection of a new platform pulpit, with a winding staircase on each side of it, erected against the wall at the top of the chapel. This alteration alone has provided space on which six additional pews have been erected. The colour of the pulpit is white, with gilt mouldings, and shields painted blue. The reredos behind the pulpit has been raised, and the entrance-doors of the chapel are covered with blue cloth. All the seats are of grained oak. Ventilators have been inserted in the ceiling, and many of the mouldings have been gilded. Mr. Sweetland, of Bath, has erected a new organ. The total cost of the alterations and renovations is rather over 700*l.* The architect was Mr. Hancorn, of Newport (Mon.). Mr. Nipper, of Stoke's Croft, was the general contractor, the sub-contractor for painting being Mr. Fedden.

Islington (Birmingham to).—The new Wesleyan Chapel which has been in course of erection in St. Martin's-street, Islington, for some time past, has been opened. The new chapel has been erected to supersede the old one in St. Martin's-street, which had become too small for the large and increasing congregation. The design was furnished by Mr. J. H. Chamberlain; and the builders were Messrs. Webb. At the eastern end is a stained window, by Messrs. Hardman & Co., after a design by Mr. S. Evans. The cost of the building is 6,200*l.*, inclusive of the site, which cost 1,275*l.*

Cheadle.—The new Wesleyan Chapel, Kingsley, has been opened. The building, which has been erected on the site of the old edifice, is of modern style, with Corinthian windows. It is built of polished red brick with stone dressings, the stone, which is nearly white, having been obtained from Hollington quarry. The contractors were Mr. H. Wyring, of Cheadle, for the building, and Mr. G. Plant, of Kingsley, for the woodwork. The chapel is capable of accommodating 300 persons. It has cost about 200*l.*

Liverpool.—The foundation-stone of a new chapel, in connexion with the Congregational Church, has been laid, in Green-lane, near the Old Swan. The building about to be erected will be in the Early Decorated style. In the front there will be three bays, divided by nine pinnacle and crocketed buttresses. The church will be constructed of white brick, with dressings of Bath stone. The galleries will be constructed so as to prevent undue crowding at the entrances. Accommodation will be provided for 750 persons in the main portion of the building; while the side galleries can be made to accommodate 300. The cost of the building is estimated at 3,000*l.*

PROVINCIAL NEWS.

Cardiff.—According to the plans of the new dock scheme, after passing the outer gates, vessels will enter a basin 700 ft. long by 500 ft. wide, vastly larger than either of the existing basins. The area of the basin of the East Dock is two acres: that of the basin in the new dock is to be eight acres. Penarth basin has only 60 ft. width of entrance, and both the East and West Docks are inferior in this respect. The new basin, however, will have an entrance width of 80 ft., and will be furnished with two twin tips, by which the largest ocean-going steamers can be coaled in one, or, at most, two, tides. The depth of water in the basin and dock will be 36 ft. at high-water ordinary spring tides. The basin will be built of solid masonry, with perpendicular walls. The dock-walls, however, will be sloped inside. Thus the width of the coping of the dock will be 700 ft.; but that at the base will be but 500 ft.: this will give a superficial area of 49 acres at the coping level, and of 34 acres at the base of the walls. The area of the present East Dock is 46 acres, so that practically the new dock and basin will be about equal to the East Dock in size, though greatly superior in depth, as well as having fourfold advantage in the size of its basin. The new dock differs from the existing ones in receiving no water from the land. It is to be wholly a tidal dock, although the notice mentions the Taff as among the sources from which water may be drawn; but this refers only to such water descending the bed of the Taff to its mouth as may be borne back into the dock by the incoming tidal waves.

Manchester.—The over-crowded state of the present exchange, says the local *Courier*, has induced the directors to promote a plan for the erection of a building superior in every respect to the present one. The block of property comprising Newall's-buildings, and bounded by Bank-street, Cross-street, Ducie-place, and Market-street, has been secured for the purpose. The intended room will be more than half as large again as the existing one, and will afford accommodation equal to the Hamburg Exchange, which is said to be the largest in Europe. Active progress has already been made in the necessary measures for carrying out this undertaking.

Newcastle-upon-Tyne.—At a recent meeting of the magistrates of Newcastle, Mr. Moffatt, of Edinburgh, was appointed architect for a new lunatic asylum, to be erected, for Newcastle, near to Coxlodge.

ACCIDENTS.

In the Hemingford-road, near the Brecknock Tavern, Camden-road, a very large scaffold at some buildings that are in the course of erection there fell, severely injuring five men who were at work on it for Mr. Wilmott, the builder. The men were at work on the top story, a distance of about 32 ft. from the turf, when one of the "ledgers" broke, and precipitated the whole to the ground.——An Artesian well has been in course of construction at St. George's Brewery, Kidderminster, and much trouble and expense have been caused by the breaking of the augur used to bore the hole. Lately Mr. Southan, well-sinker, has been employed, and good progress has been made till two of the men employed were, it is feared, fatally injured by the falling of a couple of bricks on to their heads from above. It appears that the accident was caused by the bucket used to carry the earth from the bottom of the well striking the sides and thus loosening the bricks. —— One of three double houses just built in Hillary-street, Leeds, fell in through the collapse of the outer wall next to the site of some other houses about to be erected by Mr. Winn, of Little London. The excavation for the foundations of these had almost been completed, and it is said to be likely that the removal of the soil, and the recent fall of heavy rain, had the effect of diminishing the stability of the adjoining building. It is not admitted, however, by Mr. Winn that the earthwork had been removed to the depth usual for the purpose. The houses which fell in were three stories high, exclusive of the basement. The front walls were no more than one brick thick, and the interior walls only of half that solidity.——A frightful accident has occurred at Hartlepool. A number of workmen were engaged in raising the segment of a large fly-wheel at new rolling-mills in course of erection there, when the crane fell over. One man was killed on the spot, another was so injured that he died in a few hours, and six others were more or less seriously injured.

THEATRICAL.

We shall have to speak of some particularly good scenes for the Christmas entertainments at *Covent Garden*, *Her Majesty's Theatre*, and the *Princess's*.

At the *Haymarket*, Mr. Sothern's admirable acting,—genuine and excellent acting,—in "David Garrick;" his eccentricities in "Dundreary Married;" and a bright little extravaganza, "Princess Spring-time" (not *over*-clever, by the way), are filling the house. The extravaganza enables Miss Keeley to sing one or two songs very charmingly, and includes one pretty-enough scene, by O'Connor, called a Beautiful Island. Mr. Byron, by whom the extravaganza is written, is evidently too much called on at Christmas.

Paris.—Photographs before us, obligingly sent us by the architect, show that the construction of the new opera-house is advanced so that the different parts of the building, as regards their destination, may now be distinguished. The stage is visible, and the portion of the house reserved for the public is raised as high as the first tier of boxes. Workmen are engaged at present in raising the columns, each of a single stone, which are to decorate the grand *loggia*. The entire of the ground-floor, the entrance, the lobby, and the side galleries are distinguishable. The staircase for subscribers is reached through the refreshment-room. The ceiling of the saloon is of iron, fixed in stone, and above the first tier of boxes may be seen the hollow tubes by which the house is to be heated and ventilated.

On the 21st inst., the 225th anniversary of the birth of Racine, the *Vaudeville* Paris theatre gave a special representation in honour of that celebrated man. After a prologue in which one of Racine's poems was skilfully inserted, there was a comedy, in one act, *Racine à Uzès*, by Edouard Fournier, who had made a special voyage to Uzès in order to render this piece of dramatic biography as completely life-like as possible.

Vienna.—It is stated that the theatres in Vienna have been closely examined, with reference to risk of fire and general security and comfort. The commission found various causes for complaint, and, among other things, ordered the following:—"That there should be no lights in the green-rooms lower than 8 ft. from the ground; that all lights should be protected by glass or wire; and that there should be a raised ledge of 3 in. in the front of the boxes to prevent opera-glasses, &c., falling over."

Palermo.—The authorities at Palermo have announced a competition for a new theatre, to contain 3,000 spectators, and for which the sum of 100,000*l.* has been voted. Five premiums are offered, varying in amounts from 25,000 francs to 2,000 francs, and all the world is invited to compete.

Books Received.

"The British Almanac and Companion" (Knight & Co., Fleet-street) maintains its position as one of the indispensables of the writing-table. Amongst the contents of the Companion are papers on "Railways in their Social Relations," "The Physical Constitution and Functions of the Sun," "The Health of the British Army in India," "Working Men's Clubs," and its usual chapter on "Architecture and Public Improvements." —— "Gutch's Literary and Scientific Register and Almanack for 1865" (Stevens, Strand), contains information about everything, selected with much skill.——The interesting insurance facts which are embodied in "The Royal Insurance Company's Book-almanac for 1865" are well worth the perusal of policy-holders. The curious details here shown as to the rate of mortality at various ages, and the unsparing dissection of the position of the Company's life business generally, render this little work noticeable among those of its class. It would seem that the periodical disclosure of the Royal's condition has, so far from impeding its progress, resulted in a great development of its business.——Let us mention, and we do so not merely willingly but with strong desire to assist in spreading abroad the "British Workman" and the "Band of Hope Review," that these publications continue to be carried on with vigour and discrimination. Some of the illustrations given are excellent, and, if the price be considered, marvellous.——"Young England" (Tweedie, Strand). The third volume of this miscellany, now completed, contains much wholesome information calculated to interest boys, especially on Natural History.

Miscellanea.

TUNNEL UNDER THE LIFFEY.—A tunnel is about to be constructed under the River Liffey, at Dublin.

KIRKCUDBRIGHT, SCOTLAND.—A new county prison and court-house have been commenced here. The offers for the portion forming the prison were opened last week, and Mr. M'Candlish, the contractor, has commenced operations. Mr. Rhind, of Edinburgh, is the architect.

SCOTTISH NATIONAL MEMORIAL.—We understand that the whole of the designs contributed to the competition for the Scottish National Memorial of H.R.H. the Prince Consort have now been arranged in the Eastern Division of the National Gallery, and that the Committee of advice nominated by Her Majesty held their first meeting there for the purpose of inspection, on Saturday, the 24th. The total number of designs is fifty-three. The models occupy one octagon of the Gallery and the drawings another.

MEMORIALS.—The foundation-stone of the Welsh memorial dedicated to "Albert the Good" was laid on Wednesday, the 14th of December, being the anniversary of the Prince's birthday. The site selected is on the summit of the Castle hill, at Tenby, a promontory of mountain limestone jutting out into Carmarthen Bay. It rises to about 70 ft. above highwater-mark. The foundation-stone is a block of native marble. The architect of the memorial is Mr. H. M. Finch, and the sculptor Mr. J. E. Thomas; but why the vellum inscription, which contains all the names of committee-men, secretaries, treasurers, principal subscribers, overlooks the architect's name, it would be difficult, we dare say, for the self-asserting "committee" to explain, except that their consciousness of their own swelling importance in the matter completely obliterated all recollection of one so comparatively insignificant in their eyes. They have had the wonderful condescension, however, to name the sculptor, —after their "noble selves."——A proposal has been made to erect a memorial of that true nobleman, the late Earl of Carlisle. The project seems likely to be very popular. It has been suggested that an obelisk on the summit of Slingsby Banks, some two miles from Castle Howard and six miles from Malton, would make a companion erection to that placed by the third Earl at the south end of the avenue, to commemorate the victories of Marlborough, and would be a conspicuous object over the greater part of North Yorkshire.

STEAM OMNIBUSES.—An omnibus drawn by a locomotive, instead of horses, is now running at Chantenay, in the South of France. It can be turned and stopped with ease; and both inside and outside passengers travel by it without fear.

LANDLORD AND TENANT.—A lease "for the term of twenty-one years, determinable nevertheless in seven or fourteen years, if the said parties hereto shall so think fit," can only be determined at the end of seven or fourteen years, if *both* parties agree to it. This was the holding of the Court of Exchequer in the case of *Fowell* v. *Tranter*.

A FIRE-EXTINGUISHER.—An apothecary at Nantes has just discovered by accident that liquid ammonia will put out fires. The result, remarks *Galignani*, is easy to explain on scientific principles; for ammonia, which consists of 82 parts of nitrogen and 18 of hydrogen, is easily decomposed by heat; and the nitrogen thus set free in the midst of a conflagration must infallibly put out the flames.

ANOTHER DEATH FROM LEAD POISONING.—A man employed at lead smelting works, in Bethnal-green, died the other day—as the coroner's jury found—"from paralysis, from lead poisoning acting upon a weak constitution." Among the witnesses examined at the inquest was Mr. Grace, a white lead manufacturer, who said that some of his workpeople had been employed at his works forty years. Nevertheless, the business was unhealthy; but a great deal depended on the *employés* themselves. If they were cleanly, washed carefully, and took opening medicine, which was provided for them, they could to a great extent obviate the effects of the lead.

THE PRICE OF LAND IN SCOTLAND.—We (*Elgin Courant*) understand that Mr. E. Horsman, M.P., the present lessee of the Glenfeshie shootings, has purchased the fine little property of Alvie from the trustees of the late Mr. Baillie, of Kingussie. The purchase price, we hear, is 20,000*l*. Taking the present rental, 500*l*., as a criterion, we would say Mr. Horsman has paid for his whistle; but the property is susceptible of much improvement, and may, with a moderate outlay, be made a tolerably good and at the same time a most desirable investment. It is not many years since the late Mr. Baillie purchased from the late Duke of Gordon the above property (on which he never expended a single shilling) for 6,500*l*.

STOURBRIDGE SCHOOL OF ART.—The annual meeting of this school was held in the Corn Exchange. Lord Lyttelton presided. The report of the council congratulated the friends of the school upon the progress made by the students, the increase in their number, and their generally regular attendance; and upon the favourable state of the finances. The income from the Government had not decreased in consequence of the payments being made upon results instead of the master's certificate, as heretofore. The excess of income over expenditure, to the 30th of September, had been 15*l*. 0*s*. 8*d*. Although the mortgage debt had been reduced to the extent of 60*l*., it still, however, amounted to 640*l*. Mr. Bowen the head master's report stated that the Central School had been attended by 145 students, and the progress made had been satisfactory. Four medals had been awarded to students' works at the examination held in London in March last. Upon the last examination of the school, in November, the large number of twenty-two pupils passed. The children of public schools, under the supervision and instruction of the master, numbered 562—an increase of 76 over last year. Of these, 99 had been selected to compete for prizes in the elementary grades, and 61 had passed.

RAILWAY MATTERS.—The railway companies have, we are informed, been given to understand that they must adopt some means to establish a communication between passengers and the guards of trains, or the Government itself will prescribe a method for effecting that object. Acting upon this intimation, the railway companies are said to have appointed a committee of their managers to consider the best method of establishing the required communication.——The traffic receipts of railways in the United Kingdom amounted, for the week ending the 10th of December, on 11,732 miles, to 605,391*l*., and for the corresponding week of last year, on 11,395 miles, to 572,827*l*., showing an increase of 337 miles, and of 32,564*l*. in the receipts.

WATER SUPPLY: TOWNS, SOUTH DEVON. The corporation of this borough, including Bridgetown, have decided to carry out a system of water supply, and have called in Mr. Edward Appleton, of Torquay, to prepare the scheme and superintend the execution of the works, which are to be proceeded with at once.

LUDGATE-HILL RAILWAY STATION.—The temporary station of the Metropolitan Extension Railway at Ludgate-hill has been opened. This temporary structure, 300 ft. long, is built entirely of timber, and is entered from Bridge-street by way of Union-street and Water-lane. The exit is in Earl-street. It is not expected that the permanent station, which is nearer Ludgate-hill, will be completed before March or April. It will be, in almost all particulars, a counterpart of the station on the south side of the bridge. The chief difference will be in all the offices occupying a space below, instead of above. The architect of the new station at Ludgate-hill is Mr. John Taylor, jun., who designed the corresponding structure in the Blackfriars-road. The contractors are Messrs. Peto & Betts, for whom Messrs. Lucas Brothers have executed the main work of the building. The engineer is Mr. Cubitt.

IMPORTANT TO JOINERS: A WAGES QUESTION.—At the Public-office, Birmingham, a joiner sued Mr. Joseph Hardwick, builder, for 12*s*. 1½*d*., being wages alleged to be due for a half week's work done. The case was one which would decide a good many others of a similar kind. The complainant struck work without notice, on account of a certain resolution agreed upon by the masters, and Luke up in the shops. The wages due for the half-week that he had worked, were refused, on the ground that he had not worked out the week. The question was whether the men were engaged by the week or by the hour. The bench decided that, though they did not always give reasons for their decisions, they could not help saying in this case that they felt strongly that when an hour and a half was remitted on Saturday, it might be reasonably concluded that the sacrifice made was to be spread over the whole of the week, and that a week's wages were not fairly due until the long days, as well as the short ones, were worked out. They therefore dismissed the complainant's claim.

THE MAGNESIUM LIGHT.—A lamp for the purpose of burning the wire is said to have been invented by Mr. A. Grant, who is endeavouring to bring his design to practical perfection. Mr. Grant seeks to make magnesium cheaper still than the best stearine, and states that by burning a strip of zinc in conjunction with two strips of magnesium he is able to reduce the cost of the light by two-thirds. He even ventures to predict that magnesium will become as cheap as zinc, and that in course of time it will be possible to illuminate a street a mile long, at the rate of a halfpenny per hour! It is not a small thing to be able to record that photography is no longer dependent upon the action of the sun. The value of magnesium as an illuminator for the purpose of "signalling," is too obvious to escape immediate recognition. The portable nature of the contrivance, and its perfect immunity from risk of explosion, together with some other evident advantages, render its vivid light all the more practically valuable. Parisians, we are told, are going to make it figure on the stage, and have sent orders for some of Mr. Grant's lamps to illuminate their painted scenery.

GAS.—A cheap Gas Consumers' Company, we hear, is being started for the supply of London with gas at 2*s*. 9*d*. per 1,000 cubic feet, and announcements of reduction by the old companies have begun to be made.——At a recent meeting of the Birmingham Gas Consumers' Company, the secretary stated that since the movement was commenced for the formation of the company, several reductions in the price of gas had been made by the two gas companies, the average of which was about 21 per cent. below the price usually charged. And in addition to this reduction in price, they would be, and were, supplied with gas 40 per cent. better in illuminating power than before.——The supply of gas at Walsall is by the town commissioners: they have just announced a further reduction in price to an average of 2*s*. 6*d*. per 1,000; the street lamps 2*s*. 6*d*. per 1,000.——In Cork the Gas Consumers' Company have reduced the price of their gas to 4*s*. per 1,000 cubic feet; and for street lamps, 3*l*. each, to be lighted the whole year round. The company is paying 8 per cent. The original capital of the company was 40,000*l*.

Taking it Coolly.—On the Midland Railway Company's new line, between Whaleybridge and Buxton, at a place called Bugsworth, one of the sides of a deep sand cutting at the mouth of a tunnel suddenly gave way lately, killing one man and imprisoning eleven others and four horses in the tunnel. A number of men were set to work to remove the fall of sand, and the night had far advanced before they had effected their object. To their surprise they found that the eleven navvies had been steadily going on with their work in the tunnel all the time! The men had held a consultation, at which they came to the conclusion that proper steps would be taken to liberate them; and, as they could do nothing towards it themselves, they might as well pursue their ordinary tasks. From 200,000 to 300,000 tons of earth had fallen at the mouth of the tunnel.

The Wolverhampton and Leamington Surveyorships.—Mr. Anthony Morgan having given notice to the Leamington Board of Health of his resignation of the surveyorship and his appointment to that of Wolverhampton, the Leamington Board have passed a resolution expressive of their "approval of the satisfactory manner in which he has at all times discharged the various duties connected with the office of Surveyor to this Board, as also of the ability he has displayed as engineer of the extensive and important works connected with the river improvements, the sewage, and other public works carried on by him." The Board also expressed a wish to be allowed to avail themselves of Mr. Morgan's advice, should it be requisite to consult him at any time on the subject of the engineering works carried out by him in the town. Some discussion ensued as to whether steps should be taken at once to appoint a successor to Mr. Morgan, and it was ultimately decided to refer the subject to the highways committee.

Reduction of Wages in the Iron Trade.—The South Staffordshire iron trade have declared a reduction in the rate of puddlers' and millmen's wages, which they allege is rendered necessary by the present position of the iron trade. The selling price of manufactured iron, they urge, was reduced to the extent of 1*l.* per ton in June last, as some members of the trade thought unwisely; but the puddlers' and millmen's wages were not lowered in a corresponding ratio. The practice of the trade has always been to pay workmen's wages at the rate of 1s. per pound sterling on the price of finished iron; and while the men in this district have been and still are receiving the rate of wages for iron at 10*l.* 10s. per ton, the rates ruling in the market for finished iron are said to be in reality only 8*l.* 10s. Fourteen days' notice were to be given on the 31st instant for a general reduction of 1s. per ton in puddlers', and 10 per cent. in millmen's wages, through all the district.

Charcoal Fires.—Dr. Lankester has held an inquest at Kentish-town on the body of Mr. Ebenezer Walker, aged forty-one years, a master builder. Mrs. Anne Walker, widow of the deceased, said that on Sunday night last, at eleven o'clock, her husband, in order to warm the bedroom, placed a charcoal stove in it. He closed the register of the stove to prevent a draught. About twelve o'clock they went to bed, and soon fell asleep. She usually rose at seven; but on the Monday morning she did not wake till twelve in the day, then feeling very drowsy and ill. She turned and looked at her husband, who appeared to be asleep, but she found he was dead. Mr. Daniel Slyman, surgeon, said the cause of death was suffocation, arising from the foul air from the charcoal fire, there being in the room no means by which it could escape. The coroner said the cause of death was very plain, and Mrs. Walker might consider herself fortunate that she did not share the same fate as her husband. It was singular that a builder should not know the danger of placing a charcoal stove in a bedroom with no vent for the foul air. In great halls, where the supply of air was large, they were serviceable, but in bedrooms they were most dangerous. At this season builders used artificial means for drying purposes; but he hoped the fatal results arising from the use of charcoal in confined places would be borne in mind, and no life placed in jeopardy. The jury returned a verdict of "Death from accidental causes, arising from the mortal effects of suffocation by the fumes of a charcoal stove." We have often given warning of the peril to life arising from the use of such stoves in dwellings.

The Harrington Inundation.—In settling claims for damage occasioned by the late flood, Messrs. Bain, Blair, & Patterson, of the New Iron-works at Harrington, have acted, it is said, with becoming promptitude. The *Whitehaven News*, in speaking of this inundation, says:—"Nothing can be plainer than that a grave engineering blunder has been committed; and if no public inquiry into the causes of the catastrophe is to be held,—if the reservoir is to be re-constructed on the same principles,—then all we can say is that, in the presence of a constant danger, the inhabitants of Harrington are the most stoical or the most easily pacified of people. The reservoir at Harrington was from the design of Mr. Alexander Simpson, civil engineer, of Glasgow, but the works were carried out under the superintendence of the firm for whom the water was required. . . . In the bywash lay the error. This, even if completed according to the plans proposed, would, according to Mr. Kendall and other residents, have been totally inadequate to have carried off the surplus water in a rainy season."

Wimbledon Common.—The proposed Bill for the protection and improvement of Wimbledon Common has been printed. The Act constitutes Lord Spencer protector of the park, authorizing him to set aside a portion of the common, coloured pink on the plan, and enclose it with fences, so as, however, not to interrupt the view from the villas around, and to make walks, drives, and rides in the park, level obstructions, &c., and appoint gate-keepers and park-keepers. The park to be open at six o'clock in the morning, or at sunrise, if after six, and not to be closed till sunset. The park may be used for any purpose of practical public utility or interest, with the consent of the Home Secretary, when money can be claimed for entrance; but political meetings, open-air preachings, and meetings of clubs or benefit societies, are prohibited. Protector to have power of making regulations as to permitting refreshments to be sold in the park, and the like, for regulating quarries and pits used by the parishes, and for excluding gipsies and tramps. Provision is made for compensating those who had common rights. The map shows that only a strip of land is to be sold.

Non-Liability for Negligence of Fellow-Servants engaged in a common Employment.—In the case of Lovegrove *v.* The London, Brighton, and South Coast Railway Company, the plaintiff, a labourer, was employed by the company to dig ballast from a pit; and after filling trucks with ballast, to push the trucks along a temporary tramway to the main line, along which they were carried to their destination. The tramway was laid by plate-layers, and the plaintiff had nothing to do with its construction. Owing to the negligent manner in which the tramway was laid, a truck which the plaintiff was pushing ran off the line, and the plaintiff was hurt. This action having been brought by him against the company, it was held that the injury which he had sustained was caused by the negligence of a fellow-servant engaged in a common occupation with him, and that he could not recover damages from the company, no default on their part having been shown. The Court of Common Pleas, in which this action was brought, decided at the same time a similar question, in the case of Gallagher *v.* Piper, holding that the action could not be maintained.

Steel Wire-rope.—Some important experiments have been made with galvanized steel wire-ropes at the Dock Testing Works, Birkenhead. The testing was at the instance of Messrs. Jones, Quiggin, & Co., the iron shipbuilders, who are building a monster composite ship, the largest ever built in the Mersey. Being naturally anxious to have everything of the best and strongest for this vessel, they determined that the strength of all her materials should be thoroughly tested. For this purpose surplus pieces were cut from the wire rigging now in course of being manufactured for the vessel at Messrs. Garnock, Bibby, & Co.'s ropeworks. The testing showed the following extraordinary results:—4½-in. steel wire-rope, 57 tons 1 cwt., the Admiralty test for charcoal wire of this size being 24 tons 8 cwts.; 3¼-in. steel wire-rope, 24 tons 6 cwts., Admiralty test for charcoal wire of this size 13 tons 10 cwts.; 2⅝-in. steel wire-rope, 19 tons 6 cwts., Admiralty test for charcoal wire of this size, 8 tons 11 cwts. The experiments were under the inspection of Mr. M'Donald, superintendent of the Birkenhead Testing Works. *Mechanic's Mag.*

Tin.—The standards for tin ores were reduced 2*l.* per ton during the past week, and are now as follows:—Common, 89s. to 90s.; fine, 91s. to 92s. The reduction of 4*l.* in less than a fortnight has had a most depressive effect on Cornish tin-mining, and business is extremely dull.

Barmbro' Church, Yorkshire.—The new window in the chancel of this church has just been reglazed with stained glass. The tracery and two side compartments are filled with diapered glass, to harmonize with the two south windows in the chancel. The centre compartment represents our Lord delivering the charge to St. Peter, and placed below, in antique characters, "Feed my sheep, feed my lambs." To the left is the figure of a female at prayer, surmounted by an angel. On the right of the centre compartment is the figure of St. John writing his book of the Revelation. This is also surmounted by an angel. The window was executed by Messrs. Drury & Smith, of Sheffield. Other improvements have been completed at the cost of those of whom the window of which we have spoken is a memorial.

Petroleum, Paraffine, or Mineral Oil.—With the object of testing the merits and capabilities of this substance as fuel, experiments on an extensive scale have been lately made at Woolwich Dockyard. The plan under trial is simply to burn the petroleum through a porous material, which is placed in an iron chamber, dipped into a water-vessel, also of iron. The oil admitted into the chamber soddens the porous material, and rises by capillary attraction. The surface then catches fire and burns rapidly as long as the oil is supplied. The effect of the flame is said to be so great, that with the small apparatus, which is only 2 ft. superficial area, and affixed to a boiler, the oil has been utilized so as to be equal for steam purposes to five tons of coal. The objection to the use of this oil beyond its cost, seems to be the fear of explosion. A curious property of petroleum is said to have been discovered by Dr. Decaisne, of Antwerp, who announces that it instantaneously destroys that parasitical insect of the *Acarus* family which produces the human skin disease called itch; that all that is requisite is simply to apply the oil without even rubbing; and that the mere vapour of the oil will disinfect clothes tainted with the virus. If all this be true, doubtless there are other skin diseases thus curable; for more than one skin disease originates in parasitical causes. It may also turn out to be useful in gardens.

Mormonite Church Architecture.—The following description of the projected Mormon temple and tabernacle, is given by a correspondent of the St. Louis *Republican*, writing from Great Salt Lake City:—"That which strikes every observer of the temple is the very remarkable solidity of the stonework. It appears to be laid there to remain a thousand years, furnishing an unyielding support to the building that is to rest upon it. The style of architecture is somewhat novel. The front view shows three towers, the centre more elevated than those at the side. The rear end presents a view of three towers also, the side walls being strengthened with powerful abutments covered with pinnacles. The walls are lofty, and the entire air of the building, as represented in the view I saw, is imposing. There is no excess of ornament. All is substantial, dignified, and impressive. The building is not for the use of the congregations of the people, but for the priestly ordinances of the church. The people in their assemblages will meet in another building in the rear—the tabernacle. This is projected on a large scale, and on a very peculiar design. It is to be an oval building. I was told that the interior would correspond to the shape of an egg. At present fifty-two massive abutments of solid masonry, 10 ft. by 4 ft., show the exterior line of the structure. From the top of these abutments the oval roof will spring. The floor will be oval downwards, seated with rising seats as an amphitheatre. There will be no close-built walls. As the building is intended for vast congregations, ventilation and light are looked to, and the building will be nearly all windows and doors. It is 225 ft. deep by 175 ft. wide, and is calculated to hold 10,000 people. Here the teachers and others will enlighten the people, and their united souls will go up. The cost of these buildings must be immense; but all is contributed by the members of the Mormon church in labour and money.

ST. OSWALD'S, KIRK SANDALL.—A stained glass window has been placed in Kirk Sandall Church by the Rev. J. G. Gibbs, the curate, who recently took an interest in the restoration of this ancient edifice. During the progress of the restoration a small window of the early Norman church was discovered, and it is this window Mr. Gibbs has filled with stained glass. St. Oswald, the patron saint of the church, whose figure is represented, was king of Northumbria, and he was slain in the battle against the Pagan king of Mercia, A.D. 642. St. Oswald appears in regal attire, standing beneath a simple canopy. On his shoulder is perched the raven of which such wondrous tales are told. Messrs. Clayton & Bell, of London, were the artists.

TENDERS.

For the erection of drill-shed and head-quarters for the First Surrey Rifle Volunteer Corps, at Camberwell. Mr. J. T. Lepard, architect. Quantities supplied by Messrs. Lansdowne.

No. 1 Estimate.

Alldred & Doulton	£4,533 15 0
Colls & Son	4,513 0 0
Palmer	4,312 6 4
Nixon	4,306 0 0
Nicholson	4,293 0 0
Scrivener & White	4,183 0 0
Sawyer	4,171 0 0
Simms & Marten	4,168 0 0
Ring & Wainman	3,940 0 0
Winder (accepted)	3,906 0 0

No. 2 Estimate.

For additional concert and committee rooms:—

Winder (accepted)	£992 0 0
Nixon	978 0 0
Nicholson	950 0 0
Palmer	915 17 8
Alldred & Doulton	885 15 0
Scrivener & White	862 0 0
Colls & Son	858 0 0
Sawyer	848 0 0
Ring & Wainman	845 0 0
Simms & Marten	820 0 0

For the erection of a hunting-box for Capt. J. Baillie, at Ilston-on-the-hill, Leicestershire. Mr. Wm. Millican, architect:—

Bricklayer, Plasterer, and Slater's Work, &c.

Hutchinson (accepted)	£4,125 0 0

Carpenter's, Stonemason's, Plumbing, Glazing, and Iron Work.

Bromwich	£7,215 0 0
Neale	5,946 0 0
Osborne	5,892 0 0
Firn & Clifton	5,837 0 0

Stonemason's Work.

Firn & Clifton	£1,778 16 8
Wykes	1,694 0 0
Porter	1,634 0 0
Neale	1,620 0 0
Osborne (accepted)	1,609 0 0

Carpenter's Work.

Porter	£3,855 0 0
Wykes	3,410 0 0
Neale	3,150 0 0
Bradshaw	3,130 0 0
Osborne	3,107 0 0
Firn & Clifton	2,879 0 0
Loveday (accepted)	2,539 0 0

Plumber, Painter, and Glazier's Work.

Wykes	£989 0 0
Osborne	987 0 0
Neale	987 0 0
Loveday	973 0 0
Underwood & Co. (accepted)	813 0 0

Ironfounder's Work.

Loveday (accepted)	£195 0 0

For the erection of a house in De Montford-street, Leicester, for Mr. J. S. Cooper. Mr. William Millican, architect:—

Neale	£1,043 0 0
Plant	1,021 0 0
Chambers	995 0 0
Cox	979 0 0
Clifton	967 0 0
Hutchinson	960 0 0
Osborne	947 0 0
Porter (accepted)	943 0 0

For the erection of a new warehouse, &c., Leicester, for Mr. R. Allen. Mr. William Millican, architect:—

Clifton	£727 0 0
Chambers	698 0 0
Neale	689 0 0
Osborne	671 0 0
Plant	663 13 6
Hutchinson	637 0 0
Porter	627 0 0
Duxbury (accepted)	597 0 0

For erecting a gantry in Grosvenor-road, Pimlico. Mr. F. G. Widdows, architect:—

Child & Son	£703 0 0
Ennor	702 0 0

For erecting a tavern at Old Ford, for Mr. Buckley. Mr. Duval, architect. Quantities supplied by Mr. F. G. Widdows:—

Marr	£2,933 0 0
Wood, Brothers	2,880 0 0
Flint	2,700 0 0
Borton	2,583 0 0
Forrest	2,561 0 0
Langmead & Co.	2,500 0 0
Hall	2,485 0 0
Carter & Sons	2,480 0 0
Anley	2,450 0 0
Ennor	2,249 0 0

For erecting two shops in Regent-road, Salford. Mr. Henry Styan, architect:—

Ledger (accepted)	£596 0 0

For erecting a warehouse in Dantzic-street, Manchester, for Mr. John Bancroft. Mr. Henry Styan, architect:—

Burnell (accepted)	£700 0 0

For alterations at 33, Poultry, for the Hercules Insurance Company:—

Worms	£210 0 0
Staines & Son (accepted)	209 0 0

For the erection of a new tavern, Victoria Park, for Mr. Buckley. Mr. Peter Duval, architect. Quantities supplied:—

Marr	£2,933 0 0
Wood	2,858 0 0
Flint	2,700 0 0
Borton	2,587 0 0
Forrest	2,561 0 0
Langmead & Way	2,500 0 0
Carter & Sons	2,480 0 0
Anley	2,450 0 0
Ennor	2,249 0 0

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J. M. & Son.—F. C. T.—F. T.—F. G.—H. S.—L. & W.—Serpentine Co.—D. R—J. R.—W. W—T. D—M.—Builder—W. M. M. J—H. S.—J. S. N.—C. D.—O. L.—R. & Co.—A. S.—Architect's Clerk.—One who likes to Resp—H. & P. (the gentleman named is an able writer on both subjects)—C. J. H. (Restorations, Verona; yes)—W. F. (next week).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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Secretary (pro. tem.)—Henry J. Dowden.

Temporary Offices—62, Old Broad-street, E.C.

ABRIDGED PROSPECTUS

This Company is formed for the purpose of erecting in the City of London a Public Auction Mart for the sale of landed estates and other property, now absolutely necessary in consequence of the late Auction Mart recently situate in Bartholomew-close, City, having been converted to other purposes and the insufficient accommodation afforded to the public elsewhere.

The Directors have secured on favourable terms an extensive freehold site in Tokenhouse yard, next to the offices of the General Credit Company, having a frontage of upwards of 100 feet. The site is admirably adapted to the requirements of the undertaking, not only from its central position, but from the great advantage it possesses in being free from the noise and disturbance of a leading thoroughfare.

The Directors propose to erect on the site of the existing houses, a handsome and substantial building, containing on the ground and first floors several large and smaller Sale Rooms; on the second and third floors, which are to be approached by a separate entrance, numerous Rooms and other accommodation, which can either be used as Sale Rooms, or for arbitrations, or let for offices. The basement will contain suitable refreshment accommodation and additional cellarage or offices to be also let off.

The revenue of the Company will consist:—First, of rents to be received from the auctioneers for the use of the Sale Rooms, the demand for which is continually increasing. Secondly, from rent to be received in respect of the Refreshment Department; and thirdly, the rents to be received for the Offices, Arbitration Rooms, Cellars, &c. from which sources the Directors confidently expect a most satisfactory dividend will be realised.

The undertaking originates with the Directors. There will be no "promotion money" paid to any one either directly or indirectly, and the preliminary expenses will be confined to such as are actually necessary to be incurred.

Prospectuses and Forms of Application for Shares may be had of the Solicitors; or of the Secretary, at the Temporary Offices, 62, Old Broad-street, E.C.

THE AUCTION MART COMPANY (Limited).—Notice is hereby given, that the SHARE LIST of this Company will be CLOSED on WEDNESDAY, the 4th of JANUARY, 1865, for London, and on the following SATURDAY for the County. By order, H. J. DOWDEN, Sec. pro tem.

Temporary Office, 62, Old Broad-street, E.C.

NORWICH UNION FIRE OFFICE.—

THE BONUS YEAR.

THREE-FIFTHS of the Profits of the Company are periodically distributed as a Bonus to parties insuring, who have thus from time to time received from the Society sums amounting in the aggregate to nearly 440,000*l.*

A FURTHER BONUS of 29,027*l.* has been declared in respect of Premiums paid prior to Michaelmas, 1863, and will be paid by deduction from the current Premium, on the renewal of existing Insurances.

EXAMPLES OF PREMIUMS REDUCED BY THIS BONUS.

No. of Policy.	Sum Insured.	Annual Premium.	Reduced Premium for 1864.
	£	£ s. d.	£ s. d.
441,411	92,340	222 4 4	120 2 2
450,136	12,000	63 0 0	35 0 0
484,173	9,800	51 14 0	19 16 8
500,376	5,000	7 10 0	4 6 4

THE RATES OF PREMIUM ARE IN NO CASE HIGHER than those charged by the other principal offices giving no Bonus to their Insurers.

No charge is made for the Policy or Stamp when the Insurance exceeds 200*l.* or for Insurances transferred from other Offices.

The Business of the Company exceeds seventy Millions, and, owing to the liberality with which its engagements have been performed, is rapidly increasing. The duty paid to Government for the year 1863 was £41,852. 11s. 9*d.*; the amount insured on Farming Stock was 10,263,272*l.*

The Norwich Union Fire Office is the LARGEST OFFICE making a return to its Insurers.

For Prospectuses, apply to the Society's Offices, 29, Fleet-street, E.C.; and Surrey street, Norwich.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
The Hon. Jas. Byng.	John Dorrien Magens, esq.
G. Lewis Edwin Coope, esq.	John Timothy Oxley, esq.
William Cotton, esq.	Benjamin Shaw, esq.
George Arthur Fuller, esq.	Wm. James Tassell Thompson, esq.
Charles Erdeman Goodall, esq.	Hy. Hoyland Tritton, esq.
James Alexander Gordon, esq.	Matthew Whitting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.

John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.

SECRETARY—George William Lovell.

ASSISTANT SECRETARY—John J. Brownfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions and a Half Sterling in discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Christmas must be renewed within fifteen days thereafter, or they will become void.

Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

THE NATIONAL BOILER INSURANCE COMPANY (Limited),

CHIEF OFFICES—18, CHANCERY LANE, LONDON.

BRANCH OFFICE—22, ST. ANN'S SQUARE, MANCHESTER.

Tables of Rates for Insuring Steam and Marine Steam Boilers can be had on application at the Offices of the Company.

A reduction of 10 per cent. will be made off all Premiums in cases where the Company's Patent Fluid Gauge is used.

By order of the Board,

J. W. DANIELL, Secretary.

WHEELS.—KING'S CROSS PATENT WHEEL COMPANY (Limited) Carriage, Omnibus, Waggon, Cart, and Road Wheels of every description made of the best materials and workmanship, on the shortest notice, for home use or exportation. Price lists free on application.—Offices, Panerai-road, King's Cross, London, N.W. near the Great Northern Railway station. CHAS. SAUNDERSON, Chairman.

London, November, 1864.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY.

No. 11, Lombard street, London, E.C.

Established 1821.

Subscribed Capital, Two Millions.

DIRECTORS.

Charles William Curtis, esq. Chairman.
Charles F. Devas, esq. Deputy Chairman.

Henry Hulse Berens, esq.	G. J. Shaw Lefevre, esq. M.P.
R. Bonham Carter, esq.	John Martin, esq.
Francis Hart Dyke, esq.	Rowland Mitchell, esq.
Sir Minto Farquhar, bart. M.P.	James Morris, esq.
Sir Walter R. Farquhar, bart.	Henry Norman, esq.
James Goodson, esq.	Henry R. Reynolds, esq.
Thomson Hankey, esq. M.P.	A. Graham J. Rollit, esq.
John G. Hubbard, esq. M.P.	William Steven, esq.
Frederick R. Jackson, esq.	Henry Vigne, esq.

AUDITORS.

Lewis Loyd, esq.	Henry Sykes Thornton, esq.
Cornelius Paine, jun. esq.	Noel Whiting, esq.

Thomas Tallemach, esq. *Secretary* | Samuel Brown, esq. *Actuary.*

LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, the Company now offers to new Insurers EIGHTY PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.

Since the establishment of the Company in 1821, the sum total of Profits allotted to the Assured has exceeded in Cash value 500,000*l.* which represents an Indent Reversionary Bonus of £11 per cent.

After the Division of Profits at Christmas 1859, the Life Assurances in Force, with existing Bonuses thereon, amounted to upwards of 4,730,000 M. the Income from the Life Branch 96,000*l.* per annum, and the Life Assurance Fund, independent of the Capital, exceeded 1,618,000*l.*

FIRE DEPARTMENT.—Insurances are effected upon every description of property, at home and abroad, on moderate rates.

No expense is incurred in effecting a New Insurance beyond the payment of the Annual Premium and Duty, when the Premium amounts to 5*s.*

Claims liberally and promptly settled.

Notice is hereby given, that Fire Policies which expire at Christmas must be renewed within fifteen days at the Office, or with Mr SAMS, No. 1, St. James's-street, corner of Pall-mall, or with the Company's Agents throughout the Kingdom; otherwise they become void.

Applications for Prospectuses and Agencies to be made to the Secretary.

PATENT CONCRETE STONE COMPANY, Limited. The Offices of this Company will be REMOVED on the 31st instant, to more commodious Premises, at No 2, QUEEN STREET PLACE, SOUTHWARK BRIDGE, E.C.

THOMAS PIPER, Secretary.

36, Parliament-street, S.W.

ALBERT INSURANCE COMPANY (Limited),

FIRE and MARINE.

Premiums charged estimated by the individual risk. The utmost liberality maintained in every transaction. Agents wanted.

Offices: 8, PINCH LANE, and 7, WATERLOO PLACE, PALL MALL.

MORELL THEOBALD, Manager Fire Department.

IMPERIAL FIRE INSURANCE COMPANY, No. 1, Old Broad street, and 16 and 17, Pall-mall, London.

Established 1803.

Subscribed and Invested Capital and Reserved Fund, 1,200,000*l.*

Insurances effected at Offices should be renewed within fifteen days therefrom (last day, January 9th), or the same will become void.

All Policies covering Stock, Machinery, Utensils, and Fixtures in Trade, will be entitled to a REDUCTION of ONE-HALF of the DUTY hitherto paid.

ANDREW BADEN, Superintendent.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the

MUTUAL LOAN FUND ASSOCIATION

(Incorporated by Act of Parliament, 18 & 19, RUSSELL STREET, COVENT GARDEN, W.C. Advances may be had on Mortgage of Freehold and Leasehold Property, for any term not ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to borrowers to pay off the loan by means they can, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to sell, the fee, fine, registration fee or any advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

GRAVEL and HOGGIN, of the best quality and colour, from the well-known DAWLEY GRAVEL PITS, near Hayes, Middlesex.

To BUILDERS and ROAD CONTRACTORS.

Sifted Stones for roads, and sifted Gravel for concrete, Hoggin for paths, may now be had in any quantity, delivered alongside by the Grand Junction and Regent's Canals.

THOMAS MAYNARD, PROPRIETOR, Dawley, near Hayes, Middlesex.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts; the Prize Medal at the Great Exhibition, 1851; Two First-class Medals at the Paris Exhibition; and Two Prize Medals at the International Exhibition of 1862.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore required to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Pamphlet of which can be had at the Pimlico Slate Works, 29 and 140, Upper Belgrave-place, Pimlico, S.W.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, 1851, note the grant of a First-class Medal and rank the Manufactories known so long as "The Pierian," Tunstall, Staffordshire, as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their principal rooms. MAW & SON'S Perry-bank, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, terrace, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Fish button of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, Pres.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

TERRA COTTA and Fine STONEWARE POTTERY, warranted to stand Frost.

JOHN M. BLASHFIELD, STAMFORD POTTERY, STAMFORD, LINCOLNSHIRE, has since early harvest at his manufactory the manufacture of TERRA COTTA and FINE STONEWARE for ARCHITECTURAL PURPOSES. He is able to make it of various new colours, so as to harmonize with Marble, Portland, and other Stones, and equal in hardness to Granite.

A Medal at the International Exhibition was awarded, in Class 10, Section C. Architectural Objects, for "Perfection in manufacture and beauty of form." A Medal was also awarded for "Terra Cotta."

Moulded Bricks, String Courses, Copings, Cills, Tracery, Balusters, Capitals, Crosses, Ironstone, Vases, Statues, Brackets, Consoles, Garden Edging, Guttering, six, nine, and twelve inch Paving Tiles, &c. &c.

Also Plain and Mosaic Pavements for Halls, Churches, Conservatories, &c. in all colours.

MINTON, HOLLINS, & CO. Stoke-upon-Trent, beg to inform architects, the gentry, and others, that in consequence of the increasing demand for their Encaustic and Mosaic Pavements, and with the view of facilitating the execution of orders, they have opened an additional Show-room, at their Establishment, No. 39, Compton-street, London, where experienced draughtsmen will be constantly in attendance, to afford all information required.

DRAWINGS and ESTIMATES, on the receipt of plans, will also be promptly furnished, on application at the Manufactory, Stoke-upon-Trent.

MINTON & CO. take the present opportunity of stating that they have always in stock a large and varied assortment of tiles, suitable for flower boxes, stoves, and other ornamental purposes.

JOHN ARCHBUTT & SONS, 291, Westminster-bridge-road, Lambeth, near Astley's Theatre.



Revised List of Prices for present season:—Best 16 inch Dumpy Level, with solid centre, complete, 8*l.* 10*s.*; ditto with compass, 9*l.* 9*s.*; 14 inch ditto, 10*l.* 10*s.* and 12*l.* 12*s.*; with Burleigh's improved rotary adjustment and diaphragm, 1*l.* 5*s.* extra. The above are equally low. An inspection will prove their instruments cannot be surpassed in quality, accuracy, or price. Illustrated Catalogues post free. N.B.—Levels and Theodolites on hire. Established 1796.

AUSTIN, SEELEY, & CO. 371-375, EUSTON-ROAD, Near the Regent's Park,

Manufacturers of FOUNTAINS, FLOWER VASES (to 10 feet diameter), SUN DIALS, BASKETS, BAPTISMAL FONTS, STATUES, and small Figures, HALL STANDING, GARDEN-SEATS, ORNAMENTS for GATE-PIERS and CHIMNEY-TOPS.

PRIZE WAGGONS and CARTS.—HAYES & SON

Manufacturers to Her Majesty's Board of Ordnance, and all the principal Railways in the Kingdom,

Coach and Cart Wheelwrights, Spring Van and Waggon Builders, Timber Merchants, Contractors, &c.

Manufacturers of Carts, Vans, Waggons, Trucks, and Implements for all Railways, Town use, Agriculture, and Exportation.

Contractors' and Builders' Dobbin and other Carts, Barrows; Navvy, Excavators', Crowding, and Off bearing ditto, on the shortest notice and of the best materials; &c.

HAYES & SON,

SCOTGATE WORKS, STAMFORD.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL & CO. Builders of Carts, Vans, Waggons, Trucks and Manufacturers of Implements for Railways, Town use, Agriculture, and Exportation.

LADDERS, BARROWS, TRESTLES, STEPS, PORTABLE SCAFFOLDS, PICK HELVES, HAMMER HANDLES, &c. and every description of Contractors', Builders', and Decorators' Trade Requisites.

Vans, Waggons, Dobbin and other Carts, specially adapted for exportation, Pug-mills, Jack rolls, Trolleys, and Portable Railways.

Scaffolding, Ladders, Barrows, Trestles, Steps, &c. Lent on Hire.

Price Lists on application.

GEORGE ELL & CO.

LONDON WORKS, 368 and 368, EUSTON ROAD, LONDON, N.W.

TARPAULINS, MARQUEES, &c. FOR SALE or HIRE.

SCAFFOLD AND HEMP ROPE FALLS.

H. PIGGOTT & SONS,

89, Bishopsgate-street Without, E.C. Manufacturers, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

SCAFFOLD AND HEMP ROPE FALLS.

AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

GUTTA-PERCHA MILL-BANDS.—The Gutta-Percha Company beg to state that the increasing demand for the Gutta-Percha Stamping for Driving bands, Lubricators, &c. fully justifies the strong recommend drops they have every where received. Their durability and strength, permanent contact, slip and uniformity of substance; their non-susceptibility of injury from contact with oils, grease, solids, alkalies, or water; and the facility with which the only joint required can be made in bands of from 9*in.* to 36 feet long, render them superior to leather for almost all working purposes, and decidedly more economical. Every variety of Gutta Percha Articles, such as Fishing Rods, Pump Backets, Fire-buckets, Beams, Union-joints, Flasks, Bottles, Bowls, Tobacco Trays, Chair-rings, Gas-tube Lutters, Tobacco Trays, &c. &c. manufactured by the Gutta Percha Company, and sold by their Wholesale Dealers in town and country.

THE GUTTA-PERCHA COMPANY, PATENTEES, WHARF ROAD, CITY ROAD, LONDON.

WILLIAM MULLER, Artists' Colourman, 69, High Holborn, London.

Drawing Paper, Tracing Paper, Colours in Oil or Water, Drawing Instruments

Lay Figures for Sale or Hire.

TO CARPENTERS and CABINET-MAKERS, &c.—The ALBERT CLOTH or the PATENT IMPROVEMENT on Emery and Glass Cloth does an equal quantity of work as the best makers of the ordinary cloth in half the time, is tougher, and keeper longer.

The Albert Flint Glass Paper is unequalled in quality.—CATES & BUNDHAM, Albert Mills, Burdett-road, Limehouse, London, E.

CLOTHS and BAIZES.—A large assorted STOCK of the above always on hand in all widths, colours, and qualities, at

HILL & SON'S,

Nos. 88 and 89, ST. MARTIN'S LANE, CHARING CROSS.

TO BRICKLAYERS.—30 RODS of RUBBLE WORK TO BE LET (Brine, Labour, and Scaffolding only): near the Brickwork of Fifty Cottages (Labour only) about to be erected at Wittersham, Kent. For particulars to be sent to GEO. TODD, Auctioneer and Surveyor, 8 Paternoster-row, Bucklersbury, E.C.

TO BE LET, a DREDGING BOAT, in excellent repair, fitted with machinery combining all the latest improvements. With dredge 3 feet deep, and is well calculated for river work. It is 60ft. 6in. long, 11 feet, and Draught of water 3 feet. Any 1 wanting Particulars, to apply by letter to Messrs. HEAMENT, Boat-builders.—For further particulars inquire of Mr. GEORGE SIDDONS, Oundle, Northamptonshire.

YELLOW DEALS, £15 10s. per 120 of 12 Feet.

	Per 120 of 12 ft.		Per 120 of 12 ft.
WHITE BATTENS	£8 10	WHITE DEALS.. ..	£15 0 0
YELLOW ditto	9 10	¾-FLOORING from per Square	0 10 6

SWEDE TIMBER, GOOD LENGTH AND SIZE, 45s. PER LOAD.

T. W. ELLSTON,

No. 109, SNOW'S FIELDS, KING STREET, BOROUGH,

Three minutes' walk of London Bridge Railway Terminus (down the steps, Brighton side). ESTABLISHED UPWARDS OF SIXTY YEARS

C. B. N. SNEWIN,

MAHOGANY, DEAL, & TIMBER MERCHANT,

11, BACK HILL, HATTON GARDEN, E.C.

Dry Hand-rail Planks, Prepared Flooring, and Builders' Goods in General.—Country orders promptly executed.



JOHN EMERY,

MANUFACTURING JOINER,

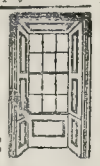
28, GRAY'S INN ROAD, W.C.

Every description of JOINERS' WORK and MOULDINGS for HOUSES, SHOPS, OFFICES, and WAREHOUSES of WELL-SEASONED MATERIALS, and SUPERIOR WORKMANSHIP,

On the shortest notice, and at the lowest Prices.

An ILLUSTRATED LIST of PRICES forwarded on receipt of Stamp. ESTIMATES on application.

J. E. having taken the Business of "The Temple Joinery Works," which are closed through the ill health of the Proprietor, and let for another purpose, respectfully solicits a transfer to him of the favours hitherto entrusted to his late Partner, Mr. SANDS



FLOORING! DEALS! MAHOGANY

YELLOW BATTENS, £9 10s. per 120.

YELLOW DEALS, £15 10s. per 120.	WHITE BATTENS, £8 10s. per 120.
100,000 Dry prepared Flooring Boards ..... from 10s. 6d. per square	SPRUCE DEALS, £15 per 120.
10,000 Dry Pine Planks .....from 3s. 6d. each	Oak Sills ....from 2½d. per foot.
Matched Lining.....from 12s. per square	Honduras Mahogany .....from 5½d. per foot

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN ROAD, and BOROUGH ROAD, SOUTHWARK.

BUILDERS AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

Three-quarter inch Flooring (well prepared) 11s. 6d. per square.	Laths, 31s. per Load.	
Good Yellow Deals .....£16 10 0 per 120, or 2½d. per foot.		
Spruce Deals ..... 15 0 0 ,, 2¼ ,,		
2½-inch Battens ..... 9 0 0 ,, 1¢ ,,		

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

J. MILLS,

JOINERY WORKS, 110, BROADWALL, STAMFORD-STREET, S.

[ESTABLISHED 1851.]

For the Manufacture of every description of JOINERS' WORK, SASHES and FRAMES, DOORS, SHOP-FRONTS, STAIRCASES, OFFICE and PUBLIC HOUSE FITTINGS, &c. of the best Material and Workmanship.

List of Prices forwarded on receipt of postage stamp.

B. J. HUDSON

Begs to give Notice that his MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS.

Goods Landed and Carted at Norway Wharf, Ranelagh Road, S.W.

ORDER & RETAIL DEPARTMENT, 40, GREAT PETER ST., WESTMINSTER,

At Prices as low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity.

FLOORING, DEALS, BATTENS, &c.

¾-inch Flooring, White and Yellow, 10s. 6d. per square.

¾-inch White Matched Lining ..... 12s. 0d. ,,

2½ × 6½ Yellow Battens, £10 per 120,—12 feet.

PRICE LIST AND MOULDING PATTERNS, POST FREE.

J. TERRY & SON, 109, BOROUGH ROAD, S.E.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Charing Cross Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
6 by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES

(LATE WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

STAIRCASE and JOINERY WORKS

JOHN WALDEN

(Late Shop Foreman to Mr. W. SANDS, retired),

12, MAIDEN LANE, COVENT GARDEN.

Estimates on application.

TIMBER, DEALS, FLOORING,

AT THE VERY LOWEST PRICES, in quantities of not less than 30 at the Public Docks.

T. W. ELLSTON,

109, SNOW'S-FIELDS, KING-ST. BOROUGH, within three minutes' walk of London-bridge Railway Terminus (down steps Brighton side).

DRY WAINSCOT,

At 6d. 7d. and 8d. per foot, at

JOHN COUMBE'S,

LADY LAKE'S GROVE, MILE-END-GATE.

TIMBER, DEALS, FLOORING, and MOULDINGS.—JOSEPH & ALFRED ROSLING, Southwark Bridge Wharf, Bankside, keep a large and well-seasoned stock constantly on hand, which, from the facility afforded by river-side premises as compared with inland yards, they are enabled to sell at the very lowest prices.

FLOORING, MATCH BOARDS, DEALS, &c. as low as advertised, White Battens, 9/ per 120, 12 feet; Yellow ditto, 10/. ditto ditto; ¾ Floor Boards, well prepared, from 11s. 6d. per square; Matched Lining, from 12s.; Venetian Blind Laths from 8s. 6d. per 100 feet super. CHARLES CUTLER, Surrey Sawing and Planing Mills, Church-street, Kennington.

SEASONED WAINSCOT OAK,

20,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

OLD JAMAICA WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherein can be obtained, of the best quality:—

GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and Ditto WALL COPING BRICKS and TILES

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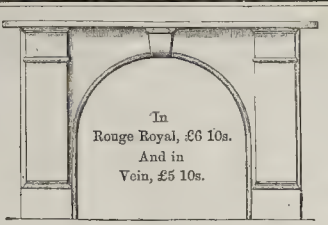
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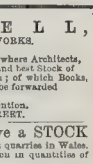
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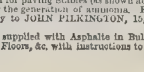
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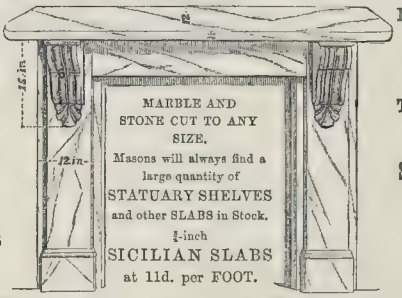
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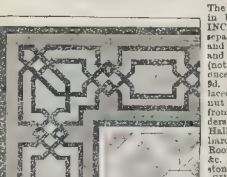
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Are the sole Agents in England for the superior PARQUET FLOORINGS manufactured by ANTON BEMBE, of MAYENCE & COLOGNE, for which a prize medal was awarded in the International Exhibition of 1862.—Books of designs sent free by post. No charge for taking plans and giving estimates.
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TO BUILDERS, DECORATORS, PAPER-HANGERS, UPHOLSTERERS, &c.—CARLHIAN & CORBIERE beg to inform the above Trades they have the EXCLUSIVE SUPPLY of the PAPERHANGINGS, &c manufactured by Messrs. DEFOSSES, of Paris, hitherto sold by Messrs. Cafto. All repeats or orders for these goods to be addressed to CARLHIAN & CORBIERE, 68, Cannon-street West, London, E.C. Also for the Cast-iron Productions of Messrs. BARBEZAT, consisting of vases, figures, railings, balconies, &c. &c.

READE & HEWITT'S PATENT PNEUMATIC PAN and SELF-ACTING WATER CLOSETS, RAILWAY URINAL, and SILVER FLUSHING APPARATUS.
The simplest, strongest, and cheapest Closets manufactured, acting efficiently with or without supply Cistern, and at high or low pressure. Especially adapted for railway stations, offices, public buildings, workshops, and any situations where subjected to severe usage. Prevents waste of water, saves piping, cranks, wires, service-box, and all the complicated apparatus of self-acting closets.
The Self-acting Pneumatic Flushing Vessel flushes ranges of urinals regularly at intervals, the time between the discharges being regulated by a simple tap, thus saving an immense quantity of water, which ordinarily runs to waste.

Best Pan Closet, complete £2 12 6
Best Self-acting Closet, complete 2 15 0
Railway Urinal Flushing Vessel, complete 3 3 0
LIVERPOOL, CANNING CHAMBERS, 4, SOUTH JOHN STREET.
An Agent is required for the sale of the above in London.

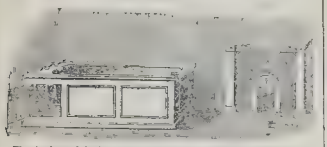
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, sufficient flushing is obtained. Any number can be worked by one cistern. Any of the valves can be easily, and without trouble, repaired. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application, or sent free, by the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and boiler may be fixed in the same or separate rooms anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of fixing Baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

LAVATORY APPARATUS.

ILLUSTRATED CATALOGUES FREE.



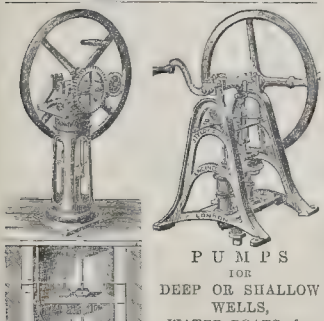
Can be seen in action.

J. TYLOR & SONS, MANUFACTURERS,
WARWICK LANE, NEWGATE STREET, LONDON.



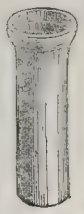
IMPROVED HYDRANT,

J. TYLOR & SONS, WARWICK LANE, NEWGATE ST. LONDON.



PUMPS FOR DEEP OR SHALLOW WELLS, WATER BOATS, &c.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

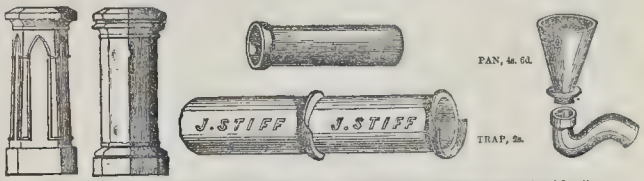
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



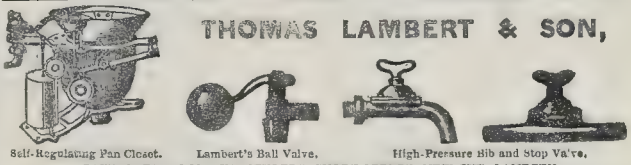
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

THOMAS LAMBERT & SON,



Self-Regulating Pan Closet. Lambert's Ball Valve. High-Pressure Bib and Stop Valve.

PATENTEES and MANUFACTURERS, SHORT STREET, NEW CUT, LAMBETH.

T. L. & SON find it necessary to state that their manufactures have their NAME legibly marked thereon.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for cider cellars at the Royal Agricultural Society's House in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, and like to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the finest brands of coals supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT to be seen at the DAIRIES at ALDERSHOT, CURRAGH, SLORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of nearly One Million Feet. A Liberal Discount allowed to the Trade.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 45 lbs. to the square of 100 feet, the cost of carriage is small.—6th. It may be laid on slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON & CO. 2, DOWGATE HILL, LONDON; 2, GOREE PIAZZA, LIVERPOOL; And 59, GEORGE SQUARE, GLASGOW.

SALES BY AUCTION.

Capital Building Materials, Little Britain.

PULLEN, HORNE, & EVERSFIELD are instructed by the Hon. Commissioners of Sewers to SELL by AUCTION on the PREMISES, on THURSDAY, JANUARY 5th, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FIXTURES of a spacious Residence, with Warehouses adjoining, being No. 70, Little Britain, Aldersgate-street; comprising of fat nearly-new brickwork, lead flats, gutters and pipes, slates, prime timber in roofs and floors, sashes, doors, floor boards, marble chimney pieces, iron railing and balusters, stone paving, copings and sills, stoves, and other useful fixtures and fittings up.—May be viewed the day previous, and catalogues had of PULLEN, HORNE & EVERSFIELD, 10, Fore street, E.C. and 49, Parliament street, S.W.

Building Materials of Six Houses, Tokenhouse yard, to clear the site for the erection of the new Auction Mart.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Auction Mart Company, Limited, to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 9, at TWELVE, in lots, the whole of the Valuable BUILDING MATERIALS of Six large Houses, Nos. 32 to 37, Token-house yard, close to the Bank of England; comprising about 250 feet good sound bricks, about 4 squares of slates, prime timber, and other useful timber, iron and pan tiles and slates, glazed sashes, doors, panelled partitions, wainscoting, linings, marble and other chimney-pieces and interior fittings, lead flats, gutters, columns, and girders, plate glass shop fronts and sashes, sound fluor boards, several tons of lead in gutters, cisterns, and pipes, stone paving, copings, and sills, stoves, ranges, and various useful fixtures.—May be viewed two days prior to the sale, and catalogues had of Messrs. KINGSFORD & DORMAN, solicitors, 24 Essex street, Strand; of Mr. SOMERS CLARKE, Esq., Architect, 20, Craven-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 49, Parliament street, S.W.

CRUTCHED FRIARS. Extensive Sale of Building Materials.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 16th, at TWELVE, in Lots, the whole of the valuable BUILDING MATERIALS of the spacious Residence, with Offices, No. 23, Crutched Friars, and extensive range of Warehouses adjoining, extending in the rear to Savage-gardens; comprising fat fine timbers and a few deals, when Catalogues may be had of Messrs. JOHN YOUNG & SON, Architects, King-street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 49, Parliament street, S.W.

PIMLICO, immediately adjacent to the Victoria Station. Important Long Leasehold Property, occupying a site of 35,500 square feet, held for sixty years, at a small rent.

MESSRS. FULLER & HORSEY are instructed by George Smith, Esq. who has removed his establishment to Commercial road, at 1 South-street, Gresham-square, to SELL by AUCTION, on MONDAY, JANUARY 23rd, 1865, at ONE o'clock precisely, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, unless an agreeable offer to purchase only made by private contract, a LONG LEASEHOLD PROPERTY, occupying an area of 35,500 superficial feet, situate in Gill pham-street, Pimlico, immediately adjacent to the Victoria Station, and having an entrance also from Hudson street, peculiarly eligible, from its extent and close proximity to the railway station, for a building speculation, or for any large manufacturing establishment. The buildings comprise, a substantially erected factory of two stories, each floor having an area of 4,750 feet; blacksmith's shop, engine-house, masons' sheds, stabling, saw-pits, seasoning sheds; a capital residence for a principal or manager, with suitable offices, also a dwelling-house in Hudson street, adapted for a foreman. The whole held on a building lease for a term of sixty years, at the nominal ground rent of 19l. per annum. To be viewed 7 till the sale, by cards only, which may be had of the Auctioneers. Printed particulars, with plans will shortly be ready, and may be had of Messrs. LAW, HUSSEY, & HULBERT, Solicitors, No. 19, New square, Lincoln's-inn, W.C.; at Garraway's Coffee House, Change-alley; and of Messrs. FULLER & HORSEY, 15, Billiter street, London, E.C.

INTERNATIONAL EXHIBITION, 1862.—Materials of Buildings.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on MONDAY, JANUARY 23rd, 1865, and following days, on the Site of the late INTERNATIONAL EXHIBITION BUILDING, South Kensington, in Lots, the valuable MATERIALS (including 141 cast-iron 8 inch round columns, 25 feet high; 200 12 inch square ditto, 26 feet high; 24 web ditto, 26 feet high; 160 circular entrance columns, with enriched caps, 13 feet high; 300 cast-iron lattice girders, 24 feet long; 20 cast iron web girders, 24 feet long; 112 iron face girders, 24 feet long, 30 lattice girders, 12 feet long; 1,500 feet cast-iron ornamental panelling; 120 wrought iron trussed lattice, 25, 25 feet span; 100 tons tie bars, with shoes and bracketts; 10 tons ornamental balustres, 120 feet 5 inch rainwater gutters; 250 iron rafters, with wood backs; 70 tons rod and bar iron, 100 T iron trussed rafters, 20 feet long, with wood backs, 2,000 feet rainwater pipe, 700 yards half round guttering, 100 feet lengths 9 inch cast-iron socket-pipe, 60 inch sluice valves, 12 cast iron urinals, with 8 slate divisions to each, complete); 3 water meters, 40 gas stoves, 70 water closets pans, 400 earthenware drain-pipes, from 4 inches to 18 in bore, 25 washing basins, with slate tops; 1,000 loads good Slate Lumber, 200,000 feet run of 8 by 2½ inch posts, 400 feet 9 by 3 inch joists, 5 or 6 squares, 1 inch boarding, 200,000 feet quarterings, 20,000 feet sash bars, 5,000 feet run of ventilating flaps and frames, 500 sashes, 12 fathoms fire wood, 500 scaffold poles; 1 ton weighbridge, portable office and stove; quantity of oil felt, and various other effects.—To be viewed on Friday and Saturday previous to the Sale. Catalogues will be ready ten days prior to the sale, and may be had, at 6d. each, of Messrs. FULLER & HORSEY, 15, Billiter street, London, E.C.

FOR SALE by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, the 3rd of JANUARY, 1865, at SIX o'clock precisely, by order of Importers, &c.

DEALS and BATTENS, 11,844 pieces Yellow.
MAHOGANY, 1½ Logs Honduras.
CEDAR, 2 Logs Honduras.
TULIP WOOD, 7 Tons.
With other Goods

Catalogues may be had of THOS. ROBERTS & CO. Brokers, 9, Billiter street, E.C.

CAMDEN TOWN.—Builder's and Timber Dealer's Plant and Stock.

MR. LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden Town, near the Old Eagle Tavern and Railway Station, on MONDAY, JANUARY 9th at ELEVEN for TWELVE, the useful STOCK in TRADE, 12 sash sashes, three dozen battens, 5 dozen deal boards, white cotes, 30 trestles, 12 ladders, steps, 4 painters' machines, blocks and fall, tools, chains, ironwork, 5 benches, trucks, &c.; planks, deals and battens, 3 to 6 feet wide prime boards, 20 squares flooring, 70 feet run sounding mahogany, cedar, birch, Riga oak, horsebeam, pine tree, a quantity of cast stuff, old materials, &c.—May be viewed, and Catalogues had at the Yard, and at Mr. A. H. LEREW'S Auction Offices, Carlington-street, Hampstead-road.

OLD BROAD-STREET. To Building Material Dealers and Others.

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on FRIDAY, JANUARY 6th, at TWELVE (or ONE o'clock), the BUILDING MATERIALS of Nos. 10 and 11, Union-court, Old Broad street, comprising sound brickwork, useful timber, 5,000 feet panelled partition, and useful fittings.—Catalogues had of the Auctioneers, 9 and 10, Basinghall-street, E.C.

By order of Trustees. To Ironmongers and Others.

MESSRS. CUTTEN & DAVIS will SELL by AUCTION, on the PREMISES, 122, Euston road, on TUESDAY, JANUARY 10th, at 1 Two following days, at ELEVEN for TWELVE o'clock, the STOCK IN TRADE, of a GENERAL IRONMONGER: comprising a large assortment of brass work and iron mongery, coach work, including cab and cart arms, axles springs, 2½ tons of coach bolts, 18 gross lots of screws and clips, 4 tons of nails, rivets, and studs, 1½ dozen files, and other tools, kitchen ranges and stoves, 10 tons castings, and numerous effects.—May be viewed the Saturday and Monday prior and mornings of Sale, and catalogues had of the Auctioneers, 9 and 10, Basinghall-street, E.C.

No. 16, FENCHURCH-STREET, CITY.—Building Materials.

MR. T. SIDNEY SMITH has been favoured with instructions from Mr. Jennings, who is about to rebuild, to SELL by AUCTION, on the PREMISES, as above, on FRIDAY, JANUARY 6, 1865, the capital, sound, and useful BUILDING MATERIALS, of the usual description. Catalogues of Messrs. JOHN YOUNG & SON, Architects, King street, Cheapside, and Mr. T. SIDNEY SMITH, 157, Fenchurch street.

BRICKS.—In consequence of the present extraordinary demand for Bricks for the Metropolitan Railways, and other heavy Works, and also the greatly increased prices of ashes and breeze for the ensuing season's manufact ure,

MESSRS. JOHN & WILLIAM EASTWOOD

Inform their customers and the trade that their price for COMMON STOCKS will be advanced 3s. per 1,000 from this date.
Belvedere road, Lambeth,
2nd January, 18 5.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS.
By Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT-COLOURED STOCKS, from the Fields at South Shoebury, and Little Wakering, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; by Messrs. J. Butcher & Son, of Otterham Quay and Lower Rainham; and also by Messrs. J. & G. Parker, of Wickham, near Strood.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Upton, near Tiptree; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The BALLINGDON DEEP BLACK RUBBING and BUILDING BRICKS, and the CHALFONT and BALLINGDON DARK and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

SAMPLES of BRICKS, TILES, &c. Made at EAST COWES PARK. Can be seen in the Constructional Department, KENSINGTON MUSEUM. R. LANGLEY, Agent.

NEW STOCK NOW READY.
FINE WHITE BRICKS.
BEST RED BRICKS.
White, Black, and Red Cutters Also a large assortment of FANCY MOULDED BRICKS & GARDEN EDGINGS, Plain and Ornamental ROOFING and RIDGE TILES. Delivered to Vessels in the Dock alongside the Kilns, in the River Medina.
Pattern Sheets and all information, may be had of R. LANGLEY, Agent, East Cowes park, Isle of Wight.

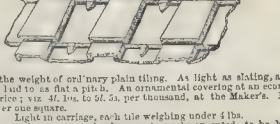
VICTORIA BRICK and LIME WHARF and DRAW-DOCK, NINE ELMS, S.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES AND RED GOODS,
TERRA-COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS,
RED AND WHITE FACINGS,
STAFFORDSHIRE AND FIRE GOODS,
MALM CUTTERS, PICKINGS,
AND BUILDING GOODS GENERALLY.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOHN DOWNEY, Victoria Wharf, Nine Elms, S.
Also Licensed Lighterman, of 11, Millbank-row, S.W.; and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, offers
Red Pantiles, at 47s. 6d. per 1,000.
„ 8 inch Pavings, 55s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
White Kiln Ditto, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. Quantities may be delivered by Vessel at any of the Thames Wharfs.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs. Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c. Dressed Blue Facing BUILDING and SEWER BRICKS. Architects' designs carried out on the shortest notice. Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD, Belvedere-road, Lambeth, and Kent-road Bridge.

THE NEW ROOFING TILES,



Half the weight of ordinary plain tiling. As light as slating, and may be laid to as flat a pitch. An ornamental covering at an economical price; viz. 4l. 10s. to 5l. 5s. per thousand, at the Maker's. 180 will cover one square.
Light in carriage, each tile weighing under 4 lbs.
Further information, and references to works executed, to be had of the Patentee, Mr JOHN TAYLOR, Jun. Architect, 6, Whitehall, S.W. opposite the Horse Guards.

AYLESFORD and BURHAM BRICK WORKS, near Maidstone, Kent.
MR. GEORGE FURNESS
Having increased his mechanical appliances for the Manufacture of Bricks by erecting a number of the most approved patent machines, Architects, Builders, and Contractors are respectfully informed that they can be supplied with QUALT BRICKS of the best quality, and at moderate prices.—Prices and particulars furnished on application to
MR. SLATER,
Thames Embankment, Cannon Wharf, Westminster.

TO BRICKMAKERS.—All Parties who BURN BRICKS in CLAMPS are invited to inspect the NEW MODE of SETTING, patented by Mr. ROBERT WHITE, and which may be seen in operation at the Brickfields of
J. B. WHITE & BROTHERS, Erith, Kent.
The advantages of this plan are two-fold.
1st. Nearly all the bricks are burnt into stocks, and the yield of inferior bricks is reduced from 35 to about 10 per cent of the total make, which in itself represents a large permanent saving.
2nd. The bricks are so much improved in colour and soundness as to give them a considerable additional value in the market over common stocks.
Licenses for use of the Patent granted to Brickmakers, on application to the Patentees 17, Millbank-street, Westminster.

ELIGIBLE FREEHOLD LAND in the heart of the City.—The Court of the Worshipful Company of Mercers are prepared to receive TENDERS for the SITE of the PREMISES numbered 2, 3, 4, 5, 6, and 7, on the east side of Basinghall-street, in the City of London, on a Building Lease of 61 years from Michaelmas, 1865. A plan of the ground, which may be tendered for either in three portions, four portions, or in its entirety, may be seen at the Office of Mr. GEORGE SMITH, Surveyor to the Mercers' Company, Frederick place, Old Jewry, E.C. where sealed Tenders are to be delivered on or before TWELVE o'clock on the 31st DECEMBER, indorsed "Tender for Ground, Basinghall-street."

SUNBURY COURT ESTATE.—This Estate is now TO BE LET, on building leases, for the erection of Detached Residences of a superior class. The property is situate within a mile of the Sunbury Station, and within three-quarters of a mile of the Hampton Station of the Thames Valley Railway. For particulars, apply to Mr. R. B. ARNTZ, Architect and Surveyor, 4, Cannon row, Westminster, S.W.

WATERSIDE MANUFACTURING PREMISES, with Steam-power.—Messrs. FULLER & HORSEY are instructed to LET on LEASE, extensive WATERSIDE PREMISES, occupying a site of 21,000 superficial feet, situate on the Wenlock Basin, City-road, and comprising a spacious and substantial modern brick built manufactory of two floors, engine and boiler houses, with 50 horse power engine, two Cornish boilers, range of brick built offices, and paved yards with gateway entrances. There is a water frontage of about 200 feet. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter street, London, E.C.

A FREEHOLD MANSION TO BE SOLD. The elegant Furniture may be had at a valuation. There are four reception-rooms, two being 50 feet in length; eleven best bedrooms, stabling for eight horses and coach houses for four carriages; suitable servants' offices; extensive ornamental grounds, with greenhouses, in all 28 acres; gravelly soil; near Sunningdale Station, South Western Railway, half a mile from Windsor Great Park, and fifty minutes from the Waterloo Station.—Apply to J. BOWEN MAY, Esq. Solicitor, 67, Russell square.

TO BUILDERS.—First-class BUILDING SITES TO BE LET or SOLD, at Hampton, Teddington, and Kingston. Each of the sites is within a few minutes' walk of the railway station.—Plans can be seen, and further particulars obtained of Mr. G. R. GREEN, Architect, 44, Bedford row, W.C. Advances made to responsible builders on any of the above estates.

GIPSY HILL, NORWOOD. — Valuable PLOT of FREEHOLD BUILDING LAND, comprising about 2½ acres, with frontages to good roads, TO BE LET or SOLD. Rent, 100l. per annum on a building lease, or could be divided if required. For particulars, apply to Mr. FARRELL, Auctioneer and Land Agent, 1, Walbrook, Mansion House.

AN ACRE of LAND is WANTED to BUILD Ornamental ALMHOUSES on. The north side of London, and near a railway station, preferred.—Particulars to be sent to Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street, S.W.

TO BUILDERS and OTHERS. — GEO. TODD has numerous clients, ready to PURCHASE FREEHOLD or LEASEHOLD HOUSES, Land, or Ground Rents of any description.—Full particulars to be sent to GEO. TODD, Auctioneer & Surveyor, 8, Panton-square, Piccadilly; and at his Survey Branch Office, Battersea Bridge road, Battersea Park, S.W.

GEO. TODD has a few Acres of BUILDING LAND to BE LET (leases 99 years), facing Wandsworth Common, Surrey side. For particulars, apply at his Auction, Land, and Estate Agency Offices, 8, Panton-lane, Backlersbury, E.C.

FREEHOLD LAND TO BE SOLD, or LET on BUILDING LEASES; about three acres at Selhurst-road, Norwood Junction; about two acres at Devonshire road, Forest Hill Station; and 95 feet frontage at Wells road, Sydenham.—Apply to M. & J. GARNAR, 8, King-street Bermondsey New Road, S.E.

IMPORTANT to BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD, a very valuable ESTATE eligibly situate in an improving neighbourhood west, comprising about Twenty Houses, part let, from 6l. to 15l. per annum, and part in an unfinished condition, together with about 20 acres of BUILDING LAND held for a term of years at a nominal ground-rent.—Apply to ROBERTS & HARDING, 61, Chancery-lane.

TO BUILDERS and OTHERS.—TWO FREEHOLD PLOTS of LAND, the property of the Worshipful Company of Tilers and Bricklayers, TO BE LET, by Tender, on lease, for building purposes, for the term of ninety years, land-tax redeemed. For plans and particulars, apply to Mr. YOUNG, Surveyor, 35, King street, Cheapside.—Tenders for the above plots must send in the same, under sealed cover, to Mr. W. C. MANSFIELD, the Clerk to the Company, No. 1, Aupton place, Gray's-inn-road, endorsed "Tender for Building Land," on or before the 12th day of JANUARY, 1865, but the Company do not bind themselves to accept the highest or any Tender.—By order,
W. C. MANSFIELD, Clerk.

LARGE LIME WHARF TO BE LET, situate on the Regent's Canal, with good dwelling-house, offices, stables lofts, &c. For particulars apply to Messrs. LE BLANC & CO Solicitors, 18, New Bridge street, E.C.

TO BRICKMAKERS, CEMENT MANUFACTURERS, and OTHERS—CUXTON BRICKFIELD, on the Medway, near Rochester, TO BE LET, from Michaelmas last, for a Term of Years.—For particulars, apply to Mr. GEO. FRANKS, Thong, near Gravesend.

PLASTER ENRICHMENTS, CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
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London:—Printed by CHARLES WYMAN, Printer, at the Printing-office of Cox & Wyman, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 31, 1864.

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